Hydrology and Water Quality Technical Study For Etiwanda Commerce Center

RICK Job No.19871-B
March 15, 2024

RICK

HYDROLOGY AND WATER QUALITY TECHNICAL STUDY

FOR

ETIWANDA COMMERCE CENTER

Job Number 19871-B

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Appendix C: Federal Emergency Management Agency (FEMA) Maps

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Appendix E: Copy of "Preliminary Site and Drainage Map", prepared by Thienes Engineering, dated November 30, 2023.

1.0 INTRODUCTION

This hydrology and water quality technical report has been prepared to support the proposed improvements of the Etiwanda Distribution Center, (herein referred to as "the project"). This document has been prepared to summarize conceptual hydrologic and water quality analyses performed by others, which have been performed to support the planning and design of the project. This report evaluates the findings of those reports in context of the Environmental Checklist Form found in Appendix G of the State California Environmental Quality Act (CEQA) Guidelines (2023) and discusses the applicable local, State, and federal agencies, laws, and regulation requirements. It also identifies the regulatory background for future development to mitigate potential impacts to hydrology and water quality of the project. The qualitative descriptions of the hydrologic setting of the site, general drainage characteristics and storm water quality management provided in this report are based on existing reports relevant to the project area. These reports include "Preliminary Hydrology Calculations for Etiwanda Distribution Center", prepared by Thienes Engineering, dated November 28, 2023 (herein referred to as "Hydrology Report"), and "Preliminary Water Quality Management Plan (PWQMP) for Etiwanda Distribution Center", prepared by Thienes Engineering, dated November 10, 2021 (herein referred to as "PWQMP"). RICK Engineering Company has provided review comments on these reports that are anticipated to be incorporated by the applicant's team during the design process. It should be noted that the Hydrology Report and PWQMP received do not reflect the most current site plan. The most current site plan is reflected in the "Preliminary Site and Drainage Map", prepared by Thienes Engineering, dated November 30, 2023. A copy of the current site plan can be found in Appendix E. It is anticipated that during the final design process these technical reports will be updated to reflect the final site plan and the requirements of the city of Rancho Cucamonga.

1.1 Project Description

The project site is located at 8996 Etiwanda Avenue, north of 6th Street, south of Arrow Route and east of the Interstate 15 Freeway in the City of Rancho Cucamonga, County of San Bernardino, California. A vicinity map of the project location is provided in the Hydrology Report in Appendix A as well as Appendix D.

The project is located within the Industrial Employment District of City of Rancho Cucamonga and will be developed for industrial use. Proposed improvements include the construction of five (5) industrial buildings, truckyards, modifications to onsite drive aisles and parking lots, 729 automobile parking spaces, 211 truck trailer parking spaces, the creation of a new vehicle circulation system, underground structural BMPs, and storm drain improvements.

1.2 FEMA Flood Hazard Zone Information

The watercourses around the project have been studied by the Federal Emergency Management Agency (FEMA), and no portion of the project site is shown in a FEMA defined floodplain or floodway. The project site is shown on the FEMA Flood Insurance Rate Map (FIRM) numbers 06071C8634J, effective September 26, 2014 and 06071C8633J, effective September 2, 2016. These maps are provided in Appendix C for reference. The entirety of the site is labeled as Zone X (unshaded) as an area of minimal flood hazard.

1.3 Hydrology and Drainage Characteristics

The project site is generally divided into two distinct drainage basins. The eastern portion of the site drains southeasterly, while the western portion of the site drains southwesterly. Both discharge points are along the southern property line. The project site is subject to stormwater run-on from an offsite area of approximately 65 acres, which drains from the north. A simplified drainage map with the main drainage basins, discharge points, and other hydrologic and hydraulic features can be found in Appendix D.

The pre-project condition is an industrial area, encompassing approximately 72.6 acres. At the time of the development of this technical report there is no existing development or buildings within the pre-project condition of the site. The project is comprised of pervious, barren soil, as it exists of November 1, 2023. Historically (aka prior to being cleared), the project site was generally developed with industrial buildings, chemical waste basins, cooling towers, concrete storage channels and paved surfaces. Landscape in the historic condition was limited to the area surrounding the buildings in the southeast corner and the areas surrounding the chemical waste basins, and approximately 52% of the site was pervious, barren soil. There is an existing concrete channel, bisecting the westerly portion of the site. The northwestern portion of the site sheet flows to the channel, which continues southerly to a neighboring property. The eastern drainage basin drains southerly via surface flow and an existing 30" pipe. The pipe accepts runoff from the center portion of the site, and discharges to an offsite grass lot. The easterly portion drains to the grass lot via surface flow. There is an existing 42" pipe in the grass lot that picks up these flows, in addition to offsite flows from Etiwanda Avenue and other adjacent lots. The 42" storm drain lateral connects to the Etiwanda Avenue storm drain, then drains to Etiwanda Creek and, ultimately, the Pacific Ocean. The southwest portion of the project and a small southerly portion east of the concrete channel drain south to an adjacent property.

In the post-project condition, the drainage characteristics will remain similar as compared to the pre-project condition. Most of the site will be impervious, with additional proposed impervious features such as the five industrial buildings, onsite roadway improvements, truck yards and parking improvements. The project proposes 33 acres of buildings and parking spaces, 30 acres of public streets, and 10 acres of landscaping. The existing channel bisecting the westerly portion of the site will be replaced with a 3'H x 7'W RCB (Line A) that will be constructed in the same approximate location as the existing, on-site channel. The proposed culvert will convey offsite flows from the north to an existing downstream channel. Line A will bisect the project into two areas with different outlets. Buildings 3 and 4 west of "C" Street will drain to a series of catch basins in the proposed truck yards. After being detained by intentionally undersized storm drains in the truck yard, low flows will be routed to underground CMP detention facilities and treated by proprietary biofiltration units, while high flows will continue easterly via proposed private storm drain systems and connect to Line A. Runoff from Line A, as well as un-detained flows from "C" Street will discharge to the existing channel south of the project site. Buildings 1, 2, and 5 east of "C" Street will ultimately drain to the existing 42" storm drain in Etiwanda Avenue. Runoff from Building 1 will drain into the northerly and southerly truck yards, where low flows will be detained and treated, while high flows will continue easterly to connect to Line B. Runoff from Building 2 and the northerly parking lot will drain to the eastern truck yard, where low flows will be detained and treated, while high flows will continue south, then west, to connect to Line B. The Line B

storm drain will connect to the existing 42" storm drain in Etiwanda Avenue. Runoff from Building 5 and the northerly parking lot will drain to the eastern truck yard, where low flows will be detained and treated, while high flows will continue south to connect to Line K. The Line K storm drain will connect to the existing 42" storm drain in Etiwanda Avenue. Un-detained runoff from portions of "A" street and "B" street is also tributary to the existing 42" storm drain in Etiwanda Avenue. The post-project condition proposes onsite storm drain systems to collect onsite and offsite runoff, as well as low impact development (LID) proprietary Biofiltration best management practices (BMPs), and LID Self-Retaining BMPs which will be designed to provide water quality treatment and to reduce storm water discharge volume to mimic pre-project condition flow patterns. The precise locations of the buildings, streets and BMPs are provided in the Preliminary Drainage Map by Thienes Engineering, provided in Appendix E for reference.

Preliminary hydrologic calculations were prepared by Thienes Engineering in accordance with the San Bernardino Hydrology Manual, dated August 1986 for the purpose of comparing pre-project and post-project flow rates. Details of the methodology and results of the hydrologic analysis are provided in Section 2.0.

1.4 Water Quality

The County of San Bernadino has a stormwater program that requires all new development and significant redevelopment projects to incorporate measures ensuring water quality by adhering to the county guidance document titled, "The San Bernardino County Stormwater Program Technical Guidance Document for Water Quality Management Plans", with an effective date of June 7, 2013, herein referred to as "TGD for WQMPs". According to the TGD for WQMPs, the project is considered a Priority Project and obligated to implement water quality measures pursuant to the said guidance document. All proposed impervious surfaces will be subject to water quality requirements, including permanent best management practices (BMPs). The post-project condition proposes low impact development (LID) Biofiltration BMPs and one LID Self-Retaining BMP to provide water quality treatment and reduce storm water discharge volume to mimic pre-project condition flow patterns. In addition, there are multiple proposed structural source control BMPs. The project falls within a Hydrologic Condition of Concern (HCOC) exemption area and is therefore not subject to hydromodification management requirements. Details of Water Quality are provided in Section 3.0.

2.0 HYDROLOGY

The purpose of the hydrologic analysis at the preliminary level was to determine the approximate overall design discharges for the project site for comparative purposes for the pre-project condition and post-project condition. Calculations were prepared for the 100-year storm event.

2.1 Methodology and Criteria

Preliminary hydrologic calculations were prepared in accordance with the guidance document title, "San Bernardino County Hydrology Manual," dated August 1986. The Hydrowin Advanced Engineering Software (AES) 2016 Rational Method Analysis (Version 23.0) program was used to perform the hydrologic analysis in this study.

The AES hydrologic model is developed by creating independent node-link models of each interior drainage basin and linking these sub-models together at confluence points. The program has the capability to perform calculations for 15 hydrologic processes. These processes are assigned code numbers that appear in the results. The code numbers and their significances are as follows:

Subarea Hydrologic Processes (Codes)

Code 1:	Confluence analysis at a node
Code 2:	Initial subarea analysis
Code 3:	Pipe flow travel time (computer-estimated pipe sizes)
Code 4:	Pipe flow travel time (user-specified pipe size)
Code 5:	Trapezoidal channel travel time
Code 6:	Street flow analysis through a subarea
Code 7:	User-specified information at a node
Code 8:	Addition of the subarea runoff to mainline
Code 9:	V-Gutter flow through a subarea
Code 10:	Copy main-stream data onto a memory bank
Code 11:	Confluence a memory bank with the main-stream memory
Code 12:	Clear a memory bank
Code 13:	Clear the main-stream memory
Code 14:	Copy a memory bank onto the main-stream memory
Code 15:	Hydrologic data bank storage functions

In order to perform the hydrologic analysis, base information for the study area is required. This information includes the drainage facility locations and sizes, land uses, flow patterns, drainage basin boundaries, and topographic elevations. Compiled hydrologic backup performed by Thienes Engineering is included as Appendix A to this report.

Area and Topography

Watersheds / major drainage basin boundaries were delineated to distinguish areas with similar flow characteristics and hydrologic properties as well as to determine peak flows for comparative analysis. Drainage basin boundaries, flow patterns, and topographic elevations are shown on the hydrologic workmaps for the site, prepared by Thienes Engineering, included in Appendix A.

Time of Concentration/Intensity

The time of concentration was calculated using AES for the 100-year storm events. The rainfall intensity was calculated in AES using the relevant intensity values for the project area using the San Bernadino County Hydrology Manual Isopluvial Maps and Intensity-Duration Curves. A supporting annotated chart, prepared by Thienes Engineering, has been included in Appendix A.

Runoff Coefficient

In the historic project condition, the site contains approximately 52% impervious area and is found to be a "commercial poor cover" condition. As it exists as of November 2023, the site contains 0% impervious area. Hydrologic soil group data is available for the site through the San Bernadino County Hydrology Manual, showing the site consisting of type "A" and type "B" soils. In the post-project condition, impervious area is added bringing the overall impervious percentage to approximately 86%.

The runoff coefficients used for each minor basin were calculated by the AES software based on the user-entered information of the hydrologic soil group and the land use for each basin. The percentage of impervious area in each subdrainage area was used to determine the land use entered within AES. Supporting information for parameters assigned to AES calculations, provided by Thienes Engineering, is included with Appendix A of this report.

2.2 Hydrologic Results

Hydrologic calculations and support materials prepared by the engineer of work are provided in Appendix A for reference. The on-site hydrologic results for the pre-project and post-project conditions are summarized in Table 2.1 on the following page.

Table 2.1: 100-Year Peak Flow Discharge Rates [2]

Point of Interest	Pre-Project		Post-Project (Unmitigated)		Post-Project (Mitigated)	
	Total Onsite Area (acres)	Estimated Peak Flow Rate (cfs)[1]	Total Onsite Area (acres)	Estimated Peak Flow Rate (cfs)[1]	Total Onsite Area (acres)	Estimated Peak Flow Rate (cfs)[1]
Etiwanda Storm Drain [Eastern Basin]	32.5 [3]	104.8 [3]	45.8 [5]	144.3 [5]	45.8 [7]	62.1 [7]
Down-stream Channel [Western Basin]	30.6 [4]	93.2 [4]	23.6 [6]	74.6 [6]	23.6 [8]	37.1 [8]

Note:

1: cfs = cubic feet per second

2: The pre-project and post-project tributary areas are not equal because in the pre-project condition, there are 6 acres that do not contribute runoff to downstream drainage facilities. In the post-project condition, the 6 acres will be contributing runoff to the project. In addition, there are 0.3 acres that were analyzed in the post-project condition that were not analyzed in the pre-project condition.

3: The area and flowrate for this basin in the existing condition are tributary to nodes 161 and 151 of the Thienes Engineering AES existing condition calculations, provided in Appendix A.

4: The area and flowrate for this basin in the existing condition are tributary to nodes 261, 242 and 251 of the Thienes Engineering AES existing condition calculations, provided in Appendix A.

5: The area and flowrate for this basin in the proposed condition are tributary to node 603 of the Thienes Engineering AES proposed condition calculations, provided in Appendix A.

6: The area and flowrate for this basin in the proposed condition are tributary to node 218 of the Thienes Engineering AES proposed condition calculations, provided in Appendix A.

7: The area and flowrate for this basin in the proposed condition are tributary to node 603 of the Thienes Engineering AES proposed condition with detention calculations, provided in Appendix A.

8: The area and flowrate for this basin in the proposed condition are tributary to node 218 of the Thienes Engineering AES proposed condition calculations, provided in Appendix A.

3.0 WATER QUALITY

The project site is located in the Santa Ana Region of San Bernardino County and is subject to the requirements of the Santa Ana Regional Water Quality Control Board (RWQCB). The project is defined as a "Priority Project", per table 1-1, section 1.5.1 of San Bernardino County Stormwater Program Technical Guidance Document for Water Quality Management Plans, dated June 7, 2013, as the proposed improvements include the addition or replacement of 5,000 square feet or more of impervious surface on an already developed site. Therefore, a project specific WQMP is required for the project site and structural treatment control BMPs are required. Hydromodification management measures do not need to be addressed as the project falls within an HCOC exempt area.

3.1 Preliminary Water Quality Features

The historic project site included approximately 1,599,427 square feet of impervious surfaces. In the pre-project condition, as it exists in November 2023, there are no impervious surfaces within the project area. In the post-project condition, the project proposes approximately 2,746,894 square feet (63 acres) of new impervious surfaces. All proposed impervious surfaces will be subject to water quality requirements.

Based on the PWQMP by Thienes Engineering, included as Appendix B of this report, structural LID BMPs are proposed to be implemented onsite. In addition to the LID BMPs, there will be multiple structural source control BMPs. Drain inserts and hydrodynamic separators will serve as pre-treatment to the proposed LID BMPs. According to the PWQMP, onsite soils were documented as containing concentrations of chemicals above human health and/or disposal criteria, therefore infiltration of stormwater is not recommended and is not being proposed. The Draft Phase 1 Environmental Site Assessment, prepared by Path Forward Partners, Inc. and dated October 20, 2020, included in Appendix K of the PWQMP, details the extent of the contamination, and the measures taken to remove the bulk chemicals. Biofiltration BMPs have been proposed in these locations instead. Flows from these areas will be directed to solid underground CMP facilities to store the water quality volume, then routed to proprietary bioretention units for treatment. Modular wetlands have been selected for the biofiltration units. The locations of the buildings and BMPs are provided in the Site Plan in Appendix E.

According to the PWQMP, approximately 5.95 acres of landscaping along the perimeters of the project site will not be routed to the LID BMPs, and these areas are documented by Thienes Engineering as self-treating. Supporting information prepared by Thienes Engineering regarding the selected BMPs can be found in Appendix B.

4.0 REGULATORY SETTINGS

4.1 Federal

Water Pollution Control Act (Clean Water Act)

The Federal Water Pollution Control Act Amendments were enacted in 1972. As amended in 1977, this law became commonly known as the Clean Water Act (CWA). The Act established basic guidelines for regulating discharges of pollutants into "waters of the United States." The CWA requires that States adopt water quality standards to protect public health; to enhance the quality of water resources; and to ensure implementation of the CWA.

- **Section 401.** Section 401 of the CWA requires an applicant for a federal permit (such as for the construction or operation of a facility that may result in the discharge of a pollutant) to obtain certification of those activities from the state in which the discharge originates. This process is known as the Water Quality Certification (WQC) for the Proposed Project. For projects in southeastern San Bernardino County, the Santa Ana RWQCB issues the Section 401 WQC.

- **Section 402**. Section 402 of the CWA established the National Pollution Discharge Elimination System (NPDES) to control water pollution by regulating point sources that discharge pollutants into "waters of the United States." For the State of California, the USEPA has authorized the SWRCB permitting authority to implement the NPDES program. In general, the SWRCB issues two storm water NPDES general permits: one for industrial discharges and one for construction activities. The Phase II Rule, which became final on December 8, 1999, expanded the existing NPDES program to address storm water discharges from construction sites that disturb land equal to or greater than one acre.

- **Section 404**. Section 404 of the CWA established a permitting program to regulate the discharge of dredged or filled material into "waters of the United States." The definition of "waters of the United States" includes wetlands adjacent to national waters. This permitting program is administered by the U.S., Army Corp of Engineers (USACE) and is enforced by the USEPA.

- **Section 303(d).** Under Section 303(d) of the CWA, the SWRCB is required to develop a list of water quality limited segments for jurisdictional "waters of the United States." The RWQCBs are responsible for establishing TMDLs and TMDL priority rankings as well as for developing action plans to improve water quality of waterbodies included on the 303(d) list. The most recent 303(d) List of Water Quality Limited Segments approved by the USEPA is from the 2010 Integrated Report. This document references the 2010 list. The list includes pollutants causing impairment to receiving waters or, in some cases, the condition leading to impairment.

Safe Drinking Water Act

Under the Safe Drinking Water Act (SDWA) [Public Law 93-523] of 1974, the USEPA regulates contaminants of concern to domestic water supply. Contaminants of concern relevant to domestic water supply are defined as those that pose a public health threat or that alter the aesthetic

acceptability of the water. These types of contaminants are regulated by the USEPA primary and secondary Maximum Contaminant Levels (MCLs) that are applicable to treated water supplies delivered to the distribution system. MCLs and the process for setting these standards are reviewed triennially. The law was amended in 1986 and 1996 and requires many actions to protect drinking water and its sources: rivers, lakes, reservoirs, springs, and ground water wells. The SDWA authorizes three EPA ground water protection activities: the Underground Injection Control (UIC) regulatory program, the Sole Source Aquifer (SSA) designation program, and the Source Water Assessment and Protection (SWP) program, which includes Wellhead Protection. The Proposed Project does not involve underground injection, does not cross any designated SSA, and does not involve the construction and operation of a public water supply well, which would require a Drinking Water Source Assessment and Protection Program evaluation.

Executive Order 11988 "Floodplain Management" and the Federal Emergency Management Agency

Under Executive Order 11988 "Floodplain Management", the Federal Emergency Management Agency (FEMA) is responsible for managing floodplain areas. FEMA administers the National Flood Insurance Program to provide subsidized flood insurance to communities that comply with FEMA regulations limiting development in floodplains. FEMA issues Flood Insurance Rate Maps (FIRMs) that identify which land areas are subject to flooding. The design standard for flood protection is established by FEMA, with the minimum level of flood protection for new development determined to be the 1-in-100 annual exceedance probability (i.e., the 100-year flood event).

4.2 State

Porter-Cologne Water Quality Control Act

The Porter-Cologne Act of 1967 (California Water Code, Section 13000 et seq.) is directed primarily towards the control of water quality. The Porter-Cologne Act provides for protection of the quality of all "waters of the State" for use and enjoyment by the people of California. It further provides that all activities that may affect the quality of "waters of the State" shall be regulated to obtain the highest water quality that is reasonable, considering all demands being made and to be made on those waters. The Porter-Cologne Act also establishes provisions for a statewide program for the control of water quality, recognizing that "waters of the State" are increasingly influenced by interbasin water development projects and other statewide considerations, and that factors such as precipitation, topography, population, recreation, agriculture, industry, and economic development vary regionally in the state. The Porter-Cologne Act establishes the SWRCB and its nine RWQCBs as the principal state agencies responsible for control of water quality. As such, each regional board is required to formulate and adopt a Basin Plan, which designates beneficial uses and establishes water quality objectives to protect these beneficial uses. The Project area is under the jurisdiction of the Santa Ana RWQCB. Beneficial uses and water quality objectives for these areas are established by the 1995 (as amended through 2011) Water Quality Control Plan for the Santa Ana River Basin.

Construction General Storm Water Permit

Under Section 402 of the CWA, construction-related storm water discharges to surface waters are regulated through the NPDES program. The California SWRCB has been delegated the authority by the USEPA to oversee the NPDES program through the RWQCBs. Under this authority, the SWRCB has developed a general permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities Order No. 2022-0057-DWQ (Construction General Permit). Construction of the proposed project would disturb an area greater than one acre; therefore, the proposed project must receive coverage under the Construction General Permit. The proposed project area is under the jurisdiction of the Santa Ana RWQCB. This RWQCBs will therefore require notification of the proposed project's intention to carry out activities under the Construction General Permit. Operation under the Construction General Permit would require the preparation of a Storm Water Pollution Prevention Plan (SWPPP).

4.3 Local

San Bernardino County Flood Control District

The San Bernardino County Flood Control District (SBCFCD) was enacted under California State legislation in 1939. The District developed an extensive network of flood-control facilities, including dams, conservation basins, channels, and storm drains. These facilities are designed to intercept and convey flood flows through and away from major developed areas in the County. The SBCFCD's primary functions are flood protection on major streams, water conservation, and storm drain construction. If applicable, encroachment permits for flood-channel crossings or any work within the District's right-of-way will need to be obtained from the SBCFCD.

Areawide Urban Storm Water Runoff Management Program (National Pollutant Discharge Elimination System Permit No. CAS618036)

Together with co-permittees, San Bernardino County participates in an areawide urban storm water runoff management program covered under NDPES Permit No. CAS618036, dated January 29, 2010. This permit regulates the discharge of pollutants in urban runoff from non-agricultural human sources from the MS4s under the jurisdiction or responsibility of the co-permittees. This permit requires that co-permittees ensure that all non-co-permittee construction sites that are greater than one acre file a Notice of Intent with the SWRCB for coverage under the State's Construction General Permit. Co-permittees must also ensure that the erosion and sediment control plans approved incorporate appropriate erosion and sediment control BMPs and that the runoff from new development projects do not cause a nuisance to adjoining or downstream properties in stream channels to the maximum extent practicable. The permit also outlines potential water quality impacts that should be considered as part of the California Environmental Quality Act (CEQA) evaluation. New developments that create 10,000 square feet or more of impervious surface collectively over the entire project site are required to develop project-specific Water Quality Management Plans. The Water Quality Management Plans must include BMPs for source control, pollution prevention, site design, low impact development (LID) implementation (where feasible), structural treatment-control BMPs, and control measures for any listed pollutant to an impaired waterbody on the 303(d) list.

County of San Bernardino 2007 General Plan

In accordance with the County of San Bernardino 2007 General Plan, the potential impact of a project's construction on storm water runoff should be considered during CEQA review. This review should consider the potential for discharging storm water pollutants from areas of material storage, vehicle or equipment fueling or maintenance, waste handling, hazardous materials storage, and other outdoor work areas. The review should also consider the potential for the discharge of storm water to affect beneficial uses of receiving waters and/or change the flow velocity of storm water runoff volume to cause environmental harm or significant increases in erosion on the project site or surrounding areas.

5.0 CEQA

In accordance with Areawide Urban Storm Water Runoff Management Program (National Pollutant Discharge Elimination System Permit No. CAS618036), dated January 29, 2010, this study evaluated the California Environmental Quality Act (CEQA) level potential for adverse environmental impacts by responding to the following questions:

Would the project:

a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?
   - The proposed project will not violate any water quality standards or waste discharge requirements. There is a possibility of water quality standards being violated during site clearing, grading and excavation, building construction, paving and landscaping, and architectural coatings which could result in the generation of water quality pollutants such as silt, debris, chemicals, paints, and other substances with the potential to adversely affect water quality in the absence of protective or avoidance measures. The proposed project will be required to comply with existing National Pollutant Discharge Elimination System (NPDES) requirements, however, by implementing a Storm Water Pollution Prevention Plan (SWPPP) as required for all projects larger than one acre in size. As part of the SWPPP, the use of best management practices (BMPs) during each construction phase will be identified. BMPs are measures that are to be used to reduce pollutants in storm water runoff. Post-Construction measures will be addressed by a project-specific Water Quality Management Plan (WQMP). Based on the PWQMP, proprietary bioretention BMPs and drain inserts will be used to capture runoff generated by proposed improvements in order to treat runoff. It should be noted that the PWQMP implies that the onsite roadways are not treated before discharging from the project site, which could adversely affect water quality. However, the project must adhere to the City's stormwater quality requirements, and it is anticipated that by incorporating comments from the City over the course of final design, the proposed design would meet all requirements with the final submittal.

b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

- The proposed project will not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. The project is proposing to increase the amount of impervious area from the historical amount of 52% to 86%, which would limit the amount of stormwater infiltrating the ground. According to the requirements of the TGD for WQMPs, this area is not suitable for infiltration due to hazardous chemicals in the soils. It is understood that a Water Supply Assessment is being prepared by others to determine if the project will generate a significant water demand.

c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would

i. Result in substantial erosion or siltation on- or off-site?

- The proposed project will not significantly alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would result in substantial erosion or siltation on- or off-site. The greatest potential for erosion or siltation may occur during the project construction phase. However, as the project site is larger than one acre in size a SWPPP will be prepared in accordance with NPDES requirements specifying construction BMPs for erosion and sediment control. There is an existing channel running through the site, which is being removed and replaced with a culvert. This culvert has the potential to increase the velocities of flows, in a manner that would result in downstream erosion, unless energy dissipation is provided at the outfall.

ii. Substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?

- The proposed project will not substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site. Standard conditions of approval, such as the City's flood control requirements for new development, would minimize the effects of increased flows and volumes on downstream receiving waters (Rancho Cucamonga General Plan DEIR 2021: 5.10-20). Based on the provided preliminary detention analysis the overall proposed project is not anticipated to generate a substantial increase in runoff as compared to the existing conditions, therefore it is not anticipated to result in flooding on-site or off-site.

iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

- The proposed development will not create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. In the existing condition, there are no BMPs. For the portion of the project that proposes an increase of impervious surfaces, the project proposes structural BMPs with detention facilities to capture runoff generated by proposed improvements to treat, retain, and discharge flows mimicking historic/pre-project conditions. In addition, drain inserts will be implemented at catch basins for pretreatment. It should be noted that the existing storm drain system running along Etiwanda Avenue that receives the eastern portion of the site is undersized. The proposed project would comply with all existing City drainage requirements and the post-project flows are less that the pre-project flows; therefore, it is not anticipated to contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems. The proposed project would comply with existing NPDES requirements, including the preparation of a SWPPP as required for all projects larger than one acre in size. As part of the SWPPP, the use of BMPs will be identified as measures that are to be used to reduce pollutants in storm water runoff, therefore the project is not anticipated to provide substantial additional sources of polluted runoff. It is anticipated that by incorporating comments from the City over the course of final design, the proposed design would meet all requirements with the final submittal.

iv. Impede or redirect flood flows?

- The project will not impede or redirect flows. According to the (FEMA) Flood Insurance Rate Maps (FIRM) panel numbers 06071C8634J, effective September 26, 2014, and 06071C8633J effective September 2, 2016, the entirety of the site is labeled as Zone X (unshaded). Zone X indicates the area is of minimal flood hazard and determined to be outside the 100-Year Floodplain, the 500-Year Floodplain, and the 500-Year Floodplain Protected by Levee. The City of Rancho Cucamonga General Plan shows the project site close to the Flood Control/ Utility corridor for Day Creek, but it is not within it.

d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

- The project site is not subject to inundation by flood hazard, tsunami, or seiche zones. The proposed project is not close to a large land-locked body of water and therefore not subject to a seiche. The proposed project is a significant distance from the Pacific Ocean and therefore not subject to a tsunami.

e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

- The proposed project will not obstruct implementation of a water quality control plan or sustainable groundwater management plan. The Chino Basin underlies the project site and is an adjudicated basin subject to the Sustainable Groundwater Management Act. A Water Supply Assessment is being prepared by others to determine if the project will generate a significant water demand. As discussed in responses to Items c) and e), the proposed project would comply with existing NPDES requirements, including the preparation of a PWQMP, a SWPPP and inclusion of BMPs to reduce pollutants in storm water runoff. The project features and uses have no additional effects to water quality.

6.0 Summary and Conclusion

This combined Hydrology and Water Quality Technical Report reviewed two preliminary engineering reports relevant to the Etiwanda Distribution Center project, prepared by Thienes Engineering. This report evaluates the findings of those reports in context of the Environmental Checklist Form found in Appendix G of the State California Environmental Quality Act (CEQA) Guidelines and identifies how the future development intends to mitigate potential impacts to hydrology and water quality from the project. RICK Engineering Company has separately provided review comments on the preliminary engineering reports that are anticipated to be incorporated by the applicant's team during the design process.

7.0 References

City of Rancho Cucamonga, 2023. *General Plan Update & Climate Action Plan Draft Environmental Impact Report.* September 2021

FEMA, 2014. *Flood Insurance Rate Map (FIRM) 06071C8634J.* September 2014.

FEMA, 2016. *Flood Insurance Rate Map (FIRM) 06071C8633J.* September 2016.

County of San Bernardino, 2013. *Technical Guidance Document for Water Quality Management Plans.* September 2013.

Thienes Engineering, 2023. *Preliminary Hydrology Calculations for Etiwanda Distribution Center.* November 2023.

Thienes Engineering, 2021. *Preliminary Water Quality Management Plan (PWQMP) for Etiwanda Distribution Center.* November 2021.

Appendix A

Copy of "Preliminary Hydrology Calculations for Etiwanda Distribution Center", prepared by Thienes Engineering, dated November 28, 2023.

Thienes Engineering, Inc.
CIVIL ENGINEERING • LAND SURVEYING

PRELIMINARY HYDROLOGY CALCULATIONS

FOR

ETIWANDA DISTRIBUTION CENTER
8996 ETIWANDA AVENUE
RANCHO CUCAMONGA, CA

PREPARED FOR

BTC III ETIWANDA COMMERCE CENTER
4675 MACARTHUR COURT, SUITE 625
NEWPORT BEACH, CA 92660
PHONE: (949) 892-4900

NOVEMBER 10TH, 2021
REVISED JULY 10TH, 2023
REVISED NOVEMBER 28, 2023

JOB NO. 3687

PREPARED BY

THIENES ENGINEERING
14349 FIRESTONE BOULEVARD
LA MIRADA, CALIFORNIA 90638
P. (714) 521-4811
FAX. (714) 521-4173

PRELIMINARY HYDROLOGY CALCULATIONS

FOR

ETIWANDA DISTRIBUTION CENTER
8996 ETIWANDA AVENUE

PREPARED UNDER
THE SUPERVISION OF:

REINHARD STENZEL DATE:
R.C.E. 56155
EXP. 12/31/2024

INTRODUCTION

A: PROJECT LOCATION

The project site is located at 8996 Etiwanda Avenue, north of 6th Street, south of Arrow Route and east of the Interstate 15 Freeway in the City of Rancho Cucamonga, California. Please see next page for vicinity map.

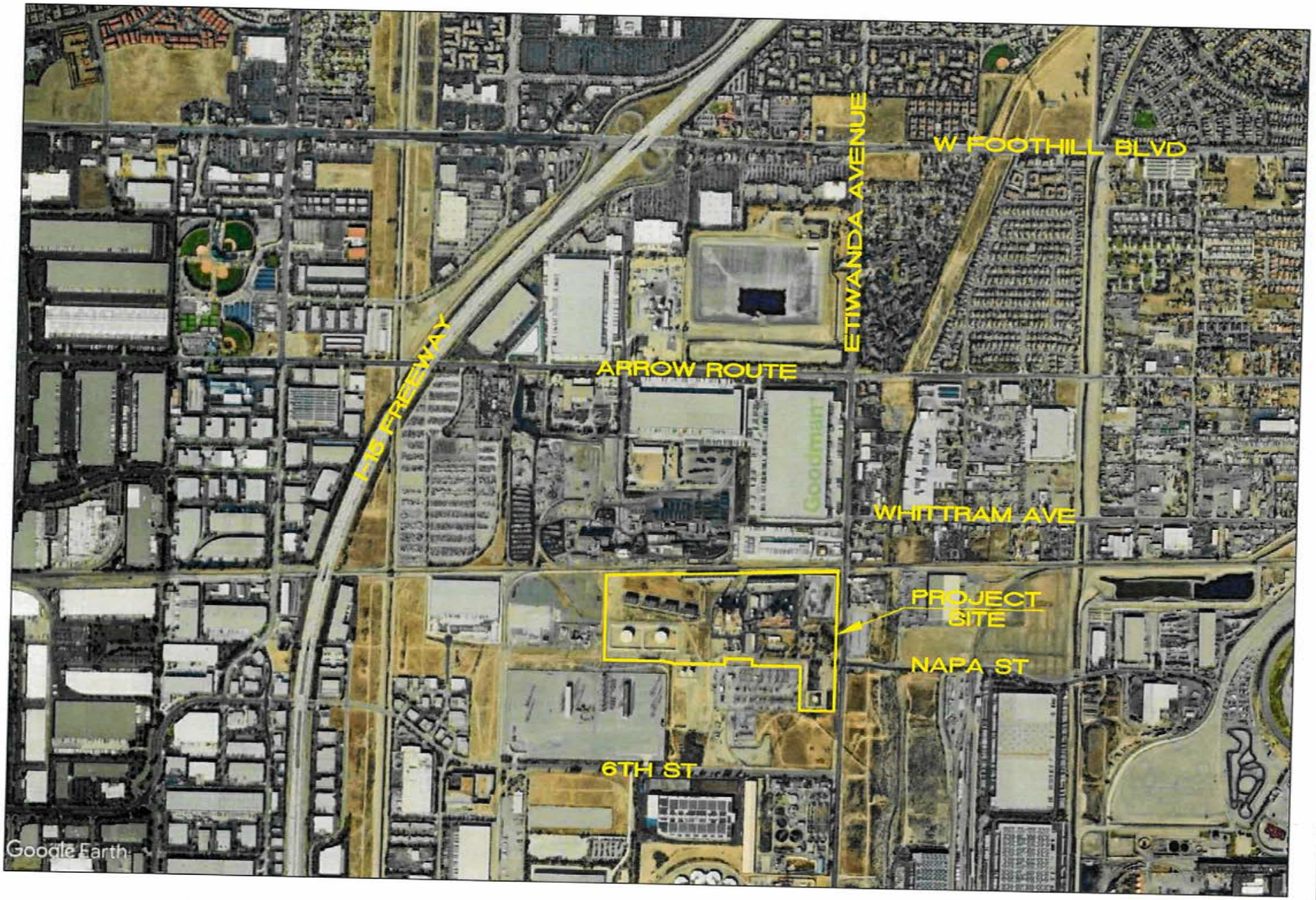
B: STUDY PURPOSE

The purpose of this study is to determine 100-year existing and proposed condition peak flow rates from the project site.

C: PROJECT STAFF:

Thienes Engineering staff involved in this study include:

Reinhard Stenzel
James Wickenhaeuser



Last Update: 11/10/21
O:\3600-3699\3687\3687VicMap.dwg

Thienes Engineering, Inc.
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VICINITY MAP

FOR

8996 ETIWANDA AVENUE
RANCHO CUCAMONGA, CA

NTS

DISCUSSION

The project site encompasses approximately 70.85 acres. The project will involve two phases. The first phase will encompass constructing Building 1, Building 3, and two trailer lots adjacent to Etiwanda Avenue. Phase 2 will construct Building 2, Building 4, and Building 5. Proposed improvements to the site include five industrial buildings totaliong 1,176,631 square feet. The buildings footprints are 583,741 square feet (Building 1), 127,343 square feet (Building 2), 244,245 square feet (Building 3), 164,559 square feet (Building 4), 56,743 square feet (Building 5).

There will be truck yards on the north and south sides of Building 1, east side of Building 2, south side of Buildings 3 and 4, and east side of Building 5. Vehicle parking and landscape will be scattered throughout the site. A concrete box and pipe will be constructed to convey northerly offsite tributary flows in lieu of the existing concrete channel bisecting the westerly portion of the site. Similarly, the existing 30-inch storm drain traversing through the easterly portion of the site will be re-routed around the proposed Building 1.

Master Plan Hydrology

Per the City of Rancho Cucamonga – Etiwanda / San Sevaine Area Master Plan of Drainage, by AKM Consulting Engineers dated January 2009, 100-year commercial runoff from the easterly portion of the project site is tabled to a proposed master plan storm drain (54-inch between Nodes 2.09 and 2.14, 60-inch between Nodes 2.14 and 2.16) in Etiwanda Avenue. The existing Etiwanda Avenue storm drain appears to be undersized (42-inch fronting the project site and 54-inch downstream of site per as-built plans by Albert A. Webb dated August 2015). Therefore, proposed condition discharge to the Etiwanda Avenue storm drain will match existing condition discharge.

The westerly portion of the project site is not tabled to the Etiwanda Avenue storm drain. However, it is currently discharging to a concrete channel bisecting the site. Likewise, proposed condition discharge to the 3'H x 7'W reinforced concrete box – which will convey northerly offsite flows in place of the existing concrete channel – will match existing condition discharge.

Please see Appendix "A" for the Master Plan of Drainage, as-built storm drain plans and other pertinent reference materials.

Existing Condition

Areas tributary to Etiwanda Avenue storm drain:

There is an existing 30" storm drain that runs through the project site from a headwall north of the railroad tracks to a concrete and dirt channel near the south easterly corner of the project. Runoff from the site to the north and from the easterly half of the project site utilize this drain.

Stormwater from the project site enters the drain via several drop inlets at nodes 112, 113, 121, 122, and 142. Runoff from the initial subarea north of the cooling towers (nodes 100-112) surface drains easterly to a drop inlet, then enters the existing storm drain and travels south through the inlet at node 113. A small area east of the cooling towers drains to an inlet and into the storm drain.

The drain continues southerly to another drop inlet at node 121 where runoff from areas south of the cooling towers enter the storm drain (nodes 120-121). The storm drain then continues south through yet another drop inlet at node 122, where more stormwater is added, then to a significant confluence at node 142.

Runoff from the area surrounding the power station drains southerly to a drop inlet and enters an existing storm drain system (nodes 130-131). There are no plans available for this drain so it's alignment was estimated by tracing a path through several storm drain manholes that were found during the site survey. This subarea confluences with the mainline at node 142.

Runoff from the area south of the cooling towers and just east of the power station will surface drain southerly across the site to a concrete channel along the southerly property line (nodes 140-141). The channel will take the overland flow and convey it easterly to a drop inlet and into the mainline at node 142.

The storm drain will then convey the runoff southerly to the concrete and dirt channel south of the project site. An area between two retention ponds surface drains directly into the channel. The channel runs for about 475' south easterly to 48" inlet structure then joins the existing 54" RCP storm drain in Etiwanda Avenue. The total 100-year existing condition peak flow rate from the project site to the Etiwanda Avenue storm drain is approximately 88.4 cfs. The peak flow rate with the offsite flow included is approximately 108.5 cfs.

A portion of the frontage of the existing project drains directly to Etiwanda Avenue (nodes 160-161). The 100-year peak runoff is approximately 16.4 cfs. The total 100-year existing condition peak flow rate to Etiwanda Avenue is 104.8 cfs.

Areas tributary to existing concrete channel:

The northwest portion of the project site and the areas adjacent to the existing concrete channel surface drain to the concrete channel, which continues southerly into a neighboring property. There are several flow paths that generally surface drain south easterly towards the channel (nodes 200-242). The total 100-year existing condition peak flow rate from the project site to the concrete channel is a approximately 80.8 cfs. The peak flow rate with the offsite flow included is approximately 243.1 cfs.

Areas tributary to southerly neighboring property:

The southwest portion of the project site (Nodes 260-261, 2.05 acres) and a small southerly portion of the site east of the concrete channel (Nodes 250-251, 1.31 acres) surface drain southerly to a neighboring property. The existing condition 100-year peak flow rates from these onsite areas are approximately 6.8 cfs (leaving the site at Node 261) and 5.6 cfs (at Node 251)

Self-contained areas not draining from site:

There are several areas within the project site that are currently self-contained, thus not draining from the site. Some are chemical waste basins protected by berms (4.15-acre, 1.43-acre and 0.46-acre areas in the easterly portion of site adjacent to Etiwanda Avenue). Totaling 6.04 acres, these areas do not contribute any runoffs to downstream drainage facilities.

See Appendix "B" for existing condition hydrology calculations and Appendix "D" for existing condition hydrology map.

Proposed Condition

Areas tributary to existing concrete channel:

Storm drain Line A will bisect the project into two areas with different outlets. Buildings 3 and 4 west of "C" Street will connect to Line A and will discharge to the existing channel south of the project site. Buildings 1, 2, and 5 east of "C" Street will ultimately drain to the existing 42" storm drain in Etiwanda Avenue.

The northerly half of Building 1 will drain northerly to an auto parking and drive aisle. A series of catch basins will collect runoff (nodes 100-104) and convey it to a private storm drain called Line H. The storm drain will convey the runoff westerly then southerly through drive isle then turns easterly through the truck yard. Runoff from the southerly portion of the building and the truck yard will enter Line H via catch basins in the truck yard (Nodes

107-111). Line H will continue easterly and pickup runoff from the easterly auto parking area (node 112) and will connect to Line A in "C" Street. The 100-year peak runoff from Building 3 to Line A is 35.1 cfs.

Runoff from the westerly drive isle of Building 4 will drain southerly to two catch basins and to Line D (nodes 200-202). The storm drain will convey the runoff southerly then turn easterly and run through the southerly truck yard. Runoff from the building roof and the truck yard will drain to a series of catch basins in the truck yard and into Line D (nodes 210-216) . The drain will continue easterly and connect to Line A in "C" Street. The 100-year peak runoff from Building 4 to Line A is 27.9 cfs.

The total 100-year peak runoff from Buildings 3 and 4 and the proposed street to the existing concrete channel is approximately 74.6 cfs.

Areas tributary to Etiwanda Avenue storm drain:

Runoff from the northerly half of Building 1 and the northerly truck yard will drain to a series of catch basins within the truck yard (nodes 300-306). Storm drain Line F will pickup the runoff and convey it easterly to Line B in "B" Street. The 100-year peak runoff from the north half of Building 1 to Line B will be approximately 47.6 cfs.

The southerly half of Building 1 will generally drain southerly to the truck yard. The westerly drive aisle drains southerly to a series of catch basins and to Line D (nodes 400-404). The storm drain will turn easterly and run through the southerly truck yard. Runoff from the southerly portion of the building and the truck yard will drain to a series of catch basins and to Line D (nodes 405-410). The easterly auto parking and aisles will drain southerly to node 410. Line D will then continue easterly to Line B in "B" street. The 100-year peak runoff from the southerly half of Building 1 to Line B will be approximately 47.8 cfs.

Runoff from the auto parking area north of Building 2 will drain to a single catch basin and into storm drain Line C. The storm drain will run southerly through the easterly truck yard. The Building 2 roof will drain easterly towards the truck yard and to a series of catch basins. Runoff will be conveyed into Line C and will continue southerly through the truck yard. The storm drain will turn west and connect to Line B in "B" Street. The 100-year peak runoff from Building 2 will be 29.3 cfs.

Runoff from the auto parking area north of Building 5 will drain to a single catch basin and into storm drain Line C. The storm drain will run southerly through the easterly truck yard. The Building 5 roof will drain easterly towards the truck yard and to a catch basin. Runoff will be conveyed into Line K and will continue southerly through the truck yard. The storm drain will connect to Line B in "B" Street. The 100-year peak runoff from Building 5 will be 12.9 cfs.
Runoff from "B" Street near Building 5 will be collected by two catch basins near node 602. The 100-year peak flow rate to the Etiwanda Avenue storm drain will be 143.7 cfs.

Note that this is less than the direct sum of the runoff from each building because the time of concentration is considered.

Offsite runon from the north will be conveyed through the site in a proposed 3'H x 7'W RCB. The culvert will wrap around the west side of the building and convey approximately 119.1 cfs to the channel. This is the existing flow rate, so there will not be a negative effect on the channel.

Summary

The total 100-year peak flow rate from the proposed project to both Etiwanda Avenue storm drain and the existing channel will be approximately 195.2 cfs (143.7 cfs to Etiwana Avenue storm drain + 74.6 cfs to existing concrete channel)

See Appendix "B" for proposed condition hydrology calculations and Appendix "D" for proposed condition hydrology map.

Detention Analysis

Onsite storm water detention will be utilized to reduce the proposed condition flow rate below the existing condition rate. The 100-year peak existing condition flow rate from the project area to the Etiwanda Avenue storm drain is approximately 104.8 cfs, while the peak flow rate to the channel is approximately 80.8 cfs.

Runoff from the northerly half of Building 1 will be stored in the northerly truck yard (nodes 300-307). The peak inflow to the truck yard is approximately 47.6 cfs (rational method). The storm drain leaving the truck yard will intentionally be undersized to force runoff to pond on the surface of the truck yard. An 18" HDPE pipe will limit the discharge to 10.6 cfs during a peak event. Approximately 0.53 ac-ft of runoff will pond to a depth of 0.55'.

Runoff from the southerly half of Building 1 will be stored in the southerly truck yard (nodes 400-410). The peak inflow to the truck yard is approximately 47.8 cfs (rational method). The storm drain leaving the truck yard will intentionally be undersized to force runoff to pond on the surface of the truck yard. A 24" HDPE pipe will limit the discharge to 18.3 cfs during a peak event. Approximately 0.29 ac-ft of runoff will pond to a depth of 0.47'.

Runoff from Building 2 will be stored in the easterly truck yard (nodes 500-503). The peak inflow to the truck yard is approximately 23.7 cfs (rational method). The storm drain leaving the truck yard will intentionally be undersized to force runoff to pond on the surface of the truck yard. An 18" HDPE pipe will limit the discharge to 10.2 cfs during a peak event. Approximately 0.12 ac-ft of runoff will pond to a depth of 0.44'.

Runoff from Building 3 will be stored in the southerly truck yard (nodes 100-111). The peak inflow to the truck yard is approximately 33.6 cfs (rational method). The storm drain leaving the truck yard will intentionally be undersized to force runoff to pond on the surface of the truck yard. An 18" HDPE pipe will limit the discharge to 13.2 cfs during a peak event. Approximately 0.49 ac-ft of runoff will pond to a depth of 1.41'.

Runoff from Building 4 will be stored in the southerly truck yard (nodes 200-215). The peak inflow to the truck yard is approximately 27.9 cfs (rational method). The storm drain leaving the truck yard will intentionally be undersized to force runoff to pond on the surface of the truck yard. An 18" HDPE pipe will limit the discharge to 10.8 cfs during a peak event. Approximately 0.40 ac-ft of runoff will pond to a depth of 0.74'.

Runoff from Building 5 will be stored in the easterly truck yard (nodes 600-601). The peak inflow to the truck yard is approximately 12.8 cfs (rational method). The storm drain leaving the truck yard will intentioally be undersized to force runoff to pond on the surface of the truck yard. An 18" HDPE pipe will limit the discharge to 9.9 cfs during a peak event. Approximately 0.02 ac-ft of runoff will pond to a depth of 0.35'.

After detention, the peak 100-year flow rate from the five buildings to storm drain Line B will be approximately 49.7 cfs (10.8 + 18.8 + 10.2 + 9.9 cfs). The proposed streets will add approximately 32 cfs to storm drain Line B so the total discharge to the Etiwanda Avenue storm drain via Line B will be approximately 81.7 cfs. This is approximately 78% of the existing condition peak flow rate of 104.8 cfs.

The total discharge from Building 3 and 4 to storm drain Line A and the existing concrete channel after detention will be 23.8 cfs (13.2 + 10.8 cfs). The proposed streets will add approximately 13.8 cfs. Therefore the total discharge to the existing concrete channel will be 37.6 cfs. This is approximately 47% of the existing condition peak flow rate of 80.8 cfs.

Since proposed condition discharge will be less than the existing condition discharge to both the existing Etiwanda Avenue storm drain and the existing concrete channel, proposed site improvements will not negatively impact any existing downstream drainage facilities. Onsite storm drain pipe lateral sizes and hydraulics will be determined during the project's final design phase to reduce proposed condition discharge to below existing condition discharge.

Truck Yard	Nodes	Area (acre)	Peak Q (cfs)	Tc (min)	Discharge Q (cfs)	Depth (ft)	Volume (ac-ft)	Difference (cfs)
Building 1 - North	300-306	12.3	47.6	9.7	10.6	0.55	0.53	-36.8
Building 1 - South	400-410	12.2	47.8	11.3	18.8	0.47	0.29	-29.0
Building 2	500-503	5.2	23.7	7.4	10.2	0.44	0.12	-13.5
Building 3	100-111	9.7	33.6	11.0	13.2	1.41	0.49	-20.4
Building 4	200-215	7.2	27.9	10.1	10.8	0.74	0.40	-17.1
Building 5	600-601	2.4	12.8	5.5	9.9	0.35	.02	-2.9
Totals			**193.4**		**73.7**			**-119.7**

See Appendix "C" for detention analysis.

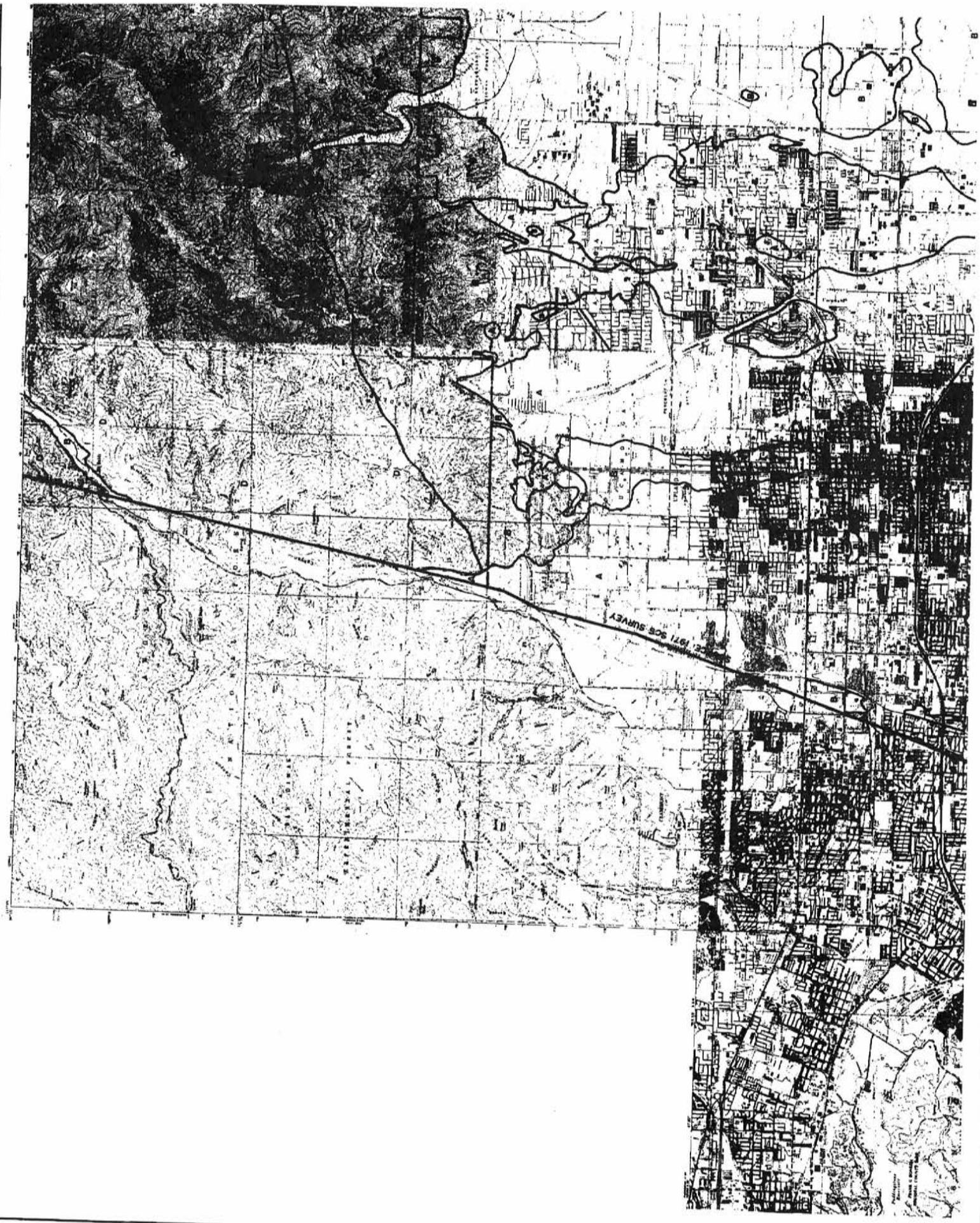
Methodology

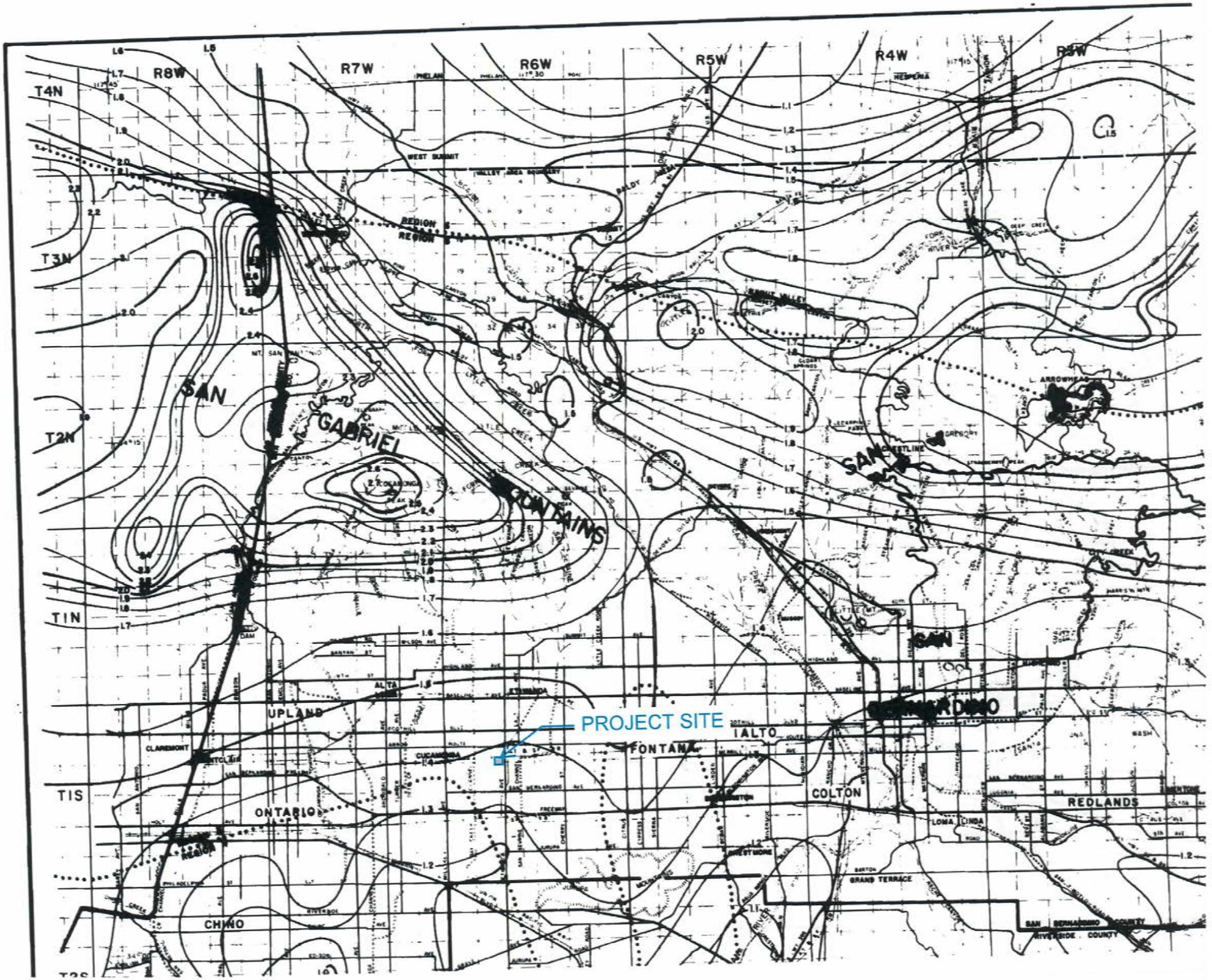
Hydrology calculations were computed using San Bernardino County Rational Method program (by AES Software). The soil types are "A" "and "B" per the San Bernardino County Hydrology Manual. See Appendix "A" for reference materials. The San Bernardino County Flood Routing Analysis (also by AES Software) was used for detention calculations.

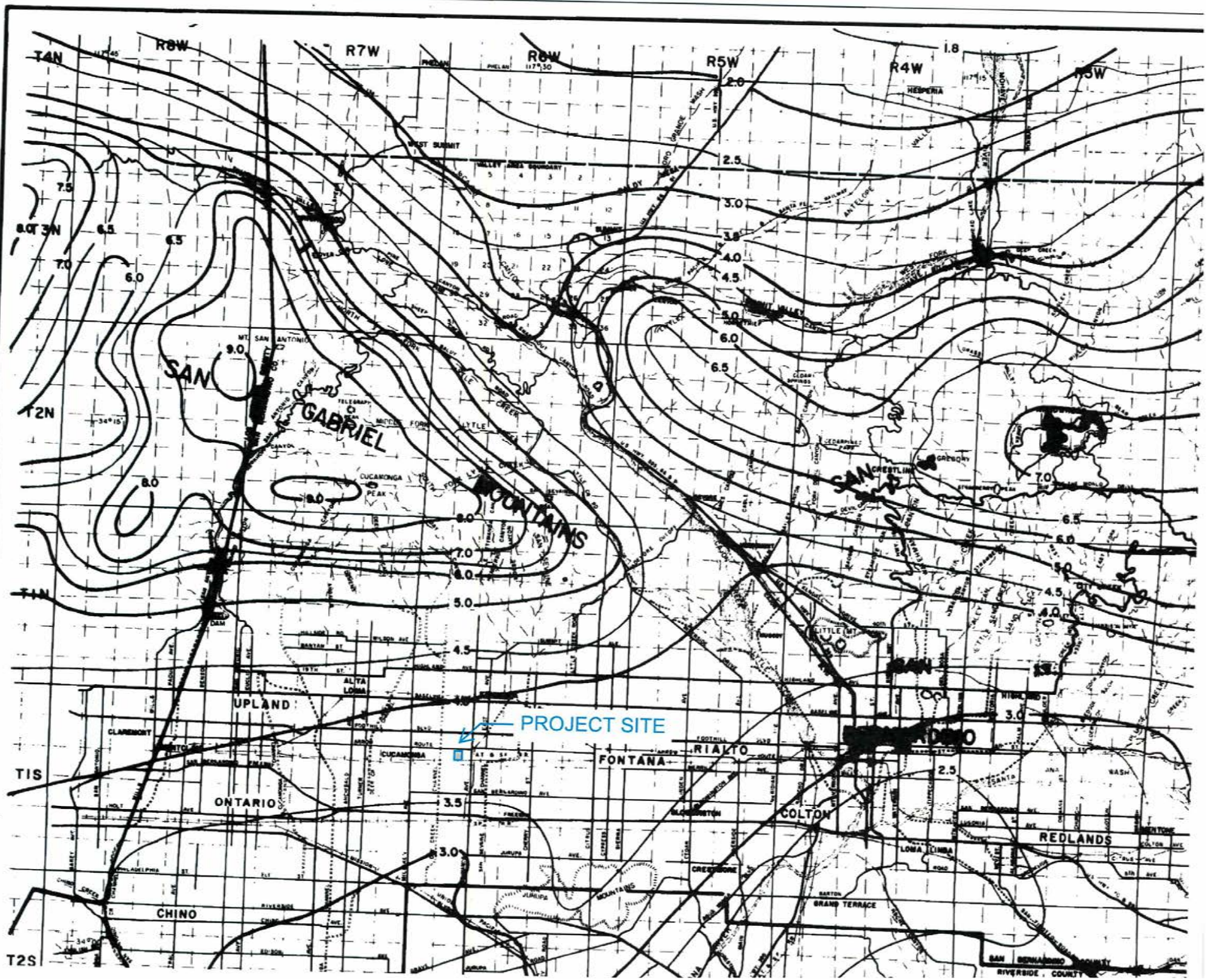
APPENDIX	DESCRIPTION
A	REFERENCE MATERIALS
B	HYDROLOGY CALCULATIONS
C	DETENTION ANALYSIS
D	HYDROLOGY MAP

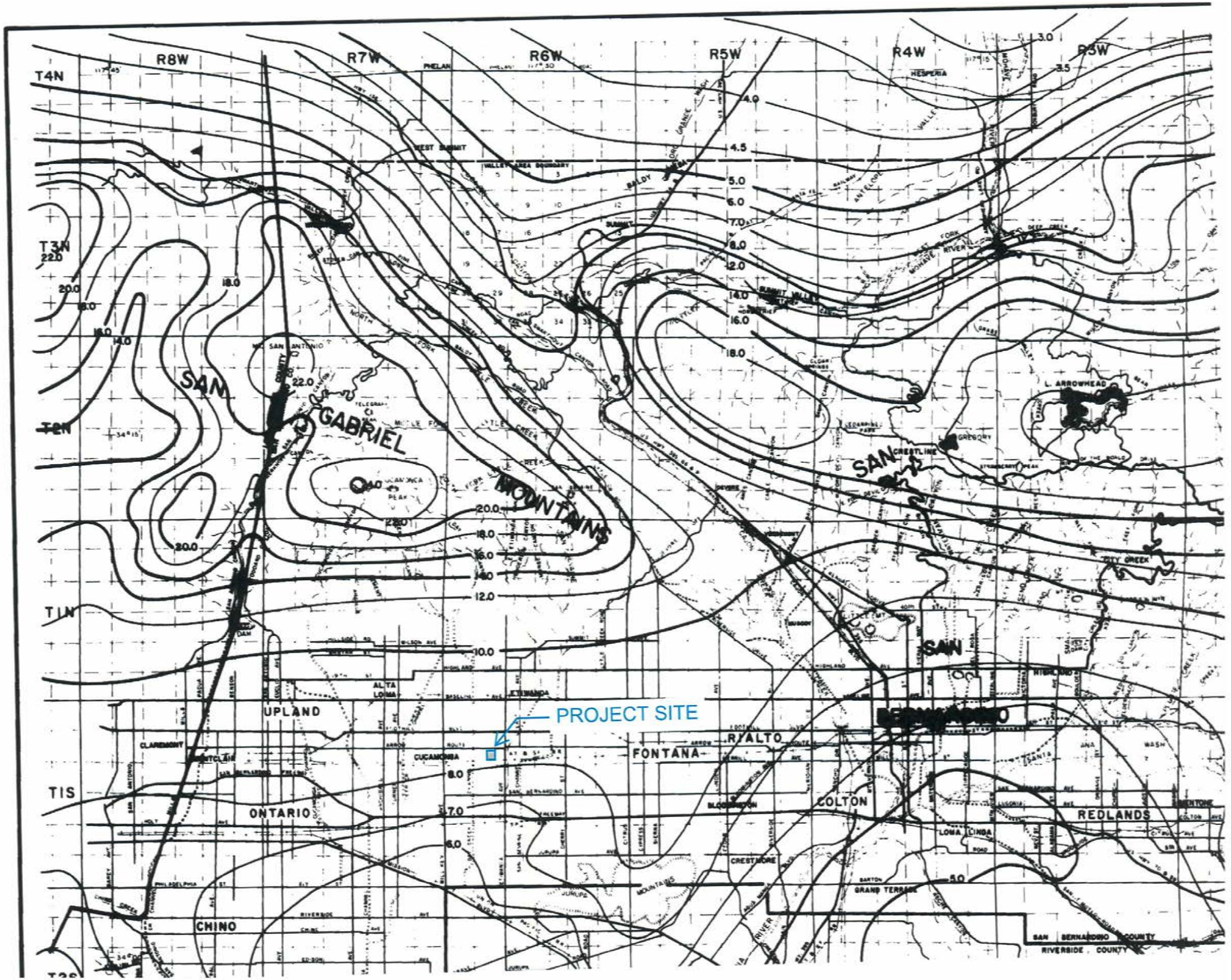
APPENDIX A

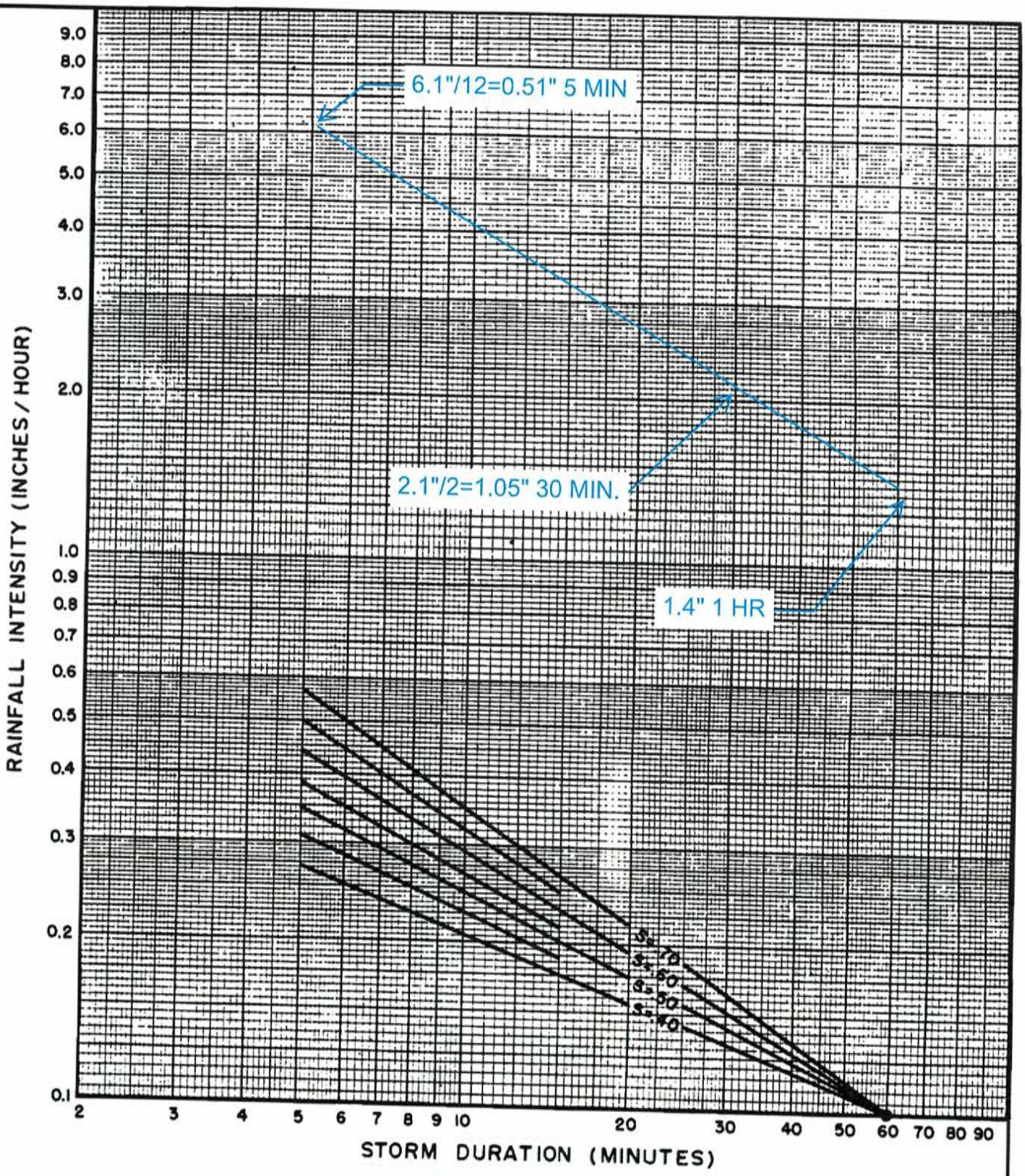
REFERENCE MATERIALS


1971 SCS SURVEY


R8W
R7W
R6W
R5W
R4W
R3W
T4N
T3N
T2N
T1N
T1S
T2S
SAN GABRIEL MOUNTAINS
PROJECT SITE
UPLAND
ONTARIO
CHINO
CLAREMONT
ALTA LOMA
CUCAMONGA
FONTANA
RIALTO
COLTON
LOMA LINDA
REDLANDS
GRAND TERRACE
SAN BERNARDINO
SAN BERNARDINO COUNTY
RIVERSIDE COUNTY
WEST SUMMIT
MT. SAN ANTONIO
L. ARROWHEAD
CRESTLINE
GREGORY
HESPERIA
PHELAN


PROJECT SITE
T4N
T3N
T2N
T1N
T1S
T2S
R8W
R7W
R6W
R5W
R4W
R3W
SAN GABRIEL MOUNTAINS
UPLAND
ALTA LOMA
CLAREMONT
ONTARIO
CHINO
FONTANA
RIALTO
COLTON
REDLANDS
LOMA LINDA
GRAND TERRACE
CRESTMORE
HESPERIA
MT. SAN ANTONIO
CUCAMONGA PEAK
SAN BERNARDINO COUNTY
RIVERSIDE COUNTY


R8W
R7W
R6W
R5W
R4W
R3W
T4N
T3N
T2N
T1N
T1S
T2S
PROJECT SITE
SAN GABRIEL MOUNTAINS
UPLAND
ONTARIO
CHINO
CUCAMONGA
FONTANA
RIALTO
COLTON
REDLANDS
LOMA LINDA
SAN BERNARDINO
RIVERSIDE
ALTA LOMA
ETIWANDA
CLAREMONT
MONTCLAIR
CRESTMORE
GRAND TERRACE
L. ARROWHEAD
CRESTLINE
HESPERIA
WEST SUMMIT
SUMMIT VALLEY
SAN BERNARDINO COUNTY
RIVERSIDE COUNTY



DESIGN STORM FREQUENCY = 100 YEARS

ONE HOUR POINT RAINFALL = 1.4" INCHES

LOG-LOG SLOPE = 0.60"

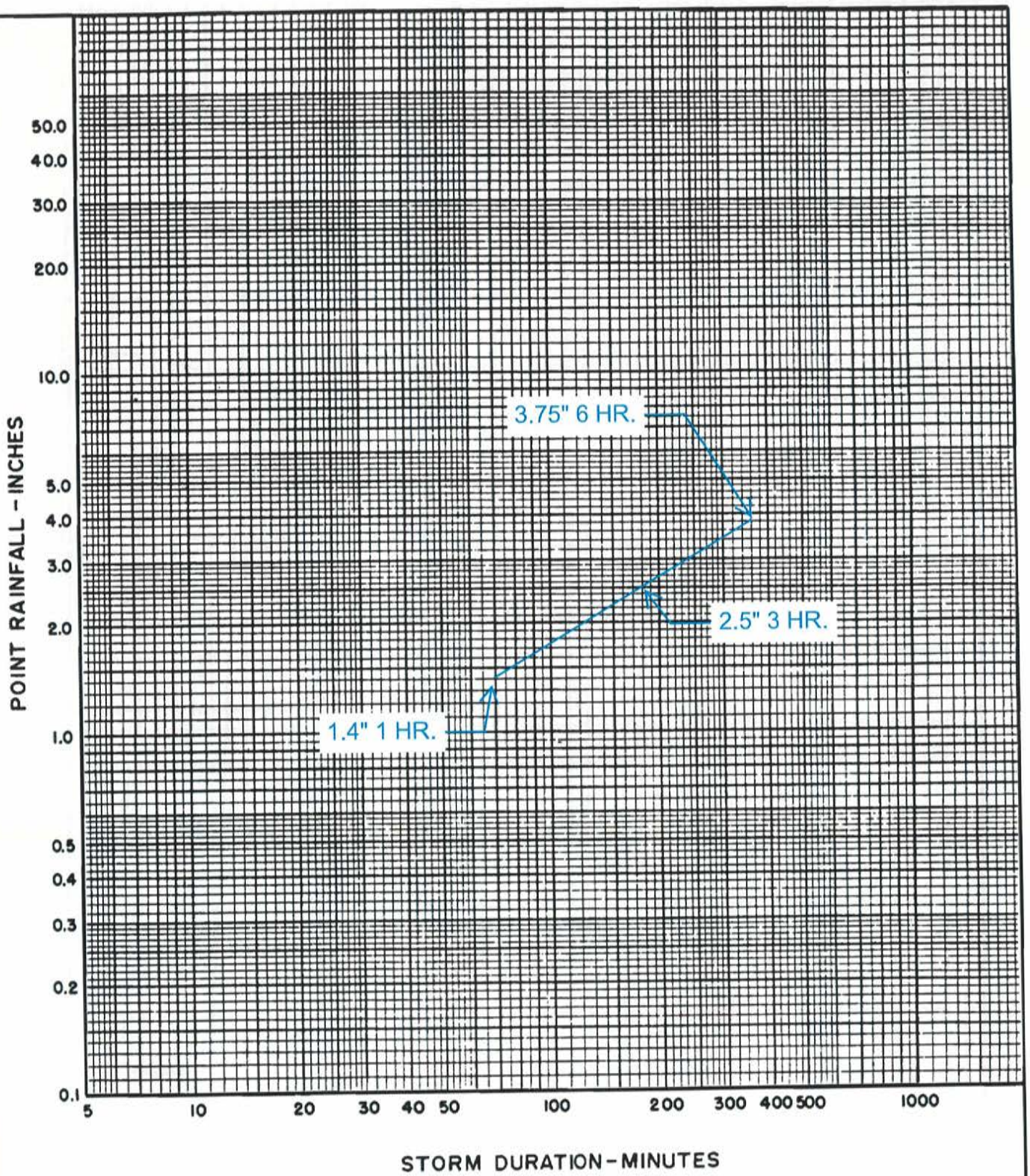
PROJECT LOCATION = ARROW AND JUNEBERRY

SAN BERNARDINO COUNTY

HYDROLOGY MANUAL

INTENSITY - DURATION CURVES CALCULATION SHEET

FIGURE D-3



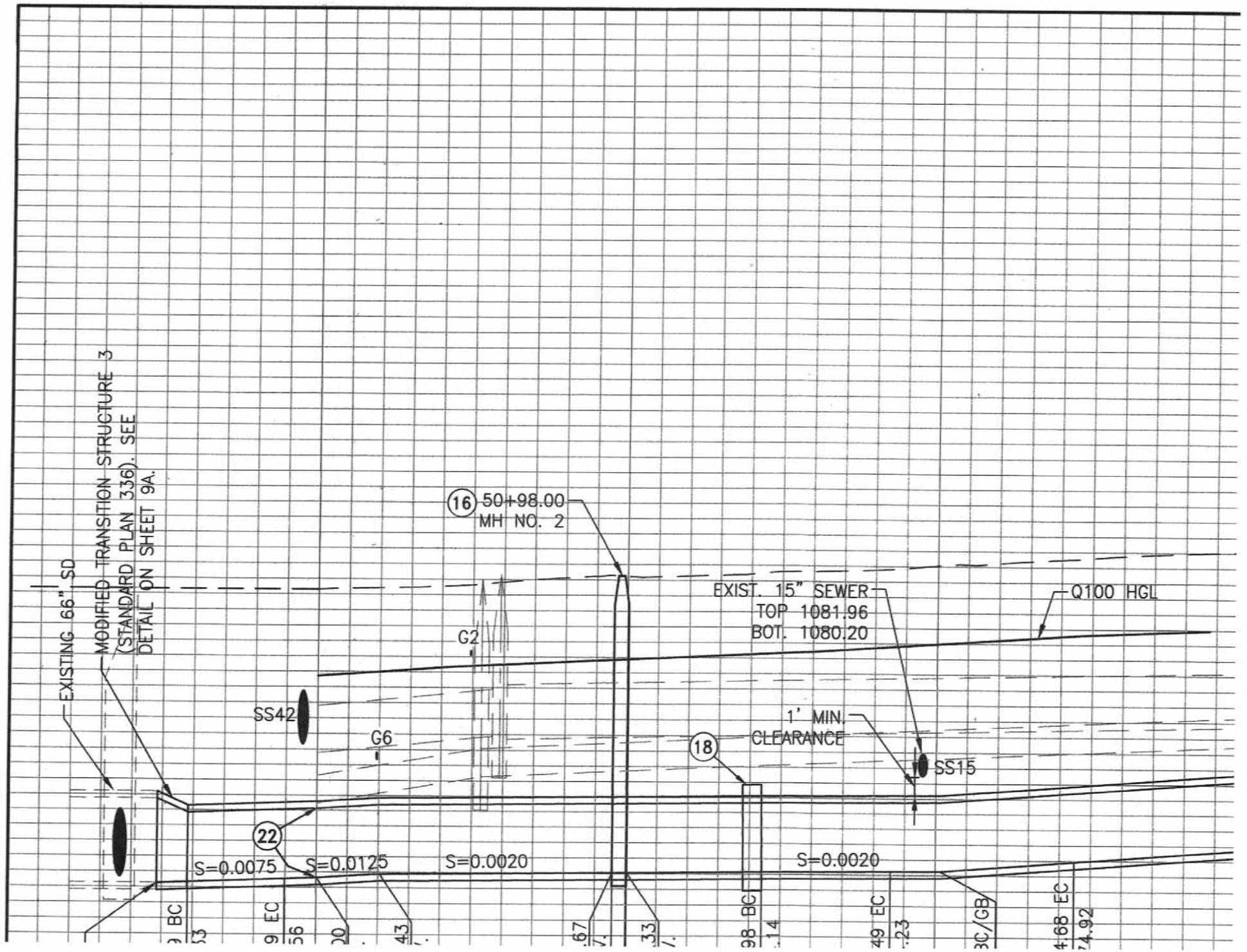
PROJECT LOCATION ARROW AND JUNEBERRY

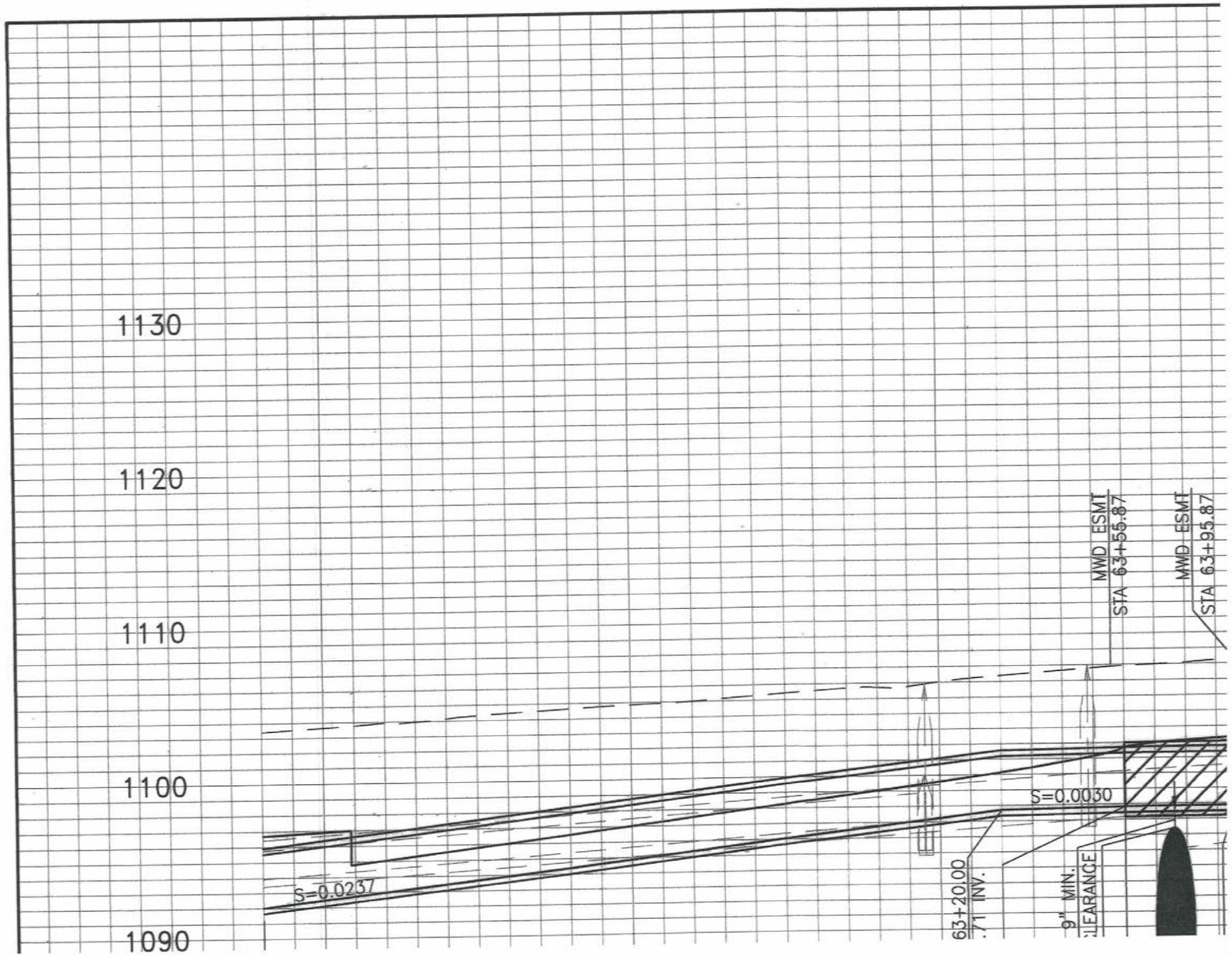
NOTES TEI JOB NUMBER 4021

SAN BERNARDINO COUNTY
HYDROLOGY MANUAL

AREA - AVERAGED
MASS RAINFALL
PLOTTING SHEET

FIGURE E-8


EXISTING 66" SD
MODIFIED TRANSITION STRUCTURE 3
(STANDARD PLAN 336). SEE
DETAIL ON SHEET 9A.
16 50+98.00
MH NO. 2
EXIST. 15" SEWER
TOP 1081.96
BOT. 1080.20
Q100 HGL
G2
SS42
G6
1' MIN.
CLEARANCE
18
SS15
22
S=0.0075
S=0.0125
S=0.0020
S=0.0020


1130
1120
1110
1100
1090
MWD ESMT
STA 63+55.87
MWD ESMT
STA 63+95.87
S=0.0030
S=0.0237
63+20.00
.71 INV.
9" MIN.
CLEARANCE

APPENDIX B

HYDROLOGY CALCULATIONS

EXISTING CONDITION
100-YEAR

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**************************************************************************
          RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM PACKAGE
       (Reference: 1986 SAN BERNARDINO CO. HYDROLOGY CRITERION)
      (c) Copyright 1983-99 Advanced Engineering Software (aes)
          Ver. 8.0  Release Date: 01/01/99  License ID 1435

                        Analysis prepared by:

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 ************************ DESCRIPTION OF STUDY ************************
* ETIWANDA AND NAPA                                                   *
* EXISTING CONDITION NODES 100-151                                    *
* 100-YEAR                                                            *
 **********************************************************************

  FILE NAME: C:\XDRIVE\3687\EXA.DAT
  TIME/DATE OF STUDY: 14:19 07/01/2023
==========================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
==========================================================================
                    --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =  100.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =  12.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  *USER-DEFINED LOGARITHMIC INTERPOLATION USED FOR RAINFALL*

  SLOPE OF INTENSITY DURATION CURVE(LOG(I;IN/HR) vs. LOG(Tc;MIN)) = 0.6000
  USER SPECIFIED 1-HOUR INTENSITY(INCH/HOUR) = 1.3800

  *ANTECEDENT MOISTURE CONDITION (AMC) III ASSUMED FOR RATIONAL METHOD*


**************************************************************************
  FLOW PROCESS FROM NODE    100.00 TO NODE    112.00 IS CODE =  21
--------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
==========================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   516.00
  ELEVATION DATA: UPSTREAM(FEET) =   1126.00  DOWNSTREAM(FEET) =   1116.35

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    8.195
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.557
  SUBAREA Tc AND LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  COMMERCIAL                 A        0.60      0.80       0.10    52    8.20
  COMMERCIAL                 B        0.76      0.45       0.10    76    8.20
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.60
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.10
  SUBAREA RUNOFF(CFS) =      5.50
  TOTAL AREA(ACRES) =      1.36   PEAK FLOW RATE(CFS) =      5.50

**************************************************************************
  FLOW PROCESS FROM NODE    100.00 TO NODE    112.00 IS CODE =  81
--------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
==========================================================================
  MAINLINE Tc(MIN) =   8.20
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.557
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  NATURAL POOR COVER
  "OPEN BRUSH"               A        0.20      0.36       1.00    81
  NATURAL POOR COVER
  "OPEN BRUSH"               B        0.60      0.16       1.00    92
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.21
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  1.00
  SUBAREA AREA(ACRES) =    0.80      SUBAREA RUNOFF(CFS) =    3.13
  EFFECTIVE AREA(ACRES) =     2.16   AREA-AVERAGED Fm(INCH/HR) =  0.12
  AREA-AVERAGED Fp(INCH/HR) =  0.27  AREA-AVERAGED Ap =  0.43
```

```
 TOTAL AREA(ACRES) =     2.16       PEAK FLOW RATE(CFS) =       8.63

****************************************************************************
 FLOW PROCESS FROM NODE    111.00 TO NODE    111.00 IS CODE =  16
----------------------------------------------------------------------------
 >>>>>USER SPECIFIED CONSTANT SOURCE FLOW AT NODE<<<<<
============================================================================
 USER-SPECIFIED CONSTANT SOURCE FLOW =    20.10(CFS)
 USER-SPECIFIED AREA ASSOCIATED TO SOURCE FLOW =     7.00(ACRES)
 * CUMULATIVE SOURCE FLOW DATA: FLOW(CFS) =    20.10  AREA(AC.) =     7.00
 * SUMMED DATA: FLOW(CFS) =    28.73    TOTAL AREA(ACRES) =     9.16

****************************************************************************
 FLOW PROCESS FROM NODE    112.00 TO NODE    113.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1112.40  DOWNSTREAM(FEET) =  1111.35
 FLOW LENGTH(FEET) =   108.00   MANNING'S N =  0.013
 DEPTH OF FLOW IN  27.0 INCH PIPE IS  21.3 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   8.53
 ESTIMATED PIPE DIAMETER(INCH) =  27.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =     28.73
 PIPE TRAVEL TIME(MIN.) =   0.21    Tc(MIN.) =   8.41
 * TOTAL SOURCE FLOW(CFS) =     20.10
 LONGEST FLOWPATH FROM NODE    100.00 TO NODE    113.00 =   624.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE    112.00 TO NODE    113.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN) =   8.41
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.488
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                  B        0.57      0.45       0.10    76
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.45
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.10
 SUBAREA AREA(ACRES) =     0.57      SUBAREA RUNOFF(CFS) =     2.28
 EFFECTIVE AREA(ACRES) =     2.73   AREA-AVERAGED Fm(INCH/HR) =  0.10
 AREA-AVERAGED Fp(INCH/HR) =  0.28  AREA-AVERAGED Ap =  0.36
 TOTAL AREA(ACRES) =     2.73       PEAK FLOW RATE(CFS) =      10.78

 * SOURCE FLOW DATA: FLOW(CFS) =    20.10     AREA(ACRES) =     7.00
 * SUMMED DATA: FLOW(CFS) =    30.88    TOTAL AREA(ACRES) =     9.73

****************************************************************************
 FLOW PROCESS FROM NODE    113.00 TO NODE    121.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1111.35  DOWNSTREAM(FEET) =  1105.60
 FLOW LENGTH(FEET) =   464.00   MANNING'S N =  0.013
 DEPTH OF FLOW IN  27.0 INCH PIPE IS  20.4 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   9.59
 ESTIMATED PIPE DIAMETER(INCH) =  27.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =     30.88
 PIPE TRAVEL TIME(MIN.) =   0.81    Tc(MIN.) =   9.21
 * TOTAL SOURCE FLOW(CFS) =     20.10
 LONGEST FLOWPATH FROM NODE    100.00 TO NODE    121.00 =  1088.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE    121.00 TO NODE    121.00 IS CODE =   1
----------------------------------------------------------------------------
 >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
 TOTAL NUMBER OF STREAMS =  2
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
 TIME OF CONCENTRATION(MIN.) =   9.21
 RAINFALL INTENSITY(INCH/HR) =   4.25
 AREA-AVERAGED Fm(INCH/HR) =  0.10
 AREA-AVERAGED Fp(INCH/HR) =  0.28
 AREA-AVERAGED Ap =  0.36
 EFFECTIVE STREAM AREA(ACRES) =    2.73
 TOTAL STREAM AREA(ACRES) =    2.73
```

```
 PEAK FLOW RATE(CFS) AT CONFLUENCE =     10.78

 * SOURCE FLOW DATA: FLOW(CFS) =    20.10     AREA(ACRES) =     7.00
 * SUMMED DATA: FLOW(CFS) =    30.88    TOTAL AREA(ACRES) =     9.73

****************************************************************************
 FLOW PROCESS FROM NODE    120.00 TO NODE    121.00 IS CODE =  21
----------------------------------------------------------------------------
 >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
 >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
 INITIAL SUBAREA FLOW-LENGTH(FEET) =   695.00
 ELEVATION DATA: UPSTREAM(FEET) =   1119.00  DOWNSTREAM(FEET) =   1112.18

 Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
 SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =   10.503
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.926
 SUBAREA Tc AND LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap     SCS   Tc
      LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
 COMMERCIAL                 A        0.83      0.80       0.10    52   10.50
 COMMERCIAL                 B        4.08      0.45       0.10    76   10.50
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.51
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.10
 SUBAREA RUNOFF(CFS) =     17.12
 TOTAL AREA(ACRES) =      4.91   PEAK FLOW RATE(CFS) =     17.12

****************************************************************************
 FLOW PROCESS FROM NODE    121.00 TO NODE    121.00 IS CODE =   1
----------------------------------------------------------------------------
 >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
 >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
 TOTAL NUMBER OF STREAMS =  2
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
 TIME OF CONCENTRATION(MIN.) =  10.50
 RAINFALL INTENSITY(INCH/HR) =   3.93
 AREA-AVERAGED Fm(INCH/HR) =  0.05
 AREA-AVERAGED Fp(INCH/HR) =  0.51
 AREA-AVERAGED Ap =  0.10
 EFFECTIVE STREAM AREA(ACRES) =    4.91
 TOTAL STREAM AREA(ACRES) =    4.91
 PEAK FLOW RATE(CFS) AT CONFLUENCE =     17.12

 ** CONFLUENCE DATA **
STREAM     Q     Tc   Intensity   Fp(Fm)     Ap   Ae     HEADWATER  SOURCE
NUMBER   (CFS) (MIN.) (INCH/HR) (INCH/HR)       (ACRES)    NODE      FLOW
   1     10.78   9.21    4.247  0.28( 0.10) 0.36     2.7     100.00    20.1
   2     17.12  10.50    3.926  0.51( 0.05) 0.10     4.9     120.00     0.0

 RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
 CONFLUENCE FORMULA USED FOR  2 STREAMS.

 ** PEAK FLOW RATE TABLE **
STREAM     Q     Tc   Intensity   Fp(Fm)     Ap   Ae     HEADWATER  SOURCE
NUMBER   (CFS) (MIN.) (INCH/HR) (INCH/HR)       (ACRES)    NODE      FLOW
   1     27.04   9.21    4.247  0.35( 0.07) 0.20     7.0     100.00    20.1
   2     27.07  10.50    3.926  0.35( 0.07) 0.19     7.6     120.00     0.0

 COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
 PEAK FLOW RATE(CFS) =     27.07    Tc(MIN.) =    10.50
 EFFECTIVE AREA(ACRES) =     7.64   AREA-AVERAGED Fm(INCH/HR) =  0.07
 AREA-AVERAGED Fp(INCH/HR) =  0.35  AREA-AVERAGED Ap =  0.19
 TOTAL AREA(ACRES) =      7.64
 * CUMULATIVE SOURCE FLOW DATA: FLOW(CFS) =    20.10  AREA(AC.) =     7.00
 * SUMMED DATA: FLOW(CFS) =    47.17    TOTAL AREA(ACRES) =    14.64
 LONGEST FLOWPATH FROM NODE    100.00 TO NODE    121.00 =  1088.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE    121.00 TO NODE    122.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1105.60  DOWNSTREAM(FEET) =  1101.90
 FLOW LENGTH(FEET) =   298.00   MANNING'S N =  0.013
 DEPTH OF FLOW IN  33.0 INCH PIPE IS  22.8 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =  10.79
 ESTIMATED PIPE DIAMETER(INCH) =  33.00    NUMBER OF PIPES =   1
```

```
 PIPE-FLOW(CFS) =     47.17
 PIPE TRAVEL TIME(MIN.) =   0.46    Tc(MIN.) =  10.96
 * TOTAL SOURCE FLOW(CFS) =     20.10
 LONGEST FLOWPATH FROM NODE    100.00 TO NODE    122.00 =  1386.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE    121.00 TO NODE    122.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN) =  10.96
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.827
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp          Ap      SCS
      LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                 B        1.90      0.45       0.10    76
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.45
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.10
 SUBAREA AREA(ACRES) =     1.90      SUBAREA RUNOFF(CFS) =     6.47
 EFFECTIVE AREA(ACRES) =     9.54   AREA-AVERAGED Fm(INCH/HR) =  0.06
 AREA-AVERAGED Fp(INCH/HR) =  0.37  AREA-AVERAGED Ap =  0.18
 TOTAL AREA(ACRES) =     9.54       PEAK FLOW RATE(CFS) =      32.30

 * SOURCE FLOW DATA: FLOW(CFS) =    20.10     AREA(ACRES) =     7.00
 * SUMMED DATA: FLOW(CFS) =    52.40    TOTAL AREA(ACRES) =    16.54

 ** PEAK FLOW RATE TABLE **
STREAM     Q     Tc   Intensity   Fp(Fm)     Ap   Ae     HEADWATER  SOURCE
NUMBER   (CFS) (MIN.) (INCH/HR) (INCH/HR)       (ACRES)    NODE      FLOW
   1     32.66   9.67    4.125  0.36( 0.07) 0.18     8.9     100.00    20.1
   2     32.30  10.96    3.827  0.37( 0.06) 0.18     9.5     120.00     0.0
 NEW PEAK FLOW DATA ARE:
 PEAK FLOW RATE(CFS) =     32.66  Tc(MIN.) =   9.67
 AREA-AVERAGED Fm(INCH/HR) =  0.07  AREA-AVERAGED Fp(INCH/HR) =  0.36
 AREA-AVERAGED Ap =  0.18  EFFECTIVE AREA(ACRES) =      8.94

 * CUMULATIVE SOURCE FLOW DATA:
   FLOW(CFS) =    20.10         AREA(ACRES) =     7.00
 * SUMMED DATA:
   FLOW(CFS) =    52.76   TOTAL AREA(ACRES) =    15.94

****************************************************************************
 FLOW PROCESS FROM NODE    122.00 TO NODE    142.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1101.90  DOWNSTREAM(FEET) =  1099.88
 FLOW LENGTH(FEET) =   161.00   MANNING'S N =  0.013
 DEPTH OF FLOW IN  33.0 INCH PIPE IS  24.8 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =  11.02
 ESTIMATED PIPE DIAMETER(INCH) =  33.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =     52.76
 PIPE TRAVEL TIME(MIN.) =   0.24    Tc(MIN.) =   9.92
 * TOTAL SOURCE FLOW(CFS) =     20.10
 LONGEST FLOWPATH FROM NODE    100.00 TO NODE    142.00 =  1547.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE    142.00 TO NODE    142.00 IS CODE =   1
----------------------------------------------------------------------------
 >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
 TOTAL NUMBER OF STREAMS =  3
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
 TIME OF CONCENTRATION(MIN.) =   9.92
 RAINFALL INTENSITY(INCH/HR) =   4.06
 AREA-AVERAGED Fm(INCH/HR) =  0.07
 AREA-AVERAGED Fp(INCH/HR) =  0.36
 AREA-AVERAGED Ap =  0.18
 EFFECTIVE STREAM AREA(ACRES) =    8.94
 TOTAL STREAM AREA(ACRES) =    9.54
 PEAK FLOW RATE(CFS) AT CONFLUENCE =     32.66

 * SOURCE FLOW DATA: FLOW(CFS) =    20.10     AREA(ACRES) =     7.00
 * SUMMED DATA: FLOW(CFS) =    52.76    TOTAL AREA(ACRES) =    16.54

****************************************************************************
 FLOW PROCESS FROM NODE    130.00 TO NODE    131.00 IS CODE =  21
----------------------------------------------------------------------------
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```
 >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
 >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
 INITIAL SUBAREA FLOW-LENGTH(FEET) =   871.00
 ELEVATION DATA: UPSTREAM(FEET) =   1126.00  DOWNSTREAM(FEET) =   1115.12

 Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
 SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =   10.954
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.829
 SUBAREA Tc AND LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS   Tc
     LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
 COMMERCIAL                 A        5.37      0.80       0.10    52   10.95
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.80
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.10
 SUBAREA RUNOFF(CFS) =     18.12
 TOTAL AREA(ACRES) =      5.37   PEAK FLOW RATE(CFS) =     18.12

****************************************************************************
 FLOW PROCESS FROM NODE    131.00 TO NODE    142.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1111.12  DOWNSTREAM(FEET) =  1099.88
 FLOW LENGTH(FEET) =   876.00   MANNING'S N =  0.013
 DEPTH OF FLOW IN  24.0 INCH PIPE IS  15.2 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   8.67
 ESTIMATED PIPE DIAMETER(INCH) =  24.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =     18.12
 PIPE TRAVEL TIME(MIN.) =   1.68    Tc(MIN.) =  12.64
 LONGEST FLOWPATH FROM NODE    130.00 TO NODE    142.00 =  1747.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE    142.00 TO NODE    142.00 IS CODE =   1
----------------------------------------------------------------------------
 >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
 TOTAL NUMBER OF STREAMS =  3
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
 TIME OF CONCENTRATION(MIN.) =  12.64
 RAINFALL INTENSITY(INCH/HR) =   3.51
 AREA-AVERAGED Fm(INCH/HR) =  0.08
 AREA-AVERAGED Fp(INCH/HR) =  0.80
 AREA-AVERAGED Ap =  0.10
 EFFECTIVE STREAM AREA(ACRES) =    5.37
 TOTAL STREAM AREA(ACRES) =    5.37
 PEAK FLOW RATE(CFS) AT CONFLUENCE =     18.12

****************************************************************************
 FLOW PROCESS FROM NODE    140.00 TO NODE    141.00 IS CODE =  21
----------------------------------------------------------------------------
 >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
 >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
 INITIAL SUBAREA FLOW-LENGTH(FEET) =   805.00
 ELEVATION DATA: UPSTREAM(FEET) =   1119.00  DOWNSTREAM(FEET) =   1110.60

 Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
 SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =   11.003
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.818
 SUBAREA Tc AND LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS   Tc
     LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
 COMMERCIAL                 A        2.89      0.80       0.10    52   11.00
 COMMERCIAL                 B        2.31      0.45       0.10    76   11.00
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.64
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.10
 SUBAREA RUNOFF(CFS) =     17.57
 TOTAL AREA(ACRES) =      5.20   PEAK FLOW RATE(CFS) =     17.57

****************************************************************************
 FLOW PROCESS FROM NODE    141.00 TO NODE    142.00 IS CODE =  51
----------------------------------------------------------------------------
 >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =   1110.60  DOWNSTREAM(FEET) =   1106.05
 CHANNEL LENGTH THRU SUBAREA(FEET) =   623.00   CHANNEL SLOPE =  0.0073
```

```
  CHANNEL BASE(FEET) =    2.00   "Z" FACTOR =   5.000
  MANNING'S FACTOR = 0.015   MAXIMUM DEPTH(FEET) =   2.00
  CHANNEL FLOW THRU SUBAREA(CFS) =     17.57
  FLOW VELOCITY(FEET/SEC) =   4.68   FLOW DEPTH(FEET) =   0.69
  TRAVEL TIME(MIN.) =   2.22   Tc(MIN.) =  13.22
  LONGEST FLOWPATH FROM NODE    140.00 TO NODE    142.00 =  1428.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    141.00 TO NODE    142.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  MAINLINE Tc(MIN) =  13.22
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.420
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap     SCS
       LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                  B        3.97      0.45       0.10    76
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.45
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.10
  SUBAREA AREA(ACRES) =    3.97      SUBAREA RUNOFF(CFS) =   12.06
  EFFECTIVE AREA(ACRES) =     9.17   AREA-AVERAGED Fm(INCH/HR) =  0.06
  AREA-AVERAGED Fp(INCH/HR) =  0.56  AREA-AVERAGED Ap =  0.10
  TOTAL AREA(ACRES) =     9.17       PEAK FLOW RATE(CFS) =      27.76

****************************************************************************
  FLOW PROCESS FROM NODE    142.00 TO NODE    142.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
  >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  3
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  3 ARE:
  TIME OF CONCENTRATION(MIN.) =  13.22
  RAINFALL INTENSITY(INCH/HR) =   3.42
  AREA-AVERAGED Fm(INCH/HR) =  0.06
  AREA-AVERAGED Fp(INCH/HR) =  0.56
  AREA-AVERAGED Ap =  0.10
  EFFECTIVE STREAM AREA(ACRES) =    9.17
  TOTAL STREAM AREA(ACRES) =    9.17
  PEAK FLOW RATE(CFS) AT CONFLUENCE =     27.76

  ** CONFLUENCE DATA **
STREAM     Q     Tc   Intensity   Fp(Fm)     Ap   Ae     HEADWATER  SOURCE
NUMBER   (CFS) (MIN.) (INCH/HR) (INCH/HR)       (ACRES)    NODE       FLOW
   1     32.66   9.92    4.064  0.36( 0.07) 0.18     8.9     100.00     20.1
   1     32.30  11.21    3.776  0.37( 0.06) 0.18     9.5     120.00      0.0
   2     18.12  12.64    3.514  0.80( 0.08) 0.10     5.4     130.00      0.0
   3     27.76  13.22    3.420  0.56( 0.06) 0.10     9.2     140.00      0.0

  RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
  CONFLUENCE FORMULA USED FOR  3 STREAMS.

  ** PEAK FLOW RATE TABLE **
STREAM     Q     Tc   Intensity   Fp(Fm)     Ap   Ae     HEADWATER  SOURCE
NUMBER   (CFS) (MIN.) (INCH/HR) (INCH/HR)       (ACRES)    NODE       FLOW
   1     73.96   9.92    4.064  0.48( 0.07) 0.14    20.0     100.00     20.1
   2     75.62  11.21    3.776  0.49( 0.06) 0.13    22.1     120.00      0.0
   3     75.41  12.64    3.514  0.50( 0.06) 0.13    23.7     130.00      0.0
   4     74.58  13.22    3.420  0.50( 0.06) 0.13    24.1     140.00      0.0

  COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
  PEAK FLOW RATE(CFS) =     75.62    Tc(MIN.) =    11.21
  EFFECTIVE AREA(ACRES) =    22.07   AREA-AVERAGED Fm(INCH/HR) =  0.06
  AREA-AVERAGED Fp(INCH/HR) =  0.49  AREA-AVERAGED Ap =  0.13
  TOTAL AREA(ACRES) =     24.08
  * CUMULATIVE SOURCE FLOW DATA: FLOW(CFS) =    20.10  AREA(AC.) =     7.00
  * SUMMED DATA: FLOW(CFS) =    95.72    TOTAL AREA(ACRES) =    31.08
  LONGEST FLOWPATH FROM NODE    130.00 TO NODE    142.00 =  1747.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    142.00 TO NODE    143.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1099.82  DOWNSTREAM(FEET) =  1093.18
  FLOW LENGTH(FEET) =   498.00   MANNING'S N =  0.013
  DEPTH OF FLOW IN  42.0 INCH PIPE IS  29.6 INCHES
```

```
 PIPE-FLOW VELOCITY(FEET/SEC.) =  13.20
 ESTIMATED PIPE DIAMETER(INCH) =  42.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =     95.72
 PIPE TRAVEL TIME(MIN.) =   0.63    Tc(MIN.) =  11.84
 * TOTAL SOURCE FLOW(CFS) =     20.10
 LONGEST FLOWPATH FROM NODE    130.00 TO NODE    143.00 =  2245.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE    143.00 TO NODE    143.00 IS CODE =   1
----------------------------------------------------------------------------
 >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
 TOTAL NUMBER OF STREAMS =  2
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
 TIME OF CONCENTRATION(MIN.) =  11.84
 RAINFALL INTENSITY(INCH/HR) =   3.65
 AREA-AVERAGED Fm(INCH/HR) =  0.06
 AREA-AVERAGED Fp(INCH/HR) =  0.49
 AREA-AVERAGED Ap =  0.13
 EFFECTIVE STREAM AREA(ACRES) =   22.07
 TOTAL STREAM AREA(ACRES) =   24.08
 PEAK FLOW RATE(CFS) AT CONFLUENCE =     75.62

 * SOURCE FLOW DATA: FLOW(CFS) =    20.10     AREA(ACRES) =     7.00
 * SUMMED DATA: FLOW(CFS) =    95.72    TOTAL AREA(ACRES) =    31.08

****************************************************************************
 FLOW PROCESS FROM NODE    150.00 TO NODE    151.00 IS CODE =  21
----------------------------------------------------------------------------
 >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
 >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
 INITIAL SUBAREA FLOW-LENGTH(FEET) =   923.00
 ELEVATION DATA: UPSTREAM(FEET) =   1109.80  DOWNSTREAM(FEET) =   1093.00

 Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
 SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =   10.398
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.950
 SUBAREA Tc AND LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS   Tc
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
 COMMERCIAL                  B        3.94      0.45       0.10    76   10.40
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.45
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.10
 SUBAREA RUNOFF(CFS) =     13.85
 TOTAL AREA(ACRES) =      3.94   PEAK FLOW RATE(CFS) =     13.85

****************************************************************************
 FLOW PROCESS FROM NODE    151.00 TO NODE    151.00 IS CODE =   1
----------------------------------------------------------------------------
 >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
 >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
 TOTAL NUMBER OF STREAMS =  2
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
 TIME OF CONCENTRATION(MIN.) =  10.40
 RAINFALL INTENSITY(INCH/HR) =   3.95
 AREA-AVERAGED Fm(INCH/HR) =  0.05
 AREA-AVERAGED Fp(INCH/HR) =  0.45
 AREA-AVERAGED Ap =  0.10
 EFFECTIVE STREAM AREA(ACRES) =    3.94
 TOTAL STREAM AREA(ACRES) =    3.94
 PEAK FLOW RATE(CFS) AT CONFLUENCE =     13.85

 ** CONFLUENCE DATA **
STREAM     Q     Tc   Intensity   Fp(Fm)     Ap   Ae     HEADWATER  SOURCE
NUMBER   (CFS) (MIN.) (INCH/HR) (INCH/HR)       (ACRES)    NODE      FLOW
   1     73.96  10.55    3.916  0.48( 0.07) 0.14    20.0     100.00    20.1
   1     75.62  11.84    3.655  0.49( 0.06) 0.13    22.1     120.00     0.0
   1     75.41  13.27    3.413  0.50( 0.06) 0.13    23.7     130.00     0.0
   1     74.58  13.85    3.325  0.50( 0.06) 0.13    24.1     140.00     0.0
   2     13.85  10.40    3.950  0.45( 0.05) 0.10     3.9     150.00     0.0

 RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
 CONFLUENCE FORMULA USED FOR  2 STREAMS.

 ** PEAK FLOW RATE TABLE **
STREAM     Q     Tc   Intensity   Fp(Fm)     Ap   Ae     HEADWATER  SOURCE
NUMBER   (CFS) (MIN.) (INCH/HR) (INCH/HR)       (ACRES)    NODE      FLOW
```

```
   1     87.69  10.55    3.916  0.48( 0.06) 0.13    24.0     100.00    20.1
   2     88.42  11.84    3.655  0.48( 0.06) 0.13    26.0     120.00     0.0
   3     87.35  13.27    3.413  0.49( 0.06) 0.13    27.6     130.00     0.0
   4     86.21  13.85    3.325  0.49( 0.06) 0.13    28.0     140.00     0.0
   5     87.39  10.40    3.950  0.48( 0.06) 0.13    23.7     150.00     0.0

  COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
  PEAK FLOW RATE(CFS) =     88.42    Tc(MIN.) =    11.84
  EFFECTIVE AREA(ACRES) =    26.01   AREA-AVERAGED Fm(INCH/HR) =  0.06
  AREA-AVERAGED Fp(INCH/HR) =  0.48  AREA-AVERAGED Ap =  0.13
  TOTAL AREA(ACRES) =     28.02
  * CUMULATIVE SOURCE FLOW DATA: FLOW(CFS) =    20.10  AREA(AC.) =     7.00
  * SUMMED DATA: FLOW(CFS) =   108.52    TOTAL AREA(ACRES) =    35.02
  LONGEST FLOWPATH FROM NODE    130.00 TO NODE    151.00 =  2245.00 FEET.
================================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)      =     28.02  TC(MIN.) =     11.84
  EFFECTIVE AREA(ACRES) =     26.01  AREA-AVERAGED Fm(INCH/HR)=  0.06
  AREA-AVERAGED Fp(INCH/HR) =  0.48  AREA-AVERAGED Ap =  0.13
  PEAK FLOW RATE(CFS)    =     88.42
  * CUMULATIVE SOURCE FLOW DATA: FLOW(CFS) =    20.10  AREA(AC.) =     7.00
  * SUMMED DATA: FLOW(CFS) =   108.52    TOTAL AREA(ACRES) =    35.02

  ** PEAK FLOW RATE TABLE **
STREAM     Q     Tc   Intensity   Fp(Fm)     Ap   Ae     HEADWATER  SOURCE
NUMBER   (CFS) (MIN.) (INCH/HR) (INCH/HR)       (ACRES)    NODE      FLOW
   1     87.39  10.40    3.950  0.48( 0.06) 0.13    23.7     150.00     0.0
   2     87.69  10.55    3.916  0.48( 0.06) 0.13    24.0     100.00    20.1
   3     88.42  11.84    3.655  0.48( 0.06) 0.13    26.0     120.00     0.0
   4     87.35  13.27    3.413  0.49( 0.06) 0.13    27.6     130.00     0.0
   5     86.21  13.85    3.325  0.49( 0.06) 0.13    28.0     140.00     0.0
================================================================================
================================================================================
  END OF RATIONAL METHOD ANALYSIS
```

```
**************************************************************************
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                        Analysis prepared by:

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 ************************ DESCRIPTION OF STUDY ************************
* ETIWANDA AND NAPA                                                   *
* EXISTING CONDITOIN NODES 160-161                                    *
* 100-YEAR                                                            *
 **********************************************************************

  FILE NAME: C:\XDRIVE\3687\EXB.DAT
  TIME/DATE OF STUDY: 13:31 07/01/2023
==========================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
==========================================================================
                  --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =  100.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =  12.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  *USER-DEFINED LOGARITHMIC INTERPOLATION USED FOR RAINFALL*

  SLOPE OF INTENSITY DURATION CURVE(LOG(I;IN/HR) vs. LOG(Tc;MIN)) = 0.6000
  USER SPECIFIED 1-HOUR INTENSITY(INCH/HOUR) = 1.3800

  *ANTECEDENT MOISTURE CONDITION (AMC) III ASSUMED FOR RATIONAL METHOD*


**************************************************************************
  FLOW PROCESS FROM NODE    160.00 TO NODE    161.00 IS CODE =  21
--------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
==========================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   581.00
  ELEVATION DATA: UPSTREAM(FEET) =   1114.00  DOWNSTREAM(FEET) =   1107.40

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    9.494
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.171
  SUBAREA Tc AND LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap      SCS   Tc
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  COMMERCIAL                 B        3.28      0.45       0.10    76    9.49
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.45
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.10
  SUBAREA RUNOFF(CFS) =     12.18
  TOTAL AREA(ACRES) =      3.28   PEAK FLOW RATE(CFS) =     12.18

**************************************************************************
  FLOW PROCESS FROM NODE    160.00 TO NODE    161.00 IS CODE =  81
--------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
==========================================================================
  MAINLINE Tc(MIN) =   9.49
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.171
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/      SCS SOIL   AREA      Fp         Ap      SCS
       LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  NATURAL POOR COVER
  "OPEN BRUSH"               B        0.97      0.16       1.00    92
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.16
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  1.00
  SUBAREA AREA(ACRES) =     0.97      SUBAREA RUNOFF(CFS) =     3.50
  EFFECTIVE AREA(ACRES) =     4.25   AREA-AVERAGED Fm(INCH/HR) =  0.07
  AREA-AVERAGED Fp(INCH/HR) =  0.23  AREA-AVERAGED Ap =  0.31
  TOTAL AREA(ACRES) =     4.25       PEAK FLOW RATE(CFS) =      15.68

**************************************************************************
```

```
 FLOW PROCESS FROM NODE    160.00 TO NODE    161.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN) =   9.49
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.171
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 NATURAL POOR COVER
 "OPEN BRUSH"                 B        0.21      0.16       1.00    92
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.16
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  1.00
 SUBAREA AREA(ACRES) =    0.21      SUBAREA RUNOFF(CFS) =    0.76
 EFFECTIVE AREA(ACRES) =     4.46   AREA-AVERAGED Fm(INCH/HR) =  0.08
 AREA-AVERAGED Fp(INCH/HR) =  0.22  AREA-AVERAGED Ap =  0.34
 TOTAL AREA(ACRES) =     4.46       PEAK FLOW RATE(CFS) =      16.44
============================================================================
 END OF STUDY SUMMARY:
 TOTAL AREA(ACRES)      =      4.46  TC(MIN.) =      9.49
 EFFECTIVE AREA(ACRES) =       4.46  AREA-AVERAGED Fm(INCH/HR)=  0.08
 AREA-AVERAGED Fp(INCH/HR) =  0.22  AREA-AVERAGED Ap =  0.34
 PEAK FLOW RATE(CFS)    =     16.44
============================================================================
============================================================================
 END OF RATIONAL METHOD ANALYSIS

1
```

```
**************************************************************************
           RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM PACKAGE
         (Reference: 1986 SAN BERNARDINO CO. HYDROLOGY CRITERION)
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                        Analysis prepared by:

                          THIENES ENGINEERING
                        16800 VALLEY VIEW AVENUE
                          LA MIRADA CA 90638
                    PH: (714) 521-4811 FAX: (714) 521-4173

 ************************* DESCRIPTION OF STUDY *************************
* ETIWANDA AND NAPA                                                     *
* EXISTING CONDITION NODES 200-242                                      *
* 100-YEAR                                                              *
 **************************************************************************

  FILE NAME: C:\XDRIVE\3687\EXB.DAT
  TIME/DATE OF STUDY: 13:09 07/01/2023
==========================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
==========================================================================
                    --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =  100.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =  12.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  *USER-DEFINED LOGARITHMIC INTERPOLATION USED FOR RAINFALL*

  SLOPE OF INTENSITY DURATION CURVE(LOG(I;IN/HR) vs. LOG(Tc;MIN)) = 0.6000
  USER SPECIFIED 1-HOUR INTENSITY(INCH/HOUR) = 1.3800

  *ANTECEDENT MOISTURE CONDITION (AMC) III ASSUMED FOR RATIONAL METHOD*


**************************************************************************
  FLOW PROCESS FROM NODE    200.00 TO NODE    201.00 IS CODE =  21
--------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
==========================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   764.00
  ELEVATION DATA: UPSTREAM(FEET) =   1128.50  DOWNSTREAM(FEET) =   1119.00

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =   10.404
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.949
  SUBAREA Tc AND LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS   Tc
       LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  COMMERCIAL                  A        4.22      0.80       0.10    52   10.40
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.80
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.10
  SUBAREA RUNOFF(CFS) =     14.70
  TOTAL AREA(ACRES) =      4.22   PEAK FLOW RATE(CFS) =     14.70

**************************************************************************
  FLOW PROCESS FROM NODE    200.00 TO NODE    201.00 IS CODE =  81
--------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
==========================================================================
  MAINLINE Tc(MIN) =  10.40
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.949
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS
       LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  NATURAL POOR COVER
  "OPEN BRUSH"                A        0.46      0.36       1.00    81
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.36
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  1.00
  SUBAREA AREA(ACRES) =     0.46      SUBAREA RUNOFF(CFS) =     1.48
  EFFECTIVE AREA(ACRES) =     4.68   AREA-AVERAGED Fm(INCH/HR) =  0.11
  AREA-AVERAGED Fp(INCH/HR) =  0.57  AREA-AVERAGED Ap =  0.19
  TOTAL AREA(ACRES) =     4.68      PEAK FLOW RATE(CFS) =      16.18

**************************************************************************
```

```
 FLOW PROCESS FROM NODE     201.00 TO NODE     202.00 IS CODE =  51
----------------------------------------------------------------------------
 >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =   1112.00  DOWNSTREAM(FEET) =   1111.00
 CHANNEL LENGTH THRU SUBAREA(FEET) =   344.00   CHANNEL SLOPE =  0.0029
 CHANNEL BASE(FEET) =    5.00   "Z" FACTOR =   3.000
 MANNING'S FACTOR = 0.015   MAXIMUM DEPTH(FEET) =   3.00
 CHANNEL FLOW THRU SUBAREA(CFS) =     16.18
 FLOW VELOCITY(FEET/SEC) =   3.42   FLOW DEPTH(FEET) =   0.67
 TRAVEL TIME(MIN.) =   1.68   Tc(MIN.) =  12.08
 LONGEST FLOWPATH FROM NODE    200.00 TO NODE    202.00 =  1108.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE     201.00 TO NODE     202.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN) =  12.08
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.610
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                 A        3.18      0.80       0.10     52
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.80
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.10
 SUBAREA AREA(ACRES) =     3.18      SUBAREA RUNOFF(CFS) =   10.10
 EFFECTIVE AREA(ACRES) =     7.86   AREA-AVERAGED Fm(INCH/HR) =  0.10
 AREA-AVERAGED Fp(INCH/HR) =  0.63  AREA-AVERAGED Ap =  0.15
 TOTAL AREA(ACRES) =     7.86       PEAK FLOW RATE(CFS) =      24.86

****************************************************************************
 FLOW PROCESS FROM NODE     202.00 TO NODE     202.00 IS CODE =   1
----------------------------------------------------------------------------
 >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
 TOTAL NUMBER OF STREAMS =  2
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
 TIME OF CONCENTRATION(MIN.) =  12.08
 RAINFALL INTENSITY(INCH/HR) =   3.61
 AREA-AVERAGED Fm(INCH/HR) =  0.10
 AREA-AVERAGED Fp(INCH/HR) =  0.63
 AREA-AVERAGED Ap =  0.15
 EFFECTIVE STREAM AREA(ACRES) =    7.86
 TOTAL STREAM AREA(ACRES) =    7.86
 PEAK FLOW RATE(CFS) AT CONFLUENCE =     24.86

****************************************************************************
 FLOW PROCESS FROM NODE     220.00 TO NODE     221.00 IS CODE =  21
----------------------------------------------------------------------------
 >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
 >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
 INITIAL SUBAREA FLOW-LENGTH(FEET) =   943.00
 ELEVATION DATA: UPSTREAM(FEET) =   1126.00  DOWNSTREAM(FEET) =   1114.00

 Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
 SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =   11.265
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.765
 SUBAREA Tc AND LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS   Tc
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
 COMMERCIAL                 A        5.26      0.80       0.10     52   11.27
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.80
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.10
 SUBAREA RUNOFF(CFS) =     17.44
 TOTAL AREA(ACRES) =      5.26   PEAK FLOW RATE(CFS) =     17.44

****************************************************************************
 FLOW PROCESS FROM NODE     220.00 TO NODE     221.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN) =  11.27
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.765
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
```

```
  NATURAL POOR COVER
  "OPEN BRUSH"                A        1.42      0.36      1.00    81
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.36
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  1.00
  SUBAREA AREA(ACRES) =     1.42      SUBAREA RUNOFF(CFS) =     4.35
  EFFECTIVE AREA(ACRES) =     6.68    AREA-AVERAGED Fm(INCH/HR) =  0.14
  AREA-AVERAGED Fp(INCH/HR) =  0.48  AREA-AVERAGED Ap =  0.29
  TOTAL AREA(ACRES) =     6.68        PEAK FLOW RATE(CFS) =      21.79

****************************************************************************
  FLOW PROCESS FROM NODE    210.00 TO NODE    210.00 IS CODE =  16
----------------------------------------------------------------------------
  >>>>>USER SPECIFIED CONSTANT SOURCE FLOW AT NODE<<<<<
============================================================================
  USER-SPECIFIED CONSTANT SOURCE FLOW =   153.30(CFS)
  USER-SPECIFIED AREA ASSOCIATED TO SOURCE FLOW =    42.50(ACRES)
  * CUMULATIVE SOURCE FLOW DATA: FLOW(CFS) =   153.30  AREA(AC.) =    42.50
  * SUMMED DATA: FLOW(CFS) =   175.09    TOTAL AREA(ACRES) =    49.18

****************************************************************************
  FLOW PROCESS FROM NODE    221.00 TO NODE    221.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
  >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
  TIME OF CONCENTRATION(MIN.) =  11.27
  RAINFALL INTENSITY(INCH/HR) =   3.76
  AREA-AVERAGED Fm(INCH/HR) =  0.14
  AREA-AVERAGED Fp(INCH/HR) =  0.48
  AREA-AVERAGED Ap =  0.29
  EFFECTIVE STREAM AREA(ACRES) =    6.68
  TOTAL STREAM AREA(ACRES) =    6.68
  PEAK FLOW RATE(CFS) AT CONFLUENCE =     21.79

  * SOURCE FLOW DATA: FLOW(CFS) =   153.30     AREA(ACRES) =    42.50
  * SUMMED DATA: FLOW(CFS) =   175.09    TOTAL AREA(ACRES) =    49.18

  ** CONFLUENCE DATA **
STREAM     Q     Tc   Intensity   Fp(Fm)     Ap   Ae     HEADWATER  SOURCE
NUMBER   (CFS) (MIN.) (INCH/HR) (INCH/HR)       (ACRES)    NODE      FLOW
   1     24.86  12.08    3.610  0.63( 0.10) 0.15     7.9     200.00     0.0
   2     21.79  11.27    3.765  0.48( 0.14) 0.29     6.7     220.00   153.3

  RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
  CONFLUENCE FORMULA USED FOR  2 STREAMS.

  ** PEAK FLOW RATE TABLE **
STREAM     Q     Tc   Intensity   Fp(Fm)     Ap   Ae     HEADWATER  SOURCE
NUMBER   (CFS) (MIN.) (INCH/HR) (INCH/HR)       (ACRES)    NODE      FLOW
   1     45.72  12.08    3.610  0.54( 0.12) 0.22    14.5     200.00     0.0
   2     45.99  11.27    3.765  0.53( 0.12) 0.22    14.0     220.00   153.3

  COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
  PEAK FLOW RATE(CFS) =     45.99    Tc(MIN.) =    11.27
  EFFECTIVE AREA(ACRES) =    14.01   AREA-AVERAGED Fm(INCH/HR) =  0.12
  AREA-AVERAGED Fp(INCH/HR) =  0.53  AREA-AVERAGED Ap =  0.22
  TOTAL AREA(ACRES) =     14.54
  * CUMULATIVE SOURCE FLOW DATA: FLOW(CFS) =   153.30  AREA(AC.) =    42.50
  * SUMMED DATA: FLOW(CFS) =   199.29    TOTAL AREA(ACRES) =    57.04
  LONGEST FLOWPATH FROM NODE    200.00 TO NODE    221.00 =  1108.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    221.00 TO NODE    242.00 IS CODE =  52
----------------------------------------------------------------------------
  >>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   1110.00  DOWNSTREAM(FEET) =   1104.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =   484.00   CHANNEL SLOPE =  0.0124
  CHANNEL FLOW THRU SUBAREA(CFS) =    199.29
  FLOW VELOCITY(FEET/SEC) =   6.52 (PER LACFCD/RCFC&WCD HYDROLOGY MANUAL)
  TRAVEL TIME(MIN.) =   1.24   Tc(MIN.) =  12.50
  * TOTAL SOURCE FLOW(CFS) =    153.30
  LONGEST FLOWPATH FROM NODE    200.00 TO NODE    242.00 =  1592.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    221.00 TO NODE    242.00 IS CODE =  81
```

```
------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
========================================================================
 MAINLINE Tc(MIN) =  12.50
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.537
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap     SCS
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                  A        2.96      0.80       0.10    52
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.80
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.10
 SUBAREA AREA(ACRES) =    2.96      SUBAREA RUNOFF(CFS) =    9.21
 EFFECTIVE AREA(ACRES) =    16.97   AREA-AVERAGED Fm(INCH/HR) =  0.11
 AREA-AVERAGED Fp(INCH/HR) =  0.56  AREA-AVERAGED Ap =  0.20
 TOTAL AREA(ACRES) =    17.50       PEAK FLOW RATE(CFS) =      52.33

 * SOURCE FLOW DATA: FLOW(CFS) =   153.30     AREA(ACRES) =    42.50
 * SUMMED DATA: FLOW(CFS) =   205.63    TOTAL AREA(ACRES) =    60.00

************************************************************************
 FLOW PROCESS FROM NODE    242.00 TO NODE    242.00 IS CODE =   1
------------------------------------------------------------------------
 >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
========================================================================
 TOTAL NUMBER OF STREAMS =  3
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
 TIME OF CONCENTRATION(MIN.) =  12.50
 RAINFALL INTENSITY(INCH/HR) =   3.54
 AREA-AVERAGED Fm(INCH/HR) =  0.11
 AREA-AVERAGED Fp(INCH/HR) =  0.56
 AREA-AVERAGED Ap =  0.20
 EFFECTIVE STREAM AREA(ACRES) =   16.97
 TOTAL STREAM AREA(ACRES) =   17.50
 PEAK FLOW RATE(CFS) AT CONFLUENCE =     52.33

 * SOURCE FLOW DATA: FLOW(CFS) =   153.30     AREA(ACRES) =    42.50
 * SUMMED DATA: FLOW(CFS) =   205.63    TOTAL AREA(ACRES) =    60.00

************************************************************************
 FLOW PROCESS FROM NODE    230.00 TO NODE    231.00 IS CODE =  21
------------------------------------------------------------------------
 >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
 >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
========================================================================
 INITIAL SUBAREA FLOW-LENGTH(FEET) =   828.00
 ELEVATION DATA: UPSTREAM(FEET) =   1128.50  DOWNSTREAM(FEET) =   1117.00

 Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
 SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =   10.509
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.925
 SUBAREA Tc AND LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap     SCS   Tc
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
 COMMERCIAL                  A        4.35      0.80       0.10    52   10.51
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.80
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.10
 SUBAREA RUNOFF(CFS) =     15.05
 TOTAL AREA(ACRES) =      4.35   PEAK FLOW RATE(CFS) =     15.05

************************************************************************
 FLOW PROCESS FROM NODE    230.00 TO NODE    231.00 IS CODE =  81
------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
========================================================================
 MAINLINE Tc(MIN) =  10.51
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.925
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap     SCS
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 NATURAL POOR COVER
 "OPEN BRUSH"                A        0.24      0.36       1.00    81
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.36
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  1.00
 SUBAREA AREA(ACRES) =    0.24      SUBAREA RUNOFF(CFS) =    0.77
 EFFECTIVE AREA(ACRES) =     4.59   AREA-AVERAGED Fm(INCH/HR) =  0.09
 AREA-AVERAGED Fp(INCH/HR) =  0.64  AREA-AVERAGED Ap =  0.15
 TOTAL AREA(ACRES) =     4.59       PEAK FLOW RATE(CFS) =      15.82

************************************************************************
```

```
 FLOW PROCESS FROM NODE    231.00 TO NODE    232.00 IS CODE =  51
----------------------------------------------------------------------------
 >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
 >>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =   1117.00  DOWNSTREAM(FEET) =   1110.50
 CHANNEL LENGTH THRU SUBAREA(FEET) =   730.00   CHANNEL SLOPE =  0.0089
 CHANNEL BASE(FEET) =   10.00   "Z" FACTOR =   5.000
 MANNING'S FACTOR = 0.015   MAXIMUM DEPTH(FEET) =   1.00
 CHANNEL FLOW THRU SUBAREA(CFS) =     15.82
 FLOW VELOCITY(FEET/SEC) =   4.08   FLOW DEPTH(FEET) =   0.33
 TRAVEL TIME(MIN.) =   2.98   Tc(MIN.) =  13.49
 LONGEST FLOWPATH FROM NODE    230.00 TO NODE    232.00 =  1558.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE    231.00 TO NODE    232.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN) =  13.49
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.378
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp          Ap      SCS
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                  A        2.99      0.80        0.10    52
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.80
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.10
 SUBAREA AREA(ACRES) =     2.99      SUBAREA RUNOFF(CFS) =     8.88
 EFFECTIVE AREA(ACRES) =     7.58   AREA-AVERAGED Fm(INCH/HR) =  0.09
 AREA-AVERAGED Fp(INCH/HR) =  0.69  AREA-AVERAGED Ap =  0.13
 TOTAL AREA(ACRES) =     7.58       PEAK FLOW RATE(CFS) =      22.44

****************************************************************************
 FLOW PROCESS FROM NODE    232.00 TO NODE    232.00 IS CODE =   1
----------------------------------------------------------------------------
 >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
 TOTAL NUMBER OF STREAMS =  3
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
 TIME OF CONCENTRATION(MIN.) =  13.49
 RAINFALL INTENSITY(INCH/HR) =   3.38
 AREA-AVERAGED Fm(INCH/HR) =  0.09
 AREA-AVERAGED Fp(INCH/HR) =  0.69
 AREA-AVERAGED Ap =  0.13
 EFFECTIVE STREAM AREA(ACRES) =    7.58
 TOTAL STREAM AREA(ACRES) =    7.58
 PEAK FLOW RATE(CFS) AT CONFLUENCE =     22.44

****************************************************************************
 FLOW PROCESS FROM NODE    240.00 TO NODE    241.00 IS CODE =  21
----------------------------------------------------------------------------
 >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
 >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
 INITIAL SUBAREA FLOW-LENGTH(FEET) =   739.00
 ELEVATION DATA: UPSTREAM(FEET) =   1113.50  DOWNSTREAM(FEET) =   1106.36

 Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
 SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =   10.797
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.862
 SUBAREA Tc AND LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp          Ap      SCS   Tc
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
 COMMERCIAL                  A        2.14      0.80        0.10    52   10.80
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.80
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.10
 SUBAREA RUNOFF(CFS) =      7.28
 TOTAL AREA(ACRES) =      2.14   PEAK FLOW RATE(CFS) =      7.28

****************************************************************************
 FLOW PROCESS FROM NODE    241.00 TO NODE    242.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1106.36  DOWNSTREAM(FEET) =  1106.00
 FLOW LENGTH(FEET) =    32.00   MANNING'S N =  0.013
 DEPTH OF FLOW IN  18.0 INCH PIPE IS  10.8 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   6.59
```

```
  ESTIMATED PIPE DIAMETER(INCH) =  18.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      7.28
  PIPE TRAVEL TIME(MIN.) =   0.08    Tc(MIN.) =  10.88
  LONGEST FLOWPATH FROM NODE    240.00 TO NODE    242.00 =   771.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE    242.00 TO NODE    242.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
  >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  3
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  3 ARE:
  TIME OF CONCENTRATION(MIN.) =  10.88
  RAINFALL INTENSITY(INCH/HR) =   3.84
  AREA-AVERAGED Fm(INCH/HR) =  0.08
  AREA-AVERAGED Fp(INCH/HR) =  0.80
  AREA-AVERAGED Ap =  0.10
  EFFECTIVE STREAM AREA(ACRES) =    2.14
  TOTAL STREAM AREA(ACRES) =    2.14
  PEAK FLOW RATE(CFS) AT CONFLUENCE =      7.28

  ** CONFLUENCE DATA **
STREAM     Q     Tc   Intensity   Fp(Fm)     Ap   Ae     HEADWATER  SOURCE
NUMBER   (CFS) (MIN.) (INCH/HR) (INCH/HR)       (ACRES)    NODE      FLOW
   1     51.89  13.32    3.405  0.56( 0.11) 0.20    17.5     200.00     0.0
   1     52.33  12.50    3.537  0.56( 0.11) 0.20    17.0     220.00   153.3
   2     22.44  13.49    3.378  0.69( 0.09) 0.13     7.6     230.00     0.0
   3      7.28  10.88    3.844  0.80( 0.08) 0.10     2.1     240.00     0.0

  RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
  CONFLUENCE FORMULA USED FOR  3 STREAMS.

  ** PEAK FLOW RATE TABLE **
STREAM     Q     Tc   Intensity   Fp(Fm)     Ap   Ae     HEADWATER  SOURCE
NUMBER   (CFS) (MIN.) (INCH/HR) (INCH/HR)       (ACRES)    NODE      FLOW
   1     80.81  12.50    3.537  0.60( 0.10) 0.17    26.1     220.00     0.0
   2     80.66  13.32    3.405  0.60( 0.10) 0.17    27.1     200.00   153.3
   3     80.30  13.49    3.378  0.60( 0.10) 0.17    27.2     230.00     0.0
   4     77.56  10.88    3.844  0.60( 0.10) 0.17    23.0     240.00     0.0

  COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
  PEAK FLOW RATE(CFS) =     80.81    Tc(MIN.) =    12.50
  EFFECTIVE AREA(ACRES) =    26.13   AREA-AVERAGED Fm(INCH/HR) =  0.10
  AREA-AVERAGED Fp(INCH/HR) =  0.60  AREA-AVERAGED Ap =  0.17
  TOTAL AREA(ACRES) =     27.22
  * CUMULATIVE SOURCE FLOW DATA: FLOW(CFS) =   153.30  AREA(AC.) =    42.50
  * SUMMED DATA: FLOW(CFS) =   234.11    TOTAL AREA(ACRES) =    69.72
  LONGEST FLOWPATH FROM NODE    200.00 TO NODE    242.00 =  1592.00 FEET.
============================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =     27.22  TC(MIN.) =     12.50
  EFFECTIVE AREA(ACRES) =     26.13  AREA-AVERAGED Fm(INCH/HR)=  0.10
  AREA-AVERAGED Fp(INCH/HR) =  0.60  AREA-AVERAGED Ap =  0.17
  PEAK FLOW RATE(CFS)   =     80.81
  * CUMULATIVE SOURCE FLOW DATA: FLOW(CFS) =   153.30  AREA(AC.) =    42.50
  * SUMMED DATA: FLOW(CFS) =   234.11    TOTAL AREA(ACRES) =    69.72

  ** PEAK FLOW RATE TABLE **
STREAM     Q     Tc   Intensity   Fp(Fm)     Ap   Ae     HEADWATER  SOURCE
NUMBER   (CFS) (MIN.) (INCH/HR) (INCH/HR)       (ACRES)    NODE      FLOW
   1     77.56  10.88    3.844  0.60( 0.10) 0.17    23.0     240.00     0.0
   2     80.81  12.50    3.537  0.60( 0.10) 0.17    26.1     220.00     0.0
   3     80.66  13.32    3.405  0.60( 0.10) 0.17    27.1     200.00   153.3
   4     80.30  13.49    3.378  0.60( 0.10) 0.17    27.2     230.00     0.0
============================================================================
============================================================================
  END OF RATIONAL METHOD ANALYSIS
```

```
**************************************************************************
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 ************************ DESCRIPTION OF STUDY *************************
* ETIWANDA AND NAPA                                                    *
* EXISTING CONDITON NODES 250-251                                      *
* 100-YEAR                                                             *
 **************************************************************************

  FILE NAME: C:\XDRIVE\3687\EXD.DAT
  TIME/DATE OF STUDY: 13:49 07/01/2023
==========================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
==========================================================================
                    --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =  100.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =  12.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  *USER-DEFINED LOGARITHMIC INTERPOLATION USED FOR RAINFALL*

  SLOPE OF INTENSITY DURATION CURVE(LOG(I;IN/HR) vs. LOG(Tc;MIN)) = 0.6000
  USER SPECIFIED 1-HOUR INTENSITY(INCH/HOUR) = 1.3800

  *ANTECEDENT MOISTURE CONDITION (AMC) III ASSUMED FOR RATIONAL METHOD*


**************************************************************************
  FLOW PROCESS FROM NODE    250.00 TO NODE    251.00 IS CODE =  21
--------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
==========================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   393.00
  ELEVATION DATA: UPSTREAM(FEET) =   1115.50  DOWNSTREAM(FEET) =   1108.50

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    7.421
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.836
  SUBAREA Tc AND LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS   Tc
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  COMMERCIAL                 A        1.31      0.80       0.10    52    7.42
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.80
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.10
  SUBAREA RUNOFF(CFS) =      5.61
  TOTAL AREA(ACRES) =      1.31   PEAK FLOW RATE(CFS) =      5.61
==========================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =      1.31  TC(MIN.) =      7.42
  EFFECTIVE AREA(ACRES) =      1.31  AREA-AVERAGED Fm(INCH/HR)=  0.08
  AREA-AVERAGED Fp(INCH/HR) =  0.80  AREA-AVERAGED Ap =  0.10
  PEAK FLOW RATE(CFS)   =      5.61
==========================================================================
==========================================================================
  END OF RATIONAL METHOD ANALYSIS
```

```
**************************************************************************
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                        Analysis prepared by:

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 ************************ DESCRIPTION OF STUDY *************************
* ETIWANDA AND NAPA                                                    *
* EXISTING CONDITION NODES 260-261                                     *
* 100-YEAR                                                             *
 **************************************************************************

  FILE NAME: C:\XDRIVE\3687\EXE.DAT
  TIME/DATE OF STUDY: 13:50 07/01/2023
==========================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
==========================================================================
                   --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =  100.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =  12.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  *USER-DEFINED LOGARITHMIC INTERPOLATION USED FOR RAINFALL*

  SLOPE OF INTENSITY DURATION CURVE(LOG(I;IN/HR) vs. LOG(Tc;MIN)) = 0.6000
  USER SPECIFIED 1-HOUR INTENSITY(INCH/HOUR) = 1.3800

  *ANTECEDENT MOISTURE CONDITION (AMC) III ASSUMED FOR RATIONAL METHOD*


**************************************************************************
  FLOW PROCESS FROM NODE    260.00 TO NODE    261.00 IS CODE =  21
--------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
==========================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   752.00
  ELEVATION DATA: UPSTREAM(FEET) =   1118.00  DOWNSTREAM(FEET) =   1112.00

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =   11.297
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.758
  SUBAREA Tc AND LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS   Tc
       LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  COMMERCIAL                  A        2.05      0.80       0.10    52   11.30
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.80
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.10
  SUBAREA RUNOFF(CFS) =      6.79
  TOTAL AREA(ACRES) =      2.05   PEAK FLOW RATE(CFS) =      6.79
==========================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =      2.05  TC(MIN.) =     11.30
  EFFECTIVE AREA(ACRES) =      2.05  AREA-AVERAGED Fm(INCH/HR)=  0.08
  AREA-AVERAGED Fp(INCH/HR) =  0.80  AREA-AVERAGED Ap =  0.10
  PEAK FLOW RATE(CFS)   =      6.79
==========================================================================
==========================================================================
  END OF RATIONAL METHOD ANALYSIS
```

PROPOSED CONDITION
100-YEAR

```
**************************************************************************
          RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM PACKAGE
       (Reference: 1986 SAN BERNARDINO CO. HYDROLOGY CRITERION)
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          Ver. 23.0  Release Date: 07/01/2016  License ID 1435

                        Analysis prepared by:



 ************************* DESCRIPTION OF STUDY *************************
* TEI JOB NUMBER 3687                                                    *
* PROPOSED CONDITION (NODES 100-218)                                     *
* 100-YR STORM EVENT                                                     *
 ************************************************************************

  FILE NAME: W:\3687\100P.DAT
  TIME/DATE OF STUDY: 11:06 06/08/2023
========================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
========================================================================
                    --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =  100.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =  12.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  *USER-DEFINED LOGARITHMIC INTERPOLATION USED FOR RAINFALL*

  SLOPE OF INTENSITY DURATION CURVE(LOG(I;IN/HR) vs. LOG(Tc;MIN)) = 0.6000
  USER SPECIFIED 1-HOUR INTENSITY(INCH/HOUR) = 1.3800

  *ANTECEDENT MOISTURE CONDITION (AMC) III ASSUMED FOR RATIONAL METHOD*

  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  ========  ================  ======  ===== ====== ===== =======
  1   30.0     20.0    0.018/0.018/0.020   0.67    2.00 0.0313 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*
  *USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED

**************************************************************************
  FLOW PROCESS FROM NODE     100.00 TO NODE     101.00 IS CODE =  21
--------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
==========================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   152.00
  ELEVATION DATA: UPSTREAM(FEET) =   1123.75  DOWNSTREAM(FEET) =   1121.62

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    5.325
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.902
  SUBAREA Tc AND LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS   Tc
       LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  COMMERCIAL                  A        1.00      0.74      0.100    52    5.32
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.74
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA RUNOFF(CFS) =      5.24
  TOTAL AREA(ACRES) =      1.00   PEAK FLOW RATE(CFS) =      5.24

**************************************************************************
  FLOW PROCESS FROM NODE     101.00 TO NODE     102.00 IS CODE =  31
--------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
==========================================================================
```

```
 ELEVATION DATA: UPSTREAM(FEET) =  1116.15  DOWNSTREAM(FEET) =  1115.31
 FLOW LENGTH(FEET) =   228.00   MANNING'S N =  0.012
 DEPTH OF FLOW IN  18.0 INCH PIPE IS  11.9 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   4.21
 ESTIMATED PIPE DIAMETER(INCH) =  18.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =       5.24
 PIPE TRAVEL TIME(MIN.) =   0.90    Tc(MIN.) =    6.23
 LONGEST FLOWPATH FROM NODE    100.00 TO NODE    102.00 =     380.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE    102.00 TO NODE    102.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =    6.23
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.373
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp          Ap     SCS
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                  A        1.00      0.74     0.100    52
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.74
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA AREA(ACRES) =    1.00      SUBAREA RUNOFF(CFS) =    4.77
 EFFECTIVE AREA(ACRES) =      2.00   AREA-AVERAGED Fm(INCH/HR) =  0.07
 AREA-AVERAGED Fp(INCH/HR) =  0.74  AREA-AVERAGED Ap =  0.10
 TOTAL AREA(ACRES) =        2.0       PEAK FLOW RATE(CFS) =       9.54

****************************************************************************
 FLOW PROCESS FROM NODE    102.00 TO NODE    103.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1115.31  DOWNSTREAM(FEET) =  1114.57
 FLOW LENGTH(FEET) =   200.00   MANNING'S N =  0.012
 DEPTH OF FLOW IN  21.0 INCH PIPE IS  16.1 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   4.81
 ESTIMATED PIPE DIAMETER(INCH) =  21.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =       9.54
 PIPE TRAVEL TIME(MIN.) =   0.69    Tc(MIN.) =    6.92
 LONGEST FLOWPATH FROM NODE    100.00 TO NODE    103.00 =     580.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE    103.00 TO NODE    103.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =    6.92
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.043
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp          Ap     SCS
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                  A        1.00      0.74     0.100    52
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.74
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA AREA(ACRES) =    1.00      SUBAREA RUNOFF(CFS) =    4.47
 EFFECTIVE AREA(ACRES) =      3.00   AREA-AVERAGED Fm(INCH/HR) =  0.07
 AREA-AVERAGED Fp(INCH/HR) =  0.74  AREA-AVERAGED Ap =  0.10
 TOTAL AREA(ACRES) =        3.0       PEAK FLOW RATE(CFS) =      13.42

****************************************************************************
 FLOW PROCESS FROM NODE    103.00 TO NODE    104.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1114.57  DOWNSTREAM(FEET) =  1113.99
 FLOW LENGTH(FEET) =   156.00   MANNING'S N =  0.012
 DEPTH OF FLOW IN  24.0 INCH PIPE IS  18.2 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   5.26
 ESTIMATED PIPE DIAMETER(INCH) =  24.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =      13.42
 PIPE TRAVEL TIME(MIN.) =   0.49    Tc(MIN.) =    7.41
 LONGEST FLOWPATH FROM NODE    100.00 TO NODE    104.00 =     736.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE    104.00 TO NODE    104.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
```

```
 ==========================================================================
  MAINLINE Tc(MIN.) =    7.41
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.839
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS
       LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                  A        0.80      0.74      0.100    52
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.74
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA AREA(ACRES) =    0.80      SUBAREA RUNOFF(CFS) =    3.43
  EFFECTIVE AREA(ACRES) =      3.80   AREA-AVERAGED Fm(INCH/HR) =  0.07
  AREA-AVERAGED Fp(INCH/HR) =  0.74  AREA-AVERAGED Ap =  0.10
  TOTAL AREA(ACRES) =        3.8       PEAK FLOW RATE(CFS) =      16.30

 ****************************************************************************
  FLOW PROCESS FROM NODE    104.00 TO NODE    105.00 IS CODE =  31
 ----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
 ============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1113.99  DOWNSTREAM(FEET) =  1113.47
  FLOW LENGTH(FEET) =   141.00   MANNING'S N =  0.012
  DEPTH OF FLOW IN  27.0 INCH PIPE IS  18.6 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   5.57
  ESTIMATED PIPE DIAMETER(INCH) =  27.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      16.30
  PIPE TRAVEL TIME(MIN.) =   0.42    Tc(MIN.) =    7.84
  LONGEST FLOWPATH FROM NODE    100.00 TO NODE    105.00 =     877.00 FEET.

 ****************************************************************************
  FLOW PROCESS FROM NODE    105.00 TO NODE    105.00 IS CODE =  81
 ----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
 ============================================================================
  MAINLINE Tc(MIN.) =    7.84
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.681
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS
       LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                  A        0.20      0.74      0.100    52
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.74
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA AREA(ACRES) =    0.20      SUBAREA RUNOFF(CFS) =    0.83
  EFFECTIVE AREA(ACRES) =      4.00   AREA-AVERAGED Fm(INCH/HR) =  0.07
  AREA-AVERAGED Fp(INCH/HR) =  0.74  AREA-AVERAGED Ap =  0.10
  TOTAL AREA(ACRES) =        4.0       PEAK FLOW RATE(CFS) =      16.58

 ****************************************************************************
  FLOW PROCESS FROM NODE    105.00 TO NODE    106.00 IS CODE =  31
 ----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
 ============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1113.47  DOWNSTREAM(FEET) =  1112.96
  FLOW LENGTH(FEET) =   137.00   MANNING'S N =  0.012
  DEPTH OF FLOW IN  27.0 INCH PIPE IS  18.8 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   5.61
  ESTIMATED PIPE DIAMETER(INCH) =  27.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      16.58
  PIPE TRAVEL TIME(MIN.) =   0.41    Tc(MIN.) =    8.24
  LONGEST FLOWPATH FROM NODE    100.00 TO NODE    106.00 =    1014.00 FEET.

 ****************************************************************************
  FLOW PROCESS FROM NODE    106.00 TO NODE    106.00 IS CODE =  81
 ----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
 ============================================================================
  MAINLINE Tc(MIN.) =    8.24
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.541
  SUBAREA LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS
       LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
  COMMERCIAL                  A        0.10      0.74      0.100    52
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.74
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA AREA(ACRES) =    0.10      SUBAREA RUNOFF(CFS) =    0.40
  EFFECTIVE AREA(ACRES) =      4.10   AREA-AVERAGED Fm(INCH/HR) =  0.07
  AREA-AVERAGED Fp(INCH/HR) =  0.74  AREA-AVERAGED Ap =  0.10
  TOTAL AREA(ACRES) =        4.1       PEAK FLOW RATE(CFS) =      16.58
```

```
 NOTE: PEAK FLOW RATE DEFAULTED TO UPSTREAM VALUE

****************************************************************************
 FLOW PROCESS FROM NODE    106.00 TO NODE    107.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1112.96  DOWNSTREAM(FEET) =  1112.29
 FLOW LENGTH(FEET) =   180.00   MANNING'S N =  0.012
 DEPTH OF FLOW IN  27.0 INCH PIPE IS  18.8 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   5.61
 ESTIMATED PIPE DIAMETER(INCH) =  27.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =      16.58
 PIPE TRAVEL TIME(MIN.) =   0.53    Tc(MIN.) =    8.78
 LONGEST FLOWPATH FROM NODE    100.00 TO NODE    107.00 =    1194.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE    107.00 TO NODE    107.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =    8.78
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.373
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                  A        1.10      0.74      0.100    52
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.74
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA AREA(ACRES) =     1.10      SUBAREA RUNOFF(CFS) =     4.26
 EFFECTIVE AREA(ACRES) =      5.20   AREA-AVERAGED Fm(INCH/HR) =  0.07
 AREA-AVERAGED Fp(INCH/HR) =  0.74  AREA-AVERAGED Ap =  0.10
 TOTAL AREA(ACRES) =         5.2       PEAK FLOW RATE(CFS) =      20.12

****************************************************************************
 FLOW PROCESS FROM NODE    107.00 TO NODE    108.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1112.29  DOWNSTREAM(FEET) =  1111.27
 FLOW LENGTH(FEET) =   278.00   MANNING'S N =  0.012
 DEPTH OF FLOW IN  30.0 INCH PIPE IS  19.7 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   5.89
 ESTIMATED PIPE DIAMETER(INCH) =  30.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =      20.12
 PIPE TRAVEL TIME(MIN.) =   0.79    Tc(MIN.) =    9.56
 LONGEST FLOWPATH FROM NODE    100.00 TO NODE    108.00 =    1472.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE    108.00 TO NODE    108.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =    9.56
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.153
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                  A        1.00      0.74      0.100    52
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.74
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA AREA(ACRES) =     1.00      SUBAREA RUNOFF(CFS) =     3.67
 EFFECTIVE AREA(ACRES) =      6.20   AREA-AVERAGED Fm(INCH/HR) =  0.07
 AREA-AVERAGED Fp(INCH/HR) =  0.74  AREA-AVERAGED Ap =  0.10
 TOTAL AREA(ACRES) =         6.2       PEAK FLOW RATE(CFS) =      22.76

****************************************************************************
 FLOW PROCESS FROM NODE    108.00 TO NODE    109.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1111.27  DOWNSTREAM(FEET) =  1110.84
 FLOW LENGTH(FEET) =   114.00   MANNING'S N =  0.012
 DEPTH OF FLOW IN  30.0 INCH PIPE IS  21.3 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   6.09
 ESTIMATED PIPE DIAMETER(INCH) =  30.00    NUMBER OF PIPES =   1
```

```
 PIPE-FLOW(CFS) =      22.76
 PIPE TRAVEL TIME(MIN.) =   0.31    Tc(MIN.) =    9.88
 LONGEST FLOWPATH FROM NODE    100.00 TO NODE    109.00 =    1586.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE    109.00 TO NODE    109.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =    9.88
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.074
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                  A        1.10      0.74      0.100    52
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.74
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA AREA(ACRES) =    1.10      SUBAREA RUNOFF(CFS) =    3.96
 EFFECTIVE AREA(ACRES) =      7.30   AREA-AVERAGED Fm(INCH/HR) =  0.07
 AREA-AVERAGED Fp(INCH/HR) =  0.74  AREA-AVERAGED Ap =  0.10
 TOTAL AREA(ACRES) =        7.3       PEAK FLOW RATE(CFS) =      26.28

****************************************************************************
 FLOW PROCESS FROM NODE    109.00 TO NODE    110.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1110.84  DOWNSTREAM(FEET) =  1110.42
 FLOW LENGTH(FEET) =   114.00   MANNING'S N =  0.012
 DEPTH OF FLOW IN  30.0 INCH PIPE IS  24.6 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   6.11
 ESTIMATED PIPE DIAMETER(INCH) =  30.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =      26.28
 PIPE TRAVEL TIME(MIN.) =   0.31    Tc(MIN.) =   10.19
 LONGEST FLOWPATH FROM NODE    100.00 TO NODE    110.00 =    1700.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE    110.00 TO NODE    110.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =   10.19
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.999
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                  A        1.10      0.74      0.100    52
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.74
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA AREA(ACRES) =    1.10      SUBAREA RUNOFF(CFS) =    3.89
 EFFECTIVE AREA(ACRES) =      8.40   AREA-AVERAGED Fm(INCH/HR) =  0.07
 AREA-AVERAGED Fp(INCH/HR) =  0.74  AREA-AVERAGED Ap =  0.10
 TOTAL AREA(ACRES) =        8.4       PEAK FLOW RATE(CFS) =      29.67

****************************************************************************
 FLOW PROCESS FROM NODE    110.00 TO NODE    111.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1110.42  DOWNSTREAM(FEET) =  1109.98
 FLOW LENGTH(FEET) =   120.00   MANNING'S N =  0.012
 DEPTH OF FLOW IN  33.0 INCH PIPE IS  24.0 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   6.42
 ESTIMATED PIPE DIAMETER(INCH) =  33.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =      29.67
 PIPE TRAVEL TIME(MIN.) =   0.31    Tc(MIN.) =   10.50
 LONGEST FLOWPATH FROM NODE    100.00 TO NODE    111.00 =    1820.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE    111.00 TO NODE    111.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =   10.50
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.927
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS
```

```
     LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                 A        1.30      0.74     0.100    52
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.74
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA AREA(ACRES) =    1.30      SUBAREA RUNOFF(CFS) =    4.51
 EFFECTIVE AREA(ACRES) =      9.70   AREA-AVERAGED Fm(INCH/HR) =  0.07
 AREA-AVERAGED Fp(INCH/HR) =  0.74  AREA-AVERAGED Ap =  0.10
 TOTAL AREA(ACRES) =        9.7       PEAK FLOW RATE(CFS) =      33.64

****************************************************************************
 FLOW PROCESS FROM NODE    111.00 TO NODE    112.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1109.98  DOWNSTREAM(FEET) =  1109.27
 FLOW LENGTH(FEET) =   192.00   MANNING'S N =  0.012
 DEPTH OF FLOW IN  33.0 INCH PIPE IS  26.8 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   6.52
 ESTIMATED PIPE DIAMETER(INCH) =  33.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =      33.64
 PIPE TRAVEL TIME(MIN.) =   0.49    Tc(MIN.) =   10.99
 LONGEST FLOWPATH FROM NODE    100.00 TO NODE    112.00 =    2012.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE    112.00 TO NODE    112.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =   10.99
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.821
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp          Ap      SCS
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                 A        0.10      0.74     0.100    52
 COMMERCIAL                 A        0.60      0.74     0.100    52
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.74
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA AREA(ACRES) =    0.70      SUBAREA RUNOFF(CFS) =    2.36
 EFFECTIVE AREA(ACRES) =     10.40   AREA-AVERAGED Fm(INCH/HR) =  0.07
 AREA-AVERAGED Fp(INCH/HR) =  0.74  AREA-AVERAGED Ap =  0.10
 TOTAL AREA(ACRES) =       10.4       PEAK FLOW RATE(CFS) =      35.07

****************************************************************************
 FLOW PROCESS FROM NODE    112.00 TO NODE    113.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1109.27  DOWNSTREAM(FEET) =  1107.91
 FLOW LENGTH(FEET) =    96.00   MANNING'S N =  0.012
 DEPTH OF FLOW IN  27.0 INCH PIPE IS  20.0 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =  11.08
 ESTIMATED PIPE DIAMETER(INCH) =  27.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =      35.07
 PIPE TRAVEL TIME(MIN.) =   0.14    Tc(MIN.) =   11.13
 LONGEST FLOWPATH FROM NODE    100.00 TO NODE    113.00 =    2108.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE    113.00 TO NODE    217.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1107.91  DOWNSTREAM(FEET) =  1107.02
 FLOW LENGTH(FEET) =   355.00   MANNING'S N =  0.013
 DEPTH OF FLOW IN  39.0 INCH PIPE IS  28.1 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   5.47
 ESTIMATED PIPE DIAMETER(INCH) =  39.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =      35.07
 PIPE TRAVEL TIME(MIN.) =   1.08    Tc(MIN.) =   12.21
 LONGEST FLOWPATH FROM NODE    100.00 TO NODE    217.00 =    2463.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE    217.00 TO NODE    217.00 IS CODE =  10
----------------------------------------------------------------------------
 >>>>>MAIN-STREAM MEMORY COPIED ONTO MEMORY BANK # 1 <<<<<
============================================================================
```

```
****************************************************************************
 FLOW PROCESS FROM NODE     200.00 TO NODE     201.00 IS CODE =  21
----------------------------------------------------------------------------
 >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
 >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
 INITIAL SUBAREA FLOW-LENGTH(FEET) =   147.00
 ELEVATION DATA: UPSTREAM(FEET) =   1117.62  DOWNSTREAM(FEET) =   1114.16

 Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
 SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    5.000
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  6.129
 SUBAREA Tc AND LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS   Tc
      LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
 COMMERCIAL                 A        0.40      0.74      0.100    52    5.00
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.74
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA RUNOFF(CFS) =      2.18
 TOTAL AREA(ACRES) =      0.40   PEAK FLOW RATE(CFS) =      2.18

****************************************************************************
 FLOW PROCESS FROM NODE     201.00 TO NODE     202.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1108.56  DOWNSTREAM(FEET) =  1108.44
 FLOW LENGTH(FEET) =   128.00   MANNING'S N =  0.012
 DEPTH OF FLOW IN  18.0 INCH PIPE IS  10.5 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   2.04
 ESTIMATED PIPE DIAMETER(INCH) =  18.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =       2.18
 PIPE TRAVEL TIME(MIN.) =   1.04    Tc(MIN.) =    6.04
 LONGEST FLOWPATH FROM NODE    200.00 TO NODE    202.00 =     275.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE     202.00 TO NODE     202.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =    6.04
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.469
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS
      LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                 A        0.20      0.74      0.100    52
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.74
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA AREA(ACRES) =     0.20      SUBAREA RUNOFF(CFS) =     0.97
 EFFECTIVE AREA(ACRES) =      0.60   AREA-AVERAGED Fm(INCH/HR) =  0.07
 AREA-AVERAGED Fp(INCH/HR) =  0.74  AREA-AVERAGED Ap =  0.10
 TOTAL AREA(ACRES) =        0.6       PEAK FLOW RATE(CFS) =       2.91

****************************************************************************
 FLOW PROCESS FROM NODE     202.00 TO NODE     215.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1108.44  DOWNSTREAM(FEET) =  1107.81
 FLOW LENGTH(FEET) =   652.00   MANNING'S N =  0.012
 DEPTH OF FLOW IN  18.0 INCH PIPE IS  12.7 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   2.19
 ESTIMATED PIPE DIAMETER(INCH) =  18.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =       2.91
 PIPE TRAVEL TIME(MIN.) =   4.97    Tc(MIN.) =   11.02
 LONGEST FLOWPATH FROM NODE    200.00 TO NODE    215.00 =     927.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE     215.00 TO NODE     215.00 IS CODE =   1
----------------------------------------------------------------------------
 >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
 TOTAL NUMBER OF STREAMS =  2
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
 TIME OF CONCENTRATION(MIN.) =   11.02
 RAINFALL INTENSITY(INCH/HR) =   3.82
 AREA-AVERAGED Fm(INCH/HR) =  0.07
```

```
 AREA-AVERAGED Fp(INCH/HR) =  0.74
 AREA-AVERAGED Ap =  0.10
 EFFECTIVE STREAM AREA(ACRES) =       0.60
 TOTAL STREAM AREA(ACRES) =       0.60
 PEAK FLOW RATE(CFS) AT CONFLUENCE =       2.91

****************************************************************************
 FLOW PROCESS FROM NODE    210.00 TO NODE    211.00 IS CODE =  21
----------------------------------------------------------------------------
 >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
 >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
 INITIAL SUBAREA FLOW-LENGTH(FEET) =   315.00
 ELEVATION DATA: UPSTREAM(FEET) =   1114.92  DOWNSTREAM(FEET) =   1110.46

 Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
 SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    7.112
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.961
 SUBAREA Tc AND LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap     SCS   Tc
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
 COMMERCIAL                  A        2.10      0.74     0.100    52    7.11
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.74
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA RUNOFF(CFS) =      9.24
 TOTAL AREA(ACRES) =      2.10   PEAK FLOW RATE(CFS) =      9.24

****************************************************************************
 FLOW PROCESS FROM NODE    211.00 TO NODE    212.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1108.22  DOWNSTREAM(FEET) =  1108.09
 FLOW LENGTH(FEET) =   131.00   MANNING'S N =  0.012
 DEPTH OF FLOW IN  27.0 INCH PIPE IS  20.0 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   2.93
 ESTIMATED PIPE DIAMETER(INCH) =  27.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =       9.24
 PIPE TRAVEL TIME(MIN.) =   0.74    Tc(MIN.) =    7.86
 LONGEST FLOWPATH FROM NODE    210.00 TO NODE    212.00 =     446.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE    212.00 TO NODE    212.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =    7.86
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.673
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap     SCS
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                  A        1.20      0.74     0.100    52
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.74
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA AREA(ACRES) =     1.20      SUBAREA RUNOFF(CFS) =     4.97
 EFFECTIVE AREA(ACRES) =      3.30   AREA-AVERAGED Fm(INCH/HR) =  0.07
 AREA-AVERAGED Fp(INCH/HR) =  0.74  AREA-AVERAGED Ap =  0.10
 TOTAL AREA(ACRES) =        3.3       PEAK FLOW RATE(CFS) =      13.66

****************************************************************************
 FLOW PROCESS FROM NODE    212.00 TO NODE    213.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1108.09  DOWNSTREAM(FEET) =  1107.97
 FLOW LENGTH(FEET) =   115.00   MANNING'S N =  0.012
 DEPTH OF FLOW IN  30.0 INCH PIPE IS  24.0 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   3.25
 ESTIMATED PIPE DIAMETER(INCH) =  30.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =      13.66
 PIPE TRAVEL TIME(MIN.) =   0.59    Tc(MIN.) =    8.45
 LONGEST FLOWPATH FROM NODE    210.00 TO NODE    213.00 =     561.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE    213.00 TO NODE    213.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
```

```
==========================================================================
 MAINLINE Tc(MIN.) =    8.45
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.475
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                  A        1.20      0.74      0.100    52
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.74
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA AREA(ACRES) =    1.20      SUBAREA RUNOFF(CFS) =    4.75
 EFFECTIVE AREA(ACRES) =      4.50   AREA-AVERAGED Fm(INCH/HR) =  0.07
 AREA-AVERAGED Fp(INCH/HR) =  0.74  AREA-AVERAGED Ap =  0.10
 TOTAL AREA(ACRES) =        4.5       PEAK FLOW RATE(CFS) =      17.82

**************************************************************************
 FLOW PROCESS FROM NODE    213.00 TO NODE    214.00 IS CODE =  31
--------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
==========================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1107.97  DOWNSTREAM(FEET) =  1107.87
 FLOW LENGTH(FEET) =   106.00   MANNING'S N =  0.012
 DEPTH OF FLOW IN  36.0 INCH PIPE IS  24.9 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   3.42
 ESTIMATED PIPE DIAMETER(INCH) =  36.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =      17.82
 PIPE TRAVEL TIME(MIN.) =   0.52    Tc(MIN.) =    8.96
 LONGEST FLOWPATH FROM NODE    210.00 TO NODE    214.00 =     667.00 FEET.

**************************************************************************
 FLOW PROCESS FROM NODE    214.00 TO NODE    214.00 IS CODE =  81
--------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
==========================================================================
 MAINLINE Tc(MIN.) =    8.96
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.318
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                  A        2.10      0.74      0.100    52
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.74
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA AREA(ACRES) =    2.10      SUBAREA RUNOFF(CFS) =    8.02
 EFFECTIVE AREA(ACRES) =      6.60   AREA-AVERAGED Fm(INCH/HR) =  0.07
 AREA-AVERAGED Fp(INCH/HR) =  0.74  AREA-AVERAGED Ap =  0.10
 TOTAL AREA(ACRES) =        6.6       PEAK FLOW RATE(CFS) =      25.21

**************************************************************************
 FLOW PROCESS FROM NODE    214.00 TO NODE    215.00 IS CODE =  31
--------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
==========================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1107.87  DOWNSTREAM(FEET) =  1107.81
 FLOW LENGTH(FEET) =    55.00   MANNING'S N =  0.012
 DEPTH OF FLOW IN  39.0 INCH PIPE IS  28.3 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   3.91
 ESTIMATED PIPE DIAMETER(INCH) =  39.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =      25.21
 PIPE TRAVEL TIME(MIN.) =   0.23    Tc(MIN.) =    9.20
 LONGEST FLOWPATH FROM NODE    210.00 TO NODE    215.00 =     722.00 FEET.

**************************************************************************
 FLOW PROCESS FROM NODE    215.00 TO NODE    215.00 IS CODE =   1
--------------------------------------------------------------------------
 >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
 >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
==========================================================================
 TOTAL NUMBER OF STREAMS =  2
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
 TIME OF CONCENTRATION(MIN.) =    9.20
 RAINFALL INTENSITY(INCH/HR) =   4.25
 AREA-AVERAGED Fm(INCH/HR) =  0.07
 AREA-AVERAGED Fp(INCH/HR) =  0.74
 AREA-AVERAGED Ap =  0.10
 EFFECTIVE STREAM AREA(ACRES) =       6.60
 TOTAL STREAM AREA(ACRES) =       6.60
 PEAK FLOW RATE(CFS) AT CONFLUENCE =      25.21
```

```
** CONFLUENCE DATA **
 STREAM       Q      Tc   Intensity   Fp(Fm)      Ap      Ae      HEADWATER
 NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)          (ACRES)     NODE
    1        2.91   11.02    3.816  0.74( 0.07) 0.10       0.6     200.00
    2       25.21    9.20    4.252  0.74( 0.07) 0.10       6.6     210.00

 RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
 CONFLUENCE FORMULA USED FOR  2 STREAMS.

 ** PEAK FLOW RATE TABLE **
 STREAM       Q      Tc   Intensity   Fp(Fm)      Ap      Ae      HEADWATER
 NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)          (ACRES)     NODE
    1       27.92    9.20    4.252  0.74( 0.07) 0.10       7.1     210.00
    2       25.49   11.02    3.816  0.74( 0.07) 0.10       7.2     200.00

 COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
 PEAK FLOW RATE(CFS) =      27.92    Tc(MIN.) =     9.20
 EFFECTIVE AREA(ACRES) =       7.10   AREA-AVERAGED Fm(INCH/HR) =  0.07
 AREA-AVERAGED Fp(INCH/HR) =  0.74  AREA-AVERAGED Ap =  0.10
 TOTAL AREA(ACRES) =        7.2
 LONGEST FLOWPATH FROM NODE    200.00 TO NODE    215.00 =     927.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE    215.00 TO NODE    216.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1107.81  DOWNSTREAM(FEET) =  1107.60
 FLOW LENGTH(FEET) =   212.00   MANNING'S N =  0.012
 DEPTH OF FLOW IN  42.0 INCH PIPE IS  29.3 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   3.89
 ESTIMATED PIPE DIAMETER(INCH) =  42.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =      27.92
 PIPE TRAVEL TIME(MIN.) =   0.91    Tc(MIN.) =   10.11
 LONGEST FLOWPATH FROM NODE    200.00 TO NODE    216.00 =    1139.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE    216.00 TO NODE    216.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =   10.11
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.018
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp          Ap      SCS
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                  A        0.10      0.74      0.100    52
 COMMERCIAL                  A        0.10      0.74      0.100    52
 COMMERCIAL                  A        0.50      0.74      0.100    52
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.74
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA AREA(ACRES) =    0.70      SUBAREA RUNOFF(CFS) =    2.48
 EFFECTIVE AREA(ACRES) =      7.80   AREA-AVERAGED Fm(INCH/HR) =  0.07
 AREA-AVERAGED Fp(INCH/HR) =  0.74  AREA-AVERAGED Ap =  0.10
 TOTAL AREA(ACRES) =        7.9       PEAK FLOW RATE(CFS) =      27.92
 NOTE: PEAK FLOW RATE DEFAULTED TO UPSTREAM VALUE

****************************************************************************
 FLOW PROCESS FROM NODE    216.00 TO NODE    217.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1107.60  DOWNSTREAM(FEET) =  1107.02
 FLOW LENGTH(FEET) =    90.00   MANNING'S N =  0.012
 DEPTH OF FLOW IN  30.0 INCH PIPE IS  20.3 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   7.88
 ESTIMATED PIPE DIAMETER(INCH) =  30.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =      27.92
 PIPE TRAVEL TIME(MIN.) =   0.19    Tc(MIN.) =   10.30
 LONGEST FLOWPATH FROM NODE    200.00 TO NODE    217.00 =    1229.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE    217.00 TO NODE    217.00 IS CODE =  11
----------------------------------------------------------------------------
 >>>>>CONFLUENCE MEMORY BANK # 1 WITH THE MAIN-STREAM MEMORY<<<<<
============================================================================
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```
** MAIN STREAM CONFLUENCE DATA **
 STREAM       Q      Tc   Intensity   Fp(Fm)     Ap      Ae     HEADWATER
 NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)          (ACRES)     NODE
    1       27.92   10.30    3.973  0.74( 0.07) 0.10       7.8      210.00
    2       25.49   12.16    3.597  0.74( 0.07) 0.10       7.9      200.00
LONGEST FLOWPATH FROM NODE    200.00 TO NODE    217.00 =    1229.00 FEET.

** MEMORY BANK #  1 CONFLUENCE DATA **
 STREAM       Q      Tc   Intensity   Fp(Fm)     Ap      Ae     HEADWATER
 NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)          (ACRES)     NODE
    1       35.07   12.21    3.586  0.74( 0.07) 0.10      10.4      100.00
LONGEST FLOWPATH FROM NODE    100.00 TO NODE    217.00 =    2463.00 FEET.

** PEAK FLOW RATE TABLE **
 STREAM       Q      Tc   Intensity   Fp(Fm)     Ap      Ae     HEADWATER
 NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)          (ACRES)     NODE
    1       60.75   10.30    3.973  0.74( 0.07) 0.10      16.6      210.00
    2       60.50   12.16    3.597  0.74( 0.07) 0.10      18.3      200.00
    3       60.49   12.21    3.586  0.74( 0.07) 0.10      18.3      100.00
  TOTAL AREA(ACRES) =        18.3

COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
PEAK FLOW RATE(CFS) =       60.75  Tc(MIN.) =   10.296
EFFECTIVE AREA(ACRES) =     16.57  AREA-AVERAGED Fm(INCH/HR) =  0.07
AREA-AVERAGED Fp(INCH/HR) =  0.74  AREA-AVERAGED Ap =  0.10
TOTAL AREA(ACRES) =       18.3
LONGEST FLOWPATH FROM NODE    100.00 TO NODE    217.00 =    2463.00 FEET.

****************************************************************************
FLOW PROCESS FROM NODE    217.00 TO NODE    217.00 IS CODE =  12
----------------------------------------------------------------------------
>>>>>CLEAR MEMORY BANK # 1 <<<<<
============================================================================

****************************************************************************
FLOW PROCESS FROM NODE    217.00 TO NODE    218.00 IS CODE =  31
----------------------------------------------------------------------------
>>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
>>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
ELEVATION DATA: UPSTREAM(FEET) =  1107.02  DOWNSTREAM(FEET) =  1101.19
FLOW LENGTH(FEET) =   361.00   MANNING'S N =  0.013
DEPTH OF FLOW IN  33.0 INCH PIPE IS  25.1 INCHES
PIPE-FLOW VELOCITY(FEET/SEC.) =  12.52
ESTIMATED PIPE DIAMETER(INCH) =  33.00    NUMBER OF PIPES =   1
PIPE-FLOW(CFS) =      60.75
PIPE TRAVEL TIME(MIN.) =   0.48    Tc(MIN.) =   10.78
LONGEST FLOWPATH FROM NODE    100.00 TO NODE    218.00 =    2824.00 FEET.

****************************************************************************
FLOW PROCESS FROM NODE    218.00 TO NODE    218.00 IS CODE =  81
----------------------------------------------------------------------------
>>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
MAINLINE Tc(MIN.) =   10.78
* 100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.866
SUBAREA LOSS RATE DATA(AMC III):
 DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS
     LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
COMMERCIAL                 A        2.70      0.74      0.100    52
COMMERCIAL                 A        2.60      0.74      0.100    52
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.74
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
SUBAREA AREA(ACRES) =     5.30      SUBAREA RUNOFF(CFS) =   18.09
EFFECTIVE AREA(ACRES) =     21.87   AREA-AVERAGED Fm(INCH/HR) =  0.07
AREA-AVERAGED Fp(INCH/HR) =  0.74  AREA-AVERAGED Ap =  0.10
TOTAL AREA(ACRES) =       23.6       PEAK FLOW RATE(CFS) =      74.63
============================================================================
END OF STUDY SUMMARY:
TOTAL AREA(ACRES)      =       23.6  TC(MIN.) =     10.78
EFFECTIVE AREA(ACRES) =     21.87  AREA-AVERAGED Fm(INCH/HR)=  0.07
AREA-AVERAGED Fp(INCH/HR) =  0.74  AREA-AVERAGED Ap = 0.100
PEAK FLOW RATE(CFS)    =      74.63

** PEAK FLOW RATE TABLE **
 STREAM       Q      Tc   Intensity   Fp(Fm)     Ap      Ae     HEADWATER
 NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)          (ACRES)     NODE
    1       74.63   10.78    3.866  0.74( 0.07) 0.10      21.9      210.00
    2       72.91   12.64    3.514  0.74( 0.07) 0.10      23.6      200.00
```

```
      3       72.85   12.69    3.504  0.74( 0.07) 0.10      23.6     100.00
================================================================================
================================================================================
  END OF RATIONAL METHOD ANALYSIS
```

```
************************************************************************
            RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM PACKAGE
         (Reference: 1986 SAN BERNARDINO CO. HYDROLOGY CRITERION)
        (c) Copyright 1983-2016 Advanced Engineering Software (aes)
            Ver. 23.0  Release Date: 07/01/2016  License ID 1435

                        Analysis prepared by:



 ************************* DESCRIPTION OF STUDY *************************
* TEI JOB NUMBER 3687                                                   *
* PROPOSED CONDITION (NODES 300-603)                                    *
* 100-YEAR STORM EVENT                                                  *
 ************************************************************************

  FILE NAME: W:\3687\300P.DAT
  TIME/DATE OF STUDY: 15:52 06/26/2023
========================================================================
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
========================================================================
                    --*TIME-OF-CONCENTRATION MODEL*--

  USER SPECIFIED STORM EVENT(YEAR) =  100.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =  12.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  *USER-DEFINED LOGARITHMIC INTERPOLATION USED FOR RAINFALL*

  SLOPE OF INTENSITY DURATION CURVE(LOG(I;IN/HR) vs. LOG(Tc;MIN)) = 0.6000
  USER SPECIFIED 1-HOUR INTENSITY(INCH/HOUR) = 1.3800

  *ANTECEDENT MOISTURE CONDITION (AMC) III ASSUMED FOR RATIONAL METHOD*

  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  ================  ======  ===== ====== ===== =======
  1   30.0     20.0    0.018/0.018/0.020   0.67    2.00 0.0313 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*
  *USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED

************************************************************************
  FLOW PROCESS FROM NODE    300.00 TO NODE    301.00 IS CODE =  21
------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
  >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
========================================================================
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   315.00
  ELEVATION DATA: UPSTREAM(FEET) =   1118.55  DOWNSTREAM(FEET) =   1112.85

  Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
  SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    6.771
  * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.109
  SUBAREA Tc AND LOSS RATE DATA(AMC III):
   DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp          Ap      SCS   Tc
       LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
  COMMERCIAL                  A        2.90      0.74      0.100    52    6.77
  SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.74
  SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
  SUBAREA RUNOFF(CFS) =     13.14
  TOTAL AREA(ACRES) =      2.90   PEAK FLOW RATE(CFS) =     13.14

************************************************************************
  FLOW PROCESS FROM NODE    301.00 TO NODE    302.00 IS CODE =  31
------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
========================================================================
```

```
 ELEVATION DATA: UPSTREAM(FEET) =   301.00  DOWNSTREAM(FEET) =   300.00
 FLOW LENGTH(FEET) =   140.00   MANNING'S N =  0.012
 DEPTH OF FLOW IN  21.0 INCH PIPE IS  16.0 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   6.68
 ESTIMATED PIPE DIAMETER(INCH) =  21.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =      13.14
 PIPE TRAVEL TIME(MIN.) =   0.35    Tc(MIN.) =    7.12
 LONGEST FLOWPATH FROM NODE    300.00 TO NODE    302.00 =     455.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE    302.00 TO NODE    302.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =    7.12
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.957
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS
      LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                 A        1.90      0.74      0.100    52
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.74
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA AREA(ACRES) =    1.90      SUBAREA RUNOFF(CFS) =    8.35
 EFFECTIVE AREA(ACRES) =      4.80   AREA-AVERAGED Fm(INCH/HR) =  0.07
 AREA-AVERAGED Fp(INCH/HR) =  0.74  AREA-AVERAGED Ap =  0.10
 TOTAL AREA(ACRES) =        4.8       PEAK FLOW RATE(CFS) =      21.10

****************************************************************************
 FLOW PROCESS FROM NODE    302.00 TO NODE    303.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1107.94  DOWNSTREAM(FEET) =  1107.52
 FLOW LENGTH(FEET) =   140.00   MANNING'S N =  0.012
 DEPTH OF FLOW IN  30.0 INCH PIPE IS  22.0 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   5.46
 ESTIMATED PIPE DIAMETER(INCH) =  30.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =      21.10
 PIPE TRAVEL TIME(MIN.) =   0.43    Tc(MIN.) =    7.55
 LONGEST FLOWPATH FROM NODE    300.00 TO NODE    303.00 =     595.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE    303.00 TO NODE    303.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =    7.55
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.787
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS
      LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                 A        1.30      0.74      0.100    52
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.74
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA AREA(ACRES) =    1.30      SUBAREA RUNOFF(CFS) =    5.51
 EFFECTIVE AREA(ACRES) =      6.10   AREA-AVERAGED Fm(INCH/HR) =  0.07
 AREA-AVERAGED Fp(INCH/HR) =  0.74  AREA-AVERAGED Ap =  0.10
 TOTAL AREA(ACRES) =        6.1       PEAK FLOW RATE(CFS) =      25.87

****************************************************************************
 FLOW PROCESS FROM NODE    303.00 TO NODE    304.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1107.52  DOWNSTREAM(FEET) =  1107.02
 FLOW LENGTH(FEET) =   165.00   MANNING'S N =  0.012
 DEPTH OF FLOW IN  33.0 INCH PIPE IS  23.2 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   5.80
 ESTIMATED PIPE DIAMETER(INCH) =  33.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =      25.87
 PIPE TRAVEL TIME(MIN.) =   0.47    Tc(MIN.) =    8.02
 LONGEST FLOWPATH FROM NODE    300.00 TO NODE    304.00 =     760.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE    304.00 TO NODE    304.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
```

```
================================================================================
 MAINLINE Tc(MIN.) =    8.02
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.615
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp          Ap      SCS
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                  A        1.30      0.74      0.100    52
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.74
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA AREA(ACRES) =    1.30      SUBAREA RUNOFF(CFS) =    5.31
 EFFECTIVE AREA(ACRES) =      7.40   AREA-AVERAGED Fm(INCH/HR) =  0.07
 AREA-AVERAGED Fp(INCH/HR) =  0.74  AREA-AVERAGED Ap =  0.10
 TOTAL AREA(ACRES) =        7.4       PEAK FLOW RATE(CFS) =      30.24

********************************************************************************
 FLOW PROCESS FROM NODE    304.00 TO NODE    305.00 IS CODE =  31
--------------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
================================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1107.02  DOWNSTREAM(FEET) =  1106.60
 FLOW LENGTH(FEET) =   140.00   MANNING'S N =  0.012
 DEPTH OF FLOW IN  33.0 INCH PIPE IS  26.7 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   5.87
 ESTIMATED PIPE DIAMETER(INCH) =  33.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =      30.24
 PIPE TRAVEL TIME(MIN.) =   0.40    Tc(MIN.) =    8.42
 LONGEST FLOWPATH FROM NODE    300.00 TO NODE    305.00 =     900.00 FEET.

********************************************************************************
 FLOW PROCESS FROM NODE    305.00 TO NODE    305.00 IS CODE =  81
--------------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
================================================================================
 MAINLINE Tc(MIN.) =    8.42
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.483
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp          Ap      SCS
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                  A        1.70      0.74      0.100    52
 COMMERCIAL                  B        0.20      0.42      0.100    76
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.71
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA AREA(ACRES) =    1.90      SUBAREA RUNOFF(CFS) =    7.55
 EFFECTIVE AREA(ACRES) =      9.30   AREA-AVERAGED Fm(INCH/HR) =  0.07
 AREA-AVERAGED Fp(INCH/HR) =  0.74  AREA-AVERAGED Ap =  0.10
 TOTAL AREA(ACRES) =        9.3       PEAK FLOW RATE(CFS) =      36.91

********************************************************************************
 FLOW PROCESS FROM NODE    305.00 TO NODE    306.00 IS CODE =  31
--------------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
================================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1106.60  DOWNSTREAM(FEET) =  1106.17
 FLOW LENGTH(FEET) =   140.00   MANNING'S N =  0.012
 DEPTH OF FLOW IN  36.0 INCH PIPE IS  27.9 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   6.28
 ESTIMATED PIPE DIAMETER(INCH) =  36.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =      36.91
 PIPE TRAVEL TIME(MIN.) =   0.37    Tc(MIN.) =    8.79
 LONGEST FLOWPATH FROM NODE    300.00 TO NODE    306.00 =    1040.00 FEET.

********************************************************************************
 FLOW PROCESS FROM NODE    306.00 TO NODE    306.00 IS CODE =  81
--------------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
================================================================================
 MAINLINE Tc(MIN.) =    8.79
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.369
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp          Ap      SCS
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                  A        0.50      0.74      0.100    52
 COMMERCIAL                  B        2.50      0.42      0.100    76
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.48
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA AREA(ACRES) =    3.00      SUBAREA RUNOFF(CFS) =   11.67
 EFFECTIVE AREA(ACRES) =     12.30   AREA-AVERAGED Fm(INCH/HR) =  0.07
```

```
 AREA-AVERAGED Fp(INCH/HR) =  0.67  AREA-AVERAGED Ap =  0.10
 TOTAL AREA(ACRES) =       12.3       PEAK FLOW RATE(CFS) =      47.62

****************************************************************************
 FLOW PROCESS FROM NODE    306.00 TO NODE    307.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1106.17  DOWNSTREAM(FEET) =  1105.05
 FLOW LENGTH(FEET) =   375.00   MANNING'S N =  0.012
 DEPTH OF FLOW IN  39.0 INCH PIPE IS  31.9 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   6.55
 ESTIMATED PIPE DIAMETER(INCH) =  39.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =      47.62
 PIPE TRAVEL TIME(MIN.) =   0.95    Tc(MIN.) =    9.74
 LONGEST FLOWPATH FROM NODE    300.00 TO NODE    307.00 =    1415.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE    307.00 TO NODE    307.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =    9.74
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.107
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                  A        0.60      0.74      0.100    52
 COMMERCIAL                  B        0.20      0.42      0.100    76
 COMMERCIAL                  A        0.40      0.74      0.100    52
 COMMERCIAL                  B        0.50      0.42      0.100    76
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.61
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA AREA(ACRES) =    1.70      SUBAREA RUNOFF(CFS) =    6.19
 EFFECTIVE AREA(ACRES) =     14.00   AREA-AVERAGED Fm(INCH/HR) =  0.07
 AREA-AVERAGED Fp(INCH/HR) =  0.66  AREA-AVERAGED Ap =  0.10
 TOTAL AREA(ACRES) =       14.0       PEAK FLOW RATE(CFS) =      50.91

****************************************************************************
 FLOW PROCESS FROM NODE    307.00 TO NODE    505.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1105.05  DOWNSTREAM(FEET) =  1101.41
 FLOW LENGTH(FEET) =   755.00   MANNING'S N =  0.013
 DEPTH OF FLOW IN  39.0 INCH PIPE IS  29.2 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   7.63
 ESTIMATED PIPE DIAMETER(INCH) =  39.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =      50.91
 PIPE TRAVEL TIME(MIN.) =   1.65    Tc(MIN.) =   11.39
 LONGEST FLOWPATH FROM NODE    300.00 TO NODE    505.00 =    2170.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE    505.00 TO NODE    505.00 IS CODE =   1
----------------------------------------------------------------------------
 >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
 TOTAL NUMBER OF STREAMS =  3
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
 TIME OF CONCENTRATION(MIN.) =   11.39
 RAINFALL INTENSITY(INCH/HR) =   3.74
 AREA-AVERAGED Fm(INCH/HR) =  0.07
 AREA-AVERAGED Fp(INCH/HR) =  0.66
 AREA-AVERAGED Ap =  0.10
 EFFECTIVE STREAM AREA(ACRES) =      14.00
 TOTAL STREAM AREA(ACRES) =      14.00
 PEAK FLOW RATE(CFS) AT CONFLUENCE =      50.91

****************************************************************************
 FLOW PROCESS FROM NODE    400.00 TO NODE    401.00 IS CODE =  21
----------------------------------------------------------------------------
 >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
 >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
 INITIAL SUBAREA FLOW-LENGTH(FEET) =   173.00
 ELEVATION DATA: UPSTREAM(FEET) =   1118.78  DOWNSTREAM(FEET) =   1116.14
```

```
 Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
 SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    5.513
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.780
 SUBAREA Tc AND LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS   Tc
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
 COMMERCIAL                  A        0.40      0.74      0.100    52    5.51
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.74
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA RUNOFF(CFS) =      2.05
 TOTAL AREA(ACRES) =      0.40   PEAK FLOW RATE(CFS) =      2.05

****************************************************************************
 FLOW PROCESS FROM NODE    401.00 TO NODE    402.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1110.65  DOWNSTREAM(FEET) =  1109.95
 FLOW LENGTH(FEET) =   152.00   MANNING'S N =  0.012
 DEPTH OF FLOW IN  12.0 INCH PIPE IS   8.1 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   3.62
 ESTIMATED PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =        2.05
 PIPE TRAVEL TIME(MIN.) =   0.70    Tc(MIN.) =    6.21
 LONGEST FLOWPATH FROM NODE    400.00 TO NODE    402.00 =     325.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE    402.00 TO NODE    402.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =    6.21
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.380
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                  A        0.30      0.74      0.100    52
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.74
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA AREA(ACRES) =     0.30      SUBAREA RUNOFF(CFS) =     1.43
 EFFECTIVE AREA(ACRES) =      0.70   AREA-AVERAGED Fm(INCH/HR) =  0.07
 AREA-AVERAGED Fp(INCH/HR) =  0.74  AREA-AVERAGED Ap =  0.10
 TOTAL AREA(ACRES) =        0.7       PEAK FLOW RATE(CFS) =       3.34

****************************************************************************
 FLOW PROCESS FROM NODE    402.00 TO NODE    403.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1109.95  DOWNSTREAM(FEET) =  1108.88
 FLOW LENGTH(FEET) =   231.00   MANNING'S N =  0.012
 DEPTH OF FLOW IN  15.0 INCH PIPE IS   9.4 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   4.11
 ESTIMATED PIPE DIAMETER(INCH) =  15.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =        3.34
 PIPE TRAVEL TIME(MIN.) =   0.94    Tc(MIN.) =    7.15
 LONGEST FLOWPATH FROM NODE    400.00 TO NODE    403.00 =     556.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE    403.00 TO NODE    403.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =    7.15
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.946
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                  A        0.30      0.74      0.100    52
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.74
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA AREA(ACRES) =     0.30      SUBAREA RUNOFF(CFS) =     1.32
 EFFECTIVE AREA(ACRES) =      1.00   AREA-AVERAGED Fm(INCH/HR) =  0.07
 AREA-AVERAGED Fp(INCH/HR) =  0.74  AREA-AVERAGED Ap =  0.10
 TOTAL AREA(ACRES) =        1.0       PEAK FLOW RATE(CFS) =       4.38

****************************************************************************
```

```
 FLOW PROCESS FROM NODE    403.00 TO NODE    404.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1108.88  DOWNSTREAM(FEET) =  1108.45
 FLOW LENGTH(FEET) =    95.00   MANNING'S N =  0.012
 DEPTH OF FLOW IN  15.0 INCH PIPE IS  11.7 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   4.26
 ESTIMATED PIPE DIAMETER(INCH) =  15.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =       4.38
 PIPE TRAVEL TIME(MIN.) =   0.37    Tc(MIN.) =    7.52
 LONGEST FLOWPATH FROM NODE    400.00 TO NODE    404.00 =     651.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE    404.00 TO NODE    404.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =    7.52
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.797
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp          Ap      SCS
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                  A        0.20      0.74      0.100    52
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.74
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA AREA(ACRES) =    0.20      SUBAREA RUNOFF(CFS) =    0.85
 EFFECTIVE AREA(ACRES) =      1.20   AREA-AVERAGED Fm(INCH/HR) =  0.07
 AREA-AVERAGED Fp(INCH/HR) =  0.74  AREA-AVERAGED Ap =  0.10
 TOTAL AREA(ACRES) =        1.2       PEAK FLOW RATE(CFS) =       5.10

****************************************************************************
 FLOW PROCESS FROM NODE    404.00 TO NODE    405.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1108.45  DOWNSTREAM(FEET) =  1106.91
 FLOW LENGTH(FEET) =   334.00   MANNING'S N =  0.012
 DEPTH OF FLOW IN  18.0 INCH PIPE IS  10.9 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   4.58
 ESTIMATED PIPE DIAMETER(INCH) =  18.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =       5.10
 PIPE TRAVEL TIME(MIN.) =   1.21    Tc(MIN.) =    8.74
 LONGEST FLOWPATH FROM NODE    400.00 TO NODE    405.00 =     985.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE    405.00 TO NODE    405.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =    8.74
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.385
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp          Ap      SCS
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                  A        2.50      0.74      0.100    52
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.74
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA AREA(ACRES) =    2.50      SUBAREA RUNOFF(CFS) =    9.70
 EFFECTIVE AREA(ACRES) =      3.70   AREA-AVERAGED Fm(INCH/HR) =  0.07
 AREA-AVERAGED Fp(INCH/HR) =  0.74  AREA-AVERAGED Ap =  0.10
 TOTAL AREA(ACRES) =        3.7       PEAK FLOW RATE(CFS) =      14.36

****************************************************************************
 FLOW PROCESS FROM NODE    405.00 TO NODE    406.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1106.91  DOWNSTREAM(FEET) =  1106.18
 FLOW LENGTH(FEET) =   159.00   MANNING'S N =  0.012
 DEPTH OF FLOW IN  24.0 INCH PIPE IS  17.6 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   5.82
 ESTIMATED PIPE DIAMETER(INCH) =  24.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =      14.36
 PIPE TRAVEL TIME(MIN.) =   0.46    Tc(MIN.) =    9.19
 LONGEST FLOWPATH FROM NODE    400.00 TO NODE    406.00 =    1144.00 FEET.
```

```
****************************************************************************
 FLOW PROCESS FROM NODE    406.00 TO NODE    406.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =    9.19
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.254
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp          Ap     SCS
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                  A        1.80      0.74      0.100    52
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.74
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA AREA(ACRES) =    1.80      SUBAREA RUNOFF(CFS) =    6.77
 EFFECTIVE AREA(ACRES) =      5.50   AREA-AVERAGED Fm(INCH/HR) =  0.07
 AREA-AVERAGED Fp(INCH/HR) =  0.74  AREA-AVERAGED Ap =  0.10
 TOTAL AREA(ACRES) =         5.5       PEAK FLOW RATE(CFS) =      20.69

****************************************************************************
 FLOW PROCESS FROM NODE    406.00 TO NODE    407.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1106.18  DOWNSTREAM(FEET) =  1105.52
 FLOW LENGTH(FEET) =   141.00   MANNING'S N =  0.012
 DEPTH OF FLOW IN  27.0 INCH PIPE IS  20.5 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   6.39
 ESTIMATED PIPE DIAMETER(INCH) =  27.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =      20.69
 PIPE TRAVEL TIME(MIN.) =   0.37    Tc(MIN.) =    9.56
 LONGEST FLOWPATH FROM NODE    400.00 TO NODE    407.00 =    1285.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE    407.00 TO NODE    407.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =    9.56
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.155
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp          Ap     SCS
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                  A        1.20      0.74      0.100    52
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.74
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA AREA(ACRES) =    1.20      SUBAREA RUNOFF(CFS) =    4.41
 EFFECTIVE AREA(ACRES) =      6.70   AREA-AVERAGED Fm(INCH/HR) =  0.07
 AREA-AVERAGED Fp(INCH/HR) =  0.74  AREA-AVERAGED Ap =  0.10
 TOTAL AREA(ACRES) =         6.7       PEAK FLOW RATE(CFS) =      24.60

****************************************************************************
 FLOW PROCESS FROM NODE    407.00 TO NODE    408.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1105.52  DOWNSTREAM(FEET) =  1104.87
 FLOW LENGTH(FEET) =   141.00   MANNING'S N =  0.012
 DEPTH OF FLOW IN  30.0 INCH PIPE IS  21.0 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   6.71
 ESTIMATED PIPE DIAMETER(INCH) =  30.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =      24.60
 PIPE TRAVEL TIME(MIN.) =   0.35    Tc(MIN.) =    9.91
 LONGEST FLOWPATH FROM NODE    400.00 TO NODE    408.00 =    1426.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE    408.00 TO NODE    408.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =    9.91
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.066
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp          Ap     SCS
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                  A        1.00      0.74      0.100    52
 COMMERCIAL                  B        0.20      0.42      0.100    76
```

```
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.69
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA AREA(ACRES) =     1.20      SUBAREA RUNOFF(CFS) =     4.32
 EFFECTIVE AREA(ACRES) =      7.90   AREA-AVERAGED Fm(INCH/HR) =  0.07
 AREA-AVERAGED Fp(INCH/HR) =  0.73  AREA-AVERAGED Ap =  0.10
 TOTAL AREA(ACRES) =        7.9       PEAK FLOW RATE(CFS) =      28.39

****************************************************************************
 FLOW PROCESS FROM NODE     408.00 TO NODE     409.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1104.87  DOWNSTREAM(FEET) =  1104.22
 FLOW LENGTH(FEET) =   141.00   MANNING'S N =  0.012
 DEPTH OF FLOW IN  30.0 INCH PIPE IS  23.7 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   6.83
 ESTIMATED PIPE DIAMETER(INCH) =  30.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =      28.39
 PIPE TRAVEL TIME(MIN.) =   0.34    Tc(MIN.) =   10.25
 LONGEST FLOWPATH FROM NODE     400.00 TO NODE     409.00 =    1567.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE     409.00 TO NODE     409.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =   10.25
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.983
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp          Ap      SCS
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                  A        0.50      0.74      0.100    52
 COMMERCIAL                  B        1.30      0.42      0.100    76
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.51
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA AREA(ACRES) =     1.80      SUBAREA RUNOFF(CFS) =     6.37
 EFFECTIVE AREA(ACRES) =      9.70   AREA-AVERAGED Fm(INCH/HR) =  0.07
 AREA-AVERAGED Fp(INCH/HR) =  0.69  AREA-AVERAGED Ap =  0.10
 TOTAL AREA(ACRES) =        9.7       PEAK FLOW RATE(CFS) =      34.17

****************************************************************************
 FLOW PROCESS FROM NODE     409.00 TO NODE     410.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1104.22  DOWNSTREAM(FEET) =  1103.57
 FLOW LENGTH(FEET) =   141.00   MANNING'S N =  0.012
 DEPTH OF FLOW IN  33.0 INCH PIPE IS  24.5 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   7.23
 ESTIMATED PIPE DIAMETER(INCH) =  33.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =      34.17
 PIPE TRAVEL TIME(MIN.) =   0.33    Tc(MIN.) =   10.58
 LONGEST FLOWPATH FROM NODE     400.00 TO NODE     410.00 =    1708.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE     410.00 TO NODE     410.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =   10.58
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.910
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp          Ap      SCS
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                  B        1.70      0.42      0.100    76
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.42
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA AREA(ACRES) =     1.70      SUBAREA RUNOFF(CFS) =     5.92
 EFFECTIVE AREA(ACRES) =     11.40   AREA-AVERAGED Fm(INCH/HR) =  0.07
 AREA-AVERAGED Fp(INCH/HR) =  0.65  AREA-AVERAGED Ap =  0.10
 TOTAL AREA(ACRES) =       11.4       PEAK FLOW RATE(CFS) =      39.44

****************************************************************************
 FLOW PROCESS FROM NODE     410.00 TO NODE     410.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
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```
 MAINLINE Tc(MIN.) =   10.58
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.910
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                  B        2.40      0.42      0.100    76
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.42
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA AREA(ACRES) =     2.40      SUBAREA RUNOFF(CFS) =     8.35
 EFFECTIVE AREA(ACRES) =     13.80   AREA-AVERAGED Fm(INCH/HR) =  0.06
 AREA-AVERAGED Fp(INCH/HR) =  0.61  AREA-AVERAGED Ap =  0.10
 TOTAL AREA(ACRES) =       13.8       PEAK FLOW RATE(CFS) =      47.80

****************************************************************************
 FLOW PROCESS FROM NODE     410.00 TO NODE     505.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1103.57  DOWNSTREAM(FEET) =  1101.41
 FLOW LENGTH(FEET) =   370.00   MANNING'S N =  0.012
 DEPTH OF FLOW IN  36.0 INCH PIPE IS  26.4 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   8.60
 ESTIMATED PIPE DIAMETER(INCH) =  36.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =      47.80
 PIPE TRAVEL TIME(MIN.) =   0.72    Tc(MIN.) =   11.29
 LONGEST FLOWPATH FROM NODE     400.00 TO NODE     505.00 =    2078.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE     505.00 TO NODE     505.00 IS CODE =   1
----------------------------------------------------------------------------
 >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
 TOTAL NUMBER OF STREAMS =  3
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
 TIME OF CONCENTRATION(MIN.) =   11.29
 RAINFALL INTENSITY(INCH/HR) =   3.76
 AREA-AVERAGED Fm(INCH/HR) =  0.06
 AREA-AVERAGED Fp(INCH/HR) =  0.61
 AREA-AVERAGED Ap =  0.10
 EFFECTIVE STREAM AREA(ACRES) =      13.80
 TOTAL STREAM AREA(ACRES) =      13.80
 PEAK FLOW RATE(CFS) AT CONFLUENCE =      47.80

****************************************************************************
 FLOW PROCESS FROM NODE     500.00 TO NODE     501.00 IS CODE =  21
----------------------------------------------------------------------------
 >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
 >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
 INITIAL SUBAREA FLOW-LENGTH(FEET) =   275.00
 ELEVATION DATA: UPSTREAM(FEET) =   1120.00  DOWNSTREAM(FEET) =   1112.76

 Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
 SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    5.950
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.521
 SUBAREA Tc AND LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS   Tc
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
 COMMERCIAL                  B        2.20      0.42      0.100    76    5.95
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.42
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA RUNOFF(CFS) =      10.85
 TOTAL AREA(ACRES) =      2.20   PEAK FLOW RATE(CFS) =      10.85

****************************************************************************
 FLOW PROCESS FROM NODE     501.00 TO NODE     501.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =    5.95
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.521
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                  B        0.50      0.42      0.100    76
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.42
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA AREA(ACRES) =     0.50      SUBAREA RUNOFF(CFS) =     2.47
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 EFFECTIVE AREA(ACRES) =      2.70   AREA-AVERAGED Fm(INCH/HR) =  0.04
 AREA-AVERAGED Fp(INCH/HR) =  0.42  AREA-AVERAGED Ap =  0.10
 TOTAL AREA(ACRES) =         2.7       PEAK FLOW RATE(CFS) =      13.31

****************************************************************************
 FLOW PROCESS FROM NODE    501.00 TO NODE    502.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1105.83  DOWNSTREAM(FEET) =  1105.07
 FLOW LENGTH(FEET) =   152.00   MANNING'S N =  0.012
 DEPTH OF FLOW IN  24.0 INCH PIPE IS  16.1 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   5.96
 ESTIMATED PIPE DIAMETER(INCH) =  24.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =       13.31
 PIPE TRAVEL TIME(MIN.) =   0.43    Tc(MIN.) =    6.38
 LONGEST FLOWPATH FROM NODE    500.00 TO NODE    502.00 =     427.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE    502.00 TO NODE    502.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =    6.38
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.297
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                  B        1.20      0.42      0.100    76
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.42
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA AREA(ACRES) =     1.20      SUBAREA RUNOFF(CFS) =     5.68
 EFFECTIVE AREA(ACRES) =      3.90   AREA-AVERAGED Fm(INCH/HR) =  0.04
 AREA-AVERAGED Fp(INCH/HR) =  0.42  AREA-AVERAGED Ap =  0.10
 TOTAL AREA(ACRES) =         3.9       PEAK FLOW RATE(CFS) =      18.45

****************************************************************************
 FLOW PROCESS FROM NODE    502.00 TO NODE    503.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1105.07  DOWNSTREAM(FEET) =  1104.31
 FLOW LENGTH(FEET) =   152.00   MANNING'S N =  0.012
 DEPTH OF FLOW IN  27.0 INCH PIPE IS  18.2 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   6.46
 ESTIMATED PIPE DIAMETER(INCH) =  27.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =       18.45
 PIPE TRAVEL TIME(MIN.) =   0.39    Tc(MIN.) =    6.77
 LONGEST FLOWPATH FROM NODE    500.00 TO NODE    503.00 =     579.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE    503.00 TO NODE    503.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =    6.77
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  5.111
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                  B        1.30      0.42      0.100    76
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.42
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA AREA(ACRES) =     1.30      SUBAREA RUNOFF(CFS) =     5.93
 EFFECTIVE AREA(ACRES) =      5.20   AREA-AVERAGED Fm(INCH/HR) =  0.04
 AREA-AVERAGED Fp(INCH/HR) =  0.42  AREA-AVERAGED Ap =  0.10
 TOTAL AREA(ACRES) =         5.2       PEAK FLOW RATE(CFS) =      23.72

****************************************************************************
 FLOW PROCESS FROM NODE    503.00 TO NODE    504.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1104.31  DOWNSTREAM(FEET) =  1103.02
 FLOW LENGTH(FEET) =   270.00   MANNING'S N =  0.012
 DEPTH OF FLOW IN  30.0 INCH PIPE IS  20.1 INCHES
```

```
 PIPE-FLOW VELOCITY(FEET/SEC.) =   6.77
 ESTIMATED PIPE DIAMETER(INCH) =  30.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =      23.72
 PIPE TRAVEL TIME(MIN.) =   0.66    Tc(MIN.) =    7.43
 LONGEST FLOWPATH FROM NODE    500.00 TO NODE    504.00 =     849.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE    504.00 TO NODE    504.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =    7.43
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  4.832
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                  B        1.60      0.42     0.100    76
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.42
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA AREA(ACRES) =    1.60      SUBAREA RUNOFF(CFS) =    6.90
 EFFECTIVE AREA(ACRES) =      6.80   AREA-AVERAGED Fm(INCH/HR) =  0.04
 AREA-AVERAGED Fp(INCH/HR) =  0.42  AREA-AVERAGED Ap =  0.10
 TOTAL AREA(ACRES) =        6.8       PEAK FLOW RATE(CFS) =      29.31

****************************************************************************
 FLOW PROCESS FROM NODE    504.00 TO NODE    505.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1103.02  DOWNSTREAM(FEET) =  1101.41
 FLOW LENGTH(FEET) =   320.00   MANNING'S N =  0.012
 DEPTH OF FLOW IN  30.0 INCH PIPE IS  23.4 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   7.13
 ESTIMATED PIPE DIAMETER(INCH) =  30.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =      29.31
 PIPE TRAVEL TIME(MIN.) =   0.75    Tc(MIN.) =    8.18
 LONGEST FLOWPATH FROM NODE    500.00 TO NODE    505.00 =    1169.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE    505.00 TO NODE    505.00 IS CODE =   1
----------------------------------------------------------------------------
 >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
 >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
 TOTAL NUMBER OF STREAMS =  3
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  3 ARE:
 TIME OF CONCENTRATION(MIN.) =    8.18
 RAINFALL INTENSITY(INCH/HR) =   4.56
 AREA-AVERAGED Fm(INCH/HR) =  0.04
 AREA-AVERAGED Fp(INCH/HR) =  0.42
 AREA-AVERAGED Ap =  0.10
 EFFECTIVE STREAM AREA(ACRES) =       6.80
 TOTAL STREAM AREA(ACRES) =       6.80
 PEAK FLOW RATE(CFS) AT CONFLUENCE =      29.31

 ** CONFLUENCE DATA **
  STREAM       Q      Tc   Intensity   Fp(Fm)     Ap      Ae     HEADWATER
  NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)          (ACRES)    NODE
     1       50.91   11.39    3.739  0.66( 0.07) 0.10      14.0     300.00
     2       47.80   11.29    3.759  0.61( 0.06) 0.10      13.8     400.00
     3       29.31    8.18    4.561  0.42( 0.04) 0.10       6.8     500.00

 RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
 CONFLUENCE FORMULA USED FOR  3 STREAMS.

 ** PEAK FLOW RATE TABLE **
  STREAM       Q      Tc   Intensity   Fp(Fm)     Ap      Ae     HEADWATER
  NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)          (ACRES)    NODE
     1      116.18    8.18    4.561  0.58( 0.06) 0.10      26.8     500.00
     2      122.64   11.29    3.759  0.60( 0.06) 0.10      34.5     400.00
     3      122.44   11.39    3.739  0.60( 0.06) 0.10      34.6     300.00

 COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
 PEAK FLOW RATE(CFS) =     122.64    Tc(MIN.) =    11.29
 EFFECTIVE AREA(ACRES) =      34.48   AREA-AVERAGED Fm(INCH/HR) =  0.06
 AREA-AVERAGED Fp(INCH/HR) =  0.60  AREA-AVERAGED Ap =  0.10
 TOTAL AREA(ACRES) =       34.6
 LONGEST FLOWPATH FROM NODE    300.00 TO NODE    505.00 =    2170.00 FEET.
```

```
****************************************************************************
 FLOW PROCESS FROM NODE    505.00 TO NODE    506.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1101.41  DOWNSTREAM(FEET) =  1099.94
 FLOW LENGTH(FEET) =   118.00   MANNING'S N =  0.012
 DEPTH OF FLOW IN  45.0 INCH PIPE IS  32.2 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =  14.52
 ESTIMATED PIPE DIAMETER(INCH) =  45.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =     122.64
 PIPE TRAVEL TIME(MIN.) =   0.14    Tc(MIN.) =   11.43
 LONGEST FLOWPATH FROM NODE    300.00 TO NODE    506.00 =    2288.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE    506.00 TO NODE    506.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =   11.43
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.732
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS
      LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                B        1.50      0.42      0.100    76
 COMMERCIAL                B        1.50      0.42      0.100    76
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.42
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA AREA(ACRES) =    3.00      SUBAREA RUNOFF(CFS) =    9.96
 EFFECTIVE AREA(ACRES) =     37.48   AREA-AVERAGED Fm(INCH/HR) =  0.06
 AREA-AVERAGED Fp(INCH/HR) =  0.58  AREA-AVERAGED Ap =  0.10
 TOTAL AREA(ACRES) =       37.6       PEAK FLOW RATE(CFS) =     123.92

****************************************************************************
 FLOW PROCESS FROM NODE    506.00 TO NODE    507.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1101.23  DOWNSTREAM(FEET) =  1099.94
 FLOW LENGTH(FEET) =    81.00   MANNING'S N =  0.012
 DEPTH OF FLOW IN  42.0 INCH PIPE IS  31.9 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =  15.83
 ESTIMATED PIPE DIAMETER(INCH) =  42.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =     123.92
 PIPE TRAVEL TIME(MIN.) =   0.09    Tc(MIN.) =   11.52
 LONGEST FLOWPATH FROM NODE    300.00 TO NODE    507.00 =    2369.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE    507.00 TO NODE    507.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =   11.52
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.715
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS
      LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                A        0.40      0.74      0.100    52
 COMMERCIAL                B        0.60      0.42      0.100    76
 COMMERCIAL                A        0.10      0.74      0.100    52
 COMMERCIAL                B        0.30      0.42      0.100    76
 COMMERCIAL                B        0.80      0.42      0.100    76
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.50
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA AREA(ACRES) =    2.20      SUBAREA RUNOFF(CFS) =    7.26
 EFFECTIVE AREA(ACRES) =     39.68   AREA-AVERAGED Fm(INCH/HR) =  0.06
 AREA-AVERAGED Fp(INCH/HR) =  0.58  AREA-AVERAGED Ap =  0.10
 TOTAL AREA(ACRES) =       39.8       PEAK FLOW RATE(CFS) =     130.62

****************************************************************************
 FLOW PROCESS FROM NODE    507.00 TO NODE    507.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =   11.52
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.715
```

```
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp          Ap      SCS
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                  B        0.60      0.42      0.100    76
 COMMERCIAL                  B        0.30      0.42      0.100    76
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.42
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA AREA(ACRES) =     0.90      SUBAREA RUNOFF(CFS) =     2.98
 EFFECTIVE AREA(ACRES) =     40.58   AREA-AVERAGED Fm(INCH/HR) =  0.06
 AREA-AVERAGED Fp(INCH/HR) =  0.57  AREA-AVERAGED Ap =  0.10
 TOTAL AREA(ACRES) =       40.7       PEAK FLOW RATE(CFS) =     133.60

****************************************************************************
 FLOW PROCESS FROM NODE     507.00 TO NODE     602.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1099.94  DOWNSTREAM(FEET) =  1087.54
 FLOW LENGTH(FEET) =   809.00   MANNING'S N =  0.013
 DEPTH OF FLOW IN  45.0 INCH PIPE IS  33.9 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =  14.98
 ESTIMATED PIPE DIAMETER(INCH) =  45.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =     133.60
 PIPE TRAVEL TIME(MIN.) =   0.90    Tc(MIN.) =   12.42
 LONGEST FLOWPATH FROM NODE     300.00 TO NODE     602.00 =    3178.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE     602.00 TO NODE     602.00 IS CODE =   1
----------------------------------------------------------------------------
 >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
 TOTAL NUMBER OF STREAMS =  2
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
 TIME OF CONCENTRATION(MIN.) =   12.42
 RAINFALL INTENSITY(INCH/HR) =   3.55
 AREA-AVERAGED Fm(INCH/HR) =  0.06
 AREA-AVERAGED Fp(INCH/HR) =  0.57
 AREA-AVERAGED Ap =  0.10
 EFFECTIVE STREAM AREA(ACRES) =      40.58
 TOTAL STREAM AREA(ACRES) =      40.70
 PEAK FLOW RATE(CFS) AT CONFLUENCE =     133.60

****************************************************************************
 FLOW PROCESS FROM NODE     600.00 TO NODE     601.00 IS CODE =  21
----------------------------------------------------------------------------
 >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
 >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
============================================================================
 INITIAL SUBAREA FLOW-LENGTH(FEET) =   182.00
 ELEVATION DATA: UPSTREAM(FEET) =   1107.98  DOWNSTREAM(FEET) =   1103.71

 Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
 SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) =    5.162
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  6.013
 SUBAREA Tc AND LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp          Ap      SCS   Tc
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN  (MIN.)
 COMMERCIAL                  A        2.00      0.74      0.100    52    5.16
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.74
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA RUNOFF(CFS) =     10.69
 TOTAL AREA(ACRES) =      2.00   PEAK FLOW RATE(CFS) =     10.69

****************************************************************************
 FLOW PROCESS FROM NODE     601.00 TO NODE     601.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =    5.16
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  6.013
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp          Ap      SCS
      LAND USE             GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                  B        0.40      0.42      0.100    76
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.42
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA AREA(ACRES) =     0.40      SUBAREA RUNOFF(CFS) =     2.15
 EFFECTIVE AREA(ACRES) =      2.40   AREA-AVERAGED Fm(INCH/HR) =  0.07
```

```
 AREA-AVERAGED Fp(INCH/HR) =  0.69  AREA-AVERAGED Ap =  0.10
 TOTAL AREA(ACRES) =        2.4       PEAK FLOW RATE(CFS) =      12.84

****************************************************************************
 FLOW PROCESS FROM NODE    601.00 TO NODE    602.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1099.71  DOWNSTREAM(FEET) =  1089.44
 FLOW LENGTH(FEET) =   260.00   MANNING'S N =  0.012
 DEPTH OF FLOW IN  15.0 INCH PIPE IS  11.6 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =  12.58
 ESTIMATED PIPE DIAMETER(INCH) =  15.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =      12.84
 PIPE TRAVEL TIME(MIN.) =   0.34    Tc(MIN.) =    5.51
 LONGEST FLOWPATH FROM NODE    600.00 TO NODE    602.00 =     442.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE    602.00 TO NODE    602.00 IS CODE =   1
----------------------------------------------------------------------------
 >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
 >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
 TOTAL NUMBER OF STREAMS =  2
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
 TIME OF CONCENTRATION(MIN.) =    5.51
 RAINFALL INTENSITY(INCH/HR) =   5.78
 AREA-AVERAGED Fm(INCH/HR) =  0.07
 AREA-AVERAGED Fp(INCH/HR) =  0.69
 AREA-AVERAGED Ap =  0.10
 EFFECTIVE STREAM AREA(ACRES) =       2.40
 TOTAL STREAM AREA(ACRES) =       2.40
 PEAK FLOW RATE(CFS) AT CONFLUENCE =      12.84

 ** CONFLUENCE DATA **
  STREAM       Q      Tc   Intensity   Fp(Fm)     Ap      Ae     HEADWATER
  NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)          (ACRES)    NODE
     1      131.41    9.31    4.221  0.56( 0.06) 0.10      32.9     500.00
     1      133.60   12.42    3.551  0.57( 0.06) 0.10      40.6     400.00
     1      133.30   12.51    3.535  0.57( 0.06) 0.10      40.7     300.00
     2       12.84    5.51    5.784  0.69( 0.07) 0.10       2.4     600.00

 RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
 CONFLUENCE FORMULA USED FOR  2 STREAMS.

 ** PEAK FLOW RATE TABLE **
  STREAM       Q      Tc   Intensity   Fp(Fm)     Ap      Ae     HEADWATER
  NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)          (ACRES)    NODE
     1      119.75    5.51    5.784  0.57( 0.06) 0.10      21.9     600.00
     2      140.74    9.31    4.221  0.57( 0.06) 0.10      35.3     500.00
     3      141.42   12.42    3.551  0.58( 0.06) 0.10      43.0     400.00
     4      141.09   12.51    3.535  0.58( 0.06) 0.10      43.1     300.00

 COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
 PEAK FLOW RATE(CFS) =     141.42    Tc(MIN.) =    12.42
 EFFECTIVE AREA(ACRES) =      42.98   AREA-AVERAGED Fm(INCH/HR) =  0.06
 AREA-AVERAGED Fp(INCH/HR) =  0.58  AREA-AVERAGED Ap =  0.10
 TOTAL AREA(ACRES) =       43.1
 LONGEST FLOWPATH FROM NODE    300.00 TO NODE    602.00 =    3178.00 FEET.

****************************************************************************
 FLOW PROCESS FROM NODE    602.00 TO NODE    602.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 MAINLINE Tc(MIN.) =   12.42
 * 100 YEAR RAINFALL INTENSITY(INCH/HR) =  3.551
 SUBAREA LOSS RATE DATA(AMC III):
  DEVELOPMENT TYPE/       SCS SOIL   AREA      Fp         Ap      SCS
      LAND USE            GROUP   (ACRES)  (INCH/HR)  (DECIMAL)  CN
 COMMERCIAL                 B        1.20      0.42      0.100    76
 COMMERCIAL                 B        1.50      0.42      0.100    76
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) =  0.42
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap =  0.100
 SUBAREA AREA(ACRES) =    2.70      SUBAREA RUNOFF(CFS) =    8.53
 EFFECTIVE AREA(ACRES) =     45.68   AREA-AVERAGED Fm(INCH/HR) =  0.06
 AREA-AVERAGED Fp(INCH/HR) =  0.57  AREA-AVERAGED Ap =  0.10
 TOTAL AREA(ACRES) =       45.8       PEAK FLOW RATE(CFS) =     143.65
```

```
****************************************************************************
 FLOW PROCESS FROM NODE     602.00 TO NODE     603.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1089.44  DOWNSTREAM(FEET) =  1085.67
 FLOW LENGTH(FEET) =   120.00   MANNING'S N =  0.013
 DEPTH OF FLOW IN  42.0 INCH PIPE IS  29.1 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =  20.19
 ESTIMATED PIPE DIAMETER(INCH) =  42.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =     143.65
 PIPE TRAVEL TIME(MIN.) =   0.10    Tc(MIN.) =   12.51
 LONGEST FLOWPATH FROM NODE     300.00 TO NODE     603.00 =    3298.00 FEET.
============================================================================
 END OF STUDY SUMMARY:
 TOTAL AREA(ACRES)      =       45.8  TC(MIN.) =     12.51
 EFFECTIVE AREA(ACRES) =     45.68  AREA-AVERAGED Fm(INCH/HR)=  0.06
 AREA-AVERAGED Fp(INCH/HR) =  0.57  AREA-AVERAGED Ap = 0.100
 PEAK FLOW RATE(CFS)   =     143.65

 ** PEAK FLOW RATE TABLE **
  STREAM       Q      Tc   Intensity   Fp(Fm)     Ap     Ae     HEADWATER
  NUMBER     (CFS)  (MIN.) (INCH/HR) (INCH/HR)          (ACRES)    NODE
     1      126.79    5.61    5.720  0.56( 0.06) 0.10      24.6     600.00
     2      142.65    9.41    4.195  0.56( 0.06) 0.10      38.0     500.00
     3      143.65   12.51    3.534  0.57( 0.06) 0.10      45.7     400.00
     4      143.34   12.61    3.518  0.57( 0.06) 0.10      45.8     300.00
============================================================================
============================================================================
 END OF RATIONAL METHOD ANALYSIS
```

APPENDIX C

DETENTION ANALYSIS

JOB #3687 - 8996 ETIWANDA AVE, RANCHO CUCAMONGA
DETENTION IN BLDG 1 NORTH TRUCK YARD

Elevation	Depth (feet)	Area (sq. ft.)	Volume (c.f.)	Σ Volume (c.f.)	Σ Volume (ac-ft)	Q Discharge (cfs)
1111.38	0.00	0				
			594	594	0.01	9.0
1111.50	0.12	9908				
			1750	1750	0.04	9.4
1111.60	0.22	25099				
			3620	5370	0.12	9.8
1111.70	0.32	47300				
			5996	11367	0.26	10.2
1111.80	0.42	72627				
			8509	19876	0.46	10.5
1111.90	0.52	97553				
			10877	30753	0.71	10.8
1112.00	0.62	119986				
			12946	43699	1.00	11.2
1112.10	0.72	138939				
			14643	58342	1.34	11.5
1112.20	0.82	153918				
			15976	74317	1.71	11.8
1112.30	0.92	165598				
			17060	91377	2.10	12.1
1112.40	1.02	175597				

```
**************************************************************************

          F L O O D    R O U T I N G    A N A L Y S I S
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 ************************* DESCRIPTION OF STUDY *************************
* TEI JOB NUMBER 3687                                                   *
* PONDING BUILDING 1 NORTH                                              *
* 100-YEAR STORM EVENT                                                  *
 **************************************************************************

  FILE NAME: E:\3687\3687P1NC.FLD
  TIME/DATE OF STUDY: 10:26 11/28/2023


**************************************************************************
  FLOW PROCESS FROM NODE   300.00 TO NODE   306.00 IS CODE = 1.2
--------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (SMALL AREA UNIT-HYDROGRAPH ANALYSIS) <<<<<
==========================================================================

  (SMALL AREA UNIT-HYDROGRAPH ADDED TO STREAM #1)

    RATIONAL METHOD CALIBRATION COEFFICIENT = 0.90
    TOTAL CATCHMENT AREA(ACRES) =   12.30
    SOIL-LOSS RATE, Fm,(INCH/HR) =  0.067
    LOW LOSS FRACTION = 0.089
    TIME OF CONCENTRATION(MIN.) =  8.80
    SMALL AREA PEAK Q COMPUTED USING PEAK FLOW RATE FORMULA
    USER SPECIFIED RAINFALL VALUES ARE USED:
    RETURN FREQUENCY(YEARS) = 100
       5-MINUTE POINT RAINFALL VALUE(INCHES) =  0.50
      30-MINUTE POINT RAINFALL VALUE(INCHES) =  1.05
       1-HOUR   POINT RAINFALL VALUE(INCHES) =  1.38
       3-HOUR   POINT RAINFALL VALUE(INCHES) =  2.50
       6-HOUR   POINT RAINFALL VALUE(INCHES) =  3.70
      24-HOUR   POINT RAINFALL VALUE(INCHES) =  8.00

--------------------------------------------------------------------------
    TOTAL CATCHMENT   RUNOFF  VOLUME(ACRE-FEET) =     6.73
    TOTAL CATCHMENT SOIL-LOSS VOLUME(ACRE-FEET) =     1.47

--------------------------------------------------------------------------
^
==========================================================================

                    2 4 - H O U R    S T O R M
                  R U N O F F    H Y D R O G R A P H

==========================================================================
            HYDROGRAPH IN  ONE-MINUTE UNIT INTERVALS(CFS)
       (Notes: Time indicated is at END of Each Unit Intervals.
               Peak 5-minute rainfall intensity is modeled as
               a constant value for entire 5-minute period.)
--------------------------------------------------------------------------
 TIME(HRS) VOLUME(AF)   Q(CFS) 0.       11.7      23.5      35.2      47.0
--------------------------------------------------------------------------
   0.017      0.0001      0.10  Q         .         .         .         .
   0.033      0.0005      0.29  Q         .         .         .         .
   0.050      0.0012      0.49  Q         .         .         .         .
   0.067      0.0021      0.68  Q         .         .         .         .
   0.083      0.0034      0.88  Q         .         .         .         .
   0.100      0.0048      1.07  Q         .         .         .         .
   0.117      0.0066      1.27  VQ        .         .         .         .
   0.133      0.0086      1.46  VQ        .         .         .         .
   0.150      0.0109      1.66  VQ        .         .         .         .
   0.167      0.0134      1.84  VQ        .         .         .         .
   0.183      0.0160      1.87  VQ        .         .         .         .
   0.200      0.0186      1.87  VQ        .         .         .         .
```

0.217	0.0211	1.87	VQ	.	.	.	.
0.233	0.0237	1.88	VQ	.	.	.	.
0.250	0.0263	1.88	VQ	.	.	.	.
0.267	0.0289	1.88	VQ	.	.	.	.
0.283	0.0315	1.88	VQ	.	.	.	.
0.300	0.0341	1.88	VQ	.	.	.	.
0.317	0.0367	1.88	VQ	.	.	.	.
0.333	0.0393	1.88	VQ	.	.	.	.
0.350	0.0419	1.88	VQ	.	.	.	.
0.367	0.0444	1.88	VQ	.	.	.	.
0.383	0.0470	1.88	VQ	.	.	.	.
0.400	0.0496	1.88	VQ	.	.	.	.
0.417	0.0522	1.88	VQ	.	.	.	.
0.433	0.0548	1.89	VQ	.	.	.	.
0.450	0.0574	1.89	VQ	.	.	.	.
0.467	0.0600	1.89	VQ	.	.	.	.
0.483	0.0626	1.89	VQ	.	.	.	.
0.500	0.0652	1.89	VQ	.	.	.	.
0.517	0.0678	1.89	VQ	.	.	.	.
0.533	0.0704	1.89	VQ	.	.	.	.
0.550	0.0730	1.89	VQ	.	.	.	.
0.567	0.0757	1.89	VQ	.	.	.	.
0.583	0.0783	1.89	VQ	.	.	.	.
0.600	0.0809	1.90	VQ	.	.	.	.
0.617	0.0835	1.90	VQ	.	.	.	.
0.633	0.0861	1.90	VQ	.	.	.	.
0.650	0.0887	1.90	VQ	.	.	.	.
0.667	0.0913	1.90	VQ	.	.	.	.
0.683	0.0939	1.90	VQ	.	.	.	.
0.700	0.0966	1.90	VQ	.	.	.	.
0.717	0.0992	1.90	VQ	.	.	.	.
0.733	0.1018	1.90	VQ	.	.	.	.
0.750	0.1044	1.90	VQ	.	.	.	.
0.767	0.1070	1.90	VQ	.	.	.	.
0.783	0.1097	1.90	VQ	.	.	.	.
0.800	0.1123	1.91	VQ	.	.	.	.
0.817	0.1149	1.91	VQ	.	.	.	.
0.833	0.1175	1.91	VQ	.	.	.	.
0.850	0.1202	1.91	VQ	.	.	.	.
0.867	0.1228	1.91	VQ	.	.	.	.
0.883	0.1254	1.91	VQ	.	.	.	.
0.900	0.1281	1.91	VQ	.	.	.	.
0.917	0.1307	1.91	VQ	.	.	.	.
0.933	0.1333	1.91	VQ	.	.	.	.
0.950	0.1360	1.91	VQ	.	.	.	.
0.967	0.1386	1.92	VQ	.	.	.	.
0.983	0.1412	1.92	VQ	.	.	.	.
1.000	0.1439	1.92	VQ	.	.	.	.
1.017	0.1465	1.92	VQ	.	.	.	.
1.033	0.1492	1.92	VQ	.	.	.	.
1.050	0.1518	1.92	VQ	.	.	.	.
1.067	0.1545	1.92	VQ	.	.	.	.
1.083	0.1571	1.92	VQ	.	.	.	.
1.100	0.1597	1.92	VQ	.	.	.	.
1.117	0.1624	1.92	VQ	.	.	.	.
1.133	0.1650	1.92	VQ	.	.	.	.
1.150	0.1677	1.93	VQ	.	.	.	.
1.167	0.1704	1.93	.Q	.	.	.	.
1.183	0.1730	1.93	.Q	.	.	.	.
1.200	0.1757	1.93	.Q	.	.	.	.
1.217	0.1783	1.93	.Q	.	.	.	.
1.233	0.1810	1.93	.Q	.	.	.	.
1.250	0.1836	1.93	.Q	.	.	.	.
1.267	0.1863	1.93	.Q	.	.	.	.
1.283	0.1890	1.93	.Q	.	.	.	.
1.300	0.1916	1.93	.Q	.	.	.	.
1.317	0.1943	1.93	.Q	.	.	.	.
1.333	0.1970	1.93	.Q	.	.	.	.
1.350	0.1996	1.94	.Q	.	.	.	.
1.367	0.2023	1.94	.Q	.	.	.	.
1.383	0.2050	1.94	.Q	.	.	.	.
1.400	0.2076	1.94	.Q	.	.	.	.
1.417	0.2103	1.94	.Q	.	.	.	.
1.433	0.2130	1.94	.Q	.	.	.	.
1.450	0.2157	1.94	.Q	.	.	.	.
1.467	0.2183	1.94	.Q	.	.	.	.
1.483	0.2210	1.95	.Q	.	.	.	.
1.500	0.2237	1.95	.Q	.	.	.	.
1.517	0.2264	1.95	.Q	.	.	.	.

1.533	0.2291	1.95	.Q	.	.	.	.
1.550	0.2318	1.95	.Q	.	.	.	.
1.567	0.2344	1.95	.Q	.	.	.	.
1.583	0.2371	1.95	.Q	.	.	.	.
1.600	0.2398	1.95	.Q	.	.	.	.
1.617	0.2425	1.95	.Q	.	.	.	.
1.633	0.2452	1.95	.Q	.	.	.	.
1.650	0.2479	1.95	.Q	.	.	.	.
1.667	0.2506	1.95	.Q	.	.	.	.
1.683	0.2533	1.96	.Q	.	.	.	.
1.700	0.2560	1.96	.Q	.	.	.	.
1.717	0.2587	1.96	.Q	.	.	.	.
1.733	0.2614	1.96	.Q	.	.	.	.
1.750	0.2641	1.96	.Q	.	.	.	.
1.767	0.2668	1.96	.Q	.	.	.	.
1.783	0.2695	1.96	.Q	.	.	.	.
1.800	0.2722	1.96	.Q	.	.	.	.
1.817	0.2749	1.97	.Q	.	.	.	.
1.833	0.2776	1.97	.Q	.	.	.	.
1.850	0.2803	1.97	.Q	.	.	.	.
1.867	0.2830	1.97	.Q	.	.	.	.
1.883	0.2857	1.97	.Q	.	.	.	.
1.900	0.2884	1.97	.Q	.	.	.	.
1.917	0.2911	1.97	.Q	.	.	.	.
1.933	0.2939	1.97	.Q	.	.	.	.
1.950	0.2966	1.97	.Q	.	.	.	.
1.967	0.2993	1.97	.Q	.	.	.	.
1.983	0.3020	1.97	.Q	.	.	.	.
2.000	0.3047	1.98	.Q	.	.	.	.
2.017	0.3075	1.98	.Q	.	.	.	.
2.033	0.3102	1.98	.Q	.	.	.	.
2.050	0.3129	1.98	.Q	.	.	.	.
2.067	0.3156	1.98	.Q	.	.	.	.
2.083	0.3184	1.98	.Q	.	.	.	.
2.100	0.3211	1.98	.Q	.	.	.	.
2.117	0.3238	1.98	.Q	.	.	.	.
2.133	0.3266	1.98	.Q	.	.	.	.
2.150	0.3293	1.99	.Q	.	.	.	.
2.167	0.3320	1.99	.Q	.	.	.	.
2.183	0.3348	1.99	.Q	.	.	.	.
2.200	0.3375	1.99	.QV	.	.	.	.
2.217	0.3402	1.99	.QV	.	.	.	.
2.233	0.3430	1.99	.QV	.	.	.	.
2.250	0.3457	1.99	.QV	.	.	.	.
2.267	0.3485	1.99	.QV	.	.	.	.
2.283	0.3512	1.99	.QV	.	.	.	.
2.300	0.3540	1.99	.QV	.	.	.	.
2.317	0.3567	2.00	.QV	.	.	.	.
2.333	0.3595	2.00	.QV	.	.	.	.
2.350	0.3622	2.00	.QV	.	.	.	.
2.367	0.3650	2.00	.QV	.	.	.	.
2.383	0.3677	2.00	.QV	.	.	.	.
2.400	0.3705	2.00	.QV	.	.	.	.
2.417	0.3733	2.00	.QV	.	.	.	.
2.433	0.3760	2.00	.QV	.	.	.	.
2.450	0.3788	2.00	.QV	.	.	.	.
2.467	0.3815	2.00	.QV	.	.	.	.
2.483	0.3843	2.01	.QV	.	.	.	.
2.500	0.3871	2.01	.QV	.	.	.	.
2.517	0.3898	2.01	.QV	.	.	.	.
2.533	0.3926	2.01	.QV	.	.	.	.
2.550	0.3954	2.01	.QV	.	.	.	.
2.567	0.3981	2.01	.QV	.	.	.	.
2.583	0.4009	2.01	.QV	.	.	.	.
2.600	0.4037	2.01	.QV	.	.	.	.
2.617	0.4065	2.02	.QV	.	.	.	.
2.633	0.4092	2.02	.QV	.	.	.	.
2.650	0.4120	2.02	.QV	.	.	.	.
2.667	0.4148	2.02	.QV	.	.	.	.
2.683	0.4176	2.02	.QV	.	.	.	.
2.700	0.4204	2.02	.QV	.	.	.	.
2.717	0.4232	2.02	.QV	.	.	.	.
2.733	0.4259	2.02	.QV	.	.	.	.
2.750	0.4287	2.02	.QV	.	.	.	.
2.767	0.4315	2.02	.QV	.	.	.	.
2.783	0.4343	2.03	.QV	.	.	.	.
2.800	0.4371	2.03	.QV	.	.	.	.
2.817	0.4399	2.03	.QV	.	.	.	.
2.833	0.4427	2.03	.QV	.	.	.	.

2.850	0.4455	2.03	.QV	.	.	.	.
2.867	0.4483	2.03	.QV	.	.	.	.
2.883	0.4511	2.03	.QV	.	.	.	.
2.900	0.4539	2.03	.QV	.	.	.	.
2.917	0.4567	2.04	.QV	.	.	.	.
2.933	0.4595	2.04	.QV	.	.	.	.
2.950	0.4623	2.04	.QV	.	.	.	.
2.967	0.4651	2.04	.QV	.	.	.	.
2.983	0.4679	2.04	.QV	.	.	.	.
3.000	0.4707	2.04	.QV	.	.	.	.
3.017	0.4736	2.04	.QV	.	.	.	.
3.033	0.4764	2.04	.QV	.	.	.	.
3.050	0.4792	2.04	.QV	.	.	.	.
3.067	0.4820	2.04	.QV	.	.	.	.
3.083	0.4848	2.05	.QV	.	.	.	.
3.100	0.4876	2.05	.QV	.	.	.	.
3.117	0.4905	2.05	.QV	.	.	.	.
3.133	0.4933	2.05	.QV	.	.	.	.
3.150	0.4961	2.05	.QV	.	.	.	.
3.167	0.4989	2.05	.QV	.	.	.	.
3.183	0.5018	2.05	.QV	.	.	.	.
3.200	0.5046	2.06	.QV	.	.	.	.
3.217	0.5074	2.06	.Q V	.	.	.	.
3.233	0.5103	2.06	.Q V	.	.	.	.
3.250	0.5131	2.06	.Q V	.	.	.	.
3.267	0.5159	2.06	.Q V	.	.	.	.
3.283	0.5188	2.06	.Q V	.	.	.	.
3.300	0.5216	2.06	.Q V	.	.	.	.
3.317	0.5245	2.06	.Q V	.	.	.	.
3.333	0.5273	2.06	.Q V	.	.	.	.
3.350	0.5302	2.07	.Q V	.	.	.	.
3.367	0.5330	2.07	.Q V	.	.	.	.
3.383	0.5358	2.07	.Q V	.	.	.	.
3.400	0.5387	2.07	.Q V	.	.	.	.
3.417	0.5415	2.07	.Q V	.	.	.	.
3.433	0.5444	2.07	.Q V	.	.	.	.
3.450	0.5473	2.07	.Q V	.	.	.	.
3.467	0.5501	2.07	.Q V	.	.	.	.
3.483	0.5530	2.08	.Q V	.	.	.	.
3.500	0.5558	2.08	.Q V	.	.	.	.
3.517	0.5587	2.08	.Q V	.	.	.	.
3.533	0.5616	2.08	.Q V	.	.	.	.
3.550	0.5644	2.08	.Q V	.	.	.	.
3.567	0.5673	2.08	.Q V	.	.	.	.
3.583	0.5702	2.08	.Q V	.	.	.	.
3.600	0.5730	2.08	.Q V	.	.	.	.
3.617	0.5759	2.09	.Q V	.	.	.	.
3.633	0.5788	2.09	.Q V	.	.	.	.
3.650	0.5817	2.09	.Q V	.	.	.	.
3.667	0.5845	2.09	.Q V	.	.	.	.
3.683	0.5874	2.09	.Q V	.	.	.	.
3.700	0.5903	2.09	.Q V	.	.	.	.
3.717	0.5932	2.09	.Q V	.	.	.	.
3.733	0.5961	2.09	.Q V	.	.	.	.
3.750	0.5989	2.09	.Q V	.	.	.	.
3.767	0.6018	2.10	.Q V	.	.	.	.
3.783	0.6047	2.10	.Q V	.	.	.	.
3.800	0.6076	2.10	.Q V	.	.	.	.
3.817	0.6105	2.10	.Q V	.	.	.	.
3.833	0.6134	2.10	.Q V	.	.	.	.
3.850	0.6163	2.10	.Q V	.	.	.	.
3.867	0.6192	2.11	.Q V	.	.	.	.
3.883	0.6221	2.11	.Q V	.	.	.	.
3.900	0.6250	2.11	.Q V	.	.	.	.
3.917	0.6279	2.11	.Q V	.	.	.	.
3.933	0.6308	2.11	.Q V	.	.	.	.
3.950	0.6337	2.11	.Q V	.	.	.	.
3.967	0.6366	2.11	.Q V	.	.	.	.
3.983	0.6395	2.11	.Q V	.	.	.	.
4.000	0.6424	2.11	.Q V	.	.	.	.
4.017	0.6454	2.11	.Q V	.	.	.	.
4.033	0.6483	2.12	.Q V	.	.	.	.
4.050	0.6512	2.12	.Q V	.	.	.	.
4.067	0.6541	2.12	.Q V	.	.	.	.
4.083	0.6570	2.12	.Q V	.	.	.	.
4.100	0.6600	2.12	.Q V	.	.	.	.
4.117	0.6629	2.13	.Q V	.	.	.	.
4.133	0.6658	2.13	.Q V	.	.	.	.
4.150	0.6687	2.13	.Q V	.	.	.	.

4.167	0.6717	2.13	.Q V	.	.	.	.
4.183	0.6746	2.13	.Q V	.	.	.	.
4.200	0.6775	2.13	.Q V	.	.	.	.
4.217	0.6805	2.13	.Q V	.	.	.	.
4.233	0.6834	2.13	.Q V	.	.	.	.
4.250	0.6863	2.13	.Q V	.	.	.	.
4.267	0.6893	2.13	.Q V	.	.	.	.
4.283	0.6922	2.13	.Q V	.	.	.	.
4.300	0.6952	2.14	.Q V	.	.	.	.
4.317	0.6981	2.14	.Q V	.	.	.	.
4.333	0.7011	2.14	.Q V	.	.	.	.
4.350	0.7040	2.14	.Q V	.	.	.	.
4.367	0.7070	2.14	.Q V	.	.	.	.
4.383	0.7099	2.15	.Q V	.	.	.	.
4.400	0.7129	2.15	.Q V	.	.	.	.
4.417	0.7158	2.15	.Q V	.	.	.	.
4.433	0.7188	2.15	.Q V	.	.	.	.
4.450	0.7218	2.15	.Q V	.	.	.	.
4.467	0.7247	2.15	.Q V	.	.	.	.
4.483	0.7277	2.15	.Q V	.	.	.	.
4.500	0.7307	2.15	.Q V	.	.	.	.
4.517	0.7336	2.15	.Q V	.	.	.	.
4.533	0.7366	2.16	.Q V	.	.	.	.
4.550	0.7396	2.16	.Q V	.	.	.	.
4.567	0.7425	2.16	.Q V	.	.	.	.
4.583	0.7455	2.16	.Q V	.	.	.	.
4.600	0.7485	2.16	.Q V	.	.	.	.
4.617	0.7515	2.16	.Q V	.	.	.	.
4.633	0.7545	2.16	.Q V	.	.	.	.
4.650	0.7574	2.17	.Q V	.	.	.	.
4.667	0.7604	2.17	.Q V	.	.	.	.
4.683	0.7634	2.17	.Q V	.	.	.	.
4.700	0.7664	2.17	.Q V	.	.	.	.
4.717	0.7694	2.17	.Q V	.	.	.	.
4.733	0.7724	2.18	.Q V	.	.	.	.
4.750	0.7754	2.18	.Q V	.	.	.	.
4.767	0.7784	2.18	.Q V	.	.	.	.
4.783	0.7814	2.18	.Q V	.	.	.	.
4.800	0.7844	2.18	.Q V	.	.	.	.
4.817	0.7874	2.18	.Q V	.	.	.	.
4.833	0.7904	2.18	.Q V	.	.	.	.
4.850	0.7934	2.18	.Q V	.	.	.	.
4.867	0.7964	2.18	.Q V	.	.	.	.
4.883	0.7994	2.18	.Q V	.	.	.	.
4.900	0.8024	2.19	.Q V	.	.	.	.
4.917	0.8055	2.19	.Q V	.	.	.	.
4.933	0.8085	2.19	.Q V	.	.	.	.
4.950	0.8115	2.19	.Q V	.	.	.	.
4.967	0.8145	2.19	.Q V	.	.	.	.
4.983	0.8175	2.20	.Q V	.	.	.	.
5.000	0.8206	2.20	.Q V	.	.	.	.
5.017	0.8236	2.20	.Q V	.	.	.	.
5.033	0.8266	2.20	.Q V	.	.	.	.
5.050	0.8297	2.20	.Q V	.	.	.	.
5.067	0.8327	2.20	.Q V	.	.	.	.
5.083	0.8357	2.20	.Q V	.	.	.	.
5.100	0.8388	2.20	.Q V	.	.	.	.
5.117	0.8418	2.21	.Q V	.	.	.	.
5.133	0.8448	2.21	.Q V	.	.	.	.
5.150	0.8479	2.21	.Q V	.	.	.	.
5.167	0.8509	2.21	.Q V	.	.	.	.
5.183	0.8540	2.21	.Q V	.	.	.	.
5.200	0.8570	2.21	.Q V	.	.	.	.
5.217	0.8601	2.22	.Q V	.	.	.	.
5.233	0.8631	2.22	.Q V	.	.	.	.
5.250	0.8662	2.22	.Q V	.	.	.	.
5.267	0.8692	2.22	.Q V	.	.	.	.
5.283	0.8723	2.22	.Q V	.	.	.	.
5.300	0.8754	2.23	.Q V	.	.	.	.
5.317	0.8784	2.23	.Q V	.	.	.	.
5.333	0.8815	2.23	.Q V	.	.	.	.
5.350	0.8846	2.23	.Q V	.	.	.	.
5.367	0.8877	2.23	.Q V	.	.	.	.
5.383	0.8907	2.23	.Q V	.	.	.	.
5.400	0.8938	2.23	.Q V	.	.	.	.
5.417	0.8969	2.23	.Q V	.	.	.	.
5.433	0.9000	2.23	.Q V	.	.	.	.
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6.633	1.1276	2.35	. Q	V	.	.	.	.
6.650	1.1308	2.36	. Q	V	.	.	.	.
6.667	1.1341	2.36	. Q	V	.	.	.	.
6.683	1.1373	2.36	. Q	V	.	.	.	.
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7.367	1.2730	2.44	.	Q	V	.	.	.	.
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7.450	1.2899	2.45	.	Q	V	.	.	.	.
7.467	1.2933	2.45	.	Q	V	.	.	.	.
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9.167	1.6550	2.71	.	Q	V.	.	.	.
9.183	1.6587	2.71	.	Q	V.	.	.	.
9.200	1.6625	2.71	.	Q	V.	.	.	.
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9.367	1.7000	2.74	.	Q	V	.	.	.
9.383	1.7038	2.75	.	Q	V	.	.	.
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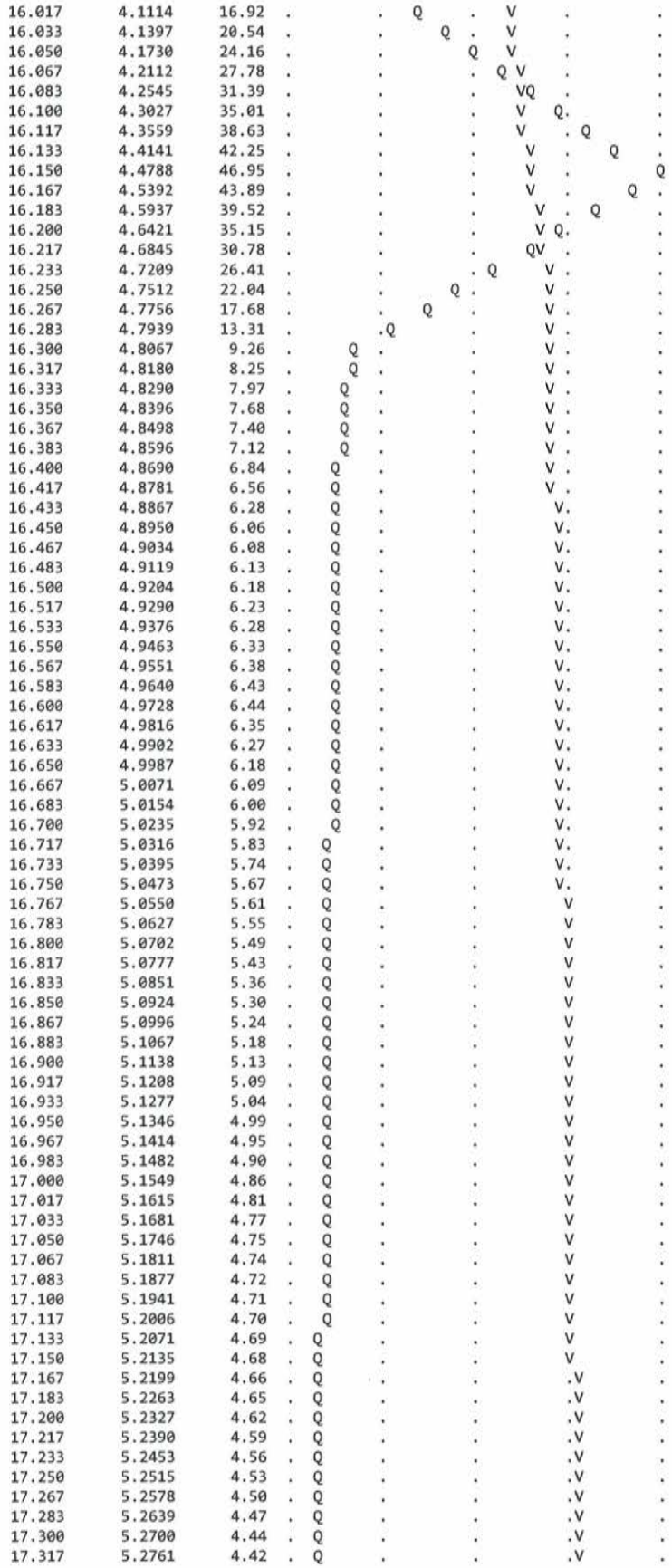
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9.567	1.7456	2.77	.	Q	V	.	.	.
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9.633	1.7610	2.79	.	Q	V	.	.	.
9.650	1.7648	2.79	.	Q	V	.	.	.
9.667	1.7687	2.80	.	Q	V	.	.	.
9.683	1.7725	2.80	.	Q	V	.	.	.
9.700	1.7764	2.81	.	Q	V	.	.	.
9.717	1.7803	2.81	.	Q	V	.	.	.
9.733	1.7841	2.81	.	Q	V	.	.	.
9.750	1.7880	2.81	.	Q	V	.	.	.
9.767	1.7919	2.82	.	Q	V	.	.	.
9.783	1.7958	2.82	.	Q	V	.	.	.
9.800	1.7996	2.82	.	Q	V	.	.	.
9.817	1.8035	2.82	.	Q	V	.	.	.
9.833	1.8074	2.82	.	Q	V	.	.	.
9.850	1.8113	2.83	.	Q	V	.	.	.
9.867	1.8152	2.83	.	Q	V	.	.	.
9.883	1.8191	2.84	.	Q	V	.	.	.
9.900	1.8230	2.84	.	Q	V	.	.	.
9.917	1.8270	2.84	.	Q	V	.	.	.
9.933	1.8309	2.85	.	Q	V	.	.	.
9.950	1.8348	2.85	.	Q	V	.	.	.
9.967	1.8387	2.86	.	Q	V	.	.	.
9.983	1.8427	2.86	.	Q	V	.	.	.
10.000	1.8466	2.87	.	Q	V	.	.	.
10.017	1.8506	2.87	.	Q	V	.	.	.
10.033	1.8545	2.87	.	Q	.V	.	.	.
10.050	1.8585	2.87	.	Q	.V	.	.	.
10.067	1.8625	2.88	.	Q	.V	.	.	.
10.083	1.8664	2.88	.	Q	.V	.	.	.
10.100	1.8704	2.88	.	Q	.V	.	.	.
10.117	1.8744	2.88	.	Q	.V	.	.	.
10.133	1.8783	2.89	.	Q	.V	.	.	.
10.150	1.8823	2.89	.	Q	.V	.	.	.
10.167	1.8863	2.89	.	Q	.V	.	.	.
10.183	1.8903	2.90	.	Q	.V	.	.	.
10.200	1.8943	2.90	.	Q	.V	.	.	.
10.217	1.8983	2.91	.	Q	.V	.	.	.
10.233	1.9023	2.91	.	Q	.V	.	.	.
10.250	1.9063	2.92	.	Q	.V	.	.	.
10.267	1.9104	2.92	.	Q	.V	.	.	.
10.283	1.9144	2.93	.	Q	.V	.	.	.
10.300	1.9184	2.93	.	Q	.V	.	.	.
10.317	1.9225	2.93	.	Q	.V	.	.	.
10.333	1.9265	2.94	.	Q	.V	.	.	.
10.350	1.9306	2.94	.	Q	.V	.	.	.
10.367	1.9346	2.94	.	Q	.V	.	.	.
10.383	1.9387	2.94	.	Q	.V	.	.	.
10.400	1.9427	2.95	.	Q	.V	.	.	.
10.417	1.9468	2.95	.	Q	.V	.	.	.
10.433	1.9509	2.95	.	Q	.V	.	.	.
10.450	1.9549	2.96	.	Q	.V	.	.	.
10.467	1.9590	2.96	.	Q	.V	.	.	.
10.483	1.9631	2.97	.	Q	.V	.	.	.
10.500	1.9672	2.97	.	Q	.V	.	.	.
10.517	1.9713	2.98	.	Q	.V	.	.	.
10.533	1.9754	2.98	.	Q	.V	.	.	.
10.550	1.9795	2.99	.	Q	.V	.	.	.
10.567	1.9836	2.99	.	Q	.V	.	.	.
10.583	1.9878	3.00	.	Q	.V	.	.	.
10.600	1.9919	3.00	.	Q	.V	.	.	.
10.617	1.9960	3.00	.	Q	.V	.	.	.
10.633	2.0002	3.01	.	Q	.V	.	.	.
10.650	2.0043	3.01	.	Q	.V	.	.	.
10.667	2.0085	3.01	.	Q	.V	.	.	.
10.683	2.0126	3.01	.	Q	.V	.	.	.
10.700	2.0168	3.02	.	Q	.V	.	.	.
10.717	2.0209	3.02	.	Q	. V	.	.	.
10.733	2.0251	3.02	.	Q	. V	.	.	.

10.750	2.0293	3.03	. Q	. V	.	.	.
10.767	2.0334	3.03	. Q	. V	.	.	.
10.783	2.0376	3.04	. Q	. V	.	.	.
10.800	2.0418	3.05	. Q	. V	.	.	.
10.817	2.0460	3.05	. Q	. V	.	.	.
10.833	2.0502	3.06	. Q	. V	.	.	.
10.850	2.0545	3.06	. Q	. V	.	.	.
10.867	2.0587	3.07	. Q	. V	.	.	.
10.883	2.0629	3.07	. Q	. V	.	.	.
10.900	2.0672	3.08	. Q	. V	.	.	.
10.917	2.0714	3.08	. Q	. V	.	.	.
10.933	2.0756	3.08	. Q	. V	.	.	.
10.950	2.0799	3.08	. Q	. V	.	.	.
10.967	2.0841	3.09	. Q	. V	.	.	.
10.983	2.0884	3.09	. Q	. V	.	.	.
11.000	2.0927	3.09	. Q	. V	.	.	.
11.017	2.0969	3.10	. Q	. V	.	.	.
11.033	2.1012	3.10	. Q	. V	.	.	.
11.050	2.1055	3.11	. Q	. V	.	.	.
11.067	2.1098	3.11	. Q	. V	.	.	.
11.083	2.1141	3.12	. Q	. V	.	.	.
11.100	2.1184	3.13	. Q	. V	.	.	.
11.117	2.1227	3.13	. Q	. V	.	.	.
11.133	2.1270	3.14	. Q	. V	.	.	.
11.150	2.1313	3.14	. Q	. V	.	.	.
11.167	2.1357	3.15	. Q	. V	.	.	.
11.183	2.1400	3.15	. Q	. V	.	.	.
11.200	2.1444	3.16	. Q	. V	.	.	.
11.217	2.1487	3.16	. Q	. V	.	.	.
11.233	2.1531	3.16	. Q	. V	.	.	.
11.250	2.1574	3.17	. Q	. V	.	.	.
11.267	2.1618	3.17	. Q	. V	.	.	.
11.283	2.1662	3.17	. Q	. V	.	.	.
11.300	2.1705	3.18	. Q	. V	.	.	.
11.317	2.1749	3.18	. Q	. V	.	.	.
11.333	2.1793	3.19	. Q	. V	.	.	.
11.350	2.1837	3.19	. Q	. V	.	.	.
11.367	2.1881	3.20	. Q	. V	.	.	.
11.383	2.1925	3.21	. Q	. V	.	.	.
11.400	2.1970	3.21	. Q	. V	.	.	.
11.417	2.2014	3.22	. Q	. V	.	.	.
11.433	2.2058	3.23	. Q	. V	.	.	.
11.450	2.2103	3.23	. Q	. V	.	.	.
11.467	2.2147	3.24	. Q	. V	.	.	.
11.483	2.2192	3.24	. Q	. V	.	.	.
11.500	2.2237	3.25	. Q	. V	.	.	.
11.517	2.2282	3.25	. Q	. V	.	.	.
11.533	2.2326	3.25	. Q	. V	.	.	.
11.550	2.2371	3.26	. Q	. V	.	.	.
11.567	2.2416	3.26	. Q	. V	.	.	.
11.583	2.2461	3.26	. Q	. V	.	.	.
11.600	2.2506	3.27	. Q	. V	.	.	.
11.617	2.2551	3.27	. Q	. V	.	.	.
11.633	2.2596	3.28	. Q	. V	.	.	.
11.650	2.2642	3.29	. Q	. V	.	.	.
11.667	2.2687	3.29	. Q	. V	.	.	.
11.683	2.2732	3.30	. Q	. V	.	.	.
11.700	2.2778	3.31	. Q	. V	.	.	.
11.717	2.2824	3.32	. Q	. V	.	.	.
11.733	2.2869	3.32	. Q	. V	.	.	.
11.750	2.2915	3.33	. Q	. V	.	.	.
11.767	2.2961	3.34	. Q	. V	.	.	.
11.783	2.3007	3.34	. Q	. V	.	.	.
11.800	2.3053	3.34	. Q	. V	.	.	.
11.817	2.3099	3.35	. Q	. V	.	.	.
11.833	2.3145	3.35	. Q	. V	.	.	.
11.850	2.3192	3.35	. Q	. V	.	.	.
11.867	2.3238	3.36	. Q	. V	.	.	.
11.883	2.3284	3.36	. Q	. V	.	.	.
11.900	2.3331	3.37	. Q	. V	.	.	.
11.917	2.3377	3.37	. Q	. V	.	.	.
11.933	2.3424	3.38	. Q	. V	.	.	.
11.950	2.3470	3.39	. Q	. V	.	.	.
11.967	2.3517	3.40	. Q	. V	.	.	.
11.983	2.3564	3.41	. Q	. V	.	.	.
12.000	2.3611	3.41	. Q	. V	.	.	.
12.017	2.3658	3.42	. Q	. V	.	.	.
12.033	2.3705	3.43	. Q	. V	.	.	.
12.050	2.3753	3.44	. Q	. V	.	.	.

12.067	2.3800	3.45	. Q	.	V	.	.	.
12.083	2.3848	3.46	. Q	.	V	.	.	.
12.100	2.3896	3.47	. Q	.	V	.	.	.
12.117	2.3944	3.48	. Q	.	V	.	.	.
12.133	2.3992	3.49	. Q	.	V	.	.	.
12.150	2.4040	3.50	. Q	.	V	.	.	.
12.167	2.4088	3.51	. Q	.	V	.	.	.
12.183	2.4137	3.52	. Q	.	V	.	.	.
12.200	2.4185	3.53	. Q	.	V	.	.	.
12.217	2.4234	3.54	. Q	.	V	.	.	.
12.233	2.4283	3.55	. Q	.	V	.	.	.
12.250	2.4332	3.56	. Q	.	V	.	.	.
12.267	2.4381	3.57	. Q	.	V	.	.	.
12.283	2.4431	3.58	. Q	.	V	.	.	.
12.300	2.4480	3.59	. Q	.	V	.	.	.
12.317	2.4529	3.60	. Q	.	V	.	.	.
12.333	2.4579	3.61	. Q	.	V	.	.	.
12.350	2.4629	3.61	. Q	.	V	.	.	.
12.367	2.4679	3.62	. Q	.	V	.	.	.
12.383	2.4729	3.62	. Q	.	V	.	.	.
12.400	2.4779	3.63	. Q	.	V	.	.	.
12.417	2.4829	3.63	. Q	.	V	.	.	.
12.433	2.4879	3.64	. Q	.	V	.	.	.
12.450	2.4929	3.64	. Q	.	V	.	.	.
12.467	2.4979	3.65	. Q	.	V	.	.	.
12.483	2.5029	3.65	. Q	.	V	.	.	.
12.500	2.5080	3.66	. Q	.	V	.	.	.
12.517	2.5130	3.67	. Q	.	V	.	.	.
12.533	2.5181	3.68	. Q	.	V	.	.	.
12.550	2.5232	3.69	. Q	.	V	.	.	.
12.567	2.5283	3.70	. Q	.	V	.	.	.
12.583	2.5334	3.71	. Q	.	V	.	.	.
12.600	2.5385	3.72	. Q	.	V	.	.	.
12.617	2.5437	3.73	. Q	.	V	.	.	.
12.633	2.5488	3.74	. Q	.	V	.	.	.
12.650	2.5540	3.75	. Q	.	V	.	.	.
12.667	2.5591	3.75	. Q	.	V	.	.	.
12.683	2.5643	3.76	. Q	.	V	.	.	.
12.700	2.5695	3.76	. Q	.	V	.	.	.
12.717	2.5747	3.77	. Q	.	V	.	.	.
12.733	2.5799	3.77	. Q	.	V	.	.	.
12.750	2.5851	3.78	. Q	.	V	.	.	.
12.767	2.5903	3.78	. Q	.	V	.	.	.
12.783	2.5955	3.79	. Q	.	V	.	.	.
12.800	2.6008	3.80	. Q	.	V	.	.	.
12.817	2.6060	3.81	. Q	.	V	.	.	.
12.833	2.6113	3.82	. Q	.	V	.	.	.
12.850	2.6165	3.83	. Q	.	V	.	.	.
12.867	2.6218	3.85	. Q	.	V	.	.	.
12.883	2.6272	3.86	. Q	.	V	.	.	.
12.900	2.6325	3.87	. Q	.	V	.	.	.
12.917	2.6378	3.88	. Q	.	V	.	.	.
12.933	2.6432	3.89	. Q	.	V	.	.	.
12.950	2.6486	3.90	. Q	.	V	.	.	.
12.967	2.6539	3.90	. Q	.	V	.	.	.
12.983	2.6593	3.91	. Q	.	V	.	.	.
13.000	2.6647	3.91	. Q	.	V	.	.	.
13.017	2.6701	3.92	. Q	.	V	.	.	.
13.033	2.6755	3.93	. Q	.	V	.	.	.
13.050	2.6809	3.93	. Q	.	V	.	.	.
13.067	2.6863	3.94	. Q	.	V	.	.	.
13.083	2.6918	3.95	. Q	.	V	.	.	.
13.100	2.6972	3.96	. Q	.	V	.	.	.
13.117	2.7027	3.97	. Q	.	V	.	.	.
13.133	2.7082	3.99	. Q	.	V	.	.	.
13.150	2.7137	4.00	. Q	.	V	.	.	.
13.167	2.7192	4.01	. Q	.	V	.	.	.
13.183	2.7248	4.02	. Q	.	V	.	.	.
13.200	2.7303	4.04	. Q	.	V	.	.	.
13.217	2.7359	4.05	. Q	.	V	.	.	.
13.233	2.7415	4.06	. Q	.	V	.	.	.
13.250	2.7471	4.07	. Q	.	V	.	.	.
13.267	2.7527	4.07	. Q	.	V	.	.	.
13.283	2.7583	4.08	. Q	.	V	.	.	.
13.300	2.7640	4.09	. Q	.	V	.	.	.
13.317	2.7696	4.09	. Q	.	V	.	.	.
13.333	2.7752	4.10	. Q	.	V	.	.	.
13.350	2.7809	4.11	. Q	.	V	.	.	.
13.367	2.7866	4.12	. Q	.	V	.	.	.

13.383	2.7923	4.13	.	Q	.	V	.	.	.
13.400	2.7980	4.14	.	Q	.	V	.	.	.
13.417	2.8037	4.16	.	Q	.	V	.	.	.
13.433	2.8095	4.17	.	Q	.	V	.	.	.
13.450	2.8152	4.19	.	Q	.	V	.	.	.
13.467	2.8210	4.20	.	Q	.	V	.	.	.
13.483	2.8268	4.22	.	Q	.	V	.	.	.
13.500	2.8327	4.23	.	Q	.	V	.	.	.
13.517	2.8385	4.25	.	Q	.	V	.	.	.
13.533	2.8444	4.26	.	Q	.	V	.	.	.
13.550	2.8502	4.26	.	Q	.	V	.	.	.
13.567	2.8561	4.27	.	Q	.	V	.	.	.
13.583	2.8620	4.28	.	Q	.	V	.	.	.
13.600	2.8679	4.29	.	Q	.	V	.	.	.
13.617	2.8739	4.30	.	Q	.	V	.	.	.
13.633	2.8798	4.31	.	Q	.	V	.	.	.
13.650	2.8857	4.31	.	Q	.	V	.	.	.
13.667	2.8917	4.32	.	Q	.	V	.	.	.
13.683	2.8977	4.34	.	Q	.	V	.	.	.
13.700	2.9037	4.36	.	Q	.	V	.	.	.
13.717	2.9097	4.38	.	Q	.	V	.	.	.
13.733	2.9158	4.40	.	Q	.	V	.	.	.
13.750	2.9218	4.41	.	Q	.	V	.	.	.
13.767	2.9279	4.43	.	Q	.	V	.	.	.
13.783	2.9341	4.45	.	Q	.	V	.	.	.
13.800	2.9402	4.47	.	Q	.	V	.	.	.
13.817	2.9464	4.48	.	Q	.	V	.	.	.
13.833	2.9526	4.49	.	Q	.	V	.	.	.
13.850	2.9588	4.50	.	Q	.	V	.	.	.
13.867	2.9650	4.51	.	Q	.	V	.	.	.
13.883	2.9712	4.52	.	Q	.	V	.	.	.
13.900	2.9774	4.53	.	Q	.	V	.	.	.
13.917	2.9837	4.54	.	Q	.	V	.	.	.
13.933	2.9900	4.55	.	Q	.	V	.	.	.
13.950	2.9962	4.56	.	Q	.	V	.	.	.
13.967	3.0025	4.57	.	Q	.	V	.	.	.
13.983	3.0088	4.58	.	Q	.	V	.	.	.
14.000	3.0152	4.59	.	Q	.	V	.	.	.
14.017	3.0215	4.60	.	Q	.	V	.	.	.
14.033	3.0278	4.61	.	Q	.	V	.	.	.
14.050	3.0342	4.62	.	Q	.	V	.	.	.
14.067	3.0406	4.63	.	Q	.	V	.	.	.
14.083	3.0470	4.64	.	Q	.	V	.	.	.
14.100	3.0534	4.65	.	Q	.	V	.	.	.
14.117	3.0598	4.65	.	Q	.	V	.	.	.
14.133	3.0662	4.65	.	Q	.	V	.	.	.
14.150	3.0726	4.65	.	Q	.	V	.	.	.
14.167	3.0790	4.65	.	Q	.	V	.	.	.
14.183	3.0854	4.65	.	Q	.	V	.	.	.
14.200	3.0918	4.65	.	Q	.	V	.	.	.
14.217	3.0982	4.65	.	Q	.	V	.	.	.
14.233	3.1046	4.65	.	Q	.	V	.	.	.
14.250	3.1110	4.65	.	Q	.	V	.	.	.
14.267	3.1175	4.68	.	Q	.	V	.	.	.
14.283	3.1240	4.70	.	Q	.	V	.	.	.
14.300	3.1305	4.73	.	Q	.	V	.	.	.
14.317	3.1370	4.76	.	Q	.	V	.	.	.
14.333	3.1436	4.78	.	Q	.	V	.	.	.
14.350	3.1503	4.81	.	Q	.	V	.	.	.
14.367	3.1569	4.84	.	Q	.	V	.	.	.
14.383	3.1636	4.86	.	Q	.	V	.	.	.
14.400	3.1703	4.89	.	Q	.	V	.	.	.
14.417	3.1771	4.90	.	Q	.	V	.	.	.
14.433	3.1839	4.92	.	Q	.	V	.	.	.
14.450	3.1907	4.93	.	Q	.	V	.	.	.
14.467	3.1975	4.95	.	Q	.	V	.	.	.
14.483	3.2043	4.96	.	Q	.	V.	.	.	.
14.500	3.2112	4.98	.	Q	.	V.	.	.	.
14.517	3.2181	4.99	.	Q	.	V.	.	.	.
14.533	3.2250	5.01	.	Q	.	V.	.	.	.
14.550	3.2319	5.03	.	Q	.	V.	.	.	.
14.567	3.2389	5.07	.	Q	.	V.	.	.	.
14.583	3.2459	5.10	.	Q	.	V.	.	.	.
14.600	3.2530	5.14	.	Q	.	V.	.	.	.
14.617	3.2601	5.17	.	Q	.	V.	.	.	.
14.633	3.2673	5.21	.	Q	.	V.	.	.	.
14.650	3.2745	5.24	.	Q	.	V.	.	.	.
14.667	3.2818	5.28	.	Q	.	V.	.	.	.
14.683	3.2891	5.31	.	Q	.	V.	.	.	.

14.700	3.2965	5.34	.	Q	.	V.	.	.
14.717	3.3038	5.36	.	Q	.	V.	.	.
14.733	3.3112	5.38	.	Q	.	V.	.	.
14.750	3.3187	5.40	.	Q	.	V.	.	.
14.767	3.3261	5.42	.	Q	.	V.	.	.
14.783	3.3336	5.44	.	Q	.	V.	.	.
14.800	3.3412	5.46	.	Q	.	V.	.	.
14.817	3.3487	5.48	.	Q	.	V.	.	.
14.833	3.3563	5.50	.	Q	.	V.	.	.
14.850	3.3639	5.54	.	Q	.	V.	.	.
14.867	3.3716	5.59	.	Q	.	V	.	.
14.883	3.3794	5.64	.	Q	.	V	.	.
14.900	3.3872	5.69	.	Q	.	V	.	.
14.917	3.3951	5.74	.	Q	.	V	.	.
14.933	3.4031	5.78	.	Q	.	V	.	.
14.950	3.4111	5.83	.	Q	.	V	.	.
14.967	3.4192	5.88	.	Q	.	V	.	.
14.983	3.4274	5.92	.	Q	.	V	.	.
15.000	3.4356	5.95	.	Q	.	V	.	.
15.017	3.4438	5.98	.	Q	.	V	.	.
15.033	3.4521	6.01	.	Q	.	V	.	.
15.050	3.4604	6.04	.	Q	.	V	.	.
15.067	3.4688	6.07	.	Q	.	V	.	.
15.083	3.4772	6.10	.	Q	.	V	.	.
15.100	3.4856	6.13	.	Q	.	V	.	.
15.117	3.4941	6.16	.	Q	.	V	.	.
15.133	3.5026	6.20	.	Q	.	V	.	.
15.150	3.5113	6.27	.	Q	.	V	.	.
15.167	3.5200	6.34	.	Q	.	V	.	.
15.183	3.5288	6.41	.	Q	.	V	.	.
15.200	3.5378	6.48	.	Q	.	.V	.	.
15.217	3.5468	6.55	.	Q	.	.V	.	.
15.233	3.5559	6.63	.	Q	.	.V	.	.
15.250	3.5652	6.70	.	Q	.	.V	.	.
15.267	3.5745	6.77	.	Q	.	.V	.	.
15.283	3.5839	6.83	.	Q	.	.V	.	.
15.300	3.5933	6.87	.	Q	.	.V	.	.
15.317	3.6029	6.92	.	Q	.	.V	.	.
15.333	3.6125	6.97	.	Q	.	.V	.	.
15.350	3.6221	7.01	.	Q	.	.V	.	.
15.367	3.6319	7.06	.	Q	.	.V	.	.
15.383	3.6416	7.10	.	Q	.	.V	.	.
15.400	3.6515	7.15	.	Q	.	.V	.	.
15.417	3.6614	7.19	.	Q	.	.V	.	.
15.433	3.6712	7.13	.	Q	.	.V	.	.
15.450	3.6809	7.02	.	Q	.	.V	.	.
15.467	3.6904	6.92	.	Q	.	.V	.	.
15.483	3.6998	6.81	.	Q	.	.V	.	.
15.500	3.7090	6.70	.	Q	.	. V	.	.
15.517	3.7181	6.59	.	Q	.	. V	.	.
15.533	3.7270	6.48	.	Q	.	. V	.	.
15.550	3.7358	6.38	.	Q	.	. V	.	.
15.567	3.7445	6.29	.	Q	.	. V	.	.
15.583	3.7532	6.34	.	Q	.	. V	.	.
15.600	3.7621	6.43	.	Q	.	. V	.	.
15.617	3.7711	6.53	.	Q	.	. V	.	.
15.633	3.7802	6.62	.	Q	.	. V	.	.
15.650	3.7894	6.71	.	Q	.	. V	.	.
15.667	3.7988	6.80	.	Q	.	. V	.	.
15.683	3.8083	6.90	.	Q	.	. V	.	.
15.700	3.8179	6.99	.	Q	.	. V	.	.
15.717	3.8278	7.14	.	Q	.	. V	.	.
15.733	3.8382	7.55	.	Q	.	. V	.	.
15.750	3.8492	7.98	.	Q	.	. V	.	.
15.767	3.8607	8.41	.	Q	.	. V	.	.
15.783	3.8729	8.84	.	Q	.	. V	.	.
15.800	3.8857	9.28	.	Q	.	. V	.	.
15.817	3.8991	9.71	.	Q	.	. V	.	.
15.833	3.9130	10.14	.	Q	.	. V	.	.
15.850	3.9276	10.57	.	Q.	.	. V	.	.
15.867	3.9428	11.02	.	Q.	.	. V	.	.
15.883	3.9586	11.50	.	Q.	.	. V	.	.
15.900	3.9751	11.98	.	Q	.	. V	.	.
15.917	3.9923	12.46	.	Q	.	. V	.	.
15.933	4.0101	12.95	.	.Q	.	. V	.	.
15.950	4.0286	13.43	.	.Q	.	. V	.	.
15.967	4.0478	13.91	.	.Q	.	. V	.	.
15.983	4.0676	14.39	.	. Q	.	. V	.	.
16.000	4.0881	14.87	.	. Q	.	. V	.	.



17.333	5.2822	4.39	.	Q	.	.	.V	.
17.350	5.2882	4.36	.	Q	.	.	.V	.
17.367	5.2941	4.34	.	Q	.	.	.V	.
17.383	5.3001	4.31	.	Q	.	.	.V	.
17.400	5.3060	4.29	.	Q	.	.	.V	.
17.417	5.3119	4.27	.	Q	.	.	.V	.
17.433	5.3177	4.24	.	Q	.	.	.V	.
17.450	5.3235	4.22	.	Q	.	.	.V	.
17.467	5.3293	4.19	.	Q	.	.	.V	.
17.483	5.3350	4.17	.	Q	.	.	.V	.
17.500	5.3408	4.15	.	Q	.	.	.V	.
17.517	5.3464	4.13	.	Q	.	.	.V	.
17.533	5.3521	4.11	.	Q	.	.	.V	.
17.550	5.3577	4.09	.	Q	.	.	.V	.
17.567	5.3633	4.06	.	Q	.	.	.V	.
17.583	5.3689	4.04	.	Q	.	.	.V	.
17.600	5.3744	4.02	.	Q	.	.	.V	.
17.617	5.3800	4.00	.	Q	.	.	.V	.
17.633	5.3854	3.98	.	Q	.	.	.V	.
17.650	5.3909	3.97	.	Q	.	.	. V	.
17.667	5.3963	3.95	.	Q	.	.	. V	.
17.683	5.4017	3.93	.	Q	.	.	. V	.
17.700	5.4071	3.91	.	Q	.	.	. V	.
17.717	5.4125	3.89	.	Q	.	.	. V	.
17.733	5.4178	3.87	.	Q	.	.	. V	.
17.750	5.4231	3.86	.	Q	.	.	. V	.
17.767	5.4284	3.84	.	Q	.	.	. V	.
17.783	5.4337	3.82	.	Q	.	.	. V	.
17.800	5.4389	3.81	.	Q	.	.	. V	.
17.817	5.4442	3.79	.	Q	.	.	. V	.
17.833	5.4494	3.77	.	Q	.	.	. V	.
17.850	5.4545	3.76	.	Q	.	.	. V	.
17.867	5.4597	3.74	.	Q	.	.	. V	.
17.883	5.4648	3.73	.	Q	.	.	. V	.
17.900	5.4699	3.71	.	Q	.	.	. V	.
17.917	5.4750	3.69	.	Q	.	.	. V	.
17.933	5.4801	3.68	.	Q	.	.	. V	.
17.950	5.4851	3.67	.	Q	.	.	. V	.
17.967	5.4902	3.65	.	Q	.	.	. V	.
17.983	5.4952	3.64	.	Q	.	.	. V	.
18.000	5.5002	3.62	.	Q	.	.	. V	.
18.017	5.5051	3.61	.	Q	.	.	. V	.
18.033	5.5101	3.60	.	Q	.	.	. V	.
18.050	5.5150	3.58	.	Q	.	.	. V	.
18.067	5.5199	3.57	.	Q	.	.	. V	.
18.083	5.5248	3.55	.	Q	.	.	. V	.
18.100	5.5297	3.53	.	Q	.	.	. V	.
18.117	5.5345	3.51	.	Q	.	.	. V	.
18.133	5.5393	3.49	.	Q	.	.	. V	.
18.150	5.5441	3.47	.	Q	.	.	. V	.
18.167	5.5489	3.45	.	Q	.	.	. V	.
18.183	5.5536	3.43	.	Q	.	.	. V	.
18.200	5.5583	3.41	.	Q	.	.	. V	.
18.217	5.5630	3.40	.	Q	.	.	. V	.
18.233	5.5676	3.38	.	Q	.	.	. V	.
18.250	5.5723	3.37	.	Q	.	.	. V	.
18.267	5.5769	3.36	.	Q	.	.	. V	.
18.283	5.5815	3.35	.	Q	.	.	. V	.
18.300	5.5861	3.34	.	Q	.	.	. V	.
18.317	5.5907	3.33	.	Q	.	.	. V	.
18.333	5.5952	3.31	.	Q	.	.	. V	.
18.350	5.5998	3.30	.	Q	.	.	. V	.
18.367	5.6043	3.29	.	Q	.	.	. V	.
18.383	5.6089	3.28	.	Q	.	.	. V	.
18.400	5.6134	3.27	.	Q	.	.	. V	.
18.417	5.6178	3.26	.	Q	.	.	. V	.
18.433	5.6223	3.25	.	Q	.	.	. V	.
18.450	5.6268	3.24	.	Q	.	.	. V	.
18.467	5.6312	3.23	.	Q	.	.	. V	.
18.483	5.6357	3.22	.	Q	.	.	. V	.
18.500	5.6401	3.21	.	Q	.	.	. V	.
18.517	5.6445	3.20	.	Q	.	.	. V	.
18.533	5.6489	3.19	.	Q	.	.	. V	.
18.550	5.6533	3.18	.	Q	.	.	. V	.
18.567	5.6576	3.17	.	Q	.	.	. V	.
18.583	5.6620	3.16	.	Q	.	.	. V	.
18.600	5.6663	3.15	.	Q	.	.	. V	.
18.617	5.6707	3.14	.	Q	.	.	. V	.
18.633	5.6750	3.13	.	Q	.	.	. V	.

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18.650    5.6793    3.12  . Q    .      .      .  V    .
18.667    5.6836    3.11  . Q    .      .      .  V    .
18.683    5.6878    3.10  . Q    .      .      .  V    .
18.700    5.6921    3.10  . Q    .      .      .  V    .
18.717    5.6964    3.09  . Q    .      .      .  V    .
18.733    5.7006    3.08  . Q    .      .      .  V    .
18.750    5.7048    3.07  . Q    .      .      .  V    .
18.767    5.7090    3.06  . Q    .      .      .  V    .
18.783    5.7132    3.05  . Q    .      .      .  V    .
18.800    5.7174    3.04  . Q    .      .      .  V    .
18.817    5.7216    3.04  . Q    .      .      .  V    .
18.833    5.7258    3.03  . Q    .      .      .   V   .
18.850    5.7299    3.02  . Q    .      .      .   V   .
18.867    5.7341    3.01  . Q    .      .      .   V   .
18.883    5.7382    3.00  . Q    .      .      .   V   .
18.900    5.7424    2.99  . Q    .      .      .   V   .
18.917    5.7465    2.99  . Q    .      .      .   V   .
18.933    5.7506    2.98  . Q    .      .      .   V   .
18.950    5.7547    2.97  . Q    .      .      .   V   .
18.967    5.7587    2.96  . Q    .      .      .   V   .
18.983    5.7628    2.96  . Q    .      .      .   V   .
19.000    5.7669    2.95  . Q    .      .      .   V   .
19.017    5.7709    2.94  . Q    .      .      .   V   .
19.033    5.7750    2.93  . Q    .      .      .   V   .
19.050    5.7790    2.93  . Q    .      .      .   V   .
19.067    5.7830    2.92  . Q    .      .      .   V   .
19.083    5.7870    2.91  . Q    .      .      .   V   .
19.100    5.7910    2.90  . Q    .      .      .   V   .
19.117    5.7950    2.90  . Q    .      .      .   V   .
19.133    5.7990    2.89  . Q    .      .      .   V   .
19.150    5.8030    2.88  . Q    .      .      .   V   .
19.167    5.8069    2.87  . Q    .      .      .   V   .
19.183    5.8109    2.87  . Q    .      .      .   V   .
19.200    5.8148    2.86  . Q    .      .      .   V   .
19.217    5.8187    2.85  . Q    .      .      .   V   .
19.233    5.8227    2.85  . Q    .      .      .   V   .
19.250    5.8266    2.84  . Q    .      .      .   V   .
19.267    5.8305    2.83  . Q    .      .      .   V   .
19.283    5.8344    2.83  . Q    .      .      .   V   .
19.300    5.8382    2.82  . Q    .      .      .   V   .
19.317    5.8421    2.81  . Q    .      .      .   V   .
19.333    5.8460    2.81  . Q    .      .      .   V   .
19.350    5.8499    2.80  . Q    .      .      .   V   .
19.367    5.8537    2.79  . Q    .      .      .   V   .
19.383    5.8575    2.79  . Q    .      .      .   V   .
19.400    5.8614    2.78  . Q    .      .      .   V   .
19.417    5.8652    2.78  . Q    .      .      .   V   .
19.433    5.8690    2.77  . Q    .      .      .   V   .
19.450    5.8728    2.76  . Q    .      .      .   V   .
19.467    5.8766    2.76  . Q    .      .      .   V   .
19.483    5.8804    2.75  . Q    .      .      .   V   .
19.500    5.8842    2.74  . Q    .      .      .   V   .
19.517    5.8880    2.74  . Q    .      .      .   V   .
19.533    5.8917    2.73  . Q    .      .      .   V   .
19.550    5.8955    2.73  . Q    .      .      .    V  .
19.567    5.8992    2.72  . Q    .      .      .    V  .
19.583    5.9030    2.72  . Q    .      .      .    V  .
19.600    5.9067    2.71  . Q    .      .      .    V  .
19.617    5.9104    2.70  . Q    .      .      .    V  .
19.633    5.9141    2.70  . Q    .      .      .    V  .
19.650    5.9178    2.69  . Q    .      .      .    V  .
19.667    5.9215    2.69  . Q    .      .      .    V  .
19.683    5.9252    2.68  . Q    .      .      .    V  .
19.700    5.9289    2.68  . Q    .      .      .    V  .
19.717    5.9326    2.67  . Q    .      .      .    V  .
19.733    5.9363    2.66  . Q    .      .      .    V  .
19.750    5.9399    2.66  . Q    .      .      .    V  .
19.767    5.9436    2.65  . Q    .      .      .    V  .
19.783    5.9472    2.65  . Q    .      .      .    V  .
19.800    5.9509    2.64  . Q    .      .      .    V  .
19.817    5.9545    2.64  . Q    .      .      .    V  .
19.833    5.9581    2.63  . Q    .      .      .    V  .
19.850    5.9617    2.63  . Q    .      .      .    V  .
19.867    5.9654    2.62  . Q    .      .      .    V  .
19.883    5.9690    2.62  . Q    .      .      .    V  .
19.900    5.9726    2.61  . Q    .      .      .    V  .
19.917    5.9762    2.61  . Q    .      .      .    V  .
19.933    5.9797    2.60  . Q    .      .      .    V  .
19.950    5.9833    2.60  . Q    .      .      .    V  .
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19.967	5.9869	2.59	. Q	.	.	.	V	.
19.983	5.9904	2.59	. Q	.	.	.	V	.
20.000	5.9940	2.58	. Q	.	.	.	V	.
20.017	5.9975	2.58	. Q	.	.	.	V	.
20.033	6.0011	2.57	. Q	.	.	.	V	.
20.050	6.0046	2.57	. Q	.	.	.	V	.
20.067	6.0082	2.56	. Q	.	.	.	V	.
20.083	6.0117	2.56	. Q	.	.	.	V	.
20.100	6.0152	2.55	. Q	.	.	.	V	.
20.117	6.0187	2.55	. Q	.	.	.	V	.
20.133	6.0222	2.54	. Q	.	.	.	V	.
20.150	6.0257	2.54	. Q	.	.	.	V	.
20.167	6.0292	2.53	. Q	.	.	.	V	.
20.183	6.0327	2.53	. Q	.	.	.	V	.
20.200	6.0361	2.52	. Q	.	.	.	V	.
20.217	6.0396	2.52	. Q	.	.	.	V	.
20.233	6.0431	2.51	. Q	.	.	.	V	.
20.250	6.0465	2.51	. Q	.	.	.	V	.
20.267	6.0500	2.51	. Q	.	.	.	V	.
20.283	6.0534	2.50	. Q	.	.	.	V	.
20.300	6.0569	2.50	. Q	.	.	.	V	.
20.317	6.0603	2.49	. Q	.	.	.	V	.
20.333	6.0637	2.49	. Q	.	.	.	V	.
20.350	6.0672	2.48	. Q	.	.	.	V	.
20.367	6.0706	2.48	. Q	.	.	.	V	.
20.383	6.0740	2.48	. Q	.	.	.	V	.
20.400	6.0774	2.47	. Q	.	.	.	V	.
20.417	6.0808	2.47	. Q	.	.	.	V	.
20.433	6.0842	2.46	. Q	.	.	.	V	.
20.450	6.0876	2.46	. Q	.	.	.	V	.
20.467	6.0909	2.45	. Q	.	.	.	V	.
20.483	6.0943	2.45	. Q	.	.	.	V	.
20.500	6.0977	2.45	. Q	.	.	.	V	.
20.517	6.1010	2.44	. Q	.	.	.	V	.
20.533	6.1044	2.44	. Q	.	.	.	V	.
20.550	6.1078	2.43	. Q	.	.	.	V	.
20.567	6.1111	2.43	. Q	.	.	.	V	.
20.583	6.1144	2.43	. Q	.	.	.	V	.
20.600	6.1178	2.42	. Q	.	.	.	V	.
20.617	6.1211	2.42	. Q	.	.	.	V	.
20.633	6.1244	2.41	. Q	.	.	.	V	.
20.650	6.1277	2.41	. Q	.	.	.	V	.
20.667	6.1311	2.41	. Q	.	.	.	V	.
20.683	6.1344	2.40	. Q	.	.	.	V	.
20.700	6.1377	2.40	. Q	.	.	.	V	.
20.717	6.1410	2.39	. Q	.	.	.	V	.
20.733	6.1443	2.39	. Q	.	.	.	V	.
20.750	6.1475	2.39	. Q	.	.	.	V	.
20.767	6.1508	2.38	. Q	.	.	.	V	.
20.783	6.1541	2.38	. Q	.	.	.	V	.
20.800	6.1574	2.37	. Q	.	.	.	V	.
20.817	6.1606	2.37	. Q	.	.	.	V	.
20.833	6.1639	2.37	. Q	.	.	.	V	.
20.850	6.1672	2.36	. Q	.	.	.	V	.
20.867	6.1704	2.36	. Q	.	.	.	V	.
20.883	6.1737	2.36	. Q	.	.	.	V	.
20.900	6.1769	2.35	. Q	.	.	.	V	.
20.917	6.1801	2.35	. Q	.	.	.	V	.
20.933	6.1834	2.35	.Q	.	.	.	V	.
20.950	6.1866	2.34	.Q	.	.	.	V	.
20.967	6.1898	2.34	.Q	.	.	.	V	.
20.983	6.1930	2.33	.Q	.	.	.	V	.
21.000	6.1962	2.33	.Q	.	.	.	V	.
21.017	6.1994	2.33	.Q	.	.	.	V	.
21.033	6.2026	2.32	.Q	.	.	.	V	.
21.050	6.2058	2.32	.Q	.	.	.	V	.
21.067	6.2090	2.32	.Q	.	.	.	V	.
21.083	6.2122	2.31	.Q	.	.	.	V	.
21.100	6.2154	2.31	.Q	.	.	.	V	.
21.117	6.2186	2.31	.Q	.	.	.	V	.
21.133	6.2217	2.30	.Q	.	.	.	V	.
21.150	6.2249	2.30	.Q	.	.	.	V	.
21.167	6.2281	2.30	.Q	.	.	.	V	.
21.183	6.2312	2.29	.Q	.	.	.	V	.
21.200	6.2344	2.29	.Q	.	.	.	V	.
21.217	6.2375	2.29	.Q	.	.	.	V	.
21.233	6.2407	2.28	.Q	.	.	.	V	.
21.250	6.2438	2.28	.Q	.	.	.	V	.
21.267	6.2469	2.28	.Q	.	.	.	V	.

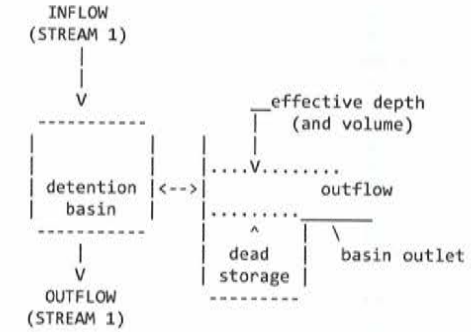
21.283	6.2501	2.27	.Q	.	.	.	V	.
21.300	6.2532	2.27	.Q	.	.	.	V	.
21.317	6.2563	2.27	.Q	.	.	.	V	.
21.333	6.2594	2.26	.Q	.	.	.	V	.
21.350	6.2626	2.26	.Q	.	.	.	V	.
21.367	6.2657	2.26	.Q	.	.	.	V	.
21.383	6.2688	2.25	.Q	.	.	.	V	.
21.400	6.2719	2.25	.Q	.	.	.	V	.
21.417	6.2750	2.25	.Q	.	.	.	V	.
21.433	6.2781	2.24	.Q	.	.	.	V	.
21.450	6.2811	2.24	.Q	.	.	.	V	.
21.467	6.2842	2.24	.Q	.	.	.	V	.
21.483	6.2873	2.23	.Q	.	.	.	V	.
21.500	6.2904	2.23	.Q	.	.	.	V	.
21.517	6.2935	2.23	.Q	.	.	.	V	.
21.533	6.2965	2.23	.Q	.	.	.	V	.
21.550	6.2996	2.22	.Q	.	.	.	V	.
21.567	6.3026	2.22	.Q	.	.	.	V	.
21.583	6.3057	2.22	.Q	.	.	.	V	.
21.600	6.3087	2.21	.Q	.	.	.	V	.
21.617	6.3118	2.21	.Q	.	.	.	V	.
21.633	6.3148	2.21	.Q	.	.	.	V	.
21.650	6.3179	2.20	.Q	.	.	.	V	.
21.667	6.3209	2.20	.Q	.	.	.	V	.
21.683	6.3239	2.20	.Q	.	.	.	V	.
21.700	6.3269	2.20	.Q	.	.	.	V	.
21.717	6.3300	2.19	.Q	.	.	.	V	.
21.733	6.3330	2.19	.Q	.	.	.	V	.
21.750	6.3360	2.19	.Q	.	.	.	V	.
21.767	6.3390	2.18	.Q	.	.	.	V	.
21.783	6.3420	2.18	.Q	.	.	.	V	.
21.800	6.3450	2.18	.Q	.	.	.	V	.
21.817	6.3480	2.18	.Q	.	.	.	V	.
21.833	6.3510	2.17	.Q	.	.	.	V	.
21.850	6.3540	2.17	.Q	.	.	.	V	.
21.867	6.3570	2.17	.Q	.	.	.	V	.
21.883	6.3600	2.16	.Q	.	.	.	V	.
21.900	6.3629	2.16	.Q	.	.	.	V	.
21.917	6.3659	2.16	.Q	.	.	.	V	.
21.933	6.3689	2.16	.Q	.	.	.	V	.
21.950	6.3718	2.15	.Q	.	.	.	V	.
21.967	6.3748	2.15	.Q	.	.	.	V	.
21.983	6.3778	2.15	.Q	.	.	.	V	.
22.000	6.3807	2.15	.Q	.	.	.	V	.
22.017	6.3837	2.14	.Q	.	.	.	V	.
22.033	6.3866	2.14	.Q	.	.	.	V	.
22.050	6.3896	2.14	.Q	.	.	.	V	.
22.067	6.3925	2.13	.Q	.	.	.	V	.
22.083	6.3954	2.13	.Q	.	.	.	V	.
22.100	6.3984	2.13	.Q	.	.	.	V	.
22.117	6.4013	2.13	.Q	.	.	.	V	.
22.133	6.4042	2.12	.Q	.	.	.	V	.
22.150	6.4072	2.12	.Q	.	.	.	V	.
22.167	6.4101	2.12	.Q	.	.	.	V	.
22.183	6.4130	2.12	.Q	.	.	.	V	.
22.200	6.4159	2.11	.Q	.	.	.	V	.
22.217	6.4188	2.11	.Q	.	.	.	V	.
22.233	6.4217	2.11	.Q	.	.	.	V	.
22.250	6.4246	2.11	.Q	.	.	.	V	.
22.267	6.4275	2.10	.Q	.	.	.	V	.
22.283	6.4304	2.10	.Q	.	.	.	V	.
22.300	6.4333	2.10	.Q	.	.	.	V	.
22.317	6.4362	2.10	.Q	.	.	.	V	.
22.333	6.4391	2.09	.Q	.	.	.	V	.
22.350	6.4419	2.09	.Q	.	.	.	V	.
22.367	6.4448	2.09	.Q	.	.	.	V	.
22.383	6.4477	2.09	.Q	.	.	.	V	.
22.400	6.4506	2.08	.Q	.	.	.	V	.
22.417	6.4534	2.08	.Q	.	.	.	V	.
22.433	6.4563	2.08	.Q	.	.	.	V	.
22.450	6.4592	2.08	.Q	.	.	.	V	.
22.467	6.4620	2.07	.Q	.	.	.	V	.
22.483	6.4649	2.07	.Q	.	.	.	V	.
22.500	6.4677	2.07	.Q	.	.	.	V	.
22.517	6.4706	2.07	.Q	.	.	.	V	.
22.533	6.4734	2.06	.Q	.	.	.	V	.
22.550	6.4762	2.06	.Q	.	.	.	V	.
22.567	6.4791	2.06	.Q	.	.	.	V	.
22.583	6.4819	2.06	.Q	.	.	.	V	.

22.600	6.4847	2.05	.Q	.	.	.	V .
22.617	6.4876	2.05	.Q	.	.	.	V .
22.633	6.4904	2.05	.Q	.	.	.	V .
22.650	6.4932	2.05	.Q	.	.	.	V .
22.667	6.4960	2.05	.Q	.	.	.	V .
22.683	6.4988	2.04	.Q	.	.	.	V .
22.700	6.5017	2.04	.Q	.	.	.	V .
22.717	6.5045	2.04	.Q	.	.	.	V .
22.733	6.5073	2.04	.Q	.	.	.	V .
22.750	6.5101	2.03	.Q	.	.	.	V .
22.767	6.5129	2.03	.Q	.	.	.	V .
22.783	6.5157	2.03	.Q	.	.	.	V .
22.800	6.5185	2.03	.Q	.	.	.	V .
22.817	6.5212	2.02	.Q	.	.	.	V .
22.833	6.5240	2.02	.Q	.	.	.	V .
22.850	6.5268	2.02	.Q	.	.	.	V .
22.867	6.5296	2.02	.Q	.	.	.	V .
22.883	6.5324	2.02	.Q	.	.	.	V .
22.900	6.5351	2.01	.Q	.	.	.	V .
22.917	6.5379	2.01	.Q	.	.	.	V .
22.933	6.5407	2.01	.Q	.	.	.	V .
22.950	6.5434	2.01	.Q	.	.	.	V .
22.967	6.5462	2.01	.Q	.	.	.	V .
22.983	6.5490	2.00	.Q	.	.	.	V .
23.000	6.5517	2.00	.Q	.	.	.	V .
23.017	6.5545	2.00	.Q	.	.	.	V .
23.033	6.5572	2.00	.Q	.	.	.	V .
23.050	6.5600	1.99	.Q	.	.	.	V .
23.067	6.5627	1.99	.Q	.	.	.	V .
23.083	6.5655	1.99	.Q	.	.	.	V.
23.100	6.5682	1.99	.Q	.	.	.	V.
23.117	6.5709	1.99	.Q	.	.	.	V.
23.133	6.5737	1.98	.Q	.	.	.	V.
23.150	6.5764	1.98	.Q	.	.	.	V.
23.167	6.5791	1.98	.Q	.	.	.	V.
23.183	6.5818	1.98	.Q	.	.	.	V.
23.200	6.5846	1.98	.Q	.	.	.	V.
23.217	6.5873	1.97	.Q	.	.	.	V.
23.233	6.5900	1.97	.Q	.	.	.	V.
23.250	6.5927	1.97	.Q	.	.	.	V.
23.267	6.5954	1.97	.Q	.	.	.	V.
23.283	6.5981	1.97	.Q	.	.	.	V.
23.300	6.6008	1.96	.Q	.	.	.	V.
23.317	6.6035	1.96	.Q	.	.	.	V.
23.333	6.6062	1.96	.Q	.	.	.	V.
23.350	6.6089	1.96	.Q	.	.	.	V.
23.367	6.6116	1.96	.Q	.	.	.	V.
23.383	6.6143	1.95	.Q	.	.	.	V.
23.400	6.6170	1.95	.Q	.	.	.	V.
23.417	6.6197	1.95	.Q	.	.	.	V.
23.433	6.6224	1.95	.Q	.	.	.	V.
23.450	6.6250	1.95	.Q	.	.	.	V.
23.467	6.6277	1.94	.Q	.	.	.	V.
23.483	6.6304	1.94	.Q	.	.	.	V.
23.500	6.6331	1.94	.Q	.	.	.	V.
23.517	6.6357	1.94	.Q	.	.	.	V.
23.533	6.6384	1.94	.Q	.	.	.	V.
23.550	6.6411	1.93	.Q	.	.	.	V.
23.567	6.6437	1.93	.Q	.	.	.	V.
23.583	6.6464	1.93	.Q	.	.	.	V.
23.600	6.6490	1.93	.Q	.	.	.	V.
23.617	6.6517	1.93	.Q	.	.	.	V.
23.633	6.6543	1.92	.Q	.	.	.	V.
23.650	6.6570	1.92	.Q	.	.	.	V.
23.667	6.6596	1.92	.Q	.	.	.	V.
23.683	6.6623	1.92	.Q	.	.	.	V.
23.700	6.6649	1.92	.Q	.	.	.	V.
23.717	6.6676	1.91	.Q	.	.	.	V.
23.733	6.6702	1.91	.Q	.	.	.	V.
23.750	6.6728	1.91	.Q	.	.	.	V.
23.767	6.6754	1.91	.Q	.	.	.	V.
23.783	6.6781	1.91	.Q	.	.	.	V.
23.800	6.6807	1.91	.Q	.	.	.	V.
23.817	6.6833	1.90	.Q	.	.	.	V.
23.833	6.6859	1.90	.Q	.	.	.	V.
23.850	6.6886	1.90	.Q	.	.	.	V.
23.867	6.6912	1.90	.Q	.	.	.	V.
23.883	6.6938	1.90	.Q	.	.	.	V.
23.900	6.6964	1.89	.Q	.	.	.	V.

23.917	6.6990	1.89	.Q	.	.	.	V.
23.933	6.7016	1.89	.Q	.	.	.	V.
23.950	6.7042	1.89	.Q	.	.	.	V.
23.967	6.7068	1.89	.Q	.	.	.	V.
23.983	6.7094	1.89	.Q	.	.	.	V.
24.000	6.7120	1.88	.Q	.	.	.	V.
24.017	6.7146	1.88	.Q	.	.	.	V.
24.033	6.7172	1.88	.Q	.	.	.	V.
24.050	6.7198	1.88	.Q	.	.	.	V.
24.067	6.7223	1.88	.Q	.	.	.	V.
24.083	6.7248	1.77	.Q	.	.	.	V.
24.100	6.7269	1.56	.Q	.	.	.	V.
24.117	6.7288	1.34	.Q	.	.	.	V.
24.133	6.7303	1.13	Q	.	.	.	V.
24.150	6.7316	0.92	Q	.	.	.	V.
24.167	6.7326	0.70	Q	.	.	.	V.
24.183	6.7332	0.49	Q	.	.	.	V.
24.200	6.7336	0.28	Q	.	.	.	V.

****
FLOW PROCESS FROM NODE 306.00 TO NODE 306.00 IS CODE = 3.2

>>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #1<<<<<
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ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 1
THROUGH A FLOW-THROUGH DETENTION BASIN
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE(AF) = 0.000
SPECIFIED DEAD STORAGE(AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.12	9.01	0.010
3	0.22	9.40	0.040
4	0.32	9.80	0.120
5	0.42	10.20	0.260
6	0.52	10.50	0.460
7	0.62	10.80	0.710
8	0.72	11.20	1.000
9	0.82	11.50	1.340
10	0.92	11.80	1.710
11	1.02	12.10	2.100

==========
MODIFIED-PULS BASIN ROUTING MODEL RESULTS(1-MINUTE COMPUTATION INTERVALS):
(Note: Computed EFFECTIVE DEPTH and VOLUME are estimated at the clock time;
MEAN OUTFLOW is the average value during the unit interval.)

CLOCK TIME (HRS)	DEAD-STORAGE FILLED(AF)	INFLOW (CFS)	LOSS (CFS)	EFFECTIVE DEPTH(FT)	MEAN OUTFLOW (CFS)	EFFECTIVE VOLUME(AF)

0.017	0.000	0.10	0.00	0.00	0.0	0.000
0.033	0.000	0.29	0.00	0.00	0.2	0.000
0.050	0.000	0.49	0.00	0.01	0.3	0.000
0.067	0.000	0.68	0.00	0.01	0.5	0.001
0.083	0.000	0.88	0.00	0.01	0.7	0.001
0.100	0.000	1.07	0.00	0.01	0.9	0.001
0.117	0.000	1.27	0.00	0.02	1.1	0.001
0.133	0.000	1.46	0.00	0.02	1.3	0.002
0.150	0.000	1.66	0.00	0.02	1.5	0.002
0.167	0.000	1.84	0.00	0.02	1.7	0.002
0.183	0.000	1.87	0.00	0.02	1.8	0.002
0.200	0.000	1.87	0.00	0.02	1.9	0.002
0.217	0.000	1.87	0.00	0.02	1.9	0.002
0.233	0.000	1.88	0.00	0.02	1.9	0.002
0.250	0.000	1.88	0.00	0.03	1.9	0.002
0.267	0.000	1.88	0.00	0.03	1.9	0.002
0.283	0.000	1.88	0.00	0.03	1.9	0.002
0.300	0.000	1.88	0.00	0.03	1.9	0.002
0.317	0.000	1.88	0.00	0.03	1.9	0.002
0.333	0.000	1.88	0.00	0.03	1.9	0.002
0.350	0.000	1.88	0.00	0.03	1.9	0.002
0.367	0.000	1.88	0.00	0.03	1.9	0.002
0.383	0.000	1.88	0.00	0.03	1.9	0.002
0.400	0.000	1.88	0.00	0.03	1.9	0.002
0.417	0.000	1.88	0.00	0.03	1.9	0.002
0.433	0.000	1.89	0.00	0.03	1.9	0.002
0.450	0.000	1.89	0.00	0.03	1.9	0.002
0.467	0.000	1.89	0.00	0.03	1.9	0.002
0.483	0.000	1.89	0.00	0.03	1.9	0.002
0.500	0.000	1.89	0.00	0.03	1.9	0.002
0.517	0.000	1.89	0.00	0.03	1.9	0.002
0.533	0.000	1.89	0.00	0.03	1.9	0.002
0.550	0.000	1.89	0.00	0.03	1.9	0.002
0.567	0.000	1.89	0.00	0.03	1.9	0.002
0.583	0.000	1.89	0.00	0.03	1.9	0.002
0.600	0.000	1.90	0.00	0.03	1.9	0.002
0.617	0.000	1.90	0.00	0.03	1.9	0.002
0.633	0.000	1.90	0.00	0.03	1.9	0.002
0.650	0.000	1.90	0.00	0.03	1.9	0.002
0.667	0.000	1.90	0.00	0.03	1.9	0.002
0.683	0.000	1.90	0.00	0.03	1.9	0.002
0.700	0.000	1.90	0.00	0.03	1.9	0.002
0.717	0.000	1.90	0.00	0.03	1.9	0.002
0.733	0.000	1.90	0.00	0.03	1.9	0.002
0.750	0.000	1.90	0.00	0.03	1.9	0.002
0.767	0.000	1.90	0.00	0.03	1.9	0.002
0.783	0.000	1.90	0.00	0.03	1.9	0.002
0.800	0.000	1.91	0.00	0.03	1.9	0.002
0.817	0.000	1.91	0.00	0.03	1.9	0.002
0.833	0.000	1.91	0.00	0.03	1.9	0.002
0.850	0.000	1.91	0.00	0.03	1.9	0.002
0.867	0.000	1.91	0.00	0.03	1.9	0.002
0.883	0.000	1.91	0.00	0.03	1.9	0.002
0.900	0.000	1.91	0.00	0.03	1.9	0.002
0.917	0.000	1.91	0.00	0.03	1.9	0.002
0.933	0.000	1.91	0.00	0.03	1.9	0.002
0.950	0.000	1.91	0.00	0.03	1.9	0.002
0.967	0.000	1.92	0.00	0.03	1.9	0.002
0.983	0.000	1.92	0.00	0.03	1.9	0.002
1.000	0.000	1.92	0.00	0.03	1.9	0.002
1.017	0.000	1.92	0.00	0.03	1.9	0.002
1.033	0.000	1.92	0.00	0.03	1.9	0.002
1.050	0.000	1.92	0.00	0.03	1.9	0.002
1.067	0.000	1.92	0.00	0.03	1.9	0.002
1.083	0.000	1.92	0.00	0.03	1.9	0.002
1.100	0.000	1.92	0.00	0.03	1.9	0.002
1.117	0.000	1.92	0.00	0.03	1.9	0.002
1.133	0.000	1.92	0.00	0.03	1.9	0.002
1.150	0.000	1.93	0.00	0.03	1.9	0.002
1.167	0.000	1.93	0.00	0.03	1.9	0.002
1.183	0.000	1.93	0.00	0.03	1.9	0.002
1.200	0.000	1.93	0.00	0.03	1.9	0.002
1.217	0.000	1.93	0.00	0.03	1.9	0.002
1.233	0.000	1.93	0.00	0.03	1.9	0.002
1.250	0.000	1.93	0.00	0.03	1.9	0.002
1.267	0.000	1.93	0.00	0.03	1.9	0.002
1.283	0.000	1.93	0.00	0.03	1.9	0.002
1.300	0.000	1.93	0.00	0.03	1.9	0.002
1.317	0.000	1.93	0.00	0.03	1.9	0.002

1.333	0.000	1.93	0.00	0.03	1.9	0.002
1.350	0.000	1.94	0.00	0.03	1.9	0.002
1.367	0.000	1.94	0.00	0.03	1.9	0.002
1.383	0.000	1.94	0.00	0.03	1.9	0.002
1.400	0.000	1.94	0.00	0.03	1.9	0.002
1.417	0.000	1.94	0.00	0.03	1.9	0.002
1.433	0.000	1.94	0.00	0.03	1.9	0.002
1.450	0.000	1.94	0.00	0.03	1.9	0.002
1.467	0.000	1.94	0.00	0.03	1.9	0.002
1.483	0.000	1.95	0.00	0.03	1.9	0.002
1.500	0.000	1.95	0.00	0.03	1.9	0.002
1.517	0.000	1.95	0.00	0.03	1.9	0.002
1.533	0.000	1.95	0.00	0.03	1.9	0.002
1.550	0.000	1.95	0.00	0.03	1.9	0.002
1.567	0.000	1.95	0.00	0.03	1.9	0.002
1.583	0.000	1.95	0.00	0.03	1.9	0.002
1.600	0.000	1.95	0.00	0.03	2.0	0.002
1.617	0.000	1.95	0.00	0.03	2.0	0.002
1.633	0.000	1.95	0.00	0.03	2.0	0.002
1.650	0.000	1.95	0.00	0.03	2.0	0.002
1.667	0.000	1.95	0.00	0.03	2.0	0.002
1.683	0.000	1.96	0.00	0.03	2.0	0.002
1.700	0.000	1.96	0.00	0.03	2.0	0.002
1.717	0.000	1.96	0.00	0.03	2.0	0.002
1.733	0.000	1.96	0.00	0.03	2.0	0.002
1.750	0.000	1.96	0.00	0.03	2.0	0.002
1.767	0.000	1.96	0.00	0.03	2.0	0.002
1.783	0.000	1.96	0.00	0.03	2.0	0.002
1.800	0.000	1.96	0.00	0.03	2.0	0.002
1.817	0.000	1.97	0.00	0.03	2.0	0.002
1.833	0.000	1.97	0.00	0.03	2.0	0.002
1.850	0.000	1.97	0.00	0.03	2.0	0.002
1.867	0.000	1.97	0.00	0.03	2.0	0.002
1.883	0.000	1.97	0.00	0.03	2.0	0.002
1.900	0.000	1.97	0.00	0.03	2.0	0.002
1.917	0.000	1.97	0.00	0.03	2.0	0.002
1.933	0.000	1.97	0.00	0.03	2.0	0.002
1.950	0.000	1.97	0.00	0.03	2.0	0.002
1.967	0.000	1.97	0.00	0.03	2.0	0.002
1.983	0.000	1.97	0.00	0.03	2.0	0.002
2.000	0.000	1.98	0.00	0.03	2.0	0.002
2.017	0.000	1.98	0.00	0.03	2.0	0.002
2.033	0.000	1.98	0.00	0.03	2.0	0.002
2.050	0.000	1.98	0.00	0.03	2.0	0.002
2.067	0.000	1.98	0.00	0.03	2.0	0.002
2.083	0.000	1.98	0.00	0.03	2.0	0.002
2.100	0.000	1.98	0.00	0.03	2.0	0.002
2.117	0.000	1.98	0.00	0.03	2.0	0.002
2.133	0.000	1.98	0.00	0.03	2.0	0.002
2.150	0.000	1.99	0.00	0.03	2.0	0.002
2.167	0.000	1.99	0.00	0.03	2.0	0.002
2.183	0.000	1.99	0.00	0.03	2.0	0.002
2.200	0.000	1.99	0.00	0.03	2.0	0.002
2.217	0.000	1.99	0.00	0.03	2.0	0.002
2.233	0.000	1.99	0.00	0.03	2.0	0.002
2.250	0.000	1.99	0.00	0.03	2.0	0.002
2.267	0.000	1.99	0.00	0.03	2.0	0.002
2.283	0.000	1.99	0.00	0.03	2.0	0.002
2.300	0.000	1.99	0.00	0.03	2.0	0.002
2.317	0.000	2.00	0.00	0.03	2.0	0.002
2.333	0.000	2.00	0.00	0.03	2.0	0.002
2.350	0.000	2.00	0.00	0.03	2.0	0.002
2.367	0.000	2.00	0.00	0.03	2.0	0.002
2.383	0.000	2.00	0.00	0.03	2.0	0.002
2.400	0.000	2.00	0.00	0.03	2.0	0.002
2.417	0.000	2.00	0.00	0.03	2.0	0.002
2.433	0.000	2.00	0.00	0.03	2.0	0.002
2.450	0.000	2.00	0.00	0.03	2.0	0.002
2.467	0.000	2.00	0.00	0.03	2.0	0.002
2.483	0.000	2.01	0.00	0.03	2.0	0.002
2.500	0.000	2.01	0.00	0.03	2.0	0.002
2.517	0.000	2.01	0.00	0.03	2.0	0.002
2.533	0.000	2.01	0.00	0.03	2.0	0.002
2.550	0.000	2.01	0.00	0.03	2.0	0.002
2.567	0.000	2.01	0.00	0.03	2.0	0.002
2.583	0.000	2.01	0.00	0.03	2.0	0.002
2.600	0.000	2.01	0.00	0.03	2.0	0.002
2.617	0.000	2.02	0.00	0.03	2.0	0.002
2.633	0.000	2.02	0.00	0.03	2.0	0.002

2.650	0.000	2.02	0.00	0.03	2.0	0.002
2.667	0.000	2.02	0.00	0.03	2.0	0.002
2.683	0.000	2.02	0.00	0.03	2.0	0.002
2.700	0.000	2.02	0.00	0.03	2.0	0.002
2.717	0.000	2.02	0.00	0.03	2.0	0.002
2.733	0.000	2.02	0.00	0.03	2.0	0.002
2.750	0.000	2.02	0.00	0.03	2.0	0.002
2.767	0.000	2.02	0.00	0.03	2.0	0.002
2.783	0.000	2.03	0.00	0.03	2.0	0.002
2.800	0.000	2.03	0.00	0.03	2.0	0.002
2.817	0.000	2.03	0.00	0.03	2.0	0.002
2.833	0.000	2.03	0.00	0.03	2.0	0.002
2.850	0.000	2.03	0.00	0.03	2.0	0.002
2.867	0.000	2.03	0.00	0.03	2.0	0.002
2.883	0.000	2.03	0.00	0.03	2.0	0.002
2.900	0.000	2.03	0.00	0.03	2.0	0.002
2.917	0.000	2.04	0.00	0.03	2.0	0.002
2.933	0.000	2.04	0.00	0.03	2.0	0.002
2.950	0.000	2.04	0.00	0.03	2.0	0.002
2.967	0.000	2.04	0.00	0.03	2.0	0.002
2.983	0.000	2.04	0.00	0.03	2.0	0.002
3.000	0.000	2.04	0.00	0.03	2.0	0.002
3.017	0.000	2.04	0.00	0.03	2.0	0.002
3.033	0.000	2.04	0.00	0.03	2.0	0.002
3.050	0.000	2.04	0.00	0.03	2.0	0.002
3.067	0.000	2.04	0.00	0.03	2.0	0.002
3.083	0.000	2.05	0.00	0.03	2.0	0.002
3.100	0.000	2.05	0.00	0.03	2.0	0.002
3.117	0.000	2.05	0.00	0.03	2.0	0.002
3.133	0.000	2.05	0.00	0.03	2.0	0.002
3.150	0.000	2.05	0.00	0.03	2.0	0.002
3.167	0.000	2.05	0.00	0.03	2.1	0.002
3.183	0.000	2.05	0.00	0.03	2.1	0.002
3.200	0.000	2.06	0.00	0.03	2.1	0.002
3.217	0.000	2.06	0.00	0.03	2.1	0.002
3.233	0.000	2.06	0.00	0.03	2.1	0.002
3.250	0.000	2.06	0.00	0.03	2.1	0.002
3.267	0.000	2.06	0.00	0.03	2.1	0.002
3.283	0.000	2.06	0.00	0.03	2.1	0.002
3.300	0.000	2.06	0.00	0.03	2.1	0.002
3.317	0.000	2.06	0.00	0.03	2.1	0.002
3.333	0.000	2.06	0.00	0.03	2.1	0.002
3.350	0.000	2.07	0.00	0.03	2.1	0.002
3.367	0.000	2.07	0.00	0.03	2.1	0.002
3.383	0.000	2.07	0.00	0.03	2.1	0.002
3.400	0.000	2.07	0.00	0.03	2.1	0.002
3.417	0.000	2.07	0.00	0.03	2.1	0.002
3.433	0.000	2.07	0.00	0.03	2.1	0.002
3.450	0.000	2.07	0.00	0.03	2.1	0.002
3.467	0.000	2.07	0.00	0.03	2.1	0.002
3.483	0.000	2.08	0.00	0.03	2.1	0.002
3.500	0.000	2.08	0.00	0.03	2.1	0.002
3.517	0.000	2.08	0.00	0.03	2.1	0.002
3.533	0.000	2.08	0.00	0.03	2.1	0.002
3.550	0.000	2.08	0.00	0.03	2.1	0.002
3.567	0.000	2.08	0.00	0.03	2.1	0.002
3.583	0.000	2.08	0.00	0.03	2.1	0.002
3.600	0.000	2.08	0.00	0.03	2.1	0.002
3.617	0.000	2.09	0.00	0.03	2.1	0.002
3.633	0.000	2.09	0.00	0.03	2.1	0.002
3.650	0.000	2.09	0.00	0.03	2.1	0.002
3.667	0.000	2.09	0.00	0.03	2.1	0.002
3.683	0.000	2.09	0.00	0.03	2.1	0.002
3.700	0.000	2.09	0.00	0.03	2.1	0.002
3.717	0.000	2.09	0.00	0.03	2.1	0.002
3.733	0.000	2.09	0.00	0.03	2.1	0.002
3.750	0.000	2.09	0.00	0.03	2.1	0.002
3.767	0.000	2.10	0.00	0.03	2.1	0.002
3.783	0.000	2.10	0.00	0.03	2.1	0.002
3.800	0.000	2.10	0.00	0.03	2.1	0.002
3.817	0.000	2.10	0.00	0.03	2.1	0.002
3.833	0.000	2.10	0.00	0.03	2.1	0.002
3.850	0.000	2.10	0.00	0.03	2.1	0.002
3.867	0.000	2.11	0.00	0.03	2.1	0.002
3.883	0.000	2.11	0.00	0.03	2.1	0.002
3.900	0.000	2.11	0.00	0.03	2.1	0.002
3.917	0.000	2.11	0.00	0.03	2.1	0.002
3.933	0.000	2.11	0.00	0.03	2.1	0.002
3.950	0.000	2.11	0.00	0.03	2.1	0.002

3.967	0.000	2.11	0.00	0.03	2.1	0.002
3.983	0.000	2.11	0.00	0.03	2.1	0.002
4.000	0.000	2.11	0.00	0.03	2.1	0.002
4.017	0.000	2.11	0.00	0.03	2.1	0.002
4.033	0.000	2.12	0.00	0.03	2.1	0.002
4.050	0.000	2.12	0.00	0.03	2.1	0.002
4.067	0.000	2.12	0.00	0.03	2.1	0.002
4.083	0.000	2.12	0.00	0.03	2.1	0.002
4.100	0.000	2.12	0.00	0.03	2.1	0.002
4.117	0.000	2.13	0.00	0.03	2.1	0.002
4.133	0.000	2.13	0.00	0.03	2.1	0.002
4.150	0.000	2.13	0.00	0.03	2.1	0.002
4.167	0.000	2.13	0.00	0.03	2.1	0.002
4.183	0.000	2.13	0.00	0.03	2.1	0.002
4.200	0.000	2.13	0.00	0.03	2.1	0.002
4.217	0.000	2.13	0.00	0.03	2.1	0.002
4.233	0.000	2.13	0.00	0.03	2.1	0.002
4.250	0.000	2.13	0.00	0.03	2.1	0.002
4.267	0.000	2.13	0.00	0.03	2.1	0.002
4.283	0.000	2.13	0.00	0.03	2.1	0.002
4.300	0.000	2.14	0.00	0.03	2.1	0.002
4.317	0.000	2.14	0.00	0.03	2.1	0.002
4.333	0.000	2.14	0.00	0.03	2.1	0.002
4.350	0.000	2.14	0.00	0.03	2.1	0.002
4.367	0.000	2.14	0.00	0.03	2.1	0.002
4.383	0.000	2.15	0.00	0.03	2.1	0.002
4.400	0.000	2.15	0.00	0.03	2.1	0.002
4.417	0.000	2.15	0.00	0.03	2.1	0.002
4.433	0.000	2.15	0.00	0.03	2.1	0.002
4.450	0.000	2.15	0.00	0.03	2.2	0.002
4.467	0.000	2.15	0.00	0.03	2.2	0.002
4.483	0.000	2.15	0.00	0.03	2.2	0.002
4.500	0.000	2.15	0.00	0.03	2.2	0.002
4.517	0.000	2.15	0.00	0.03	2.2	0.002
4.533	0.000	2.16	0.00	0.03	2.2	0.002
4.550	0.000	2.16	0.00	0.03	2.2	0.002
4.567	0.000	2.16	0.00	0.03	2.2	0.002
4.583	0.000	2.16	0.00	0.03	2.2	0.002
4.600	0.000	2.16	0.00	0.03	2.2	0.002
4.617	0.000	2.16	0.00	0.03	2.2	0.002
4.633	0.000	2.16	0.00	0.03	2.2	0.002
4.650	0.000	2.17	0.00	0.03	2.2	0.002
4.667	0.000	2.17	0.00	0.03	2.2	0.002
4.683	0.000	2.17	0.00	0.03	2.2	0.002
4.700	0.000	2.17	0.00	0.03	2.2	0.002
4.717	0.000	2.17	0.00	0.03	2.2	0.002
4.733	0.000	2.18	0.00	0.03	2.2	0.002
4.750	0.000	2.18	0.00	0.03	2.2	0.002
4.767	0.000	2.18	0.00	0.03	2.2	0.002
4.783	0.000	2.18	0.00	0.03	2.2	0.002
4.800	0.000	2.18	0.00	0.03	2.2	0.002
4.817	0.000	2.18	0.00	0.03	2.2	0.002
4.833	0.000	2.18	0.00	0.03	2.2	0.002
4.850	0.000	2.18	0.00	0.03	2.2	0.002
4.867	0.000	2.18	0.00	0.03	2.2	0.002
4.883	0.000	2.18	0.00	0.03	2.2	0.002
4.900	0.000	2.19	0.00	0.03	2.2	0.002
4.917	0.000	2.19	0.00	0.03	2.2	0.002
4.933	0.000	2.19	0.00	0.03	2.2	0.002
4.950	0.000	2.19	0.00	0.03	2.2	0.002
4.967	0.000	2.19	0.00	0.03	2.2	0.002
4.983	0.000	2.20	0.00	0.03	2.2	0.002
5.000	0.000	2.20	0.00	0.03	2.2	0.002
5.017	0.000	2.20	0.00	0.03	2.2	0.002
5.033	0.000	2.20	0.00	0.03	2.2	0.002
5.050	0.000	2.20	0.00	0.03	2.2	0.002
5.067	0.000	2.20	0.00	0.03	2.2	0.002
5.083	0.000	2.20	0.00	0.03	2.2	0.002
5.100	0.000	2.20	0.00	0.03	2.2	0.002
5.117	0.000	2.21	0.00	0.03	2.2	0.002
5.133	0.000	2.21	0.00	0.03	2.2	0.002
5.150	0.000	2.21	0.00	0.03	2.2	0.002
5.167	0.000	2.21	0.00	0.03	2.2	0.002
5.183	0.000	2.21	0.00	0.03	2.2	0.002
5.200	0.000	2.21	0.00	0.03	2.2	0.002
5.217	0.000	2.22	0.00	0.03	2.2	0.002
5.233	0.000	2.22	0.00	0.03	2.2	0.002
5.250	0.000	2.22	0.00	0.03	2.2	0.002
5.267	0.000	2.22	0.00	0.03	2.2	0.002

5.283	0.000	2.22	0.00	0.03	2.2	0.002
5.300	0.000	2.23	0.00	0.03	2.2	0.002
5.317	0.000	2.23	0.00	0.03	2.2	0.002
5.333	0.000	2.23	0.00	0.03	2.2	0.002
5.350	0.000	2.23	0.00	0.03	2.2	0.002
5.367	0.000	2.23	0.00	0.03	2.2	0.002
5.383	0.000	2.23	0.00	0.03	2.2	0.002
5.400	0.000	2.23	0.00	0.03	2.2	0.002
5.417	0.000	2.23	0.00	0.03	2.2	0.002
5.433	0.000	2.23	0.00	0.03	2.2	0.002
5.450	0.000	2.24	0.00	0.03	2.2	0.002
5.467	0.000	2.24	0.00	0.03	2.2	0.002
5.483	0.000	2.24	0.00	0.03	2.2	0.002
5.500	0.000	2.24	0.00	0.03	2.2	0.002
5.517	0.000	2.24	0.00	0.03	2.2	0.002
5.533	0.000	2.25	0.00	0.03	2.2	0.002
5.550	0.000	2.25	0.00	0.03	2.2	0.002
5.567	0.000	2.25	0.00	0.03	2.2	0.002
5.583	0.000	2.25	0.00	0.03	2.3	0.002
5.600	0.000	2.25	0.00	0.03	2.3	0.003
5.617	0.000	2.25	0.00	0.03	2.3	0.003
5.633	0.000	2.26	0.00	0.03	2.3	0.003
5.650	0.000	2.26	0.00	0.03	2.3	0.003
5.667	0.000	2.26	0.00	0.03	2.3	0.003
5.683	0.000	2.26	0.00	0.03	2.3	0.003
5.700	0.000	2.26	0.00	0.03	2.3	0.003
5.717	0.000	2.26	0.00	0.03	2.3	0.003
5.733	0.000	2.26	0.00	0.03	2.3	0.003
5.750	0.000	2.26	0.00	0.03	2.3	0.003
5.767	0.000	2.27	0.00	0.03	2.3	0.003
5.783	0.000	2.27	0.00	0.03	2.3	0.003
5.800	0.000	2.27	0.00	0.03	2.3	0.003
5.817	0.000	2.27	0.00	0.03	2.3	0.003
5.833	0.000	2.27	0.00	0.03	2.3	0.003
5.850	0.000	2.28	0.00	0.03	2.3	0.003
5.867	0.000	2.28	0.00	0.03	2.3	0.003
5.883	0.000	2.28	0.00	0.03	2.3	0.003
5.900	0.000	2.28	0.00	0.03	2.3	0.003
5.917	0.000	2.28	0.00	0.03	2.3	0.003
5.933	0.000	2.28	0.00	0.03	2.3	0.003
5.950	0.000	2.29	0.00	0.03	2.3	0.003
5.967	0.000	2.29	0.00	0.03	2.3	0.003
5.983	0.000	2.29	0.00	0.03	2.3	0.003
6.000	0.000	2.29	0.00	0.03	2.3	0.003
6.017	0.000	2.29	0.00	0.03	2.3	0.003
6.033	0.000	2.29	0.00	0.03	2.3	0.003
6.050	0.000	2.29	0.00	0.03	2.3	0.003
6.067	0.000	2.30	0.00	0.03	2.3	0.003
6.083	0.000	2.30	0.00	0.03	2.3	0.003
6.100	0.000	2.30	0.00	0.03	2.3	0.003
6.117	0.000	2.30	0.00	0.03	2.3	0.003
6.133	0.000	2.30	0.00	0.03	2.3	0.003
6.150	0.000	2.31	0.00	0.03	2.3	0.003
6.167	0.000	2.31	0.00	0.03	2.3	0.003
6.183	0.000	2.31	0.00	0.03	2.3	0.003
6.200	0.000	2.31	0.00	0.03	2.3	0.003
6.217	0.000	2.31	0.00	0.03	2.3	0.003
6.233	0.000	2.31	0.00	0.03	2.3	0.003
6.250	0.000	2.32	0.00	0.03	2.3	0.003
6.267	0.000	2.32	0.00	0.03	2.3	0.003
6.283	0.000	2.32	0.00	0.03	2.3	0.003
6.300	0.000	2.32	0.00	0.03	2.3	0.003
6.317	0.000	2.32	0.00	0.03	2.3	0.003
6.333	0.000	2.32	0.00	0.03	2.3	0.003
6.350	0.000	2.32	0.00	0.03	2.3	0.003
6.367	0.000	2.33	0.00	0.03	2.3	0.003
6.383	0.000	2.33	0.00	0.03	2.3	0.003
6.400	0.000	2.33	0.00	0.03	2.3	0.003
6.417	0.000	2.33	0.00	0.03	2.3	0.003
6.433	0.000	2.34	0.00	0.03	2.3	0.003
6.450	0.000	2.34	0.00	0.03	2.3	0.003
6.467	0.000	2.34	0.00	0.03	2.3	0.003
6.483	0.000	2.34	0.00	0.03	2.3	0.003
6.500	0.000	2.34	0.00	0.03	2.3	0.003
6.517	0.000	2.35	0.00	0.03	2.3	0.003
6.533	0.000	2.35	0.00	0.03	2.3	0.003
6.550	0.000	2.35	0.00	0.03	2.3	0.003
6.567	0.000	2.35	0.00	0.03	2.3	0.003
6.583	0.000	2.35	0.00	0.03	2.3	0.003

6.600	0.000	2.35	0.00	0.03	2.4	0.003
6.617	0.000	2.35	0.00	0.03	2.4	0.003
6.633	0.000	2.35	0.00	0.03	2.4	0.003
6.650	0.000	2.36	0.00	0.03	2.4	0.003
6.667	0.000	2.36	0.00	0.03	2.4	0.003
6.683	0.000	2.36	0.00	0.03	2.4	0.003
6.700	0.000	2.36	0.00	0.03	2.4	0.003
6.717	0.000	2.37	0.00	0.03	2.4	0.003
6.733	0.000	2.37	0.00	0.03	2.4	0.003
6.750	0.000	2.37	0.00	0.03	2.4	0.003
6.767	0.000	2.37	0.00	0.03	2.4	0.003
6.783	0.000	2.38	0.00	0.03	2.4	0.003
6.800	0.000	2.38	0.00	0.03	2.4	0.003
6.817	0.000	2.38	0.00	0.03	2.4	0.003
6.833	0.000	2.38	0.00	0.03	2.4	0.003
6.850	0.000	2.38	0.00	0.03	2.4	0.003
6.867	0.000	2.38	0.00	0.03	2.4	0.003
6.883	0.000	2.38	0.00	0.03	2.4	0.003
6.900	0.000	2.38	0.00	0.03	2.4	0.003
6.917	0.000	2.39	0.00	0.03	2.4	0.003
6.933	0.000	2.39	0.00	0.03	2.4	0.003
6.950	0.000	2.39	0.00	0.03	2.4	0.003
6.967	0.000	2.39	0.00	0.03	2.4	0.003
6.983	0.000	2.40	0.00	0.03	2.4	0.003
7.000	0.000	2.40	0.00	0.03	2.4	0.003
7.017	0.000	2.40	0.00	0.03	2.4	0.003
7.033	0.000	2.40	0.00	0.03	2.4	0.003
7.050	0.000	2.41	0.00	0.03	2.4	0.003
7.067	0.000	2.41	0.00	0.03	2.4	0.003
7.083	0.000	2.41	0.00	0.03	2.4	0.003
7.100	0.000	2.41	0.00	0.03	2.4	0.003
7.117	0.000	2.41	0.00	0.03	2.4	0.003
7.133	0.000	2.41	0.00	0.03	2.4	0.003
7.150	0.000	2.42	0.00	0.03	2.4	0.003
7.167	0.000	2.42	0.00	0.03	2.4	0.003
7.183	0.000	2.42	0.00	0.03	2.4	0.003
7.200	0.000	2.42	0.00	0.03	2.4	0.003
7.217	0.000	2.42	0.00	0.03	2.4	0.003
7.233	0.000	2.42	0.00	0.03	2.4	0.003
7.250	0.000	2.43	0.00	0.03	2.4	0.003
7.267	0.000	2.43	0.00	0.03	2.4	0.003
7.283	0.000	2.43	0.00	0.03	2.4	0.003
7.300	0.000	2.44	0.00	0.03	2.4	0.003
7.317	0.000	2.44	0.00	0.03	2.4	0.003
7.333	0.000	2.44	0.00	0.03	2.4	0.003
7.350	0.000	2.44	0.00	0.03	2.4	0.003
7.367	0.000	2.44	0.00	0.03	2.4	0.003
7.383	0.000	2.45	0.00	0.03	2.4	0.003
7.400	0.000	2.45	0.00	0.03	2.4	0.003
7.417	0.000	2.45	0.00	0.03	2.4	0.003
7.433	0.000	2.45	0.00	0.03	2.4	0.003
7.450	0.000	2.45	0.00	0.03	2.5	0.003
7.467	0.000	2.45	0.00	0.03	2.5	0.003
7.483	0.000	2.45	0.00	0.03	2.5	0.003
7.500	0.000	2.46	0.00	0.03	2.5	0.003
7.517	0.000	2.46	0.00	0.03	2.5	0.003
7.533	0.000	2.46	0.00	0.03	2.5	0.003
7.550	0.000	2.46	0.00	0.03	2.5	0.003
7.567	0.000	2.47	0.00	0.03	2.5	0.003
7.583	0.000	2.47	0.00	0.03	2.5	0.003
7.600	0.000	2.47	0.00	0.03	2.5	0.003
7.617	0.000	2.48	0.00	0.03	2.5	0.003
7.633	0.000	2.48	0.00	0.03	2.5	0.003
7.650	0.000	2.48	0.00	0.03	2.5	0.003
7.667	0.000	2.48	0.00	0.03	2.5	0.003
7.683	0.000	2.48	0.00	0.03	2.5	0.003
7.700	0.000	2.49	0.00	0.03	2.5	0.003
7.717	0.000	2.49	0.00	0.03	2.5	0.003
7.733	0.000	2.49	0.00	0.03	2.5	0.003
7.750	0.000	2.49	0.00	0.03	2.5	0.003
7.767	0.000	2.49	0.00	0.03	2.5	0.003
7.783	0.000	2.49	0.00	0.03	2.5	0.003
7.800	0.000	2.50	0.00	0.03	2.5	0.003
7.817	0.000	2.50	0.00	0.03	2.5	0.003
7.833	0.000	2.50	0.00	0.03	2.5	0.003
7.850	0.000	2.50	0.00	0.03	2.5	0.003
7.867	0.000	2.51	0.00	0.03	2.5	0.003
7.883	0.000	2.51	0.00	0.03	2.5	0.003
7.900	0.000	2.51	0.00	0.03	2.5	0.003

7.917	0.000	2.52	0.00	0.03	2.5	0.003
7.933	0.000	2.52	0.00	0.03	2.5	0.003
7.950	0.000	2.52	0.00	0.03	2.5	0.003
7.967	0.000	2.52	0.00	0.03	2.5	0.003
7.983	0.000	2.52	0.00	0.03	2.5	0.003
8.000	0.000	2.53	0.00	0.03	2.5	0.003
8.017	0.000	2.53	0.00	0.03	2.5	0.003
8.033	0.000	2.53	0.00	0.03	2.5	0.003
8.050	0.000	2.53	0.00	0.03	2.5	0.003
8.067	0.000	2.53	0.00	0.03	2.5	0.003
8.083	0.000	2.53	0.00	0.03	2.5	0.003
8.100	0.000	2.54	0.00	0.03	2.5	0.003
8.117	0.000	2.54	0.00	0.03	2.5	0.003
8.133	0.000	2.54	0.00	0.03	2.5	0.003
8.150	0.000	2.55	0.00	0.03	2.5	0.003
8.167	0.000	2.55	0.00	0.03	2.5	0.003
8.183	0.000	2.55	0.00	0.03	2.5	0.003
8.200	0.000	2.56	0.00	0.03	2.6	0.003
8.217	0.000	2.56	0.00	0.03	2.6	0.003
8.233	0.000	2.56	0.00	0.03	2.6	0.003
8.250	0.000	2.56	0.00	0.03	2.6	0.003
8.267	0.000	2.56	0.00	0.03	2.6	0.003
8.283	0.000	2.57	0.00	0.03	2.6	0.003
8.300	0.000	2.57	0.00	0.03	2.6	0.003
8.317	0.000	2.57	0.00	0.03	2.6	0.003
8.333	0.000	2.57	0.00	0.03	2.6	0.003
8.350	0.000	2.57	0.00	0.03	2.6	0.003
8.367	0.000	2.57	0.00	0.03	2.6	0.003
8.383	0.000	2.58	0.00	0.03	2.6	0.003
8.400	0.000	2.58	0.00	0.03	2.6	0.003
8.417	0.000	2.58	0.00	0.03	2.6	0.003
8.433	0.000	2.59	0.00	0.03	2.6	0.003
8.450	0.000	2.59	0.00	0.03	2.6	0.003
8.467	0.000	2.59	0.00	0.03	2.6	0.003
8.483	0.000	2.60	0.00	0.03	2.6	0.003
8.500	0.000	2.60	0.00	0.03	2.6	0.003
8.517	0.000	2.60	0.00	0.03	2.6	0.003
8.533	0.000	2.61	0.00	0.03	2.6	0.003
8.550	0.000	2.61	0.00	0.03	2.6	0.003
8.567	0.000	2.61	0.00	0.03	2.6	0.003
8.583	0.000	2.61	0.00	0.03	2.6	0.003
8.600	0.000	2.61	0.00	0.03	2.6	0.003
8.617	0.000	2.61	0.00	0.03	2.6	0.003
8.633	0.000	2.62	0.00	0.03	2.6	0.003
8.650	0.000	2.62	0.00	0.03	2.6	0.003
8.667	0.000	2.62	0.00	0.03	2.6	0.003
8.683	0.000	2.62	0.00	0.03	2.6	0.003
8.700	0.000	2.63	0.00	0.03	2.6	0.003
8.717	0.000	2.63	0.00	0.04	2.6	0.003
8.733	0.000	2.63	0.00	0.04	2.6	0.003
8.750	0.000	2.64	0.00	0.04	2.6	0.003
8.767	0.000	2.64	0.00	0.04	2.6	0.003
8.783	0.000	2.64	0.00	0.04	2.6	0.003
8.800	0.000	2.65	0.00	0.04	2.6	0.003
8.817	0.000	2.65	0.00	0.04	2.6	0.003
8.833	0.000	2.65	0.00	0.04	2.7	0.003
8.850	0.000	2.65	0.00	0.04	2.7	0.003
8.867	0.000	2.66	0.00	0.04	2.7	0.003
8.883	0.000	2.66	0.00	0.04	2.7	0.003
8.900	0.000	2.66	0.00	0.04	2.7	0.003
8.917	0.000	2.66	0.00	0.04	2.7	0.003
8.933	0.000	2.66	0.00	0.04	2.7	0.003
8.950	0.000	2.67	0.00	0.04	2.7	0.003
8.967	0.000	2.67	0.00	0.04	2.7	0.003
8.983	0.000	2.67	0.00	0.04	2.7	0.003
9.000	0.000	2.67	0.00	0.04	2.7	0.003
9.017	0.000	2.68	0.00	0.04	2.7	0.003
9.033	0.000	2.68	0.00	0.04	2.7	0.003
9.050	0.000	2.69	0.00	0.04	2.7	0.003
9.067	0.000	2.69	0.00	0.04	2.7	0.003
9.083	0.000	2.69	0.00	0.04	2.7	0.003
9.100	0.000	2.70	0.00	0.04	2.7	0.003
9.117	0.000	2.70	0.00	0.04	2.7	0.003
9.133	0.000	2.70	0.00	0.04	2.7	0.003
9.150	0.000	2.70	0.00	0.04	2.7	0.003
9.167	0.000	2.71	0.00	0.04	2.7	0.003
9.183	0.000	2.71	0.00	0.04	2.7	0.003
9.200	0.000	2.71	0.00	0.04	2.7	0.003
9.217	0.000	2.71	0.00	0.04	2.7	0.003

9.233	0.000	2.71	0.00	0.04	2.7	0.003
9.250	0.000	2.72	0.00	0.04	2.7	0.003
9.267	0.000	2.72	0.00	0.04	2.7	0.003
9.283	0.000	2.72	0.00	0.04	2.7	0.003
9.300	0.000	2.73	0.00	0.04	2.7	0.003
9.317	0.000	2.73	0.00	0.04	2.7	0.003
9.333	0.000	2.73	0.00	0.04	2.7	0.003
9.350	0.000	2.74	0.00	0.04	2.7	0.003
9.367	0.000	2.74	0.00	0.04	2.7	0.003
9.383	0.000	2.75	0.00	0.04	2.7	0.003
9.400	0.000	2.75	0.00	0.04	2.7	0.003
9.417	0.000	2.75	0.00	0.04	2.8	0.003
9.433	0.000	2.75	0.00	0.04	2.8	0.003
9.450	0.000	2.76	0.00	0.04	2.8	0.003
9.467	0.000	2.76	0.00	0.04	2.8	0.003
9.483	0.000	2.76	0.00	0.04	2.8	0.003
9.500	0.000	2.76	0.00	0.04	2.8	0.003
9.517	0.000	2.77	0.00	0.04	2.8	0.003
9.533	0.000	2.77	0.00	0.04	2.8	0.003
9.550	0.000	2.77	0.00	0.04	2.8	0.003
9.567	0.000	2.77	0.00	0.04	2.8	0.003
9.583	0.000	2.78	0.00	0.04	2.8	0.003
9.600	0.000	2.78	0.00	0.04	2.8	0.003
9.617	0.000	2.79	0.00	0.04	2.8	0.003
9.633	0.000	2.79	0.00	0.04	2.8	0.003
9.650	0.000	2.79	0.00	0.04	2.8	0.003
9.667	0.000	2.80	0.00	0.04	2.8	0.003
9.683	0.000	2.80	0.00	0.04	2.8	0.003
9.700	0.000	2.81	0.00	0.04	2.8	0.003
9.717	0.000	2.81	0.00	0.04	2.8	0.003
9.733	0.000	2.81	0.00	0.04	2.8	0.003
9.750	0.000	2.81	0.00	0.04	2.8	0.003
9.767	0.000	2.82	0.00	0.04	2.8	0.003
9.783	0.000	2.82	0.00	0.04	2.8	0.003
9.800	0.000	2.82	0.00	0.04	2.8	0.003
9.817	0.000	2.82	0.00	0.04	2.8	0.003
9.833	0.000	2.82	0.00	0.04	2.8	0.003
9.850	0.000	2.83	0.00	0.04	2.8	0.003
9.867	0.000	2.83	0.00	0.04	2.8	0.003
9.883	0.000	2.84	0.00	0.04	2.8	0.003
9.900	0.000	2.84	0.00	0.04	2.8	0.003
9.917	0.000	2.84	0.00	0.04	2.8	0.003
9.933	0.000	2.85	0.00	0.04	2.8	0.003
9.950	0.000	2.85	0.00	0.04	2.9	0.003
9.967	0.000	2.86	0.00	0.04	2.9	0.003
9.983	0.000	2.86	0.00	0.04	2.9	0.003
10.000	0.000	2.87	0.00	0.04	2.9	0.003
10.017	0.000	2.87	0.00	0.04	2.9	0.003
10.033	0.000	2.87	0.00	0.04	2.9	0.003
10.050	0.000	2.87	0.00	0.04	2.9	0.003
10.067	0.000	2.88	0.00	0.04	2.9	0.003
10.083	0.000	2.88	0.00	0.04	2.9	0.003
10.100	0.000	2.88	0.00	0.04	2.9	0.003
10.117	0.000	2.88	0.00	0.04	2.9	0.003
10.133	0.000	2.89	0.00	0.04	2.9	0.003
10.150	0.000	2.89	0.00	0.04	2.9	0.003
10.167	0.000	2.89	0.00	0.04	2.9	0.003
10.183	0.000	2.90	0.00	0.04	2.9	0.003
10.200	0.000	2.90	0.00	0.04	2.9	0.003
10.217	0.000	2.91	0.00	0.04	2.9	0.003
10.233	0.000	2.91	0.00	0.04	2.9	0.003
10.250	0.000	2.92	0.00	0.04	2.9	0.003
10.267	0.000	2.92	0.00	0.04	2.9	0.003
10.283	0.000	2.93	0.00	0.04	2.9	0.003
10.300	0.000	2.93	0.00	0.04	2.9	0.003
10.317	0.000	2.93	0.00	0.04	2.9	0.003
10.333	0.000	2.94	0.00	0.04	2.9	0.003
10.350	0.000	2.94	0.00	0.04	2.9	0.003
10.367	0.000	2.94	0.00	0.04	2.9	0.003
10.383	0.000	2.94	0.00	0.04	2.9	0.003
10.400	0.000	2.95	0.00	0.04	2.9	0.003
10.417	0.000	2.95	0.00	0.04	2.9	0.003
10.433	0.000	2.95	0.00	0.04	2.9	0.003
10.450	0.000	2.96	0.00	0.04	3.0	0.003
10.467	0.000	2.96	0.00	0.04	3.0	0.003
10.483	0.000	2.97	0.00	0.04	3.0	0.003
10.500	0.000	2.97	0.00	0.04	3.0	0.003
10.517	0.000	2.98	0.00	0.04	3.0	0.003
10.533	0.000	2.98	0.00	0.04	3.0	0.003

10.550	0.000	2.99	0.00	0.04	3.0	0.003
10.567	0.000	2.99	0.00	0.04	3.0	0.003
10.583	0.000	3.00	0.00	0.04	3.0	0.003
10.600	0.000	3.00	0.00	0.04	3.0	0.003
10.617	0.000	3.00	0.00	0.04	3.0	0.003
10.633	0.000	3.01	0.00	0.04	3.0	0.003
10.650	0.000	3.01	0.00	0.04	3.0	0.003
10.667	0.000	3.01	0.00	0.04	3.0	0.003
10.683	0.000	3.01	0.00	0.04	3.0	0.003
10.700	0.000	3.02	0.00	0.04	3.0	0.003
10.717	0.000	3.02	0.00	0.04	3.0	0.003
10.733	0.000	3.02	0.00	0.04	3.0	0.003
10.750	0.000	3.03	0.00	0.04	3.0	0.003
10.767	0.000	3.03	0.00	0.04	3.0	0.003
10.783	0.000	3.04	0.00	0.04	3.0	0.003
10.800	0.000	3.05	0.00	0.04	3.0	0.003
10.817	0.000	3.05	0.00	0.04	3.0	0.003
10.833	0.000	3.06	0.00	0.04	3.1	0.003
10.850	0.000	3.06	0.00	0.04	3.1	0.003
10.867	0.000	3.07	0.00	0.04	3.1	0.003
10.883	0.000	3.07	0.00	0.04	3.1	0.003
10.900	0.000	3.08	0.00	0.04	3.1	0.003
10.917	0.000	3.08	0.00	0.04	3.1	0.003
10.933	0.000	3.08	0.00	0.04	3.1	0.003
10.950	0.000	3.08	0.00	0.04	3.1	0.003
10.967	0.000	3.09	0.00	0.04	3.1	0.003
10.983	0.000	3.09	0.00	0.04	3.1	0.003
11.000	0.000	3.09	0.00	0.04	3.1	0.003
11.017	0.000	3.10	0.00	0.04	3.1	0.003
11.033	0.000	3.10	0.00	0.04	3.1	0.003
11.050	0.000	3.11	0.00	0.04	3.1	0.003
11.067	0.000	3.11	0.00	0.04	3.1	0.003
11.083	0.000	3.12	0.00	0.04	3.1	0.003
11.100	0.000	3.13	0.00	0.04	3.1	0.003
11.117	0.000	3.13	0.00	0.04	3.1	0.003
11.133	0.000	3.14	0.00	0.04	3.1	0.003
11.150	0.000	3.14	0.00	0.04	3.1	0.003
11.167	0.000	3.15	0.00	0.04	3.1	0.003
11.183	0.000	3.15	0.00	0.04	3.2	0.004
11.200	0.000	3.16	0.00	0.04	3.2	0.004
11.217	0.000	3.16	0.00	0.04	3.2	0.004
11.233	0.000	3.16	0.00	0.04	3.2	0.004
11.250	0.000	3.17	0.00	0.04	3.2	0.004
11.267	0.000	3.17	0.00	0.04	3.2	0.004
11.283	0.000	3.17	0.00	0.04	3.2	0.004
11.300	0.000	3.18	0.00	0.04	3.2	0.004
11.317	0.000	3.18	0.00	0.04	3.2	0.004
11.333	0.000	3.19	0.00	0.04	3.2	0.004
11.350	0.000	3.19	0.00	0.04	3.2	0.004
11.367	0.000	3.20	0.00	0.04	3.2	0.004
11.383	0.000	3.21	0.00	0.04	3.2	0.004
11.400	0.000	3.21	0.00	0.04	3.2	0.004
11.417	0.000	3.22	0.00	0.04	3.2	0.004
11.433	0.000	3.23	0.00	0.04	3.2	0.004
11.450	0.000	3.23	0.00	0.04	3.2	0.004
11.467	0.000	3.24	0.00	0.04	3.2	0.004
11.483	0.000	3.24	0.00	0.04	3.2	0.004
11.500	0.000	3.25	0.00	0.04	3.2	0.004
11.517	0.000	3.25	0.00	0.04	3.2	0.004
11.533	0.000	3.25	0.00	0.04	3.2	0.004
11.550	0.000	3.26	0.00	0.04	3.3	0.004
11.567	0.000	3.26	0.00	0.04	3.3	0.004
11.583	0.000	3.26	0.00	0.04	3.3	0.004
11.600	0.000	3.27	0.00	0.04	3.3	0.004
11.617	0.000	3.27	0.00	0.04	3.3	0.004
11.633	0.000	3.28	0.00	0.04	3.3	0.004
11.650	0.000	3.29	0.00	0.04	3.3	0.004
11.667	0.000	3.29	0.00	0.04	3.3	0.004
11.683	0.000	3.30	0.00	0.04	3.3	0.004
11.700	0.000	3.31	0.00	0.04	3.3	0.004
11.717	0.000	3.32	0.00	0.04	3.3	0.004
11.733	0.000	3.32	0.00	0.04	3.3	0.004
11.750	0.000	3.33	0.00	0.04	3.3	0.004
11.767	0.000	3.34	0.00	0.04	3.3	0.004
11.783	0.000	3.34	0.00	0.04	3.3	0.004
11.800	0.000	3.34	0.00	0.04	3.3	0.004
11.817	0.000	3.35	0.00	0.04	3.3	0.004
11.833	0.000	3.35	0.00	0.04	3.3	0.004
11.850	0.000	3.35	0.00	0.04	3.4	0.004

11.867	0.000	3.36	0.00	0.04	3.4	0.004
11.883	0.000	3.36	0.00	0.04	3.4	0.004
11.900	0.000	3.37	0.00	0.04	3.4	0.004
11.917	0.000	3.37	0.00	0.04	3.4	0.004
11.933	0.000	3.38	0.00	0.05	3.4	0.004
11.950	0.000	3.39	0.00	0.05	3.4	0.004
11.967	0.000	3.40	0.00	0.05	3.4	0.004
11.983	0.000	3.41	0.00	0.05	3.4	0.004
12.000	0.000	3.41	0.00	0.05	3.4	0.004
12.017	0.000	3.42	0.00	0.05	3.4	0.004
12.033	0.000	3.43	0.00	0.05	3.4	0.004
12.050	0.000	3.44	0.00	0.05	3.4	0.004
12.067	0.000	3.45	0.00	0.05	3.4	0.004
12.083	0.000	3.46	0.00	0.05	3.5	0.004
12.100	0.000	3.47	0.00	0.05	3.5	0.004
12.117	0.000	3.48	0.00	0.05	3.5	0.004
12.133	0.000	3.49	0.00	0.05	3.5	0.004
12.150	0.000	3.50	0.00	0.05	3.5	0.004
12.167	0.000	3.51	0.00	0.05	3.5	0.004
12.183	0.000	3.52	0.00	0.05	3.5	0.004
12.200	0.000	3.53	0.00	0.05	3.5	0.004
12.217	0.000	3.54	0.00	0.05	3.5	0.004
12.233	0.000	3.55	0.00	0.05	3.5	0.004
12.250	0.000	3.56	0.00	0.05	3.6	0.004
12.267	0.000	3.57	0.00	0.05	3.6	0.004
12.283	0.000	3.58	0.00	0.05	3.6	0.004
12.300	0.000	3.59	0.00	0.05	3.6	0.004
12.317	0.000	3.60	0.00	0.05	3.6	0.004
12.333	0.000	3.61	0.00	0.05	3.6	0.004
12.350	0.000	3.61	0.00	0.05	3.6	0.004
12.367	0.000	3.62	0.00	0.05	3.6	0.004
12.383	0.000	3.62	0.00	0.05	3.6	0.004
12.400	0.000	3.63	0.00	0.05	3.6	0.004
12.417	0.000	3.63	0.00	0.05	3.6	0.004
12.433	0.000	3.64	0.00	0.05	3.6	0.004
12.450	0.000	3.64	0.00	0.05	3.6	0.004
12.467	0.000	3.65	0.00	0.05	3.6	0.004
12.483	0.000	3.65	0.00	0.05	3.6	0.004
12.500	0.000	3.66	0.00	0.05	3.7	0.004
12.517	0.000	3.67	0.00	0.05	3.7	0.004
12.533	0.000	3.68	0.00	0.05	3.7	0.004
12.550	0.000	3.69	0.00	0.05	3.7	0.004
12.567	0.000	3.70	0.00	0.05	3.7	0.004
12.583	0.000	3.71	0.00	0.05	3.7	0.004
12.600	0.000	3.72	0.00	0.05	3.7	0.004
12.617	0.000	3.73	0.00	0.05	3.7	0.004
12.633	0.000	3.74	0.00	0.05	3.7	0.004
12.650	0.000	3.75	0.00	0.05	3.7	0.004
12.667	0.000	3.75	0.00	0.05	3.7	0.004
12.683	0.000	3.76	0.00	0.05	3.8	0.004
12.700	0.000	3.76	0.00	0.05	3.8	0.004
12.717	0.000	3.77	0.00	0.05	3.8	0.004
12.733	0.000	3.77	0.00	0.05	3.8	0.004
12.750	0.000	3.78	0.00	0.05	3.8	0.004
12.767	0.000	3.78	0.00	0.05	3.8	0.004
12.783	0.000	3.79	0.00	0.05	3.8	0.004
12.800	0.000	3.80	0.00	0.05	3.8	0.004
12.817	0.000	3.81	0.00	0.05	3.8	0.004
12.833	0.000	3.82	0.00	0.05	3.8	0.004
12.850	0.000	3.83	0.00	0.05	3.8	0.004
12.867	0.000	3.85	0.00	0.05	3.8	0.004
12.883	0.000	3.86	0.00	0.05	3.8	0.004
12.900	0.000	3.87	0.00	0.05	3.9	0.004
12.917	0.000	3.88	0.00	0.05	3.9	0.004
12.933	0.000	3.89	0.00	0.05	3.9	0.004
12.950	0.000	3.90	0.00	0.05	3.9	0.004
12.967	0.000	3.90	0.00	0.05	3.9	0.004
12.983	0.000	3.91	0.00	0.05	3.9	0.004
13.000	0.000	3.91	0.00	0.05	3.9	0.004
13.017	0.000	3.92	0.00	0.05	3.9	0.004
13.033	0.000	3.93	0.00	0.05	3.9	0.004
13.050	0.000	3.93	0.00	0.05	3.9	0.004
13.067	0.000	3.94	0.00	0.05	3.9	0.004
13.083	0.000	3.95	0.00	0.05	3.9	0.004
13.100	0.000	3.96	0.00	0.05	4.0	0.004
13.117	0.000	3.97	0.00	0.05	4.0	0.004
13.133	0.000	3.99	0.00	0.05	4.0	0.004
13.150	0.000	4.00	0.00	0.05	4.0	0.004
13.167	0.000	4.01	0.00	0.05	4.0	0.004

13.183	0.000	4.02	0.00	0.05	4.0	0.004
13.200	0.000	4.04	0.00	0.05	4.0	0.004
13.217	0.000	4.05	0.00	0.05	4.0	0.004
13.233	0.000	4.06	0.00	0.05	4.1	0.005
13.250	0.000	4.07	0.00	0.05	4.1	0.005
13.267	0.000	4.07	0.00	0.05	4.1	0.005
13.283	0.000	4.08	0.00	0.05	4.1	0.005
13.300	0.000	4.09	0.00	0.05	4.1	0.005
13.317	0.000	4.09	0.00	0.05	4.1	0.005
13.333	0.000	4.10	0.00	0.05	4.1	0.005
13.350	0.000	4.11	0.00	0.05	4.1	0.005
13.367	0.000	4.12	0.00	0.05	4.1	0.005
13.383	0.000	4.13	0.00	0.05	4.1	0.005
13.400	0.000	4.14	0.00	0.06	4.1	0.005
13.417	0.000	4.16	0.00	0.06	4.1	0.005
13.433	0.000	4.17	0.00	0.06	4.2	0.005
13.450	0.000	4.19	0.00	0.06	4.2	0.005
13.467	0.000	4.20	0.00	0.06	4.2	0.005
13.483	0.000	4.22	0.00	0.06	4.2	0.005
13.500	0.000	4.23	0.00	0.06	4.2	0.005
13.517	0.000	4.25	0.00	0.06	4.2	0.005
13.533	0.000	4.26	0.00	0.06	4.2	0.005
13.550	0.000	4.26	0.00	0.06	4.3	0.005
13.567	0.000	4.27	0.00	0.06	4.3	0.005
13.583	0.000	4.28	0.00	0.06	4.3	0.005
13.600	0.000	4.29	0.00	0.06	4.3	0.005
13.617	0.000	4.30	0.00	0.06	4.3	0.005
13.633	0.000	4.31	0.00	0.06	4.3	0.005
13.650	0.000	4.31	0.00	0.06	4.3	0.005
13.667	0.000	4.32	0.00	0.06	4.3	0.005
13.683	0.000	4.34	0.00	0.06	4.3	0.005
13.700	0.000	4.36	0.00	0.06	4.3	0.005
13.717	0.000	4.38	0.00	0.06	4.4	0.005
13.733	0.000	4.40	0.00	0.06	4.4	0.005
13.750	0.000	4.41	0.00	0.06	4.4	0.005
13.767	0.000	4.43	0.00	0.06	4.4	0.005
13.783	0.000	4.45	0.00	0.06	4.4	0.005
13.800	0.000	4.47	0.00	0.06	4.5	0.005
13.817	0.000	4.48	0.00	0.06	4.5	0.005
13.833	0.000	4.49	0.00	0.06	4.5	0.005
13.850	0.000	4.50	0.00	0.06	4.5	0.005
13.867	0.000	4.51	0.00	0.06	4.5	0.005
13.883	0.000	4.52	0.00	0.06	4.5	0.005
13.900	0.000	4.53	0.00	0.06	4.5	0.005
13.917	0.000	4.54	0.00	0.06	4.5	0.005
13.933	0.000	4.55	0.00	0.06	4.5	0.005
13.950	0.000	4.56	0.00	0.06	4.5	0.005
13.967	0.000	4.57	0.00	0.06	4.6	0.005
13.983	0.000	4.58	0.00	0.06	4.6	0.005
14.000	0.000	4.59	0.00	0.06	4.6	0.005
14.017	0.000	4.60	0.00	0.06	4.6	0.005
14.033	0.000	4.61	0.00	0.06	4.6	0.005
14.050	0.000	4.62	0.00	0.06	4.6	0.005
14.067	0.000	4.63	0.00	0.06	4.6	0.005
14.083	0.000	4.64	0.00	0.06	4.6	0.005
14.100	0.000	4.65	0.00	0.06	4.6	0.005
14.117	0.000	4.65	0.00	0.06	4.7	0.005
14.133	0.000	4.65	0.00	0.06	4.7	0.005
14.150	0.000	4.65	0.00	0.06	4.7	0.005
14.167	0.000	4.65	0.00	0.06	4.7	0.005
14.183	0.000	4.65	0.00	0.06	4.7	0.005
14.200	0.000	4.65	0.00	0.06	4.7	0.005
14.217	0.000	4.65	0.00	0.06	4.6	0.005
14.233	0.000	4.65	0.00	0.06	4.6	0.005
14.250	0.000	4.65	0.00	0.06	4.6	0.005
14.267	0.000	4.68	0.00	0.06	4.7	0.005
14.283	0.000	4.70	0.00	0.06	4.7	0.005
14.300	0.000	4.73	0.00	0.06	4.7	0.005
14.317	0.000	4.76	0.00	0.06	4.7	0.005
14.333	0.000	4.78	0.00	0.06	4.8	0.005
14.350	0.000	4.81	0.00	0.06	4.8	0.005
14.367	0.000	4.84	0.00	0.06	4.8	0.005
14.383	0.000	4.86	0.00	0.06	4.8	0.005
14.400	0.000	4.89	0.00	0.07	4.9	0.005
14.417	0.000	4.90	0.00	0.07	4.9	0.005
14.433	0.000	4.92	0.00	0.07	4.9	0.005
14.450	0.000	4.93	0.00	0.07	4.9	0.005
14.467	0.000	4.95	0.00	0.07	4.9	0.005
14.483	0.000	4.96	0.00	0.07	5.0	0.006

14.500	0.000	4.98	0.00	0.07	5.0	0.006
14.517	0.000	4.99	0.00	0.07	5.0	0.006
14.533	0.000	5.01	0.00	0.07	5.0	0.006
14.550	0.000	5.03	0.00	0.07	5.0	0.006
14.567	0.000	5.07	0.00	0.07	5.0	0.006
14.583	0.000	5.10	0.00	0.07	5.1	0.006
14.600	0.000	5.14	0.00	0.07	5.1	0.006
14.617	0.000	5.17	0.00	0.07	5.1	0.006
14.633	0.000	5.21	0.00	0.07	5.2	0.006
14.650	0.000	5.24	0.00	0.07	5.2	0.006
14.667	0.000	5.28	0.00	0.07	5.3	0.006
14.683	0.000	5.31	0.00	0.07	5.3	0.006
14.700	0.000	5.34	0.00	0.07	5.3	0.006
14.717	0.000	5.36	0.00	0.07	5.3	0.006
14.733	0.000	5.38	0.00	0.07	5.4	0.006
14.750	0.000	5.40	0.00	0.07	5.4	0.006
14.767	0.000	5.42	0.00	0.07	5.4	0.006
14.783	0.000	5.44	0.00	0.07	5.4	0.006
14.800	0.000	5.46	0.00	0.07	5.4	0.006
14.817	0.000	5.48	0.00	0.07	5.5	0.006
14.833	0.000	5.50	0.00	0.07	5.5	0.006
14.850	0.000	5.54	0.00	0.07	5.5	0.006
14.867	0.000	5.59	0.00	0.07	5.6	0.006
14.883	0.000	5.64	0.00	0.07	5.6	0.006
14.900	0.000	5.69	0.00	0.08	5.6	0.006
14.917	0.000	5.74	0.00	0.08	5.7	0.006
14.933	0.000	5.78	0.00	0.08	5.7	0.006
14.950	0.000	5.83	0.00	0.08	5.8	0.006
14.967	0.000	5.88	0.00	0.08	5.8	0.007
14.983	0.000	5.92	0.00	0.08	5.9	0.007
15.000	0.000	5.95	0.00	0.08	5.9	0.007
15.017	0.000	5.98	0.00	0.08	6.0	0.007
15.033	0.000	6.01	0.00	0.08	6.0	0.007
15.050	0.000	6.04	0.00	0.08	6.0	0.007
15.067	0.000	6.07	0.00	0.08	6.0	0.007
15.083	0.000	6.10	0.00	0.08	6.1	0.007
15.100	0.000	6.13	0.00	0.08	6.1	0.007
15.117	0.000	6.16	0.00	0.08	6.1	0.007
15.133	0.000	6.20	0.00	0.08	6.2	0.007
15.150	0.000	6.27	0.00	0.08	6.2	0.007
15.167	0.000	6.34	0.00	0.08	6.3	0.007
15.183	0.000	6.41	0.00	0.09	6.4	0.007
15.200	0.000	6.48	0.00	0.09	6.4	0.007
15.217	0.000	6.55	0.00	0.09	6.5	0.007
15.233	0.000	6.63	0.00	0.09	6.6	0.007
15.250	0.000	6.70	0.00	0.09	6.6	0.007
15.267	0.000	6.77	0.00	0.09	6.7	0.007
15.283	0.000	6.83	0.00	0.09	6.8	0.008
15.300	0.000	6.87	0.00	0.09	6.8	0.008
15.317	0.000	6.92	0.00	0.09	6.9	0.008
15.333	0.000	6.97	0.00	0.09	6.9	0.008
15.350	0.000	7.01	0.00	0.09	7.0	0.008
15.367	0.000	7.06	0.00	0.09	7.0	0.008
15.383	0.000	7.10	0.00	0.09	7.1	0.008
15.400	0.000	7.15	0.00	0.10	7.1	0.008
15.417	0.000	7.19	0.00	0.10	7.2	0.008
15.433	0.000	7.13	0.00	0.10	7.2	0.008
15.450	0.000	7.02	0.00	0.09	7.1	0.008
15.467	0.000	6.92	0.00	0.09	7.0	0.008
15.483	0.000	6.81	0.00	0.09	6.9	0.008
15.500	0.000	6.70	0.00	0.09	6.8	0.007
15.517	0.000	6.59	0.00	0.09	6.7	0.007
15.533	0.000	6.48	0.00	0.09	6.6	0.007
15.550	0.000	6.38	0.00	0.09	6.5	0.007
15.567	0.000	6.29	0.00	0.08	6.4	0.007
15.583	0.000	6.34	0.00	0.08	6.3	0.007
15.600	0.000	6.43	0.00	0.09	6.4	0.007
15.617	0.000	6.53	0.00	0.09	6.5	0.007
15.633	0.000	6.62	0.00	0.09	6.5	0.007
15.650	0.000	6.71	0.00	0.09	6.6	0.007
15.667	0.000	6.80	0.00	0.09	6.7	0.008
15.683	0.000	6.90	0.00	0.09	6.8	0.008
15.700	0.000	6.99	0.00	0.09	6.9	0.008
15.717	0.000	7.14	0.00	0.09	7.0	0.008
15.733	0.000	7.55	0.00	0.10	7.3	0.008
15.750	0.000	7.98	0.00	0.10	7.6	0.009
15.767	0.000	8.41	0.00	0.11	8.1	0.009
15.783	0.000	8.84	0.00	0.12	8.5	0.010
15.800	0.000	9.28	0.00	0.12	8.9	0.010

15.817	0.000	9.71	0.00	0.12	9.0	0.011
15.833	0.000	10.14	0.00	0.13	9.0	0.013
15.850	0.000	10.57	0.00	0.14	9.1	0.015
15.867	0.000	11.02	0.00	0.14	9.1	0.017
15.883	0.000	11.50	0.00	0.16	9.1	0.021
15.900	0.000	11.98	0.00	0.17	9.2	0.025
15.917	0.000	12.46	0.00	0.18	9.2	0.029
15.933	0.000	12.95	0.00	0.20	9.3	0.034
15.950	0.000	13.43	0.00	0.22	9.4	0.040
15.967	0.000	13.91	0.00	0.23	9.4	0.046
15.983	0.000	14.39	0.00	0.24	9.4	0.053
16.000	0.000	14.87	0.00	0.25	9.5	0.060
16.017	0.000	16.92	0.00	0.26	9.5	0.070
16.033	0.000	20.54	0.00	0.28	9.6	0.085
16.050	0.000	24.16	0.00	0.30	9.7	0.105
16.067	0.000	27.78	0.00	0.33	9.8	0.130
16.083	0.000	31.39	0.00	0.35	9.9	0.160
16.100	0.000	35.01	0.00	0.37	10.0	0.194
16.117	0.000	38.63	0.00	0.40	10.1	0.234
16.133	0.000	42.25	0.00	0.43	10.2	0.278
16.150	0.000	46.95	0.00	0.45	10.3	0.328
16.167	0.000	43.89	0.00	0.48	10.3	0.375
16.183	0.000	39.52	0.00	0.50	10.4	0.415
16.200	0.000	35.15	0.00	0.51	10.5	0.449
16.217	0.000	30.78	0.00	0.53	10.5	0.477
16.233	0.000	26.41	0.00	0.54	10.5	0.499
16.250	0.000	22.04	0.00	0.54	10.6	0.514
16.267	0.000	17.68	0.00	0.55	10.6	0.524
16.283	0.000	13.31	0.00	0.55	10.6	0.528
16.300	0.000	9.26	0.00	0.55	10.6	0.526
16.317	0.000	8.25	0.00	0.55	10.6	0.523
16.333	0.000	7.97	0.00	0.54	10.6	0.519
16.350	0.000	7.68	0.00	0.54	10.6	0.515
16.367	0.000	7.40	0.00	0.54	10.6	0.511
16.383	0.000	7.12	0.00	0.54	10.6	0.506
16.400	0.000	6.84	0.00	0.54	10.6	0.501
16.417	0.000	6.56	0.00	0.53	10.5	0.496
16.433	0.000	6.28	0.00	0.53	10.5	0.490
16.450	0.000	6.06	0.00	0.53	10.5	0.484
16.467	0.000	6.08	0.00	0.53	10.5	0.477
16.483	0.000	6.13	0.00	0.52	10.5	0.471
16.500	0.000	6.18	0.00	0.52	10.5	0.465
16.517	0.000	6.23	0.00	0.52	10.5	0.460
16.533	0.000	6.28	0.00	0.52	10.5	0.454
16.550	0.000	6.33	0.00	0.51	10.5	0.448
16.567	0.000	6.38	0.00	0.51	10.5	0.442
16.583	0.000	6.43	0.00	0.51	10.5	0.437
16.600	0.000	6.44	0.00	0.51	10.5	0.431
16.617	0.000	6.35	0.00	0.50	10.5	0.426
16.633	0.000	6.27	0.00	0.50	10.4	0.420
16.650	0.000	6.18	0.00	0.50	10.4	0.414
16.667	0.000	6.09	0.00	0.49	10.4	0.408
16.683	0.000	6.00	0.00	0.49	10.4	0.402
16.700	0.000	5.92	0.00	0.49	10.4	0.396
16.717	0.000	5.83	0.00	0.48	10.4	0.389
16.733	0.000	5.74	0.00	0.48	10.4	0.383
16.750	0.000	5.67	0.00	0.48	10.4	0.377
16.767	0.000	5.61	0.00	0.48	10.4	0.370
16.783	0.000	5.55	0.00	0.47	10.4	0.363
16.800	0.000	5.49	0.00	0.47	10.4	0.357
16.817	0.000	5.43	0.00	0.46	10.3	0.350
16.833	0.000	5.36	0.00	0.46	10.3	0.343
16.850	0.000	5.30	0.00	0.46	10.3	0.336
16.867	0.000	5.24	0.00	0.45	10.3	0.329
16.883	0.000	5.18	0.00	0.45	10.3	0.322
16.900	0.000	5.13	0.00	0.45	10.3	0.315
16.917	0.000	5.09	0.00	0.44	10.3	0.308
16.933	0.000	5.04	0.00	0.44	10.3	0.301
16.950	0.000	4.99	0.00	0.44	10.3	0.293
16.967	0.000	4.95	0.00	0.43	10.2	0.286
16.983	0.000	4.90	0.00	0.43	10.2	0.279
17.000	0.000	4.86	0.00	0.43	10.2	0.271
17.017	0.000	4.81	0.00	0.42	10.2	0.264
17.033	0.000	4.77	0.00	0.42	10.2	0.257
17.050	0.000	4.75	0.00	0.41	10.2	0.249
17.067	0.000	4.74	0.00	0.41	10.2	0.242
17.083	0.000	4.72	0.00	0.40	10.1	0.234
17.100	0.000	4.71	0.00	0.40	10.1	0.227
17.117	0.000	4.70	0.00	0.39	10.1	0.219



17.133	0.000	4.69	0.00	0.39	10.1	0.212
17.150	0.000	4.68	0.00	0.38	10.1	0.204
17.167	0.000	4.66	0.00	0.38	10.0	0.197
17.183	0.000	4.65	0.00	0.37	10.0	0.190
17.200	0.000	4.62	0.00	0.36	10.0	0.182
17.217	0.000	4.59	0.00	0.36	10.0	0.175
17.233	0.000	4.56	0.00	0.35	9.9	0.167
17.250	0.000	4.53	0.00	0.35	9.9	0.160
17.267	0.000	4.50	0.00	0.34	9.9	0.153
17.283	0.000	4.47	0.00	0.34	9.9	0.145
17.300	0.000	4.44	0.00	0.33	9.9	0.138
17.317	0.000	4.42	0.00	0.33	9.8	0.130
17.333	0.000	4.39	0.00	0.32	9.8	0.123
17.350	0.000	4.36	0.00	0.31	9.8	0.115
17.367	0.000	4.34	0.00	0.30	9.8	0.108
17.383	0.000	4.31	0.00	0.30	9.7	0.100
17.400	0.000	4.29	0.00	0.29	9.7	0.093
17.417	0.000	4.27	0.00	0.28	9.6	0.085
17.433	0.000	4.24	0.00	0.27	9.6	0.078
17.450	0.000	4.22	0.00	0.26	9.6	0.071
17.467	0.000	4.19	0.00	0.25	9.5	0.063
17.483	0.000	4.17	0.00	0.24	9.5	0.056
17.500	0.000	4.15	0.00	0.23	9.5	0.049
17.517	0.000	4.13	0.00	0.22	9.4	0.041
17.533	0.000	4.11	0.00	0.20	9.4	0.034
17.550	0.000	4.09	0.00	0.18	9.3	0.027
17.567	0.000	4.06	0.00	0.15	9.2	0.020
17.583	0.000	4.04	0.00	0.13	9.1	0.013
17.600	0.000	4.02	0.00	0.09	7.9	0.008
17.617	0.000	4.00	0.00	0.06	5.8	0.005
17.633	0.000	3.98	0.00	0.06	4.4	0.005
17.650	0.000	3.97	0.00	0.05	4.1	0.004
17.667	0.000	3.95	0.00	0.05	4.0	0.004
17.683	0.000	3.93	0.00	0.05	3.9	0.004
17.700	0.000	3.91	0.00	0.05	3.9	0.004
17.717	0.000	3.89	0.00	0.05	3.9	0.004
17.733	0.000	3.87	0.00	0.05	3.9	0.004
17.750	0.000	3.86	0.00	0.05	3.9	0.004
17.767	0.000	3.84	0.00	0.05	3.9	0.004
17.783	0.000	3.82	0.00	0.05	3.8	0.004
17.800	0.000	3.81	0.00	0.05	3.8	0.004
17.817	0.000	3.79	0.00	0.05	3.8	0.004
17.833	0.000	3.77	0.00	0.05	3.8	0.004
17.850	0.000	3.76	0.00	0.05	3.8	0.004
17.867	0.000	3.74	0.00	0.05	3.8	0.004
17.883	0.000	3.73	0.00	0.05	3.7	0.004
17.900	0.000	3.71	0.00	0.05	3.7	0.004
17.917	0.000	3.69	0.00	0.05	3.7	0.004
17.933	0.000	3.68	0.00	0.05	3.7	0.004
17.950	0.000	3.67	0.00	0.05	3.7	0.004
17.967	0.000	3.65	0.00	0.05	3.7	0.004
17.983	0.000	3.64	0.00	0.05	3.6	0.004
18.000	0.000	3.62	0.00	0.05	3.6	0.004
18.017	0.000	3.61	0.00	0.05	3.6	0.004
18.033	0.000	3.60	0.00	0.05	3.6	0.004
18.050	0.000	3.58	0.00	0.05	3.6	0.004
18.067	0.000	3.57	0.00	0.05	3.6	0.004
18.083	0.000	3.55	0.00	0.05	3.6	0.004
18.100	0.000	3.53	0.00	0.05	3.5	0.004
18.117	0.000	3.51	0.00	0.05	3.5	0.004
18.133	0.000	3.49	0.00	0.05	3.5	0.004
18.150	0.000	3.47	0.00	0.05	3.5	0.004
18.167	0.000	3.45	0.00	0.05	3.5	0.004
18.183	0.000	3.43	0.00	0.05	3.4	0.004
18.200	0.000	3.41	0.00	0.05	3.4	0.004
18.217	0.000	3.40	0.00	0.05	3.4	0.004
18.233	0.000	3.38	0.00	0.05	3.4	0.004
18.250	0.000	3.37	0.00	0.04	3.4	0.004
18.267	0.000	3.36	0.00	0.04	3.4	0.004
18.283	0.000	3.35	0.00	0.04	3.4	0.004
18.300	0.000	3.34	0.00	0.04	3.3	0.004
18.317	0.000	3.33	0.00	0.04	3.3	0.004
18.333	0.000	3.31	0.00	0.04	3.3	0.004
18.350	0.000	3.30	0.00	0.04	3.3	0.004
18.367	0.000	3.29	0.00	0.04	3.3	0.004
18.383	0.000	3.28	0.00	0.04	3.3	0.004
18.400	0.000	3.27	0.00	0.04	3.3	0.004
18.417	0.000	3.26	0.00	0.04	3.3	0.004
18.433	0.000	3.25	0.00	0.04	3.3	0.004

18.450	0.000	3.24	0.00	0.04	3.2	0.004
18.467	0.000	3.23	0.00	0.04	3.2	0.004
18.483	0.000	3.22	0.00	0.04	3.2	0.004
18.500	0.000	3.21	0.00	0.04	3.2	0.004
18.517	0.000	3.20	0.00	0.04	3.2	0.004
18.533	0.000	3.19	0.00	0.04	3.2	0.004
18.550	0.000	3.18	0.00	0.04	3.2	0.004
18.567	0.000	3.17	0.00	0.04	3.2	0.004
18.583	0.000	3.16	0.00	0.04	3.2	0.004
18.600	0.000	3.15	0.00	0.04	3.2	0.004
18.617	0.000	3.14	0.00	0.04	3.1	0.003
18.633	0.000	3.13	0.00	0.04	3.1	0.003
18.650	0.000	3.12	0.00	0.04	3.1	0.003
18.667	0.000	3.11	0.00	0.04	3.1	0.003
18.683	0.000	3.10	0.00	0.04	3.1	0.003
18.700	0.000	3.10	0.00	0.04	3.1	0.003
18.717	0.000	3.09	0.00	0.04	3.1	0.003
18.733	0.000	3.08	0.00	0.04	3.1	0.003
18.750	0.000	3.07	0.00	0.04	3.1	0.003
18.767	0.000	3.06	0.00	0.04	3.1	0.003
18.783	0.000	3.05	0.00	0.04	3.1	0.003
18.800	0.000	3.04	0.00	0.04	3.1	0.003
18.817	0.000	3.04	0.00	0.04	3.0	0.003
18.833	0.000	3.03	0.00	0.04	3.0	0.003
18.850	0.000	3.02	0.00	0.04	3.0	0.003
18.867	0.000	3.01	0.00	0.04	3.0	0.003
18.883	0.000	3.00	0.00	0.04	3.0	0.003
18.900	0.000	2.99	0.00	0.04	3.0	0.003
18.917	0.000	2.99	0.00	0.04	3.0	0.003
18.933	0.000	2.98	0.00	0.04	3.0	0.003
18.950	0.000	2.97	0.00	0.04	3.0	0.003
18.967	0.000	2.96	0.00	0.04	3.0	0.003
18.983	0.000	2.96	0.00	0.04	3.0	0.003
19.000	0.000	2.95	0.00	0.04	3.0	0.003
19.017	0.000	2.94	0.00	0.04	2.9	0.003
19.033	0.000	2.93	0.00	0.04	2.9	0.003
19.050	0.000	2.93	0.00	0.04	2.9	0.003
19.067	0.000	2.92	0.00	0.04	2.9	0.003
19.083	0.000	2.91	0.00	0.04	2.9	0.003
19.100	0.000	2.90	0.00	0.04	2.9	0.003
19.117	0.000	2.90	0.00	0.04	2.9	0.003
19.133	0.000	2.89	0.00	0.04	2.9	0.003
19.150	0.000	2.88	0.00	0.04	2.9	0.003
19.167	0.000	2.87	0.00	0.04	2.9	0.003
19.183	0.000	2.87	0.00	0.04	2.9	0.003
19.200	0.000	2.86	0.00	0.04	2.9	0.003
19.217	0.000	2.85	0.00	0.04	2.9	0.003
19.233	0.000	2.85	0.00	0.04	2.9	0.003
19.250	0.000	2.84	0.00	0.04	2.8	0.003
19.267	0.000	2.83	0.00	0.04	2.8	0.003
19.283	0.000	2.83	0.00	0.04	2.8	0.003
19.300	0.000	2.82	0.00	0.04	2.8	0.003
19.317	0.000	2.81	0.00	0.04	2.8	0.003
19.333	0.000	2.81	0.00	0.04	2.8	0.003
19.350	0.000	2.80	0.00	0.04	2.8	0.003
19.367	0.000	2.79	0.00	0.04	2.8	0.003
19.383	0.000	2.79	0.00	0.04	2.8	0.003
19.400	0.000	2.78	0.00	0.04	2.8	0.003
19.417	0.000	2.78	0.00	0.04	2.8	0.003
19.433	0.000	2.77	0.00	0.04	2.8	0.003
19.450	0.000	2.76	0.00	0.04	2.8	0.003
19.467	0.000	2.76	0.00	0.04	2.8	0.003
19.483	0.000	2.75	0.00	0.04	2.8	0.003
19.500	0.000	2.74	0.00	0.04	2.7	0.003
19.517	0.000	2.74	0.00	0.04	2.7	0.003
19.533	0.000	2.73	0.00	0.04	2.7	0.003
19.550	0.000	2.73	0.00	0.04	2.7	0.003
19.567	0.000	2.72	0.00	0.04	2.7	0.003
19.583	0.000	2.72	0.00	0.04	2.7	0.003
19.600	0.000	2.71	0.00	0.04	2.7	0.003
19.617	0.000	2.70	0.00	0.04	2.7	0.003
19.633	0.000	2.70	0.00	0.04	2.7	0.003
19.650	0.000	2.69	0.00	0.04	2.7	0.003
19.667	0.000	2.69	0.00	0.04	2.7	0.003
19.683	0.000	2.68	0.00	0.04	2.7	0.003
19.700	0.000	2.68	0.00	0.04	2.7	0.003
19.717	0.000	2.67	0.00	0.04	2.7	0.003
19.733	0.000	2.66	0.00	0.04	2.7	0.003
19.750	0.000	2.66	0.00	0.04	2.7	0.003

19.767	0.000	2.65	0.00	0.04	2.7	0.003
19.783	0.000	2.65	0.00	0.04	2.7	0.003
19.800	0.000	2.64	0.00	0.04	2.6	0.003
19.817	0.000	2.64	0.00	0.04	2.6	0.003
19.833	0.000	2.63	0.00	0.04	2.6	0.003
19.850	0.000	2.63	0.00	0.04	2.6	0.003
19.867	0.000	2.62	0.00	0.03	2.6	0.003
19.883	0.000	2.62	0.00	0.03	2.6	0.003
19.900	0.000	2.61	0.00	0.03	2.6	0.003
19.917	0.000	2.61	0.00	0.03	2.6	0.003
19.933	0.000	2.60	0.00	0.03	2.6	0.003
19.950	0.000	2.60	0.00	0.03	2.6	0.003
19.967	0.000	2.59	0.00	0.03	2.6	0.003
19.983	0.000	2.59	0.00	0.03	2.6	0.003
20.000	0.000	2.58	0.00	0.03	2.6	0.003
20.017	0.000	2.58	0.00	0.03	2.6	0.003
20.033	0.000	2.57	0.00	0.03	2.6	0.003
20.050	0.000	2.57	0.00	0.03	2.6	0.003
20.067	0.000	2.56	0.00	0.03	2.6	0.003
20.083	0.000	2.56	0.00	0.03	2.6	0.003
20.100	0.000	2.55	0.00	0.03	2.6	0.003
20.117	0.000	2.55	0.00	0.03	2.6	0.003
20.133	0.000	2.54	0.00	0.03	2.5	0.003
20.150	0.000	2.54	0.00	0.03	2.5	0.003
20.167	0.000	2.53	0.00	0.03	2.5	0.003
20.183	0.000	2.53	0.00	0.03	2.5	0.003
20.200	0.000	2.52	0.00	0.03	2.5	0.003
20.217	0.000	2.52	0.00	0.03	2.5	0.003
20.233	0.000	2.51	0.00	0.03	2.5	0.003
20.250	0.000	2.51	0.00	0.03	2.5	0.003
20.267	0.000	2.51	0.00	0.03	2.5	0.003
20.283	0.000	2.50	0.00	0.03	2.5	0.003
20.300	0.000	2.50	0.00	0.03	2.5	0.003
20.317	0.000	2.49	0.00	0.03	2.5	0.003
20.333	0.000	2.49	0.00	0.03	2.5	0.003
20.350	0.000	2.48	0.00	0.03	2.5	0.003
20.367	0.000	2.48	0.00	0.03	2.5	0.003
20.383	0.000	2.48	0.00	0.03	2.5	0.003
20.400	0.000	2.47	0.00	0.03	2.5	0.003
20.417	0.000	2.47	0.00	0.03	2.5	0.003
20.433	0.000	2.46	0.00	0.03	2.5	0.003
20.450	0.000	2.46	0.00	0.03	2.5	0.003
20.467	0.000	2.45	0.00	0.03	2.5	0.003
20.483	0.000	2.45	0.00	0.03	2.5	0.003
20.500	0.000	2.45	0.00	0.03	2.4	0.003
20.517	0.000	2.44	0.00	0.03	2.4	0.003
20.533	0.000	2.44	0.00	0.03	2.4	0.003
20.550	0.000	2.43	0.00	0.03	2.4	0.003
20.567	0.000	2.43	0.00	0.03	2.4	0.003
20.583	0.000	2.43	0.00	0.03	2.4	0.003
20.600	0.000	2.42	0.00	0.03	2.4	0.003
20.617	0.000	2.42	0.00	0.03	2.4	0.003
20.633	0.000	2.41	0.00	0.03	2.4	0.003
20.650	0.000	2.41	0.00	0.03	2.4	0.003
20.667	0.000	2.41	0.00	0.03	2.4	0.003
20.683	0.000	2.40	0.00	0.03	2.4	0.003
20.700	0.000	2.40	0.00	0.03	2.4	0.003
20.717	0.000	2.39	0.00	0.03	2.4	0.003
20.733	0.000	2.39	0.00	0.03	2.4	0.003
20.750	0.000	2.39	0.00	0.03	2.4	0.003
20.767	0.000	2.38	0.00	0.03	2.4	0.003
20.783	0.000	2.38	0.00	0.03	2.4	0.003
20.800	0.000	2.37	0.00	0.03	2.4	0.003
20.817	0.000	2.37	0.00	0.03	2.4	0.003
20.833	0.000	2.37	0.00	0.03	2.4	0.003
20.850	0.000	2.36	0.00	0.03	2.4	0.003
20.867	0.000	2.36	0.00	0.03	2.4	0.003
20.883	0.000	2.36	0.00	0.03	2.4	0.003
20.900	0.000	2.35	0.00	0.03	2.4	0.003
20.917	0.000	2.35	0.00	0.03	2.4	0.003
20.933	0.000	2.35	0.00	0.03	2.3	0.003
20.950	0.000	2.34	0.00	0.03	2.3	0.003
20.967	0.000	2.34	0.00	0.03	2.3	0.003
20.983	0.000	2.33	0.00	0.03	2.3	0.003
21.000	0.000	2.33	0.00	0.03	2.3	0.003
21.017	0.000	2.33	0.00	0.03	2.3	0.003
21.033	0.000	2.32	0.00	0.03	2.3	0.003
21.050	0.000	2.32	0.00	0.03	2.3	0.003
21.067	0.000	2.32	0.00	0.03	2.3	0.003

21.083	0.000	2.31	0.00	0.03	2.3	0.003
21.100	0.000	2.31	0.00	0.03	2.3	0.003
21.117	0.000	2.31	0.00	0.03	2.3	0.003
21.133	0.000	2.30	0.00	0.03	2.3	0.003
21.150	0.000	2.30	0.00	0.03	2.3	0.003
21.167	0.000	2.30	0.00	0.03	2.3	0.003
21.183	0.000	2.29	0.00	0.03	2.3	0.003
21.200	0.000	2.29	0.00	0.03	2.3	0.003
21.217	0.000	2.29	0.00	0.03	2.3	0.003
21.233	0.000	2.28	0.00	0.03	2.3	0.003
21.250	0.000	2.28	0.00	0.03	2.3	0.003
21.267	0.000	2.28	0.00	0.03	2.3	0.003
21.283	0.000	2.27	0.00	0.03	2.3	0.003
21.300	0.000	2.27	0.00	0.03	2.3	0.003
21.317	0.000	2.27	0.00	0.03	2.3	0.003
21.333	0.000	2.26	0.00	0.03	2.3	0.003
21.350	0.000	2.26	0.00	0.03	2.3	0.003
21.367	0.000	2.26	0.00	0.03	2.3	0.003
21.383	0.000	2.25	0.00	0.03	2.3	0.003
21.400	0.000	2.25	0.00	0.03	2.3	0.003
21.417	0.000	2.25	0.00	0.03	2.2	0.002
21.433	0.000	2.24	0.00	0.03	2.2	0.002
21.450	0.000	2.24	0.00	0.03	2.2	0.002
21.467	0.000	2.24	0.00	0.03	2.2	0.002
21.483	0.000	2.23	0.00	0.03	2.2	0.002
21.500	0.000	2.23	0.00	0.03	2.2	0.002
21.517	0.000	2.23	0.00	0.03	2.2	0.002
21.533	0.000	2.23	0.00	0.03	2.2	0.002
21.550	0.000	2.22	0.00	0.03	2.2	0.002
21.567	0.000	2.22	0.00	0.03	2.2	0.002
21.583	0.000	2.22	0.00	0.03	2.2	0.002
21.600	0.000	2.21	0.00	0.03	2.2	0.002
21.617	0.000	2.21	0.00	0.03	2.2	0.002
21.633	0.000	2.21	0.00	0.03	2.2	0.002
21.650	0.000	2.20	0.00	0.03	2.2	0.002
21.667	0.000	2.20	0.00	0.03	2.2	0.002
21.683	0.000	2.20	0.00	0.03	2.2	0.002
21.700	0.000	2.20	0.00	0.03	2.2	0.002
21.717	0.000	2.19	0.00	0.03	2.2	0.002
21.733	0.000	2.19	0.00	0.03	2.2	0.002
21.750	0.000	2.19	0.00	0.03	2.2	0.002
21.767	0.000	2.18	0.00	0.03	2.2	0.002
21.783	0.000	2.18	0.00	0.03	2.2	0.002
21.800	0.000	2.18	0.00	0.03	2.2	0.002
21.817	0.000	2.18	0.00	0.03	2.2	0.002
21.833	0.000	2.17	0.00	0.03	2.2	0.002
21.850	0.000	2.17	0.00	0.03	2.2	0.002
21.867	0.000	2.17	0.00	0.03	2.2	0.002
21.883	0.000	2.16	0.00	0.03	2.2	0.002
21.900	0.000	2.16	0.00	0.03	2.2	0.002
21.917	0.000	2.16	0.00	0.03	2.2	0.002
21.933	0.000	2.16	0.00	0.03	2.2	0.002
21.950	0.000	2.15	0.00	0.03	2.2	0.002
21.967	0.000	2.15	0.00	0.03	2.2	0.002
21.983	0.000	2.15	0.00	0.03	2.2	0.002
22.000	0.000	2.15	0.00	0.03	2.1	0.002
22.017	0.000	2.14	0.00	0.03	2.1	0.002
22.033	0.000	2.14	0.00	0.03	2.1	0.002
22.050	0.000	2.14	0.00	0.03	2.1	0.002
22.067	0.000	2.13	0.00	0.03	2.1	0.002
22.083	0.000	2.13	0.00	0.03	2.1	0.002
22.100	0.000	2.13	0.00	0.03	2.1	0.002
22.117	0.000	2.13	0.00	0.03	2.1	0.002
22.133	0.000	2.12	0.00	0.03	2.1	0.002
22.150	0.000	2.12	0.00	0.03	2.1	0.002
22.167	0.000	2.12	0.00	0.03	2.1	0.002
22.183	0.000	2.12	0.00	0.03	2.1	0.002
22.200	0.000	2.11	0.00	0.03	2.1	0.002
22.216	0.000	2.11	0.00	0.03	2.1	0.002
22.233	0.000	2.11	0.00	0.03	2.1	0.002
22.250	0.000	2.11	0.00	0.03	2.1	0.002
22.266	0.000	2.10	0.00	0.03	2.1	0.002
22.283	0.000	2.10	0.00	0.03	2.1	0.002
22.300	0.000	2.10	0.00	0.03	2.1	0.002
22.316	0.000	2.10	0.00	0.03	2.1	0.002
22.333	0.000	2.09	0.00	0.03	2.1	0.002
22.350	0.000	2.09	0.00	0.03	2.1	0.002
22.366	0.000	2.09	0.00	0.03	2.1	0.002
22.383	0.000	2.09	0.00	0.03	2.1	0.002

22.400	0.000	2.08	0.00	0.03	2.1	0.002
22.416	0.000	2.08	0.00	0.03	2.1	0.002
22.433	0.000	2.08	0.00	0.03	2.1	0.002
22.450	0.000	2.08	0.00	0.03	2.1	0.002
22.466	0.000	2.07	0.00	0.03	2.1	0.002
22.483	0.000	2.07	0.00	0.03	2.1	0.002
22.500	0.000	2.07	0.00	0.03	2.1	0.002
22.516	0.000	2.07	0.00	0.03	2.1	0.002
22.533	0.000	2.06	0.00	0.03	2.1	0.002
22.550	0.000	2.06	0.00	0.03	2.1	0.002
22.566	0.000	2.06	0.00	0.03	2.1	0.002
22.583	0.000	2.06	0.00	0.03	2.1	0.002
22.600	0.000	2.05	0.00	0.03	2.1	0.002
22.616	0.000	2.05	0.00	0.03	2.1	0.002
22.633	0.000	2.05	0.00	0.03	2.1	0.002
22.650	0.000	2.05	0.00	0.03	2.0	0.002
22.666	0.000	2.05	0.00	0.03	2.0	0.002
22.683	0.000	2.04	0.00	0.03	2.0	0.002
22.700	0.000	2.04	0.00	0.03	2.0	0.002
22.716	0.000	2.04	0.00	0.03	2.0	0.002
22.733	0.000	2.04	0.00	0.03	2.0	0.002
22.750	0.000	2.03	0.00	0.03	2.0	0.002
22.766	0.000	2.03	0.00	0.03	2.0	0.002
22.783	0.000	2.03	0.00	0.03	2.0	0.002
22.800	0.000	2.03	0.00	0.03	2.0	0.002
22.816	0.000	2.02	0.00	0.03	2.0	0.002
22.833	0.000	2.02	0.00	0.03	2.0	0.002
22.850	0.000	2.02	0.00	0.03	2.0	0.002
22.866	0.000	2.02	0.00	0.03	2.0	0.002
22.883	0.000	2.02	0.00	0.03	2.0	0.002
22.900	0.000	2.01	0.00	0.03	2.0	0.002
22.916	0.000	2.01	0.00	0.03	2.0	0.002
22.933	0.000	2.01	0.00	0.03	2.0	0.002
22.950	0.000	2.01	0.00	0.03	2.0	0.002
22.966	0.000	2.01	0.00	0.03	2.0	0.002
22.983	0.000	2.00	0.00	0.03	2.0	0.002
23.000	0.000	2.00	0.00	0.03	2.0	0.002
23.016	0.000	2.00	0.00	0.03	2.0	0.002
23.033	0.000	2.00	0.00	0.03	2.0	0.002
23.050	0.000	1.99	0.00	0.03	2.0	0.002
23.066	0.000	1.99	0.00	0.03	2.0	0.002
23.083	0.000	1.99	0.00	0.03	2.0	0.002
23.100	0.000	1.99	0.00	0.03	2.0	0.002
23.116	0.000	1.99	0.00	0.03	2.0	0.002
23.133	0.000	1.98	0.00	0.03	2.0	0.002
23.150	0.000	1.98	0.00	0.03	2.0	0.002
23.166	0.000	1.98	0.00	0.03	2.0	0.002
23.183	0.000	1.98	0.00	0.03	2.0	0.002
23.200	0.000	1.98	0.00	0.03	2.0	0.002
23.216	0.000	1.97	0.00	0.03	2.0	0.002
23.233	0.000	1.97	0.00	0.03	2.0	0.002
23.250	0.000	1.97	0.00	0.03	2.0	0.002
23.266	0.000	1.97	0.00	0.03	2.0	0.002
23.283	0.000	1.97	0.00	0.03	2.0	0.002
23.300	0.000	1.96	0.00	0.03	2.0	0.002
23.316	0.000	1.96	0.00	0.03	2.0	0.002
23.333	0.000	1.96	0.00	0.03	2.0	0.002
23.350	0.000	1.96	0.00	0.03	2.0	0.002
23.366	0.000	1.96	0.00	0.03	2.0	0.002
23.383	0.000	1.95	0.00	0.03	2.0	0.002
23.400	0.000	1.95	0.00	0.03	2.0	0.002
23.416	0.000	1.95	0.00	0.03	2.0	0.002
23.433	0.000	1.95	0.00	0.03	1.9	0.002
23.450	0.000	1.95	0.00	0.03	1.9	0.002
23.466	0.000	1.94	0.00	0.03	1.9	0.002
23.483	0.000	1.94	0.00	0.03	1.9	0.002
23.500	0.000	1.94	0.00	0.03	1.9	0.002
23.516	0.000	1.94	0.00	0.03	1.9	0.002
23.533	0.000	1.94	0.00	0.03	1.9	0.002
23.550	0.000	1.93	0.00	0.03	1.9	0.002
23.566	0.000	1.93	0.00	0.03	1.9	0.002
23.583	0.000	1.93	0.00	0.03	1.9	0.002
23.600	0.000	1.93	0.00	0.03	1.9	0.002
23.616	0.000	1.93	0.00	0.03	1.9	0.002
23.633	0.000	1.92	0.00	0.03	1.9	0.002
23.650	0.000	1.92	0.00	0.03	1.9	0.002
23.666	0.000	1.92	0.00	0.03	1.9	0.002
23.683	0.000	1.92	0.00	0.03	1.9	0.002
23.700	0.000	1.92	0.00	0.03	1.9	0.002

23.716	0.000	1.91	0.00	0.03	1.9	0.002
23.733	0.000	1.91	0.00	0.03	1.9	0.002
23.750	0.000	1.91	0.00	0.03	1.9	0.002
23.766	0.000	1.91	0.00	0.03	1.9	0.002
23.783	0.000	1.91	0.00	0.03	1.9	0.002
23.800	0.000	1.91	0.00	0.03	1.9	0.002
23.816	0.000	1.90	0.00	0.03	1.9	0.002
23.833	0.000	1.90	0.00	0.03	1.9	0.002
23.850	0.000	1.90	0.00	0.03	1.9	0.002
23.866	0.000	1.90	0.00	0.03	1.9	0.002
23.883	0.000	1.90	0.00	0.03	1.9	0.002
23.900	0.000	1.89	0.00	0.03	1.9	0.002
23.916	0.000	1.89	0.00	0.03	1.9	0.002
23.933	0.000	1.89	0.00	0.03	1.9	0.002
23.950	0.000	1.89	0.00	0.03	1.9	0.002
23.966	0.000	1.89	0.00	0.03	1.9	0.002
23.983	0.000	1.89	0.00	0.03	1.9	0.002
24.000	0.000	1.88	0.00	0.03	1.9	0.002
24.016	0.000	1.88	0.00	0.03	1.9	0.002
24.033	0.000	1.88	0.00	0.03	1.9	0.002
24.050	0.000	1.88	0.00	0.03	1.9	0.002
24.066	0.000	1.88	0.00	0.03	1.9	0.002
24.083	0.000	1.77	0.00	0.02	1.8	0.002
24.100	0.000	1.56	0.00	0.02	1.7	0.002
24.116	0.000	1.34	0.00	0.02	1.5	0.002
24.133	0.000	1.13	0.00	0.02	1.3	0.001
24.150	0.000	0.92	0.00	0.01	1.1	0.001
24.166	0.000	0.70	0.00	0.01	0.9	0.001
24.183	0.000	0.49	0.00	0.01	0.7	0.001
24.200	0.000	0.28	0.00	0.00	0.4	0.000
24.216	0.000	0.00	0.00	0.00	0.2	0.000
24.233	0.000	0.00	0.00	0.00	0.0	0.000
24.250	0.000	0.00	0.00	0.00	0.0	0.000
24.266	0.000	0.00	0.00	0.00	0.0	0.000
24.283	0.000	0.00	0.00	0.00	0.0	0.000
24.300	0.000	0.00	0.00	0.00	0.0	0.000
24.316	0.000	0.00	0.00	0.00	0.0	0.000
24.333	0.000	0.00	0.00	0.00	0.0	0.000
24.350	0.000	0.00	0.00	0.00	0.0	0.000
24.366	0.000	0.00	0.00	0.00	0.0	0.000
24.383	0.000	0.00	0.00	0.00	0.0	0.000
24.400	0.000	0.00	0.00	0.00	0.0	0.000
24.416	0.000	0.00	0.00	0.00	0.0	0.000
24.433	0.000	0.00	0.00	0.00	0.0	0.000
24.450	0.000	0.00	0.00	0.00	0.0	0.000
24.466	0.000	0.00	0.00	0.00	0.0	0.000
24.483	0.000	0.00	0.00	0.00	0.0	0.000
24.500	0.000	0.00	0.00	0.00	0.0	0.000
24.516	0.000	0.00	0.00	0.00	0.0	0.000
24.533	0.000	0.00	0.00	0.00	0.0	0.000
24.550	0.000	0.00	0.00	0.00	0.0	0.000
24.566	0.000	0.00	0.00	0.00	0.0	0.000
24.583	0.000	0.00	0.00	0.00	0.0	0.000
24.600	0.000	0.00	0.00	0.00	0.0	0.000
24.616	0.000	0.00	0.00	0.00	0.0	0.000
24.633	0.000	0.00	0.00	0.00	0.0	0.000
24.650	0.000	0.00	0.00	0.00	0.0	0.000
24.666	0.000	0.00	0.00	0.00	0.0	0.000
24.683	0.000	0.00	0.00	0.00	0.0	0.000
24.700	0.000	0.00	0.00	0.00	0.0	0.000
24.716	0.000	0.00	0.00	0.00	0.0	0.000
24.733	0.000	0.00	0.00	0.00	0.0	0.000
24.750	0.000	0.00	0.00	0.00	0.0	0.000
24.766	0.000	0.00	0.00	0.00	0.0	0.000
24.783	0.000	0.00	0.00	0.00	0.0	0.000
24.800	0.000	0.00	0.00	0.00	0.0	0.000
24.816	0.000	0.00	0.00	0.00	0.0	0.000
24.833	0.000	0.00	0.00	0.00	0.0	0.000
24.850	0.000	0.00	0.00	0.00	0.0	0.000
24.866	0.000	0.00	0.00	0.00	0.0	0.000
24.883	0.000	0.00	0.00	0.00	0.0	0.000
24.900	0.000	0.00	0.00	0.00	0.0	0.000
24.916	0.000	0.00	0.00	0.00	0.0	0.000
24.933	0.000	0.00	0.00	0.00	0.0	0.000
24.950	0.000	0.00	0.00	0.00	0.0	0.000
24.966	0.000	0.00	0.00	0.00	0.0	0.000
24.983	0.000	0.00	0.00	0.00	0.0	0.000
25.000	0.000	0.00	0.00	0.00	0.0	0.000
25.016	0.000	0.00	0.00	0.00	0.0	0.000

25.033	0.000	0.00	0.00	0.00	0.0	0.000
25.050	0.000	0.00	0.00	0.00	0.0	0.000
25.066	0.000	0.00	0.00	0.00	0.0	0.000
25.083	0.000	0.00	0.00	0.00	0.0	0.000
25.100	0.000	0.00	0.00	0.00	0.0	0.000
25.116	0.000	0.00	0.00	0.00	0.0	0.000
25.133	0.000	0.00	0.00	0.00	0.0	0.000
25.150	0.000	0.00	0.00	0.00	0.0	0.000
25.166	0.000	0.00	0.00	0.00	0.0	0.000
25.183	0.000	0.00	0.00	0.00	0.0	0.000
25.200	0.000	0.00	0.00	0.00	0.0	0.000
25.216	0.000	0.00	0.00	0.00	0.0	0.000
25.233	0.000	0.00	0.00	0.00	0.0	0.000
25.250	0.000	0.00	0.00	0.00	0.0	0.000
25.266	0.000	0.00	0.00	0.00	0.0	0.000
25.283	0.000	0.00	0.00	0.00	0.0	0.000
25.300	0.000	0.00	0.00	0.00	0.0	0.000
25.316	0.000	0.00	0.00	0.00	0.0	0.000
25.333	0.000	0.00	0.00	0.00	0.0	0.000
25.350	0.000	0.00	0.00	0.00	0.0	0.000
25.366	0.000	0.00	0.00	0.00	0.0	0.000
25.383	0.000	0.00	0.00	0.00	0.0	0.000
25.400	0.000	0.00	0.00	0.00	0.0	0.000
25.416	0.000	0.00	0.00	0.00	0.0	0.000
25.433	0.000	0.00	0.00	0.00	0.0	0.000
25.450	0.000	0.00	0.00	0.00	0.0	0.000
25.466	0.000	0.00	0.00	0.00	0.0	0.000
25.483	0.000	0.00	0.00	0.00	0.0	0.000
25.500	0.000	0.00	0.00	0.00	0.0	0.000
25.516	0.000	0.00	0.00	0.00	0.0	0.000
25.533	0.000	0.00	0.00	0.00	0.0	0.000
25.550	0.000	0.00	0.00	0.00	0.0	0.000
25.566	0.000	0.00	0.00	0.00	0.0	0.000
25.583	0.000	0.00	0.00	0.00	0.0	0.000
25.600	0.000	0.00	0.00	0.00	0.0	0.000
25.616	0.000	0.00	0.00	0.00	0.0	0.000
25.633	0.000	0.00	0.00	0.00	0.0	0.000
25.650	0.000	0.00	0.00	0.00	0.0	0.000
25.666	0.000	0.00	0.00	0.00	0.0	0.000
25.683	0.000	0.00	0.00	0.00	0.0	0.000
25.700	0.000	0.00	0.00	0.00	0.0	0.000
25.716	0.000	0.00	0.00	0.00	0.0	0.000
25.733	0.000	0.00	0.00	0.00	0.0	0.000
25.750	0.000	0.00	0.00	0.00	0.0	0.000
25.766	0.000	0.00	0.00	0.00	0.0	0.000
25.783	0.000	0.00	0.00	0.00	0.0	0.000
25.800	0.000	0.00	0.00	0.00	0.0	0.000
25.816	0.000	0.00	0.00	0.00	0.0	0.000
25.833	0.000	0.00	0.00	0.00	0.0	0.000
25.850	0.000	0.00	0.00	0.00	0.0	0.000
25.866	0.000	0.00	0.00	0.00	0.0	0.000
25.883	0.000	0.00	0.00	0.00	0.0	0.000
25.900	0.000	0.00	0.00	0.00	0.0	0.000
25.916	0.000	0.00	0.00	0.00	0.0	0.000
25.933	0.000	0.00	0.00	0.00	0.0	0.000
25.950	0.000	0.00	0.00	0.00	0.0	0.000
25.966	0.000	0.00	0.00	0.00	0.0	0.000
25.983	0.000	0.00	0.00	0.00	0.0	0.000
26.000	0.000	0.00	0.00	0.00	0.0	0.000
26.016	0.000	0.00	0.00	0.00	0.0	0.000
26.033	0.000	0.00	0.00	0.00	0.0	0.000
26.050	0.000	0.00	0.00	0.00	0.0	0.000
26.066	0.000	0.00	0.00	0.00	0.0	0.000
26.083	0.000	0.00	0.00	0.00	0.0	0.000
26.100	0.000	0.00	0.00	0.00	0.0	0.000
26.116	0.000	0.00	0.00	0.00	0.0	0.000
26.133	0.000	0.00	0.00	0.00	0.0	0.000
26.150	0.000	0.00	0.00	0.00	0.0	0.000
26.166	0.000	0.00	0.00	0.00	0.0	0.000
26.183	0.000	0.00	0.00	0.00	0.0	0.000
26.200	0.000	0.00	0.00	0.00	0.0	0.000
26.216	0.000	0.00	0.00	0.00	0.0	0.000
26.233	0.000	0.00	0.00	0.00	0.0	0.000
26.250	0.000	0.00	0.00	0.00	0.0	0.000
26.266	0.000	0.00	0.00	0.00	0.0	0.000
26.283	0.000	0.00	0.00	0.00	0.0	0.000
26.300	0.000	0.00	0.00	0.00	0.0	0.000
26.316	0.000	0.00	0.00	0.00	0.0	0.000
26.333	0.000	0.00	0.00	0.00	0.0	0.000

26.350	0.000	0.00	0.00	0.00	0.0	0.000
26.366	0.000	0.00	0.00	0.00	0.0	0.000
26.383	0.000	0.00	0.00	0.00	0.0	0.000
26.400	0.000	0.00	0.00	0.00	0.0	0.000
26.416	0.000	0.00	0.00	0.00	0.0	0.000
26.433	0.000	0.00	0.00	0.00	0.0	0.000
26.450	0.000	0.00	0.00	0.00	0.0	0.000
26.466	0.000	0.00	0.00	0.00	0.0	0.000
26.483	0.000	0.00	0.00	0.00	0.0	0.000
26.500	0.000	0.00	0.00	0.00	0.0	0.000
26.516	0.000	0.00	0.00	0.00	0.0	0.000
26.533	0.000	0.00	0.00	0.00	0.0	0.000
26.550	0.000	0.00	0.00	0.00	0.0	0.000
26.566	0.000	0.00	0.00	0.00	0.0	0.000
26.583	0.000	0.00	0.00	0.00	0.0	0.000
26.600	0.000	0.00	0.00	0.00	0.0	0.000
26.616	0.000	0.00	0.00	0.00	0.0	0.000
26.633	0.000	0.00	0.00	0.00	0.0	0.000
26.650	0.000	0.00	0.00	0.00	0.0	0.000
26.666	0.000	0.00	0.00	0.00	0.0	0.000
26.683	0.000	0.00	0.00	0.00	0.0	0.000
26.700	0.000	0.00	0.00	0.00	0.0	0.000
26.716	0.000	0.00	0.00	0.00	0.0	0.000
26.733	0.000	0.00	0.00	0.00	0.0	0.000
26.750	0.000	0.00	0.00	0.00	0.0	0.000
26.766	0.000	0.00	0.00	0.00	0.0	0.000
26.783	0.000	0.00	0.00	0.00	0.0	0.000
26.800	0.000	0.00	0.00	0.00	0.0	0.000
26.816	0.000	0.00	0.00	0.00	0.0	0.000
26.833	0.000	0.00	0.00	0.00	0.0	0.000
26.850	0.000	0.00	0.00	0.00	0.0	0.000
26.866	0.000	0.00	0.00	0.00	0.0	0.000
26.883	0.000	0.00	0.00	0.00	0.0	0.000
26.900	0.000	0.00	0.00	0.00	0.0	0.000
26.916	0.000	0.00	0.00	0.00	0.0	0.000
26.933	0.000	0.00	0.00	0.00	0.0	0.000
26.950	0.000	0.00	0.00	0.00	0.0	0.000
26.966	0.000	0.00	0.00	0.00	0.0	0.000
26.983	0.000	0.00	0.00	0.00	0.0	0.000
27.000	0.000	0.00	0.00	0.00	0.0	0.000
27.016	0.000	0.00	0.00	0.00	0.0	0.000
27.033	0.000	0.00	0.00	0.00	0.0	0.000
27.050	0.000	0.00	0.00	0.00	0.0	0.000
27.066	0.000	0.00	0.00	0.00	0.0	0.000
27.083	0.000	0.00	0.00	0.00	0.0	0.000
27.100	0.000	0.00	0.00	0.00	0.0	0.000
27.116	0.000	0.00	0.00	0.00	0.0	0.000
27.133	0.000	0.00	0.00	0.00	0.0	0.000
27.150	0.000	0.00	0.00	0.00	0.0	0.000
27.166	0.000	0.00	0.00	0.00	0.0	0.000
27.183	0.000	0.00	0.00	0.00	0.0	0.000
27.200	0.000	0.00	0.00	0.00	0.0	0.000
27.216	0.000	0.00	0.00	0.00	0.0	0.000
27.233	0.000	0.00	0.00	0.00	0.0	0.000
27.250	0.000	0.00	0.00	0.00	0.0	0.000
27.266	0.000	0.00	0.00	0.00	0.0	0.000
27.283	0.000	0.00	0.00	0.00	0.0	0.000
27.300	0.000	0.00	0.00	0.00	0.0	0.000
27.316	0.000	0.00	0.00	0.00	0.0	0.000
27.333	0.000	0.00	0.00	0.00	0.0	0.000
27.350	0.000	0.00	0.00	0.00	0.0	0.000
27.366	0.000	0.00	0.00	0.00	0.0	0.000
27.383	0.000	0.00	0.00	0.00	0.0	0.000
27.400	0.000	0.00	0.00	0.00	0.0	0.000
27.416	0.000	0.00	0.00	0.00	0.0	0.000
27.433	0.000	0.00	0.00	0.00	0.0	0.000
27.450	0.000	0.00	0.00	0.00	0.0	0.000
27.466	0.000	0.00	0.00	0.00	0.0	0.000
27.483	0.000	0.00	0.00	0.00	0.0	0.000
27.500	0.000	0.00	0.00	0.00	0.0	0.000
27.516	0.000	0.00	0.00	0.00	0.0	0.000
27.533	0.000	0.00	0.00	0.00	0.0	0.000
27.550	0.000	0.00	0.00	0.00	0.0	0.000
27.566	0.000	0.00	0.00	0.00	0.0	0.000
27.583	0.000	0.00	0.00	0.00	0.0	0.000
27.600	0.000	0.00	0.00	0.00	0.0	0.000
27.616	0.000	0.00	0.00	0.00	0.0	0.000
27.633	0.000	0.00	0.00	0.00	0.0	0.000
27.650	0.000	0.00	0.00	0.00	0.0	0.000

27.666	0.000	0.00	0.00	0.00	0.0	0.000
27.683	0.000	0.00	0.00	0.00	0.0	0.000
27.700	0.000	0.00	0.00	0.00	0.0	0.000
27.716	0.000	0.00	0.00	0.00	0.0	0.000
27.733	0.000	0.00	0.00	0.00	0.0	0.000
27.750	0.000	0.00	0.00	0.00	0.0	0.000
27.766	0.000	0.00	0.00	0.00	0.0	0.000
27.783	0.000	0.00	0.00	0.00	0.0	0.000
27.800	0.000	0.00	0.00	0.00	0.0	0.000
27.816	0.000	0.00	0.00	0.00	0.0	0.000
27.833	0.000	0.00	0.00	0.00	0.0	0.000
27.850	0.000	0.00	0.00	0.00	0.0	0.000
27.866	0.000	0.00	0.00	0.00	0.0	0.000
27.883	0.000	0.00	0.00	0.00	0.0	0.000
27.900	0.000	0.00	0.00	0.00	0.0	0.000
27.916	0.000	0.00	0.00	0.00	0.0	0.000
27.933	0.000	0.00	0.00	0.00	0.0	0.000
27.950	0.000	0.00	0.00	0.00	0.0	0.000
27.966	0.000	0.00	0.00	0.00	0.0	0.000
27.983	0.000	0.00	0.00	0.00	0.0	0.000
28.000	0.000	0.00	0.00	0.00	0.0	0.000
28.016	0.000	0.00	0.00	0.00	0.0	0.000
28.033	0.000	0.00	0.00	0.00	0.0	0.000
28.050	0.000	0.00	0.00	0.00	0.0	0.000
28.066	0.000	0.00	0.00	0.00	0.0	0.000
28.083	0.000	0.00	0.00	0.00	0.0	0.000
28.100	0.000	0.00	0.00	0.00	0.0	0.000
28.116	0.000	0.00	0.00	0.00	0.0	0.000
28.133	0.000	0.00	0.00	0.00	0.0	0.000
28.150	0.000	0.00	0.00	0.00	0.0	0.000
28.166	0.000	0.00	0.00	0.00	0.0	0.000
28.183	0.000	0.00	0.00	0.00	0.0	0.000
28.200	0.000	0.00	0.00	0.00	0.0	0.000
28.216	0.000	0.00	0.00	0.00	0.0	0.000
28.233	0.000	0.00	0.00	0.00	0.0	0.000
28.250	0.000	0.00	0.00	0.00	0.0	0.000
28.266	0.000	0.00	0.00	0.00	0.0	0.000
28.283	0.000	0.00	0.00	0.00	0.0	0.000
28.300	0.000	0.00	0.00	0.00	0.0	0.000
28.316	0.000	0.00	0.00	0.00	0.0	0.000
28.333	0.000	0.00	0.00	0.00	0.0	0.000
28.350	0.000	0.00	0.00	0.00	0.0	0.000
28.366	0.000	0.00	0.00	0.00	0.0	0.000
28.383	0.000	0.00	0.00	0.00	0.0	0.000
28.400	0.000	0.00	0.00	0.00	0.0	0.000
28.416	0.000	0.00	0.00	0.00	0.0	0.000
28.433	0.000	0.00	0.00	0.00	0.0	0.000
28.450	0.000	0.00	0.00	0.00	0.0	0.000
28.466	0.000	0.00	0.00	0.00	0.0	0.000
28.483	0.000	0.00	0.00	0.00	0.0	0.000
28.500	0.000	0.00	0.00	0.00	0.0	0.000
28.516	0.000	0.00	0.00	0.00	0.0	0.000
28.533	0.000	0.00	0.00	0.00	0.0	0.000
28.550	0.000	0.00	0.00	0.00	0.0	0.000
28.566	0.000	0.00	0.00	0.00	0.0	0.000
28.583	0.000	0.00	0.00	0.00	0.0	0.000
28.600	0.000	0.00	0.00	0.00	0.0	0.000
28.616	0.000	0.00	0.00	0.00	0.0	0.000
28.633	0.000	0.00	0.00	0.00	0.0	0.000
28.650	0.000	0.00	0.00	0.00	0.0	0.000
28.666	0.000	0.00	0.00	0.00	0.0	0.000
28.683	0.000	0.00	0.00	0.00	0.0	0.000
28.700	0.000	0.00	0.00	0.00	0.0	0.000
28.716	0.000	0.00	0.00	0.00	0.0	0.000
28.733	0.000	0.00	0.00	0.00	0.0	0.000
28.750	0.000	0.00	0.00	0.00	0.0	0.000
28.766	0.000	0.00	0.00	0.00	0.0	0.000
28.783	0.000	0.00	0.00	0.00	0.0	0.000
28.800	0.000	0.00	0.00	0.00	0.0	0.000
28.816	0.000	0.00	0.00	0.00	0.0	0.000
28.833	0.000	0.00	0.00	0.00	0.0	0.000
28.850	0.000	0.00	0.00	0.00	0.0	0.000
28.866	0.000	0.00	0.00	0.00	0.0	0.000
28.883	0.000	0.00	0.00	0.00	0.0	0.000
28.900	0.000	0.00	0.00	0.00	0.0	0.000
28.916	0.000	0.00	0.00	0.00	0.0	0.000
28.933	0.000	0.00	0.00	0.00	0.0	0.000
28.950	0.000	0.00	0.00	0.00	0.0	0.000
28.966	0.000	0.00	0.00	0.00	0.0	0.000

28.983	0.000	0.00	0.00	0.00	0.0	0.000
29.000	0.000	0.00	0.00	0.00	0.0	0.000
29.016	0.000	0.00	0.00	0.00	0.0	0.000
29.033	0.000	0.00	0.00	0.00	0.0	0.000
29.050	0.000	0.00	0.00	0.00	0.0	0.000
29.066	0.000	0.00	0.00	0.00	0.0	0.000
29.083	0.000	0.00	0.00	0.00	0.0	0.000
29.100	0.000	0.00	0.00	0.00	0.0	0.000
29.116	0.000	0.00	0.00	0.00	0.0	0.000
29.133	0.000	0.00	0.00	0.00	0.0	0.000
29.150	0.000	0.00	0.00	0.00	0.0	0.000
29.166	0.000	0.00	0.00	0.00	0.0	0.000
29.183	0.000	0.00	0.00	0.00	0.0	0.000
29.200	0.000	0.00	0.00	0.00	0.0	0.000
29.216	0.000	0.00	0.00	0.00	0.0	0.000
29.233	0.000	0.00	0.00	0.00	0.0	0.000
29.250	0.000	0.00	0.00	0.00	0.0	0.000
29.266	0.000	0.00	0.00	0.00	0.0	0.000
29.283	0.000	0.00	0.00	0.00	0.0	0.000
29.300	0.000	0.00	0.00	0.00	0.0	0.000
29.316	0.000	0.00	0.00	0.00	0.0	0.000
29.333	0.000	0.00	0.00	0.00	0.0	0.000
29.350	0.000	0.00	0.00	0.00	0.0	0.000
29.366	0.000	0.00	0.00	0.00	0.0	0.000
29.383	0.000	0.00	0.00	0.00	0.0	0.000
29.400	0.000	0.00	0.00	0.00	0.0	0.000
29.416	0.000	0.00	0.00	0.00	0.0	0.000
29.433	0.000	0.00	0.00	0.00	0.0	0.000
29.450	0.000	0.00	0.00	0.00	0.0	0.000
29.466	0.000	0.00	0.00	0.00	0.0	0.000
29.483	0.000	0.00	0.00	0.00	0.0	0.000
29.500	0.000	0.00	0.00	0.00	0.0	0.000
29.516	0.000	0.00	0.00	0.00	0.0	0.000
29.533	0.000	0.00	0.00	0.00	0.0	0.000
29.550	0.000	0.00	0.00	0.00	0.0	0.000
29.566	0.000	0.00	0.00	0.00	0.0	0.000
29.583	0.000	0.00	0.00	0.00	0.0	0.000
29.600	0.000	0.00	0.00	0.00	0.0	0.000
29.616	0.000	0.00	0.00	0.00	0.0	0.000
29.633	0.000	0.00	0.00	0.00	0.0	0.000
29.650	0.000	0.00	0.00	0.00	0.0	0.000
29.666	0.000	0.00	0.00	0.00	0.0	0.000
29.683	0.000	0.00	0.00	0.00	0.0	0.000
29.700	0.000	0.00	0.00	0.00	0.0	0.000
29.716	0.000	0.00	0.00	0.00	0.0	0.000
29.733	0.000	0.00	0.00	0.00	0.0	0.000
29.750	0.000	0.00	0.00	0.00	0.0	0.000
29.766	0.000	0.00	0.00	0.00	0.0	0.000
29.783	0.000	0.00	0.00	0.00	0.0	0.000
29.800	0.000	0.00	0.00	0.00	0.0	0.000
29.816	0.000	0.00	0.00	0.00	0.0	0.000
29.833	0.000	0.00	0.00	0.00	0.0	0.000
29.850	0.000	0.00	0.00	0.00	0.0	0.000
29.866	0.000	0.00	0.00	0.00	0.0	0.000
29.883	0.000	0.00	0.00	0.00	0.0	0.000
29.900	0.000	0.00	0.00	0.00	0.0	0.000
29.916	0.000	0.00	0.00	0.00	0.0	0.000
29.933	0.000	0.00	0.00	0.00	0.0	0.000
29.950	0.000	0.00	0.00	0.00	0.0	0.000
29.966	0.000	0.00	0.00	0.00	0.0	0.000
29.983	0.000	0.00	0.00	0.00	0.0	0.000
30.000	0.000	0.00	0.00	0.00	0.0	0.000
30.016	0.000	0.00	0.00	0.00	0.0	0.000
30.033	0.000	0.00	0.00	0.00	0.0	0.000
30.050	0.000	0.00	0.00	0.00	0.0	0.000
30.066	0.000	0.00	0.00	0.00	0.0	0.000
30.083	0.000	0.00	0.00	0.00	0.0	0.000
30.100	0.000	0.00	0.00	0.00	0.0	0.000
30.116	0.000	0.00	0.00	0.00	0.0	0.000
30.133	0.000	0.00	0.00	0.00	0.0	0.000
30.150	0.000	0.00	0.00	0.00	0.0	0.000
30.166	0.000	0.00	0.00	0.00	0.0	0.000
30.183	0.000	0.00	0.00	0.00	0.0	0.000
30.200	0.000	0.00	0.00	0.00	0.0	0.000
30.216	0.000	0.00	0.00	0.00	0.0	0.000
30.233	0.000	0.00	0.00	0.00	0.0	0.000
30.250	0.000	0.00	0.00	0.00	0.0	0.000
30.266	0.000	0.00	0.00	0.00	0.0	0.000
30.283	0.000	0.00	0.00	0.00	0.0	0.000

30.300	0.000	0.00	0.00	0.00	0.0	0.000
30.316	0.000	0.00	0.00	0.00	0.0	0.000
30.333	0.000	0.00	0.00	0.00	0.0	0.000
30.350	0.000	0.00	0.00	0.00	0.0	0.000
30.366	0.000	0.00	0.00	0.00	0.0	0.000
30.383	0.000	0.00	0.00	0.00	0.0	0.000
30.400	0.000	0.00	0.00	0.00	0.0	0.000
30.416	0.000	0.00	0.00	0.00	0.0	0.000
30.433	0.000	0.00	0.00	0.00	0.0	0.000
30.450	0.000	0.00	0.00	0.00	0.0	0.000
30.466	0.000	0.00	0.00	0.00	0.0	0.000
30.483	0.000	0.00	0.00	0.00	0.0	0.000
30.500	0.000	0.00	0.00	0.00	0.0	0.000
30.516	0.000	0.00	0.00	0.00	0.0	0.000
30.533	0.000	0.00	0.00	0.00	0.0	0.000
30.550	0.000	0.00	0.00	0.00	0.0	0.000
30.566	0.000	0.00	0.00	0.00	0.0	0.000
30.583	0.000	0.00	0.00	0.00	0.0	0.000
30.600	0.000	0.00	0.00	0.00	0.0	0.000
30.616	0.000	0.00	0.00	0.00	0.0	0.000
30.633	0.000	0.00	0.00	0.00	0.0	0.000
30.650	0.000	0.00	0.00	0.00	0.0	0.000
30.666	0.000	0.00	0.00	0.00	0.0	0.000
30.683	0.000	0.00	0.00	0.00	0.0	0.000
30.700	0.000	0.00	0.00	0.00	0.0	0.000
30.716	0.000	0.00	0.00	0.00	0.0	0.000
30.733	0.000	0.00	0.00	0.00	0.0	0.000
30.750	0.000	0.00	0.00	0.00	0.0	0.000
30.766	0.000	0.00	0.00	0.00	0.0	0.000
30.783	0.000	0.00	0.00	0.00	0.0	0.000
30.800	0.000	0.00	0.00	0.00	0.0	0.000
30.816	0.000	0.00	0.00	0.00	0.0	0.000
30.833	0.000	0.00	0.00	0.00	0.0	0.000
30.850	0.000	0.00	0.00	0.00	0.0	0.000
30.866	0.000	0.00	0.00	0.00	0.0	0.000
30.883	0.000	0.00	0.00	0.00	0.0	0.000
30.900	0.000	0.00	0.00	0.00	0.0	0.000
30.916	0.000	0.00	0.00	0.00	0.0	0.000
30.933	0.000	0.00	0.00	0.00	0.0	0.000
30.950	0.000	0.00	0.00	0.00	0.0	0.000
30.966	0.000	0.00	0.00	0.00	0.0	0.000
30.983	0.000	0.00	0.00	0.00	0.0	0.000
31.000	0.000	0.00	0.00	0.00	0.0	0.000
31.016	0.000	0.00	0.00	0.00	0.0	0.000
31.033	0.000	0.00	0.00	0.00	0.0	0.000
31.050	0.000	0.00	0.00	0.00	0.0	0.000
31.066	0.000	0.00	0.00	0.00	0.0	0.000
31.083	0.000	0.00	0.00	0.00	0.0	0.000
31.100	0.000	0.00	0.00	0.00	0.0	0.000
31.116	0.000	0.00	0.00	0.00	0.0	0.000
31.133	0.000	0.00	0.00	0.00	0.0	0.000
31.150	0.000	0.00	0.00	0.00	0.0	0.000
31.166	0.000	0.00	0.00	0.00	0.0	0.000
31.183	0.000	0.00	0.00	0.00	0.0	0.000
31.200	0.000	0.00	0.00	0.00	0.0	0.000
31.216	0.000	0.00	0.00	0.00	0.0	0.000
31.233	0.000	0.00	0.00	0.00	0.0	0.000
31.250	0.000	0.00	0.00	0.00	0.0	0.000
31.266	0.000	0.00	0.00	0.00	0.0	0.000
31.283	0.000	0.00	0.00	0.00	0.0	0.000
31.300	0.000	0.00	0.00	0.00	0.0	0.000
31.316	0.000	0.00	0.00	0.00	0.0	0.000
31.333	0.000	0.00	0.00	0.00	0.0	0.000
31.350	0.000	0.00	0.00	0.00	0.0	0.000
31.366	0.000	0.00	0.00	0.00	0.0	0.000
31.383	0.000	0.00	0.00	0.00	0.0	0.000
31.400	0.000	0.00	0.00	0.00	0.0	0.000
31.416	0.000	0.00	0.00	0.00	0.0	0.000
31.433	0.000	0.00	0.00	0.00	0.0	0.000
31.450	0.000	0.00	0.00	0.00	0.0	0.000
31.466	0.000	0.00	0.00	0.00	0.0	0.000
31.483	0.000	0.00	0.00	0.00	0.0	0.000
31.500	0.000	0.00	0.00	0.00	0.0	0.000
31.516	0.000	0.00	0.00	0.00	0.0	0.000
31.533	0.000	0.00	0.00	0.00	0.0	0.000
31.550	0.000	0.00	0.00	0.00	0.0	0.000
31.566	0.000	0.00	0.00	0.00	0.0	0.000
31.583	0.000	0.00	0.00	0.00	0.0	0.000
31.600	0.000	0.00	0.00	0.00	0.0	0.000

31.616	0.000	0.00	0.00	0.00	0.0	0.000
31.633	0.000	0.00	0.00	0.00	0.0	0.000
31.650	0.000	0.00	0.00	0.00	0.0	0.000
31.666	0.000	0.00	0.00	0.00	0.0	0.000
31.683	0.000	0.00	0.00	0.00	0.0	0.000
31.700	0.000	0.00	0.00	0.00	0.0	0.000
31.716	0.000	0.00	0.00	0.00	0.0	0.000
31.733	0.000	0.00	0.00	0.00	0.0	0.000
31.750	0.000	0.00	0.00	0.00	0.0	0.000
31.766	0.000	0.00	0.00	0.00	0.0	0.000
31.783	0.000	0.00	0.00	0.00	0.0	0.000
31.800	0.000	0.00	0.00	0.00	0.0	0.000
31.816	0.000	0.00	0.00	0.00	0.0	0.000
31.833	0.000	0.00	0.00	0.00	0.0	0.000
31.850	0.000	0.00	0.00	0.00	0.0	0.000
31.866	0.000	0.00	0.00	0.00	0.0	0.000
31.883	0.000	0.00	0.00	0.00	0.0	0.000
31.900	0.000	0.00	0.00	0.00	0.0	0.000
31.916	0.000	0.00	0.00	0.00	0.0	0.000
31.933	0.000	0.00	0.00	0.00	0.0	0.000
31.950	0.000	0.00	0.00	0.00	0.0	0.000
31.966	0.000	0.00	0.00	0.00	0.0	0.000
31.983	0.000	0.00	0.00	0.00	0.0	0.000
32.000	0.000	0.00	0.00	0.00	0.0	0.000
32.016	0.000	0.00	0.00	0.00	0.0	0.000
32.033	0.000	0.00	0.00	0.00	0.0	0.000
32.050	0.000	0.00	0.00	0.00	0.0	0.000
32.066	0.000	0.00	0.00	0.00	0.0	0.000
32.083	0.000	0.00	0.00	0.00	0.0	0.000
32.100	0.000	0.00	0.00	0.00	0.0	0.000
32.116	0.000	0.00	0.00	0.00	0.0	0.000
32.133	0.000	0.00	0.00	0.00	0.0	0.000
32.150	0.000	0.00	0.00	0.00	0.0	0.000
32.166	0.000	0.00	0.00	0.00	0.0	0.000
32.183	0.000	0.00	0.00	0.00	0.0	0.000
32.200	0.000	0.00	0.00	0.00	0.0	0.000
32.216	0.000	0.00	0.00	0.00	0.0	0.000
32.233	0.000	0.00	0.00	0.00	0.0	0.000
32.250	0.000	0.00	0.00	0.00	0.0	0.000
32.266	0.000	0.00	0.00	0.00	0.0	0.000
32.283	0.000	0.00	0.00	0.00	0.0	0.000
32.300	0.000	0.00	0.00	0.00	0.0	0.000
32.316	0.000	0.00	0.00	0.00	0.0	0.000
32.333	0.000	0.00	0.00	0.00	0.0	0.000
32.350	0.000	0.00	0.00	0.00	0.0	0.000
32.366	0.000	0.00	0.00	0.00	0.0	0.000
32.383	0.000	0.00	0.00	0.00	0.0	0.000
32.400	0.000	0.00	0.00	0.00	0.0	0.000
32.416	0.000	0.00	0.00	0.00	0.0	0.000
32.433	0.000	0.00	0.00	0.00	0.0	0.000
32.450	0.000	0.00	0.00	0.00	0.0	0.000
32.466	0.000	0.00	0.00	0.00	0.0	0.000
32.483	0.000	0.00	0.00	0.00	0.0	0.000
32.500	0.000	0.00	0.00	0.00	0.0	0.000
32.516	0.000	0.00	0.00	0.00	0.0	0.000
32.533	0.000	0.00	0.00	0.00	0.0	0.000
32.550	0.000	0.00	0.00	0.00	0.0	0.000
32.566	0.000	0.00	0.00	0.00	0.0	0.000
32.583	0.000	0.00	0.00	0.00	0.0	0.000
32.600	0.000	0.00	0.00	0.00	0.0	0.000
32.616	0.000	0.00	0.00	0.00	0.0	0.000
32.633	0.000	0.00	0.00	0.00	0.0	0.000
32.650	0.000	0.00	0.00	0.00	0.0	0.000
32.666	0.000	0.00	0.00	0.00	0.0	0.000
32.683	0.000	0.00	0.00	0.00	0.0	0.000
32.700	0.000	0.00	0.00	0.00	0.0	0.000
32.716	0.000	0.00	0.00	0.00	0.0	0.000
32.733	0.000	0.00	0.00	0.00	0.0	0.000
32.750	0.000	0.00	0.00	0.00	0.0	0.000
32.766	0.000	0.00	0.00	0.00	0.0	0.000
32.783	0.000	0.00	0.00	0.00	0.0	0.000
32.800	0.000	0.00	0.00	0.00	0.0	0.000
32.816	0.000	0.00	0.00	0.00	0.0	0.000
32.833	0.000	0.00	0.00	0.00	0.0	0.000
32.850	0.000	0.00	0.00	0.00	0.0	0.000
32.866	0.000	0.00	0.00	0.00	0.0	0.000
32.883	0.000	0.00	0.00	0.00	0.0	0.000
32.900	0.000	0.00	0.00	0.00	0.0	0.000
32.916	0.000	0.00	0.00	0.00	0.0	0.000

32.933	0.000	0.00	0.00	0.00	0.0	0.000
32.950	0.000	0.00	0.00	0.00	0.0	0.000
32.966	0.000	0.00	0.00	0.00	0.0	0.000
32.983	0.000	0.00	0.00	0.00	0.0	0.000
33.000	0.000	0.00	0.00	0.00	0.0	0.000
33.016	0.000	0.00	0.00	0.00	0.0	0.000
33.033	0.000	0.00	0.00	0.00	0.0	0.000
33.050	0.000	0.00	0.00	0.00	0.0	0.000
33.066	0.000	0.00	0.00	0.00	0.0	0.000
33.083	0.000	0.00	0.00	0.00	0.0	0.000
33.100	0.000	0.00	0.00	0.00	0.0	0.000
33.116	0.000	0.00	0.00	0.00	0.0	0.000
33.133	0.000	0.00	0.00	0.00	0.0	0.000
33.150	0.000	0.00	0.00	0.00	0.0	0.000
33.166	0.000	0.00	0.00	0.00	0.0	0.000
33.183	0.000	0.00	0.00	0.00	0.0	0.000
33.200	0.000	0.00	0.00	0.00	0.0	0.000
33.216	0.000	0.00	0.00	0.00	0.0	0.000
33.233	0.000	0.00	0.00	0.00	0.0	0.000
33.250	0.000	0.00	0.00	0.00	0.0	0.000
33.266	0.000	0.00	0.00	0.00	0.0	0.000
33.283	0.000	0.00	0.00	0.00	0.0	0.000
33.300	0.000	0.00	0.00	0.00	0.0	0.000
33.316	0.000	0.00	0.00	0.00	0.0	0.000
33.333	0.000	0.00	0.00	0.00	0.0	0.000
33.350	0.000	0.00	0.00	0.00	0.0	0.000
33.366	0.000	0.00	0.00	0.00	0.0	0.000
33.383	0.000	0.00	0.00	0.00	0.0	0.000
33.400	0.000	0.00	0.00	0.00	0.0	0.000
33.416	0.000	0.00	0.00	0.00	0.0	0.000
33.433	0.000	0.00	0.00	0.00	0.0	0.000
33.450	0.000	0.00	0.00	0.00	0.0	0.000
33.466	0.000	0.00	0.00	0.00	0.0	0.000
33.483	0.000	0.00	0.00	0.00	0.0	0.000
33.500	0.000	0.00	0.00	0.00	0.0	0.000
33.516	0.000	0.00	0.00	0.00	0.0	0.000
33.533	0.000	0.00	0.00	0.00	0.0	0.000
33.550	0.000	0.00	0.00	0.00	0.0	0.000
33.566	0.000	0.00	0.00	0.00	0.0	0.000
33.583	0.000	0.00	0.00	0.00	0.0	0.000
33.600	0.000	0.00	0.00	0.00	0.0	0.000
33.616	0.000	0.00	0.00	0.00	0.0	0.000
33.633	0.000	0.00	0.00	0.00	0.0	0.000
33.650	0.000	0.00	0.00	0.00	0.0	0.000
33.666	0.000	0.00	0.00	0.00	0.0	0.000
33.683	0.000	0.00	0.00	0.00	0.0	0.000
33.700	0.000	0.00	0.00	0.00	0.0	0.000
33.716	0.000	0.00	0.00	0.00	0.0	0.000
33.733	0.000	0.00	0.00	0.00	0.0	0.000
33.750	0.000	0.00	0.00	0.00	0.0	0.000
33.766	0.000	0.00	0.00	0.00	0.0	0.000
33.783	0.000	0.00	0.00	0.00	0.0	0.000
33.800	0.000	0.00	0.00	0.00	0.0	0.000
33.816	0.000	0.00	0.00	0.00	0.0	0.000
33.833	0.000	0.00	0.00	0.00	0.0	0.000
33.850	0.000	0.00	0.00	0.00	0.0	0.000
33.866	0.000	0.00	0.00	0.00	0.0	0.000
33.883	0.000	0.00	0.00	0.00	0.0	0.000
33.900	0.000	0.00	0.00	0.00	0.0	0.000
33.916	0.000	0.00	0.00	0.00	0.0	0.000
33.933	0.000	0.00	0.00	0.00	0.0	0.000
33.950	0.000	0.00	0.00	0.00	0.0	0.000
33.966	0.000	0.00	0.00	0.00	0.0	0.000
33.983	0.000	0.00	0.00	0.00	0.0	0.000
34.000	0.000	0.00	0.00	0.00	0.0	0.000
34.016	0.000	0.00	0.00	0.00	0.0	0.000
34.033	0.000	0.00	0.00	0.00	0.0	0.000
34.050	0.000	0.00	0.00	0.00	0.0	0.000
34.066	0.000	0.00	0.00	0.00	0.0	0.000
34.083	0.000	0.00	0.00	0.00	0.0	0.000
34.100	0.000	0.00	0.00	0.00	0.0	0.000
34.116	0.000	0.00	0.00	0.00	0.0	0.000
34.133	0.000	0.00	0.00	0.00	0.0	0.000
34.150	0.000	0.00	0.00	0.00	0.0	0.000
34.166	0.000	0.00	0.00	0.00	0.0	0.000
34.183	0.000	0.00	0.00	0.00	0.0	0.000
34.200	0.000	0.00	0.00	0.00	0.0	0.000
34.216	0.000	0.00	0.00	0.00	0.0	0.000
34.233	0.000	0.00	0.00	0.00	0.0	0.000

34.250	0.000	0.00	0.00	0.00	0.0	0.000
34.266	0.000	0.00	0.00	0.00	0.0	0.000
34.283	0.000	0.00	0.00	0.00	0.0	0.000
34.300	0.000	0.00	0.00	0.00	0.0	0.000
34.316	0.000	0.00	0.00	0.00	0.0	0.000
34.333	0.000	0.00	0.00	0.00	0.0	0.000
34.350	0.000	0.00	0.00	0.00	0.0	0.000
34.366	0.000	0.00	0.00	0.00	0.0	0.000
34.383	0.000	0.00	0.00	0.00	0.0	0.000
34.400	0.000	0.00	0.00	0.00	0.0	0.000
34.416	0.000	0.00	0.00	0.00	0.0	0.000
34.433	0.000	0.00	0.00	0.00	0.0	0.000
34.450	0.000	0.00	0.00	0.00	0.0	0.000
34.466	0.000	0.00	0.00	0.00	0.0	0.000
34.483	0.000	0.00	0.00	0.00	0.0	0.000
34.500	0.000	0.00	0.00	0.00	0.0	0.000
34.516	0.000	0.00	0.00	0.00	0.0	0.000
34.533	0.000	0.00	0.00	0.00	0.0	0.000
34.550	0.000	0.00	0.00	0.00	0.0	0.000
34.566	0.000	0.00	0.00	0.00	0.0	0.000
34.583	0.000	0.00	0.00	0.00	0.0	0.000
34.600	0.000	0.00	0.00	0.00	0.0	0.000
34.616	0.000	0.00	0.00	0.00	0.0	0.000
34.633	0.000	0.00	0.00	0.00	0.0	0.000
34.650	0.000	0.00	0.00	0.00	0.0	0.000
34.666	0.000	0.00	0.00	0.00	0.0	0.000
34.683	0.000	0.00	0.00	0.00	0.0	0.000
34.700	0.000	0.00	0.00	0.00	0.0	0.000
34.716	0.000	0.00	0.00	0.00	0.0	0.000
34.733	0.000	0.00	0.00	0.00	0.0	0.000
34.750	0.000	0.00	0.00	0.00	0.0	0.000
34.766	0.000	0.00	0.00	0.00	0.0	0.000
34.783	0.000	0.00	0.00	0.00	0.0	0.000
34.800	0.000	0.00	0.00	0.00	0.0	0.000
34.816	0.000	0.00	0.00	0.00	0.0	0.000
34.833	0.000	0.00	0.00	0.00	0.0	0.000
34.850	0.000	0.00	0.00	0.00	0.0	0.000
34.866	0.000	0.00	0.00	0.00	0.0	0.000
34.883	0.000	0.00	0.00	0.00	0.0	0.000
34.900	0.000	0.00	0.00	0.00	0.0	0.000
34.916	0.000	0.00	0.00	0.00	0.0	0.000
34.933	0.000	0.00	0.00	0.00	0.0	0.000
34.950	0.000	0.00	0.00	0.00	0.0	0.000
34.966	0.000	0.00	0.00	0.00	0.0	0.000
34.983	0.000	0.00	0.00	0.00	0.0	0.000
35.000	0.000	0.00	0.00	0.00	0.0	0.000
35.016	0.000	0.00	0.00	0.00	0.0	0.000
35.033	0.000	0.00	0.00	0.00	0.0	0.000
35.050	0.000	0.00	0.00	0.00	0.0	0.000
35.066	0.000	0.00	0.00	0.00	0.0	0.000
35.083	0.000	0.00	0.00	0.00	0.0	0.000
35.100	0.000	0.00	0.00	0.00	0.0	0.000
35.116	0.000	0.00	0.00	0.00	0.0	0.000
35.133	0.000	0.00	0.00	0.00	0.0	0.000
35.150	0.000	0.00	0.00	0.00	0.0	0.000
35.166	0.000	0.00	0.00	0.00	0.0	0.000
35.183	0.000	0.00	0.00	0.00	0.0	0.000
35.200	0.000	0.00	0.00	0.00	0.0	0.000
35.216	0.000	0.00	0.00	0.00	0.0	0.000
35.233	0.000	0.00	0.00	0.00	0.0	0.000
35.250	0.000	0.00	0.00	0.00	0.0	0.000
35.266	0.000	0.00	0.00	0.00	0.0	0.000
35.283	0.000	0.00	0.00	0.00	0.0	0.000
35.300	0.000	0.00	0.00	0.00	0.0	0.000
35.316	0.000	0.00	0.00	0.00	0.0	0.000
35.333	0.000	0.00	0.00	0.00	0.0	0.000
35.350	0.000	0.00	0.00	0.00	0.0	0.000
35.366	0.000	0.00	0.00	0.00	0.0	0.000
35.383	0.000	0.00	0.00	0.00	0.0	0.000
35.400	0.000	0.00	0.00	0.00	0.0	0.000
35.416	0.000	0.00	0.00	0.00	0.0	0.000
35.433	0.000	0.00	0.00	0.00	0.0	0.000
35.450	0.000	0.00	0.00	0.00	0.0	0.000
35.466	0.000	0.00	0.00	0.00	0.0	0.000
35.483	0.000	0.00	0.00	0.00	0.0	0.000
35.500	0.000	0.00	0.00	0.00	0.0	0.000
35.516	0.000	0.00	0.00	0.00	0.0	0.000
35.533	0.000	0.00	0.00	0.00	0.0	0.000
35.550	0.000	0.00	0.00	0.00	0.0	0.000

35.566	0.000	0.00	0.00	0.00	0.0	0.000
35.583	0.000	0.00	0.00	0.00	0.0	0.000
35.600	0.000	0.00	0.00	0.00	0.0	0.000
35.616	0.000	0.00	0.00	0.00	0.0	0.000
35.633	0.000	0.00	0.00	0.00	0.0	0.000
35.650	0.000	0.00	0.00	0.00	0.0	0.000
35.666	0.000	0.00	0.00	0.00	0.0	0.000
35.683	0.000	0.00	0.00	0.00	0.0	0.000
35.700	0.000	0.00	0.00	0.00	0.0	0.000
35.716	0.000	0.00	0.00	0.00	0.0	0.000
35.733	0.000	0.00	0.00	0.00	0.0	0.000
35.750	0.000	0.00	0.00	0.00	0.0	0.000
35.766	0.000	0.00	0.00	0.00	0.0	0.000
35.783	0.000	0.00	0.00	0.00	0.0	0.000
35.800	0.000	0.00	0.00	0.00	0.0	0.000
35.816	0.000	0.00	0.00	0.00	0.0	0.000
35.833	0.000	0.00	0.00	0.00	0.0	0.000
35.850	0.000	0.00	0.00	0.00	0.0	0.000
35.866	0.000	0.00	0.00	0.00	0.0	0.000
35.883	0.000	0.00	0.00	0.00	0.0	0.000
35.900	0.000	0.00	0.00	0.00	0.0	0.000
35.916	0.000	0.00	0.00	0.00	0.0	0.000
35.933	0.000	0.00	0.00	0.00	0.0	0.000
35.950	0.000	0.00	0.00	0.00	0.0	0.000
35.966	0.000	0.00	0.00	0.00	0.0	0.000
35.983	0.000	0.00	0.00	0.00	0.0	0.000
36.000	0.000	0.00	0.00	0.00	0.0	0.000

PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 6.734 AF

BASIN STORAGE = 0.000 AF (WITH 0.000 AF INITIALLY FILLED)

OUTFLOW VOLUME = 6.734 AF

LOSS VOLUME = 0.000 AF

==========

END OF FLOODSCx ROUTING ANALYSIS

JOB #3687 - 8996 ETIWANDA AVE, RANCHO CUCAMONGA
DETENTION IN BLDG 1 SOUTH TRUCK YARD

Elevation	Depth (feet)	Area (sq. ft.)	Volume (c.f.)	Σ Volume (c.f.)	Σ Volume (ac-ft)	Q Discharge (cfs)
1111.41	0.00	0				
			129	129	0.00	15.8
1111.50	0.09	2857				
			786	915	0.02	16.5
1111.60	0.19	12871				
			2148	3063	0.07	17.2
1111.70	0.29	30089				
			4198	7261	0.17	17.8
1111.80	0.39	53875				
			6640	13901	0.32	18.5
1111.90	0.49	78923				

```
**************************************************************************

          F L O O D    R O U T I N G    A N A L Y S I S
        USING COUNTY HYDROLOGY MANUAL OF SAN BERNARDINO(1986)
       (c) Copyright 1989-99 Advanced Engineering Software (aes)
           Ver. 7.0  Release Date: 01/01/99  License ID 1435

                       Analysis prepared by:

                         THIENES ENGINEERING
                       16800 VALLEY VIEW AVENUE
                          LA MIRADA CA 90638
                   PH: (714) 521-4811 FAX: (714) 521-4173

 ************************ DESCRIPTION OF STUDY ************************
* TEI JOB NUMBER 3687                                                 *
* BUILDING 1 PONDING                                                  *
* 100-YEAR STORM EVENT                                                *
 **********************************************************************

  FILE NAME: E:\3687\3687P1SC.FLD
  TIME/DATE OF STUDY: 10:28 11/28/2023


**************************************************************************
  FLOW PROCESS FROM NODE   400.00 TO NODE   410.00 IS CODE = 1.2
--------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (SMALL AREA UNIT-HYDROGRAPH ANALYSIS) <<<<<
==========================================================================

  (SMALL AREA UNIT-HYDROGRAPH ADDED TO STREAM #1)

    RATIONAL METHOD CALIBRATION COEFFICIENT = 0.90
    TOTAL CATCHMENT AREA(ACRES) =   12.20
    SOIL-LOSS RATE, Fm,(INCH/HR) =  0.065
    LOW LOSS FRACTION = 0.087
    TIME OF CONCENTRATION(MIN.) = 10.60
    SMALL AREA PEAK Q COMPUTED USING PEAK FLOW RATE FORMULA
    USER SPECIFIED RAINFALL VALUES ARE USED:
    RETURN FREQUENCY(YEARS) = 100
       5-MINUTE POINT RAINFALL VALUE(INCHES) =  0.50
      30-MINUTE POINT RAINFALL VALUE(INCHES) =  1.05
       1-HOUR   POINT RAINFALL VALUE(INCHES) =  1.38
       3-HOUR   POINT RAINFALL VALUE(INCHES) =  2.50
       6-HOUR   POINT RAINFALL VALUE(INCHES) =  3.70
      24-HOUR   POINT RAINFALL VALUE(INCHES) =  8.00

--------------------------------------------------------------------------
    TOTAL CATCHMENT   RUNOFF  VOLUME(ACRE-FEET) =     6.69
    TOTAL CATCHMENT SOIL-LOSS VOLUME(ACRE-FEET) =     1.45

--------------------------------------------------------------------------
♠
==========================================================================

                  2 4 - H O U R    S T O R M
               R U N O F F    H Y D R O G R A P H

==========================================================================
           HYDROGRAPH IN  ONE-MINUTE UNIT INTERVALS(CFS)
      (Notes: Time indicated is at END of Each Unit Intervals.
              Peak 5-minute rainfall intensity is modeled as
              a constant value for entire 5-minute period.)
--------------------------------------------------------------------------
 TIME(HRS) VOLUME(AF)   Q(CFS) 0.       10.4      20.9      31.3      41.7
--------------------------------------------------------------------------
   0.017      0.0000      0.00  Q        .         .         .         .
   0.033      0.0000      0.00  Q        .         .         .         .
   0.050      0.0000      0.00  Q        .         .         .         .
   0.067      0.0000      0.00  Q        .         .         .         .
   0.083      0.0000      0.00  Q        .         .         .         .
   0.100      0.0000      0.00  Q        .         .         .         .
   0.117      0.0001      0.09  Q        .         .         .         .
   0.133      0.0005      0.26  Q        .         .         .         .
   0.150      0.0011      0.44  Q        .         .         .         .
   0.167      0.0019      0.62  Q        .         .         .         .
   0.183      0.0030      0.79  Q        .         .         .         .
   0.200      0.0044      0.97  Q        .         .         .         .
```

0.217	0.0059	1.14	VQ	.	.	.	.
0.233	0.0078	1.32	VQ	.	.	.	.
0.250	0.0098	1.50	VQ	.	.	.	.
0.267	0.0121	1.67	VQ	.	.	.	.
0.283	0.0147	1.84	VQ	.	.	.	.
0.300	0.0172	1.87	VQ	.	.	.	.
0.317	0.0198	1.87	VQ	.	.	.	.
0.333	0.0224	1.87	VQ	.	.	.	.
0.350	0.0250	1.87	VQ	.	.	.	.
0.367	0.0275	1.87	VQ	.	.	.	.
0.383	0.0301	1.87	VQ	.	.	.	.
0.400	0.0327	1.87	VQ	.	.	.	.
0.417	0.0353	1.87	VQ	.	.	.	.
0.433	0.0378	1.87	VQ	.	.	.	.
0.450	0.0404	1.87	VQ	.	.	.	.
0.467	0.0430	1.87	VQ	.	.	.	.
0.483	0.0456	1.87	VQ	.	.	.	.
0.500	0.0482	1.88	VQ	.	.	.	.
0.517	0.0508	1.88	VQ	.	.	.	.
0.533	0.0533	1.88	VQ	.	.	.	.
0.550	0.0559	1.88	VQ	.	.	.	.
0.567	0.0585	1.88	VQ	.	.	.	.
0.583	0.0611	1.88	VQ	.	.	.	.
0.600	0.0637	1.88	VQ	.	.	.	.
0.617	0.0663	1.88	VQ	.	.	.	.
0.633	0.0689	1.89	VQ	.	.	.	.
0.650	0.0715	1.89	VQ	.	.	.	.
0.667	0.0741	1.89	VQ	.	.	.	.
0.683	0.0767	1.89	VQ	.	.	.	.
0.700	0.0793	1.89	VQ	.	.	.	.
0.717	0.0819	1.89	VQ	.	.	.	.
0.733	0.0845	1.89	VQ	.	.	.	.
0.750	0.0871	1.89	VQ	.	.	.	.
0.767	0.0897	1.89	VQ	.	.	.	.
0.783	0.0923	1.89	VQ	.	.	.	.
0.800	0.0949	1.89	VQ	.	.	.	.
0.817	0.0975	1.89	VQ	.	.	.	.
0.833	0.1001	1.89	VQ	.	.	.	.
0.850	0.1027	1.89	VQ	.	.	.	.
0.867	0.1053	1.90	VQ	.	.	.	.
0.883	0.1080	1.90	VQ	.	.	.	.
0.900	0.1106	1.90	VQ	.	.	.	.
0.917	0.1132	1.90	VQ	.	.	.	.
0.933	0.1158	1.90	VQ	.	.	.	.
0.950	0.1184	1.90	VQ	.	.	.	.
0.967	0.1211	1.90	VQ	.	.	.	.
0.983	0.1237	1.90	VQ	.	.	.	.
1.000	0.1263	1.91	VQ	.	.	.	.
1.017	0.1289	1.91	VQ	.	.	.	.
1.033	0.1316	1.91	VQ	.	.	.	.
1.050	0.1342	1.91	VQ	.	.	.	.
1.067	0.1368	1.91	VQ	.	.	.	.
1.083	0.1394	1.91	VQ	.	.	.	.
1.100	0.1421	1.91	VQ	.	.	.	.
1.117	0.1447	1.91	VQ	.	.	.	.
1.133	0.1473	1.91	VQ	.	.	.	.
1.150	0.1500	1.91	VQ	.	.	.	.
1.167	0.1526	1.91	VQ	.	.	.	.
1.183	0.1552	1.91	VQ	.	.	.	.
1.200	0.1579	1.91	VQ	.	.	.	.
1.217	0.1605	1.92	VQ	.	.	.	.
1.233	0.1631	1.92	VQ	.	.	.	.
1.250	0.1658	1.92	VQ	.	.	.	.
1.267	0.1684	1.92	.Q	.	.	.	.
1.283	0.1711	1.92	.Q	.	.	.	.
1.300	0.1737	1.92	.Q	.	.	.	.
1.317	0.1764	1.92	.Q	.	.	.	.
1.333	0.1790	1.92	.Q	.	.	.	.
1.350	0.1817	1.93	.Q	.	.	.	.
1.367	0.1843	1.93	.Q	.	.	.	.
1.383	0.1870	1.93	.Q	.	.	.	.
1.400	0.1896	1.93	.Q	.	.	.	.
1.417	0.1923	1.93	.Q	.	.	.	.
1.433	0.1949	1.93	.Q	.	.	.	.
1.450	0.1976	1.93	.Q	.	.	.	.
1.467	0.2003	1.93	.Q	.	.	.	.
1.483	0.2029	1.93	.Q	.	.	.	.
1.500	0.2056	1.93	.Q	.	.	.	.
1.517	0.2082	1.93	.Q	.	.	.	.

1.533	0.2109	1.93	.Q	.	.	.	.
1.550	0.2136	1.93	.Q	.	.	.	.
1.567	0.2162	1.94	.Q	.	.	.	.
1.583	0.2189	1.94	.Q	.	.	.	.
1.600	0.2216	1.94	.Q	.	.	.	.
1.617	0.2242	1.94	.Q	.	.	.	.
1.633	0.2269	1.94	.Q	.	.	.	.
1.650	0.2296	1.94	.Q	.	.	.	.
1.667	0.2323	1.94	.Q	.	.	.	.
1.683	0.2349	1.94	.Q	.	.	.	.
1.700	0.2376	1.95	.Q	.	.	.	.
1.717	0.2403	1.95	.Q	.	.	.	.
1.733	0.2430	1.95	.Q	.	.	.	.
1.750	0.2457	1.95	.Q	.	.	.	.
1.767	0.2484	1.95	.Q	.	.	.	.
1.783	0.2510	1.95	.Q	.	.	.	.
1.800	0.2537	1.95	.Q	.	.	.	.
1.817	0.2564	1.95	.Q	.	.	.	.
1.833	0.2591	1.95	.Q	.	.	.	.
1.850	0.2618	1.95	.Q	.	.	.	.
1.867	0.2645	1.95	.Q	.	.	.	.
1.883	0.2672	1.95	.Q	.	.	.	.
1.900	0.2699	1.96	.Q	.	.	.	.
1.917	0.2726	1.96	.Q	.	.	.	.
1.933	0.2753	1.96	.Q	.	.	.	.
1.950	0.2780	1.96	.Q	.	.	.	.
1.967	0.2807	1.96	.Q	.	.	.	.
1.983	0.2834	1.96	.Q	.	.	.	.
2.000	0.2861	1.96	.Q	.	.	.	.
2.017	0.2888	1.96	.Q	.	.	.	.
2.033	0.2915	1.97	.Q	.	.	.	.
2.050	0.2942	1.97	.Q	.	.	.	.
2.067	0.2969	1.97	.Q	.	.	.	.
2.083	0.2996	1.97	.Q	.	.	.	.
2.100	0.3023	1.97	.Q	.	.	.	.
2.117	0.3050	1.97	.Q	.	.	.	.
2.133	0.3078	1.97	.Q	.	.	.	.
2.150	0.3105	1.97	.Q	.	.	.	.
2.167	0.3132	1.97	.Q	.	.	.	.
2.183	0.3159	1.97	.Q	.	.	.	.
2.200	0.3186	1.97	.Q	.	.	.	.
2.217	0.3213	1.97	.Q	.	.	.	.
2.233	0.3241	1.98	.Q	.	.	.	.
2.250	0.3268	1.98	.Q	.	.	.	.
2.267	0.3295	1.98	.Q	.	.	.	.
2.283	0.3322	1.98	.Q	.	.	.	.
2.300	0.3350	1.98	.QV	.	.	.	.
2.317	0.3377	1.98	.QV	.	.	.	.
2.333	0.3404	1.98	.QV	.	.	.	.
2.350	0.3432	1.99	.QV	.	.	.	.
2.367	0.3459	1.99	.QV	.	.	.	.
2.383	0.3486	1.99	.QV	.	.	.	.
2.400	0.3514	1.99	.QV	.	.	.	.
2.417	0.3541	1.99	.QV	.	.	.	.
2.433	0.3569	1.99	.QV	.	.	.	.
2.450	0.3596	1.99	.QV	.	.	.	.
2.467	0.3624	1.99	.QV	.	.	.	.
2.483	0.3651	1.99	.QV	.	.	.	.
2.500	0.3678	1.99	.QV	.	.	.	.
2.517	0.3706	1.99	.QV	.	.	.	.
2.533	0.3733	2.00	.QV	.	.	.	.
2.550	0.3761	2.00	.QV	.	.	.	.
2.567	0.3788	2.00	.QV	.	.	.	.
2.583	0.3816	2.00	.QV	.	.	.	.
2.600	0.3843	2.00	.QV	.	.	.	.
2.617	0.3871	2.00	.QV	.	.	.	.
2.633	0.3899	2.00	.QV	.	.	.	.
2.650	0.3926	2.00	.QV	.	.	.	.
2.667	0.3954	2.00	.QV	.	.	.	.
2.683	0.3981	2.01	.QV	.	.	.	.
2.700	0.4009	2.01	.QV	.	.	.	.
2.717	0.4037	2.01	.QV	.	.	.	.
2.733	0.4064	2.01	.QV	.	.	.	.
2.750	0.4092	2.01	.QV	.	.	.	.
2.767	0.4120	2.01	.QV	.	.	.	.
2.783	0.4148	2.01	.QV	.	.	.	.
2.800	0.4175	2.01	.QV	.	.	.	.
2.817	0.4203	2.02	.QV	.	.	.	.
2.833	0.4231	2.02	.QV	.	.	.	.

2.850	0.4259	2.02	.QV	.	.	.	.
2.867	0.4287	2.02	.QV	.	.	.	.
2.883	0.4314	2.02	.QV	.	.	.	.
2.900	0.4342	2.02	.QV	.	.	.	.
2.917	0.4370	2.02	.QV	.	.	.	.
2.933	0.4398	2.02	.QV	.	.	.	.
2.950	0.4426	2.02	.QV	.	.	.	.
2.967	0.4454	2.02	.QV	.	.	.	.
2.983	0.4481	2.03	.QV	.	.	.	.
3.000	0.4509	2.03	.QV	.	.	.	.
3.017	0.4537	2.03	.QV	.	.	.	.
3.033	0.4565	2.03	.QV	.	.	.	.
3.050	0.4593	2.03	.QV	.	.	.	.
3.067	0.4621	2.03	.QV	.	.	.	.
3.083	0.4649	2.03	.QV	.	.	.	.
3.100	0.4677	2.04	.QV	.	.	.	.
3.117	0.4705	2.04	.QV	.	.	.	.
3.133	0.4733	2.04	.QV	.	.	.	.
3.150	0.4762	2.04	.QV	.	.	.	.
3.167	0.4790	2.04	.QV	.	.	.	.
3.183	0.4818	2.04	.QV	.	.	.	.
3.200	0.4846	2.04	.QV	.	.	.	.
3.217	0.4874	2.04	.QV	.	.	.	.
3.233	0.4902	2.04	.QV	.	.	.	.
3.250	0.4930	2.04	.QV	.	.	.	.
3.267	0.4958	2.04	.QV	.	.	.	.
3.283	0.4987	2.05	.QV	.	.	.	.
3.300	0.5015	2.05	.QV	.	.	.	.
3.317	0.5043	2.05	.Q V	.	.	.	.
3.333	0.5071	2.05	.Q V	.	.	.	.
3.350	0.5099	2.05	.Q V	.	.	.	.
3.367	0.5128	2.05	.Q V	.	.	.	.
3.383	0.5156	2.05	.Q V	.	.	.	.
3.400	0.5184	2.06	.Q V	.	.	.	.
3.417	0.5213	2.06	.Q V	.	.	.	.
3.433	0.5241	2.06	.Q V	.	.	.	.
3.450	0.5269	2.06	.Q V	.	.	.	.
3.467	0.5298	2.06	.Q V	.	.	.	.
3.483	0.5326	2.06	.Q V	.	.	.	.
3.500	0.5355	2.06	.Q V	.	.	.	.
3.517	0.5383	2.06	.Q V	.	.	.	.
3.533	0.5412	2.07	.Q V	.	.	.	.
3.550	0.5440	2.07	.Q V	.	.	.	.
3.567	0.5469	2.07	.Q V	.	.	.	.
3.583	0.5497	2.07	.Q V	.	.	.	.
3.600	0.5525	2.07	.Q V	.	.	.	.
3.617	0.5554	2.07	.Q V	.	.	.	.
3.633	0.5583	2.07	.Q V	.	.	.	.
3.650	0.5611	2.07	.Q V	.	.	.	.
3.667	0.5640	2.07	.Q V	.	.	.	.
3.683	0.5668	2.07	.Q V	.	.	.	.
3.700	0.5697	2.08	.Q V	.	.	.	.
3.717	0.5725	2.08	.Q V	.	.	.	.
3.733	0.5754	2.08	.Q V	.	.	.	.
3.750	0.5783	2.08	.Q V	.	.	.	.
3.767	0.5811	2.08	.Q V	.	.	.	.
3.783	0.5840	2.08	.Q V	.	.	.	.
3.800	0.5869	2.09	. QV	.	.	.	.
3.817	0.5898	2.09	. QV	.	.	.	.
3.833	0.5926	2.09	. QV	.	.	.	.
3.850	0.5955	2.09	. QV	.	.	.	.
3.867	0.5984	2.09	. QV	.	.	.	.
3.883	0.6013	2.09	. QV	.	.	.	.
3.900	0.6042	2.09	. QV	.	.	.	.
3.917	0.6070	2.09	. QV	.	.	.	.
3.933	0.6099	2.09	. QV	.	.	.	.
3.950	0.6128	2.09	. QV	.	.	.	.
3.967	0.6157	2.10	. QV	.	.	.	.
3.983	0.6186	2.10	. QV	.	.	.	.
4.000	0.6215	2.10	. QV	.	.	.	.
4.017	0.6244	2.10	. QV	.	.	.	.
4.033	0.6273	2.10	. QV	.	.	.	.
4.050	0.6302	2.10	. QV	.	.	.	.
4.067	0.6331	2.10	. QV	.	.	.	.
4.083	0.6360	2.11	. QV	.	.	.	.
4.100	0.6389	2.11	. QV	.	.	.	.
4.117	0.6418	2.11	. QV	.	.	.	.
4.133	0.6447	2.11	. QV	.	.	.	.
4.150	0.6476	2.11	. QV	.	.	.	.

4.167	0.6505	2.11	. QV	.	.	.	.
4.183	0.6534	2.12	. QV	.	.	.	.
4.200	0.6563	2.12	. QV	.	.	.	.
4.217	0.6592	2.12	. QV	.	.	.	.
4.233	0.6622	2.12	. QV	.	.	.	.
4.250	0.6651	2.12	. QV	.	.	.	.
4.267	0.6680	2.12	. QV	.	.	.	.
4.283	0.6709	2.12	. Q V	.	.	.	.
4.300	0.6739	2.12	. Q V	.	.	.	.
4.317	0.6768	2.12	. Q V	.	.	.	.
4.333	0.6797	2.12	. Q V	.	.	.	.
4.350	0.6826	2.12	. Q V	.	.	.	.
4.367	0.6856	2.13	. Q V	.	.	.	.
4.383	0.6885	2.13	. Q V	.	.	.	.
4.400	0.6914	2.13	. Q V	.	.	.	.
4.417	0.6944	2.13	. Q V	.	.	.	.
4.433	0.6973	2.13	. Q V	.	.	.	.
4.450	0.7002	2.14	. Q V	.	.	.	.
4.467	0.7032	2.14	. Q V	.	.	.	.
4.483	0.7061	2.14	. Q V	.	.	.	.
4.500	0.7091	2.14	. Q V	.	.	.	.
4.517	0.7120	2.14	. Q V	.	.	.	.
4.533	0.7150	2.14	. Q V	.	.	.	.
4.550	0.7179	2.15	. Q V	.	.	.	.
4.567	0.7209	2.15	. Q V	.	.	.	.
4.583	0.7239	2.15	. Q V	.	.	.	.
4.600	0.7268	2.15	. Q V	.	.	.	.
4.617	0.7298	2.15	. Q V	.	.	.	.
4.633	0.7327	2.15	. Q V	.	.	.	.
4.650	0.7357	2.15	. Q V	.	.	.	.
4.667	0.7387	2.15	. Q V	.	.	.	.
4.683	0.7416	2.15	. Q V	.	.	.	.
4.700	0.7446	2.15	. Q V	.	.	.	.
4.717	0.7476	2.16	. Q V	.	.	.	.
4.733	0.7505	2.16	. Q V	.	.	.	.
4.750	0.7535	2.16	. Q V	.	.	.	.
4.767	0.7565	2.16	. Q V	.	.	.	.
4.783	0.7595	2.16	. Q V	.	.	.	.
4.800	0.7624	2.16	. Q V	.	.	.	.
4.817	0.7654	2.17	. Q V	.	.	.	.
4.833	0.7684	2.17	. Q V	.	.	.	.
4.850	0.7714	2.17	. Q V	.	.	.	.
4.867	0.7744	2.17	. Q V	.	.	.	.
4.883	0.7774	2.17	. Q V	.	.	.	.
4.900	0.7804	2.17	. Q V	.	.	.	.
4.917	0.7834	2.18	. Q V	.	.	.	.
4.933	0.7864	2.18	. Q V	.	.	.	.
4.950	0.7894	2.18	. Q V	.	.	.	.
4.967	0.7924	2.18	. Q V	.	.	.	.
4.983	0.7954	2.18	. Q V	.	.	.	.
5.000	0.7984	2.18	. Q V	.	.	.	.
5.017	0.8014	2.18	. Q V	.	.	.	.
5.033	0.8044	2.18	. Q V	.	.	.	.
5.050	0.8074	2.18	. Q V	.	.	.	.
5.067	0.8104	2.18	. Q V	.	.	.	.
5.083	0.8134	2.19	. Q V	.	.	.	.
5.100	0.8164	2.19	. Q V	.	.	.	.
5.117	0.8195	2.19	. Q V	.	.	.	.
5.133	0.8225	2.19	. Q V	.	.	.	.
5.150	0.8255	2.19	. Q V	.	.	.	.
5.167	0.8285	2.20	. Q V	.	.	.	.
5.183	0.8316	2.20	. Q V	.	.	.	.
5.200	0.8346	2.20	. Q V	.	.	.	.
5.217	0.8376	2.20	. Q V	.	.	.	.
5.233	0.8407	2.20	. Q V	.	.	.	.
5.250	0.8437	2.21	. Q V	.	.	.	.
5.267	0.8467	2.21	. Q V	.	.	.	.
5.283	0.8498	2.21	. Q V	.	.	.	.
5.300	0.8528	2.21	. Q V	.	.	.	.
5.317	0.8559	2.21	. Q V	.	.	.	.
5.333	0.8589	2.21	. Q V	.	.	.	.
5.350	0.8619	2.21	. Q V	.	.	.	.
5.367	0.8650	2.21	. Q V	.	.	.	.
5.383	0.8680	2.21	. Q V	.	.	.	.
5.400	0.8711	2.21	. Q V	.	.	.	.
5.417	0.8741	2.22	. Q V	.	.	.	.
5.433	0.8772	2.22	. Q V	.	.	.	.
5.450	0.8803	2.22	. Q V	.	.	.	.
5.467	0.8833	2.22	. Q V	.	.	.	.

5.483	0.8864	2.22	.	Q	V	.	.	.	.
5.500	0.8895	2.23	.	Q	V	.	.	.	.
5.517	0.8925	2.23	.	Q	V	.	.	.	.
5.533	0.8956	2.23	.	Q	V	.	.	.	.
5.550	0.8987	2.23	.	Q	V	.	.	.	.
5.567	0.9017	2.23	.	Q	V	.	.	.	.
5.583	0.9048	2.24	.	Q	V	.	.	.	.
5.600	0.9079	2.24	.	Q	V	.	.	.	.
5.617	0.9110	2.24	.	Q	V	.	.	.	.
5.633	0.9141	2.24	.	Q	V	.	.	.	.
5.650	0.9172	2.24	.	Q	V	.	.	.	.
5.667	0.9203	2.24	.	Q	V	.	.	.	.
5.683	0.9233	2.24	.	Q	V	.	.	.	.
5.700	0.9264	2.24	.	Q	V	.	.	.	.
5.717	0.9295	2.25	.	Q	V	.	.	.	.
5.733	0.9326	2.25	.	Q	V	.	.	.	.
5.750	0.9357	2.25	.	Q	V	.	.	.	.
5.767	0.9388	2.25	.	Q	V	.	.	.	.
5.783	0.9419	2.25	.	Q	V	.	.	.	.
5.800	0.9450	2.25	.	Q	V	.	.	.	.
5.817	0.9481	2.26	.	Q	V	.	.	.	.
5.833	0.9512	2.26	.	Q	V	.	.	.	.
5.850	0.9543	2.26	.	Q	V	.	.	.	.
5.867	0.9575	2.26	.	Q	V	.	.	.	.
5.883	0.9606	2.26	.	Q	V	.	.	.	.
5.900	0.9637	2.27	.	Q	V	.	.	.	.
5.917	0.9668	2.27	.	Q	V	.	.	.	.
5.933	0.9699	2.27	.	Q	V	.	.	.	.
5.950	0.9731	2.27	.	Q	V	.	.	.	.
5.967	0.9762	2.27	.	Q	V	.	.	.	.
5.983	0.9793	2.27	.	Q	V	.	.	.	.
6.000	0.9825	2.28	.	Q	V	.	.	.	.
6.017	0.9856	2.28	.	Q	V	.	.	.	.
6.033	0.9887	2.28	.	Q	V	.	.	.	.
6.050	0.9919	2.28	.	Q	V	.	.	.	.
6.067	0.9950	2.28	.	Q	V	.	.	.	.
6.083	0.9982	2.28	.	Q	V	.	.	.	.
6.100	1.0013	2.28	.	Q	V	.	.	.	.
6.117	1.0045	2.28	.	Q	V	.	.	.	.
6.133	1.0076	2.29	.	Q	V	.	.	.	.
6.150	1.0108	2.29	.	Q	V	.	.	.	.
6.167	1.0139	2.29	.	Q	V	.	.	.	.
6.183	1.0171	2.29	.	Q	V	.	.	.	.
6.200	1.0202	2.29	.	Q	V	.	.	.	.
6.217	1.0234	2.30	.	Q	V	.	.	.	.
6.233	1.0266	2.30	.	Q	V	.	.	.	.
6.250	1.0297	2.30	.	Q	V	.	.	.	.
6.267	1.0329	2.30	.	Q	V	.	.	.	.
6.283	1.0361	2.31	.	Q	V	.	.	.	.
6.300	1.0392	2.31	.	Q	V	.	.	.	.
6.317	1.0424	2.31	.	Q	V	.	.	.	.
6.333	1.0456	2.31	.	Q	V	.	.	.	.
6.350	1.0488	2.31	.	Q	V	.	.	.	.
6.367	1.0520	2.31	.	Q	V	.	.	.	.
6.383	1.0552	2.31	.	Q	V	.	.	.	.
6.400	1.0584	2.31	.	Q	V	.	.	.	.
6.417	1.0615	2.32	.	Q	V	.	.	.	.
6.433	1.0647	2.32	.	Q	V	.	.	.	.
6.450	1.0679	2.32	.	Q	V	.	.	.	.
6.467	1.0711	2.32	.	Q	V	.	.	.	.
6.483	1.0743	2.32	.	Q	V	.	.	.	.
6.500	1.0775	2.32	.	Q	V	.	.	.	.
6.517	1.0807	2.33	.	Q	V	.	.	.	.
6.533	1.0839	2.33	.	Q	V	.	.	.	.
6.550	1.0871	2.33	.	Q	V	.	.	.	.
6.567	1.0904	2.33	.	Q	V	.	.	.	.
6.583	1.0936	2.34	.	Q	V	.	.	.	.
6.600	1.0968	2.34	.	Q	V	.	.	.	.
6.617	1.1000	2.34	.	Q	V	.	.	.	.
6.633	1.1032	2.34	.	Q	V	.	.	.	.
6.650	1.1065	2.34	.	Q	V	.	.	.	.
6.667	1.1097	2.35	.	Q	V	.	.	.	.
6.683	1.1129	2.35	.	Q	V	.	.	.	.
6.700	1.1162	2.35	.	Q	V	.	.	.	.
6.717	1.1194	2.35	.	Q	V	.	.	.	.
6.733	1.1226	2.35	.	Q	V	.	.	.	.
6.750	1.1259	2.35	.	Q	V	.	.	.	.
6.767	1.1291	2.35	.	Q	V	.	.	.	.
6.783	1.1324	2.35	.	Q	V	.	.	.	.

6.800	1.1356	2.36	.	Q	V	.	.	.	.
6.817	1.1389	2.36	.	Q	V	.	.	.	.
6.833	1.1421	2.36	.	Q	V	.	.	.	.
6.850	1.1454	2.36	.	Q	V	.	.	.	.
6.867	1.1486	2.36	.	Q	V	.	.	.	.
6.883	1.1519	2.37	.	Q	V	.	.	.	.
6.900	1.1551	2.37	.	Q	V	.	.	.	.
6.917	1.1584	2.37	.	Q	V	.	.	.	.
6.933	1.1617	2.37	.	Q	V	.	.	.	.
6.950	1.1650	2.38	.	Q	V	.	.	.	.
6.967	1.1682	2.38	.	Q	V	.	.	.	.
6.983	1.1715	2.38	.	Q	V	.	.	.	.
7.000	1.1748	2.38	.	Q	V	.	.	.	.
7.017	1.1781	2.39	.	Q	V	.	.	.	.
7.033	1.1814	2.39	.	Q	V	.	.	.	.
7.050	1.1847	2.39	.	Q	V	.	.	.	.
7.067	1.1880	2.39	.	Q	V	.	.	.	.
7.083	1.1913	2.39	.	Q	V	.	.	.	.
7.100	1.1945	2.39	.	Q	V	.	.	.	.
7.117	1.1978	2.39	.	Q	V	.	.	.	.
7.133	1.2011	2.39	.	Q	V	.	.	.	.
7.150	1.2044	2.40	.	Q	V	.	.	.	.
7.167	1.2077	2.40	.	Q	V	.	.	.	.
7.183	1.2111	2.40	.	Q	V	.	.	.	.
7.200	1.2144	2.40	.	Q	V	.	.	.	.
7.217	1.2177	2.40	.	Q	V	.	.	.	.
7.233	1.2210	2.41	.	Q	V	.	.	.	.
7.250	1.2243	2.41	.	Q	V	.	.	.	.
7.267	1.2276	2.41	.	Q	V	.	.	.	.
7.283	1.2310	2.42	.	Q	V	.	.	.	.
7.300	1.2343	2.42	.	Q	V	.	.	.	.
7.317	1.2376	2.42	.	Q	V	.	.	.	.
7.333	1.2410	2.42	.	Q	V	.	.	.	.
7.350	1.2443	2.43	.	Q	V	.	.	.	.
7.367	1.2477	2.43	.	Q	V	.	.	.	.
7.383	1.2510	2.43	.	Q	V	.	.	.	.
7.400	1.2543	2.43	.	Q	V	.	.	.	.
7.417	1.2577	2.43	.	Q	V	.	.	.	.
7.433	1.2610	2.43	.	Q	V	.	.	.	.
7.450	1.2644	2.43	.	Q	V	.	.	.	.
7.467	1.2678	2.44	.	Q	V	.	.	.	.
7.483	1.2711	2.44	.	Q	V	.	.	.	.
7.500	1.2745	2.44	.	Q	V	.	.	.	.
7.517	1.2778	2.44	.	Q	V	.	.	.	.
7.533	1.2812	2.44	.	Q	V	.	.	.	.
7.550	1.2846	2.44	.	Q	V	.	.	.	.
7.567	1.2879	2.45	.	Q	V	.	.	.	.
7.583	1.2913	2.45	.	Q	V	.	.	.	.
7.600	1.2947	2.45	.	Q	V	.	.	.	.
7.617	1.2981	2.46	.	Q	V	.	.	.	.
7.633	1.3015	2.46	.	Q	V	.	.	.	.
7.650	1.3049	2.46	.	Q	V	.	.	.	.
7.667	1.3082	2.46	.	Q	V	.	.	.	.
7.683	1.3116	2.47	.	Q	V	.	.	.	.
7.700	1.3150	2.47	.	Q	V	.	.	.	.
7.717	1.3185	2.47	.	Q	V	.	.	.	.
7.733	1.3219	2.47	.	Q	V	.	.	.	.
7.750	1.3253	2.48	.	Q	V	.	.	.	.
7.767	1.3287	2.48	.	Q	V	.	.	.	.
7.783	1.3321	2.48	.	Q	V	.	.	.	.
7.800	1.3355	2.48	.	Q	V	.	.	.	.
7.817	1.3389	2.48	.	Q	V	.	.	.	.
7.833	1.3423	2.48	.	Q	V	.	.	.	.
7.850	1.3458	2.48	.	Q	V	.	.	.	.
7.867	1.3492	2.49	.	Q	V	.	.	.	.
7.883	1.3526	2.49	.	Q	V	.	.	.	.
7.900	1.3560	2.49	.	Q	V	.	.	.	.
7.917	1.3595	2.49	.	Q	V	.	.	.	.
7.933	1.3629	2.50	.	Q	V	.	.	.	.
7.950	1.3664	2.50	.	Q	V	.	.	.	.
7.967	1.3698	2.50	.	Q	V	.	.	.	.
7.983	1.3733	2.51	.	Q	V	.	.	.	.
8.000	1.3767	2.51	.	Q	V	.	.	.	.
8.017	1.3802	2.51	.	Q	V	.	.	.	.
8.033	1.3836	2.51	.	Q	V	.	.	.	.
8.050	1.3871	2.52	.	Q	V	.	.	.	.
8.067	1.3906	2.52	.	Q	V	.	.	.	.
8.083	1.3940	2.52	.	Q	V	.	.	.	.
8.100	1.3975	2.52	.	Q	V	.	.	.	.

8.117	1.4010	2.52	. Q	V .	.	.	.
8.133	1.4045	2.53	. Q	V .	.	.	.
8.150	1.4080	2.53	. Q	V .	.	.	.
8.167	1.4114	2.53	. Q	V .	.	.	.
8.183	1.4149	2.53	. Q	V .	.	.	.
8.200	1.4184	2.53	. Q	V .	.	.	.
8.217	1.4219	2.53	. Q	V .	.	.	.
8.233	1.4254	2.54	. Q	V .	.	.	.
8.250	1.4289	2.54	. Q	V .	.	.	.
8.267	1.4324	2.54	. Q	V .	.	.	.
8.283	1.4359	2.54	. Q	V .	.	.	.
8.300	1.4394	2.55	. Q	V .	.	.	.
8.317	1.4429	2.55	. Q	V .	.	.	.
8.333	1.4464	2.55	. Q	V .	.	.	.
8.350	1.4500	2.56	. Q	V .	.	.	.
8.367	1.4535	2.56	. Q	V .	.	.	.
8.383	1.4570	2.56	. Q	V .	.	.	.
8.400	1.4606	2.57	. Q	V .	.	.	.
8.417	1.4641	2.57	. Q	V .	.	.	.
8.433	1.4676	2.57	. Q	V .	.	.	.
8.450	1.4712	2.57	. Q	V .	.	.	.
8.467	1.4747	2.57	. Q	V .	.	.	.
8.483	1.4783	2.58	. Q	V .	.	.	.
8.500	1.4818	2.58	. Q	V .	.	.	.
8.517	1.4854	2.58	. Q	V .	.	.	.
8.533	1.4889	2.58	. Q	V .	.	.	.
8.550	1.4925	2.58	. Q	V .	.	.	.
8.567	1.4961	2.58	. Q	V .	.	.	.
8.583	1.4996	2.59	. Q	V .	.	.	.
8.600	1.5032	2.59	. Q	V .	.	.	.
8.617	1.5068	2.59	. Q	V.	.	.	.
8.633	1.5103	2.60	. Q	V.	.	.	.
8.650	1.5139	2.60	. Q	V.	.	.	.
8.667	1.5175	2.60	. Q	V.	.	.	.
8.683	1.5211	2.61	. Q	V.	.	.	.
8.700	1.5247	2.61	. Q	V.	.	.	.
8.717	1.5283	2.61	. Q	V.	.	.	.
8.733	1.5319	2.62	. Q	V.	.	.	.
8.750	1.5355	2.62	. Q	V.	.	.	.
8.767	1.5391	2.62	. Q	V.	.	.	.
8.783	1.5427	2.63	. Q	V.	.	.	.
8.800	1.5463	2.63	. Q	V.	.	.	.
8.817	1.5500	2.63	. Q	V.	.	.	.
8.833	1.5536	2.63	. Q	V.	.	.	.
8.850	1.5572	2.63	. Q	V.	.	.	.
8.867	1.5608	2.63	. Q	V.	.	.	.
8.883	1.5645	2.64	. Q	V.	.	.	.
8.900	1.5681	2.64	. Q	V.	.	.	.
8.917	1.5717	2.64	. Q	V.	.	.	.
8.933	1.5754	2.64	. Q	V.	.	.	.
8.950	1.5790	2.64	. Q	V.	.	.	.
8.967	1.5827	2.65	. Q	V.	.	.	.
8.983	1.5863	2.65	. Q	V.	.	.	.
9.000	1.5900	2.65	. Q	V.	.	.	.
9.017	1.5936	2.66	. Q	V.	.	.	.
9.033	1.5973	2.66	. Q	V.	.	.	.
9.050	1.6010	2.67	. Q	V.	.	.	.
9.067	1.6047	2.67	. Q	V.	.	.	.
9.083	1.6083	2.67	. Q	V.	.	.	.
9.100	1.6120	2.68	. Q	V.	.	.	.
9.117	1.6157	2.68	. Q	V.	.	.	.
9.133	1.6194	2.68	. Q	V.	.	.	.
9.150	1.6231	2.68	. Q	V.	.	.	.
9.167	1.6268	2.69	. Q	V.	.	.	.
9.183	1.6305	2.69	. Q	V.	.	.	.
9.200	1.6342	2.69	. Q	V.	.	.	.
9.217	1.6379	2.69	. Q	V.	.	.	.
9.233	1.6416	2.69	. Q	V.	.	.	.
9.250	1.6454	2.70	. Q	V.	.	.	.
9.267	1.6491	2.70	. Q	V.	.	.	.
9.283	1.6528	2.70	. Q	V.	.	.	.
9.300	1.6565	2.70	. Q	V.	.	.	.
9.317	1.6602	2.71	. Q	V.	.	.	.
9.333	1.6640	2.71	. Q	V.	.	.	.
9.350	1.6677	2.71	. Q	V.	.	.	.
9.367	1.6715	2.72	. Q	V.	.	.	.
9.383	1.6752	2.72	. Q	V	.	.	.
9.400	1.6790	2.73	. Q	V	.	.	.
9.417	1.6827	2.73	. Q	V	.	.	.

9.433	1.6865	2.73	. Q	V	.	.	.
9.450	1.6903	2.74	. Q	V	.	.	.
9.467	1.6940	2.74	. Q	V	.	.	.
9.483	1.6978	2.74	. Q	V	.	.	.
9.500	1.7016	2.75	. Q	V	.	.	.
9.517	1.7054	2.75	. Q	V	.	.	.
9.533	1.7092	2.75	. Q	V	.	.	.
9.550	1.7130	2.75	. Q	V	.	.	.
9.567	1.7168	2.76	. Q	V	.	.	.
9.583	1.7206	2.76	. Q	V	.	.	.
9.600	1.7244	2.76	. Q	V	.	.	.
9.617	1.7282	2.76	. Q	V	.	.	.
9.633	1.7320	2.76	. Q	V	.	.	.
9.650	1.7358	2.77	. Q	V	.	.	.
9.667	1.7396	2.77	. Q	V	.	.	.
9.683	1.7434	2.77	. Q	V	.	.	.
9.700	1.7472	2.78	. Q	V	.	.	.
9.717	1.7511	2.78	. Q	V	.	.	.
9.733	1.7549	2.79	. Q	V	.	.	.
9.750	1.7588	2.79	. Q	V	.	.	.
9.767	1.7626	2.80	. Q	V	.	.	.
9.783	1.7665	2.80	. Q	V	.	.	.
9.800	1.7703	2.80	. Q	V	.	.	.
9.817	1.7742	2.81	. Q	V	.	.	.
9.833	1.7781	2.81	. Q	V	.	.	.
9.850	1.7819	2.81	. Q	V	.	.	.
9.867	1.7858	2.82	. Q	V	.	.	.
9.883	1.7897	2.82	. Q	V	.	.	.
9.900	1.7936	2.82	. Q	V	.	.	.
9.917	1.7975	2.82	. Q	V	.	.	.
9.933	1.8014	2.83	. Q	V	.	.	.
9.950	1.8053	2.83	. Q	V	.	.	.
9.967	1.8092	2.83	. Q	V	.	.	.
9.983	1.8131	2.83	. Q	V	.	.	.
10.000	1.8170	2.83	. Q	V	.	.	.
10.017	1.8209	2.84	. Q	V	.	.	.
10.033	1.8248	2.84	. Q	V	.	.	.
10.050	1.8287	2.85	. Q	V	.	.	.
10.067	1.8326	2.85	. Q	V	.	.	.
10.083	1.8366	2.86	. Q	V	.	.	.
10.100	1.8405	2.86	. Q	.V	.	.	.
10.117	1.8445	2.87	. Q	.V	.	.	.
10.133	1.8484	2.87	. Q	.V	.	.	.
10.150	1.8524	2.88	. Q	.V	.	.	.
10.167	1.8564	2.88	. Q	.V	.	.	.
10.183	1.8603	2.88	. Q	.V	.	.	.
10.200	1.8643	2.89	. Q	.V	.	.	.
10.217	1.8683	2.89	. Q	.V	.	.	.
10.233	1.8723	2.89	. Q	.V	.	.	.
10.250	1.8763	2.89	. Q	.V	.	.	.
10.267	1.8802	2.90	. Q	.V	.	.	.
10.283	1.8842	2.90	. Q	.V	.	.	.
10.300	1.8882	2.90	. Q	.V	.	.	.
10.317	1.8922	2.90	. Q	.V	.	.	.
10.333	1.8962	2.91	. Q	.V	.	.	.
10.350	1.9002	2.91	. Q	.V	.	.	.
10.367	1.9043	2.91	. Q	.V	.	.	.
10.383	1.9083	2.92	. Q	.V	.	.	.
10.400	1.9123	2.92	. Q	.V	.	.	.
10.417	1.9163	2.93	. Q	.V	.	.	.
10.433	1.9204	2.93	. Q	.V	.	.	.
10.450	1.9244	2.94	. Q	.V	.	.	.
10.467	1.9285	2.94	. Q	.V	.	.	.
10.483	1.9325	2.95	. Q	.V	.	.	.
10.500	1.9366	2.95	. Q	.V	.	.	.
10.517	1.9407	2.96	. Q	.V	.	.	.
10.533	1.9448	2.96	. Q	.V	.	.	.
10.550	1.9488	2.97	. Q	.V	.	.	.
10.567	1.9529	2.97	. Q	.V	.	.	.
10.583	1.9570	2.97	. Q	.V	.	.	.
10.600	1.9611	2.97	. Q	.V	.	.	.
10.617	1.9652	2.98	. Q	.V	.	.	.
10.633	1.9693	2.98	. Q	.V	.	.	.
10.650	1.9734	2.98	. Q	.V	.	.	.
10.667	1.9775	2.98	. Q	.V	.	.	.
10.683	1.9817	2.99	. Q	.V	.	.	.
10.700	1.9858	2.99	. Q	.V	.	.	.
10.717	1.9899	2.99	. Q	.V	.	.	.
10.733	1.9940	3.00	. Q	.V	.	.	.

10.750	1.9982	3.01	. Q	.V	.	.	.
10.767	2.0023	3.01	. Q	.V	.	.	.
10.783	2.0065	3.02	. Q	. V	.	.	.
10.800	2.0106	3.02	. Q	. V	.	.	.
10.817	2.0148	3.03	. Q	. V	.	.	.
10.833	2.0190	3.03	. Q	. V	.	.	.
10.850	2.0232	3.04	. Q	. V	.	.	.
10.867	2.0274	3.04	. Q	. V	.	.	.
10.883	2.0316	3.05	. Q	. V	.	.	.
10.900	2.0358	3.05	. Q	. V	.	.	.
10.917	2.0400	3.06	. Q	. V	.	.	.
10.933	2.0442	3.06	. Q	. V	.	.	.
10.950	2.0484	3.06	. Q	. V	.	.	.
10.967	2.0526	3.06	. Q	. V	.	.	.
10.983	2.0568	3.07	. Q	. V	.	.	.
11.000	2.0611	3.07	. Q	. V	.	.	.
11.017	2.0653	3.07	. Q	. V	.	.	.
11.033	2.0695	3.08	. Q	. V	.	.	.
11.050	2.0738	3.08	. Q	. V	.	.	.
11.067	2.0780	3.08	. Q	. V	.	.	.
11.083	2.0823	3.09	. Q	. V	.	.	.
11.100	2.0866	3.10	. Q	. V	.	.	.
11.117	2.0908	3.10	. Q	. V	.	.	.
11.133	2.0951	3.11	. Q	. V	.	.	.
11.150	2.0994	3.11	. Q	. V	.	.	.
11.167	2.1037	3.12	. Q	. V	.	.	.
11.183	2.1080	3.13	. Q	. V	.	.	.
11.200	2.1123	3.13	. Q	. V	.	.	.
11.217	2.1166	3.14	. Q	. V	.	.	.
11.233	2.1210	3.14	. Q	. V	.	.	.
11.250	2.1253	3.15	. Q	. V	.	.	.
11.267	2.1296	3.15	. Q	. V	.	.	.
11.283	2.1340	3.15	. Q	. V	.	.	.
11.300	2.1383	3.16	. Q	. V	.	.	.
11.317	2.1427	3.16	. Q	. V	.	.	.
11.333	2.1470	3.16	. Q	. V	.	.	.
11.350	2.1514	3.17	. Q	. V	.	.	.
11.367	2.1558	3.17	. Q	. V	.	.	.
11.383	2.1601	3.17	. Q	. V	.	.	.
11.400	2.1645	3.18	. Q	. V	.	.	.
11.417	2.1689	3.18	. Q	. V	.	.	.
11.433	2.1733	3.19	. Q	. V	.	.	.
11.450	2.1777	3.19	. Q	. V	.	.	.
11.467	2.1821	3.20	. Q	. V	.	.	.
11.483	2.1865	3.21	. Q	. V	.	.	.
11.500	2.1910	3.22	. Q	. V	.	.	.
11.517	2.1954	3.22	. Q	. V	.	.	.
11.533	2.1998	3.23	. Q	. V	.	.	.
11.550	2.2043	3.24	. Q	. V	.	.	.
11.567	2.2088	3.24	. Q	. V	.	.	.
11.583	2.2132	3.25	. Q	. V	.	.	.
11.600	2.2177	3.25	. Q	. V	.	.	.
11.617	2.2222	3.26	. Q	. V	.	.	.
11.633	2.2267	3.26	. Q	. V	.	.	.
11.650	2.2312	3.27	. Q	. V	.	.	.
11.667	2.2357	3.27	. Q	. V	.	.	.
11.683	2.2402	3.27	. Q	. V	.	.	.
11.700	2.2447	3.28	. Q	. V	.	.	.
11.717	2.2492	3.28	. Q	. V	.	.	.
11.733	2.2538	3.28	. Q	. V	.	.	.
11.750	2.2583	3.29	. Q	. V	.	.	.
11.767	2.2628	3.29	. Q	. V	.	.	.
11.783	2.2674	3.30	. Q	. V	.	.	.
11.800	2.2719	3.31	. Q	. V	.	.	.
11.817	2.2765	3.31	. Q	. V	.	.	.
11.833	2.2811	3.32	. Q	. V	.	.	.
11.850	2.2856	3.33	. Q	. V	.	.	.
11.867	2.2902	3.34	. Q	. V	.	.	.
11.883	2.2948	3.34	. Q	. V	.	.	.
11.900	2.2995	3.35	. Q	. V	.	.	.
11.917	2.3041	3.36	. Q	. V	.	.	.
11.933	2.3087	3.37	. Q	. V	.	.	.
11.950	2.3134	3.37	. Q	. V	.	.	.
11.967	2.3180	3.38	. Q	. V	.	.	.
11.983	2.3227	3.38	. Q	. V	.	.	.
12.000	2.3273	3.39	. Q	. V	.	.	.
12.017	2.3320	3.39	. Q	. V	.	.	.
12.033	2.3367	3.39	. Q	. V	.	.	.
12.050	2.3414	3.40	. Q	. V	.	.	.

12.067	2.3460	3.40	.	Q	.	V	.	.	.
12.083	2.3507	3.41	.	Q	.	V	.	.	.
12.100	2.3554	3.41	.	Q	.	V	.	.	.
12.117	2.3601	3.41	.	Q	.	V	.	.	.
12.133	2.3648	3.42	.	Q	.	V	.	.	.
12.150	2.3696	3.44	.	Q	.	V	.	.	.
12.167	2.3743	3.45	.	Q	.	V	.	.	.
12.183	2.3791	3.47	.	Q	.	V	.	.	.
12.200	2.3839	3.48	.	Q	.	V	.	.	.
12.217	2.3887	3.50	.	Q	.	V	.	.	.
12.233	2.3936	3.51	.	Q	.	V	.	.	.
12.250	2.3984	3.52	.	Q	.	V	.	.	.
12.267	2.4033	3.54	.	Q	.	V	.	.	.
12.283	2.4082	3.55	.	Q	.	V	.	.	.
12.300	2.4131	3.56	.	Q	.	V	.	.	.
12.317	2.4180	3.57	.	Q	.	V	.	.	.
12.333	2.4229	3.57	.	Q	.	V	.	.	.
12.350	2.4279	3.58	.	Q	.	V	.	.	.
12.367	2.4328	3.58	.	Q	.	V	.	.	.
12.383	2.4377	3.59	.	Q	.	V	.	.	.
12.400	2.4427	3.59	.	Q	.	V	.	.	.
12.417	2.4476	3.60	.	Q	.	V	.	.	.
12.433	2.4526	3.60	.	Q	.	V	.	.	.
12.450	2.4576	3.61	.	Q	.	V	.	.	.
12.467	2.4625	3.61	.	Q	.	V	.	.	.
12.483	2.4675	3.62	.	Q	.	V	.	.	.
12.500	2.4725	3.63	.	Q	.	V	.	.	.
12.517	2.4775	3.64	.	Q	.	V	.	.	.
12.533	2.4825	3.65	.	Q	.	V	.	.	.
12.550	2.4876	3.66	.	Q	.	V	.	.	.
12.567	2.4926	3.67	.	Q	.	V	.	.	.
12.583	2.4977	3.68	.	Q	.	V	.	.	.
12.600	2.5028	3.69	.	Q	.	V	.	.	.
12.617	2.5079	3.70	.	Q	.	V	.	.	.
12.633	2.5130	3.71	.	Q	.	V	.	.	.
12.650	2.5181	3.72	.	Q	.	V	.	.	.
12.667	2.5232	3.72	.	Q	.	V	.	.	.
12.683	2.5284	3.73	.	Q	.	V	.	.	.
12.700	2.5335	3.73	.	Q	.	V	.	.	.
12.717	2.5386	3.74	.	Q	.	V	.	.	.
12.733	2.5438	3.74	.	Q	.	V	.	.	.
12.750	2.5490	3.75	.	Q	.	V	.	.	.
12.767	2.5541	3.75	.	Q	.	V	.	.	.
12.783	2.5593	3.76	.	Q	.	V	.	.	.
12.800	2.5645	3.76	.	Q	.	V	.	.	.
12.817	2.5697	3.77	.	Q	.	V	.	.	.
12.833	2.5749	3.78	.	Q	.	V	.	.	.
12.850	2.5801	3.79	.	Q	.	V	.	.	.
12.867	2.5853	3.80	.	Q	.	V	.	.	.
12.883	2.5906	3.81	.	Q	.	V	.	.	.
12.900	2.5959	3.82	.	Q	.	V	.	.	.
12.917	2.6011	3.83	.	Q	.	V	.	.	.
12.933	2.6064	3.85	.	Q	.	V	.	.	.
12.950	2.6117	3.86	.	Q	.	V	.	.	.
12.967	2.6171	3.87	.	Q	.	V	.	.	.
12.983	2.6224	3.88	.	Q	.	V	.	.	.
13.000	2.6278	3.89	.	Q	.	V	.	.	.
13.017	2.6331	3.90	.	Q	.	V	.	.	.
13.033	2.6385	3.91	.	Q	.	V	.	.	.
13.050	2.6439	3.91	.	Q	.	V	.	.	.
13.067	2.6493	3.92	.	Q	.	V	.	.	.
13.083	2.6547	3.92	.	Q	.	V	.	.	.
13.100	2.6601	3.93	.	Q	.	V	.	.	.
13.117	2.6655	3.94	.	Q	.	V	.	.	.
13.133	2.6710	3.94	.	Q	.	V	.	.	.
13.150	2.6764	3.95	.	Q	.	V	.	.	.
13.167	2.6819	3.95	.	Q	.	V	.	.	.
13.183	2.6873	3.96	.	Q	.	V	.	.	.
13.200	2.6928	3.98	.	Q	.	V	.	.	.
13.217	2.6983	3.99	.	Q	.	V	.	.	.
13.233	2.7038	4.00	.	Q	.	V	.	.	.
13.250	2.7093	4.02	.	Q	.	V	.	.	.
13.267	2.7149	4.03	.	Q	.	V	.	.	.
13.283	2.7204	4.04	.	Q	.	V	.	.	.
13.300	2.7260	4.06	.	Q	.	V	.	.	.
13.317	2.7316	4.07	.	Q	.	V	.	.	.
13.333	2.7373	4.08	.	Q	.	V	.	.	.
13.350	2.7429	4.10	.	Q	.	V	.	.	.
13.367	2.7486	4.11	.	Q	.	V	.	.	.

13.383	2.7542	4.11	.	Q	.	V	.	.	.	
13.400	2.7599	4.12	.	Q	.	V	.	.	.	
13.417	2.7656	4.13	.	Q	.	V	.	.	.	
13.433	2.7713	4.14	.	Q	.	V	.	.	.	
13.450	2.7770	4.14	.	Q	.	V	.	.	.	
13.467	2.7827	4.15	.	Q	.	V	.	.	.	
13.483	2.7884	4.16	.	Q	.	V	.	.	.	
13.500	2.7942	4.17	.	Q	.	V	.	.	.	
13.517	2.7999	4.17	.	Q	.	V	.	.	.	
13.533	2.8057	4.18	.	Q	.	V	.	.	.	
13.550	2.8115	4.20	.	Q	.	V	.	.	.	
13.567	2.8173	4.21	.	Q	.	V	.	.	.	
13.583	2.8231	4.23	.	Q	.	V	.	.	.	
13.600	2.8289	4.24	.	Q	.	V	.	.	.	
13.617	2.8348	4.26	.	Q	.	V	.	.	.	
13.633	2.8407	4.28	.	Q	.	V	.	.	.	
13.650	2.8466	4.29	.	Q	.	V	.	.	.	
13.667	2.8526	4.31	.	Q	.	V	.	.	.	
13.683	2.8585	4.33	.	Q	.	V	.	.	.	
13.700	2.8645	4.34	.	Q	.	V	.	.	.	
13.717	2.8705	4.36	.	Q	.	V	.	.	.	
13.733	2.8765	4.37	.	Q	.	V	.	.	.	
13.750	2.8825	4.37	.	Q	.	V	.	.	.	
13.767	2.8886	4.38	.	Q	.	V	.	.	.	
13.783	2.8946	4.39	.	Q	.	V	.	.	.	
13.800	2.9007	4.40	.	Q	.	V	.	.	.	
13.817	2.9068	4.41	.	Q	.	V	.	.	.	
13.833	2.9129	4.42	.	Q	.	V	.	.	.	
13.850	2.9190	4.43	.	Q	.	V	.	.	.	
13.867	2.9251	4.44	.	Q	.	V	.	.	.	
13.883	2.9312	4.45	.	Q	.	V	.	.	.	
13.900	2.9373	4.46	.	Q	.	V	.	.	.	
13.917	2.9435	4.48	.	Q	.	V	.	.	.	
13.933	2.9497	4.50	.	Q	.	V	.	.	.	
13.950	2.9560	4.52	.	Q	.	V	.	.	.	
13.967	2.9622	4.54	.	Q	.	V	.	.	.	
13.983	2.9685	4.56	.	Q	.	V	.	.	.	
14.000	2.9748	4.59	.	Q	.	V	.	.	.	
14.017	2.9812	4.61	.	Q	.	V	.	.	.	
14.033	2.9875	4.63	.	Q	.	V	.	.	.	
14.050	2.9939	4.65	.	Q	.	V	.	.	.	
14.067	3.0004	4.66	.	Q	.	V	.	.	.	
14.083	3.0068	4.66	.	Q	.	V	.	.	.	
14.100	3.0132	4.65	.	Q	.	V	.	.	.	
14.117	3.0196	4.64	.	Q	.	V	.	.	.	
14.133	3.0259	4.63	.	Q	.	V	.	.	.	
14.150	3.0323	4.62	.	Q	.	V	.	.	.	
14.167	3.0387	4.62	.	Q	.	V	.	.	.	
14.183	3.0450	4.61	.	Q	.	V	.	.	.	
14.200	3.0514	4.60	.	Q	.	V	.	.	.	
14.217	3.0577	4.59	.	Q	.	V	.	.	.	
14.233	3.0640	4.59	.	Q	.	V	.	.	.	
14.250	3.0703	4.60	.	Q	.	V	.	.	.	
14.267	3.0767	4.62	.	Q	.	V	.	.	.	
14.283	3.0831	4.65	.	Q	.	V	.	.	.	
14.300	3.0895	4.67	.	Q	.	V	.	.	.	
14.317	3.0960	4.70	.	Q	.	V	.	.	.	
14.333	3.1025	4.73	.	Q	.	V	.	.	.	
14.350	3.1091	4.75	.	Q	.	V	.	.	.	
14.367	3.1157	4.78	.	Q	.	V	.	.	.	
14.383	3.1223	4.80	.	Q	.	V	.	.	.	
14.400	3.1289	4.83	.	Q	.	V	.	.	.	
14.417	3.1356	4.86	.	Q	.	V	.	.	.	
14.433	3.1423	4.87	.	Q	.	V	.	.	.	
14.450	3.1491	4.89	.	Q	.	V	.	.	.	
14.467	3.1558	4.90	.	Q	.	V	.	.	.	
14.483	3.1626	4.92	.	Q	.	V	.	.	.	
14.500	3.1694	4.93	.	Q	.	V	.	.	.	
14.517	3.1762	4.95	.	Q	.	V.	.	.	.	
14.533	3.1830	4.96	.	Q	.	V.	.	.	.	
14.550	3.1899	4.98	.	Q	.	V.	.	.	.	
14.567	3.1968	5.00	.	Q	.	V.	.	.	.	
14.583	3.2037	5.01	.	Q	.	V.	.	.	.	
14.600	3.2106	5.03	.	Q	.	V.	.	.	.	
14.617	3.2176	5.07	.	Q	.	V.	.	.	.	
14.633	3.2246	5.10	.	Q	.	V.	.	.	.	
14.650	3.2317	5.14	.	Q	.	V.	.	.	.	
14.667	3.2388	5.18	.	Q	.	V.	.	.	.	
14.683	3.2460	5.21	.	Q	.	V.	.	.	.	

14.700	3.2532	5.25	.	Q	.	V.	.	.
14.717	3.2605	5.29	.	Q	.	V.	.	.
14.733	3.2679	5.32	.	Q	.	V.	.	.
14.750	3.2752	5.36	.	Q	.	V.	.	.
14.767	3.2827	5.39	.	Q	.	V.	.	.
14.783	3.2901	5.42	.	Q	.	V.	.	.
14.800	3.2976	5.44	.	Q	.	V.	.	.
14.817	3.3052	5.46	.	Q	.	V.	.	.
14.833	3.3127	5.49	.	Q	.	V.	.	.
14.850	3.3203	5.51	.	Q	.	V.	.	.
14.867	3.3279	5.53	.	Q	.	V.	.	.
14.883	3.3356	5.55	.	Q	.	V.	.	.
14.900	3.3432	5.57	.	Q	.	V.	.	.
14.917	3.3509	5.59	.	Q	.	V	.	.
14.933	3.3587	5.62	.	Q	.	V	.	.
14.950	3.3664	5.64	.	Q	.	V	.	.
14.967	3.3743	5.70	.	Q	.	V	.	.
14.983	3.3822	5.75	.	Q	.	V	.	.
15.000	3.3902	5.80	.	Q	.	V	.	.
15.017	3.3983	5.86	.	Q	.	V	.	.
15.033	3.4064	5.91	.	Q	.	V	.	.
15.050	3.4146	5.97	.	Q	.	V	.	.
15.067	3.4229	6.02	.	Q	.	V	.	.
15.083	3.4313	6.08	.	Q	.	V	.	.
15.100	3.4397	6.13	.	Q	.	V	.	.
15.117	3.4483	6.18	.	Q	.	V	.	.
15.133	3.4568	6.23	.	Q	.	V	.	.
15.150	3.4655	6.26	.	Q	.	V	.	.
15.167	3.4741	6.30	.	Q	.	V	.	.
15.183	3.4829	6.33	.	Q	.	V	.	.
15.200	3.4916	6.37	.	Q	.	V	.	.
15.217	3.5004	6.40	.	Q	.	V	.	.
15.233	3.5093	6.44	.	Q	.	V	.	.
15.250	3.5182	6.47	.	Q	.	.V	.	.
15.267	3.5272	6.51	.	Q	.	.V	.	.
15.283	3.5362	6.54	.	Q	.	.V	.	.
15.300	3.5452	6.57	.	Q	.	.V	.	.
15.317	3.5543	6.55	.	Q	.	.V	.	.
15.333	3.5632	6.52	.	Q	.	.V	.	.
15.350	3.5722	6.49	.	Q	.	.V	.	.
15.367	3.5811	6.46	.	Q	.	.V	.	.
15.383	3.5899	6.42	.	Q	.	.V	.	.
15.400	3.5987	6.39	.	Q	.	.V	.	.
15.417	3.6075	6.36	.	Q	.	.V	.	.
15.433	3.6162	6.33	.	Q	.	.V	.	.
15.450	3.6249	6.30	.	Q	.	.V	.	.
15.467	3.6335	6.27	.	Q	.	.V	.	.
15.483	3.6421	6.25	.	Q	.	.V	.	.
15.500	3.6507	6.25	.	Q	.	.V	.	.
15.517	3.6593	6.25	.	Q	.	.V	.	.
15.533	3.6680	6.26	.	Q	.	.V	.	.
15.550	3.6766	6.26	.	Q	.	.V	.	.
15.567	3.6852	6.26	.	Q	.	. V	.	.
15.583	3.6938	6.27	.	Q	.	. V	.	.
15.600	3.7025	6.27	.	Q	.	. V	.	.
15.617	3.7111	6.27	.	Q	.	. V	.	.
15.633	3.7198	6.28	.	Q	.	. V	.	.
15.650	3.7284	6.29	.	Q	.	. V	.	.
15.667	3.7374	6.50	.	Q	.	. V	.	.
15.683	3.7467	6.80	.	Q	.	. V	.	.
15.700	3.7565	7.11	.	Q	.	. V	.	.
15.717	3.7668	7.42	.	Q	.	. V	.	.
15.733	3.7774	7.73	.	Q	.	. V	.	.
15.750	3.7885	8.03	.	Q	.	. V	.	.
15.767	3.8000	8.34	.	Q	.	. V	.	.
15.783	3.8119	8.65	.	Q	.	. V	.	.
15.800	3.8242	8.96	.	Q	.	. V	.	.
15.817	3.8370	9.26	.	Q	.	. V	.	.
15.833	3.8502	9.58	.	Q.	.	. V	.	.
15.850	3.8639	9.94	.	Q.	.	. V	.	.
15.867	3.8780	10.30	.	Q.	.	. V	.	.
15.883	3.8927	10.67	.	Q	.	. V	.	.
15.900	3.9079	11.03	.	Q	.	. V	.	.
15.917	3.9236	11.39	.	Q	.	. V	.	.
15.933	3.9398	11.76	.	.Q	.	. V	.	.
15.950	3.9565	12.12	.	.Q	.	. V	.	.
15.967	3.9737	12.48	.	.Q	.	. V	.	.
15.983	3.9914	12.84	.	. Q	.	. V	.	.
16.000	4.0096	13.21	.	. Q	.	. V	.	.

16.017	4.0299	14.72	. . Q . V . .
16.033	4.0538	17.40	. . Q . V . .
16.050	4.0815	20.07	. . Q. V . .
16.067	4.1128	22.74	. . .Q V . .
16.083	4.1478	25.41	. . . Q . .
16.100	4.1865	28.08	. . . VQ . .
16.117	4.2288	30.75	. . . V Q. .
16.133	4.2749	33.42	. . . V . Q .
16.150	4.3246	36.09	. . . V . Q .
16.167	4.3780	38.77	. . . V . Q .
16.183	4.4354	41.70	. . . V . Q
16.200	4.4888	38.78	. . . V . Q .
16.217	4.5378	35.54	. . . V . Q .
16.233	4.5823	32.30	. . . V Q .
16.250	4.6223	29.05	. . . Q . .
16.267	4.6578	25.81	. . . Q V . .
16.283	4.6889	22.57	. . .Q V . .
16.300	4.7155	19.32	. . Q . V . .
16.317	4.7377	16.08	. . Q . V . .
16.333	4.7554	12.84	. . Q . V . .
16.350	4.7686	9.59	. Q. . V . .
16.367	4.7788	7.38	. Q . . V . .
16.383	4.7888	7.29	. Q . . V . .
16.400	4.7988	7.26	. Q . . V . .
16.417	4.8087	7.23	. Q . . V . .
16.433	4.8187	7.20	. Q . . V . .
16.450	4.8286	7.17	. Q . . V . .
16.467	4.8384	7.15	. Q . . V . .
16.483	4.8482	7.12	. Q . . V. .
16.500	4.8580	7.09	. Q . . V. .
16.517	4.8677	7.06	. Q . . V. .
16.533	4.8774	7.03	. Q . . V. .
16.550	4.8870	6.95	. Q . . V. .
16.567	4.8964	6.85	. Q . . V. .
16.583	4.9057	6.74	. Q . . V. .
16.600	4.9148	6.63	. Q . . V. .
16.617	4.9238	6.53	. Q . . V. .
16.633	4.9326	6.42	. Q . . V. .
16.650	4.9413	6.32	. Q . . V. .
16.667	4.9499	6.21	. Q . . V. .
16.683	4.9583	6.10	. Q . . V. .
16.700	4.9666	6.00	. Q . . V. .
16.717	4.9747	5.90	. Q . . V. .
16.733	4.9827	5.83	. Q . . V. .
16.750	4.9907	5.76	. Q . . V. .
16.767	4.9985	5.70	. Q . . V. .
16.783	5.0063	5.63	. Q . . V. .
16.800	5.0139	5.56	. Q . . V. .
16.817	5.0215	5.50	. Q . . V .
16.833	5.0290	5.43	. Q . . V .
16.850	5.0364	5.37	. Q . . V .
16.867	5.0437	5.30	. Q . . V .
16.883	5.0509	5.23	. Q . . V .
16.900	5.0580	5.18	. Q . . V .
16.917	5.0651	5.13	. Q . . V .
16.933	5.0721	5.09	. Q . . V .
16.950	5.0790	5.04	. Q . . V .
16.967	5.0859	4.99	. Q . . V .
16.983	5.0927	4.95	. Q . . V .
17.000	5.0995	4.90	. Q . . V .
17.017	5.1062	4.86	. Q . . V .
17.033	5.1128	4.81	. Q . . V .
17.050	5.1194	4.76	. Q . . V .
17.067	5.1259	4.72	. Q . . V .
17.083	5.1323	4.70	. Q . . V .
17.100	5.1388	4.68	. Q . . V .
17.117	5.1452	4.67	. Q . . V .
17.133	5.1516	4.65	. Q . . V .
17.150	5.1580	4.64	. Q . . V .
17.167	5.1644	4.62	. Q . . V .
17.183	5.1707	4.61	. Q . . V .
17.200	5.1770	4.59	. Q . . V .
17.217	5.1834	4.58	. Q . . .V .
17.233	5.1896	4.56	. Q . . .V .
17.250	5.1959	4.54	. Q . . .V .
17.267	5.2021	4.52	. Q . . .V .
17.283	5.2083	4.49	. Q . . .V .
17.300	5.2145	4.46	. Q . . .V .
17.317	5.2206	4.44	. Q . . .V .

17.333	5.2266	4.41	.	Q	.	.	.V	.
17.350	5.2327	4.38	.	Q	.	.	.V	.
17.367	5.2387	4.35	.	Q	.	.	.V	.
17.383	5.2446	4.33	.	Q	.	.	.V	.
17.400	5.2506	4.30	.	Q	.	.	.V	.
17.417	5.2564	4.27	.	Q	.	.	.V	.
17.433	5.2623	4.25	.	Q	.	.	.V	.
17.450	5.2681	4.23	.	Q	.	.	.V	.
17.467	5.2739	4.20	.	Q	.	.	.V	.
17.483	5.2797	4.18	.	Q	.	.	.V	.
17.500	5.2854	4.16	.	Q	.	.	.V	.
17.517	5.2911	4.14	.	Q	.	.	.V	.
17.533	5.2968	4.12	.	Q	.	.	.V	.
17.550	5.3024	4.09	.	Q	.	.	.V	.
17.567	5.3080	4.07	.	Q	.	.	.V	.
17.583	5.3136	4.05	.	Q	.	.	.V	.
17.600	5.3191	4.03	.	Q	.	.	.V	.
17.617	5.3247	4.01	.	Q	.	.	.V	.
17.633	5.3302	3.99	.	Q	.	.	.V	.
17.650	5.3356	3.97	.	Q	.	.	.V	.
17.667	5.3411	3.95	.	Q	.	.	.V	.
17.683	5.3465	3.93	.	Q	.	.	.V	.
17.700	5.3519	3.92	.	Q	.	.	. V	.
17.717	5.3573	3.90	.	Q	.	.	. V	.
17.733	5.3626	3.88	.	Q	.	.	. V	.
17.750	5.3679	3.86	.	Q	.	.	. V	.
17.767	5.3732	3.84	.	Q	.	.	. V	.
17.783	5.3785	3.82	.	Q	.	.	. V	.
17.800	5.3837	3.81	.	Q	.	.	. V	.
17.817	5.3890	3.79	.	Q	.	.	. V	.
17.833	5.3942	3.78	.	Q	.	.	. V	.
17.850	5.3993	3.76	.	Q	.	.	. V	.
17.867	5.4045	3.74	.	Q	.	.	. V	.
17.883	5.4096	3.73	.	Q	.	.	. V	.
17.900	5.4147	3.71	.	Q	.	.	. V	.
17.917	5.4198	3.70	.	Q	.	.	. V	.
17.933	5.4249	3.68	.	Q	.	.	. V	.
17.950	5.4300	3.67	.	Q	.	.	. V	.
17.967	5.4350	3.65	.	Q	.	.	. V	.
17.983	5.4400	3.64	.	Q	.	.	. V	.
18.000	5.4450	3.62	.	Q	.	.	. V	.
18.017	5.4500	3.61	.	Q	.	.	. V	.
18.033	5.4549	3.60	.	Q	.	.	. V	.
18.050	5.4598	3.58	.	Q	.	.	. V	.
18.067	5.4648	3.57	.	Q	.	.	. V	.
18.083	5.4696	3.55	.	Q	.	.	. V	.
18.100	5.4745	3.54	.	Q	.	.	. V	.
18.117	5.4794	3.53	.	Q	.	.	. V	.
18.133	5.4842	3.51	.	Q	.	.	. V	.
18.150	5.4890	3.49	.	Q	.	.	. V	.
18.167	5.4938	3.48	.	Q	.	.	. V	.
18.183	5.4986	3.46	.	Q	.	.	. V	.
18.200	5.5033	3.44	.	Q	.	.	. V	.
18.217	5.5080	3.42	.	Q	.	.	. V	.
18.233	5.5127	3.41	.	Q	.	.	. V	.
18.250	5.5174	3.39	.	Q	.	.	. V	.
18.267	5.5220	3.37	.	Q	.	.	. V	.
18.283	5.5266	3.35	.	Q	.	.	. V	.
18.300	5.5312	3.34	.	Q	.	.	. V	.
18.317	5.5358	3.32	.	Q	.	.	. V	.
18.333	5.5404	3.31	.	Q	.	.	. V	.
18.350	5.5449	3.30	.	Q	.	.	. V	.
18.367	5.5495	3.29	.	Q	.	.	. V	.
18.383	5.5540	3.28	.	Q	.	.	. V	.
18.400	5.5585	3.27	.	Q	.	.	. V	.
18.417	5.5630	3.26	.	Q	.	.	. V	.
18.433	5.5674	3.25	.	Q	.	.	. V	.
18.450	5.5719	3.24	.	Q	.	.	. V	.
18.467	5.5763	3.23	.	Q	.	.	. V	.
18.483	5.5808	3.21	.	Q	.	.	. V	.
18.500	5.5852	3.21	.	Q	.	.	. V	.
18.517	5.5896	3.20	.	Q	.	.	. V	.
18.533	5.5940	3.19	.	Q	.	.	. V	.
18.550	5.5983	3.18	.	Q	.	.	. V	.
18.567	5.6027	3.17	.	Q	.	.	. V	.
18.583	5.6071	3.16	.	Q	.	.	. V	.
18.600	5.6114	3.15	.	Q	.	.	. V	.
18.617	5.6157	3.14	.	Q	.	.	. V	.
18.633	5.6200	3.13	.	Q	.	.	. V	.

18.650	5.6243	3.12	.	Q	.	.	.	V	.
18.667	5.6286	3.11	.	Q	.	.	.	V	.
18.683	5.6329	3.10	.	Q	.	.	.	V	.
18.700	5.6371	3.09	.	Q	.	.	.	V	.
18.717	5.6414	3.08	.	Q	.	.	.	V	.
18.733	5.6456	3.07	.	Q	.	.	.	V	.
18.750	5.6498	3.06	.	Q	.	.	.	V	.
18.767	5.6540	3.06	.	Q	.	.	.	V	.
18.783	5.6582	3.05	.	Q	.	.	.	V	.
18.800	5.6624	3.04	.	Q	.	.	.	V	.
18.817	5.6666	3.03	.	Q	.	.	.	V	.
18.833	5.6707	3.02	.	Q	.	.	.	V	.
18.850	5.6749	3.01	.	Q	.	.	.	V	.
18.867	5.6790	3.00	.	Q	.	.	.	V	.
18.883	5.6832	3.00	.	Q	.	.	.	V	.
18.900	5.6873	2.99	.	Q	.	.	.	V	.
18.917	5.6914	2.98	.	Q	.	.	.	V	.
18.933	5.6955	2.97	.	Q	.	.	.	V	.
18.950	5.6996	2.97	.	Q	.	.	.	V	.
18.967	5.7036	2.96	.	Q	.	.	.	V	.
18.983	5.7077	2.95	.	Q	.	.	.	V	.
19.000	5.7118	2.94	.	Q	.	.	.	V	.
19.017	5.7158	2.93	.	Q	.	.	.	V	.
19.033	5.7198	2.93	.	Q	.	.	.	V	.
19.050	5.7238	2.92	.	Q	.	.	.	V	.
19.067	5.7279	2.91	.	Q	.	.	.	V	.
19.083	5.7319	2.90	.	Q	.	.	.	V	.
19.100	5.7358	2.90	.	Q	.	.	.	V	.
19.117	5.7398	2.89	.	Q	.	.	.	V	.
19.133	5.7438	2.88	.	Q	.	.	.	V	.
19.150	5.7478	2.88	.	Q	.	.	.	V	.
19.167	5.7517	2.87	.	Q	.	.	.	V	.
19.183	5.7556	2.86	.	Q	.	.	.	V	.
19.200	5.7596	2.85	.	Q	.	.	.	V	.
19.217	5.7635	2.85	.	Q	.	.	.	V	.
19.233	5.7674	2.84	.	Q	.	.	.	V	.
19.250	5.7713	2.83	.	Q	.	.	.	V	.
19.267	5.7752	2.83	.	Q	.	.	.	V	.
19.283	5.7791	2.82	.	Q	.	.	.	V	.
19.300	5.7830	2.81	.	Q	.	.	.	V	.
19.317	5.7868	2.81	.	Q	.	.	.	V	.
19.333	5.7907	2.80	.	Q	.	.	.	V	.
19.350	5.7945	2.79	.	Q	.	.	.	V	.
19.367	5.7984	2.79	.	Q	.	.	.	V	.
19.383	5.8022	2.78	.	Q	.	.	.	V	.
19.400	5.8060	2.77	.	Q	.	.	.	V	.
19.417	5.8098	2.77	.	Q	.	.	.	V	.
19.433	5.8137	2.76	.	Q	.	.	.	V	.
19.450	5.8175	2.76	.	Q	.	.	.	V	.
19.467	5.8212	2.75	.	Q	.	.	.	V	.
19.483	5.8250	2.74	.	Q	.	.	.	V	.
19.500	5.8288	2.74	.	Q	.	.	.	V	.
19.517	5.8326	2.73	.	Q	.	.	.	V	.
19.533	5.8363	2.73	.	Q	.	.	.	V	.
19.550	5.8400	2.72	.	Q	.	.	.	V	.
19.567	5.8438	2.71	.	Q	.	.	.	V	.
19.583	5.8475	2.71	.	Q	.	.	.	V	.
19.600	5.8512	2.70	.	Q	.	.	.	V	.
19.617	5.8550	2.70	.	Q	.	.	.	V	.
19.633	5.8587	2.69	.	Q	.	.	.	V	.
19.650	5.8624	2.68	.	Q	.	.	.	V	.
19.667	5.8660	2.68	.	Q	.	.	.	V	.
19.683	5.8697	2.67	.	Q	.	.	.	V	.
19.700	5.8734	2.67	.	Q	.	.	.	V	.
19.717	5.8771	2.66	.	Q	.	.	.	V	.
19.733	5.8807	2.66	.	Q	.	.	.	V	.
19.750	5.8844	2.65	.	Q	.	.	.	V	.
19.767	5.8880	2.65	.	Q	.	.	.	V	.
19.783	5.8917	2.64	.	Q	.	.	.	V	.
19.800	5.8953	2.64	.	Q	.	.	.	V	.
19.817	5.8989	2.63	.	Q	.	.	.	V	.
19.833	5.9025	2.62	.	Q	.	.	.	V	.
19.850	5.9061	2.62	.	Q	.	.	.	V	.
19.867	5.9097	2.61	.	Q	.	.	.	V	.
19.883	5.9133	2.61	.	Q	.	.	.	V	.
19.900	5.9169	2.60	.	Q	.	.	.	V	.
19.917	5.9205	2.60	.	Q	.	.	.	V	.
19.933	5.9241	2.59	.	Q	.	.	.	V	.
19.950	5.9276	2.59	.	Q	.	.	.	V	.

19.967	5.9312	2.58	.	Q	.	.	.	V	.
19.983	5.9347	2.58	.	Q	.	.	.	V	.
20.000	5.9383	2.57	.	Q	.	.	.	V	.
20.017	5.9418	2.57	.	Q	.	.	.	V	.
20.033	5.9454	2.56	.	Q	.	.	.	V	.
20.050	5.9489	2.56	.	Q	.	.	.	V	.
20.067	5.9524	2.55	.	Q	.	.	.	V	.
20.083	5.9559	2.55	.	Q	.	.	.	V	.
20.100	5.9594	2.54	.	Q	.	.	.	V	.
20.117	5.9629	2.54	.	Q	.	.	.	V	.
20.133	5.9664	2.53	.	Q	.	.	.	V	.
20.150	5.9699	2.53	.	Q	.	.	.	V	.
20.167	5.9734	2.53	.	Q	.	.	.	V	.
20.183	5.9768	2.52	.	Q	.	.	.	V	.
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20.217	5.9838	2.51	.	Q	.	.	.	V	.
20.233	5.9872	2.51	.	Q	.	.	.	V	.
20.250	5.9907	2.50	.	Q	.	.	.	V	.
20.267	5.9941	2.50	.	Q	.	.	.	V	.
20.283	5.9975	2.49	.	Q	.	.	.	V	.
20.300	6.0010	2.49	.	Q	.	.	.	V	.
20.317	6.0044	2.48	.	Q	.	.	.	V	.
20.333	6.0078	2.48	.	Q	.	.	.	V	.
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20.367	6.0146	2.47	.	Q	.	.	.	V	.
20.383	6.0180	2.47	.	Q	.	.	.	V	.
20.400	6.0214	2.46	.	Q	.	.	.	V	.
20.417	6.0248	2.46	.	Q	.	.	.	V	.
20.433	6.0282	2.45	.	Q	.	.	.	V	.
20.450	6.0316	2.45	.	Q	.	.	.	V	.
20.467	6.0349	2.45	.	Q	.	.	.	V	.
20.483	6.0383	2.44	.	Q	.	.	.	V	.
20.500	6.0416	2.44	.	Q	.	.	.	V	.
20.517	6.0450	2.43	.	Q	.	.	.	V	.
20.533	6.0483	2.43	.	Q	.	.	.	V	.
20.550	6.0517	2.43	.	Q	.	.	.	V	.
20.567	6.0550	2.42	.	Q	.	.	.	V	.
20.583	6.0583	2.42	.	Q	.	.	.	V	.
20.600	6.0617	2.41	.	Q	.	.	.	V	.
20.617	6.0650	2.41	.	Q	.	.	.	V	.
20.633	6.0683	2.40	.	Q	.	.	.	V	.
20.650	6.0716	2.40	.	Q	.	.	.	V	.
20.667	6.0749	2.40	.	Q	.	.	.	V	.
20.683	6.0782	2.39	.	Q	.	.	.	V	.
20.700	6.0815	2.39	.	Q	.	.	.	V	.
20.717	6.0848	2.39	.	Q	.	.	.	V	.
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20.750	6.0913	2.38	.	Q	.	.	.	V	.
20.767	6.0946	2.37	.	Q	.	.	.	V	.
20.783	6.0979	2.37	.	Q	.	.	.	V	.
20.800	6.1011	2.37	.	Q	.	.	.	V	.
20.817	6.1044	2.36	.	Q	.	.	.	V	.
20.833	6.1076	2.36	.	Q	.	.	.	V	.
20.850	6.1109	2.36	.	Q	.	.	.	V	.
20.867	6.1141	2.35	.	Q	.	.	.	V	.
20.883	6.1173	2.35	.	Q	.	.	.	V	.
20.900	6.1206	2.34	.	Q	.	.	.	V	.
20.917	6.1238	2.34	.	Q	.	.	.	V	.
20.933	6.1270	2.34	.	Q	.	.	.	V	.
20.950	6.1302	2.33	.	Q	.	.	.	V	.
20.967	6.1334	2.33	.	Q	.	.	.	V	.
20.983	6.1366	2.33	.	Q	.	.	.	V	.
21.000	6.1398	2.32	.	Q	.	.	.	V	.
21.017	6.1430	2.32	.	Q	.	.	.	V	.
21.033	6.1462	2.32	.	Q	.	.	.	V	.
21.050	6.1494	2.31	.	Q	.	.	.	V	.
21.067	6.1526	2.31	.	Q	.	.	.	V	.
21.083	6.1558	2.30	.	Q	.	.	.	V	.
21.100	6.1589	2.30	.	Q	.	.	.	V	.
21.117	6.1621	2.30	.	Q	.	.	.	V	.
21.133	6.1653	2.29	.	Q	.	.	.	V	.
21.150	6.1684	2.29	.	Q	.	.	.	V	.
21.167	6.1716	2.29	.	Q	.	.	.	V	.
21.183	6.1747	2.28	.	Q	.	.	.	V	.
21.200	6.1779	2.28	.	Q	.	.	.	V	.
21.217	6.1810	2.28	.	Q	.	.	.	V	.
21.233	6.1841	2.27	.	Q	.	.	.	V	.
21.250	6.1873	2.27	.	Q	.	.	.	V	.
21.267	6.1904	2.27	.	Q	.	.	.	V	.

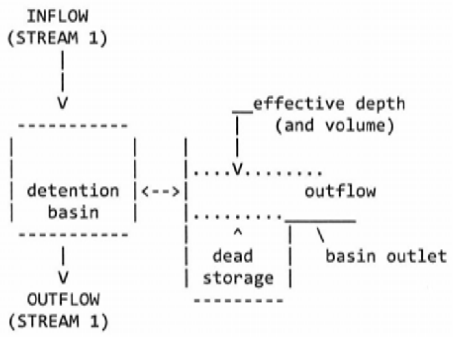
21.283	6.1935	2.26	.	Q	.	.	.	V .
21.300	6.1966	2.26	.	Q	.	.	.	V .
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21.367	6.2090	2.25	.	Q	.	.	.	V .
21.383	6.2121	2.25	.	Q	.	.	.	V .
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21.517	6.2367	2.22	.	Q	.	.	.	V .
21.533	6.2398	2.22	.	Q	.	.	.	V .
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21.567	6.2458	2.21	.	Q	.	.	.	V .
21.583	6.2489	2.21	.	Q	.	.	.	V .
21.600	6.2519	2.21	.	Q	.	.	.	V .
21.617	6.2550	2.20	.	Q	.	.	.	V .
21.633	6.2580	2.20	.	Q	.	.	.	V .
21.650	6.2610	2.20	.	Q	.	.	.	V .
21.667	6.2640	2.19	.	Q	.	.	.	V .
21.683	6.2671	2.19	.	Q	.	.	.	V .
21.700	6.2701	2.19	.	Q	.	.	.	V .
21.717	6.2731	2.18	.	Q	.	.	.	V .
21.733	6.2761	2.18	.	Q	.	.	.	V .
21.750	6.2791	2.18	.	Q	.	.	.	V .
21.767	6.2821	2.18	.	Q	.	.	.	V .
21.783	6.2851	2.17	.	Q	.	.	.	V .
21.800	6.2881	2.17	.	Q	.	.	.	V .
21.817	6.2910	2.17	.	Q	.	.	.	V .
21.833	6.2940	2.16	.	Q	.	.	.	V .
21.850	6.2970	2.16	.	Q	.	.	.	V .
21.867	6.3000	2.16	.	Q	.	.	.	V .
21.883	6.3029	2.16	.	Q	.	.	.	V .
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21.917	6.3089	2.15	.	Q	.	.	.	V .
21.933	6.3118	2.15	.	Q	.	.	.	V .
21.950	6.3148	2.14	.	Q	.	.	.	V .
21.967	6.3177	2.14	.	Q	.	.	.	V .
21.983	6.3207	2.14	.	Q	.	.	.	V .
22.000	6.3236	2.14	.	Q	.	.	.	V .
22.017	6.3266	2.13	.	Q	.	.	.	V .
22.033	6.3295	2.13	.	Q	.	.	.	V .
22.050	6.3324	2.13	.	Q	.	.	.	V .
22.067	6.3354	2.13	.	Q	.	.	.	V .
22.083	6.3383	2.12	.	Q	.	.	.	V .
22.100	6.3412	2.12	.	Q	.	.	.	V .
22.117	6.3441	2.12	.	Q	.	.	.	V .
22.133	6.3470	2.12	.	Q	.	.	.	V .
22.150	6.3499	2.11	.	Q	.	.	.	V .
22.167	6.3529	2.11	.	Q	.	.	.	V .
22.183	6.3558	2.11	.	Q	.	.	.	V .
22.200	6.3587	2.10	.	Q	.	.	.	V .
22.217	6.3616	2.10	.	Q	.	.	.	V .
22.233	6.3644	2.10	.	Q	.	.	.	V .
22.250	6.3673	2.10	.	Q	.	.	.	V .
22.267	6.3702	2.09	.	Q	.	.	.	V .
22.283	6.3731	2.09	.	Q	.	.	.	V .
22.300	6.3760	2.09	.	Q	.	.	.	V .
22.317	6.3789	2.09	.	Q	.	.	.	V .
22.333	6.3817	2.08	.Q		.	.	.	V .
22.350	6.3846	2.08	.Q		.	.	.	V .
22.367	6.3875	2.08	.Q		.	.	.	V .
22.383	6.3903	2.08	.Q		.	.	.	V .
22.400	6.3932	2.07	.Q		.	.	.	V .
22.417	6.3960	2.07	.Q		.	.	.	V .
22.433	6.3989	2.07	.Q		.	.	.	V .
22.450	6.4017	2.07	.Q		.	.	.	V .
22.467	6.4046	2.07	.Q		.	.	.	V .
22.483	6.4074	2.06	.Q		.	.	.	V .
22.500	6.4103	2.06	.Q		.	.	.	V .
22.517	6.4131	2.06	.Q		.	.	.	V .
22.533	6.4159	2.06	.Q		.	.	.	V .
22.550	6.4187	2.05	.Q		.	.	.	V .
22.567	6.4216	2.05	.Q		.	.	.	V .
22.583	6.4244	2.05	.Q		.	.	.	V .

22.600	6.4272	2.05	.Q	.	.	.	V .
22.617	6.4300	2.04	.Q	.	.	.	V .
22.633	6.4328	2.04	.Q	.	.	.	V .
22.650	6.4356	2.04	.Q	.	.	.	V .
22.667	6.4385	2.04	.Q	.	.	.	V .
22.683	6.4413	2.03	.Q	.	.	.	V .
22.700	6.4441	2.03	.Q	.	.	.	V .
22.717	6.4468	2.03	.Q	.	.	.	V .
22.733	6.4496	2.03	.Q	.	.	.	V .
22.750	6.4524	2.03	.Q	.	.	.	V .
22.767	6.4552	2.02	.Q	.	.	.	V .
22.783	6.4580	2.02	.Q	.	.	.	V .
22.800	6.4608	2.02	.Q	.	.	.	V .
22.817	6.4636	2.02	.Q	.	.	.	V .
22.833	6.4663	2.01	.Q	.	.	.	V .
22.850	6.4691	2.01	.Q	.	.	.	V .
22.867	6.4719	2.01	.Q	.	.	.	V .
22.883	6.4746	2.01	.Q	.	.	.	V .
22.900	6.4774	2.01	.Q	.	.	.	V .
22.917	6.4802	2.00	.Q	.	.	.	V .
22.933	6.4829	2.00	.Q	.	.	.	V .
22.950	6.4857	2.00	.Q	.	.	.	V .
22.967	6.4884	2.00	.Q	.	.	.	V .
22.983	6.4912	1.99	.Q	.	.	.	V .
23.000	6.4939	1.99	.Q	.	.	.	V .
23.017	6.4966	1.99	.Q	.	.	.	V .
23.033	6.4994	1.99	.Q	.	.	.	V .
23.050	6.5021	1.99	.Q	.	.	.	V .
23.067	6.5049	1.98	.Q	.	.	.	V .
23.083	6.5076	1.98	.Q	.	.	.	V .
23.100	6.5103	1.98	.Q	.	.	.	V .
23.117	6.5130	1.98	.Q	.	.	.	V .
23.133	6.5157	1.98	.Q	.	.	.	V .
23.150	6.5185	1.97	.Q	.	.	.	V .
23.167	6.5212	1.97	.Q	.	.	.	V.
23.183	6.5239	1.97	.Q	.	.	.	V.
23.200	6.5266	1.97	.Q	.	.	.	V.
23.217	6.5293	1.96	.Q	.	.	.	V.
23.233	6.5320	1.96	.Q	.	.	.	V.
23.250	6.5347	1.96	.Q	.	.	.	V.
23.267	6.5374	1.96	.Q	.	.	.	V.
23.283	6.5401	1.96	.Q	.	.	.	V.
23.300	6.5428	1.95	.Q	.	.	.	V.
23.317	6.5455	1.95	.Q	.	.	.	V.
23.333	6.5482	1.95	.Q	.	.	.	V.
23.350	6.5509	1.95	.Q	.	.	.	V.
23.367	6.5535	1.95	.Q	.	.	.	V.
23.383	6.5562	1.94	.Q	.	.	.	V.
23.400	6.5589	1.94	.Q	.	.	.	V.
23.417	6.5616	1.94	.Q	.	.	.	V.
23.433	6.5642	1.94	.Q	.	.	.	V.
23.450	6.5669	1.94	.Q	.	.	.	V.
23.467	6.5696	1.93	.Q	.	.	.	V.
23.483	6.5722	1.93	.Q	.	.	.	V.
23.500	6.5749	1.93	.Q	.	.	.	V.
23.517	6.5775	1.93	.Q	.	.	.	V.
23.533	6.5802	1.93	.Q	.	.	.	V.
23.550	6.5828	1.92	.Q	.	.	.	V.
23.567	6.5855	1.92	.Q	.	.	.	V.
23.583	6.5881	1.92	.Q	.	.	.	V.
23.600	6.5908	1.92	.Q	.	.	.	V.
23.617	6.5934	1.92	.Q	.	.	.	V.
23.633	6.5961	1.92	.Q	.	.	.	V.
23.650	6.5987	1.91	.Q	.	.	.	V.
23.667	6.6013	1.91	.Q	.	.	.	V.
23.683	6.6040	1.91	.Q	.	.	.	V.
23.700	6.6066	1.91	.Q	.	.	.	V.
23.717	6.6092	1.91	.Q	.	.	.	V.
23.733	6.6118	1.90	.Q	.	.	.	V.
23.750	6.6145	1.90	.Q	.	.	.	V.
23.767	6.6171	1.90	.Q	.	.	.	V.
23.783	6.6197	1.90	.Q	.	.	.	V.
23.800	6.6223	1.90	.Q	.	.	.	V.
23.817	6.6249	1.89	.Q	.	.	.	V.
23.833	6.6275	1.89	.Q	.	.	.	V.
23.850	6.6301	1.89	.Q	.	.	.	V.
23.867	6.6327	1.89	.Q	.	.	.	V.
23.883	6.6353	1.89	.Q	.	.	.	V.
23.900	6.6379	1.89	.Q	.	.	.	V.

23.917	6.6405	1.88	.Q	.	.	.	V.
23.933	6.6431	1.88	.Q	.	.	.	V.
23.950	6.6457	1.88	.Q	.	.	.	V.
23.967	6.6483	1.88	.Q	.	.	.	V.
23.983	6.6509	1.88	.Q	.	.	.	V.
24.000	6.6535	1.88	.Q	.	.	.	V.
24.017	6.6560	1.87	.Q	.	.	.	V.
24.033	6.6586	1.87	.Q	.	.	.	V.
24.050	6.6612	1.87	.Q	.	.	.	V.
24.067	6.6638	1.87	.Q	.	.	.	V.
24.083	6.6663	1.87	.Q	.	.	.	V.
24.100	6.6689	1.86	.Q	.	.	.	V.
24.117	6.6715	1.86	.Q	.	.	.	V.
24.133	6.6740	1.85	.Q	.	.	.	V.
24.150	6.6764	1.70	.Q	.	.	.	V.
24.167	6.6785	1.53	.Q	.	.	.	V.
24.183	6.6803	1.35	.Q	.	.	.	V.
24.200	6.6820	1.18	.Q	.	.	.	V.
24.217	6.6833	1.00	Q	.	.	.	V.
24.233	6.6845	0.83	Q	.	.	.	V.
24.250	6.6854	0.65	Q	.	.	.	V.
24.267	6.6860	0.47	Q	.	.	.	V.
24.283	6.6864	0.30	Q	.	.	.	V.
24.300	6.6866	0.12	Q	.	.	.	V

****
FLOW PROCESS FROM NODE 410.00 TO NODE 410.00 IS CODE = 3.2

>>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #1<<<<<
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ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 1
THROUGH A FLOW-THROUGH DETENTION BASIN
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE(AF) = 0.000
SPECIFIED DEAD STORAGE(AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.09	15.80	0.010
3	0.19	16.50	0.020
4	0.29	17.20	0.070
5	0.39	17.80	0.170
6	0.49	18.50	0.320

==========
MODIFIED-PULS BASIN ROUTING MODEL RESULTS(1-MINUTE COMPUTATION INTERVALS):
(Note: Computed EFFECTIVE DEPTH and VOLUME are estimated at the clock time;
MEAN OUTFLOW is the average value during the unit interval.)

CLOCK TIME (HRS)	DEAD-STORAGE FILLED(AF)	INFLOW (CFS)	LOSS (CFS)	EFFECTIVE DEPTH(FT)	MEAN OUTFLOW (CFS)	EFFECTIVE VOLUME(AF)

0.017	0.000	0.00	0.00	0.00	0.0	0.000
0.033	0.000	0.00	0.00	0.00	0.0	0.000
0.050	0.000	0.00	0.00	0.00	0.0	0.000
0.067	0.000	0.00	0.00	0.00	0.0	0.000
0.083	0.000	0.00	0.00	0.00	0.0	0.000
0.100	0.000	0.00	0.00	0.00	0.0	0.000
0.117	0.000	0.09	0.00	0.00	0.0	0.000
0.133	0.000	0.26	0.00	0.00	0.2	0.000
0.150	0.000	0.44	0.00	0.00	0.4	0.000
0.167	0.000	0.62	0.00	0.00	0.5	0.000
0.183	0.000	0.79	0.00	0.00	0.7	0.001
0.200	0.000	0.97	0.00	0.01	0.9	0.001
0.217	0.000	1.14	0.00	0.01	1.1	0.001
0.233	0.000	1.32	0.00	0.01	1.2	0.001
0.250	0.000	1.50	0.00	0.01	1.4	0.001
0.267	0.000	1.67	0.00	0.01	1.6	0.001
0.283	0.000	1.84	0.00	0.01	1.8	0.001
0.300	0.000	1.87	0.00	0.01	1.9	0.001
0.317	0.000	1.87	0.00	0.01	1.9	0.001
0.333	0.000	1.87	0.00	0.01	1.9	0.001
0.350	0.000	1.87	0.00	0.01	1.9	0.001
0.367	0.000	1.87	0.00	0.01	1.9	0.001
0.383	0.000	1.87	0.00	0.01	1.9	0.001
0.400	0.000	1.87	0.00	0.01	1.9	0.001
0.417	0.000	1.87	0.00	0.01	1.9	0.001
0.433	0.000	1.87	0.00	0.01	1.9	0.001
0.450	0.000	1.87	0.00	0.01	1.9	0.001
0.467	0.000	1.87	0.00	0.01	1.9	0.001
0.483	0.000	1.87	0.00	0.01	1.9	0.001
0.500	0.000	1.88	0.00	0.01	1.9	0.001
0.517	0.000	1.88	0.00	0.01	1.9	0.001
0.533	0.000	1.88	0.00	0.01	1.9	0.001
0.550	0.000	1.88	0.00	0.01	1.9	0.001
0.567	0.000	1.88	0.00	0.01	1.9	0.001
0.583	0.000	1.88	0.00	0.01	1.9	0.001
0.600	0.000	1.88	0.00	0.01	1.9	0.001
0.617	0.000	1.88	0.00	0.01	1.9	0.001
0.633	0.000	1.89	0.00	0.01	1.9	0.001
0.650	0.000	1.89	0.00	0.01	1.9	0.001
0.667	0.000	1.89	0.00	0.01	1.9	0.001
0.683	0.000	1.89	0.00	0.01	1.9	0.001
0.700	0.000	1.89	0.00	0.01	1.9	0.001
0.717	0.000	1.89	0.00	0.01	1.9	0.001
0.733	0.000	1.89	0.00	0.01	1.9	0.001
0.750	0.000	1.89	0.00	0.01	1.9	0.001
0.767	0.000	1.89	0.00	0.01	1.9	0.001
0.783	0.000	1.89	0.00	0.01	1.9	0.001
0.800	0.000	1.89	0.00	0.01	1.9	0.001
0.817	0.000	1.89	0.00	0.01	1.9	0.001
0.833	0.000	1.89	0.00	0.01	1.9	0.001
0.850	0.000	1.89	0.00	0.01	1.9	0.001
0.867	0.000	1.90	0.00	0.01	1.9	0.001
0.883	0.000	1.90	0.00	0.01	1.9	0.001
0.900	0.000	1.90	0.00	0.01	1.9	0.001
0.917	0.000	1.90	0.00	0.01	1.9	0.001
0.933	0.000	1.90	0.00	0.01	1.9	0.001
0.950	0.000	1.90	0.00	0.01	1.9	0.001
0.967	0.000	1.90	0.00	0.01	1.9	0.001
0.983	0.000	1.90	0.00	0.01	1.9	0.001
1.000	0.000	1.91	0.00	0.01	1.9	0.001
1.017	0.000	1.91	0.00	0.01	1.9	0.001
1.033	0.000	1.91	0.00	0.01	1.9	0.001
1.050	0.000	1.91	0.00	0.01	1.9	0.001
1.067	0.000	1.91	0.00	0.01	1.9	0.001
1.083	0.000	1.91	0.00	0.01	1.9	0.001
1.100	0.000	1.91	0.00	0.01	1.9	0.001
1.117	0.000	1.91	0.00	0.01	1.9	0.001
1.133	0.000	1.91	0.00	0.01	1.9	0.001
1.150	0.000	1.91	0.00	0.01	1.9	0.001
1.167	0.000	1.91	0.00	0.01	1.9	0.001
1.183	0.000	1.91	0.00	0.01	1.9	0.001
1.200	0.000	1.91	0.00	0.01	1.9	0.001
1.217	0.000	1.92	0.00	0.01	1.9	0.001
1.233	0.000	1.92	0.00	0.01	1.9	0.001
1.250	0.000	1.92	0.00	0.01	1.9	0.001
1.267	0.000	1.92	0.00	0.01	1.9	0.001
1.283	0.000	1.92	0.00	0.01	1.9	0.001
1.300	0.000	1.92	0.00	0.01	1.9	0.001

1.317	0.000	1.92	0.00	0.01	1.9	0.001
1.333	0.000	1.92	0.00	0.01	1.9	0.001
1.350	0.000	1.93	0.00	0.01	1.9	0.001
1.367	0.000	1.93	0.00	0.01	1.9	0.001
1.383	0.000	1.93	0.00	0.01	1.9	0.001
1.400	0.000	1.93	0.00	0.01	1.9	0.001
1.417	0.000	1.93	0.00	0.01	1.9	0.001
1.433	0.000	1.93	0.00	0.01	1.9	0.001
1.450	0.000	1.93	0.00	0.01	1.9	0.001
1.467	0.000	1.93	0.00	0.01	1.9	0.001
1.483	0.000	1.93	0.00	0.01	1.9	0.001
1.500	0.000	1.93	0.00	0.01	1.9	0.001
1.517	0.000	1.93	0.00	0.01	1.9	0.001
1.533	0.000	1.93	0.00	0.01	1.9	0.001
1.550	0.000	1.93	0.00	0.01	1.9	0.001
1.567	0.000	1.94	0.00	0.01	1.9	0.001
1.583	0.000	1.94	0.00	0.01	1.9	0.001
1.600	0.000	1.94	0.00	0.01	1.9	0.001
1.617	0.000	1.94	0.00	0.01	1.9	0.001
1.633	0.000	1.94	0.00	0.01	1.9	0.001
1.650	0.000	1.94	0.00	0.01	1.9	0.001
1.667	0.000	1.94	0.00	0.01	1.9	0.001
1.683	0.000	1.94	0.00	0.01	1.9	0.001
1.700	0.000	1.95	0.00	0.01	1.9	0.001
1.717	0.000	1.95	0.00	0.01	1.9	0.001
1.733	0.000	1.95	0.00	0.01	1.9	0.001
1.750	0.000	1.95	0.00	0.01	1.9	0.001
1.767	0.000	1.95	0.00	0.01	1.9	0.001
1.783	0.000	1.95	0.00	0.01	1.9	0.001
1.800	0.000	1.95	0.00	0.01	1.9	0.001
1.817	0.000	1.95	0.00	0.01	2.0	0.001
1.833	0.000	1.95	0.00	0.01	2.0	0.001
1.850	0.000	1.95	0.00	0.01	2.0	0.001
1.867	0.000	1.95	0.00	0.01	2.0	0.001
1.883	0.000	1.95	0.00	0.01	2.0	0.001
1.900	0.000	1.96	0.00	0.01	2.0	0.001
1.917	0.000	1.96	0.00	0.01	2.0	0.001
1.933	0.000	1.96	0.00	0.01	2.0	0.001
1.950	0.000	1.96	0.00	0.01	2.0	0.001
1.967	0.000	1.96	0.00	0.01	2.0	0.001
1.983	0.000	1.96	0.00	0.01	2.0	0.001
2.000	0.000	1.96	0.00	0.01	2.0	0.001
2.017	0.000	1.96	0.00	0.01	2.0	0.001
2.033	0.000	1.97	0.00	0.01	2.0	0.001
2.050	0.000	1.97	0.00	0.01	2.0	0.001
2.067	0.000	1.97	0.00	0.01	2.0	0.001
2.083	0.000	1.97	0.00	0.01	2.0	0.001
2.100	0.000	1.97	0.00	0.01	2.0	0.001
2.117	0.000	1.97	0.00	0.01	2.0	0.001
2.133	0.000	1.97	0.00	0.01	2.0	0.001
2.150	0.000	1.97	0.00	0.01	2.0	0.001
2.167	0.000	1.97	0.00	0.01	2.0	0.001
2.183	0.000	1.97	0.00	0.01	2.0	0.001
2.200	0.000	1.97	0.00	0.01	2.0	0.001
2.217	0.000	1.97	0.00	0.01	2.0	0.001
2.233	0.000	1.98	0.00	0.01	2.0	0.001
2.250	0.000	1.98	0.00	0.01	2.0	0.001
2.267	0.000	1.98	0.00	0.01	2.0	0.001
2.283	0.000	1.98	0.00	0.01	2.0	0.001
2.300	0.000	1.98	0.00	0.01	2.0	0.001
2.317	0.000	1.98	0.00	0.01	2.0	0.001
2.333	0.000	1.98	0.00	0.01	2.0	0.001
2.350	0.000	1.99	0.00	0.01	2.0	0.001
2.367	0.000	1.99	0.00	0.01	2.0	0.001
2.383	0.000	1.99	0.00	0.01	2.0	0.001
2.400	0.000	1.99	0.00	0.01	2.0	0.001
2.417	0.000	1.99	0.00	0.01	2.0	0.001
2.433	0.000	1.99	0.00	0.01	2.0	0.001
2.450	0.000	1.99	0.00	0.01	2.0	0.001
2.467	0.000	1.99	0.00	0.01	2.0	0.001
2.483	0.000	1.99	0.00	0.01	2.0	0.001
2.500	0.000	1.99	0.00	0.01	2.0	0.001
2.517	0.000	1.99	0.00	0.01	2.0	0.001
2.533	0.000	2.00	0.00	0.01	2.0	0.001
2.550	0.000	2.00	0.00	0.01	2.0	0.001
2.567	0.000	2.00	0.00	0.01	2.0	0.001
2.583	0.000	2.00	0.00	0.01	2.0	0.001
2.600	0.000	2.00	0.00	0.01	2.0	0.001
2.617	0.000	2.00	0.00	0.01	2.0	0.001

2.633	0.000	2.00	0.00	0.01	2.0	0.001
2.650	0.000	2.00	0.00	0.01	2.0	0.001
2.667	0.000	2.00	0.00	0.01	2.0	0.001
2.683	0.000	2.01	0.00	0.01	2.0	0.001
2.700	0.000	2.01	0.00	0.01	2.0	0.001
2.717	0.000	2.01	0.00	0.01	2.0	0.001
2.733	0.000	2.01	0.00	0.01	2.0	0.001
2.750	0.000	2.01	0.00	0.01	2.0	0.001
2.767	0.000	2.01	0.00	0.01	2.0	0.001
2.783	0.000	2.01	0.00	0.01	2.0	0.001
2.800	0.000	2.01	0.00	0.01	2.0	0.001
2.817	0.000	2.02	0.00	0.01	2.0	0.001
2.833	0.000	2.02	0.00	0.01	2.0	0.001
2.850	0.000	2.02	0.00	0.01	2.0	0.001
2.867	0.000	2.02	0.00	0.01	2.0	0.001
2.883	0.000	2.02	0.00	0.01	2.0	0.001
2.900	0.000	2.02	0.00	0.01	2.0	0.001
2.917	0.000	2.02	0.00	0.01	2.0	0.001
2.933	0.000	2.02	0.00	0.01	2.0	0.001
2.950	0.000	2.02	0.00	0.01	2.0	0.001
2.967	0.000	2.02	0.00	0.01	2.0	0.001
2.983	0.000	2.03	0.00	0.01	2.0	0.001
3.000	0.000	2.03	0.00	0.01	2.0	0.001
3.017	0.000	2.03	0.00	0.01	2.0	0.001
3.033	0.000	2.03	0.00	0.01	2.0	0.001
3.050	0.000	2.03	0.00	0.01	2.0	0.001
3.067	0.000	2.03	0.00	0.01	2.0	0.001
3.083	0.000	2.03	0.00	0.01	2.0	0.001
3.100	0.000	2.04	0.00	0.01	2.0	0.001
3.117	0.000	2.04	0.00	0.01	2.0	0.001
3.133	0.000	2.04	0.00	0.01	2.0	0.001
3.150	0.000	2.04	0.00	0.01	2.0	0.001
3.167	0.000	2.04	0.00	0.01	2.0	0.001
3.183	0.000	2.04	0.00	0.01	2.0	0.001
3.200	0.000	2.04	0.00	0.01	2.0	0.001
3.217	0.000	2.04	0.00	0.01	2.0	0.001
3.233	0.000	2.04	0.00	0.01	2.0	0.001
3.250	0.000	2.04	0.00	0.01	2.0	0.001
3.267	0.000	2.04	0.00	0.01	2.0	0.001
3.283	0.000	2.05	0.00	0.01	2.0	0.001
3.300	0.000	2.05	0.00	0.01	2.0	0.001
3.317	0.000	2.05	0.00	0.01	2.0	0.001
3.333	0.000	2.05	0.00	0.01	2.0	0.001
3.350	0.000	2.05	0.00	0.01	2.1	0.001
3.367	0.000	2.05	0.00	0.01	2.1	0.001
3.383	0.000	2.05	0.00	0.01	2.1	0.001
3.400	0.000	2.06	0.00	0.01	2.1	0.001
3.417	0.000	2.06	0.00	0.01	2.1	0.001
3.433	0.000	2.06	0.00	0.01	2.1	0.001
3.450	0.000	2.06	0.00	0.01	2.1	0.001
3.467	0.000	2.06	0.00	0.01	2.1	0.001
3.483	0.000	2.06	0.00	0.01	2.1	0.001
3.500	0.000	2.06	0.00	0.01	2.1	0.001
3.517	0.000	2.06	0.00	0.01	2.1	0.001
3.533	0.000	2.07	0.00	0.01	2.1	0.001
3.550	0.000	2.07	0.00	0.01	2.1	0.001
3.567	0.000	2.07	0.00	0.01	2.1	0.001
3.583	0.000	2.07	0.00	0.01	2.1	0.001
3.600	0.000	2.07	0.00	0.01	2.1	0.001
3.617	0.000	2.07	0.00	0.01	2.1	0.001
3.633	0.000	2.07	0.00	0.01	2.1	0.001
3.650	0.000	2.07	0.00	0.01	2.1	0.001
3.667	0.000	2.07	0.00	0.01	2.1	0.001
3.683	0.000	2.07	0.00	0.01	2.1	0.001
3.700	0.000	2.08	0.00	0.01	2.1	0.001
3.717	0.000	2.08	0.00	0.01	2.1	0.001
3.733	0.000	2.08	0.00	0.01	2.1	0.001
3.750	0.000	2.08	0.00	0.01	2.1	0.001
3.767	0.000	2.08	0.00	0.01	2.1	0.001
3.783	0.000	2.08	0.00	0.01	2.1	0.001
3.800	0.000	2.09	0.00	0.01	2.1	0.001
3.817	0.000	2.09	0.00	0.01	2.1	0.001
3.833	0.000	2.09	0.00	0.01	2.1	0.001
3.850	0.000	2.09	0.00	0.01	2.1	0.001
3.867	0.000	2.09	0.00	0.01	2.1	0.001
3.883	0.000	2.09	0.00	0.01	2.1	0.001
3.900	0.000	2.09	0.00	0.01	2.1	0.001
3.917	0.000	2.09	0.00	0.01	2.1	0.001
3.933	0.000	2.09	0.00	0.01	2.1	0.001

3.950	0.000	2.09	0.00	0.01	2.1	0.001
3.967	0.000	2.10	0.00	0.01	2.1	0.001
3.983	0.000	2.10	0.00	0.01	2.1	0.001
4.000	0.000	2.10	0.00	0.01	2.1	0.001
4.017	0.000	2.10	0.00	0.01	2.1	0.001
4.033	0.000	2.10	0.00	0.01	2.1	0.001
4.050	0.000	2.10	0.00	0.01	2.1	0.001
4.067	0.000	2.10	0.00	0.01	2.1	0.001
4.083	0.000	2.11	0.00	0.01	2.1	0.001
4.100	0.000	2.11	0.00	0.01	2.1	0.001
4.117	0.000	2.11	0.00	0.01	2.1	0.001
4.133	0.000	2.11	0.00	0.01	2.1	0.001
4.150	0.000	2.11	0.00	0.01	2.1	0.001
4.167	0.000	2.11	0.00	0.01	2.1	0.001
4.183	0.000	2.12	0.00	0.01	2.1	0.001
4.200	0.000	2.12	0.00	0.01	2.1	0.001
4.217	0.000	2.12	0.00	0.01	2.1	0.001
4.233	0.000	2.12	0.00	0.01	2.1	0.001
4.250	0.000	2.12	0.00	0.01	2.1	0.001
4.267	0.000	2.12	0.00	0.01	2.1	0.001
4.283	0.000	2.12	0.00	0.01	2.1	0.001
4.300	0.000	2.12	0.00	0.01	2.1	0.001
4.317	0.000	2.12	0.00	0.01	2.1	0.001
4.333	0.000	2.12	0.00	0.01	2.1	0.001
4.350	0.000	2.12	0.00	0.01	2.1	0.001
4.367	0.000	2.13	0.00	0.01	2.1	0.001
4.383	0.000	2.13	0.00	0.01	2.1	0.001
4.400	0.000	2.13	0.00	0.01	2.1	0.001
4.417	0.000	2.13	0.00	0.01	2.1	0.001
4.433	0.000	2.13	0.00	0.01	2.1	0.001
4.450	0.000	2.14	0.00	0.01	2.1	0.001
4.467	0.000	2.14	0.00	0.01	2.1	0.001
4.483	0.000	2.14	0.00	0.01	2.1	0.001
4.500	0.000	2.14	0.00	0.01	2.1	0.001
4.517	0.000	2.14	0.00	0.01	2.1	0.001
4.533	0.000	2.14	0.00	0.01	2.1	0.001
4.550	0.000	2.15	0.00	0.01	2.1	0.001
4.567	0.000	2.15	0.00	0.01	2.1	0.001
4.583	0.000	2.15	0.00	0.01	2.1	0.001
4.600	0.000	2.15	0.00	0.01	2.1	0.001
4.617	0.000	2.15	0.00	0.01	2.1	0.001
4.633	0.000	2.15	0.00	0.01	2.1	0.001
4.650	0.000	2.15	0.00	0.01	2.2	0.001
4.667	0.000	2.15	0.00	0.01	2.2	0.001
4.683	0.000	2.15	0.00	0.01	2.2	0.001
4.700	0.000	2.15	0.00	0.01	2.2	0.001
4.717	0.000	2.16	0.00	0.01	2.2	0.001
4.733	0.000	2.16	0.00	0.01	2.2	0.001
4.750	0.000	2.16	0.00	0.01	2.2	0.001
4.767	0.000	2.16	0.00	0.01	2.2	0.001
4.783	0.000	2.16	0.00	0.01	2.2	0.001
4.800	0.000	2.16	0.00	0.01	2.2	0.001
4.817	0.000	2.17	0.00	0.01	2.2	0.001
4.833	0.000	2.17	0.00	0.01	2.2	0.001
4.850	0.000	2.17	0.00	0.01	2.2	0.001
4.867	0.000	2.17	0.00	0.01	2.2	0.001
4.883	0.000	2.17	0.00	0.01	2.2	0.001
4.900	0.000	2.17	0.00	0.01	2.2	0.001
4.917	0.000	2.18	0.00	0.01	2.2	0.001
4.933	0.000	2.18	0.00	0.01	2.2	0.001
4.950	0.000	2.18	0.00	0.01	2.2	0.001
4.967	0.000	2.18	0.00	0.01	2.2	0.001
4.983	0.000	2.18	0.00	0.01	2.2	0.001
5.000	0.000	2.18	0.00	0.01	2.2	0.001
5.017	0.000	2.18	0.00	0.01	2.2	0.001
5.033	0.000	2.18	0.00	0.01	2.2	0.001
5.050	0.000	2.18	0.00	0.01	2.2	0.001
5.067	0.000	2.18	0.00	0.01	2.2	0.001
5.083	0.000	2.19	0.00	0.01	2.2	0.001
5.100	0.000	2.19	0.00	0.01	2.2	0.001
5.117	0.000	2.19	0.00	0.01	2.2	0.001
5.133	0.000	2.19	0.00	0.01	2.2	0.001
5.150	0.000	2.19	0.00	0.01	2.2	0.001
5.167	0.000	2.20	0.00	0.01	2.2	0.001
5.183	0.000	2.20	0.00	0.01	2.2	0.001
5.200	0.000	2.20	0.00	0.01	2.2	0.001
5.217	0.000	2.20	0.00	0.01	2.2	0.001
5.233	0.000	2.20	0.00	0.01	2.2	0.001
5.250	0.000	2.21	0.00	0.01	2.2	0.001

5.267	0.000	2.21	0.00	0.01	2.2	0.001
5.283	0.000	2.21	0.00	0.01	2.2	0.001
5.300	0.000	2.21	0.00	0.01	2.2	0.001
5.317	0.000	2.21	0.00	0.01	2.2	0.001
5.333	0.000	2.21	0.00	0.01	2.2	0.001
5.350	0.000	2.21	0.00	0.01	2.2	0.001
5.367	0.000	2.21	0.00	0.01	2.2	0.001
5.383	0.000	2.21	0.00	0.01	2.2	0.001
5.400	0.000	2.21	0.00	0.01	2.2	0.001
5.417	0.000	2.22	0.00	0.01	2.2	0.001
5.433	0.000	2.22	0.00	0.01	2.2	0.001
5.450	0.000	2.22	0.00	0.01	2.2	0.001
5.467	0.000	2.22	0.00	0.01	2.2	0.001
5.483	0.000	2.22	0.00	0.01	2.2	0.001
5.500	0.000	2.23	0.00	0.01	2.2	0.001
5.517	0.000	2.23	0.00	0.01	2.2	0.001
5.533	0.000	2.23	0.00	0.01	2.2	0.001
5.550	0.000	2.23	0.00	0.01	2.2	0.001
5.567	0.000	2.23	0.00	0.01	2.2	0.001
5.583	0.000	2.24	0.00	0.01	2.2	0.001
5.600	0.000	2.24	0.00	0.01	2.2	0.001
5.617	0.000	2.24	0.00	0.01	2.2	0.001
5.633	0.000	2.24	0.00	0.01	2.2	0.001
5.650	0.000	2.24	0.00	0.01	2.2	0.001
5.667	0.000	2.24	0.00	0.01	2.2	0.001
5.683	0.000	2.24	0.00	0.01	2.2	0.001
5.700	0.000	2.24	0.00	0.01	2.2	0.001
5.717	0.000	2.25	0.00	0.01	2.2	0.001
5.733	0.000	2.25	0.00	0.01	2.2	0.001
5.750	0.000	2.25	0.00	0.01	2.2	0.001
5.767	0.000	2.25	0.00	0.01	2.2	0.001
5.783	0.000	2.25	0.00	0.01	2.2	0.001
5.800	0.000	2.25	0.00	0.01	2.3	0.001
5.817	0.000	2.26	0.00	0.01	2.3	0.001
5.833	0.000	2.26	0.00	0.01	2.3	0.001
5.850	0.000	2.26	0.00	0.01	2.3	0.001
5.867	0.000	2.26	0.00	0.01	2.3	0.001
5.883	0.000	2.26	0.00	0.01	2.3	0.001
5.900	0.000	2.27	0.00	0.01	2.3	0.001
5.917	0.000	2.27	0.00	0.01	2.3	0.001
5.933	0.000	2.27	0.00	0.01	2.3	0.001
5.950	0.000	2.27	0.00	0.01	2.3	0.001
5.967	0.000	2.27	0.00	0.01	2.3	0.001
5.983	0.000	2.27	0.00	0.01	2.3	0.001
6.000	0.000	2.28	0.00	0.01	2.3	0.001
6.017	0.000	2.28	0.00	0.01	2.3	0.001
6.033	0.000	2.28	0.00	0.01	2.3	0.001
6.050	0.000	2.28	0.00	0.01	2.3	0.001
6.067	0.000	2.28	0.00	0.01	2.3	0.001
6.083	0.000	2.28	0.00	0.01	2.3	0.001
6.100	0.000	2.28	0.00	0.01	2.3	0.001
6.117	0.000	2.28	0.00	0.01	2.3	0.001
6.133	0.000	2.29	0.00	0.01	2.3	0.001
6.150	0.000	2.29	0.00	0.01	2.3	0.001
6.167	0.000	2.29	0.00	0.01	2.3	0.001
6.183	0.000	2.29	0.00	0.01	2.3	0.001
6.200	0.000	2.29	0.00	0.01	2.3	0.001
6.217	0.000	2.30	0.00	0.01	2.3	0.001
6.233	0.000	2.30	0.00	0.01	2.3	0.001
6.250	0.000	2.30	0.00	0.01	2.3	0.001
6.267	0.000	2.30	0.00	0.01	2.3	0.001
6.283	0.000	2.31	0.00	0.01	2.3	0.001
6.300	0.000	2.31	0.00	0.01	2.3	0.001
6.317	0.000	2.31	0.00	0.01	2.3	0.001
6.333	0.000	2.31	0.00	0.01	2.3	0.001
6.350	0.000	2.31	0.00	0.01	2.3	0.001
6.367	0.000	2.31	0.00	0.01	2.3	0.001
6.383	0.000	2.31	0.00	0.01	2.3	0.001
6.400	0.000	2.31	0.00	0.01	2.3	0.001
6.417	0.000	2.32	0.00	0.01	2.3	0.001
6.433	0.000	2.32	0.00	0.01	2.3	0.001
6.450	0.000	2.32	0.00	0.01	2.3	0.001
6.467	0.000	2.32	0.00	0.01	2.3	0.001
6.483	0.000	2.32	0.00	0.01	2.3	0.001
6.500	0.000	2.32	0.00	0.01	2.3	0.001
6.517	0.000	2.33	0.00	0.01	2.3	0.001
6.533	0.000	2.33	0.00	0.01	2.3	0.001
6.550	0.000	2.33	0.00	0.01	2.3	0.001
6.567	0.000	2.33	0.00	0.01	2.3	0.001

6.583	0.000	2.34	0.00	0.01	2.3	0.001
6.600	0.000	2.34	0.00	0.01	2.3	0.001
6.617	0.000	2.34	0.00	0.01	2.3	0.001
6.633	0.000	2.34	0.00	0.01	2.3	0.001
6.650	0.000	2.34	0.00	0.01	2.3	0.001
6.667	0.000	2.35	0.00	0.01	2.3	0.001
6.683	0.000	2.35	0.00	0.01	2.3	0.001
6.700	0.000	2.35	0.00	0.01	2.3	0.001
6.717	0.000	2.35	0.00	0.01	2.3	0.001
6.733	0.000	2.35	0.00	0.01	2.4	0.001
6.750	0.000	2.35	0.00	0.01	2.4	0.001
6.767	0.000	2.35	0.00	0.01	2.4	0.001
6.783	0.000	2.35	0.00	0.01	2.4	0.001
6.800	0.000	2.36	0.00	0.01	2.4	0.001
6.817	0.000	2.36	0.00	0.01	2.4	0.001
6.833	0.000	2.36	0.00	0.01	2.4	0.001
6.850	0.000	2.36	0.00	0.01	2.4	0.001
6.867	0.000	2.36	0.00	0.01	2.4	0.001
6.883	0.000	2.37	0.00	0.01	2.4	0.001
6.900	0.000	2.37	0.00	0.01	2.4	0.001
6.917	0.000	2.37	0.00	0.01	2.4	0.002
6.933	0.000	2.37	0.00	0.01	2.4	0.002
6.950	0.000	2.38	0.00	0.01	2.4	0.002
6.967	0.000	2.38	0.00	0.01	2.4	0.002
6.983	0.000	2.38	0.00	0.01	2.4	0.002
7.000	0.000	2.38	0.00	0.01	2.4	0.002
7.017	0.000	2.39	0.00	0.01	2.4	0.002
7.033	0.000	2.39	0.00	0.01	2.4	0.002
7.050	0.000	2.39	0.00	0.01	2.4	0.002
7.067	0.000	2.39	0.00	0.01	2.4	0.002
7.083	0.000	2.39	0.00	0.01	2.4	0.002
7.100	0.000	2.39	0.00	0.01	2.4	0.002
7.117	0.000	2.39	0.00	0.01	2.4	0.002
7.133	0.000	2.39	0.00	0.01	2.4	0.002
7.150	0.000	2.40	0.00	0.01	2.4	0.002
7.167	0.000	2.40	0.00	0.01	2.4	0.002
7.183	0.000	2.40	0.00	0.01	2.4	0.002
7.200	0.000	2.40	0.00	0.01	2.4	0.002
7.217	0.000	2.40	0.00	0.01	2.4	0.002
7.233	0.000	2.41	0.00	0.01	2.4	0.002
7.250	0.000	2.41	0.00	0.01	2.4	0.002
7.267	0.000	2.41	0.00	0.01	2.4	0.002
7.283	0.000	2.42	0.00	0.01	2.4	0.002
7.300	0.000	2.42	0.00	0.01	2.4	0.002
7.317	0.000	2.42	0.00	0.01	2.4	0.002
7.333	0.000	2.42	0.00	0.01	2.4	0.002
7.350	0.000	2.43	0.00	0.01	2.4	0.002
7.367	0.000	2.43	0.00	0.01	2.4	0.002
7.383	0.000	2.43	0.00	0.01	2.4	0.002
7.400	0.000	2.43	0.00	0.01	2.4	0.002
7.417	0.000	2.43	0.00	0.01	2.4	0.002
7.433	0.000	2.43	0.00	0.01	2.4	0.002
7.450	0.000	2.43	0.00	0.01	2.4	0.002
7.467	0.000	2.44	0.00	0.01	2.4	0.002
7.483	0.000	2.44	0.00	0.01	2.4	0.002
7.500	0.000	2.44	0.00	0.01	2.4	0.002
7.517	0.000	2.44	0.00	0.01	2.4	0.002
7.533	0.000	2.44	0.00	0.01	2.4	0.002
7.550	0.000	2.44	0.00	0.01	2.4	0.002
7.567	0.000	2.45	0.00	0.01	2.4	0.002
7.583	0.000	2.45	0.00	0.01	2.4	0.002
7.600	0.000	2.45	0.00	0.01	2.5	0.002
7.617	0.000	2.46	0.00	0.01	2.5	0.002
7.633	0.000	2.46	0.00	0.01	2.5	0.002
7.650	0.000	2.46	0.00	0.01	2.5	0.002
7.667	0.000	2.46	0.00	0.01	2.5	0.002
7.683	0.000	2.47	0.00	0.01	2.5	0.002
7.700	0.000	2.47	0.00	0.01	2.5	0.002
7.717	0.000	2.47	0.00	0.01	2.5	0.002
7.733	0.000	2.47	0.00	0.01	2.5	0.002
7.750	0.000	2.48	0.00	0.01	2.5	0.002
7.767	0.000	2.48	0.00	0.01	2.5	0.002
7.783	0.000	2.48	0.00	0.01	2.5	0.002
7.800	0.000	2.48	0.00	0.01	2.5	0.002
7.817	0.000	2.48	0.00	0.01	2.5	0.002
7.833	0.000	2.48	0.00	0.01	2.5	0.002
7.850	0.000	2.48	0.00	0.01	2.5	0.002
7.867	0.000	2.49	0.00	0.01	2.5	0.002
7.883	0.000	2.49	0.00	0.01	2.5	0.002

7.900	0.000	2.49	0.00	0.01	2.5	0.002
7.917	0.000	2.49	0.00	0.01	2.5	0.002
7.933	0.000	2.50	0.00	0.01	2.5	0.002
7.950	0.000	2.50	0.00	0.01	2.5	0.002
7.967	0.000	2.50	0.00	0.01	2.5	0.002
7.983	0.000	2.51	0.00	0.01	2.5	0.002
8.000	0.000	2.51	0.00	0.01	2.5	0.002
8.017	0.000	2.51	0.00	0.01	2.5	0.002
8.033	0.000	2.51	0.00	0.01	2.5	0.002
8.050	0.000	2.52	0.00	0.01	2.5	0.002
8.067	0.000	2.52	0.00	0.01	2.5	0.002
8.083	0.000	2.52	0.00	0.01	2.5	0.002
8.100	0.000	2.52	0.00	0.01	2.5	0.002
8.117	0.000	2.52	0.00	0.01	2.5	0.002
8.133	0.000	2.53	0.00	0.01	2.5	0.002
8.150	0.000	2.53	0.00	0.01	2.5	0.002
8.167	0.000	2.53	0.00	0.01	2.5	0.002
8.183	0.000	2.53	0.00	0.01	2.5	0.002
8.200	0.000	2.53	0.00	0.01	2.5	0.002
8.217	0.000	2.53	0.00	0.01	2.5	0.002
8.233	0.000	2.54	0.00	0.01	2.5	0.002
8.250	0.000	2.54	0.00	0.01	2.5	0.002
8.267	0.000	2.54	0.00	0.01	2.5	0.002
8.283	0.000	2.54	0.00	0.01	2.5	0.002
8.300	0.000	2.55	0.00	0.01	2.5	0.002
8.317	0.000	2.55	0.00	0.01	2.5	0.002
8.333	0.000	2.55	0.00	0.01	2.6	0.002
8.350	0.000	2.56	0.00	0.01	2.6	0.002
8.367	0.000	2.56	0.00	0.01	2.6	0.002
8.383	0.000	2.56	0.00	0.01	2.6	0.002
8.400	0.000	2.57	0.00	0.01	2.6	0.002
8.417	0.000	2.57	0.00	0.01	2.6	0.002
8.433	0.000	2.57	0.00	0.01	2.6	0.002
8.450	0.000	2.57	0.00	0.01	2.6	0.002
8.467	0.000	2.57	0.00	0.01	2.6	0.002
8.483	0.000	2.58	0.00	0.01	2.6	0.002
8.500	0.000	2.58	0.00	0.01	2.6	0.002
8.517	0.000	2.58	0.00	0.01	2.6	0.002
8.533	0.000	2.58	0.00	0.01	2.6	0.002
8.550	0.000	2.58	0.00	0.01	2.6	0.002
8.567	0.000	2.58	0.00	0.01	2.6	0.002
8.583	0.000	2.59	0.00	0.01	2.6	0.002
8.600	0.000	2.59	0.00	0.01	2.6	0.002
8.617	0.000	2.59	0.00	0.01	2.6	0.002
8.633	0.000	2.60	0.00	0.01	2.6	0.002
8.650	0.000	2.60	0.00	0.01	2.6	0.002
8.667	0.000	2.60	0.00	0.01	2.6	0.002
8.683	0.000	2.61	0.00	0.01	2.6	0.002
8.700	0.000	2.61	0.00	0.01	2.6	0.002
8.717	0.000	2.61	0.00	0.01	2.6	0.002
8.733	0.000	2.62	0.00	0.01	2.6	0.002
8.750	0.000	2.62	0.00	0.01	2.6	0.002
8.767	0.000	2.62	0.00	0.01	2.6	0.002
8.783	0.000	2.63	0.00	0.01	2.6	0.002
8.800	0.000	2.63	0.00	0.01	2.6	0.002
8.817	0.000	2.63	0.00	0.01	2.6	0.002
8.833	0.000	2.63	0.00	0.01	2.6	0.002
8.850	0.000	2.63	0.00	0.01	2.6	0.002
8.867	0.000	2.63	0.00	0.02	2.6	0.002
8.883	0.000	2.64	0.00	0.02	2.6	0.002
8.900	0.000	2.64	0.00	0.02	2.6	0.002
8.917	0.000	2.64	0.00	0.02	2.6	0.002
8.933	0.000	2.64	0.00	0.02	2.6	0.002
8.950	0.000	2.64	0.00	0.02	2.6	0.002
8.967	0.000	2.65	0.00	0.02	2.6	0.002
8.983	0.000	2.65	0.00	0.02	2.6	0.002
9.000	0.000	2.65	0.00	0.02	2.7	0.002
9.017	0.000	2.66	0.00	0.02	2.7	0.002
9.033	0.000	2.66	0.00	0.02	2.7	0.002
9.050	0.000	2.67	0.00	0.02	2.7	0.002
9.067	0.000	2.67	0.00	0.02	2.7	0.002
9.083	0.000	2.67	0.00	0.02	2.7	0.002
9.100	0.000	2.68	0.00	0.02	2.7	0.002
9.117	0.000	2.68	0.00	0.02	2.7	0.002
9.133	0.000	2.68	0.00	0.02	2.7	0.002
9.150	0.000	2.68	0.00	0.02	2.7	0.002
9.167	0.000	2.69	0.00	0.02	2.7	0.002
9.183	0.000	2.69	0.00	0.02	2.7	0.002
9.200	0.000	2.69	0.00	0.02	2.7	0.002

9.217	0.000	2.69	0.00	0.02	2.7	0.002
9.233	0.000	2.69	0.00	0.02	2.7	0.002
9.250	0.000	2.70	0.00	0.02	2.7	0.002
9.267	0.000	2.70	0.00	0.02	2.7	0.002
9.283	0.000	2.70	0.00	0.02	2.7	0.002
9.300	0.000	2.70	0.00	0.02	2.7	0.002
9.317	0.000	2.71	0.00	0.02	2.7	0.002
9.333	0.000	2.71	0.00	0.02	2.7	0.002
9.350	0.000	2.71	0.00	0.02	2.7	0.002
9.367	0.000	2.72	0.00	0.02	2.7	0.002
9.383	0.000	2.72	0.00	0.02	2.7	0.002
9.400	0.000	2.73	0.00	0.02	2.7	0.002
9.417	0.000	2.73	0.00	0.02	2.7	0.002
9.433	0.000	2.73	0.00	0.02	2.7	0.002
9.450	0.000	2.74	0.00	0.02	2.7	0.002
9.467	0.000	2.74	0.00	0.02	2.7	0.002
9.483	0.000	2.74	0.00	0.02	2.7	0.002
9.500	0.000	2.75	0.00	0.02	2.7	0.002
9.517	0.000	2.75	0.00	0.02	2.7	0.002
9.533	0.000	2.75	0.00	0.02	2.8	0.002
9.550	0.000	2.75	0.00	0.02	2.8	0.002
9.567	0.000	2.76	0.00	0.02	2.8	0.002
9.583	0.000	2.76	0.00	0.02	2.8	0.002
9.600	0.000	2.76	0.00	0.02	2.8	0.002
9.617	0.000	2.76	0.00	0.02	2.8	0.002
9.633	0.000	2.76	0.00	0.02	2.8	0.002
9.650	0.000	2.77	0.00	0.02	2.8	0.002
9.667	0.000	2.77	0.00	0.02	2.8	0.002
9.683	0.000	2.77	0.00	0.02	2.8	0.002
9.700	0.000	2.78	0.00	0.02	2.8	0.002
9.717	0.000	2.78	0.00	0.02	2.8	0.002
9.733	0.000	2.79	0.00	0.02	2.8	0.002
9.750	0.000	2.79	0.00	0.02	2.8	0.002
9.767	0.000	2.80	0.00	0.02	2.8	0.002
9.783	0.000	2.80	0.00	0.02	2.8	0.002
9.800	0.000	2.80	0.00	0.02	2.8	0.002
9.817	0.000	2.81	0.00	0.02	2.8	0.002
9.833	0.000	2.81	0.00	0.02	2.8	0.002
9.850	0.000	2.81	0.00	0.02	2.8	0.002
9.867	0.000	2.82	0.00	0.02	2.8	0.002
9.883	0.000	2.82	0.00	0.02	2.8	0.002
9.900	0.000	2.82	0.00	0.02	2.8	0.002
9.917	0.000	2.82	0.00	0.02	2.8	0.002
9.933	0.000	2.83	0.00	0.02	2.8	0.002
9.950	0.000	2.83	0.00	0.02	2.8	0.002
9.967	0.000	2.83	0.00	0.02	2.8	0.002
9.983	0.000	2.83	0.00	0.02	2.8	0.002
10.000	0.000	2.83	0.00	0.02	2.8	0.002
10.017	0.000	2.84	0.00	0.02	2.8	0.002
10.033	0.000	2.84	0.00	0.02	2.8	0.002
10.050	0.000	2.85	0.00	0.02	2.8	0.002
10.067	0.000	2.85	0.00	0.02	2.9	0.002
10.083	0.000	2.86	0.00	0.02	2.9	0.002
10.100	0.000	2.86	0.00	0.02	2.9	0.002
10.117	0.000	2.87	0.00	0.02	2.9	0.002
10.133	0.000	2.87	0.00	0.02	2.9	0.002
10.150	0.000	2.88	0.00	0.02	2.9	0.002
10.167	0.000	2.88	0.00	0.02	2.9	0.002
10.183	0.000	2.88	0.00	0.02	2.9	0.002
10.200	0.000	2.89	0.00	0.02	2.9	0.002
10.217	0.000	2.89	0.00	0.02	2.9	0.002
10.233	0.000	2.89	0.00	0.02	2.9	0.002
10.250	0.000	2.89	0.00	0.02	2.9	0.002
10.267	0.000	2.90	0.00	0.02	2.9	0.002
10.283	0.000	2.90	0.00	0.02	2.9	0.002
10.300	0.000	2.90	0.00	0.02	2.9	0.002
10.317	0.000	2.90	0.00	0.02	2.9	0.002
10.333	0.000	2.91	0.00	0.02	2.9	0.002
10.350	0.000	2.91	0.00	0.02	2.9	0.002
10.367	0.000	2.91	0.00	0.02	2.9	0.002
10.383	0.000	2.92	0.00	0.02	2.9	0.002
10.400	0.000	2.92	0.00	0.02	2.9	0.002
10.417	0.000	2.93	0.00	0.02	2.9	0.002
10.433	0.000	2.93	0.00	0.02	2.9	0.002
10.450	0.000	2.94	0.00	0.02	2.9	0.002
10.467	0.000	2.94	0.00	0.02	2.9	0.002
10.483	0.000	2.95	0.00	0.02	2.9	0.002
10.500	0.000	2.95	0.00	0.02	3.0	0.002
10.517	0.000	2.96	0.00	0.02	3.0	0.002

10.533	0.000	2.96	0.00	0.02	3.0	0.002
10.550	0.000	2.97	0.00	0.02	3.0	0.002
10.567	0.000	2.97	0.00	0.02	3.0	0.002
10.583	0.000	2.97	0.00	0.02	3.0	0.002
10.600	0.000	2.97	0.00	0.02	3.0	0.002
10.617	0.000	2.98	0.00	0.02	3.0	0.002
10.633	0.000	2.98	0.00	0.02	3.0	0.002
10.650	0.000	2.98	0.00	0.02	3.0	0.002
10.667	0.000	2.98	0.00	0.02	3.0	0.002
10.683	0.000	2.99	0.00	0.02	3.0	0.002
10.700	0.000	2.99	0.00	0.02	3.0	0.002
10.717	0.000	2.99	0.00	0.02	3.0	0.002
10.733	0.000	3.00	0.00	0.02	3.0	0.002
10.750	0.000	3.01	0.00	0.02	3.0	0.002
10.767	0.000	3.01	0.00	0.02	3.0	0.002
10.783	0.000	3.02	0.00	0.02	3.0	0.002
10.800	0.000	3.02	0.00	0.02	3.0	0.002
10.817	0.000	3.03	0.00	0.02	3.0	0.002
10.833	0.000	3.03	0.00	0.02	3.0	0.002
10.850	0.000	3.04	0.00	0.02	3.0	0.002
10.867	0.000	3.04	0.00	0.02	3.0	0.002
10.883	0.000	3.05	0.00	0.02	3.0	0.002
10.900	0.000	3.05	0.00	0.02	3.1	0.002
10.917	0.000	3.06	0.00	0.02	3.1	0.002
10.933	0.000	3.06	0.00	0.02	3.1	0.002
10.950	0.000	3.06	0.00	0.02	3.1	0.002
10.967	0.000	3.06	0.00	0.02	3.1	0.002
10.983	0.000	3.07	0.00	0.02	3.1	0.002
11.000	0.000	3.07	0.00	0.02	3.1	0.002
11.017	0.000	3.07	0.00	0.02	3.1	0.002
11.033	0.000	3.08	0.00	0.02	3.1	0.002
11.050	0.000	3.08	0.00	0.02	3.1	0.002
11.067	0.000	3.08	0.00	0.02	3.1	0.002
11.083	0.000	3.09	0.00	0.02	3.1	0.002
11.100	0.000	3.10	0.00	0.02	3.1	0.002
11.117	0.000	3.10	0.00	0.02	3.1	0.002
11.133	0.000	3.11	0.00	0.02	3.1	0.002
11.150	0.000	3.11	0.00	0.02	3.1	0.002
11.167	0.000	3.12	0.00	0.02	3.1	0.002
11.183	0.000	3.13	0.00	0.02	3.1	0.002
11.200	0.000	3.13	0.00	0.02	3.1	0.002
11.217	0.000	3.14	0.00	0.02	3.1	0.002
11.233	0.000	3.14	0.00	0.02	3.1	0.002
11.250	0.000	3.15	0.00	0.02	3.1	0.002
11.267	0.000	3.15	0.00	0.02	3.2	0.002
11.283	0.000	3.15	0.00	0.02	3.2	0.002
11.300	0.000	3.16	0.00	0.02	3.2	0.002
11.317	0.000	3.16	0.00	0.02	3.2	0.002
11.333	0.000	3.16	0.00	0.02	3.2	0.002
11.350	0.000	3.17	0.00	0.02	3.2	0.002
11.367	0.000	3.17	0.00	0.02	3.2	0.002
11.383	0.000	3.17	0.00	0.02	3.2	0.002
11.400	0.000	3.18	0.00	0.02	3.2	0.002
11.417	0.000	3.18	0.00	0.02	3.2	0.002
11.433	0.000	3.19	0.00	0.02	3.2	0.002
11.450	0.000	3.19	0.00	0.02	3.2	0.002
11.467	0.000	3.20	0.00	0.02	3.2	0.002
11.483	0.000	3.21	0.00	0.02	3.2	0.002
11.500	0.000	3.22	0.00	0.02	3.2	0.002
11.517	0.000	3.22	0.00	0.02	3.2	0.002
11.533	0.000	3.23	0.00	0.02	3.2	0.002
11.550	0.000	3.24	0.00	0.02	3.2	0.002
11.567	0.000	3.24	0.00	0.02	3.2	0.002
11.583	0.000	3.25	0.00	0.02	3.2	0.002
11.600	0.000	3.25	0.00	0.02	3.3	0.002
11.617	0.000	3.26	0.00	0.02	3.3	0.002
11.633	0.000	3.26	0.00	0.02	3.3	0.002
11.650	0.000	3.27	0.00	0.02	3.3	0.002
11.667	0.000	3.27	0.00	0.02	3.3	0.002
11.683	0.000	3.27	0.00	0.02	3.3	0.002
11.700	0.000	3.28	0.00	0.02	3.3	0.002
11.717	0.000	3.28	0.00	0.02	3.3	0.002
11.733	0.000	3.28	0.00	0.02	3.3	0.002
11.750	0.000	3.29	0.00	0.02	3.3	0.002
11.767	0.000	3.29	0.00	0.02	3.3	0.002
11.783	0.000	3.30	0.00	0.02	3.3	0.002
11.800	0.000	3.31	0.00	0.02	3.3	0.002
11.817	0.000	3.31	0.00	0.02	3.3	0.002
11.833	0.000	3.32	0.00	0.02	3.3	0.002

11.850	0.000	3.33	0.00	0.02	3.3	0.002
11.867	0.000	3.34	0.00	0.02	3.3	0.002
11.883	0.000	3.34	0.00	0.02	3.3	0.002
11.900	0.000	3.35	0.00	0.02	3.3	0.002
11.917	0.000	3.36	0.00	0.02	3.4	0.002
11.933	0.000	3.37	0.00	0.02	3.4	0.002
11.950	0.000	3.37	0.00	0.02	3.4	0.002
11.967	0.000	3.38	0.00	0.02	3.4	0.002
11.983	0.000	3.38	0.00	0.02	3.4	0.002
12.000	0.000	3.39	0.00	0.02	3.4	0.002
12.017	0.000	3.39	0.00	0.02	3.4	0.002
12.033	0.000	3.39	0.00	0.02	3.4	0.002
12.050	0.000	3.40	0.00	0.02	3.4	0.002
12.067	0.000	3.40	0.00	0.02	3.4	0.002
12.083	0.000	3.41	0.00	0.02	3.4	0.002
12.100	0.000	3.41	0.00	0.02	3.4	0.002
12.117	0.000	3.41	0.00	0.02	3.4	0.002
12.133	0.000	3.42	0.00	0.02	3.4	0.002
12.150	0.000	3.44	0.00	0.02	3.4	0.002
12.167	0.000	3.45	0.00	0.02	3.4	0.002
12.183	0.000	3.47	0.00	0.02	3.5	0.002
12.200	0.000	3.48	0.00	0.02	3.5	0.002
12.217	0.000	3.50	0.00	0.02	3.5	0.002
12.233	0.000	3.51	0.00	0.02	3.5	0.002
12.250	0.000	3.52	0.00	0.02	3.5	0.002
12.267	0.000	3.54	0.00	0.02	3.5	0.002
12.283	0.000	3.55	0.00	0.02	3.5	0.002
12.300	0.000	3.56	0.00	0.02	3.6	0.002
12.317	0.000	3.57	0.00	0.02	3.6	0.002
12.333	0.000	3.57	0.00	0.02	3.6	0.002
12.350	0.000	3.58	0.00	0.02	3.6	0.002
12.367	0.000	3.58	0.00	0.02	3.6	0.002
12.383	0.000	3.59	0.00	0.02	3.6	0.002
12.400	0.000	3.59	0.00	0.02	3.6	0.002
12.417	0.000	3.60	0.00	0.02	3.6	0.002
12.433	0.000	3.60	0.00	0.02	3.6	0.002
12.450	0.000	3.61	0.00	0.02	3.6	0.002
12.467	0.000	3.61	0.00	0.02	3.6	0.002
12.483	0.000	3.62	0.00	0.02	3.6	0.002
12.500	0.000	3.63	0.00	0.02	3.6	0.002
12.517	0.000	3.64	0.00	0.02	3.6	0.002
12.533	0.000	3.65	0.00	0.02	3.6	0.002
12.550	0.000	3.66	0.00	0.02	3.7	0.002
12.567	0.000	3.67	0.00	0.02	3.7	0.002
12.583	0.000	3.68	0.00	0.02	3.7	0.002
12.600	0.000	3.69	0.00	0.02	3.7	0.002
12.617	0.000	3.70	0.00	0.02	3.7	0.002
12.633	0.000	3.71	0.00	0.02	3.7	0.002
12.650	0.000	3.72	0.00	0.02	3.7	0.002
12.667	0.000	3.72	0.00	0.02	3.7	0.002
12.683	0.000	3.73	0.00	0.02	3.7	0.002
12.700	0.000	3.73	0.00	0.02	3.7	0.002
12.717	0.000	3.74	0.00	0.02	3.7	0.002
12.733	0.000	3.74	0.00	0.02	3.7	0.002
12.750	0.000	3.75	0.00	0.02	3.7	0.002
12.767	0.000	3.75	0.00	0.02	3.8	0.002
12.783	0.000	3.76	0.00	0.02	3.8	0.002
12.800	0.000	3.76	0.00	0.02	3.8	0.002
12.817	0.000	3.77	0.00	0.02	3.8	0.002
12.833	0.000	3.78	0.00	0.02	3.8	0.002
12.850	0.000	3.79	0.00	0.02	3.8	0.002
12.867	0.000	3.80	0.00	0.02	3.8	0.002
12.883	0.000	3.81	0.00	0.02	3.8	0.002
12.900	0.000	3.82	0.00	0.02	3.8	0.002
12.917	0.000	3.83	0.00	0.02	3.8	0.002
12.933	0.000	3.85	0.00	0.02	3.8	0.002
12.950	0.000	3.86	0.00	0.02	3.9	0.002
12.967	0.000	3.87	0.00	0.02	3.9	0.002
12.983	0.000	3.88	0.00	0.02	3.9	0.002
13.000	0.000	3.89	0.00	0.02	3.9	0.002
13.017	0.000	3.90	0.00	0.02	3.9	0.002
13.033	0.000	3.91	0.00	0.02	3.9	0.002
13.050	0.000	3.91	0.00	0.02	3.9	0.002
13.067	0.000	3.92	0.00	0.02	3.9	0.002
13.083	0.000	3.92	0.00	0.02	3.9	0.002
13.100	0.000	3.93	0.00	0.02	3.9	0.002
13.117	0.000	3.94	0.00	0.02	3.9	0.002
13.133	0.000	3.94	0.00	0.02	3.9	0.002
13.150	0.000	3.95	0.00	0.02	3.9	0.002

13.167	0.000	3.95	0.00	0.02	4.0	0.003
13.183	0.000	3.96	0.00	0.02	4.0	0.003
13.200	0.000	3.98	0.00	0.02	4.0	0.003
13.217	0.000	3.99	0.00	0.02	4.0	0.003
13.233	0.000	4.00	0.00	0.02	4.0	0.003
13.250	0.000	4.02	0.00	0.02	4.0	0.003
13.267	0.000	4.03	0.00	0.02	4.0	0.003
13.283	0.000	4.04	0.00	0.02	4.0	0.003
13.300	0.000	4.06	0.00	0.02	4.0	0.003
13.317	0.000	4.07	0.00	0.02	4.1	0.003
13.333	0.000	4.08	0.00	0.02	4.1	0.003
13.350	0.000	4.10	0.00	0.02	4.1	0.003
13.367	0.000	4.11	0.00	0.02	4.1	0.003
13.383	0.000	4.11	0.00	0.02	4.1	0.003
13.400	0.000	4.12	0.00	0.02	4.1	0.003
13.417	0.000	4.13	0.00	0.02	4.1	0.003
13.433	0.000	4.14	0.00	0.02	4.1	0.003
13.450	0.000	4.14	0.00	0.02	4.1	0.003
13.467	0.000	4.15	0.00	0.02	4.1	0.003
13.483	0.000	4.16	0.00	0.02	4.2	0.003
13.500	0.000	4.17	0.00	0.02	4.2	0.003
13.517	0.000	4.17	0.00	0.02	4.2	0.003
13.533	0.000	4.18	0.00	0.02	4.2	0.003
13.550	0.000	4.20	0.00	0.02	4.2	0.003
13.567	0.000	4.21	0.00	0.02	4.2	0.003
13.583	0.000	4.23	0.00	0.02	4.2	0.003
13.600	0.000	4.24	0.00	0.02	4.2	0.003
13.617	0.000	4.26	0.00	0.02	4.3	0.003
13.633	0.000	4.28	0.00	0.02	4.3	0.003
13.650	0.000	4.29	0.00	0.02	4.3	0.003
13.667	0.000	4.31	0.00	0.02	4.3	0.003
13.683	0.000	4.33	0.00	0.02	4.3	0.003
13.700	0.000	4.34	0.00	0.02	4.3	0.003
13.717	0.000	4.36	0.00	0.02	4.4	0.003
13.733	0.000	4.37	0.00	0.02	4.4	0.003
13.750	0.000	4.37	0.00	0.02	4.4	0.003
13.767	0.000	4.38	0.00	0.02	4.4	0.003
13.783	0.000	4.39	0.00	0.03	4.4	0.003
13.800	0.000	4.40	0.00	0.03	4.4	0.003
13.817	0.000	4.41	0.00	0.03	4.4	0.003
13.833	0.000	4.42	0.00	0.03	4.4	0.003
13.850	0.000	4.43	0.00	0.03	4.4	0.003
13.867	0.000	4.44	0.00	0.03	4.4	0.003
13.883	0.000	4.45	0.00	0.03	4.4	0.003
13.900	0.000	4.46	0.00	0.03	4.5	0.003
13.917	0.000	4.48	0.00	0.03	4.5	0.003
13.933	0.000	4.50	0.00	0.03	4.5	0.003
13.950	0.000	4.52	0.00	0.03	4.5	0.003
13.967	0.000	4.54	0.00	0.03	4.5	0.003
13.983	0.000	4.56	0.00	0.03	4.6	0.003
14.000	0.000	4.59	0.00	0.03	4.6	0.003
14.017	0.000	4.61	0.00	0.03	4.6	0.003
14.033	0.000	4.63	0.00	0.03	4.6	0.003
14.050	0.000	4.65	0.00	0.03	4.6	0.003
14.067	0.000	4.66	0.00	0.03	4.7	0.003
14.083	0.000	4.66	0.00	0.03	4.7	0.003
14.100	0.000	4.65	0.00	0.03	4.7	0.003
14.117	0.000	4.64	0.00	0.03	4.6	0.003
14.133	0.000	4.63	0.00	0.03	4.6	0.003
14.150	0.000	4.62	0.00	0.03	4.6	0.003
14.167	0.000	4.62	0.00	0.03	4.6	0.003
14.183	0.000	4.61	0.00	0.03	4.6	0.003
14.200	0.000	4.60	0.00	0.03	4.6	0.003
14.217	0.000	4.59	0.00	0.03	4.6	0.003
14.233	0.000	4.59	0.00	0.03	4.6	0.003
14.250	0.000	4.60	0.00	0.03	4.6	0.003
14.267	0.000	4.62	0.00	0.03	4.6	0.003
14.283	0.000	4.65	0.00	0.03	4.6	0.003
14.300	0.000	4.67	0.00	0.03	4.7	0.003
14.317	0.000	4.70	0.00	0.03	4.7	0.003
14.333	0.000	4.73	0.00	0.03	4.7	0.003
14.350	0.000	4.75	0.00	0.03	4.7	0.003
14.367	0.000	4.78	0.00	0.03	4.8	0.003
14.383	0.000	4.80	0.00	0.03	4.8	0.003
14.400	0.000	4.83	0.00	0.03	4.8	0.003
14.417	0.000	4.86	0.00	0.03	4.8	0.003
14.433	0.000	4.87	0.00	0.03	4.9	0.003
14.450	0.000	4.89	0.00	0.03	4.9	0.003
14.467	0.000	4.90	0.00	0.03	4.9	0.003

14.483	0.000	4.92	0.00	0.03	4.9	0.003
14.500	0.000	4.93	0.00	0.03	4.9	0.003
14.517	0.000	4.95	0.00	0.03	4.9	0.003
14.533	0.000	4.96	0.00	0.03	5.0	0.003
14.550	0.000	4.98	0.00	0.03	5.0	0.003
14.567	0.000	5.00	0.00	0.03	5.0	0.003
14.583	0.000	5.01	0.00	0.03	5.0	0.003
14.600	0.000	5.03	0.00	0.03	5.0	0.003
14.617	0.000	5.07	0.00	0.03	5.1	0.003
14.633	0.000	5.10	0.00	0.03	5.1	0.003
14.650	0.000	5.14	0.00	0.03	5.1	0.003
14.667	0.000	5.18	0.00	0.03	5.2	0.003
14.683	0.000	5.21	0.00	0.03	5.2	0.003
14.700	0.000	5.25	0.00	0.03	5.2	0.003
14.717	0.000	5.29	0.00	0.03	5.3	0.003
14.733	0.000	5.32	0.00	0.03	5.3	0.003
14.750	0.000	5.36	0.00	0.03	5.3	0.003
14.767	0.000	5.39	0.00	0.03	5.4	0.003
14.783	0.000	5.42	0.00	0.03	5.4	0.003
14.800	0.000	5.44	0.00	0.03	5.4	0.003
14.817	0.000	5.46	0.00	0.03	5.5	0.003
14.833	0.000	5.49	0.00	0.03	5.5	0.003
14.850	0.000	5.51	0.00	0.03	5.5	0.003
14.867	0.000	5.53	0.00	0.03	5.5	0.003
14.883	0.000	5.55	0.00	0.03	5.5	0.004
14.900	0.000	5.57	0.00	0.03	5.6	0.004
14.917	0.000	5.59	0.00	0.03	5.6	0.004
14.933	0.000	5.62	0.00	0.03	5.6	0.004
14.950	0.000	5.64	0.00	0.03	5.6	0.004
14.967	0.000	5.70	0.00	0.03	5.7	0.004
14.983	0.000	5.75	0.00	0.03	5.7	0.004
15.000	0.000	5.80	0.00	0.03	5.8	0.004
15.017	0.000	5.86	0.00	0.03	5.8	0.004
15.033	0.000	5.91	0.00	0.03	5.9	0.004
15.050	0.000	5.97	0.00	0.03	5.9	0.004
15.067	0.000	6.02	0.00	0.03	6.0	0.004
15.083	0.000	6.08	0.00	0.03	6.1	0.004
15.100	0.000	6.13	0.00	0.03	6.1	0.004
15.117	0.000	6.18	0.00	0.04	6.2	0.004
15.133	0.000	6.23	0.00	0.04	6.2	0.004
15.150	0.000	6.26	0.00	0.04	6.2	0.004
15.167	0.000	6.30	0.00	0.04	6.3	0.004
15.183	0.000	6.33	0.00	0.04	6.3	0.004
15.200	0.000	6.37	0.00	0.04	6.4	0.004
15.217	0.000	6.40	0.00	0.04	6.4	0.004
15.233	0.000	6.44	0.00	0.04	6.4	0.004
15.250	0.000	6.47	0.00	0.04	6.5	0.004
15.267	0.000	6.51	0.00	0.04	6.5	0.004
15.283	0.000	6.54	0.00	0.04	6.5	0.004
15.300	0.000	6.57	0.00	0.04	6.6	0.004
15.317	0.000	6.55	0.00	0.04	6.6	0.004
15.333	0.000	6.52	0.00	0.04	6.5	0.004
15.350	0.000	6.49	0.00	0.04	6.5	0.004
15.367	0.000	6.46	0.00	0.04	6.5	0.004
15.383	0.000	6.42	0.00	0.04	6.4	0.004
15.400	0.000	6.39	0.00	0.04	6.4	0.004
15.417	0.000	6.36	0.00	0.04	6.4	0.004
15.433	0.000	6.33	0.00	0.04	6.3	0.004
15.450	0.000	6.30	0.00	0.04	6.3	0.004
15.467	0.000	6.27	0.00	0.04	6.3	0.004
15.483	0.000	6.25	0.00	0.04	6.3	0.004
15.500	0.000	6.25	0.00	0.04	6.2	0.004
15.517	0.000	6.25	0.00	0.04	6.3	0.004
15.533	0.000	6.26	0.00	0.04	6.3	0.004
15.550	0.000	6.26	0.00	0.04	6.3	0.004
15.567	0.000	6.26	0.00	0.04	6.3	0.004
15.583	0.000	6.27	0.00	0.04	6.3	0.004
15.600	0.000	6.27	0.00	0.04	6.3	0.004
15.617	0.000	6.27	0.00	0.04	6.3	0.004
15.633	0.000	6.28	0.00	0.04	6.3	0.004
15.650	0.000	6.29	0.00	0.04	6.3	0.004
15.667	0.000	6.50	0.00	0.04	6.4	0.004
15.683	0.000	6.80	0.00	0.04	6.7	0.004
15.700	0.000	7.11	0.00	0.04	7.0	0.005
15.717	0.000	7.42	0.00	0.04	7.3	0.005
15.733	0.000	7.73	0.00	0.04	7.6	0.005
15.750	0.000	8.03	0.00	0.05	7.9	0.005
15.767	0.000	8.34	0.00	0.05	8.2	0.005
15.783	0.000	8.65	0.00	0.05	8.5	0.005

15.800	0.000	8.96	0.00	0.05	8.8	0.006
15.817	0.000	9.26	0.00	0.05	9.1	0.006
15.833	0.000	9.58	0.00	0.05	9.4	0.006
15.850	0.000	9.94	0.00	0.06	9.8	0.006
15.867	0.000	10.30	0.00	0.06	10.1	0.007
15.883	0.000	10.67	0.00	0.06	10.5	0.007
15.900	0.000	11.03	0.00	0.06	10.9	0.007
15.917	0.000	11.39	0.00	0.06	11.2	0.007
15.933	0.000	11.76	0.00	0.07	11.6	0.007
15.950	0.000	12.12	0.00	0.07	12.0	0.008
15.967	0.000	12.48	0.00	0.07	12.3	0.008
15.983	0.000	12.84	0.00	0.07	12.7	0.008
16.000	0.000	13.21	0.00	0.08	13.0	0.008
16.017	0.000	14.72	0.00	0.08	14.0	0.009
16.033	0.000	17.40	0.00	0.11	15.4	0.012
16.050	0.000	20.07	0.00	0.17	16.1	0.018
16.067	0.000	22.74	0.00	0.20	16.5	0.026
16.083	0.000	25.41	0.00	0.23	16.7	0.038
16.100	0.000	28.08	0.00	0.26	16.9	0.054
16.117	0.000	30.75	0.00	0.29	17.1	0.073
16.133	0.000	33.42	0.00	0.31	17.3	0.095
16.150	0.000	36.09	0.00	0.34	17.4	0.120
16.167	0.000	38.77	0.00	0.37	17.6	0.150
16.183	0.000	41.70	0.00	0.40	17.8	0.183
16.200	0.000	38.78	0.00	0.42	17.9	0.211
16.217	0.000	35.54	0.00	0.43	18.0	0.235
16.233	0.000	32.30	0.00	0.45	18.2	0.255
16.250	0.000	29.05	0.00	0.46	18.2	0.270
16.267	0.000	25.81	0.00	0.46	18.3	0.280
16.283	0.000	22.57	0.00	0.47	18.3	0.286
16.300	0.000	19.32	0.00	0.47	18.3	0.287
16.317	0.000	16.08	0.00	0.47	18.3	0.284
16.333	0.000	12.84	0.00	0.46	18.3	0.277
16.350	0.000	9.59	0.00	0.45	18.3	0.265
16.367	0.000	7.38	0.00	0.44	18.2	0.250
16.383	0.000	7.29	0.00	0.43	18.1	0.235
16.400	0.000	7.26	0.00	0.42	18.1	0.220
16.417	0.000	7.23	0.00	0.41	18.0	0.205
16.433	0.000	7.20	0.00	0.40	17.9	0.190
16.450	0.000	7.17	0.00	0.39	17.9	0.176
16.467	0.000	7.15	0.00	0.38	17.8	0.161
16.483	0.000	7.12	0.00	0.37	17.7	0.146
16.500	0.000	7.09	0.00	0.35	17.6	0.132
16.517	0.000	7.06	0.00	0.34	17.5	0.118
16.533	0.000	7.03	0.00	0.32	17.4	0.103
16.550	0.000	6.95	0.00	0.31	17.4	0.089
16.567	0.000	6.85	0.00	0.29	17.3	0.075
16.583	0.000	6.74	0.00	0.27	17.1	0.060
16.600	0.000	6.63	0.00	0.24	17.0	0.046
16.617	0.000	6.53	0.00	0.21	16.8	0.032
16.633	0.000	6.42	0.00	0.17	16.5	0.018
16.650	0.000	6.32	0.00	0.07	14.0	0.007
16.667	0.000	6.21	0.00	0.03	8.8	0.004
16.683	0.000	6.10	0.00	0.03	6.0	0.004
16.700	0.000	6.00	0.00	0.03	6.1	0.004
16.717	0.000	5.90	0.00	0.03	5.9	0.004
16.733	0.000	5.83	0.00	0.03	5.9	0.004
16.750	0.000	5.76	0.00	0.03	5.8	0.004
16.767	0.000	5.70	0.00	0.03	5.7	0.004
16.783	0.000	5.63	0.00	0.03	5.7	0.004
16.800	0.000	5.56	0.00	0.03	5.6	0.004
16.817	0.000	5.50	0.00	0.03	5.5	0.003
16.833	0.000	5.43	0.00	0.03	5.5	0.003
16.850	0.000	5.37	0.00	0.03	5.4	0.003
16.867	0.000	5.30	0.00	0.03	5.3	0.003
16.883	0.000	5.23	0.00	0.03	5.3	0.003
16.900	0.000	5.18	0.00	0.03	5.2	0.003
16.917	0.000	5.13	0.00	0.03	5.2	0.003
16.933	0.000	5.09	0.00	0.03	5.1	0.003
16.950	0.000	5.04	0.00	0.03	5.1	0.003
16.967	0.000	4.99	0.00	0.03	5.0	0.003
16.983	0.000	4.95	0.00	0.03	5.0	0.003
17.000	0.000	4.90	0.00	0.03	4.9	0.003
17.017	0.000	4.86	0.00	0.03	4.9	0.003
17.033	0.000	4.81	0.00	0.03	4.8	0.003
17.050	0.000	4.76	0.00	0.03	4.8	0.003
17.067	0.000	4.72	0.00	0.03	4.7	0.003
17.083	0.000	4.70	0.00	0.03	4.7	0.003
17.100	0.000	4.68	0.00	0.03	4.7	0.003



17.117	0.000	4.67	0.00	0.03	4.7	0.003
17.133	0.000	4.65	0.00	0.03	4.7	0.003
17.150	0.000	4.64	0.00	0.03	4.6	0.003
17.167	0.000	4.62	0.00	0.03	4.6	0.003
17.183	0.000	4.61	0.00	0.03	4.6	0.003
17.200	0.000	4.59	0.00	0.03	4.6	0.003
17.217	0.000	4.58	0.00	0.03	4.6	0.003
17.233	0.000	4.56	0.00	0.03	4.6	0.003
17.250	0.000	4.54	0.00	0.03	4.6	0.003
17.267	0.000	4.52	0.00	0.03	4.5	0.003
17.283	0.000	4.49	0.00	0.03	4.5	0.003
17.300	0.000	4.46	0.00	0.03	4.5	0.003
17.317	0.000	4.44	0.00	0.03	4.4	0.003
17.333	0.000	4.41	0.00	0.03	4.4	0.003
17.350	0.000	4.38	0.00	0.02	4.4	0.003
17.367	0.000	4.35	0.00	0.02	4.4	0.003
17.383	0.000	4.33	0.00	0.02	4.3	0.003
17.400	0.000	4.30	0.00	0.02	4.3	0.003
17.417	0.000	4.27	0.00	0.02	4.3	0.003
17.433	0.000	4.25	0.00	0.02	4.3	0.003
17.450	0.000	4.23	0.00	0.02	4.2	0.003
17.467	0.000	4.20	0.00	0.02	4.2	0.003
17.483	0.000	4.18	0.00	0.02	4.2	0.003
17.500	0.000	4.16	0.00	0.02	4.2	0.003
17.517	0.000	4.14	0.00	0.02	4.1	0.003
17.533	0.000	4.12	0.00	0.02	4.1	0.003
17.550	0.000	4.09	0.00	0.02	4.1	0.003
17.567	0.000	4.07	0.00	0.02	4.1	0.003
17.583	0.000	4.05	0.00	0.02	4.1	0.003
17.600	0.000	4.03	0.00	0.02	4.0	0.003
17.617	0.000	4.01	0.00	0.02	4.0	0.003
17.633	0.000	3.99	0.00	0.02	4.0	0.003
17.650	0.000	3.97	0.00	0.02	4.0	0.003
17.667	0.000	3.95	0.00	0.02	4.0	0.003
17.683	0.000	3.93	0.00	0.02	3.9	0.002
17.700	0.000	3.92	0.00	0.02	3.9	0.002
17.717	0.000	3.90	0.00	0.02	3.9	0.002
17.733	0.000	3.88	0.00	0.02	3.9	0.002
17.750	0.000	3.86	0.00	0.02	3.9	0.002
17.767	0.000	3.84	0.00	0.02	3.9	0.002
17.783	0.000	3.82	0.00	0.02	3.8	0.002
17.800	0.000	3.81	0.00	0.02	3.8	0.002
17.817	0.000	3.79	0.00	0.02	3.8	0.002
17.833	0.000	3.78	0.00	0.02	3.8	0.002
17.850	0.000	3.76	0.00	0.02	3.8	0.002
17.867	0.000	3.74	0.00	0.02	3.8	0.002
17.883	0.000	3.73	0.00	0.02	3.7	0.002
17.900	0.000	3.71	0.00	0.02	3.7	0.002
17.917	0.000	3.70	0.00	0.02	3.7	0.002
17.933	0.000	3.68	0.00	0.02	3.7	0.002
17.950	0.000	3.67	0.00	0.02	3.7	0.002
17.967	0.000	3.65	0.00	0.02	3.7	0.002
17.983	0.000	3.64	0.00	0.02	3.6	0.002
18.000	0.000	3.62	0.00	0.02	3.6	0.002
18.017	0.000	3.61	0.00	0.02	3.6	0.002
18.033	0.000	3.60	0.00	0.02	3.6	0.002
18.050	0.000	3.58	0.00	0.02	3.6	0.002
18.067	0.000	3.57	0.00	0.02	3.6	0.002
18.083	0.000	3.55	0.00	0.02	3.6	0.002
18.100	0.000	3.54	0.00	0.02	3.5	0.002
18.117	0.000	3.53	0.00	0.02	3.5	0.002
18.133	0.000	3.51	0.00	0.02	3.5	0.002
18.150	0.000	3.49	0.00	0.02	3.5	0.002
18.167	0.000	3.48	0.00	0.02	3.5	0.002
18.183	0.000	3.46	0.00	0.02	3.5	0.002
18.200	0.000	3.44	0.00	0.02	3.4	0.002
18.217	0.000	3.42	0.00	0.02	3.4	0.002
18.233	0.000	3.41	0.00	0.02	3.4	0.002
18.250	0.000	3.39	0.00	0.02	3.4	0.002
18.267	0.000	3.37	0.00	0.02	3.4	0.002
18.283	0.000	3.35	0.00	0.02	3.4	0.002
18.300	0.000	3.34	0.00	0.02	3.3	0.002
18.317	0.000	3.32	0.00	0.02	3.3	0.002
18.333	0.000	3.31	0.00	0.02	3.3	0.002
18.350	0.000	3.30	0.00	0.02	3.3	0.002
18.367	0.000	3.29	0.00	0.02	3.3	0.002
18.383	0.000	3.28	0.00	0.02	3.3	0.002
18.400	0.000	3.27	0.00	0.02	3.3	0.002
18.417	0.000	3.26	0.00	0.02	3.3	0.002

18.433	0.000	3.25	0.00	0.02	3.3	0.002
18.450	0.000	3.24	0.00	0.02	3.2	0.002
18.467	0.000	3.23	0.00	0.02	3.2	0.002
18.483	0.000	3.21	0.00	0.02	3.2	0.002
18.500	0.000	3.21	0.00	0.02	3.2	0.002
18.517	0.000	3.20	0.00	0.02	3.2	0.002
18.533	0.000	3.19	0.00	0.02	3.2	0.002
18.550	0.000	3.18	0.00	0.02	3.2	0.002
18.567	0.000	3.17	0.00	0.02	3.2	0.002
18.583	0.000	3.16	0.00	0.02	3.2	0.002
18.600	0.000	3.15	0.00	0.02	3.2	0.002
18.617	0.000	3.14	0.00	0.02	3.1	0.002
18.633	0.000	3.13	0.00	0.02	3.1	0.002
18.650	0.000	3.12	0.00	0.02	3.1	0.002
18.667	0.000	3.11	0.00	0.02	3.1	0.002
18.683	0.000	3.10	0.00	0.02	3.1	0.002
18.700	0.000	3.09	0.00	0.02	3.1	0.002
18.717	0.000	3.08	0.00	0.02	3.1	0.002
18.733	0.000	3.07	0.00	0.02	3.1	0.002
18.750	0.000	3.06	0.00	0.02	3.1	0.002
18.767	0.000	3.06	0.00	0.02	3.1	0.002
18.783	0.000	3.05	0.00	0.02	3.1	0.002
18.800	0.000	3.04	0.00	0.02	3.0	0.002
18.817	0.000	3.03	0.00	0.02	3.0	0.002
18.833	0.000	3.02	0.00	0.02	3.0	0.002
18.850	0.000	3.01	0.00	0.02	3.0	0.002
18.867	0.000	3.00	0.00	0.02	3.0	0.002
18.883	0.000	3.00	0.00	0.02	3.0	0.002
18.900	0.000	2.99	0.00	0.02	3.0	0.002
18.917	0.000	2.98	0.00	0.02	3.0	0.002
18.933	0.000	2.97	0.00	0.02	3.0	0.002
18.950	0.000	2.97	0.00	0.02	3.0	0.002
18.967	0.000	2.96	0.00	0.02	3.0	0.002
18.983	0.000	2.95	0.00	0.02	3.0	0.002
19.000	0.000	2.94	0.00	0.02	2.9	0.002
19.017	0.000	2.93	0.00	0.02	2.9	0.002
19.033	0.000	2.93	0.00	0.02	2.9	0.002
19.050	0.000	2.92	0.00	0.02	2.9	0.002
19.067	0.000	2.91	0.00	0.02	2.9	0.002
19.083	0.000	2.90	0.00	0.02	2.9	0.002
19.100	0.000	2.90	0.00	0.02	2.9	0.002
19.117	0.000	2.89	0.00	0.02	2.9	0.002
19.133	0.000	2.88	0.00	0.02	2.9	0.002
19.150	0.000	2.88	0.00	0.02	2.9	0.002
19.167	0.000	2.87	0.00	0.02	2.9	0.002
19.183	0.000	2.86	0.00	0.02	2.9	0.002
19.200	0.000	2.85	0.00	0.02	2.9	0.002
19.217	0.000	2.85	0.00	0.02	2.9	0.002
19.233	0.000	2.84	0.00	0.02	2.8	0.002
19.250	0.000	2.83	0.00	0.02	2.8	0.002
19.267	0.000	2.83	0.00	0.02	2.8	0.002
19.283	0.000	2.82	0.00	0.02	2.8	0.002
19.300	0.000	2.81	0.00	0.02	2.8	0.002
19.317	0.000	2.81	0.00	0.02	2.8	0.002
19.333	0.000	2.80	0.00	0.02	2.8	0.002
19.350	0.000	2.79	0.00	0.02	2.8	0.002
19.367	0.000	2.79	0.00	0.02	2.8	0.002
19.383	0.000	2.78	0.00	0.02	2.8	0.002
19.400	0.000	2.77	0.00	0.02	2.8	0.002
19.417	0.000	2.77	0.00	0.02	2.8	0.002
19.433	0.000	2.76	0.00	0.02	2.8	0.002
19.450	0.000	2.76	0.00	0.02	2.8	0.002
19.467	0.000	2.75	0.00	0.02	2.8	0.002
19.483	0.000	2.74	0.00	0.02	2.7	0.002
19.500	0.000	2.74	0.00	0.02	2.7	0.002
19.517	0.000	2.73	0.00	0.02	2.7	0.002
19.533	0.000	2.73	0.00	0.02	2.7	0.002
19.550	0.000	2.72	0.00	0.02	2.7	0.002
19.567	0.000	2.71	0.00	0.02	2.7	0.002
19.583	0.000	2.71	0.00	0.02	2.7	0.002
19.600	0.000	2.70	0.00	0.02	2.7	0.002
19.617	0.000	2.70	0.00	0.02	2.7	0.002
19.633	0.000	2.69	0.00	0.02	2.7	0.002
19.650	0.000	2.68	0.00	0.02	2.7	0.002
19.667	0.000	2.68	0.00	0.02	2.7	0.002
19.683	0.000	2.67	0.00	0.02	2.7	0.002
19.700	0.000	2.67	0.00	0.02	2.7	0.002
19.717	0.000	2.66	0.00	0.02	2.7	0.002
19.733	0.000	2.66	0.00	0.02	2.7	0.002

19.750	0.000	2.65	0.00	0.02	2.7	0.002
19.767	0.000	2.65	0.00	0.02	2.6	0.002
19.783	0.000	2.64	0.00	0.02	2.6	0.002
19.800	0.000	2.64	0.00	0.02	2.6	0.002
19.817	0.000	2.63	0.00	0.01	2.6	0.002
19.833	0.000	2.62	0.00	0.01	2.6	0.002
19.850	0.000	2.62	0.00	0.01	2.6	0.002
19.867	0.000	2.61	0.00	0.01	2.6	0.002
19.883	0.000	2.61	0.00	0.01	2.6	0.002
19.900	0.000	2.60	0.00	0.01	2.6	0.002
19.917	0.000	2.60	0.00	0.01	2.6	0.002
19.933	0.000	2.59	0.00	0.01	2.6	0.002
19.950	0.000	2.59	0.00	0.01	2.6	0.002
19.967	0.000	2.58	0.00	0.01	2.6	0.002
19.983	0.000	2.58	0.00	0.01	2.6	0.002
20.000	0.000	2.57	0.00	0.01	2.6	0.002
20.017	0.000	2.57	0.00	0.01	2.6	0.002
20.033	0.000	2.56	0.00	0.01	2.6	0.002
20.050	0.000	2.56	0.00	0.01	2.6	0.002
20.067	0.000	2.55	0.00	0.01	2.6	0.002
20.083	0.000	2.55	0.00	0.01	2.6	0.002
20.100	0.000	2.54	0.00	0.01	2.5	0.002
20.117	0.000	2.54	0.00	0.01	2.5	0.002
20.133	0.000	2.53	0.00	0.01	2.5	0.002
20.150	0.000	2.53	0.00	0.01	2.5	0.002
20.167	0.000	2.53	0.00	0.01	2.5	0.002
20.183	0.000	2.52	0.00	0.01	2.5	0.002
20.200	0.000	2.52	0.00	0.01	2.5	0.002
20.217	0.000	2.51	0.00	0.01	2.5	0.002
20.233	0.000	2.51	0.00	0.01	2.5	0.002
20.250	0.000	2.50	0.00	0.01	2.5	0.002
20.267	0.000	2.50	0.00	0.01	2.5	0.002
20.283	0.000	2.49	0.00	0.01	2.5	0.002
20.300	0.000	2.49	0.00	0.01	2.5	0.002
20.317	0.000	2.48	0.00	0.01	2.5	0.002
20.333	0.000	2.48	0.00	0.01	2.5	0.002
20.350	0.000	2.48	0.00	0.01	2.5	0.002
20.367	0.000	2.47	0.00	0.01	2.5	0.002
20.383	0.000	2.47	0.00	0.01	2.5	0.002
20.400	0.000	2.46	0.00	0.01	2.5	0.002
20.417	0.000	2.46	0.00	0.01	2.5	0.002
20.433	0.000	2.45	0.00	0.01	2.5	0.002
20.450	0.000	2.45	0.00	0.01	2.5	0.002
20.467	0.000	2.45	0.00	0.01	2.4	0.002
20.483	0.000	2.44	0.00	0.01	2.4	0.002
20.500	0.000	2.44	0.00	0.01	2.4	0.002
20.517	0.000	2.43	0.00	0.01	2.4	0.002
20.533	0.000	2.43	0.00	0.01	2.4	0.002
20.550	0.000	2.43	0.00	0.01	2.4	0.002
20.567	0.000	2.42	0.00	0.01	2.4	0.002
20.583	0.000	2.42	0.00	0.01	2.4	0.002
20.600	0.000	2.41	0.00	0.01	2.4	0.002
20.617	0.000	2.41	0.00	0.01	2.4	0.002
20.633	0.000	2.40	0.00	0.01	2.4	0.002
20.650	0.000	2.40	0.00	0.01	2.4	0.002
20.667	0.000	2.40	0.00	0.01	2.4	0.002
20.683	0.000	2.39	0.00	0.01	2.4	0.002
20.700	0.000	2.39	0.00	0.01	2.4	0.002
20.717	0.000	2.39	0.00	0.01	2.4	0.002
20.733	0.000	2.38	0.00	0.01	2.4	0.002
20.750	0.000	2.38	0.00	0.01	2.4	0.002
20.767	0.000	2.37	0.00	0.01	2.4	0.002
20.783	0.000	2.37	0.00	0.01	2.4	0.001
20.800	0.000	2.37	0.00	0.01	2.4	0.001
20.817	0.000	2.36	0.00	0.01	2.4	0.001
20.833	0.000	2.36	0.00	0.01	2.4	0.001
20.850	0.000	2.36	0.00	0.01	2.4	0.001
20.867	0.000	2.35	0.00	0.01	2.4	0.001
20.883	0.000	2.35	0.00	0.01	2.3	0.001
20.900	0.000	2.34	0.00	0.01	2.3	0.001
20.917	0.000	2.34	0.00	0.01	2.3	0.001
20.933	0.000	2.34	0.00	0.01	2.3	0.001
20.950	0.000	2.33	0.00	0.01	2.3	0.001
20.967	0.000	2.33	0.00	0.01	2.3	0.001
20.983	0.000	2.33	0.00	0.01	2.3	0.001
21.000	0.000	2.32	0.00	0.01	2.3	0.001
21.017	0.000	2.32	0.00	0.01	2.3	0.001
21.033	0.000	2.32	0.00	0.01	2.3	0.001
21.050	0.000	2.31	0.00	0.01	2.3	0.001

21.067	0.000	2.31	0.00	0.01	2.3	0.001
21.083	0.000	2.30	0.00	0.01	2.3	0.001
21.100	0.000	2.30	0.00	0.01	2.3	0.001
21.117	0.000	2.30	0.00	0.01	2.3	0.001
21.133	0.000	2.29	0.00	0.01	2.3	0.001
21.150	0.000	2.29	0.00	0.01	2.3	0.001
21.167	0.000	2.29	0.00	0.01	2.3	0.001
21.183	0.000	2.28	0.00	0.01	2.3	0.001
21.200	0.000	2.28	0.00	0.01	2.3	0.001
21.217	0.000	2.28	0.00	0.01	2.3	0.001
21.233	0.000	2.27	0.00	0.01	2.3	0.001
21.250	0.000	2.27	0.00	0.01	2.3	0.001
21.267	0.000	2.27	0.00	0.01	2.3	0.001
21.283	0.000	2.26	0.00	0.01	2.3	0.001
21.300	0.000	2.26	0.00	0.01	2.3	0.001
21.317	0.000	2.26	0.00	0.01	2.3	0.001
21.333	0.000	2.25	0.00	0.01	2.3	0.001
21.350	0.000	2.25	0.00	0.01	2.3	0.001
21.367	0.000	2.25	0.00	0.01	2.2	0.001
21.383	0.000	2.25	0.00	0.01	2.2	0.001
21.400	0.000	2.24	0.00	0.01	2.2	0.001
21.417	0.000	2.24	0.00	0.01	2.2	0.001
21.433	0.000	2.24	0.00	0.01	2.2	0.001
21.450	0.000	2.23	0.00	0.01	2.2	0.001
21.467	0.000	2.23	0.00	0.01	2.2	0.001
21.483	0.000	2.23	0.00	0.01	2.2	0.001
21.500	0.000	2.22	0.00	0.01	2.2	0.001
21.517	0.000	2.22	0.00	0.01	2.2	0.001
21.533	0.000	2.22	0.00	0.01	2.2	0.001
21.550	0.000	2.21	0.00	0.01	2.2	0.001
21.567	0.000	2.21	0.00	0.01	2.2	0.001
21.583	0.000	2.21	0.00	0.01	2.2	0.001
21.600	0.000	2.21	0.00	0.01	2.2	0.001
21.617	0.000	2.20	0.00	0.01	2.2	0.001
21.633	0.000	2.20	0.00	0.01	2.2	0.001
21.650	0.000	2.20	0.00	0.01	2.2	0.001
21.667	0.000	2.19	0.00	0.01	2.2	0.001
21.683	0.000	2.19	0.00	0.01	2.2	0.001
21.700	0.000	2.19	0.00	0.01	2.2	0.001
21.717	0.000	2.18	0.00	0.01	2.2	0.001
21.733	0.000	2.18	0.00	0.01	2.2	0.001
21.750	0.000	2.18	0.00	0.01	2.2	0.001
21.767	0.000	2.18	0.00	0.01	2.2	0.001
21.783	0.000	2.17	0.00	0.01	2.2	0.001
21.800	0.000	2.17	0.00	0.01	2.2	0.001
21.817	0.000	2.17	0.00	0.01	2.2	0.001
21.833	0.000	2.16	0.00	0.01	2.2	0.001
21.850	0.000	2.16	0.00	0.01	2.2	0.001
21.867	0.000	2.16	0.00	0.01	2.2	0.001
21.883	0.000	2.16	0.00	0.01	2.2	0.001
21.900	0.000	2.15	0.00	0.01	2.2	0.001
21.917	0.000	2.15	0.00	0.01	2.2	0.001
21.933	0.000	2.15	0.00	0.01	2.1	0.001
21.950	0.000	2.14	0.00	0.01	2.1	0.001
21.967	0.000	2.14	0.00	0.01	2.1	0.001
21.983	0.000	2.14	0.00	0.01	2.1	0.001
22.000	0.000	2.14	0.00	0.01	2.1	0.001
22.017	0.000	2.13	0.00	0.01	2.1	0.001
22.033	0.000	2.13	0.00	0.01	2.1	0.001
22.050	0.000	2.13	0.00	0.01	2.1	0.001
22.067	0.000	2.13	0.00	0.01	2.1	0.001
22.083	0.000	2.12	0.00	0.01	2.1	0.001
22.100	0.000	2.12	0.00	0.01	2.1	0.001
22.117	0.000	2.12	0.00	0.01	2.1	0.001
22.133	0.000	2.12	0.00	0.01	2.1	0.001
22.150	0.000	2.11	0.00	0.01	2.1	0.001
22.167	0.000	2.11	0.00	0.01	2.1	0.001
22.183	0.000	2.11	0.00	0.01	2.1	0.001
22.200	0.000	2.10	0.00	0.01	2.1	0.001
22.216	0.000	2.10	0.00	0.01	2.1	0.001
22.233	0.000	2.10	0.00	0.01	2.1	0.001
22.250	0.000	2.10	0.00	0.01	2.1	0.001
22.266	0.000	2.09	0.00	0.01	2.1	0.001
22.283	0.000	2.09	0.00	0.01	2.1	0.001
22.300	0.000	2.09	0.00	0.01	2.1	0.001
22.316	0.000	2.09	0.00	0.01	2.1	0.001
22.333	0.000	2.08	0.00	0.01	2.1	0.001
22.350	0.000	2.08	0.00	0.01	2.1	0.001
22.366	0.000	2.08	0.00	0.01	2.1	0.001

22.383	0.000	2.08	0.00	0.01	2.1	0.001
22.400	0.000	2.07	0.00	0.01	2.1	0.001
22.416	0.000	2.07	0.00	0.01	2.1	0.001
22.433	0.000	2.07	0.00	0.01	2.1	0.001
22.450	0.000	2.07	0.00	0.01	2.1	0.001
22.466	0.000	2.07	0.00	0.01	2.1	0.001
22.483	0.000	2.06	0.00	0.01	2.1	0.001
22.500	0.000	2.06	0.00	0.01	2.1	0.001
22.516	0.000	2.06	0.00	0.01	2.1	0.001
22.533	0.000	2.06	0.00	0.01	2.1	0.001
22.550	0.000	2.05	0.00	0.01	2.1	0.001
22.566	0.000	2.05	0.00	0.01	2.1	0.001
22.583	0.000	2.05	0.00	0.01	2.0	0.001
22.600	0.000	2.05	0.00	0.01	2.0	0.001
22.616	0.000	2.04	0.00	0.01	2.0	0.001
22.633	0.000	2.04	0.00	0.01	2.0	0.001
22.650	0.000	2.04	0.00	0.01	2.0	0.001
22.666	0.000	2.04	0.00	0.01	2.0	0.001
22.683	0.000	2.03	0.00	0.01	2.0	0.001
22.700	0.000	2.03	0.00	0.01	2.0	0.001
22.716	0.000	2.03	0.00	0.01	2.0	0.001
22.733	0.000	2.03	0.00	0.01	2.0	0.001
22.750	0.000	2.03	0.00	0.01	2.0	0.001
22.766	0.000	2.02	0.00	0.01	2.0	0.001
22.783	0.000	2.02	0.00	0.01	2.0	0.001
22.800	0.000	2.02	0.00	0.01	2.0	0.001
22.816	0.000	2.02	0.00	0.01	2.0	0.001
22.833	0.000	2.01	0.00	0.01	2.0	0.001
22.850	0.000	2.01	0.00	0.01	2.0	0.001
22.866	0.000	2.01	0.00	0.01	2.0	0.001
22.883	0.000	2.01	0.00	0.01	2.0	0.001
22.900	0.000	2.01	0.00	0.01	2.0	0.001
22.916	0.000	2.00	0.00	0.01	2.0	0.001
22.933	0.000	2.00	0.00	0.01	2.0	0.001
22.950	0.000	2.00	0.00	0.01	2.0	0.001
22.966	0.000	2.00	0.00	0.01	2.0	0.001
22.983	0.000	1.99	0.00	0.01	2.0	0.001
23.000	0.000	1.99	0.00	0.01	2.0	0.001
23.016	0.000	1.99	0.00	0.01	2.0	0.001
23.033	0.000	1.99	0.00	0.01	2.0	0.001
23.050	0.000	1.99	0.00	0.01	2.0	0.001
23.066	0.000	1.98	0.00	0.01	2.0	0.001
23.083	0.000	1.98	0.00	0.01	2.0	0.001
23.100	0.000	1.98	0.00	0.01	2.0	0.001
23.116	0.000	1.98	0.00	0.01	2.0	0.001
23.133	0.000	1.98	0.00	0.01	2.0	0.001
23.150	0.000	1.97	0.00	0.01	2.0	0.001
23.166	0.000	1.97	0.00	0.01	2.0	0.001
23.183	0.000	1.97	0.00	0.01	2.0	0.001
23.200	0.000	1.97	0.00	0.01	2.0	0.001
23.216	0.000	1.96	0.00	0.01	2.0	0.001
23.233	0.000	1.96	0.00	0.01	2.0	0.001
23.250	0.000	1.96	0.00	0.01	2.0	0.001
23.266	0.000	1.96	0.00	0.01	2.0	0.001
23.283	0.000	1.96	0.00	0.01	2.0	0.001
23.300	0.000	1.95	0.00	0.01	2.0	0.001
23.316	0.000	1.95	0.00	0.01	2.0	0.001
23.333	0.000	1.95	0.00	0.01	2.0	0.001
23.350	0.000	1.95	0.00	0.01	1.9	0.001
23.366	0.000	1.95	0.00	0.01	1.9	0.001
23.383	0.000	1.94	0.00	0.01	1.9	0.001
23.400	0.000	1.94	0.00	0.01	1.9	0.001
23.416	0.000	1.94	0.00	0.01	1.9	0.001
23.433	0.000	1.94	0.00	0.01	1.9	0.001
23.450	0.000	1.94	0.00	0.01	1.9	0.001
23.466	0.000	1.93	0.00	0.01	1.9	0.001
23.483	0.000	1.93	0.00	0.01	1.9	0.001
23.500	0.000	1.93	0.00	0.01	1.9	0.001
23.516	0.000	1.93	0.00	0.01	1.9	0.001
23.533	0.000	1.93	0.00	0.01	1.9	0.001
23.550	0.000	1.92	0.00	0.01	1.9	0.001
23.566	0.000	1.92	0.00	0.01	1.9	0.001
23.583	0.000	1.92	0.00	0.01	1.9	0.001
23.600	0.000	1.92	0.00	0.01	1.9	0.001
23.616	0.000	1.92	0.00	0.01	1.9	0.001
23.633	0.000	1.92	0.00	0.01	1.9	0.001
23.650	0.000	1.91	0.00	0.01	1.9	0.001
23.666	0.000	1.91	0.00	0.01	1.9	0.001
23.683	0.000	1.91	0.00	0.01	1.9	0.001

23.700	0.000	1.91	0.00	0.01	1.9	0.001
23.716	0.000	1.91	0.00	0.01	1.9	0.001
23.733	0.000	1.90	0.00	0.01	1.9	0.001
23.750	0.000	1.90	0.00	0.01	1.9	0.001
23.766	0.000	1.90	0.00	0.01	1.9	0.001
23.783	0.000	1.90	0.00	0.01	1.9	0.001
23.800	0.000	1.90	0.00	0.01	1.9	0.001
23.816	0.000	1.89	0.00	0.01	1.9	0.001
23.833	0.000	1.89	0.00	0.01	1.9	0.001
23.850	0.000	1.89	0.00	0.01	1.9	0.001
23.866	0.000	1.89	0.00	0.01	1.9	0.001
23.883	0.000	1.89	0.00	0.01	1.9	0.001
23.900	0.000	1.89	0.00	0.01	1.9	0.001
23.916	0.000	1.88	0.00	0.01	1.9	0.001
23.933	0.000	1.88	0.00	0.01	1.9	0.001
23.950	0.000	1.88	0.00	0.01	1.9	0.001
23.966	0.000	1.88	0.00	0.01	1.9	0.001
23.983	0.000	1.88	0.00	0.01	1.9	0.001
24.000	0.000	1.88	0.00	0.01	1.9	0.001
24.016	0.000	1.87	0.00	0.01	1.9	0.001
24.033	0.000	1.87	0.00	0.01	1.9	0.001
24.050	0.000	1.87	0.00	0.01	1.9	0.001
24.066	0.000	1.87	0.00	0.01	1.9	0.001
24.083	0.000	1.87	0.00	0.01	1.9	0.001
24.100	0.000	1.86	0.00	0.01	1.9	0.001
24.116	0.000	1.86	0.00	0.01	1.9	0.001
24.133	0.000	1.85	0.00	0.01	1.9	0.001
24.150	0.000	1.70	0.00	0.01	1.8	0.001
24.166	0.000	1.53	0.00	0.01	1.6	0.001
24.183	0.000	1.35	0.00	0.01	1.4	0.001
24.200	0.000	1.18	0.00	0.01	1.3	0.001
24.216	0.000	1.00	0.00	0.01	1.1	0.001
24.233	0.000	0.83	0.00	0.00	0.9	0.001
24.250	0.000	0.65	0.00	0.00	0.7	0.000
24.266	0.000	0.47	0.00	0.00	0.6	0.000
24.283	0.000	0.30	0.00	0.00	0.4	0.000
24.300	0.000	0.12	0.00	0.00	0.2	0.000
24.316	0.000	0.00	0.00	0.00	0.1	0.000
24.333	0.000	0.00	0.00	0.00	0.0	0.000
24.350	0.000	0.00	0.00	0.00	0.0	0.000
24.366	0.000	0.00	0.00	0.00	0.0	0.000
24.383	0.000	0.00	0.00	0.00	0.0	0.000
24.400	0.000	0.00	0.00	0.00	0.0	0.000
24.416	0.000	0.00	0.00	0.00	0.0	0.000
24.433	0.000	0.00	0.00	0.00	0.0	0.000
24.450	0.000	0.00	0.00	0.00	0.0	0.000
24.466	0.000	0.00	0.00	0.00	0.0	0.000
24.483	0.000	0.00	0.00	0.00	0.0	0.000
24.500	0.000	0.00	0.00	0.00	0.0	0.000
24.516	0.000	0.00	0.00	0.00	0.0	0.000
24.533	0.000	0.00	0.00	0.00	0.0	0.000
24.550	0.000	0.00	0.00	0.00	0.0	0.000
24.566	0.000	0.00	0.00	0.00	0.0	0.000
24.583	0.000	0.00	0.00	0.00	0.0	0.000
24.600	0.000	0.00	0.00	0.00	0.0	0.000
24.616	0.000	0.00	0.00	0.00	0.0	0.000
24.633	0.000	0.00	0.00	0.00	0.0	0.000
24.650	0.000	0.00	0.00	0.00	0.0	0.000
24.666	0.000	0.00	0.00	0.00	0.0	0.000
24.683	0.000	0.00	0.00	0.00	0.0	0.000
24.700	0.000	0.00	0.00	0.00	0.0	0.000
24.716	0.000	0.00	0.00	0.00	0.0	0.000
24.733	0.000	0.00	0.00	0.00	0.0	0.000
24.750	0.000	0.00	0.00	0.00	0.0	0.000
24.766	0.000	0.00	0.00	0.00	0.0	0.000
24.783	0.000	0.00	0.00	0.00	0.0	0.000
24.800	0.000	0.00	0.00	0.00	0.0	0.000
24.816	0.000	0.00	0.00	0.00	0.0	0.000
24.833	0.000	0.00	0.00	0.00	0.0	0.000
24.850	0.000	0.00	0.00	0.00	0.0	0.000
24.866	0.000	0.00	0.00	0.00	0.0	0.000
24.883	0.000	0.00	0.00	0.00	0.0	0.000
24.900	0.000	0.00	0.00	0.00	0.0	0.000
24.916	0.000	0.00	0.00	0.00	0.0	0.000
24.933	0.000	0.00	0.00	0.00	0.0	0.000
24.950	0.000	0.00	0.00	0.00	0.0	0.000
24.966	0.000	0.00	0.00	0.00	0.0	0.000
24.983	0.000	0.00	0.00	0.00	0.0	0.000
25.000	0.000	0.00	0.00	0.00	0.0	0.000

25.016	0.000	0.00	0.00	0.00	0.0	0.000
25.033	0.000	0.00	0.00	0.00	0.0	0.000
25.050	0.000	0.00	0.00	0.00	0.0	0.000
25.066	0.000	0.00	0.00	0.00	0.0	0.000
25.083	0.000	0.00	0.00	0.00	0.0	0.000
25.100	0.000	0.00	0.00	0.00	0.0	0.000
25.116	0.000	0.00	0.00	0.00	0.0	0.000
25.133	0.000	0.00	0.00	0.00	0.0	0.000
25.150	0.000	0.00	0.00	0.00	0.0	0.000
25.166	0.000	0.00	0.00	0.00	0.0	0.000
25.183	0.000	0.00	0.00	0.00	0.0	0.000
25.200	0.000	0.00	0.00	0.00	0.0	0.000
25.216	0.000	0.00	0.00	0.00	0.0	0.000
25.233	0.000	0.00	0.00	0.00	0.0	0.000
25.250	0.000	0.00	0.00	0.00	0.0	0.000
25.266	0.000	0.00	0.00	0.00	0.0	0.000
25.283	0.000	0.00	0.00	0.00	0.0	0.000
25.300	0.000	0.00	0.00	0.00	0.0	0.000
25.316	0.000	0.00	0.00	0.00	0.0	0.000
25.333	0.000	0.00	0.00	0.00	0.0	0.000
25.350	0.000	0.00	0.00	0.00	0.0	0.000
25.366	0.000	0.00	0.00	0.00	0.0	0.000
25.383	0.000	0.00	0.00	0.00	0.0	0.000
25.400	0.000	0.00	0.00	0.00	0.0	0.000
25.416	0.000	0.00	0.00	0.00	0.0	0.000
25.433	0.000	0.00	0.00	0.00	0.0	0.000
25.450	0.000	0.00	0.00	0.00	0.0	0.000
25.466	0.000	0.00	0.00	0.00	0.0	0.000
25.483	0.000	0.00	0.00	0.00	0.0	0.000
25.500	0.000	0.00	0.00	0.00	0.0	0.000
25.516	0.000	0.00	0.00	0.00	0.0	0.000
25.533	0.000	0.00	0.00	0.00	0.0	0.000
25.550	0.000	0.00	0.00	0.00	0.0	0.000
25.566	0.000	0.00	0.00	0.00	0.0	0.000
25.583	0.000	0.00	0.00	0.00	0.0	0.000
25.600	0.000	0.00	0.00	0.00	0.0	0.000
25.616	0.000	0.00	0.00	0.00	0.0	0.000
25.633	0.000	0.00	0.00	0.00	0.0	0.000
25.650	0.000	0.00	0.00	0.00	0.0	0.000
25.666	0.000	0.00	0.00	0.00	0.0	0.000
25.683	0.000	0.00	0.00	0.00	0.0	0.000
25.700	0.000	0.00	0.00	0.00	0.0	0.000
25.716	0.000	0.00	0.00	0.00	0.0	0.000
25.733	0.000	0.00	0.00	0.00	0.0	0.000
25.750	0.000	0.00	0.00	0.00	0.0	0.000
25.766	0.000	0.00	0.00	0.00	0.0	0.000
25.783	0.000	0.00	0.00	0.00	0.0	0.000
25.800	0.000	0.00	0.00	0.00	0.0	0.000
25.816	0.000	0.00	0.00	0.00	0.0	0.000
25.833	0.000	0.00	0.00	0.00	0.0	0.000
25.850	0.000	0.00	0.00	0.00	0.0	0.000
25.866	0.000	0.00	0.00	0.00	0.0	0.000
25.883	0.000	0.00	0.00	0.00	0.0	0.000
25.900	0.000	0.00	0.00	0.00	0.0	0.000
25.916	0.000	0.00	0.00	0.00	0.0	0.000
25.933	0.000	0.00	0.00	0.00	0.0	0.000
25.950	0.000	0.00	0.00	0.00	0.0	0.000
25.966	0.000	0.00	0.00	0.00	0.0	0.000
25.983	0.000	0.00	0.00	0.00	0.0	0.000
26.000	0.000	0.00	0.00	0.00	0.0	0.000
26.016	0.000	0.00	0.00	0.00	0.0	0.000
26.033	0.000	0.00	0.00	0.00	0.0	0.000
26.050	0.000	0.00	0.00	0.00	0.0	0.000
26.066	0.000	0.00	0.00	0.00	0.0	0.000
26.083	0.000	0.00	0.00	0.00	0.0	0.000
26.100	0.000	0.00	0.00	0.00	0.0	0.000
26.116	0.000	0.00	0.00	0.00	0.0	0.000
26.133	0.000	0.00	0.00	0.00	0.0	0.000
26.150	0.000	0.00	0.00	0.00	0.0	0.000
26.166	0.000	0.00	0.00	0.00	0.0	0.000
26.183	0.000	0.00	0.00	0.00	0.0	0.000
26.200	0.000	0.00	0.00	0.00	0.0	0.000
26.216	0.000	0.00	0.00	0.00	0.0	0.000
26.233	0.000	0.00	0.00	0.00	0.0	0.000
26.250	0.000	0.00	0.00	0.00	0.0	0.000
26.266	0.000	0.00	0.00	0.00	0.0	0.000
26.283	0.000	0.00	0.00	0.00	0.0	0.000
26.300	0.000	0.00	0.00	0.00	0.0	0.000
26.316	0.000	0.00	0.00	0.00	0.0	0.000

26.333	0.000	0.00	0.00	0.00	0.0	0.000
26.350	0.000	0.00	0.00	0.00	0.0	0.000
26.366	0.000	0.00	0.00	0.00	0.0	0.000
26.383	0.000	0.00	0.00	0.00	0.0	0.000
26.400	0.000	0.00	0.00	0.00	0.0	0.000
26.416	0.000	0.00	0.00	0.00	0.0	0.000
26.433	0.000	0.00	0.00	0.00	0.0	0.000
26.450	0.000	0.00	0.00	0.00	0.0	0.000
26.466	0.000	0.00	0.00	0.00	0.0	0.000
26.483	0.000	0.00	0.00	0.00	0.0	0.000
26.500	0.000	0.00	0.00	0.00	0.0	0.000
26.516	0.000	0.00	0.00	0.00	0.0	0.000
26.533	0.000	0.00	0.00	0.00	0.0	0.000
26.550	0.000	0.00	0.00	0.00	0.0	0.000
26.566	0.000	0.00	0.00	0.00	0.0	0.000
26.583	0.000	0.00	0.00	0.00	0.0	0.000
26.600	0.000	0.00	0.00	0.00	0.0	0.000
26.616	0.000	0.00	0.00	0.00	0.0	0.000
26.633	0.000	0.00	0.00	0.00	0.0	0.000
26.650	0.000	0.00	0.00	0.00	0.0	0.000
26.666	0.000	0.00	0.00	0.00	0.0	0.000
26.683	0.000	0.00	0.00	0.00	0.0	0.000
26.700	0.000	0.00	0.00	0.00	0.0	0.000
26.716	0.000	0.00	0.00	0.00	0.0	0.000
26.733	0.000	0.00	0.00	0.00	0.0	0.000
26.750	0.000	0.00	0.00	0.00	0.0	0.000
26.766	0.000	0.00	0.00	0.00	0.0	0.000
26.783	0.000	0.00	0.00	0.00	0.0	0.000
26.800	0.000	0.00	0.00	0.00	0.0	0.000
26.816	0.000	0.00	0.00	0.00	0.0	0.000
26.833	0.000	0.00	0.00	0.00	0.0	0.000
26.850	0.000	0.00	0.00	0.00	0.0	0.000
26.866	0.000	0.00	0.00	0.00	0.0	0.000
26.883	0.000	0.00	0.00	0.00	0.0	0.000
26.900	0.000	0.00	0.00	0.00	0.0	0.000
26.916	0.000	0.00	0.00	0.00	0.0	0.000
26.933	0.000	0.00	0.00	0.00	0.0	0.000
26.950	0.000	0.00	0.00	0.00	0.0	0.000
26.966	0.000	0.00	0.00	0.00	0.0	0.000
26.983	0.000	0.00	0.00	0.00	0.0	0.000
27.000	0.000	0.00	0.00	0.00	0.0	0.000
27.016	0.000	0.00	0.00	0.00	0.0	0.000
27.033	0.000	0.00	0.00	0.00	0.0	0.000
27.050	0.000	0.00	0.00	0.00	0.0	0.000
27.066	0.000	0.00	0.00	0.00	0.0	0.000
27.083	0.000	0.00	0.00	0.00	0.0	0.000
27.100	0.000	0.00	0.00	0.00	0.0	0.000
27.116	0.000	0.00	0.00	0.00	0.0	0.000
27.133	0.000	0.00	0.00	0.00	0.0	0.000
27.150	0.000	0.00	0.00	0.00	0.0	0.000
27.166	0.000	0.00	0.00	0.00	0.0	0.000
27.183	0.000	0.00	0.00	0.00	0.0	0.000
27.200	0.000	0.00	0.00	0.00	0.0	0.000
27.216	0.000	0.00	0.00	0.00	0.0	0.000
27.233	0.000	0.00	0.00	0.00	0.0	0.000
27.250	0.000	0.00	0.00	0.00	0.0	0.000
27.266	0.000	0.00	0.00	0.00	0.0	0.000
27.283	0.000	0.00	0.00	0.00	0.0	0.000
27.300	0.000	0.00	0.00	0.00	0.0	0.000
27.316	0.000	0.00	0.00	0.00	0.0	0.000
27.333	0.000	0.00	0.00	0.00	0.0	0.000
27.350	0.000	0.00	0.00	0.00	0.0	0.000
27.366	0.000	0.00	0.00	0.00	0.0	0.000
27.383	0.000	0.00	0.00	0.00	0.0	0.000
27.400	0.000	0.00	0.00	0.00	0.0	0.000
27.416	0.000	0.00	0.00	0.00	0.0	0.000
27.433	0.000	0.00	0.00	0.00	0.0	0.000
27.450	0.000	0.00	0.00	0.00	0.0	0.000
27.466	0.000	0.00	0.00	0.00	0.0	0.000
27.483	0.000	0.00	0.00	0.00	0.0	0.000
27.500	0.000	0.00	0.00	0.00	0.0	0.000
27.516	0.000	0.00	0.00	0.00	0.0	0.000
27.533	0.000	0.00	0.00	0.00	0.0	0.000
27.550	0.000	0.00	0.00	0.00	0.0	0.000
27.566	0.000	0.00	0.00	0.00	0.0	0.000
27.583	0.000	0.00	0.00	0.00	0.0	0.000
27.600	0.000	0.00	0.00	0.00	0.0	0.000
27.616	0.000	0.00	0.00	0.00	0.0	0.000
27.633	0.000	0.00	0.00	0.00	0.0	0.000

27.650	0.000	0.00	0.00	0.00	0.0	0.000
27.666	0.000	0.00	0.00	0.00	0.0	0.000
27.683	0.000	0.00	0.00	0.00	0.0	0.000
27.700	0.000	0.00	0.00	0.00	0.0	0.000
27.716	0.000	0.00	0.00	0.00	0.0	0.000
27.733	0.000	0.00	0.00	0.00	0.0	0.000
27.750	0.000	0.00	0.00	0.00	0.0	0.000
27.766	0.000	0.00	0.00	0.00	0.0	0.000
27.783	0.000	0.00	0.00	0.00	0.0	0.000
27.800	0.000	0.00	0.00	0.00	0.0	0.000
27.816	0.000	0.00	0.00	0.00	0.0	0.000
27.833	0.000	0.00	0.00	0.00	0.0	0.000
27.850	0.000	0.00	0.00	0.00	0.0	0.000
27.866	0.000	0.00	0.00	0.00	0.0	0.000
27.883	0.000	0.00	0.00	0.00	0.0	0.000
27.900	0.000	0.00	0.00	0.00	0.0	0.000
27.916	0.000	0.00	0.00	0.00	0.0	0.000
27.933	0.000	0.00	0.00	0.00	0.0	0.000
27.950	0.000	0.00	0.00	0.00	0.0	0.000
27.966	0.000	0.00	0.00	0.00	0.0	0.000
27.983	0.000	0.00	0.00	0.00	0.0	0.000
28.000	0.000	0.00	0.00	0.00	0.0	0.000
28.016	0.000	0.00	0.00	0.00	0.0	0.000
28.033	0.000	0.00	0.00	0.00	0.0	0.000
28.050	0.000	0.00	0.00	0.00	0.0	0.000
28.066	0.000	0.00	0.00	0.00	0.0	0.000
28.083	0.000	0.00	0.00	0.00	0.0	0.000
28.100	0.000	0.00	0.00	0.00	0.0	0.000
28.116	0.000	0.00	0.00	0.00	0.0	0.000
28.133	0.000	0.00	0.00	0.00	0.0	0.000
28.150	0.000	0.00	0.00	0.00	0.0	0.000
28.166	0.000	0.00	0.00	0.00	0.0	0.000
28.183	0.000	0.00	0.00	0.00	0.0	0.000
28.200	0.000	0.00	0.00	0.00	0.0	0.000
28.216	0.000	0.00	0.00	0.00	0.0	0.000
28.233	0.000	0.00	0.00	0.00	0.0	0.000
28.250	0.000	0.00	0.00	0.00	0.0	0.000
28.266	0.000	0.00	0.00	0.00	0.0	0.000
28.283	0.000	0.00	0.00	0.00	0.0	0.000
28.300	0.000	0.00	0.00	0.00	0.0	0.000
28.316	0.000	0.00	0.00	0.00	0.0	0.000
28.333	0.000	0.00	0.00	0.00	0.0	0.000
28.350	0.000	0.00	0.00	0.00	0.0	0.000
28.366	0.000	0.00	0.00	0.00	0.0	0.000
28.383	0.000	0.00	0.00	0.00	0.0	0.000
28.400	0.000	0.00	0.00	0.00	0.0	0.000
28.416	0.000	0.00	0.00	0.00	0.0	0.000
28.433	0.000	0.00	0.00	0.00	0.0	0.000
28.450	0.000	0.00	0.00	0.00	0.0	0.000
28.466	0.000	0.00	0.00	0.00	0.0	0.000
28.483	0.000	0.00	0.00	0.00	0.0	0.000
28.500	0.000	0.00	0.00	0.00	0.0	0.000
28.516	0.000	0.00	0.00	0.00	0.0	0.000
28.533	0.000	0.00	0.00	0.00	0.0	0.000
28.550	0.000	0.00	0.00	0.00	0.0	0.000
28.566	0.000	0.00	0.00	0.00	0.0	0.000
28.583	0.000	0.00	0.00	0.00	0.0	0.000
28.600	0.000	0.00	0.00	0.00	0.0	0.000
28.616	0.000	0.00	0.00	0.00	0.0	0.000
28.633	0.000	0.00	0.00	0.00	0.0	0.000
28.650	0.000	0.00	0.00	0.00	0.0	0.000
28.666	0.000	0.00	0.00	0.00	0.0	0.000
28.683	0.000	0.00	0.00	0.00	0.0	0.000
28.700	0.000	0.00	0.00	0.00	0.0	0.000
28.716	0.000	0.00	0.00	0.00	0.0	0.000
28.733	0.000	0.00	0.00	0.00	0.0	0.000
28.750	0.000	0.00	0.00	0.00	0.0	0.000
28.766	0.000	0.00	0.00	0.00	0.0	0.000
28.783	0.000	0.00	0.00	0.00	0.0	0.000
28.800	0.000	0.00	0.00	0.00	0.0	0.000
28.816	0.000	0.00	0.00	0.00	0.0	0.000
28.833	0.000	0.00	0.00	0.00	0.0	0.000
28.850	0.000	0.00	0.00	0.00	0.0	0.000
28.866	0.000	0.00	0.00	0.00	0.0	0.000
28.883	0.000	0.00	0.00	0.00	0.0	0.000
28.900	0.000	0.00	0.00	0.00	0.0	0.000
28.916	0.000	0.00	0.00	0.00	0.0	0.000
28.933	0.000	0.00	0.00	0.00	0.0	0.000
28.950	0.000	0.00	0.00	0.00	0.0	0.000

28.966	0.000	0.00	0.00	0.00	0.0	0.000
28.983	0.000	0.00	0.00	0.00	0.0	0.000
29.000	0.000	0.00	0.00	0.00	0.0	0.000
29.016	0.000	0.00	0.00	0.00	0.0	0.000
29.033	0.000	0.00	0.00	0.00	0.0	0.000
29.050	0.000	0.00	0.00	0.00	0.0	0.000
29.066	0.000	0.00	0.00	0.00	0.0	0.000
29.083	0.000	0.00	0.00	0.00	0.0	0.000
29.100	0.000	0.00	0.00	0.00	0.0	0.000
29.116	0.000	0.00	0.00	0.00	0.0	0.000
29.133	0.000	0.00	0.00	0.00	0.0	0.000
29.150	0.000	0.00	0.00	0.00	0.0	0.000
29.166	0.000	0.00	0.00	0.00	0.0	0.000
29.183	0.000	0.00	0.00	0.00	0.0	0.000
29.200	0.000	0.00	0.00	0.00	0.0	0.000
29.216	0.000	0.00	0.00	0.00	0.0	0.000
29.233	0.000	0.00	0.00	0.00	0.0	0.000
29.250	0.000	0.00	0.00	0.00	0.0	0.000
29.266	0.000	0.00	0.00	0.00	0.0	0.000
29.283	0.000	0.00	0.00	0.00	0.0	0.000
29.300	0.000	0.00	0.00	0.00	0.0	0.000
29.316	0.000	0.00	0.00	0.00	0.0	0.000
29.333	0.000	0.00	0.00	0.00	0.0	0.000
29.350	0.000	0.00	0.00	0.00	0.0	0.000
29.366	0.000	0.00	0.00	0.00	0.0	0.000
29.383	0.000	0.00	0.00	0.00	0.0	0.000
29.400	0.000	0.00	0.00	0.00	0.0	0.000
29.416	0.000	0.00	0.00	0.00	0.0	0.000
29.433	0.000	0.00	0.00	0.00	0.0	0.000
29.450	0.000	0.00	0.00	0.00	0.0	0.000
29.466	0.000	0.00	0.00	0.00	0.0	0.000
29.483	0.000	0.00	0.00	0.00	0.0	0.000
29.500	0.000	0.00	0.00	0.00	0.0	0.000
29.516	0.000	0.00	0.00	0.00	0.0	0.000
29.533	0.000	0.00	0.00	0.00	0.0	0.000
29.550	0.000	0.00	0.00	0.00	0.0	0.000
29.566	0.000	0.00	0.00	0.00	0.0	0.000
29.583	0.000	0.00	0.00	0.00	0.0	0.000
29.600	0.000	0.00	0.00	0.00	0.0	0.000
29.616	0.000	0.00	0.00	0.00	0.0	0.000
29.633	0.000	0.00	0.00	0.00	0.0	0.000
29.650	0.000	0.00	0.00	0.00	0.0	0.000
29.666	0.000	0.00	0.00	0.00	0.0	0.000
29.683	0.000	0.00	0.00	0.00	0.0	0.000
29.700	0.000	0.00	0.00	0.00	0.0	0.000
29.716	0.000	0.00	0.00	0.00	0.0	0.000
29.733	0.000	0.00	0.00	0.00	0.0	0.000
29.750	0.000	0.00	0.00	0.00	0.0	0.000
29.766	0.000	0.00	0.00	0.00	0.0	0.000
29.783	0.000	0.00	0.00	0.00	0.0	0.000
29.800	0.000	0.00	0.00	0.00	0.0	0.000
29.816	0.000	0.00	0.00	0.00	0.0	0.000
29.833	0.000	0.00	0.00	0.00	0.0	0.000
29.850	0.000	0.00	0.00	0.00	0.0	0.000
29.866	0.000	0.00	0.00	0.00	0.0	0.000
29.883	0.000	0.00	0.00	0.00	0.0	0.000
29.900	0.000	0.00	0.00	0.00	0.0	0.000
29.916	0.000	0.00	0.00	0.00	0.0	0.000
29.933	0.000	0.00	0.00	0.00	0.0	0.000
29.950	0.000	0.00	0.00	0.00	0.0	0.000
29.966	0.000	0.00	0.00	0.00	0.0	0.000
29.983	0.000	0.00	0.00	0.00	0.0	0.000
30.000	0.000	0.00	0.00	0.00	0.0	0.000
30.016	0.000	0.00	0.00	0.00	0.0	0.000
30.033	0.000	0.00	0.00	0.00	0.0	0.000
30.050	0.000	0.00	0.00	0.00	0.0	0.000
30.066	0.000	0.00	0.00	0.00	0.0	0.000
30.083	0.000	0.00	0.00	0.00	0.0	0.000
30.100	0.000	0.00	0.00	0.00	0.0	0.000
30.116	0.000	0.00	0.00	0.00	0.0	0.000
30.133	0.000	0.00	0.00	0.00	0.0	0.000
30.150	0.000	0.00	0.00	0.00	0.0	0.000
30.166	0.000	0.00	0.00	0.00	0.0	0.000
30.183	0.000	0.00	0.00	0.00	0.0	0.000
30.200	0.000	0.00	0.00	0.00	0.0	0.000
30.216	0.000	0.00	0.00	0.00	0.0	0.000
30.233	0.000	0.00	0.00	0.00	0.0	0.000
30.250	0.000	0.00	0.00	0.00	0.0	0.000
30.266	0.000	0.00	0.00	0.00	0.0	0.000

30.283	0.000	0.00	0.00	0.00	0.0	0.000
30.300	0.000	0.00	0.00	0.00	0.0	0.000
30.316	0.000	0.00	0.00	0.00	0.0	0.000
30.333	0.000	0.00	0.00	0.00	0.0	0.000
30.350	0.000	0.00	0.00	0.00	0.0	0.000
30.366	0.000	0.00	0.00	0.00	0.0	0.000
30.383	0.000	0.00	0.00	0.00	0.0	0.000
30.400	0.000	0.00	0.00	0.00	0.0	0.000
30.416	0.000	0.00	0.00	0.00	0.0	0.000
30.433	0.000	0.00	0.00	0.00	0.0	0.000
30.450	0.000	0.00	0.00	0.00	0.0	0.000
30.466	0.000	0.00	0.00	0.00	0.0	0.000
30.483	0.000	0.00	0.00	0.00	0.0	0.000
30.500	0.000	0.00	0.00	0.00	0.0	0.000
30.516	0.000	0.00	0.00	0.00	0.0	0.000
30.533	0.000	0.00	0.00	0.00	0.0	0.000
30.550	0.000	0.00	0.00	0.00	0.0	0.000
30.566	0.000	0.00	0.00	0.00	0.0	0.000
30.583	0.000	0.00	0.00	0.00	0.0	0.000
30.600	0.000	0.00	0.00	0.00	0.0	0.000
30.616	0.000	0.00	0.00	0.00	0.0	0.000
30.633	0.000	0.00	0.00	0.00	0.0	0.000
30.650	0.000	0.00	0.00	0.00	0.0	0.000
30.666	0.000	0.00	0.00	0.00	0.0	0.000
30.683	0.000	0.00	0.00	0.00	0.0	0.000
30.700	0.000	0.00	0.00	0.00	0.0	0.000
30.716	0.000	0.00	0.00	0.00	0.0	0.000
30.733	0.000	0.00	0.00	0.00	0.0	0.000
30.750	0.000	0.00	0.00	0.00	0.0	0.000
30.766	0.000	0.00	0.00	0.00	0.0	0.000
30.783	0.000	0.00	0.00	0.00	0.0	0.000
30.800	0.000	0.00	0.00	0.00	0.0	0.000
30.816	0.000	0.00	0.00	0.00	0.0	0.000
30.833	0.000	0.00	0.00	0.00	0.0	0.000
30.850	0.000	0.00	0.00	0.00	0.0	0.000
30.866	0.000	0.00	0.00	0.00	0.0	0.000
30.883	0.000	0.00	0.00	0.00	0.0	0.000
30.900	0.000	0.00	0.00	0.00	0.0	0.000
30.916	0.000	0.00	0.00	0.00	0.0	0.000
30.933	0.000	0.00	0.00	0.00	0.0	0.000
30.950	0.000	0.00	0.00	0.00	0.0	0.000
30.966	0.000	0.00	0.00	0.00	0.0	0.000
30.983	0.000	0.00	0.00	0.00	0.0	0.000
31.000	0.000	0.00	0.00	0.00	0.0	0.000
31.016	0.000	0.00	0.00	0.00	0.0	0.000
31.033	0.000	0.00	0.00	0.00	0.0	0.000
31.050	0.000	0.00	0.00	0.00	0.0	0.000
31.066	0.000	0.00	0.00	0.00	0.0	0.000
31.083	0.000	0.00	0.00	0.00	0.0	0.000
31.100	0.000	0.00	0.00	0.00	0.0	0.000
31.116	0.000	0.00	0.00	0.00	0.0	0.000
31.133	0.000	0.00	0.00	0.00	0.0	0.000
31.150	0.000	0.00	0.00	0.00	0.0	0.000
31.166	0.000	0.00	0.00	0.00	0.0	0.000
31.183	0.000	0.00	0.00	0.00	0.0	0.000
31.200	0.000	0.00	0.00	0.00	0.0	0.000
31.216	0.000	0.00	0.00	0.00	0.0	0.000
31.233	0.000	0.00	0.00	0.00	0.0	0.000
31.250	0.000	0.00	0.00	0.00	0.0	0.000
31.266	0.000	0.00	0.00	0.00	0.0	0.000
31.283	0.000	0.00	0.00	0.00	0.0	0.000
31.300	0.000	0.00	0.00	0.00	0.0	0.000
31.316	0.000	0.00	0.00	0.00	0.0	0.000
31.333	0.000	0.00	0.00	0.00	0.0	0.000
31.350	0.000	0.00	0.00	0.00	0.0	0.000
31.366	0.000	0.00	0.00	0.00	0.0	0.000
31.383	0.000	0.00	0.00	0.00	0.0	0.000
31.400	0.000	0.00	0.00	0.00	0.0	0.000
31.416	0.000	0.00	0.00	0.00	0.0	0.000
31.433	0.000	0.00	0.00	0.00	0.0	0.000
31.450	0.000	0.00	0.00	0.00	0.0	0.000
31.466	0.000	0.00	0.00	0.00	0.0	0.000
31.483	0.000	0.00	0.00	0.00	0.0	0.000
31.500	0.000	0.00	0.00	0.00	0.0	0.000
31.516	0.000	0.00	0.00	0.00	0.0	0.000
31.533	0.000	0.00	0.00	0.00	0.0	0.000
31.550	0.000	0.00	0.00	0.00	0.0	0.000
31.566	0.000	0.00	0.00	0.00	0.0	0.000
31.583	0.000	0.00	0.00	0.00	0.0	0.000

31.600	0.000	0.00	0.00	0.00	0.0	0.000
31.616	0.000	0.00	0.00	0.00	0.0	0.000
31.633	0.000	0.00	0.00	0.00	0.0	0.000
31.650	0.000	0.00	0.00	0.00	0.0	0.000
31.666	0.000	0.00	0.00	0.00	0.0	0.000
31.683	0.000	0.00	0.00	0.00	0.0	0.000
31.700	0.000	0.00	0.00	0.00	0.0	0.000
31.716	0.000	0.00	0.00	0.00	0.0	0.000
31.733	0.000	0.00	0.00	0.00	0.0	0.000
31.750	0.000	0.00	0.00	0.00	0.0	0.000
31.766	0.000	0.00	0.00	0.00	0.0	0.000
31.783	0.000	0.00	0.00	0.00	0.0	0.000
31.800	0.000	0.00	0.00	0.00	0.0	0.000
31.816	0.000	0.00	0.00	0.00	0.0	0.000
31.833	0.000	0.00	0.00	0.00	0.0	0.000
31.850	0.000	0.00	0.00	0.00	0.0	0.000
31.866	0.000	0.00	0.00	0.00	0.0	0.000
31.883	0.000	0.00	0.00	0.00	0.0	0.000
31.900	0.000	0.00	0.00	0.00	0.0	0.000
31.916	0.000	0.00	0.00	0.00	0.0	0.000
31.933	0.000	0.00	0.00	0.00	0.0	0.000
31.950	0.000	0.00	0.00	0.00	0.0	0.000
31.966	0.000	0.00	0.00	0.00	0.0	0.000
31.983	0.000	0.00	0.00	0.00	0.0	0.000
32.000	0.000	0.00	0.00	0.00	0.0	0.000
32.016	0.000	0.00	0.00	0.00	0.0	0.000
32.033	0.000	0.00	0.00	0.00	0.0	0.000
32.050	0.000	0.00	0.00	0.00	0.0	0.000
32.066	0.000	0.00	0.00	0.00	0.0	0.000
32.083	0.000	0.00	0.00	0.00	0.0	0.000
32.100	0.000	0.00	0.00	0.00	0.0	0.000
32.116	0.000	0.00	0.00	0.00	0.0	0.000
32.133	0.000	0.00	0.00	0.00	0.0	0.000
32.150	0.000	0.00	0.00	0.00	0.0	0.000
32.166	0.000	0.00	0.00	0.00	0.0	0.000
32.183	0.000	0.00	0.00	0.00	0.0	0.000
32.200	0.000	0.00	0.00	0.00	0.0	0.000
32.216	0.000	0.00	0.00	0.00	0.0	0.000
32.233	0.000	0.00	0.00	0.00	0.0	0.000
32.250	0.000	0.00	0.00	0.00	0.0	0.000
32.266	0.000	0.00	0.00	0.00	0.0	0.000
32.283	0.000	0.00	0.00	0.00	0.0	0.000
32.300	0.000	0.00	0.00	0.00	0.0	0.000
32.316	0.000	0.00	0.00	0.00	0.0	0.000
32.333	0.000	0.00	0.00	0.00	0.0	0.000
32.350	0.000	0.00	0.00	0.00	0.0	0.000
32.366	0.000	0.00	0.00	0.00	0.0	0.000
32.383	0.000	0.00	0.00	0.00	0.0	0.000
32.400	0.000	0.00	0.00	0.00	0.0	0.000
32.416	0.000	0.00	0.00	0.00	0.0	0.000
32.433	0.000	0.00	0.00	0.00	0.0	0.000
32.450	0.000	0.00	0.00	0.00	0.0	0.000
32.466	0.000	0.00	0.00	0.00	0.0	0.000
32.483	0.000	0.00	0.00	0.00	0.0	0.000
32.500	0.000	0.00	0.00	0.00	0.0	0.000
32.516	0.000	0.00	0.00	0.00	0.0	0.000
32.533	0.000	0.00	0.00	0.00	0.0	0.000
32.550	0.000	0.00	0.00	0.00	0.0	0.000
32.566	0.000	0.00	0.00	0.00	0.0	0.000
32.583	0.000	0.00	0.00	0.00	0.0	0.000
32.600	0.000	0.00	0.00	0.00	0.0	0.000
32.616	0.000	0.00	0.00	0.00	0.0	0.000
32.633	0.000	0.00	0.00	0.00	0.0	0.000
32.650	0.000	0.00	0.00	0.00	0.0	0.000
32.666	0.000	0.00	0.00	0.00	0.0	0.000
32.683	0.000	0.00	0.00	0.00	0.0	0.000
32.700	0.000	0.00	0.00	0.00	0.0	0.000
32.716	0.000	0.00	0.00	0.00	0.0	0.000
32.733	0.000	0.00	0.00	0.00	0.0	0.000
32.750	0.000	0.00	0.00	0.00	0.0	0.000
32.766	0.000	0.00	0.00	0.00	0.0	0.000
32.783	0.000	0.00	0.00	0.00	0.0	0.000
32.800	0.000	0.00	0.00	0.00	0.0	0.000
32.816	0.000	0.00	0.00	0.00	0.0	0.000
32.833	0.000	0.00	0.00	0.00	0.0	0.000
32.850	0.000	0.00	0.00	0.00	0.0	0.000
32.866	0.000	0.00	0.00	0.00	0.0	0.000
32.883	0.000	0.00	0.00	0.00	0.0	0.000
32.900	0.000	0.00	0.00	0.00	0.0	0.000

32.916	0.000	0.00	0.00	0.00	0.0	0.000
32.933	0.000	0.00	0.00	0.00	0.0	0.000
32.950	0.000	0.00	0.00	0.00	0.0	0.000
32.966	0.000	0.00	0.00	0.00	0.0	0.000
32.983	0.000	0.00	0.00	0.00	0.0	0.000
33.000	0.000	0.00	0.00	0.00	0.0	0.000
33.016	0.000	0.00	0.00	0.00	0.0	0.000
33.033	0.000	0.00	0.00	0.00	0.0	0.000
33.050	0.000	0.00	0.00	0.00	0.0	0.000
33.066	0.000	0.00	0.00	0.00	0.0	0.000
33.083	0.000	0.00	0.00	0.00	0.0	0.000
33.100	0.000	0.00	0.00	0.00	0.0	0.000
33.116	0.000	0.00	0.00	0.00	0.0	0.000
33.133	0.000	0.00	0.00	0.00	0.0	0.000
33.150	0.000	0.00	0.00	0.00	0.0	0.000
33.166	0.000	0.00	0.00	0.00	0.0	0.000
33.183	0.000	0.00	0.00	0.00	0.0	0.000
33.200	0.000	0.00	0.00	0.00	0.0	0.000
33.216	0.000	0.00	0.00	0.00	0.0	0.000
33.233	0.000	0.00	0.00	0.00	0.0	0.000
33.250	0.000	0.00	0.00	0.00	0.0	0.000
33.266	0.000	0.00	0.00	0.00	0.0	0.000
33.283	0.000	0.00	0.00	0.00	0.0	0.000
33.300	0.000	0.00	0.00	0.00	0.0	0.000
33.316	0.000	0.00	0.00	0.00	0.0	0.000
33.333	0.000	0.00	0.00	0.00	0.0	0.000
33.350	0.000	0.00	0.00	0.00	0.0	0.000
33.366	0.000	0.00	0.00	0.00	0.0	0.000
33.383	0.000	0.00	0.00	0.00	0.0	0.000
33.400	0.000	0.00	0.00	0.00	0.0	0.000
33.416	0.000	0.00	0.00	0.00	0.0	0.000
33.433	0.000	0.00	0.00	0.00	0.0	0.000
33.450	0.000	0.00	0.00	0.00	0.0	0.000
33.466	0.000	0.00	0.00	0.00	0.0	0.000
33.483	0.000	0.00	0.00	0.00	0.0	0.000
33.500	0.000	0.00	0.00	0.00	0.0	0.000
33.516	0.000	0.00	0.00	0.00	0.0	0.000
33.533	0.000	0.00	0.00	0.00	0.0	0.000
33.550	0.000	0.00	0.00	0.00	0.0	0.000
33.566	0.000	0.00	0.00	0.00	0.0	0.000
33.583	0.000	0.00	0.00	0.00	0.0	0.000
33.600	0.000	0.00	0.00	0.00	0.0	0.000
33.616	0.000	0.00	0.00	0.00	0.0	0.000
33.633	0.000	0.00	0.00	0.00	0.0	0.000
33.650	0.000	0.00	0.00	0.00	0.0	0.000
33.666	0.000	0.00	0.00	0.00	0.0	0.000
33.683	0.000	0.00	0.00	0.00	0.0	0.000
33.700	0.000	0.00	0.00	0.00	0.0	0.000
33.716	0.000	0.00	0.00	0.00	0.0	0.000
33.733	0.000	0.00	0.00	0.00	0.0	0.000
33.750	0.000	0.00	0.00	0.00	0.0	0.000
33.766	0.000	0.00	0.00	0.00	0.0	0.000
33.783	0.000	0.00	0.00	0.00	0.0	0.000
33.800	0.000	0.00	0.00	0.00	0.0	0.000
33.816	0.000	0.00	0.00	0.00	0.0	0.000
33.833	0.000	0.00	0.00	0.00	0.0	0.000
33.850	0.000	0.00	0.00	0.00	0.0	0.000
33.866	0.000	0.00	0.00	0.00	0.0	0.000
33.883	0.000	0.00	0.00	0.00	0.0	0.000
33.900	0.000	0.00	0.00	0.00	0.0	0.000
33.916	0.000	0.00	0.00	0.00	0.0	0.000
33.933	0.000	0.00	0.00	0.00	0.0	0.000
33.950	0.000	0.00	0.00	0.00	0.0	0.000
33.966	0.000	0.00	0.00	0.00	0.0	0.000
33.983	0.000	0.00	0.00	0.00	0.0	0.000
34.000	0.000	0.00	0.00	0.00	0.0	0.000
34.016	0.000	0.00	0.00	0.00	0.0	0.000
34.033	0.000	0.00	0.00	0.00	0.0	0.000
34.050	0.000	0.00	0.00	0.00	0.0	0.000
34.066	0.000	0.00	0.00	0.00	0.0	0.000
34.083	0.000	0.00	0.00	0.00	0.0	0.000
34.100	0.000	0.00	0.00	0.00	0.0	0.000
34.116	0.000	0.00	0.00	0.00	0.0	0.000
34.133	0.000	0.00	0.00	0.00	0.0	0.000
34.150	0.000	0.00	0.00	0.00	0.0	0.000
34.166	0.000	0.00	0.00	0.00	0.0	0.000
34.183	0.000	0.00	0.00	0.00	0.0	0.000
34.200	0.000	0.00	0.00	0.00	0.0	0.000
34.216	0.000	0.00	0.00	0.00	0.0	0.000

34.233	0.000	0.00	0.00	0.00	0.0	0.000
34.250	0.000	0.00	0.00	0.00	0.0	0.000
34.266	0.000	0.00	0.00	0.00	0.0	0.000
34.283	0.000	0.00	0.00	0.00	0.0	0.000
34.300	0.000	0.00	0.00	0.00	0.0	0.000
34.316	0.000	0.00	0.00	0.00	0.0	0.000
34.333	0.000	0.00	0.00	0.00	0.0	0.000
34.350	0.000	0.00	0.00	0.00	0.0	0.000
34.366	0.000	0.00	0.00	0.00	0.0	0.000
34.383	0.000	0.00	0.00	0.00	0.0	0.000
34.400	0.000	0.00	0.00	0.00	0.0	0.000
34.416	0.000	0.00	0.00	0.00	0.0	0.000
34.433	0.000	0.00	0.00	0.00	0.0	0.000
34.450	0.000	0.00	0.00	0.00	0.0	0.000
34.466	0.000	0.00	0.00	0.00	0.0	0.000
34.483	0.000	0.00	0.00	0.00	0.0	0.000
34.500	0.000	0.00	0.00	0.00	0.0	0.000
34.516	0.000	0.00	0.00	0.00	0.0	0.000
34.533	0.000	0.00	0.00	0.00	0.0	0.000
34.550	0.000	0.00	0.00	0.00	0.0	0.000
34.566	0.000	0.00	0.00	0.00	0.0	0.000
34.583	0.000	0.00	0.00	0.00	0.0	0.000
34.600	0.000	0.00	0.00	0.00	0.0	0.000
34.616	0.000	0.00	0.00	0.00	0.0	0.000
34.633	0.000	0.00	0.00	0.00	0.0	0.000
34.650	0.000	0.00	0.00	0.00	0.0	0.000
34.666	0.000	0.00	0.00	0.00	0.0	0.000
34.683	0.000	0.00	0.00	0.00	0.0	0.000
34.700	0.000	0.00	0.00	0.00	0.0	0.000
34.716	0.000	0.00	0.00	0.00	0.0	0.000
34.733	0.000	0.00	0.00	0.00	0.0	0.000
34.750	0.000	0.00	0.00	0.00	0.0	0.000
34.766	0.000	0.00	0.00	0.00	0.0	0.000
34.783	0.000	0.00	0.00	0.00	0.0	0.000
34.800	0.000	0.00	0.00	0.00	0.0	0.000
34.816	0.000	0.00	0.00	0.00	0.0	0.000
34.833	0.000	0.00	0.00	0.00	0.0	0.000
34.850	0.000	0.00	0.00	0.00	0.0	0.000
34.866	0.000	0.00	0.00	0.00	0.0	0.000
34.883	0.000	0.00	0.00	0.00	0.0	0.000
34.900	0.000	0.00	0.00	0.00	0.0	0.000
34.916	0.000	0.00	0.00	0.00	0.0	0.000
34.933	0.000	0.00	0.00	0.00	0.0	0.000
34.950	0.000	0.00	0.00	0.00	0.0	0.000
34.966	0.000	0.00	0.00	0.00	0.0	0.000
34.983	0.000	0.00	0.00	0.00	0.0	0.000
35.000	0.000	0.00	0.00	0.00	0.0	0.000
35.016	0.000	0.00	0.00	0.00	0.0	0.000
35.033	0.000	0.00	0.00	0.00	0.0	0.000
35.050	0.000	0.00	0.00	0.00	0.0	0.000
35.066	0.000	0.00	0.00	0.00	0.0	0.000
35.083	0.000	0.00	0.00	0.00	0.0	0.000
35.100	0.000	0.00	0.00	0.00	0.0	0.000
35.116	0.000	0.00	0.00	0.00	0.0	0.000
35.133	0.000	0.00	0.00	0.00	0.0	0.000
35.150	0.000	0.00	0.00	0.00	0.0	0.000
35.166	0.000	0.00	0.00	0.00	0.0	0.000
35.183	0.000	0.00	0.00	0.00	0.0	0.000
35.200	0.000	0.00	0.00	0.00	0.0	0.000
35.216	0.000	0.00	0.00	0.00	0.0	0.000
35.233	0.000	0.00	0.00	0.00	0.0	0.000
35.250	0.000	0.00	0.00	0.00	0.0	0.000
35.266	0.000	0.00	0.00	0.00	0.0	0.000
35.283	0.000	0.00	0.00	0.00	0.0	0.000
35.300	0.000	0.00	0.00	0.00	0.0	0.000
35.316	0.000	0.00	0.00	0.00	0.0	0.000
35.333	0.000	0.00	0.00	0.00	0.0	0.000
35.350	0.000	0.00	0.00	0.00	0.0	0.000
35.366	0.000	0.00	0.00	0.00	0.0	0.000
35.383	0.000	0.00	0.00	0.00	0.0	0.000
35.400	0.000	0.00	0.00	0.00	0.0	0.000
35.416	0.000	0.00	0.00	0.00	0.0	0.000
35.433	0.000	0.00	0.00	0.00	0.0	0.000
35.450	0.000	0.00	0.00	0.00	0.0	0.000
35.466	0.000	0.00	0.00	0.00	0.0	0.000
35.483	0.000	0.00	0.00	0.00	0.0	0.000
35.500	0.000	0.00	0.00	0.00	0.0	0.000
35.516	0.000	0.00	0.00	0.00	0.0	0.000
35.533	0.000	0.00	0.00	0.00	0.0	0.000

35.550	0.000	0.00	0.00	0.00	0.0	0.000
35.566	0.000	0.00	0.00	0.00	0.0	0.000
35.583	0.000	0.00	0.00	0.00	0.0	0.000
35.600	0.000	0.00	0.00	0.00	0.0	0.000
35.616	0.000	0.00	0.00	0.00	0.0	0.000
35.633	0.000	0.00	0.00	0.00	0.0	0.000
35.650	0.000	0.00	0.00	0.00	0.0	0.000
35.666	0.000	0.00	0.00	0.00	0.0	0.000
35.683	0.000	0.00	0.00	0.00	0.0	0.000
35.700	0.000	0.00	0.00	0.00	0.0	0.000
35.716	0.000	0.00	0.00	0.00	0.0	0.000
35.733	0.000	0.00	0.00	0.00	0.0	0.000
35.750	0.000	0.00	0.00	0.00	0.0	0.000
35.766	0.000	0.00	0.00	0.00	0.0	0.000
35.783	0.000	0.00	0.00	0.00	0.0	0.000
35.800	0.000	0.00	0.00	0.00	0.0	0.000
35.816	0.000	0.00	0.00	0.00	0.0	0.000
35.833	0.000	0.00	0.00	0.00	0.0	0.000
35.850	0.000	0.00	0.00	0.00	0.0	0.000
35.866	0.000	0.00	0.00	0.00	0.0	0.000
35.883	0.000	0.00	0.00	0.00	0.0	0.000
35.900	0.000	0.00	0.00	0.00	0.0	0.000
35.916	0.000	0.00	0.00	0.00	0.0	0.000
35.933	0.000	0.00	0.00	0.00	0.0	0.000
35.950	0.000	0.00	0.00	0.00	0.0	0.000
35.966	0.000	0.00	0.00	0.00	0.0	0.000
35.983	0.000	0.00	0.00	0.00	0.0	0.000
36.000	0.000	0.00	0.00	0.00	0.0	0.000

PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 6.687 AF

BASIN STORAGE = 0.000 AF (WITH 0.000 AF INITIALLY FILLED)

OUTFLOW VOLUME = 6.687 AF

LOSS VOLUME = 0.000 AF

==========

END OF FLOODSCx ROUTING ANALYSIS

JOB #3687 - 8996 ETIWANDA AVE, RANCHO CUCAMONGA
DETENTION IN BLDG 2 TRUCK YARD

Elevation	Depth (feet)	Area (sq. ft.)	Volume (c.f.)	Σ Volume (c.f.)	Σ Volume (ac-ft)	Q Discharge (cfs)
1112.76	0.00	0	300	300	0.01	9.1
1112.90	0.14	4282	789	1088	0.02	9.5
1113.00	0.24	11490	1612	2701	0.06	9.9
1113.10	0.34	20760	2641	5342	0.12	10.2
1113.20	0.44	32058				

```
**************************************************************************

          F L O O D    R O U T I N G    A N A L Y S I S
        USING COUNTY HYDROLOGY MANUAL OF SAN BERNARDINO(1986)
       (c) Copyright 1989-2016 Advanced Engineering Software (aes)
           Ver. 23.0  Release Date: 07/01/2016  License ID 1435

                        Analysis prepared by:



 ************************* DESCRIPTION OF STUDY ************************
* ETIWANDA DISTRIBUTION CENTER - RANCHO CUCAMONGA                       *
* PROPOSED CONDITION - BUILDING 2 - EAST - NODES 500-503                *
* HYDROLOGIC ANALYSIS - 100-YEAR                                        *
 ************************************************************************

  FILE NAME: 3687P2EC.FLD
  TIME/DATE OF STUDY: 16:00 06/19/2023

   The Small Area Unit Hydrograph Procedures in Section J
   of the Hydrology Manual provides estimates of runoff
   hydrograph and runoff volume for watersheds whose time of
   concentration is less than 25 minutes. The PROGRAM User
   should check the applicability of using the small area unit
   hydrograph procedures, and follow the guidelines in
   Sections J and K.5 in complex watershed modeling.

**************************************************************************
  FLOW PROCESS FROM NODE     500.00 TO NODE     503.00 IS CODE = 1.2
--------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (SMALL AREA UNIT-HYDROGRAPH ANALYSIS) <<<<<
==========================================================================

  (SMALL AREA UNIT-HYDROGRAPH ADDED TO STREAM #1)

    RATIONAL METHOD CALIBRATION COEFFICIENT = 0.90
    TOTAL CATCHMENT AREA(ACRES) =    5.20
    SOIL-LOSS RATE, Fm,(INCH/HR) =  0.042
    LOW LOSS FRACTION = 0.063
    TIME OF CONCENTRATION(MIN.) =  6.80
    SMALL AREA PEAK Q COMPUTED USING PEAK FLOW RATE FORMULA
    USER SPECIFIED RAINFALL VALUES ARE USED:
    RETURN FREQUENCY(YEARS) = 100
       5-MINUTE POINT RAINFALL VALUE(INCHES) =  0.50
      30-MINUTE POINT RAINFALL VALUE(INCHES) =  1.05
       1-HOUR   POINT RAINFALL VALUE(INCHES) =  1.38
       3-HOUR   POINT RAINFALL VALUE(INCHES) =  2.50
       6-HOUR   POINT RAINFALL VALUE(INCHES) =  3.70
      24-HOUR   POINT RAINFALL VALUE(INCHES) =  8.00

--------------------------------------------------------------------------
    TOTAL CATCHMENT   RUNOFF  VOLUME(ACRE-FEET) =     2.92
    TOTAL CATCHMENT SOIL-LOSS VOLUME(ACRE-FEET) =     0.55

--------------------------------------------------------------------------
♠
==========================================================================

                    2 4 - H O U R    S T O R M
                  R U N O F F    H Y D R O G R A P H

==========================================================================
          HYDROGRAPH IN  ONE-MINUTE UNIT INTERVALS(CFS)
       (Notes: Time indicated is at END of Each Unit Intervals.
               Peak 5-minute rainfall intensity is modeled as
               a constant value for entire 5-minute period.)
--------------------------------------------------------------------------
TIME(HRS) VOLUME(AF)   Q(CFS) 0.        5.8       11.6      17.4      23.3
--------------------------------------------------------------------------
   0.017      0.0001     0.05  Q        .         .         .         .
   0.033      0.0003     0.15  Q        .         .         .         .
   0.050      0.0006     0.25  Q        .         .         .         .
   0.067      0.0011     0.36  Q        .         .         .         .
```

0.083	0.0018	0.46	Q
0.100	0.0025	0.56	Q
0.117	0.0034	0.66	VQ
0.133	0.0045	0.76	VQ
0.150	0.0056	0.81	VQ
0.167	0.0067	0.81	VQ
0.183	0.0078	0.81	VQ
0.200	0.0090	0.82	VQ
0.217	0.0101	0.82	VQ
0.233	0.0112	0.82	VQ
0.250	0.0123	0.82	VQ
0.267	0.0135	0.82	VQ
0.283	0.0146	0.82	VQ
0.300	0.0157	0.82	VQ
0.317	0.0169	0.82	VQ
0.333	0.0180	0.82	VQ
0.350	0.0191	0.82	VQ
0.367	0.0202	0.82	VQ
0.383	0.0214	0.82	VQ
0.400	0.0225	0.82	VQ
0.417	0.0236	0.82	VQ
0.433	0.0247	0.82	VQ
0.450	0.0259	0.82	VQ
0.467	0.0270	0.82	VQ
0.483	0.0281	0.82	VQ
0.500	0.0293	0.82	VQ
0.517	0.0304	0.82	VQ
0.533	0.0315	0.82	VQ
0.550	0.0327	0.82	VQ
0.567	0.0338	0.82	VQ
0.583	0.0349	0.82	VQ
0.600	0.0361	0.82	VQ
0.617	0.0372	0.82	VQ
0.633	0.0384	0.83	VQ
0.650	0.0395	0.83	VQ
0.667	0.0406	0.83	VQ
0.683	0.0418	0.83	VQ
0.700	0.0429	0.83	VQ
0.717	0.0440	0.83	VQ
0.733	0.0452	0.83	VQ
0.750	0.0463	0.83	VQ
0.767	0.0475	0.83	VQ
0.783	0.0486	0.83	VQ
0.800	0.0498	0.83	VQ
0.817	0.0509	0.83	VQ
0.833	0.0520	0.83	VQ
0.850	0.0532	0.83	VQ
0.867	0.0543	0.83	VQ
0.883	0.0555	0.83	VQ
0.900	0.0566	0.83	VQ
0.917	0.0578	0.83	VQ
0.933	0.0589	0.83	VQ
0.950	0.0601	0.83	VQ
0.967	0.0612	0.83	VQ
0.983	0.0624	0.83	VQ
1.000	0.0635	0.83	VQ
1.017	0.0647	0.83	VQ
1.033	0.0658	0.83	VQ
1.050	0.0670	0.83	VQ
1.067	0.0681	0.84	VQ
1.083	0.0693	0.84	VQ
1.100	0.0704	0.84	VQ
1.117	0.0716	0.84	VQ
1.133	0.0727	0.84	VQ
1.150	0.0739	0.84	.Q
1.167	0.0750	0.84	.Q
1.183	0.0762	0.84	.Q
1.200	0.0773	0.84	.Q
1.217	0.0785	0.84	.Q
1.233	0.0797	0.84	.Q
1.250	0.0808	0.84	.Q
1.267	0.0820	0.84	.Q
1.283	0.0831	0.84	.Q
1.300	0.0843	0.84	.Q
1.317	0.0854	0.84	.Q
1.333	0.0866	0.84	.Q
1.350	0.0878	0.84	.Q
1.367	0.0889	0.84	.Q
1.383	0.0901	0.84	.Q

1.400	0.0913	0.84	.Q	.	.	.	.
1.417	0.0924	0.84	.Q	.	.	.	.
1.433	0.0936	0.85	.Q	.	.	.	.
1.450	0.0947	0.85	.Q	.	.	.	.
1.467	0.0959	0.85	.Q	.	.	.	.
1.483	0.0971	0.85	.Q	.	.	.	.
1.500	0.0982	0.85	.Q	.	.	.	.
1.517	0.0994	0.85	.Q	.	.	.	.
1.533	0.1006	0.85	.Q	.	.	.	.
1.550	0.1017	0.85	.Q	.	.	.	.
1.567	0.1029	0.85	.Q	.	.	.	.
1.583	0.1041	0.85	.Q	.	.	.	.
1.600	0.1053	0.85	.Q	.	.	.	.
1.617	0.1064	0.85	.Q	.	.	.	.
1.633	0.1076	0.85	.Q	.	.	.	.
1.650	0.1088	0.85	.Q	.	.	.	.
1.667	0.1099	0.85	.Q	.	.	.	.
1.683	0.1111	0.85	.Q	.	.	.	.
1.700	0.1123	0.85	.Q	.	.	.	.
1.717	0.1135	0.85	.Q	.	.	.	.
1.733	0.1146	0.85	.Q	.	.	.	.
1.750	0.1158	0.85	.Q	.	.	.	.
1.767	0.1170	0.85	.Q	.	.	.	.
1.783	0.1182	0.85	.Q	.	.	.	.
1.800	0.1193	0.85	.Q	.	.	.	.
1.817	0.1205	0.86	.Q	.	.	.	.
1.833	0.1217	0.86	.Q	.	.	.	.
1.850	0.1229	0.86	.Q	.	.	.	.
1.867	0.1241	0.86	.Q	.	.	.	.
1.883	0.1252	0.86	.Q	.	.	.	.
1.900	0.1264	0.86	.Q	.	.	.	.
1.917	0.1276	0.86	.Q	.	.	.	.
1.933	0.1288	0.86	.Q	.	.	.	.
1.950	0.1300	0.86	.Q	.	.	.	.
1.967	0.1311	0.86	.Q	.	.	.	.
1.983	0.1323	0.86	.Q	.	.	.	.
2.000	0.1335	0.86	.Q	.	.	.	.
2.017	0.1347	0.86	.Q	.	.	.	.
2.033	0.1359	0.86	.Q	.	.	.	.
2.050	0.1371	0.86	.Q	.	.	.	.
2.067	0.1383	0.86	.Q	.	.	.	.
2.083	0.1394	0.86	.Q	.	.	.	.
2.100	0.1406	0.86	.Q	.	.	.	.
2.117	0.1418	0.86	.Q	.	.	.	.
2.133	0.1430	0.86	.Q	.	.	.	.
2.150	0.1442	0.86	.Q	.	.	.	.
2.167	0.1454	0.86	.Q	.	.	.	.
2.183	0.1466	0.86	.QV	.	.	.	.
2.200	0.1478	0.86	.QV	.	.	.	.
2.217	0.1490	0.87	.QV	.	.	.	.
2.233	0.1502	0.87	.QV	.	.	.	.
2.250	0.1513	0.87	.QV	.	.	.	.
2.267	0.1525	0.87	.QV	.	.	.	.
2.283	0.1537	0.87	.QV	.	.	.	.
2.300	0.1549	0.87	.QV	.	.	.	.
2.317	0.1561	0.87	.QV	.	.	.	.
2.333	0.1573	0.87	.QV	.	.	.	.
2.350	0.1585	0.87	.QV	.	.	.	.
2.367	0.1597	0.87	.QV	.	.	.	.
2.383	0.1609	0.87	.QV	.	.	.	.
2.400	0.1621	0.87	.QV	.	.	.	.
2.417	0.1633	0.87	.QV	.	.	.	.
2.433	0.1645	0.87	.QV	.	.	.	.
2.450	0.1657	0.87	.QV	.	.	.	.
2.467	0.1669	0.87	.QV	.	.	.	.
2.483	0.1681	0.87	.QV	.	.	.	.
2.500	0.1693	0.87	.QV	.	.	.	.
2.517	0.1705	0.87	.QV	.	.	.	.
2.533	0.1717	0.88	.QV	.	.	.	.
2.550	0.1730	0.88	.QV	.	.	.	.
2.567	0.1742	0.88	.QV	.	.	.	.
2.583	0.1754	0.88	.QV	.	.	.	.
2.600	0.1766	0.88	.QV	.	.	.	.
2.617	0.1778	0.88	.QV	.	.	.	.
2.633	0.1790	0.88	.QV	.	.	.	.
2.650	0.1802	0.88	.QV	.	.	.	.
2.667	0.1814	0.88	.QV	.	.	.	.
2.683	0.1826	0.88	.QV	.	.	.	.
2.700	0.1838	0.88	.QV	.	.	.	.

2.717	0.1850	0.88	.QV	.	.	.	.
2.733	0.1863	0.88	.QV	.	.	.	.
2.750	0.1875	0.88	.QV	.	.	.	.
2.767	0.1887	0.88	.QV	.	.	.	.
2.783	0.1899	0.88	.QV	.	.	.	.
2.800	0.1911	0.88	.QV	.	.	.	.
2.817	0.1923	0.88	.QV	.	.	.	.
2.833	0.1935	0.88	.QV	.	.	.	.
2.850	0.1948	0.88	.QV	.	.	.	.
2.867	0.1960	0.88	.QV	.	.	.	.
2.883	0.1972	0.88	.QV	.	.	.	.
2.900	0.1984	0.89	.QV	.	.	.	.
2.917	0.1996	0.89	.QV	.	.	.	.
2.933	0.2009	0.89	.QV	.	.	.	.
2.950	0.2021	0.89	.QV	.	.	.	.
2.967	0.2033	0.89	.QV	.	.	.	.
2.983	0.2045	0.89	.QV	.	.	.	.
3.000	0.2058	0.89	.QV	.	.	.	.
3.017	0.2070	0.89	.QV	.	.	.	.
3.033	0.2082	0.89	.QV	.	.	.	.
3.050	0.2094	0.89	.QV	.	.	.	.
3.067	0.2107	0.89	.QV	.	.	.	.
3.083	0.2119	0.89	.QV	.	.	.	.
3.100	0.2131	0.89	.QV	.	.	.	.
3.117	0.2143	0.89	.QV	.	.	.	.
3.133	0.2156	0.89	.QV	.	.	.	.
3.150	0.2168	0.89	.QV	.	.	.	.
3.167	0.2180	0.89	.QV	.	.	.	.
3.183	0.2193	0.89	.Q V	.	.	.	.
3.200	0.2205	0.90	.Q V	.	.	.	.
3.217	0.2217	0.90	.Q V	.	.	.	.
3.233	0.2230	0.90	.Q V	.	.	.	.
3.250	0.2242	0.90	.Q V	.	.	.	.
3.267	0.2254	0.90	.Q V	.	.	.	.
3.283	0.2267	0.90	.Q V	.	.	.	.
3.300	0.2279	0.90	.Q V	.	.	.	.
3.317	0.2291	0.90	.Q V	.	.	.	.
3.333	0.2304	0.90	.Q V	.	.	.	.
3.350	0.2316	0.90	.Q V	.	.	.	.
3.367	0.2329	0.90	.Q V	.	.	.	.
3.383	0.2341	0.90	.Q V	.	.	.	.
3.400	0.2353	0.90	.Q V	.	.	.	.
3.417	0.2366	0.90	.Q V	.	.	.	.
3.433	0.2378	0.90	.Q V	.	.	.	.
3.450	0.2391	0.90	.Q V	.	.	.	.
3.467	0.2403	0.90	.Q V	.	.	.	.
3.483	0.2415	0.90	.Q V	.	.	.	.
3.500	0.2428	0.90	.Q V	.	.	.	.
3.517	0.2440	0.90	.Q V	.	.	.	.
3.533	0.2453	0.90	.Q V	.	.	.	.
3.550	0.2465	0.91	.Q V	.	.	.	.
3.567	0.2478	0.91	.Q V	.	.	.	.
3.583	0.2490	0.91	.Q V	.	.	.	.
3.600	0.2503	0.91	.Q V	.	.	.	.
3.617	0.2515	0.91	.Q V	.	.	.	.
3.633	0.2528	0.91	.Q V	.	.	.	.
3.650	0.2540	0.91	.Q V	.	.	.	.
3.667	0.2553	0.91	.Q V	.	.	.	.
3.683	0.2565	0.91	.Q V	.	.	.	.
3.700	0.2578	0.91	.Q V	.	.	.	.
3.717	0.2590	0.91	.Q V	.	.	.	.
3.733	0.2603	0.91	.Q V	.	.	.	.
3.750	0.2616	0.91	.Q V	.	.	.	.
3.767	0.2628	0.91	.Q V	.	.	.	.
3.783	0.2641	0.91	.Q V	.	.	.	.
3.800	0.2653	0.91	.Q V	.	.	.	.
3.817	0.2666	0.91	.Q V	.	.	.	.
3.833	0.2678	0.91	.Q V	.	.	.	.
3.850	0.2691	0.92	.Q V	.	.	.	.
3.867	0.2704	0.92	.Q V	.	.	.	.
3.883	0.2716	0.92	.Q V	.	.	.	.
3.900	0.2729	0.92	.Q V	.	.	.	.
3.917	0.2742	0.92	.Q V	.	.	.	.
3.933	0.2754	0.92	.Q V	.	.	.	.
3.950	0.2767	0.92	.Q V	.	.	.	.
3.967	0.2780	0.92	.Q V	.	.	.	.
3.983	0.2792	0.92	.Q V	.	.	.	.
4.000	0.2805	0.92	.Q V	.	.	.	.
4.017	0.2818	0.92	.Q V	.	.	.	.

4.033	0.2830	0.92	.Q	V	.	.	.	.
4.050	0.2843	0.92	.Q	V	.	.	.	.
4.067	0.2856	0.92	.Q	V	.	.	.	.
4.083	0.2868	0.92	.Q	V	.	.	.	.
4.100	0.2881	0.92	.Q	V	.	.	.	.
4.117	0.2894	0.92	.Q	V	.	.	.	.
4.133	0.2907	0.93	.Q	V	.	.	.	.
4.150	0.2919	0.93	.Q	V	.	.	.	.
4.167	0.2932	0.93	.Q	V	.	.	.	.
4.183	0.2945	0.93	.Q	V	.	.	.	.
4.200	0.2958	0.93	.Q	V	.	.	.	.
4.217	0.2970	0.93	.Q	V	.	.	.	.
4.233	0.2983	0.93	.Q	V	.	.	.	.
4.250	0.2996	0.93	.Q	V	.	.	.	.
4.267	0.3009	0.93	.Q	V	.	.	.	.
4.283	0.3022	0.93	.Q	V	.	.	.	.
4.300	0.3034	0.93	.Q	V	.	.	.	.
4.317	0.3047	0.93	.Q	V	.	.	.	.
4.333	0.3060	0.93	.Q	V	.	.	.	.
4.350	0.3073	0.93	.Q	V	.	.	.	.
4.367	0.3086	0.93	.Q	V	.	.	.	.
4.383	0.3099	0.93	.Q	V	.	.	.	.
4.400	0.3112	0.93	.Q	V	.	.	.	.
4.417	0.3124	0.93	.Q	V	.	.	.	.
4.433	0.3137	0.93	.Q	V	.	.	.	.
4.450	0.3150	0.94	.Q	V	.	.	.	.
4.467	0.3163	0.94	.Q	V	.	.	.	.
4.483	0.3176	0.94	.Q	V	.	.	.	.
4.500	0.3189	0.94	.Q	V	.	.	.	.
4.517	0.3202	0.94	.Q	V	.	.	.	.
4.533	0.3215	0.94	.Q	V	.	.	.	.
4.550	0.3228	0.94	.Q	V	.	.	.	.
4.567	0.3241	0.94	.Q	V	.	.	.	.
4.583	0.3254	0.94	.Q	V	.	.	.	.
4.600	0.3267	0.94	.Q	V	.	.	.	.
4.617	0.3280	0.94	.Q	V	.	.	.	.
4.633	0.3293	0.94	.Q	V	.	.	.	.
4.650	0.3306	0.94	.Q	V	.	.	.	.
4.667	0.3318	0.94	.Q	V	.	.	.	.
4.683	0.3331	0.94	.Q	V	.	.	.	.
4.700	0.3345	0.94	.Q	V	.	.	.	.
4.717	0.3358	0.95	.Q	V	.	.	.	.
4.733	0.3371	0.95	.Q	V	.	.	.	.
4.750	0.3384	0.95	.Q	V	.	.	.	.
4.767	0.3397	0.95	.Q	V	.	.	.	.
4.783	0.3410	0.95	.Q	V	.	.	.	.
4.800	0.3423	0.95	.Q	V	.	.	.	.
4.817	0.3436	0.95	.Q	V	.	.	.	.
4.833	0.3449	0.95	.Q	V	.	.	.	.
4.850	0.3462	0.95	.Q	V	.	.	.	.
4.867	0.3475	0.95	.Q	V	.	.	.	.
4.883	0.3488	0.95	.Q	V	.	.	.	.
4.900	0.3501	0.95	.Q	V	.	.	.	.
4.917	0.3514	0.95	.Q	V	.	.	.	.
4.933	0.3528	0.95	.Q	V	.	.	.	.
4.950	0.3541	0.95	.Q	V	.	.	.	.
4.967	0.3554	0.96	.Q	V	.	.	.	.
4.983	0.3567	0.96	.Q	V	.	.	.	.
5.000	0.3580	0.96	.Q	V	.	.	.	.
5.017	0.3593	0.96	.Q	V	.	.	.	.
5.033	0.3607	0.96	.Q	V	.	.	.	.
5.050	0.3620	0.96	.Q	V	.	.	.	.
5.067	0.3633	0.96	.Q	V	.	.	.	.
5.083	0.3646	0.96	.Q	V	.	.	.	.
5.100	0.3659	0.96	.Q	V	.	.	.	.
5.117	0.3673	0.96	.Q	V	.	.	.	.
5.133	0.3686	0.96	.Q	V	.	.	.	.
5.150	0.3699	0.96	.Q	V	.	.	.	.
5.167	0.3712	0.96	.Q	V	.	.	.	.
5.183	0.3726	0.96	.Q	V	.	.	.	.
5.200	0.3739	0.96	.Q	V	.	.	.	.
5.217	0.3752	0.96	.Q	V	.	.	.	.
5.233	0.3766	0.97	.Q	V	.	.	.	.
5.250	0.3779	0.97	.Q	V	.	.	.	.
5.267	0.3792	0.97	.Q	V	.	.	.	.
5.283	0.3806	0.97	.Q	V	.	.	.	.
5.300	0.3819	0.97	.Q	V	.	.	.	.
5.317	0.3832	0.97	.Q	V	.	.	.	.
5.333	0.3846	0.97	.Q	V	.	.	.	.

5.350	0.3859	0.97	.Q	V	.	.	.	.
5.367	0.3872	0.97	.Q	V	.	.	.	.
5.383	0.3886	0.97	.Q	V	.	.	.	.
5.400	0.3899	0.97	.Q	V	.	.	.	.
5.417	0.3912	0.97	.Q	V	.	.	.	.
5.433	0.3926	0.97	.Q	V	.	.	.	.
5.450	0.3939	0.97	.Q	V	.	.	.	.
5.467	0.3953	0.98	.Q	V	.	.	.	.
5.483	0.3966	0.98	.Q	V	.	.	.	.
5.500	0.3980	0.98	.Q	V	.	.	.	.
5.517	0.3993	0.98	.Q	V	.	.	.	.
5.533	0.4006	0.98	.Q	V	.	.	.	.
5.550	0.4020	0.98	.Q	V	.	.	.	.
5.567	0.4033	0.98	.Q	V	.	.	.	.
5.583	0.4047	0.98	.Q	V	.	.	.	.
5.600	0.4060	0.98	.Q	V	.	.	.	.
5.617	0.4074	0.98	.Q	V	.	.	.	.
5.633	0.4087	0.98	.Q	V	.	.	.	.
5.650	0.4101	0.98	.Q	V	.	.	.	.
5.667	0.4115	0.98	.Q	V	.	.	.	.
5.683	0.4128	0.98	.Q	V	.	.	.	.
5.700	0.4142	0.98	.Q	V	.	.	.	.
5.717	0.4155	0.99	.Q	V	.	.	.	.
5.733	0.4169	0.99	.Q	V	.	.	.	.
5.750	0.4182	0.99	.Q	V	.	.	.	.
5.767	0.4196	0.99	.Q	V	.	.	.	.
5.783	0.4210	0.99	.Q	V	.	.	.	.
5.800	0.4223	0.99	.Q	V	.	.	.	.
5.817	0.4237	0.99	.Q	V	.	.	.	.
5.833	0.4250	0.99	.Q	V	.	.	.	.
5.850	0.4264	0.99	.Q	V	.	.	.	.
5.867	0.4278	0.99	.Q	V	.	.	.	.
5.883	0.4291	0.99	.Q	V	.	.	.	.
5.900	0.4305	0.99	.Q	V	.	.	.	.
5.917	0.4319	0.99	.Q	V	.	.	.	.
5.933	0.4332	0.99	.Q	V	.	.	.	.
5.950	0.4346	1.00	.Q	V	.	.	.	.
5.967	0.4360	1.00	.Q	V	.	.	.	.
5.983	0.4374	1.00	.Q	V	.	.	.	.
6.000	0.4387	1.00	.Q	V	.	.	.	.
6.017	0.4401	1.00	.Q	V	.	.	.	.
6.033	0.4415	1.00	.Q	V	.	.	.	.
6.050	0.4429	1.00	.Q	V	.	.	.	.
6.067	0.4442	1.00	.Q	V	.	.	.	.
6.083	0.4456	1.00	.Q	V	.	.	.	.
6.100	0.4470	1.00	.Q	V	.	.	.	.
6.117	0.4484	1.00	.Q	V	.	.	.	.
6.133	0.4498	1.00	.Q	V	.	.	.	.
6.150	0.4511	1.00	.Q	V	.	.	.	.
6.167	0.4525	1.01	.Q	V	.	.	.	.
6.183	0.4539	1.01	.Q	V	.	.	.	.
6.200	0.4553	1.01	.Q	V	.	.	.	.
6.217	0.4567	1.01	.Q	V	.	.	.	.
6.233	0.4581	1.01	.Q	V	.	.	.	.
6.250	0.4595	1.01	.Q	V	.	.	.	.
6.267	0.4608	1.01	.Q	V	.	.	.	.
6.283	0.4622	1.01	.Q	V	.	.	.	.
6.300	0.4636	1.01	.Q	V	.	.	.	.
6.317	0.4650	1.01	.Q	V	.	.	.	.
6.333	0.4664	1.01	.Q	V	.	.	.	.
6.350	0.4678	1.01	.Q	V	.	.	.	.
6.367	0.4692	1.01	.Q	V	.	.	.	.
6.383	0.4706	1.02	.Q	V	.	.	.	.
6.400	0.4720	1.02	.Q	V	.	.	.	.
6.417	0.4734	1.02	.Q	V	.	.	.	.
6.433	0.4748	1.02	.Q	V	.	.	.	.
6.450	0.4762	1.02	.Q	V	.	.	.	.
6.467	0.4776	1.02	.Q	V	.	.	.	.
6.483	0.4790	1.02	.Q	V	.	.	.	.
6.500	0.4804	1.02	.Q	V	.	.	.	.
6.517	0.4818	1.02	.Q	V	.	.	.	.
6.533	0.4832	1.02	.Q	V	.	.	.	.
6.550	0.4846	1.02	.Q	V	.	.	.	.
6.567	0.4860	1.02	.Q	V	.	.	.	.
6.583	0.4875	1.02	.Q	V	.	.	.	.
6.600	0.4889	1.03	.Q	V	.	.	.	.
6.617	0.4903	1.03	.Q	V	.	.	.	.
6.633	0.4917	1.03	.Q	V	.	.	.	.
6.650	0.4931	1.03	.Q	V	.	.	.	.

6.667	0.4945	1.03	.Q	V	.	.	.	.	.
6.683	0.4959	1.03	.Q	V	.	.	.	.	.
6.700	0.4974	1.03	.Q	V	.	.	.	.	.
6.717	0.4988	1.03	.Q	V	.	.	.	.	.
6.733	0.5002	1.03	.Q	V	.	.	.	.	.
6.750	0.5016	1.03	.Q	V	.	.	.	.	.
6.767	0.5030	1.03	.Q	V	.	.	.	.	.
6.783	0.5045	1.03	.Q	V	.	.	.	.	.
6.800	0.5059	1.03	.Q	V	.	.	.	.	.
6.817	0.5073	1.04	.Q	V	.	.	.	.	.
6.833	0.5087	1.04	.Q	V	.	.	.	.	.
6.850	0.5102	1.04	.Q	V	.	.	.	.	.
6.867	0.5116	1.04	.Q		V	.	.	.	.
6.883	0.5130	1.04	.Q		V	.	.	.	.
6.900	0.5145	1.04	.Q		V	.	.	.	.
6.917	0.5159	1.04	.Q		V	.	.	.	.
6.933	0.5173	1.04	.Q		V	.	.	.	.
6.950	0.5188	1.04	.Q		V	.	.	.	.
6.967	0.5202	1.04	.Q		V	.	.	.	.
6.983	0.5216	1.04	.Q		V	.	.	.	.
7.000	0.5231	1.04	.Q		V	.	.	.	.
7.017	0.5245	1.05	.Q		V	.	.	.	.
7.033	0.5259	1.05	.Q		V	.	.	.	.
7.050	0.5274	1.05	.Q		V	.	.	.	.
7.067	0.5288	1.05	.Q		V	.	.	.	.
7.083	0.5303	1.05	.Q		V	.	.	.	.
7.100	0.5317	1.05	.Q		V	.	.	.	.
7.117	0.5332	1.05	.Q		V	.	.	.	.
7.133	0.5346	1.05	.Q		V	.	.	.	.
7.150	0.5361	1.05	.Q		V	.	.	.	.
7.167	0.5375	1.05	.Q		V	.	.	.	.
7.183	0.5390	1.05	.Q		V	.	.	.	.
7.200	0.5404	1.05	.Q		V	.	.	.	.
7.217	0.5419	1.06	.Q		V	.	.	.	.
7.233	0.5433	1.06	.Q		V	.	.	.	.
7.250	0.5448	1.06	.Q		V	.	.	.	.
7.267	0.5462	1.06	.Q		V	.	.	.	.
7.283	0.5477	1.06	.Q		V	.	.	.	.
7.300	0.5492	1.06	.Q		V	.	.	.	.
7.317	0.5506	1.06	.Q		V	.	.	.	.
7.333	0.5521	1.06	.Q		V	.	.	.	.
7.350	0.5536	1.06	.Q		V	.	.	.	.
7.367	0.5550	1.06	.Q		V	.	.	.	.
7.383	0.5565	1.06	.Q		V	.	.	.	.
7.400	0.5579	1.06	.Q		V	.	.	.	.
7.417	0.5594	1.07	.Q		V	.	.	.	.
7.433	0.5609	1.07	.Q		V	.	.	.	.
7.450	0.5624	1.07	.Q		V	.	.	.	.
7.467	0.5638	1.07	.Q		V	.	.	.	.
7.483	0.5653	1.07	.Q		V	.	.	.	.
7.500	0.5668	1.07	.Q		V	.	.	.	.
7.517	0.5683	1.07	.Q		V	.	.	.	.
7.533	0.5697	1.07	.Q		V	.	.	.	.
7.550	0.5712	1.07	.Q		V	.	.	.	.
7.567	0.5727	1.07	.Q		V	.	.	.	.
7.583	0.5742	1.08	.Q		V	.	.	.	.
7.600	0.5757	1.08	.Q		V	.	.	.	.
7.617	0.5771	1.08	.Q		V	.	.	.	.
7.633	0.5786	1.08	.Q		V	.	.	.	.
7.650	0.5801	1.08	.Q		V	.	.	.	.
7.667	0.5816	1.08	.Q		V	.	.	.	.
7.683	0.5831	1.08	.Q		V	.	.	.	.
7.700	0.5846	1.08	.Q			V	.	.	.
7.717	0.5861	1.08	.Q			V	.	.	.
7.733	0.5876	1.08	.Q			V	.	.	.
7.750	0.5891	1.09	.Q			V	.	.	.
7.767	0.5906	1.09	.Q			V	.	.	.
7.783	0.5921	1.09	.Q			V	.	.	.
7.800	0.5936	1.09	.Q			V	.	.	.
7.817	0.5951	1.09	.Q			V	.	.	.
7.833	0.5966	1.09	.Q			V	.	.	.
7.850	0.5981	1.09	.Q			V	.	.	.
7.867	0.5996	1.09	.Q			V	.	.	.
7.883	0.6011	1.09	.Q			V	.	.	.
7.900	0.6026	1.09	.Q			V	.	.	.
7.917	0.6041	1.09	.Q			V	.	.	.
7.933	0.6056	1.10	.Q			V	.	.	.
7.950	0.6071	1.10	.Q			V	.	.	.
7.967	0.6086	1.10	.Q			V	.	.	.

7.983	0.6101	1.10	.Q	V	.	.	.	.
8.000	0.6116	1.10	.Q	V	.	.	.	.
8.017	0.6132	1.10	.Q	V	.	.	.	.
8.033	0.6147	1.10	.Q	V	.	.	.	.
8.050	0.6162	1.10	.Q	V	.	.	.	.
8.067	0.6177	1.10	.Q	V	.	.	.	.
8.083	0.6192	1.10	.Q	V	.	.	.	.
8.100	0.6208	1.11	.Q	V	.	.	.	.
8.117	0.6223	1.11	.Q	V	.	.	.	.
8.133	0.6238	1.11	.Q	V	.	.	.	.
8.150	0.6253	1.11	.Q	V	.	.	.	.
8.167	0.6269	1.11	.Q	V	.	.	.	.
8.183	0.6284	1.11	.Q	V	.	.	.	.
8.200	0.6299	1.11	.Q	V	.	.	.	.
8.217	0.6315	1.11	.Q	V	.	.	.	.
8.233	0.6330	1.11	.Q	V	.	.	.	.
8.250	0.6345	1.11	.Q	V	.	.	.	.
8.267	0.6361	1.12	.Q	V	.	.	.	.
8.283	0.6376	1.12	.Q	V	.	.	.	.
8.300	0.6391	1.12	.Q	V	.	.	.	.
8.317	0.6407	1.12	.Q	V	.	.	.	.
8.333	0.6422	1.12	.Q	V	.	.	.	.
8.350	0.6438	1.12	.Q	V	.	.	.	.
8.367	0.6453	1.12	.Q	V	.	.	.	.
8.383	0.6469	1.12	.Q	V	.	.	.	.
8.400	0.6484	1.13	.Q	V	.	.	.	.
8.417	0.6500	1.13	.Q	V	.	.	.	.
8.433	0.6515	1.13	.Q	V	.	.	.	.
8.450	0.6531	1.13	.Q	V	.	.	.	.
8.467	0.6546	1.13	.Q	V	.	.	.	.
8.483	0.6562	1.13	.Q	V	.	.	.	.
8.500	0.6577	1.13	.Q	V.	.	.	.	.
8.517	0.6593	1.13	.Q	V.	.	.	.	.
8.533	0.6609	1.13	.Q	V.	.	.	.	.
8.550	0.6624	1.13	.Q	V.	.	.	.	.
8.567	0.6640	1.14	.Q	V.	.	.	.	.
8.583	0.6656	1.14	.Q	V.	.	.	.	.
8.600	0.6671	1.14	.Q	V.	.	.	.	.
8.617	0.6687	1.14	.Q	V.	.	.	.	.
8.633	0.6703	1.14	.Q	V.	.	.	.	.
8.650	0.6718	1.14	.Q	V.	.	.	.	.
8.667	0.6734	1.14	.Q	V.	.	.	.	.
8.683	0.6750	1.14	.Q	V.	.	.	.	.
8.700	0.6766	1.14	.Q	V.	.	.	.	.
8.717	0.6781	1.15	.Q	V.	.	.	.	.
8.733	0.6797	1.15	.Q	V.	.	.	.	.
8.750	0.6813	1.15	.Q	V.	.	.	.	.
8.767	0.6829	1.15	.Q	V.	.	.	.	.
8.783	0.6845	1.15	.Q	V.	.	.	.	.
8.800	0.6860	1.15	.Q	V.	.	.	.	.
8.817	0.6876	1.15	.Q	V.	.	.	.	.
8.833	0.6892	1.15	.Q	V.	.	.	.	.
8.850	0.6908	1.16	.Q	V.	.	.	.	.
8.867	0.6924	1.16	.Q	V.	.	.	.	.
8.883	0.6940	1.16	.Q	V.	.	.	.	.
8.900	0.6956	1.16	.Q	V.	.	.	.	.
8.917	0.6972	1.16	.Q	V.	.	.	.	.
8.933	0.6988	1.16	.Q	V.	.	.	.	.
8.950	0.7004	1.16	.Q	V.	.	.	.	.
8.967	0.7020	1.16	.Q	V.	.	.	.	.
8.983	0.7036	1.16	. Q	V.	.	.	.	.
9.000	0.7052	1.16	. Q	V.	.	.	.	.
9.017	0.7068	1.17	. Q	V.	.	.	.	.
9.033	0.7084	1.17	. Q	V.	.	.	.	.
9.050	0.7100	1.17	. Q	V.	.	.	.	.
9.067	0.7117	1.17	. Q	V.	.	.	.	.
9.083	0.7133	1.17	. Q	V.	.	.	.	.
9.100	0.7149	1.17	. Q	V.	.	.	.	.
9.117	0.7165	1.18	. Q	V.	.	.	.	.
9.133	0.7181	1.18	. Q	V.	.	.	.	.
9.150	0.7197	1.18	. Q	V.	.	.	.	.
9.167	0.7214	1.18	. Q	V.	.	.	.	.
9.183	0.7230	1.18	. Q	V.	.	.	.	.
9.200	0.7246	1.18	. Q	V.	.	.	.	.
9.217	0.7262	1.18	. Q	V.	.	.	.	.
9.233	0.7279	1.18	. Q	V.	.	.	.	.
9.250	0.7295	1.18	. Q	V.	.	.	.	.
9.267	0.7311	1.19	. Q	V	.	.	.	.
9.283	0.7328	1.19	. Q	V	.	.	.	.

9.300	0.7344	1.19	. Q	V	.	.	.
9.317	0.7360	1.19	. Q	V	.	.	.
9.333	0.7377	1.19	. Q	V	.	.	.
9.350	0.7393	1.19	. Q	V	.	.	.
9.367	0.7410	1.19	. Q	V	.	.	.
9.383	0.7426	1.19	. Q	V	.	.	.
9.400	0.7443	1.20	. Q	V	.	.	.
9.417	0.7459	1.20	. Q	V	.	.	.
9.433	0.7476	1.20	. Q	V	.	.	.
9.450	0.7492	1.20	. Q	V	.	.	.
9.467	0.7509	1.20	. Q	V	.	.	.
9.483	0.7525	1.20	. Q	V	.	.	.
9.500	0.7542	1.20	. Q	V	.	.	.
9.517	0.7559	1.21	. Q	V	.	.	.
9.533	0.7575	1.21	. Q	V	.	.	.
9.550	0.7592	1.21	. Q	V	.	.	.
9.567	0.7609	1.21	. Q	V	.	.	.
9.583	0.7625	1.21	. Q	V	.	.	.
9.600	0.7642	1.21	. Q	V	.	.	.
9.617	0.7659	1.21	. Q	V	.	.	.
9.633	0.7675	1.21	. Q	V	.	.	.
9.650	0.7692	1.22	. Q	V	.	.	.
9.667	0.7709	1.22	. Q	V	.	.	.
9.683	0.7726	1.22	. Q	V	.	.	.
9.700	0.7742	1.22	. Q	V	.	.	.
9.717	0.7759	1.22	. Q	V	.	.	.
9.733	0.7776	1.22	. Q	V	.	.	.
9.750	0.7793	1.23	. Q	V	.	.	.
9.767	0.7810	1.23	. Q	V	.	.	.
9.783	0.7827	1.23	. Q	V	.	.	.
9.800	0.7844	1.23	. Q	V	.	.	.
9.817	0.7861	1.23	. Q	V	.	.	.
9.833	0.7878	1.23	. Q	V	.	.	.
9.850	0.7895	1.23	. Q	V	.	.	.
9.867	0.7912	1.23	. Q	V	.	.	.
9.883	0.7929	1.24	. Q	V	.	.	.
9.900	0.7946	1.24	. Q	V	.	.	.
9.917	0.7963	1.24	. Q	V	.	.	.
9.933	0.7980	1.24	. Q	V	.	.	.
9.950	0.7997	1.24	. Q	V	.	.	.
9.967	0.8014	1.24	. Q	V	.	.	.
9.983	0.8031	1.25	. Q	V	.	.	.
10.000	0.8049	1.25	. Q	.V	.	.	.
10.017	0.8066	1.25	. Q	.V	.	.	.
10.033	0.8083	1.25	. Q	.V	.	.	.
10.050	0.8100	1.25	. Q	.V	.	.	.
10.067	0.8117	1.25	. Q	.V	.	.	.
10.083	0.8135	1.25	. Q	.V	.	.	.
10.100	0.8152	1.25	. Q	.V	.	.	.
10.117	0.8169	1.26	. Q	.V	.	.	.
10.133	0.8187	1.26	. Q	.V	.	.	.
10.150	0.8204	1.26	. Q	.V	.	.	.
10.167	0.8221	1.26	. Q	.V	.	.	.
10.183	0.8239	1.26	. Q	.V	.	.	.
10.200	0.8256	1.27	. Q	.V	.	.	.
10.217	0.8274	1.27	. Q	.V	.	.	.
10.233	0.8291	1.27	. Q	.V	.	.	.
10.250	0.8309	1.27	. Q	.V	.	.	.
10.267	0.8326	1.27	. Q	.V	.	.	.
10.283	0.8344	1.27	. Q	.V	.	.	.
10.300	0.8361	1.27	. Q	.V	.	.	.
10.317	0.8379	1.28	. Q	.V	.	.	.
10.333	0.8397	1.28	. Q	.V	.	.	.
10.350	0.8414	1.28	. Q	.V	.	.	.
10.367	0.8432	1.28	. Q	.V	.	.	.
10.383	0.8450	1.28	. Q	.V	.	.	.
10.400	0.8467	1.29	. Q	.V	.	.	.
10.417	0.8485	1.29	. Q	.V	.	.	.
10.433	0.8503	1.29	. Q	.V	.	.	.
10.450	0.8520	1.29	. Q	.V	.	.	.
10.467	0.8538	1.29	. Q	.V	.	.	.
10.483	0.8556	1.29	. Q	.V	.	.	.
10.500	0.8574	1.30	. Q	.V	.	.	.
10.517	0.8592	1.30	. Q	.V	.	.	.
10.533	0.8610	1.30	. Q	.V	.	.	.
10.550	0.8628	1.30	. Q	.V	.	.	.
10.567	0.8646	1.30	. Q	.V	.	.	.
10.583	0.8663	1.30	. Q	.V	.	.	.
10.600	0.8681	1.30	. Q	.V	.	.	.

10.617	0.8699	1.31	. Q	.V	.	.	.	
10.633	0.8717	1.31	. Q	.V	.	.	.	
10.650	0.8736	1.31	. Q	.V	.	.	.	
10.667	0.8754	1.31	. Q	.V	.	.	.	
10.683	0.8772	1.32	. Q	. V	.	.	.	
10.700	0.8790	1.32	. Q	. V	.	.	.	
10.717	0.8808	1.32	. Q	. V	.	.	.	
10.733	0.8826	1.32	. Q	. V	.	.	.	
10.750	0.8845	1.32	. Q	. V	.	.	.	
10.767	0.8863	1.32	. Q	. V	.	.	.	
10.783	0.8881	1.32	. Q	. V	.	.	.	
10.800	0.8899	1.33	. Q	. V	.	.	.	
10.817	0.8917	1.33	. Q	. V	.	.	.	
10.833	0.8936	1.33	. Q	. V	.	.	.	
10.850	0.8954	1.33	. Q	. V	.	.	.	
10.867	0.8973	1.34	. Q	. V	.	.	.	
10.883	0.8991	1.34	. Q	. V	.	.	.	
10.900	0.9009	1.34	. Q	. V	.	.	.	
10.917	0.9028	1.34	. Q	. V	.	.	.	
10.933	0.9046	1.34	. Q	. V	.	.	.	
10.950	0.9065	1.34	. Q	. V	.	.	.	
10.967	0.9084	1.35	. Q	. V	.	.	.	
10.983	0.9102	1.35	. Q	. V	.	.	.	
11.000	0.9121	1.35	. Q	. V	.	.	.	
11.017	0.9139	1.35	. Q	. V	.	.	.	
11.033	0.9158	1.35	. Q	. V	.	.	.	
11.050	0.9177	1.36	. Q	. V	.	.	.	
11.067	0.9195	1.36	. Q	. V	.	.	.	
11.083	0.9214	1.36	. Q	. V	.	.	.	
11.100	0.9233	1.36	. Q	. V	.	.	.	
11.117	0.9252	1.37	. Q	. V	.	.	.	
11.133	0.9270	1.37	. Q	. V	.	.	.	
11.150	0.9289	1.37	. Q	. V	.	.	.	
11.167	0.9308	1.37	. Q	. V	.	.	.	
11.183	0.9327	1.37	. Q	. V	.	.	.	
11.200	0.9346	1.37	. Q	. V	.	.	.	
11.217	0.9365	1.38	. Q	. V	.	.	.	
11.233	0.9384	1.38	. Q	. V	.	.	.	
11.250	0.9403	1.38	. Q	. V	.	.	.	
11.267	0.9422	1.38	. Q	. V	.	.	.	
11.283	0.9441	1.38	. Q	. V	.	.	.	
11.300	0.9460	1.39	. Q	. V	.	.	.	
11.317	0.9479	1.39	. Q	. V	.	.	.	
11.333	0.9498	1.39	. Q	. V	.	.	.	
11.350	0.9518	1.40	. Q	. V	.	.	.	
11.367	0.9537	1.40	. Q	. V	.	.	.	
11.383	0.9556	1.40	. Q	. V	.	.	.	
11.400	0.9575	1.40	. Q	. V	.	.	.	
11.417	0.9595	1.40	. Q	. V	.	.	.	
11.433	0.9614	1.40	. Q	. V	.	.	.	
11.450	0.9633	1.41	. Q	. V	.	.	.	
11.467	0.9653	1.41	. Q	. V	.	.	.	
11.483	0.9672	1.41	. Q	. V	.	.	.	
11.500	0.9692	1.41	. Q	. V	.	.	.	
11.517	0.9711	1.42	. Q	. V	.	.	.	
11.533	0.9731	1.42	. Q	. V	.	.	.	
11.550	0.9750	1.42	. Q	. V	.	.	.	
11.567	0.9770	1.42	. Q	. V	.	.	.	
11.583	0.9790	1.43	. Q	. V	.	.	.	
11.600	0.9809	1.43	. Q	. V	.	.	.	
11.617	0.9829	1.43	. Q	. V	.	.	.	
11.633	0.9849	1.43	. Q	. V	.	.	.	
11.650	0.9868	1.43	. Q	. V	.	.	.	
11.667	0.9888	1.44	. Q	. V	.	.	.	
11.683	0.9908	1.44	. Q	. V	.	.	.	
11.700	0.9928	1.44	. Q	. V	.	.	.	
11.717	0.9948	1.44	. Q	. V	.	.	.	
11.733	0.9968	1.45	. Q	. V	.	.	.	
11.750	0.9988	1.45	. Q	. V	.	.	.	
11.767	1.0008	1.45	. Q	. V	.	.	.	
11.783	1.0028	1.46	. Q	. V	.	.	.	
11.800	1.0048	1.46	. Q	. V	.	.	.	
11.817	1.0068	1.46	. Q	. V	.	.	.	
11.833	1.0088	1.46	. Q	. V	.	.	.	
11.850	1.0108	1.46	. Q	. V	.	.	.	
11.867	1.0128	1.47	. Q	. V	.	.	.	
11.883	1.0149	1.47	. Q	. V	.	.	.	
11.900	1.0169	1.47	. Q	. V	.	.	.	
11.917	1.0189	1.47	. Q	. V	.	.	.	

11.933	1.0209	1.47	.	Q	.	V	.	.	.
11.950	1.0230	1.48	.	Q	.	V	.	.	.
11.967	1.0250	1.48	.	Q	.	V	.	.	.
11.983	1.0271	1.48	.	Q	.	V	.	.	.
12.000	1.0291	1.49	.	Q	.	V	.	.	.
12.017	1.0312	1.49	.	Q	.	V	.	.	.
12.033	1.0332	1.50	.	Q	.	V	.	.	.
12.050	1.0353	1.50	.	Q	.	V	.	.	.
12.067	1.0374	1.51	.	Q	.	V	.	.	.
12.083	1.0394	1.51	.	Q	.	V	.	.	.
12.100	1.0415	1.52	.	Q	.	V	.	.	.
12.117	1.0436	1.52	.	Q	.	V	.	.	.
12.133	1.0457	1.53	.	Q	.	V	.	.	.
12.150	1.0478	1.53	.	Q	.	V	.	.	.
12.167	1.0500	1.54	.	Q	.	V	.	.	.
12.183	1.0521	1.54	.	Q	.	V	.	.	.
12.200	1.0542	1.54	.	Q	.	V	.	.	.
12.217	1.0563	1.55	.	Q	.	V	.	.	.
12.233	1.0585	1.55	.	Q	.	V	.	.	.
12.250	1.0606	1.56	.	Q	.	V	.	.	.
12.267	1.0628	1.56	.	Q	.	V	.	.	.
12.283	1.0649	1.56	.	Q	.	V	.	.	.
12.300	1.0671	1.56	.	Q	.	V	.	.	.
12.317	1.0692	1.57	.	Q	.	V	.	.	.
12.333	1.0714	1.57	.	Q	.	V	.	.	.
12.350	1.0736	1.57	.	Q	.	V	.	.	.
12.367	1.0757	1.57	.	Q	.	V	.	.	.
12.383	1.0779	1.58	.	Q	.	V	.	.	.
12.400	1.0801	1.58	.	Q	.	V	.	.	.
12.417	1.0823	1.58	.	Q	.	V	.	.	.
12.433	1.0844	1.59	.	Q	.	V	.	.	.
12.450	1.0866	1.59	.	Q	.	V	.	.	.
12.467	1.0888	1.60	.	Q	.	V	.	.	.
12.483	1.0910	1.60	.	Q	.	V	.	.	.
12.500	1.0933	1.60	.	Q	.	V	.	.	.
12.517	1.0955	1.61	.	Q	.	V	.	.	.
12.533	1.0977	1.61	.	Q	.	V	.	.	.
12.550	1.0999	1.61	.	Q	.	V	.	.	.
12.567	1.1021	1.61	.	Q	.	V	.	.	.
12.583	1.1043	1.61	.	Q	.	V	.	.	.
12.600	1.1066	1.62	.	Q	.	V	.	.	.
12.617	1.1088	1.62	.	Q	.	V	.	.	.
12.633	1.1110	1.63	.	Q	.	V	.	.	.
12.650	1.1133	1.63	.	Q	.	V	.	.	.
12.667	1.1155	1.63	.	Q	.	V	.	.	.
12.683	1.1178	1.64	.	Q	.	V	.	.	.
12.700	1.1201	1.64	.	Q	.	V	.	.	.
12.717	1.1223	1.65	.	Q	.	V	.	.	.
12.733	1.1246	1.65	.	Q	.	V	.	.	.
12.750	1.1269	1.65	.	Q	.	V	.	.	.
12.767	1.1292	1.66	.	Q	.	V	.	.	.
12.783	1.1314	1.66	.	Q	.	V	.	.	.
12.800	1.1337	1.66	.	Q	.	V	.	.	.
12.817	1.1360	1.66	.	Q	.	V	.	.	.
12.833	1.1383	1.67	.	Q	.	V	.	.	.
12.850	1.1406	1.67	.	Q	.	V	.	.	.
12.867	1.1429	1.68	.	Q	.	V	.	.	.
12.883	1.1452	1.68	.	Q	.	V	.	.	.
12.900	1.1476	1.69	.	Q	.	V	.	.	.
12.917	1.1499	1.69	.	Q	.	V	.	.	.
12.933	1.1522	1.70	.	Q	.	V	.	.	.
12.950	1.1546	1.70	.	Q	.	V	.	.	.
12.967	1.1569	1.70	.	Q	.	V	.	.	.
12.983	1.1593	1.71	.	Q	.	V	.	.	.
13.000	1.1616	1.71	.	Q	.	V	.	.	.
13.017	1.1640	1.71	.	Q	.	V	.	.	.
13.033	1.1663	1.71	.	Q	.	V	.	.	.
13.050	1.1687	1.72	.	Q	.	V	.	.	.
13.067	1.1711	1.72	.	Q	.	V	.	.	.
13.083	1.1734	1.73	.	Q	.	V	.	.	.
13.100	1.1758	1.73	.	Q	.	V	.	.	.
13.117	1.1782	1.74	.	Q	.	V	.	.	.
13.133	1.1806	1.74	.	Q	.	V	.	.	.
13.150	1.1830	1.75	.	Q	.	V	.	.	.
13.167	1.1854	1.75	.	Q	.	V	.	.	.
13.183	1.1879	1.76	.	Q	.	V	.	.	.
13.200	1.1903	1.76	.	Q	.	V	.	.	.
13.217	1.1927	1.76	.	Q	.	V	.	.	.
13.233	1.1952	1.77	.	Q	.	V	.	.	.

13.250	1.1976	1.77	.	Q	.	V	.	.	.	.	.	.
13.267	1.2000	1.77	.	Q	.	V	.	.	.	.	.	.
13.283	1.2025	1.78	.	Q	.	V	.	.	.	.	.	.
13.300	1.2049	1.78	.	Q	.	V	.	.	.	.	.	.
13.317	1.2074	1.79	.	Q	.	V	.	.	.	.	.	.
13.333	1.2099	1.79	.	Q	.	V	.	.	.	.	.	.
13.350	1.2123	1.80	.	Q	.	V	.	.	.	.	.	.
13.367	1.2148	1.81	.	Q	.	V	.	.	.	.	.	.
13.383	1.2173	1.81	.	Q	.	V	.	.	.	.	.	.
13.400	1.2198	1.82	.	Q	.	V	.	.	.	.	.	.
13.417	1.2223	1.82	.	Q	.	V	.	.	.	.	.	.
13.433	1.2249	1.83	.	Q	.	V	.	.	.	.	.	.
13.450	1.2274	1.83	.	Q	.	V	.	.	.	.	.	.
13.467	1.2299	1.83	.	Q	.	V	.	.	.	.	.	.
13.483	1.2324	1.84	.	Q	.	V	.	.	.	.	.	.
13.500	1.2350	1.84	.	Q	.	V	.	.	.	.	.	.
13.517	1.2375	1.84	.	Q	.	V	.	.	.	.	.	.
13.533	1.2401	1.85	.	Q	.	V	.	.	.	.	.	.
13.550	1.2426	1.86	.	Q	.	V	.	.	.	.	.	.
13.567	1.2452	1.86	.	Q	.	V	.	.	.	.	.	.
13.583	1.2478	1.87	.	Q	.	V	.	.	.	.	.	.
13.600	1.2503	1.88	.	Q	.	V	.	.	.	.	.	.
13.617	1.2529	1.89	.	Q	.	V	.	.	.	.	.	.
13.633	1.2555	1.89	.	Q	.	V	.	.	.	.	.	.
13.650	1.2582	1.90	.	Q	.	V	.	.	.	.	.	.
13.667	1.2608	1.90	.	Q	.	V	.	.	.	.	.	.
13.683	1.2634	1.90	.	Q	.	V	.	.	.	.	.	.
13.700	1.2660	1.91	.	Q	.	V	.	.	.	.	.	.
13.717	1.2687	1.91	.	Q	.	V	.	.	.	.	.	.
13.733	1.2713	1.91	.	Q	.	V	.	.	.	.	.	.
13.750	1.2739	1.92	.	Q	.	V	.	.	.	.	.	.
13.767	1.2766	1.93	.	Q	.	V	.	.	.	.	.	.
13.783	1.2793	1.94	.	Q	.	V	.	.	.	.	.	.
13.800	1.2819	1.95	.	Q	.	V	.	.	.	.	.	.
13.817	1.2846	1.95	.	Q	.	V	.	.	.	.	.	.
13.833	1.2873	1.96	.	Q	.	V	.	.	.	.	.	.
13.850	1.2900	1.97	.	Q	.	V	.	.	.	.	.	.
13.867	1.2928	1.97	.	Q	.	V	.	.	.	.	.	.
13.883	1.2955	1.98	.	Q	.	V	.	.	.	.	.	.
13.900	1.2982	1.98	.	Q	.	V	.	.	.	.	.	.
13.917	1.3010	1.99	.	Q	.	V	.	.	.	.	.	.
13.933	1.3037	1.99	.	Q	.	V	.	.	.	.	.	.
13.950	1.3065	2.00	.	Q	.	V	.	.	.	.	.	.
13.967	1.3092	2.00	.	Q	.	V	.	.	.	.	.	.
13.983	1.3120	2.00	.	Q	.	V	.	.	.	.	.	.
14.000	1.3147	2.01	.	Q	.	V	.	.	.	.	.	.
14.017	1.3175	2.01	.	Q	.	V	.	.	.	.	.	.
14.033	1.3203	2.01	.	Q	.	V	.	.	.	.	.	.
14.050	1.3231	2.02	.	Q	.	V	.	.	.	.	.	.
14.067	1.3258	2.02	.	Q	.	V	.	.	.	.	.	.
14.083	1.3286	2.02	.	Q	.	V	.	.	.	.	.	.
14.100	1.3314	2.02	.	Q	.	V	.	.	.	.	.	.
14.117	1.3342	2.02	.	Q	.	V	.	.	.	.	.	.
14.133	1.3370	2.02	.	Q	.	V	.	.	.	.	.	.
14.150	1.3398	2.02	.	Q	.	V	.	.	.	.	.	.
14.167	1.3425	2.01	.	Q	.	V	.	.	.	.	.	.
14.183	1.3453	2.01	.	Q	.	V	.	.	.	.	.	.
14.200	1.3481	2.01	.	Q	.	V	.	.	.	.	.	.
14.217	1.3509	2.03	.	Q	.	V	.	.	.	.	.	.
14.233	1.3537	2.04	.	Q	.	V	.	.	.	.	.	.
14.250	1.3565	2.05	.	Q	.	V	.	.	.	.	.	.
14.267	1.3593	2.06	.	Q	.	V	.	.	.	.	.	.
14.283	1.3622	2.07	.	Q	.	V	.	.	.	.	.	.
14.300	1.3650	2.08	.	Q	.	V	.	.	.	.	.	.
14.317	1.3679	2.09	.	Q	.	V	.	.	.	.	.	.
14.333	1.3708	2.10	.	Q	.	V	.	.	.	.	.	.
14.350	1.3737	2.10	.	Q	.	V	.	.	.	.	.	.
14.367	1.3766	2.11	.	Q	.	V	.	.	.	.	.	.
14.383	1.3795	2.12	.	Q	.	V	.	.	.	.	.	.
14.400	1.3825	2.12	.	Q	.	V	.	.	.	.	.	.
14.417	1.3854	2.13	.	Q	.	V	.	.	.	.	.	.
14.433	1.3883	2.14	.	Q	.	V.	.	.	.	.	.	.
14.450	1.3913	2.15	.	Q	.	V.	.	.	.	.	.	.
14.467	1.3943	2.17	.	Q	.	V.	.	.	.	.	.	.
14.483	1.3973	2.18	.	Q	.	V.	.	.	.	.	.	.
14.500	1.4003	2.19	.	Q	.	V.	.	.	.	.	.	.
14.517	1.4033	2.21	.	Q	.	V.	.	.	.	.	.	.
14.533	1.4064	2.22	.	Q	.	V.	.	.	.	.	.	.
14.550	1.4095	2.23	.	Q	.	V.	.	.	.	.	.	.

14.567	1.4126	2.24	. Q . V. . .
14.583	1.4157	2.24	. Q . V. . .
14.600	1.4188	2.25	. Q . V. . .
14.617	1.4219	2.26	. Q . V. . .
14.633	1.4250	2.27	. Q . V. . .
14.650	1.4281	2.28	. Q . V. . .
14.667	1.4313	2.29	. Q . V. . .
14.683	1.4345	2.31	. Q . V. . .
14.700	1.4377	2.33	. Q . V. . .
14.717	1.4409	2.34	. Q . V. . .
14.733	1.4442	2.36	. Q . V. . .
14.750	1.4474	2.38	. Q . V. . .
14.767	1.4507	2.39	. Q . V. . .
14.783	1.4540	2.40	. Q . V. . .
14.800	1.4574	2.41	. Q . V. . .
14.817	1.4607	2.42	. Q . V . . .
14.833	1.4640	2.43	. Q . V . . .
14.850	1.4674	2.44	. Q . V . . .
14.867	1.4708	2.45	. Q . V . . .
14.883	1.4742	2.47	. Q . V . . .
14.900	1.4776	2.49	. Q . V . . .
14.917	1.4811	2.51	. Q . V . . .
14.933	1.4846	2.53	. Q . V . . .
14.950	1.4881	2.56	. Q . V . . .
14.967	1.4916	2.58	. Q . V . . .
14.983	1.4952	2.60	. Q . V . . .
15.000	1.4988	2.61	. Q . V . . .
15.017	1.5024	2.63	. Q . V . . .
15.033	1.5061	2.64	. Q . V . . .
15.050	1.5097	2.65	. Q . V . . .
15.067	1.5134	2.67	. Q . V . . .
15.083	1.5171	2.68	. Q . V . . .
15.100	1.5208	2.69	. Q . V . . .
15.117	1.5245	2.72	. Q . V . . .
15.133	1.5283	2.75	. Q . V . . .
15.150	1.5322	2.78	. Q . V . . .
15.167	1.5360	2.81	. Q . .V . . .
15.183	1.5399	2.84	. Q . .V . . .
15.200	1.5439	2.87	. Q . .V . . .
15.217	1.5479	2.90	. Q . .V . . .
15.233	1.5519	2.92	. Q . .V . . .
15.250	1.5560	2.94	. Q . .V . . .
15.267	1.5600	2.96	. Q . .V . . .
15.283	1.5641	2.98	. Q . .V . . .
15.300	1.5683	3.00	. Q . .V . . .
15.317	1.5724	3.02	. Q . .V . . .
15.333	1.5766	3.01	. Q . .V . . .
15.350	1.5806	2.95	. Q . .V . . .
15.367	1.5846	2.88	. Q . .V . . .
15.383	1.5885	2.82	. Q . .V . . .
15.400	1.5923	2.76	. Q . .V . . .
15.417	1.5960	2.69	. Q . .V . . .
15.433	1.5996	2.63	. Q . .V . . .
15.450	1.6032	2.60	. Q . .V . . .
15.467	1.6068	2.61	. Q . . V . . .
15.483	1.6104	2.61	. Q . . V . . .
15.500	1.6140	2.62	. Q . . V . . .
15.517	1.6176	2.62	. Q . . V . . .
15.533	1.6212	2.63	. Q . . V . . .
15.550	1.6248	2.63	. Q . . V . . .
15.567	1.6286	2.69	. Q . . V . . .
15.583	1.6324	2.78	. Q . . V . . .
15.600	1.6363	2.86	. Q . . V . . .
15.617	1.6404	2.94	. Q . . V . . .
15.633	1.6445	3.02	. Q . . V . . .
15.650	1.6488	3.11	. Q . . V . . .
15.667	1.6532	3.19	. Q . . V . . .
15.683	1.6577	3.27	. Q . . V . . .
15.700	1.6623	3.34	. Q . . V . . .
15.717	1.6670	3.42	. Q . . V . . .
15.733	1.6718	3.50	. Q . . V . . .
15.750	1.6768	3.57	. Q . . V . . .
15.767	1.6818	3.65	. Q . . V . . .
15.783	1.6870	3.76	. Q . . V . . .
15.800	1.6925	4.01	. Q . . V . . .
15.817	1.6984	4.28	. Q . . V . . .
15.833	1.7046	4.54	. Q . . V . . .
15.850	1.7113	4.80	. Q . . V . . .
15.867	1.7182	5.07	. Q . . V . . .

15.883	1.7256	5.33	
15.900	1.7333	5.61	
15.917	1.7415	5.91	
15.933	1.7500	6.22	
15.950	1.7590	6.53	
15.967	1.7684	6.83	
15.983	1.7783	7.14	
16.000	1.7885	7.45	
16.017	1.8006	8.75	
16.033	1.8158	11.05	
16.050	1.8342	13.35	
16.067	1.8558	15.66	
16.083	1.8805	17.96	
16.100	1.9084	20.26	
16.117	1.9404	23.25	
16.133	1.9698	21.32	
16.150	1.9954	18.56	
16.167	2.0171	15.80	
16.183	2.0351	13.04	
16.200	2.0492	10.28	
16.217	2.0596	7.52	
16.233	2.0664	4.96	
16.250	2.0723	4.27	
16.267	2.0779	4.03	
16.283	2.0831	3.79	
16.300	2.0880	3.56	
16.317	2.0926	3.32	
16.333	2.0968	3.09	
16.350	2.1008	2.90	
16.367	2.1048	2.92	
16.383	2.1089	2.97	
16.400	2.1131	3.01	
16.417	2.1173	3.06	
16.433	2.1216	3.10	
16.450	2.1259	3.15	
16.467	2.1303	3.16	
16.483	2.1345	3.11	
16.500	2.1387	3.05	
16.517	2.1429	2.99	
16.533	2.1469	2.93	
16.550	2.1509	2.88	
16.567	2.1547	2.82	
16.583	2.1586	2.77	
16.600	2.1623	2.73	
16.617	2.1660	2.69	
16.633	2.1697	2.65	
16.650	2.1733	2.62	
16.667	2.1768	2.58	
16.683	2.1803	2.54	
16.700	2.1838	2.51	
16.717	2.1872	2.48	
16.733	2.1906	2.45	
16.750	2.1939	2.42	
16.767	2.1972	2.39	
16.783	2.2005	2.36	
16.800	2.2037	2.33	
16.817	2.2069	2.31	
16.833	2.2100	2.29	
16.850	2.2131	2.26	
16.867	2.2162	2.24	
16.883	2.2193	2.22	
16.900	2.2223	2.20	
16.917	2.2253	2.17	
16.933	2.2282	2.15	
16.950	2.2312	2.14	
16.967	2.2341	2.12	
16.983	2.2370	2.10	
17.000	2.2399	2.08	
17.017	2.2427	2.06	
17.033	2.2455	2.05	
17.050	2.2483	2.05	
17.067	2.2511	2.04	
17.083	2.2540	2.04	
17.100	2.2568	2.04	
17.117	2.2596	2.04	
17.133	2.2624	2.03	
17.150	2.2652	2.03	
17.167	2.2679	2.01	
17.183	2.2707	2.00	

17.200	2.2734	1.99	. Q . . .V .
17.217	2.2761	1.97	. Q . . .V .
17.233	2.2789	1.96	. Q . . .V .
17.250	2.2815	1.95	. Q . . .V .
17.267	2.2842	1.94	. Q . . .V .
17.283	2.2868	1.92	. Q . . .V .
17.300	2.2895	1.91	. Q . . .V .
17.317	2.2921	1.90	. Q . . .V .
17.333	2.2947	1.89	. Q . . .V .
17.350	2.2973	1.88	. Q . . .V .
17.367	2.2999	1.87	. Q . . .V .
17.383	2.3024	1.86	. Q . . .V .
17.400	2.3050	1.85	. Q . . .V .
17.417	2.3075	1.84	. Q . . .V .
17.433	2.3100	1.83	. Q . . .V .
17.450	2.3125	1.82	. Q . . .V .
17.467	2.3150	1.81	. Q . . .V .
17.483	2.3175	1.80	. Q . . .V .
17.500	2.3199	1.79	. Q . . .V .
17.517	2.3224	1.78	. Q . . .V .
17.533	2.3248	1.77	. Q . . .V .
17.550	2.3273	1.76	. Q . . .V .
17.567	2.3297	1.75	. Q . . .V .
17.583	2.3321	1.74	.Q . . .V .
17.600	2.3345	1.73	.Q . . . V .
17.617	2.3368	1.73	.Q . . . V .
17.633	2.3392	1.72	.Q . . . V .
17.650	2.3416	1.71	.Q . . . V .
17.667	2.3439	1.70	.Q . . . V .
17.683	2.3462	1.69	.Q . . . V .
17.700	2.3486	1.69	.Q . . . V .
17.717	2.3509	1.68	.Q . . . V .
17.733	2.3532	1.67	.Q . . . V .
17.750	2.3555	1.66	.Q . . . V .
17.767	2.3578	1.66	.Q . . . V .
17.783	2.3600	1.65	.Q . . . V .
17.800	2.3623	1.64	.Q . . . V .
17.817	2.3645	1.64	.Q . . . V .
17.833	2.3668	1.63	.Q . . . V .
17.850	2.3690	1.62	.Q . . . V .
17.867	2.3712	1.62	.Q . . . V .
17.883	2.3735	1.61	.Q . . . V .
17.900	2.3757	1.60	.Q . . . V .
17.917	2.3779	1.60	.Q . . . V .
17.933	2.3801	1.59	.Q . . . V .
17.950	2.3822	1.58	.Q . . . V .
17.967	2.3844	1.58	.Q . . . V .
17.983	2.3866	1.57	.Q . . . V .
18.000	2.3887	1.57	.Q . . . V .
18.017	2.3909	1.56	.Q . . . V .
18.033	2.3930	1.55	.Q . . . V .
18.050	2.3952	1.55	.Q . . . V .
18.067	2.3973	1.54	.Q . . . V .
18.083	2.3994	1.53	.Q . . . V .
18.100	2.4015	1.52	.Q . . . V .
18.117	2.4035	1.51	.Q . . . V .
18.133	2.4056	1.50	.Q . . . V .
18.150	2.4077	1.49	.Q . . . V .
18.167	2.4097	1.48	.Q . . . V .
18.183	2.4117	1.48	.Q . . . V .
18.200	2.4138	1.47	.Q . . . V .
18.217	2.4158	1.47	.Q . . . V .
18.233	2.4178	1.46	.Q . . . V .
18.250	2.4198	1.46	.Q . . . V .
18.267	2.4218	1.45	.Q . . . V .
18.283	2.4238	1.45	.Q . . . V .
18.300	2.4258	1.44	.Q . . . V .
18.317	2.4278	1.44	.Q . . . V .
18.333	2.4298	1.43	.Q . . . V .
18.350	2.4317	1.43	.Q . . . V .
18.367	2.4337	1.42	.Q . . . V .
18.383	2.4356	1.42	.Q . . . V .
18.400	2.4376	1.41	.Q . . . V .
18.417	2.4395	1.41	.Q . . . V .
18.433	2.4415	1.41	.Q . . . V .
18.450	2.4434	1.40	.Q . . . V .
18.467	2.4453	1.40	.Q . . . V .
18.483	2.4472	1.39	.Q . . . V .
18.500	2.4492	1.39	.Q . . .

18.517	2.4511	1.38	. Q	.	.	.	V	.
18.533	2.4530	1.38	. Q	.	.	.	V	.
18.550	2.4549	1.38	. Q	.	.	.	V	.
18.567	2.4567	1.37	. Q	.	.	.	V	.
18.583	2.4586	1.37	. Q	.	.	.	V	.
18.600	2.4605	1.36	. Q	.	.	.	V	.
18.617	2.4624	1.36	. Q	.	.	.	V	.
18.633	2.4642	1.36	. Q	.	.	.	V	.
18.650	2.4661	1.35	. Q	.	.	.	V	.
18.667	2.4680	1.35	. Q	.	.	.	V	.
18.683	2.4698	1.34	. Q	.	.	.	V	.
18.700	2.4717	1.34	. Q	.	.	.	V	.
18.717	2.4735	1.34	. Q	.	.	.	V	.
18.733	2.4753	1.33	. Q	.	.	.	V	.
18.750	2.4772	1.33	. Q	.	.	.	V	.
18.767	2.4790	1.32	. Q	.	.	.	V	.
18.783	2.4808	1.32	. Q	.	.	.	V	.
18.800	2.4826	1.32	. Q	.	.	.	V	.
18.817	2.4844	1.31	. Q	.	.	.	V	.
18.833	2.4862	1.31	. Q	.	.	.	V	.
18.850	2.4880	1.31	. Q	.	.	.	V	.
18.867	2.4898	1.30	. Q	.	.	.	V	.
18.883	2.4916	1.30	. Q	.	.	.	V	.
18.900	2.4934	1.30	. Q	.	.	.	V	.
18.917	2.4952	1.29	. Q	.	.	.	V	.
18.933	2.4970	1.29	. Q	.	.	.	V	.
18.950	2.4987	1.29	. Q	.	.	.	V	.
18.967	2.5005	1.28	. Q	.	.	.	V	.
18.983	2.5023	1.28	. Q	.	.	.	V	.
19.000	2.5040	1.28	. Q	.	.	.	V	.
19.017	2.5058	1.27	. Q	.	.	.	V	.
19.033	2.5075	1.27	. Q	.	.	.	V	.
19.050	2.5093	1.27	. Q	.	.	.	V	.
19.067	2.5110	1.26	. Q	.	.	.	V	.
19.083	2.5127	1.26	. Q	.	.	.	V	.
19.100	2.5145	1.26	. Q	.	.	.	V	.
19.117	2.5162	1.25	. Q	.	.	.	V	.
19.133	2.5179	1.25	. Q	.	.	.	V	.
19.150	2.5196	1.25	. Q	.	.	.	V	.
19.167	2.5214	1.24	. Q	.	.	.	V	.
19.183	2.5231	1.24	. Q	.	.	.	V	.
19.200	2.5248	1.24	. Q	.	.	.	V	.
19.217	2.5265	1.24	. Q	.	.	.	V	.
19.233	2.5282	1.23	. Q	.	.	.	V	.
19.250	2.5299	1.23	. Q	.	.	.	V	.
19.267	2.5316	1.23	. Q	.	.	.	V	.
19.283	2.5332	1.22	. Q	.	.	.	V	.
19.300	2.5349	1.22	. Q	.	.	.	V	.
19.317	2.5366	1.22	. Q	.	.	.	V	.
19.333	2.5383	1.22	. Q	.	.	.	V	.
19.350	2.5400	1.21	. Q	.	.	.	V	.
19.367	2.5416	1.21	. Q	.	.	.	V	.
19.383	2.5433	1.21	. Q	.	.	.	V	.
19.400	2.5449	1.20	. Q	.	.	.	V	.
19.417	2.5466	1.20	. Q	.	.	.	V	.
19.433	2.5483	1.20	. Q	.	.	.	V	.
19.450	2.5499	1.20	. Q	.	.	.	V	.
19.467	2.5515	1.19	. Q	.	.	.	V	.
19.483	2.5532	1.19	. Q	.	.	.	V	.
19.500	2.5548	1.19	. Q	.	.	.	V	.
19.517	2.5565	1.19	. Q	.	.	.	V	.
19.533	2.5581	1.18	. Q	.	.	.	V	.
19.550	2.5597	1.18	. Q	.	.	.	V	.
19.567	2.5613	1.18	. Q	.	.	.	V	.
19.583	2.5630	1.18	. Q	.	.	.	V	.
19.600	2.5646	1.17	. Q	.	.	.	V	.
19.617	2.5662	1.17	. Q	.	.	.	V	.
19.633	2.5678	1.17	. Q	.	.	.	V	.
19.650	2.5694	1.17	. Q	.	.	.	V	.
19.667	2.5710	1.16	. Q	.	.	.	V	.
19.683	2.5726	1.16	.Q	.	.	.	V	.
19.700	2.5742	1.16	.Q	.	.	.	V	.
19.717	2.5758	1.16	.Q	.	.	.	V	.
19.733	2.5774	1.15	.Q	.	.	.	V	.
19.750	2.5790	1.15	.Q	.	.	.	V	.
19.767	2.5806	1.15	.Q	.	.	.	V	.
19.783	2.5821	1.15	.Q	.	.	.	V	.
19.800	2.5837	1.15	.Q	.	.	.	V	.
19.817	2.5853	1.14	.Q	.	.	.	V	.

19.833	2.5869	1.14	.Q	.	.	.	V	.
19.850	2.5884	1.14	.Q	.	.	.	V	.
19.867	2.5900	1.14	.Q	.	.	.	V	.
19.883	2.5916	1.13	.Q	.	.	.	V	.
19.900	2.5931	1.13	.Q	.	.	.	V	.
19.917	2.5947	1.13	.Q	.	.	.	V	.
19.933	2.5962	1.13	.Q	.	.	.	V	.
19.950	2.5978	1.13	.Q	.	.	.	V	.
19.967	2.5993	1.12	.Q	.	.	.	V	.
19.983	2.6009	1.12	.Q	.	.	.	V	.
20.000	2.6024	1.12	.Q	.	.	.	V	.
20.017	2.6040	1.12	.Q	.	.	.	V	.
20.033	2.6055	1.11	.Q	.	.	.	V	.
20.050	2.6070	1.11	.Q	.	.	.	V	.
20.067	2.6085	1.11	.Q	.	.	.	V	.
20.083	2.6101	1.11	.Q	.	.	.	V	.
20.100	2.6116	1.11	.Q	.	.	.	V	.
20.117	2.6131	1.10	.Q	.	.	.	V	.
20.133	2.6146	1.10	.Q	.	.	.	V	.
20.150	2.6162	1.10	.Q	.	.	.	V	.
20.167	2.6177	1.10	.Q	.	.	.	V	.
20.183	2.6192	1.10	.Q	.	.	.	V	.
20.200	2.6207	1.09	.Q	.	.	.	V	.
20.217	2.6222	1.09	.Q	.	.	.	V	.
20.233	2.6237	1.09	.Q	.	.	.	V	.
20.250	2.6252	1.09	.Q	.	.	.	V	.
20.267	2.6267	1.09	.Q	.	.	.	V	.
20.283	2.6282	1.08	.Q	.	.	.	V	.
20.300	2.6297	1.08	.Q	.	.	.	V	.
20.317	2.6312	1.08	.Q	.	.	.	V	.
20.333	2.6326	1.08	.Q	.	.	.	V	.
20.350	2.6341	1.08	.Q	.	.	.	V	.
20.367	2.6356	1.08	.Q	.	.	.	V	.
20.383	2.6371	1.07	.Q	.	.	.	V	.
20.400	2.6386	1.07	.Q	.	.	.	V	.
20.417	2.6400	1.07	.Q	.	.	.	V	.
20.433	2.6415	1.07	.Q	.	.	.	V	.
20.450	2.6430	1.07	.Q	.	.	.	V	.
20.467	2.6444	1.06	.Q	.	.	.	V	.
20.483	2.6459	1.06	.Q	.	.	.	V	.
20.500	2.6474	1.06	.Q	.	.	.	V	.
20.517	2.6488	1.06	.Q	.	.	.	V	.
20.533	2.6503	1.06	.Q	.	.	.	V	.
20.550	2.6517	1.06	.Q	.	.	.	V	.
20.567	2.6532	1.05	.Q	.	.	.	V	.
20.583	2.6546	1.05	.Q	.	.	.	V	.
20.600	2.6561	1.05	.Q	.	.	.	V	.
20.617	2.6575	1.05	.Q	.	.	.	V	.
20.633	2.6590	1.05	.Q	.	.	.	V	.
20.650	2.6604	1.04	.Q	.	.	.	V	.
20.667	2.6618	1.04	.Q	.	.	.	V	.
20.683	2.6633	1.04	.Q	.	.	.	V	.
20.700	2.6647	1.04	.Q	.	.	.	V	.
20.717	2.6661	1.04	.Q	.	.	.	V	.
20.733	2.6676	1.04	.Q	.	.	.	V	.
20.750	2.6690	1.03	.Q	.	.	.	V	.
20.767	2.6704	1.03	.Q	.	.	.	V	.
20.783	2.6718	1.03	.Q	.	.	.	V	.
20.800	2.6732	1.03	.Q	.	.	.	V	.
20.817	2.6747	1.03	.Q	.	.	.	V	.
20.833	2.6761	1.03	.Q	.	.	.	V	.
20.850	2.6775	1.02	.Q	.	.	.	V	.
20.867	2.6789	1.02	.Q	.	.	.	V	.
20.883	2.6803	1.02	.Q	.	.	.	V	.
20.900	2.6817	1.02	.Q	.	.	.	V	.
20.917	2.6831	1.02	.Q	.	.	.	V	.
20.933	2.6845	1.02	.Q	.	.	.	V	.
20.950	2.6859	1.02	.Q	.	.	.	V	.
20.967	2.6873	1.01	.Q	.	.	.	V	.
20.983	2.6887	1.01	.Q	.	.	.	V	.
21.000	2.6901	1.01	.Q	.	.	.	V	.
21.017	2.6915	1.01	.Q	.	.	.	V	.
21.033	2.6929	1.01	.Q	.	.	.	V	.
21.050	2.6943	1.01	.Q	.	.	.	V	.
21.067	2.6956	1.00	.Q	.	.	.	V	.
21.083	2.6970	1.00	.Q	.	.	.	V	.
21.100	2.6984	1.00	.Q	.	.	.	V	.
21.117	2.6998	1.00	.Q	.	.	.	V	.
21.133	2.7012	1.00	.Q	.	.	.	V	.

21.150	2.7025	1.00	.Q	.	.	.	V	.
21.167	2.7039	1.00	.Q	.	.	.	V	.
21.183	2.7053	0.99	.Q	.	.	.	V	.
21.200	2.7066	0.99	.Q	.	.	.	V	.
21.217	2.7080	0.99	.Q	.	.	.	V	.
21.233	2.7094	0.99	.Q	.	.	.	V	.
21.250	2.7107	0.99	.Q	.	.	.	V	.
21.267	2.7121	0.99	.Q	.	.	.	V	.
21.283	2.7135	0.99	.Q	.	.	.	V	.
21.300	2.7148	0.98	.Q	.	.	.	V	.
21.317	2.7162	0.98	.Q	.	.	.	V	.
21.333	2.7175	0.98	.Q	.	.	.	V	.
21.350	2.7189	0.98	.Q	.	.	.	V	.
21.367	2.7202	0.98	.Q	.	.	.	V	.
21.383	2.7216	0.98	.Q	.	.	.	V	.
21.400	2.7229	0.98	.Q	.	.	.	V	.
21.417	2.7243	0.97	.Q	.	.	.	V	.
21.433	2.7256	0.97	.Q	.	.	.	V	.
21.450	2.7269	0.97	.Q	.	.	.	V	.
21.467	2.7283	0.97	.Q	.	.	.	V	.
21.483	2.7296	0.97	.Q	.	.	.	V	.
21.500	2.7309	0.97	.Q	.	.	.	V	.
21.517	2.7323	0.97	.Q	.	.	.	V	.
21.533	2.7336	0.97	.Q	.	.	.	V	.
21.550	2.7349	0.96	.Q	.	.	.	V	.
21.567	2.7363	0.96	.Q	.	.	.	V	.
21.583	2.7376	0.96	.Q	.	.	.	V	.
21.600	2.7389	0.96	.Q	.	.	.	V	.
21.617	2.7402	0.96	.Q	.	.	.	V	.
21.633	2.7415	0.96	.Q	.	.	.	V	.
21.650	2.7429	0.96	.Q	.	.	.	V	.
21.667	2.7442	0.96	.Q	.	.	.	V	.
21.683	2.7455	0.95	.Q	.	.	.	V	.
21.700	2.7468	0.95	.Q	.	.	.	V	.
21.717	2.7481	0.95	.Q	.	.	.	V	.
21.733	2.7494	0.95	.Q	.	.	.	V	.
21.750	2.7507	0.95	.Q	.	.	.	V	.
21.767	2.7520	0.95	.Q	.	.	.	V	.
21.783	2.7533	0.95	.Q	.	.	.	V	.
21.800	2.7546	0.95	.Q	.	.	.	V	.
21.817	2.7559	0.94	.Q	.	.	.	V	.
21.833	2.7572	0.94	.Q	.	.	.	V	.
21.850	2.7585	0.94	.Q	.	.	.	V	.
21.867	2.7598	0.94	.Q	.	.	.	V	.
21.883	2.7611	0.94	.Q	.	.	.	V	.
21.900	2.7624	0.94	.Q	.	.	.	V	.
21.917	2.7637	0.94	.Q	.	.	.	V	.
21.933	2.7650	0.94	.Q	.	.	.	V	.
21.950	2.7663	0.93	.Q	.	.	.	V	.
21.967	2.7676	0.93	.Q	.	.	.	V	.
21.983	2.7689	0.93	.Q	.	.	.	V	.
22.000	2.7701	0.93	.Q	.	.	.	V	.
22.017	2.7714	0.93	.Q	.	.	.	V	.
22.033	2.7727	0.93	.Q	.	.	.	V	.
22.050	2.7740	0.93	.Q	.	.	.	V	.
22.067	2.7753	0.93	.Q	.	.	.	V	.
22.083	2.7765	0.93	.Q	.	.	.	V	.
22.100	2.7778	0.92	.Q	.	.	.	V	.
22.117	2.7791	0.92	.Q	.	.	.	V	.
22.133	2.7803	0.92	.Q	.	.	.	V	.
22.150	2.7816	0.92	.Q	.	.	.	V	.
22.167	2.7829	0.92	.Q	.	.	.	V	.
22.183	2.7841	0.92	.Q	.	.	.	V	.
22.200	2.7854	0.92	.Q	.	.	.	V	.
22.217	2.7867	0.92	.Q	.	.	.	V	.
22.233	2.7879	0.92	.Q	.	.	.	V	.
22.250	2.7892	0.91	.Q	.	.	.	V	.
22.267	2.7904	0.91	.Q	.	.	.	V	.
22.283	2.7917	0.91	.Q	.	.	.	V	.
22.300	2.7929	0.91	.Q	.	.	.	V	.
22.317	2.7942	0.91	.Q	.	.	.	V	.
22.333	2.7955	0.91	.Q	.	.	.	V	.
22.350	2.7967	0.91	.Q	.	.	.	V	.
22.367	2.7980	0.91	.Q	.	.	.	V	.
22.383	2.7992	0.91	.Q	.	.	.	V	.
22.400	2.8004	0.90	.Q	.	.	.	V	.
22.417	2.8017	0.90	.Q	.	.	.	V	.
22.433	2.8029	0.90	.Q	.	.	.	V	.
22.450	2.8042	0.90	.Q	.	.	.	V	.

22.467	2.8054	0.90	.Q	.	.	.	V	.
22.483	2.8066	0.90	.Q	.	.	.	V	.
22.500	2.8079	0.90	.Q	.	.	.	V	.
22.517	2.8091	0.90	.Q	.	.	.	V	.
22.533	2.8104	0.90	.Q	.	.	.	V	.
22.550	2.8116	0.89	.Q	.	.	.	V	.
22.567	2.8128	0.89	.Q	.	.	.	V	.
22.583	2.8140	0.89	.Q	.	.	.	V	.
22.600	2.8153	0.89	.Q	.	.	.	V	.
22.617	2.8165	0.89	.Q	.	.	.	V	.
22.633	2.8177	0.89	.Q	.	.	.	V	.
22.650	2.8190	0.89	.Q	.	.	.	V	.
22.667	2.8202	0.89	.Q	.	.	.	V	.
22.683	2.8214	0.89	.Q	.	.	.	V	.
22.700	2.8226	0.89	.Q	.	.	.	V	.
22.717	2.8238	0.88	.Q	.	.	.	V	.
22.733	2.8251	0.88	.Q	.	.	.	V	.
22.750	2.8263	0.88	.Q	.	.	.	V	.
22.767	2.8275	0.88	.Q	.	.	.	V	.
22.783	2.8287	0.88	.Q	.	.	.	V	.
22.800	2.8299	0.88	.Q	.	.	.	V	.
22.817	2.8311	0.88	.Q	.	.	.	V	.
22.833	2.8323	0.88	.Q	.	.	.	V	.
22.850	2.8335	0.88	.Q	.	.	.	V	.
22.867	2.8347	0.88	.Q	.	.	.	V	.
22.883	2.8359	0.88	.Q	.	.	.	V	.
22.900	2.8372	0.87	.Q	.	.	.	V	.
22.917	2.8384	0.87	.Q	.	.	.	V	.
22.933	2.8396	0.87	.Q	.	.	.	V	.
22.950	2.8408	0.87	.Q	.	.	.	V	.
22.967	2.8420	0.87	.Q	.	.	.	V	.
22.983	2.8432	0.87	.Q	.	.	.	V	.
23.000	2.8443	0.87	.Q	.	.	.	V	.
23.017	2.8455	0.87	.Q	.	.	.	V	.
23.033	2.8467	0.87	.Q	.	.	.	V	.
23.050	2.8479	0.87	.Q	.	.	.	V.	
23.067	2.8491	0.86	.Q	.	.	.	V.	
23.083	2.8503	0.86	.Q	.	.	.	V.	
23.100	2.8515	0.86	.Q	.	.	.	V.	
23.117	2.8527	0.86	.Q	.	.	.	V.	
23.133	2.8539	0.86	.Q	.	.	.	V.	
23.150	2.8551	0.86	.Q	.	.	.	V.	
23.167	2.8562	0.86	.Q	.	.	.	V.	
23.183	2.8574	0.86	.Q	.	.	.	V.	
23.200	2.8586	0.86	.Q	.	.	.	V.	
23.217	2.8598	0.86	.Q	.	.	.	V.	
23.233	2.8610	0.86	.Q	.	.	.	V.	
23.250	2.8621	0.85	.Q	.	.	.	V.	
23.267	2.8633	0.85	.Q	.	.	.	V.	
23.283	2.8645	0.85	.Q	.	.	.	V.	
23.300	2.8657	0.85	.Q	.	.	.	V.	
23.317	2.8668	0.85	.Q	.	.	.	V.	
23.333	2.8680	0.85	.Q	.	.	.	V.	
23.350	2.8692	0.85	.Q	.	.	.	V.	
23.367	2.8703	0.85	.Q	.	.	.	V.	
23.383	2.8715	0.85	.Q	.	.	.	V.	
23.400	2.8727	0.85	.Q	.	.	.	V.	
23.417	2.8738	0.85	.Q	.	.	.	V.	
23.433	2.8750	0.85	.Q	.	.	.	V.	
23.450	2.8762	0.84	.Q	.	.	.	V.	
23.467	2.8773	0.84	.Q	.	.	.	V.	
23.483	2.8785	0.84	.Q	.	.	.	V.	
23.500	2.8797	0.84	.Q	.	.	.	V.	
23.517	2.8808	0.84	.Q	.	.	.	V.	
23.533	2.8820	0.84	.Q	.	.	.	V.	
23.550	2.8831	0.84	.Q	.	.	.	V.	
23.567	2.8843	0.84	.Q	.	.	.	V.	
23.583	2.8854	0.84	.Q	.	.	.	V.	
23.600	2.8866	0.84	.Q	.	.	.	V.	
23.617	2.8877	0.84	.Q	.	.	.	V.	
23.633	2.8889	0.84	.Q	.	.	.	V.	
23.650	2.8900	0.83	.Q	.	.	.	V.	
23.667	2.8912	0.83	.Q	.	.	.	V.	
23.683	2.8923	0.83	.Q	.	.	.	V.	
23.700	2.8935	0.83	.Q	.	.	.	V.	
23.717	2.8946	0.83	.Q	.	.	.	V.	
23.733	2.8958	0.83	.Q	.	.	.	V.	
23.750	2.8969	0.83	.Q	.	.	.	V.	
23.767	2.8981	0.83	.Q	.	.	.	V.	

23.783	2.8992	0.83	.Q	.	.	.	V.
23.800	2.9003	0.83	.Q	.	.	.	V.
23.817	2.9015	0.83	.Q	.	.	.	V.
23.833	2.9026	0.83	.Q	.	.	.	V.
23.850	2.9037	0.82	.Q	.	.	.	V.
23.867	2.9049	0.82	.Q	.	.	.	V.
23.883	2.9060	0.82	.Q	.	.	.	V.
23.900	2.9071	0.82	.Q	.	.	.	V.
23.917	2.9083	0.82	.Q	.	.	.	V.
23.933	2.9094	0.82	.Q	.	.	.	V.
23.950	2.9105	0.82	.Q	.	.	.	V.
23.967	2.9117	0.82	.Q	.	.	.	V.
23.983	2.9128	0.82	.Q	.	.	.	V.
24.000	2.9139	0.82	.Q	.	.	.	V.
24.017	2.9150	0.82	.Q	.	.	.	V.
24.033	2.9162	0.82	.Q	.	.	.	V.
24.050	2.9173	0.81	.Q	.	.	.	V.
24.067	2.9183	0.73	.Q	.	.	.	V.
24.083	2.9191	0.61	.Q	.	.	.	V.
24.100	2.9198	0.49	Q	.	.	.	V.
24.117	2.9203	0.37	Q	.	.	.	V.
24.133	2.9207	0.25	Q	.	.	.	V.
24.150	2.9209	0.13	Q	.	.	.	V

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

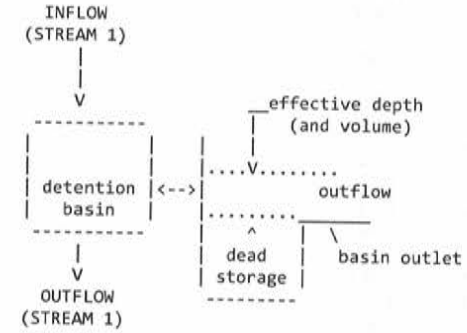
Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1449.0
10%	635.0
20%	120.0
30%	75.0
40%	55.0
50%	45.0
60%	35.0
70%	25.0
80%	15.0
90%	10.0

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FLOW PROCESS FROM NODE 503.00 TO NODE 503.00 IS CODE = 3.2

>>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #1<<<<<

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ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 1
THROUGH A FLOW-THROUGH DETENTION BASIN
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE(AF) = 0.000
SPECIFIED DEAD STORAGE(AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL	DEPTH	OUTFLOW	STORAGE

NUMBER	(FT)	(CFS)	(AF)
1	0.00	0.00	0.000
2	0.14	9.09	0.007
3	0.24	9.48	0.025
4	0.34	9.85	0.062
5	0.44	10.21	0.123

MODIFIED-PULS BASIN ROUTING MODEL RESULTS(1-MINUTE COMPUTATION INTERVALS):
(Note: Computed EFFECTIVE DEPTH and VOLUME are estimated at the clock time;
MEAN OUTFLOW is the average value during the unit interval.)

CLOCK TIME (HRS)	DEAD-STORAGE FILLED(AF)	INFLOW (CFS)	LOSS (CFS)	EFFECTIVE DEPTH(FT)	MEAN OUTFLOW (CFS)	EFFECTIVE VOLUME(AF)
0.017	0.000	0.05	0.00	0.00	0.0	0.000
0.033	0.000	0.15	0.00	0.00	0.1	0.000
0.050	0.000	0.25	0.00	0.00	0.2	0.000
0.067	0.000	0.36	0.00	0.01	0.3	0.000
0.083	0.000	0.46	0.00	0.01	0.4	0.000
0.100	0.000	0.56	0.00	0.01	0.5	0.000
0.117	0.000	0.66	0.00	0.01	0.6	0.001
0.133	0.000	0.76	0.00	0.01	0.7	0.001
0.150	0.000	0.81	0.00	0.01	0.8	0.001
0.167	0.000	0.81	0.00	0.01	0.8	0.001
0.183	0.000	0.81	0.00	0.01	0.8	0.001
0.200	0.000	0.82	0.00	0.01	0.8	0.001
0.217	0.000	0.82	0.00	0.01	0.8	0.001
0.233	0.000	0.82	0.00	0.01	0.8	0.001
0.250	0.000	0.82	0.00	0.01	0.8	0.001
0.267	0.000	0.82	0.00	0.01	0.8	0.001
0.283	0.000	0.82	0.00	0.01	0.8	0.001
0.300	0.000	0.82	0.00	0.01	0.8	0.001
0.317	0.000	0.82	0.00	0.01	0.8	0.001
0.333	0.000	0.82	0.00	0.01	0.8	0.001
0.350	0.000	0.82	0.00	0.01	0.8	0.001
0.367	0.000	0.82	0.00	0.01	0.8	0.001
0.383	0.000	0.82	0.00	0.01	0.8	0.001
0.400	0.000	0.82	0.00	0.01	0.8	0.001
0.417	0.000	0.82	0.00	0.01	0.8	0.001
0.433	0.000	0.82	0.00	0.01	0.8	0.001
0.450	0.000	0.82	0.00	0.01	0.8	0.001
0.467	0.000	0.82	0.00	0.01	0.8	0.001
0.483	0.000	0.82	0.00	0.01	0.8	0.001
0.500	0.000	0.82	0.00	0.01	0.8	0.001
0.517	0.000	0.82	0.00	0.01	0.8	0.001
0.533	0.000	0.82	0.00	0.01	0.8	0.001
0.550	0.000	0.82	0.00	0.01	0.8	0.001
0.567	0.000	0.82	0.00	0.01	0.8	0.001
0.583	0.000	0.82	0.00	0.01	0.8	0.001
0.600	0.000	0.82	0.00	0.01	0.8	0.001
0.617	0.000	0.82	0.00	0.01	0.8	0.001
0.633	0.000	0.83	0.00	0.01	0.8	0.001
0.650	0.000	0.83	0.00	0.01	0.8	0.001
0.667	0.000	0.83	0.00	0.01	0.8	0.001
0.683	0.000	0.83	0.00	0.01	0.8	0.001
0.700	0.000	0.83	0.00	0.01	0.8	0.001
0.717	0.000	0.83	0.00	0.01	0.8	0.001
0.733	0.000	0.83	0.00	0.01	0.8	0.001
0.750	0.000	0.83	0.00	0.01	0.8	0.001
0.767	0.000	0.83	0.00	0.01	0.8	0.001
0.783	0.000	0.83	0.00	0.01	0.8	0.001
0.800	0.000	0.83	0.00	0.01	0.8	0.001
0.817	0.000	0.83	0.00	0.01	0.8	0.001
0.833	0.000	0.83	0.00	0.01	0.8	0.001
0.850	0.000	0.83	0.00	0.01	0.8	0.001
0.867	0.000	0.83	0.00	0.01	0.8	0.001
0.883	0.000	0.83	0.00	0.01	0.8	0.001
0.900	0.000	0.83	0.00	0.01	0.8	0.001
0.917	0.000	0.83	0.00	0.01	0.8	0.001
0.933	0.000	0.83	0.00	0.01	0.8	0.001
0.950	0.000	0.83	0.00	0.01	0.8	0.001
0.967	0.000	0.83	0.00	0.01	0.8	0.001
0.983	0.000	0.83	0.00	0.01	0.8	0.001
1.000	0.000	0.83	0.00	0.01	0.8	0.001
1.017	0.000	0.83	0.00	0.01	0.8	0.001
1.033	0.000	0.83	0.00	0.01	0.8	0.001

1.050	0.000	0.83	0.00	0.01	0.8	0.001
1.067	0.000	0.84	0.00	0.01	0.8	0.001
1.083	0.000	0.84	0.00	0.01	0.8	0.001
1.100	0.000	0.84	0.00	0.01	0.8	0.001
1.117	0.000	0.84	0.00	0.01	0.8	0.001
1.133	0.000	0.84	0.00	0.01	0.8	0.001
1.150	0.000	0.84	0.00	0.01	0.8	0.001
1.167	0.000	0.84	0.00	0.01	0.8	0.001
1.183	0.000	0.84	0.00	0.01	0.8	0.001
1.200	0.000	0.84	0.00	0.01	0.8	0.001
1.217	0.000	0.84	0.00	0.01	0.8	0.001
1.233	0.000	0.84	0.00	0.01	0.8	0.001
1.250	0.000	0.84	0.00	0.01	0.8	0.001
1.267	0.000	0.84	0.00	0.01	0.8	0.001
1.283	0.000	0.84	0.00	0.01	0.8	0.001
1.300	0.000	0.84	0.00	0.01	0.8	0.001
1.317	0.000	0.84	0.00	0.01	0.8	0.001
1.333	0.000	0.84	0.00	0.01	0.8	0.001
1.350	0.000	0.84	0.00	0.01	0.8	0.001
1.367	0.000	0.84	0.00	0.01	0.8	0.001
1.383	0.000	0.84	0.00	0.01	0.8	0.001
1.400	0.000	0.84	0.00	0.01	0.8	0.001
1.417	0.000	0.84	0.00	0.01	0.8	0.001
1.433	0.000	0.85	0.00	0.01	0.8	0.001
1.450	0.000	0.85	0.00	0.01	0.8	0.001
1.467	0.000	0.85	0.00	0.01	0.8	0.001
1.483	0.000	0.85	0.00	0.01	0.8	0.001
1.500	0.000	0.85	0.00	0.01	0.8	0.001
1.517	0.000	0.85	0.00	0.01	0.8	0.001
1.533	0.000	0.85	0.00	0.01	0.8	0.001
1.550	0.000	0.85	0.00	0.01	0.8	0.001
1.567	0.000	0.85	0.00	0.01	0.8	0.001
1.583	0.000	0.85	0.00	0.01	0.8	0.001
1.600	0.000	0.85	0.00	0.01	0.8	0.001
1.617	0.000	0.85	0.00	0.01	0.8	0.001
1.633	0.000	0.85	0.00	0.01	0.9	0.001
1.650	0.000	0.85	0.00	0.01	0.9	0.001
1.667	0.000	0.85	0.00	0.01	0.9	0.001
1.683	0.000	0.85	0.00	0.01	0.9	0.001
1.700	0.000	0.85	0.00	0.01	0.9	0.001
1.717	0.000	0.85	0.00	0.01	0.9	0.001
1.733	0.000	0.85	0.00	0.01	0.9	0.001
1.750	0.000	0.85	0.00	0.01	0.9	0.001
1.767	0.000	0.85	0.00	0.01	0.9	0.001
1.783	0.000	0.85	0.00	0.01	0.9	0.001
1.800	0.000	0.85	0.00	0.01	0.9	0.001
1.817	0.000	0.86	0.00	0.01	0.9	0.001
1.833	0.000	0.86	0.00	0.01	0.9	0.001
1.850	0.000	0.86	0.00	0.01	0.9	0.001
1.867	0.000	0.86	0.00	0.01	0.9	0.001
1.883	0.000	0.86	0.00	0.01	0.9	0.001
1.900	0.000	0.86	0.00	0.01	0.9	0.001
1.917	0.000	0.86	0.00	0.01	0.9	0.001
1.933	0.000	0.86	0.00	0.01	0.9	0.001
1.950	0.000	0.86	0.00	0.01	0.9	0.001
1.967	0.000	0.86	0.00	0.01	0.9	0.001
1.983	0.000	0.86	0.00	0.01	0.9	0.001
2.000	0.000	0.86	0.00	0.01	0.9	0.001
2.017	0.000	0.86	0.00	0.01	0.9	0.001
2.033	0.000	0.86	0.00	0.01	0.9	0.001
2.050	0.000	0.86	0.00	0.01	0.9	0.001
2.067	0.000	0.86	0.00	0.01	0.9	0.001
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2.150	0.000	0.86	0.00	0.01	0.9	0.001
2.167	0.000	0.86	0.00	0.01	0.9	0.001
2.183	0.000	0.86	0.00	0.01	0.9	0.001
2.200	0.000	0.86	0.00	0.01	0.9	0.001
2.217	0.000	0.87	0.00	0.01	0.9	0.001
2.233	0.000	0.87	0.00	0.01	0.9	0.001
2.250	0.000	0.87	0.00	0.01	0.9	0.001
2.267	0.000	0.87	0.00	0.01	0.9	0.001
2.283	0.000	0.87	0.00	0.01	0.9	0.001
2.300	0.000	0.87	0.00	0.01	0.9	0.001
2.317	0.000	0.87	0.00	0.01	0.9	0.001
2.333	0.000	0.87	0.00	0.01	0.9	0.001
2.350	0.000	0.87	0.00	0.01	0.9	0.001

2.367	0.000	0.87	0.00	0.01	0.9	0.001
2.383	0.000	0.87	0.00	0.01	0.9	0.001
2.400	0.000	0.87	0.00	0.01	0.9	0.001
2.417	0.000	0.87	0.00	0.01	0.9	0.001
2.433	0.000	0.87	0.00	0.01	0.9	0.001
2.450	0.000	0.87	0.00	0.01	0.9	0.001
2.467	0.000	0.87	0.00	0.01	0.9	0.001
2.483	0.000	0.87	0.00	0.01	0.9	0.001
2.500	0.000	0.87	0.00	0.01	0.9	0.001
2.517	0.000	0.87	0.00	0.01	0.9	0.001
2.533	0.000	0.88	0.00	0.01	0.9	0.001
2.550	0.000	0.88	0.00	0.01	0.9	0.001
2.567	0.000	0.88	0.00	0.01	0.9	0.001
2.583	0.000	0.88	0.00	0.01	0.9	0.001
2.600	0.000	0.88	0.00	0.01	0.9	0.001
2.617	0.000	0.88	0.00	0.01	0.9	0.001
2.633	0.000	0.88	0.00	0.01	0.9	0.001
2.650	0.000	0.88	0.00	0.01	0.9	0.001
2.667	0.000	0.88	0.00	0.01	0.9	0.001
2.683	0.000	0.88	0.00	0.01	0.9	0.001
2.700	0.000	0.88	0.00	0.01	0.9	0.001
2.717	0.000	0.88	0.00	0.01	0.9	0.001
2.733	0.000	0.88	0.00	0.01	0.9	0.001
2.750	0.000	0.88	0.00	0.01	0.9	0.001
2.767	0.000	0.88	0.00	0.01	0.9	0.001
2.783	0.000	0.88	0.00	0.01	0.9	0.001
2.800	0.000	0.88	0.00	0.01	0.9	0.001
2.817	0.000	0.88	0.00	0.01	0.9	0.001
2.833	0.000	0.88	0.00	0.01	0.9	0.001
2.850	0.000	0.88	0.00	0.01	0.9	0.001
2.867	0.000	0.88	0.00	0.01	0.9	0.001
2.883	0.000	0.88	0.00	0.01	0.9	0.001
2.900	0.000	0.89	0.00	0.01	0.9	0.001
2.917	0.000	0.89	0.00	0.01	0.9	0.001
2.933	0.000	0.89	0.00	0.01	0.9	0.001
2.950	0.000	0.89	0.00	0.01	0.9	0.001
2.967	0.000	0.89	0.00	0.01	0.9	0.001
2.983	0.000	0.89	0.00	0.01	0.9	0.001
3.000	0.000	0.89	0.00	0.01	0.9	0.001
3.017	0.000	0.89	0.00	0.01	0.9	0.001
3.033	0.000	0.89	0.00	0.01	0.9	0.001
3.050	0.000	0.89	0.00	0.01	0.9	0.001
3.067	0.000	0.89	0.00	0.01	0.9	0.001
3.083	0.000	0.89	0.00	0.01	0.9	0.001
3.100	0.000	0.89	0.00	0.01	0.9	0.001
3.117	0.000	0.89	0.00	0.01	0.9	0.001
3.133	0.000	0.89	0.00	0.01	0.9	0.001
3.150	0.000	0.89	0.00	0.01	0.9	0.001
3.167	0.000	0.89	0.00	0.01	0.9	0.001
3.183	0.000	0.89	0.00	0.01	0.9	0.001
3.200	0.000	0.90	0.00	0.01	0.9	0.001
3.217	0.000	0.90	0.00	0.01	0.9	0.001
3.233	0.000	0.90	0.00	0.01	0.9	0.001
3.250	0.000	0.90	0.00	0.01	0.9	0.001
3.267	0.000	0.90	0.00	0.01	0.9	0.001
3.283	0.000	0.90	0.00	0.01	0.9	0.001
3.300	0.000	0.90	0.00	0.01	0.9	0.001
3.317	0.000	0.90	0.00	0.01	0.9	0.001
3.333	0.000	0.90	0.00	0.01	0.9	0.001
3.350	0.000	0.90	0.00	0.01	0.9	0.001
3.367	0.000	0.90	0.00	0.01	0.9	0.001
3.383	0.000	0.90	0.00	0.01	0.9	0.001
3.400	0.000	0.90	0.00	0.01	0.9	0.001
3.417	0.000	0.90	0.00	0.01	0.9	0.001
3.433	0.000	0.90	0.00	0.01	0.9	0.001
3.450	0.000	0.90	0.00	0.01	0.9	0.001
3.467	0.000	0.90	0.00	0.01	0.9	0.001
3.483	0.000	0.90	0.00	0.01	0.9	0.001
3.500	0.000	0.90	0.00	0.01	0.9	0.001
3.517	0.000	0.90	0.00	0.01	0.9	0.001
3.533	0.000	0.90	0.00	0.01	0.9	0.001
3.550	0.000	0.91	0.00	0.01	0.9	0.001
3.567	0.000	0.91	0.00	0.01	0.9	0.001
3.583	0.000	0.91	0.00	0.01	0.9	0.001
3.600	0.000	0.91	0.00	0.01	0.9	0.001
3.617	0.000	0.91	0.00	0.01	0.9	0.001
3.633	0.000	0.91	0.00	0.01	0.9	0.001
3.650	0.000	0.91	0.00	0.01	0.9	0.001
3.667	0.000	0.91	0.00	0.01	0.9	0.001

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3.700	0.000	0.91	0.00	0.01	0.9	0.001
3.717	0.000	0.91	0.00	0.01	0.9	0.001
3.733	0.000	0.91	0.00	0.01	0.9	0.001
3.750	0.000	0.91	0.00	0.01	0.9	0.001
3.767	0.000	0.91	0.00	0.01	0.9	0.001
3.783	0.000	0.91	0.00	0.01	0.9	0.001
3.800	0.000	0.91	0.00	0.01	0.9	0.001
3.817	0.000	0.91	0.00	0.01	0.9	0.001
3.833	0.000	0.91	0.00	0.01	0.9	0.001
3.850	0.000	0.92	0.00	0.01	0.9	0.001
3.867	0.000	0.92	0.00	0.01	0.9	0.001
3.883	0.000	0.92	0.00	0.01	0.9	0.001
3.900	0.000	0.92	0.00	0.01	0.9	0.001
3.917	0.000	0.92	0.00	0.01	0.9	0.001
3.933	0.000	0.92	0.00	0.01	0.9	0.001
3.950	0.000	0.92	0.00	0.01	0.9	0.001
3.967	0.000	0.92	0.00	0.01	0.9	0.001
3.983	0.000	0.92	0.00	0.01	0.9	0.001
4.000	0.000	0.92	0.00	0.01	0.9	0.001
4.017	0.000	0.92	0.00	0.01	0.9	0.001
4.033	0.000	0.92	0.00	0.01	0.9	0.001
4.050	0.000	0.92	0.00	0.01	0.9	0.001
4.067	0.000	0.92	0.00	0.01	0.9	0.001
4.083	0.000	0.92	0.00	0.01	0.9	0.001
4.100	0.000	0.92	0.00	0.01	0.9	0.001
4.117	0.000	0.92	0.00	0.01	0.9	0.001
4.133	0.000	0.93	0.00	0.01	0.9	0.001
4.150	0.000	0.93	0.00	0.01	0.9	0.001
4.167	0.000	0.93	0.00	0.01	0.9	0.001
4.183	0.000	0.93	0.00	0.01	0.9	0.001
4.200	0.000	0.93	0.00	0.01	0.9	0.001
4.217	0.000	0.93	0.00	0.01	0.9	0.001
4.233	0.000	0.93	0.00	0.01	0.9	0.001
4.250	0.000	0.93	0.00	0.01	0.9	0.001
4.267	0.000	0.93	0.00	0.01	0.9	0.001
4.283	0.000	0.93	0.00	0.01	0.9	0.001
4.300	0.000	0.93	0.00	0.01	0.9	0.001
4.317	0.000	0.93	0.00	0.01	0.9	0.001
4.333	0.000	0.93	0.00	0.01	0.9	0.001
4.350	0.000	0.93	0.00	0.01	0.9	0.001
4.367	0.000	0.93	0.00	0.01	0.9	0.001
4.383	0.000	0.93	0.00	0.01	0.9	0.001
4.400	0.000	0.93	0.00	0.01	0.9	0.001
4.417	0.000	0.93	0.00	0.01	0.9	0.001
4.433	0.000	0.93	0.00	0.01	0.9	0.001
4.450	0.000	0.94	0.00	0.01	0.9	0.001
4.467	0.000	0.94	0.00	0.01	0.9	0.001
4.483	0.000	0.94	0.00	0.01	0.9	0.001
4.500	0.000	0.94	0.00	0.01	0.9	0.001
4.517	0.000	0.94	0.00	0.01	0.9	0.001
4.533	0.000	0.94	0.00	0.01	0.9	0.001
4.550	0.000	0.94	0.00	0.01	0.9	0.001
4.567	0.000	0.94	0.00	0.01	0.9	0.001
4.583	0.000	0.94	0.00	0.01	0.9	0.001
4.600	0.000	0.94	0.00	0.01	0.9	0.001
4.617	0.000	0.94	0.00	0.01	0.9	0.001
4.633	0.000	0.94	0.00	0.01	0.9	0.001
4.650	0.000	0.94	0.00	0.01	0.9	0.001
4.667	0.000	0.94	0.00	0.01	0.9	0.001
4.683	0.000	0.94	0.00	0.01	0.9	0.001
4.700	0.000	0.94	0.00	0.01	0.9	0.001
4.717	0.000	0.95	0.00	0.01	0.9	0.001
4.733	0.000	0.95	0.00	0.01	0.9	0.001
4.750	0.000	0.95	0.00	0.01	0.9	0.001
4.767	0.000	0.95	0.00	0.01	0.9	0.001
4.783	0.000	0.95	0.00	0.01	0.9	0.001
4.800	0.000	0.95	0.00	0.01	0.9	0.001
4.817	0.000	0.95	0.00	0.01	0.9	0.001
4.833	0.000	0.95	0.00	0.01	0.9	0.001
4.850	0.000	0.95	0.00	0.01	1.0	0.001
4.867	0.000	0.95	0.00	0.01	1.0	0.001
4.883	0.000	0.95	0.00	0.01	1.0	0.001
4.900	0.000	0.95	0.00	0.01	1.0	0.001
4.917	0.000	0.95	0.00	0.01	1.0	0.001
4.933	0.000	0.95	0.00	0.01	1.0	0.001
4.950	0.000	0.95	0.00	0.01	1.0	0.001
4.967	0.000	0.96	0.00	0.01	1.0	0.001
4.983	0.000	0.96	0.00	0.01	1.0	0.001

5.000	0.000	0.96	0.00	0.01	1.0	0.001
5.017	0.000	0.96	0.00	0.01	1.0	0.001
5.033	0.000	0.96	0.00	0.01	1.0	0.001
5.050	0.000	0.96	0.00	0.01	1.0	0.001
5.067	0.000	0.96	0.00	0.01	1.0	0.001
5.083	0.000	0.96	0.00	0.01	1.0	0.001
5.100	0.000	0.96	0.00	0.01	1.0	0.001
5.117	0.000	0.96	0.00	0.01	1.0	0.001
5.133	0.000	0.96	0.00	0.01	1.0	0.001
5.150	0.000	0.96	0.00	0.01	1.0	0.001
5.167	0.000	0.96	0.00	0.01	1.0	0.001
5.183	0.000	0.96	0.00	0.01	1.0	0.001
5.200	0.000	0.96	0.00	0.01	1.0	0.001
5.217	0.000	0.96	0.00	0.01	1.0	0.001
5.233	0.000	0.97	0.00	0.01	1.0	0.001
5.250	0.000	0.97	0.00	0.01	1.0	0.001
5.267	0.000	0.97	0.00	0.01	1.0	0.001
5.283	0.000	0.97	0.00	0.01	1.0	0.001
5.300	0.000	0.97	0.00	0.01	1.0	0.001
5.317	0.000	0.97	0.00	0.01	1.0	0.001
5.333	0.000	0.97	0.00	0.01	1.0	0.001
5.350	0.000	0.97	0.00	0.01	1.0	0.001
5.367	0.000	0.97	0.00	0.01	1.0	0.001
5.383	0.000	0.97	0.00	0.01	1.0	0.001
5.400	0.000	0.97	0.00	0.01	1.0	0.001
5.417	0.000	0.97	0.00	0.01	1.0	0.001
5.433	0.000	0.97	0.00	0.02	1.0	0.001
5.450	0.000	0.97	0.00	0.02	1.0	0.001
5.467	0.000	0.98	0.00	0.02	1.0	0.001
5.483	0.000	0.98	0.00	0.02	1.0	0.001
5.500	0.000	0.98	0.00	0.02	1.0	0.001
5.517	0.000	0.98	0.00	0.02	1.0	0.001
5.533	0.000	0.98	0.00	0.02	1.0	0.001
5.550	0.000	0.98	0.00	0.02	1.0	0.001
5.567	0.000	0.98	0.00	0.02	1.0	0.001
5.583	0.000	0.98	0.00	0.02	1.0	0.001
5.600	0.000	0.98	0.00	0.02	1.0	0.001
5.617	0.000	0.98	0.00	0.02	1.0	0.001
5.633	0.000	0.98	0.00	0.02	1.0	0.001
5.650	0.000	0.98	0.00	0.02	1.0	0.001
5.667	0.000	0.98	0.00	0.02	1.0	0.001
5.683	0.000	0.98	0.00	0.02	1.0	0.001
5.700	0.000	0.98	0.00	0.02	1.0	0.001
5.717	0.000	0.99	0.00	0.02	1.0	0.001
5.733	0.000	0.99	0.00	0.02	1.0	0.001
5.750	0.000	0.99	0.00	0.02	1.0	0.001
5.767	0.000	0.99	0.00	0.02	1.0	0.001
5.783	0.000	0.99	0.00	0.02	1.0	0.001
5.800	0.000	0.99	0.00	0.02	1.0	0.001
5.817	0.000	0.99	0.00	0.02	1.0	0.001
5.833	0.000	0.99	0.00	0.02	1.0	0.001
5.850	0.000	0.99	0.00	0.02	1.0	0.001
5.867	0.000	0.99	0.00	0.02	1.0	0.001
5.883	0.000	0.99	0.00	0.02	1.0	0.001
5.900	0.000	0.99	0.00	0.02	1.0	0.001
5.917	0.000	0.99	0.00	0.02	1.0	0.001
5.933	0.000	0.99	0.00	0.02	1.0	0.001
5.950	0.000	1.00	0.00	0.02	1.0	0.001
5.967	0.000	1.00	0.00	0.02	1.0	0.001
5.983	0.000	1.00	0.00	0.02	1.0	0.001
6.000	0.000	1.00	0.00	0.02	1.0	0.001
6.017	0.000	1.00	0.00	0.02	1.0	0.001
6.033	0.000	1.00	0.00	0.02	1.0	0.001
6.050	0.000	1.00	0.00	0.02	1.0	0.001
6.067	0.000	1.00	0.00	0.02	1.0	0.001
6.083	0.000	1.00	0.00	0.02	1.0	0.001
6.100	0.000	1.00	0.00	0.02	1.0	0.001
6.117	0.000	1.00	0.00	0.02	1.0	0.001
6.133	0.000	1.00	0.00	0.02	1.0	0.001
6.150	0.000	1.00	0.00	0.02	1.0	0.001
6.167	0.000	1.01	0.00	0.02	1.0	0.001
6.183	0.000	1.01	0.00	0.02	1.0	0.001
6.200	0.000	1.01	0.00	0.02	1.0	0.001
6.217	0.000	1.01	0.00	0.02	1.0	0.001
6.233	0.000	1.01	0.00	0.02	1.0	0.001
6.250	0.000	1.01	0.00	0.02	1.0	0.001
6.267	0.000	1.01	0.00	0.02	1.0	0.001
6.283	0.000	1.01	0.00	0.02	1.0	0.001
6.300	0.000	1.01	0.00	0.02	1.0	0.001

6.317	0.000	1.01	0.00	0.02	1.0	0.001
6.333	0.000	1.01	0.00	0.02	1.0	0.001
6.350	0.000	1.01	0.00	0.02	1.0	0.001
6.367	0.000	1.01	0.00	0.02	1.0	0.001
6.383	0.000	1.02	0.00	0.02	1.0	0.001
6.400	0.000	1.02	0.00	0.02	1.0	0.001
6.417	0.000	1.02	0.00	0.02	1.0	0.001
6.433	0.000	1.02	0.00	0.02	1.0	0.001
6.450	0.000	1.02	0.00	0.02	1.0	0.001
6.467	0.000	1.02	0.00	0.02	1.0	0.001
6.483	0.000	1.02	0.00	0.02	1.0	0.001
6.500	0.000	1.02	0.00	0.02	1.0	0.001
6.517	0.000	1.02	0.00	0.02	1.0	0.001
6.533	0.000	1.02	0.00	0.02	1.0	0.001
6.550	0.000	1.02	0.00	0.02	1.0	0.001
6.567	0.000	1.02	0.00	0.02	1.0	0.001
6.583	0.000	1.02	0.00	0.02	1.0	0.001
6.600	0.000	1.03	0.00	0.02	1.0	0.001
6.617	0.000	1.03	0.00	0.02	1.0	0.001
6.633	0.000	1.03	0.00	0.02	1.0	0.001
6.650	0.000	1.03	0.00	0.02	1.0	0.001
6.667	0.000	1.03	0.00	0.02	1.0	0.001
6.683	0.000	1.03	0.00	0.02	1.0	0.001
6.700	0.000	1.03	0.00	0.02	1.0	0.001
6.717	0.000	1.03	0.00	0.02	1.0	0.001
6.733	0.000	1.03	0.00	0.02	1.0	0.001
6.750	0.000	1.03	0.00	0.02	1.0	0.001
6.767	0.000	1.03	0.00	0.02	1.0	0.001
6.783	0.000	1.03	0.00	0.02	1.0	0.001
6.800	0.000	1.03	0.00	0.02	1.0	0.001
6.817	0.000	1.04	0.00	0.02	1.0	0.001
6.833	0.000	1.04	0.00	0.02	1.0	0.001
6.850	0.000	1.04	0.00	0.02	1.0	0.001
6.867	0.000	1.04	0.00	0.02	1.0	0.001
6.883	0.000	1.04	0.00	0.02	1.0	0.001
6.900	0.000	1.04	0.00	0.02	1.0	0.001
6.917	0.000	1.04	0.00	0.02	1.0	0.001
6.933	0.000	1.04	0.00	0.02	1.0	0.001
6.950	0.000	1.04	0.00	0.02	1.0	0.001
6.967	0.000	1.04	0.00	0.02	1.0	0.001
6.983	0.000	1.04	0.00	0.02	1.0	0.001
7.000	0.000	1.04	0.00	0.02	1.0	0.001
7.017	0.000	1.05	0.00	0.02	1.0	0.001
7.033	0.000	1.05	0.00	0.02	1.0	0.001
7.050	0.000	1.05	0.00	0.02	1.0	0.001
7.067	0.000	1.05	0.00	0.02	1.0	0.001
7.083	0.000	1.05	0.00	0.02	1.0	0.001
7.100	0.000	1.05	0.00	0.02	1.0	0.001
7.117	0.000	1.05	0.00	0.02	1.0	0.001
7.133	0.000	1.05	0.00	0.02	1.0	0.001
7.150	0.000	1.05	0.00	0.02	1.1	0.001
7.167	0.000	1.05	0.00	0.02	1.1	0.001
7.183	0.000	1.05	0.00	0.02	1.1	0.001
7.200	0.000	1.05	0.00	0.02	1.1	0.001
7.217	0.000	1.06	0.00	0.02	1.1	0.001
7.233	0.000	1.06	0.00	0.02	1.1	0.001
7.250	0.000	1.06	0.00	0.02	1.1	0.001
7.267	0.000	1.06	0.00	0.02	1.1	0.001
7.283	0.000	1.06	0.00	0.02	1.1	0.001
7.300	0.000	1.06	0.00	0.02	1.1	0.001
7.317	0.000	1.06	0.00	0.02	1.1	0.001
7.333	0.000	1.06	0.00	0.02	1.1	0.001
7.350	0.000	1.06	0.00	0.02	1.1	0.001
7.367	0.000	1.06	0.00	0.02	1.1	0.001
7.383	0.000	1.06	0.00	0.02	1.1	0.001
7.400	0.000	1.06	0.00	0.02	1.1	0.001
7.417	0.000	1.07	0.00	0.02	1.1	0.001
7.433	0.000	1.07	0.00	0.02	1.1	0.001
7.450	0.000	1.07	0.00	0.02	1.1	0.001
7.467	0.000	1.07	0.00	0.02	1.1	0.001
7.483	0.000	1.07	0.00	0.02	1.1	0.001
7.500	0.000	1.07	0.00	0.02	1.1	0.001
7.517	0.000	1.07	0.00	0.02	1.1	0.001
7.533	0.000	1.07	0.00	0.02	1.1	0.001
7.550	0.000	1.07	0.00	0.02	1.1	0.001
7.567	0.000	1.07	0.00	0.02	1.1	0.001
7.583	0.000	1.08	0.00	0.02	1.1	0.001
7.600	0.000	1.08	0.00	0.02	1.1	0.001
7.617	0.000	1.08	0.00	0.02	1.1	0.001

7.633	0.000	1.08	0.00	0.02	1.1	0.001
7.650	0.000	1.08	0.00	0.02	1.1	0.001
7.667	0.000	1.08	0.00	0.02	1.1	0.001
7.683	0.000	1.08	0.00	0.02	1.1	0.001
7.700	0.000	1.08	0.00	0.02	1.1	0.001
7.717	0.000	1.08	0.00	0.02	1.1	0.001
7.733	0.000	1.08	0.00	0.02	1.1	0.001
7.750	0.000	1.09	0.00	0.02	1.1	0.001
7.767	0.000	1.09	0.00	0.02	1.1	0.001
7.783	0.000	1.09	0.00	0.02	1.1	0.001
7.800	0.000	1.09	0.00	0.02	1.1	0.001
7.817	0.000	1.09	0.00	0.02	1.1	0.001
7.833	0.000	1.09	0.00	0.02	1.1	0.001
7.850	0.000	1.09	0.00	0.02	1.1	0.001
7.867	0.000	1.09	0.00	0.02	1.1	0.001
7.883	0.000	1.09	0.00	0.02	1.1	0.001
7.900	0.000	1.09	0.00	0.02	1.1	0.001
7.917	0.000	1.09	0.00	0.02	1.1	0.001
7.933	0.000	1.10	0.00	0.02	1.1	0.001
7.950	0.000	1.10	0.00	0.02	1.1	0.001
7.967	0.000	1.10	0.00	0.02	1.1	0.001
7.983	0.000	1.10	0.00	0.02	1.1	0.001
8.000	0.000	1.10	0.00	0.02	1.1	0.001
8.017	0.000	1.10	0.00	0.02	1.1	0.001
8.033	0.000	1.10	0.00	0.02	1.1	0.001
8.050	0.000	1.10	0.00	0.02	1.1	0.001
8.067	0.000	1.10	0.00	0.02	1.1	0.001
8.083	0.000	1.10	0.00	0.02	1.1	0.001
8.100	0.000	1.11	0.00	0.02	1.1	0.001
8.117	0.000	1.11	0.00	0.02	1.1	0.001
8.133	0.000	1.11	0.00	0.02	1.1	0.001
8.150	0.000	1.11	0.00	0.02	1.1	0.001
8.167	0.000	1.11	0.00	0.02	1.1	0.001
8.183	0.000	1.11	0.00	0.02	1.1	0.001
8.200	0.000	1.11	0.00	0.02	1.1	0.001
8.217	0.000	1.11	0.00	0.02	1.1	0.001
8.233	0.000	1.11	0.00	0.02	1.1	0.001
8.250	0.000	1.11	0.00	0.02	1.1	0.001
8.267	0.000	1.12	0.00	0.02	1.1	0.001
8.283	0.000	1.12	0.00	0.02	1.1	0.001
8.300	0.000	1.12	0.00	0.02	1.1	0.001
8.317	0.000	1.12	0.00	0.02	1.1	0.001
8.333	0.000	1.12	0.00	0.02	1.1	0.001
8.350	0.000	1.12	0.00	0.02	1.1	0.001
8.367	0.000	1.12	0.00	0.02	1.1	0.001
8.383	0.000	1.12	0.00	0.02	1.1	0.001
8.400	0.000	1.13	0.00	0.02	1.1	0.001
8.417	0.000	1.13	0.00	0.02	1.1	0.001
8.433	0.000	1.13	0.00	0.02	1.1	0.001
8.450	0.000	1.13	0.00	0.02	1.1	0.001
8.467	0.000	1.13	0.00	0.02	1.1	0.001
8.483	0.000	1.13	0.00	0.02	1.1	0.001
8.500	0.000	1.13	0.00	0.02	1.1	0.001
8.517	0.000	1.13	0.00	0.02	1.1	0.001
8.533	0.000	1.13	0.00	0.02	1.1	0.001
8.550	0.000	1.13	0.00	0.02	1.1	0.001
8.567	0.000	1.14	0.00	0.02	1.1	0.001
8.583	0.000	1.14	0.00	0.02	1.1	0.001
8.600	0.000	1.14	0.00	0.02	1.1	0.001
8.617	0.000	1.14	0.00	0.02	1.1	0.001
8.633	0.000	1.14	0.00	0.02	1.1	0.001
8.650	0.000	1.14	0.00	0.02	1.1	0.001
8.667	0.000	1.14	0.00	0.02	1.1	0.001
8.683	0.000	1.14	0.00	0.02	1.1	0.001
8.700	0.000	1.14	0.00	0.02	1.1	0.001
8.717	0.000	1.15	0.00	0.02	1.1	0.001
8.733	0.000	1.15	0.00	0.02	1.1	0.001
8.750	0.000	1.15	0.00	0.02	1.1	0.001
8.767	0.000	1.15	0.00	0.02	1.1	0.001
8.783	0.000	1.15	0.00	0.02	1.1	0.001
8.800	0.000	1.15	0.00	0.02	1.2	0.001
8.817	0.000	1.15	0.00	0.02	1.2	0.001
8.833	0.000	1.15	0.00	0.02	1.2	0.001
8.850	0.000	1.16	0.00	0.02	1.2	0.001
8.867	0.000	1.16	0.00	0.02	1.2	0.001
8.883	0.000	1.16	0.00	0.02	1.2	0.001
8.900	0.000	1.16	0.00	0.02	1.2	0.001
8.917	0.000	1.16	0.00	0.02	1.2	0.001
8.933	0.000	1.16	0.00	0.02	1.2	0.001

8.950	0.000	1.16	0.00	0.02	1.2	0.001
8.967	0.000	1.16	0.00	0.02	1.2	0.001
8.983	0.000	1.16	0.00	0.02	1.2	0.001
9.000	0.000	1.16	0.00	0.02	1.2	0.001
9.017	0.000	1.17	0.00	0.02	1.2	0.001
9.033	0.000	1.17	0.00	0.02	1.2	0.001
9.050	0.000	1.17	0.00	0.02	1.2	0.001
9.067	0.000	1.17	0.00	0.02	1.2	0.001
9.083	0.000	1.17	0.00	0.02	1.2	0.001
9.100	0.000	1.17	0.00	0.02	1.2	0.001
9.117	0.000	1.18	0.00	0.02	1.2	0.001
9.133	0.000	1.18	0.00	0.02	1.2	0.001
9.150	0.000	1.18	0.00	0.02	1.2	0.001
9.167	0.000	1.18	0.00	0.02	1.2	0.001
9.183	0.000	1.18	0.00	0.02	1.2	0.001
9.200	0.000	1.18	0.00	0.02	1.2	0.001
9.217	0.000	1.18	0.00	0.02	1.2	0.001
9.233	0.000	1.18	0.00	0.02	1.2	0.001
9.250	0.000	1.18	0.00	0.02	1.2	0.001
9.267	0.000	1.19	0.00	0.02	1.2	0.001
9.283	0.000	1.19	0.00	0.02	1.2	0.001
9.300	0.000	1.19	0.00	0.02	1.2	0.001
9.317	0.000	1.19	0.00	0.02	1.2	0.001
9.333	0.000	1.19	0.00	0.02	1.2	0.001
9.350	0.000	1.19	0.00	0.02	1.2	0.001
9.367	0.000	1.19	0.00	0.02	1.2	0.001
9.383	0.000	1.19	0.00	0.02	1.2	0.001
9.400	0.000	1.20	0.00	0.02	1.2	0.001
9.417	0.000	1.20	0.00	0.02	1.2	0.001
9.433	0.000	1.20	0.00	0.02	1.2	0.001
9.450	0.000	1.20	0.00	0.02	1.2	0.001
9.467	0.000	1.20	0.00	0.02	1.2	0.001
9.483	0.000	1.20	0.00	0.02	1.2	0.001
9.500	0.000	1.20	0.00	0.02	1.2	0.001
9.517	0.000	1.21	0.00	0.02	1.2	0.001
9.533	0.000	1.21	0.00	0.02	1.2	0.001
9.550	0.000	1.21	0.00	0.02	1.2	0.001
9.567	0.000	1.21	0.00	0.02	1.2	0.001
9.583	0.000	1.21	0.00	0.02	1.2	0.001
9.600	0.000	1.21	0.00	0.02	1.2	0.001
9.617	0.000	1.21	0.00	0.02	1.2	0.001
9.633	0.000	1.21	0.00	0.02	1.2	0.001
9.650	0.000	1.22	0.00	0.02	1.2	0.001
9.667	0.000	1.22	0.00	0.02	1.2	0.001
9.683	0.000	1.22	0.00	0.02	1.2	0.001
9.700	0.000	1.22	0.00	0.02	1.2	0.001
9.717	0.000	1.22	0.00	0.02	1.2	0.001
9.733	0.000	1.22	0.00	0.02	1.2	0.001
9.750	0.000	1.23	0.00	0.02	1.2	0.001
9.767	0.000	1.23	0.00	0.02	1.2	0.001
9.783	0.000	1.23	0.00	0.02	1.2	0.001
9.800	0.000	1.23	0.00	0.02	1.2	0.001
9.817	0.000	1.23	0.00	0.02	1.2	0.001
9.833	0.000	1.23	0.00	0.02	1.2	0.001
9.850	0.000	1.23	0.00	0.02	1.2	0.001
9.867	0.000	1.23	0.00	0.02	1.2	0.001
9.883	0.000	1.24	0.00	0.02	1.2	0.001
9.900	0.000	1.24	0.00	0.02	1.2	0.001
9.917	0.000	1.24	0.00	0.02	1.2	0.001
9.933	0.000	1.24	0.00	0.02	1.2	0.001
9.950	0.000	1.24	0.00	0.02	1.2	0.001
9.967	0.000	1.24	0.00	0.02	1.2	0.001
9.983	0.000	1.25	0.00	0.02	1.2	0.001
10.000	0.000	1.25	0.00	0.02	1.2	0.001
10.017	0.000	1.25	0.00	0.02	1.2	0.001
10.033	0.000	1.25	0.00	0.02	1.2	0.001
10.050	0.000	1.25	0.00	0.02	1.3	0.001
10.067	0.000	1.25	0.00	0.02	1.3	0.001
10.083	0.000	1.25	0.00	0.02	1.3	0.001
10.100	0.000	1.25	0.00	0.02	1.3	0.001
10.117	0.000	1.26	0.00	0.02	1.3	0.001
10.133	0.000	1.26	0.00	0.02	1.3	0.001
10.150	0.000	1.26	0.00	0.02	1.3	0.001
10.167	0.000	1.26	0.00	0.02	1.3	0.001
10.183	0.000	1.26	0.00	0.02	1.3	0.001
10.200	0.000	1.27	0.00	0.02	1.3	0.001
10.217	0.000	1.27	0.00	0.02	1.3	0.001
10.233	0.000	1.27	0.00	0.02	1.3	0.001
10.250	0.000	1.27	0.00	0.02	1.3	0.001

10.267	0.000	1.27	0.00	0.02	1.3	0.001
10.283	0.000	1.27	0.00	0.02	1.3	0.001
10.300	0.000	1.27	0.00	0.02	1.3	0.001
10.317	0.000	1.28	0.00	0.02	1.3	0.001
10.333	0.000	1.28	0.00	0.02	1.3	0.001
10.350	0.000	1.28	0.00	0.02	1.3	0.001
10.367	0.000	1.28	0.00	0.02	1.3	0.001
10.383	0.000	1.28	0.00	0.02	1.3	0.001
10.400	0.000	1.29	0.00	0.02	1.3	0.001
10.417	0.000	1.29	0.00	0.02	1.3	0.001
10.433	0.000	1.29	0.00	0.02	1.3	0.001
10.450	0.000	1.29	0.00	0.02	1.3	0.001
10.467	0.000	1.29	0.00	0.02	1.3	0.001
10.483	0.000	1.29	0.00	0.02	1.3	0.001
10.500	0.000	1.30	0.00	0.02	1.3	0.001
10.517	0.000	1.30	0.00	0.02	1.3	0.001
10.533	0.000	1.30	0.00	0.02	1.3	0.001
10.550	0.000	1.30	0.00	0.02	1.3	0.001
10.567	0.000	1.30	0.00	0.02	1.3	0.001
10.583	0.000	1.30	0.00	0.02	1.3	0.001
10.600	0.000	1.30	0.00	0.02	1.3	0.001
10.617	0.000	1.31	0.00	0.02	1.3	0.001
10.633	0.000	1.31	0.00	0.02	1.3	0.001
10.650	0.000	1.31	0.00	0.02	1.3	0.001
10.667	0.000	1.31	0.00	0.02	1.3	0.001
10.683	0.000	1.32	0.00	0.02	1.3	0.001
10.700	0.000	1.32	0.00	0.02	1.3	0.001
10.717	0.000	1.32	0.00	0.02	1.3	0.001
10.733	0.000	1.32	0.00	0.02	1.3	0.001
10.750	0.000	1.32	0.00	0.02	1.3	0.001
10.767	0.000	1.32	0.00	0.02	1.3	0.001
10.783	0.000	1.32	0.00	0.02	1.3	0.001
10.800	0.000	1.33	0.00	0.02	1.3	0.001
10.817	0.000	1.33	0.00	0.02	1.3	0.001
10.833	0.000	1.33	0.00	0.02	1.3	0.001
10.850	0.000	1.33	0.00	0.02	1.3	0.001
10.867	0.000	1.34	0.00	0.02	1.3	0.001
10.883	0.000	1.34	0.00	0.02	1.3	0.001
10.900	0.000	1.34	0.00	0.02	1.3	0.001
10.917	0.000	1.34	0.00	0.02	1.3	0.001
10.933	0.000	1.34	0.00	0.02	1.3	0.001
10.950	0.000	1.34	0.00	0.02	1.3	0.001
10.967	0.000	1.35	0.00	0.02	1.3	0.001
10.983	0.000	1.35	0.00	0.02	1.3	0.001
11.000	0.000	1.35	0.00	0.02	1.3	0.001
11.017	0.000	1.35	0.00	0.02	1.3	0.001
11.033	0.000	1.35	0.00	0.02	1.4	0.001
11.050	0.000	1.36	0.00	0.02	1.4	0.001
11.067	0.000	1.36	0.00	0.02	1.4	0.001
11.083	0.000	1.36	0.00	0.02	1.4	0.001
11.100	0.000	1.36	0.00	0.02	1.4	0.001
11.117	0.000	1.37	0.00	0.02	1.4	0.001
11.133	0.000	1.37	0.00	0.02	1.4	0.001
11.150	0.000	1.37	0.00	0.02	1.4	0.001
11.167	0.000	1.37	0.00	0.02	1.4	0.001
11.183	0.000	1.37	0.00	0.02	1.4	0.001
11.200	0.000	1.37	0.00	0.02	1.4	0.001
11.217	0.000	1.38	0.00	0.02	1.4	0.001
11.233	0.000	1.38	0.00	0.02	1.4	0.001
11.250	0.000	1.38	0.00	0.02	1.4	0.001
11.267	0.000	1.38	0.00	0.02	1.4	0.001
11.283	0.000	1.38	0.00	0.02	1.4	0.001
11.300	0.000	1.39	0.00	0.02	1.4	0.001
11.317	0.000	1.39	0.00	0.02	1.4	0.001
11.333	0.000	1.39	0.00	0.02	1.4	0.001
11.350	0.000	1.40	0.00	0.02	1.4	0.001
11.367	0.000	1.40	0.00	0.02	1.4	0.001
11.383	0.000	1.40	0.00	0.02	1.4	0.001
11.400	0.000	1.40	0.00	0.02	1.4	0.001
11.417	0.000	1.40	0.00	0.02	1.4	0.001
11.433	0.000	1.40	0.00	0.02	1.4	0.001
11.450	0.000	1.41	0.00	0.02	1.4	0.001
11.467	0.000	1.41	0.00	0.02	1.4	0.001
11.483	0.000	1.41	0.00	0.02	1.4	0.001
11.500	0.000	1.41	0.00	0.02	1.4	0.001
11.517	0.000	1.42	0.00	0.02	1.4	0.001
11.533	0.000	1.42	0.00	0.02	1.4	0.001
11.550	0.000	1.42	0.00	0.02	1.4	0.001
11.567	0.000	1.42	0.00	0.02	1.4	0.001

11.583	0.000	1.43	0.00	0.02	1.4	0.001
11.600	0.000	1.43	0.00	0.02	1.4	0.001
11.617	0.000	1.43	0.00	0.02	1.4	0.001
11.633	0.000	1.43	0.00	0.02	1.4	0.001
11.650	0.000	1.43	0.00	0.02	1.4	0.001
11.667	0.000	1.44	0.00	0.02	1.4	0.001
11.683	0.000	1.44	0.00	0.02	1.4	0.001
11.700	0.000	1.44	0.00	0.02	1.4	0.001
11.717	0.000	1.44	0.00	0.02	1.4	0.001
11.733	0.000	1.45	0.00	0.02	1.4	0.001
11.750	0.000	1.45	0.00	0.02	1.4	0.001
11.767	0.000	1.45	0.00	0.02	1.4	0.001
11.783	0.000	1.46	0.00	0.02	1.5	0.001
11.800	0.000	1.46	0.00	0.02	1.5	0.001
11.817	0.000	1.46	0.00	0.02	1.5	0.001
11.833	0.000	1.46	0.00	0.02	1.5	0.001
11.850	0.000	1.46	0.00	0.02	1.5	0.001
11.867	0.000	1.47	0.00	0.02	1.5	0.001
11.883	0.000	1.47	0.00	0.02	1.5	0.001
11.900	0.000	1.47	0.00	0.02	1.5	0.001
11.917	0.000	1.47	0.00	0.02	1.5	0.001
11.933	0.000	1.47	0.00	0.02	1.5	0.001
11.950	0.000	1.48	0.00	0.02	1.5	0.001
11.967	0.000	1.48	0.00	0.02	1.5	0.001
11.983	0.000	1.48	0.00	0.02	1.5	0.001
12.000	0.000	1.49	0.00	0.02	1.5	0.001
12.017	0.000	1.49	0.00	0.02	1.5	0.001
12.033	0.000	1.50	0.00	0.02	1.5	0.001
12.050	0.000	1.50	0.00	0.02	1.5	0.001
12.067	0.000	1.51	0.00	0.02	1.5	0.001
12.083	0.000	1.51	0.00	0.02	1.5	0.001
12.100	0.000	1.52	0.00	0.02	1.5	0.001
12.117	0.000	1.52	0.00	0.02	1.5	0.001
12.133	0.000	1.53	0.00	0.02	1.5	0.001
12.150	0.000	1.53	0.00	0.02	1.5	0.001
12.167	0.000	1.54	0.00	0.02	1.5	0.001
12.183	0.000	1.54	0.00	0.02	1.5	0.001
12.200	0.000	1.54	0.00	0.02	1.5	0.001
12.217	0.000	1.55	0.00	0.02	1.5	0.001
12.233	0.000	1.55	0.00	0.02	1.6	0.001
12.250	0.000	1.56	0.00	0.02	1.6	0.001
12.267	0.000	1.56	0.00	0.02	1.6	0.001
12.283	0.000	1.56	0.00	0.02	1.6	0.001
12.300	0.000	1.56	0.00	0.02	1.6	0.001
12.317	0.000	1.57	0.00	0.02	1.6	0.001
12.333	0.000	1.57	0.00	0.02	1.6	0.001
12.350	0.000	1.57	0.00	0.02	1.6	0.001
12.367	0.000	1.57	0.00	0.02	1.6	0.001
12.383	0.000	1.58	0.00	0.02	1.6	0.001
12.400	0.000	1.58	0.00	0.02	1.6	0.001
12.417	0.000	1.58	0.00	0.02	1.6	0.001
12.433	0.000	1.59	0.00	0.02	1.6	0.001
12.450	0.000	1.59	0.00	0.02	1.6	0.001
12.467	0.000	1.60	0.00	0.02	1.6	0.001
12.483	0.000	1.60	0.00	0.02	1.6	0.001
12.500	0.000	1.60	0.00	0.02	1.6	0.001
12.517	0.000	1.61	0.00	0.02	1.6	0.001
12.533	0.000	1.61	0.00	0.02	1.6	0.001
12.550	0.000	1.61	0.00	0.02	1.6	0.001
12.567	0.000	1.61	0.00	0.02	1.6	0.001
12.583	0.000	1.61	0.00	0.02	1.6	0.001
12.600	0.000	1.62	0.00	0.02	1.6	0.001
12.617	0.000	1.62	0.00	0.02	1.6	0.001
12.633	0.000	1.63	0.00	0.03	1.6	0.001
12.650	0.000	1.63	0.00	0.03	1.6	0.001
12.667	0.000	1.63	0.00	0.03	1.6	0.001
12.683	0.000	1.64	0.00	0.03	1.6	0.001
12.700	0.000	1.64	0.00	0.03	1.6	0.001
12.717	0.000	1.65	0.00	0.03	1.6	0.001
12.733	0.000	1.65	0.00	0.03	1.6	0.001
12.750	0.000	1.65	0.00	0.03	1.7	0.001
12.767	0.000	1.66	0.00	0.03	1.7	0.001
12.783	0.000	1.66	0.00	0.03	1.7	0.001
12.800	0.000	1.66	0.00	0.03	1.7	0.001
12.817	0.000	1.66	0.00	0.03	1.7	0.001
12.833	0.000	1.67	0.00	0.03	1.7	0.001
12.850	0.000	1.67	0.00	0.03	1.7	0.001
12.867	0.000	1.68	0.00	0.03	1.7	0.001
12.883	0.000	1.68	0.00	0.03	1.7	0.001

12.900	0.000	1.69	0.00	0.03	1.7	0.001
12.917	0.000	1.69	0.00	0.03	1.7	0.001
12.933	0.000	1.70	0.00	0.03	1.7	0.001
12.950	0.000	1.70	0.00	0.03	1.7	0.001
12.967	0.000	1.70	0.00	0.03	1.7	0.001
12.983	0.000	1.71	0.00	0.03	1.7	0.001
13.000	0.000	1.71	0.00	0.03	1.7	0.001
13.017	0.000	1.71	0.00	0.03	1.7	0.001
13.033	0.000	1.71	0.00	0.03	1.7	0.001
13.050	0.000	1.72	0.00	0.03	1.7	0.001
13.067	0.000	1.72	0.00	0.03	1.7	0.001
13.083	0.000	1.73	0.00	0.03	1.7	0.001
13.100	0.000	1.73	0.00	0.03	1.7	0.001
13.117	0.000	1.74	0.00	0.03	1.7	0.001
13.133	0.000	1.74	0.00	0.03	1.7	0.001
13.150	0.000	1.75	0.00	0.03	1.7	0.001
13.167	0.000	1.75	0.00	0.03	1.8	0.001
13.183	0.000	1.76	0.00	0.03	1.8	0.001
13.200	0.000	1.76	0.00	0.03	1.8	0.001
13.217	0.000	1.76	0.00	0.03	1.8	0.001
13.233	0.000	1.77	0.00	0.03	1.8	0.001
13.250	0.000	1.77	0.00	0.03	1.8	0.001
13.267	0.000	1.77	0.00	0.03	1.8	0.001
13.283	0.000	1.78	0.00	0.03	1.8	0.001
13.300	0.000	1.78	0.00	0.03	1.8	0.001
13.317	0.000	1.79	0.00	0.03	1.8	0.001
13.333	0.000	1.79	0.00	0.03	1.8	0.001
13.350	0.000	1.80	0.00	0.03	1.8	0.001
13.367	0.000	1.81	0.00	0.03	1.8	0.001
13.383	0.000	1.81	0.00	0.03	1.8	0.001
13.400	0.000	1.82	0.00	0.03	1.8	0.001
13.417	0.000	1.82	0.00	0.03	1.8	0.001
13.433	0.000	1.83	0.00	0.03	1.8	0.001
13.450	0.000	1.83	0.00	0.03	1.8	0.001
13.467	0.000	1.83	0.00	0.03	1.8	0.001
13.483	0.000	1.84	0.00	0.03	1.8	0.001
13.500	0.000	1.84	0.00	0.03	1.8	0.001
13.517	0.000	1.84	0.00	0.03	1.8	0.001
13.533	0.000	1.85	0.00	0.03	1.8	0.001
13.550	0.000	1.86	0.00	0.03	1.9	0.001
13.567	0.000	1.86	0.00	0.03	1.9	0.001
13.583	0.000	1.87	0.00	0.03	1.9	0.001
13.600	0.000	1.88	0.00	0.03	1.9	0.001
13.617	0.000	1.89	0.00	0.03	1.9	0.001
13.633	0.000	1.89	0.00	0.03	1.9	0.001
13.650	0.000	1.90	0.00	0.03	1.9	0.001
13.667	0.000	1.90	0.00	0.03	1.9	0.001
13.683	0.000	1.90	0.00	0.03	1.9	0.001
13.700	0.000	1.91	0.00	0.03	1.9	0.001
13.717	0.000	1.91	0.00	0.03	1.9	0.001
13.733	0.000	1.91	0.00	0.03	1.9	0.001
13.750	0.000	1.92	0.00	0.03	1.9	0.001
13.767	0.000	1.93	0.00	0.03	1.9	0.001
13.783	0.000	1.94	0.00	0.03	1.9	0.001
13.800	0.000	1.95	0.00	0.03	1.9	0.001
13.817	0.000	1.95	0.00	0.03	1.9	0.002
13.833	0.000	1.96	0.00	0.03	2.0	0.002
13.850	0.000	1.97	0.00	0.03	2.0	0.002
13.867	0.000	1.97	0.00	0.03	2.0	0.002
13.883	0.000	1.98	0.00	0.03	2.0	0.002
13.900	0.000	1.98	0.00	0.03	2.0	0.002
13.917	0.000	1.99	0.00	0.03	2.0	0.002
13.933	0.000	1.99	0.00	0.03	2.0	0.002
13.950	0.000	2.00	0.00	0.03	2.0	0.002
13.967	0.000	2.00	0.00	0.03	2.0	0.002
13.983	0.000	2.00	0.00	0.03	2.0	0.002
14.000	0.000	2.01	0.00	0.03	2.0	0.002
14.017	0.000	2.01	0.00	0.03	2.0	0.002
14.033	0.000	2.01	0.00	0.03	2.0	0.002
14.050	0.000	2.02	0.00	0.03	2.0	0.002
14.067	0.000	2.02	0.00	0.03	2.0	0.002
14.083	0.000	2.02	0.00	0.03	2.0	0.002
14.100	0.000	2.02	0.00	0.03	2.0	0.002
14.117	0.000	2.02	0.00	0.03	2.0	0.002
14.133	0.000	2.02	0.00	0.03	2.0	0.002
14.150	0.000	2.02	0.00	0.03	2.0	0.002
14.167	0.000	2.01	0.00	0.03	2.0	0.002
14.183	0.000	2.01	0.00	0.03	2.0	0.002
14.200	0.000	2.01	0.00	0.03	2.0	0.002

14.217	0.000	2.03	0.00	0.03	2.0	0.002
14.233	0.000	2.04	0.00	0.03	2.0	0.002
14.250	0.000	2.05	0.00	0.03	2.0	0.002
14.267	0.000	2.06	0.00	0.03	2.1	0.002
14.283	0.000	2.07	0.00	0.03	2.1	0.002
14.300	0.000	2.08	0.00	0.03	2.1	0.002
14.317	0.000	2.09	0.00	0.03	2.1	0.002
14.333	0.000	2.10	0.00	0.03	2.1	0.002
14.350	0.000	2.10	0.00	0.03	2.1	0.002
14.367	0.000	2.11	0.00	0.03	2.1	0.002
14.383	0.000	2.12	0.00	0.03	2.1	0.002
14.400	0.000	2.12	0.00	0.03	2.1	0.002
14.417	0.000	2.13	0.00	0.03	2.1	0.002
14.433	0.000	2.14	0.00	0.03	2.1	0.002
14.450	0.000	2.15	0.00	0.03	2.1	0.002
14.467	0.000	2.17	0.00	0.03	2.2	0.002
14.483	0.000	2.18	0.00	0.03	2.2	0.002
14.500	0.000	2.19	0.00	0.03	2.2	0.002
14.517	0.000	2.21	0.00	0.03	2.2	0.002
14.533	0.000	2.22	0.00	0.03	2.2	0.002
14.550	0.000	2.23	0.00	0.03	2.2	0.002
14.567	0.000	2.24	0.00	0.03	2.2	0.002
14.583	0.000	2.24	0.00	0.03	2.2	0.002
14.600	0.000	2.25	0.00	0.03	2.2	0.002
14.617	0.000	2.26	0.00	0.03	2.3	0.002
14.633	0.000	2.27	0.00	0.03	2.3	0.002
14.650	0.000	2.28	0.00	0.04	2.3	0.002
14.667	0.000	2.29	0.00	0.04	2.3	0.002
14.683	0.000	2.31	0.00	0.04	2.3	0.002
14.700	0.000	2.33	0.00	0.04	2.3	0.002
14.717	0.000	2.34	0.00	0.04	2.3	0.002
14.733	0.000	2.36	0.00	0.04	2.4	0.002
14.750	0.000	2.38	0.00	0.04	2.4	0.002
14.767	0.000	2.39	0.00	0.04	2.4	0.002
14.783	0.000	2.40	0.00	0.04	2.4	0.002
14.800	0.000	2.41	0.00	0.04	2.4	0.002
14.817	0.000	2.42	0.00	0.04	2.4	0.002
14.833	0.000	2.43	0.00	0.04	2.4	0.002
14.850	0.000	2.44	0.00	0.04	2.4	0.002
14.867	0.000	2.45	0.00	0.04	2.4	0.002
14.883	0.000	2.47	0.00	0.04	2.5	0.002
14.900	0.000	2.49	0.00	0.04	2.5	0.002
14.917	0.000	2.51	0.00	0.04	2.5	0.002
14.933	0.000	2.53	0.00	0.04	2.5	0.002
14.950	0.000	2.56	0.00	0.04	2.5	0.002
14.967	0.000	2.58	0.00	0.04	2.6	0.002
14.983	0.000	2.60	0.00	0.04	2.6	0.002
15.000	0.000	2.61	0.00	0.04	2.6	0.002
15.017	0.000	2.63	0.00	0.04	2.6	0.002
15.033	0.000	2.64	0.00	0.04	2.6	0.002
15.050	0.000	2.65	0.00	0.04	2.6	0.002
15.067	0.000	2.67	0.00	0.04	2.7	0.002
15.083	0.000	2.68	0.00	0.04	2.7	0.002
15.100	0.000	2.69	0.00	0.04	2.7	0.002
15.117	0.000	2.72	0.00	0.04	2.7	0.002
15.133	0.000	2.75	0.00	0.04	2.7	0.002
15.150	0.000	2.78	0.00	0.04	2.8	0.002
15.167	0.000	2.81	0.00	0.04	2.8	0.002
15.183	0.000	2.84	0.00	0.04	2.8	0.002
15.200	0.000	2.87	0.00	0.04	2.9	0.002
15.217	0.000	2.90	0.00	0.04	2.9	0.002
15.233	0.000	2.92	0.00	0.04	2.9	0.002
15.250	0.000	2.94	0.00	0.05	2.9	0.002
15.267	0.000	2.96	0.00	0.05	2.9	0.002
15.283	0.000	2.98	0.00	0.05	3.0	0.002
15.300	0.000	3.00	0.00	0.05	3.0	0.002
15.317	0.000	3.02	0.00	0.05	3.0	0.002
15.333	0.000	3.01	0.00	0.05	3.0	0.002
15.350	0.000	2.95	0.00	0.05	3.0	0.002
15.367	0.000	2.88	0.00	0.04	2.9	0.002
15.383	0.000	2.82	0.00	0.04	2.9	0.002
15.400	0.000	2.76	0.00	0.04	2.8	0.002
15.417	0.000	2.69	0.00	0.04	2.7	0.002
15.433	0.000	2.63	0.00	0.04	2.7	0.002
15.450	0.000	2.60	0.00	0.04	2.6	0.002
15.467	0.000	2.61	0.00	0.04	2.6	0.002
15.483	0.000	2.61	0.00	0.04	2.6	0.002
15.500	0.000	2.62	0.00	0.04	2.6	0.002
15.517	0.000	2.62	0.00	0.04	2.6	0.002

15.533	0.000	2.63	0.00	0.04	2.6	0.002
15.550	0.000	2.63	0.00	0.04	2.6	0.002
15.567	0.000	2.69	0.00	0.04	2.7	0.002
15.583	0.000	2.78	0.00	0.04	2.7	0.002
15.600	0.000	2.86	0.00	0.04	2.8	0.002
15.617	0.000	2.94	0.00	0.05	2.9	0.002
15.633	0.000	3.02	0.00	0.05	3.0	0.002
15.650	0.000	3.11	0.00	0.05	3.1	0.002
15.667	0.000	3.19	0.00	0.05	3.1	0.002
15.683	0.000	3.27	0.00	0.05	3.2	0.003
15.700	0.000	3.34	0.00	0.05	3.3	0.003
15.717	0.000	3.42	0.00	0.05	3.4	0.003
15.733	0.000	3.50	0.00	0.05	3.5	0.003
15.750	0.000	3.57	0.00	0.06	3.5	0.003
15.767	0.000	3.65	0.00	0.06	3.6	0.003
15.783	0.000	3.76	0.00	0.06	3.7	0.003
15.800	0.000	4.01	0.00	0.06	3.9	0.003
15.817	0.000	4.28	0.00	0.07	4.1	0.003
15.833	0.000	4.54	0.00	0.07	4.4	0.003
15.850	0.000	4.80	0.00	0.07	4.7	0.004
15.867	0.000	5.07	0.00	0.08	4.9	0.004
15.883	0.000	5.33	0.00	0.08	5.2	0.004
15.900	0.000	5.61	0.00	0.09	5.5	0.004
15.917	0.000	5.91	0.00	0.09	5.7	0.005
15.933	0.000	6.22	0.00	0.10	6.0	0.005
15.950	0.000	6.53	0.00	0.10	6.4	0.005
15.967	0.000	6.83	0.00	0.11	6.7	0.005
15.983	0.000	7.14	0.00	0.11	7.0	0.005
16.000	0.000	7.45	0.00	0.11	7.3	0.006
16.017	0.000	8.75	0.00	0.13	8.1	0.007
16.033	0.000	11.05	0.00	0.15	8.9	0.010
16.050	0.000	13.35	0.00	0.19	9.2	0.015
16.067	0.000	15.66	0.00	0.23	9.4	0.024
16.083	0.000	17.96	0.00	0.27	9.5	0.036
16.100	0.000	20.26	0.00	0.31	9.7	0.050
16.117	0.000	23.25	0.00	0.35	9.8	0.069
16.133	0.000	21.32	0.00	0.38	9.9	0.084
16.150	0.000	18.56	0.00	0.40	10.0	0.096
16.167	0.000	15.80	0.00	0.41	10.1	0.104
16.183	0.000	13.04	0.00	0.42	10.1	0.108
16.200	0.000	10.28	0.00	0.42	10.1	0.108
16.217	0.000	7.52	0.00	0.41	10.1	0.105
16.233	0.000	4.96	0.00	0.40	10.1	0.098
16.250	0.000	4.27	0.00	0.39	10.0	0.090
16.267	0.000	4.03	0.00	0.37	10.0	0.082
16.283	0.000	3.79	0.00	0.36	9.9	0.073
16.300	0.000	3.56	0.00	0.34	9.9	0.064
16.317	0.000	3.32	0.00	0.32	9.8	0.055
16.333	0.000	3.09	0.00	0.30	9.7	0.046
16.350	0.000	2.90	0.00	0.27	9.6	0.037
16.367	0.000	2.92	0.00	0.25	9.6	0.028
16.383	0.000	2.97	0.00	0.21	9.4	0.019
16.400	0.000	3.01	0.00	0.16	9.3	0.010
16.417	0.000	3.06	0.00	0.09	7.4	0.004
16.433	0.000	3.10	0.00	0.05	4.5	0.003
16.450	0.000	3.15	0.00	0.05	3.2	0.002
16.467	0.000	3.16	0.00	0.05	3.2	0.002
16.483	0.000	3.11	0.00	0.05	3.1	0.002
16.500	0.000	3.05	0.00	0.05	3.1	0.002
16.517	0.000	2.99	0.00	0.05	3.0	0.002
16.533	0.000	2.93	0.00	0.05	3.0	0.002
16.550	0.000	2.88	0.00	0.04	2.9	0.002
16.567	0.000	2.82	0.00	0.04	2.9	0.002
16.583	0.000	2.77	0.00	0.04	2.8	0.002
16.600	0.000	2.73	0.00	0.04	2.8	0.002
16.617	0.000	2.69	0.00	0.04	2.7	0.002
16.633	0.000	2.65	0.00	0.04	2.7	0.002
16.650	0.000	2.62	0.00	0.04	2.6	0.002
16.667	0.000	2.58	0.00	0.04	2.6	0.002
16.683	0.000	2.54	0.00	0.04	2.6	0.002
16.700	0.000	2.51	0.00	0.04	2.5	0.002
16.717	0.000	2.48	0.00	0.04	2.5	0.002
16.733	0.000	2.45	0.00	0.04	2.5	0.002
16.750	0.000	2.42	0.00	0.04	2.4	0.002
16.767	0.000	2.39	0.00	0.04	2.4	0.002
16.783	0.000	2.36	0.00	0.04	2.4	0.002
16.800	0.000	2.33	0.00	0.04	2.3	0.002
16.817	0.000	2.31	0.00	0.04	2.3	0.002
16.833	0.000	2.29	0.00	0.04	2.3	0.002

PEAK DISCAHRGE

16.850	0.000	2.26	0.00	0.03	2.3	0.002
16.867	0.000	2.24	0.00	0.03	2.3	0.002
16.883	0.000	2.22	0.00	0.03	2.2	0.002
16.900	0.000	2.20	0.00	0.03	2.2	0.002
16.917	0.000	2.17	0.00	0.03	2.2	0.002
16.933	0.000	2.15	0.00	0.03	2.2	0.002
16.950	0.000	2.14	0.00	0.03	2.1	0.002
16.967	0.000	2.12	0.00	0.03	2.1	0.002
16.983	0.000	2.10	0.00	0.03	2.1	0.002
17.000	0.000	2.08	0.00	0.03	2.1	0.002
17.017	0.000	2.06	0.00	0.03	2.1	0.002
17.033	0.000	2.05	0.00	0.03	2.1	0.002
17.050	0.000	2.05	0.00	0.03	2.0	0.002
17.067	0.000	2.04	0.00	0.03	2.0	0.002
17.083	0.000	2.04	0.00	0.03	2.0	0.002
17.100	0.000	2.04	0.00	0.03	2.0	0.002
17.117	0.000	2.04	0.00	0.03	2.0	0.002
17.133	0.000	2.03	0.00	0.03	2.0	0.002
17.150	0.000	2.03	0.00	0.03	2.0	0.002
17.167	0.000	2.01	0.00	0.03	2.0	0.002
17.183	0.000	2.00	0.00	0.03	2.0	0.002
17.200	0.000	1.99	0.00	0.03	2.0	0.002
17.217	0.000	1.97	0.00	0.03	2.0	0.002
17.233	0.000	1.96	0.00	0.03	2.0	0.002
17.250	0.000	1.95	0.00	0.03	2.0	0.002
17.267	0.000	1.94	0.00	0.03	1.9	0.001
17.283	0.000	1.92	0.00	0.03	1.9	0.001
17.300	0.000	1.91	0.00	0.03	1.9	0.001
17.317	0.000	1.90	0.00	0.03	1.9	0.001
17.333	0.000	1.89	0.00	0.03	1.9	0.001
17.350	0.000	1.88	0.00	0.03	1.9	0.001
17.367	0.000	1.87	0.00	0.03	1.9	0.001
17.383	0.000	1.86	0.00	0.03	1.9	0.001
17.400	0.000	1.85	0.00	0.03	1.9	0.001
17.417	0.000	1.84	0.00	0.03	1.8	0.001
17.433	0.000	1.83	0.00	0.03	1.8	0.001
17.450	0.000	1.82	0.00	0.03	1.8	0.001
17.467	0.000	1.81	0.00	0.03	1.8	0.001
17.483	0.000	1.80	0.00	0.03	1.8	0.001
17.500	0.000	1.79	0.00	0.03	1.8	0.001
17.517	0.000	1.78	0.00	0.03	1.8	0.001
17.533	0.000	1.77	0.00	0.03	1.8	0.001
17.550	0.000	1.76	0.00	0.03	1.8	0.001
17.567	0.000	1.75	0.00	0.03	1.8	0.001
17.583	0.000	1.74	0.00	0.03	1.7	0.001
17.600	0.000	1.73	0.00	0.03	1.7	0.001
17.617	0.000	1.73	0.00	0.03	1.7	0.001
17.633	0.000	1.72	0.00	0.03	1.7	0.001
17.650	0.000	1.71	0.00	0.03	1.7	0.001
17.667	0.000	1.70	0.00	0.03	1.7	0.001
17.683	0.000	1.69	0.00	0.03	1.7	0.001
17.700	0.000	1.69	0.00	0.03	1.7	0.001
17.717	0.000	1.68	0.00	0.03	1.7	0.001
17.733	0.000	1.67	0.00	0.03	1.7	0.001
17.750	0.000	1.66	0.00	0.03	1.7	0.001
17.767	0.000	1.66	0.00	0.03	1.7	0.001
17.783	0.000	1.65	0.00	0.03	1.7	0.001
17.800	0.000	1.64	0.00	0.03	1.6	0.001
17.817	0.000	1.64	0.00	0.03	1.6	0.001
17.833	0.000	1.63	0.00	0.03	1.6	0.001
17.850	0.000	1.62	0.00	0.03	1.6	0.001
17.867	0.000	1.62	0.00	0.02	1.6	0.001
17.883	0.000	1.61	0.00	0.02	1.6	0.001
17.900	0.000	1.60	0.00	0.02	1.6	0.001
17.917	0.000	1.60	0.00	0.02	1.6	0.001
17.933	0.000	1.59	0.00	0.02	1.6	0.001
17.950	0.000	1.58	0.00	0.02	1.6	0.001
17.967	0.000	1.58	0.00	0.02	1.6	0.001
17.983	0.000	1.57	0.00	0.02	1.6	0.001
18.000	0.000	1.57	0.00	0.02	1.6	0.001
18.017	0.000	1.56	0.00	0.02	1.6	0.001
18.033	0.000	1.55	0.00	0.02	1.6	0.001
18.050	0.000	1.55	0.00	0.02	1.6	0.001
18.067	0.000	1.54	0.00	0.02	1.5	0.001
18.083	0.000	1.53	0.00	0.02	1.5	0.001
18.100	0.000	1.52	0.00	0.02	1.5	0.001
18.117	0.000	1.51	0.00	0.02	1.5	0.001
18.133	0.000	1.50	0.00	0.02	1.5	0.001
18.150	0.000	1.49	0.00	0.02	1.5	0.001

18.167	0.000	1.48	0.00	0.02	1.5	0.001
18.183	0.000	1.48	0.00	0.02	1.5	0.001
18.200	0.000	1.47	0.00	0.02	1.5	0.001
18.217	0.000	1.47	0.00	0.02	1.5	0.001
18.233	0.000	1.46	0.00	0.02	1.5	0.001
18.250	0.000	1.46	0.00	0.02	1.5	0.001
18.267	0.000	1.45	0.00	0.02	1.5	0.001
18.283	0.000	1.45	0.00	0.02	1.5	0.001
18.300	0.000	1.44	0.00	0.02	1.4	0.001
18.317	0.000	1.44	0.00	0.02	1.4	0.001
18.333	0.000	1.43	0.00	0.02	1.4	0.001
18.350	0.000	1.43	0.00	0.02	1.4	0.001
18.367	0.000	1.42	0.00	0.02	1.4	0.001
18.383	0.000	1.42	0.00	0.02	1.4	0.001
18.400	0.000	1.41	0.00	0.02	1.4	0.001
18.417	0.000	1.41	0.00	0.02	1.4	0.001
18.433	0.000	1.41	0.00	0.02	1.4	0.001
18.450	0.000	1.40	0.00	0.02	1.4	0.001
18.467	0.000	1.40	0.00	0.02	1.4	0.001
18.483	0.000	1.39	0.00	0.02	1.4	0.001
18.500	0.000	1.39	0.00	0.02	1.4	0.001
18.517	0.000	1.38	0.00	0.02	1.4	0.001
18.533	0.000	1.38	0.00	0.02	1.4	0.001
18.550	0.000	1.38	0.00	0.02	1.4	0.001
18.567	0.000	1.37	0.00	0.02	1.4	0.001
18.583	0.000	1.37	0.00	0.02	1.4	0.001
18.600	0.000	1.36	0.00	0.02	1.4	0.001
18.617	0.000	1.36	0.00	0.02	1.4	0.001
18.633	0.000	1.36	0.00	0.02	1.4	0.001
18.650	0.000	1.35	0.00	0.02	1.3	0.001
18.667	0.000	1.35	0.00	0.02	1.3	0.001
18.683	0.000	1.34	0.00	0.02	1.3	0.001
18.700	0.000	1.34	0.00	0.02	1.3	0.001
18.717	0.000	1.34	0.00	0.02	1.3	0.001
18.733	0.000	1.33	0.00	0.02	1.3	0.001
18.750	0.000	1.33	0.00	0.02	1.3	0.001
18.767	0.000	1.32	0.00	0.02	1.3	0.001
18.783	0.000	1.32	0.00	0.02	1.3	0.001
18.800	0.000	1.32	0.00	0.02	1.3	0.001
18.817	0.000	1.31	0.00	0.02	1.3	0.001
18.833	0.000	1.31	0.00	0.02	1.3	0.001
18.850	0.000	1.31	0.00	0.02	1.3	0.001
18.867	0.000	1.30	0.00	0.02	1.3	0.001
18.883	0.000	1.30	0.00	0.02	1.3	0.001
18.900	0.000	1.30	0.00	0.02	1.3	0.001
18.917	0.000	1.29	0.00	0.02	1.3	0.001
18.933	0.000	1.29	0.00	0.02	1.3	0.001
18.950	0.000	1.29	0.00	0.02	1.3	0.001
18.967	0.000	1.28	0.00	0.02	1.3	0.001
18.983	0.000	1.28	0.00	0.02	1.3	0.001
19.000	0.000	1.28	0.00	0.02	1.3	0.001
19.017	0.000	1.27	0.00	0.02	1.3	0.001
19.033	0.000	1.27	0.00	0.02	1.3	0.001
19.050	0.000	1.27	0.00	0.02	1.3	0.001
19.067	0.000	1.26	0.00	0.02	1.3	0.001
19.083	0.000	1.26	0.00	0.02	1.3	0.001
19.100	0.000	1.26	0.00	0.02	1.3	0.001
19.117	0.000	1.25	0.00	0.02	1.3	0.001
19.133	0.000	1.25	0.00	0.02	1.3	0.001
19.150	0.000	1.25	0.00	0.02	1.2	0.001
19.167	0.000	1.24	0.00	0.02	1.2	0.001
19.183	0.000	1.24	0.00	0.02	1.2	0.001
19.200	0.000	1.24	0.00	0.02	1.2	0.001
19.217	0.000	1.24	0.00	0.02	1.2	0.001
19.233	0.000	1.23	0.00	0.02	1.2	0.001
19.250	0.000	1.23	0.00	0.02	1.2	0.001
19.267	0.000	1.23	0.00	0.02	1.2	0.001
19.283	0.000	1.22	0.00	0.02	1.2	0.001
19.300	0.000	1.22	0.00	0.02	1.2	0.001
19.317	0.000	1.22	0.00	0.02	1.2	0.001
19.333	0.000	1.22	0.00	0.02	1.2	0.001
19.350	0.000	1.21	0.00	0.02	1.2	0.001
19.367	0.000	1.21	0.00	0.02	1.2	0.001
19.383	0.000	1.21	0.00	0.02	1.2	0.001
19.400	0.000	1.20	0.00	0.02	1.2	0.001
19.417	0.000	1.20	0.00	0.02	1.2	0.001
19.433	0.000	1.20	0.00	0.02	1.2	0.001
19.450	0.000	1.20	0.00	0.02	1.2	0.001
19.467	0.000	1.19	0.00	0.02	1.2	0.001

19.483	0.000	1.19	0.00	0.02	1.2	0.001
19.500	0.000	1.19	0.00	0.02	1.2	0.001
19.517	0.000	1.19	0.00	0.02	1.2	0.001
19.533	0.000	1.18	0.00	0.02	1.2	0.001
19.550	0.000	1.18	0.00	0.02	1.2	0.001
19.567	0.000	1.18	0.00	0.02	1.2	0.001
19.583	0.000	1.18	0.00	0.02	1.2	0.001
19.600	0.000	1.17	0.00	0.02	1.2	0.001
19.617	0.000	1.17	0.00	0.02	1.2	0.001
19.633	0.000	1.17	0.00	0.02	1.2	0.001
19.650	0.000	1.17	0.00	0.02	1.2	0.001
19.667	0.000	1.16	0.00	0.02	1.2	0.001
19.683	0.000	1.16	0.00	0.02	1.2	0.001
19.700	0.000	1.16	0.00	0.02	1.2	0.001
19.717	0.000	1.16	0.00	0.02	1.2	0.001
19.733	0.000	1.15	0.00	0.02	1.2	0.001
19.750	0.000	1.15	0.00	0.02	1.2	0.001
19.767	0.000	1.15	0.00	0.02	1.2	0.001
19.783	0.000	1.15	0.00	0.02	1.1	0.001
19.800	0.000	1.15	0.00	0.02	1.1	0.001
19.817	0.000	1.14	0.00	0.02	1.1	0.001
19.833	0.000	1.14	0.00	0.02	1.1	0.001
19.850	0.000	1.14	0.00	0.02	1.1	0.001
19.867	0.000	1.14	0.00	0.02	1.1	0.001
19.883	0.000	1.13	0.00	0.02	1.1	0.001
19.900	0.000	1.13	0.00	0.02	1.1	0.001
19.917	0.000	1.13	0.00	0.02	1.1	0.001
19.933	0.000	1.13	0.00	0.02	1.1	0.001
19.950	0.000	1.13	0.00	0.02	1.1	0.001
19.967	0.000	1.12	0.00	0.02	1.1	0.001
19.983	0.000	1.12	0.00	0.02	1.1	0.001
20.000	0.000	1.12	0.00	0.02	1.1	0.001
20.017	0.000	1.12	0.00	0.02	1.1	0.001
20.033	0.000	1.11	0.00	0.02	1.1	0.001
20.050	0.000	1.11	0.00	0.02	1.1	0.001
20.067	0.000	1.11	0.00	0.02	1.1	0.001
20.083	0.000	1.11	0.00	0.02	1.1	0.001
20.100	0.000	1.11	0.00	0.02	1.1	0.001
20.117	0.000	1.10	0.00	0.02	1.1	0.001
20.133	0.000	1.10	0.00	0.02	1.1	0.001
20.150	0.000	1.10	0.00	0.02	1.1	0.001
20.167	0.000	1.10	0.00	0.02	1.1	0.001
20.183	0.000	1.10	0.00	0.02	1.1	0.001
20.200	0.000	1.09	0.00	0.02	1.1	0.001
20.217	0.000	1.09	0.00	0.02	1.1	0.001
20.233	0.000	1.09	0.00	0.02	1.1	0.001
20.250	0.000	1.09	0.00	0.02	1.1	0.001
20.267	0.000	1.09	0.00	0.02	1.1	0.001
20.283	0.000	1.08	0.00	0.02	1.1	0.001
20.300	0.000	1.08	0.00	0.02	1.1	0.001
20.317	0.000	1.08	0.00	0.02	1.1	0.001
20.333	0.000	1.08	0.00	0.02	1.1	0.001
20.350	0.000	1.08	0.00	0.02	1.1	0.001
20.367	0.000	1.08	0.00	0.02	1.1	0.001
20.383	0.000	1.07	0.00	0.02	1.1	0.001
20.400	0.000	1.07	0.00	0.02	1.1	0.001
20.417	0.000	1.07	0.00	0.02	1.1	0.001
20.433	0.000	1.07	0.00	0.02	1.1	0.001
20.450	0.000	1.07	0.00	0.02	1.1	0.001
20.467	0.000	1.06	0.00	0.02	1.1	0.001
20.483	0.000	1.06	0.00	0.02	1.1	0.001
20.500	0.000	1.06	0.00	0.02	1.1	0.001
20.517	0.000	1.06	0.00	0.02	1.1	0.001
20.533	0.000	1.06	0.00	0.02	1.1	0.001
20.550	0.000	1.06	0.00	0.02	1.1	0.001
20.567	0.000	1.05	0.00	0.02	1.1	0.001
20.583	0.000	1.05	0.00	0.02	1.1	0.001
20.600	0.000	1.05	0.00	0.02	1.1	0.001
20.617	0.000	1.05	0.00	0.02	1.0	0.001
20.633	0.000	1.05	0.00	0.02	1.0	0.001
20.650	0.000	1.04	0.00	0.02	1.0	0.001
20.667	0.000	1.04	0.00	0.02	1.0	0.001
20.683	0.000	1.04	0.00	0.02	1.0	0.001
20.700	0.000	1.04	0.00	0.02	1.0	0.001
20.717	0.000	1.04	0.00	0.02	1.0	0.001
20.733	0.000	1.04	0.00	0.02	1.0	0.001
20.750	0.000	1.03	0.00	0.02	1.0	0.001
20.767	0.000	1.03	0.00	0.02	1.0	0.001
20.783	0.000	1.03	0.00	0.02	1.0	0.001

20.800	0.000	1.03	0.00	0.02	1.0	0.001
20.817	0.000	1.03	0.00	0.02	1.0	0.001
20.833	0.000	1.03	0.00	0.02	1.0	0.001
20.850	0.000	1.02	0.00	0.02	1.0	0.001
20.867	0.000	1.02	0.00	0.02	1.0	0.001
20.883	0.000	1.02	0.00	0.02	1.0	0.001
20.900	0.000	1.02	0.00	0.02	1.0	0.001
20.917	0.000	1.02	0.00	0.02	1.0	0.001
20.933	0.000	1.02	0.00	0.02	1.0	0.001
20.950	0.000	1.02	0.00	0.02	1.0	0.001
20.967	0.000	1.01	0.00	0.02	1.0	0.001
20.983	0.000	1.01	0.00	0.02	1.0	0.001
21.000	0.000	1.01	0.00	0.02	1.0	0.001
21.017	0.000	1.01	0.00	0.02	1.0	0.001
21.033	0.000	1.01	0.00	0.02	1.0	0.001
21.050	0.000	1.01	0.00	0.02	1.0	0.001
21.067	0.000	1.00	0.00	0.02	1.0	0.001
21.083	0.000	1.00	0.00	0.02	1.0	0.001
21.100	0.000	1.00	0.00	0.02	1.0	0.001
21.117	0.000	1.00	0.00	0.02	1.0	0.001
21.133	0.000	1.00	0.00	0.02	1.0	0.001
21.150	0.000	1.00	0.00	0.02	1.0	0.001
21.167	0.000	1.00	0.00	0.02	1.0	0.001
21.183	0.000	0.99	0.00	0.02	1.0	0.001
21.200	0.000	0.99	0.00	0.02	1.0	0.001
21.217	0.000	0.99	0.00	0.02	1.0	0.001
21.233	0.000	0.99	0.00	0.02	1.0	0.001
21.250	0.000	0.99	0.00	0.02	1.0	0.001
21.267	0.000	0.99	0.00	0.02	1.0	0.001
21.283	0.000	0.99	0.00	0.02	1.0	0.001
21.300	0.000	0.98	0.00	0.02	1.0	0.001
21.317	0.000	0.98	0.00	0.02	1.0	0.001
21.333	0.000	0.98	0.00	0.02	1.0	0.001
21.350	0.000	0.98	0.00	0.02	1.0	0.001
21.367	0.000	0.98	0.00	0.02	1.0	0.001
21.383	0.000	0.98	0.00	0.02	1.0	0.001
21.400	0.000	0.98	0.00	0.02	1.0	0.001
21.417	0.000	0.97	0.00	0.02	1.0	0.001
21.433	0.000	0.97	0.00	0.02	1.0	0.001
21.450	0.000	0.97	0.00	0.01	1.0	0.001
21.467	0.000	0.97	0.00	0.01	1.0	0.001
21.483	0.000	0.97	0.00	0.01	1.0	0.001
21.500	0.000	0.97	0.00	0.01	1.0	0.001
21.517	0.000	0.97	0.00	0.01	1.0	0.001
21.533	0.000	0.97	0.00	0.01	1.0	0.001
21.550	0.000	0.96	0.00	0.01	1.0	0.001
21.567	0.000	0.96	0.00	0.01	1.0	0.001
21.583	0.000	0.96	0.00	0.01	1.0	0.001
21.600	0.000	0.96	0.00	0.01	1.0	0.001
21.617	0.000	0.96	0.00	0.01	1.0	0.001
21.633	0.000	0.96	0.00	0.01	1.0	0.001
21.650	0.000	0.96	0.00	0.01	1.0	0.001
21.667	0.000	0.96	0.00	0.01	1.0	0.001
21.683	0.000	0.95	0.00	0.01	1.0	0.001
21.700	0.000	0.95	0.00	0.01	1.0	0.001
21.717	0.000	0.95	0.00	0.01	1.0	0.001
21.733	0.000	0.95	0.00	0.01	1.0	0.001
21.750	0.000	0.95	0.00	0.01	0.9	0.001
21.767	0.000	0.95	0.00	0.01	0.9	0.001
21.783	0.000	0.95	0.00	0.01	0.9	0.001
21.800	0.000	0.95	0.00	0.01	0.9	0.001
21.817	0.000	0.94	0.00	0.01	0.9	0.001
21.833	0.000	0.94	0.00	0.01	0.9	0.001
21.850	0.000	0.94	0.00	0.01	0.9	0.001
21.867	0.000	0.94	0.00	0.01	0.9	0.001
21.883	0.000	0.94	0.00	0.01	0.9	0.001
21.900	0.000	0.94	0.00	0.01	0.9	0.001
21.917	0.000	0.94	0.00	0.01	0.9	0.001
21.933	0.000	0.94	0.00	0.01	0.9	0.001
21.950	0.000	0.93	0.00	0.01	0.9	0.001
21.967	0.000	0.93	0.00	0.01	0.9	0.001
21.983	0.000	0.93	0.00	0.01	0.9	0.001
22.000	0.000	0.93	0.00	0.01	0.9	0.001
22.017	0.000	0.93	0.00	0.01	0.9	0.001
22.033	0.000	0.93	0.00	0.01	0.9	0.001
22.050	0.000	0.93	0.00	0.01	0.9	0.001
22.067	0.000	0.93	0.00	0.01	0.9	0.001
22.083	0.000	0.93	0.00	0.01	0.9	0.001
22.100	0.000	0.92	0.00	0.01	0.9	0.001

22.117	0.000	0.92	0.00	0.01	0.9	0.001
22.133	0.000	0.92	0.00	0.01	0.9	0.001
22.150	0.000	0.92	0.00	0.01	0.9	0.001
22.167	0.000	0.92	0.00	0.01	0.9	0.001
22.183	0.000	0.92	0.00	0.01	0.9	0.001
22.200	0.000	0.92	0.00	0.01	0.9	0.001
22.216	0.000	0.92	0.00	0.01	0.9	0.001
22.233	0.000	0.92	0.00	0.01	0.9	0.001
22.250	0.000	0.91	0.00	0.01	0.9	0.001
22.266	0.000	0.91	0.00	0.01	0.9	0.001
22.283	0.000	0.91	0.00	0.01	0.9	0.001
22.300	0.000	0.91	0.00	0.01	0.9	0.001
22.316	0.000	0.91	0.00	0.01	0.9	0.001
22.333	0.000	0.91	0.00	0.01	0.9	0.001
22.350	0.000	0.91	0.00	0.01	0.9	0.001
22.366	0.000	0.91	0.00	0.01	0.9	0.001
22.383	0.000	0.91	0.00	0.01	0.9	0.001
22.400	0.000	0.90	0.00	0.01	0.9	0.001
22.416	0.000	0.90	0.00	0.01	0.9	0.001
22.433	0.000	0.90	0.00	0.01	0.9	0.001
22.450	0.000	0.90	0.00	0.01	0.9	0.001
22.466	0.000	0.90	0.00	0.01	0.9	0.001
22.483	0.000	0.90	0.00	0.01	0.9	0.001
22.500	0.000	0.90	0.00	0.01	0.9	0.001
22.516	0.000	0.90	0.00	0.01	0.9	0.001
22.533	0.000	0.90	0.00	0.01	0.9	0.001
22.550	0.000	0.89	0.00	0.01	0.9	0.001
22.566	0.000	0.89	0.00	0.01	0.9	0.001
22.583	0.000	0.89	0.00	0.01	0.9	0.001
22.600	0.000	0.89	0.00	0.01	0.9	0.001
22.616	0.000	0.89	0.00	0.01	0.9	0.001
22.633	0.000	0.89	0.00	0.01	0.9	0.001
22.650	0.000	0.89	0.00	0.01	0.9	0.001
22.666	0.000	0.89	0.00	0.01	0.9	0.001
22.683	0.000	0.89	0.00	0.01	0.9	0.001
22.700	0.000	0.89	0.00	0.01	0.9	0.001
22.716	0.000	0.88	0.00	0.01	0.9	0.001
22.733	0.000	0.88	0.00	0.01	0.9	0.001
22.750	0.000	0.88	0.00	0.01	0.9	0.001
22.766	0.000	0.88	0.00	0.01	0.9	0.001
22.783	0.000	0.88	0.00	0.01	0.9	0.001
22.800	0.000	0.88	0.00	0.01	0.9	0.001
22.816	0.000	0.88	0.00	0.01	0.9	0.001
22.833	0.000	0.88	0.00	0.01	0.9	0.001
22.850	0.000	0.88	0.00	0.01	0.9	0.001
22.866	0.000	0.88	0.00	0.01	0.9	0.001
22.883	0.000	0.88	0.00	0.01	0.9	0.001
22.900	0.000	0.87	0.00	0.01	0.9	0.001
22.916	0.000	0.87	0.00	0.01	0.9	0.001
22.933	0.000	0.87	0.00	0.01	0.9	0.001
22.950	0.000	0.87	0.00	0.01	0.9	0.001
22.966	0.000	0.87	0.00	0.01	0.9	0.001
22.983	0.000	0.87	0.00	0.01	0.9	0.001
23.000	0.000	0.87	0.00	0.01	0.9	0.001
23.016	0.000	0.87	0.00	0.01	0.9	0.001
23.033	0.000	0.87	0.00	0.01	0.9	0.001
23.050	0.000	0.87	0.00	0.01	0.9	0.001
23.066	0.000	0.86	0.00	0.01	0.9	0.001
23.083	0.000	0.86	0.00	0.01	0.9	0.001
23.100	0.000	0.86	0.00	0.01	0.9	0.001
23.116	0.000	0.86	0.00	0.01	0.9	0.001
23.133	0.000	0.86	0.00	0.01	0.9	0.001
23.150	0.000	0.86	0.00	0.01	0.9	0.001
23.166	0.000	0.86	0.00	0.01	0.9	0.001
23.183	0.000	0.86	0.00	0.01	0.9	0.001
23.200	0.000	0.86	0.00	0.01	0.9	0.001
23.216	0.000	0.86	0.00	0.01	0.9	0.001
23.233	0.000	0.86	0.00	0.01	0.9	0.001
23.250	0.000	0.85	0.00	0.01	0.9	0.001
23.266	0.000	0.85	0.00	0.01	0.9	0.001
23.283	0.000	0.85	0.00	0.01	0.9	0.001
23.300	0.000	0.85	0.00	0.01	0.9	0.001
23.316	0.000	0.85	0.00	0.01	0.9	0.001
23.333	0.000	0.85	0.00	0.01	0.9	0.001
23.350	0.000	0.85	0.00	0.01	0.9	0.001
23.366	0.000	0.85	0.00	0.01	0.8	0.001
23.383	0.000	0.85	0.00	0.01	0.8	0.001
23.400	0.000	0.85	0.00	0.01	0.8	0.001
23.416	0.000	0.85	0.00	0.01	0.8	0.001

23.433	0.000	0.85	0.00	0.01	0.8	0.001
23.450	0.000	0.84	0.00	0.01	0.8	0.001
23.466	0.000	0.84	0.00	0.01	0.8	0.001
23.483	0.000	0.84	0.00	0.01	0.8	0.001
23.500	0.000	0.84	0.00	0.01	0.8	0.001
23.516	0.000	0.84	0.00	0.01	0.8	0.001
23.533	0.000	0.84	0.00	0.01	0.8	0.001
23.550	0.000	0.84	0.00	0.01	0.8	0.001
23.566	0.000	0.84	0.00	0.01	0.8	0.001
23.583	0.000	0.84	0.00	0.01	0.8	0.001
23.600	0.000	0.84	0.00	0.01	0.8	0.001
23.616	0.000	0.84	0.00	0.01	0.8	0.001
23.633	0.000	0.84	0.00	0.01	0.8	0.001
23.650	0.000	0.83	0.00	0.01	0.8	0.001
23.666	0.000	0.83	0.00	0.01	0.8	0.001
23.683	0.000	0.83	0.00	0.01	0.8	0.001
23.700	0.000	0.83	0.00	0.01	0.8	0.001
23.716	0.000	0.83	0.00	0.01	0.8	0.001
23.733	0.000	0.83	0.00	0.01	0.8	0.001
23.750	0.000	0.83	0.00	0.01	0.8	0.001
23.766	0.000	0.83	0.00	0.01	0.8	0.001
23.783	0.000	0.83	0.00	0.01	0.8	0.001
23.800	0.000	0.83	0.00	0.01	0.8	0.001
23.816	0.000	0.83	0.00	0.01	0.8	0.001
23.833	0.000	0.83	0.00	0.01	0.8	0.001
23.850	0.000	0.82	0.00	0.01	0.8	0.001
23.866	0.000	0.82	0.00	0.01	0.8	0.001
23.883	0.000	0.82	0.00	0.01	0.8	0.001
23.900	0.000	0.82	0.00	0.01	0.8	0.001
23.916	0.000	0.82	0.00	0.01	0.8	0.001
23.933	0.000	0.82	0.00	0.01	0.8	0.001
23.950	0.000	0.82	0.00	0.01	0.8	0.001
23.966	0.000	0.82	0.00	0.01	0.8	0.001
23.983	0.000	0.82	0.00	0.01	0.8	0.001
24.000	0.000	0.82	0.00	0.01	0.8	0.001
24.016	0.000	0.82	0.00	0.01	0.8	0.001
24.033	0.000	0.82	0.00	0.01	0.8	0.001
24.050	0.000	0.81	0.00	0.01	0.8	0.001
24.066	0.000	0.73	0.00	0.01	0.8	0.001
24.083	0.000	0.61	0.00	0.01	0.7	0.000
24.100	0.000	0.49	0.00	0.01	0.6	0.000
24.116	0.000	0.37	0.00	0.01	0.4	0.000
24.133	0.000	0.25	0.00	0.00	0.3	0.000
24.150	0.000	0.13	0.00	0.00	0.2	0.000
24.166	0.000	0.00	0.00	0.00	0.1	0.000
24.183	0.000	0.00	0.00	0.00	0.0	0.000
24.200	0.000	0.00	0.00	0.00	0.0	0.000
24.216	0.000	0.00	0.00	0.00	0.0	0.000
24.233	0.000	0.00	0.00	0.00	0.0	0.000
24.250	0.000	0.00	0.00	0.00	0.0	0.000
24.266	0.000	0.00	0.00	0.00	0.0	0.000
24.283	0.000	0.00	0.00	0.00	0.0	0.000
24.300	0.000	0.00	0.00	0.00	0.0	0.000
24.316	0.000	0.00	0.00	0.00	0.0	0.000
24.333	0.000	0.00	0.00	0.00	0.0	0.000
24.350	0.000	0.00	0.00	0.00	0.0	0.000
24.366	0.000	0.00	0.00	0.00	0.0	0.000
24.383	0.000	0.00	0.00	0.00	0.0	0.000
24.400	0.000	0.00	0.00	0.00	0.0	0.000
24.416	0.000	0.00	0.00	0.00	0.0	0.000
24.433	0.000	0.00	0.00	0.00	0.0	0.000
24.450	0.000	0.00	0.00	0.00	0.0	0.000
24.466	0.000	0.00	0.00	0.00	0.0	0.000
24.483	0.000	0.00	0.00	0.00	0.0	0.000
24.500	0.000	0.00	0.00	0.00	0.0	0.000
24.516	0.000	0.00	0.00	0.00	0.0	0.000
24.533	0.000	0.00	0.00	0.00	0.0	0.000
24.550	0.000	0.00	0.00	0.00	0.0	0.000
24.566	0.000	0.00	0.00	0.00	0.0	0.000
24.583	0.000	0.00	0.00	0.00	0.0	0.000
24.600	0.000	0.00	0.00	0.00	0.0	0.000
24.616	0.000	0.00	0.00	0.00	0.0	0.000
24.633	0.000	0.00	0.00	0.00	0.0	0.000
24.650	0.000	0.00	0.00	0.00	0.0	0.000
24.666	0.000	0.00	0.00	0.00	0.0	0.000
24.683	0.000	0.00	0.00	0.00	0.0	0.000
24.700	0.000	0.00	0.00	0.00	0.0	0.000
24.716	0.000	0.00	0.00	0.00	0.0	0.000
24.733	0.000	0.00	0.00	0.00	0.0	0.000

24.750	0.000	0.00	0.00	0.00	0.0	0.000
24.766	0.000	0.00	0.00	0.00	0.0	0.000
24.783	0.000	0.00	0.00	0.00	0.0	0.000
24.800	0.000	0.00	0.00	0.00	0.0	0.000
24.816	0.000	0.00	0.00	0.00	0.0	0.000
24.833	0.000	0.00	0.00	0.00	0.0	0.000
24.850	0.000	0.00	0.00	0.00	0.0	0.000
24.866	0.000	0.00	0.00	0.00	0.0	0.000
24.883	0.000	0.00	0.00	0.00	0.0	0.000
24.900	0.000	0.00	0.00	0.00	0.0	0.000
24.916	0.000	0.00	0.00	0.00	0.0	0.000
24.933	0.000	0.00	0.00	0.00	0.0	0.000
24.950	0.000	0.00	0.00	0.00	0.0	0.000
24.966	0.000	0.00	0.00	0.00	0.0	0.000
24.983	0.000	0.00	0.00	0.00	0.0	0.000
25.000	0.000	0.00	0.00	0.00	0.0	0.000
25.016	0.000	0.00	0.00	0.00	0.0	0.000
25.033	0.000	0.00	0.00	0.00	0.0	0.000
25.050	0.000	0.00	0.00	0.00	0.0	0.000
25.066	0.000	0.00	0.00	0.00	0.0	0.000
25.083	0.000	0.00	0.00	0.00	0.0	0.000
25.100	0.000	0.00	0.00	0.00	0.0	0.000
25.116	0.000	0.00	0.00	0.00	0.0	0.000
25.133	0.000	0.00	0.00	0.00	0.0	0.000
25.150	0.000	0.00	0.00	0.00	0.0	0.000
25.166	0.000	0.00	0.00	0.00	0.0	0.000
25.183	0.000	0.00	0.00	0.00	0.0	0.000
25.200	0.000	0.00	0.00	0.00	0.0	0.000
25.216	0.000	0.00	0.00	0.00	0.0	0.000
25.233	0.000	0.00	0.00	0.00	0.0	0.000
25.250	0.000	0.00	0.00	0.00	0.0	0.000
25.266	0.000	0.00	0.00	0.00	0.0	0.000
25.283	0.000	0.00	0.00	0.00	0.0	0.000
25.300	0.000	0.00	0.00	0.00	0.0	0.000
25.316	0.000	0.00	0.00	0.00	0.0	0.000
25.333	0.000	0.00	0.00	0.00	0.0	0.000
25.350	0.000	0.00	0.00	0.00	0.0	0.000
25.366	0.000	0.00	0.00	0.00	0.0	0.000
25.383	0.000	0.00	0.00	0.00	0.0	0.000
25.400	0.000	0.00	0.00	0.00	0.0	0.000
25.416	0.000	0.00	0.00	0.00	0.0	0.000
25.433	0.000	0.00	0.00	0.00	0.0	0.000
25.450	0.000	0.00	0.00	0.00	0.0	0.000
25.466	0.000	0.00	0.00	0.00	0.0	0.000
25.483	0.000	0.00	0.00	0.00	0.0	0.000
25.500	0.000	0.00	0.00	0.00	0.0	0.000
25.516	0.000	0.00	0.00	0.00	0.0	0.000
25.533	0.000	0.00	0.00	0.00	0.0	0.000
25.550	0.000	0.00	0.00	0.00	0.0	0.000
25.566	0.000	0.00	0.00	0.00	0.0	0.000
25.583	0.000	0.00	0.00	0.00	0.0	0.000
25.600	0.000	0.00	0.00	0.00	0.0	0.000
25.616	0.000	0.00	0.00	0.00	0.0	0.000
25.633	0.000	0.00	0.00	0.00	0.0	0.000
25.650	0.000	0.00	0.00	0.00	0.0	0.000
25.666	0.000	0.00	0.00	0.00	0.0	0.000
25.683	0.000	0.00	0.00	0.00	0.0	0.000
25.700	0.000	0.00	0.00	0.00	0.0	0.000
25.716	0.000	0.00	0.00	0.00	0.0	0.000
25.733	0.000	0.00	0.00	0.00	0.0	0.000
25.750	0.000	0.00	0.00	0.00	0.0	0.000
25.766	0.000	0.00	0.00	0.00	0.0	0.000
25.783	0.000	0.00	0.00	0.00	0.0	0.000
25.800	0.000	0.00	0.00	0.00	0.0	0.000
25.816	0.000	0.00	0.00	0.00	0.0	0.000
25.833	0.000	0.00	0.00	0.00	0.0	0.000
25.850	0.000	0.00	0.00	0.00	0.0	0.000
25.866	0.000	0.00	0.00	0.00	0.0	0.000
25.883	0.000	0.00	0.00	0.00	0.0	0.000
25.900	0.000	0.00	0.00	0.00	0.0	0.000
25.916	0.000	0.00	0.00	0.00	0.0	0.000
25.933	0.000	0.00	0.00	0.00	0.0	0.000
25.950	0.000	0.00	0.00	0.00	0.0	0.000
25.966	0.000	0.00	0.00	0.00	0.0	0.000
25.983	0.000	0.00	0.00	0.00	0.0	0.000
26.000	0.000	0.00	0.00	0.00	0.0	0.000
26.016	0.000	0.00	0.00	0.00	0.0	0.000
26.033	0.000	0.00	0.00	0.00	0.0	0.000
26.050	0.000	0.00	0.00	0.00	0.0	0.000

26.066	0.000	0.00	0.00	0.00	0.0	0.000
26.083	0.000	0.00	0.00	0.00	0.0	0.000
26.100	0.000	0.00	0.00	0.00	0.0	0.000
26.116	0.000	0.00	0.00	0.00	0.0	0.000
26.133	0.000	0.00	0.00	0.00	0.0	0.000
26.150	0.000	0.00	0.00	0.00	0.0	0.000
26.166	0.000	0.00	0.00	0.00	0.0	0.000
26.183	0.000	0.00	0.00	0.00	0.0	0.000
26.200	0.000	0.00	0.00	0.00	0.0	0.000
26.216	0.000	0.00	0.00	0.00	0.0	0.000
26.233	0.000	0.00	0.00	0.00	0.0	0.000
26.250	0.000	0.00	0.00	0.00	0.0	0.000
26.266	0.000	0.00	0.00	0.00	0.0	0.000
26.283	0.000	0.00	0.00	0.00	0.0	0.000
26.300	0.000	0.00	0.00	0.00	0.0	0.000
26.316	0.000	0.00	0.00	0.00	0.0	0.000
26.333	0.000	0.00	0.00	0.00	0.0	0.000
26.350	0.000	0.00	0.00	0.00	0.0	0.000
26.366	0.000	0.00	0.00	0.00	0.0	0.000
26.383	0.000	0.00	0.00	0.00	0.0	0.000
26.400	0.000	0.00	0.00	0.00	0.0	0.000
26.416	0.000	0.00	0.00	0.00	0.0	0.000
26.433	0.000	0.00	0.00	0.00	0.0	0.000
26.450	0.000	0.00	0.00	0.00	0.0	0.000
26.466	0.000	0.00	0.00	0.00	0.0	0.000
26.483	0.000	0.00	0.00	0.00	0.0	0.000
26.500	0.000	0.00	0.00	0.00	0.0	0.000
26.516	0.000	0.00	0.00	0.00	0.0	0.000
26.533	0.000	0.00	0.00	0.00	0.0	0.000
26.550	0.000	0.00	0.00	0.00	0.0	0.000
26.566	0.000	0.00	0.00	0.00	0.0	0.000
26.583	0.000	0.00	0.00	0.00	0.0	0.000
26.600	0.000	0.00	0.00	0.00	0.0	0.000
26.616	0.000	0.00	0.00	0.00	0.0	0.000
26.633	0.000	0.00	0.00	0.00	0.0	0.000
26.650	0.000	0.00	0.00	0.00	0.0	0.000
26.666	0.000	0.00	0.00	0.00	0.0	0.000
26.683	0.000	0.00	0.00	0.00	0.0	0.000
26.700	0.000	0.00	0.00	0.00	0.0	0.000
26.716	0.000	0.00	0.00	0.00	0.0	0.000
26.733	0.000	0.00	0.00	0.00	0.0	0.000
26.750	0.000	0.00	0.00	0.00	0.0	0.000
26.766	0.000	0.00	0.00	0.00	0.0	0.000
26.783	0.000	0.00	0.00	0.00	0.0	0.000
26.800	0.000	0.00	0.00	0.00	0.0	0.000
26.816	0.000	0.00	0.00	0.00	0.0	0.000
26.833	0.000	0.00	0.00	0.00	0.0	0.000
26.850	0.000	0.00	0.00	0.00	0.0	0.000
26.866	0.000	0.00	0.00	0.00	0.0	0.000
26.883	0.000	0.00	0.00	0.00	0.0	0.000
26.900	0.000	0.00	0.00	0.00	0.0	0.000
26.916	0.000	0.00	0.00	0.00	0.0	0.000
26.933	0.000	0.00	0.00	0.00	0.0	0.000
26.950	0.000	0.00	0.00	0.00	0.0	0.000
26.966	0.000	0.00	0.00	0.00	0.0	0.000
26.983	0.000	0.00	0.00	0.00	0.0	0.000
27.000	0.000	0.00	0.00	0.00	0.0	0.000
27.016	0.000	0.00	0.00	0.00	0.0	0.000
27.033	0.000	0.00	0.00	0.00	0.0	0.000
27.050	0.000	0.00	0.00	0.00	0.0	0.000
27.066	0.000	0.00	0.00	0.00	0.0	0.000
27.083	0.000	0.00	0.00	0.00	0.0	0.000
27.100	0.000	0.00	0.00	0.00	0.0	0.000
27.116	0.000	0.00	0.00	0.00	0.0	0.000
27.133	0.000	0.00	0.00	0.00	0.0	0.000
27.150	0.000	0.00	0.00	0.00	0.0	0.000
27.166	0.000	0.00	0.00	0.00	0.0	0.000
27.183	0.000	0.00	0.00	0.00	0.0	0.000
27.200	0.000	0.00	0.00	0.00	0.0	0.000
27.216	0.000	0.00	0.00	0.00	0.0	0.000
27.233	0.000	0.00	0.00	0.00	0.0	0.000
27.250	0.000	0.00	0.00	0.00	0.0	0.000
27.266	0.000	0.00	0.00	0.00	0.0	0.000
27.283	0.000	0.00	0.00	0.00	0.0	0.000
27.300	0.000	0.00	0.00	0.00	0.0	0.000
27.316	0.000	0.00	0.00	0.00	0.0	0.000
27.333	0.000	0.00	0.00	0.00	0.0	0.000
27.350	0.000	0.00	0.00	0.00	0.0	0.000
27.366	0.000	0.00	0.00	0.00	0.0	0.000

27.383	0.000	0.00	0.00	0.00	0.0	0.000
27.400	0.000	0.00	0.00	0.00	0.0	0.000
27.416	0.000	0.00	0.00	0.00	0.0	0.000
27.433	0.000	0.00	0.00	0.00	0.0	0.000
27.450	0.000	0.00	0.00	0.00	0.0	0.000
27.466	0.000	0.00	0.00	0.00	0.0	0.000
27.483	0.000	0.00	0.00	0.00	0.0	0.000
27.500	0.000	0.00	0.00	0.00	0.0	0.000
27.516	0.000	0.00	0.00	0.00	0.0	0.000
27.533	0.000	0.00	0.00	0.00	0.0	0.000
27.550	0.000	0.00	0.00	0.00	0.0	0.000
27.566	0.000	0.00	0.00	0.00	0.0	0.000
27.583	0.000	0.00	0.00	0.00	0.0	0.000
27.600	0.000	0.00	0.00	0.00	0.0	0.000
27.616	0.000	0.00	0.00	0.00	0.0	0.000
27.633	0.000	0.00	0.00	0.00	0.0	0.000
27.650	0.000	0.00	0.00	0.00	0.0	0.000
27.666	0.000	0.00	0.00	0.00	0.0	0.000
27.683	0.000	0.00	0.00	0.00	0.0	0.000
27.700	0.000	0.00	0.00	0.00	0.0	0.000
27.716	0.000	0.00	0.00	0.00	0.0	0.000
27.733	0.000	0.00	0.00	0.00	0.0	0.000
27.750	0.000	0.00	0.00	0.00	0.0	0.000
27.766	0.000	0.00	0.00	0.00	0.0	0.000
27.783	0.000	0.00	0.00	0.00	0.0	0.000
27.800	0.000	0.00	0.00	0.00	0.0	0.000
27.816	0.000	0.00	0.00	0.00	0.0	0.000
27.833	0.000	0.00	0.00	0.00	0.0	0.000
27.850	0.000	0.00	0.00	0.00	0.0	0.000
27.866	0.000	0.00	0.00	0.00	0.0	0.000
27.883	0.000	0.00	0.00	0.00	0.0	0.000
27.900	0.000	0.00	0.00	0.00	0.0	0.000
27.916	0.000	0.00	0.00	0.00	0.0	0.000
27.933	0.000	0.00	0.00	0.00	0.0	0.000
27.950	0.000	0.00	0.00	0.00	0.0	0.000
27.966	0.000	0.00	0.00	0.00	0.0	0.000
27.983	0.000	0.00	0.00	0.00	0.0	0.000
28.000	0.000	0.00	0.00	0.00	0.0	0.000
28.016	0.000	0.00	0.00	0.00	0.0	0.000
28.033	0.000	0.00	0.00	0.00	0.0	0.000
28.050	0.000	0.00	0.00	0.00	0.0	0.000
28.066	0.000	0.00	0.00	0.00	0.0	0.000
28.083	0.000	0.00	0.00	0.00	0.0	0.000
28.100	0.000	0.00	0.00	0.00	0.0	0.000
28.116	0.000	0.00	0.00	0.00	0.0	0.000
28.133	0.000	0.00	0.00	0.00	0.0	0.000
28.150	0.000	0.00	0.00	0.00	0.0	0.000
28.166	0.000	0.00	0.00	0.00	0.0	0.000
28.183	0.000	0.00	0.00	0.00	0.0	0.000
28.200	0.000	0.00	0.00	0.00	0.0	0.000
28.216	0.000	0.00	0.00	0.00	0.0	0.000
28.233	0.000	0.00	0.00	0.00	0.0	0.000
28.250	0.000	0.00	0.00	0.00	0.0	0.000
28.266	0.000	0.00	0.00	0.00	0.0	0.000
28.283	0.000	0.00	0.00	0.00	0.0	0.000
28.300	0.000	0.00	0.00	0.00	0.0	0.000
28.316	0.000	0.00	0.00	0.00	0.0	0.000
28.333	0.000	0.00	0.00	0.00	0.0	0.000
28.350	0.000	0.00	0.00	0.00	0.0	0.000
28.366	0.000	0.00	0.00	0.00	0.0	0.000
28.383	0.000	0.00	0.00	0.00	0.0	0.000
28.400	0.000	0.00	0.00	0.00	0.0	0.000
28.416	0.000	0.00	0.00	0.00	0.0	0.000
28.433	0.000	0.00	0.00	0.00	0.0	0.000
28.450	0.000	0.00	0.00	0.00	0.0	0.000
28.466	0.000	0.00	0.00	0.00	0.0	0.000
28.483	0.000	0.00	0.00	0.00	0.0	0.000
28.500	0.000	0.00	0.00	0.00	0.0	0.000
28.516	0.000	0.00	0.00	0.00	0.0	0.000
28.533	0.000	0.00	0.00	0.00	0.0	0.000
28.550	0.000	0.00	0.00	0.00	0.0	0.000
28.566	0.000	0.00	0.00	0.00	0.0	0.000
28.583	0.000	0.00	0.00	0.00	0.0	0.000
28.600	0.000	0.00	0.00	0.00	0.0	0.000
28.616	0.000	0.00	0.00	0.00	0.0	0.000
28.633	0.000	0.00	0.00	0.00	0.0	0.000
28.650	0.000	0.00	0.00	0.00	0.0	0.000
28.666	0.000	0.00	0.00	0.00	0.0	0.000
28.683	0.000	0.00	0.00	0.00	0.0	0.000

28.700	0.000	0.00	0.00	0.00	0.0	0.000
28.716	0.000	0.00	0.00	0.00	0.0	0.000
28.733	0.000	0.00	0.00	0.00	0.0	0.000
28.750	0.000	0.00	0.00	0.00	0.0	0.000
28.766	0.000	0.00	0.00	0.00	0.0	0.000
28.783	0.000	0.00	0.00	0.00	0.0	0.000
28.800	0.000	0.00	0.00	0.00	0.0	0.000
28.816	0.000	0.00	0.00	0.00	0.0	0.000
28.833	0.000	0.00	0.00	0.00	0.0	0.000
28.850	0.000	0.00	0.00	0.00	0.0	0.000
28.866	0.000	0.00	0.00	0.00	0.0	0.000
28.883	0.000	0.00	0.00	0.00	0.0	0.000
28.900	0.000	0.00	0.00	0.00	0.0	0.000
28.916	0.000	0.00	0.00	0.00	0.0	0.000
28.933	0.000	0.00	0.00	0.00	0.0	0.000
28.950	0.000	0.00	0.00	0.00	0.0	0.000
28.966	0.000	0.00	0.00	0.00	0.0	0.000
28.983	0.000	0.00	0.00	0.00	0.0	0.000
29.000	0.000	0.00	0.00	0.00	0.0	0.000
29.016	0.000	0.00	0.00	0.00	0.0	0.000
29.033	0.000	0.00	0.00	0.00	0.0	0.000
29.050	0.000	0.00	0.00	0.00	0.0	0.000
29.066	0.000	0.00	0.00	0.00	0.0	0.000
29.083	0.000	0.00	0.00	0.00	0.0	0.000
29.100	0.000	0.00	0.00	0.00	0.0	0.000
29.116	0.000	0.00	0.00	0.00	0.0	0.000
29.133	0.000	0.00	0.00	0.00	0.0	0.000
29.150	0.000	0.00	0.00	0.00	0.0	0.000
29.166	0.000	0.00	0.00	0.00	0.0	0.000
29.183	0.000	0.00	0.00	0.00	0.0	0.000
29.200	0.000	0.00	0.00	0.00	0.0	0.000
29.216	0.000	0.00	0.00	0.00	0.0	0.000
29.233	0.000	0.00	0.00	0.00	0.0	0.000
29.250	0.000	0.00	0.00	0.00	0.0	0.000
29.266	0.000	0.00	0.00	0.00	0.0	0.000
29.283	0.000	0.00	0.00	0.00	0.0	0.000
29.300	0.000	0.00	0.00	0.00	0.0	0.000
29.316	0.000	0.00	0.00	0.00	0.0	0.000
29.333	0.000	0.00	0.00	0.00	0.0	0.000
29.350	0.000	0.00	0.00	0.00	0.0	0.000
29.366	0.000	0.00	0.00	0.00	0.0	0.000
29.383	0.000	0.00	0.00	0.00	0.0	0.000
29.400	0.000	0.00	0.00	0.00	0.0	0.000
29.416	0.000	0.00	0.00	0.00	0.0	0.000
29.433	0.000	0.00	0.00	0.00	0.0	0.000
29.450	0.000	0.00	0.00	0.00	0.0	0.000
29.466	0.000	0.00	0.00	0.00	0.0	0.000
29.483	0.000	0.00	0.00	0.00	0.0	0.000
29.500	0.000	0.00	0.00	0.00	0.0	0.000
29.516	0.000	0.00	0.00	0.00	0.0	0.000
29.533	0.000	0.00	0.00	0.00	0.0	0.000
29.550	0.000	0.00	0.00	0.00	0.0	0.000
29.566	0.000	0.00	0.00	0.00	0.0	0.000
29.583	0.000	0.00	0.00	0.00	0.0	0.000
29.600	0.000	0.00	0.00	0.00	0.0	0.000
29.616	0.000	0.00	0.00	0.00	0.0	0.000
29.633	0.000	0.00	0.00	0.00	0.0	0.000
29.650	0.000	0.00	0.00	0.00	0.0	0.000
29.666	0.000	0.00	0.00	0.00	0.0	0.000
29.683	0.000	0.00	0.00	0.00	0.0	0.000
29.700	0.000	0.00	0.00	0.00	0.0	0.000
29.716	0.000	0.00	0.00	0.00	0.0	0.000
29.733	0.000	0.00	0.00	0.00	0.0	0.000
29.750	0.000	0.00	0.00	0.00	0.0	0.000
29.766	0.000	0.00	0.00	0.00	0.0	0.000
29.783	0.000	0.00	0.00	0.00	0.0	0.000
29.800	0.000	0.00	0.00	0.00	0.0	0.000
29.816	0.000	0.00	0.00	0.00	0.0	0.000
29.833	0.000	0.00	0.00	0.00	0.0	0.000
29.850	0.000	0.00	0.00	0.00	0.0	0.000
29.866	0.000	0.00	0.00	0.00	0.0	0.000
29.883	0.000	0.00	0.00	0.00	0.0	0.000
29.900	0.000	0.00	0.00	0.00	0.0	0.000
29.916	0.000	0.00	0.00	0.00	0.0	0.000
29.933	0.000	0.00	0.00	0.00	0.0	0.000
29.950	0.000	0.00	0.00	0.00	0.0	0.000
29.966	0.000	0.00	0.00	0.00	0.0	0.000
29.983	0.000	0.00	0.00	0.00	0.0	0.000
30.000	0.000	0.00	0.00	0.00	0.0	0.000

30.016	0.000	0.00	0.00	0.00	0.0	0.000
30.033	0.000	0.00	0.00	0.00	0.0	0.000
30.050	0.000	0.00	0.00	0.00	0.0	0.000
30.066	0.000	0.00	0.00	0.00	0.0	0.000
30.083	0.000	0.00	0.00	0.00	0.0	0.000
30.100	0.000	0.00	0.00	0.00	0.0	0.000
30.116	0.000	0.00	0.00	0.00	0.0	0.000
30.133	0.000	0.00	0.00	0.00	0.0	0.000
30.150	0.000	0.00	0.00	0.00	0.0	0.000
30.166	0.000	0.00	0.00	0.00	0.0	0.000
30.183	0.000	0.00	0.00	0.00	0.0	0.000
30.200	0.000	0.00	0.00	0.00	0.0	0.000
30.216	0.000	0.00	0.00	0.00	0.0	0.000
30.233	0.000	0.00	0.00	0.00	0.0	0.000
30.250	0.000	0.00	0.00	0.00	0.0	0.000
30.266	0.000	0.00	0.00	0.00	0.0	0.000
30.283	0.000	0.00	0.00	0.00	0.0	0.000
30.300	0.000	0.00	0.00	0.00	0.0	0.000
30.316	0.000	0.00	0.00	0.00	0.0	0.000
30.333	0.000	0.00	0.00	0.00	0.0	0.000
30.350	0.000	0.00	0.00	0.00	0.0	0.000
30.366	0.000	0.00	0.00	0.00	0.0	0.000
30.383	0.000	0.00	0.00	0.00	0.0	0.000
30.400	0.000	0.00	0.00	0.00	0.0	0.000
30.416	0.000	0.00	0.00	0.00	0.0	0.000
30.433	0.000	0.00	0.00	0.00	0.0	0.000
30.450	0.000	0.00	0.00	0.00	0.0	0.000
30.466	0.000	0.00	0.00	0.00	0.0	0.000
30.483	0.000	0.00	0.00	0.00	0.0	0.000
30.500	0.000	0.00	0.00	0.00	0.0	0.000
30.516	0.000	0.00	0.00	0.00	0.0	0.000
30.533	0.000	0.00	0.00	0.00	0.0	0.000
30.550	0.000	0.00	0.00	0.00	0.0	0.000
30.566	0.000	0.00	0.00	0.00	0.0	0.000
30.583	0.000	0.00	0.00	0.00	0.0	0.000
30.600	0.000	0.00	0.00	0.00	0.0	0.000
30.616	0.000	0.00	0.00	0.00	0.0	0.000
30.633	0.000	0.00	0.00	0.00	0.0	0.000
30.650	0.000	0.00	0.00	0.00	0.0	0.000
30.666	0.000	0.00	0.00	0.00	0.0	0.000
30.683	0.000	0.00	0.00	0.00	0.0	0.000
30.700	0.000	0.00	0.00	0.00	0.0	0.000
30.716	0.000	0.00	0.00	0.00	0.0	0.000
30.733	0.000	0.00	0.00	0.00	0.0	0.000
30.750	0.000	0.00	0.00	0.00	0.0	0.000
30.766	0.000	0.00	0.00	0.00	0.0	0.000
30.783	0.000	0.00	0.00	0.00	0.0	0.000
30.800	0.000	0.00	0.00	0.00	0.0	0.000
30.816	0.000	0.00	0.00	0.00	0.0	0.000
30.833	0.000	0.00	0.00	0.00	0.0	0.000
30.850	0.000	0.00	0.00	0.00	0.0	0.000
30.866	0.000	0.00	0.00	0.00	0.0	0.000
30.883	0.000	0.00	0.00	0.00	0.0	0.000
30.900	0.000	0.00	0.00	0.00	0.0	0.000
30.916	0.000	0.00	0.00	0.00	0.0	0.000
30.933	0.000	0.00	0.00	0.00	0.0	0.000
30.950	0.000	0.00	0.00	0.00	0.0	0.000
30.966	0.000	0.00	0.00	0.00	0.0	0.000
30.983	0.000	0.00	0.00	0.00	0.0	0.000
31.000	0.000	0.00	0.00	0.00	0.0	0.000
31.016	0.000	0.00	0.00	0.00	0.0	0.000
31.033	0.000	0.00	0.00	0.00	0.0	0.000
31.050	0.000	0.00	0.00	0.00	0.0	0.000
31.066	0.000	0.00	0.00	0.00	0.0	0.000
31.083	0.000	0.00	0.00	0.00	0.0	0.000
31.100	0.000	0.00	0.00	0.00	0.0	0.000
31.116	0.000	0.00	0.00	0.00	0.0	0.000
31.133	0.000	0.00	0.00	0.00	0.0	0.000
31.150	0.000	0.00	0.00	0.00	0.0	0.000
31.166	0.000	0.00	0.00	0.00	0.0	0.000
31.183	0.000	0.00	0.00	0.00	0.0	0.000
31.200	0.000	0.00	0.00	0.00	0.0	0.000
31.216	0.000	0.00	0.00	0.00	0.0	0.000
31.233	0.000	0.00	0.00	0.00	0.0	0.000
31.250	0.000	0.00	0.00	0.00	0.0	0.000
31.266	0.000	0.00	0.00	0.00	0.0	0.000
31.283	0.000	0.00	0.00	0.00	0.0	0.000
31.300	0.000	0.00	0.00	0.00	0.0	0.000
31.316	0.000	0.00	0.00	0.00	0.0	0.000

31.333	0.000	0.00	0.00	0.00	0.0	0.000
31.350	0.000	0.00	0.00	0.00	0.0	0.000
31.366	0.000	0.00	0.00	0.00	0.0	0.000
31.383	0.000	0.00	0.00	0.00	0.0	0.000
31.400	0.000	0.00	0.00	0.00	0.0	0.000
31.416	0.000	0.00	0.00	0.00	0.0	0.000
31.433	0.000	0.00	0.00	0.00	0.0	0.000
31.450	0.000	0.00	0.00	0.00	0.0	0.000
31.466	0.000	0.00	0.00	0.00	0.0	0.000
31.483	0.000	0.00	0.00	0.00	0.0	0.000
31.500	0.000	0.00	0.00	0.00	0.0	0.000
31.516	0.000	0.00	0.00	0.00	0.0	0.000
31.533	0.000	0.00	0.00	0.00	0.0	0.000
31.550	0.000	0.00	0.00	0.00	0.0	0.000
31.566	0.000	0.00	0.00	0.00	0.0	0.000
31.583	0.000	0.00	0.00	0.00	0.0	0.000
31.600	0.000	0.00	0.00	0.00	0.0	0.000
31.616	0.000	0.00	0.00	0.00	0.0	0.000
31.633	0.000	0.00	0.00	0.00	0.0	0.000
31.650	0.000	0.00	0.00	0.00	0.0	0.000
31.666	0.000	0.00	0.00	0.00	0.0	0.000
31.683	0.000	0.00	0.00	0.00	0.0	0.000
31.700	0.000	0.00	0.00	0.00	0.0	0.000
31.716	0.000	0.00	0.00	0.00	0.0	0.000
31.733	0.000	0.00	0.00	0.00	0.0	0.000
31.750	0.000	0.00	0.00	0.00	0.0	0.000
31.766	0.000	0.00	0.00	0.00	0.0	0.000
31.783	0.000	0.00	0.00	0.00	0.0	0.000
31.800	0.000	0.00	0.00	0.00	0.0	0.000
31.816	0.000	0.00	0.00	0.00	0.0	0.000
31.833	0.000	0.00	0.00	0.00	0.0	0.000
31.850	0.000	0.00	0.00	0.00	0.0	0.000
31.866	0.000	0.00	0.00	0.00	0.0	0.000
31.883	0.000	0.00	0.00	0.00	0.0	0.000
31.900	0.000	0.00	0.00	0.00	0.0	0.000
31.916	0.000	0.00	0.00	0.00	0.0	0.000
31.933	0.000	0.00	0.00	0.00	0.0	0.000
31.950	0.000	0.00	0.00	0.00	0.0	0.000
31.966	0.000	0.00	0.00	0.00	0.0	0.000
31.983	0.000	0.00	0.00	0.00	0.0	0.000
32.000	0.000	0.00	0.00	0.00	0.0	0.000
32.016	0.000	0.00	0.00	0.00	0.0	0.000
32.033	0.000	0.00	0.00	0.00	0.0	0.000
32.050	0.000	0.00	0.00	0.00	0.0	0.000
32.066	0.000	0.00	0.00	0.00	0.0	0.000
32.083	0.000	0.00	0.00	0.00	0.0	0.000
32.100	0.000	0.00	0.00	0.00	0.0	0.000
32.116	0.000	0.00	0.00	0.00	0.0	0.000
32.133	0.000	0.00	0.00	0.00	0.0	0.000
32.150	0.000	0.00	0.00	0.00	0.0	0.000
32.166	0.000	0.00	0.00	0.00	0.0	0.000
32.183	0.000	0.00	0.00	0.00	0.0	0.000
32.200	0.000	0.00	0.00	0.00	0.0	0.000
32.216	0.000	0.00	0.00	0.00	0.0	0.000
32.233	0.000	0.00	0.00	0.00	0.0	0.000
32.250	0.000	0.00	0.00	0.00	0.0	0.000
32.266	0.000	0.00	0.00	0.00	0.0	0.000
32.283	0.000	0.00	0.00	0.00	0.0	0.000
32.300	0.000	0.00	0.00	0.00	0.0	0.000
32.316	0.000	0.00	0.00	0.00	0.0	0.000
32.333	0.000	0.00	0.00	0.00	0.0	0.000
32.350	0.000	0.00	0.00	0.00	0.0	0.000
32.366	0.000	0.00	0.00	0.00	0.0	0.000
32.383	0.000	0.00	0.00	0.00	0.0	0.000
32.400	0.000	0.00	0.00	0.00	0.0	0.000
32.416	0.000	0.00	0.00	0.00	0.0	0.000
32.433	0.000	0.00	0.00	0.00	0.0	0.000
32.450	0.000	0.00	0.00	0.00	0.0	0.000
32.466	0.000	0.00	0.00	0.00	0.0	0.000
32.483	0.000	0.00	0.00	0.00	0.0	0.000
32.500	0.000	0.00	0.00	0.00	0.0	0.000
32.516	0.000	0.00	0.00	0.00	0.0	0.000
32.533	0.000	0.00	0.00	0.00	0.0	0.000
32.550	0.000	0.00	0.00	0.00	0.0	0.000
32.566	0.000	0.00	0.00	0.00	0.0	0.000
32.583	0.000	0.00	0.00	0.00	0.0	0.000
32.600	0.000	0.00	0.00	0.00	0.0	0.000
32.616	0.000	0.00	0.00	0.00	0.0	0.000
32.633	0.000	0.00	0.00	0.00	0.0	0.000

32.650	0.000	0.00	0.00	0.00	0.0	0.000
32.666	0.000	0.00	0.00	0.00	0.0	0.000
32.683	0.000	0.00	0.00	0.00	0.0	0.000
32.700	0.000	0.00	0.00	0.00	0.0	0.000
32.716	0.000	0.00	0.00	0.00	0.0	0.000
32.733	0.000	0.00	0.00	0.00	0.0	0.000
32.750	0.000	0.00	0.00	0.00	0.0	0.000
32.766	0.000	0.00	0.00	0.00	0.0	0.000
32.783	0.000	0.00	0.00	0.00	0.0	0.000
32.800	0.000	0.00	0.00	0.00	0.0	0.000
32.816	0.000	0.00	0.00	0.00	0.0	0.000
32.833	0.000	0.00	0.00	0.00	0.0	0.000
32.850	0.000	0.00	0.00	0.00	0.0	0.000
32.866	0.000	0.00	0.00	0.00	0.0	0.000
32.883	0.000	0.00	0.00	0.00	0.0	0.000
32.900	0.000	0.00	0.00	0.00	0.0	0.000
32.916	0.000	0.00	0.00	0.00	0.0	0.000
32.933	0.000	0.00	0.00	0.00	0.0	0.000
32.950	0.000	0.00	0.00	0.00	0.0	0.000
32.966	0.000	0.00	0.00	0.00	0.0	0.000
32.983	0.000	0.00	0.00	0.00	0.0	0.000
33.000	0.000	0.00	0.00	0.00	0.0	0.000
33.016	0.000	0.00	0.00	0.00	0.0	0.000
33.033	0.000	0.00	0.00	0.00	0.0	0.000
33.050	0.000	0.00	0.00	0.00	0.0	0.000
33.066	0.000	0.00	0.00	0.00	0.0	0.000
33.083	0.000	0.00	0.00	0.00	0.0	0.000
33.100	0.000	0.00	0.00	0.00	0.0	0.000
33.116	0.000	0.00	0.00	0.00	0.0	0.000
33.133	0.000	0.00	0.00	0.00	0.0	0.000
33.150	0.000	0.00	0.00	0.00	0.0	0.000
33.166	0.000	0.00	0.00	0.00	0.0	0.000
33.183	0.000	0.00	0.00	0.00	0.0	0.000
33.200	0.000	0.00	0.00	0.00	0.0	0.000
33.216	0.000	0.00	0.00	0.00	0.0	0.000
33.233	0.000	0.00	0.00	0.00	0.0	0.000
33.250	0.000	0.00	0.00	0.00	0.0	0.000
33.266	0.000	0.00	0.00	0.00	0.0	0.000
33.283	0.000	0.00	0.00	0.00	0.0	0.000
33.300	0.000	0.00	0.00	0.00	0.0	0.000
33.316	0.000	0.00	0.00	0.00	0.0	0.000
33.333	0.000	0.00	0.00	0.00	0.0	0.000
33.350	0.000	0.00	0.00	0.00	0.0	0.000
33.366	0.000	0.00	0.00	0.00	0.0	0.000
33.383	0.000	0.00	0.00	0.00	0.0	0.000
33.400	0.000	0.00	0.00	0.00	0.0	0.000
33.416	0.000	0.00	0.00	0.00	0.0	0.000
33.433	0.000	0.00	0.00	0.00	0.0	0.000
33.450	0.000	0.00	0.00	0.00	0.0	0.000
33.466	0.000	0.00	0.00	0.00	0.0	0.000
33.483	0.000	0.00	0.00	0.00	0.0	0.000
33.500	0.000	0.00	0.00	0.00	0.0	0.000
33.516	0.000	0.00	0.00	0.00	0.0	0.000
33.533	0.000	0.00	0.00	0.00	0.0	0.000
33.550	0.000	0.00	0.00	0.00	0.0	0.000
33.566	0.000	0.00	0.00	0.00	0.0	0.000
33.583	0.000	0.00	0.00	0.00	0.0	0.000
33.600	0.000	0.00	0.00	0.00	0.0	0.000
33.616	0.000	0.00	0.00	0.00	0.0	0.000
33.633	0.000	0.00	0.00	0.00	0.0	0.000
33.650	0.000	0.00	0.00	0.00	0.0	0.000
33.666	0.000	0.00	0.00	0.00	0.0	0.000
33.683	0.000	0.00	0.00	0.00	0.0	0.000
33.700	0.000	0.00	0.00	0.00	0.0	0.000
33.716	0.000	0.00	0.00	0.00	0.0	0.000
33.733	0.000	0.00	0.00	0.00	0.0	0.000
33.750	0.000	0.00	0.00	0.00	0.0	0.000
33.766	0.000	0.00	0.00	0.00	0.0	0.000
33.783	0.000	0.00	0.00	0.00	0.0	0.000
33.800	0.000	0.00	0.00	0.00	0.0	0.000
33.816	0.000	0.00	0.00	0.00	0.0	0.000
33.833	0.000	0.00	0.00	0.00	0.0	0.000
33.850	0.000	0.00	0.00	0.00	0.0	0.000
33.866	0.000	0.00	0.00	0.00	0.0	0.000
33.883	0.000	0.00	0.00	0.00	0.0	0.000
33.900	0.000	0.00	0.00	0.00	0.0	0.000
33.916	0.000	0.00	0.00	0.00	0.0	0.000
33.933	0.000	0.00	0.00	0.00	0.0	0.000
33.950	0.000	0.00	0.00	0.00	0.0	0.000

33.966	0.000	0.00	0.00	0.00	0.0	0.000
33.983	0.000	0.00	0.00	0.00	0.0	0.000
34.000	0.000	0.00	0.00	0.00	0.0	0.000
34.016	0.000	0.00	0.00	0.00	0.0	0.000
34.033	0.000	0.00	0.00	0.00	0.0	0.000
34.050	0.000	0.00	0.00	0.00	0.0	0.000
34.066	0.000	0.00	0.00	0.00	0.0	0.000
34.083	0.000	0.00	0.00	0.00	0.0	0.000
34.100	0.000	0.00	0.00	0.00	0.0	0.000
34.116	0.000	0.00	0.00	0.00	0.0	0.000
34.133	0.000	0.00	0.00	0.00	0.0	0.000
34.150	0.000	0.00	0.00	0.00	0.0	0.000
34.166	0.000	0.00	0.00	0.00	0.0	0.000
34.183	0.000	0.00	0.00	0.00	0.0	0.000
34.200	0.000	0.00	0.00	0.00	0.0	0.000
34.216	0.000	0.00	0.00	0.00	0.0	0.000
34.233	0.000	0.00	0.00	0.00	0.0	0.000
34.250	0.000	0.00	0.00	0.00	0.0	0.000
34.266	0.000	0.00	0.00	0.00	0.0	0.000
34.283	0.000	0.00	0.00	0.00	0.0	0.000
34.300	0.000	0.00	0.00	0.00	0.0	0.000
34.316	0.000	0.00	0.00	0.00	0.0	0.000
34.333	0.000	0.00	0.00	0.00	0.0	0.000
34.350	0.000	0.00	0.00	0.00	0.0	0.000
34.366	0.000	0.00	0.00	0.00	0.0	0.000
34.383	0.000	0.00	0.00	0.00	0.0	0.000
34.400	0.000	0.00	0.00	0.00	0.0	0.000
34.416	0.000	0.00	0.00	0.00	0.0	0.000
34.433	0.000	0.00	0.00	0.00	0.0	0.000
34.450	0.000	0.00	0.00	0.00	0.0	0.000
34.466	0.000	0.00	0.00	0.00	0.0	0.000
34.483	0.000	0.00	0.00	0.00	0.0	0.000
34.500	0.000	0.00	0.00	0.00	0.0	0.000
34.516	0.000	0.00	0.00	0.00	0.0	0.000
34.533	0.000	0.00	0.00	0.00	0.0	0.000
34.550	0.000	0.00	0.00	0.00	0.0	0.000
34.566	0.000	0.00	0.00	0.00	0.0	0.000
34.583	0.000	0.00	0.00	0.00	0.0	0.000
34.600	0.000	0.00	0.00	0.00	0.0	0.000
34.616	0.000	0.00	0.00	0.00	0.0	0.000
34.633	0.000	0.00	0.00	0.00	0.0	0.000
34.650	0.000	0.00	0.00	0.00	0.0	0.000
34.666	0.000	0.00	0.00	0.00	0.0	0.000
34.683	0.000	0.00	0.00	0.00	0.0	0.000
34.700	0.000	0.00	0.00	0.00	0.0	0.000
34.716	0.000	0.00	0.00	0.00	0.0	0.000
34.733	0.000	0.00	0.00	0.00	0.0	0.000
34.750	0.000	0.00	0.00	0.00	0.0	0.000
34.766	0.000	0.00	0.00	0.00	0.0	0.000
34.783	0.000	0.00	0.00	0.00	0.0	0.000
34.800	0.000	0.00	0.00	0.00	0.0	0.000
34.816	0.000	0.00	0.00	0.00	0.0	0.000
34.833	0.000	0.00	0.00	0.00	0.0	0.000
34.850	0.000	0.00	0.00	0.00	0.0	0.000
34.866	0.000	0.00	0.00	0.00	0.0	0.000
34.883	0.000	0.00	0.00	0.00	0.0	0.000
34.900	0.000	0.00	0.00	0.00	0.0	0.000
34.916	0.000	0.00	0.00	0.00	0.0	0.000
34.933	0.000	0.00	0.00	0.00	0.0	0.000
34.950	0.000	0.00	0.00	0.00	0.0	0.000
34.966	0.000	0.00	0.00	0.00	0.0	0.000
34.983	0.000	0.00	0.00	0.00	0.0	0.000
35.000	0.000	0.00	0.00	0.00	0.0	0.000
35.016	0.000	0.00	0.00	0.00	0.0	0.000
35.033	0.000	0.00	0.00	0.00	0.0	0.000
35.050	0.000	0.00	0.00	0.00	0.0	0.000
35.066	0.000	0.00	0.00	0.00	0.0	0.000
35.083	0.000	0.00	0.00	0.00	0.0	0.000
35.100	0.000	0.00	0.00	0.00	0.0	0.000
35.116	0.000	0.00	0.00	0.00	0.0	0.000
35.133	0.000	0.00	0.00	0.00	0.0	0.000
35.150	0.000	0.00	0.00	0.00	0.0	0.000
35.166	0.000	0.00	0.00	0.00	0.0	0.000
35.183	0.000	0.00	0.00	0.00	0.0	0.000
35.200	0.000	0.00	0.00	0.00	0.0	0.000
35.216	0.000	0.00	0.00	0.00	0.0	0.000
35.233	0.000	0.00	0.00	0.00	0.0	0.000
35.250	0.000	0.00	0.00	0.00	0.0	0.000
35.266	0.000	0.00	0.00	0.00	0.0	0.000

35.283	0.000	0.00	0.00	0.00	0.0	0.000
35.300	0.000	0.00	0.00	0.00	0.0	0.000
35.316	0.000	0.00	0.00	0.00	0.0	0.000
35.333	0.000	0.00	0.00	0.00	0.0	0.000
35.350	0.000	0.00	0.00	0.00	0.0	0.000
35.366	0.000	0.00	0.00	0.00	0.0	0.000
35.383	0.000	0.00	0.00	0.00	0.0	0.000
35.400	0.000	0.00	0.00	0.00	0.0	0.000
35.416	0.000	0.00	0.00	0.00	0.0	0.000
35.433	0.000	0.00	0.00	0.00	0.0	0.000
35.450	0.000	0.00	0.00	0.00	0.0	0.000
35.466	0.000	0.00	0.00	0.00	0.0	0.000
35.483	0.000	0.00	0.00	0.00	0.0	0.000
35.500	0.000	0.00	0.00	0.00	0.0	0.000
35.516	0.000	0.00	0.00	0.00	0.0	0.000
35.533	0.000	0.00	0.00	0.00	0.0	0.000
35.550	0.000	0.00	0.00	0.00	0.0	0.000
35.566	0.000	0.00	0.00	0.00	0.0	0.000
35.583	0.000	0.00	0.00	0.00	0.0	0.000
35.600	0.000	0.00	0.00	0.00	0.0	0.000
35.616	0.000	0.00	0.00	0.00	0.0	0.000
35.633	0.000	0.00	0.00	0.00	0.0	0.000
35.650	0.000	0.00	0.00	0.00	0.0	0.000
35.666	0.000	0.00	0.00	0.00	0.0	0.000
35.683	0.000	0.00	0.00	0.00	0.0	0.000
35.700	0.000	0.00	0.00	0.00	0.0	0.000
35.716	0.000	0.00	0.00	0.00	0.0	0.000
35.733	0.000	0.00	0.00	0.00	0.0	0.000
35.750	0.000	0.00	0.00	0.00	0.0	0.000
35.766	0.000	0.00	0.00	0.00	0.0	0.000
35.783	0.000	0.00	0.00	0.00	0.0	0.000
35.800	0.000	0.00	0.00	0.00	0.0	0.000
35.816	0.000	0.00	0.00	0.00	0.0	0.000
35.833	0.000	0.00	0.00	0.00	0.0	0.000
35.850	0.000	0.00	0.00	0.00	0.0	0.000
35.866	0.000	0.00	0.00	0.00	0.0	0.000
35.883	0.000	0.00	0.00	0.00	0.0	0.000
35.900	0.000	0.00	0.00	0.00	0.0	0.000
35.916	0.000	0.00	0.00	0.00	0.0	0.000
35.933	0.000	0.00	0.00	0.00	0.0	0.000
35.950	0.000	0.00	0.00	0.00	0.0	0.000
35.966	0.000	0.00	0.00	0.00	0.0	0.000
35.983	0.000	0.00	0.00	0.00	0.0	0.000
36.000	0.000	0.00	0.00	0.00	0.0	0.000

PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 2.921 AF

BASIN STORAGE = 0.000 AF (WITH 0.000 AF INITIALLY FILLED)

OUTFLOW VOLUME = 2.921 AF

LOSS VOLUME = 0.000 AF

==========

END OF FLOODSCx ROUTING ANALYSIS

JOB #3687 - 8996 ETIWANDA AVE, RANCHO CUCAMONGA
DETENTION IN BLDG 3 TRUCK YARD

Elevation	Depth (feet)	Area (sq. ft.)	Volume (c.f.)	Σ Volume (c.f.)	Σ Volume (ac-ft)	Q Discharge (cfs)
1117.29	0.00	0				
			34	34	0.00	9.0
1117.40	0.11	620				
			140	174	0.00	9.4
1117.50	0.21	2180				
			334	508	0.01	9.7
1117.60	0.31	4492				
			523	1031	0.02	10.1
1117.70	0.41	5971				
			732	1763	0.04	10.5
1117.80	0.51	8663				
			992	2754	0.06	10.8
1117.90	0.61	11169				
			1242	3996	0.09	11.1
1118.00	0.71	13678				
			1493	5490	0.13	11.4
1118.10	0.81	16184				
			1744	7233	0.17	11.8
1118.20	0.91	18687				
			1994	9227	0.21	12.1
1118.30	1.01	21190				
			2251	11478	0.26	12.4
1118.40	1.11	23828				
			2614	14092	0.32	12.6
1118.50	1.21	28450				
			3201	17293	0.40	12.9
1118.60	1.31	35571				
			4002	21295	0.49	13.2
1118.70	1.41	44475				

```
**************************************************************************

          F L O O D   R O U T I N G   A N A L Y S I S
        USING COUNTY HYDROLOGY MANUAL OF SAN BERNARDINO(1986)
       (c) Copyright 1989-2016 Advanced Engineering Software (aes)
           Ver. 23.0  Release Date: 07/01/2016  License ID 1435

                       Analysis prepared by:



 ************************* DESCRIPTION OF STUDY *************************
* ETIWANDA DISTRIBUTION CENTER - RANCHO CUCAMONGA                        *
* PROPOSED CONDITION - BUILDING 3 - SOUTH - NODES 100-111                *
* HYDROLOGIC ANALYSIS - 100-YEAR                                         *
 **************************************************************************

  FILE NAME: 3687P3SC.FLD
  TIME/DATE OF STUDY: 16:00 06/19/2023

   The Small Area Unit Hydrograph Procedures in Section J
   of the Hydrology Manual provides estimates of runoff
   hydrograph and runoff volume for watersheds whose time of
   concentration is less than 25 minutes. The PROGRAM User
   should check the applicability of using the small area unit
   hydrograph procedures, and follow the guidelines in
   Sections J and K.5 in complex watershed modeling.


**************************************************************************
  FLOW PROCESS FROM NODE     100.00 TO NODE     111.00 IS CODE = 1.2
--------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (SMALL AREA UNIT-HYDROGRAPH ANALYSIS) <<<<<
==========================================================================

  (SMALL AREA UNIT-HYDROGRAPH ADDED TO STREAM #1)

    RATIONAL METHOD CALIBRATION COEFFICIENT = 0.90
    TOTAL CATCHMENT AREA(ACRES) =     9.70
    SOIL-LOSS RATE, Fm,(INCH/HR) =  0.074
    LOW LOSS FRACTION = 0.096
    TIME OF CONCENTRATION(MIN.) = 10.50
    SMALL AREA PEAK Q COMPUTED USING PEAK FLOW RATE FORMULA
    USER SPECIFIED RAINFALL VALUES ARE USED:
    RETURN FREQUENCY(YEARS) = 100
       5-MINUTE POINT RAINFALL VALUE(INCHES) =  0.50
      30-MINUTE POINT RAINFALL VALUE(INCHES) =  1.05
       1-HOUR   POINT RAINFALL VALUE(INCHES) =  1.38
       3-HOUR   POINT RAINFALL VALUE(INCHES) =  2.50
       6-HOUR   POINT RAINFALL VALUE(INCHES) =  3.70
      24-HOUR   POINT RAINFALL VALUE(INCHES) =  8.00

--------------------------------------------------------------------------
    TOTAL CATCHMENT   RUNOFF  VOLUME(ACRE-FEET) =     5.28
    TOTAL CATCHMENT SOIL-LOSS VOLUME(ACRE-FEET) =     1.19

--------------------------------------------------------------------------
♠
==========================================================================

                    2 4 - H O U R   S T O R M
                  R U N O F F   H Y D R O G R A P H

==========================================================================
              HYDROGRAPH IN  ONE-MINUTE UNIT INTERVALS(CFS)
       (Notes: Time indicated is at END of Each Unit Intervals.
               Peak 5-minute rainfall intensity is modeled as
               a constant value for entire 5-minute period.)
--------------------------------------------------------------------------
 TIME(HRS) VOLUME(AF)   Q(CFS) 0.        8.3       16.6       25.0       33.3
--------------------------------------------------------------------------
   0.017      0.0002      0.16  Q        .          .          .          .
   0.033      0.0009      0.49  Q        .          .          .          .
   0.050      0.0020      0.81  Q        .          .          .          .
   0.067      0.0036      1.14  VQ       .          .          .          .
```

0.083	0.0055	1.42	VQ	.	.	.	.
0.100	0.0076	1.46	VQ	.	.	.	.
0.117	0.0096	1.46	VQ	.	.	.	.
0.133	0.0116	1.46	VQ	.	.	.	.
0.150	0.0136	1.46	VQ	.	.	.	.
0.167	0.0156	1.47	VQ	.	.	.	.
0.183	0.0176	1.47	VQ	.	.	.	.
0.200	0.0197	1.47	VQ	.	.	.	.
0.217	0.0217	1.47	VQ	.	.	.	.
0.233	0.0237	1.47	VQ	.	.	.	.
0.250	0.0257	1.47	VQ	.	.	.	.
0.267	0.0277	1.47	VQ	.	.	.	.
0.283	0.0298	1.47	VQ	.	.	.	.
0.300	0.0318	1.47	VQ	.	.	.	.
0.317	0.0338	1.47	VQ	.	.	.	.
0.333	0.0358	1.47	VQ	.	.	.	.
0.350	0.0379	1.47	VQ	.	.	.	.
0.367	0.0399	1.47	VQ	.	.	.	.
0.383	0.0419	1.47	VQ	.	.	.	.
0.400	0.0440	1.47	VQ	.	.	.	.
0.417	0.0460	1.47	VQ	.	.	.	.
0.433	0.0480	1.48	VQ	.	.	.	.
0.450	0.0501	1.48	VQ	.	.	.	.
0.467	0.0521	1.48	VQ	.	.	.	.
0.483	0.0541	1.48	VQ	.	.	.	.
0.500	0.0562	1.48	VQ	.	.	.	.
0.517	0.0582	1.48	VQ	.	.	.	.
0.533	0.0602	1.48	VQ	.	.	.	.
0.550	0.0623	1.48	VQ	.	.	.	.
0.567	0.0643	1.48	VQ	.	.	.	.
0.583	0.0663	1.48	VQ	.	.	.	.
0.600	0.0684	1.48	VQ	.	.	.	.
0.617	0.0704	1.48	VQ	.	.	.	.
0.633	0.0725	1.48	VQ	.	.	.	.
0.650	0.0745	1.48	VQ	.	.	.	.
0.667	0.0766	1.48	VQ	.	.	.	.
0.683	0.0786	1.49	VQ	.	.	.	.
0.700	0.0806	1.49	VQ	.	.	.	.
0.717	0.0827	1.49	VQ	.	.	.	.
0.733	0.0847	1.49	VQ	.	.	.	.
0.750	0.0868	1.49	VQ	.	.	.	.
0.767	0.0888	1.49	VQ	.	.	.	.
0.783	0.0909	1.49	VQ	.	.	.	.
0.800	0.0930	1.49	VQ	.	.	.	.
0.817	0.0950	1.49	VQ	.	.	.	.
0.833	0.0971	1.49	VQ	.	.	.	.
0.850	0.0991	1.49	VQ	.	.	.	.
0.867	0.1012	1.49	VQ	.	.	.	.
0.883	0.1032	1.49	VQ	.	.	.	.
0.900	0.1053	1.49	VQ	.	.	.	.
0.917	0.1074	1.49	VQ	.	.	.	.
0.933	0.1094	1.50	VQ	.	.	.	.
0.950	0.1115	1.50	VQ	.	.	.	.
0.967	0.1135	1.50	VQ	.	.	.	.
0.983	0.1156	1.50	VQ	.	.	.	.
1.000	0.1177	1.50	VQ	.	.	.	.
1.017	0.1197	1.50	VQ	.	.	.	.
1.033	0.1218	1.50	VQ	.	.	.	.
1.050	0.1239	1.50	VQ	.	.	.	.
1.067	0.1259	1.50	VQ	.	.	.	.
1.083	0.1280	1.50	VQ	.	.	.	.
1.100	0.1301	1.50	VQ	.	.	.	.
1.117	0.1321	1.51	.Q	.	.	.	.
1.133	0.1342	1.51	.Q	.	.	.	.
1.150	0.1363	1.51	.Q	.	.	.	.
1.167	0.1384	1.51	.Q	.	.	.	.
1.183	0.1404	1.51	.Q	.	.	.	.
1.200	0.1425	1.51	.Q	.	.	.	.
1.217	0.1446	1.51	.Q	.	.	.	.
1.233	0.1467	1.51	.Q	.	.	.	.
1.250	0.1488	1.51	.Q	.	.	.	.
1.267	0.1508	1.51	.Q	.	.	.	.
1.283	0.1529	1.51	.Q	.	.	.	.
1.300	0.1550	1.51	.Q	.	.	.	.
1.317	0.1571	1.51	.Q	.	.	.	.
1.333	0.1592	1.51	.Q	.	.	.	.
1.350	0.1613	1.51	.Q	.	.	.	.
1.367	0.1633	1.51	.Q	.	.	.	.
1.383	0.1654	1.52	.Q	.	.	.	.

1.400	0.1675	1.52	.Q	.	.	.	.
1.417	0.1696	1.52	.Q	.	.	.	.
1.433	0.1717	1.52	.Q	.	.	.	.
1.450	0.1738	1.52	.Q	.	.	.	.
1.467	0.1759	1.52	.Q	.	.	.	.
1.483	0.1780	1.52	.Q	.	.	.	.
1.500	0.1801	1.52	.Q	.	.	.	.
1.517	0.1822	1.52	.Q	.	.	.	.
1.533	0.1843	1.52	.Q	.	.	.	.
1.550	0.1864	1.52	.Q	.	.	.	.
1.567	0.1885	1.52	.Q	.	.	.	.
1.583	0.1906	1.53	.Q	.	.	.	.
1.600	0.1927	1.53	.Q	.	.	.	.
1.617	0.1948	1.53	.Q	.	.	.	.
1.633	0.1969	1.53	.Q	.	.	.	.
1.650	0.1990	1.53	.Q	.	.	.	.
1.667	0.2011	1.53	.Q	.	.	.	.
1.683	0.2032	1.53	.Q	.	.	.	.
1.700	0.2053	1.53	.Q	.	.	.	.
1.717	0.2074	1.53	.Q	.	.	.	.
1.733	0.2095	1.53	.Q	.	.	.	.
1.750	0.2116	1.53	.Q	.	.	.	.
1.767	0.2138	1.53	.Q	.	.	.	.
1.783	0.2159	1.54	.Q	.	.	.	.
1.800	0.2180	1.54	.Q	.	.	.	.
1.817	0.2201	1.54	.Q	.	.	.	.
1.833	0.2222	1.54	.Q	.	.	.	.
1.850	0.2243	1.54	.Q	.	.	.	.
1.867	0.2265	1.54	.Q	.	.	.	.
1.883	0.2286	1.54	.Q	.	.	.	.
1.900	0.2307	1.54	.Q	.	.	.	.
1.917	0.2328	1.54	.Q	.	.	.	.
1.933	0.2349	1.54	.Q	.	.	.	.
1.950	0.2371	1.54	.Q	.	.	.	.
1.967	0.2392	1.54	.Q	.	.	.	.
1.983	0.2413	1.54	.Q	.	.	.	.
2.000	0.2435	1.54	.Q	.	.	.	.
2.017	0.2456	1.54	.Q	.	.	.	.
2.033	0.2477	1.55	.Q	.	.	.	.
2.050	0.2498	1.55	.Q	.	.	.	.
2.067	0.2520	1.55	.Q	.	.	.	.
2.083	0.2541	1.55	.Q	.	.	.	.
2.100	0.2562	1.55	.Q	.	.	.	.
2.117	0.2584	1.55	.Q	.	.	.	.
2.133	0.2605	1.55	.Q	.	.	.	.
2.150	0.2627	1.55	.Q	.	.	.	.
2.167	0.2648	1.55	.QV	.	.	.	.
2.183	0.2669	1.56	.QV	.	.	.	.
2.200	0.2691	1.56	.QV	.	.	.	.
2.217	0.2712	1.56	.QV	.	.	.	.
2.233	0.2734	1.56	.QV	.	.	.	.
2.250	0.2755	1.56	.QV	.	.	.	.
2.267	0.2777	1.56	.QV	.	.	.	.
2.283	0.2798	1.56	.QV	.	.	.	.
2.300	0.2820	1.56	.QV	.	.	.	.
2.317	0.2841	1.56	.QV	.	.	.	.
2.333	0.2863	1.56	.QV	.	.	.	.
2.350	0.2884	1.56	.QV	.	.	.	.
2.367	0.2906	1.56	.QV	.	.	.	.
2.383	0.2927	1.56	.QV	.	.	.	.
2.400	0.2949	1.56	.QV	.	.	.	.
2.417	0.2970	1.57	.QV	.	.	.	.
2.433	0.2992	1.57	.QV	.	.	.	.
2.450	0.3013	1.57	.QV	.	.	.	.
2.467	0.3035	1.57	.QV	.	.	.	.
2.483	0.3057	1.57	.QV	.	.	.	.
2.500	0.3078	1.57	.QV	.	.	.	.
2.517	0.3100	1.57	.QV	.	.	.	.
2.533	0.3122	1.57	.QV	.	.	.	.
2.550	0.3143	1.57	.QV	.	.	.	.
2.567	0.3165	1.57	.QV	.	.	.	.
2.583	0.3187	1.57	.QV	.	.	.	.
2.600	0.3208	1.58	.QV	.	.	.	.
2.617	0.3230	1.58	.QV	.	.	.	.
2.633	0.3252	1.58	.QV	.	.	.	.
2.650	0.3273	1.58	.QV	.	.	.	.
2.667	0.3295	1.58	.QV	.	.	.	.
2.683	0.3317	1.58	.QV	.	.	.	.
2.700	0.3339	1.58	.QV	.	.	.	.

2.717	0.3360	1.58	.QV	.	.	.	.
2.733	0.3382	1.58	.QV	.	.	.	.
2.750	0.3404	1.58	.QV	.	.	.	.
2.767	0.3426	1.58	.QV	.	.	.	.
2.783	0.3448	1.58	.QV	.	.	.	.
2.800	0.3469	1.59	.QV	.	.	.	.
2.817	0.3491	1.59	.QV	.	.	.	.
2.833	0.3513	1.59	.QV	.	.	.	.
2.850	0.3535	1.59	.QV	.	.	.	.
2.867	0.3557	1.59	.QV	.	.	.	.
2.883	0.3579	1.59	.QV	.	.	.	.
2.900	0.3601	1.59	.QV	.	.	.	.
2.917	0.3623	1.59	.QV	.	.	.	.
2.933	0.3645	1.59	.QV	.	.	.	.
2.950	0.3667	1.59	.QV	.	.	.	.
2.967	0.3689	1.59	.QV	.	.	.	.
2.983	0.3711	1.59	.QV	.	.	.	.
3.000	0.3733	1.60	.QV	.	.	.	.
3.017	0.3755	1.60	.QV	.	.	.	.
3.033	0.3777	1.60	.QV	.	.	.	.
3.050	0.3799	1.60	.QV	.	.	.	.
3.067	0.3821	1.60	.QV	.	.	.	.
3.083	0.3843	1.60	.QV	.	.	.	.
3.100	0.3865	1.60	.QV	.	.	.	.
3.117	0.3887	1.60	.QV	.	.	.	.
3.133	0.3909	1.60	.QV	.	.	.	.
3.150	0.3931	1.60	.QV	.	.	.	.
3.167	0.3953	1.61	.QV	.	.	.	.
3.183	0.3975	1.61	.Q V	.	.	.	.
3.200	0.3997	1.61	.Q V	.	.	.	.
3.217	0.4019	1.61	.Q V	.	.	.	.
3.233	0.4042	1.61	.Q V	.	.	.	.
3.250	0.4064	1.61	.Q V	.	.	.	.
3.267	0.4086	1.61	.Q V	.	.	.	.
3.283	0.4108	1.61	.Q V	.	.	.	.
3.300	0.4130	1.61	.Q V	.	.	.	.
3.317	0.4153	1.61	.Q V	.	.	.	.
3.333	0.4175	1.61	.Q V	.	.	.	.
3.350	0.4197	1.61	.Q V	.	.	.	.
3.367	0.4219	1.62	.Q V	.	.	.	.
3.383	0.4242	1.62	.Q V	.	.	.	.
3.400	0.4264	1.62	.Q V	.	.	.	.
3.417	0.4286	1.62	.Q V	.	.	.	.
3.433	0.4308	1.62	.Q V	.	.	.	.
3.450	0.4331	1.62	.Q V	.	.	.	.
3.467	0.4353	1.62	.Q V	.	.	.	.
3.483	0.4375	1.62	.Q V	.	.	.	.
3.500	0.4398	1.62	.Q V	.	.	.	.
3.517	0.4420	1.63	.Q V	.	.	.	.
3.533	0.4443	1.63	.Q V	.	.	.	.
3.550	0.4465	1.63	.Q V	.	.	.	.
3.567	0.4488	1.63	.Q V	.	.	.	.
3.583	0.4510	1.63	.Q V	.	.	.	.
3.600	0.4532	1.63	.Q V	.	.	.	.
3.617	0.4555	1.63	.Q V	.	.	.	.
3.633	0.4577	1.63	.Q V	.	.	.	.
3.650	0.4600	1.63	.Q V	.	.	.	.
3.667	0.4622	1.63	.Q V	.	.	.	.
3.683	0.4645	1.63	.Q V	.	.	.	.
3.700	0.4667	1.63	.Q V	.	.	.	.
3.717	0.4690	1.64	.Q V	.	.	.	.
3.733	0.4712	1.64	.Q V	.	.	.	.
3.750	0.4735	1.64	.Q V	.	.	.	.
3.767	0.4758	1.64	.Q V	.	.	.	.
3.783	0.4780	1.64	.Q V	.	.	.	.
3.800	0.4803	1.64	.Q V	.	.	.	.
3.817	0.4825	1.64	.Q V	.	.	.	.
3.833	0.4848	1.64	.Q V	.	.	.	.
3.850	0.4871	1.64	.Q V	.	.	.	.
3.867	0.4893	1.65	.Q V	.	.	.	.
3.883	0.4916	1.65	.Q V	.	.	.	.
3.900	0.4939	1.65	.Q V	.	.	.	.
3.917	0.4961	1.65	.Q V	.	.	.	.
3.933	0.4984	1.65	.Q V	.	.	.	.
3.950	0.5007	1.65	.Q V	.	.	.	.
3.967	0.5030	1.65	.Q V	.	.	.	.
3.983	0.5052	1.65	.Q V	.	.	.	.
4.000	0.5075	1.65	.Q V	.	.	.	.
4.017	0.5098	1.65	.Q V	.	.	.	.

4.033	0.5121	1.65	.Q V	.	.	.	.
4.050	0.5144	1.66	.Q V	.	.	.	.
4.067	0.5166	1.66	.Q V	.	.	.	.
4.083	0.5189	1.66	.Q V	.	.	.	.
4.100	0.5212	1.66	.Q V	.	.	.	.
4.117	0.5235	1.66	.Q V	.	.	.	.
4.133	0.5258	1.66	.Q V	.	.	.	.
4.150	0.5281	1.66	.Q V	.	.	.	.
4.167	0.5304	1.66	.Q V	.	.	.	.
4.183	0.5326	1.66	. Q V	.	.	.	.
4.200	0.5349	1.67	. Q V	.	.	.	.
4.217	0.5372	1.67	. Q V	.	.	.	.
4.233	0.5395	1.67	. Q V	.	.	.	.
4.250	0.5418	1.67	. Q V	.	.	.	.
4.267	0.5441	1.67	. Q V	.	.	.	.
4.283	0.5464	1.67	. Q V	.	.	.	.
4.300	0.5487	1.67	. Q V	.	.	.	.
4.317	0.5510	1.67	. Q V	.	.	.	.
4.333	0.5534	1.67	. Q V	.	.	.	.
4.350	0.5557	1.68	. Q V	.	.	.	.
4.367	0.5580	1.68	. Q V	.	.	.	.
4.383	0.5603	1.68	. Q V	.	.	.	.
4.400	0.5626	1.68	. Q V	.	.	.	.
4.417	0.5649	1.68	. Q V	.	.	.	.
4.433	0.5672	1.68	. Q V	.	.	.	.
4.450	0.5695	1.68	. Q V	.	.	.	.
4.467	0.5718	1.68	. Q V	.	.	.	.
4.483	0.5742	1.68	. Q V	.	.	.	.
4.500	0.5765	1.68	. Q V	.	.	.	.
4.517	0.5788	1.68	. Q V	.	.	.	.
4.533	0.5811	1.69	. Q V	.	.	.	.
4.550	0.5834	1.69	. Q V	.	.	.	.
4.567	0.5858	1.69	. Q V	.	.	.	.
4.583	0.5881	1.69	. Q V	.	.	.	.
4.600	0.5904	1.69	. Q V	.	.	.	.
4.617	0.5928	1.69	. Q V	.	.	.	.
4.633	0.5951	1.69	. Q V	.	.	.	.
4.650	0.5974	1.70	. Q V	.	.	.	.
4.667	0.5998	1.70	. Q V	.	.	.	.
4.683	0.6021	1.70	. Q V	.	.	.	.
4.700	0.6044	1.70	. Q V	.	.	.	.
4.717	0.6068	1.70	. Q V	.	.	.	.
4.733	0.6091	1.70	. Q V	.	.	.	.
4.750	0.6115	1.70	. Q V	.	.	.	.
4.767	0.6138	1.70	. Q V	.	.	.	.
4.783	0.6162	1.70	. Q V	.	.	.	.
4.800	0.6185	1.70	. Q V	.	.	.	.
4.817	0.6208	1.70	. Q V	.	.	.	.
4.833	0.6232	1.70	. Q V	.	.	.	.
4.850	0.6255	1.71	. Q V	.	.	.	.
4.867	0.6279	1.71	. Q V	.	.	.	.
4.883	0.6302	1.71	. Q V	.	.	.	.
4.900	0.6326	1.71	. Q V	.	.	.	.
4.917	0.6350	1.71	. Q V	.	.	.	.
4.933	0.6373	1.71	. Q V	.	.	.	.
4.950	0.6397	1.72	. Q V	.	.	.	.
4.967	0.6420	1.72	. Q V	.	.	.	.
4.983	0.6444	1.72	. Q V	.	.	.	.
5.000	0.6468	1.72	. Q V	.	.	.	.
5.017	0.6492	1.72	. Q V	.	.	.	.
5.033	0.6515	1.72	. Q V	.	.	.	.
5.050	0.6539	1.72	. Q V	.	.	.	.
5.067	0.6563	1.72	. Q V	.	.	.	.
5.083	0.6586	1.72	. Q V	.	.	.	.
5.100	0.6610	1.72	. Q V	.	.	.	.
5.117	0.6634	1.72	. Q V	.	.	.	.
5.133	0.6658	1.73	. Q V	.	.	.	.
5.150	0.6681	1.73	. Q V	.	.	.	.
5.167	0.6705	1.73	. Q V	.	.	.	.
5.183	0.6729	1.73	. Q V	.	.	.	.
5.200	0.6753	1.73	. Q V	.	.	.	.
5.217	0.6777	1.73	. Q V	.	.	.	.
5.233	0.6801	1.73	. Q V	.	.	.	.
5.250	0.6824	1.73	. Q V	.	.	.	.
5.267	0.6848	1.74	. Q V	.	.	.	.
5.283	0.6872	1.74	. Q V	.	.	.	.
5.300	0.6896	1.74	. Q V	.	.	.	.
5.317	0.6920	1.74	. Q V	.	.	.	.
5.333	0.6944	1.74	. Q V	.	.	.	.

5.350	0.6968	1.74	.	Q	V	.	.	.	.
5.367	0.6992	1.74	.	Q	V	.	.	.	.
5.383	0.7016	1.75	.	Q	V	.	.	.	.
5.400	0.7040	1.75	.	Q	V	.	.	.	.
5.417	0.7064	1.75	.	Q	V	.	.	.	.
5.433	0.7088	1.75	.	Q	V	.	.	.	.
5.450	0.7113	1.75	.	Q	V	.	.	.	.
5.467	0.7137	1.75	.	Q	V	.	.	.	.
5.483	0.7161	1.75	.	Q	V	.	.	.	.
5.500	0.7185	1.75	.	Q	V	.	.	.	.
5.517	0.7209	1.75	.	Q	V	.	.	.	.
5.533	0.7233	1.75	.	Q	V	.	.	.	.
5.550	0.7257	1.76	.	Q	V	.	.	.	.
5.567	0.7282	1.76	.	Q	V	.	.	.	.
5.583	0.7306	1.76	.	Q	V	.	.	.	.
5.600	0.7330	1.76	.	Q	V	.	.	.	.
5.617	0.7354	1.76	.	Q	V	.	.	.	.
5.633	0.7379	1.76	.	Q	V	.	.	.	.
5.650	0.7403	1.77	.	Q	V	.	.	.	.
5.667	0.7427	1.77	.	Q	V	.	.	.	.
5.683	0.7452	1.77	.	Q	V	.	.	.	.
5.700	0.7476	1.77	.	Q	V	.	.	.	.
5.717	0.7500	1.77	.	Q	V	.	.	.	.
5.733	0.7525	1.77	.	Q	V	.	.	.	.
5.750	0.7549	1.77	.	Q	V	.	.	.	.
5.767	0.7574	1.77	.	Q	V	.	.	.	.
5.783	0.7598	1.77	.	Q	V	.	.	.	.
5.800	0.7622	1.77	.	Q	V	.	.	.	.
5.817	0.7647	1.78	.	Q	V	.	.	.	.
5.833	0.7671	1.78	.	Q	V	.	.	.	.
5.850	0.7696	1.78	.	Q	V	.	.	.	.
5.867	0.7720	1.78	.	Q	V	.	.	.	.
5.883	0.7745	1.78	.	Q	V	.	.	.	.
5.900	0.7769	1.78	.	Q	V	.	.	.	.
5.917	0.7794	1.78	.	Q	V	.	.	.	.
5.933	0.7818	1.78	.	Q	V	.	.	.	.
5.950	0.7843	1.79	.	Q	V	.	.	.	.
5.967	0.7868	1.79	.	Q	V	.	.	.	.
5.983	0.7892	1.79	.	Q	V	.	.	.	.
6.000	0.7917	1.79	.	Q	V	.	.	.	.
6.017	0.7942	1.79	.	Q	V	.	.	.	.
6.033	0.7967	1.80	.	Q	V	.	.	.	.
6.050	0.7991	1.80	.	Q	V	.	.	.	.
6.067	0.8016	1.80	.	Q	V	.	.	.	.
6.083	0.8041	1.80	.	Q	V	.	.	.	.
6.100	0.8066	1.80	.	Q	V	.	.	.	.
6.117	0.8090	1.80	.	Q	V	.	.	.	.
6.133	0.8115	1.80	.	Q	V	.	.	.	.
6.150	0.8140	1.80	.	Q	V	.	.	.	.
6.167	0.8165	1.80	.	Q	V	.	.	.	.
6.183	0.8190	1.80	.	Q	V	.	.	.	.
6.200	0.8214	1.80	.	Q	V	.	.	.	.
6.217	0.8239	1.81	.	Q	V	.	.	.	.
6.233	0.8264	1.81	.	Q	V	.	.	.	.
6.250	0.8289	1.81	.	Q	V	.	.	.	.
6.267	0.8314	1.81	.	Q	V	.	.	.	.
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6.300	0.8364	1.81	.	Q	V	.	.	.	.
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6.333	0.8414	1.82	.	Q	V	.	.	.	.
6.350	0.8439	1.82	.	Q	V	.	.	.	.
6.367	0.8464	1.82	.	Q	V	.	.	.	.
6.383	0.8489	1.82	.	Q	V	.	.	.	.
6.400	0.8515	1.82	.	Q	V	.	.	.	.
6.417	0.8540	1.83	.	Q	V	.	.	.	.
6.433	0.8565	1.83	.	Q	V	.	.	.	.
6.450	0.8590	1.83	.	Q	V	.	.	.	.
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6.483	0.8640	1.83	.	Q	V	.	.	.	.
6.500	0.8666	1.83	.	Q	V	.	.	.	.
6.517	0.8691	1.83	.	Q	V	.	.	.	.
6.533	0.8716	1.83	.	Q	V	.	.	.	.
6.550	0.8741	1.83	.	Q	V	.	.	.	.
6.567	0.8767	1.83	.	Q	V	.	.	.	.
6.583	0.8792	1.84	.	Q	V	.	.	.	.
6.600	0.8817	1.84	.	Q	V	.	.	.	.
6.617	0.8843	1.84	.	Q	V	.	.	.	.
6.633	0.8868	1.84	.	Q	V	.	.	.	.
6.650	0.8893	1.84	.	Q	V	.	.	.	.

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6.683	0.8944	1.85	.	Q	V	.	.	.	.
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6.900	0.9277	1.86	.	Q	V	.	.	.	.
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6.933	0.9328	1.87	.	Q	V	.	.	.	.
6.950	0.9354	1.87	.	Q	V	.	.	.	.
6.967	0.9380	1.87	.	Q	V	.	.	.	.
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7.100	0.9587	1.89	.	Q	V	.	.	.	.
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7.200	0.9743	1.89	.	Q	V	.	.	.	.
7.217	0.9769	1.89	.	Q	V	.	.	.	.
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7.517	1.0243	1.92	.	Q	V	.	.	.	.
7.533	1.0269	1.92	.	Q	V	.	.	.	.
7.550	1.0296	1.93	.	Q	V	.	.	.	.
7.567	1.0322	1.93	.	Q	V	.	.	.	.
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7.850	1.0777	1.96	.	Q	V	.	.	.	.
7.867	1.0804	1.96	.	Q	V	.	.	.	.
7.883	1.0831	1.96	.	Q	V	.	.	.	.
7.900	1.0858	1.96	.	Q	V	.	.	.	.
7.917	1.0886	1.96	.	Q	V	.	.	.	.
7.933	1.0913	1.96	.	Q	V	.	.	.	.
7.950	1.0940	1.97	.	Q	V	.	.	.	.
7.967	1.0967	1.97	.	Q	V	.	.	.	.

7.983	1.0994	1.97	. Q	V .	.	.	.
8.000	1.1021	1.97	. Q	V .	.	.	.
8.017	1.1048	1.97	. Q	V .	.	.	.
8.033	1.1075	1.98	. Q	V .	.	.	.
8.050	1.1103	1.98	. Q	V .	.	.	.
8.067	1.1130	1.98	. Q	V .	.	.	.
8.083	1.1157	1.98	. Q	V .	.	.	.
8.100	1.1185	1.99	. Q	V .	.	.	.
8.117	1.1212	1.99	. Q	V .	.	.	.
8.133	1.1240	1.99	. Q	V .	.	.	.
8.150	1.1267	1.99	. Q	V .	.	.	.
8.167	1.1294	1.99	. Q	V .	.	.	.
8.183	1.1322	1.99	. Q	V .	.	.	.
8.200	1.1349	2.00	. Q	V .	.	.	.
8.217	1.1377	2.00	. Q	V .	.	.	.
8.233	1.1404	2.00	. Q	V .	.	.	.
8.250	1.1432	2.00	. Q	V .	.	.	.
8.267	1.1460	2.00	. Q	V .	.	.	.
8.283	1.1487	2.00	. Q	V .	.	.	.
8.300	1.1515	2.00	. Q	V .	.	.	.
8.317	1.1542	2.01	. Q	V .	.	.	.
8.333	1.1570	2.01	. Q	V .	.	.	.
8.350	1.1598	2.01	. Q	V .	.	.	.
8.367	1.1625	2.01	. Q	V .	.	.	.
8.383	1.1653	2.02	. Q	V .	.	.	.
8.400	1.1681	2.02	. Q	V .	.	.	.
8.417	1.1709	2.02	. Q	V .	.	.	.
8.433	1.1737	2.02	. Q	V .	.	.	.
8.450	1.1765	2.03	. Q	V .	.	.	.
8.467	1.1793	2.03	. Q	V .	.	.	.
8.483	1.1821	2.03	. Q	V .	.	.	.
8.500	1.1849	2.03	. Q	V .	.	.	.
8.517	1.1877	2.03	. Q	V.	.	.	.
8.533	1.1905	2.04	. Q	V.	.	.	.
8.550	1.1933	2.04	. Q	V.	.	.	.
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8.617	1.2045	2.04	. Q	V.	.	.	.
8.633	1.2073	2.04	. Q	V.	.	.	.
8.650	1.2101	2.04	. Q	V.	.	.	.
8.667	1.2129	2.05	. Q	V.	.	.	.
8.683	1.2158	2.05	. Q	V.	.	.	.
8.700	1.2186	2.05	. Q	V.	.	.	.
8.717	1.2214	2.05	. Q	V.	.	.	.
8.733	1.2243	2.06	. Q	V.	.	.	.
8.750	1.2271	2.06	. Q	V.	.	.	.
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8.883	1.2499	2.08	. Q	V.	.	.	.
8.900	1.2528	2.08	. Q	V.	.	.	.
8.917	1.2557	2.08	. Q	V.	.	.	.
8.933	1.2585	2.08	. Q	V.	.	.	.
8.950	1.2614	2.08	. Q	V.	.	.	.
8.967	1.2643	2.09	. Q	V.	.	.	.
8.983	1.2671	2.09	. Q	V.	.	.	.
9.000	1.2700	2.09	. Q	V.	.	.	.
9.017	1.2729	2.09	. Q	V.	.	.	.
9.033	1.2758	2.09	. Q	V.	.	.	.
9.050	1.2787	2.10	. Q	V.	.	.	.
9.067	1.2816	2.10	. Q	V.	.	.	.
9.083	1.2845	2.10	. Q	V.	.	.	.
9.100	1.2874	2.10	. Q	V.	.	.	.
9.117	1.2903	2.11	. Q	V.	.	.	.
9.133	1.2932	2.11	. Q	V.	.	.	.
9.150	1.2961	2.11	. Q	V.	.	.	.
9.167	1.2990	2.12	. Q	V.	.	.	.
9.183	1.3019	2.12	. Q	V.	.	.	.
9.200	1.3048	2.12	. Q	V.	.	.	.
9.217	1.3078	2.12	. Q	V.	.	.	.
9.233	1.3107	2.12	. Q	V.	.	.	.
9.250	1.3136	2.13	. Q	V.	.	.	.
9.267	1.3165	2.13	. Q	V.	.	.	.
9.283	1.3195	2.13	. Q	V	.	.	.

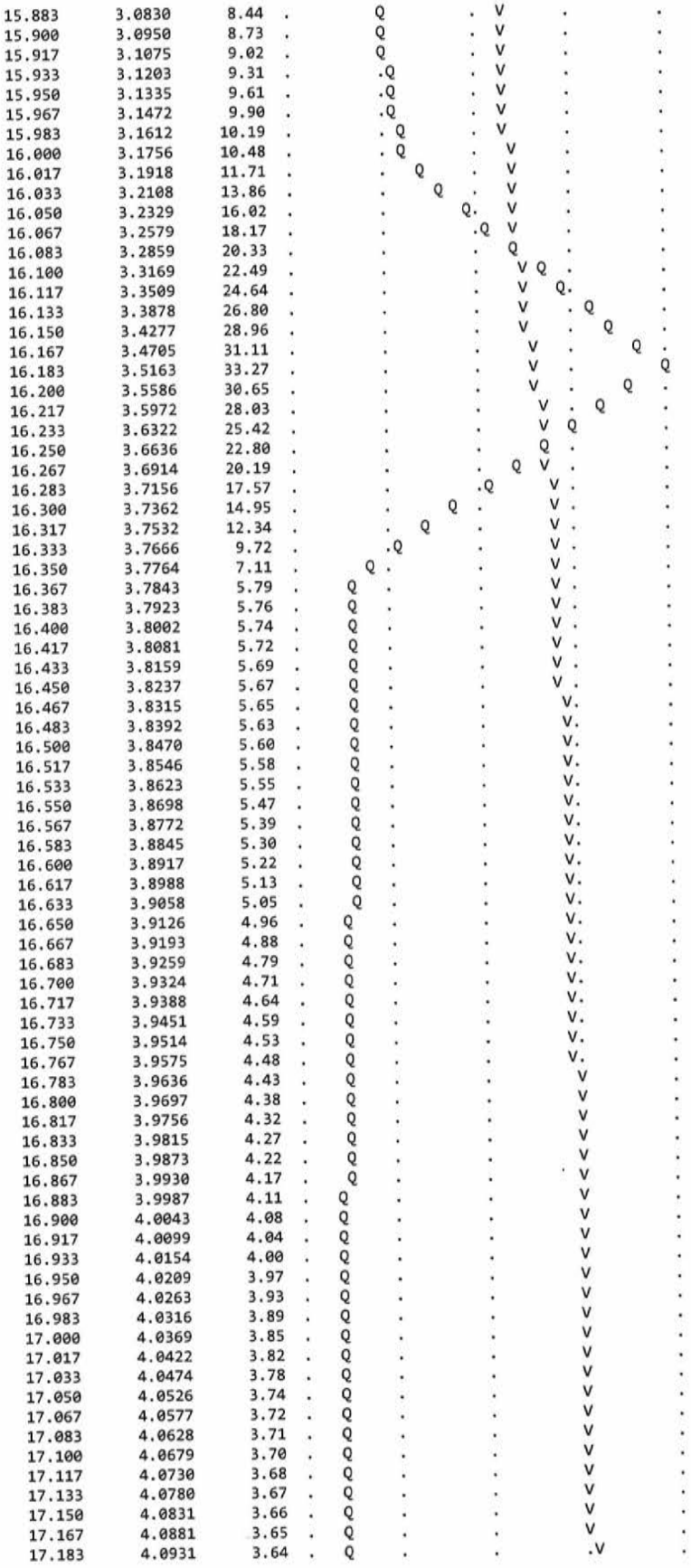
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9.717	1.3969	2.19	.	Q	V	.	.	.
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9.767	1.4059	2.20	.	Q	V	.	.	.
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9.800	1.4120	2.20	.	Q	V	.	.	.
9.817	1.4150	2.21	.	Q	V	.	.	.
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9.850	1.4211	2.22	.	Q	V	.	.	.
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9.950	1.4395	2.23	.	Q	V	.	.	.
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9.983	1.4457	2.23	.	Q	V	.	.	.
10.000	1.4487	2.23	.	Q	V	.	.	.
10.017	1.4518	2.24	.	Q	.V	.	.	.
10.033	1.4549	2.24	.	Q	.V	.	.	.
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10.283	1.5017	2.29	.	Q	.V	.	.	.
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10.333	1.5111	2.29	.	Q	.V	.	.	.
10.350	1.5143	2.29	.	Q	.V	.	.	.
10.367	1.5175	2.30	.	Q	.V	.	.	.
10.383	1.5206	2.30	.	Q	.V	.	.	.
10.400	1.5238	2.30	.	Q	.V	.	.	.
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10.433	1.5301	2.31	.	Q	.V	.	.	.
10.450	1.5333	2.31	.	Q	.V	.	.	.
10.467	1.5365	2.31	.	Q	.V	.	.	.
10.483	1.5397	2.32	.	Q	.V	.	.	.
10.500	1.5429	2.32	.	Q	.V	.	.	.
10.517	1.5461	2.33	.	Q	.V	.	.	.
10.533	1.5493	2.33	.	Q	.V	.	.	.
10.550	1.5525	2.33	.	Q	.V	.	.	.
10.567	1.5558	2.34	.	Q	.V	.	.	.
10.583	1.5590	2.34	.	Q	.V	.	.	.
10.600	1.5622	2.34	.	Q	.V	.	.	.

10.617	1.5654	2.35	. Q	.V	.	.	.
10.633	1.5687	2.35	. Q	.V	.	.	.
10.650	1.5719	2.35	. Q	.V	.	.	.
10.667	1.5752	2.35	. Q	.V	.	.	.
10.683	1.5784	2.36	. Q	.V	.	.	.
10.700	1.5816	2.36	. Q	.V	.	.	.
10.717	1.5849	2.36	. Q	. V	.	.	.
10.733	1.5881	2.36	. Q	. V	.	.	.
10.750	1.5914	2.36	. Q	. V	.	.	.
10.767	1.5947	2.37	. Q	. V	.	.	.
10.783	1.5979	2.37	. Q	. V	.	.	.
10.800	1.6012	2.38	. Q	. V	.	.	.
10.817	1.6045	2.38	. Q	. V	.	.	.
10.833	1.6078	2.38	. Q	. V	.	.	.
10.850	1.6111	2.39	. Q	. V	.	.	.
10.867	1.6144	2.39	. Q	. V	.	.	.
10.883	1.6177	2.40	. Q	. V	.	.	.
10.900	1.6210	2.40	. Q	. V	.	.	.
10.917	1.6243	2.41	. Q	. V	.	.	.
10.933	1.6276	2.41	. Q	. V	.	.	.
10.950	1.6309	2.41	. Q	. V	.	.	.
10.967	1.6343	2.42	. Q	. V	.	.	.
10.983	1.6376	2.42	. Q	. V	.	.	.
11.000	1.6409	2.42	. Q	. V	.	.	.
11.017	1.6443	2.42	. Q	. V	.	.	.
11.033	1.6476	2.43	. Q	. V	.	.	.
11.050	1.6509	2.43	. Q	. V	.	.	.
11.067	1.6543	2.43	. Q	. V	.	.	.
11.083	1.6576	2.43	. Q	. V	.	.	.
11.100	1.6610	2.43	. Q	. V	.	.	.
11.117	1.6643	2.44	. Q	. V	.	.	.
11.133	1.6677	2.44	. Q	. V	.	.	.
11.150	1.6711	2.45	. Q	. V	.	.	.
11.167	1.6745	2.45	. Q	. V	.	.	.
11.183	1.6779	2.46	. Q	. V	.	.	.
11.200	1.6812	2.46	. Q	. V	.	.	.
11.217	1.6846	2.47	. Q	. V	.	.	.
11.233	1.6880	2.47	. Q	. V	.	.	.
11.250	1.6915	2.48	. Q	. V	.	.	.
11.267	1.6949	2.48	. Q	. V	.	.	.
11.283	1.6983	2.49	. Q	. V	.	.	.
11.300	1.7017	2.49	. Q	. V	.	.	.
11.317	1.7052	2.49	. Q	. V	.	.	.
11.333	1.7086	2.49	. Q	. V	.	.	.
11.350	1.7120	2.50	. Q	. V	.	.	.
11.367	1.7155	2.50	. Q	. V	.	.	.
11.383	1.7189	2.50	. Q	. V	.	.	.
11.400	1.7224	2.51	. Q	. V	.	.	.
11.417	1.7258	2.51	. Q	. V	.	.	.
11.433	1.7293	2.51	. Q	. V	.	.	.
11.450	1.7328	2.51	. Q	. V	.	.	.
11.467	1.7362	2.52	. Q	. V	.	.	.
11.483	1.7397	2.52	. Q	. V	.	.	.
11.500	1.7432	2.53	. Q	. V	.	.	.
11.517	1.7467	2.53	. Q	. V	.	.	.
11.533	1.7502	2.54	. Q	. V	.	.	.
11.550	1.7537	2.54	. Q	. V	.	.	.
11.567	1.7572	2.55	. Q	. V	.	.	.
11.583	1.7607	2.56	. Q	. V	.	.	.
11.600	1.7642	2.56	. Q	. V	.	.	.
11.617	1.7678	2.57	. Q	. V	.	.	.
11.633	1.7713	2.57	. Q	. V	.	.	.
11.650	1.7748	2.57	. Q	. V	.	.	.
11.667	1.7784	2.58	. Q	. V	.	.	.
11.683	1.7820	2.58	. Q	. V	.	.	.
11.700	1.7855	2.58	. Q	. V	.	.	.
11.717	1.7891	2.59	. Q	. V	.	.	.
11.733	1.7926	2.59	. Q	. V	.	.	.
11.750	1.7962	2.59	. Q	. V	.	.	.
11.767	1.7998	2.59	. Q	. V	.	.	.
11.783	1.8034	2.60	. Q	. V	.	.	.
11.800	1.8069	2.60	. Q	. V	.	.	.
11.817	1.8105	2.60	. Q	. V	.	.	.
11.833	1.8141	2.61	. Q	. V	.	.	.
11.850	1.8177	2.62	. Q	. V	.	.	.
11.867	1.8213	2.62	. Q	. V	.	.	.
11.883	1.8250	2.63	. Q	. V	.	.	.
11.900	1.8286	2.64	. Q	. V	.	.	.
11.917	1.8322	2.64	. Q	. V	.	.	.

11.933	1.8359	2.65	.	Q	.	V	.	.	.
11.950	1.8395	2.65	.	Q	.	V	.	.	.
11.967	1.8432	2.66	.	Q	.	V	.	.	.
11.983	1.8469	2.67	.	Q	.	V	.	.	.
12.000	1.8505	2.67	.	Q	.	V	.	.	.
12.017	1.8542	2.67	.	Q	.	V	.	.	.
12.033	1.8579	2.68	.	Q	.	V	.	.	.
12.050	1.8616	2.68	.	Q	.	V	.	.	.
12.067	1.8653	2.69	.	Q	.	V	.	.	.
12.083	1.8690	2.69	.	Q	.	V	.	.	.
12.100	1.8727	2.70	.	Q	.	V	.	.	.
12.117	1.8765	2.70	.	Q	.	V	.	.	.
12.133	1.8802	2.71	.	Q	.	V	.	.	.
12.150	1.8839	2.71	.	Q	.	V	.	.	.
12.167	1.8877	2.72	.	Q	.	V	.	.	.
12.183	1.8914	2.73	.	Q	.	V	.	.	.
12.200	1.8952	2.74	.	Q	.	V	.	.	.
12.217	1.8990	2.75	.	Q	.	V	.	.	.
12.233	1.9028	2.76	.	Q	.	V	.	.	.
12.250	1.9066	2.77	.	Q	.	V	.	.	.
12.267	1.9104	2.78	.	Q	.	V	.	.	.
12.283	1.9143	2.79	.	Q	.	V	.	.	.
12.300	1.9181	2.80	.	Q	.	V	.	.	.
12.317	1.9220	2.81	.	Q	.	V	.	.	.
12.333	1.9259	2.82	.	Q	.	V	.	.	.
12.350	1.9297	2.82	.	Q	.	V	.	.	.
12.367	1.9336	2.82	.	Q	.	V	.	.	.
12.383	1.9375	2.83	.	Q	.	V	.	.	.
12.400	1.9414	2.83	.	Q	.	V	.	.	.
12.417	1.9453	2.84	.	Q	.	V	.	.	.
12.433	1.9492	2.84	.	Q	.	V	.	.	.
12.450	1.9532	2.84	.	Q	.	V	.	.	.
12.467	1.9571	2.85	.	Q	.	V	.	.	.
12.483	1.9610	2.85	.	Q	.	V	.	.	.
12.500	1.9649	2.85	.	Q	.	V	.	.	.
12.517	1.9689	2.86	.	Q	.	V	.	.	.
12.533	1.9728	2.87	.	Q	.	V	.	.	.
12.550	1.9768	2.88	.	Q	.	V	.	.	.
12.567	1.9808	2.88	.	Q	.	V	.	.	.
12.583	1.9847	2.89	.	Q	.	V	.	.	.
12.600	1.9887	2.90	.	Q	.	V	.	.	.
12.617	1.9927	2.91	.	Q	.	V	.	.	.
12.633	1.9968	2.91	.	Q	.	V	.	.	.
12.650	2.0008	2.92	.	Q	.	V	.	.	.
12.667	2.0048	2.93	.	Q	.	V	.	.	.
12.683	2.0089	2.94	.	Q	.	V	.	.	.
12.700	2.0129	2.94	.	Q	.	V	.	.	.
12.717	2.0170	2.95	.	Q	.	V	.	.	.
12.733	2.0210	2.95	.	Q	.	V	.	.	.
12.750	2.0251	2.96	.	Q	.	V	.	.	.
12.767	2.0292	2.96	.	Q	.	V	.	.	.
12.783	2.0333	2.96	.	Q	.	V	.	.	.
12.800	2.0374	2.97	.	Q	.	V	.	.	.
12.817	2.0414	2.97	.	Q	.	V	.	.	.
12.833	2.0455	2.98	.	Q	.	V	.	.	.
12.850	2.0497	2.98	.	Q	.	V	.	.	.
12.867	2.0538	2.99	.	Q	.	V	.	.	.
12.883	2.0579	3.00	.	Q	.	V	.	.	.
12.900	2.0620	3.01	.	Q	.	V	.	.	.
12.917	2.0662	3.01	.	Q	.	V	.	.	.
12.933	2.0704	3.02	.	Q	.	V	.	.	.
12.950	2.0745	3.03	.	Q	.	V	.	.	.
12.967	2.0787	3.04	.	Q	.	V	.	.	.
12.983	2.0829	3.05	.	Q	.	V	.	.	.
13.000	2.0871	3.06	.	Q	.	V	.	.	.
13.017	2.0914	3.07	.	Q	.	V	.	.	.
13.033	2.0956	3.08	.	Q	.	V	.	.	.
13.050	2.0999	3.08	.	Q	.	V	.	.	.
13.067	2.1041	3.09	.	Q	.	V	.	.	.
13.083	2.1084	3.09	.	Q	.	V	.	.	.
13.100	2.1126	3.10	.	Q	.	V	.	.	.
13.117	2.1169	3.10	.	Q	.	V	.	.	.
13.133	2.1212	3.11	.	Q	.	V	.	.	.
13.150	2.1255	3.11	.	Q	.	V	.	.	.
13.167	2.1298	3.12	.	Q	.	V	.	.	.
13.183	2.1341	3.12	.	Q	.	V	.	.	.
13.200	2.1384	3.13	.	Q	.	V	.	.	.
13.217	2.1427	3.14	.	Q	.	V	.	.	.
13.233	2.1470	3.15	.	Q	.	V	.	.	.

13.250	2.1514	3.16	.	Q	.	V	.	.	.	
13.267	2.1558	3.17	.	Q	.	V	.	.	.	
13.283	2.1601	3.18	.	Q	.	V	.	.	.	
13.300	2.1645	3.19	.	Q	.	V	.	.	.	
13.317	2.1689	3.20	.	Q	.	V	.	.	.	
13.333	2.1734	3.21	.	Q	.	V	.	.	.	
13.350	2.1778	3.22	.	Q	.	V	.	.	.	
13.367	2.1822	3.23	.	Q	.	V	.	.	.	
13.383	2.1867	3.24	.	Q	.	V	.	.	.	
13.400	2.1912	3.25	.	Q	.	V	.	.	.	
13.417	2.1957	3.26	.	Q	.	V	.	.	.	
13.433	2.2002	3.26	.	Q	.	V	.	.	.	
13.450	2.2047	3.27	.	Q	.	V	.	.	.	
13.467	2.2092	3.27	.	Q	.	V	.	.	.	
13.483	2.2137	3.28	.	Q	.	V	.	.	.	
13.500	2.2182	3.28	.	Q	.	V	.	.	.	
13.517	2.2227	3.29	.	Q	.	V	.	.	.	
13.533	2.2273	3.30	.	Q	.	V	.	.	.	
13.550	2.2318	3.30	.	Q	.	V	.	.	.	
13.567	2.2364	3.31	.	Q	.	V	.	.	.	
13.583	2.2410	3.32	.	Q	.	V	.	.	.	
13.600	2.2456	3.34	.	Q	.	V	.	.	.	
13.617	2.2502	3.35	.	Q	.	V	.	.	.	
13.633	2.2548	3.36	.	Q	.	V	.	.	.	
13.650	2.2595	3.38	.	Q	.	V	.	.	.	
13.667	2.2641	3.39	.	Q	.	V	.	.	.	
13.683	2.2688	3.40	.	Q	.	V	.	.	.	
13.700	2.2735	3.42	.	Q	.	V	.	.	.	
13.717	2.2783	3.43	.	Q	.	V	.	.	.	
13.733	2.2830	3.44	.	Q	.	V	.	.	.	
13.750	2.2878	3.45	.	Q	.	V	.	.	.	
13.767	2.2925	3.46	.	Q	.	V	.	.	.	
13.783	2.2973	3.46	.	Q	.	V	.	.	.	
13.800	2.3021	3.47	.	Q	.	V	.	.	.	
13.817	2.3069	3.48	.	Q	.	V	.	.	.	
13.833	2.3117	3.49	.	Q	.	V	.	.	.	
13.850	2.3165	3.49	.	Q	.	V	.	.	.	
13.867	2.3213	3.50	.	Q	.	V	.	.	.	
13.883	2.3261	3.51	.	Q	.	V	.	.	.	
13.900	2.3310	3.51	.	Q	.	V	.	.	.	
13.917	2.3358	3.52	.	Q	.	V	.	.	.	
13.933	2.3407	3.54	.	Q	.	V	.	.	.	
13.950	2.3456	3.55	.	Q	.	V	.	.	.	
13.967	2.3505	3.57	.	Q	.	V	.	.	.	
13.983	2.3554	3.58	.	Q	.	V	.	.	.	
14.000	2.3604	3.59	.	Q	.	V	.	.	.	
14.017	2.3653	3.61	.	Q	.	V	.	.	.	
14.033	2.3703	3.62	.	Q	.	V	.	.	.	
14.050	2.3753	3.64	.	Q	.	V	.	.	.	
14.067	2.3804	3.65	.	Q	.	V	.	.	.	
14.083	2.3854	3.66	.	Q	.	V	.	.	.	
14.100	2.3905	3.66	.	Q	.	V	.	.	.	
14.117	2.3955	3.66	.	Q	.	V	.	.	.	
14.133	2.4005	3.65	.	Q	.	V	.	.	.	
14.150	2.4055	3.65	.	Q	.	V	.	.	.	
14.167	2.4106	3.64	.	Q	.	V	.	.	.	
14.183	2.4156	3.64	.	Q	.	V	.	.	.	
14.200	2.4206	3.63	.	Q	.	V	.	.	.	
14.217	2.4256	3.63	.	Q	.	V	.	.	.	
14.233	2.4306	3.63	.	Q	.	V	.	.	.	
14.250	2.4356	3.62	.	Q	.	V	.	.	.	
14.267	2.4406	3.63	.	Q	.	V	.	.	.	
14.283	2.4456	3.65	.	Q	.	V	.	.	.	
14.300	2.4507	3.67	.	Q	.	V	.	.	.	
14.317	2.4557	3.69	.	Q	.	V	.	.	.	
14.333	2.4609	3.72	.	Q	.	V	.	.	.	
14.350	2.4660	3.74	.	Q	.	V	.	.	.	
14.367	2.4712	3.76	.	Q	.	V	.	.	.	
14.383	2.4764	3.78	.	Q	.	V	.	.	.	
14.400	2.4816	3.80	.	Q	.	V	.	.	.	
14.417	2.4869	3.82	.	Q	.	V	.	.	.	
14.433	2.4922	3.84	.	Q	.	V	.	.	.	
14.450	2.4975	3.85	.	Q	.	V	.	.	.	
14.467	2.5028	3.87	.	Q	.	V	.	.	.	
14.483	2.5081	3.88	.	Q	.	V.	.	.	.	
14.500	2.5135	3.89	.	Q	.	V.	.	.	.	
14.517	2.5189	3.90	.	Q	.	V.	.	.	.	
14.533	2.5243	3.92	.	Q	.	V.	.	.	.	
14.550	2.5297	3.93	.	Q	.	V.	.	.	.	

14.567	2.5351	3.94	.	Q	.	V.	.	.
14.583	2.5406	3.95	.	Q	.	V.	.	.
14.600	2.5460	3.96	.	Q	.	V.	.	.
14.617	2.5515	3.98	.	Q	.	V.	.	.
14.633	2.5570	4.01	.	Q	.	V.	.	.
14.650	2.5626	4.04	.	Q	.	V.	.	.
14.667	2.5682	4.07	.	Q	.	V.	.	.
14.683	2.5739	4.10	.	Q	.	V.	.	.
14.700	2.5795	4.13	.	Q	.	V.	.	.
14.717	2.5853	4.16	.	Q	.	V.	.	.
14.733	2.5910	4.19	.	Q	.	V.	.	.
14.750	2.5968	4.22	.	Q	.	V.	.	.
14.767	2.6027	4.24	.	Q	.	V.	.	.
14.783	2.6086	4.27	.	Q	.	V.	.	.
14.800	2.6145	4.29	.	Q	.	V.	.	.
14.817	2.6204	4.31	.	Q	.	V.	.	.
14.833	2.6264	4.33	.	Q	.	V.	.	.
14.850	2.6324	4.34	.	Q	.	V.	.	.
14.867	2.6384	4.36	.	Q	.	V.	.	.
14.883	2.6444	4.38	.	Q	.	V	.	.
14.900	2.6505	4.40	.	Q	.	V	.	.
14.917	2.6565	4.41	.	Q	.	V	.	.
14.933	2.6626	4.43	.	Q	.	V	.	.
14.950	2.6688	4.45	.	Q	.	V	.	.
14.967	2.6749	4.48	.	Q	.	V	.	.
14.983	2.6812	4.52	.	Q	.	V	.	.
15.000	2.6874	4.56	.	Q	.	V	.	.
15.017	2.6938	4.61	.	Q	.	V	.	.
15.033	2.7002	4.65	.	Q	.	V	.	.
15.050	2.7067	4.69	.	Q	.	V	.	.
15.067	2.7132	4.74	.	Q	.	V	.	.
15.083	2.7198	4.78	.	Q	.	V	.	.
15.100	2.7264	4.82	.	Q	.	V	.	.
15.117	2.7331	4.87	.	Q	.	V	.	.
15.133	2.7399	4.91	.	Q	.	V	.	.
15.150	2.7467	4.94	.	Q	.	V	.	.
15.167	2.7535	4.97	.	Q	.	V	.	.
15.183	2.7604	4.99	.	Q	.	V	.	.
15.200	2.7673	5.02	.	Q	.	V	.	.
15.217	2.7743	5.05	.	Q	.	.V	.	.
15.233	2.7813	5.08	.	Q	.	.V	.	.
15.250	2.7883	5.10	.	Q	.	.V	.	.
15.267	2.7954	5.13	.	Q	.	.V	.	.
15.283	2.8025	5.16	.	Q	.	.V	.	.
15.300	2.8096	5.19	.	Q	.	.V	.	.
15.317	2.8168	5.19	.	Q	.	.V	.	.
15.333	2.8239	5.15	.	Q	.	.V	.	.
15.350	2.8309	5.12	.	Q	.	.V	.	.
15.367	2.8379	5.09	.	Q	.	.V	.	.
15.383	2.8449	5.05	.	Q	.	.V	.	.
15.400	2.8518	5.02	.	Q	.	.V	.	.
15.417	2.8587	4.99	.	Q	.	.V	.	.
15.433	2.8655	4.95	.	Q	.	.V	.	.
15.450	2.8723	4.92	.	Q	.	.V	.	.
15.467	2.8790	4.89	.	Q	.	.V	.	.
15.483	2.8857	4.86	.	Q	.	.V	.	.
15.500	2.8924	4.87	.	Q	.	.V	.	.
15.517	2.8991	4.88	.	Q	.	.V	.	.
15.533	2.9059	4.89	.	Q	.	. V	.	.
15.550	2.9126	4.90	.	Q	.	. V	.	.
15.567	2.9194	4.91	.	Q	.	. V	.	.
15.583	2.9261	4.92	.	Q	.	. V	.	.
15.600	2.9329	4.93	.	Q	.	. V	.	.
15.617	2.9398	4.94	.	Q	.	. V	.	.
15.633	2.9466	4.96	.	Q	.	. V	.	.
15.650	2.9534	4.97	.	Q	.	. V	.	.
15.667	2.9604	5.10	.	Q	.	. V	.	.
15.683	2.9678	5.34	.	Q	.	. V	.	.
15.700	2.9755	5.59	.	Q	.	. V	.	.
15.717	2.9835	5.84	.	Q	.	. V	.	.
15.733	2.9919	6.08	.	Q	.	. V	.	.
15.750	3.0006	6.33	.	Q	.	. V	.	.
15.767	3.0097	6.58	.	Q	.	. V	.	.
15.783	3.0191	6.82	.	Q	.	. V	.	.
15.800	3.0288	7.07	.	Q	.	. V	.	.
15.817	3.0389	7.32	.	Q	.	. V	.	.
15.833	3.0493	7.57	.	Q.	.	. V	.	.
15.850	3.0602	7.86	.	Q.	.	. V	.	.
15.867	3.0714	8.15	.	Q.	.	. V	.	.



15.883	3.0830	8.44	. Q . V . .
15.900	3.0950	8.73	. Q . V . .
15.917	3.1075	9.02	. Q . V . .
15.933	3.1203	9.31	. .Q . V . .
15.950	3.1335	9.61	. .Q . V . .
15.967	3.1472	9.90	. .Q . V . .
15.983	3.1612	10.19	. . Q . V . .
16.000	3.1756	10.48	. . Q . V . .
16.017	3.1918	11.71	. . Q . V . .
16.033	3.2108	13.86	. . Q . V . .
16.050	3.2329	16.02	. . Q. V . .
16.067	3.2579	18.17	. . .Q V . .
16.083	3.2859	20.33	. . . Q . . .
16.100	3.3169	22.49	. . . V Q . .
16.117	3.3509	24.64	. . . V Q. .
16.133	3.3878	26.80	. . . V . Q .
16.150	3.4277	28.96	. . . V . Q .
16.167	3.4705	31.11	. . . V . Q .
16.183	3.5163	33.27	. . . V . Q
16.200	3.5586	30.65	. . . V . Q .
16.217	3.5972	28.03	. . . V . Q .
16.233	3.6322	25.42	. . . V Q .
16.250	3.6636	22.80	. . . Q . .
16.267	3.6914	20.19	. . . Q V . .
16.283	3.7156	17.57	. . .Q V . .
16.300	3.7362	14.95	. . Q . V . .
16.317	3.7532	12.34	. . Q . V . .
16.333	3.7666	9.72	. .Q . V . .
16.350	3.7764	7.11	. Q . . V . .
16.367	3.7843	5.79	. Q . . V . .
16.383	3.7923	5.76	. Q . . V . .
16.400	3.8002	5.74	. Q . . V . .
16.417	3.8081	5.72	. Q . . V . .
16.433	3.8159	5.69	. Q . . V . .
16.450	3.8237	5.67	. Q . . V . .
16.467	3.8315	5.65	. Q . . V. .
16.483	3.8392	5.63	. Q . . V. .
16.500	3.8470	5.60	. Q . . V. .
16.517	3.8546	5.58	. Q . . V. .
16.533	3.8623	5.55	. Q . . V. .
16.550	3.8698	5.47	. Q . . V. .
16.567	3.8772	5.39	. Q . . V. .
16.583	3.8845	5.30	. Q . . V. .
16.600	3.8917	5.22	. Q . . V. .
16.617	3.8988	5.13	. Q . . V. .
16.633	3.9058	5.05	. Q . . V. .
16.650	3.9126	4.96	. Q . . V. .
16.667	3.9193	4.88	. Q . . V. .
16.683	3.9259	4.79	. Q . . V. .
16.700	3.9324	4.71	. Q . . V. .
16.717	3.9388	4.64	. Q . . V. .
16.733	3.9451	4.59	. Q . . V. .
16.750	3.9514	4.53	. Q . . V. .
16.767	3.9575	4.48	. Q . . V. .
16.783	3.9636	4.43	. Q . . V .
16.800	3.9697	4.38	. Q . . V .
16.817	3.9756	4.32	. Q . . V .
16.833	3.9815	4.27	. Q . . V .
16.850	3.9873	4.22	. Q . . V .
16.867	3.9930	4.17	. Q . . V .
16.883	3.9987	4.11	. Q . . V .
16.900	4.0043	4.08	. Q . . V .
16.917	4.0099	4.04	. Q . . V .
16.933	4.0154	4.00	. Q . . V .
16.950	4.0209	3.97	. Q . . V .
16.967	4.0263	3.93	. Q . . V .
16.983	4.0316	3.89	. Q . . V .
17.000	4.0369	3.85	. Q . . V .
17.017	4.0422	3.82	. Q . . V .
17.033	4.0474	3.78	. Q . . V .
17.050	4.0526	3.74	. Q . . V .
17.067	4.0577	3.72	. Q . . V .
17.083	4.0628	3.71	. Q . . V .
17.100	4.0679	3.70	. Q . . V .
17.117	4.0730	3.68	. Q . . V .
17.133	4.0780	3.67	. Q . . V .
17.150	4.0831	3.66	. Q . . V .
17.167	4.0881	3.65	. Q . . V .
17.183	4.0931	3.64	. Q . . .V .

17.200	4.0981	3.62	.	Q	.	.	.	.V	.
17.217	4.1031	3.61	.	Q	.	.	.	.V	.
17.233	4.1080	3.60	.	Q	.	.	.	.V	.
17.250	4.1129	3.58	.	Q	.	.	.	.V	.
17.267	4.1178	3.56	.	Q	.	.	.	.V	.
17.283	4.1227	3.53	.	Q	.	.	.	.V	.
17.300	4.1275	3.51	.	Q	.	.	.	.V	.
17.317	4.1323	3.49	.	Q	.	.	.	.V	.
17.333	4.1371	3.47	.	Q	.	.	.	.V	.
17.350	4.1419	3.45	.	Q	.	.	.	.V	.
17.367	4.1466	3.43	.	Q	.	.	.	.V	.
17.383	4.1513	3.40	.	Q	.	.	.	.V	.
17.400	4.1559	3.38	.	Q	.	.	.	.V	.
17.417	4.1606	3.36	.	Q	.	.	.	.V	.
17.433	4.1652	3.34	.	Q	.	.	.	.V	.
17.450	4.1698	3.33	.	Q	.	.	.	.V	.
17.467	4.1743	3.31	.	Q	.	.	.	.V	.
17.483	4.1789	3.29	.	Q	.	.	.	.V	.
17.500	4.1834	3.27	.	Q	.	.	.	.V	.
17.517	4.1878	3.26	.	Q	.	.	.	.V	.
17.533	4.1923	3.24	.	Q	.	.	.	.V	.
17.550	4.1967	3.22	.	Q	.	.	.	.V	.
17.567	4.2012	3.20	.	Q	.	.	.	.V	.
17.583	4.2055	3.19	.	Q	.	.	.	.V	.
17.600	4.2099	3.17	.	Q	.	.	.	.V	.
17.617	4.2143	3.16	.	Q	.	.	.	.V	.
17.633	4.2186	3.14	.	Q	.	.	.	.V	.
17.650	4.2229	3.13	.	Q	.	.	.	.V	.
17.667	4.2272	3.11	.	Q	.	.	.	. V	.
17.683	4.2314	3.10	.	Q	.	.	.	. V	.
17.700	4.2357	3.08	.	Q	.	.	.	. V	.
17.717	4.2399	3.07	.	Q	.	.	.	. V	.
17.733	4.2441	3.05	.	Q	.	.	.	. V	.
17.750	4.2483	3.04	.	Q	.	.	.	. V	.
17.767	4.2525	3.02	.	Q	.	.	.	. V	.
17.783	4.2566	3.01	.	Q	.	.	.	. V	.
17.800	4.2607	3.00	.	Q	.	.	.	. V	.
17.817	4.2648	2.99	.	Q	.	.	.	. V	.
17.833	4.2689	2.97	.	Q	.	.	.	. V	.
17.850	4.2730	2.96	.	Q	.	.	.	. V	.
17.867	4.2771	2.95	.	Q	.	.	.	. V	.
17.883	4.2811	2.93	.	Q	.	.	.	. V	.
17.900	4.2851	2.92	.	Q	.	.	.	. V	.
17.917	4.2891	2.91	.	Q	.	.	.	. V	.
17.933	4.2931	2.90	.	Q	.	.	.	. V	.
17.950	4.2971	2.89	.	Q	.	.	.	. V	.
17.967	4.3011	2.87	.	Q	.	.	.	. V	.
17.983	4.3050	2.86	.	Q	.	.	.	. V	.
18.000	4.3089	2.85	.	Q	.	.	.	. V	.
18.017	4.3129	2.84	.	Q	.	.	.	. V	.
18.033	4.3168	2.83	.	Q	.	.	.	. V	.
18.050	4.3206	2.82	.	Q	.	.	.	. V	.
18.067	4.3245	2.81	.	Q	.	.	.	. V	.
18.083	4.3284	2.80	.	Q	.	.	.	. V	.
18.100	4.3322	2.79	.	Q	.	.	.	. V	.
18.117	4.3360	2.77	.	Q	.	.	.	. V	.
18.133	4.3398	2.76	.	Q	.	.	.	. V	.
18.150	4.3436	2.75	.	Q	.	.	.	. V	.
18.167	4.3474	2.73	.	Q	.	.	.	. V	.
18.183	4.3511	2.72	.	Q	.	.	.	. V	.
18.200	4.3548	2.70	.	Q	.	.	.	. V	.
18.217	4.3585	2.69	.	Q	.	.	.	. V	.
18.233	4.3622	2.68	.	Q	.	.	.	. V	.
18.250	4.3659	2.66	.	Q	.	.	.	. V	.
18.267	4.3695	2.65	.	Q	.	.	.	. V	.
18.283	4.3732	2.63	.	Q	.	.	.	. V	.
18.300	4.3768	2.62	.	Q	.	.	.	. V	.
18.317	4.3804	2.62	.	Q	.	.	.	. V	.
18.333	4.3840	2.61	.	Q	.	.	.	. V	.
18.350	4.3875	2.60	.	Q	.	.	.	. V	.
18.367	4.3911	2.59	.	Q	.	.	.	. V	.
18.383	4.3947	2.58	.	Q	.	.	.	. V	.
18.400	4.3982	2.57	.	Q	.	.	.	. V	.
18.417	4.4017	2.56	.	Q	.	.	.	. V	.
18.433	4.4053	2.56	.	Q	.	.	.	. V	.
18.450	4.4088	2.55	.	Q	.	.	.	. V	.
18.467	4.4123	2.54	.	Q	.	.	.	. V	.
18.483	4.4158	2.53	.	Q	.	.	.	. V	.
18.500	4.4192	2.52	.	Q	.	.	.	. V	.

18.517	4.4227	2.52	. Q . . . V .
18.533	4.4261	2.51	. Q . . . V .
18.550	4.4296	2.50	. Q . . . V .
18.567	4.4330	2.49	. Q . . . V .
18.583	4.4364	2.48	. Q . . . V .
18.600	4.4399	2.48	. Q . . . V .
18.617	4.4433	2.47	. Q . . . V .
18.633	4.4466	2.46	. Q . . . V .
18.650	4.4500	2.45	. Q . . . V .
18.667	4.4534	2.45	. Q . . . V .
18.683	4.4568	2.44	. Q . . . V .
18.700	4.4601	2.43	. Q . . . V .
18.717	4.4634	2.43	. Q . . . V .
18.733	4.4668	2.42	. Q . . . V .
18.750	4.4701	2.41	. Q . . . V .
18.767	4.4734	2.41	. Q . . . V .
18.783	4.4767	2.40	. Q . . . V .
18.800	4.4800	2.39	. Q . . . V .
18.817	4.4833	2.38	. Q . . . V .
18.833	4.4866	2.38	. Q . . . V .
18.850	4.4898	2.37	. Q . . . V .
18.867	4.4931	2.37	. Q . . . V .
18.883	4.4963	2.36	. Q . . . V .
18.900	4.4996	2.35	. Q . . . V .
18.917	4.5028	2.35	. Q . . . V .
18.933	4.5060	2.34	. Q . . . V .
18.950	4.5093	2.33	. Q . . . V .
18.967	4.5125	2.33	. Q . . . V .
18.983	4.5157	2.32	. Q . . . V .
19.000	4.5188	2.32	. Q . . . V .
19.017	4.5220	2.31	. Q . . . V .
19.033	4.5252	2.30	. Q . . . V .
19.050	4.5284	2.30	. Q . . . V .
19.067	4.5315	2.29	. Q . . . V .
19.083	4.5347	2.29	. Q . . . V .
19.100	4.5378	2.28	. Q . . . V .
19.117	4.5409	2.27	. Q . . . V .
19.133	4.5441	2.27	. Q . . . V .
19.150	4.5472	2.26	. Q . . . V .
19.167	4.5503	2.26	. Q . . . V .
19.183	4.5534	2.25	. Q . . . V .
19.200	4.5565	2.25	. Q . . . V .
19.217	4.5596	2.24	. Q . . . V .
19.233	4.5627	2.24	. Q . . . V .
19.250	4.5657	2.23	. Q . . . V .
19.267	4.5688	2.23	. Q . . . V .
19.283	4.5719	2.22	. Q . . . V .
19.300	4.5749	2.21	. Q . . . V .
19.317	4.5779	2.21	. Q . . . V .
19.333	4.5810	2.20	. Q . . . V .
19.350	4.5840	2.20	. Q . . . V .
19.367	4.5870	2.19	. Q . . . V .
19.383	4.5900	2.19	. Q . . . V .
19.400	4.5931	2.18	. Q . . . V .
19.417	4.5961	2.18	. Q . . . V .
19.433	4.5991	2.17	. Q . . . V .
19.450	4.6020	2.17	. Q . . . V .
19.467	4.6050	2.16	. Q . . . V .
19.483	4.6080	2.16	. Q . . . V .
19.500	4.6110	2.15	. Q . . . V .
19.517	4.6139	2.15	. Q . . . V .
19.533	4.6169	2.15	. Q . . . V .
19.550	4.6198	2.14	. Q . . . V .
19.567	4.6228	2.14	. Q . . . V .
19.583	4.6257	2.13	. Q . . . V .
19.600	4.6286	2.13	. Q . . . V .
19.617	4.6316	2.12	. Q . . . V .
19.633	4.6345	2.12	. Q . . . V .
19.650	4.6374	2.11	. Q . . . V .
19.667	4.6403	2.11	. Q . . . V .
19.683	4.6432	2.10	. Q . . . V .
19.700	4.6461	2.10	. Q . . . V .
19.717	4.6490	2.10	. Q . . . V .
19.733	4.6518	2.09	. Q . . . V .
19.750	4.6547	2.09	. Q . . . V .
19.767	4.6576	2.08	. Q . . . V .
19.783	4.6605	2.08	. Q . . . V .
19.800	4.6633	2.07	. Q . . . V .
19.817	4.6662	2.07	. Q . . . .

19.833	4.6690	2.07	. Q	.	.	.	V	.
19.850	4.6718	2.06	. Q	.	.	.	V	.
19.867	4.6747	2.06	. Q	.	.	.	V	.
19.883	4.6775	2.05	. Q	.	.	.	V	.
19.900	4.6803	2.05	. Q	.	.	.	V	.
19.917	4.6831	2.05	. Q	.	.	.	V	.
19.933	4.6860	2.04	. Q	.	.	.	V	.
19.950	4.6888	2.04	. Q	.	.	.	V	.
19.967	4.6916	2.03	. Q	.	.	.	V	.
19.983	4.6944	2.03	. Q	.	.	.	V	.
20.000	4.6972	2.03	. Q	.	.	.	V	.
20.017	4.6999	2.02	. Q	.	.	.	V	.
20.033	4.7027	2.02	. Q	.	.	.	V	.
20.050	4.7055	2.01	. Q	.	.	.	V	.
20.067	4.7083	2.01	. Q	.	.	.	V	.
20.083	4.7110	2.01	. Q	.	.	.	V	.
20.100	4.7138	2.00	. Q	.	.	.	V	.
20.117	4.7165	2.00	. Q	.	.	.	V	.
20.133	4.7193	2.00	. Q	.	.	.	V	.
20.150	4.7220	1.99	. Q	.	.	.	V	.
20.167	4.7248	1.99	. Q	.	.	.	V	.
20.183	4.7275	1.98	. Q	.	.	.	V	.
20.200	4.7302	1.98	. Q	.	.	.	V	.
20.217	4.7329	1.98	. Q	.	.	.	V	.
20.233	4.7357	1.97	. Q	.	.	.	V	.
20.250	4.7384	1.97	. Q	.	.	.	V	.
20.267	4.7411	1.97	. Q	.	.	.	V	.
20.283	4.7438	1.96	. Q	.	.	.	V	.
20.300	4.7465	1.96	. Q	.	.	.	V	.
20.317	4.7492	1.96	. Q	.	.	.	V	.
20.333	4.7519	1.95	. Q	.	.	.	V	.
20.350	4.7546	1.95	. Q	.	.	.	V	.
20.367	4.7572	1.95	. Q	.	.	.	V	.
20.383	4.7599	1.94	. Q	.	.	.	V	.
20.400	4.7626	1.94	. Q	.	.	.	V	.
20.417	4.7652	1.94	. Q	.	.	.	V	.
20.433	4.7679	1.93	. Q	.	.	.	V	.
20.450	4.7706	1.93	. Q	.	.	.	V	.
20.467	4.7732	1.93	. Q	.	.	.	V	.
20.483	4.7759	1.92	. Q	.	.	.	V	.
20.500	4.7785	1.92	. Q	.	.	.	V	.
20.517	4.7811	1.92	. Q	.	.	.	V	.
20.533	4.7838	1.91	. Q	.	.	.	V	.
20.550	4.7864	1.91	. Q	.	.	.	V	.
20.567	4.7890	1.91	. Q	.	.	.	V	.
20.583	4.7916	1.90	. Q	.	.	.	V	.
20.600	4.7943	1.90	. Q	.	.	.	V	.
20.617	4.7969	1.90	. Q	.	.	.	V	.
20.633	4.7995	1.89	. Q	.	.	.	V	.
20.650	4.8021	1.89	. Q	.	.	.	V	.
20.667	4.8047	1.89	. Q	.	.	.	V	.
20.683	4.8073	1.88	. Q	.	.	.	V	.
20.700	4.8099	1.88	. Q	.	.	.	V	.
20.717	4.8125	1.88	. Q	.	.	.	V	.
20.733	4.8150	1.87	. Q	.	.	.	V	.
20.750	4.8176	1.87	. Q	.	.	.	V	.
20.767	4.8202	1.87	. Q	.	.	.	V	.
20.783	4.8228	1.87	. Q	.	.	.	V	.
20.800	4.8253	1.86	. Q	.	.	.	V	.
20.817	4.8279	1.86	. Q	.	.	.	V	.
20.833	4.8304	1.86	. Q	.	.	.	V	.
20.850	4.8330	1.85	. Q	.	.	.	V	.
20.867	4.8355	1.85	. Q	.	.	.	V	.
20.883	4.8381	1.85	. Q	.	.	.	V	.
20.900	4.8406	1.84	. Q	.	.	.	V	.
20.917	4.8432	1.84	. Q	.	.	.	V	.
20.933	4.8457	1.84	. Q	.	.	.	V	.
20.950	4.8482	1.84	. Q	.	.	.	V	.
20.967	4.8508	1.83	. Q	.	.	.	V	.
20.983	4.8533	1.83	. Q	.	.	.	V	.
21.000	4.8558	1.83	. Q	.	.	.	V	.
21.017	4.8583	1.83	. Q	.	.	.	V	.
21.033	4.8608	1.82	. Q	.	.	.	V	.
21.050	4.8633	1.82	. Q	.	.	.	V	.
21.067	4.8658	1.82	. Q	.	.	.	V	.
21.083	4.8683	1.81	. Q	.	.	.	V	.
21.100	4.8708	1.81	. Q	.	.	.	V	.
21.117	4.8733	1.81	. Q	.	.	.	V	.
21.133	4.8758	1.81	. Q	.	.	.	V	.

21.150	4.8783	1.80	. Q	.	.	.	.	V	.
21.167	4.8808	1.80	. Q	.	.	.	.	V	.
21.183	4.8832	1.80	. Q	.	.	.	.	V	.
21.200	4.8857	1.80	. Q	.	.	.	.	V	.
21.217	4.8882	1.79	. Q	.	.	.	.	V	.
21.233	4.8907	1.79	. Q	.	.	.	.	V	.
21.250	4.8931	1.79	. Q	.	.	.	.	V	.
21.267	4.8956	1.78	. Q	.	.	.	.	V	.
21.283	4.8980	1.78	. Q	.	.	.	.	V	.
21.300	4.9005	1.78	. Q	.	.	.	.	V	.
21.317	4.9029	1.78	. Q	.	.	.	.	V	.
21.333	4.9054	1.77	. Q	.	.	.	.	V	.
21.350	4.9078	1.77	. Q	.	.	.	.	V	.
21.367	4.9103	1.77	. Q	.	.	.	.	V	.
21.383	4.9127	1.77	. Q	.	.	.	.	V	.
21.400	4.9151	1.76	. Q	.	.	.	.	V	.
21.417	4.9175	1.76	. Q	.	.	.	.	V	.
21.433	4.9200	1.76	. Q	.	.	.	.	V	.
21.450	4.9224	1.76	. Q	.	.	.	.	V	.
21.467	4.9248	1.75	. Q	.	.	.	.	V	.
21.483	4.9272	1.75	. Q	.	.	.	.	V	.
21.500	4.9296	1.75	. Q	.	.	.	.	V	.
21.517	4.9320	1.75	. Q	.	.	.	.	V	.
21.533	4.9344	1.75	. Q	.	.	.	.	V	.
21.550	4.9368	1.74	. Q	.	.	.	.	V	.
21.567	4.9392	1.74	. Q	.	.	.	.	V	.
21.583	4.9416	1.74	. Q	.	.	.	.	V	.
21.600	4.9440	1.74	. Q	.	.	.	.	V	.
21.617	4.9464	1.73	. Q	.	.	.	.	V	.
21.633	4.9488	1.73	. Q	.	.	.	.	V	.
21.650	4.9512	1.73	. Q	.	.	.	.	V	.
21.667	4.9536	1.73	. Q	.	.	.	.	V	.
21.683	4.9559	1.72	. Q	.	.	.	.	V	.
21.700	4.9583	1.72	. Q	.	.	.	.	V	.
21.717	4.9607	1.72	. Q	.	.	.	.	V	.
21.733	4.9630	1.72	. Q	.	.	.	.	V	.
21.750	4.9654	1.71	. Q	.	.	.	.	V	.
21.767	4.9678	1.71	. Q	.	.	.	.	V	.
21.783	4.9701	1.71	. Q	.	.	.	.	V	.
21.800	4.9725	1.71	. Q	.	.	.	.	V	.
21.817	4.9748	1.71	. Q	.	.	.	.	V	.
21.833	4.9772	1.70	. Q	.	.	.	.	V	.
21.850	4.9795	1.70	. Q	.	.	.	.	V	.
21.867	4.9818	1.70	. Q	.	.	.	.	V	.
21.883	4.9842	1.70	. Q	.	.	.	.	V	.
21.900	4.9865	1.69	. Q	.	.	.	.	V	.
21.917	4.9888	1.69	. Q	.	.	.	.	V	.
21.933	4.9912	1.69	. Q	.	.	.	.	V	.
21.950	4.9935	1.69	. Q	.	.	.	.	V	.
21.967	4.9958	1.69	. Q	.	.	.	.	V	.
21.983	4.9981	1.68	. Q	.	.	.	.	V	.
22.000	5.0005	1.68	. Q	.	.	.	.	V	.
22.017	5.0028	1.68	. Q	.	.	.	.	V	.
22.033	5.0051	1.68	. Q	.	.	.	.	V	.
22.050	5.0074	1.68	. Q	.	.	.	.	V	.
22.067	5.0097	1.67	. Q	.	.	.	.	V	.
22.083	5.0120	1.67	. Q	.	.	.	.	V	.
22.100	5.0143	1.67	. Q	.	.	.	.	V	.
22.117	5.0166	1.67	. Q	.	.	.	.	V	.
22.133	5.0189	1.67	. Q	.	.	.	.	V	.
22.150	5.0212	1.66	.Q	.	.	.	.	V	.
22.167	5.0235	1.66	.Q	.	.	.	.	V	.
22.183	5.0258	1.66	.Q	.	.	.	.	V	.
22.200	5.0280	1.66	.Q	.	.	.	.	V	.
22.217	5.0303	1.66	.Q	.	.	.	.	V	.
22.233	5.0326	1.65	.Q	.	.	.	.	V	.
22.250	5.0349	1.65	.Q	.	.	.	.	V	.
22.267	5.0371	1.65	.Q	.	.	.	.	V	.
22.283	5.0394	1.65	.Q	.	.	.	.	V	.
22.300	5.0417	1.64	.Q	.	.	.	.	V	.
22.317	5.0439	1.64	.Q	.	.	.	.	V	.
22.333	5.0462	1.64	.Q	.	.	.	.	V	.
22.350	5.0485	1.64	.Q	.	.	.	.	V	.
22.367	5.0507	1.64	.Q	.	.	.	.	V	.
22.383	5.0530	1.64	.Q	.	.	.	.	V	.
22.400	5.0552	1.63	.Q	.	.	.	.	V	.
22.417	5.0575	1.63	.Q	.	.	.	.	V	.
22.433	5.0597	1.63	.Q	.	.	.	.	V	.
22.450	5.0619	1.63	.Q	.	.	.	.	V	.

22.467	5.0642	1.63	.Q	.	.	.	V	.
22.483	5.0664	1.62	.Q	.	.	.	V	.
22.500	5.0687	1.62	.Q	.	.	.	V	.
22.517	5.0709	1.62	.Q	.	.	.	V	.
22.533	5.0731	1.62	.Q	.	.	.	V	.
22.550	5.0753	1.62	.Q	.	.	.	V	.
22.567	5.0776	1.61	.Q	.	.	.	V	.
22.583	5.0798	1.61	.Q	.	.	.	V	.
22.600	5.0820	1.61	.Q	.	.	.	V	.
22.617	5.0842	1.61	.Q	.	.	.	V	.
22.633	5.0864	1.61	.Q	.	.	.	V	.
22.650	5.0886	1.61	.Q	.	.	.	V	.
22.667	5.0908	1.60	.Q	.	.	.	V	.
22.683	5.0931	1.60	.Q	.	.	.	V	.
22.700	5.0953	1.60	.Q	.	.	.	V	.
22.717	5.0975	1.60	.Q	.	.	.	V	.
22.733	5.0997	1.60	.Q	.	.	.	V	.
22.750	5.1019	1.59	.Q	.	.	.	V	.
22.767	5.1040	1.59	.Q	.	.	.	V	.
22.783	5.1062	1.59	.Q	.	.	.	V	.
22.800	5.1084	1.59	.Q	.	.	.	V	.
22.817	5.1106	1.59	.Q	.	.	.	V	.
22.833	5.1128	1.59	.Q	.	.	.	V	.
22.850	5.1150	1.58	.Q	.	.	.	V	.
22.867	5.1172	1.58	.Q	.	.	.	V	.
22.883	5.1193	1.58	.Q	.	.	.	V	.
22.900	5.1215	1.58	.Q	.	.	.	V	.
22.917	5.1237	1.58	.Q	.	.	.	V	.
22.933	5.1258	1.57	.Q	.	.	.	V	.
22.950	5.1280	1.57	.Q	.	.	.	V	.
22.967	5.1302	1.57	.Q	.	.	.	V	.
22.983	5.1323	1.57	.Q	.	.	.	V	.
23.000	5.1345	1.57	.Q	.	.	.	V	.
23.017	5.1367	1.57	.Q	.	.	.	V	.
23.033	5.1388	1.56	.Q	.	.	.	V	.
23.050	5.1410	1.56	.Q	.	.	.	V	.
23.067	5.1431	1.56	.Q	.	.	.	V	.
23.083	5.1453	1.56	.Q	.	.	.	V.	
23.100	5.1474	1.56	.Q	.	.	.	V.	
23.117	5.1496	1.56	.Q	.	.	.	V.	
23.133	5.1517	1.55	.Q	.	.	.	V.	
23.150	5.1538	1.55	.Q	.	.	.	V.	
23.167	5.1560	1.55	.Q	.	.	.	V.	
23.183	5.1581	1.55	.Q	.	.	.	V.	
23.200	5.1602	1.55	.Q	.	.	.	V.	
23.217	5.1624	1.55	.Q	.	.	.	V.	
23.233	5.1645	1.54	.Q	.	.	.	V.	
23.250	5.1666	1.54	.Q	.	.	.	V.	
23.267	5.1687	1.54	.Q	.	.	.	V.	
23.283	5.1709	1.54	.Q	.	.	.	V.	
23.300	5.1730	1.54	.Q	.	.	.	V.	
23.317	5.1751	1.54	.Q	.	.	.	V.	
23.333	5.1772	1.54	.Q	.	.	.	V.	
23.350	5.1793	1.53	.Q	.	.	.	V.	
23.367	5.1814	1.53	.Q	.	.	.	V.	
23.383	5.1835	1.53	.Q	.	.	.	V.	
23.400	5.1857	1.53	.Q	.	.	.	V.	
23.417	5.1878	1.53	.Q	.	.	.	V.	
23.433	5.1899	1.53	.Q	.	.	.	V.	
23.450	5.1920	1.52	.Q	.	.	.	V.	
23.467	5.1941	1.52	.Q	.	.	.	V.	
23.483	5.1962	1.52	.Q	.	.	.	V.	
23.500	5.1982	1.52	.Q	.	.	.	V.	
23.517	5.2003	1.52	.Q	.	.	.	V.	
23.533	5.2024	1.52	.Q	.	.	.	V.	
23.550	5.2045	1.52	.Q	.	.	.	V.	
23.567	5.2066	1.51	.Q	.	.	.	V.	
23.583	5.2087	1.51	.Q	.	.	.	V.	
23.600	5.2108	1.51	.Q	.	.	.	V.	
23.617	5.2128	1.51	.Q	.	.	.	V.	
23.633	5.2149	1.51	.Q	.	.	.	V.	
23.650	5.2170	1.51	.Q	.	.	.	V.	
23.667	5.2191	1.50	.Q	.	.	.	V.	
23.683	5.2211	1.50	.Q	.	.	.	V.	
23.700	5.2232	1.50	.Q	.	.	.	V.	
23.717	5.2253	1.50	.Q	.	.	.	V.	
23.733	5.2273	1.50	.Q	.	.	.	V.	
23.750	5.2294	1.50	.Q	.	.	.	V.	
23.767	5.2315	1.50	.Q	.	.	.	V.	

23.783	5.2335	1.49	.Q	.	.	.	V.
23.800	5.2356	1.49	.Q	.	.	.	V.
23.817	5.2376	1.49	.Q	.	.	.	V.
23.833	5.2397	1.49	.Q	.	.	.	V.
23.850	5.2417	1.49	.Q	.	.	.	V.
23.867	5.2438	1.49	.Q	.	.	.	V.
23.883	5.2458	1.49	.Q	.	.	.	V.
23.900	5.2479	1.48	.Q	.	.	.	V.
23.917	5.2499	1.48	.Q	.	.	.	V.
23.933	5.2520	1.48	.Q	.	.	.	V.
23.950	5.2540	1.48	.Q	.	.	.	V.
23.967	5.2560	1.48	.Q	.	.	.	V.
23.983	5.2581	1.48	.Q	.	.	.	V.
24.000	5.2601	1.48	.Q	.	.	.	V.
24.017	5.2621	1.47	.Q	.	.	.	V.
24.033	5.2642	1.47	.Q	.	.	.	V.
24.050	5.2662	1.47	.Q	.	.	.	V.
24.067	5.2681	1.40	.Q	.	.	.	V.
24.083	5.2699	1.26	.Q	.	.	.	V.
24.100	5.2714	1.12	.Q	.	.	.	V.
24.117	5.2727	0.98	.Q	.	.	.	V.
24.133	5.2739	0.84	.Q	.	.	.	V.
24.150	5.2749	0.70	Q	.	.	.	V.
24.167	5.2756	0.56	Q	.	.	.	V.
24.183	5.2762	0.42	Q	.	.	.	V.
24.200	5.2766	0.28	Q	.	.	.	V.
24.217	5.2768	0.14	Q	.	.	.	V

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

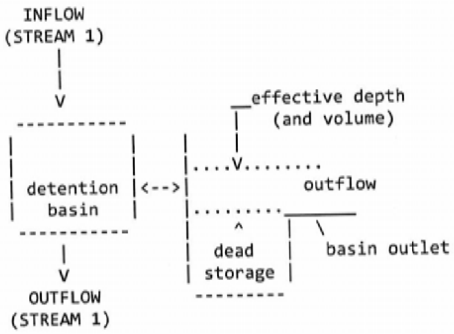
Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1453.0
10%	1160.0
20%	175.0
30%	105.0
40%	85.0
50%	70.0
60%	60.0
70%	40.0
80%	30.0
90%	15.0

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FLOW PROCESS FROM NODE 111.00 TO NODE 111.00 IS CODE = 3.2

>>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #1<<<<<

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ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 1
THROUGH A FLOW-THROUGH DETENTION BASIN
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE(AF) = 0.000
SPECIFIED DEAD STORAGE(AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000
DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.11	8.97	0.001
3	0.21	9.36	0.004
4	0.31	9.74	0.012
5	0.41	10.10	0.024
6	0.51	10.46	0.040
7	0.61	10.80	0.063
8	0.71	11.13	0.092
9	0.81	11.45	0.126
10	0.91	11.76	0.166
11	1.01	12.06	0.212
12	1.11	12.36	0.263
13	1.21	12.65	0.324
14	1.31	12.93	0.397
15	1.41	13.21	0.489

MODIFIED-PULS BASIN ROUTING MODEL RESULTS(1-MINUTE COMPUTATION INTERVALS):
(Note: Computed EFFECTIVE DEPTH and VOLUME are estimated at the clock time;
MEAN OUTFLOW is the average value during the unit interval.)

CLOCK TIME (HRS)	DEAD-STORAGE FILLED(AF)	INFLOW (CFS)	LOSS (CFS)	EFFECTIVE DEPTH(FT)	MEAN OUTFLOW (CFS)	EFFECTIVE VOLUME(AF)
0.017	0.000	0.16	0.00	0.00	0.1	0.000
0.033	0.000	0.49	0.00	0.01	0.5	0.000
0.050	0.000	0.81	0.00	0.01	0.8	0.000
0.067	0.000	1.14	0.00	0.02	1.1	0.000
0.083	0.000	1.42	0.00	0.02	1.4	0.000
0.100	0.000	1.46	0.00	0.02	1.5	0.000
0.117	0.000	1.46	0.00	0.02	1.5	0.000
0.133	0.000	1.46	0.00	0.02	1.5	0.000
0.150	0.000	1.46	0.00	0.02	1.5	0.000
0.167	0.000	1.47	0.00	0.02	1.5	0.000
0.183	0.000	1.47	0.00	0.02	1.5	0.000
0.200	0.000	1.47	0.00	0.02	1.5	0.000
0.217	0.000	1.47	0.00	0.02	1.5	0.000
0.233	0.000	1.47	0.00	0.02	1.5	0.000
0.250	0.000	1.47	0.00	0.02	1.5	0.000
0.267	0.000	1.47	0.00	0.02	1.5	0.000
0.283	0.000	1.47	0.00	0.02	1.5	0.000
0.300	0.000	1.47	0.00	0.02	1.5	0.000
0.317	0.000	1.47	0.00	0.02	1.5	0.000
0.333	0.000	1.47	0.00	0.02	1.5	0.000
0.350	0.000	1.47	0.00	0.02	1.5	0.000
0.367	0.000	1.47	0.00	0.02	1.5	0.000
0.383	0.000	1.47	0.00	0.02	1.5	0.000
0.400	0.000	1.47	0.00	0.02	1.5	0.000
0.417	0.000	1.47	0.00	0.02	1.5	0.000
0.433	0.000	1.48	0.00	0.02	1.5	0.000
0.450	0.000	1.48	0.00	0.02	1.5	0.000
0.467	0.000	1.48	0.00	0.02	1.5	0.000
0.483	0.000	1.48	0.00	0.02	1.5	0.000
0.500	0.000	1.48	0.00	0.02	1.5	0.000
0.517	0.000	1.48	0.00	0.02	1.5	0.000
0.533	0.000	1.48	0.00	0.02	1.5	0.000
0.550	0.000	1.48	0.00	0.02	1.5	0.000
0.567	0.000	1.48	0.00	0.02	1.5	0.000
0.583	0.000	1.48	0.00	0.02	1.5	0.000
0.600	0.000	1.48	0.00	0.02	1.5	0.000
0.617	0.000	1.48	0.00	0.02	1.5	0.000
0.633	0.000	1.48	0.00	0.02	1.5	0.000
0.650	0.000	1.48	0.00	0.02	1.5	0.000
0.667	0.000	1.48	0.00	0.02	1.5	0.000
0.683	0.000	1.49	0.00	0.02	1.5	0.000
0.700	0.000	1.49	0.00	0.02	1.5	0.000
0.717	0.000	1.49	0.00	0.02	1.5	0.000
0.733	0.000	1.49	0.00	0.02	1.5	0.000
0.750	0.000	1.49	0.00	0.02	1.5	0.000
0.767	0.000	1.49	0.00	0.02	1.5	0.000
0.783	0.000	1.49	0.00	0.02	1.5	0.000
0.800	0.000	1.49	0.00	0.02	1.5	0.000

0.817	0.000	1.49	0.00	0.02	1.5	0.000
0.833	0.000	1.49	0.00	0.02	1.5	0.000
0.850	0.000	1.49	0.00	0.02	1.5	0.000
0.867	0.000	1.49	0.00	0.02	1.5	0.000
0.883	0.000	1.49	0.00	0.02	1.5	0.000
0.900	0.000	1.49	0.00	0.02	1.5	0.000
0.917	0.000	1.49	0.00	0.02	1.5	0.000
0.933	0.000	1.50	0.00	0.02	1.5	0.000
0.950	0.000	1.50	0.00	0.02	1.5	0.000
0.967	0.000	1.50	0.00	0.02	1.5	0.000
0.983	0.000	1.50	0.00	0.02	1.5	0.000
1.000	0.000	1.50	0.00	0.02	1.5	0.000
1.017	0.000	1.50	0.00	0.02	1.5	0.000
1.033	0.000	1.50	0.00	0.02	1.5	0.000
1.050	0.000	1.50	0.00	0.02	1.5	0.000
1.067	0.000	1.50	0.00	0.02	1.5	0.000
1.083	0.000	1.50	0.00	0.02	1.5	0.000
1.100	0.000	1.50	0.00	0.02	1.5	0.000
1.117	0.000	1.51	0.00	0.02	1.5	0.000
1.133	0.000	1.51	0.00	0.02	1.5	0.000
1.150	0.000	1.51	0.00	0.02	1.5	0.000
1.167	0.000	1.51	0.00	0.02	1.5	0.000
1.183	0.000	1.51	0.00	0.02	1.5	0.000
1.200	0.000	1.51	0.00	0.02	1.5	0.000
1.217	0.000	1.51	0.00	0.02	1.5	0.000
1.233	0.000	1.51	0.00	0.02	1.5	0.000
1.250	0.000	1.51	0.00	0.02	1.5	0.000
1.267	0.000	1.51	0.00	0.02	1.5	0.000
1.283	0.000	1.51	0.00	0.02	1.5	0.000
1.300	0.000	1.51	0.00	0.02	1.5	0.000
1.317	0.000	1.51	0.00	0.02	1.5	0.000
1.333	0.000	1.51	0.00	0.02	1.5	0.000
1.350	0.000	1.51	0.00	0.02	1.5	0.000
1.367	0.000	1.51	0.00	0.02	1.5	0.000
1.383	0.000	1.52	0.00	0.02	1.5	0.000
1.400	0.000	1.52	0.00	0.02	1.5	0.000
1.417	0.000	1.52	0.00	0.02	1.5	0.000
1.433	0.000	1.52	0.00	0.02	1.5	0.000
1.450	0.000	1.52	0.00	0.02	1.5	0.000
1.467	0.000	1.52	0.00	0.02	1.5	0.000
1.483	0.000	1.52	0.00	0.02	1.5	0.000
1.500	0.000	1.52	0.00	0.02	1.5	0.000
1.517	0.000	1.52	0.00	0.02	1.5	0.000
1.533	0.000	1.52	0.00	0.02	1.5	0.000
1.550	0.000	1.52	0.00	0.02	1.5	0.000
1.567	0.000	1.52	0.00	0.02	1.5	0.000
1.583	0.000	1.53	0.00	0.02	1.5	0.000
1.600	0.000	1.53	0.00	0.02	1.5	0.000
1.617	0.000	1.53	0.00	0.02	1.5	0.000
1.633	0.000	1.53	0.00	0.02	1.5	0.000
1.650	0.000	1.53	0.00	0.02	1.5	0.000
1.667	0.000	1.53	0.00	0.02	1.5	0.000
1.683	0.000	1.53	0.00	0.02	1.5	0.000
1.700	0.000	1.53	0.00	0.02	1.5	0.000
1.717	0.000	1.53	0.00	0.02	1.5	0.000
1.733	0.000	1.53	0.00	0.02	1.5	0.000
1.750	0.000	1.53	0.00	0.02	1.5	0.000
1.767	0.000	1.53	0.00	0.02	1.5	0.000
1.783	0.000	1.54	0.00	0.02	1.5	0.000
1.800	0.000	1.54	0.00	0.02	1.5	0.000
1.817	0.000	1.54	0.00	0.02	1.5	0.000
1.833	0.000	1.54	0.00	0.02	1.5	0.000
1.850	0.000	1.54	0.00	0.02	1.5	0.000
1.867	0.000	1.54	0.00	0.02	1.5	0.000
1.883	0.000	1.54	0.00	0.02	1.5	0.000
1.900	0.000	1.54	0.00	0.02	1.5	0.000
1.917	0.000	1.54	0.00	0.02	1.5	0.000
1.933	0.000	1.54	0.00	0.02	1.5	0.000
1.950	0.000	1.54	0.00	0.02	1.5	0.000
1.967	0.000	1.54	0.00	0.02	1.5	0.000
1.983	0.000	1.54	0.00	0.02	1.5	0.000
2.000	0.000	1.54	0.00	0.02	1.5	0.000
2.017	0.000	1.54	0.00	0.02	1.5	0.000
2.033	0.000	1.55	0.00	0.02	1.5	0.000
2.050	0.000	1.55	0.00	0.02	1.5	0.000
2.067	0.000	1.55	0.00	0.02	1.5	0.000
2.083	0.000	1.55	0.00	0.02	1.5	0.000
2.100	0.000	1.55	0.00	0.02	1.5	0.000
2.117	0.000	1.55	0.00	0.02	1.6	0.000

2.133	0.000	1.55	0.00	0.02	1.6	0.000
2.150	0.000	1.55	0.00	0.02	1.6	0.000
2.167	0.000	1.55	0.00	0.02	1.6	0.000
2.183	0.000	1.56	0.00	0.02	1.6	0.000
2.200	0.000	1.56	0.00	0.02	1.6	0.000
2.217	0.000	1.56	0.00	0.02	1.6	0.000
2.233	0.000	1.56	0.00	0.02	1.6	0.000
2.250	0.000	1.56	0.00	0.02	1.6	0.000
2.267	0.000	1.56	0.00	0.02	1.6	0.000
2.283	0.000	1.56	0.00	0.02	1.6	0.000
2.300	0.000	1.56	0.00	0.02	1.6	0.000
2.317	0.000	1.56	0.00	0.02	1.6	0.000
2.333	0.000	1.56	0.00	0.02	1.6	0.000
2.350	0.000	1.56	0.00	0.02	1.6	0.000
2.367	0.000	1.56	0.00	0.02	1.6	0.000
2.383	0.000	1.56	0.00	0.02	1.6	0.000
2.400	0.000	1.56	0.00	0.02	1.6	0.000
2.417	0.000	1.57	0.00	0.02	1.6	0.000
2.433	0.000	1.57	0.00	0.02	1.6	0.000
2.450	0.000	1.57	0.00	0.02	1.6	0.000
2.467	0.000	1.57	0.00	0.02	1.6	0.000
2.483	0.000	1.57	0.00	0.02	1.6	0.000
2.500	0.000	1.57	0.00	0.02	1.6	0.000
2.517	0.000	1.57	0.00	0.02	1.6	0.000
2.533	0.000	1.57	0.00	0.02	1.6	0.000
2.550	0.000	1.57	0.00	0.02	1.6	0.000
2.567	0.000	1.57	0.00	0.02	1.6	0.000
2.583	0.000	1.57	0.00	0.02	1.6	0.000
2.600	0.000	1.58	0.00	0.02	1.6	0.000
2.617	0.000	1.58	0.00	0.02	1.6	0.000
2.633	0.000	1.58	0.00	0.02	1.6	0.000
2.650	0.000	1.58	0.00	0.02	1.6	0.000
2.667	0.000	1.58	0.00	0.02	1.6	0.000
2.683	0.000	1.58	0.00	0.02	1.6	0.000
2.700	0.000	1.58	0.00	0.02	1.6	0.000
2.717	0.000	1.58	0.00	0.02	1.6	0.000
2.733	0.000	1.58	0.00	0.02	1.6	0.000
2.750	0.000	1.58	0.00	0.02	1.6	0.000
2.767	0.000	1.58	0.00	0.02	1.6	0.000
2.783	0.000	1.58	0.00	0.02	1.6	0.000
2.800	0.000	1.59	0.00	0.02	1.6	0.000
2.817	0.000	1.59	0.00	0.02	1.6	0.000
2.833	0.000	1.59	0.00	0.02	1.6	0.000
2.850	0.000	1.59	0.00	0.02	1.6	0.000
2.867	0.000	1.59	0.00	0.02	1.6	0.000
2.883	0.000	1.59	0.00	0.02	1.6	0.000
2.900	0.000	1.59	0.00	0.02	1.6	0.000
2.917	0.000	1.59	0.00	0.02	1.6	0.000
2.933	0.000	1.59	0.00	0.02	1.6	0.000
2.950	0.000	1.59	0.00	0.02	1.6	0.000
2.967	0.000	1.59	0.00	0.02	1.6	0.000
2.983	0.000	1.59	0.00	0.02	1.6	0.000
3.000	0.000	1.60	0.00	0.02	1.6	0.000
3.017	0.000	1.60	0.00	0.02	1.6	0.000
3.033	0.000	1.60	0.00	0.02	1.6	0.000
3.050	0.000	1.60	0.00	0.02	1.6	0.000
3.067	0.000	1.60	0.00	0.02	1.6	0.000
3.083	0.000	1.60	0.00	0.02	1.6	0.000
3.100	0.000	1.60	0.00	0.02	1.6	0.000
3.117	0.000	1.60	0.00	0.02	1.6	0.000
3.133	0.000	1.60	0.00	0.02	1.6	0.000
3.150	0.000	1.60	0.00	0.02	1.6	0.000
3.167	0.000	1.61	0.00	0.02	1.6	0.000
3.183	0.000	1.61	0.00	0.02	1.6	0.000
3.200	0.000	1.61	0.00	0.02	1.6	0.000
3.217	0.000	1.61	0.00	0.02	1.6	0.000
3.233	0.000	1.61	0.00	0.02	1.6	0.000
3.250	0.000	1.61	0.00	0.02	1.6	0.000
3.267	0.000	1.61	0.00	0.02	1.6	0.000
3.283	0.000	1.61	0.00	0.02	1.6	0.000
3.300	0.000	1.61	0.00	0.02	1.6	0.000
3.317	0.000	1.61	0.00	0.02	1.6	0.000
3.333	0.000	1.61	0.00	0.02	1.6	0.000
3.350	0.000	1.61	0.00	0.02	1.6	0.000
3.367	0.000	1.62	0.00	0.02	1.6	0.000
3.383	0.000	1.62	0.00	0.02	1.6	0.000
3.400	0.000	1.62	0.00	0.02	1.6	0.000
3.417	0.000	1.62	0.00	0.02	1.6	0.000
3.433	0.000	1.62	0.00	0.02	1.6	0.000

3.450	0.000	1.62	0.00	0.02	1.6	0.000
3.467	0.000	1.62	0.00	0.02	1.6	0.000
3.483	0.000	1.62	0.00	0.02	1.6	0.000
3.500	0.000	1.62	0.00	0.02	1.6	0.000
3.517	0.000	1.63	0.00	0.02	1.6	0.000
3.533	0.000	1.63	0.00	0.02	1.6	0.000
3.550	0.000	1.63	0.00	0.02	1.6	0.000
3.567	0.000	1.63	0.00	0.02	1.6	0.000
3.583	0.000	1.63	0.00	0.02	1.6	0.000
3.600	0.000	1.63	0.00	0.02	1.6	0.000
3.617	0.000	1.63	0.00	0.02	1.6	0.000
3.633	0.000	1.63	0.00	0.02	1.6	0.000
3.650	0.000	1.63	0.00	0.02	1.6	0.000
3.667	0.000	1.63	0.00	0.02	1.6	0.000
3.683	0.000	1.63	0.00	0.02	1.6	0.000
3.700	0.000	1.63	0.00	0.02	1.6	0.000
3.717	0.000	1.64	0.00	0.02	1.6	0.000
3.733	0.000	1.64	0.00	0.02	1.6	0.000
3.750	0.000	1.64	0.00	0.02	1.6	0.000
3.767	0.000	1.64	0.00	0.02	1.6	0.000
3.783	0.000	1.64	0.00	0.02	1.6	0.000
3.800	0.000	1.64	0.00	0.02	1.6	0.000
3.817	0.000	1.64	0.00	0.02	1.6	0.000
3.833	0.000	1.64	0.00	0.02	1.6	0.000
3.850	0.000	1.64	0.00	0.02	1.6	0.000
3.867	0.000	1.65	0.00	0.02	1.6	0.000
3.883	0.000	1.65	0.00	0.02	1.6	0.000
3.900	0.000	1.65	0.00	0.02	1.6	0.000
3.917	0.000	1.65	0.00	0.02	1.6	0.000
3.933	0.000	1.65	0.00	0.02	1.7	0.000
3.950	0.000	1.65	0.00	0.02	1.7	0.000
3.967	0.000	1.65	0.00	0.02	1.7	0.000
3.983	0.000	1.65	0.00	0.02	1.7	0.000
4.000	0.000	1.65	0.00	0.02	1.7	0.000
4.017	0.000	1.65	0.00	0.02	1.7	0.000
4.033	0.000	1.65	0.00	0.02	1.7	0.000
4.050	0.000	1.66	0.00	0.02	1.7	0.000
4.067	0.000	1.66	0.00	0.02	1.7	0.000
4.083	0.000	1.66	0.00	0.02	1.7	0.000
4.100	0.000	1.66	0.00	0.02	1.7	0.000
4.117	0.000	1.66	0.00	0.02	1.7	0.000
4.133	0.000	1.66	0.00	0.02	1.7	0.000
4.150	0.000	1.66	0.00	0.02	1.7	0.000
4.167	0.000	1.66	0.00	0.02	1.7	0.000
4.183	0.000	1.66	0.00	0.02	1.7	0.000
4.200	0.000	1.67	0.00	0.02	1.7	0.000
4.217	0.000	1.67	0.00	0.02	1.7	0.000
4.233	0.000	1.67	0.00	0.02	1.7	0.000
4.250	0.000	1.67	0.00	0.02	1.7	0.000
4.267	0.000	1.67	0.00	0.02	1.7	0.000
4.283	0.000	1.67	0.00	0.02	1.7	0.000
4.300	0.000	1.67	0.00	0.02	1.7	0.000
4.317	0.000	1.67	0.00	0.02	1.7	0.000
4.333	0.000	1.67	0.00	0.02	1.7	0.000
4.350	0.000	1.68	0.00	0.02	1.7	0.000
4.367	0.000	1.68	0.00	0.02	1.7	0.000
4.383	0.000	1.68	0.00	0.02	1.7	0.000
4.400	0.000	1.68	0.00	0.02	1.7	0.000
4.417	0.000	1.68	0.00	0.02	1.7	0.000
4.433	0.000	1.68	0.00	0.02	1.7	0.000
4.450	0.000	1.68	0.00	0.02	1.7	0.000
4.467	0.000	1.68	0.00	0.02	1.7	0.000
4.483	0.000	1.68	0.00	0.02	1.7	0.000
4.500	0.000	1.68	0.00	0.02	1.7	0.000
4.517	0.000	1.68	0.00	0.02	1.7	0.000
4.533	0.000	1.69	0.00	0.02	1.7	0.000
4.550	0.000	1.69	0.00	0.02	1.7	0.000
4.567	0.000	1.69	0.00	0.02	1.7	0.000
4.583	0.000	1.69	0.00	0.02	1.7	0.000
4.600	0.000	1.69	0.00	0.02	1.7	0.000
4.617	0.000	1.69	0.00	0.02	1.7	0.000
4.633	0.000	1.69	0.00	0.02	1.7	0.000
4.650	0.000	1.70	0.00	0.02	1.7	0.000
4.667	0.000	1.70	0.00	0.02	1.7	0.000
4.683	0.000	1.70	0.00	0.02	1.7	0.000
4.700	0.000	1.70	0.00	0.02	1.7	0.000
4.717	0.000	1.70	0.00	0.02	1.7	0.000
4.733	0.000	1.70	0.00	0.02	1.7	0.000
4.750	0.000	1.70	0.00	0.02	1.7	0.000

4.767	0.000	1.70	0.00	0.02	1.7	0.000
4.783	0.000	1.70	0.00	0.02	1.7	0.000
4.800	0.000	1.70	0.00	0.02	1.7	0.000
4.817	0.000	1.70	0.00	0.02	1.7	0.000
4.833	0.000	1.70	0.00	0.02	1.7	0.000
4.850	0.000	1.71	0.00	0.02	1.7	0.000
4.867	0.000	1.71	0.00	0.02	1.7	0.000
4.883	0.000	1.71	0.00	0.02	1.7	0.000
4.900	0.000	1.71	0.00	0.02	1.7	0.000
4.917	0.000	1.71	0.00	0.02	1.7	0.000
4.933	0.000	1.71	0.00	0.02	1.7	0.000
4.950	0.000	1.72	0.00	0.02	1.7	0.000
4.967	0.000	1.72	0.00	0.02	1.7	0.000
4.983	0.000	1.72	0.00	0.02	1.7	0.000
5.000	0.000	1.72	0.00	0.02	1.7	0.000
5.017	0.000	1.72	0.00	0.02	1.7	0.000
5.033	0.000	1.72	0.00	0.02	1.7	0.000
5.050	0.000	1.72	0.00	0.02	1.7	0.000
5.067	0.000	1.72	0.00	0.02	1.7	0.000
5.083	0.000	1.72	0.00	0.02	1.7	0.000
5.100	0.000	1.72	0.00	0.02	1.7	0.000
5.117	0.000	1.72	0.00	0.02	1.7	0.000
5.133	0.000	1.73	0.00	0.02	1.7	0.000
5.150	0.000	1.73	0.00	0.02	1.7	0.000
5.167	0.000	1.73	0.00	0.02	1.7	0.000
5.183	0.000	1.73	0.00	0.02	1.7	0.000
5.200	0.000	1.73	0.00	0.02	1.7	0.000
5.217	0.000	1.73	0.00	0.02	1.7	0.000
5.233	0.000	1.73	0.00	0.02	1.7	0.000
5.250	0.000	1.73	0.00	0.02	1.7	0.000
5.267	0.000	1.74	0.00	0.02	1.7	0.000
5.283	0.000	1.74	0.00	0.02	1.7	0.000
5.300	0.000	1.74	0.00	0.02	1.7	0.000
5.317	0.000	1.74	0.00	0.02	1.7	0.000
5.333	0.000	1.74	0.00	0.02	1.7	0.000
5.350	0.000	1.74	0.00	0.02	1.7	0.000
5.367	0.000	1.74	0.00	0.02	1.7	0.000
5.383	0.000	1.75	0.00	0.02	1.7	0.000
5.400	0.000	1.75	0.00	0.02	1.7	0.000
5.417	0.000	1.75	0.00	0.02	1.7	0.000
5.433	0.000	1.75	0.00	0.02	1.7	0.000
5.450	0.000	1.75	0.00	0.02	1.7	0.000
5.467	0.000	1.75	0.00	0.02	1.7	0.000
5.483	0.000	1.75	0.00	0.02	1.7	0.000
5.500	0.000	1.75	0.00	0.02	1.8	0.000
5.517	0.000	1.75	0.00	0.02	1.8	0.000
5.533	0.000	1.75	0.00	0.02	1.8	0.000
5.550	0.000	1.76	0.00	0.02	1.8	0.000
5.567	0.000	1.76	0.00	0.02	1.8	0.000
5.583	0.000	1.76	0.00	0.02	1.8	0.000
5.600	0.000	1.76	0.00	0.02	1.8	0.000
5.617	0.000	1.76	0.00	0.02	1.8	0.000
5.633	0.000	1.76	0.00	0.02	1.8	0.000
5.650	0.000	1.77	0.00	0.02	1.8	0.000
5.667	0.000	1.77	0.00	0.02	1.8	0.000
5.683	0.000	1.77	0.00	0.02	1.8	0.000
5.700	0.000	1.77	0.00	0.02	1.8	0.000
5.717	0.000	1.77	0.00	0.02	1.8	0.000
5.733	0.000	1.77	0.00	0.02	1.8	0.000
5.750	0.000	1.77	0.00	0.02	1.8	0.000
5.767	0.000	1.77	0.00	0.02	1.8	0.000
5.783	0.000	1.77	0.00	0.02	1.8	0.000
5.800	0.000	1.77	0.00	0.02	1.8	0.000
5.817	0.000	1.78	0.00	0.02	1.8	0.000
5.833	0.000	1.78	0.00	0.02	1.8	0.000
5.850	0.000	1.78	0.00	0.02	1.8	0.000
5.867	0.000	1.78	0.00	0.02	1.8	0.000
5.883	0.000	1.78	0.00	0.02	1.8	0.000
5.900	0.000	1.78	0.00	0.02	1.8	0.000
5.917	0.000	1.78	0.00	0.02	1.8	0.000
5.933	0.000	1.78	0.00	0.02	1.8	0.000
5.950	0.000	1.79	0.00	0.02	1.8	0.000
5.967	0.000	1.79	0.00	0.02	1.8	0.000
5.983	0.000	1.79	0.00	0.02	1.8	0.000
6.000	0.000	1.79	0.00	0.02	1.8	0.000
6.017	0.000	1.79	0.00	0.02	1.8	0.000
6.033	0.000	1.80	0.00	0.02	1.8	0.000
6.050	0.000	1.80	0.00	0.02	1.8	0.000
6.067	0.000	1.80	0.00	0.02	1.8	0.000

6.083	0.000	1.80	0.00	0.02	1.8	0.000
6.100	0.000	1.80	0.00	0.02	1.8	0.000
6.117	0.000	1.80	0.00	0.02	1.8	0.000
6.133	0.000	1.80	0.00	0.02	1.8	0.000
6.150	0.000	1.80	0.00	0.02	1.8	0.000
6.167	0.000	1.80	0.00	0.02	1.8	0.000
6.183	0.000	1.80	0.00	0.02	1.8	0.000
6.200	0.000	1.80	0.00	0.02	1.8	0.000
6.217	0.000	1.81	0.00	0.02	1.8	0.000
6.233	0.000	1.81	0.00	0.02	1.8	0.000
6.250	0.000	1.81	0.00	0.02	1.8	0.000
6.267	0.000	1.81	0.00	0.02	1.8	0.000
6.283	0.000	1.81	0.00	0.02	1.8	0.000
6.300	0.000	1.81	0.00	0.02	1.8	0.000
6.317	0.000	1.82	0.00	0.02	1.8	0.000
6.333	0.000	1.82	0.00	0.02	1.8	0.000
6.350	0.000	1.82	0.00	0.02	1.8	0.000
6.367	0.000	1.82	0.00	0.02	1.8	0.000
6.383	0.000	1.82	0.00	0.02	1.8	0.000
6.400	0.000	1.82	0.00	0.02	1.8	0.000
6.417	0.000	1.83	0.00	0.02	1.8	0.000
6.433	0.000	1.83	0.00	0.02	1.8	0.000
6.450	0.000	1.83	0.00	0.02	1.8	0.000
6.467	0.000	1.83	0.00	0.02	1.8	0.000
6.483	0.000	1.83	0.00	0.02	1.8	0.000
6.500	0.000	1.83	0.00	0.02	1.8	0.000
6.517	0.000	1.83	0.00	0.02	1.8	0.000
6.533	0.000	1.83	0.00	0.02	1.8	0.000
6.550	0.000	1.83	0.00	0.02	1.8	0.000
6.567	0.000	1.83	0.00	0.02	1.8	0.000
6.583	0.000	1.84	0.00	0.02	1.8	0.000
6.600	0.000	1.84	0.00	0.02	1.8	0.000
6.617	0.000	1.84	0.00	0.02	1.8	0.000
6.633	0.000	1.84	0.00	0.02	1.8	0.000
6.650	0.000	1.84	0.00	0.02	1.8	0.000
6.667	0.000	1.85	0.00	0.02	1.8	0.000
6.683	0.000	1.85	0.00	0.02	1.8	0.000
6.700	0.000	1.85	0.00	0.02	1.8	0.000
6.717	0.000	1.85	0.00	0.02	1.9	0.000
6.733	0.000	1.85	0.00	0.02	1.9	0.000
6.750	0.000	1.85	0.00	0.02	1.9	0.000
6.767	0.000	1.86	0.00	0.02	1.9	0.000
6.783	0.000	1.86	0.00	0.02	1.9	0.000
6.800	0.000	1.86	0.00	0.02	1.9	0.000
6.817	0.000	1.86	0.00	0.02	1.9	0.000
6.833	0.000	1.86	0.00	0.02	1.9	0.000
6.850	0.000	1.86	0.00	0.02	1.9	0.000
6.867	0.000	1.86	0.00	0.02	1.9	0.000
6.883	0.000	1.86	0.00	0.02	1.9	0.000
6.900	0.000	1.86	0.00	0.02	1.9	0.000
6.917	0.000	1.86	0.00	0.02	1.9	0.000
6.933	0.000	1.87	0.00	0.02	1.9	0.000
6.950	0.000	1.87	0.00	0.02	1.9	0.000
6.967	0.000	1.87	0.00	0.02	1.9	0.000
6.983	0.000	1.87	0.00	0.02	1.9	0.000
7.000	0.000	1.87	0.00	0.02	1.9	0.000
7.017	0.000	1.88	0.00	0.02	1.9	0.000
7.033	0.000	1.88	0.00	0.02	1.9	0.000
7.050	0.000	1.88	0.00	0.02	1.9	0.000
7.067	0.000	1.88	0.00	0.02	1.9	0.000
7.083	0.000	1.88	0.00	0.02	1.9	0.000
7.100	0.000	1.89	0.00	0.02	1.9	0.000
7.117	0.000	1.89	0.00	0.02	1.9	0.000
7.133	0.000	1.89	0.00	0.02	1.9	0.000
7.150	0.000	1.89	0.00	0.02	1.9	0.000
7.167	0.000	1.89	0.00	0.02	1.9	0.000
7.183	0.000	1.89	0.00	0.02	1.9	0.000
7.200	0.000	1.89	0.00	0.02	1.9	0.000
7.217	0.000	1.89	0.00	0.02	1.9	0.000
7.233	0.000	1.89	0.00	0.02	1.9	0.000
7.250	0.000	1.90	0.00	0.02	1.9	0.000
7.267	0.000	1.90	0.00	0.02	1.9	0.000
7.283	0.000	1.90	0.00	0.02	1.9	0.000
7.300	0.000	1.90	0.00	0.02	1.9	0.000
7.317	0.000	1.90	0.00	0.02	1.9	0.000
7.333	0.000	1.91	0.00	0.02	1.9	0.000
7.350	0.000	1.91	0.00	0.02	1.9	0.000
7.367	0.000	1.91	0.00	0.02	1.9	0.000
7.383	0.000	1.91	0.00	0.02	1.9	0.000

7.400	0.000	1.91	0.00	0.02	1.9	0.000
7.417	0.000	1.92	0.00	0.02	1.9	0.000
7.433	0.000	1.92	0.00	0.02	1.9	0.000
7.450	0.000	1.92	0.00	0.02	1.9	0.000
7.467	0.000	1.92	0.00	0.02	1.9	0.000
7.483	0.000	1.92	0.00	0.02	1.9	0.000
7.500	0.000	1.92	0.00	0.02	1.9	0.000
7.517	0.000	1.92	0.00	0.02	1.9	0.000
7.533	0.000	1.92	0.00	0.02	1.9	0.000
7.550	0.000	1.93	0.00	0.02	1.9	0.000
7.567	0.000	1.93	0.00	0.02	1.9	0.000
7.583	0.000	1.93	0.00	0.02	1.9	0.000
7.600	0.000	1.93	0.00	0.02	1.9	0.000
7.617	0.000	1.93	0.00	0.02	1.9	0.000
7.633	0.000	1.93	0.00	0.02	1.9	0.000
7.650	0.000	1.94	0.00	0.02	1.9	0.000
7.667	0.000	1.94	0.00	0.02	1.9	0.000
7.683	0.000	1.94	0.00	0.02	1.9	0.000
7.700	0.000	1.94	0.00	0.02	1.9	0.000
7.717	0.000	1.94	0.00	0.02	1.9	0.000
7.733	0.000	1.95	0.00	0.02	1.9	0.000
7.750	0.000	1.95	0.00	0.02	1.9	0.000
7.767	0.000	1.95	0.00	0.02	2.0	0.000
7.783	0.000	1.95	0.00	0.02	2.0	0.000
7.800	0.000	1.95	0.00	0.02	2.0	0.000
7.817	0.000	1.96	0.00	0.02	2.0	0.000
7.833	0.000	1.96	0.00	0.02	2.0	0.000
7.850	0.000	1.96	0.00	0.02	2.0	0.000
7.867	0.000	1.96	0.00	0.02	2.0	0.000
7.883	0.000	1.96	0.00	0.02	2.0	0.000
7.900	0.000	1.96	0.00	0.02	2.0	0.000
7.917	0.000	1.96	0.00	0.02	2.0	0.000
7.933	0.000	1.96	0.00	0.02	2.0	0.000
7.950	0.000	1.97	0.00	0.02	2.0	0.000
7.967	0.000	1.97	0.00	0.02	2.0	0.000
7.983	0.000	1.97	0.00	0.02	2.0	0.000
8.000	0.000	1.97	0.00	0.02	2.0	0.000
8.017	0.000	1.97	0.00	0.02	2.0	0.000
8.033	0.000	1.98	0.00	0.02	2.0	0.000
8.050	0.000	1.98	0.00	0.02	2.0	0.000
8.067	0.000	1.98	0.00	0.02	2.0	0.000
8.083	0.000	1.98	0.00	0.02	2.0	0.000
8.100	0.000	1.99	0.00	0.02	2.0	0.000
8.117	0.000	1.99	0.00	0.02	2.0	0.000
8.133	0.000	1.99	0.00	0.02	2.0	0.000
8.150	0.000	1.99	0.00	0.02	2.0	0.000
8.167	0.000	1.99	0.00	0.02	2.0	0.000
8.183	0.000	1.99	0.00	0.02	2.0	0.000
8.200	0.000	2.00	0.00	0.02	2.0	0.000
8.217	0.000	2.00	0.00	0.02	2.0	0.000
8.233	0.000	2.00	0.00	0.02	2.0	0.000
8.250	0.000	2.00	0.00	0.02	2.0	0.000
8.267	0.000	2.00	0.00	0.02	2.0	0.000
8.283	0.000	2.00	0.00	0.02	2.0	0.000
8.300	0.000	2.00	0.00	0.02	2.0	0.000
8.317	0.000	2.01	0.00	0.02	2.0	0.000
8.333	0.000	2.01	0.00	0.02	2.0	0.000
8.350	0.000	2.01	0.00	0.02	2.0	0.000
8.367	0.000	2.01	0.00	0.02	2.0	0.000
8.383	0.000	2.02	0.00	0.02	2.0	0.000
8.400	0.000	2.02	0.00	0.02	2.0	0.000
8.417	0.000	2.02	0.00	0.02	2.0	0.000
8.433	0.000	2.02	0.00	0.02	2.0	0.000
8.450	0.000	2.03	0.00	0.02	2.0	0.000
8.467	0.000	2.03	0.00	0.02	2.0	0.000
8.483	0.000	2.03	0.00	0.02	2.0	0.000
8.500	0.000	2.03	0.00	0.02	2.0	0.000
8.517	0.000	2.03	0.00	0.02	2.0	0.000
8.533	0.000	2.04	0.00	0.02	2.0	0.000
8.550	0.000	2.04	0.00	0.02	2.0	0.000
8.567	0.000	2.04	0.00	0.03	2.0	0.000
8.583	0.000	2.04	0.00	0.03	2.0	0.000
8.600	0.000	2.04	0.00	0.03	2.0	0.000
8.617	0.000	2.04	0.00	0.03	2.0	0.000
8.633	0.000	2.04	0.00	0.03	2.0	0.000
8.650	0.000	2.04	0.00	0.03	2.0	0.000
8.667	0.000	2.05	0.00	0.03	2.0	0.000
8.683	0.000	2.05	0.00	0.03	2.0	0.000
8.700	0.000	2.05	0.00	0.03	2.1	0.000

8.717	0.000	2.05	0.00	0.03	2.1	0.000
8.733	0.000	2.06	0.00	0.03	2.1	0.000
8.750	0.000	2.06	0.00	0.03	2.1	0.000
8.767	0.000	2.06	0.00	0.03	2.1	0.000
8.783	0.000	2.07	0.00	0.03	2.1	0.000
8.800	0.000	2.07	0.00	0.03	2.1	0.000
8.817	0.000	2.07	0.00	0.03	2.1	0.000
8.833	0.000	2.07	0.00	0.03	2.1	0.000
8.850	0.000	2.08	0.00	0.03	2.1	0.000
8.867	0.000	2.08	0.00	0.03	2.1	0.000
8.883	0.000	2.08	0.00	0.03	2.1	0.000
8.900	0.000	2.08	0.00	0.03	2.1	0.000
8.917	0.000	2.08	0.00	0.03	2.1	0.000
8.933	0.000	2.08	0.00	0.03	2.1	0.000
8.950	0.000	2.08	0.00	0.03	2.1	0.000
8.967	0.000	2.09	0.00	0.03	2.1	0.000
8.983	0.000	2.09	0.00	0.03	2.1	0.000
9.000	0.000	2.09	0.00	0.03	2.1	0.000
9.017	0.000	2.09	0.00	0.03	2.1	0.000
9.033	0.000	2.09	0.00	0.03	2.1	0.000
9.050	0.000	2.10	0.00	0.03	2.1	0.000
9.067	0.000	2.10	0.00	0.03	2.1	0.000
9.083	0.000	2.10	0.00	0.03	2.1	0.000
9.100	0.000	2.10	0.00	0.03	2.1	0.000
9.117	0.000	2.11	0.00	0.03	2.1	0.000
9.133	0.000	2.11	0.00	0.03	2.1	0.000
9.150	0.000	2.11	0.00	0.03	2.1	0.000
9.167	0.000	2.12	0.00	0.03	2.1	0.000
9.183	0.000	2.12	0.00	0.03	2.1	0.000
9.200	0.000	2.12	0.00	0.03	2.1	0.000
9.217	0.000	2.12	0.00	0.03	2.1	0.000
9.233	0.000	2.12	0.00	0.03	2.1	0.000
9.250	0.000	2.13	0.00	0.03	2.1	0.000
9.267	0.000	2.13	0.00	0.03	2.1	0.000
9.283	0.000	2.13	0.00	0.03	2.1	0.000
9.300	0.000	2.13	0.00	0.03	2.1	0.000
9.317	0.000	2.13	0.00	0.03	2.1	0.000
9.333	0.000	2.13	0.00	0.03	2.1	0.000
9.350	0.000	2.13	0.00	0.03	2.1	0.000
9.367	0.000	2.14	0.00	0.03	2.1	0.000
9.383	0.000	2.14	0.00	0.03	2.1	0.000
9.400	0.000	2.14	0.00	0.03	2.1	0.000
9.417	0.000	2.15	0.00	0.03	2.1	0.000
9.433	0.000	2.15	0.00	0.03	2.1	0.000
9.450	0.000	2.15	0.00	0.03	2.2	0.000
9.467	0.000	2.16	0.00	0.03	2.2	0.000
9.483	0.000	2.16	0.00	0.03	2.2	0.000
9.500	0.000	2.16	0.00	0.03	2.2	0.000
9.517	0.000	2.17	0.00	0.03	2.2	0.000
9.533	0.000	2.17	0.00	0.03	2.2	0.000
9.550	0.000	2.17	0.00	0.03	2.2	0.000
9.567	0.000	2.17	0.00	0.03	2.2	0.000
9.583	0.000	2.17	0.00	0.03	2.2	0.000
9.600	0.000	2.18	0.00	0.03	2.2	0.000
9.617	0.000	2.18	0.00	0.03	2.2	0.000
9.633	0.000	2.18	0.00	0.03	2.2	0.000
9.650	0.000	2.18	0.00	0.03	2.2	0.000
9.667	0.000	2.18	0.00	0.03	2.2	0.000
9.683	0.000	2.18	0.00	0.03	2.2	0.000
9.700	0.000	2.19	0.00	0.03	2.2	0.000
9.717	0.000	2.19	0.00	0.03	2.2	0.000
9.733	0.000	2.19	0.00	0.03	2.2	0.000
9.750	0.000	2.19	0.00	0.03	2.2	0.000
9.767	0.000	2.20	0.00	0.03	2.2	0.000
9.783	0.000	2.20	0.00	0.03	2.2	0.000
9.800	0.000	2.20	0.00	0.03	2.2	0.000
9.817	0.000	2.21	0.00	0.03	2.2	0.000
9.833	0.000	2.21	0.00	0.03	2.2	0.000
9.850	0.000	2.22	0.00	0.03	2.2	0.000
9.867	0.000	2.22	0.00	0.03	2.2	0.000
9.883	0.000	2.22	0.00	0.03	2.2	0.000
9.900	0.000	2.22	0.00	0.03	2.2	0.000
9.917	0.000	2.23	0.00	0.03	2.2	0.000
9.933	0.000	2.23	0.00	0.03	2.2	0.000
9.950	0.000	2.23	0.00	0.03	2.2	0.000
9.967	0.000	2.23	0.00	0.03	2.2	0.000
9.983	0.000	2.23	0.00	0.03	2.2	0.000
10.000	0.000	2.23	0.00	0.03	2.2	0.000
10.017	0.000	2.24	0.00	0.03	2.2	0.000

10.033	0.000	2.24	0.00	0.03	2.2	0.000
10.050	0.000	2.24	0.00	0.03	2.2	0.000
10.067	0.000	2.24	0.00	0.03	2.2	0.000
10.083	0.000	2.25	0.00	0.03	2.2	0.000
10.100	0.000	2.25	0.00	0.03	2.2	0.000
10.117	0.000	2.25	0.00	0.03	2.3	0.000
10.133	0.000	2.26	0.00	0.03	2.3	0.000
10.150	0.000	2.26	0.00	0.03	2.3	0.000
10.167	0.000	2.26	0.00	0.03	2.3	0.000
10.183	0.000	2.27	0.00	0.03	2.3	0.000
10.200	0.000	2.27	0.00	0.03	2.3	0.000
10.217	0.000	2.28	0.00	0.03	2.3	0.000
10.233	0.000	2.28	0.00	0.03	2.3	0.000
10.250	0.000	2.28	0.00	0.03	2.3	0.000
10.267	0.000	2.28	0.00	0.03	2.3	0.000
10.283	0.000	2.29	0.00	0.03	2.3	0.000
10.300	0.000	2.29	0.00	0.03	2.3	0.000
10.317	0.000	2.29	0.00	0.03	2.3	0.000
10.333	0.000	2.29	0.00	0.03	2.3	0.000
10.350	0.000	2.29	0.00	0.03	2.3	0.000
10.367	0.000	2.30	0.00	0.03	2.3	0.000
10.383	0.000	2.30	0.00	0.03	2.3	0.000
10.400	0.000	2.30	0.00	0.03	2.3	0.000
10.417	0.000	2.30	0.00	0.03	2.3	0.000
10.433	0.000	2.31	0.00	0.03	2.3	0.000
10.450	0.000	2.31	0.00	0.03	2.3	0.000
10.467	0.000	2.31	0.00	0.03	2.3	0.000
10.483	0.000	2.32	0.00	0.03	2.3	0.000
10.500	0.000	2.32	0.00	0.03	2.3	0.000
10.517	0.000	2.33	0.00	0.03	2.3	0.000
10.533	0.000	2.33	0.00	0.03	2.3	0.000
10.550	0.000	2.33	0.00	0.03	2.3	0.000
10.567	0.000	2.34	0.00	0.03	2.3	0.000
10.583	0.000	2.34	0.00	0.03	2.3	0.000
10.600	0.000	2.34	0.00	0.03	2.3	0.000
10.617	0.000	2.35	0.00	0.03	2.3	0.000
10.633	0.000	2.35	0.00	0.03	2.3	0.000
10.650	0.000	2.35	0.00	0.03	2.4	0.000
10.667	0.000	2.35	0.00	0.03	2.4	0.000
10.683	0.000	2.36	0.00	0.03	2.4	0.000
10.700	0.000	2.36	0.00	0.03	2.4	0.000
10.717	0.000	2.36	0.00	0.03	2.4	0.000
10.733	0.000	2.36	0.00	0.03	2.4	0.000
10.750	0.000	2.36	0.00	0.03	2.4	0.000
10.767	0.000	2.37	0.00	0.03	2.4	0.000
10.783	0.000	2.37	0.00	0.03	2.4	0.000
10.800	0.000	2.38	0.00	0.03	2.4	0.000
10.817	0.000	2.38	0.00	0.03	2.4	0.000
10.833	0.000	2.38	0.00	0.03	2.4	0.000
10.850	0.000	2.39	0.00	0.03	2.4	0.000
10.867	0.000	2.39	0.00	0.03	2.4	0.000
10.883	0.000	2.40	0.00	0.03	2.4	0.000
10.900	0.000	2.40	0.00	0.03	2.4	0.000
10.917	0.000	2.41	0.00	0.03	2.4	0.000
10.933	0.000	2.41	0.00	0.03	2.4	0.000
10.950	0.000	2.41	0.00	0.03	2.4	0.000
10.967	0.000	2.42	0.00	0.03	2.4	0.000
10.983	0.000	2.42	0.00	0.03	2.4	0.000
11.000	0.000	2.42	0.00	0.03	2.4	0.000
11.017	0.000	2.42	0.00	0.03	2.4	0.000
11.033	0.000	2.43	0.00	0.03	2.4	0.000
11.050	0.000	2.43	0.00	0.03	2.4	0.000
11.067	0.000	2.43	0.00	0.03	2.4	0.000
11.083	0.000	2.43	0.00	0.03	2.4	0.000
11.100	0.000	2.43	0.00	0.03	2.4	0.000
11.117	0.000	2.44	0.00	0.03	2.4	0.000
11.133	0.000	2.44	0.00	0.03	2.4	0.000
11.150	0.000	2.45	0.00	0.03	2.4	0.000
11.167	0.000	2.45	0.00	0.03	2.5	0.000
11.183	0.000	2.46	0.00	0.03	2.5	0.000
11.200	0.000	2.46	0.00	0.03	2.5	0.000
11.217	0.000	2.47	0.00	0.03	2.5	0.000
11.233	0.000	2.47	0.00	0.03	2.5	0.000
11.250	0.000	2.48	0.00	0.03	2.5	0.000
11.267	0.000	2.48	0.00	0.03	2.5	0.000
11.283	0.000	2.49	0.00	0.03	2.5	0.000
11.300	0.000	2.49	0.00	0.03	2.5	0.000
11.317	0.000	2.49	0.00	0.03	2.5	0.000
11.333	0.000	2.49	0.00	0.03	2.5	0.000

11.350	0.000	2.50	0.00	0.03	2.5	0.000
11.367	0.000	2.50	0.00	0.03	2.5	0.000
11.383	0.000	2.50	0.00	0.03	2.5	0.000
11.400	0.000	2.51	0.00	0.03	2.5	0.000
11.417	0.000	2.51	0.00	0.03	2.5	0.000
11.433	0.000	2.51	0.00	0.03	2.5	0.000
11.450	0.000	2.51	0.00	0.03	2.5	0.000
11.467	0.000	2.52	0.00	0.03	2.5	0.000
11.483	0.000	2.52	0.00	0.03	2.5	0.000
11.500	0.000	2.53	0.00	0.03	2.5	0.000
11.517	0.000	2.53	0.00	0.03	2.5	0.000
11.533	0.000	2.54	0.00	0.03	2.5	0.000
11.550	0.000	2.54	0.00	0.03	2.5	0.000
11.567	0.000	2.55	0.00	0.03	2.5	0.000
11.583	0.000	2.56	0.00	0.03	2.6	0.000
11.600	0.000	2.56	0.00	0.03	2.6	0.000
11.617	0.000	2.57	0.00	0.03	2.6	0.000
11.633	0.000	2.57	0.00	0.03	2.6	0.000
11.650	0.000	2.57	0.00	0.03	2.6	0.000
11.667	0.000	2.58	0.00	0.03	2.6	0.000
11.683	0.000	2.58	0.00	0.03	2.6	0.000
11.700	0.000	2.58	0.00	0.03	2.6	0.000
11.717	0.000	2.59	0.00	0.03	2.6	0.000
11.733	0.000	2.59	0.00	0.03	2.6	0.000
11.750	0.000	2.59	0.00	0.03	2.6	0.000
11.767	0.000	2.59	0.00	0.03	2.6	0.000
11.783	0.000	2.60	0.00	0.03	2.6	0.000
11.800	0.000	2.60	0.00	0.03	2.6	0.000
11.817	0.000	2.60	0.00	0.03	2.6	0.000
11.833	0.000	2.61	0.00	0.03	2.6	0.000
11.850	0.000	2.62	0.00	0.03	2.6	0.000
11.867	0.000	2.62	0.00	0.03	2.6	0.000
11.883	0.000	2.63	0.00	0.03	2.6	0.000
11.900	0.000	2.64	0.00	0.03	2.6	0.000
11.917	0.000	2.64	0.00	0.03	2.6	0.000
11.933	0.000	2.65	0.00	0.03	2.6	0.000
11.950	0.000	2.65	0.00	0.03	2.7	0.000
11.967	0.000	2.66	0.00	0.03	2.7	0.000
11.983	0.000	2.67	0.00	0.03	2.7	0.000
12.000	0.000	2.67	0.00	0.03	2.7	0.000
12.017	0.000	2.67	0.00	0.03	2.7	0.000
12.033	0.000	2.68	0.00	0.03	2.7	0.000
12.050	0.000	2.68	0.00	0.03	2.7	0.000
12.067	0.000	2.69	0.00	0.03	2.7	0.000
12.083	0.000	2.69	0.00	0.03	2.7	0.000
12.100	0.000	2.70	0.00	0.03	2.7	0.000
12.117	0.000	2.70	0.00	0.03	2.7	0.000
12.133	0.000	2.71	0.00	0.03	2.7	0.000
12.150	0.000	2.71	0.00	0.03	2.7	0.000
12.167	0.000	2.72	0.00	0.03	2.7	0.000
12.183	0.000	2.73	0.00	0.03	2.7	0.000
12.200	0.000	2.74	0.00	0.03	2.7	0.000
12.217	0.000	2.75	0.00	0.03	2.7	0.000
12.233	0.000	2.76	0.00	0.03	2.8	0.000
12.250	0.000	2.77	0.00	0.03	2.8	0.000
12.267	0.000	2.78	0.00	0.03	2.8	0.000
12.283	0.000	2.79	0.00	0.03	2.8	0.000
12.300	0.000	2.80	0.00	0.03	2.8	0.000
12.317	0.000	2.81	0.00	0.03	2.8	0.000
12.333	0.000	2.82	0.00	0.03	2.8	0.000
12.350	0.000	2.82	0.00	0.03	2.8	0.000
12.367	0.000	2.82	0.00	0.03	2.8	0.000
12.383	0.000	2.83	0.00	0.03	2.8	0.000
12.400	0.000	2.83	0.00	0.03	2.8	0.000
12.417	0.000	2.84	0.00	0.03	2.8	0.000
12.433	0.000	2.84	0.00	0.03	2.8	0.000
12.450	0.000	2.84	0.00	0.03	2.8	0.000
12.467	0.000	2.85	0.00	0.03	2.8	0.000
12.483	0.000	2.85	0.00	0.03	2.9	0.000
12.500	0.000	2.85	0.00	0.04	2.9	0.000
12.517	0.000	2.86	0.00	0.04	2.9	0.000
12.533	0.000	2.87	0.00	0.04	2.9	0.000
12.550	0.000	2.88	0.00	0.04	2.9	0.000
12.567	0.000	2.88	0.00	0.04	2.9	0.000
12.583	0.000	2.89	0.00	0.04	2.9	0.000
12.600	0.000	2.90	0.00	0.04	2.9	0.000
12.617	0.000	2.91	0.00	0.04	2.9	0.000
12.633	0.000	2.91	0.00	0.04	2.9	0.000
12.650	0.000	2.92	0.00	0.04	2.9	0.000

12.667	0.000	2.93	0.00	0.04	2.9	0.000
12.683	0.000	2.94	0.00	0.04	2.9	0.000
12.700	0.000	2.94	0.00	0.04	2.9	0.000
12.717	0.000	2.95	0.00	0.04	2.9	0.000
12.733	0.000	2.95	0.00	0.04	3.0	0.000
12.750	0.000	2.96	0.00	0.04	3.0	0.000
12.767	0.000	2.96	0.00	0.04	3.0	0.000
12.783	0.000	2.96	0.00	0.04	3.0	0.000
12.800	0.000	2.97	0.00	0.04	3.0	0.000
12.817	0.000	2.97	0.00	0.04	3.0	0.000
12.833	0.000	2.98	0.00	0.04	3.0	0.000
12.850	0.000	2.98	0.00	0.04	3.0	0.000
12.867	0.000	2.99	0.00	0.04	3.0	0.000
12.883	0.000	3.00	0.00	0.04	3.0	0.000
12.900	0.000	3.01	0.00	0.04	3.0	0.000
12.917	0.000	3.01	0.00	0.04	3.0	0.000
12.933	0.000	3.02	0.00	0.04	3.0	0.000
12.950	0.000	3.03	0.00	0.04	3.0	0.000
12.967	0.000	3.04	0.00	0.04	3.0	0.000
12.983	0.000	3.05	0.00	0.04	3.1	0.000
13.000	0.000	3.06	0.00	0.04	3.1	0.000
13.017	0.000	3.07	0.00	0.04	3.1	0.000
13.033	0.000	3.08	0.00	0.04	3.1	0.000
13.050	0.000	3.08	0.00	0.04	3.1	0.000
13.067	0.000	3.09	0.00	0.04	3.1	0.000
13.083	0.000	3.09	0.00	0.04	3.1	0.000
13.100	0.000	3.10	0.00	0.04	3.1	0.000
13.117	0.000	3.10	0.00	0.04	3.1	0.000
13.133	0.000	3.11	0.00	0.04	3.1	0.000
13.150	0.000	3.11	0.00	0.04	3.1	0.000
13.167	0.000	3.12	0.00	0.04	3.1	0.000
13.183	0.000	3.12	0.00	0.04	3.1	0.000
13.200	0.000	3.13	0.00	0.04	3.1	0.000
13.217	0.000	3.14	0.00	0.04	3.1	0.000
13.233	0.000	3.15	0.00	0.04	3.1	0.000
13.250	0.000	3.16	0.00	0.04	3.2	0.000
13.267	0.000	3.17	0.00	0.04	3.2	0.000
13.283	0.000	3.18	0.00	0.04	3.2	0.000
13.300	0.000	3.19	0.00	0.04	3.2	0.000
13.317	0.000	3.20	0.00	0.04	3.2	0.000
13.333	0.000	3.21	0.00	0.04	3.2	0.000
13.350	0.000	3.22	0.00	0.04	3.2	0.000
13.367	0.000	3.23	0.00	0.04	3.2	0.000
13.383	0.000	3.24	0.00	0.04	3.2	0.000
13.400	0.000	3.25	0.00	0.04	3.2	0.000
13.417	0.000	3.26	0.00	0.04	3.3	0.000
13.433	0.000	3.26	0.00	0.04	3.3	0.000
13.450	0.000	3.27	0.00	0.04	3.3	0.000
13.467	0.000	3.27	0.00	0.04	3.3	0.000
13.483	0.000	3.28	0.00	0.04	3.3	0.000
13.500	0.000	3.28	0.00	0.04	3.3	0.000
13.517	0.000	3.29	0.00	0.04	3.3	0.000
13.533	0.000	3.30	0.00	0.04	3.3	0.000
13.550	0.000	3.30	0.00	0.04	3.3	0.000
13.567	0.000	3.31	0.00	0.04	3.3	0.000
13.583	0.000	3.32	0.00	0.04	3.3	0.000
13.600	0.000	3.34	0.00	0.04	3.3	0.000
13.617	0.000	3.35	0.00	0.04	3.3	0.000
13.633	0.000	3.36	0.00	0.04	3.4	0.000
13.650	0.000	3.38	0.00	0.04	3.4	0.000
13.667	0.000	3.39	0.00	0.04	3.4	0.000
13.683	0.000	3.40	0.00	0.04	3.4	0.000
13.700	0.000	3.42	0.00	0.04	3.4	0.000
13.717	0.000	3.43	0.00	0.04	3.4	0.000
13.733	0.000	3.44	0.00	0.04	3.4	0.000
13.750	0.000	3.45	0.00	0.04	3.4	0.000
13.767	0.000	3.46	0.00	0.04	3.5	0.000
13.783	0.000	3.46	0.00	0.04	3.5	0.000
13.800	0.000	3.47	0.00	0.04	3.5	0.000
13.817	0.000	3.48	0.00	0.04	3.5	0.000
13.833	0.000	3.49	0.00	0.04	3.5	0.000
13.850	0.000	3.49	0.00	0.04	3.5	0.000
13.867	0.000	3.50	0.00	0.04	3.5	0.000
13.883	0.000	3.51	0.00	0.04	3.5	0.000
13.900	0.000	3.51	0.00	0.04	3.5	0.000
13.917	0.000	3.52	0.00	0.04	3.5	0.000
13.933	0.000	3.54	0.00	0.04	3.5	0.000
13.950	0.000	3.55	0.00	0.04	3.6	0.000
13.967	0.000	3.57	0.00	0.04	3.6	0.000

13.983	0.000	3.58	0.00	0.04	3.6	0.000
14.000	0.000	3.59	0.00	0.04	3.6	0.000
14.017	0.000	3.61	0.00	0.04	3.6	0.000
14.033	0.000	3.62	0.00	0.04	3.6	0.000
14.050	0.000	3.64	0.00	0.04	3.6	0.000
14.067	0.000	3.65	0.00	0.04	3.6	0.000
14.083	0.000	3.66	0.00	0.04	3.7	0.000
14.100	0.000	3.66	0.00	0.04	3.7	0.000
14.117	0.000	3.66	0.00	0.04	3.7	0.000
14.133	0.000	3.65	0.00	0.04	3.7	0.000
14.150	0.000	3.65	0.00	0.04	3.6	0.000
14.167	0.000	3.64	0.00	0.04	3.6	0.000
14.183	0.000	3.64	0.00	0.04	3.6	0.000
14.200	0.000	3.63	0.00	0.04	3.6	0.000
14.217	0.000	3.63	0.00	0.04	3.6	0.000
14.233	0.000	3.63	0.00	0.04	3.6	0.000
14.250	0.000	3.62	0.00	0.04	3.6	0.000
14.267	0.000	3.63	0.00	0.04	3.6	0.000
14.283	0.000	3.65	0.00	0.04	3.6	0.000
14.300	0.000	3.67	0.00	0.05	3.7	0.000
14.317	0.000	3.69	0.00	0.05	3.7	0.000
14.333	0.000	3.72	0.00	0.05	3.7	0.000
14.350	0.000	3.74	0.00	0.05	3.7	0.000
14.367	0.000	3.76	0.00	0.05	3.8	0.000
14.383	0.000	3.78	0.00	0.05	3.8	0.000
14.400	0.000	3.80	0.00	0.05	3.8	0.000
14.417	0.000	3.82	0.00	0.05	3.8	0.000
14.433	0.000	3.84	0.00	0.05	3.8	0.000
14.450	0.000	3.85	0.00	0.05	3.9	0.000
14.467	0.000	3.87	0.00	0.05	3.9	0.000
14.483	0.000	3.88	0.00	0.05	3.9	0.000
14.500	0.000	3.89	0.00	0.05	3.9	0.000
14.517	0.000	3.90	0.00	0.05	3.9	0.000
14.533	0.000	3.92	0.00	0.05	3.9	0.000
14.550	0.000	3.93	0.00	0.05	3.9	0.000
14.567	0.000	3.94	0.00	0.05	3.9	0.000
14.583	0.000	3.95	0.00	0.05	4.0	0.000
14.600	0.000	3.96	0.00	0.05	4.0	0.000
14.617	0.000	3.98	0.00	0.05	4.0	0.000
14.633	0.000	4.01	0.00	0.05	4.0	0.000
14.650	0.000	4.04	0.00	0.05	4.0	0.000
14.667	0.000	4.07	0.00	0.05	4.1	0.001
14.683	0.000	4.10	0.00	0.05	4.1	0.001
14.700	0.000	4.13	0.00	0.05	4.1	0.001
14.717	0.000	4.16	0.00	0.05	4.2	0.001
14.733	0.000	4.19	0.00	0.05	4.2	0.001
14.750	0.000	4.22	0.00	0.05	4.2	0.001
14.767	0.000	4.24	0.00	0.05	4.2	0.001
14.783	0.000	4.27	0.00	0.05	4.3	0.001
14.800	0.000	4.29	0.00	0.05	4.3	0.001
14.817	0.000	4.31	0.00	0.05	4.3	0.001
14.833	0.000	4.33	0.00	0.05	4.3	0.001
14.850	0.000	4.34	0.00	0.05	4.3	0.001
14.867	0.000	4.36	0.00	0.05	4.4	0.001
14.883	0.000	4.38	0.00	0.05	4.4	0.001
14.900	0.000	4.40	0.00	0.05	4.4	0.001
14.917	0.000	4.41	0.00	0.05	4.4	0.001
14.933	0.000	4.43	0.00	0.05	4.4	0.001
14.950	0.000	4.45	0.00	0.05	4.4	0.001
14.967	0.000	4.48	0.00	0.06	4.5	0.001
14.983	0.000	4.52	0.00	0.06	4.5	0.001
15.000	0.000	4.56	0.00	0.06	4.6	0.001
15.017	0.000	4.61	0.00	0.06	4.6	0.001
15.033	0.000	4.65	0.00	0.06	4.6	0.001
15.050	0.000	4.69	0.00	0.06	4.7	0.001
15.067	0.000	4.74	0.00	0.06	4.7	0.001
15.083	0.000	4.78	0.00	0.06	4.8	0.001
15.100	0.000	4.82	0.00	0.06	4.8	0.001
15.117	0.000	4.87	0.00	0.06	4.9	0.001
15.133	0.000	4.91	0.00	0.06	4.9	0.001
15.150	0.000	4.94	0.00	0.06	4.9	0.001
15.167	0.000	4.97	0.00	0.06	5.0	0.001
15.183	0.000	4.99	0.00	0.06	5.0	0.001
15.200	0.000	5.02	0.00	0.06	5.0	0.001
15.217	0.000	5.05	0.00	0.06	5.0	0.001
15.233	0.000	5.08	0.00	0.06	5.1	0.001
15.250	0.000	5.10	0.00	0.06	5.1	0.001
15.267	0.000	5.13	0.00	0.06	5.1	0.001
15.283	0.000	5.16	0.00	0.06	5.2	0.001

15.300	0.000	5.19	0.00	0.06	5.2	0.001
15.317	0.000	5.19	0.00	0.06	5.2	0.001
15.333	0.000	5.15	0.00	0.06	5.2	0.001
15.350	0.000	5.12	0.00	0.06	5.1	0.001
15.367	0.000	5.09	0.00	0.06	5.1	0.001
15.383	0.000	5.05	0.00	0.06	5.1	0.001
15.400	0.000	5.02	0.00	0.06	5.0	0.001
15.417	0.000	4.99	0.00	0.06	5.0	0.001
15.433	0.000	4.95	0.00	0.06	5.0	0.001
15.450	0.000	4.92	0.00	0.06	4.9	0.001
15.467	0.000	4.89	0.00	0.06	4.9	0.001
15.483	0.000	4.86	0.00	0.06	4.9	0.001
15.500	0.000	4.87	0.00	0.06	4.9	0.001
15.517	0.000	4.88	0.00	0.06	4.9	0.001
15.533	0.000	4.89	0.00	0.06	4.9	0.001
15.550	0.000	4.90	0.00	0.06	4.9	0.001
15.567	0.000	4.91	0.00	0.06	4.9	0.001
15.583	0.000	4.92	0.00	0.06	4.9	0.001
15.600	0.000	4.93	0.00	0.06	4.9	0.001
15.617	0.000	4.94	0.00	0.06	4.9	0.001
15.633	0.000	4.96	0.00	0.06	5.0	0.001
15.650	0.000	4.97	0.00	0.06	5.0	0.001
15.667	0.000	5.10	0.00	0.06	5.1	0.001
15.683	0.000	5.34	0.00	0.07	5.3	0.001
15.700	0.000	5.59	0.00	0.07	5.6	0.001
15.717	0.000	5.84	0.00	0.07	5.8	0.001
15.733	0.000	6.08	0.00	0.08	6.1	0.001
15.750	0.000	6.33	0.00	0.08	6.3	0.001
15.767	0.000	6.58	0.00	0.08	6.6	0.001
15.783	0.000	6.82	0.00	0.08	6.8	0.001
15.800	0.000	7.07	0.00	0.09	7.0	0.001
15.817	0.000	7.32	0.00	0.09	7.3	0.001
15.833	0.000	7.57	0.00	0.09	7.5	0.001
15.850	0.000	7.86	0.00	0.10	7.8	0.001
15.867	0.000	8.15	0.00	0.10	8.1	0.001
15.883	0.000	8.44	0.00	0.11	8.4	0.001
15.900	0.000	8.73	0.00	0.11	8.7	0.001
15.917	0.000	9.02	0.00	0.11	8.9	0.001
15.933	0.000	9.31	0.00	0.13	9.0	0.002
15.950	0.000	9.61	0.00	0.15	9.1	0.002
15.967	0.000	9.90	0.00	0.19	9.2	0.003
15.983	0.000	10.19	0.00	0.22	9.3	0.005
16.000	0.000	10.48	0.00	0.23	9.4	0.006
16.017	0.000	11.71	0.00	0.27	9.5	0.009
16.033	0.000	13.86	0.00	0.33	9.7	0.015
16.050	0.000	16.02	0.00	0.40	9.9	0.023
16.067	0.000	18.17	0.00	0.47	10.2	0.034
16.083	0.000	20.33	0.00	0.54	10.4	0.048
16.100	0.000	22.49	0.00	0.61	10.7	0.064
16.117	0.000	24.64	0.00	0.68	10.9	0.083
16.133	0.000	26.80	0.00	0.75	11.1	0.104
16.150	0.000	28.96	0.00	0.82	11.4	0.129
16.167	0.000	31.11	0.00	0.88	11.6	0.156
16.183	0.000	33.27	0.00	0.95	11.8	0.185
16.200	0.000	30.65	0.00	1.01	12.0	0.211
16.217	0.000	28.03	0.00	1.05	12.1	0.233
16.233	0.000	25.42	0.00	1.09	12.2	0.251
16.250	0.000	22.80	0.00	1.11	12.3	0.265
16.267	0.000	20.19	0.00	1.13	12.4	0.276
16.283	0.000	17.57	0.00	1.14	12.4	0.283
16.300	0.000	14.95	0.00	1.15	12.5	0.287
16.317	0.000	12.34	0.00	1.15	12.5	0.286
16.333	0.000	9.72	0.00	1.14	12.5	0.283
16.350	0.000	7.11	0.00	1.13	12.4	0.275
16.367	0.000	5.79	0.00	1.12	12.4	0.266
16.383	0.000	5.76	0.00	1.10	12.4	0.257
16.400	0.000	5.74	0.00	1.08	12.3	0.248
16.417	0.000	5.72	0.00	1.06	12.2	0.239
16.433	0.000	5.69	0.00	1.05	12.2	0.230
16.450	0.000	5.67	0.00	1.03	12.1	0.221
16.467	0.000	5.65	0.00	1.01	12.1	0.212
16.483	0.000	5.63	0.00	0.99	12.0	0.204
16.500	0.000	5.60	0.00	0.97	12.0	0.195
16.517	0.000	5.58	0.00	0.95	11.9	0.186
16.533	0.000	5.55	0.00	0.93	11.9	0.177
16.550	0.000	5.47	0.00	0.92	11.8	0.169
16.567	0.000	5.39	0.00	0.89	11.7	0.160
16.583	0.000	5.30	0.00	0.87	11.7	0.151
16.600	0.000	5.22	0.00	0.85	11.6	0.142



16.617	0.000	5.13	0.00	0.83	11.5	0.133
16.633	0.000	5.05	0.00	0.81	11.5	0.125
16.650	0.000	4.96	0.00	0.78	11.4	0.116
16.667	0.000	4.88	0.00	0.75	11.3	0.107
16.683	0.000	4.79	0.00	0.73	11.2	0.098
16.700	0.000	4.71	0.00	0.70	11.1	0.089
16.717	0.000	4.64	0.00	0.67	11.0	0.080
16.733	0.000	4.59	0.00	0.64	10.9	0.072
16.750	0.000	4.53	0.00	0.61	10.8	0.063
16.767	0.000	4.48	0.00	0.57	10.7	0.054
16.783	0.000	4.43	0.00	0.54	10.6	0.046
16.800	0.000	4.38	0.00	0.49	10.5	0.037
16.817	0.000	4.32	0.00	0.44	10.3	0.029
16.833	0.000	4.27	0.00	0.39	10.1	0.021
16.850	0.000	4.22	0.00	0.32	9.9	0.013
16.867	0.000	4.17	0.00	0.23	9.6	0.006
16.883	0.000	4.11	0.00	0.07	7.8	0.001
16.900	0.000	4.08	0.00	0.03	4.4	0.000
16.917	0.000	4.04	0.00	0.06	3.8	0.001
16.933	0.000	4.00	0.00	0.04	4.2	0.000
16.950	0.000	3.97	0.00	0.05	3.9	0.001
16.967	0.000	3.93	0.00	0.04	4.0	0.000
16.983	0.000	3.89	0.00	0.05	3.8	0.001
17.000	0.000	3.85	0.00	0.05	3.9	0.000
17.017	0.000	3.82	0.00	0.05	3.8	0.000
17.033	0.000	3.78	0.00	0.05	3.8	0.000
17.050	0.000	3.74	0.00	0.05	3.7	0.000
17.067	0.000	3.72	0.00	0.05	3.7	0.000
17.083	0.000	3.71	0.00	0.05	3.7	0.000
17.100	0.000	3.70	0.00	0.05	3.7	0.000
17.117	0.000	3.68	0.00	0.05	3.7	0.000
17.133	0.000	3.67	0.00	0.04	3.7	0.000
17.150	0.000	3.66	0.00	0.04	3.7	0.000
17.167	0.000	3.65	0.00	0.04	3.6	0.000
17.183	0.000	3.64	0.00	0.04	3.6	0.000
17.200	0.000	3.62	0.00	0.04	3.6	0.000
17.217	0.000	3.61	0.00	0.04	3.6	0.000
17.233	0.000	3.60	0.00	0.04	3.6	0.000
17.250	0.000	3.58	0.00	0.04	3.6	0.000
17.267	0.000	3.56	0.00	0.04	3.6	0.000
17.283	0.000	3.53	0.00	0.04	3.5	0.000
17.300	0.000	3.51	0.00	0.04	3.5	0.000
17.317	0.000	3.49	0.00	0.04	3.5	0.000
17.333	0.000	3.47	0.00	0.04	3.5	0.000
17.350	0.000	3.45	0.00	0.04	3.4	0.000
17.367	0.000	3.43	0.00	0.04	3.4	0.000
17.383	0.000	3.40	0.00	0.04	3.4	0.000
17.400	0.000	3.38	0.00	0.04	3.4	0.000
17.417	0.000	3.36	0.00	0.04	3.4	0.000
17.433	0.000	3.34	0.00	0.04	3.3	0.000
17.450	0.000	3.33	0.00	0.04	3.3	0.000
17.467	0.000	3.31	0.00	0.04	3.3	0.000
17.483	0.000	3.29	0.00	0.04	3.3	0.000
17.500	0.000	3.27	0.00	0.04	3.3	0.000
17.517	0.000	3.26	0.00	0.04	3.3	0.000
17.533	0.000	3.24	0.00	0.04	3.2	0.000
17.550	0.000	3.22	0.00	0.04	3.2	0.000
17.567	0.000	3.20	0.00	0.04	3.2	0.000
17.583	0.000	3.19	0.00	0.04	3.2	0.000
17.600	0.000	3.17	0.00	0.04	3.2	0.000
17.617	0.000	3.16	0.00	0.04	3.2	0.000
17.633	0.000	3.14	0.00	0.04	3.1	0.000
17.650	0.000	3.13	0.00	0.04	3.1	0.000
17.667	0.000	3.11	0.00	0.04	3.1	0.000
17.683	0.000	3.10	0.00	0.04	3.1	0.000
17.700	0.000	3.08	0.00	0.04	3.1	0.000
17.717	0.000	3.07	0.00	0.04	3.1	0.000
17.733	0.000	3.05	0.00	0.04	3.1	0.000
17.750	0.000	3.04	0.00	0.04	3.0	0.000
17.767	0.000	3.02	0.00	0.04	3.0	0.000
17.783	0.000	3.01	0.00	0.04	3.0	0.000
17.800	0.000	3.00	0.00	0.04	3.0	0.000
17.817	0.000	2.99	0.00	0.04	3.0	0.000
17.833	0.000	2.97	0.00	0.04	3.0	0.000
17.850	0.000	2.96	0.00	0.04	3.0	0.000
17.867	0.000	2.95	0.00	0.04	2.9	0.000
17.883	0.000	2.93	0.00	0.04	2.9	0.000
17.900	0.000	2.92	0.00	0.04	2.9	0.000
17.917	0.000	2.91	0.00	0.04	2.9	0.000

17.933	0.000	2.90	0.00	0.04	2.9	0.000
17.950	0.000	2.89	0.00	0.04	2.9	0.000
17.967	0.000	2.87	0.00	0.04	2.9	0.000
17.983	0.000	2.86	0.00	0.04	2.9	0.000
18.000	0.000	2.85	0.00	0.03	2.9	0.000
18.017	0.000	2.84	0.00	0.03	2.8	0.000
18.033	0.000	2.83	0.00	0.03	2.8	0.000
18.050	0.000	2.82	0.00	0.03	2.8	0.000
18.067	0.000	2.81	0.00	0.03	2.8	0.000
18.083	0.000	2.80	0.00	0.03	2.8	0.000
18.100	0.000	2.79	0.00	0.03	2.8	0.000
18.117	0.000	2.77	0.00	0.03	2.8	0.000
18.133	0.000	2.76	0.00	0.03	2.8	0.000
18.150	0.000	2.75	0.00	0.03	2.7	0.000
18.167	0.000	2.73	0.00	0.03	2.7	0.000
18.183	0.000	2.72	0.00	0.03	2.7	0.000
18.200	0.000	2.70	0.00	0.03	2.7	0.000
18.217	0.000	2.69	0.00	0.03	2.7	0.000
18.233	0.000	2.68	0.00	0.03	2.7	0.000
18.250	0.000	2.66	0.00	0.03	2.7	0.000
18.267	0.000	2.65	0.00	0.03	2.6	0.000
18.283	0.000	2.63	0.00	0.03	2.6	0.000
18.300	0.000	2.62	0.00	0.03	2.6	0.000
18.317	0.000	2.62	0.00	0.03	2.6	0.000
18.333	0.000	2.61	0.00	0.03	2.6	0.000
18.350	0.000	2.60	0.00	0.03	2.6	0.000
18.367	0.000	2.59	0.00	0.03	2.6	0.000
18.383	0.000	2.58	0.00	0.03	2.6	0.000
18.400	0.000	2.57	0.00	0.03	2.6	0.000
18.417	0.000	2.56	0.00	0.03	2.6	0.000
18.433	0.000	2.56	0.00	0.03	2.6	0.000
18.450	0.000	2.55	0.00	0.03	2.5	0.000
18.467	0.000	2.54	0.00	0.03	2.5	0.000
18.483	0.000	2.53	0.00	0.03	2.5	0.000
18.500	0.000	2.52	0.00	0.03	2.5	0.000
18.517	0.000	2.52	0.00	0.03	2.5	0.000
18.533	0.000	2.51	0.00	0.03	2.5	0.000
18.550	0.000	2.50	0.00	0.03	2.5	0.000
18.567	0.000	2.49	0.00	0.03	2.5	0.000
18.583	0.000	2.48	0.00	0.03	2.5	0.000
18.600	0.000	2.48	0.00	0.03	2.5	0.000
18.617	0.000	2.47	0.00	0.03	2.5	0.000
18.633	0.000	2.46	0.00	0.03	2.5	0.000
18.650	0.000	2.45	0.00	0.03	2.5	0.000
18.667	0.000	2.45	0.00	0.03	2.4	0.000
18.683	0.000	2.44	0.00	0.03	2.4	0.000
18.700	0.000	2.43	0.00	0.03	2.4	0.000
18.717	0.000	2.43	0.00	0.03	2.4	0.000
18.733	0.000	2.42	0.00	0.03	2.4	0.000
18.750	0.000	2.41	0.00	0.03	2.4	0.000
18.767	0.000	2.41	0.00	0.03	2.4	0.000
18.783	0.000	2.40	0.00	0.03	2.4	0.000
18.800	0.000	2.39	0.00	0.03	2.4	0.000
18.817	0.000	2.38	0.00	0.03	2.4	0.000
18.833	0.000	2.38	0.00	0.03	2.4	0.000
18.850	0.000	2.37	0.00	0.03	2.4	0.000
18.867	0.000	2.37	0.00	0.03	2.4	0.000
18.883	0.000	2.36	0.00	0.03	2.4	0.000
18.900	0.000	2.35	0.00	0.03	2.4	0.000
18.917	0.000	2.35	0.00	0.03	2.3	0.000
18.933	0.000	2.34	0.00	0.03	2.3	0.000
18.950	0.000	2.33	0.00	0.03	2.3	0.000
18.967	0.000	2.33	0.00	0.03	2.3	0.000
18.983	0.000	2.32	0.00	0.03	2.3	0.000
19.000	0.000	2.32	0.00	0.03	2.3	0.000
19.017	0.000	2.31	0.00	0.03	2.3	0.000
19.033	0.000	2.30	0.00	0.03	2.3	0.000
19.050	0.000	2.30	0.00	0.03	2.3	0.000
19.067	0.000	2.29	0.00	0.03	2.3	0.000
19.083	0.000	2.29	0.00	0.03	2.3	0.000
19.100	0.000	2.28	0.00	0.03	2.3	0.000
19.117	0.000	2.27	0.00	0.03	2.3	0.000
19.133	0.000	2.27	0.00	0.03	2.3	0.000
19.150	0.000	2.26	0.00	0.03	2.3	0.000
19.167	0.000	2.26	0.00	0.03	2.3	0.000
19.183	0.000	2.25	0.00	0.03	2.3	0.000
19.200	0.000	2.25	0.00	0.03	2.2	0.000
19.217	0.000	2.24	0.00	0.03	2.2	0.000
19.233	0.000	2.24	0.00	0.03	2.2	0.000

19.250	0.000	2.23	0.00	0.03	2.2	0.000
19.267	0.000	2.23	0.00	0.03	2.2	0.000
19.283	0.000	2.22	0.00	0.03	2.2	0.000
19.300	0.000	2.21	0.00	0.03	2.2	0.000
19.317	0.000	2.21	0.00	0.03	2.2	0.000
19.333	0.000	2.20	0.00	0.03	2.2	0.000
19.350	0.000	2.20	0.00	0.03	2.2	0.000
19.367	0.000	2.19	0.00	0.03	2.2	0.000
19.383	0.000	2.19	0.00	0.03	2.2	0.000
19.400	0.000	2.18	0.00	0.03	2.2	0.000
19.417	0.000	2.18	0.00	0.03	2.2	0.000
19.433	0.000	2.17	0.00	0.03	2.2	0.000
19.450	0.000	2.17	0.00	0.03	2.2	0.000
19.467	0.000	2.16	0.00	0.03	2.2	0.000
19.483	0.000	2.16	0.00	0.03	2.2	0.000
19.500	0.000	2.15	0.00	0.03	2.2	0.000
19.517	0.000	2.15	0.00	0.03	2.2	0.000
19.533	0.000	2.15	0.00	0.03	2.1	0.000
19.550	0.000	2.14	0.00	0.03	2.1	0.000
19.567	0.000	2.14	0.00	0.03	2.1	0.000
19.583	0.000	2.13	0.00	0.03	2.1	0.000
19.600	0.000	2.13	0.00	0.03	2.1	0.000
19.617	0.000	2.12	0.00	0.03	2.1	0.000
19.633	0.000	2.12	0.00	0.03	2.1	0.000
19.650	0.000	2.11	0.00	0.03	2.1	0.000
19.667	0.000	2.11	0.00	0.03	2.1	0.000
19.683	0.000	2.10	0.00	0.03	2.1	0.000
19.700	0.000	2.10	0.00	0.03	2.1	0.000
19.717	0.000	2.10	0.00	0.03	2.1	0.000
19.733	0.000	2.09	0.00	0.03	2.1	0.000
19.750	0.000	2.09	0.00	0.03	2.1	0.000
19.767	0.000	2.08	0.00	0.03	2.1	0.000
19.783	0.000	2.08	0.00	0.03	2.1	0.000
19.800	0.000	2.07	0.00	0.03	2.1	0.000
19.817	0.000	2.07	0.00	0.03	2.1	0.000
19.833	0.000	2.07	0.00	0.03	2.1	0.000
19.850	0.000	2.06	0.00	0.03	2.1	0.000
19.867	0.000	2.06	0.00	0.03	2.1	0.000
19.883	0.000	2.05	0.00	0.03	2.1	0.000
19.900	0.000	2.05	0.00	0.03	2.0	0.000
19.917	0.000	2.05	0.00	0.03	2.0	0.000
19.933	0.000	2.04	0.00	0.03	2.0	0.000
19.950	0.000	2.04	0.00	0.02	2.0	0.000
19.967	0.000	2.03	0.00	0.02	2.0	0.000
19.983	0.000	2.03	0.00	0.02	2.0	0.000
20.000	0.000	2.03	0.00	0.02	2.0	0.000
20.017	0.000	2.02	0.00	0.02	2.0	0.000
20.033	0.000	2.02	0.00	0.02	2.0	0.000
20.050	0.000	2.01	0.00	0.02	2.0	0.000
20.067	0.000	2.01	0.00	0.02	2.0	0.000
20.083	0.000	2.01	0.00	0.02	2.0	0.000
20.100	0.000	2.00	0.00	0.02	2.0	0.000
20.117	0.000	2.00	0.00	0.02	2.0	0.000
20.133	0.000	2.00	0.00	0.02	2.0	0.000
20.150	0.000	1.99	0.00	0.02	2.0	0.000
20.167	0.000	1.99	0.00	0.02	2.0	0.000
20.183	0.000	1.98	0.00	0.02	2.0	0.000
20.200	0.000	1.98	0.00	0.02	2.0	0.000
20.217	0.000	1.98	0.00	0.02	2.0	0.000
20.233	0.000	1.97	0.00	0.02	2.0	0.000
20.250	0.000	1.97	0.00	0.02	2.0	0.000
20.267	0.000	1.97	0.00	0.02	2.0	0.000
20.283	0.000	1.96	0.00	0.02	2.0	0.000
20.300	0.000	1.96	0.00	0.02	2.0	0.000
20.317	0.000	1.96	0.00	0.02	2.0	0.000
20.333	0.000	1.95	0.00	0.02	2.0	0.000
20.350	0.000	1.95	0.00	0.02	1.9	0.000
20.367	0.000	1.95	0.00	0.02	1.9	0.000
20.383	0.000	1.94	0.00	0.02	1.9	0.000
20.400	0.000	1.94	0.00	0.02	1.9	0.000
20.417	0.000	1.94	0.00	0.02	1.9	0.000
20.433	0.000	1.93	0.00	0.02	1.9	0.000
20.450	0.000	1.93	0.00	0.02	1.9	0.000
20.467	0.000	1.93	0.00	0.02	1.9	0.000
20.483	0.000	1.92	0.00	0.02	1.9	0.000
20.500	0.000	1.92	0.00	0.02	1.9	0.000
20.517	0.000	1.92	0.00	0.02	1.9	0.000
20.533	0.000	1.91	0.00	0.02	1.9	0.000
20.550	0.000	1.91	0.00	0.02	1.9	0.000

20.567	0.000	1.91	0.00	0.02	1.9	0.000
20.583	0.000	1.90	0.00	0.02	1.9	0.000
20.600	0.000	1.90	0.00	0.02	1.9	0.000
20.617	0.000	1.90	0.00	0.02	1.9	0.000
20.633	0.000	1.89	0.00	0.02	1.9	0.000
20.650	0.000	1.89	0.00	0.02	1.9	0.000
20.667	0.000	1.89	0.00	0.02	1.9	0.000
20.683	0.000	1.88	0.00	0.02	1.9	0.000
20.700	0.000	1.88	0.00	0.02	1.9	0.000
20.717	0.000	1.88	0.00	0.02	1.9	0.000
20.733	0.000	1.87	0.00	0.02	1.9	0.000
20.750	0.000	1.87	0.00	0.02	1.9	0.000
20.767	0.000	1.87	0.00	0.02	1.9	0.000
20.783	0.000	1.87	0.00	0.02	1.9	0.000
20.800	0.000	1.86	0.00	0.02	1.9	0.000
20.817	0.000	1.86	0.00	0.02	1.9	0.000
20.833	0.000	1.86	0.00	0.02	1.9	0.000
20.850	0.000	1.85	0.00	0.02	1.9	0.000
20.867	0.000	1.85	0.00	0.02	1.9	0.000
20.883	0.000	1.85	0.00	0.02	1.8	0.000
20.900	0.000	1.84	0.00	0.02	1.8	0.000
20.917	0.000	1.84	0.00	0.02	1.8	0.000
20.933	0.000	1.84	0.00	0.02	1.8	0.000
20.950	0.000	1.84	0.00	0.02	1.8	0.000
20.967	0.000	1.83	0.00	0.02	1.8	0.000
20.983	0.000	1.83	0.00	0.02	1.8	0.000
21.000	0.000	1.83	0.00	0.02	1.8	0.000
21.017	0.000	1.83	0.00	0.02	1.8	0.000
21.033	0.000	1.82	0.00	0.02	1.8	0.000
21.050	0.000	1.82	0.00	0.02	1.8	0.000
21.067	0.000	1.82	0.00	0.02	1.8	0.000
21.083	0.000	1.81	0.00	0.02	1.8	0.000
21.100	0.000	1.81	0.00	0.02	1.8	0.000
21.117	0.000	1.81	0.00	0.02	1.8	0.000
21.133	0.000	1.81	0.00	0.02	1.8	0.000
21.150	0.000	1.80	0.00	0.02	1.8	0.000
21.167	0.000	1.80	0.00	0.02	1.8	0.000
21.183	0.000	1.80	0.00	0.02	1.8	0.000
21.200	0.000	1.80	0.00	0.02	1.8	0.000
21.217	0.000	1.79	0.00	0.02	1.8	0.000
21.233	0.000	1.79	0.00	0.02	1.8	0.000
21.250	0.000	1.79	0.00	0.02	1.8	0.000
21.267	0.000	1.78	0.00	0.02	1.8	0.000
21.283	0.000	1.78	0.00	0.02	1.8	0.000
21.300	0.000	1.78	0.00	0.02	1.8	0.000
21.317	0.000	1.78	0.00	0.02	1.8	0.000
21.333	0.000	1.77	0.00	0.02	1.8	0.000
21.350	0.000	1.77	0.00	0.02	1.8	0.000
21.367	0.000	1.77	0.00	0.02	1.8	0.000
21.383	0.000	1.77	0.00	0.02	1.8	0.000
21.400	0.000	1.76	0.00	0.02	1.8	0.000
21.417	0.000	1.76	0.00	0.02	1.8	0.000
21.433	0.000	1.76	0.00	0.02	1.8	0.000
21.450	0.000	1.76	0.00	0.02	1.8	0.000
21.467	0.000	1.75	0.00	0.02	1.8	0.000
21.483	0.000	1.75	0.00	0.02	1.8	0.000
21.500	0.000	1.75	0.00	0.02	1.8	0.000
21.517	0.000	1.75	0.00	0.02	1.7	0.000
21.533	0.000	1.75	0.00	0.02	1.7	0.000
21.550	0.000	1.74	0.00	0.02	1.7	0.000
21.567	0.000	1.74	0.00	0.02	1.7	0.000
21.583	0.000	1.74	0.00	0.02	1.7	0.000
21.600	0.000	1.74	0.00	0.02	1.7	0.000
21.617	0.000	1.73	0.00	0.02	1.7	0.000
21.633	0.000	1.73	0.00	0.02	1.7	0.000
21.650	0.000	1.73	0.00	0.02	1.7	0.000
21.667	0.000	1.73	0.00	0.02	1.7	0.000
21.683	0.000	1.72	0.00	0.02	1.7	0.000
21.700	0.000	1.72	0.00	0.02	1.7	0.000
21.717	0.000	1.72	0.00	0.02	1.7	0.000
21.733	0.000	1.72	0.00	0.02	1.7	0.000
21.750	0.000	1.71	0.00	0.02	1.7	0.000
21.767	0.000	1.71	0.00	0.02	1.7	0.000
21.783	0.000	1.71	0.00	0.02	1.7	0.000
21.800	0.000	1.71	0.00	0.02	1.7	0.000
21.817	0.000	1.71	0.00	0.02	1.7	0.000
21.833	0.000	1.70	0.00	0.02	1.7	0.000
21.850	0.000	1.70	0.00	0.02	1.7	0.000
21.867	0.000	1.70	0.00	0.02	1.7	0.000

21.883	0.000	1.70	0.00	0.02	1.7	0.000
21.900	0.000	1.69	0.00	0.02	1.7	0.000
21.917	0.000	1.69	0.00	0.02	1.7	0.000
21.933	0.000	1.69	0.00	0.02	1.7	0.000
21.950	0.000	1.69	0.00	0.02	1.7	0.000
21.967	0.000	1.69	0.00	0.02	1.7	0.000
21.983	0.000	1.68	0.00	0.02	1.7	0.000
22.000	0.000	1.68	0.00	0.02	1.7	0.000
22.017	0.000	1.68	0.00	0.02	1.7	0.000
22.033	0.000	1.68	0.00	0.02	1.7	0.000
22.050	0.000	1.68	0.00	0.02	1.7	0.000
22.067	0.000	1.67	0.00	0.02	1.7	0.000
22.083	0.000	1.67	0.00	0.02	1.7	0.000
22.100	0.000	1.67	0.00	0.02	1.7	0.000
22.117	0.000	1.67	0.00	0.02	1.7	0.000
22.133	0.000	1.67	0.00	0.02	1.7	0.000
22.150	0.000	1.66	0.00	0.02	1.7	0.000
22.167	0.000	1.66	0.00	0.02	1.7	0.000
22.183	0.000	1.66	0.00	0.02	1.7	0.000
22.200	0.000	1.66	0.00	0.02	1.7	0.000
22.216	0.000	1.66	0.00	0.02	1.7	0.000
22.233	0.000	1.65	0.00	0.02	1.7	0.000
22.250	0.000	1.65	0.00	0.02	1.7	0.000
22.266	0.000	1.65	0.00	0.02	1.6	0.000
22.283	0.000	1.65	0.00	0.02	1.6	0.000
22.300	0.000	1.64	0.00	0.02	1.6	0.000
22.316	0.000	1.64	0.00	0.02	1.6	0.000
22.333	0.000	1.64	0.00	0.02	1.6	0.000
22.350	0.000	1.64	0.00	0.02	1.6	0.000
22.366	0.000	1.64	0.00	0.02	1.6	0.000
22.383	0.000	1.64	0.00	0.02	1.6	0.000
22.400	0.000	1.63	0.00	0.02	1.6	0.000
22.416	0.000	1.63	0.00	0.02	1.6	0.000
22.433	0.000	1.63	0.00	0.02	1.6	0.000
22.450	0.000	1.63	0.00	0.02	1.6	0.000
22.466	0.000	1.63	0.00	0.02	1.6	0.000
22.483	0.000	1.62	0.00	0.02	1.6	0.000
22.500	0.000	1.62	0.00	0.02	1.6	0.000
22.516	0.000	1.62	0.00	0.02	1.6	0.000
22.533	0.000	1.62	0.00	0.02	1.6	0.000
22.550	0.000	1.62	0.00	0.02	1.6	0.000
22.566	0.000	1.61	0.00	0.02	1.6	0.000
22.583	0.000	1.61	0.00	0.02	1.6	0.000
22.600	0.000	1.61	0.00	0.02	1.6	0.000
22.616	0.000	1.61	0.00	0.02	1.6	0.000
22.633	0.000	1.61	0.00	0.02	1.6	0.000
22.650	0.000	1.61	0.00	0.02	1.6	0.000
22.666	0.000	1.60	0.00	0.02	1.6	0.000
22.683	0.000	1.60	0.00	0.02	1.6	0.000
22.700	0.000	1.60	0.00	0.02	1.6	0.000
22.716	0.000	1.60	0.00	0.02	1.6	0.000
22.733	0.000	1.60	0.00	0.02	1.6	0.000
22.750	0.000	1.59	0.00	0.02	1.6	0.000
22.766	0.000	1.59	0.00	0.02	1.6	0.000
22.783	0.000	1.59	0.00	0.02	1.6	0.000
22.800	0.000	1.59	0.00	0.02	1.6	0.000
22.816	0.000	1.59	0.00	0.02	1.6	0.000
22.833	0.000	1.59	0.00	0.02	1.6	0.000
22.850	0.000	1.58	0.00	0.02	1.6	0.000
22.866	0.000	1.58	0.00	0.02	1.6	0.000
22.883	0.000	1.58	0.00	0.02	1.6	0.000
22.900	0.000	1.58	0.00	0.02	1.6	0.000
22.916	0.000	1.58	0.00	0.02	1.6	0.000
22.933	0.000	1.57	0.00	0.02	1.6	0.000
22.950	0.000	1.57	0.00	0.02	1.6	0.000
22.966	0.000	1.57	0.00	0.02	1.6	0.000
22.983	0.000	1.57	0.00	0.02	1.6	0.000
23.000	0.000	1.57	0.00	0.02	1.6	0.000
23.016	0.000	1.57	0.00	0.02	1.6	0.000
23.033	0.000	1.56	0.00	0.02	1.6	0.000
23.050	0.000	1.56	0.00	0.02	1.6	0.000
23.066	0.000	1.56	0.00	0.02	1.6	0.000
23.083	0.000	1.56	0.00	0.02	1.6	0.000
23.100	0.000	1.56	0.00	0.02	1.6	0.000
23.116	0.000	1.56	0.00	0.02	1.6	0.000
23.133	0.000	1.55	0.00	0.02	1.6	0.000
23.150	0.000	1.55	0.00	0.02	1.6	0.000
23.166	0.000	1.55	0.00	0.02	1.6	0.000
23.183	0.000	1.55	0.00	0.02	1.5	0.000

23.200	0.000	1.55	0.00	0.02	1.5	0.000
23.216	0.000	1.55	0.00	0.02	1.5	0.000
23.233	0.000	1.54	0.00	0.02	1.5	0.000
23.250	0.000	1.54	0.00	0.02	1.5	0.000
23.266	0.000	1.54	0.00	0.02	1.5	0.000
23.283	0.000	1.54	0.00	0.02	1.5	0.000
23.300	0.000	1.54	0.00	0.02	1.5	0.000
23.316	0.000	1.54	0.00	0.02	1.5	0.000
23.333	0.000	1.54	0.00	0.02	1.5	0.000
23.350	0.000	1.53	0.00	0.02	1.5	0.000
23.366	0.000	1.53	0.00	0.02	1.5	0.000
23.383	0.000	1.53	0.00	0.02	1.5	0.000
23.400	0.000	1.53	0.00	0.02	1.5	0.000
23.416	0.000	1.53	0.00	0.02	1.5	0.000
23.433	0.000	1.53	0.00	0.02	1.5	0.000
23.450	0.000	1.52	0.00	0.02	1.5	0.000
23.466	0.000	1.52	0.00	0.02	1.5	0.000
23.483	0.000	1.52	0.00	0.02	1.5	0.000
23.500	0.000	1.52	0.00	0.02	1.5	0.000
23.516	0.000	1.52	0.00	0.02	1.5	0.000
23.533	0.000	1.52	0.00	0.02	1.5	0.000
23.550	0.000	1.52	0.00	0.02	1.5	0.000
23.566	0.000	1.51	0.00	0.02	1.5	0.000
23.583	0.000	1.51	0.00	0.02	1.5	0.000
23.600	0.000	1.51	0.00	0.02	1.5	0.000
23.616	0.000	1.51	0.00	0.02	1.5	0.000
23.633	0.000	1.51	0.00	0.02	1.5	0.000
23.650	0.000	1.51	0.00	0.02	1.5	0.000
23.666	0.000	1.50	0.00	0.02	1.5	0.000
23.683	0.000	1.50	0.00	0.02	1.5	0.000
23.700	0.000	1.50	0.00	0.02	1.5	0.000
23.716	0.000	1.50	0.00	0.02	1.5	0.000
23.733	0.000	1.50	0.00	0.02	1.5	0.000
23.750	0.000	1.50	0.00	0.02	1.5	0.000
23.766	0.000	1.50	0.00	0.02	1.5	0.000
23.783	0.000	1.49	0.00	0.02	1.5	0.000
23.800	0.000	1.49	0.00	0.02	1.5	0.000
23.816	0.000	1.49	0.00	0.02	1.5	0.000
23.833	0.000	1.49	0.00	0.02	1.5	0.000
23.850	0.000	1.49	0.00	0.02	1.5	0.000
23.866	0.000	1.49	0.00	0.02	1.5	0.000
23.883	0.000	1.49	0.00	0.02	1.5	0.000
23.900	0.000	1.48	0.00	0.02	1.5	0.000
23.916	0.000	1.48	0.00	0.02	1.5	0.000
23.933	0.000	1.48	0.00	0.02	1.5	0.000
23.950	0.000	1.48	0.00	0.02	1.5	0.000
23.966	0.000	1.48	0.00	0.02	1.5	0.000
23.983	0.000	1.48	0.00	0.02	1.5	0.000
24.000	0.000	1.48	0.00	0.02	1.5	0.000
24.016	0.000	1.47	0.00	0.02	1.5	0.000
24.033	0.000	1.47	0.00	0.02	1.5	0.000
24.050	0.000	1.47	0.00	0.02	1.5	0.000
24.066	0.000	1.40	0.00	0.02	1.4	0.000
24.083	0.000	1.26	0.00	0.01	1.3	0.000
24.100	0.000	1.12	0.00	0.01	1.1	0.000
24.116	0.000	0.98	0.00	0.01	1.0	0.000
24.133	0.000	0.84	0.00	0.01	0.9	0.000
24.150	0.000	0.70	0.00	0.01	0.7	0.000
24.166	0.000	0.56	0.00	0.01	0.6	0.000
24.183	0.000	0.42	0.00	0.00	0.4	0.000
24.200	0.000	0.28	0.00	0.00	0.3	0.000
24.216	0.000	0.14	0.00	0.00	0.2	0.000
24.233	0.000	0.00	0.00	0.00	0.0	0.000
24.250	0.000	0.00	0.00	0.00	0.0	0.000
24.266	0.000	0.00	0.00	0.00	0.0	0.000
24.283	0.000	0.00	0.00	0.00	0.0	0.000
24.300	0.000	0.00	0.00	0.00	0.0	0.000
24.316	0.000	0.00	0.00	0.00	0.0	0.000
24.333	0.000	0.00	0.00	0.00	0.0	0.000
24.350	0.000	0.00	0.00	0.00	0.0	0.000
24.366	0.000	0.00	0.00	0.00	0.0	0.000
24.383	0.000	0.00	0.00	0.00	0.0	0.000
24.400	0.000	0.00	0.00	0.00	0.0	0.000
24.416	0.000	0.00	0.00	0.00	0.0	0.000
24.433	0.000	0.00	0.00	0.00	0.0	0.000
24.450	0.000	0.00	0.00	0.00	0.0	0.000
24.466	0.000	0.00	0.00	0.00	0.0	0.000
24.483	0.000	0.00	0.00	0.00	0.0	0.000
24.500	0.000	0.00	0.00	0.00	0.0	0.000

24.516	0.000	0.00	0.00	0.00	0.0	0.000
24.533	0.000	0.00	0.00	0.00	0.0	0.000
24.550	0.000	0.00	0.00	0.00	0.0	0.000
24.566	0.000	0.00	0.00	0.00	0.0	0.000
24.583	0.000	0.00	0.00	0.00	0.0	0.000
24.600	0.000	0.00	0.00	0.00	0.0	0.000
24.616	0.000	0.00	0.00	0.00	0.0	0.000
24.633	0.000	0.00	0.00	0.00	0.0	0.000
24.650	0.000	0.00	0.00	0.00	0.0	0.000
24.666	0.000	0.00	0.00	0.00	0.0	0.000
24.683	0.000	0.00	0.00	0.00	0.0	0.000
24.700	0.000	0.00	0.00	0.00	0.0	0.000
24.716	0.000	0.00	0.00	0.00	0.0	0.000
24.733	0.000	0.00	0.00	0.00	0.0	0.000
24.750	0.000	0.00	0.00	0.00	0.0	0.000
24.766	0.000	0.00	0.00	0.00	0.0	0.000
24.783	0.000	0.00	0.00	0.00	0.0	0.000
24.800	0.000	0.00	0.00	0.00	0.0	0.000
24.816	0.000	0.00	0.00	0.00	0.0	0.000
24.833	0.000	0.00	0.00	0.00	0.0	0.000
24.850	0.000	0.00	0.00	0.00	0.0	0.000
24.866	0.000	0.00	0.00	0.00	0.0	0.000
24.883	0.000	0.00	0.00	0.00	0.0	0.000
24.900	0.000	0.00	0.00	0.00	0.0	0.000
24.916	0.000	0.00	0.00	0.00	0.0	0.000
24.933	0.000	0.00	0.00	0.00	0.0	0.000
24.950	0.000	0.00	0.00	0.00	0.0	0.000
24.966	0.000	0.00	0.00	0.00	0.0	0.000
24.983	0.000	0.00	0.00	0.00	0.0	0.000
25.000	0.000	0.00	0.00	0.00	0.0	0.000
25.016	0.000	0.00	0.00	0.00	0.0	0.000
25.033	0.000	0.00	0.00	0.00	0.0	0.000
25.050	0.000	0.00	0.00	0.00	0.0	0.000
25.066	0.000	0.00	0.00	0.00	0.0	0.000
25.083	0.000	0.00	0.00	0.00	0.0	0.000
25.100	0.000	0.00	0.00	0.00	0.0	0.000
25.116	0.000	0.00	0.00	0.00	0.0	0.000
25.133	0.000	0.00	0.00	0.00	0.0	0.000
25.150	0.000	0.00	0.00	0.00	0.0	0.000
25.166	0.000	0.00	0.00	0.00	0.0	0.000
25.183	0.000	0.00	0.00	0.00	0.0	0.000
25.200	0.000	0.00	0.00	0.00	0.0	0.000
25.216	0.000	0.00	0.00	0.00	0.0	0.000
25.233	0.000	0.00	0.00	0.00	0.0	0.000
25.250	0.000	0.00	0.00	0.00	0.0	0.000
25.266	0.000	0.00	0.00	0.00	0.0	0.000
25.283	0.000	0.00	0.00	0.00	0.0	0.000
25.300	0.000	0.00	0.00	0.00	0.0	0.000
25.316	0.000	0.00	0.00	0.00	0.0	0.000
25.333	0.000	0.00	0.00	0.00	0.0	0.000
25.350	0.000	0.00	0.00	0.00	0.0	0.000
25.366	0.000	0.00	0.00	0.00	0.0	0.000
25.383	0.000	0.00	0.00	0.00	0.0	0.000
25.400	0.000	0.00	0.00	0.00	0.0	0.000
25.416	0.000	0.00	0.00	0.00	0.0	0.000
25.433	0.000	0.00	0.00	0.00	0.0	0.000
25.450	0.000	0.00	0.00	0.00	0.0	0.000
25.466	0.000	0.00	0.00	0.00	0.0	0.000
25.483	0.000	0.00	0.00	0.00	0.0	0.000
25.500	0.000	0.00	0.00	0.00	0.0	0.000
25.516	0.000	0.00	0.00	0.00	0.0	0.000
25.533	0.000	0.00	0.00	0.00	0.0	0.000
25.550	0.000	0.00	0.00	0.00	0.0	0.000
25.566	0.000	0.00	0.00	0.00	0.0	0.000
25.583	0.000	0.00	0.00	0.00	0.0	0.000
25.600	0.000	0.00	0.00	0.00	0.0	0.000
25.616	0.000	0.00	0.00	0.00	0.0	0.000
25.633	0.000	0.00	0.00	0.00	0.0	0.000
25.650	0.000	0.00	0.00	0.00	0.0	0.000
25.666	0.000	0.00	0.00	0.00	0.0	0.000
25.683	0.000	0.00	0.00	0.00	0.0	0.000
25.700	0.000	0.00	0.00	0.00	0.0	0.000
25.716	0.000	0.00	0.00	0.00	0.0	0.000
25.733	0.000	0.00	0.00	0.00	0.0	0.000
25.750	0.000	0.00	0.00	0.00	0.0	0.000
25.766	0.000	0.00	0.00	0.00	0.0	0.000
25.783	0.000	0.00	0.00	0.00	0.0	0.000
25.800	0.000	0.00	0.00	0.00	0.0	0.000
25.816	0.000	0.00	0.00	0.00	0.0	0.000

25.833	0.000	0.00	0.00	0.00	0.0	0.000
25.850	0.000	0.00	0.00	0.00	0.0	0.000
25.866	0.000	0.00	0.00	0.00	0.0	0.000
25.883	0.000	0.00	0.00	0.00	0.0	0.000
25.900	0.000	0.00	0.00	0.00	0.0	0.000
25.916	0.000	0.00	0.00	0.00	0.0	0.000
25.933	0.000	0.00	0.00	0.00	0.0	0.000
25.950	0.000	0.00	0.00	0.00	0.0	0.000
25.966	0.000	0.00	0.00	0.00	0.0	0.000
25.983	0.000	0.00	0.00	0.00	0.0	0.000
26.000	0.000	0.00	0.00	0.00	0.0	0.000
26.016	0.000	0.00	0.00	0.00	0.0	0.000
26.033	0.000	0.00	0.00	0.00	0.0	0.000
26.050	0.000	0.00	0.00	0.00	0.0	0.000
26.066	0.000	0.00	0.00	0.00	0.0	0.000
26.083	0.000	0.00	0.00	0.00	0.0	0.000
26.100	0.000	0.00	0.00	0.00	0.0	0.000
26.116	0.000	0.00	0.00	0.00	0.0	0.000
26.133	0.000	0.00	0.00	0.00	0.0	0.000
26.150	0.000	0.00	0.00	0.00	0.0	0.000
26.166	0.000	0.00	0.00	0.00	0.0	0.000
26.183	0.000	0.00	0.00	0.00	0.0	0.000
26.200	0.000	0.00	0.00	0.00	0.0	0.000
26.216	0.000	0.00	0.00	0.00	0.0	0.000
26.233	0.000	0.00	0.00	0.00	0.0	0.000
26.250	0.000	0.00	0.00	0.00	0.0	0.000
26.266	0.000	0.00	0.00	0.00	0.0	0.000
26.283	0.000	0.00	0.00	0.00	0.0	0.000
26.300	0.000	0.00	0.00	0.00	0.0	0.000
26.316	0.000	0.00	0.00	0.00	0.0	0.000
26.333	0.000	0.00	0.00	0.00	0.0	0.000
26.350	0.000	0.00	0.00	0.00	0.0	0.000
26.366	0.000	0.00	0.00	0.00	0.0	0.000
26.383	0.000	0.00	0.00	0.00	0.0	0.000
26.400	0.000	0.00	0.00	0.00	0.0	0.000
26.416	0.000	0.00	0.00	0.00	0.0	0.000
26.433	0.000	0.00	0.00	0.00	0.0	0.000
26.450	0.000	0.00	0.00	0.00	0.0	0.000
26.466	0.000	0.00	0.00	0.00	0.0	0.000
26.483	0.000	0.00	0.00	0.00	0.0	0.000
26.500	0.000	0.00	0.00	0.00	0.0	0.000
26.516	0.000	0.00	0.00	0.00	0.0	0.000
26.533	0.000	0.00	0.00	0.00	0.0	0.000
26.550	0.000	0.00	0.00	0.00	0.0	0.000
26.566	0.000	0.00	0.00	0.00	0.0	0.000
26.583	0.000	0.00	0.00	0.00	0.0	0.000
26.600	0.000	0.00	0.00	0.00	0.0	0.000
26.616	0.000	0.00	0.00	0.00	0.0	0.000
26.633	0.000	0.00	0.00	0.00	0.0	0.000
26.650	0.000	0.00	0.00	0.00	0.0	0.000
26.666	0.000	0.00	0.00	0.00	0.0	0.000
26.683	0.000	0.00	0.00	0.00	0.0	0.000
26.700	0.000	0.00	0.00	0.00	0.0	0.000
26.716	0.000	0.00	0.00	0.00	0.0	0.000
26.733	0.000	0.00	0.00	0.00	0.0	0.000
26.750	0.000	0.00	0.00	0.00	0.0	0.000
26.766	0.000	0.00	0.00	0.00	0.0	0.000
26.783	0.000	0.00	0.00	0.00	0.0	0.000
26.800	0.000	0.00	0.00	0.00	0.0	0.000
26.816	0.000	0.00	0.00	0.00	0.0	0.000
26.833	0.000	0.00	0.00	0.00	0.0	0.000
26.850	0.000	0.00	0.00	0.00	0.0	0.000
26.866	0.000	0.00	0.00	0.00	0.0	0.000
26.883	0.000	0.00	0.00	0.00	0.0	0.000
26.900	0.000	0.00	0.00	0.00	0.0	0.000
26.916	0.000	0.00	0.00	0.00	0.0	0.000
26.933	0.000	0.00	0.00	0.00	0.0	0.000
26.950	0.000	0.00	0.00	0.00	0.0	0.000
26.966	0.000	0.00	0.00	0.00	0.0	0.000
26.983	0.000	0.00	0.00	0.00	0.0	0.000
27.000	0.000	0.00	0.00	0.00	0.0	0.000
27.016	0.000	0.00	0.00	0.00	0.0	0.000
27.033	0.000	0.00	0.00	0.00	0.0	0.000
27.050	0.000	0.00	0.00	0.00	0.0	0.000
27.066	0.000	0.00	0.00	0.00	0.0	0.000
27.083	0.000	0.00	0.00	0.00	0.0	0.000
27.100	0.000	0.00	0.00	0.00	0.0	0.000
27.116	0.000	0.00	0.00	0.00	0.0	0.000
27.133	0.000	0.00	0.00	0.00	0.0	0.000

27.150	0.000	0.00	0.00	0.00	0.0	0.000
27.166	0.000	0.00	0.00	0.00	0.0	0.000
27.183	0.000	0.00	0.00	0.00	0.0	0.000
27.200	0.000	0.00	0.00	0.00	0.0	0.000
27.216	0.000	0.00	0.00	0.00	0.0	0.000
27.233	0.000	0.00	0.00	0.00	0.0	0.000
27.250	0.000	0.00	0.00	0.00	0.0	0.000
27.266	0.000	0.00	0.00	0.00	0.0	0.000
27.283	0.000	0.00	0.00	0.00	0.0	0.000
27.300	0.000	0.00	0.00	0.00	0.0	0.000
27.316	0.000	0.00	0.00	0.00	0.0	0.000
27.333	0.000	0.00	0.00	0.00	0.0	0.000
27.350	0.000	0.00	0.00	0.00	0.0	0.000
27.366	0.000	0.00	0.00	0.00	0.0	0.000
27.383	0.000	0.00	0.00	0.00	0.0	0.000
27.400	0.000	0.00	0.00	0.00	0.0	0.000
27.416	0.000	0.00	0.00	0.00	0.0	0.000
27.433	0.000	0.00	0.00	0.00	0.0	0.000
27.450	0.000	0.00	0.00	0.00	0.0	0.000
27.466	0.000	0.00	0.00	0.00	0.0	0.000
27.483	0.000	0.00	0.00	0.00	0.0	0.000
27.500	0.000	0.00	0.00	0.00	0.0	0.000
27.516	0.000	0.00	0.00	0.00	0.0	0.000
27.533	0.000	0.00	0.00	0.00	0.0	0.000
27.550	0.000	0.00	0.00	0.00	0.0	0.000
27.566	0.000	0.00	0.00	0.00	0.0	0.000
27.583	0.000	0.00	0.00	0.00	0.0	0.000
27.600	0.000	0.00	0.00	0.00	0.0	0.000
27.616	0.000	0.00	0.00	0.00	0.0	0.000
27.633	0.000	0.00	0.00	0.00	0.0	0.000
27.650	0.000	0.00	0.00	0.00	0.0	0.000
27.666	0.000	0.00	0.00	0.00	0.0	0.000
27.683	0.000	0.00	0.00	0.00	0.0	0.000
27.700	0.000	0.00	0.00	0.00	0.0	0.000
27.716	0.000	0.00	0.00	0.00	0.0	0.000
27.733	0.000	0.00	0.00	0.00	0.0	0.000
27.750	0.000	0.00	0.00	0.00	0.0	0.000
27.766	0.000	0.00	0.00	0.00	0.0	0.000
27.783	0.000	0.00	0.00	0.00	0.0	0.000
27.800	0.000	0.00	0.00	0.00	0.0	0.000
27.816	0.000	0.00	0.00	0.00	0.0	0.000
27.833	0.000	0.00	0.00	0.00	0.0	0.000
27.850	0.000	0.00	0.00	0.00	0.0	0.000
27.866	0.000	0.00	0.00	0.00	0.0	0.000
27.883	0.000	0.00	0.00	0.00	0.0	0.000
27.900	0.000	0.00	0.00	0.00	0.0	0.000
27.916	0.000	0.00	0.00	0.00	0.0	0.000
27.933	0.000	0.00	0.00	0.00	0.0	0.000
27.950	0.000	0.00	0.00	0.00	0.0	0.000
27.966	0.000	0.00	0.00	0.00	0.0	0.000
27.983	0.000	0.00	0.00	0.00	0.0	0.000
28.000	0.000	0.00	0.00	0.00	0.0	0.000
28.016	0.000	0.00	0.00	0.00	0.0	0.000
28.033	0.000	0.00	0.00	0.00	0.0	0.000
28.050	0.000	0.00	0.00	0.00	0.0	0.000
28.066	0.000	0.00	0.00	0.00	0.0	0.000
28.083	0.000	0.00	0.00	0.00	0.0	0.000
28.100	0.000	0.00	0.00	0.00	0.0	0.000
28.116	0.000	0.00	0.00	0.00	0.0	0.000
28.133	0.000	0.00	0.00	0.00	0.0	0.000
28.150	0.000	0.00	0.00	0.00	0.0	0.000
28.166	0.000	0.00	0.00	0.00	0.0	0.000
28.183	0.000	0.00	0.00	0.00	0.0	0.000
28.200	0.000	0.00	0.00	0.00	0.0	0.000
28.216	0.000	0.00	0.00	0.00	0.0	0.000
28.233	0.000	0.00	0.00	0.00	0.0	0.000
28.250	0.000	0.00	0.00	0.00	0.0	0.000
28.266	0.000	0.00	0.00	0.00	0.0	0.000
28.283	0.000	0.00	0.00	0.00	0.0	0.000
28.300	0.000	0.00	0.00	0.00	0.0	0.000
28.316	0.000	0.00	0.00	0.00	0.0	0.000
28.333	0.000	0.00	0.00	0.00	0.0	0.000
28.350	0.000	0.00	0.00	0.00	0.0	0.000
28.366	0.000	0.00	0.00	0.00	0.0	0.000
28.383	0.000	0.00	0.00	0.00	0.0	0.000
28.400	0.000	0.00	0.00	0.00	0.0	0.000
28.416	0.000	0.00	0.00	0.00	0.0	0.000
28.433	0.000	0.00	0.00	0.00	0.0	0.000
28.450	0.000	0.00	0.00	0.00	0.0	0.000

28.466	0.000	0.00	0.00	0.00	0.0	0.000
28.483	0.000	0.00	0.00	0.00	0.0	0.000
28.500	0.000	0.00	0.00	0.00	0.0	0.000
28.516	0.000	0.00	0.00	0.00	0.0	0.000
28.533	0.000	0.00	0.00	0.00	0.0	0.000
28.550	0.000	0.00	0.00	0.00	0.0	0.000
28.566	0.000	0.00	0.00	0.00	0.0	0.000
28.583	0.000	0.00	0.00	0.00	0.0	0.000
28.600	0.000	0.00	0.00	0.00	0.0	0.000
28.616	0.000	0.00	0.00	0.00	0.0	0.000
28.633	0.000	0.00	0.00	0.00	0.0	0.000
28.650	0.000	0.00	0.00	0.00	0.0	0.000
28.666	0.000	0.00	0.00	0.00	0.0	0.000
28.683	0.000	0.00	0.00	0.00	0.0	0.000
28.700	0.000	0.00	0.00	0.00	0.0	0.000
28.716	0.000	0.00	0.00	0.00	0.0	0.000
28.733	0.000	0.00	0.00	0.00	0.0	0.000
28.750	0.000	0.00	0.00	0.00	0.0	0.000
28.766	0.000	0.00	0.00	0.00	0.0	0.000
28.783	0.000	0.00	0.00	0.00	0.0	0.000
28.800	0.000	0.00	0.00	0.00	0.0	0.000
28.816	0.000	0.00	0.00	0.00	0.0	0.000
28.833	0.000	0.00	0.00	0.00	0.0	0.000
28.850	0.000	0.00	0.00	0.00	0.0	0.000
28.866	0.000	0.00	0.00	0.00	0.0	0.000
28.883	0.000	0.00	0.00	0.00	0.0	0.000
28.900	0.000	0.00	0.00	0.00	0.0	0.000
28.916	0.000	0.00	0.00	0.00	0.0	0.000
28.933	0.000	0.00	0.00	0.00	0.0	0.000
28.950	0.000	0.00	0.00	0.00	0.0	0.000
28.966	0.000	0.00	0.00	0.00	0.0	0.000
28.983	0.000	0.00	0.00	0.00	0.0	0.000
29.000	0.000	0.00	0.00	0.00	0.0	0.000
29.016	0.000	0.00	0.00	0.00	0.0	0.000
29.033	0.000	0.00	0.00	0.00	0.0	0.000
29.050	0.000	0.00	0.00	0.00	0.0	0.000
29.066	0.000	0.00	0.00	0.00	0.0	0.000
29.083	0.000	0.00	0.00	0.00	0.0	0.000
29.100	0.000	0.00	0.00	0.00	0.0	0.000
29.116	0.000	0.00	0.00	0.00	0.0	0.000
29.133	0.000	0.00	0.00	0.00	0.0	0.000
29.150	0.000	0.00	0.00	0.00	0.0	0.000
29.166	0.000	0.00	0.00	0.00	0.0	0.000
29.183	0.000	0.00	0.00	0.00	0.0	0.000
29.200	0.000	0.00	0.00	0.00	0.0	0.000
29.216	0.000	0.00	0.00	0.00	0.0	0.000
29.233	0.000	0.00	0.00	0.00	0.0	0.000
29.250	0.000	0.00	0.00	0.00	0.0	0.000
29.266	0.000	0.00	0.00	0.00	0.0	0.000
29.283	0.000	0.00	0.00	0.00	0.0	0.000
29.300	0.000	0.00	0.00	0.00	0.0	0.000
29.316	0.000	0.00	0.00	0.00	0.0	0.000
29.333	0.000	0.00	0.00	0.00	0.0	0.000
29.350	0.000	0.00	0.00	0.00	0.0	0.000
29.366	0.000	0.00	0.00	0.00	0.0	0.000
29.383	0.000	0.00	0.00	0.00	0.0	0.000
29.400	0.000	0.00	0.00	0.00	0.0	0.000
29.416	0.000	0.00	0.00	0.00	0.0	0.000
29.433	0.000	0.00	0.00	0.00	0.0	0.000
29.450	0.000	0.00	0.00	0.00	0.0	0.000
29.466	0.000	0.00	0.00	0.00	0.0	0.000
29.483	0.000	0.00	0.00	0.00	0.0	0.000
29.500	0.000	0.00	0.00	0.00	0.0	0.000
29.516	0.000	0.00	0.00	0.00	0.0	0.000
29.533	0.000	0.00	0.00	0.00	0.0	0.000
29.550	0.000	0.00	0.00	0.00	0.0	0.000
29.566	0.000	0.00	0.00	0.00	0.0	0.000
29.583	0.000	0.00	0.00	0.00	0.0	0.000
29.600	0.000	0.00	0.00	0.00	0.0	0.000
29.616	0.000	0.00	0.00	0.00	0.0	0.000
29.633	0.000	0.00	0.00	0.00	0.0	0.000
29.650	0.000	0.00	0.00	0.00	0.0	0.000
29.666	0.000	0.00	0.00	0.00	0.0	0.000
29.683	0.000	0.00	0.00	0.00	0.0	0.000
29.700	0.000	0.00	0.00	0.00	0.0	0.000
29.716	0.000	0.00	0.00	0.00	0.0	0.000
29.733	0.000	0.00	0.00	0.00	0.0	0.000
29.750	0.000	0.00	0.00	0.00	0.0	0.000
29.766	0.000	0.00	0.00	0.00	0.0	0.000

29.783	0.000	0.00	0.00	0.00	0.0	0.000
29.800	0.000	0.00	0.00	0.00	0.0	0.000
29.816	0.000	0.00	0.00	0.00	0.0	0.000
29.833	0.000	0.00	0.00	0.00	0.0	0.000
29.850	0.000	0.00	0.00	0.00	0.0	0.000
29.866	0.000	0.00	0.00	0.00	0.0	0.000
29.883	0.000	0.00	0.00	0.00	0.0	0.000
29.900	0.000	0.00	0.00	0.00	0.0	0.000
29.916	0.000	0.00	0.00	0.00	0.0	0.000
29.933	0.000	0.00	0.00	0.00	0.0	0.000
29.950	0.000	0.00	0.00	0.00	0.0	0.000
29.966	0.000	0.00	0.00	0.00	0.0	0.000
29.983	0.000	0.00	0.00	0.00	0.0	0.000
30.000	0.000	0.00	0.00	0.00	0.0	0.000
30.016	0.000	0.00	0.00	0.00	0.0	0.000
30.033	0.000	0.00	0.00	0.00	0.0	0.000
30.050	0.000	0.00	0.00	0.00	0.0	0.000
30.066	0.000	0.00	0.00	0.00	0.0	0.000
30.083	0.000	0.00	0.00	0.00	0.0	0.000
30.100	0.000	0.00	0.00	0.00	0.0	0.000
30.116	0.000	0.00	0.00	0.00	0.0	0.000
30.133	0.000	0.00	0.00	0.00	0.0	0.000
30.150	0.000	0.00	0.00	0.00	0.0	0.000
30.166	0.000	0.00	0.00	0.00	0.0	0.000
30.183	0.000	0.00	0.00	0.00	0.0	0.000
30.200	0.000	0.00	0.00	0.00	0.0	0.000
30.216	0.000	0.00	0.00	0.00	0.0	0.000
30.233	0.000	0.00	0.00	0.00	0.0	0.000
30.250	0.000	0.00	0.00	0.00	0.0	0.000
30.266	0.000	0.00	0.00	0.00	0.0	0.000
30.283	0.000	0.00	0.00	0.00	0.0	0.000
30.300	0.000	0.00	0.00	0.00	0.0	0.000
30.316	0.000	0.00	0.00	0.00	0.0	0.000
30.333	0.000	0.00	0.00	0.00	0.0	0.000
30.350	0.000	0.00	0.00	0.00	0.0	0.000
30.366	0.000	0.00	0.00	0.00	0.0	0.000
30.383	0.000	0.00	0.00	0.00	0.0	0.000
30.400	0.000	0.00	0.00	0.00	0.0	0.000
30.416	0.000	0.00	0.00	0.00	0.0	0.000
30.433	0.000	0.00	0.00	0.00	0.0	0.000
30.450	0.000	0.00	0.00	0.00	0.0	0.000
30.466	0.000	0.00	0.00	0.00	0.0	0.000
30.483	0.000	0.00	0.00	0.00	0.0	0.000
30.500	0.000	0.00	0.00	0.00	0.0	0.000
30.516	0.000	0.00	0.00	0.00	0.0	0.000
30.533	0.000	0.00	0.00	0.00	0.0	0.000
30.550	0.000	0.00	0.00	0.00	0.0	0.000
30.566	0.000	0.00	0.00	0.00	0.0	0.000
30.583	0.000	0.00	0.00	0.00	0.0	0.000
30.600	0.000	0.00	0.00	0.00	0.0	0.000
30.616	0.000	0.00	0.00	0.00	0.0	0.000
30.633	0.000	0.00	0.00	0.00	0.0	0.000
30.650	0.000	0.00	0.00	0.00	0.0	0.000
30.666	0.000	0.00	0.00	0.00	0.0	0.000
30.683	0.000	0.00	0.00	0.00	0.0	0.000
30.700	0.000	0.00	0.00	0.00	0.0	0.000
30.716	0.000	0.00	0.00	0.00	0.0	0.000
30.733	0.000	0.00	0.00	0.00	0.0	0.000
30.750	0.000	0.00	0.00	0.00	0.0	0.000
30.766	0.000	0.00	0.00	0.00	0.0	0.000
30.783	0.000	0.00	0.00	0.00	0.0	0.000
30.800	0.000	0.00	0.00	0.00	0.0	0.000
30.816	0.000	0.00	0.00	0.00	0.0	0.000
30.833	0.000	0.00	0.00	0.00	0.0	0.000
30.850	0.000	0.00	0.00	0.00	0.0	0.000
30.866	0.000	0.00	0.00	0.00	0.0	0.000
30.883	0.000	0.00	0.00	0.00	0.0	0.000
30.900	0.000	0.00	0.00	0.00	0.0	0.000
30.916	0.000	0.00	0.00	0.00	0.0	0.000
30.933	0.000	0.00	0.00	0.00	0.0	0.000
30.950	0.000	0.00	0.00	0.00	0.0	0.000
30.966	0.000	0.00	0.00	0.00	0.0	0.000
30.983	0.000	0.00	0.00	0.00	0.0	0.000
31.000	0.000	0.00	0.00	0.00	0.0	0.000
31.016	0.000	0.00	0.00	0.00	0.0	0.000
31.033	0.000	0.00	0.00	0.00	0.0	0.000
31.050	0.000	0.00	0.00	0.00	0.0	0.000
31.066	0.000	0.00	0.00	0.00	0.0	0.000
31.083	0.000	0.00	0.00	0.00	0.0	0.000

31.100	0.000	0.00	0.00	0.00	0.0	0.000
31.116	0.000	0.00	0.00	0.00	0.0	0.000
31.133	0.000	0.00	0.00	0.00	0.0	0.000
31.150	0.000	0.00	0.00	0.00	0.0	0.000
31.166	0.000	0.00	0.00	0.00	0.0	0.000
31.183	0.000	0.00	0.00	0.00	0.0	0.000
31.200	0.000	0.00	0.00	0.00	0.0	0.000
31.216	0.000	0.00	0.00	0.00	0.0	0.000
31.233	0.000	0.00	0.00	0.00	0.0	0.000
31.250	0.000	0.00	0.00	0.00	0.0	0.000
31.266	0.000	0.00	0.00	0.00	0.0	0.000
31.283	0.000	0.00	0.00	0.00	0.0	0.000
31.300	0.000	0.00	0.00	0.00	0.0	0.000
31.316	0.000	0.00	0.00	0.00	0.0	0.000
31.333	0.000	0.00	0.00	0.00	0.0	0.000
31.350	0.000	0.00	0.00	0.00	0.0	0.000
31.366	0.000	0.00	0.00	0.00	0.0	0.000
31.383	0.000	0.00	0.00	0.00	0.0	0.000
31.400	0.000	0.00	0.00	0.00	0.0	0.000
31.416	0.000	0.00	0.00	0.00	0.0	0.000
31.433	0.000	0.00	0.00	0.00	0.0	0.000
31.450	0.000	0.00	0.00	0.00	0.0	0.000
31.466	0.000	0.00	0.00	0.00	0.0	0.000
31.483	0.000	0.00	0.00	0.00	0.0	0.000
31.500	0.000	0.00	0.00	0.00	0.0	0.000
31.516	0.000	0.00	0.00	0.00	0.0	0.000
31.533	0.000	0.00	0.00	0.00	0.0	0.000
31.550	0.000	0.00	0.00	0.00	0.0	0.000
31.566	0.000	0.00	0.00	0.00	0.0	0.000
31.583	0.000	0.00	0.00	0.00	0.0	0.000
31.600	0.000	0.00	0.00	0.00	0.0	0.000
31.616	0.000	0.00	0.00	0.00	0.0	0.000
31.633	0.000	0.00	0.00	0.00	0.0	0.000
31.650	0.000	0.00	0.00	0.00	0.0	0.000
31.666	0.000	0.00	0.00	0.00	0.0	0.000
31.683	0.000	0.00	0.00	0.00	0.0	0.000
31.700	0.000	0.00	0.00	0.00	0.0	0.000
31.716	0.000	0.00	0.00	0.00	0.0	0.000
31.733	0.000	0.00	0.00	0.00	0.0	0.000
31.750	0.000	0.00	0.00	0.00	0.0	0.000
31.766	0.000	0.00	0.00	0.00	0.0	0.000
31.783	0.000	0.00	0.00	0.00	0.0	0.000
31.800	0.000	0.00	0.00	0.00	0.0	0.000
31.816	0.000	0.00	0.00	0.00	0.0	0.000
31.833	0.000	0.00	0.00	0.00	0.0	0.000
31.850	0.000	0.00	0.00	0.00	0.0	0.000
31.866	0.000	0.00	0.00	0.00	0.0	0.000
31.883	0.000	0.00	0.00	0.00	0.0	0.000
31.900	0.000	0.00	0.00	0.00	0.0	0.000
31.916	0.000	0.00	0.00	0.00	0.0	0.000
31.933	0.000	0.00	0.00	0.00	0.0	0.000
31.950	0.000	0.00	0.00	0.00	0.0	0.000
31.966	0.000	0.00	0.00	0.00	0.0	0.000
31.983	0.000	0.00	0.00	0.00	0.0	0.000
32.000	0.000	0.00	0.00	0.00	0.0	0.000
32.016	0.000	0.00	0.00	0.00	0.0	0.000
32.033	0.000	0.00	0.00	0.00	0.0	0.000
32.050	0.000	0.00	0.00	0.00	0.0	0.000
32.066	0.000	0.00	0.00	0.00	0.0	0.000
32.083	0.000	0.00	0.00	0.00	0.0	0.000
32.100	0.000	0.00	0.00	0.00	0.0	0.000
32.116	0.000	0.00	0.00	0.00	0.0	0.000
32.133	0.000	0.00	0.00	0.00	0.0	0.000
32.150	0.000	0.00	0.00	0.00	0.0	0.000
32.166	0.000	0.00	0.00	0.00	0.0	0.000
32.183	0.000	0.00	0.00	0.00	0.0	0.000
32.200	0.000	0.00	0.00	0.00	0.0	0.000
32.216	0.000	0.00	0.00	0.00	0.0	0.000
32.233	0.000	0.00	0.00	0.00	0.0	0.000
32.250	0.000	0.00	0.00	0.00	0.0	0.000
32.266	0.000	0.00	0.00	0.00	0.0	0.000
32.283	0.000	0.00	0.00	0.00	0.0	0.000
32.300	0.000	0.00	0.00	0.00	0.0	0.000
32.316	0.000	0.00	0.00	0.00	0.0	0.000
32.333	0.000	0.00	0.00	0.00	0.0	0.000
32.350	0.000	0.00	0.00	0.00	0.0	0.000
32.366	0.000	0.00	0.00	0.00	0.0	0.000
32.383	0.000	0.00	0.00	0.00	0.0	0.000
32.400	0.000	0.00	0.00	0.00	0.0	0.000

32.416	0.000	0.00	0.00	0.00	0.0	0.000
32.433	0.000	0.00	0.00	0.00	0.0	0.000
32.450	0.000	0.00	0.00	0.00	0.0	0.000
32.466	0.000	0.00	0.00	0.00	0.0	0.000
32.483	0.000	0.00	0.00	0.00	0.0	0.000
32.500	0.000	0.00	0.00	0.00	0.0	0.000
32.516	0.000	0.00	0.00	0.00	0.0	0.000
32.533	0.000	0.00	0.00	0.00	0.0	0.000
32.550	0.000	0.00	0.00	0.00	0.0	0.000
32.566	0.000	0.00	0.00	0.00	0.0	0.000
32.583	0.000	0.00	0.00	0.00	0.0	0.000
32.600	0.000	0.00	0.00	0.00	0.0	0.000
32.616	0.000	0.00	0.00	0.00	0.0	0.000
32.633	0.000	0.00	0.00	0.00	0.0	0.000
32.650	0.000	0.00	0.00	0.00	0.0	0.000
32.666	0.000	0.00	0.00	0.00	0.0	0.000
32.683	0.000	0.00	0.00	0.00	0.0	0.000
32.700	0.000	0.00	0.00	0.00	0.0	0.000
32.716	0.000	0.00	0.00	0.00	0.0	0.000
32.733	0.000	0.00	0.00	0.00	0.0	0.000
32.750	0.000	0.00	0.00	0.00	0.0	0.000
32.766	0.000	0.00	0.00	0.00	0.0	0.000
32.783	0.000	0.00	0.00	0.00	0.0	0.000
32.800	0.000	0.00	0.00	0.00	0.0	0.000
32.816	0.000	0.00	0.00	0.00	0.0	0.000
32.833	0.000	0.00	0.00	0.00	0.0	0.000
32.850	0.000	0.00	0.00	0.00	0.0	0.000
32.866	0.000	0.00	0.00	0.00	0.0	0.000
32.883	0.000	0.00	0.00	0.00	0.0	0.000
32.900	0.000	0.00	0.00	0.00	0.0	0.000
32.916	0.000	0.00	0.00	0.00	0.0	0.000
32.933	0.000	0.00	0.00	0.00	0.0	0.000
32.950	0.000	0.00	0.00	0.00	0.0	0.000
32.966	0.000	0.00	0.00	0.00	0.0	0.000
32.983	0.000	0.00	0.00	0.00	0.0	0.000
33.000	0.000	0.00	0.00	0.00	0.0	0.000
33.016	0.000	0.00	0.00	0.00	0.0	0.000
33.033	0.000	0.00	0.00	0.00	0.0	0.000
33.050	0.000	0.00	0.00	0.00	0.0	0.000
33.066	0.000	0.00	0.00	0.00	0.0	0.000
33.083	0.000	0.00	0.00	0.00	0.0	0.000
33.100	0.000	0.00	0.00	0.00	0.0	0.000
33.116	0.000	0.00	0.00	0.00	0.0	0.000
33.133	0.000	0.00	0.00	0.00	0.0	0.000
33.150	0.000	0.00	0.00	0.00	0.0	0.000
33.166	0.000	0.00	0.00	0.00	0.0	0.000
33.183	0.000	0.00	0.00	0.00	0.0	0.000
33.200	0.000	0.00	0.00	0.00	0.0	0.000
33.216	0.000	0.00	0.00	0.00	0.0	0.000
33.233	0.000	0.00	0.00	0.00	0.0	0.000
33.250	0.000	0.00	0.00	0.00	0.0	0.000
33.266	0.000	0.00	0.00	0.00	0.0	0.000
33.283	0.000	0.00	0.00	0.00	0.0	0.000
33.300	0.000	0.00	0.00	0.00	0.0	0.000
33.316	0.000	0.00	0.00	0.00	0.0	0.000
33.333	0.000	0.00	0.00	0.00	0.0	0.000
33.350	0.000	0.00	0.00	0.00	0.0	0.000
33.366	0.000	0.00	0.00	0.00	0.0	0.000
33.383	0.000	0.00	0.00	0.00	0.0	0.000
33.400	0.000	0.00	0.00	0.00	0.0	0.000
33.416	0.000	0.00	0.00	0.00	0.0	0.000
33.433	0.000	0.00	0.00	0.00	0.0	0.000
33.450	0.000	0.00	0.00	0.00	0.0	0.000
33.466	0.000	0.00	0.00	0.00	0.0	0.000
33.483	0.000	0.00	0.00	0.00	0.0	0.000
33.500	0.000	0.00	0.00	0.00	0.0	0.000
33.516	0.000	0.00	0.00	0.00	0.0	0.000
33.533	0.000	0.00	0.00	0.00	0.0	0.000
33.550	0.000	0.00	0.00	0.00	0.0	0.000
33.566	0.000	0.00	0.00	0.00	0.0	0.000
33.583	0.000	0.00	0.00	0.00	0.0	0.000
33.600	0.000	0.00	0.00	0.00	0.0	0.000
33.616	0.000	0.00	0.00	0.00	0.0	0.000
33.633	0.000	0.00	0.00	0.00	0.0	0.000
33.650	0.000	0.00	0.00	0.00	0.0	0.000
33.666	0.000	0.00	0.00	0.00	0.0	0.000
33.683	0.000	0.00	0.00	0.00	0.0	0.000
33.700	0.000	0.00	0.00	0.00	0.0	0.000
33.716	0.000	0.00	0.00	0.00	0.0	0.000

33.733	0.000	0.00	0.00	0.00	0.0	0.000
33.750	0.000	0.00	0.00	0.00	0.0	0.000
33.766	0.000	0.00	0.00	0.00	0.0	0.000
33.783	0.000	0.00	0.00	0.00	0.0	0.000
33.800	0.000	0.00	0.00	0.00	0.0	0.000
33.816	0.000	0.00	0.00	0.00	0.0	0.000
33.833	0.000	0.00	0.00	0.00	0.0	0.000
33.850	0.000	0.00	0.00	0.00	0.0	0.000
33.866	0.000	0.00	0.00	0.00	0.0	0.000
33.883	0.000	0.00	0.00	0.00	0.0	0.000
33.900	0.000	0.00	0.00	0.00	0.0	0.000
33.916	0.000	0.00	0.00	0.00	0.0	0.000
33.933	0.000	0.00	0.00	0.00	0.0	0.000
33.950	0.000	0.00	0.00	0.00	0.0	0.000
33.966	0.000	0.00	0.00	0.00	0.0	0.000
33.983	0.000	0.00	0.00	0.00	0.0	0.000
34.000	0.000	0.00	0.00	0.00	0.0	0.000
34.016	0.000	0.00	0.00	0.00	0.0	0.000
34.033	0.000	0.00	0.00	0.00	0.0	0.000
34.050	0.000	0.00	0.00	0.00	0.0	0.000
34.066	0.000	0.00	0.00	0.00	0.0	0.000
34.083	0.000	0.00	0.00	0.00	0.0	0.000
34.100	0.000	0.00	0.00	0.00	0.0	0.000
34.116	0.000	0.00	0.00	0.00	0.0	0.000
34.133	0.000	0.00	0.00	0.00	0.0	0.000
34.150	0.000	0.00	0.00	0.00	0.0	0.000
34.166	0.000	0.00	0.00	0.00	0.0	0.000
34.183	0.000	0.00	0.00	0.00	0.0	0.000
34.200	0.000	0.00	0.00	0.00	0.0	0.000
34.216	0.000	0.00	0.00	0.00	0.0	0.000
34.233	0.000	0.00	0.00	0.00	0.0	0.000
34.250	0.000	0.00	0.00	0.00	0.0	0.000
34.266	0.000	0.00	0.00	0.00	0.0	0.000
34.283	0.000	0.00	0.00	0.00	0.0	0.000
34.300	0.000	0.00	0.00	0.00	0.0	0.000
34.316	0.000	0.00	0.00	0.00	0.0	0.000
34.333	0.000	0.00	0.00	0.00	0.0	0.000
34.350	0.000	0.00	0.00	0.00	0.0	0.000
34.366	0.000	0.00	0.00	0.00	0.0	0.000
34.383	0.000	0.00	0.00	0.00	0.0	0.000
34.400	0.000	0.00	0.00	0.00	0.0	0.000
34.416	0.000	0.00	0.00	0.00	0.0	0.000
34.433	0.000	0.00	0.00	0.00	0.0	0.000
34.450	0.000	0.00	0.00	0.00	0.0	0.000
34.466	0.000	0.00	0.00	0.00	0.0	0.000
34.483	0.000	0.00	0.00	0.00	0.0	0.000
34.500	0.000	0.00	0.00	0.00	0.0	0.000
34.516	0.000	0.00	0.00	0.00	0.0	0.000
34.533	0.000	0.00	0.00	0.00	0.0	0.000
34.550	0.000	0.00	0.00	0.00	0.0	0.000
34.566	0.000	0.00	0.00	0.00	0.0	0.000
34.583	0.000	0.00	0.00	0.00	0.0	0.000
34.600	0.000	0.00	0.00	0.00	0.0	0.000
34.616	0.000	0.00	0.00	0.00	0.0	0.000
34.633	0.000	0.00	0.00	0.00	0.0	0.000
34.650	0.000	0.00	0.00	0.00	0.0	0.000
34.666	0.000	0.00	0.00	0.00	0.0	0.000
34.683	0.000	0.00	0.00	0.00	0.0	0.000
34.700	0.000	0.00	0.00	0.00	0.0	0.000
34.716	0.000	0.00	0.00	0.00	0.0	0.000
34.733	0.000	0.00	0.00	0.00	0.0	0.000
34.750	0.000	0.00	0.00	0.00	0.0	0.000
34.766	0.000	0.00	0.00	0.00	0.0	0.000
34.783	0.000	0.00	0.00	0.00	0.0	0.000
34.800	0.000	0.00	0.00	0.00	0.0	0.000
34.816	0.000	0.00	0.00	0.00	0.0	0.000
34.833	0.000	0.00	0.00	0.00	0.0	0.000
34.850	0.000	0.00	0.00	0.00	0.0	0.000
34.866	0.000	0.00	0.00	0.00	0.0	0.000
34.883	0.000	0.00	0.00	0.00	0.0	0.000
34.900	0.000	0.00	0.00	0.00	0.0	0.000
34.916	0.000	0.00	0.00	0.00	0.0	0.000
34.933	0.000	0.00	0.00	0.00	0.0	0.000
34.950	0.000	0.00	0.00	0.00	0.0	0.000
34.966	0.000	0.00	0.00	0.00	0.0	0.000
34.983	0.000	0.00	0.00	0.00	0.0	0.000
35.000	0.000	0.00	0.00	0.00	0.0	0.000
35.016	0.000	0.00	0.00	0.00	0.0	0.000
35.033	0.000	0.00	0.00	0.00	0.0	0.000

35.050	0.000	0.00	0.00	0.00	0.0	0.000
35.066	0.000	0.00	0.00	0.00	0.0	0.000
35.083	0.000	0.00	0.00	0.00	0.0	0.000
35.100	0.000	0.00	0.00	0.00	0.0	0.000
35.116	0.000	0.00	0.00	0.00	0.0	0.000
35.133	0.000	0.00	0.00	0.00	0.0	0.000
35.150	0.000	0.00	0.00	0.00	0.0	0.000
35.166	0.000	0.00	0.00	0.00	0.0	0.000
35.183	0.000	0.00	0.00	0.00	0.0	0.000
35.200	0.000	0.00	0.00	0.00	0.0	0.000
35.216	0.000	0.00	0.00	0.00	0.0	0.000
35.233	0.000	0.00	0.00	0.00	0.0	0.000
35.250	0.000	0.00	0.00	0.00	0.0	0.000
35.266	0.000	0.00	0.00	0.00	0.0	0.000
35.283	0.000	0.00	0.00	0.00	0.0	0.000
35.300	0.000	0.00	0.00	0.00	0.0	0.000
35.316	0.000	0.00	0.00	0.00	0.0	0.000
35.333	0.000	0.00	0.00	0.00	0.0	0.000
35.350	0.000	0.00	0.00	0.00	0.0	0.000
35.366	0.000	0.00	0.00	0.00	0.0	0.000
35.383	0.000	0.00	0.00	0.00	0.0	0.000
35.400	0.000	0.00	0.00	0.00	0.0	0.000
35.416	0.000	0.00	0.00	0.00	0.0	0.000
35.433	0.000	0.00	0.00	0.00	0.0	0.000
35.450	0.000	0.00	0.00	0.00	0.0	0.000
35.466	0.000	0.00	0.00	0.00	0.0	0.000
35.483	0.000	0.00	0.00	0.00	0.0	0.000
35.500	0.000	0.00	0.00	0.00	0.0	0.000
35.516	0.000	0.00	0.00	0.00	0.0	0.000
35.533	0.000	0.00	0.00	0.00	0.0	0.000
35.550	0.000	0.00	0.00	0.00	0.0	0.000
35.566	0.000	0.00	0.00	0.00	0.0	0.000
35.583	0.000	0.00	0.00	0.00	0.0	0.000
35.600	0.000	0.00	0.00	0.00	0.0	0.000
35.616	0.000	0.00	0.00	0.00	0.0	0.000
35.633	0.000	0.00	0.00	0.00	0.0	0.000
35.650	0.000	0.00	0.00	0.00	0.0	0.000
35.666	0.000	0.00	0.00	0.00	0.0	0.000
35.683	0.000	0.00	0.00	0.00	0.0	0.000
35.700	0.000	0.00	0.00	0.00	0.0	0.000
35.716	0.000	0.00	0.00	0.00	0.0	0.000
35.733	0.000	0.00	0.00	0.00	0.0	0.000
35.750	0.000	0.00	0.00	0.00	0.0	0.000
35.766	0.000	0.00	0.00	0.00	0.0	0.000
35.783	0.000	0.00	0.00	0.00	0.0	0.000
35.800	0.000	0.00	0.00	0.00	0.0	0.000
35.816	0.000	0.00	0.00	0.00	0.0	0.000
35.833	0.000	0.00	0.00	0.00	0.0	0.000
35.850	0.000	0.00	0.00	0.00	0.0	0.000
35.866	0.000	0.00	0.00	0.00	0.0	0.000
35.883	0.000	0.00	0.00	0.00	0.0	0.000
35.900	0.000	0.00	0.00	0.00	0.0	0.000
35.916	0.000	0.00	0.00	0.00	0.0	0.000
35.933	0.000	0.00	0.00	0.00	0.0	0.000
35.950	0.000	0.00	0.00	0.00	0.0	0.000
35.966	0.000	0.00	0.00	0.00	0.0	0.000
35.983	0.000	0.00	0.00	0.00	0.0	0.000
36.000	0.000	0.00	0.00	0.00	0.0	0.000

PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 5.277 AF

BASIN STORAGE = 0.000 AF (WITH 0.000 AF INITIALLY FILLED)

OUTFLOW VOLUME = 5.277 AF

LOSS VOLUME = 0.000 AF

==========

END OF FLOODSCx ROUTING ANALYSIS

JOB #3687 - 8996 ETIWANDA AVE, RANCHO CUCAMONGA
DETENTION IN BLDG 4 TRUCK YARD

Elevation	Depth (feet)	Area (sq. ft.)	Volume (c.f.)	Σ Volume (c.f.)	Σ Volume (ac-ft)	Q Discharge (cfs)
1110.46	0.00	0				
			237	237	0.01	9.1
1110.60	0.14	3384				
			667	904	0.02	9.5
1110.70	0.24	9959				
			1399	2303	0.05	9.9
1110.80	0.34	18030				
			2292	4596	0.11	10.2
1110.90	0.44	27811				
			3275	7870	0.18	10.6
1111.00	0.54	37686				
			4306	12176	0.28	10.9
1111.10	0.64	48428				
			5321	17497	0.40	11.2
1111.20	0.74	58000				

```
**************************************************************************

          F L O O D    R O U T I N G    A N A L Y S I S
        USING COUNTY HYDROLOGY MANUAL OF SAN BERNARDINO(1986)
       (c) Copyright 1989-2016 Advanced Engineering Software (aes)
           Ver. 23.0  Release Date: 07/01/2016  License ID 1435

                       Analysis prepared by:



 ************************* DESCRIPTION OF STUDY *************************
* ETIWANDA DISTRIBUTION CENTER - RANCHO CUCAMONGA                       *
* PROPOSED CONDITION - BUILDING 4 - SOUTH - NODES 200-215               *
* HYDROLOGIC ANALYSIS - 100-YEAR                                        *
 ************************************************************************

  FILE NAME: 3687P4SC.FLD
  TIME/DATE OF STUDY: 16:00 06/19/2023

   The Small Area Unit Hydrograph Procedures in Section J
   of the Hydrology Manual provides estimates of runoff
   hydrograph and runoff volume for watersheds whose time of
   concentration is less than 25 minutes. The PROGRAM User
   should check the applicability of using the small area unit
   hydrograph procedures, and follow the guidelines in
   Sections J and K.5 in complex watershed modeling.


**************************************************************************
  FLOW PROCESS FROM NODE     200.00 TO NODE     215.00 IS CODE = 1.2
--------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (SMALL AREA UNIT-HYDROGRAPH ANALYSIS) <<<<<
==========================================================================

  (SMALL AREA UNIT-HYDROGRAPH ADDED TO STREAM #1)

    RATIONAL METHOD CALIBRATION COEFFICIENT = 0.90
    TOTAL CATCHMENT AREA(ACRES) =    7.20
    SOIL-LOSS RATE, Fm,(INCH/HR) =  0.074
    LOW LOSS FRACTION = 0.096
    TIME OF CONCENTRATION(MIN.) = 11.00
    SMALL AREA PEAK Q COMPUTED USING PEAK FLOW RATE FORMULA
    USER SPECIFIED RAINFALL VALUES ARE USED:
    RETURN FREQUENCY(YEARS) = 100
       5-MINUTE POINT RAINFALL VALUE(INCHES) =  0.50
      30-MINUTE POINT RAINFALL VALUE(INCHES) =  1.05
       1-HOUR   POINT RAINFALL VALUE(INCHES) =  1.38
       3-HOUR   POINT RAINFALL VALUE(INCHES) =  2.50
       6-HOUR   POINT RAINFALL VALUE(INCHES) =  3.70
      24-HOUR   POINT RAINFALL VALUE(INCHES) =  8.00

--------------------------------------------------------------------------
    TOTAL CATCHMENT   RUNOFF  VOLUME(ACRE-FEET) =     3.91
    TOTAL CATCHMENT SOIL-LOSS VOLUME(ACRE-FEET) =     0.89

--------------------------------------------------------------------------
^
==========================================================================

                    2 4 - H O U R    S T O R M
                 R U N O F F    H Y D R O G R A P H

==========================================================================
              HYDROGRAPH IN  ONE-MINUTE UNIT INTERVALS(CFS)
        (Notes: Time indicated is at END of Each Unit Intervals.
                Peak 5-minute rainfall intensity is modeled as
                a constant value for entire 5-minute period.)
--------------------------------------------------------------------------
 TIME(HRS) VOLUME(AF)   Q(CFS) 0.        6.0       12.0       18.0       24.0
--------------------------------------------------------------------------
   0.017      0.0001      0.04  Q         .         .          .          .
   0.033      0.0002      0.12  Q         .         .          .          .
   0.050      0.0005      0.19  Q         .         .          .          .
   0.067      0.0009      0.27  Q         .         .          .          .
```

0.083	0.0013	0.35	Q	.	.	.	.
0.100	0.0019	0.43	Q	.	.	.	.
0.117	0.0026	0.51	Q	.	.	.	.
0.133	0.0034	0.58	Q	.	.	.	.
0.150	0.0043	0.66	VQ	.	.	.	.
0.167	0.0054	0.74	VQ	.	.	.	.
0.183	0.0065	0.82	VQ	.	.	.	.
0.200	0.0077	0.89	VQ	.	.	.	.
0.217	0.0090	0.97	VQ	.	.	.	.
0.233	0.0105	1.05	VQ	.	.	.	.
0.250	0.0120	1.09	VQ	.	.	.	.
0.267	0.0135	1.09	VQ	.	.	.	.
0.283	0.0150	1.09	VQ	.	.	.	.
0.300	0.0165	1.09	VQ	.	.	.	.
0.317	0.0180	1.09	VQ	.	.	.	.
0.333	0.0195	1.09	VQ	.	.	.	.
0.350	0.0210	1.09	VQ	.	.	.	.
0.367	0.0225	1.09	VQ	.	.	.	.
0.383	0.0240	1.09	VQ	.	.	.	.
0.400	0.0255	1.09	VQ	.	.	.	.
0.417	0.0270	1.09	VQ	.	.	.	.
0.433	0.0285	1.10	VQ	.	.	.	.
0.450	0.0300	1.10	VQ	.	.	.	.
0.467	0.0316	1.10	VQ	.	.	.	.
0.483	0.0331	1.10	VQ	.	.	.	.
0.500	0.0346	1.10	VQ	.	.	.	.
0.517	0.0361	1.10	VQ	.	.	.	.
0.533	0.0376	1.10	VQ	.	.	.	.
0.550	0.0391	1.10	VQ	.	.	.	.
0.567	0.0406	1.10	VQ	.	.	.	.
0.583	0.0421	1.10	VQ	.	.	.	.
0.600	0.0436	1.10	VQ	.	.	.	.
0.617	0.0452	1.10	VQ	.	.	.	.
0.633	0.0467	1.10	VQ	.	.	.	.
0.650	0.0482	1.10	VQ	.	.	.	.
0.667	0.0497	1.10	VQ	.	.	.	.
0.683	0.0512	1.10	VQ	.	.	.	.
0.700	0.0527	1.10	VQ	.	.	.	.
0.717	0.0543	1.10	VQ	.	.	.	.
0.733	0.0558	1.10	VQ	.	.	.	.
0.750	0.0573	1.10	VQ	.	.	.	.
0.767	0.0588	1.11	VQ	.	.	.	.
0.783	0.0604	1.11	VQ	.	.	.	.
0.800	0.0619	1.11	VQ	.	.	.	.
0.817	0.0634	1.11	VQ	.	.	.	.
0.833	0.0649	1.11	VQ	.	.	.	.
0.850	0.0665	1.11	VQ	.	.	.	.
0.867	0.0680	1.11	VQ	.	.	.	.
0.883	0.0695	1.11	VQ	.	.	.	.
0.900	0.0710	1.11	VQ	.	.	.	.
0.917	0.0726	1.11	VQ	.	.	.	.
0.933	0.0741	1.11	VQ	.	.	.	.
0.950	0.0756	1.11	VQ	.	.	.	.
0.967	0.0772	1.11	VQ	.	.	.	.
0.983	0.0787	1.11	VQ	.	.	.	.
1.000	0.0802	1.11	VQ	.	.	.	.
1.017	0.0817	1.11	VQ	.	.	.	.
1.033	0.0833	1.11	VQ	.	.	.	.
1.050	0.0848	1.11	VQ	.	.	.	.
1.067	0.0864	1.11	VQ	.	.	.	.
1.083	0.0879	1.12	VQ	.	.	.	.
1.100	0.0894	1.12	VQ	.	.	.	.
1.117	0.0910	1.12	VQ	.	.	.	.
1.133	0.0925	1.12	VQ	.	.	.	.
1.150	0.0940	1.12	VQ	.	.	.	.
1.167	0.0956	1.12	VQ	.	.	.	.
1.183	0.0971	1.12	VQ	.	.	.	.
1.200	0.0987	1.12	.Q	.	.	.	.
1.217	0.1002	1.12	.Q	.	.	.	.
1.233	0.1018	1.12	.Q	.	.	.	.
1.250	0.1033	1.12	.Q	.	.	.	.
1.267	0.1048	1.12	.Q	.	.	.	.
1.283	0.1064	1.12	.Q	.	.	.	.
1.300	0.1079	1.12	.Q	.	.	.	.
1.317	0.1095	1.12	.Q	.	.	.	.
1.333	0.1110	1.12	.Q	.	.	.	.
1.350	0.1126	1.12	.Q	.	.	.	.
1.367	0.1141	1.12	.Q	.	.	.	.
1.383	0.1157	1.12	.Q	.	.	.	.

1.400	0.1172	1.13	.Q	.	.	.	.
1.417	0.1188	1.13	.Q	.	.	.	.
1.433	0.1203	1.13	.Q	.	.	.	.
1.450	0.1219	1.13	.Q	.	.	.	.
1.467	0.1234	1.13	.Q	.	.	.	.
1.483	0.1250	1.13	.Q	.	.	.	.
1.500	0.1265	1.13	.Q	.	.	.	.
1.517	0.1281	1.13	.Q	.	.	.	.
1.533	0.1297	1.13	.Q	.	.	.	.
1.550	0.1312	1.13	.Q	.	.	.	.
1.567	0.1328	1.13	.Q	.	.	.	.
1.583	0.1343	1.13	.Q	.	.	.	.
1.600	0.1359	1.13	.Q	.	.	.	.
1.617	0.1375	1.13	.Q	.	.	.	.
1.633	0.1390	1.13	.Q	.	.	.	.
1.650	0.1406	1.13	.Q	.	.	.	.
1.667	0.1421	1.13	.Q	.	.	.	.
1.683	0.1437	1.13	.Q	.	.	.	.
1.700	0.1453	1.13	.Q	.	.	.	.
1.717	0.1468	1.14	.Q	.	.	.	.
1.733	0.1484	1.14	.Q	.	.	.	.
1.750	0.1500	1.14	.Q	.	.	.	.
1.767	0.1515	1.14	.Q	.	.	.	.
1.783	0.1531	1.14	.Q	.	.	.	.
1.800	0.1547	1.14	.Q	.	.	.	.
1.817	0.1562	1.14	.Q	.	.	.	.
1.833	0.1578	1.14	.Q	.	.	.	.
1.850	0.1594	1.14	.Q	.	.	.	.
1.867	0.1610	1.14	.Q	.	.	.	.
1.883	0.1625	1.14	.Q	.	.	.	.
1.900	0.1641	1.14	.Q	.	.	.	.
1.917	0.1657	1.14	.Q	.	.	.	.
1.933	0.1673	1.14	.Q	.	.	.	.
1.950	0.1688	1.15	.Q	.	.	.	.
1.967	0.1704	1.15	.Q	.	.	.	.
1.983	0.1720	1.15	.Q	.	.	.	.
2.000	0.1736	1.15	.Q	.	.	.	.
2.017	0.1751	1.15	.Q	.	.	.	.
2.033	0.1767	1.15	.Q	.	.	.	.
2.050	0.1783	1.15	.Q	.	.	.	.
2.067	0.1799	1.15	.Q	.	.	.	.
2.083	0.1815	1.15	.Q	.	.	.	.
2.100	0.1831	1.15	.Q	.	.	.	.
2.117	0.1846	1.15	.Q	.	.	.	.
2.133	0.1862	1.15	.Q	.	.	.	.
2.150	0.1878	1.15	.Q	.	.	.	.
2.167	0.1894	1.15	.Q	.	.	.	.
2.183	0.1910	1.15	.Q	.	.	.	.
2.200	0.1926	1.15	.Q	.	.	.	.
2.217	0.1942	1.16	.Q	.	.	.	.
2.233	0.1958	1.16	.QV	.	.	.	.
2.250	0.1974	1.16	.QV	.	.	.	.
2.267	0.1989	1.16	.QV	.	.	.	.
2.283	0.2005	1.16	.QV	.	.	.	.
2.300	0.2021	1.16	.QV	.	.	.	.
2.317	0.2037	1.16	.QV	.	.	.	.
2.333	0.2053	1.16	.QV	.	.	.	.
2.350	0.2069	1.16	.QV	.	.	.	.
2.367	0.2085	1.16	.QV	.	.	.	.
2.383	0.2101	1.16	.QV	.	.	.	.
2.400	0.2117	1.16	.QV	.	.	.	.
2.417	0.2133	1.16	.QV	.	.	.	.
2.433	0.2149	1.16	.QV	.	.	.	.
2.450	0.2165	1.16	.QV	.	.	.	.
2.467	0.2181	1.16	.QV	.	.	.	.
2.483	0.2197	1.16	.QV	.	.	.	.
2.500	0.2213	1.16	.QV	.	.	.	.
2.517	0.2229	1.17	.QV	.	.	.	.
2.533	0.2245	1.17	.QV	.	.	.	.
2.550	0.2262	1.17	.QV	.	.	.	.
2.567	0.2278	1.17	.QV	.	.	.	.
2.583	0.2294	1.17	.QV	.	.	.	.
2.600	0.2310	1.17	.QV	.	.	.	.
2.617	0.2326	1.17	.QV	.	.	.	.
2.633	0.2342	1.17	.QV	.	.	.	.
2.650	0.2358	1.17	.QV	.	.	.	.
2.667	0.2374	1.17	.QV	.	.	.	.
2.683	0.2391	1.17	.QV	.	.	.	.
2.700	0.2407	1.17	.QV	.	.	.	.

2.717	0.2423	1.17	.QV	.	.	.	.
2.733	0.2439	1.17	.QV	.	.	.	.
2.750	0.2455	1.17	.QV	.	.	.	.
2.767	0.2471	1.17	.QV	.	.	.	.
2.783	0.2488	1.18	.QV	.	.	.	.
2.800	0.2504	1.18	.QV	.	.	.	.
2.817	0.2520	1.18	.QV	.	.	.	.
2.833	0.2536	1.18	.QV	.	.	.	.
2.850	0.2552	1.18	.QV	.	.	.	.
2.867	0.2569	1.18	.QV	.	.	.	.
2.883	0.2585	1.18	.QV	.	.	.	.
2.900	0.2601	1.18	.QV	.	.	.	.
2.917	0.2617	1.18	.QV	.	.	.	.
2.933	0.2634	1.18	.QV	.	.	.	.
2.950	0.2650	1.18	.QV	.	.	.	.
2.967	0.2666	1.18	.QV	.	.	.	.
2.983	0.2683	1.18	.QV	.	.	.	.
3.000	0.2699	1.19	.QV	.	.	.	.
3.017	0.2715	1.19	.QV	.	.	.	.
3.033	0.2732	1.19	.QV	.	.	.	.
3.050	0.2748	1.19	.QV	.	.	.	.
3.067	0.2764	1.19	.QV	.	.	.	.
3.083	0.2781	1.19	.QV	.	.	.	.
3.100	0.2797	1.19	.QV	.	.	.	.
3.117	0.2813	1.19	.QV	.	.	.	.
3.133	0.2830	1.19	.QV	.	.	.	.
3.150	0.2846	1.19	.QV	.	.	.	.
3.167	0.2863	1.19	.QV	.	.	.	.
3.183	0.2879	1.19	.QV	.	.	.	.
3.200	0.2895	1.19	.QV	.	.	.	.
3.217	0.2912	1.19	.QV	.	.	.	.
3.233	0.2928	1.19	.QV	.	.	.	.
3.250	0.2945	1.19	.Q V	.	.	.	.
3.267	0.2961	1.20	.Q V	.	.	.	.
3.283	0.2978	1.20	.Q V	.	.	.	.
3.300	0.2994	1.20	.Q V	.	.	.	.
3.317	0.3011	1.20	.Q V	.	.	.	.
3.333	0.3027	1.20	.Q V	.	.	.	.
3.350	0.3044	1.20	.Q V	.	.	.	.
3.367	0.3060	1.20	.Q V	.	.	.	.
3.383	0.3077	1.20	. QV	.	.	.	.
3.400	0.3093	1.20	. QV	.	.	.	.
3.417	0.3110	1.20	. QV	.	.	.	.
3.433	0.3126	1.20	. QV	.	.	.	.
3.450	0.3143	1.20	. QV	.	.	.	.
3.467	0.3160	1.20	. QV	.	.	.	.
3.483	0.3176	1.20	. QV	.	.	.	.
3.500	0.3193	1.20	. QV	.	.	.	.
3.517	0.3209	1.20	. QV	.	.	.	.
3.533	0.3226	1.21	. QV	.	.	.	.
3.550	0.3243	1.21	. QV	.	.	.	.
3.567	0.3259	1.21	. QV	.	.	.	.
3.583	0.3276	1.21	. QV	.	.	.	.
3.600	0.3292	1.21	. QV	.	.	.	.
3.617	0.3309	1.21	. QV	.	.	.	.
3.633	0.3326	1.21	. QV	.	.	.	.
3.650	0.3342	1.21	. QV	.	.	.	.
3.667	0.3359	1.21	. QV	.	.	.	.
3.683	0.3376	1.21	. QV	.	.	.	.
3.700	0.3393	1.21	. QV	.	.	.	.
3.717	0.3409	1.22	. QV	.	.	.	.
3.733	0.3426	1.22	. QV	.	.	.	.
3.750	0.3443	1.22	. QV	.	.	.	.
3.767	0.3460	1.22	. QV	.	.	.	.
3.783	0.3476	1.22	. QV	.	.	.	.
3.800	0.3493	1.22	. QV	.	.	.	.
3.817	0.3510	1.22	. QV	.	.	.	.
3.833	0.3527	1.22	. QV	.	.	.	.
3.850	0.3544	1.22	. QV	.	.	.	.
3.867	0.3560	1.22	. QV	.	.	.	.
3.883	0.3577	1.22	. QV	.	.	.	.
3.900	0.3594	1.22	. QV	.	.	.	.
3.917	0.3611	1.22	. QV	.	.	.	.
3.933	0.3628	1.22	. QV	.	.	.	.
3.950	0.3645	1.22	. QV	.	.	.	.
3.967	0.3661	1.22	. QV	.	.	.	.
3.983	0.3678	1.23	. QV	.	.	.	.
4.000	0.3695	1.23	. QV	.	.	.	.
4.017	0.3712	1.23	. QV	.	.	.	.

4.033	0.3729	1.23	. QV	.	.	.	.
4.050	0.3746	1.23	. QV	.	.	.	.
4.067	0.3763	1.23	. QV	.	.	.	.
4.083	0.3780	1.23	. QV	.	.	.	.
4.100	0.3797	1.23	. QV	.	.	.	.
4.117	0.3814	1.23	. QV	.	.	.	.
4.133	0.3831	1.23	. QV	.	.	.	.
4.150	0.3848	1.23	. QV	.	.	.	.
4.167	0.3865	1.23	. QV	.	.	.	.
4.183	0.3882	1.24	. QV	.	.	.	.
4.200	0.3899	1.24	. QV	.	.	.	.
4.217	0.3916	1.24	. Q V	.	.	.	.
4.233	0.3933	1.24	. Q V	.	.	.	.
4.250	0.3950	1.24	. Q V	.	.	.	.
4.267	0.3967	1.24	. Q V	.	.	.	.
4.283	0.3984	1.24	. Q V	.	.	.	.
4.300	0.4001	1.24	. Q V	.	.	.	.
4.317	0.4018	1.24	. Q V	.	.	.	.
4.333	0.4035	1.24	. Q V	.	.	.	.
4.350	0.4052	1.24	. Q V	.	.	.	.
4.367	0.4070	1.24	. Q V	.	.	.	.
4.383	0.4087	1.24	. Q V	.	.	.	.
4.400	0.4104	1.25	. Q V	.	.	.	.
4.417	0.4121	1.25	. Q V	.	.	.	.
4.433	0.4138	1.25	. Q V	.	.	.	.
4.450	0.4155	1.25	. Q V	.	.	.	.
4.467	0.4173	1.25	. Q V	.	.	.	.
4.483	0.4190	1.25	. Q V	.	.	.	.
4.500	0.4207	1.25	. Q V	.	.	.	.
4.517	0.4224	1.25	. Q V	.	.	.	.
4.533	0.4242	1.25	. Q V	.	.	.	.
4.550	0.4259	1.25	. Q V	.	.	.	.
4.567	0.4276	1.25	. Q V	.	.	.	.
4.583	0.4293	1.25	. Q V	.	.	.	.
4.600	0.4311	1.25	. Q V	.	.	.	.
4.617	0.4328	1.25	. Q V	.	.	.	.
4.633	0.4345	1.25	. Q V	.	.	.	.
4.650	0.4362	1.26	. Q V	.	.	.	.
4.667	0.4380	1.26	. Q V	.	.	.	.
4.683	0.4397	1.26	. Q V	.	.	.	.
4.700	0.4414	1.26	. Q V	.	.	.	.
4.717	0.4432	1.26	. Q V	.	.	.	.
4.733	0.4449	1.26	. Q V	.	.	.	.
4.750	0.4467	1.26	. Q V	.	.	.	.
4.767	0.4484	1.26	. Q V	.	.	.	.
4.783	0.4501	1.26	. Q V	.	.	.	.
4.800	0.4519	1.27	. Q V	.	.	.	.
4.817	0.4536	1.27	. Q V	.	.	.	.
4.833	0.4554	1.27	. Q V	.	.	.	.
4.850	0.4571	1.27	. Q V	.	.	.	.
4.867	0.4589	1.27	. Q V	.	.	.	.
4.883	0.4606	1.27	. Q V	.	.	.	.
4.900	0.4624	1.27	. Q V	.	.	.	.
4.917	0.4641	1.27	. Q V	.	.	.	.
4.933	0.4659	1.27	. Q V	.	.	.	.
4.950	0.4676	1.27	. Q V	.	.	.	.
4.967	0.4694	1.27	. Q V	.	.	.	.
4.983	0.4711	1.27	. Q V	.	.	.	.
5.000	0.4729	1.27	. Q V	.	.	.	.
5.017	0.4746	1.27	. Q V	.	.	.	.
5.033	0.4764	1.27	. Q V	.	.	.	.
5.050	0.4781	1.28	. Q V	.	.	.	.
5.067	0.4799	1.28	. Q V	.	.	.	.
5.083	0.4817	1.28	. Q V	.	.	.	.
5.100	0.4834	1.28	. Q V	.	.	.	.
5.117	0.4852	1.28	. Q V	.	.	.	.
5.133	0.4870	1.28	. Q V	.	.	.	.
5.150	0.4887	1.28	. Q V	.	.	.	.
5.167	0.4905	1.28	. Q V	.	.	.	.
5.183	0.4923	1.29	. Q V	.	.	.	.
5.200	0.4940	1.29	. Q V	.	.	.	.
5.217	0.4958	1.29	. Q V	.	.	.	.
5.233	0.4976	1.29	. Q V	.	.	.	.
5.250	0.4993	1.29	. Q V	.	.	.	.
5.267	0.5011	1.29	. Q V	.	.	.	.
5.283	0.5029	1.29	. Q V	.	.	.	.
5.300	0.5047	1.29	. Q V	.	.	.	.
5.317	0.5065	1.29	. Q V	.	.	.	.
5.333	0.5082	1.29	. Q V	.	.	.	.

5.350	0.5100	1.29	.	Q	V	.	.	.
5.367	0.5118	1.29	.	Q	V	.	.	.
5.383	0.5136	1.29	.	Q	V	.	.	.
5.400	0.5154	1.29	.	Q	V	.	.	.
5.417	0.5171	1.30	.	Q	V	.	.	.
5.433	0.5189	1.30	.	Q	V	.	.	.
5.450	0.5207	1.30	.	Q	V	.	.	.
5.467	0.5225	1.30	.	Q	V	.	.	.
5.483	0.5243	1.30	.	Q	V	.	.	.
5.500	0.5261	1.30	.	Q	V	.	.	.
5.517	0.5279	1.30	.	Q	V	.	.	.
5.533	0.5297	1.30	.	Q	V	.	.	.
5.550	0.5315	1.30	.	Q	V	.	.	.
5.567	0.5333	1.31	.	Q	V	.	.	.
5.583	0.5351	1.31	.	Q	V	.	.	.
5.600	0.5369	1.31	.	Q	V	.	.	.
5.617	0.5387	1.31	.	Q	V	.	.	.
5.633	0.5405	1.31	.	Q	V	.	.	.
5.650	0.5423	1.31	.	Q	V	.	.	.
5.667	0.5441	1.31	.	Q	V	.	.	.
5.683	0.5459	1.31	.	Q	V	.	.	.
5.700	0.5477	1.31	.	Q	V	.	.	.
5.717	0.5495	1.31	.	Q	V	.	.	.
5.733	0.5513	1.31	.	Q	V	.	.	.
5.750	0.5531	1.31	.	Q	V	.	.	.
5.767	0.5549	1.31	.	Q	V	.	.	.
5.783	0.5567	1.32	.	Q	V	.	.	.
5.800	0.5585	1.32	.	Q	V	.	.	.
5.817	0.5604	1.32	.	Q	V	.	.	.
5.833	0.5622	1.32	.	Q	V	.	.	.
5.850	0.5640	1.32	.	Q	V	.	.	.
5.867	0.5658	1.32	.	Q	V	.	.	.
5.883	0.5676	1.32	.	Q	V	.	.	.
5.900	0.5695	1.32	.	Q	V	.	.	.
5.917	0.5713	1.33	.	Q	V	.	.	.
5.933	0.5731	1.33	.	Q	V	.	.	.
5.950	0.5749	1.33	.	Q	V	.	.	.
5.967	0.5768	1.33	.	Q	V	.	.	.
5.983	0.5786	1.33	.	Q	V	.	.	.
6.000	0.5804	1.33	.	Q	V	.	.	.
6.017	0.5823	1.33	.	Q	V	.	.	.
6.033	0.5841	1.33	.	Q	V	.	.	.
6.050	0.5859	1.33	.	Q	V	.	.	.
6.067	0.5878	1.33	.	Q	V	.	.	.
6.083	0.5896	1.33	.	Q	V	.	.	.
6.100	0.5914	1.33	.	Q	V	.	.	.
6.117	0.5933	1.33	.	Q	V	.	.	.
6.133	0.5951	1.34	.	Q	V	.	.	.
6.150	0.5969	1.34	.	Q	V	.	.	.
6.167	0.5988	1.34	.	Q	V	.	.	.
6.183	0.6006	1.34	.	Q	V	.	.	.
6.200	0.6025	1.34	.	Q	V	.	.	.
6.217	0.6043	1.34	.	Q	V	.	.	.
6.233	0.6062	1.34	.	Q	V	.	.	.
6.250	0.6080	1.34	.	Q	V	.	.	.
6.267	0.6099	1.35	.	Q	V	.	.	.
6.283	0.6117	1.35	.	Q	V	.	.	.
6.300	0.6136	1.35	.	Q	V	.	.	.
6.317	0.6155	1.35	.	Q	V	.	.	.
6.333	0.6173	1.35	.	Q	V	.	.	.
6.350	0.6192	1.35	.	Q	V	.	.	.
6.367	0.6210	1.35	.	Q	V	.	.	.
6.383	0.6229	1.35	.	Q	V	.	.	.
6.400	0.6248	1.35	.	Q	V	.	.	.
6.417	0.6266	1.35	.	Q	V	.	.	.
6.433	0.6285	1.35	.	Q	V	.	.	.
6.450	0.6303	1.35	.	Q	V	.	.	.
6.467	0.6322	1.35	.	Q	V	.	.	.
6.483	0.6341	1.36	.	Q	V	.	.	.
6.500	0.6360	1.36	.	Q	V	.	.	.
6.517	0.6378	1.36	.	Q	V	.	.	.
6.533	0.6397	1.36	.	Q	V	.	.	.
6.550	0.6416	1.36	.	Q	V	.	.	.
6.567	0.6434	1.36	.	Q	V	.	.	.
6.583	0.6453	1.36	.	Q	V	.	.	.
6.600	0.6472	1.37	.	Q	V	.	.	.
6.617	0.6491	1.37	.	Q	V	.	.	.
6.633	0.6510	1.37	.	Q	V	.	.	.
6.650	0.6529	1.37	.	Q	V	.	.	.

6.667	0.6548	1.37	.	Q	V	.	.	.	.
6.683	0.6566	1.37	.	Q	V	.	.	.	.
6.700	0.6585	1.37	.	Q	V	.	.	.	.
6.717	0.6604	1.37	.	Q	V	.	.	.	.
6.733	0.6623	1.37	.	Q	V	.	.	.	.
6.750	0.6642	1.37	.	Q	V	.	.	.	.
6.767	0.6661	1.38	.	Q	V	.	.	.	.
6.783	0.6680	1.38	.	Q	V	.	.	.	.
6.800	0.6699	1.38	.	Q	V	.	.	.	.
6.817	0.6718	1.38	.	Q	V	.	.	.	.
6.833	0.6737	1.38	.	Q	V	.	.	.	.
6.850	0.6756	1.38	.	Q	V	.	.	.	.
6.867	0.6775	1.38	.	Q	V	.	.	.	.
6.883	0.6794	1.38	.	Q	V	.	.	.	.
6.900	0.6813	1.38	.	Q	V	.	.	.	.
6.917	0.6832	1.39	.	Q	V	.	.	.	.
6.933	0.6851	1.39	.	Q	V	.	.	.	.
6.950	0.6870	1.39	.	Q	V	.	.	.	.
6.967	0.6889	1.39	.	Q	V	.	.	.	.
6.983	0.6909	1.39	.	Q	V	.	.	.	.
7.000	0.6928	1.39	.	Q	V	.	.	.	.
7.017	0.6947	1.39	.	Q	V	.	.	.	.
7.033	0.6966	1.40	.	Q	V	.	.	.	.
7.050	0.6985	1.40	.	Q	V	.	.	.	.
7.067	0.7005	1.40	.	Q	V	.	.	.	.
7.083	0.7024	1.40	.	Q	V	.	.	.	.
7.100	0.7043	1.40	.	Q	V	.	.	.	.
7.117	0.7062	1.40	.	Q	V	.	.	.	.
7.133	0.7082	1.40	.	Q	V	.	.	.	.
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7.167	0.7120	1.40	.	Q	V	.	.	.	.
7.183	0.7140	1.40	.	Q	V	.	.	.	.
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7.283	0.7256	1.41	.	Q	V	.	.	.	.
7.300	0.7275	1.41	.	Q	V	.	.	.	.
7.317	0.7295	1.41	.	Q	V	.	.	.	.
7.333	0.7314	1.42	.	Q	V	.	.	.	.
7.350	0.7334	1.42	.	Q	V	.	.	.	.
7.367	0.7353	1.42	.	Q	V	.	.	.	.
7.383	0.7373	1.42	.	Q	V	.	.	.	.
7.400	0.7392	1.42	.	Q	V	.	.	.	.
7.417	0.7412	1.42	.	Q	V	.	.	.	.
7.433	0.7432	1.42	.	Q	V	.	.	.	.
7.450	0.7451	1.42	.	Q	V	.	.	.	.
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7.517	0.7530	1.43	.	Q	V	.	.	.	.
7.533	0.7549	1.43	.	Q	V	.	.	.	.
7.550	0.7569	1.43	.	Q	V	.	.	.	.
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7.667	0.7707	1.44	.	Q	V	.	.	.	.
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7.767	0.7827	1.45	.	Q	V	.	.	.	.
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7.800	0.7867	1.45	.	Q	V	.	.	.	.
7.817	0.7887	1.45	.	Q	V	.	.	.	.
7.833	0.7907	1.45	.	Q	V	.	.	.	.
7.850	0.7927	1.45	.	Q	V	.	.	.	.
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8.550	0.8784	1.51	.	Q	V	.	.	.
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10.100	1.0817	1.67	. Q	.V	.	.	.
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10.217	1.0979	1.68	. Q	.V	.	.	.
10.233	1.1002	1.69	. Q	.V	.	.	.
10.250	1.1025	1.69	. Q	.V	.	.	.
10.267	1.1048	1.69	. Q	.V	.	.	.
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10.517	1.1402	1.72	. Q	.V	.	.	.
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10.567	1.1473	1.73	. Q	.V	.	.	.
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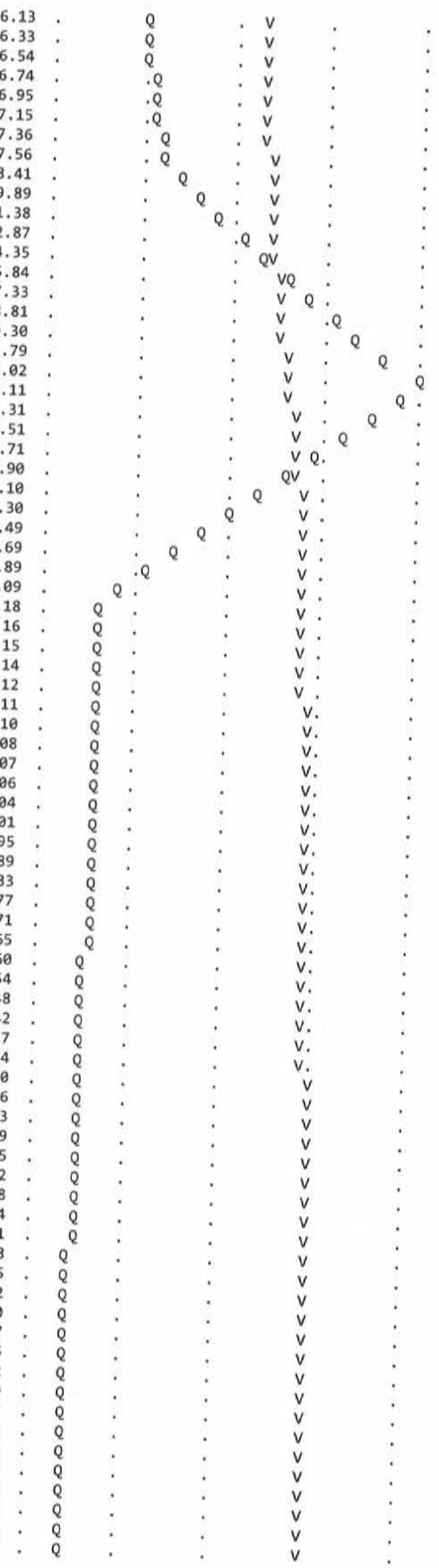
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10.667	1.1617	1.75	. Q	.V	.	.	.	
10.683	1.1641	1.75	. Q	.V	.	.	.	
10.700	1.1665	1.75	. Q	.V	.	.	.	
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10.950	1.2031	1.79	. Q	. V	.	.	.	
10.967	1.2055	1.79	. Q	. V	.	.	.	
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11.617	1.3046	1.89	. Q	. V	.	.	.	
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11.683	1.3151	1.91	. Q	. V	.	.	.	
11.700	1.3177	1.91	. Q	. V	.	.	.	
11.717	1.3204	1.92	. Q	. V	.	.	.	
11.733	1.3230	1.92	. Q	. V	.	.	.	
11.750	1.3257	1.93	. Q	. V	.	.	.	
11.767	1.3283	1.93	. Q	. V	.	.	.	
11.783	1.3310	1.94	. Q	. V	.	.	.	
11.800	1.3337	1.94	. Q	. V	.	.	.	
11.817	1.3363	1.94	. Q	. V	.	.	.	
11.833	1.3390	1.94	. Q	. V	.	.	.	
11.850	1.3417	1.95	. Q	. V	.	.	.	
11.867	1.3444	1.95	. Q	. V	.	.	.	
11.883	1.3471	1.95	. Q	. V	.	.	.	
11.900	1.3498	1.95	. Q	. V	.	.	.	
11.917	1.3524	1.96	. Q	. V	.	.	.	

11.933	1.3551	1.96	.	Q	.	V	.	.	.
11.950	1.3578	1.96	.	Q	.	V	.	.	.
11.967	1.3605	1.96	.	Q	.	V	.	.	.
11.983	1.3632	1.97	.	Q	.	V	.	.	.
12.000	1.3660	1.97	.	Q	.	V	.	.	.
12.017	1.3687	1.98	.	Q	.	V	.	.	.
12.033	1.3714	1.99	.	Q	.	V	.	.	.
12.050	1.3742	1.99	.	Q	.	V	.	.	.
12.067	1.3769	2.00	.	Q	.	V	.	.	.
12.083	1.3797	2.01	.	Q	.	V	.	.	.
12.100	1.3825	2.02	.	Q	.	V	.	.	.
12.117	1.3853	2.02	.	Q	.	V	.	.	.
12.133	1.3881	2.03	.	Q	.	V	.	.	.
12.150	1.3909	2.04	.	Q	.	V	.	.	.
12.167	1.3937	2.04	.	Q	.	V	.	.	.
12.183	1.3965	2.05	.	Q	.	V	.	.	.
12.200	1.3993	2.05	.	Q	.	V	.	.	.
12.217	1.4021	2.05	.	Q	.	V	.	.	.
12.233	1.4050	2.06	.	Q	.	V	.	.	.
12.250	1.4078	2.06	.	Q	.	V	.	.	.
12.267	1.4107	2.06	.	Q	.	V	.	.	.
12.283	1.4135	2.07	.	Q	.	V	.	.	.
12.300	1.4163	2.07	.	Q	.	V	.	.	.
12.317	1.4192	2.07	.	Q	.	V	.	.	.
12.333	1.4221	2.08	.	Q	.	V	.	.	.
12.350	1.4249	2.08	.	Q	.	V	.	.	.
12.367	1.4278	2.09	.	Q	.	V	.	.	.
12.383	1.4307	2.09	.	Q	.	V	.	.	.
12.400	1.4336	2.10	.	Q	.	V	.	.	.
12.417	1.4365	2.10	.	Q	.	V	.	.	.
12.433	1.4394	2.11	.	Q	.	V	.	.	.
12.450	1.4423	2.11	.	Q	.	V	.	.	.
12.467	1.4452	2.12	.	Q	.	V	.	.	.
12.483	1.4481	2.12	.	Q	.	V	.	.	.
12.500	1.4511	2.13	.	Q	.	V	.	.	.
12.517	1.4540	2.13	.	Q	.	V	.	.	.
12.533	1.4569	2.14	.	Q	.	V	.	.	.
12.550	1.4599	2.14	.	Q	.	V	.	.	.
12.567	1.4628	2.14	.	Q	.	V	.	.	.
12.583	1.4658	2.15	.	Q	.	V	.	.	.
12.600	1.4688	2.15	.	Q	.	V	.	.	.
12.617	1.4717	2.15	.	Q	.	V	.	.	.
12.633	1.4747	2.16	.	Q	.	V	.	.	.
12.650	1.4777	2.16	.	Q	.	V	.	.	.
12.667	1.4807	2.16	.	Q	.	V	.	.	.
12.683	1.4836	2.17	.	Q	.	V	.	.	.
12.700	1.4866	2.17	.	Q	.	V	.	.	.
12.717	1.4896	2.17	.	Q	.	V	.	.	.
12.733	1.4926	2.18	.	Q	.	V	.	.	.
12.750	1.4956	2.19	.	Q	.	V	.	.	.
12.767	1.4986	2.19	.	Q	.	V	.	.	.
12.783	1.5017	2.20	.	Q	.	V	.	.	.
12.800	1.5047	2.20	.	Q	.	V	.	.	.
12.817	1.5078	2.21	.	Q	.	V	.	.	.
12.833	1.5108	2.22	.	Q	.	V	.	.	.
12.850	1.5139	2.22	.	Q	.	V	.	.	.
12.867	1.5169	2.23	.	Q	.	V	.	.	.
12.883	1.5200	2.24	.	Q	.	V	.	.	.
12.900	1.5231	2.24	.	Q	.	V	.	.	.
12.917	1.5262	2.24	.	Q	.	V	.	.	.
12.933	1.5293	2.25	.	Q	.	V	.	.	.
12.950	1.5324	2.25	.	Q	.	V	.	.	.
12.967	1.5355	2.25	.	Q	.	V	.	.	.
12.983	1.5386	2.26	.	Q	.	V	.	.	.
13.000	1.5417	2.26	.	Q	.	V	.	.	.
13.017	1.5449	2.27	.	Q	.	V	.	.	.
13.033	1.5480	2.27	.	Q	.	V	.	.	.
13.050	1.5511	2.27	.	Q	.	V	.	.	.
13.067	1.5542	2.28	.	Q	.	V	.	.	.
13.083	1.5574	2.28	.	Q	.	V	.	.	.
13.100	1.5605	2.29	.	Q	.	V	.	.	.
13.117	1.5637	2.30	.	Q	.	V	.	.	.
13.133	1.5669	2.30	.	Q	.	V	.	.	.
13.150	1.5701	2.31	.	Q	.	V	.	.	.
13.167	1.5732	2.32	.	Q	.	V	.	.	.
13.183	1.5764	2.33	.	Q	.	V	.	.	.
13.200	1.5797	2.33	.	Q	.	V	.	.	.
13.217	1.5829	2.34	.	Q	.	V	.	.	.
13.233	1.5861	2.35	.	Q	.	V	.	.	.

13.250	1.5894	2.36	.	Q	.	V	.	.	.	.	.	.
13.267	1.5926	2.36	.	Q	.	V	.	.	.	.	.	.
13.283	1.5959	2.37	.	Q	.	V	.	.	.	.	.	.
13.300	1.5991	2.37	.	Q	.	V	.	.	.	.	.	.
13.317	1.6024	2.37	.	Q	.	V	.	.	.	.	.	.
13.333	1.6057	2.38	.	Q	.	V	.	.	.	.	.	.
13.350	1.6090	2.38	.	Q	.	V	.	.	.	.	.	.
13.367	1.6123	2.39	.	Q	.	V	.	.	.	.	.	.
13.383	1.6155	2.39	.	Q	.	V	.	.	.	.	.	.
13.400	1.6188	2.39	.	Q	.	V	.	.	.	.	.	.
13.417	1.6221	2.40	.	Q	.	V	.	.	.	.	.	.
13.433	1.6255	2.40	.	Q	.	V	.	.	.	.	.	.
13.450	1.6288	2.41	.	Q	.	V	.	.	.	.	.	.
13.467	1.6321	2.42	.	Q	.	V	.	.	.	.	.	.
13.483	1.6354	2.43	.	Q	.	V	.	.	.	.	.	.
13.500	1.6388	2.44	.	Q	.	V	.	.	.	.	.	.
13.517	1.6422	2.45	.	Q	.	V	.	.	.	.	.	.
13.533	1.6456	2.45	.	Q	.	V	.	.	.	.	.	.
13.550	1.6489	2.46	.	Q	.	V	.	.	.	.	.	.
13.567	1.6523	2.47	.	Q	.	V	.	.	.	.	.	.
13.583	1.6558	2.48	.	Q	.	V	.	.	.	.	.	.
13.600	1.6592	2.49	.	Q	.	V	.	.	.	.	.	.
13.617	1.6626	2.50	.	Q	.	V	.	.	.	.	.	.
13.633	1.6661	2.51	.	Q	.	V	.	.	.	.	.	.
13.650	1.6695	2.51	.	Q	.	V	.	.	.	.	.	.
13.667	1.6730	2.52	.	Q	.	V	.	.	.	.	.	.
13.683	1.6765	2.52	.	Q	.	V	.	.	.	.	.	.
13.700	1.6800	2.53	.	Q	.	V	.	.	.	.	.	.
13.717	1.6835	2.53	.	Q	.	V	.	.	.	.	.	.
13.733	1.6869	2.54	.	Q	.	V	.	.	.	.	.	.
13.750	1.6904	2.54	.	Q	.	V	.	.	.	.	.	.
13.767	1.6940	2.55	.	Q	.	V	.	.	.	.	.	.
13.783	1.6975	2.55	.	Q	.	V	.	.	.	.	.	.
13.800	1.7010	2.56	.	Q	.	V	.	.	.	.	.	.
13.817	1.7045	2.56	.	Q	.	V	.	.	.	.	.	.
13.833	1.7081	2.58	.	Q	.	V	.	.	.	.	.	.
13.850	1.7116	2.59	.	Q	.	V	.	.	.	.	.	.
13.867	1.7152	2.60	.	Q	.	V	.	.	.	.	.	.
13.883	1.7188	2.61	.	Q	.	V	.	.	.	.	.	.
13.900	1.7224	2.62	.	Q	.	V	.	.	.	.	.	.
13.917	1.7260	2.63	.	Q	.	V	.	.	.	.	.	.
13.933	1.7297	2.64	.	Q	.	V	.	.	.	.	.	.
13.950	1.7333	2.65	.	Q	.	V	.	.	.	.	.	.
13.967	1.7370	2.67	.	Q	.	V	.	.	.	.	.	.
13.983	1.7407	2.68	.	Q	.	V	.	.	.	.	.	.
14.000	1.7444	2.68	.	Q	.	V	.	.	.	.	.	.
14.017	1.7481	2.69	.	Q	.	V	.	.	.	.	.	.
14.033	1.7518	2.69	.	Q	.	V	.	.	.	.	.	.
14.050	1.7555	2.69	.	Q	.	V	.	.	.	.	.	.
14.067	1.7592	2.69	.	Q	.	V	.	.	.	.	.	.
14.083	1.7629	2.69	.	Q	.	V	.	.	.	.	.	.
14.100	1.7666	2.70	.	Q	.	V	.	.	.	.	.	.
14.117	1.7703	2.70	.	Q	.	V	.	.	.	.	.	.
14.133	1.7741	2.70	.	Q	.	V	.	.	.	.	.	.
14.150	1.7778	2.70	.	Q	.	V	.	.	.	.	.	.
14.167	1.7815	2.71	.	Q	.	V	.	.	.	.	.	.
14.183	1.7853	2.71	.	Q	.	V	.	.	.	.	.	.
14.200	1.7890	2.72	.	Q	.	V	.	.	.	.	.	.
14.217	1.7928	2.73	.	Q	.	V	.	.	.	.	.	.
14.233	1.7965	2.73	.	Q	.	V	.	.	.	.	.	.
14.250	1.8003	2.74	.	Q	.	V	.	.	.	.	.	.
14.267	1.8041	2.75	.	Q	.	V	.	.	.	.	.	.
14.283	1.8079	2.76	.	Q	.	V	.	.	.	.	.	.
14.300	1.8117	2.76	.	Q	.	V	.	.	.	.	.	.
14.317	1.8155	2.77	.	Q	.	V	.	.	.	.	.	.
14.333	1.8193	2.78	.	Q	.	V	.	.	.	.	.	.
14.350	1.8232	2.79	.	Q	.	V	.	.	.	.	.	.
14.367	1.8270	2.80	.	Q	.	V	.	.	.	.	.	.
14.383	1.8309	2.80	.	Q	.	V	.	.	.	.	.	.
14.400	1.8348	2.81	.	Q	.	V	.	.	.	.	.	.
14.417	1.8387	2.82	.	Q	.	V	.	.	.	.	.	.
14.433	1.8425	2.83	.	Q	.	V	.	.	.	.	.	.
14.450	1.8465	2.84	.	Q	.	V	.	.	.	.	.	.
14.467	1.8504	2.85	.	Q	.	V	.	.	.	.	.	.
14.483	1.8543	2.85	.	Q	.	V	.	.	.	.	.	.
14.500	1.8583	2.86	.	Q	.	V	.	.	.	.	.	.
14.517	1.8622	2.87	.	Q	.	V	.	.	.	.	.	.
14.533	1.8662	2.88	.	Q	.	V	.	.	.	.	.	.
14.550	1.8702	2.89	.	Q	.	V	.	.	.	.	.	.

14.567	1.8742	2.91	.	Q	.	V.	.	.		
14.583	1.8782	2.93	.	Q	.	V.	.	.		
14.600	1.8823	2.95	.	Q	.	V.	.	.		
14.617	1.8864	2.97	.	Q	.	V.	.	.		
14.633	1.8905	2.99	.	Q	.	V.	.	.		
14.650	1.8947	3.01	.	Q	.	V.	.	.		
14.667	1.8988	3.03	.	Q	.	V.	.	.		
14.683	1.9031	3.05	.	Q	.	V.	.	.		
14.700	1.9073	3.08	.	Q	.	V.	.	.		
14.717	1.9116	3.10	.	Q	.	V.	.	.		
14.733	1.9158	3.11	.	Q	.	V.	.	.		
14.750	1.9201	3.12	.	Q	.	V.	.	.		
14.767	1.9245	3.14	.	Q	.	V.	.	.		
14.783	1.9288	3.15	.	Q	.	V.	.	.		
14.800	1.9331	3.16	.	Q	.	V.	.	.		
14.817	1.9375	3.17	.	Q	.	V.	.	.		
14.833	1.9419	3.18	.	Q	.	V.	.	.		
14.850	1.9463	3.20	.	Q	.	V.	.	.		
14.867	1.9507	3.21	.	Q	.	V.	.	.		
14.883	1.9552	3.22	.	Q	.	V.	.	.		
14.900	1.9596	3.23	.	Q	.	V	.	.		
14.917	1.9641	3.25	.	Q	.	V	.	.		
14.933	1.9686	3.28	.	Q	.	V	.	.		
14.950	1.9732	3.31	.	Q	.	V	.	.		
14.967	1.9778	3.34	.	Q	.	V	.	.		
14.983	1.9824	3.37	.	Q	.	V	.	.		
15.000	1.9871	3.40	.	Q	.	V	.	.		
15.017	1.9918	3.43	.	Q	.	V	.	.		
15.033	1.9966	3.46	.	Q	.	V	.	.		
15.050	2.0014	3.49	.	Q	.	V	.	.		
15.067	2.0063	3.52	.	Q	.	V	.	.		
15.083	2.0112	3.55	.	Q	.	V	.	.		
15.100	2.0161	3.58	.	Q	.	V	.	.		
15.117	2.0210	3.60	.	Q	.	V	.	.		
15.133	2.0260	3.62	.	Q	.	V	.	.		
15.150	2.0310	3.64	.	Q	.	V	.	.		
15.167	2.0361	3.65	.	Q	.	V	.	.		
15.183	2.0411	3.67	.	Q	.	V	.	.		
15.200	2.0462	3.69	.	Q	.	V	.	.		
15.217	2.0513	3.71	.	Q	.	V	.	.		
15.233	2.0565	3.73	.	Q	.	.V	.	.		
15.250	2.0616	3.75	.	Q	.	.V	.	.		
15.267	2.0668	3.77	.	Q	.	.V	.	.		
15.283	2.0720	3.78	.	Q	.	.V	.	.		
15.300	2.0772	3.78	.	Q	.	.V	.	.		
15.317	2.0825	3.79	.	Q	.	.V	.	.		
15.333	2.0877	3.79	.	Q	.	.V	.	.		
15.350	2.0929	3.80	.	Q	.	.V	.	.		
15.367	2.0982	3.80	.	Q	.	.V	.	.		
15.383	2.1034	3.80	.	Q	.	.V	.	.		
15.400	2.1086	3.81	.	Q	.	.V	.	.		
15.417	2.1139	3.81	.	Q	.	.V	.	.		
15.433	2.1191	3.81	.	Q	.	.V	.	.		
15.450	2.1244	3.82	.	Q	.	.V	.	.		
15.467	2.1296	3.81	.	Q	.	.V	.	.		
15.483	2.1349	3.79	.	Q	.	.V	.	.		
15.500	2.1401	3.77	.	Q	.	.V	.	.		
15.517	2.1452	3.75	.	Q	.	.V	.	.		
15.533	2.1503	3.73	.	Q	.	.V	.	.		
15.550	2.1554	3.70	.	Q	.	. V	.	.		
15.567	2.1605	3.68	.	Q	.	. V	.	.		
15.583	2.1656	3.66	.	Q	.	. V	.	.		
15.600	2.1706	3.64	.	Q	.	. V	.	.		
15.617	2.1756	3.62	.	Q	.	. V	.	.		
15.633	2.1805	3.60	.	Q	.	. V	.	.		
15.650	2.1856	3.67	.	Q	.	. V	.	.		
15.667	2.1909	3.84	.	Q	.	. V	.	.		
15.683	2.1964	4.00	.	Q	.	. V	.	.		
15.700	2.2021	4.17	.	Q	.	. V	.	.		
15.717	2.2081	4.34	.	Q	.	. V	.	.		
15.733	2.2143	4.50	.	Q	.	. V	.	.		
15.750	2.2207	4.67	.	Q	.	. V	.	.		
15.767	2.2274	4.83	.	Q	.	. V	.	.		
15.783	2.2343	5.00	.	Q	.	. V	.	.		
15.800	2.2414	5.17	.	Q	.	. V	.	.		
15.817	2.2487	5.33	.	Q	.	. V	.	.		
15.833	2.2563	5.52	.	Q.		. V	.	.		
15.850	2.2642	5.72	.	Q.		. V	.	.		
15.867	2.2724	5.93	.	Q.		. V	.	.		

15.883	2.2808	6.13	
15.900	2.2895	6.33	
15.917	2.2985	6.54	
15.933	2.3078	6.74	
15.950	2.3174	6.95	
15.967	2.3273	7.15	
15.983	2.3374	7.36	
16.000	2.3478	7.56	
16.017	2.3594	8.41	
16.033	2.3730	9.89	
16.050	2.3887	11.38	
16.067	2.4064	12.87	
16.083	2.4262	14.35	
16.100	2.4480	15.84	
16.117	2.4719	17.33	
16.133	2.4978	18.81	
16.150	2.5257	20.30	
16.167	2.5558	21.79	
16.183	2.5888	24.02	
16.200	2.6207	23.11	
16.217	2.6500	21.31	
16.233	2.6769	19.51	
16.250	2.7013	17.71	
16.267	2.7232	15.90	
16.283	2.7426	14.10	
16.300	2.7596	12.30	
16.317	2.7740	10.49	
16.333	2.7860	8.69	
16.350	2.7955	6.89	
16.367	2.8025	5.09	
16.383	2.8082	4.18	
16.400	2.8140	4.16	
16.417	2.8197	4.15	
16.433	2.8254	4.14	
16.450	2.8311	4.12	
16.467	2.8367	4.11	
16.483	2.8424	4.10	
16.500	2.8480	4.08	
16.517	2.8536	4.07	
16.533	2.8592	4.06	
16.550	2.8648	4.04	
16.567	2.8703	4.01	
16.583	2.8757	3.95	
16.600	2.8811	3.89	
16.617	2.8863	3.83	
16.633	2.8915	3.77	
16.650	2.8967	3.71	
16.667	2.9017	3.65	
16.683	2.9066	3.60	
16.700	2.9115	3.54	
16.717	2.9163	3.48	
16.733	2.9210	3.42	
16.750	2.9257	3.37	
16.767	2.9303	3.34	
16.783	2.9348	3.30	
16.800	2.9393	3.26	
16.817	2.9437	3.23	
16.833	2.9481	3.19	
16.850	2.9525	3.15	
16.867	2.9568	3.12	
16.883	2.9610	3.08	
16.900	2.9652	3.04	
16.917	2.9693	3.01	
16.933	2.9734	2.98	
16.950	2.9775	2.95	
16.967	2.9815	2.92	
16.983	2.9855	2.90	
17.000	2.9895	2.87	
17.017	2.9934	2.85	
17.033	2.9973	2.82	
17.050	3.0011	2.80	
17.067	3.0050	2.77	
17.083	3.0087	2.75	
17.100	3.0125	2.72	
17.117	3.0162	2.70	
17.133	3.0199	2.70	
17.150	3.0236	2.69	
17.167	3.0273	2.68	
17.183	3.0310	2.67	



17.200	3.0347	2.66	.	Q	.	.	.V	.
17.217	3.0383	2.65	.	Q	.	.	.V	.
17.233	3.0420	2.65	.	Q	.	.	.V	.
17.250	3.0456	2.64	.	Q	.	.	.V	.
17.267	3.0492	2.63	.	Q	.	.	.V	.
17.283	3.0528	2.62	.	Q	.	.	.V	.
17.300	3.0564	2.61	.	Q	.	.	.V	.
17.317	3.0600	2.60	.	Q	.	.	.V	.
17.333	3.0636	2.58	.	Q	.	.	.V	.
17.350	3.0671	2.57	.	Q	.	.	.V	.
17.367	3.0706	2.55	.	Q	.	.	.V	.
17.383	3.0741	2.54	.	Q	.	.	.V	.
17.400	3.0776	2.52	.	Q	.	.	.V	.
17.417	3.0810	2.51	.	Q	.	.	.V	.
17.433	3.0844	2.49	.	Q	.	.	.V	.
17.450	3.0879	2.47	.	Q	.	.	.V	.
17.467	3.0912	2.46	.	Q	.	.	.V	.
17.483	3.0946	2.45	.	Q	.	.	.V	.
17.500	3.0980	2.43	.	Q	.	.	.V	.
17.517	3.1013	2.42	.	Q	.	.	.V	.
17.533	3.1046	2.41	.	Q	.	.	.V	.
17.550	3.1079	2.40	.	Q	.	.	.V	.
17.567	3.1112	2.38	.	Q	.	.	.V	.
17.583	3.1145	2.37	.	Q	.	.	.V	.
17.600	3.1177	2.36	.	Q	.	.	.V	.
17.617	3.1210	2.35	.	Q	.	.	.V	.
17.633	3.1242	2.34	.	Q	.	.	.V	.
17.650	3.1274	2.32	.	Q	.	.	. V	.
17.667	3.1306	2.31	.	Q	.	.	. V	.
17.683	3.1337	2.30	.	Q	.	.	. V	.
17.700	3.1369	2.29	.	Q	.	.	. V	.
17.717	3.1400	2.28	.	Q	.	.	. V	.
17.733	3.1432	2.27	.	Q	.	.	. V	.
17.750	3.1463	2.26	.	Q	.	.	. V	.
17.767	3.1494	2.25	.	Q	.	.	. V	.
17.783	3.1525	2.24	.	Q	.	.	. V	.
17.800	3.1555	2.23	.	Q	.	.	. V	.
17.817	3.1586	2.22	.	Q	.	.	. V	.
17.833	3.1616	2.21	.	Q	.	.	. V	.
17.850	3.1647	2.20	.	Q	.	.	. V	.
17.867	3.1677	2.19	.	Q	.	.	. V	.
17.883	3.1707	2.18	.	Q	.	.	. V	.
17.900	3.1737	2.17	.	Q	.	.	. V	.
17.917	3.1766	2.16	.	Q	.	.	. V	.
17.933	3.1796	2.16	.	Q	.	.	. V	.
17.950	3.1826	2.15	.	Q	.	.	. V	.
17.967	3.1855	2.14	.	Q	.	.	. V	.
17.983	3.1885	2.13	.	Q	.	.	. V	.
18.000	3.1914	2.12	.	Q	.	.	. V	.
18.017	3.1943	2.11	.	Q	.	.	. V	.
18.033	3.1972	2.10	.	Q	.	.	. V	.
18.050	3.2001	2.09	.	Q	.	.	. V	.
18.067	3.2029	2.08	.	Q	.	.	. V	.
18.083	3.2058	2.07	.	Q	.	.	. V	.
18.100	3.2086	2.06	.	Q	.	.	. V	.
18.117	3.2114	2.05	.	Q	.	.	. V	.
18.133	3.2142	2.04	.	Q	.	.	. V	.
18.150	3.2170	2.03	.	Q	.	.	. V	.
18.167	3.2198	2.02	.	Q	.	.	. V	.
18.183	3.2226	2.00	.	Q	.	.	. V	.
18.200	3.2253	1.99	.	Q	.	.	. V	.
18.217	3.2280	1.99	.	Q	.	.	. V	.
18.233	3.2308	1.98	.	Q	.	.	. V	.
18.250	3.2335	1.97	.	Q	.	.	. V	.
18.267	3.2362	1.97	.	Q	.	.	. V	.
18.283	3.2389	1.96	.	Q	.	.	. V	.
18.300	3.2416	1.95	.	Q	.	.	. V	.
18.317	3.2443	1.94	.	Q	.	.	. V	.
18.333	3.2469	1.94	.	Q	.	.	. V	.
18.350	3.2496	1.93	.	Q	.	.	. V	.
18.367	3.2522	1.92	.	Q	.	.	. V	.
18.383	3.2549	1.92	.	Q	.	.	. V	.
18.400	3.2575	1.91	.	Q	.	.	. V	.
18.417	3.2601	1.91	.	Q	.	.	. V	.
18.433	3.2627	1.90	.	Q	.	.	. V	.
18.450	3.2654	1.89	.	Q	.	.	. V	.
18.467	3.2680	1.89	.	Q	.	.	. V	.
18.483	3.2705	1.88	.	Q	.	.	. V	.
18.500	3.2731	1.88	.	Q	.	.		.

18.517	3.2757	1.87	.	Q	.	.	.	V	.
18.533	3.2783	1.86	.	Q	.	.	.	V	.
18.550	3.2808	1.86	.	Q	.	.	.	V	.
18.567	3.2834	1.85	.	Q	.	.	.	V	.
18.583	3.2859	1.85	.	Q	.	.	.	V	.
18.600	3.2885	1.84	.	Q	.	.	.	V	.
18.617	3.2910	1.84	.	Q	.	.	.	V	.
18.633	3.2935	1.83	.	Q	.	.	.	V	.
18.650	3.2960	1.82	.	Q	.	.	.	V	.
18.667	3.2985	1.82	.	Q	.	.	.	V	.
18.683	3.3010	1.81	.	Q	.	.	.	V	.
18.700	3.3035	1.81	.	Q	.	.	.	V	.
18.717	3.3060	1.80	.	Q	.	.	.	V	.
18.733	3.3085	1.80	.	Q	.	.	.	V	.
18.750	3.3109	1.79	.	Q	.	.	.	V	.
18.767	3.3134	1.79	.	Q	.	.	.	V	.
18.783	3.3159	1.78	.	Q	.	.	.	V	.
18.800	3.3183	1.78	.	Q	.	.	.	V	.
18.817	3.3207	1.77	.	Q	.	.	.	V	.
18.833	3.3232	1.77	.	Q	.	.	.	V	.
18.850	3.3256	1.76	.	Q	.	.	.	V	.
18.867	3.3280	1.76	.	Q	.	.	.	V	.
18.883	3.3304	1.75	.	Q	.	.	.	V	.
18.900	3.3329	1.75	.	Q	.	.	.	V	.
18.917	3.3353	1.74	.	Q	.	.	.	V	.
18.933	3.3376	1.74	.	Q	.	.	.	V	.
18.950	3.3400	1.73	.	Q	.	.	.	V	.
18.967	3.3424	1.73	.	Q	.	.	.	V	.
18.983	3.3448	1.72	.	Q	.	.	.	V	.
19.000	3.3472	1.72	.	Q	.	.	.	V	.
19.017	3.3495	1.72	.	Q	.	.	.	V	.
19.033	3.3519	1.71	.	Q	.	.	.	V	.
19.050	3.3542	1.71	.	Q	.	.	.	V	.
19.067	3.3566	1.70	.	Q	.	.	.	V	.
19.083	3.3589	1.70	.	Q	.	.	.	V	.
19.100	3.3613	1.69	.	Q	.	.	.	V	.
19.117	3.3636	1.69	.	Q	.	.	.	V	.
19.133	3.3659	1.69	.	Q	.	.	.	V	.
19.150	3.3682	1.68	.	Q	.	.	.	V	.
19.167	3.3705	1.68	.	Q	.	.	.	V	.
19.183	3.3728	1.67	.	Q	.	.	.	V	.
19.200	3.3751	1.67	.	Q	.	.	.	V	.
19.217	3.3774	1.67	.	Q	.	.	.	V	.
19.233	3.3797	1.66	.	Q	.	.	.	V	.
19.250	3.3820	1.66	.	Q	.	.	.	V	.
19.267	3.3843	1.65	.	Q	.	.	.	V	.
19.283	3.3866	1.65	.	Q	.	.	.	V	.
19.300	3.3888	1.65	.	Q	.	.	.	V	.
19.317	3.3911	1.64	.	Q	.	.	.	V	.
19.333	3.3933	1.64	.	Q	.	.	.	V	.
19.350	3.3956	1.63	.	Q	.	.	.	V	.
19.367	3.3978	1.63	.	Q	.	.	.	V	.
19.383	3.4001	1.63	.	Q	.	.	.	V	.
19.400	3.4023	1.62	.	Q	.	.	.	V	.
19.417	3.4045	1.62	.	Q	.	.	.	V	.
19.433	3.4068	1.62	.	Q	.	.	.	V	.
19.450	3.4090	1.61	.	Q	.	.	.	V	.
19.467	3.4112	1.61	.	Q	.	.	.	V	.
19.483	3.4134	1.60	.	Q	.	.	.	V	.
19.500	3.4156	1.60	.	Q	.	.	.	V	.
19.517	3.4178	1.60	.	Q	.	.	.	V	.
19.533	3.4200	1.59	.	Q	.	.	.	V	.
19.550	3.4222	1.59	.	Q	.	.	.	V	.
19.567	3.4244	1.59	.	Q	.	.	.	V	.
19.583	3.4266	1.58	.	Q	.	.	.	V	.
19.600	3.4287	1.58	.	Q	.	.	.	V	.
19.617	3.4309	1.58	.	Q	.	.	.	V	.
19.633	3.4331	1.57	.	Q	.	.	.	V	.
19.650	3.4352	1.57	.	Q	.	.	.	V	.
19.667	3.4374	1.57	.	Q	.	.	.	V	.
19.683	3.4396	1.56	.	Q	.	.	.	V	.
19.700	3.4417	1.56	.	Q	.	.	.	V	.
19.717	3.4438	1.56	.	Q	.	.	.	V	.
19.733	3.4460	1.55	.	Q	.	.	.	V	.
19.750	3.4481	1.55	.	Q	.	.	.	V	.
19.767	3.4503	1.55	.	Q	.	.	.	V	.
19.783	3.4524	1.54	.	Q	.	.	.	V	.
19.800	3.4545	1.54	.	Q	.	.	.	V	.
19.817	3.4566	1.54	.	Q	.	.	.	V	.

19.833	3.4587	1.53	.	Q	.	.	.	V	.
19.850	3.4608	1.53	.	Q	.	.	.	V	.
19.867	3.4629	1.53	.	Q	.	.	.	V	.
19.883	3.4650	1.53	.	Q	.	.	.	V	.
19.900	3.4671	1.52	.	Q	.	.	.	V	.
19.917	3.4692	1.52	.	Q	.	.	.	V	.
19.933	3.4713	1.52	.	Q	.	.	.	V	.
19.950	3.4734	1.51	.	Q	.	.	.	V	.
19.967	3.4755	1.51	.	Q	.	.	.	V	.
19.983	3.4776	1.51	.	Q	.	.	.	V	.
20.000	3.4796	1.50	.	Q	.	.	.	V	.
20.017	3.4817	1.50	.	Q	.	.	.	V	.
20.033	3.4838	1.50	.	Q	.	.	.	V	.
20.050	3.4858	1.50	.	Q	.	.	.	V	.
20.067	3.4879	1.49	.	Q	.	.	.	V	.
20.083	3.4899	1.49	.	Q	.	.	.	V	.
20.100	3.4920	1.49	.	Q	.	.	.	V	.
20.117	3.4940	1.48	.	Q	.	.	.	V	.
20.133	3.4961	1.48	.	Q	.	.	.	V	.
20.150	3.4981	1.48	.	Q	.	.	.	V	.
20.167	3.5002	1.48	.	Q	.	.	.	V	.
20.183	3.5022	1.47	.	Q	.	.	.	V	.
20.200	3.5042	1.47	.	Q	.	.	.	V	.
20.217	3.5062	1.47	.	Q	.	.	.	V	.
20.233	3.5082	1.47	.	Q	.	.	.	V	.
20.250	3.5103	1.46	.	Q	.	.	.	V	.
20.267	3.5123	1.46	.	Q	.	.	.	V	.
20.283	3.5143	1.46	.	Q	.	.	.	V	.
20.300	3.5163	1.46	.	Q	.	.	.	V	.
20.317	3.5183	1.45	.	Q	.	.	.	V	.
20.333	3.5203	1.45	.	Q	.	.	.	V	.
20.350	3.5223	1.45	.	Q	.	.	.	V	.
20.367	3.5243	1.44	.	Q	.	.	.	V	.
20.383	3.5263	1.44	.	Q	.	.	.	V	.
20.400	3.5282	1.44	.	Q	.	.	.	V	.
20.417	3.5302	1.44	.	Q	.	.	.	V	.
20.433	3.5322	1.43	.	Q	.	.	.	V	.
20.450	3.5342	1.43	.	Q	.	.	.	V	.
20.467	3.5361	1.43	.	Q	.	.	.	V	.
20.483	3.5381	1.43	.	Q	.	.	.	V	.
20.500	3.5401	1.43	.	Q	.	.	.	V	.
20.517	3.5420	1.42	.	Q	.	.	.	V	.
20.533	3.5440	1.42	.	Q	.	.	.	V	.
20.550	3.5459	1.42	.	Q	.	.	.	V	.
20.567	3.5479	1.42	.	Q	.	.	.	V	.
20.583	3.5498	1.41	.	Q	.	.	.	V	.
20.600	3.5518	1.41	.	Q	.	.	.	V	.
20.617	3.5537	1.41	.	Q	.	.	.	V	.
20.633	3.5557	1.41	.	Q	.	.	.	V	.
20.650	3.5576	1.40	.	Q	.	.	.	V	.
20.667	3.5595	1.40	.	Q	.	.	.	V	.
20.683	3.5614	1.40	.	Q	.	.	.	V	.
20.700	3.5634	1.40	.	Q	.	.	.	V	.
20.717	3.5653	1.39	.	Q	.	.	.	V	.
20.733	3.5672	1.39	.	Q	.	.	.	V	.
20.750	3.5691	1.39	.	Q	.	.	.	V	.
20.767	3.5710	1.39	.	Q	.	.	.	V	.
20.783	3.5729	1.39	.	Q	.	.	.	V	.
20.800	3.5748	1.38	.	Q	.	.	.	V	.
20.817	3.5768	1.38	.	Q	.	.	.	V	.
20.833	3.5786	1.38	.	Q	.	.	.	V	.
20.850	3.5805	1.38	.	Q	.	.	.	V	.
20.867	3.5824	1.37	.	Q	.	.	.	V	.
20.883	3.5843	1.37	.	Q	.	.	.	V	.
20.900	3.5862	1.37	.	Q	.	.	.	V	.
20.917	3.5881	1.37	.	Q	.	.	.	V	.
20.933	3.5900	1.37	.	Q	.	.	.	V	.
20.950	3.5919	1.36	.	Q	.	.	.	V	.
20.967	3.5937	1.36	.	Q	.	.	.	V	.
20.983	3.5956	1.36	.	Q	.	.	.	V	.
21.000	3.5975	1.36	.	Q	.	.	.	V	.
21.017	3.5993	1.36	.	Q	.	.	.	V	.
21.033	3.6012	1.35	.	Q	.	.	.	V	.
21.050	3.6031	1.35	.	Q	.	.	.	V	.
21.067	3.6049	1.35	.	Q	.	.	.	V	.
21.083	3.6068	1.35	.	Q	.	.	.	V	.
21.100	3.6086	1.35	.	Q	.	.	.	V	.
21.117	3.6105	1.34	.	Q	.	.	.	V	.
21.133	3.6123	1.34	.	Q	.	.	.	V	.

21.150	3.6142	1.34	. Q	.	.	.	V	.
21.167	3.6160	1.34	. Q	.	.	.	V	.
21.183	3.6179	1.34	. Q	.	.	.	V	.
21.200	3.6197	1.33	. Q	.	.	.	V	.
21.217	3.6215	1.33	. Q	.	.	.	V	.
21.233	3.6234	1.33	. Q	.	.	.	V	.
21.250	3.6252	1.33	. Q	.	.	.	V	.
21.267	3.6270	1.33	. Q	.	.	.	V	.
21.283	3.6288	1.32	. Q	.	.	.	V	.
21.300	3.6307	1.32	. Q	.	.	.	V	.
21.317	3.6325	1.32	. Q	.	.	.	V	.
21.333	3.6343	1.32	. Q	.	.	.	V	.
21.350	3.6361	1.32	. Q	.	.	.	V	.
21.367	3.6379	1.31	. Q	.	.	.	V	.
21.383	3.6397	1.31	. Q	.	.	.	V	.
21.400	3.6415	1.31	. Q	.	.	.	V	.
21.417	3.6433	1.31	. Q	.	.	.	V	.
21.433	3.6451	1.31	. Q	.	.	.	V	.
21.450	3.6469	1.31	. Q	.	.	.	V	.
21.467	3.6487	1.30	. Q	.	.	.	V	.
21.483	3.6505	1.30	. Q	.	.	.	V	.
21.500	3.6523	1.30	. Q	.	.	.	V	.
21.517	3.6541	1.30	. Q	.	.	.	V	.
21.533	3.6559	1.30	. Q	.	.	.	V	.
21.550	3.6577	1.29	. Q	.	.	.	V	.
21.567	3.6595	1.29	. Q	.	.	.	V	.
21.583	3.6612	1.29	. Q	.	.	.	V	.
21.600	3.6630	1.29	. Q	.	.	.	V	.
21.617	3.6648	1.29	. Q	.	.	.	V	.
21.633	3.6666	1.29	. Q	.	.	.	V	.
21.650	3.6683	1.28	. Q	.	.	.	V	.
21.667	3.6701	1.28	. Q	.	.	.	V	.
21.683	3.6719	1.28	. Q	.	.	.	V	.
21.700	3.6736	1.28	. Q	.	.	.	V	.
21.717	3.6754	1.28	. Q	.	.	.	V	.
21.733	3.6771	1.28	. Q	.	.	.	V	.
21.750	3.6789	1.27	. Q	.	.	.	V	.
21.767	3.6806	1.27	. Q	.	.	.	V	.
21.783	3.6824	1.27	. Q	.	.	.	V	.
21.800	3.6841	1.27	. Q	.	.	.	V	.
21.817	3.6859	1.27	. Q	.	.	.	V	.
21.833	3.6876	1.27	. Q	.	.	.	V	.
21.850	3.6894	1.26	. Q	.	.	.	V	.
21.867	3.6911	1.26	. Q	.	.	.	V	.
21.883	3.6928	1.26	. Q	.	.	.	V	.
21.900	3.6946	1.26	. Q	.	.	.	V	.
21.917	3.6963	1.26	. Q	.	.	.	V	.
21.933	3.6980	1.26	. Q	.	.	.	V	.
21.950	3.6998	1.25	. Q	.	.	.	V	.
21.967	3.7015	1.25	. Q	.	.	.	V	.
21.983	3.7032	1.25	. Q	.	.	.	V	.
22.000	3.7049	1.25	. Q	.	.	.	V	.
22.017	3.7066	1.25	. Q	.	.	.	V	.
22.033	3.7084	1.25	. Q	.	.	.	V	.
22.050	3.7101	1.24	. Q	.	.	.	V	.
22.067	3.7118	1.24	. Q	.	.	.	V	.
22.083	3.7135	1.24	. Q	.	.	.	V	.
22.100	3.7152	1.24	. Q	.	.	.	V	.
22.117	3.7169	1.24	. Q	.	.	.	V	.
22.133	3.7186	1.24	. Q	.	.	.	V	.
22.150	3.7203	1.24	. Q	.	.	.	V	.
22.167	3.7220	1.23	. Q	.	.	.	V	.
22.183	3.7237	1.23	. Q	.	.	.	V	.
22.200	3.7254	1.23	. Q	.	.	.	V	.
22.217	3.7271	1.23	. Q	.	.	.	V	.
22.233	3.7288	1.23	. Q	.	.	.	V	.
22.250	3.7305	1.23	. Q	.	.	.	V	.
22.267	3.7322	1.22	. Q	.	.	.	V	.
22.283	3.7338	1.22	. Q	.	.	.	V	.
22.300	3.7355	1.22	. Q	.	.	.	V	.
22.317	3.7372	1.22	. Q	.	.	.	V	.
22.333	3.7389	1.22	. Q	.	.	.	V	.
22.350	3.7406	1.22	. Q	.	.	.	V	.
22.367	3.7422	1.22	. Q	.	.	.	V	.
22.383	3.7439	1.21	. Q	.	.	.	V	.
22.400	3.7456	1.21	. Q	.	.	.	V	.
22.417	3.7473	1.21	. Q	.	.	.	V	.
22.433	3.7489	1.21	. Q	.	.	.	V	.
22.450	3.7506	1.21	. Q	.	.	.	V	.

22.467	3.7522	1.21	. Q	.	.	.	V	.
22.483	3.7539	1.21	. Q	.	.	.	V	.
22.500	3.7556	1.20	. Q	.	.	.	V	.
22.517	3.7572	1.20	. Q	.	.	.	V	.
22.533	3.7589	1.20	. Q	.	.	.	V	.
22.550	3.7605	1.20	.Q	.	.	.	V	.
22.567	3.7622	1.20	.Q	.	.	.	V	.
22.583	3.7638	1.20	.Q	.	.	.	V	.
22.600	3.7655	1.20	.Q	.	.	.	V	.
22.617	3.7671	1.19	.Q	.	.	.	V	.
22.633	3.7688	1.19	.Q	.	.	.	V	.
22.650	3.7704	1.19	.Q	.	.	.	V	.
22.667	3.7721	1.19	.Q	.	.	.	V	.
22.683	3.7737	1.19	.Q	.	.	.	V	.
22.700	3.7753	1.19	.Q	.	.	.	V	.
22.717	3.7770	1.19	.Q	.	.	.	V	.
22.733	3.7786	1.19	.Q	.	.	.	V	.
22.750	3.7802	1.18	.Q	.	.	.	V	.
22.767	3.7819	1.18	.Q	.	.	.	V	.
22.783	3.7835	1.18	.Q	.	.	.	V	.
22.800	3.7851	1.18	.Q	.	.	.	V	.
22.817	3.7867	1.18	.Q	.	.	.	V	.
22.833	3.7883	1.18	.Q	.	.	.	V	.
22.850	3.7900	1.18	.Q	.	.	.	V	.
22.867	3.7916	1.17	.Q	.	.	.	V	.
22.883	3.7932	1.17	.Q	.	.	.	V	.
22.900	3.7948	1.17	.Q	.	.	.	V	.
22.917	3.7964	1.17	.Q	.	.	.	V	.
22.933	3.7980	1.17	.Q	.	.	.	V	.
22.950	3.7996	1.17	.Q	.	.	.	V	.
22.967	3.8013	1.17	.Q	.	.	.	V	.
22.983	3.8029	1.17	.Q	.	.	.	V	.
23.000	3.8045	1.16	.Q	.	.	.	V	.
23.017	3.8061	1.16	.Q	.	.	.	V	.
23.033	3.8077	1.16	.Q	.	.	.	V	.
23.050	3.8093	1.16	.Q	.	.	.	V	.
23.067	3.8109	1.16	.Q	.	.	.	V	.
23.083	3.8125	1.16	.Q	.	.	.	V	.
23.100	3.8141	1.16	.Q	.	.	.		V.
23.117	3.8156	1.16	.Q	.	.	.		V.
23.133	3.8172	1.15	.Q	.	.	.		V.
23.150	3.8188	1.15	.Q	.	.	.		V.
23.167	3.8204	1.15	.Q	.	.	.		V.
23.183	3.8220	1.15	.Q	.	.	.		V.
23.200	3.8236	1.15	.Q	.	.	.		V.
23.217	3.8252	1.15	.Q	.	.	.		V.
23.233	3.8267	1.15	.Q	.	.	.		V.
23.250	3.8283	1.15	.Q	.	.	.		V.
23.267	3.8299	1.14	.Q	.	.	.		V.
23.283	3.8315	1.14	.Q	.	.	.		V.
23.300	3.8330	1.14	.Q	.	.	.		V.
23.317	3.8346	1.14	.Q	.	.	.		V.
23.333	3.8362	1.14	.Q	.	.	.		V.
23.350	3.8378	1.14	.Q	.	.	.		V.
23.367	3.8393	1.14	.Q	.	.	.		V.
23.383	3.8409	1.14	.Q	.	.	.		V.
23.400	3.8425	1.14	.Q	.	.	.		V.
23.417	3.8440	1.13	.Q	.	.	.		V.
23.433	3.8456	1.13	.Q	.	.	.		V.
23.450	3.8471	1.13	.Q	.	.	.		V.
23.467	3.8487	1.13	.Q	.	.	.		V.
23.483	3.8503	1.13	.Q	.	.	.		V.
23.500	3.8518	1.13	.Q	.	.	.		V.
23.517	3.8534	1.13	.Q	.	.	.		V.
23.533	3.8549	1.13	.Q	.	.	.		V.
23.550	3.8565	1.13	.Q	.	.	.		V.
23.567	3.8580	1.12	.Q	.	.	.		V.
23.583	3.8596	1.12	.Q	.	.	.		V.
23.600	3.8611	1.12	.Q	.	.	.		V.
23.617	3.8626	1.12	.Q	.	.	.		V.
23.633	3.8642	1.12	.Q	.	.	.		V.
23.650	3.8657	1.12	.Q	.	.	.		V.
23.667	3.8673	1.12	.Q	.	.	.		V.
23.683	3.8688	1.12	.Q	.	.	.		V.
23.700	3.8703	1.12	.Q	.	.	.		V.
23.717	3.8719	1.11	.Q	.	.	.		V.
23.733	3.8734	1.11	.Q	.	.	.		V.
23.750	3.8749	1.11	.Q	.	.	.		V.
23.767	3.8765	1.11	.Q	.	.	.		V.

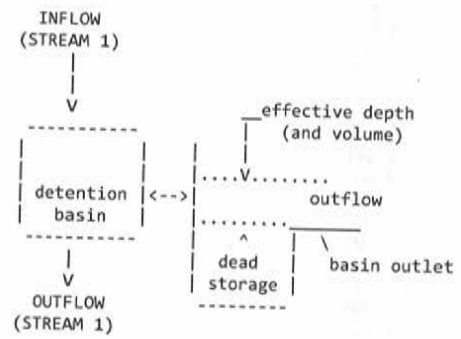
23.783	3.8780	1.11	.Q	.	.	.	V.
23.800	3.8795	1.11	.Q	.	.	.	V.
23.817	3.8810	1.11	.Q	.	.	.	V.
23.833	3.8826	1.11	.Q	.	.	.	V.
23.850	3.8841	1.11	.Q	.	.	.	V.
23.867	3.8856	1.10	.Q	.	.	.	V.
23.883	3.8871	1.10	.Q	.	.	.	V.
23.900	3.8887	1.10	.Q	.	.	.	V.
23.917	3.8902	1.10	.Q	.	.	.	V.
23.933	3.8917	1.10	.Q	.	.	.	V.
23.950	3.8932	1.10	.Q	.	.	.	V.
23.967	3.8947	1.10	.Q	.	.	.	V.
23.983	3.8962	1.10	.Q	.	.	.	V.
24.000	3.8977	1.10	.Q	.	.	.	V.
24.017	3.8992	1.09	.Q	.	.	.	V.
24.033	3.9008	1.09	.Q	.	.	.	V.
24.050	3.9023	1.09	.Q	.	.	.	V.
24.067	3.9038	1.09	.Q	.	.	.	V.
24.083	3.9052	1.04	.Q	.	.	.	V.
24.100	3.9065	0.94	.Q	.	.	.	V.
24.117	3.9077	0.84	.Q	.	.	.	V.
24.133	3.9087	0.74	.Q	.	.	.	V.
24.150	3.9096	0.64	.Q	.	.	.	V.
24.167	3.9103	0.55	Q	.	.	.	V.
24.183	3.9109	0.45	Q	.	.	.	V.
24.200	3.9114	0.35	Q	.	.	.	V.
24.217	3.9118	0.25	Q	.	.	.	V.
24.233	3.9120	0.15	Q	.	.	.	V.
24.250	3.9120	0.05	Q	.	.	.	V.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1455.0
10%	1235.0
20%	185.0
30%	110.0
40%	90.0
50%	75.0
60%	55.0
70%	45.0
80%	30.0
90%	15.0

****
FLOW PROCESS FROM NODE 215.00 TO NODE 215.00 IS CODE = 3.2

>>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #1<<<<<
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ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 1
THROUGH A FLOW-THROUGH DETENTION BASIN
SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
DEAD STORAGE(AF) = 0.000
SPECIFIED DEAD STORAGE(AF) FILLED = 0.000
SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000

DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.14	9.09	0.005
3	0.24	9.48	0.021
4	0.34	9.85	0.053
5	0.44	10.21	0.106
6	0.54	10.56	0.181
7	0.64	10.90	0.280
8	0.74	11.22	0.402

MODIFIED-PULS BASIN ROUTING MODEL RESULTS(1-MINUTE COMPUTATION INTERVALS):
(Note: Computed EFFECTIVE DEPTH and VOLUME are estimated at the clock time;
MEAN OUTFLOW is the average value during the unit interval.)

CLOCK TIME (HRS)	DEAD-STORAGE FILLED(AF)	INFLOW (CFS)	LOSS (CFS)	EFFECTIVE DEPTH(FT)	MEAN OUTFLOW (CFS)	EFFECTIVE VOLUME(AF)
0.017	0.000	0.04	0.00	0.00	0.0	0.000
0.033	0.000	0.12	0.00	0.00	0.1	0.000
0.050	0.000	0.19	0.00	0.00	0.2	0.000
0.067	0.000	0.27	0.00	0.00	0.2	0.000
0.083	0.000	0.35	0.00	0.01	0.3	0.000
0.100	0.000	0.43	0.00	0.01	0.4	0.000
0.117	0.000	0.51	0.00	0.01	0.5	0.000
0.133	0.000	0.58	0.00	0.01	0.6	0.000
0.150	0.000	0.66	0.00	0.01	0.6	0.000
0.167	0.000	0.74	0.00	0.01	0.7	0.000
0.183	0.000	0.82	0.00	0.01	0.8	0.000
0.200	0.000	0.89	0.00	0.01	0.9	0.000
0.217	0.000	0.97	0.00	0.02	0.9	0.001
0.233	0.000	1.05	0.00	0.02	1.0	0.001
0.250	0.000	1.09	0.00	0.02	1.1	0.001
0.267	0.000	1.09	0.00	0.02	1.1	0.001
0.283	0.000	1.09	0.00	0.02	1.1	0.001
0.300	0.000	1.09	0.00	0.02	1.1	0.001
0.317	0.000	1.09	0.00	0.02	1.1	0.001
0.333	0.000	1.09	0.00	0.02	1.1	0.001
0.350	0.000	1.09	0.00	0.02	1.1	0.001
0.367	0.000	1.09	0.00	0.02	1.1	0.001
0.383	0.000	1.09	0.00	0.02	1.1	0.001
0.400	0.000	1.09	0.00	0.02	1.1	0.001
0.417	0.000	1.09	0.00	0.02	1.1	0.001
0.433	0.000	1.10	0.00	0.02	1.1	0.001
0.450	0.000	1.10	0.00	0.02	1.1	0.001
0.467	0.000	1.10	0.00	0.02	1.1	0.001
0.483	0.000	1.10	0.00	0.02	1.1	0.001
0.500	0.000	1.10	0.00	0.02	1.1	0.001
0.517	0.000	1.10	0.00	0.02	1.1	0.001
0.533	0.000	1.10	0.00	0.02	1.1	0.001
0.550	0.000	1.10	0.00	0.02	1.1	0.001
0.567	0.000	1.10	0.00	0.02	1.1	0.001
0.583	0.000	1.10	0.00	0.02	1.1	0.001
0.600	0.000	1.10	0.00	0.02	1.1	0.001
0.617	0.000	1.10	0.00	0.02	1.1	0.001
0.633	0.000	1.10	0.00	0.02	1.1	0.001
0.650	0.000	1.10	0.00	0.02	1.1	0.001
0.667	0.000	1.10	0.00	0.02	1.1	0.001
0.683	0.000	1.10	0.00	0.02	1.1	0.001
0.700	0.000	1.10	0.00	0.02	1.1	0.001
0.717	0.000	1.10	0.00	0.02	1.1	0.001
0.733	0.000	1.10	0.00	0.02	1.1	0.001
0.750	0.000	1.10	0.00	0.02	1.1	0.001
0.767	0.000	1.11	0.00	0.02	1.1	0.001
0.783	0.000	1.11	0.00	0.02	1.1	0.001
0.800	0.000	1.11	0.00	0.02	1.1	0.001
0.817	0.000	1.11	0.00	0.02	1.1	0.001
0.833	0.000	1.11	0.00	0.02	1.1	0.001
0.850	0.000	1.11	0.00	0.02	1.1	0.001
0.867	0.000	1.11	0.00	0.02	1.1	0.001
0.883	0.000	1.11	0.00	0.02	1.1	0.001

0.900	0.000	1.11	0.00	0.02	1.1	0.001
0.917	0.000	1.11	0.00	0.02	1.1	0.001
0.933	0.000	1.11	0.00	0.02	1.1	0.001
0.950	0.000	1.11	0.00	0.02	1.1	0.001
0.967	0.000	1.11	0.00	0.02	1.1	0.001
0.983	0.000	1.11	0.00	0.02	1.1	0.001
1.000	0.000	1.11	0.00	0.02	1.1	0.001
1.017	0.000	1.11	0.00	0.02	1.1	0.001
1.033	0.000	1.11	0.00	0.02	1.1	0.001
1.050	0.000	1.11	0.00	0.02	1.1	0.001
1.067	0.000	1.11	0.00	0.02	1.1	0.001
1.083	0.000	1.12	0.00	0.02	1.1	0.001
1.100	0.000	1.12	0.00	0.02	1.1	0.001
1.117	0.000	1.12	0.00	0.02	1.1	0.001
1.133	0.000	1.12	0.00	0.02	1.1	0.001
1.150	0.000	1.12	0.00	0.02	1.1	0.001
1.167	0.000	1.12	0.00	0.02	1.1	0.001
1.183	0.000	1.12	0.00	0.02	1.1	0.001
1.200	0.000	1.12	0.00	0.02	1.1	0.001
1.217	0.000	1.12	0.00	0.02	1.1	0.001
1.233	0.000	1.12	0.00	0.02	1.1	0.001
1.250	0.000	1.12	0.00	0.02	1.1	0.001
1.267	0.000	1.12	0.00	0.02	1.1	0.001
1.283	0.000	1.12	0.00	0.02	1.1	0.001
1.300	0.000	1.12	0.00	0.02	1.1	0.001
1.317	0.000	1.12	0.00	0.02	1.1	0.001
1.333	0.000	1.12	0.00	0.02	1.1	0.001
1.350	0.000	1.12	0.00	0.02	1.1	0.001
1.367	0.000	1.12	0.00	0.02	1.1	0.001
1.383	0.000	1.12	0.00	0.02	1.1	0.001
1.400	0.000	1.13	0.00	0.02	1.1	0.001
1.417	0.000	1.13	0.00	0.02	1.1	0.001
1.433	0.000	1.13	0.00	0.02	1.1	0.001
1.450	0.000	1.13	0.00	0.02	1.1	0.001
1.467	0.000	1.13	0.00	0.02	1.1	0.001
1.483	0.000	1.13	0.00	0.02	1.1	0.001
1.500	0.000	1.13	0.00	0.02	1.1	0.001
1.517	0.000	1.13	0.00	0.02	1.1	0.001
1.533	0.000	1.13	0.00	0.02	1.1	0.001
1.550	0.000	1.13	0.00	0.02	1.1	0.001
1.567	0.000	1.13	0.00	0.02	1.1	0.001
1.583	0.000	1.13	0.00	0.02	1.1	0.001
1.600	0.000	1.13	0.00	0.02	1.1	0.001
1.617	0.000	1.13	0.00	0.02	1.1	0.001
1.633	0.000	1.13	0.00	0.02	1.1	0.001
1.650	0.000	1.13	0.00	0.02	1.1	0.001
1.667	0.000	1.13	0.00	0.02	1.1	0.001
1.683	0.000	1.13	0.00	0.02	1.1	0.001
1.700	0.000	1.13	0.00	0.02	1.1	0.001
1.717	0.000	1.14	0.00	0.02	1.1	0.001
1.733	0.000	1.14	0.00	0.02	1.1	0.001
1.750	0.000	1.14	0.00	0.02	1.1	0.001
1.767	0.000	1.14	0.00	0.02	1.1	0.001
1.783	0.000	1.14	0.00	0.02	1.1	0.001
1.800	0.000	1.14	0.00	0.02	1.1	0.001
1.817	0.000	1.14	0.00	0.02	1.1	0.001
1.833	0.000	1.14	0.00	0.02	1.1	0.001
1.850	0.000	1.14	0.00	0.02	1.1	0.001
1.867	0.000	1.14	0.00	0.02	1.1	0.001
1.883	0.000	1.14	0.00	0.02	1.1	0.001
1.900	0.000	1.14	0.00	0.02	1.1	0.001
1.917	0.000	1.14	0.00	0.02	1.1	0.001
1.933	0.000	1.14	0.00	0.02	1.1	0.001
1.950	0.000	1.15	0.00	0.02	1.1	0.001
1.967	0.000	1.15	0.00	0.02	1.1	0.001
1.983	0.000	1.15	0.00	0.02	1.1	0.001
2.000	0.000	1.15	0.00	0.02	1.1	0.001
2.017	0.000	1.15	0.00	0.02	1.1	0.001
2.033	0.000	1.15	0.00	0.02	1.1	0.001
2.050	0.000	1.15	0.00	0.02	1.1	0.001
2.067	0.000	1.15	0.00	0.02	1.1	0.001
2.083	0.000	1.15	0.00	0.02	1.1	0.001
2.100	0.000	1.15	0.00	0.02	1.1	0.001
2.117	0.000	1.15	0.00	0.02	1.1	0.001
2.133	0.000	1.15	0.00	0.02	1.2	0.001
2.150	0.000	1.15	0.00	0.02	1.2	0.001
2.167	0.000	1.15	0.00	0.02	1.2	0.001
2.183	0.000	1.15	0.00	0.02	1.2	0.001
2.200	0.000	1.15	0.00	0.02	1.2	0.001

2.217	0.000	1.16	0.00	0.02	1.2	0.001
2.233	0.000	1.16	0.00	0.02	1.2	0.001
2.250	0.000	1.16	0.00	0.02	1.2	0.001
2.267	0.000	1.16	0.00	0.02	1.2	0.001
2.283	0.000	1.16	0.00	0.02	1.2	0.001
2.300	0.000	1.16	0.00	0.02	1.2	0.001
2.317	0.000	1.16	0.00	0.02	1.2	0.001
2.333	0.000	1.16	0.00	0.02	1.2	0.001
2.350	0.000	1.16	0.00	0.02	1.2	0.001
2.367	0.000	1.16	0.00	0.02	1.2	0.001
2.383	0.000	1.16	0.00	0.02	1.2	0.001
2.400	0.000	1.16	0.00	0.02	1.2	0.001
2.417	0.000	1.16	0.00	0.02	1.2	0.001
2.433	0.000	1.16	0.00	0.02	1.2	0.001
2.450	0.000	1.16	0.00	0.02	1.2	0.001
2.467	0.000	1.16	0.00	0.02	1.2	0.001
2.483	0.000	1.16	0.00	0.02	1.2	0.001
2.500	0.000	1.16	0.00	0.02	1.2	0.001
2.517	0.000	1.17	0.00	0.02	1.2	0.001
2.533	0.000	1.17	0.00	0.02	1.2	0.001
2.550	0.000	1.17	0.00	0.02	1.2	0.001
2.567	0.000	1.17	0.00	0.02	1.2	0.001
2.583	0.000	1.17	0.00	0.02	1.2	0.001
2.600	0.000	1.17	0.00	0.02	1.2	0.001
2.617	0.000	1.17	0.00	0.02	1.2	0.001
2.633	0.000	1.17	0.00	0.02	1.2	0.001
2.650	0.000	1.17	0.00	0.02	1.2	0.001
2.667	0.000	1.17	0.00	0.02	1.2	0.001
2.683	0.000	1.17	0.00	0.02	1.2	0.001
2.700	0.000	1.17	0.00	0.02	1.2	0.001
2.717	0.000	1.17	0.00	0.02	1.2	0.001
2.733	0.000	1.17	0.00	0.02	1.2	0.001
2.750	0.000	1.17	0.00	0.02	1.2	0.001
2.767	0.000	1.17	0.00	0.02	1.2	0.001
2.783	0.000	1.18	0.00	0.02	1.2	0.001
2.800	0.000	1.18	0.00	0.02	1.2	0.001
2.817	0.000	1.18	0.00	0.02	1.2	0.001
2.833	0.000	1.18	0.00	0.02	1.2	0.001
2.850	0.000	1.18	0.00	0.02	1.2	0.001
2.867	0.000	1.18	0.00	0.02	1.2	0.001
2.883	0.000	1.18	0.00	0.02	1.2	0.001
2.900	0.000	1.18	0.00	0.02	1.2	0.001
2.917	0.000	1.18	0.00	0.02	1.2	0.001
2.933	0.000	1.18	0.00	0.02	1.2	0.001
2.950	0.000	1.18	0.00	0.02	1.2	0.001
2.967	0.000	1.18	0.00	0.02	1.2	0.001
2.983	0.000	1.18	0.00	0.02	1.2	0.001
3.000	0.000	1.19	0.00	0.02	1.2	0.001
3.017	0.000	1.19	0.00	0.02	1.2	0.001
3.033	0.000	1.19	0.00	0.02	1.2	0.001
3.050	0.000	1.19	0.00	0.02	1.2	0.001
3.067	0.000	1.19	0.00	0.02	1.2	0.001
3.083	0.000	1.19	0.00	0.02	1.2	0.001
3.100	0.000	1.19	0.00	0.02	1.2	0.001
3.117	0.000	1.19	0.00	0.02	1.2	0.001
3.133	0.000	1.19	0.00	0.02	1.2	0.001
3.150	0.000	1.19	0.00	0.02	1.2	0.001
3.167	0.000	1.19	0.00	0.02	1.2	0.001
3.183	0.000	1.19	0.00	0.02	1.2	0.001
3.200	0.000	1.19	0.00	0.02	1.2	0.001
3.217	0.000	1.19	0.00	0.02	1.2	0.001
3.233	0.000	1.19	0.00	0.02	1.2	0.001
3.250	0.000	1.19	0.00	0.02	1.2	0.001
3.267	0.000	1.20	0.00	0.02	1.2	0.001
3.283	0.000	1.20	0.00	0.02	1.2	0.001
3.300	0.000	1.20	0.00	0.02	1.2	0.001
3.317	0.000	1.20	0.00	0.02	1.2	0.001
3.333	0.000	1.20	0.00	0.02	1.2	0.001
3.350	0.000	1.20	0.00	0.02	1.2	0.001
3.367	0.000	1.20	0.00	0.02	1.2	0.001
3.383	0.000	1.20	0.00	0.02	1.2	0.001
3.400	0.000	1.20	0.00	0.02	1.2	0.001
3.417	0.000	1.20	0.00	0.02	1.2	0.001
3.433	0.000	1.20	0.00	0.02	1.2	0.001
3.450	0.000	1.20	0.00	0.02	1.2	0.001
3.467	0.000	1.20	0.00	0.02	1.2	0.001
3.483	0.000	1.20	0.00	0.02	1.2	0.001
3.500	0.000	1.20	0.00	0.02	1.2	0.001
3.517	0.000	1.20	0.00	0.02	1.2	0.001

3.533	0.000	1.21	0.00	0.02	1.2	0.001
3.550	0.000	1.21	0.00	0.02	1.2	0.001
3.567	0.000	1.21	0.00	0.02	1.2	0.001
3.583	0.000	1.21	0.00	0.02	1.2	0.001
3.600	0.000	1.21	0.00	0.02	1.2	0.001
3.617	0.000	1.21	0.00	0.02	1.2	0.001
3.633	0.000	1.21	0.00	0.02	1.2	0.001
3.650	0.000	1.21	0.00	0.02	1.2	0.001
3.667	0.000	1.21	0.00	0.02	1.2	0.001
3.683	0.000	1.21	0.00	0.02	1.2	0.001
3.700	0.000	1.21	0.00	0.02	1.2	0.001
3.717	0.000	1.22	0.00	0.02	1.2	0.001
3.733	0.000	1.22	0.00	0.02	1.2	0.001
3.750	0.000	1.22	0.00	0.02	1.2	0.001
3.767	0.000	1.22	0.00	0.02	1.2	0.001
3.783	0.000	1.22	0.00	0.02	1.2	0.001
3.800	0.000	1.22	0.00	0.02	1.2	0.001
3.817	0.000	1.22	0.00	0.02	1.2	0.001
3.833	0.000	1.22	0.00	0.02	1.2	0.001
3.850	0.000	1.22	0.00	0.02	1.2	0.001
3.867	0.000	1.22	0.00	0.02	1.2	0.001
3.883	0.000	1.22	0.00	0.02	1.2	0.001
3.900	0.000	1.22	0.00	0.02	1.2	0.001
3.917	0.000	1.22	0.00	0.02	1.2	0.001
3.933	0.000	1.22	0.00	0.02	1.2	0.001
3.950	0.000	1.22	0.00	0.02	1.2	0.001
3.967	0.000	1.22	0.00	0.02	1.2	0.001
3.983	0.000	1.23	0.00	0.02	1.2	0.001
4.000	0.000	1.23	0.00	0.02	1.2	0.001
4.017	0.000	1.23	0.00	0.02	1.2	0.001
4.033	0.000	1.23	0.00	0.02	1.2	0.001
4.050	0.000	1.23	0.00	0.02	1.2	0.001
4.067	0.000	1.23	0.00	0.02	1.2	0.001
4.083	0.000	1.23	0.00	0.02	1.2	0.001
4.100	0.000	1.23	0.00	0.02	1.2	0.001
4.117	0.000	1.23	0.00	0.02	1.2	0.001
4.133	0.000	1.23	0.00	0.02	1.2	0.001
4.150	0.000	1.23	0.00	0.02	1.2	0.001
4.167	0.000	1.23	0.00	0.02	1.2	0.001
4.183	0.000	1.24	0.00	0.02	1.2	0.001
4.200	0.000	1.24	0.00	0.02	1.2	0.001
4.217	0.000	1.24	0.00	0.02	1.2	0.001
4.233	0.000	1.24	0.00	0.02	1.2	0.001
4.250	0.000	1.24	0.00	0.02	1.2	0.001
4.267	0.000	1.24	0.00	0.02	1.2	0.001
4.283	0.000	1.24	0.00	0.02	1.2	0.001
4.300	0.000	1.24	0.00	0.02	1.2	0.001
4.317	0.000	1.24	0.00	0.02	1.2	0.001
4.333	0.000	1.24	0.00	0.02	1.2	0.001
4.350	0.000	1.24	0.00	0.02	1.2	0.001
4.367	0.000	1.24	0.00	0.02	1.2	0.001
4.383	0.000	1.24	0.00	0.02	1.2	0.001
4.400	0.000	1.25	0.00	0.02	1.2	0.001
4.417	0.000	1.25	0.00	0.02	1.2	0.001
4.433	0.000	1.25	0.00	0.02	1.2	0.001
4.450	0.000	1.25	0.00	0.02	1.2	0.001
4.467	0.000	1.25	0.00	0.02	1.2	0.001
4.483	0.000	1.25	0.00	0.02	1.2	0.001
4.500	0.000	1.25	0.00	0.02	1.3	0.001
4.517	0.000	1.25	0.00	0.02	1.3	0.001
4.533	0.000	1.25	0.00	0.02	1.3	0.001
4.550	0.000	1.25	0.00	0.02	1.3	0.001
4.567	0.000	1.25	0.00	0.02	1.3	0.001
4.583	0.000	1.25	0.00	0.02	1.3	0.001
4.600	0.000	1.25	0.00	0.02	1.3	0.001
4.617	0.000	1.25	0.00	0.02	1.3	0.001
4.633	0.000	1.25	0.00	0.02	1.3	0.001
4.650	0.000	1.26	0.00	0.02	1.3	0.001
4.667	0.000	1.26	0.00	0.02	1.3	0.001
4.683	0.000	1.26	0.00	0.02	1.3	0.001
4.700	0.000	1.26	0.00	0.02	1.3	0.001
4.717	0.000	1.26	0.00	0.02	1.3	0.001
4.733	0.000	1.26	0.00	0.02	1.3	0.001
4.750	0.000	1.26	0.00	0.02	1.3	0.001
4.767	0.000	1.26	0.00	0.02	1.3	0.001
4.783	0.000	1.26	0.00	0.02	1.3	0.001
4.800	0.000	1.27	0.00	0.02	1.3	0.001
4.817	0.000	1.27	0.00	0.02	1.3	0.001
4.833	0.000	1.27	0.00	0.02	1.3	0.001

4.850	0.000	1.27	0.00	0.02	1.3	0.001
4.867	0.000	1.27	0.00	0.02	1.3	0.001
4.883	0.000	1.27	0.00	0.02	1.3	0.001
4.900	0.000	1.27	0.00	0.02	1.3	0.001
4.917	0.000	1.27	0.00	0.02	1.3	0.001
4.933	0.000	1.27	0.00	0.02	1.3	0.001
4.950	0.000	1.27	0.00	0.02	1.3	0.001
4.967	0.000	1.27	0.00	0.02	1.3	0.001
4.983	0.000	1.27	0.00	0.02	1.3	0.001
5.000	0.000	1.27	0.00	0.02	1.3	0.001
5.017	0.000	1.27	0.00	0.02	1.3	0.001
5.033	0.000	1.27	0.00	0.02	1.3	0.001
5.050	0.000	1.28	0.00	0.02	1.3	0.001
5.067	0.000	1.28	0.00	0.02	1.3	0.001
5.083	0.000	1.28	0.00	0.02	1.3	0.001
5.100	0.000	1.28	0.00	0.02	1.3	0.001
5.117	0.000	1.28	0.00	0.02	1.3	0.001
5.133	0.000	1.28	0.00	0.02	1.3	0.001
5.150	0.000	1.28	0.00	0.02	1.3	0.001
5.167	0.000	1.28	0.00	0.02	1.3	0.001
5.183	0.000	1.29	0.00	0.02	1.3	0.001
5.200	0.000	1.29	0.00	0.02	1.3	0.001
5.217	0.000	1.29	0.00	0.02	1.3	0.001
5.233	0.000	1.29	0.00	0.02	1.3	0.001
5.250	0.000	1.29	0.00	0.02	1.3	0.001
5.267	0.000	1.29	0.00	0.02	1.3	0.001
5.283	0.000	1.29	0.00	0.02	1.3	0.001
5.300	0.000	1.29	0.00	0.02	1.3	0.001
5.317	0.000	1.29	0.00	0.02	1.3	0.001
5.333	0.000	1.29	0.00	0.02	1.3	0.001
5.350	0.000	1.29	0.00	0.02	1.3	0.001
5.367	0.000	1.29	0.00	0.02	1.3	0.001
5.383	0.000	1.29	0.00	0.02	1.3	0.001
5.400	0.000	1.29	0.00	0.02	1.3	0.001
5.417	0.000	1.30	0.00	0.02	1.3	0.001
5.433	0.000	1.30	0.00	0.02	1.3	0.001
5.450	0.000	1.30	0.00	0.02	1.3	0.001
5.467	0.000	1.30	0.00	0.02	1.3	0.001
5.483	0.000	1.30	0.00	0.02	1.3	0.001
5.500	0.000	1.30	0.00	0.02	1.3	0.001
5.517	0.000	1.30	0.00	0.02	1.3	0.001
5.533	0.000	1.30	0.00	0.02	1.3	0.001
5.550	0.000	1.30	0.00	0.02	1.3	0.001
5.567	0.000	1.31	0.00	0.02	1.3	0.001
5.583	0.000	1.31	0.00	0.02	1.3	0.001
5.600	0.000	1.31	0.00	0.02	1.3	0.001
5.617	0.000	1.31	0.00	0.02	1.3	0.001
5.633	0.000	1.31	0.00	0.02	1.3	0.001
5.650	0.000	1.31	0.00	0.02	1.3	0.001
5.667	0.000	1.31	0.00	0.02	1.3	0.001
5.683	0.000	1.31	0.00	0.02	1.3	0.001
5.700	0.000	1.31	0.00	0.02	1.3	0.001
5.717	0.000	1.31	0.00	0.02	1.3	0.001
5.733	0.000	1.31	0.00	0.02	1.3	0.001
5.750	0.000	1.31	0.00	0.02	1.3	0.001
5.767	0.000	1.31	0.00	0.02	1.3	0.001
5.783	0.000	1.32	0.00	0.02	1.3	0.001
5.800	0.000	1.32	0.00	0.02	1.3	0.001
5.817	0.000	1.32	0.00	0.02	1.3	0.001
5.833	0.000	1.32	0.00	0.02	1.3	0.001
5.850	0.000	1.32	0.00	0.02	1.3	0.001
5.867	0.000	1.32	0.00	0.02	1.3	0.001
5.883	0.000	1.32	0.00	0.02	1.3	0.001
5.900	0.000	1.32	0.00	0.02	1.3	0.001
5.917	0.000	1.33	0.00	0.02	1.3	0.001
5.933	0.000	1.33	0.00	0.02	1.3	0.001
5.950	0.000	1.33	0.00	0.02	1.3	0.001
5.967	0.000	1.33	0.00	0.02	1.3	0.001
5.983	0.000	1.33	0.00	0.02	1.3	0.001
6.000	0.000	1.33	0.00	0.02	1.3	0.001
6.017	0.000	1.33	0.00	0.02	1.3	0.001
6.033	0.000	1.33	0.00	0.02	1.3	0.001
6.050	0.000	1.33	0.00	0.02	1.3	0.001
6.067	0.000	1.33	0.00	0.02	1.3	0.001
6.083	0.000	1.33	0.00	0.02	1.3	0.001
6.100	0.000	1.33	0.00	0.02	1.3	0.001
6.117	0.000	1.33	0.00	0.02	1.3	0.001
6.133	0.000	1.34	0.00	0.02	1.3	0.001
6.150	0.000	1.34	0.00	0.02	1.3	0.001

6.167	0.000	1.34	0.00	0.02	1.3	0.001
6.183	0.000	1.34	0.00	0.02	1.3	0.001
6.200	0.000	1.34	0.00	0.02	1.3	0.001
6.217	0.000	1.34	0.00	0.02	1.3	0.001
6.233	0.000	1.34	0.00	0.02	1.3	0.001
6.250	0.000	1.34	0.00	0.02	1.3	0.001
6.267	0.000	1.35	0.00	0.02	1.3	0.001
6.283	0.000	1.35	0.00	0.02	1.3	0.001
6.300	0.000	1.35	0.00	0.02	1.3	0.001
6.317	0.000	1.35	0.00	0.02	1.3	0.001
6.333	0.000	1.35	0.00	0.02	1.3	0.001
6.350	0.000	1.35	0.00	0.02	1.3	0.001
6.367	0.000	1.35	0.00	0.02	1.4	0.001
6.383	0.000	1.35	0.00	0.02	1.4	0.001
6.400	0.000	1.35	0.00	0.02	1.4	0.001
6.417	0.000	1.35	0.00	0.02	1.4	0.001
6.433	0.000	1.35	0.00	0.02	1.4	0.001
6.450	0.000	1.35	0.00	0.02	1.4	0.001
6.467	0.000	1.35	0.00	0.02	1.4	0.001
6.483	0.000	1.36	0.00	0.02	1.4	0.001
6.500	0.000	1.36	0.00	0.02	1.4	0.001
6.517	0.000	1.36	0.00	0.02	1.4	0.001
6.533	0.000	1.36	0.00	0.02	1.4	0.001
6.550	0.000	1.36	0.00	0.02	1.4	0.001
6.567	0.000	1.36	0.00	0.02	1.4	0.001
6.583	0.000	1.36	0.00	0.02	1.4	0.001
6.600	0.000	1.37	0.00	0.02	1.4	0.001
6.617	0.000	1.37	0.00	0.02	1.4	0.001
6.633	0.000	1.37	0.00	0.02	1.4	0.001
6.650	0.000	1.37	0.00	0.02	1.4	0.001
6.667	0.000	1.37	0.00	0.02	1.4	0.001
6.683	0.000	1.37	0.00	0.02	1.4	0.001
6.700	0.000	1.37	0.00	0.02	1.4	0.001
6.717	0.000	1.37	0.00	0.02	1.4	0.001
6.733	0.000	1.37	0.00	0.02	1.4	0.001
6.750	0.000	1.37	0.00	0.02	1.4	0.001
6.767	0.000	1.38	0.00	0.02	1.4	0.001
6.783	0.000	1.38	0.00	0.02	1.4	0.001
6.800	0.000	1.38	0.00	0.02	1.4	0.001
6.817	0.000	1.38	0.00	0.02	1.4	0.001
6.833	0.000	1.38	0.00	0.02	1.4	0.001
6.850	0.000	1.38	0.00	0.02	1.4	0.001
6.867	0.000	1.38	0.00	0.02	1.4	0.001
6.883	0.000	1.38	0.00	0.02	1.4	0.001
6.900	0.000	1.38	0.00	0.02	1.4	0.001
6.917	0.000	1.39	0.00	0.02	1.4	0.001
6.933	0.000	1.39	0.00	0.02	1.4	0.001
6.950	0.000	1.39	0.00	0.02	1.4	0.001
6.967	0.000	1.39	0.00	0.02	1.4	0.001
6.983	0.000	1.39	0.00	0.02	1.4	0.001
7.000	0.000	1.39	0.00	0.02	1.4	0.001
7.017	0.000	1.39	0.00	0.02	1.4	0.001
7.033	0.000	1.40	0.00	0.02	1.4	0.001
7.050	0.000	1.40	0.00	0.02	1.4	0.001
7.067	0.000	1.40	0.00	0.02	1.4	0.001
7.083	0.000	1.40	0.00	0.02	1.4	0.001
7.100	0.000	1.40	0.00	0.02	1.4	0.001
7.117	0.000	1.40	0.00	0.02	1.4	0.001
7.133	0.000	1.40	0.00	0.02	1.4	0.001
7.150	0.000	1.40	0.00	0.02	1.4	0.001
7.167	0.000	1.40	0.00	0.02	1.4	0.001
7.183	0.000	1.40	0.00	0.02	1.4	0.001
7.200	0.000	1.40	0.00	0.02	1.4	0.001
7.217	0.000	1.40	0.00	0.02	1.4	0.001
7.233	0.000	1.41	0.00	0.02	1.4	0.001
7.250	0.000	1.41	0.00	0.02	1.4	0.001
7.267	0.000	1.41	0.00	0.02	1.4	0.001
7.283	0.000	1.41	0.00	0.02	1.4	0.001
7.300	0.000	1.41	0.00	0.02	1.4	0.001
7.317	0.000	1.41	0.00	0.02	1.4	0.001
7.333	0.000	1.42	0.00	0.02	1.4	0.001
7.350	0.000	1.42	0.00	0.02	1.4	0.001
7.367	0.000	1.42	0.00	0.02	1.4	0.001
7.383	0.000	1.42	0.00	0.02	1.4	0.001
7.400	0.000	1.42	0.00	0.02	1.4	0.001
7.417	0.000	1.42	0.00	0.02	1.4	0.001
7.433	0.000	1.42	0.00	0.02	1.4	0.001
7.450	0.000	1.42	0.00	0.02	1.4	0.001
7.467	0.000	1.42	0.00	0.02	1.4	0.001

7.483	0.000	1.42	0.00	0.02	1.4	0.001
7.500	0.000	1.43	0.00	0.02	1.4	0.001
7.517	0.000	1.43	0.00	0.02	1.4	0.001
7.533	0.000	1.43	0.00	0.02	1.4	0.001
7.550	0.000	1.43	0.00	0.02	1.4	0.001
7.567	0.000	1.43	0.00	0.02	1.4	0.001
7.583	0.000	1.43	0.00	0.02	1.4	0.001
7.600	0.000	1.43	0.00	0.02	1.4	0.001
7.617	0.000	1.43	0.00	0.02	1.4	0.001
7.633	0.000	1.44	0.00	0.02	1.4	0.001
7.650	0.000	1.44	0.00	0.02	1.4	0.001
7.667	0.000	1.44	0.00	0.02	1.4	0.001
7.683	0.000	1.44	0.00	0.02	1.4	0.001
7.700	0.000	1.44	0.00	0.02	1.4	0.001
7.717	0.000	1.44	0.00	0.02	1.4	0.001
7.733	0.000	1.45	0.00	0.02	1.4	0.001
7.750	0.000	1.45	0.00	0.02	1.4	0.001
7.767	0.000	1.45	0.00	0.02	1.4	0.001
7.783	0.000	1.45	0.00	0.02	1.4	0.001
7.800	0.000	1.45	0.00	0.02	1.4	0.001
7.817	0.000	1.45	0.00	0.02	1.5	0.001
7.833	0.000	1.45	0.00	0.02	1.5	0.001
7.850	0.000	1.45	0.00	0.02	1.5	0.001
7.867	0.000	1.45	0.00	0.02	1.5	0.001
7.883	0.000	1.45	0.00	0.02	1.5	0.001
7.900	0.000	1.46	0.00	0.02	1.5	0.001
7.917	0.000	1.46	0.00	0.02	1.5	0.001
7.933	0.000	1.46	0.00	0.02	1.5	0.001
7.950	0.000	1.46	0.00	0.02	1.5	0.001
7.967	0.000	1.46	0.00	0.02	1.5	0.001
7.983	0.000	1.46	0.00	0.02	1.5	0.001
8.000	0.000	1.46	0.00	0.02	1.5	0.001
8.017	0.000	1.47	0.00	0.02	1.5	0.001
8.033	0.000	1.47	0.00	0.02	1.5	0.001
8.050	0.000	1.47	0.00	0.02	1.5	0.001
8.067	0.000	1.47	0.00	0.02	1.5	0.001
8.083	0.000	1.47	0.00	0.02	1.5	0.001
8.100	0.000	1.47	0.00	0.02	1.5	0.001
8.117	0.000	1.48	0.00	0.02	1.5	0.001
8.133	0.000	1.48	0.00	0.02	1.5	0.001
8.150	0.000	1.48	0.00	0.02	1.5	0.001
8.167	0.000	1.48	0.00	0.02	1.5	0.001
8.183	0.000	1.48	0.00	0.02	1.5	0.001
8.200	0.000	1.48	0.00	0.02	1.5	0.001
8.217	0.000	1.48	0.00	0.02	1.5	0.001
8.233	0.000	1.48	0.00	0.02	1.5	0.001
8.250	0.000	1.48	0.00	0.02	1.5	0.001
8.267	0.000	1.48	0.00	0.02	1.5	0.001
8.283	0.000	1.49	0.00	0.02	1.5	0.001
8.300	0.000	1.49	0.00	0.02	1.5	0.001
8.317	0.000	1.49	0.00	0.02	1.5	0.001
8.333	0.000	1.49	0.00	0.02	1.5	0.001
8.350	0.000	1.49	0.00	0.02	1.5	0.001
8.367	0.000	1.49	0.00	0.02	1.5	0.001
8.383	0.000	1.50	0.00	0.02	1.5	0.001
8.400	0.000	1.50	0.00	0.02	1.5	0.001
8.417	0.000	1.50	0.00	0.02	1.5	0.001
8.433	0.000	1.50	0.00	0.02	1.5	0.001
8.450	0.000	1.50	0.00	0.02	1.5	0.001
8.467	0.000	1.51	0.00	0.02	1.5	0.001
8.483	0.000	1.51	0.00	0.02	1.5	0.001
8.500	0.000	1.51	0.00	0.02	1.5	0.001
8.517	0.000	1.51	0.00	0.02	1.5	0.001
8.533	0.000	1.51	0.00	0.02	1.5	0.001
8.550	0.000	1.51	0.00	0.02	1.5	0.001
8.567	0.000	1.51	0.00	0.02	1.5	0.001
8.583	0.000	1.51	0.00	0.02	1.5	0.001
8.600	0.000	1.51	0.00	0.02	1.5	0.001
8.617	0.000	1.52	0.00	0.02	1.5	0.001
8.633	0.000	1.52	0.00	0.02	1.5	0.001
8.650	0.000	1.52	0.00	0.02	1.5	0.001
8.667	0.000	1.52	0.00	0.02	1.5	0.001
8.683	0.000	1.52	0.00	0.02	1.5	0.001
8.700	0.000	1.52	0.00	0.02	1.5	0.001
8.717	0.000	1.52	0.00	0.02	1.5	0.001
8.733	0.000	1.53	0.00	0.02	1.5	0.001
8.750	0.000	1.53	0.00	0.02	1.5	0.001
8.767	0.000	1.53	0.00	0.02	1.5	0.001
8.783	0.000	1.53	0.00	0.02	1.5	0.001

8.800	0.000	1.53	0.00	0.02	1.5	0.001
8.817	0.000	1.54	0.00	0.02	1.5	0.001
8.833	0.000	1.54	0.00	0.02	1.5	0.001
8.850	0.000	1.54	0.00	0.02	1.5	0.001
8.867	0.000	1.54	0.00	0.02	1.5	0.001
8.883	0.000	1.54	0.00	0.02	1.5	0.001
8.900	0.000	1.54	0.00	0.02	1.5	0.001
8.917	0.000	1.54	0.00	0.02	1.5	0.001
8.933	0.000	1.55	0.00	0.02	1.5	0.001
8.950	0.000	1.55	0.00	0.02	1.5	0.001
8.967	0.000	1.55	0.00	0.02	1.5	0.001
8.983	0.000	1.55	0.00	0.02	1.5	0.001
9.000	0.000	1.55	0.00	0.02	1.5	0.001
9.017	0.000	1.55	0.00	0.02	1.6	0.001
9.033	0.000	1.55	0.00	0.02	1.6	0.001
9.050	0.000	1.55	0.00	0.02	1.6	0.001
9.067	0.000	1.56	0.00	0.02	1.6	0.001
9.083	0.000	1.56	0.00	0.02	1.6	0.001
9.100	0.000	1.56	0.00	0.02	1.6	0.001
9.117	0.000	1.56	0.00	0.02	1.6	0.001
9.133	0.000	1.56	0.00	0.02	1.6	0.001
9.150	0.000	1.57	0.00	0.02	1.6	0.001
9.167	0.000	1.57	0.00	0.02	1.6	0.001
9.183	0.000	1.57	0.00	0.02	1.6	0.001
9.200	0.000	1.57	0.00	0.02	1.6	0.001
9.217	0.000	1.58	0.00	0.02	1.6	0.001
9.233	0.000	1.58	0.00	0.02	1.6	0.001
9.250	0.000	1.58	0.00	0.02	1.6	0.001
9.267	0.000	1.58	0.00	0.02	1.6	0.001
9.283	0.000	1.58	0.00	0.02	1.6	0.001
9.300	0.000	1.58	0.00	0.02	1.6	0.001
9.317	0.000	1.58	0.00	0.02	1.6	0.001
9.333	0.000	1.58	0.00	0.02	1.6	0.001
9.350	0.000	1.59	0.00	0.02	1.6	0.001
9.367	0.000	1.59	0.00	0.02	1.6	0.001
9.383	0.000	1.59	0.00	0.02	1.6	0.001
9.400	0.000	1.59	0.00	0.02	1.6	0.001
9.417	0.000	1.59	0.00	0.02	1.6	0.001
9.433	0.000	1.59	0.00	0.02	1.6	0.001
9.450	0.000	1.60	0.00	0.02	1.6	0.001
9.467	0.000	1.60	0.00	0.02	1.6	0.001
9.483	0.000	1.60	0.00	0.02	1.6	0.001
9.500	0.000	1.60	0.00	0.02	1.6	0.001
9.517	0.000	1.60	0.00	0.02	1.6	0.001
9.533	0.000	1.61	0.00	0.02	1.6	0.001
9.550	0.000	1.61	0.00	0.02	1.6	0.001
9.567	0.000	1.61	0.00	0.02	1.6	0.001
9.583	0.000	1.61	0.00	0.02	1.6	0.001
9.600	0.000	1.62	0.00	0.02	1.6	0.001
9.617	0.000	1.62	0.00	0.02	1.6	0.001
9.633	0.000	1.62	0.00	0.02	1.6	0.001
9.650	0.000	1.62	0.00	0.02	1.6	0.001
9.667	0.000	1.62	0.00	0.02	1.6	0.001
9.683	0.000	1.62	0.00	0.03	1.6	0.001
9.700	0.000	1.62	0.00	0.03	1.6	0.001
9.717	0.000	1.62	0.00	0.03	1.6	0.001
9.733	0.000	1.63	0.00	0.03	1.6	0.001
9.750	0.000	1.63	0.00	0.03	1.6	0.001
9.767	0.000	1.63	0.00	0.03	1.6	0.001
9.783	0.000	1.63	0.00	0.03	1.6	0.001
9.800	0.000	1.63	0.00	0.03	1.6	0.001
9.817	0.000	1.64	0.00	0.03	1.6	0.001
9.833	0.000	1.64	0.00	0.03	1.6	0.001
9.850	0.000	1.64	0.00	0.03	1.6	0.001
9.867	0.000	1.64	0.00	0.03	1.6	0.001
9.883	0.000	1.65	0.00	0.03	1.6	0.001
9.900	0.000	1.65	0.00	0.03	1.6	0.001
9.917	0.000	1.65	0.00	0.03	1.7	0.001
9.933	0.000	1.65	0.00	0.03	1.7	0.001
9.950	0.000	1.66	0.00	0.03	1.7	0.001
9.967	0.000	1.66	0.00	0.03	1.7	0.001
9.983	0.000	1.66	0.00	0.03	1.7	0.001
10.000	0.000	1.66	0.00	0.03	1.7	0.001
10.017	0.000	1.66	0.00	0.03	1.7	0.001
10.033	0.000	1.66	0.00	0.03	1.7	0.001
10.050	0.000	1.66	0.00	0.03	1.7	0.001
10.067	0.000	1.67	0.00	0.03	1.7	0.001
10.083	0.000	1.67	0.00	0.03	1.7	0.001
10.100	0.000	1.67	0.00	0.03	1.7	0.001

10.117	0.000	1.67	0.00	0.03	1.7	0.001
10.133	0.000	1.67	0.00	0.03	1.7	0.001
10.150	0.000	1.67	0.00	0.03	1.7	0.001
10.167	0.000	1.68	0.00	0.03	1.7	0.001
10.183	0.000	1.68	0.00	0.03	1.7	0.001
10.200	0.000	1.68	0.00	0.03	1.7	0.001
10.217	0.000	1.68	0.00	0.03	1.7	0.001
10.233	0.000	1.69	0.00	0.03	1.7	0.001
10.250	0.000	1.69	0.00	0.03	1.7	0.001
10.267	0.000	1.69	0.00	0.03	1.7	0.001
10.283	0.000	1.70	0.00	0.03	1.7	0.001
10.300	0.000	1.70	0.00	0.03	1.7	0.001
10.317	0.000	1.70	0.00	0.03	1.7	0.001
10.333	0.000	1.70	0.00	0.03	1.7	0.001
10.350	0.000	1.71	0.00	0.03	1.7	0.001
10.367	0.000	1.71	0.00	0.03	1.7	0.001
10.383	0.000	1.71	0.00	0.03	1.7	0.001
10.400	0.000	1.71	0.00	0.03	1.7	0.001
10.417	0.000	1.71	0.00	0.03	1.7	0.001
10.433	0.000	1.71	0.00	0.03	1.7	0.001
10.450	0.000	1.71	0.00	0.03	1.7	0.001
10.467	0.000	1.72	0.00	0.03	1.7	0.001
10.483	0.000	1.72	0.00	0.03	1.7	0.001
10.500	0.000	1.72	0.00	0.03	1.7	0.001
10.517	0.000	1.72	0.00	0.03	1.7	0.001
10.533	0.000	1.72	0.00	0.03	1.7	0.001
10.550	0.000	1.73	0.00	0.03	1.7	0.001
10.567	0.000	1.73	0.00	0.03	1.7	0.001
10.583	0.000	1.73	0.00	0.03	1.7	0.001
10.600	0.000	1.74	0.00	0.03	1.7	0.001
10.617	0.000	1.74	0.00	0.03	1.7	0.001
10.633	0.000	1.74	0.00	0.03	1.7	0.001
10.650	0.000	1.75	0.00	0.03	1.7	0.001
10.667	0.000	1.75	0.00	0.03	1.7	0.001
10.683	0.000	1.75	0.00	0.03	1.8	0.001
10.700	0.000	1.75	0.00	0.03	1.8	0.001
10.717	0.000	1.76	0.00	0.03	1.8	0.001
10.733	0.000	1.76	0.00	0.03	1.8	0.001
10.750	0.000	1.76	0.00	0.03	1.8	0.001
10.767	0.000	1.76	0.00	0.03	1.8	0.001
10.783	0.000	1.76	0.00	0.03	1.8	0.001
10.800	0.000	1.76	0.00	0.03	1.8	0.001
10.817	0.000	1.77	0.00	0.03	1.8	0.001
10.833	0.000	1.77	0.00	0.03	1.8	0.001
10.850	0.000	1.77	0.00	0.03	1.8	0.001
10.867	0.000	1.77	0.00	0.03	1.8	0.001
10.883	0.000	1.77	0.00	0.03	1.8	0.001
10.900	0.000	1.78	0.00	0.03	1.8	0.001
10.917	0.000	1.78	0.00	0.03	1.8	0.001
10.933	0.000	1.78	0.00	0.03	1.8	0.001
10.950	0.000	1.79	0.00	0.03	1.8	0.001
10.967	0.000	1.79	0.00	0.03	1.8	0.001
10.983	0.000	1.79	0.00	0.03	1.8	0.001
11.000	0.000	1.80	0.00	0.03	1.8	0.001
11.017	0.000	1.80	0.00	0.03	1.8	0.001
11.033	0.000	1.80	0.00	0.03	1.8	0.001
11.050	0.000	1.81	0.00	0.03	1.8	0.001
11.067	0.000	1.81	0.00	0.03	1.8	0.001
11.083	0.000	1.81	0.00	0.03	1.8	0.001
11.100	0.000	1.81	0.00	0.03	1.8	0.001
11.117	0.000	1.81	0.00	0.03	1.8	0.001
11.133	0.000	1.82	0.00	0.03	1.8	0.001
11.150	0.000	1.82	0.00	0.03	1.8	0.001
11.167	0.000	1.82	0.00	0.03	1.8	0.001
11.183	0.000	1.82	0.00	0.03	1.8	0.001
11.200	0.000	1.82	0.00	0.03	1.8	0.001
11.217	0.000	1.83	0.00	0.03	1.8	0.001
11.233	0.000	1.83	0.00	0.03	1.8	0.001
11.250	0.000	1.83	0.00	0.03	1.8	0.001
11.267	0.000	1.83	0.00	0.03	1.8	0.001
11.283	0.000	1.84	0.00	0.03	1.8	0.001
11.300	0.000	1.84	0.00	0.03	1.8	0.001
11.317	0.000	1.85	0.00	0.03	1.8	0.001
11.333	0.000	1.85	0.00	0.03	1.8	0.001
11.350	0.000	1.85	0.00	0.03	1.9	0.001
11.367	0.000	1.86	0.00	0.03	1.9	0.001
11.383	0.000	1.86	0.00	0.03	1.9	0.001
11.400	0.000	1.86	0.00	0.03	1.9	0.001
11.417	0.000	1.87	0.00	0.03	1.9	0.001

11.433	0.000	1.87	0.00	0.03	1.9	0.001
11.450	0.000	1.87	0.00	0.03	1.9	0.001
11.467	0.000	1.87	0.00	0.03	1.9	0.001
11.483	0.000	1.88	0.00	0.03	1.9	0.001
11.500	0.000	1.88	0.00	0.03	1.9	0.001
11.517	0.000	1.88	0.00	0.03	1.9	0.001
11.533	0.000	1.88	0.00	0.03	1.9	0.001
11.550	0.000	1.88	0.00	0.03	1.9	0.001
11.567	0.000	1.89	0.00	0.03	1.9	0.001
11.583	0.000	1.89	0.00	0.03	1.9	0.001
11.600	0.000	1.89	0.00	0.03	1.9	0.001
11.617	0.000	1.89	0.00	0.03	1.9	0.001
11.633	0.000	1.90	0.00	0.03	1.9	0.001
11.650	0.000	1.90	0.00	0.03	1.9	0.001
11.667	0.000	1.91	0.00	0.03	1.9	0.001
11.683	0.000	1.91	0.00	0.03	1.9	0.001
11.700	0.000	1.91	0.00	0.03	1.9	0.001
11.717	0.000	1.92	0.00	0.03	1.9	0.001
11.733	0.000	1.92	0.00	0.03	1.9	0.001
11.750	0.000	1.93	0.00	0.03	1.9	0.001
11.767	0.000	1.93	0.00	0.03	1.9	0.001
11.783	0.000	1.94	0.00	0.03	1.9	0.001
11.800	0.000	1.94	0.00	0.03	1.9	0.001
11.817	0.000	1.94	0.00	0.03	1.9	0.001
11.833	0.000	1.94	0.00	0.03	1.9	0.001
11.850	0.000	1.95	0.00	0.03	1.9	0.001
11.867	0.000	1.95	0.00	0.03	1.9	0.001
11.883	0.000	1.95	0.00	0.03	1.9	0.001
11.900	0.000	1.95	0.00	0.03	2.0	0.001
11.917	0.000	1.96	0.00	0.03	2.0	0.001
11.933	0.000	1.96	0.00	0.03	2.0	0.001
11.950	0.000	1.96	0.00	0.03	2.0	0.001
11.967	0.000	1.96	0.00	0.03	2.0	0.001
11.983	0.000	1.97	0.00	0.03	2.0	0.001
12.000	0.000	1.97	0.00	0.03	2.0	0.001
12.017	0.000	1.98	0.00	0.03	2.0	0.001
12.033	0.000	1.99	0.00	0.03	2.0	0.001
12.050	0.000	1.99	0.00	0.03	2.0	0.001
12.067	0.000	2.00	0.00	0.03	2.0	0.001
12.083	0.000	2.01	0.00	0.03	2.0	0.001
12.100	0.000	2.02	0.00	0.03	2.0	0.001
12.117	0.000	2.02	0.00	0.03	2.0	0.001
12.133	0.000	2.03	0.00	0.03	2.0	0.001
12.150	0.000	2.04	0.00	0.03	2.0	0.001
12.167	0.000	2.04	0.00	0.03	2.0	0.001
12.183	0.000	2.05	0.00	0.03	2.0	0.001
12.200	0.000	2.05	0.00	0.03	2.0	0.001
12.217	0.000	2.05	0.00	0.03	2.1	0.001
12.233	0.000	2.06	0.00	0.03	2.1	0.001
12.250	0.000	2.06	0.00	0.03	2.1	0.001
12.267	0.000	2.06	0.00	0.03	2.1	0.001
12.283	0.000	2.07	0.00	0.03	2.1	0.001
12.300	0.000	2.07	0.00	0.03	2.1	0.001
12.317	0.000	2.07	0.00	0.03	2.1	0.001
12.333	0.000	2.08	0.00	0.03	2.1	0.001
12.350	0.000	2.08	0.00	0.03	2.1	0.001
12.367	0.000	2.09	0.00	0.03	2.1	0.001
12.383	0.000	2.09	0.00	0.03	2.1	0.001
12.400	0.000	2.10	0.00	0.03	2.1	0.001
12.417	0.000	2.10	0.00	0.03	2.1	0.001
12.433	0.000	2.11	0.00	0.03	2.1	0.001
12.450	0.000	2.11	0.00	0.03	2.1	0.001
12.467	0.000	2.12	0.00	0.03	2.1	0.001
12.483	0.000	2.12	0.00	0.03	2.1	0.001
12.500	0.000	2.13	0.00	0.03	2.1	0.001
12.517	0.000	2.13	0.00	0.03	2.1	0.001
12.533	0.000	2.14	0.00	0.03	2.1	0.001
12.550	0.000	2.14	0.00	0.03	2.1	0.001
12.567	0.000	2.14	0.00	0.03	2.1	0.001
12.583	0.000	2.15	0.00	0.03	2.1	0.001
12.600	0.000	2.15	0.00	0.03	2.1	0.001
12.617	0.000	2.15	0.00	0.03	2.2	0.001
12.633	0.000	2.16	0.00	0.03	2.2	0.001
12.650	0.000	2.16	0.00	0.03	2.2	0.001
12.667	0.000	2.16	0.00	0.03	2.2	0.001
12.683	0.000	2.17	0.00	0.03	2.2	0.001
12.700	0.000	2.17	0.00	0.03	2.2	0.001
12.717	0.000	2.17	0.00	0.03	2.2	0.001
12.733	0.000	2.18	0.00	0.03	2.2	0.001

12.750	0.000	2.19	0.00	0.03	2.2	0.001
12.767	0.000	2.19	0.00	0.03	2.2	0.001
12.783	0.000	2.20	0.00	0.03	2.2	0.001
12.800	0.000	2.20	0.00	0.03	2.2	0.001
12.817	0.000	2.21	0.00	0.03	2.2	0.001
12.833	0.000	2.22	0.00	0.03	2.2	0.001
12.850	0.000	2.22	0.00	0.03	2.2	0.001
12.867	0.000	2.23	0.00	0.03	2.2	0.001
12.883	0.000	2.24	0.00	0.03	2.2	0.001
12.900	0.000	2.24	0.00	0.03	2.2	0.001
12.917	0.000	2.24	0.00	0.03	2.2	0.001
12.933	0.000	2.25	0.00	0.03	2.2	0.001
12.950	0.000	2.25	0.00	0.03	2.3	0.001
12.967	0.000	2.25	0.00	0.03	2.3	0.001
12.983	0.000	2.26	0.00	0.03	2.3	0.001
13.000	0.000	2.26	0.00	0.03	2.3	0.001
13.017	0.000	2.27	0.00	0.03	2.3	0.001
13.033	0.000	2.27	0.00	0.03	2.3	0.001
13.050	0.000	2.27	0.00	0.04	2.3	0.001
13.067	0.000	2.28	0.00	0.04	2.3	0.001
13.083	0.000	2.28	0.00	0.04	2.3	0.001
13.100	0.000	2.29	0.00	0.04	2.3	0.001
13.117	0.000	2.30	0.00	0.04	2.3	0.001
13.133	0.000	2.30	0.00	0.04	2.3	0.001
13.150	0.000	2.31	0.00	0.04	2.3	0.001
13.167	0.000	2.32	0.00	0.04	2.3	0.001
13.183	0.000	2.33	0.00	0.04	2.3	0.001
13.200	0.000	2.33	0.00	0.04	2.3	0.001
13.217	0.000	2.34	0.00	0.04	2.3	0.001
13.233	0.000	2.35	0.00	0.04	2.3	0.001
13.250	0.000	2.36	0.00	0.04	2.4	0.001
13.267	0.000	2.36	0.00	0.04	2.4	0.001
13.283	0.000	2.37	0.00	0.04	2.4	0.001
13.300	0.000	2.37	0.00	0.04	2.4	0.001
13.317	0.000	2.37	0.00	0.04	2.4	0.001
13.333	0.000	2.38	0.00	0.04	2.4	0.001
13.350	0.000	2.38	0.00	0.04	2.4	0.001
13.367	0.000	2.39	0.00	0.04	2.4	0.001
13.383	0.000	2.39	0.00	0.04	2.4	0.001
13.400	0.000	2.39	0.00	0.04	2.4	0.001
13.417	0.000	2.40	0.00	0.04	2.4	0.001
13.433	0.000	2.40	0.00	0.04	2.4	0.001
13.450	0.000	2.41	0.00	0.04	2.4	0.001
13.467	0.000	2.42	0.00	0.04	2.4	0.001
13.483	0.000	2.43	0.00	0.04	2.4	0.001
13.500	0.000	2.44	0.00	0.04	2.4	0.001
13.517	0.000	2.45	0.00	0.04	2.4	0.001
13.533	0.000	2.45	0.00	0.04	2.5	0.001
13.550	0.000	2.46	0.00	0.04	2.5	0.001
13.567	0.000	2.47	0.00	0.04	2.5	0.001
13.583	0.000	2.48	0.00	0.04	2.5	0.001
13.600	0.000	2.49	0.00	0.04	2.5	0.001
13.617	0.000	2.50	0.00	0.04	2.5	0.001
13.633	0.000	2.51	0.00	0.04	2.5	0.001
13.650	0.000	2.51	0.00	0.04	2.5	0.001
13.667	0.000	2.52	0.00	0.04	2.5	0.001
13.683	0.000	2.52	0.00	0.04	2.5	0.001
13.700	0.000	2.53	0.00	0.04	2.5	0.001
13.717	0.000	2.53	0.00	0.04	2.5	0.001
13.733	0.000	2.54	0.00	0.04	2.5	0.001
13.750	0.000	2.54	0.00	0.04	2.5	0.001
13.767	0.000	2.55	0.00	0.04	2.5	0.001
13.783	0.000	2.55	0.00	0.04	2.5	0.001
13.800	0.000	2.56	0.00	0.04	2.6	0.001
13.817	0.000	2.56	0.00	0.04	2.6	0.001
13.833	0.000	2.58	0.00	0.04	2.6	0.001
13.850	0.000	2.59	0.00	0.04	2.6	0.001
13.867	0.000	2.60	0.00	0.04	2.6	0.001
13.883	0.000	2.61	0.00	0.04	2.6	0.001
13.900	0.000	2.62	0.00	0.04	2.6	0.001
13.917	0.000	2.63	0.00	0.04	2.6	0.001
13.933	0.000	2.64	0.00	0.04	2.6	0.001
13.950	0.000	2.65	0.00	0.04	2.6	0.001
13.967	0.000	2.67	0.00	0.04	2.7	0.001
13.983	0.000	2.68	0.00	0.04	2.7	0.001
14.000	0.000	2.68	0.00	0.04	2.7	0.001
14.017	0.000	2.69	0.00	0.04	2.7	0.001
14.033	0.000	2.69	0.00	0.04	2.7	0.001
14.050	0.000	2.69	0.00	0.04	2.7	0.001

14.067	0.000	2.69	0.00	0.04	2.7	0.001
14.083	0.000	2.69	0.00	0.04	2.7	0.001
14.100	0.000	2.70	0.00	0.04	2.7	0.001
14.117	0.000	2.70	0.00	0.04	2.7	0.001
14.133	0.000	2.70	0.00	0.04	2.7	0.001
14.150	0.000	2.70	0.00	0.04	2.7	0.001
14.167	0.000	2.71	0.00	0.04	2.7	0.001
14.183	0.000	2.71	0.00	0.04	2.7	0.001
14.200	0.000	2.72	0.00	0.04	2.7	0.001
14.217	0.000	2.73	0.00	0.04	2.7	0.002
14.233	0.000	2.73	0.00	0.04	2.7	0.002
14.250	0.000	2.74	0.00	0.04	2.7	0.002
14.267	0.000	2.75	0.00	0.04	2.7	0.002
14.283	0.000	2.76	0.00	0.04	2.8	0.002
14.300	0.000	2.76	0.00	0.04	2.8	0.002
14.317	0.000	2.77	0.00	0.04	2.8	0.002
14.333	0.000	2.78	0.00	0.04	2.8	0.002
14.350	0.000	2.79	0.00	0.04	2.8	0.002
14.367	0.000	2.80	0.00	0.04	2.8	0.002
14.383	0.000	2.80	0.00	0.04	2.8	0.002
14.400	0.000	2.81	0.00	0.04	2.8	0.002
14.417	0.000	2.82	0.00	0.04	2.8	0.002
14.433	0.000	2.83	0.00	0.04	2.8	0.002
14.450	0.000	2.84	0.00	0.04	2.8	0.002
14.467	0.000	2.85	0.00	0.04	2.8	0.002
14.483	0.000	2.85	0.00	0.04	2.9	0.002
14.500	0.000	2.86	0.00	0.04	2.9	0.002
14.517	0.000	2.87	0.00	0.04	2.9	0.002
14.533	0.000	2.88	0.00	0.04	2.9	0.002
14.550	0.000	2.89	0.00	0.04	2.9	0.002
14.567	0.000	2.91	0.00	0.04	2.9	0.002
14.583	0.000	2.93	0.00	0.05	2.9	0.002
14.600	0.000	2.95	0.00	0.05	2.9	0.002
14.617	0.000	2.97	0.00	0.05	3.0	0.002
14.633	0.000	2.99	0.00	0.05	3.0	0.002
14.650	0.000	3.01	0.00	0.05	3.0	0.002
14.667	0.000	3.03	0.00	0.05	3.0	0.002
14.683	0.000	3.05	0.00	0.05	3.0	0.002
14.700	0.000	3.08	0.00	0.05	3.1	0.002
14.717	0.000	3.10	0.00	0.05	3.1	0.002
14.733	0.000	3.11	0.00	0.05	3.1	0.002
14.750	0.000	3.12	0.00	0.05	3.1	0.002
14.767	0.000	3.14	0.00	0.05	3.1	0.002
14.783	0.000	3.15	0.00	0.05	3.1	0.002
14.800	0.000	3.16	0.00	0.05	3.2	0.002
14.817	0.000	3.17	0.00	0.05	3.2	0.002
14.833	0.000	3.18	0.00	0.05	3.2	0.002
14.850	0.000	3.20	0.00	0.05	3.2	0.002
14.867	0.000	3.21	0.00	0.05	3.2	0.002
14.883	0.000	3.22	0.00	0.05	3.2	0.002
14.900	0.000	3.23	0.00	0.05	3.2	0.002
14.917	0.000	3.25	0.00	0.05	3.2	0.002
14.933	0.000	3.28	0.00	0.05	3.3	0.002
14.950	0.000	3.31	0.00	0.05	3.3	0.002
14.967	0.000	3.34	0.00	0.05	3.3	0.002
14.983	0.000	3.37	0.00	0.05	3.4	0.002
15.000	0.000	3.40	0.00	0.05	3.4	0.002
15.017	0.000	3.43	0.00	0.05	3.4	0.002
15.033	0.000	3.46	0.00	0.05	3.5	0.002
15.050	0.000	3.49	0.00	0.05	3.5	0.002
15.067	0.000	3.52	0.00	0.05	3.5	0.002
15.083	0.000	3.55	0.00	0.05	3.5	0.002
15.100	0.000	3.58	0.00	0.06	3.6	0.002
15.117	0.000	3.60	0.00	0.06	3.6	0.002
15.133	0.000	3.62	0.00	0.06	3.6	0.002
15.150	0.000	3.64	0.00	0.06	3.6	0.002
15.167	0.000	3.65	0.00	0.06	3.6	0.002
15.183	0.000	3.67	0.00	0.06	3.7	0.002
15.200	0.000	3.69	0.00	0.06	3.7	0.002
15.217	0.000	3.71	0.00	0.06	3.7	0.002
15.233	0.000	3.73	0.00	0.06	3.7	0.002
15.250	0.000	3.75	0.00	0.06	3.7	0.002
15.267	0.000	3.77	0.00	0.06	3.8	0.002
15.283	0.000	3.78	0.00	0.06	3.8	0.002
15.300	0.000	3.78	0.00	0.06	3.8	0.002
15.317	0.000	3.79	0.00	0.06	3.8	0.002
15.333	0.000	3.79	0.00	0.06	3.8	0.002
15.350	0.000	3.80	0.00	0.06	3.8	0.002
15.367	0.000	3.80	0.00	0.06	3.8	0.002

15.383	0.000	3.80	0.00	0.06	3.8	0.002
15.400	0.000	3.81	0.00	0.06	3.8	0.002
15.417	0.000	3.81	0.00	0.06	3.8	0.002
15.433	0.000	3.81	0.00	0.06	3.8	0.002
15.450	0.000	3.82	0.00	0.06	3.8	0.002
15.467	0.000	3.81	0.00	0.06	3.8	0.002
15.483	0.000	3.79	0.00	0.06	3.8	0.002
15.500	0.000	3.77	0.00	0.06	3.8	0.002
15.517	0.000	3.75	0.00	0.06	3.8	0.002
15.533	0.000	3.73	0.00	0.06	3.7	0.002
15.550	0.000	3.70	0.00	0.06	3.7	0.002
15.567	0.000	3.68	0.00	0.06	3.7	0.002
15.583	0.000	3.66	0.00	0.06	3.7	0.002
15.600	0.000	3.64	0.00	0.06	3.6	0.002
15.617	0.000	3.62	0.00	0.06	3.6	0.002
15.633	0.000	3.60	0.00	0.06	3.6	0.002
15.650	0.000	3.67	0.00	0.06	3.6	0.002
15.667	0.000	3.84	0.00	0.06	3.8	0.002
15.683	0.000	4.00	0.00	0.06	3.9	0.002
15.700	0.000	4.17	0.00	0.06	4.1	0.002
15.717	0.000	4.34	0.00	0.07	4.3	0.002
15.733	0.000	4.50	0.00	0.07	4.4	0.002
15.750	0.000	4.67	0.00	0.07	4.6	0.003
15.767	0.000	4.83	0.00	0.07	4.8	0.003
15.783	0.000	5.00	0.00	0.08	4.9	0.003
15.800	0.000	5.17	0.00	0.08	5.1	0.003
15.817	0.000	5.33	0.00	0.08	5.3	0.003
15.833	0.000	5.52	0.00	0.09	5.4	0.003
15.850	0.000	5.72	0.00	0.09	5.6	0.003
15.867	0.000	5.93	0.00	0.09	5.8	0.003
15.883	0.000	6.13	0.00	0.09	6.0	0.003
15.900	0.000	6.33	0.00	0.10	6.3	0.003
15.917	0.000	6.54	0.00	0.10	6.5	0.004
15.933	0.000	6.74	0.00	0.10	6.7	0.004
15.950	0.000	6.95	0.00	0.11	6.9	0.004
15.967	0.000	7.15	0.00	0.11	7.1	0.004
15.983	0.000	7.36	0.00	0.11	7.3	0.004
16.000	0.000	7.56	0.00	0.12	7.5	0.004
16.017	0.000	8.41	0.00	0.13	8.0	0.005
16.033	0.000	9.89	0.00	0.15	8.8	0.006
16.050	0.000	11.38	0.00	0.17	9.2	0.009
16.067	0.000	12.87	0.00	0.20	9.2	0.014
16.083	0.000	14.35	0.00	0.24	9.4	0.021
16.100	0.000	15.84	0.00	0.27	9.5	0.030
16.117	0.000	17.33	0.00	0.30	9.6	0.040
16.133	0.000	18.81	0.00	0.34	9.8	0.053
16.150	0.000	20.30	0.00	0.37	9.9	0.067
16.167	0.000	21.79	0.00	0.40	10.0	0.083
16.183	0.000	24.02	0.00	0.43	10.1	0.102
16.200	0.000	23.11	0.00	0.46	10.2	0.120
16.217	0.000	21.31	0.00	0.48	10.3	0.135
16.233	0.000	19.51	0.00	0.50	10.4	0.148
16.250	0.000	17.71	0.00	0.51	10.4	0.158
16.267	0.000	15.90	0.00	0.52	10.5	0.165
16.283	0.000	14.10	0.00	0.53	10.5	0.170
16.300	0.000	12.30	0.00	0.53	10.5	0.173
16.317	0.000	10.49	0.00	0.53	10.5	0.173
16.333	0.000	8.69	0.00	0.53	10.5	0.170
16.350	0.000	6.89	0.00	0.52	10.5	0.165
16.367	0.000	5.09	0.00	0.51	10.5	0.158
16.383	0.000	4.18	0.00	0.50	10.4	0.149
16.400	0.000	4.16	0.00	0.49	10.4	0.141
16.417	0.000	4.15	0.00	0.47	10.4	0.132
16.433	0.000	4.14	0.00	0.46	10.3	0.124
16.450	0.000	4.12	0.00	0.45	10.3	0.115
16.467	0.000	4.11	0.00	0.44	10.2	0.107
16.483	0.000	4.10	0.00	0.43	10.2	0.098
16.500	0.000	4.08	0.00	0.41	10.1	0.090
16.517	0.000	4.07	0.00	0.39	10.1	0.082
16.533	0.000	4.06	0.00	0.38	10.0	0.074
16.550	0.000	4.04	0.00	0.36	10.0	0.065
16.567	0.000	4.01	0.00	0.35	9.9	0.057
16.583	0.000	3.95	0.00	0.33	9.8	0.049
16.600	0.000	3.89	0.00	0.30	9.8	0.041
16.617	0.000	3.83	0.00	0.28	9.7	0.033
16.633	0.000	3.77	0.00	0.25	9.6	0.025
16.650	0.000	3.71	0.00	0.22	9.5	0.017
16.667	0.000	3.65	0.00	0.17	9.3	0.009
16.683	0.000	3.60	0.00	0.10	7.9	0.004



16.700	0.000	3.54	0.00	0.05	4.9	0.002
16.717	0.000	3.48	0.00	0.05	3.4	0.002
16.733	0.000	3.42	0.00	0.05	3.5	0.002
16.750	0.000	3.37	0.00	0.05	3.4	0.002
16.767	0.000	3.34	0.00	0.05	3.3	0.002
16.783	0.000	3.30	0.00	0.05	3.3	0.002
16.800	0.000	3.26	0.00	0.05	3.3	0.002
16.817	0.000	3.23	0.00	0.05	3.2	0.002
16.833	0.000	3.19	0.00	0.05	3.2	0.002
16.850	0.000	3.15	0.00	0.05	3.2	0.002
16.867	0.000	3.12	0.00	0.05	3.1	0.002
16.883	0.000	3.08	0.00	0.05	3.1	0.002
16.900	0.000	3.04	0.00	0.05	3.1	0.002
16.917	0.000	3.01	0.00	0.05	3.0	0.002
16.933	0.000	2.98	0.00	0.05	3.0	0.002
16.950	0.000	2.95	0.00	0.05	3.0	0.002
16.967	0.000	2.92	0.00	0.05	2.9	0.002
16.983	0.000	2.90	0.00	0.04	2.9	0.002
17.000	0.000	2.87	0.00	0.04	2.9	0.002
17.017	0.000	2.85	0.00	0.04	2.9	0.002
17.033	0.000	2.82	0.00	0.04	2.8	0.002
17.050	0.000	2.80	0.00	0.04	2.8	0.002
17.067	0.000	2.77	0.00	0.04	2.8	0.002
17.083	0.000	2.75	0.00	0.04	2.8	0.002
17.100	0.000	2.72	0.00	0.04	2.7	0.001
17.117	0.000	2.70	0.00	0.04	2.7	0.001
17.133	0.000	2.70	0.00	0.04	2.7	0.001
17.150	0.000	2.69	0.00	0.04	2.7	0.001
17.167	0.000	2.68	0.00	0.04	2.7	0.001
17.183	0.000	2.67	0.00	0.04	2.7	0.001
17.200	0.000	2.66	0.00	0.04	2.7	0.001
17.217	0.000	2.65	0.00	0.04	2.7	0.001
17.233	0.000	2.65	0.00	0.04	2.6	0.001
17.250	0.000	2.64	0.00	0.04	2.6	0.001
17.267	0.000	2.63	0.00	0.04	2.6	0.001
17.283	0.000	2.62	0.00	0.04	2.6	0.001
17.300	0.000	2.61	0.00	0.04	2.6	0.001
17.317	0.000	2.60	0.00	0.04	2.6	0.001
17.333	0.000	2.58	0.00	0.04	2.6	0.001
17.350	0.000	2.57	0.00	0.04	2.6	0.001
17.367	0.000	2.55	0.00	0.04	2.6	0.001
17.383	0.000	2.54	0.00	0.04	2.5	0.001
17.400	0.000	2.52	0.00	0.04	2.5	0.001
17.417	0.000	2.51	0.00	0.04	2.5	0.001
17.433	0.000	2.49	0.00	0.04	2.5	0.001
17.450	0.000	2.47	0.00	0.04	2.5	0.001
17.467	0.000	2.46	0.00	0.04	2.5	0.001
17.483	0.000	2.45	0.00	0.04	2.5	0.001
17.500	0.000	2.43	0.00	0.04	2.4	0.001
17.517	0.000	2.42	0.00	0.04	2.4	0.001
17.533	0.000	2.41	0.00	0.04	2.4	0.001
17.550	0.000	2.40	0.00	0.04	2.4	0.001
17.567	0.000	2.38	0.00	0.04	2.4	0.001
17.583	0.000	2.37	0.00	0.04	2.4	0.001
17.600	0.000	2.36	0.00	0.04	2.4	0.001
17.617	0.000	2.35	0.00	0.04	2.4	0.001
17.633	0.000	2.34	0.00	0.04	2.3	0.001
17.650	0.000	2.32	0.00	0.04	2.3	0.001
17.667	0.000	2.31	0.00	0.04	2.3	0.001
17.683	0.000	2.30	0.00	0.04	2.3	0.001
17.700	0.000	2.29	0.00	0.04	2.3	0.001
17.717	0.000	2.28	0.00	0.04	2.3	0.001
17.733	0.000	2.27	0.00	0.03	2.3	0.001
17.750	0.000	2.26	0.00	0.03	2.3	0.001
17.767	0.000	2.25	0.00	0.03	2.3	0.001
17.783	0.000	2.24	0.00	0.03	2.2	0.001
17.800	0.000	2.23	0.00	0.03	2.2	0.001
17.817	0.000	2.22	0.00	0.03	2.2	0.001
17.833	0.000	2.21	0.00	0.03	2.2	0.001
17.850	0.000	2.20	0.00	0.03	2.2	0.001
17.867	0.000	2.19	0.00	0.03	2.2	0.001
17.883	0.000	2.18	0.00	0.03	2.2	0.001
17.900	0.000	2.17	0.00	0.03	2.2	0.001
17.917	0.000	2.16	0.00	0.03	2.2	0.001
17.933	0.000	2.16	0.00	0.03	2.2	0.001
17.950	0.000	2.15	0.00	0.03	2.1	0.001
17.967	0.000	2.14	0.00	0.03	2.1	0.001
17.983	0.000	2.13	0.00	0.03	2.1	0.001
18.000	0.000	2.12	0.00	0.03	2.1	0.001

18.017	0.000	2.11	0.00	0.03	2.1	0.001
18.033	0.000	2.10	0.00	0.03	2.1	0.001
18.050	0.000	2.09	0.00	0.03	2.1	0.001
18.067	0.000	2.08	0.00	0.03	2.1	0.001
18.083	0.000	2.07	0.00	0.03	2.1	0.001
18.100	0.000	2.06	0.00	0.03	2.1	0.001
18.117	0.000	2.05	0.00	0.03	2.1	0.001
18.133	0.000	2.04	0.00	0.03	2.0	0.001
18.150	0.000	2.03	0.00	0.03	2.0	0.001
18.167	0.000	2.02	0.00	0.03	2.0	0.001
18.183	0.000	2.00	0.00	0.03	2.0	0.001
18.200	0.000	1.99	0.00	0.03	2.0	0.001
18.217	0.000	1.99	0.00	0.03	2.0	0.001
18.233	0.000	1.98	0.00	0.03	2.0	0.001
18.250	0.000	1.97	0.00	0.03	2.0	0.001
18.267	0.000	1.97	0.00	0.03	2.0	0.001
18.283	0.000	1.96	0.00	0.03	2.0	0.001
18.300	0.000	1.95	0.00	0.03	2.0	0.001
18.317	0.000	1.94	0.00	0.03	1.9	0.001
18.333	0.000	1.94	0.00	0.03	1.9	0.001
18.350	0.000	1.93	0.00	0.03	1.9	0.001
18.367	0.000	1.92	0.00	0.03	1.9	0.001
18.383	0.000	1.92	0.00	0.03	1.9	0.001
18.400	0.000	1.91	0.00	0.03	1.9	0.001
18.417	0.000	1.91	0.00	0.03	1.9	0.001
18.433	0.000	1.90	0.00	0.03	1.9	0.001
18.450	0.000	1.89	0.00	0.03	1.9	0.001
18.467	0.000	1.89	0.00	0.03	1.9	0.001
18.483	0.000	1.88	0.00	0.03	1.9	0.001
18.500	0.000	1.88	0.00	0.03	1.9	0.001
18.517	0.000	1.87	0.00	0.03	1.9	0.001
18.533	0.000	1.86	0.00	0.03	1.9	0.001
18.550	0.000	1.86	0.00	0.03	1.9	0.001
18.567	0.000	1.85	0.00	0.03	1.9	0.001
18.583	0.000	1.85	0.00	0.03	1.8	0.001
18.600	0.000	1.84	0.00	0.03	1.8	0.001
18.617	0.000	1.84	0.00	0.03	1.8	0.001
18.633	0.000	1.83	0.00	0.03	1.8	0.001
18.650	0.000	1.82	0.00	0.03	1.8	0.001
18.667	0.000	1.82	0.00	0.03	1.8	0.001
18.683	0.000	1.81	0.00	0.03	1.8	0.001
18.700	0.000	1.81	0.00	0.03	1.8	0.001
18.717	0.000	1.80	0.00	0.03	1.8	0.001
18.733	0.000	1.80	0.00	0.03	1.8	0.001
18.750	0.000	1.79	0.00	0.03	1.8	0.001
18.767	0.000	1.79	0.00	0.03	1.8	0.001
18.783	0.000	1.78	0.00	0.03	1.8	0.001
18.800	0.000	1.78	0.00	0.03	1.8	0.001
18.817	0.000	1.77	0.00	0.03	1.8	0.001
18.833	0.000	1.77	0.00	0.03	1.8	0.001
18.850	0.000	1.76	0.00	0.03	1.8	0.001
18.867	0.000	1.76	0.00	0.03	1.8	0.001
18.883	0.000	1.75	0.00	0.03	1.8	0.001
18.900	0.000	1.75	0.00	0.03	1.8	0.001
18.917	0.000	1.74	0.00	0.03	1.7	0.001
18.933	0.000	1.74	0.00	0.03	1.7	0.001
18.950	0.000	1.73	0.00	0.03	1.7	0.001
18.967	0.000	1.73	0.00	0.03	1.7	0.001
18.983	0.000	1.72	0.00	0.03	1.7	0.001
19.000	0.000	1.72	0.00	0.03	1.7	0.001
19.017	0.000	1.72	0.00	0.03	1.7	0.001
19.033	0.000	1.71	0.00	0.03	1.7	0.001
19.050	0.000	1.71	0.00	0.03	1.7	0.001
19.067	0.000	1.70	0.00	0.03	1.7	0.001
19.083	0.000	1.70	0.00	0.03	1.7	0.001
19.100	0.000	1.69	0.00	0.03	1.7	0.001
19.117	0.000	1.69	0.00	0.03	1.7	0.001
19.133	0.000	1.69	0.00	0.03	1.7	0.001
19.150	0.000	1.68	0.00	0.03	1.7	0.001
19.167	0.000	1.68	0.00	0.03	1.7	0.001
19.183	0.000	1.67	0.00	0.03	1.7	0.001
19.200	0.000	1.67	0.00	0.03	1.7	0.001
19.217	0.000	1.67	0.00	0.03	1.7	0.001
19.233	0.000	1.66	0.00	0.03	1.7	0.001
19.250	0.000	1.66	0.00	0.03	1.7	0.001
19.267	0.000	1.65	0.00	0.03	1.7	0.001
19.283	0.000	1.65	0.00	0.03	1.7	0.001
19.300	0.000	1.65	0.00	0.03	1.6	0.001
19.317	0.000	1.64	0.00	0.03	1.6	0.001

19.333	0.000	1.64	0.00	0.03	1.6	0.001
19.350	0.000	1.63	0.00	0.03	1.6	0.001
19.367	0.000	1.63	0.00	0.03	1.6	0.001
19.383	0.000	1.63	0.00	0.03	1.6	0.001
19.400	0.000	1.62	0.00	0.03	1.6	0.001
19.417	0.000	1.62	0.00	0.02	1.6	0.001
19.433	0.000	1.62	0.00	0.02	1.6	0.001
19.450	0.000	1.61	0.00	0.02	1.6	0.001
19.467	0.000	1.61	0.00	0.02	1.6	0.001
19.483	0.000	1.60	0.00	0.02	1.6	0.001
19.500	0.000	1.60	0.00	0.02	1.6	0.001
19.517	0.000	1.60	0.00	0.02	1.6	0.001
19.533	0.000	1.59	0.00	0.02	1.6	0.001
19.550	0.000	1.59	0.00	0.02	1.6	0.001
19.567	0.000	1.59	0.00	0.02	1.6	0.001
19.583	0.000	1.58	0.00	0.02	1.6	0.001
19.600	0.000	1.58	0.00	0.02	1.6	0.001
19.617	0.000	1.58	0.00	0.02	1.6	0.001
19.633	0.000	1.57	0.00	0.02	1.6	0.001
19.650	0.000	1.57	0.00	0.02	1.6	0.001
19.667	0.000	1.57	0.00	0.02	1.6	0.001
19.683	0.000	1.56	0.00	0.02	1.6	0.001
19.700	0.000	1.56	0.00	0.02	1.6	0.001
19.717	0.000	1.56	0.00	0.02	1.6	0.001
19.733	0.000	1.55	0.00	0.02	1.6	0.001
19.750	0.000	1.55	0.00	0.02	1.6	0.001
19.767	0.000	1.55	0.00	0.02	1.5	0.001
19.783	0.000	1.54	0.00	0.02	1.5	0.001
19.800	0.000	1.54	0.00	0.02	1.5	0.001
19.817	0.000	1.54	0.00	0.02	1.5	0.001
19.833	0.000	1.53	0.00	0.02	1.5	0.001
19.850	0.000	1.53	0.00	0.02	1.5	0.001
19.867	0.000	1.53	0.00	0.02	1.5	0.001
19.883	0.000	1.53	0.00	0.02	1.5	0.001
19.900	0.000	1.52	0.00	0.02	1.5	0.001
19.917	0.000	1.52	0.00	0.02	1.5	0.001
19.933	0.000	1.52	0.00	0.02	1.5	0.001
19.950	0.000	1.51	0.00	0.02	1.5	0.001
19.967	0.000	1.51	0.00	0.02	1.5	0.001
19.983	0.000	1.51	0.00	0.02	1.5	0.001
20.000	0.000	1.50	0.00	0.02	1.5	0.001
20.017	0.000	1.50	0.00	0.02	1.5	0.001
20.033	0.000	1.50	0.00	0.02	1.5	0.001
20.050	0.000	1.50	0.00	0.02	1.5	0.001
20.067	0.000	1.49	0.00	0.02	1.5	0.001
20.083	0.000	1.49	0.00	0.02	1.5	0.001
20.100	0.000	1.49	0.00	0.02	1.5	0.001
20.117	0.000	1.48	0.00	0.02	1.5	0.001
20.133	0.000	1.48	0.00	0.02	1.5	0.001
20.150	0.000	1.48	0.00	0.02	1.5	0.001
20.167	0.000	1.48	0.00	0.02	1.5	0.001
20.183	0.000	1.47	0.00	0.02	1.5	0.001
20.200	0.000	1.47	0.00	0.02	1.5	0.001
20.217	0.000	1.47	0.00	0.02	1.5	0.001
20.233	0.000	1.47	0.00	0.02	1.5	0.001
20.250	0.000	1.46	0.00	0.02	1.5	0.001
20.267	0.000	1.46	0.00	0.02	1.5	0.001
20.283	0.000	1.46	0.00	0.02	1.5	0.001
20.300	0.000	1.46	0.00	0.02	1.5	0.001
20.317	0.000	1.45	0.00	0.02	1.5	0.001
20.333	0.000	1.45	0.00	0.02	1.5	0.001
20.350	0.000	1.45	0.00	0.02	1.4	0.001
20.367	0.000	1.44	0.00	0.02	1.4	0.001
20.383	0.000	1.44	0.00	0.02	1.4	0.001
20.400	0.000	1.44	0.00	0.02	1.4	0.001
20.417	0.000	1.44	0.00	0.02	1.4	0.001
20.433	0.000	1.43	0.00	0.02	1.4	0.001
20.450	0.000	1.43	0.00	0.02	1.4	0.001
20.467	0.000	1.43	0.00	0.02	1.4	0.001
20.483	0.000	1.43	0.00	0.02	1.4	0.001
20.500	0.000	1.43	0.00	0.02	1.4	0.001
20.517	0.000	1.42	0.00	0.02	1.4	0.001
20.533	0.000	1.42	0.00	0.02	1.4	0.001
20.550	0.000	1.42	0.00	0.02	1.4	0.001
20.567	0.000	1.42	0.00	0.02	1.4	0.001
20.583	0.000	1.41	0.00	0.02	1.4	0.001
20.600	0.000	1.41	0.00	0.02	1.4	0.001
20.617	0.000	1.41	0.00	0.02	1.4	0.001
20.633	0.000	1.41	0.00	0.02	1.4	0.001

20.650	0.000	1.40	0.00	0.02	1.4	0.001
20.667	0.000	1.40	0.00	0.02	1.4	0.001
20.683	0.000	1.40	0.00	0.02	1.4	0.001
20.700	0.000	1.40	0.00	0.02	1.4	0.001
20.717	0.000	1.39	0.00	0.02	1.4	0.001
20.733	0.000	1.39	0.00	0.02	1.4	0.001
20.750	0.000	1.39	0.00	0.02	1.4	0.001
20.767	0.000	1.39	0.00	0.02	1.4	0.001
20.783	0.000	1.39	0.00	0.02	1.4	0.001
20.800	0.000	1.38	0.00	0.02	1.4	0.001
20.817	0.000	1.38	0.00	0.02	1.4	0.001
20.833	0.000	1.38	0.00	0.02	1.4	0.001
20.850	0.000	1.38	0.00	0.02	1.4	0.001
20.867	0.000	1.37	0.00	0.02	1.4	0.001
20.883	0.000	1.37	0.00	0.02	1.4	0.001
20.900	0.000	1.37	0.00	0.02	1.4	0.001
20.917	0.000	1.37	0.00	0.02	1.4	0.001
20.933	0.000	1.37	0.00	0.02	1.4	0.001
20.950	0.000	1.36	0.00	0.02	1.4	0.001
20.967	0.000	1.36	0.00	0.02	1.4	0.001
20.983	0.000	1.36	0.00	0.02	1.4	0.001
21.000	0.000	1.36	0.00	0.02	1.4	0.001
21.017	0.000	1.36	0.00	0.02	1.4	0.001
21.033	0.000	1.35	0.00	0.02	1.4	0.001
21.050	0.000	1.35	0.00	0.02	1.4	0.001
21.067	0.000	1.35	0.00	0.02	1.4	0.001
21.083	0.000	1.35	0.00	0.02	1.3	0.001
21.100	0.000	1.35	0.00	0.02	1.3	0.001
21.117	0.000	1.34	0.00	0.02	1.3	0.001
21.133	0.000	1.34	0.00	0.02	1.3	0.001
21.150	0.000	1.34	0.00	0.02	1.3	0.001
21.167	0.000	1.34	0.00	0.02	1.3	0.001
21.183	0.000	1.34	0.00	0.02	1.3	0.001
21.200	0.000	1.33	0.00	0.02	1.3	0.001
21.217	0.000	1.33	0.00	0.02	1.3	0.001
21.233	0.000	1.33	0.00	0.02	1.3	0.001
21.250	0.000	1.33	0.00	0.02	1.3	0.001
21.267	0.000	1.33	0.00	0.02	1.3	0.001
21.283	0.000	1.32	0.00	0.02	1.3	0.001
21.300	0.000	1.32	0.00	0.02	1.3	0.001
21.317	0.000	1.32	0.00	0.02	1.3	0.001
21.333	0.000	1.32	0.00	0.02	1.3	0.001
21.350	0.000	1.32	0.00	0.02	1.3	0.001
21.367	0.000	1.31	0.00	0.02	1.3	0.001
21.383	0.000	1.31	0.00	0.02	1.3	0.001
21.400	0.000	1.31	0.00	0.02	1.3	0.001
21.417	0.000	1.31	0.00	0.02	1.3	0.001
21.433	0.000	1.31	0.00	0.02	1.3	0.001
21.450	0.000	1.31	0.00	0.02	1.3	0.001
21.467	0.000	1.30	0.00	0.02	1.3	0.001
21.483	0.000	1.30	0.00	0.02	1.3	0.001
21.500	0.000	1.30	0.00	0.02	1.3	0.001
21.517	0.000	1.30	0.00	0.02	1.3	0.001
21.533	0.000	1.30	0.00	0.02	1.3	0.001
21.550	0.000	1.29	0.00	0.02	1.3	0.001
21.567	0.000	1.29	0.00	0.02	1.3	0.001
21.583	0.000	1.29	0.00	0.02	1.3	0.001
21.600	0.000	1.29	0.00	0.02	1.3	0.001
21.617	0.000	1.29	0.00	0.02	1.3	0.001
21.633	0.000	1.29	0.00	0.02	1.3	0.001
21.650	0.000	1.28	0.00	0.02	1.3	0.001
21.667	0.000	1.28	0.00	0.02	1.3	0.001
21.683	0.000	1.28	0.00	0.02	1.3	0.001
21.700	0.000	1.28	0.00	0.02	1.3	0.001
21.717	0.000	1.28	0.00	0.02	1.3	0.001
21.733	0.000	1.28	0.00	0.02	1.3	0.001
21.750	0.000	1.27	0.00	0.02	1.3	0.001
21.767	0.000	1.27	0.00	0.02	1.3	0.001
21.783	0.000	1.27	0.00	0.02	1.3	0.001
21.800	0.000	1.27	0.00	0.02	1.3	0.001
21.817	0.000	1.27	0.00	0.02	1.3	0.001
21.833	0.000	1.27	0.00	0.02	1.3	0.001
21.850	0.000	1.26	0.00	0.02	1.3	0.001
21.867	0.000	1.26	0.00	0.02	1.3	0.001
21.883	0.000	1.26	0.00	0.02	1.3	0.001
21.900	0.000	1.26	0.00	0.02	1.3	0.001
21.917	0.000	1.26	0.00	0.02	1.3	0.001
21.933	0.000	1.26	0.00	0.02	1.3	0.001
21.950	0.000	1.25	0.00	0.02	1.3	0.001

21.967	0.000	1.25	0.00	0.02	1.3	0.001
21.983	0.000	1.25	0.00	0.02	1.3	0.001
22.000	0.000	1.25	0.00	0.02	1.2	0.001
22.017	0.000	1.25	0.00	0.02	1.2	0.001
22.033	0.000	1.25	0.00	0.02	1.2	0.001
22.050	0.000	1.24	0.00	0.02	1.2	0.001
22.067	0.000	1.24	0.00	0.02	1.2	0.001
22.083	0.000	1.24	0.00	0.02	1.2	0.001
22.100	0.000	1.24	0.00	0.02	1.2	0.001
22.117	0.000	1.24	0.00	0.02	1.2	0.001
22.133	0.000	1.24	0.00	0.02	1.2	0.001
22.150	0.000	1.24	0.00	0.02	1.2	0.001
22.167	0.000	1.23	0.00	0.02	1.2	0.001
22.183	0.000	1.23	0.00	0.02	1.2	0.001
22.200	0.000	1.23	0.00	0.02	1.2	0.001
22.216	0.000	1.23	0.00	0.02	1.2	0.001
22.233	0.000	1.23	0.00	0.02	1.2	0.001
22.250	0.000	1.23	0.00	0.02	1.2	0.001
22.266	0.000	1.22	0.00	0.02	1.2	0.001
22.283	0.000	1.22	0.00	0.02	1.2	0.001
22.300	0.000	1.22	0.00	0.02	1.2	0.001
22.316	0.000	1.22	0.00	0.02	1.2	0.001
22.333	0.000	1.22	0.00	0.02	1.2	0.001
22.350	0.000	1.22	0.00	0.02	1.2	0.001
22.366	0.000	1.22	0.00	0.02	1.2	0.001
22.383	0.000	1.21	0.00	0.02	1.2	0.001
22.400	0.000	1.21	0.00	0.02	1.2	0.001
22.416	0.000	1.21	0.00	0.02	1.2	0.001
22.433	0.000	1.21	0.00	0.02	1.2	0.001
22.450	0.000	1.21	0.00	0.02	1.2	0.001
22.466	0.000	1.21	0.00	0.02	1.2	0.001
22.483	0.000	1.21	0.00	0.02	1.2	0.001
22.500	0.000	1.20	0.00	0.02	1.2	0.001
22.516	0.000	1.20	0.00	0.02	1.2	0.001
22.533	0.000	1.20	0.00	0.02	1.2	0.001
22.550	0.000	1.20	0.00	0.02	1.2	0.001
22.566	0.000	1.20	0.00	0.02	1.2	0.001
22.583	0.000	1.20	0.00	0.02	1.2	0.001
22.600	0.000	1.20	0.00	0.02	1.2	0.001
22.616	0.000	1.19	0.00	0.02	1.2	0.001
22.633	0.000	1.19	0.00	0.02	1.2	0.001
22.650	0.000	1.19	0.00	0.02	1.2	0.001
22.666	0.000	1.19	0.00	0.02	1.2	0.001
22.683	0.000	1.19	0.00	0.02	1.2	0.001
22.700	0.000	1.19	0.00	0.02	1.2	0.001
22.716	0.000	1.19	0.00	0.02	1.2	0.001
22.733	0.000	1.19	0.00	0.02	1.2	0.001
22.750	0.000	1.18	0.00	0.02	1.2	0.001
22.766	0.000	1.18	0.00	0.02	1.2	0.001
22.783	0.000	1.18	0.00	0.02	1.2	0.001
22.800	0.000	1.18	0.00	0.02	1.2	0.001
22.816	0.000	1.18	0.00	0.02	1.2	0.001
22.833	0.000	1.18	0.00	0.02	1.2	0.001
22.850	0.000	1.18	0.00	0.02	1.2	0.001
22.866	0.000	1.17	0.00	0.02	1.2	0.001
22.883	0.000	1.17	0.00	0.02	1.2	0.001
22.900	0.000	1.17	0.00	0.02	1.2	0.001
22.916	0.000	1.17	0.00	0.02	1.2	0.001
22.933	0.000	1.17	0.00	0.02	1.2	0.001
22.950	0.000	1.17	0.00	0.02	1.2	0.001
22.966	0.000	1.17	0.00	0.02	1.2	0.001
22.983	0.000	1.17	0.00	0.02	1.2	0.001
23.000	0.000	1.16	0.00	0.02	1.2	0.001
23.016	0.000	1.16	0.00	0.02	1.2	0.001
23.033	0.000	1.16	0.00	0.02	1.2	0.001
23.050	0.000	1.16	0.00	0.02	1.2	0.001
23.066	0.000	1.16	0.00	0.02	1.2	0.001
23.083	0.000	1.16	0.00	0.02	1.2	0.001
23.100	0.000	1.16	0.00	0.02	1.2	0.001
23.116	0.000	1.16	0.00	0.02	1.2	0.001
23.133	0.000	1.15	0.00	0.02	1.2	0.001
23.150	0.000	1.15	0.00	0.02	1.2	0.001
23.166	0.000	1.15	0.00	0.02	1.2	0.001
23.183	0.000	1.15	0.00	0.02	1.2	0.001
23.200	0.000	1.15	0.00	0.02	1.2	0.001
23.216	0.000	1.15	0.00	0.02	1.1	0.001
23.233	0.000	1.15	0.00	0.02	1.1	0.001
23.250	0.000	1.15	0.00	0.02	1.1	0.001
23.266	0.000	1.14	0.00	0.02	1.1	0.001

23.283	0.000	1.14	0.00	0.02	1.1	0.001
23.300	0.000	1.14	0.00	0.02	1.1	0.001
23.316	0.000	1.14	0.00	0.02	1.1	0.001
23.333	0.000	1.14	0.00	0.02	1.1	0.001
23.350	0.000	1.14	0.00	0.02	1.1	0.001
23.366	0.000	1.14	0.00	0.02	1.1	0.001
23.383	0.000	1.14	0.00	0.02	1.1	0.001
23.400	0.000	1.14	0.00	0.02	1.1	0.001
23.416	0.000	1.13	0.00	0.02	1.1	0.001
23.433	0.000	1.13	0.00	0.02	1.1	0.001
23.450	0.000	1.13	0.00	0.02	1.1	0.001
23.466	0.000	1.13	0.00	0.02	1.1	0.001
23.483	0.000	1.13	0.00	0.02	1.1	0.001
23.500	0.000	1.13	0.00	0.02	1.1	0.001
23.516	0.000	1.13	0.00	0.02	1.1	0.001
23.533	0.000	1.13	0.00	0.02	1.1	0.001
23.550	0.000	1.13	0.00	0.02	1.1	0.001
23.566	0.000	1.12	0.00	0.02	1.1	0.001
23.583	0.000	1.12	0.00	0.02	1.1	0.001
23.600	0.000	1.12	0.00	0.02	1.1	0.001
23.616	0.000	1.12	0.00	0.02	1.1	0.001
23.633	0.000	1.12	0.00	0.02	1.1	0.001
23.650	0.000	1.12	0.00	0.02	1.1	0.001
23.666	0.000	1.12	0.00	0.02	1.1	0.001
23.683	0.000	1.12	0.00	0.02	1.1	0.001
23.700	0.000	1.12	0.00	0.02	1.1	0.001
23.716	0.000	1.11	0.00	0.02	1.1	0.001
23.733	0.000	1.11	0.00	0.02	1.1	0.001
23.750	0.000	1.11	0.00	0.02	1.1	0.001
23.766	0.000	1.11	0.00	0.02	1.1	0.001
23.783	0.000	1.11	0.00	0.02	1.1	0.001
23.800	0.000	1.11	0.00	0.02	1.1	0.001
23.816	0.000	1.11	0.00	0.02	1.1	0.001
23.833	0.000	1.11	0.00	0.02	1.1	0.001
23.850	0.000	1.11	0.00	0.02	1.1	0.001
23.866	0.000	1.10	0.00	0.02	1.1	0.001
23.883	0.000	1.10	0.00	0.02	1.1	0.001
23.900	0.000	1.10	0.00	0.02	1.1	0.001
23.916	0.000	1.10	0.00	0.02	1.1	0.001
23.933	0.000	1.10	0.00	0.02	1.1	0.001
23.950	0.000	1.10	0.00	0.02	1.1	0.001
23.966	0.000	1.10	0.00	0.02	1.1	0.001
23.983	0.000	1.10	0.00	0.02	1.1	0.001
24.000	0.000	1.10	0.00	0.02	1.1	0.001
24.016	0.000	1.09	0.00	0.02	1.1	0.001
24.033	0.000	1.09	0.00	0.02	1.1	0.001
24.050	0.000	1.09	0.00	0.02	1.1	0.001
24.066	0.000	1.09	0.00	0.02	1.1	0.001
24.083	0.000	1.04	0.00	0.02	1.1	0.001
24.100	0.000	0.94	0.00	0.01	1.0	0.001
24.116	0.000	0.84	0.00	0.01	0.9	0.000
24.133	0.000	0.74	0.00	0.01	0.8	0.000
24.150	0.000	0.64	0.00	0.01	0.7	0.000
24.166	0.000	0.55	0.00	0.01	0.6	0.000
24.183	0.000	0.45	0.00	0.01	0.5	0.000
24.200	0.000	0.35	0.00	0.01	0.4	0.000
24.216	0.000	0.25	0.00	0.00	0.3	0.000
24.233	0.000	0.15	0.00	0.00	0.2	0.000
24.250	0.000	0.05	0.00	0.00	0.1	0.000
24.266	0.000	0.00	0.00	0.00	0.0	0.000
24.283	0.000	0.00	0.00	0.00	0.0	0.000
24.300	0.000	0.00	0.00	0.00	0.0	0.000
24.316	0.000	0.00	0.00	0.00	0.0	0.000
24.333	0.000	0.00	0.00	0.00	0.0	0.000
24.350	0.000	0.00	0.00	0.00	0.0	0.000
24.366	0.000	0.00	0.00	0.00	0.0	0.000
24.383	0.000	0.00	0.00	0.00	0.0	0.000
24.400	0.000	0.00	0.00	0.00	0.0	0.000
24.416	0.000	0.00	0.00	0.00	0.0	0.000
24.433	0.000	0.00	0.00	0.00	0.0	0.000
24.450	0.000	0.00	0.00	0.00	0.0	0.000
24.466	0.000	0.00	0.00	0.00	0.0	0.000
24.483	0.000	0.00	0.00	0.00	0.0	0.000
24.500	0.000	0.00	0.00	0.00	0.0	0.000
24.516	0.000	0.00	0.00	0.00	0.0	0.000
24.533	0.000	0.00	0.00	0.00	0.0	0.000
24.550	0.000	0.00	0.00	0.00	0.0	0.000
24.566	0.000	0.00	0.00	0.00	0.0	0.000
24.583	0.000	0.00	0.00	0.00	0.0	0.000

24.600	0.000	0.00	0.00	0.00	0.0	0.000
24.616	0.000	0.00	0.00	0.00	0.0	0.000
24.633	0.000	0.00	0.00	0.00	0.0	0.000
24.650	0.000	0.00	0.00	0.00	0.0	0.000
24.666	0.000	0.00	0.00	0.00	0.0	0.000
24.683	0.000	0.00	0.00	0.00	0.0	0.000
24.700	0.000	0.00	0.00	0.00	0.0	0.000
24.716	0.000	0.00	0.00	0.00	0.0	0.000
24.733	0.000	0.00	0.00	0.00	0.0	0.000
24.750	0.000	0.00	0.00	0.00	0.0	0.000
24.766	0.000	0.00	0.00	0.00	0.0	0.000
24.783	0.000	0.00	0.00	0.00	0.0	0.000
24.800	0.000	0.00	0.00	0.00	0.0	0.000
24.816	0.000	0.00	0.00	0.00	0.0	0.000
24.833	0.000	0.00	0.00	0.00	0.0	0.000
24.850	0.000	0.00	0.00	0.00	0.0	0.000
24.866	0.000	0.00	0.00	0.00	0.0	0.000
24.883	0.000	0.00	0.00	0.00	0.0	0.000
24.900	0.000	0.00	0.00	0.00	0.0	0.000
24.916	0.000	0.00	0.00	0.00	0.0	0.000
24.933	0.000	0.00	0.00	0.00	0.0	0.000
24.950	0.000	0.00	0.00	0.00	0.0	0.000
24.966	0.000	0.00	0.00	0.00	0.0	0.000
24.983	0.000	0.00	0.00	0.00	0.0	0.000
25.000	0.000	0.00	0.00	0.00	0.0	0.000
25.016	0.000	0.00	0.00	0.00	0.0	0.000
25.033	0.000	0.00	0.00	0.00	0.0	0.000
25.050	0.000	0.00	0.00	0.00	0.0	0.000
25.066	0.000	0.00	0.00	0.00	0.0	0.000
25.083	0.000	0.00	0.00	0.00	0.0	0.000
25.100	0.000	0.00	0.00	0.00	0.0	0.000
25.116	0.000	0.00	0.00	0.00	0.0	0.000
25.133	0.000	0.00	0.00	0.00	0.0	0.000
25.150	0.000	0.00	0.00	0.00	0.0	0.000
25.166	0.000	0.00	0.00	0.00	0.0	0.000
25.183	0.000	0.00	0.00	0.00	0.0	0.000
25.200	0.000	0.00	0.00	0.00	0.0	0.000
25.216	0.000	0.00	0.00	0.00	0.0	0.000
25.233	0.000	0.00	0.00	0.00	0.0	0.000
25.250	0.000	0.00	0.00	0.00	0.0	0.000
25.266	0.000	0.00	0.00	0.00	0.0	0.000
25.283	0.000	0.00	0.00	0.00	0.0	0.000
25.300	0.000	0.00	0.00	0.00	0.0	0.000
25.316	0.000	0.00	0.00	0.00	0.0	0.000
25.333	0.000	0.00	0.00	0.00	0.0	0.000
25.350	0.000	0.00	0.00	0.00	0.0	0.000
25.366	0.000	0.00	0.00	0.00	0.0	0.000
25.383	0.000	0.00	0.00	0.00	0.0	0.000
25.400	0.000	0.00	0.00	0.00	0.0	0.000
25.416	0.000	0.00	0.00	0.00	0.0	0.000
25.433	0.000	0.00	0.00	0.00	0.0	0.000
25.450	0.000	0.00	0.00	0.00	0.0	0.000
25.466	0.000	0.00	0.00	0.00	0.0	0.000
25.483	0.000	0.00	0.00	0.00	0.0	0.000
25.500	0.000	0.00	0.00	0.00	0.0	0.000
25.516	0.000	0.00	0.00	0.00	0.0	0.000
25.533	0.000	0.00	0.00	0.00	0.0	0.000
25.550	0.000	0.00	0.00	0.00	0.0	0.000
25.566	0.000	0.00	0.00	0.00	0.0	0.000
25.583	0.000	0.00	0.00	0.00	0.0	0.000
25.600	0.000	0.00	0.00	0.00	0.0	0.000
25.616	0.000	0.00	0.00	0.00	0.0	0.000
25.633	0.000	0.00	0.00	0.00	0.0	0.000
25.650	0.000	0.00	0.00	0.00	0.0	0.000
25.666	0.000	0.00	0.00	0.00	0.0	0.000
25.683	0.000	0.00	0.00	0.00	0.0	0.000
25.700	0.000	0.00	0.00	0.00	0.0	0.000
25.716	0.000	0.00	0.00	0.00	0.0	0.000
25.733	0.000	0.00	0.00	0.00	0.0	0.000
25.750	0.000	0.00	0.00	0.00	0.0	0.000
25.766	0.000	0.00	0.00	0.00	0.0	0.000
25.783	0.000	0.00	0.00	0.00	0.0	0.000
25.800	0.000	0.00	0.00	0.00	0.0	0.000
25.816	0.000	0.00	0.00	0.00	0.0	0.000
25.833	0.000	0.00	0.00	0.00	0.0	0.000
25.850	0.000	0.00	0.00	0.00	0.0	0.000
25.866	0.000	0.00	0.00	0.00	0.0	0.000
25.883	0.000	0.00	0.00	0.00	0.0	0.000
25.900	0.000	0.00	0.00	0.00	0.0	0.000

25.916	0.000	0.00	0.00	0.00	0.0	0.000
25.933	0.000	0.00	0.00	0.00	0.0	0.000
25.950	0.000	0.00	0.00	0.00	0.0	0.000
25.966	0.000	0.00	0.00	0.00	0.0	0.000
25.983	0.000	0.00	0.00	0.00	0.0	0.000
26.000	0.000	0.00	0.00	0.00	0.0	0.000
26.016	0.000	0.00	0.00	0.00	0.0	0.000
26.033	0.000	0.00	0.00	0.00	0.0	0.000
26.050	0.000	0.00	0.00	0.00	0.0	0.000
26.066	0.000	0.00	0.00	0.00	0.0	0.000
26.083	0.000	0.00	0.00	0.00	0.0	0.000
26.100	0.000	0.00	0.00	0.00	0.0	0.000
26.116	0.000	0.00	0.00	0.00	0.0	0.000
26.133	0.000	0.00	0.00	0.00	0.0	0.000
26.150	0.000	0.00	0.00	0.00	0.0	0.000
26.166	0.000	0.00	0.00	0.00	0.0	0.000
26.183	0.000	0.00	0.00	0.00	0.0	0.000
26.200	0.000	0.00	0.00	0.00	0.0	0.000
26.216	0.000	0.00	0.00	0.00	0.0	0.000
26.233	0.000	0.00	0.00	0.00	0.0	0.000
26.250	0.000	0.00	0.00	0.00	0.0	0.000
26.266	0.000	0.00	0.00	0.00	0.0	0.000
26.283	0.000	0.00	0.00	0.00	0.0	0.000
26.300	0.000	0.00	0.00	0.00	0.0	0.000
26.316	0.000	0.00	0.00	0.00	0.0	0.000
26.333	0.000	0.00	0.00	0.00	0.0	0.000
26.350	0.000	0.00	0.00	0.00	0.0	0.000
26.366	0.000	0.00	0.00	0.00	0.0	0.000
26.383	0.000	0.00	0.00	0.00	0.0	0.000
26.400	0.000	0.00	0.00	0.00	0.0	0.000
26.416	0.000	0.00	0.00	0.00	0.0	0.000
26.433	0.000	0.00	0.00	0.00	0.0	0.000
26.450	0.000	0.00	0.00	0.00	0.0	0.000
26.466	0.000	0.00	0.00	0.00	0.0	0.000
26.483	0.000	0.00	0.00	0.00	0.0	0.000
26.500	0.000	0.00	0.00	0.00	0.0	0.000
26.516	0.000	0.00	0.00	0.00	0.0	0.000
26.533	0.000	0.00	0.00	0.00	0.0	0.000
26.550	0.000	0.00	0.00	0.00	0.0	0.000
26.566	0.000	0.00	0.00	0.00	0.0	0.000
26.583	0.000	0.00	0.00	0.00	0.0	0.000
26.600	0.000	0.00	0.00	0.00	0.0	0.000
26.616	0.000	0.00	0.00	0.00	0.0	0.000
26.633	0.000	0.00	0.00	0.00	0.0	0.000
26.650	0.000	0.00	0.00	0.00	0.0	0.000
26.666	0.000	0.00	0.00	0.00	0.0	0.000
26.683	0.000	0.00	0.00	0.00	0.0	0.000
26.700	0.000	0.00	0.00	0.00	0.0	0.000
26.716	0.000	0.00	0.00	0.00	0.0	0.000
26.733	0.000	0.00	0.00	0.00	0.0	0.000
26.750	0.000	0.00	0.00	0.00	0.0	0.000
26.766	0.000	0.00	0.00	0.00	0.0	0.000
26.783	0.000	0.00	0.00	0.00	0.0	0.000
26.800	0.000	0.00	0.00	0.00	0.0	0.000
26.816	0.000	0.00	0.00	0.00	0.0	0.000
26.833	0.000	0.00	0.00	0.00	0.0	0.000
26.850	0.000	0.00	0.00	0.00	0.0	0.000
26.866	0.000	0.00	0.00	0.00	0.0	0.000
26.883	0.000	0.00	0.00	0.00	0.0	0.000
26.900	0.000	0.00	0.00	0.00	0.0	0.000
26.916	0.000	0.00	0.00	0.00	0.0	0.000
26.933	0.000	0.00	0.00	0.00	0.0	0.000
26.950	0.000	0.00	0.00	0.00	0.0	0.000
26.966	0.000	0.00	0.00	0.00	0.0	0.000
26.983	0.000	0.00	0.00	0.00	0.0	0.000
27.000	0.000	0.00	0.00	0.00	0.0	0.000
27.016	0.000	0.00	0.00	0.00	0.0	0.000
27.033	0.000	0.00	0.00	0.00	0.0	0.000
27.050	0.000	0.00	0.00	0.00	0.0	0.000
27.066	0.000	0.00	0.00	0.00	0.0	0.000
27.083	0.000	0.00	0.00	0.00	0.0	0.000
27.100	0.000	0.00	0.00	0.00	0.0	0.000
27.116	0.000	0.00	0.00	0.00	0.0	0.000
27.133	0.000	0.00	0.00	0.00	0.0	0.000
27.150	0.000	0.00	0.00	0.00	0.0	0.000
27.166	0.000	0.00	0.00	0.00	0.0	0.000
27.183	0.000	0.00	0.00	0.00	0.0	0.000
27.200	0.000	0.00	0.00	0.00	0.0	0.000
27.216	0.000	0.00	0.00	0.00	0.0	0.000

27.233	0.000	0.00	0.00	0.00	0.0	0.000
27.250	0.000	0.00	0.00	0.00	0.0	0.000
27.266	0.000	0.00	0.00	0.00	0.0	0.000
27.283	0.000	0.00	0.00	0.00	0.0	0.000
27.300	0.000	0.00	0.00	0.00	0.0	0.000
27.316	0.000	0.00	0.00	0.00	0.0	0.000
27.333	0.000	0.00	0.00	0.00	0.0	0.000
27.350	0.000	0.00	0.00	0.00	0.0	0.000
27.366	0.000	0.00	0.00	0.00	0.0	0.000
27.383	0.000	0.00	0.00	0.00	0.0	0.000
27.400	0.000	0.00	0.00	0.00	0.0	0.000
27.416	0.000	0.00	0.00	0.00	0.0	0.000
27.433	0.000	0.00	0.00	0.00	0.0	0.000
27.450	0.000	0.00	0.00	0.00	0.0	0.000
27.466	0.000	0.00	0.00	0.00	0.0	0.000
27.483	0.000	0.00	0.00	0.00	0.0	0.000
27.500	0.000	0.00	0.00	0.00	0.0	0.000
27.516	0.000	0.00	0.00	0.00	0.0	0.000
27.533	0.000	0.00	0.00	0.00	0.0	0.000
27.550	0.000	0.00	0.00	0.00	0.0	0.000
27.566	0.000	0.00	0.00	0.00	0.0	0.000
27.583	0.000	0.00	0.00	0.00	0.0	0.000
27.600	0.000	0.00	0.00	0.00	0.0	0.000
27.616	0.000	0.00	0.00	0.00	0.0	0.000
27.633	0.000	0.00	0.00	0.00	0.0	0.000
27.650	0.000	0.00	0.00	0.00	0.0	0.000
27.666	0.000	0.00	0.00	0.00	0.0	0.000
27.683	0.000	0.00	0.00	0.00	0.0	0.000
27.700	0.000	0.00	0.00	0.00	0.0	0.000
27.716	0.000	0.00	0.00	0.00	0.0	0.000
27.733	0.000	0.00	0.00	0.00	0.0	0.000
27.750	0.000	0.00	0.00	0.00	0.0	0.000
27.766	0.000	0.00	0.00	0.00	0.0	0.000
27.783	0.000	0.00	0.00	0.00	0.0	0.000
27.800	0.000	0.00	0.00	0.00	0.0	0.000
27.816	0.000	0.00	0.00	0.00	0.0	0.000
27.833	0.000	0.00	0.00	0.00	0.0	0.000
27.850	0.000	0.00	0.00	0.00	0.0	0.000
27.866	0.000	0.00	0.00	0.00	0.0	0.000
27.883	0.000	0.00	0.00	0.00	0.0	0.000
27.900	0.000	0.00	0.00	0.00	0.0	0.000
27.916	0.000	0.00	0.00	0.00	0.0	0.000
27.933	0.000	0.00	0.00	0.00	0.0	0.000
27.950	0.000	0.00	0.00	0.00	0.0	0.000
27.966	0.000	0.00	0.00	0.00	0.0	0.000
27.983	0.000	0.00	0.00	0.00	0.0	0.000
28.000	0.000	0.00	0.00	0.00	0.0	0.000
28.016	0.000	0.00	0.00	0.00	0.0	0.000
28.033	0.000	0.00	0.00	0.00	0.0	0.000
28.050	0.000	0.00	0.00	0.00	0.0	0.000
28.066	0.000	0.00	0.00	0.00	0.0	0.000
28.083	0.000	0.00	0.00	0.00	0.0	0.000
28.100	0.000	0.00	0.00	0.00	0.0	0.000
28.116	0.000	0.00	0.00	0.00	0.0	0.000
28.133	0.000	0.00	0.00	0.00	0.0	0.000
28.150	0.000	0.00	0.00	0.00	0.0	0.000
28.166	0.000	0.00	0.00	0.00	0.0	0.000
28.183	0.000	0.00	0.00	0.00	0.0	0.000
28.200	0.000	0.00	0.00	0.00	0.0	0.000
28.216	0.000	0.00	0.00	0.00	0.0	0.000
28.233	0.000	0.00	0.00	0.00	0.0	0.000
28.250	0.000	0.00	0.00	0.00	0.0	0.000
28.266	0.000	0.00	0.00	0.00	0.0	0.000
28.283	0.000	0.00	0.00	0.00	0.0	0.000
28.300	0.000	0.00	0.00	0.00	0.0	0.000
28.316	0.000	0.00	0.00	0.00	0.0	0.000
28.333	0.000	0.00	0.00	0.00	0.0	0.000
28.350	0.000	0.00	0.00	0.00	0.0	0.000
28.366	0.000	0.00	0.00	0.00	0.0	0.000
28.383	0.000	0.00	0.00	0.00	0.0	0.000
28.400	0.000	0.00	0.00	0.00	0.0	0.000
28.416	0.000	0.00	0.00	0.00	0.0	0.000
28.433	0.000	0.00	0.00	0.00	0.0	0.000
28.450	0.000	0.00	0.00	0.00	0.0	0.000
28.466	0.000	0.00	0.00	0.00	0.0	0.000
28.483	0.000	0.00	0.00	0.00	0.0	0.000
28.500	0.000	0.00	0.00	0.00	0.0	0.000
28.516	0.000	0.00	0.00	0.00	0.0	0.000
28.533	0.000	0.00	0.00	0.00	0.0	0.000

28.550	0.000	0.00	0.00	0.00	0.0	0.000
28.566	0.000	0.00	0.00	0.00	0.0	0.000
28.583	0.000	0.00	0.00	0.00	0.0	0.000
28.600	0.000	0.00	0.00	0.00	0.0	0.000
28.616	0.000	0.00	0.00	0.00	0.0	0.000
28.633	0.000	0.00	0.00	0.00	0.0	0.000
28.650	0.000	0.00	0.00	0.00	0.0	0.000
28.666	0.000	0.00	0.00	0.00	0.0	0.000
28.683	0.000	0.00	0.00	0.00	0.0	0.000
28.700	0.000	0.00	0.00	0.00	0.0	0.000
28.716	0.000	0.00	0.00	0.00	0.0	0.000
28.733	0.000	0.00	0.00	0.00	0.0	0.000
28.750	0.000	0.00	0.00	0.00	0.0	0.000
28.766	0.000	0.00	0.00	0.00	0.0	0.000
28.783	0.000	0.00	0.00	0.00	0.0	0.000
28.800	0.000	0.00	0.00	0.00	0.0	0.000
28.816	0.000	0.00	0.00	0.00	0.0	0.000
28.833	0.000	0.00	0.00	0.00	0.0	0.000
28.850	0.000	0.00	0.00	0.00	0.0	0.000
28.866	0.000	0.00	0.00	0.00	0.0	0.000
28.883	0.000	0.00	0.00	0.00	0.0	0.000
28.900	0.000	0.00	0.00	0.00	0.0	0.000
28.916	0.000	0.00	0.00	0.00	0.0	0.000
28.933	0.000	0.00	0.00	0.00	0.0	0.000
28.950	0.000	0.00	0.00	0.00	0.0	0.000
28.966	0.000	0.00	0.00	0.00	0.0	0.000
28.983	0.000	0.00	0.00	0.00	0.0	0.000
29.000	0.000	0.00	0.00	0.00	0.0	0.000
29.016	0.000	0.00	0.00	0.00	0.0	0.000
29.033	0.000	0.00	0.00	0.00	0.0	0.000
29.050	0.000	0.00	0.00	0.00	0.0	0.000
29.066	0.000	0.00	0.00	0.00	0.0	0.000
29.083	0.000	0.00	0.00	0.00	0.0	0.000
29.100	0.000	0.00	0.00	0.00	0.0	0.000
29.116	0.000	0.00	0.00	0.00	0.0	0.000
29.133	0.000	0.00	0.00	0.00	0.0	0.000
29.150	0.000	0.00	0.00	0.00	0.0	0.000
29.166	0.000	0.00	0.00	0.00	0.0	0.000
29.183	0.000	0.00	0.00	0.00	0.0	0.000
29.200	0.000	0.00	0.00	0.00	0.0	0.000
29.216	0.000	0.00	0.00	0.00	0.0	0.000
29.233	0.000	0.00	0.00	0.00	0.0	0.000
29.250	0.000	0.00	0.00	0.00	0.0	0.000
29.266	0.000	0.00	0.00	0.00	0.0	0.000
29.283	0.000	0.00	0.00	0.00	0.0	0.000
29.300	0.000	0.00	0.00	0.00	0.0	0.000
29.316	0.000	0.00	0.00	0.00	0.0	0.000
29.333	0.000	0.00	0.00	0.00	0.0	0.000
29.350	0.000	0.00	0.00	0.00	0.0	0.000
29.366	0.000	0.00	0.00	0.00	0.0	0.000
29.383	0.000	0.00	0.00	0.00	0.0	0.000
29.400	0.000	0.00	0.00	0.00	0.0	0.000
29.416	0.000	0.00	0.00	0.00	0.0	0.000
29.433	0.000	0.00	0.00	0.00	0.0	0.000
29.450	0.000	0.00	0.00	0.00	0.0	0.000
29.466	0.000	0.00	0.00	0.00	0.0	0.000
29.483	0.000	0.00	0.00	0.00	0.0	0.000
29.500	0.000	0.00	0.00	0.00	0.0	0.000
29.516	0.000	0.00	0.00	0.00	0.0	0.000
29.533	0.000	0.00	0.00	0.00	0.0	0.000
29.550	0.000	0.00	0.00	0.00	0.0	0.000
29.566	0.000	0.00	0.00	0.00	0.0	0.000
29.583	0.000	0.00	0.00	0.00	0.0	0.000
29.600	0.000	0.00	0.00	0.00	0.0	0.000
29.616	0.000	0.00	0.00	0.00	0.0	0.000
29.633	0.000	0.00	0.00	0.00	0.0	0.000
29.650	0.000	0.00	0.00	0.00	0.0	0.000
29.666	0.000	0.00	0.00	0.00	0.0	0.000
29.683	0.000	0.00	0.00	0.00	0.0	0.000
29.700	0.000	0.00	0.00	0.00	0.0	0.000
29.716	0.000	0.00	0.00	0.00	0.0	0.000
29.733	0.000	0.00	0.00	0.00	0.0	0.000
29.750	0.000	0.00	0.00	0.00	0.0	0.000
29.766	0.000	0.00	0.00	0.00	0.0	0.000
29.783	0.000	0.00	0.00	0.00	0.0	0.000
29.800	0.000	0.00	0.00	0.00	0.0	0.000
29.816	0.000	0.00	0.00	0.00	0.0	0.000
29.833	0.000	0.00	0.00	0.00	0.0	0.000
29.850	0.000	0.00	0.00	0.00	0.0	0.000

29.866	0.000	0.00	0.00	0.00	0.0	0.000
29.883	0.000	0.00	0.00	0.00	0.0	0.000
29.900	0.000	0.00	0.00	0.00	0.0	0.000
29.916	0.000	0.00	0.00	0.00	0.0	0.000
29.933	0.000	0.00	0.00	0.00	0.0	0.000
29.950	0.000	0.00	0.00	0.00	0.0	0.000
29.966	0.000	0.00	0.00	0.00	0.0	0.000
29.983	0.000	0.00	0.00	0.00	0.0	0.000
30.000	0.000	0.00	0.00	0.00	0.0	0.000
30.016	0.000	0.00	0.00	0.00	0.0	0.000
30.033	0.000	0.00	0.00	0.00	0.0	0.000
30.050	0.000	0.00	0.00	0.00	0.0	0.000
30.066	0.000	0.00	0.00	0.00	0.0	0.000
30.083	0.000	0.00	0.00	0.00	0.0	0.000
30.100	0.000	0.00	0.00	0.00	0.0	0.000
30.116	0.000	0.00	0.00	0.00	0.0	0.000
30.133	0.000	0.00	0.00	0.00	0.0	0.000
30.150	0.000	0.00	0.00	0.00	0.0	0.000
30.166	0.000	0.00	0.00	0.00	0.0	0.000
30.183	0.000	0.00	0.00	0.00	0.0	0.000
30.200	0.000	0.00	0.00	0.00	0.0	0.000
30.216	0.000	0.00	0.00	0.00	0.0	0.000
30.233	0.000	0.00	0.00	0.00	0.0	0.000
30.250	0.000	0.00	0.00	0.00	0.0	0.000
30.266	0.000	0.00	0.00	0.00	0.0	0.000
30.283	0.000	0.00	0.00	0.00	0.0	0.000
30.300	0.000	0.00	0.00	0.00	0.0	0.000
30.316	0.000	0.00	0.00	0.00	0.0	0.000
30.333	0.000	0.00	0.00	0.00	0.0	0.000
30.350	0.000	0.00	0.00	0.00	0.0	0.000
30.366	0.000	0.00	0.00	0.00	0.0	0.000
30.383	0.000	0.00	0.00	0.00	0.0	0.000
30.400	0.000	0.00	0.00	0.00	0.0	0.000
30.416	0.000	0.00	0.00	0.00	0.0	0.000
30.433	0.000	0.00	0.00	0.00	0.0	0.000
30.450	0.000	0.00	0.00	0.00	0.0	0.000
30.466	0.000	0.00	0.00	0.00	0.0	0.000
30.483	0.000	0.00	0.00	0.00	0.0	0.000
30.500	0.000	0.00	0.00	0.00	0.0	0.000
30.516	0.000	0.00	0.00	0.00	0.0	0.000
30.533	0.000	0.00	0.00	0.00	0.0	0.000
30.550	0.000	0.00	0.00	0.00	0.0	0.000
30.566	0.000	0.00	0.00	0.00	0.0	0.000
30.583	0.000	0.00	0.00	0.00	0.0	0.000
30.600	0.000	0.00	0.00	0.00	0.0	0.000
30.616	0.000	0.00	0.00	0.00	0.0	0.000
30.633	0.000	0.00	0.00	0.00	0.0	0.000
30.650	0.000	0.00	0.00	0.00	0.0	0.000
30.666	0.000	0.00	0.00	0.00	0.0	0.000
30.683	0.000	0.00	0.00	0.00	0.0	0.000
30.700	0.000	0.00	0.00	0.00	0.0	0.000
30.716	0.000	0.00	0.00	0.00	0.0	0.000
30.733	0.000	0.00	0.00	0.00	0.0	0.000
30.750	0.000	0.00	0.00	0.00	0.0	0.000
30.766	0.000	0.00	0.00	0.00	0.0	0.000
30.783	0.000	0.00	0.00	0.00	0.0	0.000
30.800	0.000	0.00	0.00	0.00	0.0	0.000
30.816	0.000	0.00	0.00	0.00	0.0	0.000
30.833	0.000	0.00	0.00	0.00	0.0	0.000
30.850	0.000	0.00	0.00	0.00	0.0	0.000
30.866	0.000	0.00	0.00	0.00	0.0	0.000
30.883	0.000	0.00	0.00	0.00	0.0	0.000
30.900	0.000	0.00	0.00	0.00	0.0	0.000
30.916	0.000	0.00	0.00	0.00	0.0	0.000
30.933	0.000	0.00	0.00	0.00	0.0	0.000
30.950	0.000	0.00	0.00	0.00	0.0	0.000
30.966	0.000	0.00	0.00	0.00	0.0	0.000
30.983	0.000	0.00	0.00	0.00	0.0	0.000
31.000	0.000	0.00	0.00	0.00	0.0	0.000
31.016	0.000	0.00	0.00	0.00	0.0	0.000
31.033	0.000	0.00	0.00	0.00	0.0	0.000
31.050	0.000	0.00	0.00	0.00	0.0	0.000
31.066	0.000	0.00	0.00	0.00	0.0	0.000
31.083	0.000	0.00	0.00	0.00	0.0	0.000
31.100	0.000	0.00	0.00	0.00	0.0	0.000
31.116	0.000	0.00	0.00	0.00	0.0	0.000
31.133	0.000	0.00	0.00	0.00	0.0	0.000
31.150	0.000	0.00	0.00	0.00	0.0	0.000
31.166	0.000	0.00	0.00	0.00	0.0	0.000

31.183	0.000	0.00	0.00	0.00	0.0	0.000
31.200	0.000	0.00	0.00	0.00	0.0	0.000
31.216	0.000	0.00	0.00	0.00	0.0	0.000
31.233	0.000	0.00	0.00	0.00	0.0	0.000
31.250	0.000	0.00	0.00	0.00	0.0	0.000
31.266	0.000	0.00	0.00	0.00	0.0	0.000
31.283	0.000	0.00	0.00	0.00	0.0	0.000
31.300	0.000	0.00	0.00	0.00	0.0	0.000
31.316	0.000	0.00	0.00	0.00	0.0	0.000
31.333	0.000	0.00	0.00	0.00	0.0	0.000
31.350	0.000	0.00	0.00	0.00	0.0	0.000
31.366	0.000	0.00	0.00	0.00	0.0	0.000
31.383	0.000	0.00	0.00	0.00	0.0	0.000
31.400	0.000	0.00	0.00	0.00	0.0	0.000
31.416	0.000	0.00	0.00	0.00	0.0	0.000
31.433	0.000	0.00	0.00	0.00	0.0	0.000
31.450	0.000	0.00	0.00	0.00	0.0	0.000
31.466	0.000	0.00	0.00	0.00	0.0	0.000
31.483	0.000	0.00	0.00	0.00	0.0	0.000
31.500	0.000	0.00	0.00	0.00	0.0	0.000
31.516	0.000	0.00	0.00	0.00	0.0	0.000
31.533	0.000	0.00	0.00	0.00	0.0	0.000
31.550	0.000	0.00	0.00	0.00	0.0	0.000
31.566	0.000	0.00	0.00	0.00	0.0	0.000
31.583	0.000	0.00	0.00	0.00	0.0	0.000
31.600	0.000	0.00	0.00	0.00	0.0	0.000
31.616	0.000	0.00	0.00	0.00	0.0	0.000
31.633	0.000	0.00	0.00	0.00	0.0	0.000
31.650	0.000	0.00	0.00	0.00	0.0	0.000
31.666	0.000	0.00	0.00	0.00	0.0	0.000
31.683	0.000	0.00	0.00	0.00	0.0	0.000
31.700	0.000	0.00	0.00	0.00	0.0	0.000
31.716	0.000	0.00	0.00	0.00	0.0	0.000
31.733	0.000	0.00	0.00	0.00	0.0	0.000
31.750	0.000	0.00	0.00	0.00	0.0	0.000
31.766	0.000	0.00	0.00	0.00	0.0	0.000
31.783	0.000	0.00	0.00	0.00	0.0	0.000
31.800	0.000	0.00	0.00	0.00	0.0	0.000
31.816	0.000	0.00	0.00	0.00	0.0	0.000
31.833	0.000	0.00	0.00	0.00	0.0	0.000
31.850	0.000	0.00	0.00	0.00	0.0	0.000
31.866	0.000	0.00	0.00	0.00	0.0	0.000
31.883	0.000	0.00	0.00	0.00	0.0	0.000
31.900	0.000	0.00	0.00	0.00	0.0	0.000
31.916	0.000	0.00	0.00	0.00	0.0	0.000
31.933	0.000	0.00	0.00	0.00	0.0	0.000
31.950	0.000	0.00	0.00	0.00	0.0	0.000
31.966	0.000	0.00	0.00	0.00	0.0	0.000
31.983	0.000	0.00	0.00	0.00	0.0	0.000
32.000	0.000	0.00	0.00	0.00	0.0	0.000
32.016	0.000	0.00	0.00	0.00	0.0	0.000
32.033	0.000	0.00	0.00	0.00	0.0	0.000
32.050	0.000	0.00	0.00	0.00	0.0	0.000
32.066	0.000	0.00	0.00	0.00	0.0	0.000
32.083	0.000	0.00	0.00	0.00	0.0	0.000
32.100	0.000	0.00	0.00	0.00	0.0	0.000
32.116	0.000	0.00	0.00	0.00	0.0	0.000
32.133	0.000	0.00	0.00	0.00	0.0	0.000
32.150	0.000	0.00	0.00	0.00	0.0	0.000
32.166	0.000	0.00	0.00	0.00	0.0	0.000
32.183	0.000	0.00	0.00	0.00	0.0	0.000
32.200	0.000	0.00	0.00	0.00	0.0	0.000
32.216	0.000	0.00	0.00	0.00	0.0	0.000
32.233	0.000	0.00	0.00	0.00	0.0	0.000
32.250	0.000	0.00	0.00	0.00	0.0	0.000
32.266	0.000	0.00	0.00	0.00	0.0	0.000
32.283	0.000	0.00	0.00	0.00	0.0	0.000
32.300	0.000	0.00	0.00	0.00	0.0	0.000
32.316	0.000	0.00	0.00	0.00	0.0	0.000
32.333	0.000	0.00	0.00	0.00	0.0	0.000
32.350	0.000	0.00	0.00	0.00	0.0	0.000
32.366	0.000	0.00	0.00	0.00	0.0	0.000
32.383	0.000	0.00	0.00	0.00	0.0	0.000
32.400	0.000	0.00	0.00	0.00	0.0	0.000
32.416	0.000	0.00	0.00	0.00	0.0	0.000
32.433	0.000	0.00	0.00	0.00	0.0	0.000
32.450	0.000	0.00	0.00	0.00	0.0	0.000
32.466	0.000	0.00	0.00	0.00	0.0	0.000
32.483	0.000	0.00	0.00	0.00	0.0	0.000

32.500	0.000	0.00	0.00	0.00	0.0	0.000
32.516	0.000	0.00	0.00	0.00	0.0	0.000
32.533	0.000	0.00	0.00	0.00	0.0	0.000
32.550	0.000	0.00	0.00	0.00	0.0	0.000
32.566	0.000	0.00	0.00	0.00	0.0	0.000
32.583	0.000	0.00	0.00	0.00	0.0	0.000
32.600	0.000	0.00	0.00	0.00	0.0	0.000
32.616	0.000	0.00	0.00	0.00	0.0	0.000
32.633	0.000	0.00	0.00	0.00	0.0	0.000
32.650	0.000	0.00	0.00	0.00	0.0	0.000
32.666	0.000	0.00	0.00	0.00	0.0	0.000
32.683	0.000	0.00	0.00	0.00	0.0	0.000
32.700	0.000	0.00	0.00	0.00	0.0	0.000
32.716	0.000	0.00	0.00	0.00	0.0	0.000
32.733	0.000	0.00	0.00	0.00	0.0	0.000
32.750	0.000	0.00	0.00	0.00	0.0	0.000
32.766	0.000	0.00	0.00	0.00	0.0	0.000
32.783	0.000	0.00	0.00	0.00	0.0	0.000
32.800	0.000	0.00	0.00	0.00	0.0	0.000
32.816	0.000	0.00	0.00	0.00	0.0	0.000
32.833	0.000	0.00	0.00	0.00	0.0	0.000
32.850	0.000	0.00	0.00	0.00	0.0	0.000
32.866	0.000	0.00	0.00	0.00	0.0	0.000
32.883	0.000	0.00	0.00	0.00	0.0	0.000
32.900	0.000	0.00	0.00	0.00	0.0	0.000
32.916	0.000	0.00	0.00	0.00	0.0	0.000
32.933	0.000	0.00	0.00	0.00	0.0	0.000
32.950	0.000	0.00	0.00	0.00	0.0	0.000
32.966	0.000	0.00	0.00	0.00	0.0	0.000
32.983	0.000	0.00	0.00	0.00	0.0	0.000
33.000	0.000	0.00	0.00	0.00	0.0	0.000
33.016	0.000	0.00	0.00	0.00	0.0	0.000
33.033	0.000	0.00	0.00	0.00	0.0	0.000
33.050	0.000	0.00	0.00	0.00	0.0	0.000
33.066	0.000	0.00	0.00	0.00	0.0	0.000
33.083	0.000	0.00	0.00	0.00	0.0	0.000
33.100	0.000	0.00	0.00	0.00	0.0	0.000
33.116	0.000	0.00	0.00	0.00	0.0	0.000
33.133	0.000	0.00	0.00	0.00	0.0	0.000
33.150	0.000	0.00	0.00	0.00	0.0	0.000
33.166	0.000	0.00	0.00	0.00	0.0	0.000
33.183	0.000	0.00	0.00	0.00	0.0	0.000
33.200	0.000	0.00	0.00	0.00	0.0	0.000
33.216	0.000	0.00	0.00	0.00	0.0	0.000
33.233	0.000	0.00	0.00	0.00	0.0	0.000
33.250	0.000	0.00	0.00	0.00	0.0	0.000
33.266	0.000	0.00	0.00	0.00	0.0	0.000
33.283	0.000	0.00	0.00	0.00	0.0	0.000
33.300	0.000	0.00	0.00	0.00	0.0	0.000
33.316	0.000	0.00	0.00	0.00	0.0	0.000
33.333	0.000	0.00	0.00	0.00	0.0	0.000
33.350	0.000	0.00	0.00	0.00	0.0	0.000
33.366	0.000	0.00	0.00	0.00	0.0	0.000
33.383	0.000	0.00	0.00	0.00	0.0	0.000
33.400	0.000	0.00	0.00	0.00	0.0	0.000
33.416	0.000	0.00	0.00	0.00	0.0	0.000
33.433	0.000	0.00	0.00	0.00	0.0	0.000
33.450	0.000	0.00	0.00	0.00	0.0	0.000
33.466	0.000	0.00	0.00	0.00	0.0	0.000
33.483	0.000	0.00	0.00	0.00	0.0	0.000
33.500	0.000	0.00	0.00	0.00	0.0	0.000
33.516	0.000	0.00	0.00	0.00	0.0	0.000
33.533	0.000	0.00	0.00	0.00	0.0	0.000
33.550	0.000	0.00	0.00	0.00	0.0	0.000
33.566	0.000	0.00	0.00	0.00	0.0	0.000
33.583	0.000	0.00	0.00	0.00	0.0	0.000
33.600	0.000	0.00	0.00	0.00	0.0	0.000
33.616	0.000	0.00	0.00	0.00	0.0	0.000
33.633	0.000	0.00	0.00	0.00	0.0	0.000
33.650	0.000	0.00	0.00	0.00	0.0	0.000
33.666	0.000	0.00	0.00	0.00	0.0	0.000
33.683	0.000	0.00	0.00	0.00	0.0	0.000
33.700	0.000	0.00	0.00	0.00	0.0	0.000
33.716	0.000	0.00	0.00	0.00	0.0	0.000
33.733	0.000	0.00	0.00	0.00	0.0	0.000
33.750	0.000	0.00	0.00	0.00	0.0	0.000
33.766	0.000	0.00	0.00	0.00	0.0	0.000
33.783	0.000	0.00	0.00	0.00	0.0	0.000
33.800	0.000	0.00	0.00	0.00	0.0	0.000

33.816	0.000	0.00	0.00	0.00	0.0	0.000
33.833	0.000	0.00	0.00	0.00	0.0	0.000
33.850	0.000	0.00	0.00	0.00	0.0	0.000
33.866	0.000	0.00	0.00	0.00	0.0	0.000
33.883	0.000	0.00	0.00	0.00	0.0	0.000
33.900	0.000	0.00	0.00	0.00	0.0	0.000
33.916	0.000	0.00	0.00	0.00	0.0	0.000
33.933	0.000	0.00	0.00	0.00	0.0	0.000
33.950	0.000	0.00	0.00	0.00	0.0	0.000
33.966	0.000	0.00	0.00	0.00	0.0	0.000
33.983	0.000	0.00	0.00	0.00	0.0	0.000
34.000	0.000	0.00	0.00	0.00	0.0	0.000
34.016	0.000	0.00	0.00	0.00	0.0	0.000
34.033	0.000	0.00	0.00	0.00	0.0	0.000
34.050	0.000	0.00	0.00	0.00	0.0	0.000
34.066	0.000	0.00	0.00	0.00	0.0	0.000
34.083	0.000	0.00	0.00	0.00	0.0	0.000
34.100	0.000	0.00	0.00	0.00	0.0	0.000
34.116	0.000	0.00	0.00	0.00	0.0	0.000
34.133	0.000	0.00	0.00	0.00	0.0	0.000
34.150	0.000	0.00	0.00	0.00	0.0	0.000
34.166	0.000	0.00	0.00	0.00	0.0	0.000
34.183	0.000	0.00	0.00	0.00	0.0	0.000
34.200	0.000	0.00	0.00	0.00	0.0	0.000
34.216	0.000	0.00	0.00	0.00	0.0	0.000
34.233	0.000	0.00	0.00	0.00	0.0	0.000
34.250	0.000	0.00	0.00	0.00	0.0	0.000
34.266	0.000	0.00	0.00	0.00	0.0	0.000
34.283	0.000	0.00	0.00	0.00	0.0	0.000
34.300	0.000	0.00	0.00	0.00	0.0	0.000
34.316	0.000	0.00	0.00	0.00	0.0	0.000
34.333	0.000	0.00	0.00	0.00	0.0	0.000
34.350	0.000	0.00	0.00	0.00	0.0	0.000
34.366	0.000	0.00	0.00	0.00	0.0	0.000
34.383	0.000	0.00	0.00	0.00	0.0	0.000
34.400	0.000	0.00	0.00	0.00	0.0	0.000
34.416	0.000	0.00	0.00	0.00	0.0	0.000
34.433	0.000	0.00	0.00	0.00	0.0	0.000
34.450	0.000	0.00	0.00	0.00	0.0	0.000
34.466	0.000	0.00	0.00	0.00	0.0	0.000
34.483	0.000	0.00	0.00	0.00	0.0	0.000
34.500	0.000	0.00	0.00	0.00	0.0	0.000
34.516	0.000	0.00	0.00	0.00	0.0	0.000
34.533	0.000	0.00	0.00	0.00	0.0	0.000
34.550	0.000	0.00	0.00	0.00	0.0	0.000
34.566	0.000	0.00	0.00	0.00	0.0	0.000
34.583	0.000	0.00	0.00	0.00	0.0	0.000
34.600	0.000	0.00	0.00	0.00	0.0	0.000
34.616	0.000	0.00	0.00	0.00	0.0	0.000
34.633	0.000	0.00	0.00	0.00	0.0	0.000
34.650	0.000	0.00	0.00	0.00	0.0	0.000
34.666	0.000	0.00	0.00	0.00	0.0	0.000
34.683	0.000	0.00	0.00	0.00	0.0	0.000
34.700	0.000	0.00	0.00	0.00	0.0	0.000
34.716	0.000	0.00	0.00	0.00	0.0	0.000
34.733	0.000	0.00	0.00	0.00	0.0	0.000
34.750	0.000	0.00	0.00	0.00	0.0	0.000
34.766	0.000	0.00	0.00	0.00	0.0	0.000
34.783	0.000	0.00	0.00	0.00	0.0	0.000
34.800	0.000	0.00	0.00	0.00	0.0	0.000
34.816	0.000	0.00	0.00	0.00	0.0	0.000
34.833	0.000	0.00	0.00	0.00	0.0	0.000
34.850	0.000	0.00	0.00	0.00	0.0	0.000
34.866	0.000	0.00	0.00	0.00	0.0	0.000
34.883	0.000	0.00	0.00	0.00	0.0	0.000
34.900	0.000	0.00	0.00	0.00	0.0	0.000
34.916	0.000	0.00	0.00	0.00	0.0	0.000
34.933	0.000	0.00	0.00	0.00	0.0	0.000
34.950	0.000	0.00	0.00	0.00	0.0	0.000
34.966	0.000	0.00	0.00	0.00	0.0	0.000
34.983	0.000	0.00	0.00	0.00	0.0	0.000
35.000	0.000	0.00	0.00	0.00	0.0	0.000
35.016	0.000	0.00	0.00	0.00	0.0	0.000
35.033	0.000	0.00	0.00	0.00	0.0	0.000
35.050	0.000	0.00	0.00	0.00	0.0	0.000
35.066	0.000	0.00	0.00	0.00	0.0	0.000
35.083	0.000	0.00	0.00	0.00	0.0	0.000
35.100	0.000	0.00	0.00	0.00	0.0	0.000
35.116	0.000	0.00	0.00	0.00	0.0	0.000

35.133	0.000	0.00	0.00	0.00	0.0	0.000
35.150	0.000	0.00	0.00	0.00	0.0	0.000
35.166	0.000	0.00	0.00	0.00	0.0	0.000
35.183	0.000	0.00	0.00	0.00	0.0	0.000
35.200	0.000	0.00	0.00	0.00	0.0	0.000
35.216	0.000	0.00	0.00	0.00	0.0	0.000
35.233	0.000	0.00	0.00	0.00	0.0	0.000
35.250	0.000	0.00	0.00	0.00	0.0	0.000
35.266	0.000	0.00	0.00	0.00	0.0	0.000
35.283	0.000	0.00	0.00	0.00	0.0	0.000
35.300	0.000	0.00	0.00	0.00	0.0	0.000
35.316	0.000	0.00	0.00	0.00	0.0	0.000
35.333	0.000	0.00	0.00	0.00	0.0	0.000
35.350	0.000	0.00	0.00	0.00	0.0	0.000
35.366	0.000	0.00	0.00	0.00	0.0	0.000
35.383	0.000	0.00	0.00	0.00	0.0	0.000
35.400	0.000	0.00	0.00	0.00	0.0	0.000
35.416	0.000	0.00	0.00	0.00	0.0	0.000
35.433	0.000	0.00	0.00	0.00	0.0	0.000
35.450	0.000	0.00	0.00	0.00	0.0	0.000
35.466	0.000	0.00	0.00	0.00	0.0	0.000
35.483	0.000	0.00	0.00	0.00	0.0	0.000
35.500	0.000	0.00	0.00	0.00	0.0	0.000
35.516	0.000	0.00	0.00	0.00	0.0	0.000
35.533	0.000	0.00	0.00	0.00	0.0	0.000
35.550	0.000	0.00	0.00	0.00	0.0	0.000
35.566	0.000	0.00	0.00	0.00	0.0	0.000
35.583	0.000	0.00	0.00	0.00	0.0	0.000
35.600	0.000	0.00	0.00	0.00	0.0	0.000
35.616	0.000	0.00	0.00	0.00	0.0	0.000
35.633	0.000	0.00	0.00	0.00	0.0	0.000
35.650	0.000	0.00	0.00	0.00	0.0	0.000
35.666	0.000	0.00	0.00	0.00	0.0	0.000
35.683	0.000	0.00	0.00	0.00	0.0	0.000
35.700	0.000	0.00	0.00	0.00	0.0	0.000
35.716	0.000	0.00	0.00	0.00	0.0	0.000
35.733	0.000	0.00	0.00	0.00	0.0	0.000
35.750	0.000	0.00	0.00	0.00	0.0	0.000
35.766	0.000	0.00	0.00	0.00	0.0	0.000
35.783	0.000	0.00	0.00	0.00	0.0	0.000
35.800	0.000	0.00	0.00	0.00	0.0	0.000
35.816	0.000	0.00	0.00	0.00	0.0	0.000
35.833	0.000	0.00	0.00	0.00	0.0	0.000
35.850	0.000	0.00	0.00	0.00	0.0	0.000
35.866	0.000	0.00	0.00	0.00	0.0	0.000
35.883	0.000	0.00	0.00	0.00	0.0	0.000
35.900	0.000	0.00	0.00	0.00	0.0	0.000
35.916	0.000	0.00	0.00	0.00	0.0	0.000
35.933	0.000	0.00	0.00	0.00	0.0	0.000
35.950	0.000	0.00	0.00	0.00	0.0	0.000
35.966	0.000	0.00	0.00	0.00	0.0	0.000
35.983	0.000	0.00	0.00	0.00	0.0	0.000
36.000	0.000	0.00	0.00	0.00	0.0	0.000

PROCESS SUMMARY OF STORAGE:
  INFLOW VOLUME = 3.912 AF
  BASIN STORAGE = 0.000 AF (WITH 0.000 AF INITIALLY FILLED)
  OUTFLOW VOLUME = 3.912 AF
  LOSS   VOLUME = 0.000 AF

==========

END OF FLOODSCx ROUTING ANALYSIS

JOB #3687 - 8996 ETIWANDA AVE, RANCHO CUCAMONGA
DETENTION IN BLDG 5 TRUCK YARD

Elevation	Depth (feet)	Area (sq. ft.)	Volume (c.f.)	Σ Volume (c.f.)	Σ Volume (ac-ft)	Q Discharge (cfs)
1103.71	0.00	0				
			26	26	0.00	8.9
1103.80	0.09	570				
			158	184	0.00	9.3
1103.90	0.19	2589				
			404	588	0.01	9.7
1104.00	0.29	5496				
			398	986	0.02	9.9
1104.06	0.35	7781				

```
**************************************************************************

          F L O O D   R O U T I N G   A N A L Y S I S
       USING COUNTY HYDROLOGY MANUAL OF SAN BERNARDINO(1986)
      (c) Copyright 1989-2016 Advanced Engineering Software (aes)
          Ver. 23.0  Release Date: 07/01/2016  License ID 1435

                    Analysis prepared by:



 ************************* DESCRIPTION OF STUDY *************************
* ETIWANDA DISTRIBUTION CENTER - RANCHO CUCAMONGA                        *
* PROPOSED CONDITION - BUILDING 5 - EAST - NODES 600-601                 *
* HYDROLOGIC ANALYSIS - 100-YEAR                                         *
 **************************************************************************

  FILE NAME: 3687P5EC.FLD
  TIME/DATE OF STUDY: 16:00 06/19/2023

   The Small Area Unit Hydrograph Procedures in Section J
   of the Hydrology Manual provides estimates of runoff
   hydrograph and runoff volume for watersheds whose time of
   concentration is less than 25 minutes. The PROGRAM User
   should check the applicability of using the small area unit
   hydrograph procedures, and follow the guidelines in
   Sections J and K.5 in complex watershed modeling.


**************************************************************************
  FLOW PROCESS FROM NODE     600.00 TO NODE     601.00 IS CODE = 1.2
--------------------------------------------------------------------------
  >>>>>SUBAREA RUNOFF (SMALL AREA UNIT-HYDROGRAPH ANALYSIS) <<<<<
==========================================================================

  (SMALL AREA UNIT-HYDROGRAPH ADDED TO STREAM #1)

    RATIONAL METHOD CALIBRATION COEFFICIENT = 0.90
    TOTAL CATCHMENT AREA(ACRES) =    2.40
    SOIL-LOSS RATE, Fm,(INCH/HR) =  0.042
    LOW LOSS FRACTION = 0.063
    TIME OF CONCENTRATION(MIN.) =  5.20
    SMALL AREA PEAK Q COMPUTED USING PEAK FLOW RATE FORMULA
    USER SPECIFIED RAINFALL VALUES ARE USED:
    RETURN FREQUENCY(YEARS) = 100
       5-MINUTE POINT RAINFALL VALUE(INCHES) =  0.50
      30-MINUTE POINT RAINFALL VALUE(INCHES) =  1.05
       1-HOUR   POINT RAINFALL VALUE(INCHES) =  1.38
       3-HOUR   POINT RAINFALL VALUE(INCHES) =  2.50
       6-HOUR   POINT RAINFALL VALUE(INCHES) =  3.70
      24-HOUR   POINT RAINFALL VALUE(INCHES) =  8.00

--------------------------------------------------------------------------
    TOTAL CATCHMENT   RUNOFF  VOLUME(ACRE-FEET) =     1.35
    TOTAL CATCHMENT SOIL-LOSS VOLUME(ACRE-FEET) =     0.25

--------------------------------------------------------------------------
♠
==========================================================================

                  2 4 - H O U R   S T O R M
                R U N O F F   H Y D R O G R A P H

==========================================================================
            HYDROGRAPH IN  ONE-MINUTE UNIT INTERVALS(CFS)
      (Notes: Time indicated is at END of Each Unit Intervals.
              Peak 5-minute rainfall intensity is modeled as
              a constant value for entire 5-minute period.)
--------------------------------------------------------------------------
 TIME(HRS) VOLUME(AF)   Q(CFS) 0.        3.1       6.3       9.4       12.6
--------------------------------------------------------------------------
   0.017      0.0000      0.00  Q         .         .         .         .
   0.033      0.0000      0.00  Q         .         .         .         .
   0.050      0.0000      0.00  Q         .         .         .         .
   0.067      0.0000      0.02  Q         .         .         .         .
```

0.083	0.0002	0.09	Q	.	.	.	.
0.100	0.0004	0.17	Q	.	.	.	.
0.117	0.0007	0.24	Q	.	.	.	.
0.133	0.0011	0.31	Q	.	.	.	.
0.150	0.0017	0.37	VQ	.	.	.	.
0.167	0.0022	0.38	VQ	.	.	.	.
0.183	0.0027	0.38	VQ	.	.	.	.
0.200	0.0032	0.38	VQ	.	.	.	.
0.217	0.0037	0.38	VQ	.	.	.	.
0.233	0.0043	0.38	VQ	.	.	.	.
0.250	0.0048	0.38	VQ	.	.	.	.
0.267	0.0053	0.38	VQ	.	.	.	.
0.283	0.0058	0.38	VQ	.	.	.	.
0.300	0.0063	0.38	VQ	.	.	.	.
0.317	0.0068	0.38	VQ	.	.	.	.
0.333	0.0074	0.38	VQ	.	.	.	.
0.350	0.0079	0.38	VQ	.	.	.	.
0.367	0.0084	0.38	VQ	.	.	.	.
0.383	0.0089	0.38	VQ	.	.	.	.
0.400	0.0095	0.38	VQ	.	.	.	.
0.417	0.0100	0.38	VQ	.	.	.	.
0.433	0.0105	0.38	VQ	.	.	.	.
0.450	0.0110	0.38	VQ	.	.	.	.
0.467	0.0115	0.38	VQ	.	.	.	.
0.483	0.0121	0.38	VQ	.	.	.	.
0.500	0.0126	0.38	VQ	.	.	.	.
0.517	0.0131	0.38	VQ	.	.	.	.
0.533	0.0136	0.38	VQ	.	.	.	.
0.550	0.0142	0.38	VQ	.	.	.	.
0.567	0.0147	0.38	VQ	.	.	.	.
0.583	0.0152	0.38	VQ	.	.	.	.
0.600	0.0157	0.38	VQ	.	.	.	.
0.617	0.0163	0.38	VQ	.	.	.	.
0.633	0.0168	0.38	VQ	.	.	.	.
0.650	0.0173	0.38	VQ	.	.	.	.
0.667	0.0178	0.38	VQ	.	.	.	.
0.683	0.0184	0.38	VQ	.	.	.	.
0.700	0.0189	0.38	VQ	.	.	.	.
0.717	0.0194	0.38	VQ	.	.	.	.
0.733	0.0199	0.38	VQ	.	.	.	.
0.750	0.0205	0.38	VQ	.	.	.	.
0.767	0.0210	0.38	VQ	.	.	.	.
0.783	0.0215	0.38	VQ	.	.	.	.
0.800	0.0220	0.38	VQ	.	.	.	.
0.817	0.0226	0.38	VQ	.	.	.	.
0.833	0.0231	0.38	VQ	.	.	.	.
0.850	0.0236	0.38	VQ	.	.	.	.
0.867	0.0242	0.38	VQ	.	.	.	.
0.883	0.0247	0.38	VQ	.	.	.	.
0.900	0.0252	0.38	VQ	.	.	.	.
0.917	0.0257	0.38	VQ	.	.	.	.
0.933	0.0263	0.38	VQ	.	.	.	.
0.950	0.0268	0.38	VQ	.	.	.	.
0.967	0.0273	0.38	VQ	.	.	.	.
0.983	0.0279	0.39	VQ	.	.	.	.
1.000	0.0284	0.39	VQ	.	.	.	.
1.017	0.0289	0.39	VQ	.	.	.	.
1.033	0.0295	0.39	VQ	.	.	.	.
1.050	0.0300	0.39	VQ	.	.	.	.
1.067	0.0305	0.39	VQ	.	.	.	.
1.083	0.0311	0.39	VQ	.	.	.	.
1.100	0.0316	0.39	VQ	.	.	.	.
1.117	0.0321	0.39	VQ	.	.	.	.
1.133	0.0327	0.39	VQ	.	.	.	.
1.150	0.0332	0.39	VQ	.	.	.	.
1.167	0.0337	0.39	.Q	.	.	.	.
1.183	0.0343	0.39	.Q	.	.	.	.
1.200	0.0348	0.39	.Q	.	.	.	.
1.217	0.0353	0.39	.Q	.	.	.	.
1.233	0.0359	0.39	.Q	.	.	.	.
1.250	0.0364	0.39	.Q	.	.	.	.
1.267	0.0369	0.39	.Q	.	.	.	.
1.283	0.0375	0.39	.Q	.	.	.	.
1.300	0.0380	0.39	.Q	.	.	.	.
1.317	0.0385	0.39	.Q	.	.	.	.
1.333	0.0391	0.39	.Q	.	.	.	.
1.350	0.0396	0.39	.Q	.	.	.	.
1.367	0.0401	0.39	.Q	.	.	.	.
1.383	0.0407	0.39	.Q	.	.	.	.

1.400	0.0412	0.39	.Q	.	.	.	.
1.417	0.0417	0.39	.Q	.	.	.	.
1.433	0.0423	0.39	.Q	.	.	.	.
1.450	0.0428	0.39	.Q	.	.	.	.
1.467	0.0434	0.39	.Q	.	.	.	.
1.483	0.0439	0.39	.Q	.	.	.	.
1.500	0.0444	0.39	.Q	.	.	.	.
1.517	0.0450	0.39	.Q	.	.	.	.
1.533	0.0455	0.39	.Q	.	.	.	.
1.550	0.0461	0.39	.Q	.	.	.	.
1.567	0.0466	0.39	.Q	.	.	.	.
1.583	0.0471	0.39	.Q	.	.	.	.
1.600	0.0477	0.39	.Q	.	.	.	.
1.617	0.0482	0.39	.Q	.	.	.	.
1.633	0.0488	0.39	.Q	.	.	.	.
1.650	0.0493	0.39	.Q	.	.	.	.
1.667	0.0498	0.39	.Q	.	.	.	.
1.683	0.0504	0.39	.Q	.	.	.	.
1.700	0.0509	0.39	.Q	.	.	.	.
1.717	0.0515	0.39	.Q	.	.	.	.
1.733	0.0520	0.39	.Q	.	.	.	.
1.750	0.0526	0.39	.Q	.	.	.	.
1.767	0.0531	0.39	.Q	.	.	.	.
1.783	0.0536	0.39	.Q	.	.	.	.
1.800	0.0542	0.39	.Q	.	.	.	.
1.817	0.0547	0.39	.Q	.	.	.	.
1.833	0.0553	0.40	.Q	.	.	.	.
1.850	0.0558	0.40	.Q	.	.	.	.
1.867	0.0564	0.40	.Q	.	.	.	.
1.883	0.0569	0.40	.Q	.	.	.	.
1.900	0.0574	0.40	.Q	.	.	.	.
1.917	0.0580	0.40	.Q	.	.	.	.
1.933	0.0585	0.40	.Q	.	.	.	.
1.950	0.0591	0.40	.Q	.	.	.	.
1.967	0.0596	0.40	.Q	.	.	.	.
1.983	0.0602	0.40	.Q	.	.	.	.
2.000	0.0607	0.40	.Q	.	.	.	.
2.017	0.0613	0.40	.Q	.	.	.	.
2.033	0.0618	0.40	.Q	.	.	.	.
2.050	0.0624	0.40	.Q	.	.	.	.
2.067	0.0629	0.40	.Q	.	.	.	.
2.083	0.0635	0.40	.Q	.	.	.	.
2.100	0.0640	0.40	.Q	.	.	.	.
2.117	0.0646	0.40	.Q	.	.	.	.
2.133	0.0651	0.40	.Q	.	.	.	.
2.150	0.0657	0.40	.Q	.	.	.	.
2.167	0.0662	0.40	.Q	.	.	.	.
2.183	0.0668	0.40	.Q	.	.	.	.
2.200	0.0673	0.40	.Q	.	.	.	.
2.217	0.0679	0.40	.QV	.	.	.	.
2.233	0.0684	0.40	.QV	.	.	.	.
2.250	0.0690	0.40	.QV	.	.	.	.
2.267	0.0695	0.40	.QV	.	.	.	.
2.283	0.0701	0.40	.QV	.	.	.	.
2.300	0.0706	0.40	.QV	.	.	.	.
2.317	0.0712	0.40	.QV	.	.	.	.
2.333	0.0717	0.40	.QV	.	.	.	.
2.350	0.0723	0.40	.QV	.	.	.	.
2.367	0.0728	0.40	.QV	.	.	.	.
2.383	0.0734	0.40	.QV	.	.	.	.
2.400	0.0739	0.40	.QV	.	.	.	.
2.417	0.0745	0.40	.QV	.	.	.	.
2.433	0.0751	0.40	.QV	.	.	.	.
2.450	0.0756	0.40	.QV	.	.	.	.
2.467	0.0762	0.40	.QV	.	.	.	.
2.483	0.0767	0.40	.QV	.	.	.	.
2.500	0.0773	0.40	.QV	.	.	.	.
2.517	0.0778	0.40	.QV	.	.	.	.
2.533	0.0784	0.40	.QV	.	.	.	.
2.550	0.0789	0.40	.QV	.	.	.	.
2.567	0.0795	0.40	.QV	.	.	.	.
2.583	0.0801	0.40	.QV	.	.	.	.
2.600	0.0806	0.40	.QV	.	.	.	.
2.617	0.0812	0.41	.QV	.	.	.	.
2.633	0.0817	0.41	.QV	.	.	.	.
2.650	0.0823	0.41	.QV	.	.	.	.
2.667	0.0828	0.41	.QV	.	.	.	.
2.683	0.0834	0.41	.QV	.	.	.	.
2.700	0.0840	0.41	.QV	.	.	.	.

2.717	0.0845	0.41	.QV	.	.	.	.
2.733	0.0851	0.41	.QV	.	.	.	.
2.750	0.0856	0.41	.QV	.	.	.	.
2.767	0.0862	0.41	.QV	.	.	.	.
2.783	0.0868	0.41	.QV	.	.	.	.
2.800	0.0873	0.41	.QV	.	.	.	.
2.817	0.0879	0.41	.QV	.	.	.	.
2.833	0.0885	0.41	.QV	.	.	.	.
2.850	0.0890	0.41	.QV	.	.	.	.
2.867	0.0896	0.41	.QV	.	.	.	.
2.883	0.0901	0.41	.QV	.	.	.	.
2.900	0.0907	0.41	.QV	.	.	.	.
2.917	0.0913	0.41	.QV	.	.	.	.
2.933	0.0918	0.41	.QV	.	.	.	.
2.950	0.0924	0.41	.QV	.	.	.	.
2.967	0.0930	0.41	.QV	.	.	.	.
2.983	0.0935	0.41	.QV	.	.	.	.
3.000	0.0941	0.41	.QV	.	.	.	.
3.017	0.0947	0.41	.QV	.	.	.	.
3.033	0.0952	0.41	.QV	.	.	.	.
3.050	0.0958	0.41	.QV	.	.	.	.
3.067	0.0964	0.41	.QV	.	.	.	.
3.083	0.0969	0.41	.QV	.	.	.	.
3.100	0.0975	0.41	.QV	.	.	.	.
3.117	0.0981	0.41	.QV	.	.	.	.
3.133	0.0986	0.41	.QV	.	.	.	.
3.150	0.0992	0.41	.QV	.	.	.	.
3.167	0.0998	0.41	.QV	.	.	.	.
3.183	0.1003	0.41	.QV	.	.	.	.
3.200	0.1009	0.41	.QV	.	.	.	.
3.217	0.1015	0.41	.Q V	.	.	.	.
3.233	0.1020	0.41	.Q V	.	.	.	.
3.250	0.1026	0.41	.Q V	.	.	.	.
3.267	0.1032	0.41	.Q V	.	.	.	.
3.283	0.1038	0.41	.Q V	.	.	.	.
3.300	0.1043	0.41	.Q V	.	.	.	.
3.317	0.1049	0.41	.Q V	.	.	.	.
3.333	0.1055	0.41	.Q V	.	.	.	.
3.350	0.1060	0.42	.Q V	.	.	.	.
3.367	0.1066	0.42	.Q V	.	.	.	.
3.383	0.1072	0.42	.Q V	.	.	.	.
3.400	0.1078	0.42	.Q V	.	.	.	.
3.417	0.1083	0.42	.Q V	.	.	.	.
3.433	0.1089	0.42	.Q V	.	.	.	.
3.450	0.1095	0.42	.Q V	.	.	.	.
3.467	0.1101	0.42	.Q V	.	.	.	.
3.483	0.1106	0.42	.Q V	.	.	.	.
3.500	0.1112	0.42	.Q V	.	.	.	.
3.517	0.1118	0.42	.Q V	.	.	.	.
3.533	0.1124	0.42	.Q V	.	.	.	.
3.550	0.1129	0.42	.Q V	.	.	.	.
3.567	0.1135	0.42	.Q V	.	.	.	.
3.583	0.1141	0.42	.Q V	.	.	.	.
3.600	0.1147	0.42	.Q V	.	.	.	.
3.617	0.1152	0.42	.Q V	.	.	.	.
3.633	0.1158	0.42	.Q V	.	.	.	.
3.650	0.1164	0.42	.Q V	.	.	.	.
3.667	0.1170	0.42	.Q V	.	.	.	.
3.683	0.1176	0.42	.Q V	.	.	.	.
3.700	0.1181	0.42	.Q V	.	.	.	.
3.717	0.1187	0.42	.Q V	.	.	.	.
3.733	0.1193	0.42	.Q V	.	.	.	.
3.750	0.1199	0.42	.Q V	.	.	.	.
3.767	0.1204	0.42	.Q V	.	.	.	.
3.783	0.1210	0.42	.Q V	.	.	.	.
3.800	0.1216	0.42	.Q V	.	.	.	.
3.817	0.1222	0.42	.Q V	.	.	.	.
3.833	0.1228	0.42	.Q V	.	.	.	.
3.850	0.1234	0.42	.Q V	.	.	.	.
3.867	0.1239	0.42	.Q V	.	.	.	.
3.883	0.1245	0.42	.Q V	.	.	.	.
3.900	0.1251	0.42	.Q V	.	.	.	.
3.917	0.1257	0.42	.Q V	.	.	.	.
3.933	0.1263	0.42	.Q V	.	.	.	.
3.950	0.1269	0.42	.Q V	.	.	.	.
3.967	0.1274	0.42	.Q V	.	.	.	.
3.983	0.1280	0.42	.Q V	.	.	.	.
4.000	0.1286	0.43	.Q V	.	.	.	.
4.017	0.1292	0.43	.Q V	.	.	.	.

4.033	0.1298	0.43	.Q V	.	.	.	.
4.050	0.1304	0.43	.Q V	.	.	.	.
4.067	0.1310	0.43	.Q V	.	.	.	.
4.083	0.1315	0.43	.Q V	.	.	.	.
4.100	0.1321	0.43	.Q V	.	.	.	.
4.117	0.1327	0.43	.Q V	.	.	.	.
4.133	0.1333	0.43	.Q V	.	.	.	.
4.150	0.1339	0.43	.Q V	.	.	.	.
4.167	0.1345	0.43	.Q V	.	.	.	.
4.183	0.1351	0.43	.Q V	.	.	.	.
4.200	0.1357	0.43	.Q V	.	.	.	.
4.217	0.1363	0.43	.Q V	.	.	.	.
4.233	0.1369	0.43	.Q V	.	.	.	.
4.250	0.1374	0.43	.Q V	.	.	.	.
4.267	0.1380	0.43	.Q V	.	.	.	.
4.283	0.1386	0.43	.Q V	.	.	.	.
4.300	0.1392	0.43	.Q V	.	.	.	.
4.317	0.1398	0.43	.Q V	.	.	.	.
4.333	0.1404	0.43	.Q V	.	.	.	.
4.350	0.1410	0.43	.Q V	.	.	.	.
4.367	0.1416	0.43	.Q V	.	.	.	.
4.383	0.1422	0.43	.Q V	.	.	.	.
4.400	0.1428	0.43	.Q V	.	.	.	.
4.417	0.1434	0.43	.Q V	.	.	.	.
4.433	0.1440	0.43	.Q V	.	.	.	.
4.450	0.1446	0.43	.Q V	.	.	.	.
4.467	0.1452	0.43	.Q V	.	.	.	.
4.483	0.1458	0.43	.Q V	.	.	.	.
4.500	0.1464	0.43	.Q V	.	.	.	.
4.517	0.1469	0.43	.Q V	.	.	.	.
4.533	0.1475	0.43	.Q V	.	.	.	.
4.550	0.1481	0.43	.Q V	.	.	.	.
4.567	0.1487	0.43	.Q V	.	.	.	.
4.583	0.1493	0.43	.Q V	.	.	.	.
4.600	0.1499	0.43	.Q V	.	.	.	.
4.617	0.1505	0.44	.Q V	.	.	.	.
4.633	0.1511	0.44	.Q V	.	.	.	.
4.650	0.1517	0.44	.Q V	.	.	.	.
4.667	0.1523	0.44	.Q V	.	.	.	.
4.683	0.1529	0.44	.Q V	.	.	.	.
4.700	0.1535	0.44	.Q V	.	.	.	.
4.717	0.1541	0.44	.Q V	.	.	.	.
4.733	0.1547	0.44	.Q V	.	.	.	.
4.750	0.1553	0.44	.Q V	.	.	.	.
4.767	0.1559	0.44	.Q V	.	.	.	.
4.783	0.1566	0.44	.Q V	.	.	.	.
4.800	0.1572	0.44	.Q V	.	.	.	.
4.817	0.1578	0.44	.Q V	.	.	.	.
4.833	0.1584	0.44	.Q V	.	.	.	.
4.850	0.1590	0.44	.Q V	.	.	.	.
4.867	0.1596	0.44	.Q V	.	.	.	.
4.883	0.1602	0.44	.Q V	.	.	.	.
4.900	0.1608	0.44	.Q V	.	.	.	.
4.917	0.1614	0.44	.Q V	.	.	.	.
4.933	0.1620	0.44	.Q V	.	.	.	.
4.950	0.1626	0.44	.Q V	.	.	.	.
4.967	0.1632	0.44	.Q V	.	.	.	.
4.983	0.1638	0.44	.Q V	.	.	.	.
5.000	0.1644	0.44	.Q V	.	.	.	.
5.017	0.1650	0.44	.Q V	.	.	.	.
5.033	0.1656	0.44	.Q V	.	.	.	.
5.050	0.1663	0.44	.Q V	.	.	.	.
5.067	0.1669	0.44	.Q V	.	.	.	.
5.083	0.1675	0.44	.Q V	.	.	.	.
5.100	0.1681	0.44	.Q V	.	.	.	.
5.117	0.1687	0.44	.Q V	.	.	.	.
5.133	0.1693	0.44	.Q V	.	.	.	.
5.150	0.1699	0.44	.Q V	.	.	.	.
5.167	0.1705	0.44	.Q V	.	.	.	.
5.183	0.1712	0.45	.Q V	.	.	.	.
5.200	0.1718	0.45	.Q V	.	.	.	.
5.217	0.1724	0.45	.Q V	.	.	.	.
5.233	0.1730	0.45	.Q V	.	.	.	.
5.250	0.1736	0.45	.Q V	.	.	.	.
5.267	0.1742	0.45	.Q V	.	.	.	.
5.283	0.1748	0.45	.Q V	.	.	.	.
5.300	0.1755	0.45	.Q V	.	.	.	.
5.317	0.1761	0.45	.Q V	.	.	.	.
5.333	0.1767	0.45	.Q V	.	.	.	.

5.350	0.1773	0.45	.Q	V	.	.	.	.
5.367	0.1779	0.45	.Q	V	.	.	.	.
5.383	0.1785	0.45	.Q	V	.	.	.	.
5.400	0.1792	0.45	.Q	V	.	.	.	.
5.417	0.1798	0.45	.Q	V	.	.	.	.
5.433	0.1804	0.45	.Q	V	.	.	.	.
5.450	0.1810	0.45	.Q	V	.	.	.	.
5.467	0.1816	0.45	.Q	V	.	.	.	.
5.483	0.1823	0.45	.Q	V	.	.	.	.
5.500	0.1829	0.45	.Q	V	.	.	.	.
5.517	0.1835	0.45	.Q	V	.	.	.	.
5.533	0.1841	0.45	.Q	V	.	.	.	.
5.550	0.1847	0.45	.Q	V	.	.	.	.
5.567	0.1854	0.45	.Q	V	.	.	.	.
5.583	0.1860	0.45	.Q	V	.	.	.	.
5.600	0.1866	0.45	.Q	V	.	.	.	.
5.617	0.1872	0.45	.Q	V	.	.	.	.
5.633	0.1879	0.45	.Q	V	.	.	.	.
5.650	0.1885	0.45	.Q	V	.	.	.	.
5.667	0.1891	0.45	.Q	V	.	.	.	.
5.683	0.1897	0.45	.Q	V	.	.	.	.
5.700	0.1904	0.45	.Q	V	.	.	.	.
5.717	0.1910	0.46	.Q	V	.	.	.	.
5.733	0.1916	0.46	.Q	V	.	.	.	.
5.750	0.1922	0.46	.Q	V	.	.	.	.
5.767	0.1929	0.46	.Q	V	.	.	.	.
5.783	0.1935	0.46	.Q	V	.	.	.	.
5.800	0.1941	0.46	.Q	V	.	.	.	.
5.817	0.1948	0.46	.Q	V	.	.	.	.
5.833	0.1954	0.46	.Q	V	.	.	.	.
5.850	0.1960	0.46	.Q	V	.	.	.	.
5.867	0.1967	0.46	.Q	V	.	.	.	.
5.883	0.1973	0.46	.Q	V	.	.	.	.
5.900	0.1979	0.46	.Q	V	.	.	.	.
5.917	0.1985	0.46	.Q	V	.	.	.	.
5.933	0.1992	0.46	.Q	V	.	.	.	.
5.950	0.1998	0.46	.Q	V	.	.	.	.
5.967	0.2004	0.46	.Q	V	.	.	.	.
5.983	0.2011	0.46	.Q	V	.	.	.	.
6.000	0.2017	0.46	.Q	V	.	.	.	.
6.017	0.2023	0.46	.Q	V	.	.	.	.
6.033	0.2030	0.46	.Q	V	.	.	.	.
6.050	0.2036	0.46	.Q	V	.	.	.	.
6.067	0.2043	0.46	.Q	V	.	.	.	.
6.083	0.2049	0.46	.Q	V	.	.	.	.
6.100	0.2055	0.46	.Q	V	.	.	.	.
6.117	0.2062	0.46	.Q	V	.	.	.	.
6.133	0.2068	0.46	.Q	V	.	.	.	.
6.150	0.2074	0.46	.Q	V	.	.	.	.
6.167	0.2081	0.46	.Q	V	.	.	.	.
6.183	0.2087	0.46	.Q	V	.	.	.	.
6.200	0.2094	0.46	.Q	V	.	.	.	.
6.217	0.2100	0.47	.Q	V	.	.	.	.
6.233	0.2106	0.47	.Q	V	.	.	.	.
6.250	0.2113	0.47	.Q	V	.	.	.	.
6.267	0.2119	0.47	.Q	V	.	.	.	.
6.283	0.2126	0.47	.Q	V	.	.	.	.
6.300	0.2132	0.47	.Q	V	.	.	.	.
6.317	0.2139	0.47	.Q	V	.	.	.	.
6.333	0.2145	0.47	.Q	V	.	.	.	.
6.350	0.2151	0.47	.Q	V	.	.	.	.
6.367	0.2158	0.47	.Q	V	.	.	.	.
6.383	0.2164	0.47	.Q	V	.	.	.	.
6.400	0.2171	0.47	.Q	V	.	.	.	.
6.417	0.2177	0.47	.Q	V	.	.	.	.
6.433	0.2184	0.47	.Q	V	.	.	.	.
6.450	0.2190	0.47	.Q	V	.	.	.	.
6.467	0.2197	0.47	.Q	V	.	.	.	.
6.483	0.2203	0.47	.Q	V	.	.	.	.
6.500	0.2210	0.47	.Q	V	.	.	.	.
6.517	0.2216	0.47	.Q	V	.	.	.	.
6.533	0.2223	0.47	.Q	V	.	.	.	.
6.550	0.2229	0.47	.Q	V	.	.	.	.
6.567	0.2236	0.47	.Q	V	.	.	.	.
6.583	0.2242	0.47	.Q	V	.	.	.	.
6.600	0.2249	0.47	.Q	V	.	.	.	.
6.617	0.2255	0.47	.Q	V	.	.	.	.
6.633	0.2262	0.47	.Q	V	.	.	.	.
6.650	0.2268	0.47	.Q	V	.	.	.	.

6.667	0.2275	0.47	.Q	V	.	.	.	.
6.683	0.2281	0.48	.Q	V	.	.	.	.
6.700	0.2288	0.48	.Q	V	.	.	.	.
6.717	0.2295	0.48	.Q	V	.	.	.	.
6.733	0.2301	0.48	.Q	V	.	.	.	.
6.750	0.2308	0.48	.Q	V	.	.	.	.
6.767	0.2314	0.48	.Q	V	.	.	.	.
6.783	0.2321	0.48	.Q	V	.	.	.	.
6.800	0.2327	0.48	.Q	V	.	.	.	.
6.817	0.2334	0.48	.Q	V	.	.	.	.
6.833	0.2341	0.48	.Q	V	.	.	.	.
6.850	0.2347	0.48	.Q	V	.	.	.	.
6.867	0.2354	0.48	.Q	V	.	.	.	.
6.883	0.2360	0.48	.Q	V	.	.	.	.
6.900	0.2367	0.48	.Q	V	.	.	.	.
6.917	0.2374	0.48	.Q	V	.	.	.	.
6.933	0.2380	0.48	.Q	V	.	.	.	.
6.950	0.2387	0.48	.Q	V	.	.	.	.
6.967	0.2394	0.48	.Q	V	.	.	.	.
6.983	0.2400	0.48	.Q	V	.	.	.	.
7.000	0.2407	0.48	.Q	V	.	.	.	.
7.017	0.2413	0.48	.Q	V	.	.	.	.
7.033	0.2420	0.48	.Q	V	.	.	.	.
7.050	0.2427	0.48	.Q	V	.	.	.	.
7.067	0.2433	0.48	.Q	V	.	.	.	.
7.083	0.2440	0.48	.Q	V	.	.	.	.
7.100	0.2447	0.49	.Q	V	.	.	.	.
7.117	0.2453	0.49	.Q	V	.	.	.	.
7.133	0.2460	0.49	.Q	V	.	.	.	.
7.150	0.2467	0.49	.Q	V	.	.	.	.
7.167	0.2474	0.49	.Q	V	.	.	.	.
7.183	0.2480	0.49	.Q	V	.	.	.	.
7.200	0.2487	0.49	.Q	V	.	.	.	.
7.217	0.2494	0.49	.Q	V	.	.	.	.
7.233	0.2500	0.49	.Q	V	.	.	.	.
7.250	0.2507	0.49	.Q	V	.	.	.	.
7.267	0.2514	0.49	.Q	V	.	.	.	.
7.283	0.2521	0.49	.Q	V	.	.	.	.
7.300	0.2527	0.49	.Q	V	.	.	.	.
7.317	0.2534	0.49	.Q	V	.	.	.	.
7.333	0.2541	0.49	.Q	V	.	.	.	.
7.350	0.2548	0.49	.Q	V	.	.	.	.
7.367	0.2554	0.49	.Q	V	.	.	.	.
7.383	0.2561	0.49	.Q	V	.	.	.	.
7.400	0.2568	0.49	.Q	V	.	.	.	.
7.417	0.2575	0.49	.Q	V	.	.	.	.
7.433	0.2582	0.49	.Q	V	.	.	.	.
7.450	0.2588	0.49	.Q	V	.	.	.	.
7.467	0.2595	0.49	.Q	V	.	.	.	.
7.483	0.2602	0.49	.Q	V	.	.	.	.
7.500	0.2609	0.49	.Q	V	.	.	.	.
7.517	0.2616	0.49	.Q	V	.	.	.	.
7.533	0.2622	0.50	.Q	V	.	.	.	.
7.550	0.2629	0.50	.Q	V	.	.	.	.
7.567	0.2636	0.50	.Q	V	.	.	.	.
7.583	0.2643	0.50	.Q	V	.	.	.	.
7.600	0.2650	0.50	.Q	V	.	.	.	.
7.617	0.2657	0.50	.Q	V	.	.	.	.
7.633	0.2664	0.50	.Q	V	.	.	.	.
7.650	0.2670	0.50	.Q	V	.	.	.	.
7.667	0.2677	0.50	.Q	V	.	.	.	.
7.683	0.2684	0.50	.Q	V	.	.	.	.
7.700	0.2691	0.50	.Q	V	.	.	.	.
7.717	0.2698	0.50	.Q	V	.	.	.	.
7.733	0.2705	0.50	.Q	V	.	.	.	.
7.750	0.2712	0.50	.Q	V	.	.	.	.
7.767	0.2719	0.50	.Q	V	.	.	.	.
7.783	0.2726	0.50	.Q	V	.	.	.	.
7.800	0.2732	0.50	.Q	V	.	.	.	.
7.817	0.2739	0.50	.Q	V	.	.	.	.
7.833	0.2746	0.50	.Q	V	.	.	.	.
7.850	0.2753	0.50	.Q	V	.	.	.	.
7.867	0.2760	0.50	.Q	V	.	.	.	.
7.883	0.2767	0.50	.Q	V	.	.	.	.
7.900	0.2774	0.51	.Q	V	.	.	.	.
7.917	0.2781	0.51	.Q	V	.	.	.	.
7.933	0.2788	0.51	.Q	V	.	.	.	.
7.950	0.2795	0.51	.Q	V	.	.	.	.
7.967	0.2802	0.51	.Q	V	.	.	.	.

7.983	0.2809	0.51	.Q	V	.	.	.	.
8.000	0.2816	0.51	.Q	V	.	.	.	.
8.017	0.2823	0.51	.Q	V	.	.	.	.
8.033	0.2830	0.51	.Q	V	.	.	.	.
8.050	0.2837	0.51	.Q	V	.	.	.	.
8.067	0.2844	0.51	.Q	V	.	.	.	.
8.083	0.2851	0.51	.Q	V	.	.	.	.
8.100	0.2858	0.51	.Q	V	.	.	.	.
8.117	0.2865	0.51	.Q	V	.	.	.	.
8.133	0.2872	0.51	.Q	V	.	.	.	.
8.150	0.2879	0.51	.Q	V	.	.	.	.
8.167	0.2886	0.51	.Q	V	.	.	.	.
8.183	0.2893	0.51	.Q	V	.	.	.	.
8.200	0.2901	0.51	.Q	V	.	.	.	.
8.217	0.2908	0.51	.Q	V	.	.	.	.
8.233	0.2915	0.51	.Q	V	.	.	.	.
8.250	0.2922	0.52	.Q	V	.	.	.	.
8.267	0.2929	0.52	.Q	V	.	.	.	.
8.283	0.2936	0.52	.Q	V	.	.	.	.
8.300	0.2943	0.52	.Q	V	.	.	.	.
8.317	0.2950	0.52	.Q	V	.	.	.	.
8.333	0.2957	0.52	.Q	V	.	.	.	.
8.350	0.2965	0.52	.Q	V	.	.	.	.
8.367	0.2972	0.52	.Q	V	.	.	.	.
8.383	0.2979	0.52	.Q	V	.	.	.	.
8.400	0.2986	0.52	.Q	V	.	.	.	.
8.417	0.2993	0.52	.Q	V	.	.	.	.
8.433	0.3000	0.52	.Q	V	.	.	.	.
8.450	0.3008	0.52	.Q	V	.	.	.	.
8.467	0.3015	0.52	.Q	V	.	.	.	.
8.483	0.3022	0.52	.Q	V	.	.	.	.
8.500	0.3029	0.52	.Q	V	.	.	.	.
8.517	0.3036	0.52	.Q	V.	.	.	.	.
8.533	0.3044	0.52	.Q	V.	.	.	.	.
8.550	0.3051	0.52	.Q	V.	.	.	.	.
8.567	0.3058	0.52	.Q	V.	.	.	.	.
8.583	0.3065	0.53	.Q	V.	.	.	.	.
8.600	0.3072	0.53	.Q	V.	.	.	.	.
8.617	0.3080	0.53	.Q	V.	.	.	.	.
8.633	0.3087	0.53	.Q	V.	.	.	.	.
8.650	0.3094	0.53	.Q	V.	.	.	.	.
8.667	0.3101	0.53	.Q	V.	.	.	.	.
8.683	0.3109	0.53	.Q	V.	.	.	.	.
8.700	0.3116	0.53	.Q	V.	.	.	.	.
8.717	0.3123	0.53	.Q	V.	.	.	.	.
8.733	0.3131	0.53	.Q	V.	.	.	.	.
8.750	0.3138	0.53	.Q	V.	.	.	.	.
8.767	0.3145	0.53	.Q	V.	.	.	.	.
8.783	0.3153	0.53	.Q	V.	.	.	.	.
8.800	0.3160	0.53	.Q	V.	.	.	.	.
8.817	0.3167	0.53	.Q	V.	.	.	.	.
8.833	0.3175	0.53	.Q	V.	.	.	.	.
8.850	0.3182	0.53	.Q	V.	.	.	.	.
8.867	0.3189	0.53	.Q	V.	.	.	.	.
8.883	0.3197	0.53	.Q	V.	.	.	.	.
8.900	0.3204	0.54	.Q	V.	.	.	.	.
8.917	0.3211	0.54	.Q	V.	.	.	.	.
8.933	0.3219	0.54	.Q	V.	.	.	.	.
8.950	0.3226	0.54	.Q	V.	.	.	.	.
8.967	0.3234	0.54	.Q	V.	.	.	.	.
8.983	0.3241	0.54	.Q	V.	.	.	.	.
9.000	0.3248	0.54	.Q	V.	.	.	.	.
9.017	0.3256	0.54	.Q	V.	.	.	.	.
9.033	0.3263	0.54	.Q	V.	.	.	.	.
9.050	0.3271	0.54	.Q	V.	.	.	.	.
9.067	0.3278	0.54	.Q	V.	.	.	.	.
9.083	0.3286	0.54	.Q	V.	.	.	.	.
9.100	0.3293	0.54	.Q	V.	.	.	.	.
9.117	0.3301	0.54	.Q	V.	.	.	.	.
9.133	0.3308	0.54	.Q	V.	.	.	.	.
9.150	0.3316	0.54	.Q	V.	.	.	.	.
9.167	0.3323	0.54	.Q	V.	.	.	.	.
9.183	0.3331	0.55	.Q	V.	.	.	.	.
9.200	0.3338	0.55	.Q	V.	.	.	.	.
9.217	0.3346	0.55	.Q	V.	.	.	.	.
9.233	0.3353	0.55	.Q	V.	.	.	.	.
9.250	0.3361	0.55	.Q	V.	.	.	.	.
9.267	0.3368	0.55	.Q	V.	.	.	.	.
9.283	0.3376	0.55	.Q	V	.	.	.	.

9.300	0.3383	0.55	.Q	V	.	.	.
9.317	0.3391	0.55	.Q	V	.	.	.
9.333	0.3399	0.55	.Q	V	.	.	.
9.350	0.3406	0.55	.Q	V	.	.	.
9.367	0.3414	0.55	.Q	V	.	.	.
9.383	0.3421	0.55	.Q	V	.	.	.
9.400	0.3429	0.55	.Q	V	.	.	.
9.417	0.3437	0.55	.Q	V	.	.	.
9.433	0.3444	0.55	.Q	V	.	.	.
9.450	0.3452	0.55	.Q	V	.	.	.
9.467	0.3460	0.56	.Q	V	.	.	.
9.483	0.3467	0.56	.Q	V	.	.	.
9.500	0.3475	0.56	.Q	V	.	.	.
9.517	0.3483	0.56	.Q	V	.	.	.
9.533	0.3490	0.56	.Q	V	.	.	.
9.550	0.3498	0.56	.Q	V	.	.	.
9.567	0.3506	0.56	.Q	V	.	.	.
9.583	0.3513	0.56	.Q	V	.	.	.
9.600	0.3521	0.56	.Q	V	.	.	.
9.617	0.3529	0.56	.Q	V	.	.	.
9.633	0.3537	0.56	.Q	V	.	.	.
9.650	0.3544	0.56	.Q	V	.	.	.
9.667	0.3552	0.56	.Q	V	.	.	.
9.683	0.3560	0.56	.Q	V	.	.	.
9.700	0.3568	0.56	.Q	V	.	.	.
9.717	0.3575	0.57	.Q	V	.	.	.
9.733	0.3583	0.57	.Q	V	.	.	.
9.750	0.3591	0.57	.Q	V	.	.	.
9.767	0.3599	0.57	.Q	V	.	.	.
9.783	0.3607	0.57	.Q	V	.	.	.
9.800	0.3614	0.57	.Q	V	.	.	.
9.817	0.3622	0.57	.Q	V	.	.	.
9.833	0.3630	0.57	.Q	V	.	.	.
9.850	0.3638	0.57	.Q	V	.	.	.
9.867	0.3646	0.57	.Q	V	.	.	.
9.883	0.3654	0.57	.Q	V	.	.	.
9.900	0.3662	0.57	.Q	V	.	.	.
9.917	0.3669	0.57	.Q	V	.	.	.
9.933	0.3677	0.57	.Q	V	.	.	.
9.950	0.3685	0.57	.Q	V	.	.	.
9.967	0.3693	0.57	.Q	V	.	.	.
9.983	0.3701	0.58	.Q	V	.	.	.
10.000	0.3709	0.58	.Q	.V	.	.	.
10.017	0.3717	0.58	.Q	.V	.	.	.
10.033	0.3725	0.58	.Q	.V	.	.	.
10.050	0.3733	0.58	.Q	.V	.	.	.
10.067	0.3741	0.58	.Q	.V	.	.	.
10.083	0.3749	0.58	.Q	.V	.	.	.
10.100	0.3757	0.58	.Q	.V	.	.	.
10.117	0.3765	0.58	.Q	.V	.	.	.
10.133	0.3773	0.58	.Q	.V	.	.	.
10.150	0.3781	0.58	.Q	.V	.	.	.
10.167	0.3789	0.58	.Q	.V	.	.	.
10.183	0.3797	0.58	.Q	.V	.	.	.
10.200	0.3805	0.59	.Q	.V	.	.	.
10.217	0.3813	0.59	.Q	.V	.	.	.
10.233	0.3821	0.59	.Q	.V	.	.	.
10.250	0.3829	0.59	.Q	.V	.	.	.
10.267	0.3837	0.59	.Q	.V	.	.	.
10.283	0.3846	0.59	.Q	.V	.	.	.
10.300	0.3854	0.59	.Q	.V	.	.	.
10.317	0.3862	0.59	.Q	.V	.	.	.
10.333	0.3870	0.59	.Q	.V	.	.	.
10.350	0.3878	0.59	.Q	.V	.	.	.
10.367	0.3886	0.59	.Q	.V	.	.	.
10.383	0.3894	0.59	.Q	.V	.	.	.
10.400	0.3903	0.59	.Q	.V	.	.	.
10.417	0.3911	0.59	.Q	.V	.	.	.
10.433	0.3919	0.60	.Q	.V	.	.	.
10.450	0.3927	0.60	.Q	.V	.	.	.
10.467	0.3935	0.60	.Q	.V	.	.	.
10.483	0.3944	0.60	.Q	.V	.	.	.
10.500	0.3952	0.60	.Q	.V	.	.	.
10.517	0.3960	0.60	.Q	.V	.	.	.
10.533	0.3968	0.60	.Q	.V	.	.	.
10.550	0.3977	0.60	.Q	.V	.	.	.
10.567	0.3985	0.60	.Q	.V	.	.	.
10.583	0.3993	0.60	.Q	.V	.	.	.
10.600	0.4002	0.60	.Q	.V	.	.	.

10.617	0.4010	0.60	.Q	.V	.	.	.
10.633	0.4018	0.60	.Q	.V	.	.	.
10.650	0.4027	0.61	.Q	.V	.	.	.
10.667	0.4035	0.61	.Q	.V	.	.	.
10.683	0.4043	0.61	.Q	. V	.	.	.
10.700	0.4052	0.61	.Q	. V	.	.	.
10.717	0.4060	0.61	.Q	. V	.	.	.
10.733	0.4069	0.61	.Q	. V	.	.	.
10.750	0.4077	0.61	.Q	. V	.	.	.
10.767	0.4085	0.61	.Q	. V	.	.	.
10.783	0.4094	0.61	.Q	. V	.	.	.
10.800	0.4102	0.61	.Q	. V	.	.	.
10.817	0.4111	0.61	.Q	. V	.	.	.
10.833	0.4119	0.62	.Q	. V	.	.	.
10.850	0.4128	0.62	.Q	. V	.	.	.
10.867	0.4136	0.62	.Q	. V	.	.	.
10.883	0.4145	0.62	.Q	. V	.	.	.
10.900	0.4153	0.62	.Q	. V	.	.	.
10.917	0.4162	0.62	.Q	. V	.	.	.
10.933	0.4170	0.62	.Q	. V	.	.	.
10.950	0.4179	0.62	.Q	. V	.	.	.
10.967	0.4188	0.62	.Q	. V	.	.	.
10.983	0.4196	0.62	.Q	. V	.	.	.
11.000	0.4205	0.62	.Q	. V	.	.	.
11.017	0.4213	0.63	.Q	. V	.	.	.
11.033	0.4222	0.63	.Q	. V	.	.	.
11.050	0.4231	0.63	.Q	. V	.	.	.
11.067	0.4239	0.63	.Q	. V	.	.	.
11.083	0.4248	0.63	. Q	. V	.	.	.
11.100	0.4257	0.63	. Q	. V	.	.	.
11.117	0.4265	0.63	. Q	. V	.	.	.
11.133	0.4274	0.63	. Q	. V	.	.	.
11.150	0.4283	0.63	. Q	. V	.	.	.
11.167	0.4291	0.63	. Q	. V	.	.	.
11.183	0.4300	0.63	. Q	. V	.	.	.
11.200	0.4309	0.64	. Q	. V	.	.	.
11.217	0.4318	0.64	. Q	. V	.	.	.
11.233	0.4326	0.64	. Q	. V	.	.	.
11.250	0.4335	0.64	. Q	. V	.	.	.
11.267	0.4344	0.64	. Q	. V	.	.	.
11.283	0.4353	0.64	. Q	. V	.	.	.
11.300	0.4362	0.64	. Q	. V	.	.	.
11.317	0.4371	0.64	. Q	. V	.	.	.
11.333	0.4379	0.64	. Q	. V	.	.	.
11.350	0.4388	0.64	. Q	. V	.	.	.
11.367	0.4397	0.65	. Q	. V	.	.	.
11.383	0.4406	0.65	. Q	. V	.	.	.
11.400	0.4415	0.65	. Q	. V	.	.	.
11.417	0.4424	0.65	. Q	. V	.	.	.
11.433	0.4433	0.65	. Q	. V	.	.	.
11.450	0.4442	0.65	. Q	. V	.	.	.
11.467	0.4451	0.65	. Q	. V	.	.	.
11.483	0.4460	0.65	. Q	. V	.	.	.
11.500	0.4469	0.65	. Q	. V	.	.	.
11.517	0.4478	0.65	. Q	. V	.	.	.
11.533	0.4487	0.66	. Q	. V	.	.	.
11.550	0.4496	0.66	. Q	. V	.	.	.
11.567	0.4505	0.66	. Q	. V	.	.	.
11.583	0.4514	0.66	. Q	. V	.	.	.
11.600	0.4523	0.66	. Q	. V	.	.	.
11.617	0.4532	0.66	. Q	. V	.	.	.
11.633	0.4541	0.66	. Q	. V	.	.	.
11.650	0.4551	0.66	. Q	. V	.	.	.
11.667	0.4560	0.66	. Q	. V	.	.	.
11.683	0.4569	0.66	. Q	. V	.	.	.
11.700	0.4578	0.67	. Q	. V	.	.	.
11.717	0.4587	0.67	. Q	. V	.	.	.
11.733	0.4596	0.67	. Q	. V	.	.	.
11.750	0.4606	0.67	. Q	. V	.	.	.
11.767	0.4615	0.67	. Q	. V	.	.	.
11.783	0.4624	0.67	. Q	. V	.	.	.
11.800	0.4634	0.67	. Q	. V	.	.	.
11.817	0.4643	0.67	. Q	. V	.	.	.
11.833	0.4652	0.68	. Q	. V	.	.	.
11.850	0.4661	0.68	. Q	. V	.	.	.
11.867	0.4671	0.68	. Q	. V	.	.	.
11.883	0.4680	0.68	. Q	. V	.	.	.
11.900	0.4690	0.68	. Q	. V	.	.	.
11.917	0.4699	0.68	. Q	. V	.	.	.

11.933	0.4708	0.68	. Q	. V	.	.	.	
11.950	0.4718	0.69	. Q	. V	.	.	.	
11.967	0.4727	0.69	. Q	. V	.	.	.	
11.983	0.4737	0.69	. Q	. V	.	.	.	
12.000	0.4746	0.69	. Q	. V	.	.	.	
12.017	0.4756	0.69	. Q	. V	.	.	.	
12.033	0.4765	0.69	. Q	. V	.	.	.	
12.050	0.4775	0.70	. Q	. V	.	.	.	
12.067	0.4784	0.70	. Q	. V	.	.	.	
12.083	0.4794	0.70	. Q	. V	.	.	.	
12.100	0.4804	0.71	. Q	. V	.	.	.	
12.117	0.4814	0.71	. Q	. V	.	.	.	
12.133	0.4823	0.71	. Q	. V	.	.	.	
12.150	0.4833	0.71	. Q	. V	.	.	.	
12.167	0.4843	0.71	. Q	. V	.	.	.	
12.183	0.4853	0.71	. Q	. V	.	.	.	
12.200	0.4863	0.71	. Q	. V	.	.	.	
12.217	0.4873	0.72	. Q	. V	.	.	.	
12.233	0.4882	0.72	. Q	. V	.	.	.	
12.250	0.4892	0.72	. Q	. V	.	.	.	
12.267	0.4902	0.72	. Q	. V	.	.	.	
12.283	0.4912	0.72	. Q	. V	.	.	.	
12.300	0.4922	0.72	. Q	. V	.	.	.	
12.317	0.4932	0.73	. Q	. V	.	.	.	
12.333	0.4942	0.73	. Q	. V	.	.	.	
12.350	0.4952	0.73	. Q	. V	.	.	.	
12.367	0.4962	0.73	. Q	. V	.	.	.	
12.383	0.4972	0.73	. Q	. V	.	.	.	
12.400	0.4982	0.73	. Q	. V	.	.	.	
12.417	0.4992	0.73	. Q	. V	.	.	.	
12.433	0.5003	0.74	. Q	. V	.	.	.	
12.450	0.5013	0.74	. Q	. V	.	.	.	
12.467	0.5023	0.74	. Q	. V	.	.	.	
12.483	0.5033	0.74	. Q	. V	.	.	.	
12.500	0.5043	0.74	. Q	. V	.	.	.	
12.517	0.5054	0.74	. Q	. V	.	.	.	
12.533	0.5064	0.74	. Q	. V	.	.	.	
12.550	0.5074	0.74	. Q	. V	.	.	.	
12.567	0.5084	0.75	. Q	. V	.	.	.	
12.583	0.5095	0.75	. Q	. V	.	.	.	
12.600	0.5105	0.75	. Q	. V	.	.	.	
12.617	0.5115	0.75	. Q	. V	.	.	.	
12.633	0.5126	0.75	. Q	. V	.	.	.	
12.650	0.5136	0.76	. Q	. V	.	.	.	
12.667	0.5146	0.76	. Q	. V	.	.	.	
12.683	0.5157	0.76	. Q	. V	.	.	.	
12.700	0.5167	0.76	. Q	. V	.	.	.	
12.717	0.5178	0.76	. Q	. V	.	.	.	
12.733	0.5188	0.76	. Q	. V	.	.	.	
12.750	0.5199	0.76	. Q	. V	.	.	.	
12.767	0.5209	0.77	. Q	. V	.	.	.	
12.783	0.5220	0.77	. Q	. V	.	.	.	
12.800	0.5231	0.77	. Q	. V	.	.	.	
12.817	0.5241	0.77	. Q	. V	.	.	.	
12.833	0.5252	0.77	. Q	. V	.	.	.	
12.850	0.5263	0.77	. Q	. V	.	.	.	
12.867	0.5273	0.78	. Q	. V	.	.	.	
12.883	0.5284	0.78	. Q	. V	.	.	.	
12.900	0.5295	0.78	. Q	. V	.	.	.	
12.917	0.5305	0.78	. Q	. V	.	.	.	
12.933	0.5316	0.78	. Q	. V	.	.	.	
12.950	0.5327	0.79	. Q	. V	.	.	.	
12.967	0.5338	0.79	. Q	. V	.	.	.	
12.983	0.5349	0.79	. Q	. V	.	.	.	
13.000	0.5360	0.79	. Q	. V	.	.	.	
13.017	0.5371	0.79	. Q	. V	.	.	.	
13.033	0.5382	0.79	. Q	. V	.	.	.	
13.050	0.5393	0.80	. Q	. V	.	.	.	
13.067	0.5403	0.80	. Q	. V	.	.	.	
13.083	0.5415	0.80	. Q	. V	.	.	.	
13.100	0.5426	0.80	. Q	. V	.	.	.	
13.117	0.5437	0.80	. Q	. V	.	.	.	
13.133	0.5448	0.81	. Q	. V	.	.	.	
13.150	0.5459	0.81	. Q	. V	.	.	.	
13.167	0.5470	0.81	. Q	. V	.	.	.	
13.183	0.5481	0.81	. Q	. V	.	.	.	
13.200	0.5492	0.81	. Q	. V	.	.	.	
13.217	0.5504	0.82	. Q	. V	.	.	.	
13.233	0.5515	0.82	. Q	. V	.	.	.	

13.250	0.5526	0.82	. Q	.	V	.	.	.
13.267	0.5538	0.82	. Q	.	V	.	.	.
13.283	0.5549	0.82	. Q	.	V	.	.	.
13.300	0.5560	0.83	. Q	.	V	.	.	.
13.317	0.5572	0.83	. Q	.	V	.	.	.
13.333	0.5583	0.83	. Q	.	V	.	.	.
13.350	0.5595	0.83	. Q	.	V	.	.	.
13.367	0.5606	0.84	. Q	.	V	.	.	.
13.383	0.5618	0.84	. Q	.	V	.	.	.
13.400	0.5629	0.84	. Q	.	V	.	.	.
13.417	0.5641	0.84	. Q	.	V	.	.	.
13.433	0.5653	0.84	. Q	.	V	.	.	.
13.450	0.5664	0.85	. Q	.	V	.	.	.
13.467	0.5676	0.85	. Q	.	V	.	.	.
13.483	0.5688	0.85	. Q	.	V	.	.	.
13.500	0.5699	0.86	. Q	.	V	.	.	.
13.517	0.5711	0.86	. Q	.	V	.	.	.
13.533	0.5723	0.86	. Q	.	V	.	.	.
13.550	0.5735	0.86	. Q	.	V	.	.	.
13.567	0.5747	0.86	. Q	.	V	.	.	.
13.583	0.5759	0.86	. Q	.	V	.	.	.
13.600	0.5771	0.87	. Q	.	V	.	.	.
13.617	0.5783	0.87	. Q	.	V	.	.	.
13.633	0.5795	0.87	. Q	.	V	.	.	.
13.650	0.5807	0.88	. Q	.	V	.	.	.
13.667	0.5819	0.88	. Q	.	V	.	.	.
13.683	0.5831	0.88	. Q	.	V	.	.	.
13.700	0.5843	0.89	. Q	.	V	.	.	.
13.717	0.5855	0.89	. Q	.	V	.	.	.
13.733	0.5868	0.89	. Q	.	V	.	.	.
13.750	0.5880	0.89	. Q	.	V	.	.	.
13.767	0.5892	0.89	. Q	.	V	.	.	.
13.783	0.5905	0.90	. Q	.	V	.	.	.
13.800	0.5917	0.90	. Q	.	V	.	.	.
13.817	0.5930	0.91	. Q	.	V	.	.	.
13.833	0.5942	0.91	. Q	.	V	.	.	.
13.850	0.5955	0.91	. Q	.	V	.	.	.
13.867	0.5967	0.91	. Q	.	V	.	.	.
13.883	0.5980	0.92	. Q	.	V	.	.	.
13.900	0.5992	0.92	. Q	.	V	.	.	.
13.917	0.6005	0.92	. Q	.	V	.	.	.
13.933	0.6018	0.92	. Q	.	V	.	.	.
13.950	0.6031	0.93	. Q	.	V	.	.	.
13.967	0.6043	0.93	. Q	.	V	.	.	.
13.983	0.6056	0.94	. Q	.	V	.	.	.
14.000	0.6069	0.94	. Q	.	V	.	.	.
14.017	0.6082	0.94	. Q	.	V	.	.	.
14.033	0.6095	0.94	. Q	.	V	.	.	.
14.050	0.6108	0.94	. Q	.	V	.	.	.
14.067	0.6121	0.94	. Q	.	V	.	.	.
14.083	0.6134	0.93	. Q	.	V	.	.	.
14.100	0.6147	0.93	. Q	.	V	.	.	.
14.117	0.6160	0.93	. Q	.	V	.	.	.
14.133	0.6172	0.93	. Q	.	V	.	.	.
14.150	0.6185	0.93	. Q	.	V	.	.	.
14.167	0.6198	0.94	. Q	.	V	.	.	.
14.183	0.6211	0.94	. Q	.	V	.	.	.
14.200	0.6224	0.94	. Q	.	V	.	.	.
14.217	0.6237	0.94	. Q	.	V	.	.	.
14.233	0.6250	0.95	. Q	.	V	.	.	.
14.250	0.6263	0.95	. Q	.	V	.	.	.
14.267	0.6276	0.95	. Q	.	V	.	.	.
14.283	0.6289	0.96	. Q	.	V	.	.	.
14.300	0.6303	0.96	. Q	.	V	.	.	.
14.317	0.6316	0.97	. Q	.	V	.	.	.
14.333	0.6329	0.97	. Q	.	V	.	.	.
14.350	0.6343	0.98	. Q	.	V	.	.	.
14.367	0.6356	0.98	. Q	.	V	.	.	.
14.383	0.6370	0.99	. Q	.	V	.	.	.
14.400	0.6384	0.99	. Q	.	V	.	.	.
14.417	0.6397	0.99	. Q	.	V	.	.	.
14.433	0.6411	0.99	. Q	.	V.	.	.	.
14.450	0.6425	1.00	. Q	.	V.	.	.	.
14.467	0.6438	1.00	. Q	.	V.	.	.	.
14.483	0.6452	1.01	. Q	.	V.	.	.	.
14.500	0.6466	1.02	. Q	.	V.	.	.	.
14.517	0.6481	1.02	. Q	.	V.	.	.	.
14.533	0.6495	1.03	. Q	.	V.	.	.	.
14.550	0.6509	1.03	. Q	.	V.	.	.	.

14.567	0.6523	1.04	.	Q	.	V.	.	.
14.583	0.6538	1.04	.	Q	.	V.	.	.
14.600	0.6552	1.05	.	Q	.	V.	.	.
14.617	0.6566	1.05	.	Q	.	V.	.	.
14.633	0.6581	1.06	.	Q	.	V.	.	.
14.650	0.6596	1.06	.	Q	.	V.	.	.
14.667	0.6610	1.07	.	Q	.	V.	.	.
14.683	0.6625	1.08	.	Q	.	V.	.	.
14.700	0.6640	1.09	.	Q	.	V.	.	.
14.717	0.6655	1.09	.	Q	.	V.	.	.
14.733	0.6670	1.10	.	Q	.	V.	.	.
14.750	0.6686	1.10	.	Q	.	V.	.	.
14.767	0.6701	1.10	.	Q	.	V.	.	.
14.783	0.6716	1.11	.	Q	.	V.	.	.
14.800	0.6731	1.11	.	Q	.	V.	.	.
14.817	0.6747	1.12	.	Q	.	V	.	.
14.833	0.6762	1.13	.	Q	.	V	.	.
14.850	0.6778	1.14	.	Q	.	V	.	.
14.867	0.6794	1.15	.	Q	.	V	.	.
14.883	0.6810	1.16	.	Q	.	V	.	.
14.900	0.6826	1.17	.	Q	.	V	.	.
14.917	0.6842	1.17	.	Q	.	V	.	.
14.933	0.6858	1.18	.	Q	.	V	.	.
14.950	0.6875	1.18	.	Q	.	V	.	.
14.967	0.6891	1.19	.	Q	.	V	.	.
14.983	0.6908	1.20	.	Q	.	V	.	.
15.000	0.6924	1.21	.	Q	.	V	.	.
15.017	0.6941	1.22	.	Q	.	V	.	.
15.033	0.6958	1.23	.	Q	.	V	.	.
15.050	0.6975	1.24	.	Q	.	V	.	.
15.067	0.6992	1.25	.	Q	.	V	.	.
15.083	0.7010	1.26	.	Q	.	V	.	.
15.100	0.7027	1.27	.	Q	.	V	.	.
15.117	0.7045	1.27	.	Q	.	V	.	.
15.133	0.7062	1.28	.	Q	.	V	.	.
15.150	0.7080	1.29	.	Q	.	.V	.	.
15.167	0.7098	1.30	.	Q	.	.V	.	.
15.183	0.7116	1.32	.	Q	.	.V	.	.
15.200	0.7135	1.34	.	Q	.	.V	.	.
15.217	0.7153	1.35	.	Q	.	.V	.	.
15.233	0.7172	1.36	.	Q	.	.V	.	.
15.250	0.7191	1.37	.	Q	.	.V	.	.
15.267	0.7210	1.38	.	Q	.	.V	.	.
15.283	0.7229	1.39	.	Q	.	.V	.	.
15.300	0.7248	1.40	.	Q	.	.V	.	.
15.317	0.7268	1.40	.	Q	.	.V	.	.
15.333	0.7287	1.38	.	Q	.	.V	.	.
15.350	0.7306	1.36	.	Q	.	.V	.	.
15.367	0.7324	1.34	.	Q	.	.V	.	.
15.383	0.7342	1.32	.	Q	.	.V	.	.
15.400	0.7360	1.29	.	Q	.	.V	.	.
15.417	0.7378	1.27	.	Q	.	.V	.	.
15.433	0.7395	1.25	.	Q	.	.V	.	.
15.450	0.7412	1.22	.	Q	.	. V	.	.
15.467	0.7428	1.20	.	Q	.	. V	.	.
15.483	0.7444	1.17	.	Q	.	. V	.	.
15.500	0.7461	1.19	.	Q	.	. V	.	.
15.517	0.7477	1.22	.	Q	.	. V	.	.
15.533	0.7495	1.25	.	Q	.	. V	.	.
15.550	0.7512	1.28	.	Q	.	. V	.	.
15.567	0.7530	1.31	.	Q	.	. V	.	.
15.583	0.7549	1.34	.	Q	.	. V	.	.
15.600	0.7567	1.36	.	Q	.	. V	.	.
15.617	0.7586	1.38	.	Q	.	. V	.	.
15.633	0.7606	1.40	.	Q	.	. V	.	.
15.650	0.7625	1.42	.	Q	.	. V	.	.
15.667	0.7645	1.46	.	Q	.	. V	.	.
15.683	0.7666	1.53	.	Q	.	. V	.	.
15.700	0.7689	1.61	.	Q	.	. V	.	.
15.717	0.7712	1.68	.	Q	.	. V	.	.
15.733	0.7736	1.76	.	Q	.	. V	.	.
15.750	0.7761	1.83	.	Q	.	. V	.	.
15.767	0.7787	1.88	.	Q	.	. V	.	.
15.783	0.7814	1.93	.	Q	.	. V	.	.
15.800	0.7841	1.98	.	Q	.	. V	.	.
15.817	0.7869	2.03	.	Q	.	. V	.	.
15.833	0.7898	2.09	.	Q	.	. V	.	.
15.850	0.7928	2.24	.	Q	.	. V	.	.
15.867	0.7962	2.42	.	Q	.	. V	.	.

15.883	0.7997	2.59	. Q . . V . .
15.900	0.8036	2.77	. Q . . V . .
15.917	0.8076	2.94	. Q. . V . .
15.933	0.8119	3.15	. Q . V . .
15.950	0.8166	3.36	. Q . V . .
15.967	0.8215	3.58	. .Q . V . .
15.983	0.8267	3.80	. . Q . V . .
16.000	0.8323	4.01	. . Q . V . .
16.017	0.8391	4.93	. . Q . V . .
16.033	0.8481	6.56	. . Q V . .
16.050	0.8594	8.18	. . . VQ . .
16.067	0.8729	9.81	. . . V .Q .
16.083	0.8886	11.44	. . . V . Q .
16.100	0.9060	12.57	. . . V . Q
16.117	0.9198	10.04	. . . V .Q .
16.133	0.9309	8.09	. . . Q V . .
16.150	0.9394	6.14	. . Q. V . .
16.167	0.9452	4.19	. . Q . V . .
16.183	0.9487	2.56	. Q . . V . .
16.200	0.9518	2.25	. Q . . V . .
16.217	0.9547	2.09	. Q . . V . .
16.233	0.9573	1.92	. Q . . V . .
16.250	0.9597	1.76	. Q . . V . .
16.267	0.9619	1.60	. Q . . V . .
16.283	0.9640	1.52	. Q . . V . .
16.300	0.9660	1.45	. Q . . V . .
16.317	0.9679	1.39	. Q . . V . .
16.333	0.9698	1.32	. Q . . V . .
16.350	0.9715	1.26	. Q . . V . .
16.367	0.9732	1.27	. Q . . V . .
16.383	0.9750	1.31	. Q . . V . .
16.400	0.9769	1.36	. Q . . V . .
16.417	0.9788	1.40	. Q . . V. .
16.433	0.9808	1.44	. Q . . V. .
16.450	0.9828	1.45	. Q . . V. .
16.467	0.9848	1.42	. Q . . V. .
16.483	0.9867	1.39	. Q . . V. .
16.500	0.9886	1.37	. Q . . V. .
16.517	0.9904	1.34	. Q . . V. .
16.533	0.9922	1.31	. Q . . V. .
16.550	0.9940	1.29	. Q . . V. .
16.567	0.9958	1.27	. Q . . V. .
16.583	0.9975	1.25	. Q . . V. .
16.600	0.9992	1.23	. Q . . V. .
16.617	1.0009	1.22	. Q . . V. .
16.633	1.0025	1.20	. Q . . V. .
16.650	1.0042	1.18	. Q . . V. .
16.667	1.0058	1.17	. Q . . V. .
16.683	1.0074	1.15	. Q . . V. .
16.700	1.0089	1.14	. Q . . V. .
16.717	1.0105	1.12	. Q . . V. .
16.733	1.0120	1.11	. Q . . V .
16.750	1.0135	1.10	. Q . . V .
16.767	1.0150	1.09	. Q . . V .
16.783	1.0165	1.07	. Q . . V .
16.800	1.0179	1.06	. Q . . V .
16.817	1.0194	1.05	. Q . . V .
16.833	1.0208	1.04	. Q . . V .
16.850	1.0222	1.03	. Q . . V .
16.867	1.0236	1.02	. Q . . V .
16.883	1.0250	1.01	. Q . . V .
16.900	1.0264	1.00	. Q . . V .
16.917	1.0278	0.99	. Q . . V .
16.933	1.0291	0.98	. Q . . V .
16.950	1.0305	0.97	. Q . . V .
16.967	1.0318	0.96	. Q . . V .
16.983	1.0331	0.96	. Q . . V .
17.000	1.0344	0.95	. Q . . V .
17.017	1.0357	0.94	. Q . . V .
17.033	1.0370	0.93	. Q . . V .
17.050	1.0383	0.93	. Q . . V .
17.067	1.0396	0.93	. Q . . V .
17.083	1.0408	0.93	. Q . . V .
17.100	1.0421	0.93	. Q . . V .
17.117	1.0434	0.93	. Q . . V .
17.133	1.0447	0.93	. Q . . .V .
17.150	1.0460	0.93	. Q . . .V .
17.167	1.0472	0.92	. Q . . .V .
17.183	1.0485	0.91	. Q . . .V .

17.200	1.0497	0.91	. Q	.	.	.V	.
17.217	1.0510	0.90	. Q	.	.	.V	.
17.233	1.0522	0.90	. Q	.	.	.V	.
17.250	1.0535	0.89	. Q	.	.	.V	.
17.267	1.0547	0.89	. Q	.	.	.V	.
17.283	1.0559	0.88	. Q	.	.	.V	.
17.300	1.0571	0.88	. Q	.	.	.V	.
17.317	1.0583	0.87	. Q	.	.	.V	.
17.333	1.0595	0.87	. Q	.	.	.V	.
17.350	1.0607	0.86	. Q	.	.	.V	.
17.367	1.0618	0.86	. Q	.	.	.V	.
17.383	1.0630	0.85	. Q	.	.	.V	.
17.400	1.0642	0.85	. Q	.	.	.V	.
17.417	1.0653	0.84	. Q	.	.	.V	.
17.433	1.0665	0.84	. Q	.	.	.V	.
17.450	1.0676	0.83	. Q	.	.	.V	.
17.467	1.0688	0.83	. Q	.	.	.V	.
17.483	1.0699	0.82	. Q	.	.	.V	.
17.500	1.0710	0.82	. Q	.	.	.V	.
17.517	1.0722	0.82	. Q	.	.	.V	.
17.533	1.0733	0.81	. Q	.	.	.V	.
17.550	1.0744	0.81	. Q	.	.	.V	.
17.567	1.0755	0.80	. Q	.	.	.V	.
17.583	1.0766	0.80	. Q	.	.	.V	.
17.600	1.0777	0.80	. Q	.	.	.V	.
17.617	1.0788	0.79	. Q	.	.	. V	.
17.633	1.0799	0.79	. Q	.	.	. V	.
17.650	1.0810	0.78	. Q	.	.	. V	.
17.667	1.0820	0.78	. Q	.	.	. V	.
17.683	1.0831	0.78	. Q	.	.	. V	.
17.700	1.0842	0.77	. Q	.	.	. V	.
17.717	1.0852	0.77	. Q	.	.	. V	.
17.733	1.0863	0.77	. Q	.	.	. V	.
17.750	1.0873	0.76	. Q	.	.	. V	.
17.767	1.0884	0.76	. Q	.	.	. V	.
17.783	1.0894	0.76	. Q	.	.	. V	.
17.800	1.0905	0.75	. Q	.	.	. V	.
17.817	1.0915	0.75	. Q	.	.	. V	.
17.833	1.0925	0.75	. Q	.	.	. V	.
17.850	1.0936	0.74	. Q	.	.	. V	.
17.867	1.0946	0.74	. Q	.	.	. V	.
17.883	1.0956	0.74	. Q	.	.	. V	.
17.900	1.0966	0.74	. Q	.	.	. V	.
17.917	1.0976	0.73	. Q	.	.	. V	.
17.933	1.0986	0.73	. Q	.	.	. V	.
17.950	1.0996	0.73	. Q	.	.	. V	.
17.967	1.1006	0.72	. Q	.	.	. V	.
17.983	1.1016	0.72	. Q	.	.	. V	.
18.000	1.1026	0.72	. Q	.	.	. V	.
18.017	1.1036	0.71	. Q	.	.	. V	.
18.033	1.1046	0.71	. Q	.	.	. V	.
18.050	1.1055	0.71	. Q	.	.	. V	.
18.067	1.1065	0.70	. Q	.	.	. V	.
18.083	1.1075	0.70	. Q	.	.	. V	.
18.100	1.1084	0.69	. Q	.	.	. V	.
18.117	1.1094	0.69	. Q	.	.	. V	.
18.133	1.1103	0.69	. Q	.	.	. V	.
18.150	1.1113	0.68	. Q	.	.	. V	.
18.167	1.1122	0.68	. Q	.	.	. V	.
18.183	1.1131	0.68	. Q	.	.	. V	.
18.200	1.1141	0.68	. Q	.	.	. V	.
18.217	1.1150	0.67	. Q	.	.	. V	.
18.233	1.1159	0.67	. Q	.	.	. V	.
18.250	1.1168	0.67	. Q	.	.	. V	.
18.267	1.1178	0.67	. Q	.	.	. V	.
18.283	1.1187	0.67	. Q	.	.	. V	.
18.300	1.1196	0.66	. Q	.	.	. V	.
18.317	1.1205	0.66	. Q	.	.	. V	.
18.333	1.1214	0.66	. Q	.	.	. V	.
18.350	1.1223	0.66	. Q	.	.	. V	.
18.367	1.1232	0.65	. Q	.	.	. V	.
18.383	1.1241	0.65	. Q	.	.	. V	.
18.400	1.1250	0.65	. Q	.	.	. V	.
18.417	1.1259	0.65	. Q	.	.	. V	.
18.433	1.1268	0.65	. Q	.	.	. V	.
18.450	1.1277	0.64	. Q	.	.	. V	.
18.467	1.1286	0.64	. Q	.	.	. V	.
18.483	1.1294	0.64	. Q	.	.	. V	.
18.500	1.1303	0.64	. Q	.	.	. V	.

```
18.517    1.1312    0.64  . Q     .       .       . V     .
18.533    1.1321    0.63  . Q     .       .       . V     .
18.550    1.1329    0.63  . Q     .       .       . V     .
18.567    1.1338    0.63  . Q     .       .       . V     .
18.583    1.1347    0.63  .Q      .       .       . V     .
18.600    1.1355    0.63  .Q      .       .       . V     .
18.617    1.1364    0.62  .Q      .       .       . V     .
18.633    1.1373    0.62  .Q      .       .       . V     .
18.650    1.1381    0.62  .Q      .       .       . V     .
18.667    1.1390    0.62  .Q      .       .       . V     .
18.683    1.1398    0.62  .Q      .       .       . V     .
18.700    1.1407    0.62  .Q      .       .       . V     .
18.717    1.1415    0.61  .Q      .       .       . V     .
18.733    1.1424    0.61  .Q      .       .       . V     .
18.750    1.1432    0.61  .Q      .       .       . V     .
18.767    1.1440    0.61  .Q      .       .       . V     .
18.783    1.1449    0.61  .Q      .       .       . V     .
18.800    1.1457    0.61  .Q      .       .       .  V    .
18.817    1.1465    0.60  .Q      .       .       .  V    .
18.833    1.1474    0.60  .Q      .       .       .  V    .
18.850    1.1482    0.60  .Q      .       .       .  V    .
18.867    1.1490    0.60  .Q      .       .       .  V    .
18.883    1.1498    0.60  .Q      .       .       .  V    .
18.900    1.1507    0.60  .Q      .       .       .  V    .
18.917    1.1515    0.59  .Q      .       .       .  V    .
18.933    1.1523    0.59  .Q      .       .       .  V    .
18.950    1.1531    0.59  .Q      .       .       .  V    .
18.967    1.1539    0.59  .Q      .       .       .  V    .
18.983    1.1547    0.59  .Q      .       .       .  V    .
19.000    1.1556    0.59  .Q      .       .       .  V    .
19.017    1.1564    0.59  .Q      .       .       .  V    .
19.033    1.1572    0.58  .Q      .       .       .  V    .
19.050    1.1580    0.58  .Q      .       .       .  V    .
19.067    1.1588    0.58  .Q      .       .       .  V    .
19.083    1.1596    0.58  .Q      .       .       .  V    .
19.100    1.1604    0.58  .Q      .       .       .  V    .
19.117    1.1612    0.58  .Q      .       .       .  V    .
19.133    1.1619    0.58  .Q      .       .       .  V    .
19.150    1.1627    0.57  .Q      .       .       .  V    .
19.167    1.1635    0.57  .Q      .       .       .  V    .
19.183    1.1643    0.57  .Q      .       .       .  V    .
19.200    1.1651    0.57  .Q      .       .       .  V    .
19.217    1.1659    0.57  .Q      .       .       .  V    .
19.233    1.1667    0.57  .Q      .       .       .  V    .
19.250    1.1674    0.57  .Q      .       .       .  V    .
19.267    1.1682    0.56  .Q      .       .       .  V    .
19.283    1.1690    0.56  .Q      .       .       .  V    .
19.300    1.1698    0.56  .Q      .       .       .  V    .
19.317    1.1705    0.56  .Q      .       .       .  V    .
19.333    1.1713    0.56  .Q      .       .       .  V    .
19.350    1.1721    0.56  .Q      .       .       .  V    .
19.367    1.1729    0.56  .Q      .       .       .  V    .
19.383    1.1736    0.56  .Q      .       .       .  V    .
19.400    1.1744    0.55  .Q      .       .       .  V    .
19.417    1.1751    0.55  .Q      .       .       .  V    .
19.433    1.1759    0.55  .Q      .       .       .  V    .
19.450    1.1767    0.55  .Q      .       .       .  V    .
19.467    1.1774    0.55  .Q      .       .       .  V    .
19.483    1.1782    0.55  .Q      .       .       .  V    .
19.500    1.1789    0.55  .Q      .       .       .  V    .
19.517    1.1797    0.55  .Q      .       .       .   V   .
19.533    1.1804    0.54  .Q      .       .       .   V   .
19.550    1.1812    0.54  .Q      .       .       .   V   .
19.567    1.1819    0.54  .Q      .       .       .   V   .
19.583    1.1827    0.54  .Q      .       .       .   V   .
19.600    1.1834    0.54  .Q      .       .       .   V   .
19.617    1.1842    0.54  .Q      .       .       .   V   .
19.633    1.1849    0.54  .Q      .       .       .   V   .
19.650    1.1856    0.54  .Q      .       .       .   V   .
19.667    1.1864    0.54  .Q      .       .       .   V   .
19.683    1.1871    0.53  .Q      .       .       .   V   .
19.700    1.1878    0.53  .Q      .       .       .   V   .
19.717    1.1886    0.53  .Q      .       .       .   V   .
19.733    1.1893    0.53  .Q      .       .       .   V   .
19.750    1.1900    0.53  .Q      .       .       .   V   .
19.767    1.1908    0.53  .Q      .       .       .   V   .
19.783    1.1915    0.53  .Q      .       .       .   V   .
19.800    1.1922    0.53  .Q      .       .       .   V   .
19.817    1.1930    0.53  .Q      .       .       .   V   .
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19.833	1.1937	0.53	.Q	.	.	.	V	.
19.850	1.1944	0.52	.Q	.	.	.	V	.
19.867	1.1951	0.52	.Q	.	.	.	V	.
19.883	1.1958	0.52	.Q	.	.	.	V	.
19.900	1.1966	0.52	.Q	.	.	.	V	.
19.917	1.1973	0.52	.Q	.	.	.	V	.
19.933	1.1980	0.52	.Q	.	.	.	V	.
19.950	1.1987	0.52	.Q	.	.	.	V	.
19.967	1.1994	0.52	.Q	.	.	.	V	.
19.983	1.2001	0.52	.Q	.	.	.	V	.
20.000	1.2008	0.52	.Q	.	.	.	V	.
20.017	1.2015	0.51	.Q	.	.	.	V	.
20.033	1.2022	0.51	.Q	.	.	.	V	.
20.050	1.2030	0.51	.Q	.	.	.	V	.
20.067	1.2037	0.51	.Q	.	.	.	V	.
20.083	1.2044	0.51	.Q	.	.	.	V	.
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20.117	1.2058	0.51	.Q	.	.	.	V	.
20.133	1.2065	0.51	.Q	.	.	.	V	.
20.150	1.2072	0.51	.Q	.	.	.	V	.
20.167	1.2079	0.51	.Q	.	.	.	V	.
20.183	1.2085	0.50	.Q	.	.	.	V	.
20.200	1.2092	0.50	.Q	.	.	.	V	.
20.217	1.2099	0.50	.Q	.	.	.	V	.
20.233	1.2106	0.50	.Q	.	.	.	V	.
20.250	1.2113	0.50	.Q	.	.	.	V	.
20.267	1.2120	0.50	.Q	.	.	.	V	.
20.283	1.2127	0.50	.Q	.	.	.	V	.
20.300	1.2134	0.50	.Q	.	.	.	V	.
20.317	1.2141	0.50	.Q	.	.	.	V	.
20.333	1.2148	0.50	.Q	.	.	.	V	.
20.350	1.2154	0.50	.Q	.	.	.	V	.
20.367	1.2161	0.50	.Q	.	.	.	V	.
20.383	1.2168	0.49	.Q	.	.	.	V	.
20.400	1.2175	0.49	.Q	.	.	.	V	.
20.417	1.2182	0.49	.Q	.	.	.	V	.
20.433	1.2188	0.49	.Q	.	.	.	V	.
20.450	1.2195	0.49	.Q	.	.	.	V	.
20.467	1.2202	0.49	.Q	.	.	.	V	.
20.483	1.2209	0.49	.Q	.	.	.	V	.
20.500	1.2215	0.49	.Q	.	.	.	V	.
20.517	1.2222	0.49	.Q	.	.	.	V	.
20.533	1.2229	0.49	.Q	.	.	.	V	.
20.550	1.2235	0.49	.Q	.	.	.	V	.
20.567	1.2242	0.49	.Q	.	.	.	V	.
20.583	1.2249	0.48	.Q	.	.	.	V	.
20.600	1.2255	0.48	.Q	.	.	.	V	.
20.617	1.2262	0.48	.Q	.	.	.	V	.
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20.650	1.2275	0.48	.Q	.	.	.	V	.
20.667	1.2282	0.48	.Q	.	.	.	V	.
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20.733	1.2308	0.48	.Q	.	.	.	V	.
20.750	1.2315	0.48	.Q	.	.	.	V	.
20.767	1.2321	0.48	.Q	.	.	.	V	.
20.783	1.2328	0.48	.Q	.	.	.	V	.
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20.833	1.2348	0.47	.Q	.	.	.	V	.
20.850	1.2354	0.47	.Q	.	.	.	V	.
20.867	1.2361	0.47	.Q	.	.	.	V	.
20.883	1.2367	0.47	.Q	.	.	.	V	.
20.900	1.2373	0.47	.Q	.	.	.	V	.
20.917	1.2380	0.47	.Q	.	.	.	V	.
20.933	1.2386	0.47	.Q	.	.	.	V	.
20.950	1.2393	0.47	.Q	.	.	.	V	.
20.967	1.2399	0.47	.Q	.	.	.	V	.
20.983	1.2406	0.47	.Q	.	.	.	V	.
21.000	1.2412	0.47	.Q	.	.	.	V	.
21.017	1.2419	0.46	.Q	.	.	.	V	.
21.033	1.2425	0.46	.Q	.	.	.	V	.
21.050	1.2431	0.46	.Q	.	.	.	V	.
21.067	1.2438	0.46	.Q	.	.	.	V	.
21.083	1.2444	0.46	.Q	.	.	.	V	.
21.100	1.2450	0.46	.Q	.	.	.	V	.
21.117	1.2457	0.46	.Q	.	.	.	V	.
21.133	1.2463	0.46	.Q	.	.	.	V	.

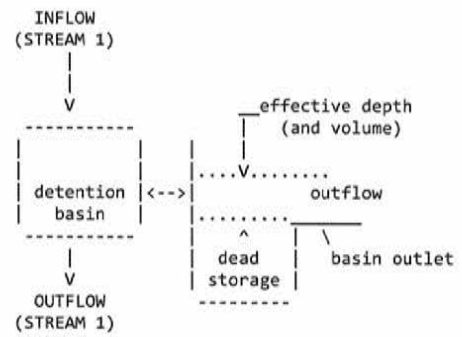
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21.200	1.2488	0.46	.Q	.	.	.	V	.
21.217	1.2495	0.46	.Q	.	.	.	V	.
21.233	1.2501	0.46	.Q	.	.	.	V	.
21.250	1.2507	0.46	.Q	.	.	.	V	.
21.267	1.2513	0.45	.Q	.	.	.	V	.
21.283	1.2520	0.45	.Q	.	.	.	V	.
21.300	1.2526	0.45	.Q	.	.	.	V	.
21.317	1.2532	0.45	.Q	.	.	.	V	.
21.333	1.2538	0.45	.Q	.	.	.	V	.
21.350	1.2545	0.45	.Q	.	.	.	V	.
21.367	1.2551	0.45	.Q	.	.	.	V	.
21.383	1.2557	0.45	.Q	.	.	.	V	.
21.400	1.2563	0.45	.Q	.	.	.	V	.
21.417	1.2569	0.45	.Q	.	.	.	V	.
21.433	1.2576	0.45	.Q	.	.	.	V	.
21.450	1.2582	0.45	.Q	.	.	.	V	.
21.467	1.2588	0.45	.Q	.	.	.	V	.
21.483	1.2594	0.45	.Q	.	.	.	V	.
21.500	1.2600	0.45	.Q	.	.	.	V	.
21.517	1.2606	0.45	.Q	.	.	.	V	.
21.533	1.2613	0.44	.Q	.	.	.	V	.
21.550	1.2619	0.44	.Q	.	.	.	V	.
21.567	1.2625	0.44	.Q	.	.	.	V	.
21.583	1.2631	0.44	.Q	.	.	.	V	.
21.600	1.2637	0.44	.Q	.	.	.	V	.
21.617	1.2643	0.44	.Q	.	.	.	V	.
21.633	1.2649	0.44	.Q	.	.	.	V	.
21.650	1.2655	0.44	.Q	.	.	.	V	.
21.667	1.2661	0.44	.Q	.	.	.	V	.
21.683	1.2667	0.44	.Q	.	.	.	V	.
21.700	1.2673	0.44	.Q	.	.	.	V	.
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21.767	1.2697	0.44	.Q	.	.	.	V	.
21.783	1.2703	0.44	.Q	.	.	.	V	.
21.800	1.2709	0.44	.Q	.	.	.	V	.
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21.850	1.2727	0.43	.Q	.	.	.	V	.
21.867	1.2733	0.43	.Q	.	.	.	V	.
21.883	1.2739	0.43	.Q	.	.	.	V	.
21.900	1.2745	0.43	.Q	.	.	.	V	.
21.917	1.2751	0.43	.Q	.	.	.	V	.
21.933	1.2757	0.43	.Q	.	.	.	V	.
21.950	1.2763	0.43	.Q	.	.	.	V	.
21.967	1.2769	0.43	.Q	.	.	.	V	.
21.983	1.2775	0.43	.Q	.	.	.	V	.
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22.017	1.2787	0.43	.Q	.	.	.	V	.
22.033	1.2793	0.43	.Q	.	.	.	V	.
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22.100	1.2816	0.43	.Q	.	.	.	V	.
22.117	1.2822	0.43	.Q	.	.	.	V	.
22.133	1.2828	0.42	.Q	.	.	.	V	.
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22.367	1.2909	0.42	.Q	.	.	.	V	.
22.383	1.2915	0.42	.Q	.	.	.	V	.
22.400	1.2920	0.42	.Q	.	.	.	V	.
22.417	1.2926	0.42	.Q	.	.	.	V	.
22.433	1.2932	0.42	.Q	.	.	.	V	.
22.450	1.2938	0.42	.Q	.	.	.	V	.

22.467	1.2943	0.41	.Q	.	.	.	V .
22.483	1.2949	0.41	.Q	.	.	.	V .
22.500	1.2955	0.41	.Q	.	.	.	V .
22.517	1.2960	0.41	.Q	.	.	.	V .
22.533	1.2966	0.41	.Q	.	.	.	V .
22.550	1.2972	0.41	.Q	.	.	.	V .
22.567	1.2977	0.41	.Q	.	.	.	V .
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22.600	1.2989	0.41	.Q	.	.	.	V .
22.617	1.2994	0.41	.Q	.	.	.	V .
22.633	1.3000	0.41	.Q	.	.	.	V .
22.650	1.3006	0.41	.Q	.	.	.	V .
22.667	1.3011	0.41	.Q	.	.	.	V .
22.683	1.3017	0.41	.Q	.	.	.	V .
22.700	1.3023	0.41	.Q	.	.	.	V .
22.717	1.3028	0.41	.Q	.	.	.	V .
22.733	1.3034	0.41	.Q	.	.	.	V .
22.750	1.3039	0.41	.Q	.	.	.	V .
22.767	1.3045	0.41	.Q	.	.	.	V .
22.783	1.3051	0.41	.Q	.	.	.	V .
22.800	1.3056	0.41	.Q	.	.	.	V .
22.817	1.3062	0.41	.Q	.	.	.	V .
22.833	1.3067	0.40	.Q	.	.	.	V .
22.850	1.3073	0.40	.Q	.	.	.	V .
22.867	1.3079	0.40	.Q	.	.	.	V .
22.883	1.3084	0.40	.Q	.	.	.	V .
22.900	1.3090	0.40	.Q	.	.	.	V .
22.917	1.3095	0.40	.Q	.	.	.	V .
22.933	1.3101	0.40	.Q	.	.	.	V .
22.950	1.3106	0.40	.Q	.	.	.	V .
22.967	1.3112	0.40	.Q	.	.	.	V .
22.983	1.3117	0.40	.Q	.	.	.	V .
23.000	1.3123	0.40	.Q	.	.	.	V .
23.017	1.3128	0.40	.Q	.	.	.	V .
23.033	1.3134	0.40	.Q	.	.	.	V .
23.050	1.3139	0.40	.Q	.	.	.	V.
23.067	1.3145	0.40	.Q	.	.	.	V.
23.083	1.3150	0.40	.Q	.	.	.	V.
23.100	1.3156	0.40	.Q	.	.	.	V.
23.117	1.3161	0.40	.Q	.	.	.	V.
23.133	1.3167	0.40	.Q	.	.	.	V.
23.150	1.3172	0.40	.Q	.	.	.	V.
23.167	1.3178	0.40	.Q	.	.	.	V.
23.183	1.3183	0.40	.Q	.	.	.	V.
23.200	1.3189	0.40	.Q	.	.	.	V.
23.217	1.3194	0.39	.Q	.	.	.	V.
23.233	1.3199	0.39	.Q	.	.	.	V.
23.250	1.3205	0.39	.Q	.	.	.	V.
23.267	1.3210	0.39	.Q	.	.	.	V.
23.283	1.3216	0.39	.Q	.	.	.	V.
23.300	1.3221	0.39	.Q	.	.	.	V.
23.317	1.3226	0.39	.Q	.	.	.	V.
23.333	1.3232	0.39	.Q	.	.	.	V.
23.350	1.3237	0.39	.Q	.	.	.	V.
23.367	1.3243	0.39	.Q	.	.	.	V.
23.383	1.3248	0.39	.Q	.	.	.	V.
23.400	1.3253	0.39	.Q	.	.	.	V.
23.417	1.3259	0.39	.Q	.	.	.	V.
23.433	1.3264	0.39	.Q	.	.	.	V.
23.450	1.3269	0.39	.Q	.	.	.	V.
23.467	1.3275	0.39	.Q	.	.	.	V.
23.483	1.3280	0.39	.Q	.	.	.	V.
23.500	1.3286	0.39	.Q	.	.	.	V.
23.517	1.3291	0.39	.Q	.	.	.	V.
23.533	1.3296	0.39	.Q	.	.	.	V.
23.550	1.3302	0.39	.Q	.	.	.	V.
23.567	1.3307	0.39	.Q	.	.	.	V.
23.583	1.3312	0.39	.Q	.	.	.	V.
23.600	1.3317	0.39	.Q	.	.	.	V.
23.617	1.3323	0.39	.Q	.	.	.	V.
23.633	1.3328	0.38	.Q	.	.	.	V.
23.650	1.3333	0.38	.Q	.	.	.	V.
23.667	1.3339	0.38	.Q	.	.	.	V.
23.683	1.3344	0.38	.Q	.	.	.	V.
23.700	1.3349	0.38	.Q	.	.	.	V.
23.717	1.3355	0.38	.Q	.	.	.	V.
23.733	1.3360	0.38	.Q	.	.	.	V.
23.750	1.3365	0.38	.Q	.	.	.	V.
23.767	1.3370	0.38	.Q	.	.	.	V.

```
 23.783      1.3376      0.38  .Q        .         .         .         V.
 23.800      1.3381      0.38  .Q        .         .         .         V.
 23.817      1.3386      0.38  .Q        .         .         .         V.
 23.833      1.3391      0.38  .Q        .         .         .         V.
 23.850      1.3397      0.38  .Q        .         .         .         V.
 23.867      1.3402      0.38  .Q        .         .         .         V.
 23.883      1.3407      0.38  .Q        .         .         .         V.
 23.900      1.3412      0.38  .Q        .         .         .         V.
 23.917      1.3417      0.38  .Q        .         .         .         V.
 23.933      1.3423      0.38  .Q        .         .         .         V.
 23.950      1.3428      0.38  .Q        .         .         .         V.
 23.967      1.3433      0.38  .Q        .         .         .         V.
 23.983      1.3438      0.38  .Q        .         .         .         V.
 24.000      1.3443      0.38  .Q        .         .         .         V.
 24.017      1.3449      0.38  .Q        .         .         .         V.
 24.033      1.3454      0.38  .Q        .         .         .         V.
 24.050      1.3459      0.38  .Q        .         .         .         V.
 24.067      1.3464      0.37  .Q        .         .         .         V.
 24.083      1.3468      0.31  Q         .         .         .         V.
 24.100      1.3472      0.24  Q         .         .         .         V.
 24.117      1.3474      0.17  Q         .         .         .         V.
 24.133      1.3475      0.09  Q         .         .         .          V
--------------------------------------------------------------------------------
   TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
   (Note: 100% of Peak Flow Rate estimate assumed to have
   an instantaneous time duration)

   Percentile of Estimated               Duration
       Peak Flow Rate                    (minutes)
   ======================              =========
             0%                         1448.0
            10%                          415.0
            20%                           95.0
            30%                           60.0
            40%                           40.0
            50%                           35.0
            60%                           30.0
            70%                           20.0
            80%                           10.0
            90%                           10.0

********************************************************************************
  FLOW PROCESS FROM NODE    601.00 TO NODE    601.00 IS CODE = 3.2
--------------------------------------------------------------------------------
  >>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #1<<<<<
================================================================================
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        ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 1
        THROUGH A FLOW-THROUGH DETENTION BASIN
        SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:
          DEAD STORAGE(AF) =      0.000
          SPECIFIED DEAD STORAGE(AF) FILLED =      0.000
          SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET =      0.000
          DETENTION BASIN CONSTANT LOSS RATE(CFS) =    0.00


        BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

         INTERVAL     DEPTH       OUTFLOW      STORAGE
          NUMBER       (FT)        (CFS)        (AF)
```

1	0.00	0.00	0.000
2	0.09	8.88	0.001
3	0.19	9.28	0.004
4	0.29	9.66	0.013
5	0.35	9.89	0.023

MODIFIED-PULS BASIN ROUTING MODEL RESULTS(1-MINUTE COMPUTATION INTERVALS):
(Note: Computed EFFECTIVE DEPTH and VOLUME are estimated at the clock time;
MEAN OUTFLOW is the average value during the unit interval.)

CLOCK TIME (HRS)	DEAD-STORAGE FILLED(AF)	INFLOW (CFS)	LOSS (CFS)	EFFECTIVE DEPTH(FT)	MEAN OUTFLOW (CFS)	EFFECTIVE VOLUME(AF)
0.017	0.000	0.00	0.00	0.00	0.0	0.000
0.033	0.000	0.00	0.00	0.00	0.0	0.000
0.050	0.000	0.00	0.00	0.00	0.0	0.000
0.067	0.000	0.02	0.00	0.00	0.0	0.000
0.083	0.000	0.09	0.00	0.00	0.1	0.000
0.100	0.000	0.17	0.00	0.00	0.2	0.000
0.117	0.000	0.24	0.00	0.00	0.2	0.000
0.133	0.000	0.31	0.00	0.00	0.3	0.000
0.150	0.000	0.37	0.00	0.00	0.4	0.000
0.167	0.000	0.38	0.00	0.00	0.4	0.000
0.183	0.000	0.38	0.00	0.00	0.4	0.000
0.200	0.000	0.38	0.00	0.00	0.4	0.000
0.217	0.000	0.38	0.00	0.00	0.4	0.000
0.233	0.000	0.38	0.00	0.00	0.4	0.000
0.250	0.000	0.38	0.00	0.00	0.4	0.000
0.267	0.000	0.38	0.00	0.00	0.4	0.000
0.283	0.000	0.38	0.00	0.00	0.4	0.000
0.300	0.000	0.38	0.00	0.00	0.4	0.000
0.317	0.000	0.38	0.00	0.00	0.4	0.000
0.333	0.000	0.38	0.00	0.00	0.4	0.000
0.350	0.000	0.38	0.00	0.00	0.4	0.000
0.367	0.000	0.38	0.00	0.00	0.4	0.000
0.383	0.000	0.38	0.00	0.00	0.4	0.000
0.400	0.000	0.38	0.00	0.00	0.4	0.000
0.417	0.000	0.38	0.00	0.00	0.4	0.000
0.433	0.000	0.38	0.00	0.00	0.4	0.000
0.450	0.000	0.38	0.00	0.00	0.4	0.000
0.467	0.000	0.38	0.00	0.00	0.4	0.000
0.483	0.000	0.38	0.00	0.00	0.4	0.000
0.500	0.000	0.38	0.00	0.00	0.4	0.000
0.517	0.000	0.38	0.00	0.00	0.4	0.000
0.533	0.000	0.38	0.00	0.00	0.4	0.000
0.550	0.000	0.38	0.00	0.00	0.4	0.000
0.567	0.000	0.38	0.00	0.00	0.4	0.000
0.583	0.000	0.38	0.00	0.00	0.4	0.000
0.600	0.000	0.38	0.00	0.00	0.4	0.000
0.617	0.000	0.38	0.00	0.00	0.4	0.000
0.633	0.000	0.38	0.00	0.00	0.4	0.000
0.650	0.000	0.38	0.00	0.00	0.4	0.000
0.667	0.000	0.38	0.00	0.00	0.4	0.000
0.683	0.000	0.38	0.00	0.00	0.4	0.000
0.700	0.000	0.38	0.00	0.00	0.4	0.000
0.717	0.000	0.38	0.00	0.00	0.4	0.000
0.733	0.000	0.38	0.00	0.00	0.4	0.000
0.750	0.000	0.38	0.00	0.00	0.4	0.000
0.767	0.000	0.38	0.00	0.00	0.4	0.000
0.783	0.000	0.38	0.00	0.00	0.4	0.000
0.800	0.000	0.38	0.00	0.00	0.4	0.000
0.817	0.000	0.38	0.00	0.00	0.4	0.000
0.833	0.000	0.38	0.00	0.00	0.4	0.000
0.850	0.000	0.38	0.00	0.00	0.4	0.000
0.867	0.000	0.38	0.00	0.00	0.4	0.000
0.883	0.000	0.38	0.00	0.00	0.4	0.000
0.900	0.000	0.38	0.00	0.00	0.4	0.000
0.917	0.000	0.38	0.00	0.00	0.4	0.000
0.933	0.000	0.38	0.00	0.00	0.4	0.000
0.950	0.000	0.38	0.00	0.00	0.4	0.000
0.967	0.000	0.38	0.00	0.00	0.4	0.000
0.983	0.000	0.39	0.00	0.00	0.4	0.000
1.000	0.000	0.39	0.00	0.00	0.4	0.000
1.017	0.000	0.39	0.00	0.00	0.4	0.000
1.033	0.000	0.39	0.00	0.00	0.4	0.000
1.050	0.000	0.39	0.00	0.00	0.4	0.000

1.067	0.000	0.39	0.00	0.00	0.4	0.000
1.083	0.000	0.39	0.00	0.00	0.4	0.000
1.100	0.000	0.39	0.00	0.00	0.4	0.000
1.117	0.000	0.39	0.00	0.00	0.4	0.000
1.133	0.000	0.39	0.00	0.00	0.4	0.000
1.150	0.000	0.39	0.00	0.00	0.4	0.000
1.167	0.000	0.39	0.00	0.00	0.4	0.000
1.183	0.000	0.39	0.00	0.00	0.4	0.000
1.200	0.000	0.39	0.00	0.00	0.4	0.000
1.217	0.000	0.39	0.00	0.00	0.4	0.000
1.233	0.000	0.39	0.00	0.00	0.4	0.000
1.250	0.000	0.39	0.00	0.00	0.4	0.000
1.267	0.000	0.39	0.00	0.00	0.4	0.000
1.283	0.000	0.39	0.00	0.00	0.4	0.000
1.300	0.000	0.39	0.00	0.00	0.4	0.000
1.317	0.000	0.39	0.00	0.00	0.4	0.000
1.333	0.000	0.39	0.00	0.00	0.4	0.000
1.350	0.000	0.39	0.00	0.00	0.4	0.000
1.367	0.000	0.39	0.00	0.00	0.4	0.000
1.383	0.000	0.39	0.00	0.00	0.4	0.000
1.400	0.000	0.39	0.00	0.00	0.4	0.000
1.417	0.000	0.39	0.00	0.00	0.4	0.000
1.433	0.000	0.39	0.00	0.00	0.4	0.000
1.450	0.000	0.39	0.00	0.00	0.4	0.000
1.467	0.000	0.39	0.00	0.00	0.4	0.000
1.483	0.000	0.39	0.00	0.00	0.4	0.000
1.500	0.000	0.39	0.00	0.00	0.4	0.000
1.517	0.000	0.39	0.00	0.00	0.4	0.000
1.533	0.000	0.39	0.00	0.00	0.4	0.000
1.550	0.000	0.39	0.00	0.00	0.4	0.000
1.567	0.000	0.39	0.00	0.00	0.4	0.000
1.583	0.000	0.39	0.00	0.00	0.4	0.000
1.600	0.000	0.39	0.00	0.00	0.4	0.000
1.617	0.000	0.39	0.00	0.00	0.4	0.000
1.633	0.000	0.39	0.00	0.00	0.4	0.000
1.650	0.000	0.39	0.00	0.00	0.4	0.000
1.667	0.000	0.39	0.00	0.00	0.4	0.000
1.683	0.000	0.39	0.00	0.00	0.4	0.000
1.700	0.000	0.39	0.00	0.00	0.4	0.000
1.717	0.000	0.39	0.00	0.00	0.4	0.000
1.733	0.000	0.39	0.00	0.00	0.4	0.000
1.750	0.000	0.39	0.00	0.00	0.4	0.000
1.767	0.000	0.39	0.00	0.00	0.4	0.000
1.783	0.000	0.39	0.00	0.00	0.4	0.000
1.800	0.000	0.39	0.00	0.00	0.4	0.000
1.817	0.000	0.39	0.00	0.00	0.4	0.000
1.833	0.000	0.40	0.00	0.00	0.4	0.000
1.850	0.000	0.40	0.00	0.00	0.4	0.000
1.867	0.000	0.40	0.00	0.00	0.4	0.000
1.883	0.000	0.40	0.00	0.00	0.4	0.000
1.900	0.000	0.40	0.00	0.00	0.4	0.000
1.917	0.000	0.40	0.00	0.00	0.4	0.000
1.933	0.000	0.40	0.00	0.00	0.4	0.000
1.950	0.000	0.40	0.00	0.00	0.4	0.000
1.967	0.000	0.40	0.00	0.00	0.4	0.000
1.983	0.000	0.40	0.00	0.00	0.4	0.000
2.000	0.000	0.40	0.00	0.00	0.4	0.000
2.017	0.000	0.40	0.00	0.00	0.4	0.000
2.033	0.000	0.40	0.00	0.00	0.4	0.000
2.050	0.000	0.40	0.00	0.00	0.4	0.000
2.067	0.000	0.40	0.00	0.00	0.4	0.000
2.083	0.000	0.40	0.00	0.00	0.4	0.000
2.100	0.000	0.40	0.00	0.00	0.4	0.000
2.117	0.000	0.40	0.00	0.00	0.4	0.000
2.133	0.000	0.40	0.00	0.00	0.4	0.000
2.150	0.000	0.40	0.00	0.00	0.4	0.000
2.167	0.000	0.40	0.00	0.00	0.4	0.000
2.183	0.000	0.40	0.00	0.00	0.4	0.000
2.200	0.000	0.40	0.00	0.00	0.4	0.000
2.217	0.000	0.40	0.00	0.00	0.4	0.000
2.233	0.000	0.40	0.00	0.00	0.4	0.000
2.250	0.000	0.40	0.00	0.00	0.4	0.000
2.267	0.000	0.40	0.00	0.00	0.4	0.000
2.283	0.000	0.40	0.00	0.00	0.4	0.000
2.300	0.000	0.40	0.00	0.00	0.4	0.000
2.317	0.000	0.40	0.00	0.00	0.4	0.000
2.333	0.000	0.40	0.00	0.00	0.4	0.000
2.350	0.000	0.40	0.00	0.00	0.4	0.000
2.367	0.000	0.40	0.00	0.00	0.4	0.000

2.383	0.000	0.40	0.00	0.00	0.4	0.000
2.400	0.000	0.40	0.00	0.00	0.4	0.000
2.417	0.000	0.40	0.00	0.00	0.4	0.000
2.433	0.000	0.40	0.00	0.00	0.4	0.000
2.450	0.000	0.40	0.00	0.00	0.4	0.000
2.467	0.000	0.40	0.00	0.00	0.4	0.000
2.483	0.000	0.40	0.00	0.00	0.4	0.000
2.500	0.000	0.40	0.00	0.00	0.4	0.000
2.517	0.000	0.40	0.00	0.00	0.4	0.000
2.533	0.000	0.40	0.00	0.00	0.4	0.000
2.550	0.000	0.40	0.00	0.00	0.4	0.000
2.567	0.000	0.40	0.00	0.00	0.4	0.000
2.583	0.000	0.40	0.00	0.00	0.4	0.000
2.600	0.000	0.40	0.00	0.00	0.4	0.000
2.617	0.000	0.41	0.00	0.00	0.4	0.000
2.633	0.000	0.41	0.00	0.00	0.4	0.000
2.650	0.000	0.41	0.00	0.00	0.4	0.000
2.667	0.000	0.41	0.00	0.00	0.4	0.000
2.683	0.000	0.41	0.00	0.00	0.4	0.000
2.700	0.000	0.41	0.00	0.00	0.4	0.000
2.717	0.000	0.41	0.00	0.00	0.4	0.000
2.733	0.000	0.41	0.00	0.00	0.4	0.000
2.750	0.000	0.41	0.00	0.00	0.4	0.000
2.767	0.000	0.41	0.00	0.00	0.4	0.000
2.783	0.000	0.41	0.00	0.00	0.4	0.000
2.800	0.000	0.41	0.00	0.00	0.4	0.000
2.817	0.000	0.41	0.00	0.00	0.4	0.000
2.833	0.000	0.41	0.00	0.00	0.4	0.000
2.850	0.000	0.41	0.00	0.00	0.4	0.000
2.867	0.000	0.41	0.00	0.00	0.4	0.000
2.883	0.000	0.41	0.00	0.00	0.4	0.000
2.900	0.000	0.41	0.00	0.00	0.4	0.000
2.917	0.000	0.41	0.00	0.00	0.4	0.000
2.933	0.000	0.41	0.00	0.00	0.4	0.000
2.950	0.000	0.41	0.00	0.00	0.4	0.000
2.967	0.000	0.41	0.00	0.00	0.4	0.000
2.983	0.000	0.41	0.00	0.00	0.4	0.000
3.000	0.000	0.41	0.00	0.00	0.4	0.000
3.017	0.000	0.41	0.00	0.00	0.4	0.000
3.033	0.000	0.41	0.00	0.00	0.4	0.000
3.050	0.000	0.41	0.00	0.00	0.4	0.000
3.067	0.000	0.41	0.00	0.00	0.4	0.000
3.083	0.000	0.41	0.00	0.00	0.4	0.000
3.100	0.000	0.41	0.00	0.00	0.4	0.000
3.117	0.000	0.41	0.00	0.00	0.4	0.000
3.133	0.000	0.41	0.00	0.00	0.4	0.000
3.150	0.000	0.41	0.00	0.00	0.4	0.000
3.167	0.000	0.41	0.00	0.00	0.4	0.000
3.183	0.000	0.41	0.00	0.00	0.4	0.000
3.200	0.000	0.41	0.00	0.00	0.4	0.000
3.217	0.000	0.41	0.00	0.00	0.4	0.000
3.233	0.000	0.41	0.00	0.00	0.4	0.000
3.250	0.000	0.41	0.00	0.00	0.4	0.000
3.267	0.000	0.41	0.00	0.00	0.4	0.000
3.283	0.000	0.41	0.00	0.00	0.4	0.000
3.300	0.000	0.41	0.00	0.00	0.4	0.000
3.317	0.000	0.41	0.00	0.00	0.4	0.000
3.333	0.000	0.41	0.00	0.00	0.4	0.000
3.350	0.000	0.42	0.00	0.00	0.4	0.000
3.367	0.000	0.42	0.00	0.00	0.4	0.000
3.383	0.000	0.42	0.00	0.00	0.4	0.000
3.400	0.000	0.42	0.00	0.00	0.4	0.000
3.417	0.000	0.42	0.00	0.00	0.4	0.000
3.433	0.000	0.42	0.00	0.00	0.4	0.000
3.450	0.000	0.42	0.00	0.00	0.4	0.000
3.467	0.000	0.42	0.00	0.00	0.4	0.000
3.483	0.000	0.42	0.00	0.00	0.4	0.000
3.500	0.000	0.42	0.00	0.00	0.4	0.000
3.517	0.000	0.42	0.00	0.00	0.4	0.000
3.533	0.000	0.42	0.00	0.00	0.4	0.000
3.550	0.000	0.42	0.00	0.00	0.4	0.000
3.567	0.000	0.42	0.00	0.00	0.4	0.000
3.583	0.000	0.42	0.00	0.00	0.4	0.000
3.600	0.000	0.42	0.00	0.00	0.4	0.000
3.617	0.000	0.42	0.00	0.00	0.4	0.000
3.633	0.000	0.42	0.00	0.00	0.4	0.000
3.650	0.000	0.42	0.00	0.00	0.4	0.000
3.667	0.000	0.42	0.00	0.00	0.4	0.000
3.683	0.000	0.42	0.00	0.00	0.4	0.000

3.700	0.000	0.42	0.00	0.00	0.4	0.000
3.717	0.000	0.42	0.00	0.00	0.4	0.000
3.733	0.000	0.42	0.00	0.00	0.4	0.000
3.750	0.000	0.42	0.00	0.00	0.4	0.000
3.767	0.000	0.42	0.00	0.00	0.4	0.000
3.783	0.000	0.42	0.00	0.00	0.4	0.000
3.800	0.000	0.42	0.00	0.00	0.4	0.000
3.817	0.000	0.42	0.00	0.00	0.4	0.000
3.833	0.000	0.42	0.00	0.00	0.4	0.000
3.850	0.000	0.42	0.00	0.00	0.4	0.000
3.867	0.000	0.42	0.00	0.00	0.4	0.000
3.883	0.000	0.42	0.00	0.00	0.4	0.000
3.900	0.000	0.42	0.00	0.00	0.4	0.000
3.917	0.000	0.42	0.00	0.00	0.4	0.000
3.933	0.000	0.42	0.00	0.00	0.4	0.000
3.950	0.000	0.42	0.00	0.00	0.4	0.000
3.967	0.000	0.42	0.00	0.00	0.4	0.000
3.983	0.000	0.42	0.00	0.00	0.4	0.000
4.000	0.000	0.43	0.00	0.00	0.4	0.000
4.017	0.000	0.43	0.00	0.00	0.4	0.000
4.033	0.000	0.43	0.00	0.00	0.4	0.000
4.050	0.000	0.43	0.00	0.00	0.4	0.000
4.067	0.000	0.43	0.00	0.00	0.4	0.000
4.083	0.000	0.43	0.00	0.00	0.4	0.000
4.100	0.000	0.43	0.00	0.00	0.4	0.000
4.117	0.000	0.43	0.00	0.00	0.4	0.000
4.133	0.000	0.43	0.00	0.00	0.4	0.000
4.150	0.000	0.43	0.00	0.00	0.4	0.000
4.167	0.000	0.43	0.00	0.00	0.4	0.000
4.183	0.000	0.43	0.00	0.00	0.4	0.000
4.200	0.000	0.43	0.00	0.00	0.4	0.000
4.217	0.000	0.43	0.00	0.00	0.4	0.000
4.233	0.000	0.43	0.00	0.00	0.4	0.000
4.250	0.000	0.43	0.00	0.00	0.4	0.000
4.267	0.000	0.43	0.00	0.00	0.4	0.000
4.283	0.000	0.43	0.00	0.00	0.4	0.000
4.300	0.000	0.43	0.00	0.00	0.4	0.000
4.317	0.000	0.43	0.00	0.00	0.4	0.000
4.333	0.000	0.43	0.00	0.00	0.4	0.000
4.350	0.000	0.43	0.00	0.00	0.4	0.000
4.367	0.000	0.43	0.00	0.00	0.4	0.000
4.383	0.000	0.43	0.00	0.00	0.4	0.000
4.400	0.000	0.43	0.00	0.00	0.4	0.000
4.417	0.000	0.43	0.00	0.00	0.4	0.000
4.433	0.000	0.43	0.00	0.00	0.4	0.000
4.450	0.000	0.43	0.00	0.00	0.4	0.000
4.467	0.000	0.43	0.00	0.00	0.4	0.000
4.483	0.000	0.43	0.00	0.00	0.4	0.000
4.500	0.000	0.43	0.00	0.00	0.4	0.000
4.517	0.000	0.43	0.00	0.00	0.4	0.000
4.533	0.000	0.43	0.00	0.00	0.4	0.000
4.550	0.000	0.43	0.00	0.00	0.4	0.000
4.567	0.000	0.43	0.00	0.00	0.4	0.000
4.583	0.000	0.43	0.00	0.00	0.4	0.000
4.600	0.000	0.43	0.00	0.00	0.4	0.000
4.617	0.000	0.44	0.00	0.00	0.4	0.000
4.633	0.000	0.44	0.00	0.00	0.4	0.000
4.650	0.000	0.44	0.00	0.00	0.4	0.000
4.667	0.000	0.44	0.00	0.00	0.4	0.000
4.683	0.000	0.44	0.00	0.00	0.4	0.000
4.700	0.000	0.44	0.00	0.00	0.4	0.000
4.717	0.000	0.44	0.00	0.00	0.4	0.000
4.733	0.000	0.44	0.00	0.00	0.4	0.000
4.750	0.000	0.44	0.00	0.00	0.4	0.000
4.767	0.000	0.44	0.00	0.00	0.4	0.000
4.783	0.000	0.44	0.00	0.00	0.4	0.000
4.800	0.000	0.44	0.00	0.00	0.4	0.000
4.817	0.000	0.44	0.00	0.00	0.4	0.000
4.833	0.000	0.44	0.00	0.00	0.4	0.000
4.850	0.000	0.44	0.00	0.00	0.4	0.000
4.867	0.000	0.44	0.00	0.00	0.4	0.000
4.883	0.000	0.44	0.00	0.00	0.4	0.000
4.900	0.000	0.44	0.00	0.00	0.4	0.000
4.917	0.000	0.44	0.00	0.00	0.4	0.000
4.933	0.000	0.44	0.00	0.00	0.4	0.000
4.950	0.000	0.44	0.00	0.00	0.4	0.000
4.967	0.000	0.44	0.00	0.00	0.4	0.000
4.983	0.000	0.44	0.00	0.00	0.4	0.000
5.000	0.000	0.44	0.00	0.00	0.4	0.000

5.017	0.000	0.44	0.00	0.00	0.4	0.000
5.033	0.000	0.44	0.00	0.00	0.4	0.000
5.050	0.000	0.44	0.00	0.00	0.4	0.000
5.067	0.000	0.44	0.00	0.00	0.4	0.000
5.083	0.000	0.44	0.00	0.00	0.4	0.000
5.100	0.000	0.44	0.00	0.00	0.4	0.000
5.117	0.000	0.44	0.00	0.00	0.4	0.000
5.133	0.000	0.44	0.00	0.00	0.4	0.000
5.150	0.000	0.44	0.00	0.00	0.4	0.000
5.167	0.000	0.44	0.00	0.00	0.4	0.000
5.183	0.000	0.45	0.00	0.00	0.4	0.000
5.200	0.000	0.45	0.00	0.00	0.4	0.000
5.217	0.000	0.45	0.00	0.00	0.4	0.000
5.233	0.000	0.45	0.00	0.00	0.4	0.000
5.250	0.000	0.45	0.00	0.00	0.4	0.000
5.267	0.000	0.45	0.00	0.00	0.4	0.000
5.283	0.000	0.45	0.00	0.00	0.4	0.000
5.300	0.000	0.45	0.00	0.00	0.4	0.000
5.317	0.000	0.45	0.00	0.00	0.4	0.000
5.333	0.000	0.45	0.00	0.00	0.4	0.000
5.350	0.000	0.45	0.00	0.00	0.4	0.000
5.367	0.000	0.45	0.00	0.00	0.4	0.000
5.383	0.000	0.45	0.00	0.00	0.4	0.000
5.400	0.000	0.45	0.00	0.00	0.4	0.000
5.417	0.000	0.45	0.00	0.00	0.4	0.000
5.433	0.000	0.45	0.00	0.00	0.4	0.000
5.450	0.000	0.45	0.00	0.00	0.4	0.000
5.467	0.000	0.45	0.00	0.00	0.5	0.000
5.483	0.000	0.45	0.00	0.00	0.5	0.000
5.500	0.000	0.45	0.00	0.00	0.5	0.000
5.517	0.000	0.45	0.00	0.00	0.5	0.000
5.533	0.000	0.45	0.00	0.00	0.5	0.000
5.550	0.000	0.45	0.00	0.00	0.5	0.000
5.567	0.000	0.45	0.00	0.00	0.5	0.000
5.583	0.000	0.45	0.00	0.00	0.5	0.000
5.600	0.000	0.45	0.00	0.00	0.5	0.000
5.617	0.000	0.45	0.00	0.00	0.5	0.000
5.633	0.000	0.45	0.00	0.00	0.5	0.000
5.650	0.000	0.45	0.00	0.00	0.5	0.000
5.667	0.000	0.45	0.00	0.00	0.5	0.000
5.683	0.000	0.45	0.00	0.00	0.5	0.000
5.700	0.000	0.45	0.00	0.00	0.5	0.000
5.717	0.000	0.46	0.00	0.00	0.5	0.000
5.733	0.000	0.46	0.00	0.00	0.5	0.000
5.750	0.000	0.46	0.00	0.00	0.5	0.000
5.767	0.000	0.46	0.00	0.00	0.5	0.000
5.783	0.000	0.46	0.00	0.00	0.5	0.000
5.800	0.000	0.46	0.00	0.00	0.5	0.000
5.817	0.000	0.46	0.00	0.00	0.5	0.000
5.833	0.000	0.46	0.00	0.00	0.5	0.000
5.850	0.000	0.46	0.00	0.00	0.5	0.000
5.867	0.000	0.46	0.00	0.00	0.5	0.000
5.883	0.000	0.46	0.00	0.00	0.5	0.000
5.900	0.000	0.46	0.00	0.00	0.5	0.000
5.917	0.000	0.46	0.00	0.00	0.5	0.000
5.933	0.000	0.46	0.00	0.00	0.5	0.000
5.950	0.000	0.46	0.00	0.00	0.5	0.000
5.967	0.000	0.46	0.00	0.00	0.5	0.000
5.983	0.000	0.46	0.00	0.00	0.5	0.000
6.000	0.000	0.46	0.00	0.00	0.5	0.000
6.017	0.000	0.46	0.00	0.00	0.5	0.000
6.033	0.000	0.46	0.00	0.00	0.5	0.000
6.050	0.000	0.46	0.00	0.00	0.5	0.000
6.067	0.000	0.46	0.00	0.00	0.5	0.000
6.083	0.000	0.46	0.00	0.00	0.5	0.000
6.100	0.000	0.46	0.00	0.00	0.5	0.000
6.117	0.000	0.46	0.00	0.00	0.5	0.000
6.133	0.000	0.46	0.00	0.00	0.5	0.000
6.150	0.000	0.46	0.00	0.00	0.5	0.000
6.167	0.000	0.46	0.00	0.00	0.5	0.000
6.183	0.000	0.46	0.00	0.00	0.5	0.000
6.200	0.000	0.46	0.00	0.00	0.5	0.000
6.217	0.000	0.47	0.00	0.00	0.5	0.000
6.233	0.000	0.47	0.00	0.00	0.5	0.000
6.250	0.000	0.47	0.00	0.00	0.5	0.000
6.267	0.000	0.47	0.00	0.00	0.5	0.000
6.283	0.000	0.47	0.00	0.00	0.5	0.000
6.300	0.000	0.47	0.00	0.00	0.5	0.000
6.317	0.000	0.47	0.00	0.00	0.5	0.000

6.333	0.000	0.47	0.00	0.00	0.5	0.000
6.350	0.000	0.47	0.00	0.00	0.5	0.000
6.367	0.000	0.47	0.00	0.00	0.5	0.000
6.383	0.000	0.47	0.00	0.00	0.5	0.000
6.400	0.000	0.47	0.00	0.00	0.5	0.000
6.417	0.000	0.47	0.00	0.00	0.5	0.000
6.433	0.000	0.47	0.00	0.00	0.5	0.000
6.450	0.000	0.47	0.00	0.00	0.5	0.000
6.467	0.000	0.47	0.00	0.00	0.5	0.000
6.483	0.000	0.47	0.00	0.00	0.5	0.000
6.500	0.000	0.47	0.00	0.00	0.5	0.000
6.517	0.000	0.47	0.00	0.00	0.5	0.000
6.533	0.000	0.47	0.00	0.00	0.5	0.000
6.550	0.000	0.47	0.00	0.00	0.5	0.000
6.567	0.000	0.47	0.00	0.00	0.5	0.000
6.583	0.000	0.47	0.00	0.00	0.5	0.000
6.600	0.000	0.47	0.00	0.00	0.5	0.000
6.617	0.000	0.47	0.00	0.00	0.5	0.000
6.633	0.000	0.47	0.00	0.00	0.5	0.000
6.650	0.000	0.47	0.00	0.00	0.5	0.000
6.667	0.000	0.47	0.00	0.00	0.5	0.000
6.683	0.000	0.48	0.00	0.00	0.5	0.000
6.700	0.000	0.48	0.00	0.00	0.5	0.000
6.717	0.000	0.48	0.00	0.00	0.5	0.000
6.733	0.000	0.48	0.00	0.00	0.5	0.000
6.750	0.000	0.48	0.00	0.00	0.5	0.000
6.767	0.000	0.48	0.00	0.00	0.5	0.000
6.783	0.000	0.48	0.00	0.00	0.5	0.000
6.800	0.000	0.48	0.00	0.00	0.5	0.000
6.817	0.000	0.48	0.00	0.00	0.5	0.000
6.833	0.000	0.48	0.00	0.00	0.5	0.000
6.850	0.000	0.48	0.00	0.00	0.5	0.000
6.867	0.000	0.48	0.00	0.00	0.5	0.000
6.883	0.000	0.48	0.00	0.00	0.5	0.000
6.900	0.000	0.48	0.00	0.00	0.5	0.000
6.917	0.000	0.48	0.00	0.00	0.5	0.000
6.933	0.000	0.48	0.00	0.00	0.5	0.000
6.950	0.000	0.48	0.00	0.00	0.5	0.000
6.967	0.000	0.48	0.00	0.00	0.5	0.000
6.983	0.000	0.48	0.00	0.00	0.5	0.000
7.000	0.000	0.48	0.00	0.00	0.5	0.000
7.017	0.000	0.48	0.00	0.00	0.5	0.000
7.033	0.000	0.48	0.00	0.00	0.5	0.000
7.050	0.000	0.48	0.00	0.00	0.5	0.000
7.067	0.000	0.48	0.00	0.00	0.5	0.000
7.083	0.000	0.48	0.00	0.00	0.5	0.000
7.100	0.000	0.49	0.00	0.00	0.5	0.000
7.117	0.000	0.49	0.00	0.00	0.5	0.000
7.133	0.000	0.49	0.00	0.00	0.5	0.000
7.150	0.000	0.49	0.00	0.00	0.5	0.000
7.167	0.000	0.49	0.00	0.00	0.5	0.000
7.183	0.000	0.49	0.00	0.00	0.5	0.000
7.200	0.000	0.49	0.00	0.00	0.5	0.000
7.217	0.000	0.49	0.00	0.00	0.5	0.000
7.233	0.000	0.49	0.00	0.00	0.5	0.000
7.250	0.000	0.49	0.00	0.00	0.5	0.000
7.267	0.000	0.49	0.00	0.00	0.5	0.000
7.283	0.000	0.49	0.00	0.00	0.5	0.000
7.300	0.000	0.49	0.00	0.00	0.5	0.000
7.317	0.000	0.49	0.00	0.00	0.5	0.000
7.333	0.000	0.49	0.00	0.00	0.5	0.000
7.350	0.000	0.49	0.00	0.00	0.5	0.000
7.367	0.000	0.49	0.00	0.00	0.5	0.000
7.383	0.000	0.49	0.00	0.00	0.5	0.000
7.400	0.000	0.49	0.00	0.00	0.5	0.000
7.417	0.000	0.49	0.00	0.00	0.5	0.000
7.433	0.000	0.49	0.00	0.01	0.5	0.000
7.450	0.000	0.49	0.00	0.01	0.5	0.000
7.467	0.000	0.49	0.00	0.01	0.5	0.000
7.483	0.000	0.49	0.00	0.01	0.5	0.000
7.500	0.000	0.49	0.00	0.01	0.5	0.000
7.517	0.000	0.49	0.00	0.01	0.5	0.000
7.533	0.000	0.50	0.00	0.01	0.5	0.000
7.550	0.000	0.50	0.00	0.01	0.5	0.000
7.567	0.000	0.50	0.00	0.01	0.5	0.000
7.583	0.000	0.50	0.00	0.01	0.5	0.000
7.600	0.000	0.50	0.00	0.01	0.5	0.000
7.617	0.000	0.50	0.00	0.01	0.5	0.000
7.633	0.000	0.50	0.00	0.01	0.5	0.000

7.650	0.000	0.50	0.00	0.01	0.5	0.000
7.667	0.000	0.50	0.00	0.01	0.5	0.000
7.683	0.000	0.50	0.00	0.01	0.5	0.000
7.700	0.000	0.50	0.00	0.01	0.5	0.000
7.717	0.000	0.50	0.00	0.01	0.5	0.000
7.733	0.000	0.50	0.00	0.01	0.5	0.000
7.750	0.000	0.50	0.00	0.01	0.5	0.000
7.767	0.000	0.50	0.00	0.01	0.5	0.000
7.783	0.000	0.50	0.00	0.01	0.5	0.000
7.800	0.000	0.50	0.00	0.01	0.5	0.000
7.817	0.000	0.50	0.00	0.01	0.5	0.000
7.833	0.000	0.50	0.00	0.01	0.5	0.000
7.850	0.000	0.50	0.00	0.01	0.5	0.000
7.867	0.000	0.50	0.00	0.01	0.5	0.000
7.883	0.000	0.50	0.00	0.01	0.5	0.000
7.900	0.000	0.51	0.00	0.01	0.5	0.000
7.917	0.000	0.51	0.00	0.01	0.5	0.000
7.933	0.000	0.51	0.00	0.01	0.5	0.000
7.950	0.000	0.51	0.00	0.01	0.5	0.000
7.967	0.000	0.51	0.00	0.01	0.5	0.000
7.983	0.000	0.51	0.00	0.01	0.5	0.000
8.000	0.000	0.51	0.00	0.01	0.5	0.000
8.017	0.000	0.51	0.00	0.01	0.5	0.000
8.033	0.000	0.51	0.00	0.01	0.5	0.000
8.050	0.000	0.51	0.00	0.01	0.5	0.000
8.067	0.000	0.51	0.00	0.01	0.5	0.000
8.083	0.000	0.51	0.00	0.01	0.5	0.000
8.100	0.000	0.51	0.00	0.01	0.5	0.000
8.117	0.000	0.51	0.00	0.01	0.5	0.000
8.133	0.000	0.51	0.00	0.01	0.5	0.000
8.150	0.000	0.51	0.00	0.01	0.5	0.000
8.167	0.000	0.51	0.00	0.01	0.5	0.000
8.183	0.000	0.51	0.00	0.01	0.5	0.000
8.200	0.000	0.51	0.00	0.01	0.5	0.000
8.217	0.000	0.51	0.00	0.01	0.5	0.000
8.233	0.000	0.51	0.00	0.01	0.5	0.000
8.250	0.000	0.52	0.00	0.01	0.5	0.000
8.267	0.000	0.52	0.00	0.01	0.5	0.000
8.283	0.000	0.52	0.00	0.01	0.5	0.000
8.300	0.000	0.52	0.00	0.01	0.5	0.000
8.317	0.000	0.52	0.00	0.01	0.5	0.000
8.333	0.000	0.52	0.00	0.01	0.5	0.000
8.350	0.000	0.52	0.00	0.01	0.5	0.000
8.367	0.000	0.52	0.00	0.01	0.5	0.000
8.383	0.000	0.52	0.00	0.01	0.5	0.000
8.400	0.000	0.52	0.00	0.01	0.5	0.000
8.417	0.000	0.52	0.00	0.01	0.5	0.000
8.433	0.000	0.52	0.00	0.01	0.5	0.000
8.450	0.000	0.52	0.00	0.01	0.5	0.000
8.467	0.000	0.52	0.00	0.01	0.5	0.000
8.483	0.000	0.52	0.00	0.01	0.5	0.000
8.500	0.000	0.52	0.00	0.01	0.5	0.000
8.517	0.000	0.52	0.00	0.01	0.5	0.000
8.533	0.000	0.52	0.00	0.01	0.5	0.000
8.550	0.000	0.52	0.00	0.01	0.5	0.000
8.567	0.000	0.52	0.00	0.01	0.5	0.000
8.583	0.000	0.53	0.00	0.01	0.5	0.000
8.600	0.000	0.53	0.00	0.01	0.5	0.000
8.617	0.000	0.53	0.00	0.01	0.5	0.000
8.633	0.000	0.53	0.00	0.01	0.5	0.000
8.650	0.000	0.53	0.00	0.01	0.5	0.000
8.667	0.000	0.53	0.00	0.01	0.5	0.000
8.683	0.000	0.53	0.00	0.01	0.5	0.000
8.700	0.000	0.53	0.00	0.01	0.5	0.000
8.717	0.000	0.53	0.00	0.01	0.5	0.000
8.733	0.000	0.53	0.00	0.01	0.5	0.000
8.750	0.000	0.53	0.00	0.01	0.5	0.000
8.767	0.000	0.53	0.00	0.01	0.5	0.000
8.783	0.000	0.53	0.00	0.01	0.5	0.000
8.800	0.000	0.53	0.00	0.01	0.5	0.000
8.817	0.000	0.53	0.00	0.01	0.5	0.000
8.833	0.000	0.53	0.00	0.01	0.5	0.000
8.850	0.000	0.53	0.00	0.01	0.5	0.000
8.867	0.000	0.53	0.00	0.01	0.5	0.000
8.883	0.000	0.53	0.00	0.01	0.5	0.000
8.900	0.000	0.54	0.00	0.01	0.5	0.000
8.917	0.000	0.54	0.00	0.01	0.5	0.000
8.933	0.000	0.54	0.00	0.01	0.5	0.000
8.950	0.000	0.54	0.00	0.01	0.5	0.000

8.967	0.000	0.54	0.00	0.01	0.5	0.000
8.983	0.000	0.54	0.00	0.01	0.5	0.000
9.000	0.000	0.54	0.00	0.01	0.5	0.000
9.017	0.000	0.54	0.00	0.01	0.5	0.000
9.033	0.000	0.54	0.00	0.01	0.5	0.000
9.050	0.000	0.54	0.00	0.01	0.5	0.000
9.067	0.000	0.54	0.00	0.01	0.5	0.000
9.083	0.000	0.54	0.00	0.01	0.5	0.000
9.100	0.000	0.54	0.00	0.01	0.5	0.000
9.117	0.000	0.54	0.00	0.01	0.5	0.000
9.133	0.000	0.54	0.00	0.01	0.5	0.000
9.150	0.000	0.54	0.00	0.01	0.5	0.000
9.167	0.000	0.54	0.00	0.01	0.5	0.000
9.183	0.000	0.55	0.00	0.01	0.5	0.000
9.200	0.000	0.55	0.00	0.01	0.5	0.000
9.217	0.000	0.55	0.00	0.01	0.5	0.000
9.233	0.000	0.55	0.00	0.01	0.5	0.000
9.250	0.000	0.55	0.00	0.01	0.5	0.000
9.267	0.000	0.55	0.00	0.01	0.5	0.000
9.283	0.000	0.55	0.00	0.01	0.5	0.000
9.300	0.000	0.55	0.00	0.01	0.5	0.000
9.317	0.000	0.55	0.00	0.01	0.6	0.000
9.333	0.000	0.55	0.00	0.01	0.6	0.000
9.350	0.000	0.55	0.00	0.01	0.6	0.000
9.367	0.000	0.55	0.00	0.01	0.6	0.000
9.383	0.000	0.55	0.00	0.01	0.6	0.000
9.400	0.000	0.55	0.00	0.01	0.6	0.000
9.417	0.000	0.55	0.00	0.01	0.6	0.000
9.433	0.000	0.55	0.00	0.01	0.6	0.000
9.450	0.000	0.55	0.00	0.01	0.6	0.000
9.467	0.000	0.56	0.00	0.01	0.6	0.000
9.483	0.000	0.56	0.00	0.01	0.6	0.000
9.500	0.000	0.56	0.00	0.01	0.6	0.000
9.517	0.000	0.56	0.00	0.01	0.6	0.000
9.533	0.000	0.56	0.00	0.01	0.6	0.000
9.550	0.000	0.56	0.00	0.01	0.6	0.000
9.567	0.000	0.56	0.00	0.01	0.6	0.000
9.583	0.000	0.56	0.00	0.01	0.6	0.000
9.600	0.000	0.56	0.00	0.01	0.6	0.000
9.617	0.000	0.56	0.00	0.01	0.6	0.000
9.633	0.000	0.56	0.00	0.01	0.6	0.000
9.650	0.000	0.56	0.00	0.01	0.6	0.000
9.667	0.000	0.56	0.00	0.01	0.6	0.000
9.683	0.000	0.56	0.00	0.01	0.6	0.000
9.700	0.000	0.56	0.00	0.01	0.6	0.000
9.717	0.000	0.57	0.00	0.01	0.6	0.000
9.733	0.000	0.57	0.00	0.01	0.6	0.000
9.750	0.000	0.57	0.00	0.01	0.6	0.000
9.767	0.000	0.57	0.00	0.01	0.6	0.000
9.783	0.000	0.57	0.00	0.01	0.6	0.000
9.800	0.000	0.57	0.00	0.01	0.6	0.000
9.817	0.000	0.57	0.00	0.01	0.6	0.000
9.833	0.000	0.57	0.00	0.01	0.6	0.000
9.850	0.000	0.57	0.00	0.01	0.6	0.000
9.867	0.000	0.57	0.00	0.01	0.6	0.000
9.883	0.000	0.57	0.00	0.01	0.6	0.000
9.900	0.000	0.57	0.00	0.01	0.6	0.000
9.917	0.000	0.57	0.00	0.01	0.6	0.000
9.933	0.000	0.57	0.00	0.01	0.6	0.000
9.950	0.000	0.57	0.00	0.01	0.6	0.000
9.967	0.000	0.57	0.00	0.01	0.6	0.000
9.983	0.000	0.58	0.00	0.01	0.6	0.000
10.000	0.000	0.58	0.00	0.01	0.6	0.000
10.017	0.000	0.58	0.00	0.01	0.6	0.000
10.033	0.000	0.58	0.00	0.01	0.6	0.000
10.050	0.000	0.58	0.00	0.01	0.6	0.000
10.067	0.000	0.58	0.00	0.01	0.6	0.000
10.083	0.000	0.58	0.00	0.01	0.6	0.000
10.100	0.000	0.58	0.00	0.01	0.6	0.000
10.117	0.000	0.58	0.00	0.01	0.6	0.000
10.133	0.000	0.58	0.00	0.01	0.6	0.000
10.150	0.000	0.58	0.00	0.01	0.6	0.000
10.167	0.000	0.58	0.00	0.01	0.6	0.000
10.183	0.000	0.58	0.00	0.01	0.6	0.000
10.200	0.000	0.59	0.00	0.01	0.6	0.000
10.217	0.000	0.59	0.00	0.01	0.6	0.000
10.233	0.000	0.59	0.00	0.01	0.6	0.000
10.250	0.000	0.59	0.00	0.01	0.6	0.000
10.267	0.000	0.59	0.00	0.01	0.6	0.000

10.283	0.000	0.59	0.00	0.01	0.6	0.000
10.300	0.000	0.59	0.00	0.01	0.6	0.000
10.317	0.000	0.59	0.00	0.01	0.6	0.000
10.333	0.000	0.59	0.00	0.01	0.6	0.000
10.350	0.000	0.59	0.00	0.01	0.6	0.000
10.367	0.000	0.59	0.00	0.01	0.6	0.000
10.383	0.000	0.59	0.00	0.01	0.6	0.000
10.400	0.000	0.59	0.00	0.01	0.6	0.000
10.417	0.000	0.59	0.00	0.01	0.6	0.000
10.433	0.000	0.60	0.00	0.01	0.6	0.000
10.450	0.000	0.60	0.00	0.01	0.6	0.000
10.467	0.000	0.60	0.00	0.01	0.6	0.000
10.483	0.000	0.60	0.00	0.01	0.6	0.000
10.500	0.000	0.60	0.00	0.01	0.6	0.000
10.517	0.000	0.60	0.00	0.01	0.6	0.000
10.533	0.000	0.60	0.00	0.01	0.6	0.000
10.550	0.000	0.60	0.00	0.01	0.6	0.000
10.567	0.000	0.60	0.00	0.01	0.6	0.000
10.583	0.000	0.60	0.00	0.01	0.6	0.000
10.600	0.000	0.60	0.00	0.01	0.6	0.000
10.617	0.000	0.60	0.00	0.01	0.6	0.000
10.633	0.000	0.60	0.00	0.01	0.6	0.000
10.650	0.000	0.61	0.00	0.01	0.6	0.000
10.667	0.000	0.61	0.00	0.01	0.6	0.000
10.683	0.000	0.61	0.00	0.01	0.6	0.000
10.700	0.000	0.61	0.00	0.01	0.6	0.000
10.717	0.000	0.61	0.00	0.01	0.6	0.000
10.733	0.000	0.61	0.00	0.01	0.6	0.000
10.750	0.000	0.61	0.00	0.01	0.6	0.000
10.767	0.000	0.61	0.00	0.01	0.6	0.000
10.783	0.000	0.61	0.00	0.01	0.6	0.000
10.800	0.000	0.61	0.00	0.01	0.6	0.000
10.817	0.000	0.61	0.00	0.01	0.6	0.000
10.833	0.000	0.62	0.00	0.01	0.6	0.000
10.850	0.000	0.62	0.00	0.01	0.6	0.000
10.867	0.000	0.62	0.00	0.01	0.6	0.000
10.883	0.000	0.62	0.00	0.01	0.6	0.000
10.900	0.000	0.62	0.00	0.01	0.6	0.000
10.917	0.000	0.62	0.00	0.01	0.6	0.000
10.933	0.000	0.62	0.00	0.01	0.6	0.000
10.950	0.000	0.62	0.00	0.01	0.6	0.000
10.967	0.000	0.62	0.00	0.01	0.6	0.000
10.983	0.000	0.62	0.00	0.01	0.6	0.000
11.000	0.000	0.62	0.00	0.01	0.6	0.000
11.017	0.000	0.63	0.00	0.01	0.6	0.000
11.033	0.000	0.63	0.00	0.01	0.6	0.000
11.050	0.000	0.63	0.00	0.01	0.6	0.000
11.067	0.000	0.63	0.00	0.01	0.6	0.000
11.083	0.000	0.63	0.00	0.01	0.6	0.000
11.100	0.000	0.63	0.00	0.01	0.6	0.000
11.117	0.000	0.63	0.00	0.01	0.6	0.000
11.133	0.000	0.63	0.00	0.01	0.6	0.000
11.150	0.000	0.63	0.00	0.01	0.6	0.000
11.167	0.000	0.63	0.00	0.01	0.6	0.000
11.183	0.000	0.63	0.00	0.01	0.6	0.000
11.200	0.000	0.64	0.00	0.01	0.6	0.000
11.217	0.000	0.64	0.00	0.01	0.6	0.000
11.233	0.000	0.64	0.00	0.01	0.6	0.000
11.250	0.000	0.64	0.00	0.01	0.6	0.000
11.267	0.000	0.64	0.00	0.01	0.6	0.000
11.283	0.000	0.64	0.00	0.01	0.6	0.000
11.300	0.000	0.64	0.00	0.01	0.6	0.000
11.317	0.000	0.64	0.00	0.01	0.6	0.000
11.333	0.000	0.64	0.00	0.01	0.6	0.000
11.350	0.000	0.64	0.00	0.01	0.6	0.000
11.367	0.000	0.65	0.00	0.01	0.6	0.000
11.383	0.000	0.65	0.00	0.01	0.6	0.000
11.400	0.000	0.65	0.00	0.01	0.6	0.000
11.417	0.000	0.65	0.00	0.01	0.6	0.000
11.433	0.000	0.65	0.00	0.01	0.7	0.000
11.450	0.000	0.65	0.00	0.01	0.7	0.000
11.467	0.000	0.65	0.00	0.01	0.7	0.000
11.483	0.000	0.65	0.00	0.01	0.7	0.000
11.500	0.000	0.65	0.00	0.01	0.7	0.000
11.517	0.000	0.65	0.00	0.01	0.7	0.000
11.533	0.000	0.66	0.00	0.01	0.7	0.000
11.550	0.000	0.66	0.00	0.01	0.7	0.000
11.567	0.000	0.66	0.00	0.01	0.7	0.000
11.583	0.000	0.66	0.00	0.01	0.7	0.000

11.600	0.000	0.66	0.00	0.01	0.7	0.000
11.617	0.000	0.66	0.00	0.01	0.7	0.000
11.633	0.000	0.66	0.00	0.01	0.7	0.000
11.650	0.000	0.66	0.00	0.01	0.7	0.000
11.667	0.000	0.66	0.00	0.01	0.7	0.000
11.683	0.000	0.66	0.00	0.01	0.7	0.000
11.700	0.000	0.67	0.00	0.01	0.7	0.000
11.717	0.000	0.67	0.00	0.01	0.7	0.000
11.733	0.000	0.67	0.00	0.01	0.7	0.000
11.750	0.000	0.67	0.00	0.01	0.7	0.000
11.767	0.000	0.67	0.00	0.01	0.7	0.000
11.783	0.000	0.67	0.00	0.01	0.7	0.000
11.800	0.000	0.67	0.00	0.01	0.7	0.000
11.817	0.000	0.67	0.00	0.01	0.7	0.000
11.833	0.000	0.68	0.00	0.01	0.7	0.000
11.850	0.000	0.68	0.00	0.01	0.7	0.000
11.867	0.000	0.68	0.00	0.01	0.7	0.000
11.883	0.000	0.68	0.00	0.01	0.7	0.000
11.900	0.000	0.68	0.00	0.01	0.7	0.000
11.917	0.000	0.68	0.00	0.01	0.7	0.000
11.933	0.000	0.68	0.00	0.01	0.7	0.000
11.950	0.000	0.69	0.00	0.01	0.7	0.000
11.967	0.000	0.69	0.00	0.01	0.7	0.000
11.983	0.000	0.69	0.00	0.01	0.7	0.000
12.000	0.000	0.69	0.00	0.01	0.7	0.000
12.017	0.000	0.69	0.00	0.01	0.7	0.000
12.033	0.000	0.69	0.00	0.01	0.7	0.000
12.050	0.000	0.70	0.00	0.01	0.7	0.000
12.067	0.000	0.70	0.00	0.01	0.7	0.000
12.083	0.000	0.70	0.00	0.01	0.7	0.000
12.100	0.000	0.71	0.00	0.01	0.7	0.000
12.117	0.000	0.71	0.00	0.01	0.7	0.000
12.133	0.000	0.71	0.00	0.01	0.7	0.000
12.150	0.000	0.71	0.00	0.01	0.7	0.000
12.167	0.000	0.71	0.00	0.01	0.7	0.000
12.183	0.000	0.71	0.00	0.01	0.7	0.000
12.200	0.000	0.71	0.00	0.01	0.7	0.000
12.217	0.000	0.72	0.00	0.01	0.7	0.000
12.233	0.000	0.72	0.00	0.01	0.7	0.000
12.250	0.000	0.72	0.00	0.01	0.7	0.000
12.267	0.000	0.72	0.00	0.01	0.7	0.000
12.283	0.000	0.72	0.00	0.01	0.7	0.000
12.300	0.000	0.72	0.00	0.01	0.7	0.000
12.317	0.000	0.73	0.00	0.01	0.7	0.000
12.333	0.000	0.73	0.00	0.01	0.7	0.000
12.350	0.000	0.73	0.00	0.01	0.7	0.000
12.367	0.000	0.73	0.00	0.01	0.7	0.000
12.383	0.000	0.73	0.00	0.01	0.7	0.000
12.400	0.000	0.73	0.00	0.01	0.7	0.000
12.417	0.000	0.73	0.00	0.01	0.7	0.000
12.433	0.000	0.74	0.00	0.01	0.7	0.000
12.450	0.000	0.74	0.00	0.01	0.7	0.000
12.467	0.000	0.74	0.00	0.01	0.7	0.000
12.483	0.000	0.74	0.00	0.01	0.7	0.000
12.500	0.000	0.74	0.00	0.01	0.7	0.000
12.517	0.000	0.74	0.00	0.01	0.7	0.000
12.533	0.000	0.74	0.00	0.01	0.7	0.000
12.550	0.000	0.74	0.00	0.01	0.7	0.000
12.567	0.000	0.75	0.00	0.01	0.7	0.000
12.583	0.000	0.75	0.00	0.01	0.7	0.000
12.600	0.000	0.75	0.00	0.01	0.8	0.000
12.617	0.000	0.75	0.00	0.01	0.8	0.000
12.633	0.000	0.75	0.00	0.01	0.8	0.000
12.650	0.000	0.76	0.00	0.01	0.8	0.000
12.667	0.000	0.76	0.00	0.01	0.8	0.000
12.683	0.000	0.76	0.00	0.01	0.8	0.000
12.700	0.000	0.76	0.00	0.01	0.8	0.000
12.717	0.000	0.76	0.00	0.01	0.8	0.000
12.733	0.000	0.76	0.00	0.01	0.8	0.000
12.750	0.000	0.76	0.00	0.01	0.8	0.000
12.767	0.000	0.77	0.00	0.01	0.8	0.000
12.783	0.000	0.77	0.00	0.01	0.8	0.000
12.800	0.000	0.77	0.00	0.01	0.8	0.000
12.817	0.000	0.77	0.00	0.01	0.8	0.000
12.833	0.000	0.77	0.00	0.01	0.8	0.000
12.850	0.000	0.77	0.00	0.01	0.8	0.000
12.867	0.000	0.78	0.00	0.01	0.8	0.000
12.883	0.000	0.78	0.00	0.01	0.8	0.000
12.900	0.000	0.78	0.00	0.01	0.8	0.000

12.917	0.000	0.78	0.00	0.01	0.8	0.000
12.933	0.000	0.78	0.00	0.01	0.8	0.000
12.950	0.000	0.79	0.00	0.01	0.8	0.000
12.967	0.000	0.79	0.00	0.01	0.8	0.000
12.983	0.000	0.79	0.00	0.01	0.8	0.000
13.000	0.000	0.79	0.00	0.01	0.8	0.000
13.017	0.000	0.79	0.00	0.01	0.8	0.000
13.033	0.000	0.79	0.00	0.01	0.8	0.000
13.050	0.000	0.80	0.00	0.01	0.8	0.000
13.067	0.000	0.80	0.00	0.01	0.8	0.000
13.083	0.000	0.80	0.00	0.01	0.8	0.000
13.100	0.000	0.80	0.00	0.01	0.8	0.000
13.117	0.000	0.80	0.00	0.01	0.8	0.000
13.133	0.000	0.81	0.00	0.01	0.8	0.000
13.150	0.000	0.81	0.00	0.01	0.8	0.000
13.167	0.000	0.81	0.00	0.01	0.8	0.000
13.183	0.000	0.81	0.00	0.01	0.8	0.000
13.200	0.000	0.81	0.00	0.01	0.8	0.000
13.217	0.000	0.82	0.00	0.01	0.8	0.000
13.233	0.000	0.82	0.00	0.01	0.8	0.000
13.250	0.000	0.82	0.00	0.01	0.8	0.000
13.267	0.000	0.82	0.00	0.01	0.8	0.000
13.283	0.000	0.82	0.00	0.01	0.8	0.000
13.300	0.000	0.83	0.00	0.01	0.8	0.000
13.317	0.000	0.83	0.00	0.01	0.8	0.000
13.333	0.000	0.83	0.00	0.01	0.8	0.000
13.350	0.000	0.83	0.00	0.01	0.8	0.000
13.367	0.000	0.84	0.00	0.01	0.8	0.000
13.383	0.000	0.84	0.00	0.01	0.8	0.000
13.400	0.000	0.84	0.00	0.01	0.8	0.000
13.417	0.000	0.84	0.00	0.01	0.8	0.000
13.433	0.000	0.84	0.00	0.01	0.8	0.000
13.450	0.000	0.85	0.00	0.01	0.8	0.000
13.467	0.000	0.85	0.00	0.01	0.8	0.000
13.483	0.000	0.85	0.00	0.01	0.9	0.000
13.500	0.000	0.86	0.00	0.01	0.9	0.000
13.517	0.000	0.86	0.00	0.01	0.9	0.000
13.533	0.000	0.86	0.00	0.01	0.9	0.000
13.550	0.000	0.86	0.00	0.01	0.9	0.000
13.567	0.000	0.86	0.00	0.01	0.9	0.000
13.583	0.000	0.86	0.00	0.01	0.9	0.000
13.600	0.000	0.87	0.00	0.01	0.9	0.000
13.617	0.000	0.87	0.00	0.01	0.9	0.000
13.633	0.000	0.87	0.00	0.01	0.9	0.000
13.650	0.000	0.88	0.00	0.01	0.9	0.000
13.667	0.000	0.88	0.00	0.01	0.9	0.000
13.683	0.000	0.88	0.00	0.01	0.9	0.000
13.700	0.000	0.89	0.00	0.01	0.9	0.000
13.717	0.000	0.89	0.00	0.01	0.9	0.000
13.733	0.000	0.89	0.00	0.01	0.9	0.000
13.750	0.000	0.89	0.00	0.01	0.9	0.000
13.767	0.000	0.89	0.00	0.01	0.9	0.000
13.783	0.000	0.90	0.00	0.01	0.9	0.000
13.800	0.000	0.90	0.00	0.01	0.9	0.000
13.817	0.000	0.91	0.00	0.01	0.9	0.000
13.833	0.000	0.91	0.00	0.01	0.9	0.000
13.850	0.000	0.91	0.00	0.01	0.9	0.000
13.867	0.000	0.91	0.00	0.01	0.9	0.000
13.883	0.000	0.92	0.00	0.01	0.9	0.000
13.900	0.000	0.92	0.00	0.01	0.9	0.000
13.917	0.000	0.92	0.00	0.01	0.9	0.000
13.933	0.000	0.92	0.00	0.01	0.9	0.000
13.950	0.000	0.93	0.00	0.01	0.9	0.000
13.967	0.000	0.93	0.00	0.01	0.9	0.000
13.983	0.000	0.94	0.00	0.01	0.9	0.000
14.000	0.000	0.94	0.00	0.01	0.9	0.000
14.017	0.000	0.94	0.00	0.01	0.9	0.000
14.033	0.000	0.94	0.00	0.01	0.9	0.000
14.050	0.000	0.94	0.00	0.01	0.9	0.000
14.067	0.000	0.94	0.00	0.01	0.9	0.000
14.083	0.000	0.93	0.00	0.01	0.9	0.000
14.100	0.000	0.93	0.00	0.01	0.9	0.000
14.117	0.000	0.93	0.00	0.01	0.9	0.000
14.133	0.000	0.93	0.00	0.01	0.9	0.000
14.150	0.000	0.93	0.00	0.01	0.9	0.000
14.167	0.000	0.94	0.00	0.01	0.9	0.000
14.183	0.000	0.94	0.00	0.01	0.9	0.000
14.200	0.000	0.94	0.00	0.01	0.9	0.000
14.217	0.000	0.94	0.00	0.01	0.9	0.000

14.233	0.000	0.95	0.00	0.01	0.9	0.000
14.250	0.000	0.95	0.00	0.01	0.9	0.000
14.267	0.000	0.95	0.00	0.01	1.0	0.000
14.283	0.000	0.96	0.00	0.01	1.0	0.000
14.300	0.000	0.96	0.00	0.01	1.0	0.000
14.317	0.000	0.97	0.00	0.01	1.0	0.000
14.333	0.000	0.97	0.00	0.01	1.0	0.000
14.350	0.000	0.98	0.00	0.01	1.0	0.000
14.367	0.000	0.98	0.00	0.01	1.0	0.000
14.383	0.000	0.99	0.00	0.01	1.0	0.000
14.400	0.000	0.99	0.00	0.01	1.0	0.000
14.417	0.000	0.99	0.00	0.01	1.0	0.000
14.433	0.000	0.99	0.00	0.01	1.0	0.000
14.450	0.000	1.00	0.00	0.01	1.0	0.000
14.467	0.000	1.00	0.00	0.01	1.0	0.000
14.483	0.000	1.01	0.00	0.01	1.0	0.000
14.500	0.000	1.02	0.00	0.01	1.0	0.000
14.517	0.000	1.02	0.00	0.01	1.0	0.000
14.533	0.000	1.03	0.00	0.01	1.0	0.000
14.550	0.000	1.03	0.00	0.01	1.0	0.000
14.567	0.000	1.04	0.00	0.01	1.0	0.000
14.583	0.000	1.04	0.00	0.01	1.0	0.000
14.600	0.000	1.05	0.00	0.01	1.0	0.000
14.617	0.000	1.05	0.00	0.01	1.0	0.000
14.633	0.000	1.06	0.00	0.01	1.1	0.000
14.650	0.000	1.06	0.00	0.01	1.1	0.000
14.667	0.000	1.07	0.00	0.01	1.1	0.000
14.683	0.000	1.08	0.00	0.01	1.1	0.000
14.700	0.000	1.09	0.00	0.01	1.1	0.000
14.717	0.000	1.09	0.00	0.01	1.1	0.000
14.733	0.000	1.10	0.00	0.01	1.1	0.000
14.750	0.000	1.10	0.00	0.01	1.1	0.000
14.767	0.000	1.10	0.00	0.01	1.1	0.000
14.783	0.000	1.11	0.00	0.01	1.1	0.000
14.800	0.000	1.11	0.00	0.01	1.1	0.000
14.817	0.000	1.12	0.00	0.01	1.1	0.000
14.833	0.000	1.13	0.00	0.01	1.1	0.000
14.850	0.000	1.14	0.00	0.01	1.1	0.000
14.867	0.000	1.15	0.00	0.01	1.2	0.000
14.883	0.000	1.16	0.00	0.01	1.2	0.000
14.900	0.000	1.17	0.00	0.01	1.2	0.000
14.917	0.000	1.17	0.00	0.01	1.2	0.000
14.933	0.000	1.18	0.00	0.01	1.2	0.000
14.950	0.000	1.18	0.00	0.01	1.2	0.000
14.967	0.000	1.19	0.00	0.01	1.2	0.000
14.983	0.000	1.20	0.00	0.01	1.2	0.000
15.000	0.000	1.21	0.00	0.01	1.2	0.000
15.017	0.000	1.22	0.00	0.01	1.2	0.000
15.033	0.000	1.23	0.00	0.01	1.2	0.000
15.050	0.000	1.24	0.00	0.01	1.2	0.000
15.067	0.000	1.25	0.00	0.01	1.3	0.000
15.083	0.000	1.26	0.00	0.01	1.3	0.000
15.100	0.000	1.27	0.00	0.01	1.3	0.000
15.117	0.000	1.27	0.00	0.01	1.3	0.000
15.133	0.000	1.28	0.00	0.01	1.3	0.000
15.150	0.000	1.29	0.00	0.01	1.3	0.000
15.167	0.000	1.30	0.00	0.01	1.3	0.000
15.183	0.000	1.32	0.00	0.01	1.3	0.000
15.200	0.000	1.34	0.00	0.01	1.3	0.000
15.217	0.000	1.35	0.00	0.01	1.3	0.000
15.233	0.000	1.36	0.00	0.01	1.4	0.000
15.250	0.000	1.37	0.00	0.01	1.4	0.000
15.267	0.000	1.38	0.00	0.01	1.4	0.000
15.283	0.000	1.39	0.00	0.01	1.4	0.000
15.300	0.000	1.40	0.00	0.01	1.4	0.000
15.317	0.000	1.40	0.00	0.01	1.4	0.000
15.333	0.000	1.38	0.00	0.01	1.4	0.000
15.350	0.000	1.36	0.00	0.01	1.4	0.000
15.367	0.000	1.34	0.00	0.01	1.3	0.000
15.383	0.000	1.32	0.00	0.01	1.3	0.000
15.400	0.000	1.29	0.00	0.01	1.3	0.000
15.417	0.000	1.27	0.00	0.01	1.3	0.000
15.433	0.000	1.25	0.00	0.01	1.2	0.000
15.450	0.000	1.22	0.00	0.01	1.2	0.000
15.467	0.000	1.20	0.00	0.01	1.2	0.000
15.483	0.000	1.17	0.00	0.01	1.2	0.000
15.500	0.000	1.19	0.00	0.01	1.2	0.000
15.517	0.000	1.22	0.00	0.01	1.2	0.000
15.533	0.000	1.25	0.00	0.01	1.2	0.000

15.550	0.000	1.28	0.00	0.01	1.3	0.000
15.567	0.000	1.31	0.00	0.01	1.3	0.000
15.583	0.000	1.34	0.00	0.01	1.3	0.000
15.600	0.000	1.36	0.00	0.01	1.4	0.000
15.617	0.000	1.38	0.00	0.01	1.4	0.000
15.633	0.000	1.40	0.00	0.01	1.4	0.000
15.650	0.000	1.42	0.00	0.01	1.4	0.000
15.667	0.000	1.46	0.00	0.01	1.5	0.000
15.683	0.000	1.53	0.00	0.02	1.5	0.000
15.700	0.000	1.61	0.00	0.02	1.6	0.000
15.717	0.000	1.68	0.00	0.02	1.7	0.000
15.733	0.000	1.76	0.00	0.02	1.7	0.000
15.750	0.000	1.83	0.00	0.02	1.8	0.000
15.767	0.000	1.88	0.00	0.02	1.9	0.000
15.783	0.000	1.93	0.00	0.02	1.9	0.000
15.800	0.000	1.98	0.00	0.02	2.0	0.000
15.817	0.000	2.03	0.00	0.02	2.0	0.000
15.833	0.000	2.09	0.00	0.02	2.1	0.000
15.850	0.000	2.24	0.00	0.02	2.2	0.000
15.867	0.000	2.42	0.00	0.03	2.4	0.000
15.883	0.000	2.59	0.00	0.03	2.6	0.000
15.900	0.000	2.77	0.00	0.03	2.8	0.000
15.917	0.000	2.94	0.00	0.03	2.9	0.000
15.933	0.000	3.15	0.00	0.03	3.1	0.000
15.950	0.000	3.36	0.00	0.03	3.3	0.000
15.967	0.000	3.58	0.00	0.04	3.6	0.000
15.983	0.000	3.80	0.00	0.04	3.8	0.000
16.000	0.000	4.01	0.00	0.04	4.0	0.001
16.017	0.000	4.93	0.00	0.06	4.8	0.001
16.033	0.000	6.56	0.00	0.07	6.4	0.001
16.050	0.000	8.18	0.00	0.09	8.0	0.001
16.067	0.000	9.81	0.00	0.13	8.9	0.002
16.083	0.000	11.44	0.00	0.21	9.2	0.005
16.100	0.000	12.57	0.00	0.25	9.4	0.010
16.117	0.000	10.04	0.00	0.26	9.5	0.010
16.133	0.000	8.09	0.00	0.24	9.5	0.008
16.150	0.000	6.14	0.00	0.19	9.4	0.004
16.167	0.000	4.19	0.00	0.04	6.7	0.001
16.183	0.000	2.56	0.00	0.01	2.8	0.000
16.200	0.000	2.25	0.00	0.03	2.1	0.000
16.217	0.000	2.09	0.00	0.02	2.2	0.000
16.233	0.000	1.92	0.00	0.02	1.9	0.000
16.250	0.000	1.76	0.00	0.01	1.8	0.000
16.267	0.000	1.60	0.00	0.02	1.6	0.000
16.283	0.000	1.52	0.00	0.01	1.5	0.000
16.300	0.000	1.45	0.00	0.02	1.4	0.000
16.317	0.000	1.39	0.00	0.01	1.4	0.000
16.333	0.000	1.32	0.00	0.01	1.3	0.000
16.350	0.000	1.26	0.00	0.01	1.3	0.000
16.367	0.000	1.27	0.00	0.01	1.3	0.000
16.383	0.000	1.31	0.00	0.01	1.3	0.000
16.400	0.000	1.36	0.00	0.01	1.3	0.000
16.417	0.000	1.40	0.00	0.01	1.4	0.000
16.433	0.000	1.44	0.00	0.01	1.4	0.000
16.450	0.000	1.45	0.00	0.01	1.5	0.000
16.467	0.000	1.42	0.00	0.01	1.4	0.000
16.483	0.000	1.39	0.00	0.01	1.4	0.000
16.500	0.000	1.37	0.00	0.01	1.4	0.000
16.517	0.000	1.34	0.00	0.01	1.3	0.000
16.533	0.000	1.31	0.00	0.01	1.3	0.000
16.550	0.000	1.29	0.00	0.01	1.3	0.000
16.567	0.000	1.27	0.00	0.01	1.3	0.000
16.583	0.000	1.25	0.00	0.01	1.3	0.000
16.600	0.000	1.23	0.00	0.01	1.2	0.000
16.617	0.000	1.22	0.00	0.01	1.2	0.000
16.633	0.000	1.20	0.00	0.01	1.2	0.000
16.650	0.000	1.18	0.00	0.01	1.2	0.000
16.667	0.000	1.17	0.00	0.01	1.2	0.000
16.683	0.000	1.15	0.00	0.01	1.2	0.000
16.700	0.000	1.14	0.00	0.01	1.1	0.000
16.717	0.000	1.12	0.00	0.01	1.1	0.000
16.733	0.000	1.11	0.00	0.01	1.1	0.000
16.750	0.000	1.10	0.00	0.01	1.1	0.000
16.767	0.000	1.09	0.00	0.01	1.1	0.000
16.783	0.000	1.07	0.00	0.01	1.1	0.000
16.800	0.000	1.06	0.00	0.01	1.1	0.000
16.817	0.000	1.05	0.00	0.01	1.1	0.000
16.833	0.000	1.04	0.00	0.01	1.0	0.000
16.850	0.000	1.03	0.00	0.01	1.0	0.000



16.867	0.000	1.02	0.00	0.01	1.0	0.000
16.883	0.000	1.01	0.00	0.01	1.0	0.000
16.900	0.000	1.00	0.00	0.01	1.0	0.000
16.917	0.000	0.99	0.00	0.01	1.0	0.000
16.933	0.000	0.98	0.00	0.01	1.0	0.000
16.950	0.000	0.97	0.00	0.01	1.0	0.000
16.967	0.000	0.96	0.00	0.01	1.0	0.000
16.983	0.000	0.96	0.00	0.01	1.0	0.000
17.000	0.000	0.95	0.00	0.01	0.9	0.000
17.017	0.000	0.94	0.00	0.01	0.9	0.000
17.033	0.000	0.93	0.00	0.01	0.9	0.000
17.050	0.000	0.93	0.00	0.01	0.9	0.000
17.067	0.000	0.93	0.00	0.01	0.9	0.000
17.083	0.000	0.93	0.00	0.01	0.9	0.000
17.100	0.000	0.93	0.00	0.01	0.9	0.000
17.117	0.000	0.93	0.00	0.01	0.9	0.000
17.133	0.000	0.93	0.00	0.01	0.9	0.000
17.150	0.000	0.93	0.00	0.01	0.9	0.000
17.167	0.000	0.92	0.00	0.01	0.9	0.000
17.183	0.000	0.91	0.00	0.01	0.9	0.000
17.200	0.000	0.91	0.00	0.01	0.9	0.000
17.217	0.000	0.90	0.00	0.01	0.9	0.000
17.233	0.000	0.90	0.00	0.01	0.9	0.000
17.250	0.000	0.89	0.00	0.01	0.9	0.000
17.267	0.000	0.89	0.00	0.01	0.9	0.000
17.283	0.000	0.88	0.00	0.01	0.9	0.000
17.300	0.000	0.88	0.00	0.01	0.9	0.000
17.317	0.000	0.87	0.00	0.01	0.9	0.000
17.333	0.000	0.87	0.00	0.01	0.9	0.000
17.350	0.000	0.86	0.00	0.01	0.9	0.000
17.367	0.000	0.86	0.00	0.01	0.9	0.000
17.383	0.000	0.85	0.00	0.01	0.9	0.000
17.400	0.000	0.85	0.00	0.01	0.8	0.000
17.417	0.000	0.84	0.00	0.01	0.8	0.000
17.433	0.000	0.84	0.00	0.01	0.8	0.000
17.450	0.000	0.83	0.00	0.01	0.8	0.000
17.467	0.000	0.83	0.00	0.01	0.8	0.000
17.483	0.000	0.82	0.00	0.01	0.8	0.000
17.500	0.000	0.82	0.00	0.01	0.8	0.000
17.517	0.000	0.82	0.00	0.01	0.8	0.000
17.533	0.000	0.81	0.00	0.01	0.8	0.000
17.550	0.000	0.81	0.00	0.01	0.8	0.000
17.567	0.000	0.80	0.00	0.01	0.8	0.000
17.583	0.000	0.80	0.00	0.01	0.8	0.000
17.600	0.000	0.80	0.00	0.01	0.8	0.000
17.617	0.000	0.79	0.00	0.01	0.8	0.000
17.633	0.000	0.79	0.00	0.01	0.8	0.000
17.650	0.000	0.78	0.00	0.01	0.8	0.000
17.667	0.000	0.78	0.00	0.01	0.8	0.000
17.683	0.000	0.78	0.00	0.01	0.8	0.000
17.700	0.000	0.77	0.00	0.01	0.8	0.000
17.717	0.000	0.77	0.00	0.01	0.8	0.000
17.733	0.000	0.77	0.00	0.01	0.8	0.000
17.750	0.000	0.76	0.00	0.01	0.8	0.000
17.767	0.000	0.76	0.00	0.01	0.8	0.000
17.783	0.000	0.76	0.00	0.01	0.8	0.000
17.800	0.000	0.75	0.00	0.01	0.8	0.000
17.817	0.000	0.75	0.00	0.01	0.8	0.000
17.833	0.000	0.75	0.00	0.01	0.7	0.000
17.850	0.000	0.74	0.00	0.01	0.7	0.000
17.867	0.000	0.74	0.00	0.01	0.7	0.000
17.883	0.000	0.74	0.00	0.01	0.7	0.000
17.900	0.000	0.74	0.00	0.01	0.7	0.000
17.917	0.000	0.73	0.00	0.01	0.7	0.000
17.933	0.000	0.73	0.00	0.01	0.7	0.000
17.950	0.000	0.73	0.00	0.01	0.7	0.000
17.967	0.000	0.72	0.00	0.01	0.7	0.000
17.983	0.000	0.72	0.00	0.01	0.7	0.000
18.000	0.000	0.72	0.00	0.01	0.7	0.000
18.017	0.000	0.71	0.00	0.01	0.7	0.000
18.033	0.000	0.71	0.00	0.01	0.7	0.000
18.050	0.000	0.71	0.00	0.01	0.7	0.000
18.067	0.000	0.70	0.00	0.01	0.7	0.000
18.083	0.000	0.70	0.00	0.01	0.7	0.000
18.100	0.000	0.69	0.00	0.01	0.7	0.000
18.117	0.000	0.69	0.00	0.01	0.7	0.000
18.133	0.000	0.69	0.00	0.01	0.7	0.000
18.150	0.000	0.68	0.00	0.01	0.7	0.000
18.167	0.000	0.68	0.00	0.01	0.7	0.000

18.183	0.000	0.68	0.00	0.01	0.7	0.000
18.200	0.000	0.68	0.00	0.01	0.7	0.000
18.217	0.000	0.67	0.00	0.01	0.7	0.000
18.233	0.000	0.67	0.00	0.01	0.7	0.000
18.250	0.000	0.67	0.00	0.01	0.7	0.000
18.267	0.000	0.67	0.00	0.01	0.7	0.000
18.283	0.000	0.67	0.00	0.01	0.7	0.000
18.300	0.000	0.66	0.00	0.01	0.7	0.000
18.317	0.000	0.66	0.00	0.01	0.7	0.000
18.333	0.000	0.66	0.00	0.01	0.7	0.000
18.350	0.000	0.66	0.00	0.01	0.7	0.000
18.367	0.000	0.65	0.00	0.01	0.7	0.000
18.383	0.000	0.65	0.00	0.01	0.7	0.000
18.400	0.000	0.65	0.00	0.01	0.7	0.000
18.417	0.000	0.65	0.00	0.01	0.6	0.000
18.433	0.000	0.65	0.00	0.01	0.6	0.000
18.450	0.000	0.64	0.00	0.01	0.6	0.000
18.467	0.000	0.64	0.00	0.01	0.6	0.000
18.483	0.000	0.64	0.00	0.01	0.6	0.000
18.500	0.000	0.64	0.00	0.01	0.6	0.000
18.517	0.000	0.64	0.00	0.01	0.6	0.000
18.533	0.000	0.63	0.00	0.01	0.6	0.000
18.550	0.000	0.63	0.00	0.01	0.6	0.000
18.567	0.000	0.63	0.00	0.01	0.6	0.000
18.583	0.000	0.63	0.00	0.01	0.6	0.000
18.600	0.000	0.63	0.00	0.01	0.6	0.000
18.617	0.000	0.62	0.00	0.01	0.6	0.000
18.633	0.000	0.62	0.00	0.01	0.6	0.000
18.650	0.000	0.62	0.00	0.01	0.6	0.000
18.667	0.000	0.62	0.00	0.01	0.6	0.000
18.683	0.000	0.62	0.00	0.01	0.6	0.000
18.700	0.000	0.62	0.00	0.01	0.6	0.000
18.717	0.000	0.61	0.00	0.01	0.6	0.000
18.733	0.000	0.61	0.00	0.01	0.6	0.000
18.750	0.000	0.61	0.00	0.01	0.6	0.000
18.767	0.000	0.61	0.00	0.01	0.6	0.000
18.783	0.000	0.61	0.00	0.01	0.6	0.000
18.800	0.000	0.61	0.00	0.01	0.6	0.000
18.817	0.000	0.60	0.00	0.01	0.6	0.000
18.833	0.000	0.60	0.00	0.01	0.6	0.000
18.850	0.000	0.60	0.00	0.01	0.6	0.000
18.867	0.000	0.60	0.00	0.01	0.6	0.000
18.883	0.000	0.60	0.00	0.01	0.6	0.000
18.900	0.000	0.60	0.00	0.01	0.6	0.000
18.917	0.000	0.59	0.00	0.01	0.6	0.000
18.933	0.000	0.59	0.00	0.01	0.6	0.000
18.950	0.000	0.59	0.00	0.01	0.6	0.000
18.967	0.000	0.59	0.00	0.01	0.6	0.000
18.983	0.000	0.59	0.00	0.01	0.6	0.000
19.000	0.000	0.59	0.00	0.01	0.6	0.000
19.017	0.000	0.59	0.00	0.01	0.6	0.000
19.033	0.000	0.58	0.00	0.01	0.6	0.000
19.050	0.000	0.58	0.00	0.01	0.6	0.000
19.067	0.000	0.58	0.00	0.01	0.6	0.000
19.083	0.000	0.58	0.00	0.01	0.6	0.000
19.100	0.000	0.58	0.00	0.01	0.6	0.000
19.117	0.000	0.58	0.00	0.01	0.6	0.000
19.133	0.000	0.58	0.00	0.01	0.6	0.000
19.150	0.000	0.57	0.00	0.01	0.6	0.000
19.167	0.000	0.57	0.00	0.01	0.6	0.000
19.183	0.000	0.57	0.00	0.01	0.6	0.000
19.200	0.000	0.57	0.00	0.01	0.6	0.000
19.217	0.000	0.57	0.00	0.01	0.6	0.000
19.233	0.000	0.57	0.00	0.01	0.6	0.000
19.250	0.000	0.57	0.00	0.01	0.6	0.000
19.267	0.000	0.56	0.00	0.01	0.6	0.000
19.283	0.000	0.56	0.00	0.01	0.6	0.000
19.300	0.000	0.56	0.00	0.01	0.6	0.000
19.317	0.000	0.56	0.00	0.01	0.6	0.000
19.333	0.000	0.56	0.00	0.01	0.6	0.000
19.350	0.000	0.56	0.00	0.01	0.6	0.000
19.367	0.000	0.56	0.00	0.01	0.6	0.000
19.383	0.000	0.56	0.00	0.01	0.6	0.000
19.400	0.000	0.55	0.00	0.01	0.6	0.000
19.417	0.000	0.55	0.00	0.01	0.6	0.000
19.433	0.000	0.55	0.00	0.01	0.6	0.000
19.450	0.000	0.55	0.00	0.01	0.6	0.000
19.467	0.000	0.55	0.00	0.01	0.5	0.000
19.483	0.000	0.55	0.00	0.01	0.5	0.000

19.500	0.000	0.55	0.00	0.01	0.5	0.000
19.517	0.000	0.55	0.00	0.01	0.5	0.000
19.533	0.000	0.54	0.00	0.01	0.5	0.000
19.550	0.000	0.54	0.00	0.01	0.5	0.000
19.567	0.000	0.54	0.00	0.01	0.5	0.000
19.583	0.000	0.54	0.00	0.01	0.5	0.000
19.600	0.000	0.54	0.00	0.01	0.5	0.000
19.617	0.000	0.54	0.00	0.01	0.5	0.000
19.633	0.000	0.54	0.00	0.01	0.5	0.000
19.650	0.000	0.54	0.00	0.01	0.5	0.000
19.667	0.000	0.54	0.00	0.01	0.5	0.000
19.683	0.000	0.53	0.00	0.01	0.5	0.000
19.700	0.000	0.53	0.00	0.01	0.5	0.000
19.717	0.000	0.53	0.00	0.01	0.5	0.000
19.733	0.000	0.53	0.00	0.01	0.5	0.000
19.750	0.000	0.53	0.00	0.01	0.5	0.000
19.767	0.000	0.53	0.00	0.01	0.5	0.000
19.783	0.000	0.53	0.00	0.01	0.5	0.000
19.800	0.000	0.53	0.00	0.01	0.5	0.000
19.817	0.000	0.53	0.00	0.01	0.5	0.000
19.833	0.000	0.53	0.00	0.01	0.5	0.000
19.850	0.000	0.52	0.00	0.01	0.5	0.000
19.867	0.000	0.52	0.00	0.01	0.5	0.000
19.883	0.000	0.52	0.00	0.01	0.5	0.000
19.900	0.000	0.52	0.00	0.01	0.5	0.000
19.917	0.000	0.52	0.00	0.01	0.5	0.000
19.933	0.000	0.52	0.00	0.01	0.5	0.000
19.950	0.000	0.52	0.00	0.01	0.5	0.000
19.967	0.000	0.52	0.00	0.01	0.5	0.000
19.983	0.000	0.52	0.00	0.01	0.5	0.000
20.000	0.000	0.52	0.00	0.01	0.5	0.000
20.017	0.000	0.51	0.00	0.01	0.5	0.000
20.033	0.000	0.51	0.00	0.01	0.5	0.000
20.050	0.000	0.51	0.00	0.01	0.5	0.000
20.067	0.000	0.51	0.00	0.01	0.5	0.000
20.083	0.000	0.51	0.00	0.01	0.5	0.000
20.100	0.000	0.51	0.00	0.01	0.5	0.000
20.117	0.000	0.51	0.00	0.01	0.5	0.000
20.133	0.000	0.51	0.00	0.01	0.5	0.000
20.150	0.000	0.51	0.00	0.01	0.5	0.000
20.167	0.000	0.51	0.00	0.01	0.5	0.000
20.183	0.000	0.50	0.00	0.01	0.5	0.000
20.200	0.000	0.50	0.00	0.01	0.5	0.000
20.217	0.000	0.50	0.00	0.01	0.5	0.000
20.233	0.000	0.50	0.00	0.01	0.5	0.000
20.250	0.000	0.50	0.00	0.01	0.5	0.000
20.267	0.000	0.50	0.00	0.01	0.5	0.000
20.283	0.000	0.50	0.00	0.01	0.5	0.000
20.300	0.000	0.50	0.00	0.01	0.5	0.000
20.317	0.000	0.50	0.00	0.01	0.5	0.000
20.333	0.000	0.50	0.00	0.01	0.5	0.000
20.350	0.000	0.50	0.00	0.01	0.5	0.000
20.367	0.000	0.50	0.00	0.01	0.5	0.000
20.383	0.000	0.49	0.00	0.01	0.5	0.000
20.400	0.000	0.49	0.00	0.00	0.5	0.000
20.417	0.000	0.49	0.00	0.00	0.5	0.000
20.433	0.000	0.49	0.00	0.00	0.5	0.000
20.450	0.000	0.49	0.00	0.00	0.5	0.000
20.467	0.000	0.49	0.00	0.00	0.5	0.000
20.483	0.000	0.49	0.00	0.00	0.5	0.000
20.500	0.000	0.49	0.00	0.00	0.5	0.000
20.517	0.000	0.49	0.00	0.00	0.5	0.000
20.533	0.000	0.49	0.00	0.00	0.5	0.000
20.550	0.000	0.49	0.00	0.00	0.5	0.000
20.567	0.000	0.49	0.00	0.00	0.5	0.000
20.583	0.000	0.48	0.00	0.00	0.5	0.000
20.600	0.000	0.48	0.00	0.00	0.5	0.000
20.617	0.000	0.48	0.00	0.00	0.5	0.000
20.633	0.000	0.48	0.00	0.00	0.5	0.000
20.650	0.000	0.48	0.00	0.00	0.5	0.000
20.667	0.000	0.48	0.00	0.00	0.5	0.000
20.683	0.000	0.48	0.00	0.00	0.5	0.000
20.700	0.000	0.48	0.00	0.00	0.5	0.000
20.717	0.000	0.48	0.00	0.00	0.5	0.000
20.733	0.000	0.48	0.00	0.00	0.5	0.000
20.750	0.000	0.48	0.00	0.00	0.5	0.000
20.767	0.000	0.48	0.00	0.00	0.5	0.000
20.783	0.000	0.48	0.00	0.00	0.5	0.000
20.800	0.000	0.47	0.00	0.00	0.5	0.000

20.817	0.000	0.47	0.00	0.00	0.5	0.000
20.833	0.000	0.47	0.00	0.00	0.5	0.000
20.850	0.000	0.47	0.00	0.00	0.5	0.000
20.867	0.000	0.47	0.00	0.00	0.5	0.000
20.883	0.000	0.47	0.00	0.00	0.5	0.000
20.900	0.000	0.47	0.00	0.00	0.5	0.000
20.917	0.000	0.47	0.00	0.00	0.5	0.000
20.933	0.000	0.47	0.00	0.00	0.5	0.000
20.950	0.000	0.47	0.00	0.00	0.5	0.000
20.967	0.000	0.47	0.00	0.00	0.5	0.000
20.983	0.000	0.47	0.00	0.00	0.5	0.000
21.000	0.000	0.47	0.00	0.00	0.5	0.000
21.017	0.000	0.46	0.00	0.00	0.5	0.000
21.033	0.000	0.46	0.00	0.00	0.5	0.000
21.050	0.000	0.46	0.00	0.00	0.5	0.000
21.067	0.000	0.46	0.00	0.00	0.5	0.000
21.083	0.000	0.46	0.00	0.00	0.5	0.000
21.100	0.000	0.46	0.00	0.00	0.5	0.000
21.117	0.000	0.46	0.00	0.00	0.5	0.000
21.133	0.000	0.46	0.00	0.00	0.5	0.000
21.150	0.000	0.46	0.00	0.00	0.5	0.000
21.167	0.000	0.46	0.00	0.00	0.5	0.000
21.183	0.000	0.46	0.00	0.00	0.5	0.000
21.200	0.000	0.46	0.00	0.00	0.5	0.000
21.217	0.000	0.46	0.00	0.00	0.5	0.000
21.233	0.000	0.46	0.00	0.00	0.5	0.000
21.250	0.000	0.46	0.00	0.00	0.5	0.000
21.267	0.000	0.45	0.00	0.00	0.5	0.000
21.283	0.000	0.45	0.00	0.00	0.5	0.000
21.300	0.000	0.45	0.00	0.00	0.5	0.000
21.317	0.000	0.45	0.00	0.00	0.5	0.000
21.333	0.000	0.45	0.00	0.00	0.5	0.000
21.350	0.000	0.45	0.00	0.00	0.5	0.000
21.367	0.000	0.45	0.00	0.00	0.5	0.000
21.383	0.000	0.45	0.00	0.00	0.5	0.000
21.400	0.000	0.45	0.00	0.00	0.4	0.000
21.417	0.000	0.45	0.00	0.00	0.4	0.000
21.433	0.000	0.45	0.00	0.00	0.4	0.000
21.450	0.000	0.45	0.00	0.00	0.4	0.000
21.467	0.000	0.45	0.00	0.00	0.4	0.000
21.483	0.000	0.45	0.00	0.00	0.4	0.000
21.500	0.000	0.45	0.00	0.00	0.4	0.000
21.517	0.000	0.45	0.00	0.00	0.4	0.000
21.533	0.000	0.44	0.00	0.00	0.4	0.000
21.550	0.000	0.44	0.00	0.00	0.4	0.000
21.567	0.000	0.44	0.00	0.00	0.4	0.000
21.583	0.000	0.44	0.00	0.00	0.4	0.000
21.600	0.000	0.44	0.00	0.00	0.4	0.000
21.617	0.000	0.44	0.00	0.00	0.4	0.000
21.633	0.000	0.44	0.00	0.00	0.4	0.000
21.650	0.000	0.44	0.00	0.00	0.4	0.000
21.667	0.000	0.44	0.00	0.00	0.4	0.000
21.683	0.000	0.44	0.00	0.00	0.4	0.000
21.700	0.000	0.44	0.00	0.00	0.4	0.000
21.717	0.000	0.44	0.00	0.00	0.4	0.000
21.733	0.000	0.44	0.00	0.00	0.4	0.000
21.750	0.000	0.44	0.00	0.00	0.4	0.000
21.767	0.000	0.44	0.00	0.00	0.4	0.000
21.783	0.000	0.44	0.00	0.00	0.4	0.000
21.800	0.000	0.44	0.00	0.00	0.4	0.000
21.817	0.000	0.43	0.00	0.00	0.4	0.000
21.833	0.000	0.43	0.00	0.00	0.4	0.000
21.850	0.000	0.43	0.00	0.00	0.4	0.000
21.867	0.000	0.43	0.00	0.00	0.4	0.000
21.883	0.000	0.43	0.00	0.00	0.4	0.000
21.900	0.000	0.43	0.00	0.00	0.4	0.000
21.917	0.000	0.43	0.00	0.00	0.4	0.000
21.933	0.000	0.43	0.00	0.00	0.4	0.000
21.950	0.000	0.43	0.00	0.00	0.4	0.000
21.967	0.000	0.43	0.00	0.00	0.4	0.000
21.983	0.000	0.43	0.00	0.00	0.4	0.000
22.000	0.000	0.43	0.00	0.00	0.4	0.000
22.017	0.000	0.43	0.00	0.00	0.4	0.000
22.033	0.000	0.43	0.00	0.00	0.4	0.000
22.050	0.000	0.43	0.00	0.00	0.4	0.000
22.067	0.000	0.43	0.00	0.00	0.4	0.000
22.083	0.000	0.43	0.00	0.00	0.4	0.000
22.100	0.000	0.43	0.00	0.00	0.4	0.000
22.117	0.000	0.43	0.00	0.00	0.4	0.000

22.133	0.000	0.42	0.00	0.00	0.4	0.000
22.150	0.000	0.42	0.00	0.00	0.4	0.000
22.167	0.000	0.42	0.00	0.00	0.4	0.000
22.183	0.000	0.42	0.00	0.00	0.4	0.000
22.200	0.000	0.42	0.00	0.00	0.4	0.000
22.216	0.000	0.42	0.00	0.00	0.4	0.000
22.233	0.000	0.42	0.00	0.00	0.4	0.000
22.250	0.000	0.42	0.00	0.00	0.4	0.000
22.266	0.000	0.42	0.00	0.00	0.4	0.000
22.283	0.000	0.42	0.00	0.00	0.4	0.000
22.300	0.000	0.42	0.00	0.00	0.4	0.000
22.316	0.000	0.42	0.00	0.00	0.4	0.000
22.333	0.000	0.42	0.00	0.00	0.4	0.000
22.350	0.000	0.42	0.00	0.00	0.4	0.000
22.366	0.000	0.42	0.00	0.00	0.4	0.000
22.383	0.000	0.42	0.00	0.00	0.4	0.000
22.400	0.000	0.42	0.00	0.00	0.4	0.000
22.416	0.000	0.42	0.00	0.00	0.4	0.000
22.433	0.000	0.42	0.00	0.00	0.4	0.000
22.450	0.000	0.42	0.00	0.00	0.4	0.000
22.466	0.000	0.41	0.00	0.00	0.4	0.000
22.483	0.000	0.41	0.00	0.00	0.4	0.000
22.500	0.000	0.41	0.00	0.00	0.4	0.000
22.516	0.000	0.41	0.00	0.00	0.4	0.000
22.533	0.000	0.41	0.00	0.00	0.4	0.000
22.550	0.000	0.41	0.00	0.00	0.4	0.000
22.566	0.000	0.41	0.00	0.00	0.4	0.000
22.583	0.000	0.41	0.00	0.00	0.4	0.000
22.600	0.000	0.41	0.00	0.00	0.4	0.000
22.616	0.000	0.41	0.00	0.00	0.4	0.000
22.633	0.000	0.41	0.00	0.00	0.4	0.000
22.650	0.000	0.41	0.00	0.00	0.4	0.000
22.666	0.000	0.41	0.00	0.00	0.4	0.000
22.683	0.000	0.41	0.00	0.00	0.4	0.000
22.700	0.000	0.41	0.00	0.00	0.4	0.000
22.716	0.000	0.41	0.00	0.00	0.4	0.000
22.733	0.000	0.41	0.00	0.00	0.4	0.000
22.750	0.000	0.41	0.00	0.00	0.4	0.000
22.766	0.000	0.41	0.00	0.00	0.4	0.000
22.783	0.000	0.41	0.00	0.00	0.4	0.000
22.800	0.000	0.41	0.00	0.00	0.4	0.000
22.816	0.000	0.41	0.00	0.00	0.4	0.000
22.833	0.000	0.40	0.00	0.00	0.4	0.000
22.850	0.000	0.40	0.00	0.00	0.4	0.000
22.866	0.000	0.40	0.00	0.00	0.4	0.000
22.883	0.000	0.40	0.00	0.00	0.4	0.000
22.900	0.000	0.40	0.00	0.00	0.4	0.000
22.916	0.000	0.40	0.00	0.00	0.4	0.000
22.933	0.000	0.40	0.00	0.00	0.4	0.000
22.950	0.000	0.40	0.00	0.00	0.4	0.000
22.966	0.000	0.40	0.00	0.00	0.4	0.000
22.983	0.000	0.40	0.00	0.00	0.4	0.000
23.000	0.000	0.40	0.00	0.00	0.4	0.000
23.016	0.000	0.40	0.00	0.00	0.4	0.000
23.033	0.000	0.40	0.00	0.00	0.4	0.000
23.050	0.000	0.40	0.00	0.00	0.4	0.000
23.066	0.000	0.40	0.00	0.00	0.4	0.000
23.083	0.000	0.40	0.00	0.00	0.4	0.000
23.100	0.000	0.40	0.00	0.00	0.4	0.000
23.116	0.000	0.40	0.00	0.00	0.4	0.000
23.133	0.000	0.40	0.00	0.00	0.4	0.000
23.150	0.000	0.40	0.00	0.00	0.4	0.000
23.166	0.000	0.40	0.00	0.00	0.4	0.000
23.183	0.000	0.40	0.00	0.00	0.4	0.000
23.200	0.000	0.40	0.00	0.00	0.4	0.000
23.216	0.000	0.39	0.00	0.00	0.4	0.000
23.233	0.000	0.39	0.00	0.00	0.4	0.000
23.250	0.000	0.39	0.00	0.00	0.4	0.000
23.266	0.000	0.39	0.00	0.00	0.4	0.000
23.283	0.000	0.39	0.00	0.00	0.4	0.000
23.300	0.000	0.39	0.00	0.00	0.4	0.000
23.316	0.000	0.39	0.00	0.00	0.4	0.000
23.333	0.000	0.39	0.00	0.00	0.4	0.000
23.350	0.000	0.39	0.00	0.00	0.4	0.000
23.366	0.000	0.39	0.00	0.00	0.4	0.000
23.383	0.000	0.39	0.00	0.00	0.4	0.000
23.400	0.000	0.39	0.00	0.00	0.4	0.000
23.416	0.000	0.39	0.00	0.00	0.4	0.000
23.433	0.000	0.39	0.00	0.00	0.4	0.000

23.450	0.000	0.39	0.00	0.00	0.4	0.000
23.466	0.000	0.39	0.00	0.00	0.4	0.000
23.483	0.000	0.39	0.00	0.00	0.4	0.000
23.500	0.000	0.39	0.00	0.00	0.4	0.000
23.516	0.000	0.39	0.00	0.00	0.4	0.000
23.533	0.000	0.39	0.00	0.00	0.4	0.000
23.550	0.000	0.39	0.00	0.00	0.4	0.000
23.566	0.000	0.39	0.00	0.00	0.4	0.000
23.583	0.000	0.39	0.00	0.00	0.4	0.000
23.600	0.000	0.39	0.00	0.00	0.4	0.000
23.616	0.000	0.39	0.00	0.00	0.4	0.000
23.633	0.000	0.38	0.00	0.00	0.4	0.000
23.650	0.000	0.38	0.00	0.00	0.4	0.000
23.666	0.000	0.38	0.00	0.00	0.4	0.000
23.683	0.000	0.38	0.00	0.00	0.4	0.000
23.700	0.000	0.38	0.00	0.00	0.4	0.000
23.716	0.000	0.38	0.00	0.00	0.4	0.000
23.733	0.000	0.38	0.00	0.00	0.4	0.000
23.750	0.000	0.38	0.00	0.00	0.4	0.000
23.766	0.000	0.38	0.00	0.00	0.4	0.000
23.783	0.000	0.38	0.00	0.00	0.4	0.000
23.800	0.000	0.38	0.00	0.00	0.4	0.000
23.816	0.000	0.38	0.00	0.00	0.4	0.000
23.833	0.000	0.38	0.00	0.00	0.4	0.000
23.850	0.000	0.38	0.00	0.00	0.4	0.000
23.866	0.000	0.38	0.00	0.00	0.4	0.000
23.883	0.000	0.38	0.00	0.00	0.4	0.000
23.900	0.000	0.38	0.00	0.00	0.4	0.000
23.916	0.000	0.38	0.00	0.00	0.4	0.000
23.933	0.000	0.38	0.00	0.00	0.4	0.000
23.950	0.000	0.38	0.00	0.00	0.4	0.000
23.966	0.000	0.38	0.00	0.00	0.4	0.000
23.983	0.000	0.38	0.00	0.00	0.4	0.000
24.000	0.000	0.38	0.00	0.00	0.4	0.000
24.016	0.000	0.38	0.00	0.00	0.4	0.000
24.033	0.000	0.38	0.00	0.00	0.4	0.000
24.050	0.000	0.38	0.00	0.00	0.4	0.000
24.066	0.000	0.37	0.00	0.00	0.4	0.000
24.083	0.000	0.31	0.00	0.00	0.3	0.000
24.100	0.000	0.24	0.00	0.00	0.2	0.000
24.116	0.000	0.17	0.00	0.00	0.2	0.000
24.133	0.000	0.09	0.00	0.00	0.1	0.000
24.150	0.000	0.00	0.00	0.00	0.0	0.000
24.166	0.000	0.00	0.00	0.00	0.0	0.000
24.183	0.000	0.00	0.00	0.00	0.0	0.000
24.200	0.000	0.00	0.00	0.00	0.0	0.000
24.216	0.000	0.00	0.00	0.00	0.0	0.000
24.233	0.000	0.00	0.00	0.00	0.0	0.000
24.250	0.000	0.00	0.00	0.00	0.0	0.000
24.266	0.000	0.00	0.00	0.00	0.0	0.000
24.283	0.000	0.00	0.00	0.00	0.0	0.000
24.300	0.000	0.00	0.00	0.00	0.0	0.000
24.316	0.000	0.00	0.00	0.00	0.0	0.000
24.333	0.000	0.00	0.00	0.00	0.0	0.000
24.350	0.000	0.00	0.00	0.00	0.0	0.000
24.366	0.000	0.00	0.00	0.00	0.0	0.000
24.383	0.000	0.00	0.00	0.00	0.0	0.000
24.400	0.000	0.00	0.00	0.00	0.0	0.000
24.416	0.000	0.00	0.00	0.00	0.0	0.000
24.433	0.000	0.00	0.00	0.00	0.0	0.000
24.450	0.000	0.00	0.00	0.00	0.0	0.000
24.466	0.000	0.00	0.00	0.00	0.0	0.000
24.483	0.000	0.00	0.00	0.00	0.0	0.000
24.500	0.000	0.00	0.00	0.00	0.0	0.000
24.516	0.000	0.00	0.00	0.00	0.0	0.000
24.533	0.000	0.00	0.00	0.00	0.0	0.000
24.550	0.000	0.00	0.00	0.00	0.0	0.000
24.566	0.000	0.00	0.00	0.00	0.0	0.000
24.583	0.000	0.00	0.00	0.00	0.0	0.000
24.600	0.000	0.00	0.00	0.00	0.0	0.000
24.616	0.000	0.00	0.00	0.00	0.0	0.000
24.633	0.000	0.00	0.00	0.00	0.0	0.000
24.650	0.000	0.00	0.00	0.00	0.0	0.000
24.666	0.000	0.00	0.00	0.00	0.0	0.000
24.683	0.000	0.00	0.00	0.00	0.0	0.000
24.700	0.000	0.00	0.00	0.00	0.0	0.000
24.716	0.000	0.00	0.00	0.00	0.0	0.000
24.733	0.000	0.00	0.00	0.00	0.0	0.000
24.750	0.000	0.00	0.00	0.00	0.0	0.000

24.766	0.000	0.00	0.00	0.00	0.0	0.000
24.783	0.000	0.00	0.00	0.00	0.0	0.000
24.800	0.000	0.00	0.00	0.00	0.0	0.000
24.816	0.000	0.00	0.00	0.00	0.0	0.000
24.833	0.000	0.00	0.00	0.00	0.0	0.000
24.850	0.000	0.00	0.00	0.00	0.0	0.000
24.866	0.000	0.00	0.00	0.00	0.0	0.000
24.883	0.000	0.00	0.00	0.00	0.0	0.000
24.900	0.000	0.00	0.00	0.00	0.0	0.000
24.916	0.000	0.00	0.00	0.00	0.0	0.000
24.933	0.000	0.00	0.00	0.00	0.0	0.000
24.950	0.000	0.00	0.00	0.00	0.0	0.000
24.966	0.000	0.00	0.00	0.00	0.0	0.000
24.983	0.000	0.00	0.00	0.00	0.0	0.000
25.000	0.000	0.00	0.00	0.00	0.0	0.000
25.016	0.000	0.00	0.00	0.00	0.0	0.000
25.033	0.000	0.00	0.00	0.00	0.0	0.000
25.050	0.000	0.00	0.00	0.00	0.0	0.000
25.066	0.000	0.00	0.00	0.00	0.0	0.000
25.083	0.000	0.00	0.00	0.00	0.0	0.000
25.100	0.000	0.00	0.00	0.00	0.0	0.000
25.116	0.000	0.00	0.00	0.00	0.0	0.000
25.133	0.000	0.00	0.00	0.00	0.0	0.000
25.150	0.000	0.00	0.00	0.00	0.0	0.000
25.166	0.000	0.00	0.00	0.00	0.0	0.000
25.183	0.000	0.00	0.00	0.00	0.0	0.000
25.200	0.000	0.00	0.00	0.00	0.0	0.000
25.216	0.000	0.00	0.00	0.00	0.0	0.000
25.233	0.000	0.00	0.00	0.00	0.0	0.000
25.250	0.000	0.00	0.00	0.00	0.0	0.000
25.266	0.000	0.00	0.00	0.00	0.0	0.000
25.283	0.000	0.00	0.00	0.00	0.0	0.000
25.300	0.000	0.00	0.00	0.00	0.0	0.000
25.316	0.000	0.00	0.00	0.00	0.0	0.000
25.333	0.000	0.00	0.00	0.00	0.0	0.000
25.350	0.000	0.00	0.00	0.00	0.0	0.000
25.366	0.000	0.00	0.00	0.00	0.0	0.000
25.383	0.000	0.00	0.00	0.00	0.0	0.000
25.400	0.000	0.00	0.00	0.00	0.0	0.000
25.416	0.000	0.00	0.00	0.00	0.0	0.000
25.433	0.000	0.00	0.00	0.00	0.0	0.000
25.450	0.000	0.00	0.00	0.00	0.0	0.000
25.466	0.000	0.00	0.00	0.00	0.0	0.000
25.483	0.000	0.00	0.00	0.00	0.0	0.000
25.500	0.000	0.00	0.00	0.00	0.0	0.000
25.516	0.000	0.00	0.00	0.00	0.0	0.000
25.533	0.000	0.00	0.00	0.00	0.0	0.000
25.550	0.000	0.00	0.00	0.00	0.0	0.000
25.566	0.000	0.00	0.00	0.00	0.0	0.000
25.583	0.000	0.00	0.00	0.00	0.0	0.000
25.600	0.000	0.00	0.00	0.00	0.0	0.000
25.616	0.000	0.00	0.00	0.00	0.0	0.000
25.633	0.000	0.00	0.00	0.00	0.0	0.000
25.650	0.000	0.00	0.00	0.00	0.0	0.000
25.666	0.000	0.00	0.00	0.00	0.0	0.000
25.683	0.000	0.00	0.00	0.00	0.0	0.000
25.700	0.000	0.00	0.00	0.00	0.0	0.000
25.716	0.000	0.00	0.00	0.00	0.0	0.000
25.733	0.000	0.00	0.00	0.00	0.0	0.000
25.750	0.000	0.00	0.00	0.00	0.0	0.000
25.766	0.000	0.00	0.00	0.00	0.0	0.000
25.783	0.000	0.00	0.00	0.00	0.0	0.000
25.800	0.000	0.00	0.00	0.00	0.0	0.000
25.816	0.000	0.00	0.00	0.00	0.0	0.000
25.833	0.000	0.00	0.00	0.00	0.0	0.000
25.850	0.000	0.00	0.00	0.00	0.0	0.000
25.866	0.000	0.00	0.00	0.00	0.0	0.000
25.883	0.000	0.00	0.00	0.00	0.0	0.000
25.900	0.000	0.00	0.00	0.00	0.0	0.000
25.916	0.000	0.00	0.00	0.00	0.0	0.000
25.933	0.000	0.00	0.00	0.00	0.0	0.000
25.950	0.000	0.00	0.00	0.00	0.0	0.000
25.966	0.000	0.00	0.00	0.00	0.0	0.000
25.983	0.000	0.00	0.00	0.00	0.0	0.000
26.000	0.000	0.00	0.00	0.00	0.0	0.000
26.016	0.000	0.00	0.00	0.00	0.0	0.000
26.033	0.000	0.00	0.00	0.00	0.0	0.000
26.050	0.000	0.00	0.00	0.00	0.0	0.000
26.066	0.000	0.00	0.00	0.00	0.0	0.000

26.083	0.000	0.00	0.00	0.00	0.0	0.000
26.100	0.000	0.00	0.00	0.00	0.0	0.000
26.116	0.000	0.00	0.00	0.00	0.0	0.000
26.133	0.000	0.00	0.00	0.00	0.0	0.000
26.150	0.000	0.00	0.00	0.00	0.0	0.000
26.166	0.000	0.00	0.00	0.00	0.0	0.000
26.183	0.000	0.00	0.00	0.00	0.0	0.000
26.200	0.000	0.00	0.00	0.00	0.0	0.000
26.216	0.000	0.00	0.00	0.00	0.0	0.000
26.233	0.000	0.00	0.00	0.00	0.0	0.000
26.250	0.000	0.00	0.00	0.00	0.0	0.000
26.266	0.000	0.00	0.00	0.00	0.0	0.000
26.283	0.000	0.00	0.00	0.00	0.0	0.000
26.300	0.000	0.00	0.00	0.00	0.0	0.000
26.316	0.000	0.00	0.00	0.00	0.0	0.000
26.333	0.000	0.00	0.00	0.00	0.0	0.000
26.350	0.000	0.00	0.00	0.00	0.0	0.000
26.366	0.000	0.00	0.00	0.00	0.0	0.000
26.383	0.000	0.00	0.00	0.00	0.0	0.000
26.400	0.000	0.00	0.00	0.00	0.0	0.000
26.416	0.000	0.00	0.00	0.00	0.0	0.000
26.433	0.000	0.00	0.00	0.00	0.0	0.000
26.450	0.000	0.00	0.00	0.00	0.0	0.000
26.466	0.000	0.00	0.00	0.00	0.0	0.000
26.483	0.000	0.00	0.00	0.00	0.0	0.000
26.500	0.000	0.00	0.00	0.00	0.0	0.000
26.516	0.000	0.00	0.00	0.00	0.0	0.000
26.533	0.000	0.00	0.00	0.00	0.0	0.000
26.550	0.000	0.00	0.00	0.00	0.0	0.000
26.566	0.000	0.00	0.00	0.00	0.0	0.000
26.583	0.000	0.00	0.00	0.00	0.0	0.000
26.600	0.000	0.00	0.00	0.00	0.0	0.000
26.616	0.000	0.00	0.00	0.00	0.0	0.000
26.633	0.000	0.00	0.00	0.00	0.0	0.000
26.650	0.000	0.00	0.00	0.00	0.0	0.000
26.666	0.000	0.00	0.00	0.00	0.0	0.000
26.683	0.000	0.00	0.00	0.00	0.0	0.000
26.700	0.000	0.00	0.00	0.00	0.0	0.000
26.716	0.000	0.00	0.00	0.00	0.0	0.000
26.733	0.000	0.00	0.00	0.00	0.0	0.000
26.750	0.000	0.00	0.00	0.00	0.0	0.000
26.766	0.000	0.00	0.00	0.00	0.0	0.000
26.783	0.000	0.00	0.00	0.00	0.0	0.000
26.800	0.000	0.00	0.00	0.00	0.0	0.000
26.816	0.000	0.00	0.00	0.00	0.0	0.000
26.833	0.000	0.00	0.00	0.00	0.0	0.000
26.850	0.000	0.00	0.00	0.00	0.0	0.000
26.866	0.000	0.00	0.00	0.00	0.0	0.000
26.883	0.000	0.00	0.00	0.00	0.0	0.000
26.900	0.000	0.00	0.00	0.00	0.0	0.000
26.916	0.000	0.00	0.00	0.00	0.0	0.000
26.933	0.000	0.00	0.00	0.00	0.0	0.000
26.950	0.000	0.00	0.00	0.00	0.0	0.000
26.966	0.000	0.00	0.00	0.00	0.0	0.000
26.983	0.000	0.00	0.00	0.00	0.0	0.000
27.000	0.000	0.00	0.00	0.00	0.0	0.000
27.016	0.000	0.00	0.00	0.00	0.0	0.000
27.033	0.000	0.00	0.00	0.00	0.0	0.000
27.050	0.000	0.00	0.00	0.00	0.0	0.000
27.066	0.000	0.00	0.00	0.00	0.0	0.000
27.083	0.000	0.00	0.00	0.00	0.0	0.000
27.100	0.000	0.00	0.00	0.00	0.0	0.000
27.116	0.000	0.00	0.00	0.00	0.0	0.000
27.133	0.000	0.00	0.00	0.00	0.0	0.000
27.150	0.000	0.00	0.00	0.00	0.0	0.000
27.166	0.000	0.00	0.00	0.00	0.0	0.000
27.183	0.000	0.00	0.00	0.00	0.0	0.000
27.200	0.000	0.00	0.00	0.00	0.0	0.000
27.216	0.000	0.00	0.00	0.00	0.0	0.000
27.233	0.000	0.00	0.00	0.00	0.0	0.000
27.250	0.000	0.00	0.00	0.00	0.0	0.000
27.266	0.000	0.00	0.00	0.00	0.0	0.000
27.283	0.000	0.00	0.00	0.00	0.0	0.000
27.300	0.000	0.00	0.00	0.00	0.0	0.000
27.316	0.000	0.00	0.00	0.00	0.0	0.000
27.333	0.000	0.00	0.00	0.00	0.0	0.000
27.350	0.000	0.00	0.00	0.00	0.0	0.000
27.366	0.000	0.00	0.00	0.00	0.0	0.000
27.383	0.000	0.00	0.00	0.00	0.0	0.000

27.400	0.000	0.00	0.00	0.00	0.0	0.000
27.416	0.000	0.00	0.00	0.00	0.0	0.000
27.433	0.000	0.00	0.00	0.00	0.0	0.000
27.450	0.000	0.00	0.00	0.00	0.0	0.000
27.466	0.000	0.00	0.00	0.00	0.0	0.000
27.483	0.000	0.00	0.00	0.00	0.0	0.000
27.500	0.000	0.00	0.00	0.00	0.0	0.000
27.516	0.000	0.00	0.00	0.00	0.0	0.000
27.533	0.000	0.00	0.00	0.00	0.0	0.000
27.550	0.000	0.00	0.00	0.00	0.0	0.000
27.566	0.000	0.00	0.00	0.00	0.0	0.000
27.583	0.000	0.00	0.00	0.00	0.0	0.000
27.600	0.000	0.00	0.00	0.00	0.0	0.000
27.616	0.000	0.00	0.00	0.00	0.0	0.000
27.633	0.000	0.00	0.00	0.00	0.0	0.000
27.650	0.000	0.00	0.00	0.00	0.0	0.000
27.666	0.000	0.00	0.00	0.00	0.0	0.000
27.683	0.000	0.00	0.00	0.00	0.0	0.000
27.700	0.000	0.00	0.00	0.00	0.0	0.000
27.716	0.000	0.00	0.00	0.00	0.0	0.000
27.733	0.000	0.00	0.00	0.00	0.0	0.000
27.750	0.000	0.00	0.00	0.00	0.0	0.000
27.766	0.000	0.00	0.00	0.00	0.0	0.000
27.783	0.000	0.00	0.00	0.00	0.0	0.000
27.800	0.000	0.00	0.00	0.00	0.0	0.000
27.816	0.000	0.00	0.00	0.00	0.0	0.000
27.833	0.000	0.00	0.00	0.00	0.0	0.000
27.850	0.000	0.00	0.00	0.00	0.0	0.000
27.866	0.000	0.00	0.00	0.00	0.0	0.000
27.883	0.000	0.00	0.00	0.00	0.0	0.000
27.900	0.000	0.00	0.00	0.00	0.0	0.000
27.916	0.000	0.00	0.00	0.00	0.0	0.000
27.933	0.000	0.00	0.00	0.00	0.0	0.000
27.950	0.000	0.00	0.00	0.00	0.0	0.000
27.966	0.000	0.00	0.00	0.00	0.0	0.000
27.983	0.000	0.00	0.00	0.00	0.0	0.000
28.000	0.000	0.00	0.00	0.00	0.0	0.000
28.016	0.000	0.00	0.00	0.00	0.0	0.000
28.033	0.000	0.00	0.00	0.00	0.0	0.000
28.050	0.000	0.00	0.00	0.00	0.0	0.000
28.066	0.000	0.00	0.00	0.00	0.0	0.000
28.083	0.000	0.00	0.00	0.00	0.0	0.000
28.100	0.000	0.00	0.00	0.00	0.0	0.000
28.116	0.000	0.00	0.00	0.00	0.0	0.000
28.133	0.000	0.00	0.00	0.00	0.0	0.000
28.150	0.000	0.00	0.00	0.00	0.0	0.000
28.166	0.000	0.00	0.00	0.00	0.0	0.000
28.183	0.000	0.00	0.00	0.00	0.0	0.000
28.200	0.000	0.00	0.00	0.00	0.0	0.000
28.216	0.000	0.00	0.00	0.00	0.0	0.000
28.233	0.000	0.00	0.00	0.00	0.0	0.000
28.250	0.000	0.00	0.00	0.00	0.0	0.000
28.266	0.000	0.00	0.00	0.00	0.0	0.000
28.283	0.000	0.00	0.00	0.00	0.0	0.000
28.300	0.000	0.00	0.00	0.00	0.0	0.000
28.316	0.000	0.00	0.00	0.00	0.0	0.000
28.333	0.000	0.00	0.00	0.00	0.0	0.000
28.350	0.000	0.00	0.00	0.00	0.0	0.000
28.366	0.000	0.00	0.00	0.00	0.0	0.000
28.383	0.000	0.00	0.00	0.00	0.0	0.000
28.400	0.000	0.00	0.00	0.00	0.0	0.000
28.416	0.000	0.00	0.00	0.00	0.0	0.000
28.433	0.000	0.00	0.00	0.00	0.0	0.000
28.450	0.000	0.00	0.00	0.00	0.0	0.000
28.466	0.000	0.00	0.00	0.00	0.0	0.000
28.483	0.000	0.00	0.00	0.00	0.0	0.000
28.500	0.000	0.00	0.00	0.00	0.0	0.000
28.516	0.000	0.00	0.00	0.00	0.0	0.000
28.533	0.000	0.00	0.00	0.00	0.0	0.000
28.550	0.000	0.00	0.00	0.00	0.0	0.000
28.566	0.000	0.00	0.00	0.00	0.0	0.000
28.583	0.000	0.00	0.00	0.00	0.0	0.000
28.600	0.000	0.00	0.00	0.00	0.0	0.000
28.616	0.000	0.00	0.00	0.00	0.0	0.000
28.633	0.000	0.00	0.00	0.00	0.0	0.000
28.650	0.000	0.00	0.00	0.00	0.0	0.000
28.666	0.000	0.00	0.00	0.00	0.0	0.000
28.683	0.000	0.00	0.00	0.00	0.0	0.000
28.700	0.000	0.00	0.00	0.00	0.0	0.000

28.716	0.000	0.00	0.00	0.00	0.0	0.000
28.733	0.000	0.00	0.00	0.00	0.0	0.000
28.750	0.000	0.00	0.00	0.00	0.0	0.000
28.766	0.000	0.00	0.00	0.00	0.0	0.000
28.783	0.000	0.00	0.00	0.00	0.0	0.000
28.800	0.000	0.00	0.00	0.00	0.0	0.000
28.816	0.000	0.00	0.00	0.00	0.0	0.000
28.833	0.000	0.00	0.00	0.00	0.0	0.000
28.850	0.000	0.00	0.00	0.00	0.0	0.000
28.866	0.000	0.00	0.00	0.00	0.0	0.000
28.883	0.000	0.00	0.00	0.00	0.0	0.000
28.900	0.000	0.00	0.00	0.00	0.0	0.000
28.916	0.000	0.00	0.00	0.00	0.0	0.000
28.933	0.000	0.00	0.00	0.00	0.0	0.000
28.950	0.000	0.00	0.00	0.00	0.0	0.000
28.966	0.000	0.00	0.00	0.00	0.0	0.000
28.983	0.000	0.00	0.00	0.00	0.0	0.000
29.000	0.000	0.00	0.00	0.00	0.0	0.000
29.016	0.000	0.00	0.00	0.00	0.0	0.000
29.033	0.000	0.00	0.00	0.00	0.0	0.000
29.050	0.000	0.00	0.00	0.00	0.0	0.000
29.066	0.000	0.00	0.00	0.00	0.0	0.000
29.083	0.000	0.00	0.00	0.00	0.0	0.000
29.100	0.000	0.00	0.00	0.00	0.0	0.000
29.116	0.000	0.00	0.00	0.00	0.0	0.000
29.133	0.000	0.00	0.00	0.00	0.0	0.000
29.150	0.000	0.00	0.00	0.00	0.0	0.000
29.166	0.000	0.00	0.00	0.00	0.0	0.000
29.183	0.000	0.00	0.00	0.00	0.0	0.000
29.200	0.000	0.00	0.00	0.00	0.0	0.000
29.216	0.000	0.00	0.00	0.00	0.0	0.000
29.233	0.000	0.00	0.00	0.00	0.0	0.000
29.250	0.000	0.00	0.00	0.00	0.0	0.000
29.266	0.000	0.00	0.00	0.00	0.0	0.000
29.283	0.000	0.00	0.00	0.00	0.0	0.000
29.300	0.000	0.00	0.00	0.00	0.0	0.000
29.316	0.000	0.00	0.00	0.00	0.0	0.000
29.333	0.000	0.00	0.00	0.00	0.0	0.000
29.350	0.000	0.00	0.00	0.00	0.0	0.000
29.366	0.000	0.00	0.00	0.00	0.0	0.000
29.383	0.000	0.00	0.00	0.00	0.0	0.000
29.400	0.000	0.00	0.00	0.00	0.0	0.000
29.416	0.000	0.00	0.00	0.00	0.0	0.000
29.433	0.000	0.00	0.00	0.00	0.0	0.000
29.450	0.000	0.00	0.00	0.00	0.0	0.000
29.466	0.000	0.00	0.00	0.00	0.0	0.000
29.483	0.000	0.00	0.00	0.00	0.0	0.000
29.500	0.000	0.00	0.00	0.00	0.0	0.000
29.516	0.000	0.00	0.00	0.00	0.0	0.000
29.533	0.000	0.00	0.00	0.00	0.0	0.000
29.550	0.000	0.00	0.00	0.00	0.0	0.000
29.566	0.000	0.00	0.00	0.00	0.0	0.000
29.583	0.000	0.00	0.00	0.00	0.0	0.000
29.600	0.000	0.00	0.00	0.00	0.0	0.000
29.616	0.000	0.00	0.00	0.00	0.0	0.000
29.633	0.000	0.00	0.00	0.00	0.0	0.000
29.650	0.000	0.00	0.00	0.00	0.0	0.000
29.666	0.000	0.00	0.00	0.00	0.0	0.000
29.683	0.000	0.00	0.00	0.00	0.0	0.000
29.700	0.000	0.00	0.00	0.00	0.0	0.000
29.716	0.000	0.00	0.00	0.00	0.0	0.000
29.733	0.000	0.00	0.00	0.00	0.0	0.000
29.750	0.000	0.00	0.00	0.00	0.0	0.000
29.766	0.000	0.00	0.00	0.00	0.0	0.000
29.783	0.000	0.00	0.00	0.00	0.0	0.000
29.800	0.000	0.00	0.00	0.00	0.0	0.000
29.816	0.000	0.00	0.00	0.00	0.0	0.000
29.833	0.000	0.00	0.00	0.00	0.0	0.000
29.850	0.000	0.00	0.00	0.00	0.0	0.000
29.866	0.000	0.00	0.00	0.00	0.0	0.000
29.883	0.000	0.00	0.00	0.00	0.0	0.000
29.900	0.000	0.00	0.00	0.00	0.0	0.000
29.916	0.000	0.00	0.00	0.00	0.0	0.000
29.933	0.000	0.00	0.00	0.00	0.0	0.000
29.950	0.000	0.00	0.00	0.00	0.0	0.000
29.966	0.000	0.00	0.00	0.00	0.0	0.000
29.983	0.000	0.00	0.00	0.00	0.0	0.000
30.000	0.000	0.00	0.00	0.00	0.0	0.000
30.016	0.000	0.00	0.00	0.00	0.0	0.000

30.033	0.000	0.00	0.00	0.00	0.0	0.000
30.050	0.000	0.00	0.00	0.00	0.0	0.000
30.066	0.000	0.00	0.00	0.00	0.0	0.000
30.083	0.000	0.00	0.00	0.00	0.0	0.000
30.100	0.000	0.00	0.00	0.00	0.0	0.000
30.116	0.000	0.00	0.00	0.00	0.0	0.000
30.133	0.000	0.00	0.00	0.00	0.0	0.000
30.150	0.000	0.00	0.00	0.00	0.0	0.000
30.166	0.000	0.00	0.00	0.00	0.0	0.000
30.183	0.000	0.00	0.00	0.00	0.0	0.000
30.200	0.000	0.00	0.00	0.00	0.0	0.000
30.216	0.000	0.00	0.00	0.00	0.0	0.000
30.233	0.000	0.00	0.00	0.00	0.0	0.000
30.250	0.000	0.00	0.00	0.00	0.0	0.000
30.266	0.000	0.00	0.00	0.00	0.0	0.000
30.283	0.000	0.00	0.00	0.00	0.0	0.000
30.300	0.000	0.00	0.00	0.00	0.0	0.000
30.316	0.000	0.00	0.00	0.00	0.0	0.000
30.333	0.000	0.00	0.00	0.00	0.0	0.000
30.350	0.000	0.00	0.00	0.00	0.0	0.000
30.366	0.000	0.00	0.00	0.00	0.0	0.000
30.383	0.000	0.00	0.00	0.00	0.0	0.000
30.400	0.000	0.00	0.00	0.00	0.0	0.000
30.416	0.000	0.00	0.00	0.00	0.0	0.000
30.433	0.000	0.00	0.00	0.00	0.0	0.000
30.450	0.000	0.00	0.00	0.00	0.0	0.000
30.466	0.000	0.00	0.00	0.00	0.0	0.000
30.483	0.000	0.00	0.00	0.00	0.0	0.000
30.500	0.000	0.00	0.00	0.00	0.0	0.000
30.516	0.000	0.00	0.00	0.00	0.0	0.000
30.533	0.000	0.00	0.00	0.00	0.0	0.000
30.550	0.000	0.00	0.00	0.00	0.0	0.000
30.566	0.000	0.00	0.00	0.00	0.0	0.000
30.583	0.000	0.00	0.00	0.00	0.0	0.000
30.600	0.000	0.00	0.00	0.00	0.0	0.000
30.616	0.000	0.00	0.00	0.00	0.0	0.000
30.633	0.000	0.00	0.00	0.00	0.0	0.000
30.650	0.000	0.00	0.00	0.00	0.0	0.000
30.666	0.000	0.00	0.00	0.00	0.0	0.000
30.683	0.000	0.00	0.00	0.00	0.0	0.000
30.700	0.000	0.00	0.00	0.00	0.0	0.000
30.716	0.000	0.00	0.00	0.00	0.0	0.000
30.733	0.000	0.00	0.00	0.00	0.0	0.000
30.750	0.000	0.00	0.00	0.00	0.0	0.000
30.766	0.000	0.00	0.00	0.00	0.0	0.000
30.783	0.000	0.00	0.00	0.00	0.0	0.000
30.800	0.000	0.00	0.00	0.00	0.0	0.000
30.816	0.000	0.00	0.00	0.00	0.0	0.000
30.833	0.000	0.00	0.00	0.00	0.0	0.000
30.850	0.000	0.00	0.00	0.00	0.0	0.000
30.866	0.000	0.00	0.00	0.00	0.0	0.000
30.883	0.000	0.00	0.00	0.00	0.0	0.000
30.900	0.000	0.00	0.00	0.00	0.0	0.000
30.916	0.000	0.00	0.00	0.00	0.0	0.000
30.933	0.000	0.00	0.00	0.00	0.0	0.000
30.950	0.000	0.00	0.00	0.00	0.0	0.000
30.966	0.000	0.00	0.00	0.00	0.0	0.000
30.983	0.000	0.00	0.00	0.00	0.0	0.000
31.000	0.000	0.00	0.00	0.00	0.0	0.000
31.016	0.000	0.00	0.00	0.00	0.0	0.000
31.033	0.000	0.00	0.00	0.00	0.0	0.000
31.050	0.000	0.00	0.00	0.00	0.0	0.000
31.066	0.000	0.00	0.00	0.00	0.0	0.000
31.083	0.000	0.00	0.00	0.00	0.0	0.000
31.100	0.000	0.00	0.00	0.00	0.0	0.000
31.116	0.000	0.00	0.00	0.00	0.0	0.000
31.133	0.000	0.00	0.00	0.00	0.0	0.000
31.150	0.000	0.00	0.00	0.00	0.0	0.000
31.166	0.000	0.00	0.00	0.00	0.0	0.000
31.183	0.000	0.00	0.00	0.00	0.0	0.000
31.200	0.000	0.00	0.00	0.00	0.0	0.000
31.216	0.000	0.00	0.00	0.00	0.0	0.000
31.233	0.000	0.00	0.00	0.00	0.0	0.000
31.250	0.000	0.00	0.00	0.00	0.0	0.000
31.266	0.000	0.00	0.00	0.00	0.0	0.000
31.283	0.000	0.00	0.00	0.00	0.0	0.000
31.300	0.000	0.00	0.00	0.00	0.0	0.000
31.316	0.000	0.00	0.00	0.00	0.0	0.000
31.333	0.000	0.00	0.00	0.00	0.0	0.000

31.350	0.000	0.00	0.00	0.00	0.0	0.000
31.366	0.000	0.00	0.00	0.00	0.0	0.000
31.383	0.000	0.00	0.00	0.00	0.0	0.000
31.400	0.000	0.00	0.00	0.00	0.0	0.000
31.416	0.000	0.00	0.00	0.00	0.0	0.000
31.433	0.000	0.00	0.00	0.00	0.0	0.000
31.450	0.000	0.00	0.00	0.00	0.0	0.000
31.466	0.000	0.00	0.00	0.00	0.0	0.000
31.483	0.000	0.00	0.00	0.00	0.0	0.000
31.500	0.000	0.00	0.00	0.00	0.0	0.000
31.516	0.000	0.00	0.00	0.00	0.0	0.000
31.533	0.000	0.00	0.00	0.00	0.0	0.000
31.550	0.000	0.00	0.00	0.00	0.0	0.000
31.566	0.000	0.00	0.00	0.00	0.0	0.000
31.583	0.000	0.00	0.00	0.00	0.0	0.000
31.600	0.000	0.00	0.00	0.00	0.0	0.000
31.616	0.000	0.00	0.00	0.00	0.0	0.000
31.633	0.000	0.00	0.00	0.00	0.0	0.000
31.650	0.000	0.00	0.00	0.00	0.0	0.000
31.666	0.000	0.00	0.00	0.00	0.0	0.000
31.683	0.000	0.00	0.00	0.00	0.0	0.000
31.700	0.000	0.00	0.00	0.00	0.0	0.000
31.716	0.000	0.00	0.00	0.00	0.0	0.000
31.733	0.000	0.00	0.00	0.00	0.0	0.000
31.750	0.000	0.00	0.00	0.00	0.0	0.000
31.766	0.000	0.00	0.00	0.00	0.0	0.000
31.783	0.000	0.00	0.00	0.00	0.0	0.000
31.800	0.000	0.00	0.00	0.00	0.0	0.000
31.816	0.000	0.00	0.00	0.00	0.0	0.000
31.833	0.000	0.00	0.00	0.00	0.0	0.000
31.850	0.000	0.00	0.00	0.00	0.0	0.000
31.866	0.000	0.00	0.00	0.00	0.0	0.000
31.883	0.000	0.00	0.00	0.00	0.0	0.000
31.900	0.000	0.00	0.00	0.00	0.0	0.000
31.916	0.000	0.00	0.00	0.00	0.0	0.000
31.933	0.000	0.00	0.00	0.00	0.0	0.000
31.950	0.000	0.00	0.00	0.00	0.0	0.000
31.966	0.000	0.00	0.00	0.00	0.0	0.000
31.983	0.000	0.00	0.00	0.00	0.0	0.000
32.000	0.000	0.00	0.00	0.00	0.0	0.000
32.016	0.000	0.00	0.00	0.00	0.0	0.000
32.033	0.000	0.00	0.00	0.00	0.0	0.000
32.050	0.000	0.00	0.00	0.00	0.0	0.000
32.066	0.000	0.00	0.00	0.00	0.0	0.000
32.083	0.000	0.00	0.00	0.00	0.0	0.000
32.100	0.000	0.00	0.00	0.00	0.0	0.000
32.116	0.000	0.00	0.00	0.00	0.0	0.000
32.133	0.000	0.00	0.00	0.00	0.0	0.000
32.150	0.000	0.00	0.00	0.00	0.0	0.000
32.166	0.000	0.00	0.00	0.00	0.0	0.000
32.183	0.000	0.00	0.00	0.00	0.0	0.000
32.200	0.000	0.00	0.00	0.00	0.0	0.000
32.216	0.000	0.00	0.00	0.00	0.0	0.000
32.233	0.000	0.00	0.00	0.00	0.0	0.000
32.250	0.000	0.00	0.00	0.00	0.0	0.000
32.266	0.000	0.00	0.00	0.00	0.0	0.000
32.283	0.000	0.00	0.00	0.00	0.0	0.000
32.300	0.000	0.00	0.00	0.00	0.0	0.000
32.316	0.000	0.00	0.00	0.00	0.0	0.000
32.333	0.000	0.00	0.00	0.00	0.0	0.000
32.350	0.000	0.00	0.00	0.00	0.0	0.000
32.366	0.000	0.00	0.00	0.00	0.0	0.000
32.383	0.000	0.00	0.00	0.00	0.0	0.000
32.400	0.000	0.00	0.00	0.00	0.0	0.000
32.416	0.000	0.00	0.00	0.00	0.0	0.000
32.433	0.000	0.00	0.00	0.00	0.0	0.000
32.450	0.000	0.00	0.00	0.00	0.0	0.000
32.466	0.000	0.00	0.00	0.00	0.0	0.000
32.483	0.000	0.00	0.00	0.00	0.0	0.000
32.500	0.000	0.00	0.00	0.00	0.0	0.000
32.516	0.000	0.00	0.00	0.00	0.0	0.000
32.533	0.000	0.00	0.00	0.00	0.0	0.000
32.550	0.000	0.00	0.00	0.00	0.0	0.000
32.566	0.000	0.00	0.00	0.00	0.0	0.000
32.583	0.000	0.00	0.00	0.00	0.0	0.000
32.600	0.000	0.00	0.00	0.00	0.0	0.000
32.616	0.000	0.00	0.00	0.00	0.0	0.000
32.633	0.000	0.00	0.00	0.00	0.0	0.000
32.650	0.000	0.00	0.00	0.00	0.0	0.000

32.666	0.000	0.00	0.00	0.00	0.0	0.000
32.683	0.000	0.00	0.00	0.00	0.0	0.000
32.700	0.000	0.00	0.00	0.00	0.0	0.000
32.716	0.000	0.00	0.00	0.00	0.0	0.000
32.733	0.000	0.00	0.00	0.00	0.0	0.000
32.750	0.000	0.00	0.00	0.00	0.0	0.000
32.766	0.000	0.00	0.00	0.00	0.0	0.000
32.783	0.000	0.00	0.00	0.00	0.0	0.000
32.800	0.000	0.00	0.00	0.00	0.0	0.000
32.816	0.000	0.00	0.00	0.00	0.0	0.000
32.833	0.000	0.00	0.00	0.00	0.0	0.000
32.850	0.000	0.00	0.00	0.00	0.0	0.000
32.866	0.000	0.00	0.00	0.00	0.0	0.000
32.883	0.000	0.00	0.00	0.00	0.0	0.000
32.900	0.000	0.00	0.00	0.00	0.0	0.000
32.916	0.000	0.00	0.00	0.00	0.0	0.000
32.933	0.000	0.00	0.00	0.00	0.0	0.000
32.950	0.000	0.00	0.00	0.00	0.0	0.000
32.966	0.000	0.00	0.00	0.00	0.0	0.000
32.983	0.000	0.00	0.00	0.00	0.0	0.000
33.000	0.000	0.00	0.00	0.00	0.0	0.000
33.016	0.000	0.00	0.00	0.00	0.0	0.000
33.033	0.000	0.00	0.00	0.00	0.0	0.000
33.050	0.000	0.00	0.00	0.00	0.0	0.000
33.066	0.000	0.00	0.00	0.00	0.0	0.000
33.083	0.000	0.00	0.00	0.00	0.0	0.000
33.100	0.000	0.00	0.00	0.00	0.0	0.000
33.116	0.000	0.00	0.00	0.00	0.0	0.000
33.133	0.000	0.00	0.00	0.00	0.0	0.000
33.150	0.000	0.00	0.00	0.00	0.0	0.000
33.166	0.000	0.00	0.00	0.00	0.0	0.000
33.183	0.000	0.00	0.00	0.00	0.0	0.000
33.200	0.000	0.00	0.00	0.00	0.0	0.000
33.216	0.000	0.00	0.00	0.00	0.0	0.000
33.233	0.000	0.00	0.00	0.00	0.0	0.000
33.250	0.000	0.00	0.00	0.00	0.0	0.000
33.266	0.000	0.00	0.00	0.00	0.0	0.000
33.283	0.000	0.00	0.00	0.00	0.0	0.000
33.300	0.000	0.00	0.00	0.00	0.0	0.000
33.316	0.000	0.00	0.00	0.00	0.0	0.000
33.333	0.000	0.00	0.00	0.00	0.0	0.000
33.350	0.000	0.00	0.00	0.00	0.0	0.000
33.366	0.000	0.00	0.00	0.00	0.0	0.000
33.383	0.000	0.00	0.00	0.00	0.0	0.000
33.400	0.000	0.00	0.00	0.00	0.0	0.000
33.416	0.000	0.00	0.00	0.00	0.0	0.000
33.433	0.000	0.00	0.00	0.00	0.0	0.000
33.450	0.000	0.00	0.00	0.00	0.0	0.000
33.466	0.000	0.00	0.00	0.00	0.0	0.000
33.483	0.000	0.00	0.00	0.00	0.0	0.000
33.500	0.000	0.00	0.00	0.00	0.0	0.000
33.516	0.000	0.00	0.00	0.00	0.0	0.000
33.533	0.000	0.00	0.00	0.00	0.0	0.000
33.550	0.000	0.00	0.00	0.00	0.0	0.000
33.566	0.000	0.00	0.00	0.00	0.0	0.000
33.583	0.000	0.00	0.00	0.00	0.0	0.000
33.600	0.000	0.00	0.00	0.00	0.0	0.000
33.616	0.000	0.00	0.00	0.00	0.0	0.000
33.633	0.000	0.00	0.00	0.00	0.0	0.000
33.650	0.000	0.00	0.00	0.00	0.0	0.000
33.666	0.000	0.00	0.00	0.00	0.0	0.000
33.683	0.000	0.00	0.00	0.00	0.0	0.000
33.700	0.000	0.00	0.00	0.00	0.0	0.000
33.716	0.000	0.00	0.00	0.00	0.0	0.000
33.733	0.000	0.00	0.00	0.00	0.0	0.000
33.750	0.000	0.00	0.00	0.00	0.0	0.000
33.766	0.000	0.00	0.00	0.00	0.0	0.000
33.783	0.000	0.00	0.00	0.00	0.0	0.000
33.800	0.000	0.00	0.00	0.00	0.0	0.000
33.816	0.000	0.00	0.00	0.00	0.0	0.000
33.833	0.000	0.00	0.00	0.00	0.0	0.000
33.850	0.000	0.00	0.00	0.00	0.0	0.000
33.866	0.000	0.00	0.00	0.00	0.0	0.000
33.883	0.000	0.00	0.00	0.00	0.0	0.000
33.900	0.000	0.00	0.00	0.00	0.0	0.000
33.916	0.000	0.00	0.00	0.00	0.0	0.000
33.933	0.000	0.00	0.00	0.00	0.0	0.000
33.950	0.000	0.00	0.00	0.00	0.0	0.000
33.966	0.000	0.00	0.00	0.00	0.0	0.000

33.983	0.000	0.00	0.00	0.00	0.0	0.000
34.000	0.000	0.00	0.00	0.00	0.0	0.000
34.016	0.000	0.00	0.00	0.00	0.0	0.000
34.033	0.000	0.00	0.00	0.00	0.0	0.000
34.050	0.000	0.00	0.00	0.00	0.0	0.000
34.066	0.000	0.00	0.00	0.00	0.0	0.000
34.083	0.000	0.00	0.00	0.00	0.0	0.000
34.100	0.000	0.00	0.00	0.00	0.0	0.000
34.116	0.000	0.00	0.00	0.00	0.0	0.000
34.133	0.000	0.00	0.00	0.00	0.0	0.000
34.150	0.000	0.00	0.00	0.00	0.0	0.000
34.166	0.000	0.00	0.00	0.00	0.0	0.000
34.183	0.000	0.00	0.00	0.00	0.0	0.000
34.200	0.000	0.00	0.00	0.00	0.0	0.000
34.216	0.000	0.00	0.00	0.00	0.0	0.000
34.233	0.000	0.00	0.00	0.00	0.0	0.000
34.250	0.000	0.00	0.00	0.00	0.0	0.000
34.266	0.000	0.00	0.00	0.00	0.0	0.000
34.283	0.000	0.00	0.00	0.00	0.0	0.000
34.300	0.000	0.00	0.00	0.00	0.0	0.000
34.316	0.000	0.00	0.00	0.00	0.0	0.000
34.333	0.000	0.00	0.00	0.00	0.0	0.000
34.350	0.000	0.00	0.00	0.00	0.0	0.000
34.366	0.000	0.00	0.00	0.00	0.0	0.000
34.383	0.000	0.00	0.00	0.00	0.0	0.000
34.400	0.000	0.00	0.00	0.00	0.0	0.000
34.416	0.000	0.00	0.00	0.00	0.0	0.000
34.433	0.000	0.00	0.00	0.00	0.0	0.000
34.450	0.000	0.00	0.00	0.00	0.0	0.000
34.466	0.000	0.00	0.00	0.00	0.0	0.000
34.483	0.000	0.00	0.00	0.00	0.0	0.000
34.500	0.000	0.00	0.00	0.00	0.0	0.000
34.516	0.000	0.00	0.00	0.00	0.0	0.000
34.533	0.000	0.00	0.00	0.00	0.0	0.000
34.550	0.000	0.00	0.00	0.00	0.0	0.000
34.566	0.000	0.00	0.00	0.00	0.0	0.000
34.583	0.000	0.00	0.00	0.00	0.0	0.000
34.600	0.000	0.00	0.00	0.00	0.0	0.000
34.616	0.000	0.00	0.00	0.00	0.0	0.000
34.633	0.000	0.00	0.00	0.00	0.0	0.000
34.650	0.000	0.00	0.00	0.00	0.0	0.000
34.666	0.000	0.00	0.00	0.00	0.0	0.000
34.683	0.000	0.00	0.00	0.00	0.0	0.000
34.700	0.000	0.00	0.00	0.00	0.0	0.000
34.716	0.000	0.00	0.00	0.00	0.0	0.000
34.733	0.000	0.00	0.00	0.00	0.0	0.000
34.750	0.000	0.00	0.00	0.00	0.0	0.000
34.766	0.000	0.00	0.00	0.00	0.0	0.000
34.783	0.000	0.00	0.00	0.00	0.0	0.000
34.800	0.000	0.00	0.00	0.00	0.0	0.000
34.816	0.000	0.00	0.00	0.00	0.0	0.000
34.833	0.000	0.00	0.00	0.00	0.0	0.000
34.850	0.000	0.00	0.00	0.00	0.0	0.000
34.866	0.000	0.00	0.00	0.00	0.0	0.000
34.883	0.000	0.00	0.00	0.00	0.0	0.000
34.900	0.000	0.00	0.00	0.00	0.0	0.000
34.916	0.000	0.00	0.00	0.00	0.0	0.000
34.933	0.000	0.00	0.00	0.00	0.0	0.000
34.950	0.000	0.00	0.00	0.00	0.0	0.000
34.966	0.000	0.00	0.00	0.00	0.0	0.000
34.983	0.000	0.00	0.00	0.00	0.0	0.000
35.000	0.000	0.00	0.00	0.00	0.0	0.000
35.016	0.000	0.00	0.00	0.00	0.0	0.000
35.033	0.000	0.00	0.00	0.00	0.0	0.000
35.050	0.000	0.00	0.00	0.00	0.0	0.000
35.066	0.000	0.00	0.00	0.00	0.0	0.000
35.083	0.000	0.00	0.00	0.00	0.0	0.000
35.100	0.000	0.00	0.00	0.00	0.0	0.000
35.116	0.000	0.00	0.00	0.00	0.0	0.000
35.133	0.000	0.00	0.00	0.00	0.0	0.000
35.150	0.000	0.00	0.00	0.00	0.0	0.000
35.166	0.000	0.00	0.00	0.00	0.0	0.000
35.183	0.000	0.00	0.00	0.00	0.0	0.000
35.200	0.000	0.00	0.00	0.00	0.0	0.000
35.216	0.000	0.00	0.00	0.00	0.0	0.000
35.233	0.000	0.00	0.00	0.00	0.0	0.000
35.250	0.000	0.00	0.00	0.00	0.0	0.000
35.266	0.000	0.00	0.00	0.00	0.0	0.000
35.283	0.000	0.00	0.00	0.00	0.0	0.000

35.300	0.000	0.00	0.00	0.00	0.0	0.000
35.316	0.000	0.00	0.00	0.00	0.0	0.000
35.333	0.000	0.00	0.00	0.00	0.0	0.000
35.350	0.000	0.00	0.00	0.00	0.0	0.000
35.366	0.000	0.00	0.00	0.00	0.0	0.000
35.383	0.000	0.00	0.00	0.00	0.0	0.000
35.400	0.000	0.00	0.00	0.00	0.0	0.000
35.416	0.000	0.00	0.00	0.00	0.0	0.000
35.433	0.000	0.00	0.00	0.00	0.0	0.000
35.450	0.000	0.00	0.00	0.00	0.0	0.000
35.466	0.000	0.00	0.00	0.00	0.0	0.000
35.483	0.000	0.00	0.00	0.00	0.0	0.000
35.500	0.000	0.00	0.00	0.00	0.0	0.000
35.516	0.000	0.00	0.00	0.00	0.0	0.000
35.533	0.000	0.00	0.00	0.00	0.0	0.000
35.550	0.000	0.00	0.00	0.00	0.0	0.000
35.566	0.000	0.00	0.00	0.00	0.0	0.000
35.583	0.000	0.00	0.00	0.00	0.0	0.000
35.600	0.000	0.00	0.00	0.00	0.0	0.000
35.616	0.000	0.00	0.00	0.00	0.0	0.000
35.633	0.000	0.00	0.00	0.00	0.0	0.000
35.650	0.000	0.00	0.00	0.00	0.0	0.000
35.666	0.000	0.00	0.00	0.00	0.0	0.000
35.683	0.000	0.00	0.00	0.00	0.0	0.000
35.700	0.000	0.00	0.00	0.00	0.0	0.000
35.716	0.000	0.00	0.00	0.00	0.0	0.000
35.733	0.000	0.00	0.00	0.00	0.0	0.000
35.750	0.000	0.00	0.00	0.00	0.0	0.000
35.766	0.000	0.00	0.00	0.00	0.0	0.000
35.783	0.000	0.00	0.00	0.00	0.0	0.000
35.800	0.000	0.00	0.00	0.00	0.0	0.000
35.816	0.000	0.00	0.00	0.00	0.0	0.000
35.833	0.000	0.00	0.00	0.00	0.0	0.000
35.850	0.000	0.00	0.00	0.00	0.0	0.000
35.866	0.000	0.00	0.00	0.00	0.0	0.000
35.883	0.000	0.00	0.00	0.00	0.0	0.000
35.900	0.000	0.00	0.00	0.00	0.0	0.000
35.916	0.000	0.00	0.00	0.00	0.0	0.000
35.933	0.000	0.00	0.00	0.00	0.0	0.000
35.950	0.000	0.00	0.00	0.00	0.0	0.000
35.966	0.000	0.00	0.00	0.00	0.0	0.000
35.983	0.000	0.00	0.00	0.00	0.0	0.000
36.000	0.000	0.00	0.00	0.00	0.0	0.000

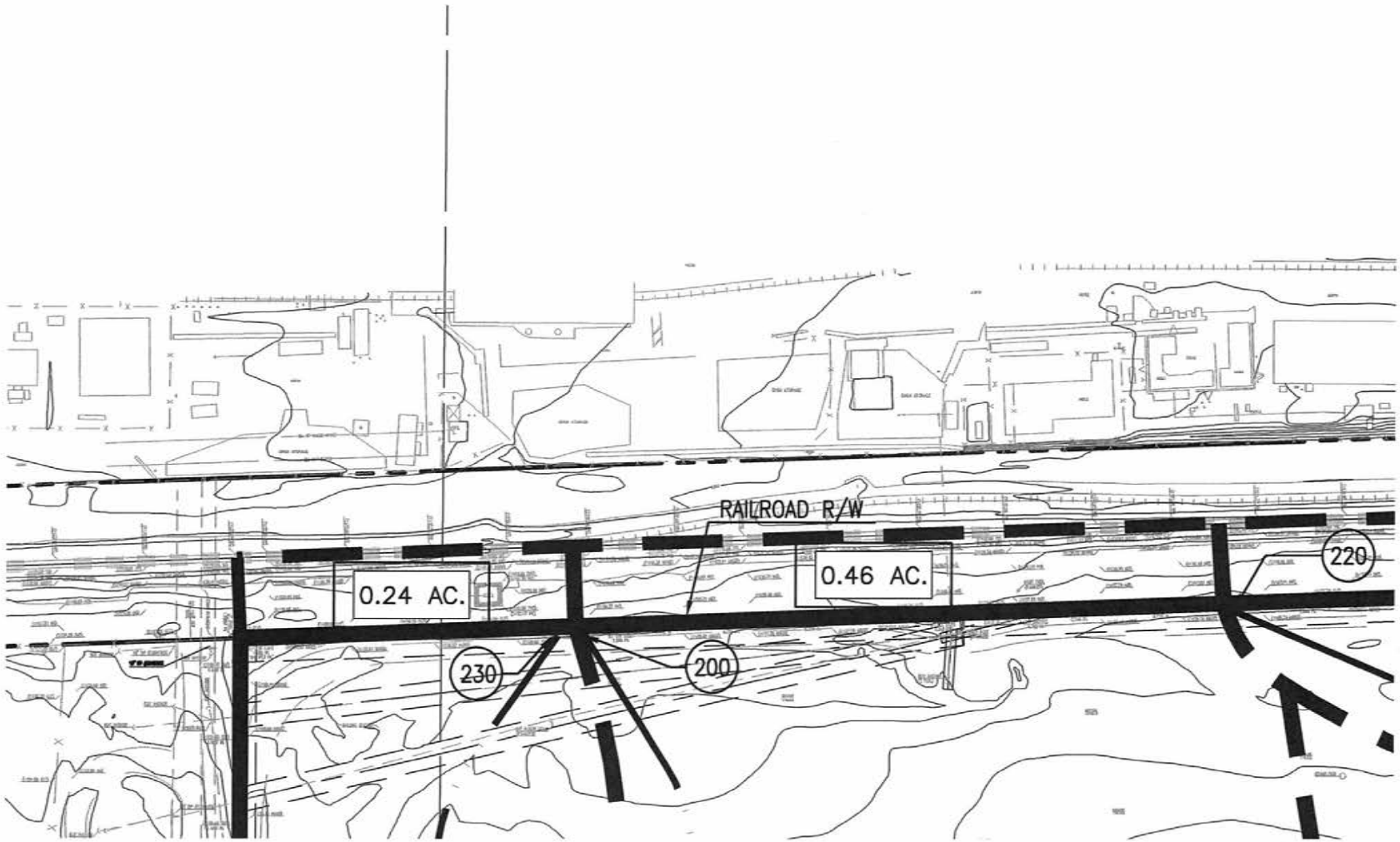
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  INFLOW VOLUME = 1.348 AF
  BASIN STORAGE = 0.000 AF (WITH 0.000 AF INITIALLY FILLED)
  OUTFLOW VOLUME = 1.348 AF
  LOSS   VOLUME = 0.000 AF

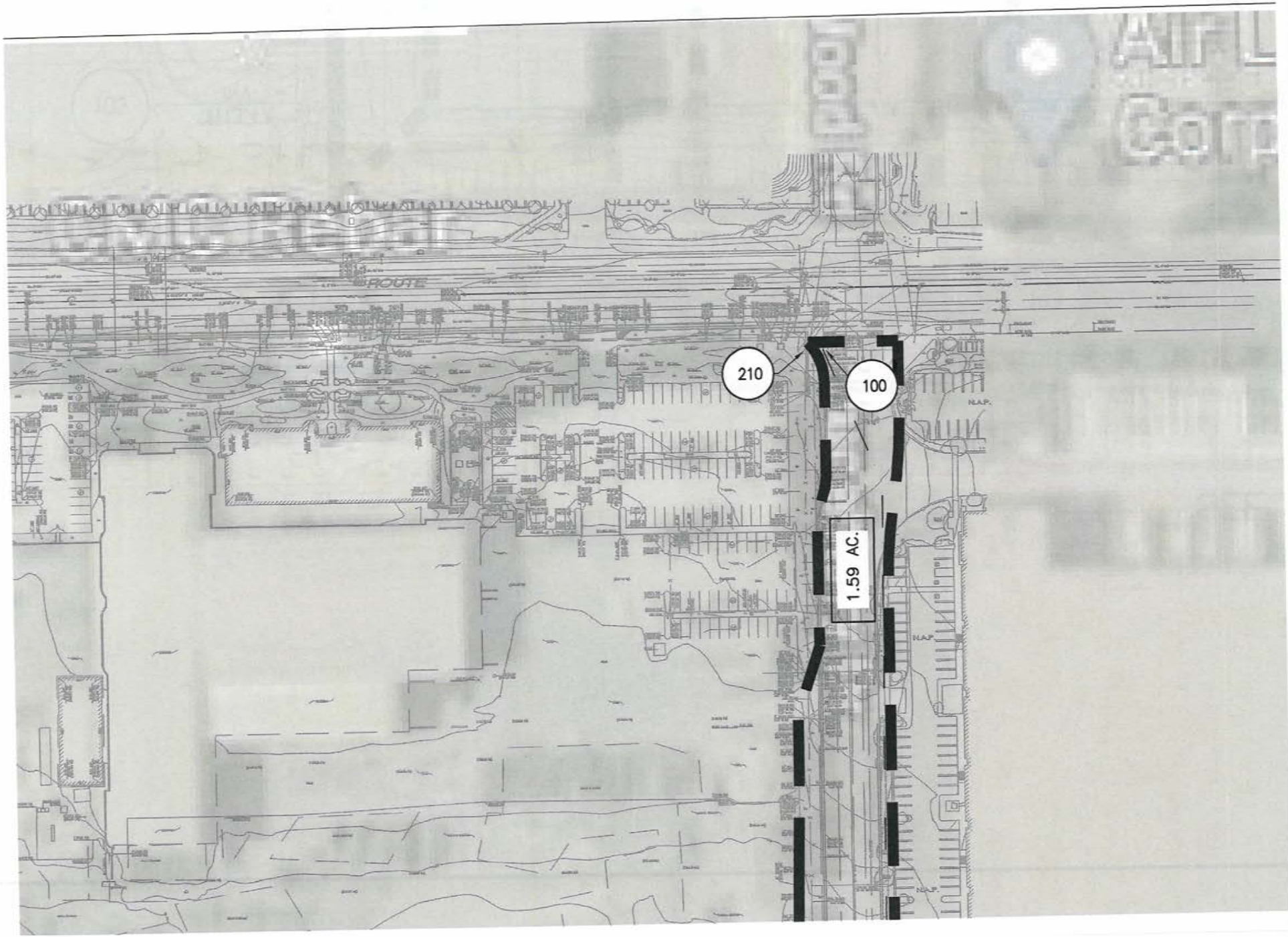
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END OF FLOODSCx ROUTING ANALYSIS

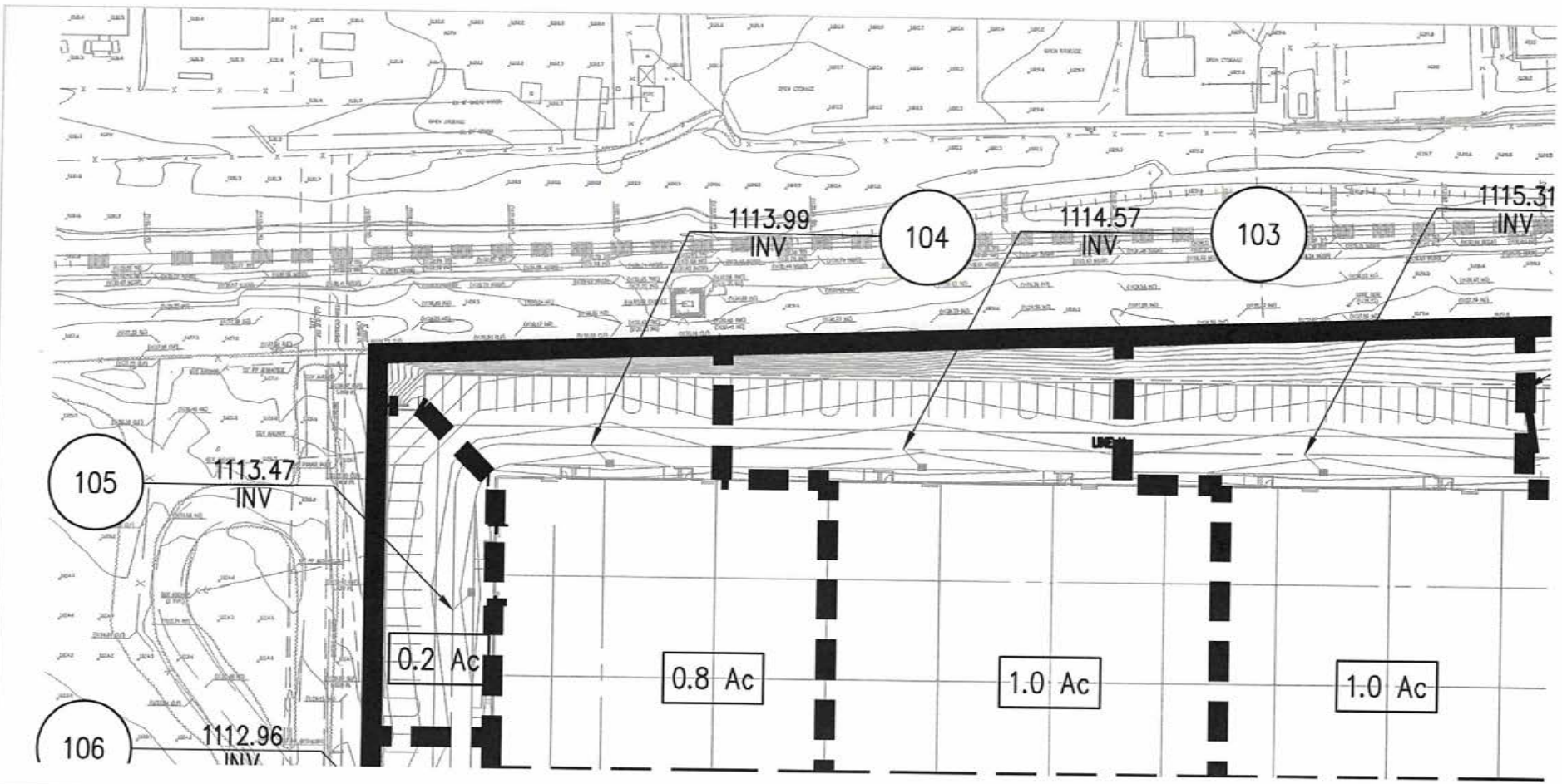
APPENDIX D

HYDROLOGY MAP


RAILROAD R/W
0.24 AC.
0.46 AC.
230
200
220


210
100
1.59 AC.
N.A.P.
N.A.P.
N.A.P.

SEE


105
1113.47
INV
106
1112.96
INV
104
1113.99
INV
103
1114.57
INV
1115.31
INV
0.2 Ac
0.8 Ac
1.0 Ac
1.0 Ac

Appendix B

Copy of "Preliminary Water Quality Management Plan for Etiwanda Distribution Center", prepared by Thienes Engineering, dated November 10, 2021.

Thienes Engineering, Inc.
CIVIL ENGINEERING • LAND SURVEYING

Preliminary
Water Quality Management Plan
(PWQMP)

For:

Etiwanda Distribution Center
8996 Etiwanda Avenue
Rancho Cucamonga, CA 91739

WQMPXXXX-XXXXX

APN: 0229-283-79 & -83

Prepared for:
BTC III Etiwanda Commerce Center
4675 Macarthur Court, Suite 625
Newport Beach, CA 92660
Phone: (949) 862-4900
Contact: Chris Sanford

Prepared by:
Thienes Engineering, Inc.
14349 Firestone Boulevard
La Mirada, CA 90638
Phone: (714) 521-4811
Contact: Luis Prado (luisp@thieneseng.com)
Job No. 3687d

Approval Date: _____
Implementation Date: _____

1st Submittal: November 10, 2021
2nd Submittal: _____
3rd Submittal: _____

Project Owner's Certification

This Water Quality Management Plan (WQMP) has been prepared for ***BTC III Etiwanda Commerce Center*** by ***Thienes Engineering, Inc.*** The WQMP is intended to comply with the requirements of the ***City of Rancho Cucamonga*** and the NPDES Areawide Stormwater Program requiring the preparation of a WQMP.

The undersigned, while it owns the subject property, is responsible for the implementation of the provisions of this plan and will ensure that this plan is amended as appropriate to reflect up-to-date conditions on the site consistent with the San Bernardino County's Municipal Storm Water Management Program and the intent of the NPDES Permit for San Bernardino County and the incorporated cities of San Bernardino County within the Santa Ana Region. Once the undersigned transfers its interest in the property, its successors in interest and the city/county shall be notified of the transfer. The new owner will be informed of its responsibility under this WQMP. A copy of the approved WQMP shall be available on the subject site in perpetuity.

"I certify under a penalty of law that the provisions (implementation, operation, maintenance, and fund) of the WQMP have been accepted and that the plan will be transferred to future successors."

Project Data			
Permit/Application Number(s):	DRC-XXXX-XXXXX	**Grading Permit Number(s):**	PGRXXXX-XXXXX
Tract/Parcel Map Number(s):		**Building Permit Number(s):**	PGRXXXX-XXXXX
CUP, SUP, and/or APN (Specify Lot Numbers if Portions of Tract):			APN: 0229-283-79 & -83

Owner's Signature			
Owner Name: BTC III Etiwanda Commerce Center			
Name/Title	Chris Sanford, Senior Vice President		
Company	BTC III Etiwanda Commerce Center		
Address	4675 Macarthur Court, Suite 625, Newport Beach, CA 92660		
Email	chris.sanford@blackcreekgroup.com		
Telephone #	(949) 862-4900		
Signature		**Date**	

Preparer's Certification

Project Data			
Permit/Application Number(s):	DRC-XXXX-XXXXX	**Grading Permit Number(s):**	PGRXXXX-XXXXX
Tract/Parcel Map Number(s):		**Building Permit Number(s):**	PGRXXXX-XXXXX
CUP, SUP, and/or APN (Specify Lot Numbers if Portions of Tract):			APN: 0229-283-79 & -83

"The selection, sizing and design of stormwater treatment and other stormwater quality and quantity control measures in this plan were prepared under my oversight and meet the requirements of Regional Water Quality Control Board Order No. R8-2010-0036."

Engineer: Reinhard Stenzel		**PE Stamp Below**
Title	Director of Engineering	
Company	Thienes Engineering, Inc.	
Address	14349 Firestone Boulevard, La Mirada, CA 90638	
Email	reinhard@thieneseng.com	
Telephone #	(714) 521-4811	
Signature		
Date	11/10/2021	



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Attachment F: Infiltration Report (NA)
Attachment G: BMP Maintenance Material
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Section 1 Discretionary Permit(s)

Form 1-1 Project Information

Project Name	Etiwanda Distribution Center				
Project Owner Contact Name:	Chris Sanford				
Mailing Address:	4675 MacArthur Court, Suite 625 Newport Beach, CA 92660	**E-mail Address:**	chris.sanford@blackcreekgroup.com	**Telephone:**	(949) 862-4900
Permit/Application Number(s):	DRC-XXXX-XXXXX PGRXXXX-XXXXX WQMPXXXX-XXXXX	**Tract/Parcel Map Number(s):**			
Additional Information/ Comments:	n/a				
Description of Project:	The project site encompasses approximately 70.85 acres, where 61.60 includes of onsite improvements and 9.25 acres of new public roads (Streets "A" and "B"). Proposed onsite improvements include two industrial buildings of 1,013,815 square feet (Building 1) and 127,343 square feet (Building 2) and a trailer parking lot. There will be truck yards on the north and south sides of Building 1 and along the east side of Building 2. Vehicle parking and landscape will be scattered throughout the site. The southeast lot will be utilized as trailer parking. A proposed 3'H x 8'W reinforced concrete box (RCB) is proposed to carry offsite flows from north to south. A separate storm drain system is proposed to convey project flows towards the east and make two connections to the existing storm drain in Etiwanda Avenue. Runoff from the westerly truck yard and vehicle parking lot west of Building 1 will surface drain to series of catch basins and be added to a private storm drain (Line A). The storm drain will travel southerly then turn easterly through the southern truck yard. A series of low points with catch basins will collect the runoff from the southerly half of the building and the truck yard. The storm drain will continue easterly and connect to the proposed public storm drain in "B" Street. The northerly half of Building 1 and the northerly truck yard will drain to a series of low points with catch basins within the truck yard. A private storm drain (Line B) will convey the runoff easterly then turn southerly through the easterly vehicle parking lot. Runoff from the vehicle parking lot will be collected and added to Line B. Line B will confluence with Line A prior to discharging into the storm drain in "B" Street. Runoff from Building 2, the northerly vehicle parking lot, and the truck yard will drain to a series of low points with catch basins. A private storm drain (Line C) will convey this runoff southerly through the easterly truck yard then turn westerly. The southerly vehicle parking lot will drain to a catch basin then connect to Line C. The storm drain will confluence with the storm drain in "B" Street and continue southerly. The storm drain in "B" Street will collect runoff from the proposed streets prior to turning east in "A" Street and discharging into the existing 42" public storm drain in Etiwanda Avenue. Runoff from the southeasterly truck yard and portions of the street are also tributary to the existing 42" storm drain in Etiwanda Avenue. A private storm drain will collect runoff from a catch basin in the truck yard and the street flows and convey it to the existing drain. Per the Phase I Environmental Site Assessment (ESA) excerpt provided in Attachment K, the site consists of structures that are part of a decommissioned electric power generating facility, known as the Etiwanda Generating Station, including buildings, power generating units, cooling towers and retention basins/ponds. A 2019 investigation revealed that soil and soil gas samples collected in several locations contained concentrations of chemicals above human health and/or disposal criteria. Under these conditions, infiltration is not recommended. Instead, treatment will be provided via underground detention systems, proprietary biofiltration units (volume-based				

	biotreatment BMPs) and hydrodynamic separators/drain inserts for pretreatment. Approximately 5.95 acres (DA 4) from the landscaping throughout the project site will sheet flow offsite without being routed to the LID BMPs. These areas are considered self-treating. Lastly, the project site will also utilize the MEP principle in order to treat disturbed Public Right-of-Way (ROW) impervious areas onsite. This area is approximately 9.25 acres and is included along with the onsite DCV.
Provide summary of Conceptual WQMP conditions (if previously submitted and approved). Attach complete copy.	

Section 2 Project Description

2.1 Project Information

This section of the WQMP should provide the information listed below. The information provided for Conceptual/ Preliminary WQMP should give sufficient detail to identify the major proposed site design and LID BMPs and other anticipated water quality features that impact site planning. Final Project WQMP must specifically identify all BMP incorporated into the final site design and provide other detailed information as described herein.

The purpose of this information is to help determine the applicable development category, pollutants of concern, watershed description, and long term maintenance responsibilities for the project, and any applicable water quality credits. This information will be used in conjunction with the information in Section 3, Site Description, to establish the performance criteria and to select the LID BMP or other BMP for the project or other alternative programs that the project will participate in, which are described in Section 4.

Form 2.1-1 Description of Proposed Project

[1] Development Category (Select all that apply):

☒ Significant re-development involving the addition or replacement of 5,000 ft² or more of impervious surface on an already developed site	☐ New development involving the creation of 10,000 ft² or more of impervious surface collectively over entire site	☐ Automotive repair shops with standard industrial classification (SIC) codes 5013, 5014, 5541, 7532- 7534, 7536-7539	☐ Restaurants (with SIC code 5812) where the land area of development is 5,000 ft² or more
☐ Hillside developments of 5,000 ft² or more which are located on areas with known erosive soil conditions or where the natural slope is 25 percent or more	☐ Developments of 2,500 ft² of impervious surface or more adjacent to (within 200 ft) or discharging directly into environmentally sensitive areas or waterbodies listed on the CWA Section 303(d) list of impaired waters.	☒ Parking lots of 5,000 ft² or more exposed to storm water	☐ Retail gasoline outlets that are either 5,000 ft² or more, or have a projected average daily traffic of 100 or more vehicles per day

☐ Non-Priority / Non-Category Project

May require source control LID BMPs and other LIP requirements. Please consult with local jurisdiction on specific requirements.

[2] Project Area (ft²):	3,086,226 sq-ft 70.85 acres*	**[3] Number of Dwelling Units:**	n/a	**[4] SIC Code:**	4225

[5] Is Project going to be phased? ☐Yes ☒No

If yes, ensure that the WQMP evaluates each phase as a distinct DA, requiring LID BMPs to address runoff at time of completion.

[6] Does Project include roads? ☒Yes ☐No

If yes, ensure that applicable requirements for transportation projects are addressed (see Appendix A of TGD for WQMP)

* This includes approximately 9.25 acres of offsite improvements (Streets "A" and "B").

2.2 Property Ownership/Management

Describe the ownership/management of all portions of the project and site. State whether any infrastructure will transfer to public agencies (City, County, Caltrans, etc.) after project completion. State if a homeowners or property owners association will be formed and be responsible for the long-term maintenance of project stormwater facilities. Describe any lot-level stormwater features that will be the responsibility of individual property owners.

Form 2.2-1 Property Ownership/Management

Describe property ownership/management responsible for long-term maintenance of WQMP stormwater facilities:

BTC III Etiwanda Commerce Center
4675 Macarthur Court, Suite 625
Newport Beach, CA 92660
Phone: (949) 862-4900
Contact: Chris Sanford

No infrastructure will be transferred to a public agency after project completion.
A property owner's association (POA) will be formed for long-term maintenance of project stormwater facilities.

2.3 Potential Stormwater Pollutants

Determine and describe expected stormwater pollutants of concern based on land uses and site activities (refer to Table 3-3 in the TGD for WQMP).

Form 2.3-1 Pollutants of Concern

Pollutant	Please check: E=Expected, N=Not Expected		Additional Information and Comments
Pathogens (Bacterial / Virus)	E ☒	N ☐	Including petroleum hydrocarbons. Bacterial indicators are routinely detected in pavement runoff.
Nutrients - Phosphorous	E ☒	N ☐	Expected pollutant if landscaping exists on-site.
Nutrients - Nitrogen	E ☒	N ☐	Expected pollutant if landscaping exists on-site.
Noxious Aquatic Plants	E ☒	N ☐	Expected pollutant if landscaping exists on-site.
Sediment / TSS / pH	E ☒	N ☐	Expected pollutant if landscaping exists on-site.
Metals	E ☒	N ☐	Expected pollutant if parking lots exist on-site.
Oil and Grease	E ☒	N ☐	Expected pollutant if parking lots exist on-site.
Trash & Debris	E ☒	N ☐	Expected pollutant if landscaping and parking lots exists on-site.
Pesticides / Herbicides	E ☒	N ☐	Expected pollutant if landscaping exists on-site.
Organic Compounds	E ☒	N ☐	Expected pollutant if landscaping exists on-site. Including solvents. Bacterial indicators are routinely detected in pavement runoff.
Oxygen Demanding Compounds	E ☒	N ☐	Expected pollutant if landscaping exists on-site.
Other:	E ☐	N ☐	
Other:	E ☐	N ☐	

The expected POCs for the project site are ***Pathogens, Nutrients, and Metals***.

2.4 Water Quality Credits

A water quality credit program is applicable for certain types of development projects if it is not feasible to meet the requirements for on-site LID. Proponents for eligible projects, as described below, can apply for water quality credits that would reduce project obligations for selecting and sizing other treatment BMP or participating in other alternative compliance programs. Refer to Section 6.2 in the TGD for WQMP to determine if water quality credits are applicable for the project.

Form 2.4-1 Water Quality Credits

[1] **Project Types that Qualify for Water Quality Credits:** *Select all that apply*			
☐ Redevelopment projects that reduce the overall impervious footprint of the project site. [Credit = % impervious reduced]	Higher density development projects ☐ Vertical density [20%] ☐ 7 units/ acre [5%]	☐ Mixed use development, (combination of residential, commercial, industrial, office, institutional, or other land uses which incorporate design principles that demonstrate environmental benefits not realized through single use projects) [20%]	☐ Brownfield redevelopment (redevelop real property complicated by presence or potential of hazardous contaminants) [25%]
☐ Redevelopment projects in established historic district, historic preservation area, or similar significant core city center areas [10%]	☐ Transit-oriented developments (mixed use residential or commercial area designed to maximize access to public transportation) [20%]	☐ In-fill projects (conversion of empty lots & other underused spaces < 5 acres, substantially surrounded by urban land uses, into more beneficially used spaces, such as residential or commercial areas) [10%]	☐ Live-Work developments (variety of developments designed to support residential and vocational needs) [20%]
[2] **Total Credit %:** n/a *(Total all credit percentages up to a maximum allowable credit of 50 percent)*			
Description of Water Quality Credit Eligibility (if applicable)	n/a		

The proposed project will ***not*** utilize any water quality credits.

Section 3 Site and Watershed Description

Describe the project site conditions that will facilitate the selection of BMP through an analysis of the physical conditions and limitations of the site and its receiving waters. Identify distinct drainage areas (DA) that collect flow from a portion of the site and describe how runoff from each DA (and sub-watershed DMAs) is conveyed to the site outlet(s). Refer to Section 3.2 in the TGD for WQMP. Complete form 3.2 for each DA on the project site.

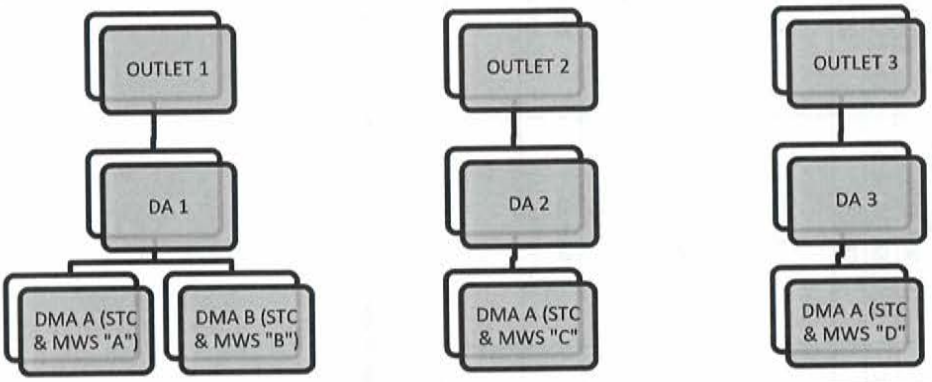
Form 3-1 Site Location and Hydrologic Features

Site coordinates *Take GPS measurement at approximate center of site*	**Latitude:** 34.091404	**Longitude:** -117.52738	**Thomas Bros Map page:** Page 603

[1] San Bernardino County climatic region: ☒Valley ☐Mountain ☐Desert

[2] Does the site have more than one drainage area (DA): ☒Yes ☐No

If no, proceed to Form 3-2. If yes, then use this form to show a conceptual schematic describing DMAs and hydrologic feature connecting DMAs to the site outlet(s). An example is provided below that can be modified for proposed project or a drawing clearly showing DMA and flow routing may be attached.



Conveyance	*Briefly describe on-site drainage features to convey runoff that is not retained within a DMA*
DA 1 DMA A flows to Outlet 1	Prior to runoff discharging to the existing public storm drain in Etiwanda Avenue, the low flows from DA 1 DMA A will be directed to a set of underground detention chambers and a proprietary biofiltration system for biotreatment (STC & MWS "A"). DA 1 DMA A includes ROW improvements from "B" Street.
DA 1 DMA B flows to Outlet 1	Prior to runoff discharging to the existing public storm drain in Etiwanda Avenue, the low flows from DA 1 DMA B will be directed to a set of underground detention chambers and a proprietary biofiltration system for biotreatment (STC & MWS "B"). DA 1 DMA B includes ROW improvements from "A" Street.
DA 2 DMA A flows to Outlet 2	Prior to runoff discharging to the existing public storm drain in Etiwanda Avenue, the low flows from DA 2 DMA A will be directed to a set of underground detention chambers and a proprietary biofiltration system for biotreatment (STC & MWS "C").
DA 3 DMA A flows to Outlet 3	Prior to runoff discharging to the existing public storm drain in Etiwanda Avenue, the low flows from DA 3 DMA A will be directed to a set of underground detention chambers and a proprietary biofiltration system for biotreatment (STC & MWS "B"). DA 3 DMA A includes ROW improvements from "A" and "B" Street.

Form 3-2 Existing Hydrologic Characteristics for Drainage Area (DA)

For each drainage area's sub-watershed DMA, provide the following characteristics	DMA A Hydrology Nodes (200-202)	DMA B Hydrology Nodes (300-332)	DMA C Hydrology Nodes (400-403)	DMA D Hydrology Nodes (500-502)	DMA E Hydrology Nodes (600-601)
[1] DMA drainage area (ft^2)	564,102 (12.95 ac)	971,388 (22.30 ac)	836,352 (19.20 ac)	696,960 (16.00 ac)	17,424 (0.40 ac)
[2] Existing site impervious area (ft^2)	81,606	638,056	483,959	3959,806	0
[3] Antecedent moisture condition *For desert areas, use http://www.sbcounty.gov/dpw/floodcontrol/pdf/20100412_map.pdf*	AMC II	AMC II	AMC II	AMC II	AMC II
[4] Hydrologic soil group *Refer to Watershed Mapping Tool – http://sbcounty.permitrack.com/WAP*	HSG B	HSG A & B	HSG A	HSG A	HSG A
[5] Longest flowpath length (ft)	1,085	2,010	1,690	1,785	115
[6] Longest flowpath slope (ft/ft)	0.0154	0.0167	0.0134	0.0105	0.5139
[7] Current land cover type(s) *Select from Fig C-3 of Hydrology Manual*	Barren Commercial	Barren Commercial	Barren Commercial	Barren Commercial	Barren Commercial
[8] Pre-developed pervious area condition: *Based on the extent of wet season vegetated cover good >75%; Fair 50-75%; Poor <50% See Attachment A for photos of site to support rating*	Poor and Paved	Poor and Paved	Poor and Paved	Poor and Paved	Poor and Paved

Form 3-3 Watershed Description

Receiving Waters *Refer to Watershed Mapping Tool - http://sbcounty.permitrack.com/WAP See 'Drainage Facilities" link at this website*	Day Creek Cucamonga Creek, Reach 1 Mill Creek (Prado Area) Chino Creek, Reach 1A Santa Ana River, Reach 3 Prado Dam Santa Ana River, Reach 2 Santa Ana River, Reach 1 Pacific Ocean
Applicable TMDLs *Refer to Local Implementation Plan*	Day Creek: None Cucamonga Creek, Reach 1: High Coliform Count Mill Creek (Prado Area): Pathogens Chino Creek, Reach 1A: Pathogens Santa Ana River, Reach 3: Pathogens and Nitrate Prado Dam: Pathogens Santa Ana River, Reach 2: None Santa Ana River, Reach 1: None Pacific Ocean: None
303(d) listed impairments *Refer to Local Implementation Plan and Watershed Mapping Tool – http://sbcounty.permitrack.com/WAP and State Water Resources Control Board website – http://www.waterboards.ca.gov/santaana/water_iss ues/programs/tmdl/index.shtml*	Day Creek: None Cucamonga Creek, Reach 1: Cadmium, Copper, Lead, and Zinc Mill Creek (Prado Area): Indicator Bacteria, Nutrients and Total Suspended Solids (TSS) Chino Creek, Reach 1A: Indicator Bacteria, and Nutrients Santa Ana River, Reach 3: Copper, Indicator Bacteria and Lead Prado Dam: pH Santa Ana River, Reach 2: None Santa Ana River, Reach 1: None Pacific Ocean: None
Environmentally Sensitive Areas (ESA) *Refer to Watershed Mapping Tool – http://sbcounty.permitrack.com/WAP*	n/a
Unlined Downstream Water Bodies *Refer to Watershed Mapping Tool – http://sbcounty.permitrack.com/WAP*	Santa Ana River
Hydrologic Conditions of Concern	☐ Yes *Complete Hydrologic Conditions of Concern (HCOC) Assessment. Include Forms 4.2-2 through Form 4.2-5 and Hydromodification BMP Form 4.3-10 in submittal* ☒ No
Watershed–based BMP included in a RWQCB approved WAP	☐ Yes *Attach verification of regional BMP evaluation criteria in WAP* • *More Effective than On-site LID* • *Remaining Capacity for Project DCV* • *Upstream of any Water of the US* • *Operational at Project Completion* • *Long-Term Maintenance Plan* ☒ No

Section 4 Best Management Practices (BMP)

4.1 Source Control BMP

4.1.1 Pollution Prevention

Non-structural and structural source control BMP are required to be incorporated into all new development and significant redevelopment projects. Form 4.1-1 and 4.1-2 are used to describe specific source control BMPs used in the WQMP or to explain why a certain BMP is not applicable. Table 7-3 of the TGD for WQMP provides a list of applicable source control BMP for projects with specific types of potential pollutant sources or activities. The source control BMP in this table must be implemented for projects with these specific types of potential pollutant sources or activities.

The preparers of this WQMP have reviewed the source control BMP requirements for new development and significant redevelopment projects. The preparers have also reviewed the specific BMP required for project as specified in Forms 4.1-1 and 4.1-2. All applicable non-structural and structural source control BMP shall be implemented in the project.

Form 4.1-1 Non-Structural Source Control BMPs

Identifier	Name	Check One		Describe BMP Implementation OR, if not applicable, state reason
		Included	Not Applicable	
N1	Education of Property Owners, Tenants and Occupants on Stormwater BMPs	☒	☐	Property owner will familiarize him/herself with the educational materials in Attachment "E" and the contents of the WQMP.
N2	Activity Restrictions	☒	☐	The owner shall develop ongoing activity restrictions that include those that have the potential to create adverse impacts on water quality. Activities include, but are not limited to: handling and disposal of contaminants, fertilizer and pesticide application restrictions, litter control and pick-up, and vehicle or equipment repair as well as any other activities that may potentially contribute to water pollution. Refer to Attachment J.
N3	Landscape Management BMPs	☒	☐	Irrigation must be consistent with City's Water Conservation Ordinance. Fertilizer and pesticide usage will be consistent with County Management Guidelines for Use of Fertilizers and Pesticides.
N4	BMP Maintenance	☒	☐	BMP maintenance, implementation schedules, and responsible parties are included with each specific BMP narrative.
N5	Title 22 CCR Compliance (How development will comply)	☐	☒	No hazardous materials anticipated outdoors. WQMP to be amended if hazardous materials become applicable.
N6	Local Water Quality Ordinances	☒	☐	Owner/tenant will comply with Local Water Ordinances.
N7	Spill Contingency Plan	☒	☐	Owner/tenant will have a spill contingency plan, a separate document, based on specific site needs.
N8	Underground Storage Tank Compliance	☐	☒	No USTs onsite.
N9	Hazardous Materials Disclosure Compliance	☐	☒	No hazardous materials anticipated outdoors. WQMP to be amended if hazardous materials become applicable.
N10	Uniform Fire Code Implementation	☒	☐	If applicable, owner will comply with Article 80 of the California Fire Code enforced by the fire protection agency. The facility operators will be educated annually regarding requirements for handling, storage and proper disposal of hazardous substances.
N11	Litter/Debris Control Program	☒	☐	Contract with their landscape maintenance firm to provide this service during regularly schedule maintenance. They are required to implement trash management and litter control procedures in the common areas aimed at reducing pollution of drainage water.
N12	Employee Training	☒	☐	The owner will ensure that tenants are also familiar with onsite BMPs and necessary maintenance required of the tenants. Owner will check with City and County at least once a year to obtain new or updated educational materials and provide these materials to tenants. Employees shall be trained to clean up spills and participate in ongoing maintenance. The WQMP requires annual employee training and new hires within 2 months.

Form 4.1-1 Non-Structural Source Control BMPs

Identifier	Name	Check One		Describe BMP Implementation OR, if not applicable, state reason
		Included	Not Applicable	
N13	Housekeeping of Loading Docks	☒	☐	Keep all fluids indoors. Clean up spills immediately and keep spills from entering storm drain system. No direct discharges into the storm drain system. Area shall be inspected weekly for proper containment and practices with spills cleaned up immediately and disposed of properly.
N14	Catch Basin Inspection Program	☒	☐	Monthly inspection by property owner's designee. Inspection consists of immediate repair of any deterioration of the structures and maintenance of drain inserts before and after major rain events. Drain insert maintenance shall be per manufacturer's guidelines.
N15	Vacuum Sweeping of Private Streets and Parking Lots	☒	☐	All landscape maintenance contractors will be required to sweep up all landscape cuttings, mowings and fertilizer materials off paved areas weekly and dispose of properly. Parking areas and drive ways will be swept monthly by sweeping contractor.
N16	Other Non-structural Measures for Public Agency Projects	☐	☒	Not a public agency project.
N17	Comply with all other applicable NDPES permits	☒	☐	Will comply with Construction General Permit and Industrial General Permit (may apply for No Exposure Certification/NEC).

Form 4.1-2 Structural Source Control BMPs

Identifier	Name	Check One		Describe BMP Implementation OR, if not applicable, state reason
		Included	Not Applicable	
S1	Provide storm drain system stenciling and signage (CASQA New Development BMP Handbook SD-13)	☒	☐	"No Dumping – Drains to Waterway" stencils will be applied. Legibility of stencil will be maintained on a yearly basis.
S2	Design and construct outdoor material storage areas to reduce pollution introduction (CASQA New Development BMP Handbook SD-34)	☐	☒	No outdoor material storage areas onsite.
S3	Design and construct trash and waste storage areas to reduce pollution introduction (CASQA New Development BMP Handbook SD-32)	☒	☐	Paved with an impervious surface, designed not to allow run-on from adjoining areas, designed to divert drainage from adjoining roofs and pavements diverted around the area, screened or walled to prevent off-site transport of trash. A trash enclosure detail is provided within the Site and Drainage Map.
S4	Use efficient irrigation systems & landscape design, water conservation, smart controllers, and source control (Statewide Model Landscape Ordinance; CASQA New Development BMP Handbook SD-12)	☒	☐	Irrigation systems shall include reducers or shutoff valves triggered by a pressure drop to control water loss in the event of broken sprinkler heads or lines. Timers will be used to avoid over watering and watering cycles and duration shall be adjusted seasonally by the landscape maintenance contractor. The landscaping areas will be grouped with plants that have similar water requirements. Native or drought tolerant species shall also be used where appropriate to reduce excess irrigation runoff and promote surface filtration.
S5	Finish grade of landscaped areas at a minimum of 1-2 inches below top of curb, sidewalk, or pavement	☐	☒	Stormwater runoff from all impervious areas will drain into the proposed LID BMPs for treatment.
S6	Protect slopes and channels and provide energy dissipation (CASQA New Development BMP Handbook SD-10)	☐	☒	No channels to protect.
S7	Covered dock areas (CASQA New Development BMP Handbook SD-31)	☐	☒	No applicable.
S8	Covered maintenance bays with spill containment plans (CASQA New Development BMP Handbook SD-31)	☐	☒	No maintenance bays onsite.
S9	Vehicle wash areas with spill containment plans (CASQA New Development BMP Handbook SD-33)	☐	☒	No vehicle wash areas onsite.
S10	Covered outdoor processing areas (CASQA New Development BMP Handbook SD-36)	☐	☒	No outdoor processing areas onsite.

Form 4.1-2 Structural Source Control BMPs

Identifier	Name	Check One		Describe BMP Implementation OR, if not applicable, state reason
		Included	Not Applicable	
S11	Equipment wash areas with spill containment plans (CASQA New Development BMP Handbook SD-33)	☐	☒	No equipment wash areas onsite.
S12	Fueling areas (CASQA New Development BMP Handbook SD-30)	☐	☒	No fueling areas onsite.
S13	Hillside landscaping (CASQA New Development BMP Handbook SD-10)	☐	☒	No hillsides onsite.
S14	Wash water control for food preparation areas	☐	☒	No food preparation onsite.
S15	Community car wash racks (CASQA New Development BMP Handbook SD-33)	☐	☒	No community cars wash racks onsite.

4.1.2 Preventive LID Site Design Practices

Site design practices associated with new LID requirements in the MS4 Permit should be considered in the earliest phases of a project. Preventative site design practices can result in smaller DCV for LID BMP and hydromodification control BMP by reducing runoff generation. Describe site design and drainage plan including:

- A narrative of site design practices utilized or rationale for not using practices
- A narrative of how site plan incorporates preventive site design practices
- Include an attached Site Plan layout which shows how preventative site design practices are included in WQMP

Refer to Section 5.2 of the TGD for WQMP for more details.

Form 4.1-3 Preventive LID Site Design Practices Checklist

Site Design Practices *If yes, explain how preventative site design practice is addressed in project site plan. If no, other LID BMPs must be selected to meet targets.*
Minimize impervious areas: ☐ Yes ☒ No Explanation: The project will utilize biotreatment BMPs to collect runoff from impervious areas. Roads and sidewalk widths are reduced to the City standards.
Maximize natural infiltration capacity: ☐ Yes ☒ No Explanation: Due to the environmental conditions of the site, infiltration is not recommended.
Preserve existing drainage patterns and time of concentration: ☒ Yes ☐ No Explanation: Post-development drainage patterns will mimic pre-development conditions. Stormwater will be detained in biotreatment BMPs and mimic the time of concentration compared to existing condition.
Disconnect impervious areas: ☒ Yes ☐ No Explanation: The biotreatment BMPs will disconnect impervious areas before discharging offsite.
Protect existing vegetation and sensitive areas: ☐ Yes ☒ No Explanation: Not applicable, there is no existing vegetation onsite (see Attachment A for recent site photos). The site is being developed into a light industrial facility. There are no sensitive areas to protect. Landscape will be provided throughout the site.
Re-vegetate disturbed areas: ☐ Yes ☒ No Explanation: Not applicable, development consists of two light-industrial warehouses. Most of the disturbed areas will be paved; however, all disturbed areas will be collected by the biotreatment BMPs for treatment. Landscape will be provided throughout the site.
Minimize unnecessary compaction in stormwater retention/infiltration basin/trench areas: ☒ Yes ☐ No Explanation: Heavy construction vehicles will be prohibited from performing unnecessary soil compaction at the locations of the underground detention chambers.
Utilize vegetated drainage swales in place of underground piping or imperviously lined swales: ☐ Yes ☒ No Explanation: Underground piping and imperviously lined swales are located at truck loading areas that could not be substituted with vegetated swales. All Imperviously lined swales will be taken to the biotreatment BMPs for treatment.
Stake off areas that will be used for landscaping to minimize compaction during construction : ☒ Yes ☐ No Explanation: Landscaped areas (not located in the compacted building zone area) will be staked to minimize unnecessary compaction during construction. Material storage areas and stockpiles will be located on areas being developed into a parking lot. Access routes for heavy equipment will be located around BMP locations.

4.2 Project Performance Criteria

The purpose of this section of the Project WQMP is to establish targets for post development hydrology based on performance criteria specified in the MS4 Permit. These targets include runoff volume for water quality control (referred to as LID design capture volume), and runoff volume, time of concentration, and peak runoff for protection of any downstream waterbody segments with a HCOC. ***If the project has more than one outlet for stormwater runoff, then complete additional versions of these forms for each DA / outlet.***

Methods applied in the following forms include:

- For LID BMP Design Capture Volume (DCV), the San Bernardino County Stormwater Program requires use of the P6 method (MS4 Permit Section XI.D.6a.ii) – Form 4.2-1
- For HCOC pre- and post-development hydrologic calculation, the San Bernardino County Stormwater Program requires the use of the Rational Method (San Bernardino County Hydrology Manual Section D). Forms 4.2-2 through Form 4.2-5 calculate hydrologic variables including runoff volume, time of concentration, and peak runoff from the project site pre- and post-development using the Hydrology Manual Rational Method approach. For projects greater than 640 acres (1.0 mi2), the Rational Method and these forms should not be used. For such projects, the Unit Hydrograph Method (San Bernardino County Hydrology Manual Section E) shall be applied for hydrologic calculations for HCOC performance criteria.

Refer to Section 4 in the TGD for WQMP for detailed guidance and instructions.

Form 4.2-1 LID BMP Performance Criteria for Design Capture Volume (DA 1)

[1] **Project area (ft^2):** 916,938 (DMA A – 21.05 ac)	[2] **Imperviousness after applying preventative site design practices (Imp%):** 100%	[3] **Runoff Coefficient (R_c):** 0.892 $R_C = 0.858(Imp\%)^3 - 0.78(Imp\%)^2 + 0.774(Imp\%) + 0.04$
[4] **Determine 1-hour rainfall depth for a 2-year return period $P_{2yr\text{-}1hr}$ (in):** 0.526 http://hdsc.nws.noaa.gov/hdsc/pfds/sa/sca_pfds.html		
[5] **Compute P6, Mean 6-hr Precipitation (inches):** 0.779 *P6 = Item 4 *C_1, where C_1 is a function of site climatic region specified in Form 3-1 Item 1* *(Valley = 1.4807; Mountain = 1.909; Desert = 1.2371)*		
[6] **Drawdown Rate** *Use 48 hours as the default condition. Selection and use of the 24 hour drawdown time condition is subject to approval by the local jurisdiction. The necessary BMP footprint is a function of drawdown time. While shorter drawdown times reduce the performance criteria for LID BMP design capture volume, the depth of water that can be stored is also reduced.*		24-hrs ☐ 48-hrs ☒
[7] **Compute design capture volume, DCV (ft^3):** 104,207 *DCV = 1/12 * [Item 1* Item 3 *Item 5 * C_2], where C_2 is a function of drawdown rate (24-hr = 1.582; 48-hr = 1.963)* *Compute separate DCV for each outlet from the project site per schematic drawn in Form 3-1 Item 2*		
[1] **Project area (ft^2):** 89,298 (DMA A - ROW – 2.05 ac)	[2] **Imperviousness after applying preventative site design practices (Imp%):** 100%	[3] **Runoff Coefficient (R_c):** 0.892 $R_C = 0.858(Imp\%)^3 - 0.78(Imp\%)^2 + 0.774(Imp\%) + 0.04$
[4] **Determine 1-hour rainfall depth for a 2-year return period $P_{2yr\text{-}1hr}$ (in):** 0.526 http://hdsc.nws.noaa.gov/hdsc/pfds/sa/sca_pfds.html		

[5] Compute P6, Mean 6-hr Precipitation (inches): 0.779

*P6 = Item 4 *C_1, where C_1 is a function of site climatic region specified in Form 3-1 Item 1*

(Valley = 1.4807; Mountain = 1.909; Desert = 1.2371)

[6] Drawdown Rate

Use 48 hours as the default condition. Selection and use of the 24 hour drawdown time condition is subject to approval by the local jurisdiction. The necessary BMP footprint is a function of drawdown time. While shorter drawdown times reduce the performance criteria for LID BMP design capture volume, the depth of water that can be stored is also reduced.

24-hrs ☐
48-hrs ☒

[7] Compute design capture volume, DCV (ft^3): 10,148

*DCV = 1/12 * [Item 1* Item 3 *Item 5 * C_2], where C_2 is a function of drawdown rate (24-hr = 1.582; 48-hr = 1.963)*

Compute separate DCV for each outlet from the project site per schematic drawn in Form 3-1 Item 2

[1] Project area (ft^2): 1,086,822 (DMA B – 24.95 ac)	[2] Imperviousness after applying preventative site design practices (Imp%): 95%	[3] Runoff Coefficient (R_c): 0.807 $R_C = 0.858(Imp\%)^3 - 0.78(Imp\%)^2 + 0.774(Imp\%) + 0.04$

[4] Determine 1-hour rainfall depth for a 2-year return period $P_{2yr\text{-}1hr}$ (in): 0.526

http://hdsc.nws.noaa.gov/hdsc/pfds/sa/sca_pfds.html

[5] Compute P6, Mean 6-hr Precipitation (inches): 0.779

*P6 = Item 4 *C_1, where C_1 is a function of site climatic region specified in Form 3-1 Item 1*

(Valley = 1.4807; Mountain = 1.909; Desert = 1.2371)

[6] Drawdown Rate

Use 48 hours as the default condition. Selection and use of the 24 hour drawdown time condition is subject to approval by the local jurisdiction. The necessary BMP footprint is a function of drawdown time. While shorter drawdown times reduce the performance criteria for LID BMP design capture volume, the depth of water that can be stored is also reduced.

24-hrs ☐
48-hrs ☒

[7] Compute design capture volume, DCV (ft^3): 111,741

*DCV = 1/12 * [Item 1* Item 3 *Item 5 * C_2], where C_2 is a function of drawdown rate (24-hr = 1.582; 48-hr = 1.963)*

Compute separate DCV for each outlet from the project site per schematic drawn in Form 3-1 Item 2

[1] Project area (ft^2): 217,800 (DMA B - ROW – 5.00 ac)	[2] Imperviousness after applying preventative site design practices (Imp%): 100%	[3] Runoff Coefficient (R_c): 0.892 $R_C = 0.858(Imp\%)^3 - 0.78(Imp\%)^2 + 0.774(Imp\%) + 0.04$

[4] Determine 1-hour rainfall depth for a 2-year return period $P_{2yr\text{-}1hr}$ (in): 0.526

http://hdsc.nws.noaa.gov/hdsc/pfds/sa/sca_pfds.html

[5] Compute P6, Mean 6-hr Precipitation (inches): 0.779

*P6 = Item 4 *C_1, where C_1 is a function of site climatic region specified in Form 3-1 Item 1*

(Valley = 1.4807; Mountain = 1.909; Desert = 1.2371)

[6] Drawdown Rate

Use 48 hours as the default condition. Selection and use of the 24 hour drawdown time condition is subject to approval by the local jurisdiction. The necessary BMP footprint is a function of drawdown time. While shorter drawdown times reduce the performance criteria for LID BMP design capture volume, the depth of water that can be stored is also reduced.

24-hrs ☐
48-hrs ☒

[7] Compute design capture volume, DCV (ft^3): 24,752

*DCV = 1/12 * [Item 1* Item 3 *Item 5 * C_2], where C_2 is a function of drawdown rate (24-hr = 1.582; 48-hr = 1.963)*

Compute separate DCV for each outlet from the project site per schematic drawn in Form 3-1 Item 2

Form 4.2-1 LID BMP Performance Criteria for Design Capture Volume (DA 2)

[1] Project area (ft^2): 280,962 (DMA A – 6.45 ac)	[2] Imperviousness after applying preventative site design practices (Imp%): 95%	[3] Runoff Coefficient (R_c): 0.807 $R_C = 0.858(Imp\%)^3 - 0.78(Imp\%)^2 + 0.774(Imp\%) + 0.04$

[4] **Determine 1-hour rainfall depth for a 2-year return period $P_{2yr\text{-}1hr}$ (in):** 0.526
http://hdsc.nws.noaa.gov/hdsc/pfds/sa/sca_pfds.html

[5] **Compute P6, Mean 6-hr Precipitation (inches):** 0.779

*P6 = Item 4 *C_1, where C_1 is a function of site climatic region specified in Form 3-1 Item 1*

(Valley = 1.4807; Mountain = 1.909; Desert = 1.2371)

[6] Drawdown Rate *Use 48 hours as the default condition. Selection and use of the 24 hour drawdown time condition is subject to approval by the local jurisdiction. The necessary BMP footprint is a function of drawdown time. While shorter drawdown times reduce the performance criteria for LID BMP design capture volume, the depth of water that can be stored is also reduced.*	24-hrs ☐ 48-hrs ☒

[7] **Compute design capture volume, DCV (ft^3):** 28,887

*DCV = 1/12 * [Item 1* Item 3 *Item 5 * C_2], where C_2 is a function of drawdown rate (24-hr = 1.582; 48-hr = 1.963)*

Compute separate DCV for each outlet from the project site per schematic drawn in Form 3-1 Item 2

Form 4.2-1 LID BMP Performance Criteria for Design Capture Volume (DA 3)

[1] Project area (ft^2): 139,392 (DMA A – 3.20 ac)	[2] Imperviousness after applying preventative site design practices (Imp%): 95%	[3] Runoff Coefficient (R_c): 0.807 $R_C = 0.858(Imp\%)^3 - 0.78(Imp\%)^2 + 0.774(Imp\%) + 0.04$

[4] **Determine 1-hour rainfall depth for a 2-year return period $P_{2yr\text{-}1hr}$ (in):** 0.526
http://hdsc.nws.noaa.gov/hdsc/pfds/sa/sca_pfds.html

[5] **Compute P6, Mean 6-hr Precipitation (inches):** 0.779

*P6 = Item 4 *C_1, where C_1 is a function of site climatic region specified in Form 3-1 Item 1*

(Valley = 1.4807; Mountain = 1.909; Desert = 1.2371)

[6] Drawdown Rate *Use 48 hours as the default condition. Selection and use of the 24 hour drawdown time condition is subject to approval by the local jurisdiction. The necessary BMP footprint is a function of drawdown time. While shorter drawdown times reduce the performance criteria for LID BMP design capture volume, the depth of water that can be stored is also reduced.*	24-hrs ☐ 48-hrs ☒

[7] **Compute design capture volume, DCV (ft^3):** 14,331

*DCV = 1/12 * [Item 1* Item 3 *Item 5 * C_2], where C_2 is a function of drawdown rate (24-hr = 1.582; 48-hr = 1.963)*

Compute separate DCV for each outlet from the project site per schematic drawn in Form 3-1 Item 2

[1] Project area (ft^2): 95,832 (DMA A - ROW – 2.20 ac)	[2] Imperviousness after applying preventative site design practices (Imp%): 95%	[3] Runoff Coefficient (R_c): 0.807 $R_C = 0.858(Imp\%)^3 - 0.78(Imp\%)^2 + 0.774(Imp\%) + 0.04$

[4] **Determine 1-hour rainfall depth for a 2-year return period $P_{2yr\text{-}1hr}$ (in):** 0.526
http://hdsc.nws.noaa.gov/hdsc/pfds/sa/sca_pfds.html

[5] **Compute P6, Mean 6-hr Precipitation (inches):** 0.779

*P6 = Item 4 *C_1, where C_1 is a function of site climatic region specified in Form 3-1 Item 1*

(Valley = 1.4807; Mountain = 1.909; Desert = 1.2371)

[6] Drawdown Rate *Use 48 hours as the default condition. Selection and use of the 24 hour drawdown time condition is subject to approval by the local jurisdiction. The necessary BMP footprint is a function of drawdown time. While shorter drawdown times reduce the performance criteria for LID BMP design capture volume, the depth of water that can be stored is also reduced.*	24-hrs ☐ 48-hrs ☒
[7] Compute design capture volume, DCV (ft^3): 10,891 *DCV = 1/12 * [Item 1* Item 3 *Item 5 * C_2], where C_2 is a function of drawdown rate (24-hr = 1.582; 48-hr = 1.963)* *Compute separate DCV for each outlet from the project site per schematic drawn in Form 3-1 Item 2*	

Form 4.2-2 Summary of HCOC Assessment

Does project have the potential to cause or contribute to an HCOC in a downstream channel: ☐ Yes ☒ No

Go to: http://sbcounty.permitrack.com/WAP/

If "Yes", then complete HCOC assessment of site hydrology for 2yr storm event using Forms 4.2-3 through 4.2-5 and insert results below (Forms 4.2-3 through 4.2-5 may be replaced by computer software analysis based on the San Bernardino County Hydrology Manual)

If "No," then proceed to Section 4.3 Project Conformance Analysis

Condition	Runoff Volume (ft^3)	Time of Concentration (min)	Peak Runoff (cfs)
Pre-developed	[1] n/a *Form 4.2-3 Item 12*	[2] n/a *Form 4.2-4 Item 13*	[3] n/a *Form 4.2-5 Item 10*
Post-developed	[4] n/a *Form 4.2-3 Item 13*	[5] n/a *Form 4.2-4 Item 14*	[6] n/a *Form 4.2-5 Item 14*
Difference	[7] n/a *Item 4 – Item 1*	[8] n/a *Item 5 – Item 2*	[9] n/a *Item 6 – Item 3*
Difference (as % of pre-developed)	[10] n/a *Item 7 / Item 1*	[11] n/a *Item 8 / Item 2*	[12] n/a *Item 9 / Item 3*

Form 4.2-3 HCOC Assessment for Runoff Volume (DA 1)

Weighted Curve Number Determination for: Pre-developed DA	DMA A	DMA B	DMA C	DMA D	DMA E	DMA F	DMA G	DMA H
1a Land Cover type	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2a Hydrologic Soil Group (HSG)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
3a DMA Area, ft^2 *sum of areas of DMA should equal area of DA*	0	0	0	0	0	0	0	0
4a Curve Number (CN) *use Items 1 and 2 to select the appropriate CN from Appendix C-2 of the TGD for WQMP*	0	0	0	0	0	0	0	0
Weighted Curve Number Determination for: Post-developed DA	DMA A	DMA B	DMA C	DMA D	DMA E	DMA F	DMA G	DMA H
1b Land Cover type	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2b Hydrologic Soil Group (HSG)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
3b DMA Area, ft^2 *sum of areas of DMA should equal area of DA*	0	0	0	0	0	0	0	0
4b Curve Number (CN) *use Items 5 and 6 to select the appropriate CN from Appendix C-2 of the TGD for WQMP*	0	0	0	0	0	0	0	0

5 Pre-Developed area-weighted CN: 0	**7** Pre-developed soil storage capacity, S (in): 0 *S = (1000 / Item 5) - 10*	**9** Initial abstraction, I_a (in): 0 *I_a = 0.2 * Item 7*
6 Post-Developed area-weighted CN: 0	**8** Post-developed soil storage capacity, S (in): 0 *S = (1000 / Item 6) - 10*	**10** Initial abstraction, I_a (in): 0 *I_a = 0.2 * Item 8*

11 Precipitation for 2 yr, 24 hr storm (in): 0
Go to: http://hdsc.nws.noaa.gov/hdsc/pfds/sa/sca_pfds.html

12 Pre-developed Volume (ft^3): 0
*V_{pre} =(1 / 12) * (Item sum of Item 3) * [(Item 11 – Item 9)^2 / ((Item 11 – Item 9 + Item 7)*

13 Post-developed Volume (ft^3): 0
*V_{pre} =(1 / 12) * (Item sum of Item 3) * [(Item 11 – Item 10)^2 / ((Item 11 – Item 10 + Item 8)*

14 Volume Reduction needed to meet HCOC Requirement, (ft^3): 0
*V_{HCOC} = (Item 13 * 0.95) – Item 12*

Form 4.2-4 HCOC Assessment for Time of Concentration (DA 1)

Compute time of concentration for pre and post developed conditions for each DA

(For projects using the Hydrology Manual complete the form below)

Variables	Pre-developed DA1 *Use additional forms if there are more than 4 DMA*				Post-developed DA1 *Use additional forms if there are more than 4 DMA*			
	DMA A	DMA B	DMA C	DMA D	DMA A	DMA B	DMA C	DMA D
1 Length of flowpath (ft) *Use Form 3-2 Item 5 for pre-developed condition*	0	0	0	0	0	0	0	0
2 Change in elevation (ft)	0	0	0	0	0	0	0	0
3 Slope (ft/ft) *S_o = Item 2 / Item 1*	0	0	0	0	0	0	0	0
4 Land cover	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
5 Initial DMA Time of Concentration (min) *Appendix C-1 of the TGD for WQMP*	0	0	0	0	0	0	0	0
6 Length of conveyance from DMA outlet to project site outlet (ft) *May be zero if DMA outlet is at project site outlet*	0	0	0	0	0	0	0	0
7 Cross-sectional area of channel (ft^2)	0	0	0	0	0	0	0	0
8 Wetted perimeter of channel (ft)	0	0	0	0	0	0	0	0
9 Manning's roughness of channel (n)	0	0	0	0	0	0	0	0
10 Channel flow velocity (ft/sec) *V_{fps} = (1.49 / Item 9) * (Item 7/Item 8)^0.67 * (Item 3)^0.5*	0	0	0	0	0	0	0	0
11 Travel time to outlet (min) *T_t = Item 6 / (Item 10 * 60)*	0	0	0	0	0	0	0	0
12 Total time of concentration (min) *T_c = Item 5 + Item 11*	0	0	0	0	0	0	0	0
13 Pre-developed time of concentration (min): 0 *Minimum of Item 12 pre-developed DMA*								
14 Post-developed time of concentration (min): 0 *Minimum of Item 12 post-developed DMA*								
15 Additional time of concentration needed to meet HCOC requirement (min): 0 *$T_{C\text{-}HCOC}$ = (Item 13 * 0.95) – Item 14*								

Form 4.2-5 HCOC Assessment for Peak Runoff (DA 1)

Compute peak runoff for pre- and post-developed conditions

Variables		Pre-developed DA to Project Outlet (*Use additional forms if more than 3 DMA*)			Post-developed DA to Project Outlet (*Use additional forms if more than 3 DMA*)		
		DMA A	DMA B	DMA C	DMA A	DMA B	DMA C
1 Rainfall Intensity for storm duration equal to time of concentration *I_{peak} = 10^(LOG Form 4.2-1 Item 4 - 0.6 LOG Form 4.2-4 Item 5 /60)*		0	0	0	0	0	0
2 Drainage Area of each DMA (Acres) *For DMA with outlet at project site outlet, include upstream DMA (Using example schematic in Form 3-1, DMA A will include drainage from DMA C)*		0	0	0	0	0	0
3 Ratio of pervious area to total area *For DMA with outlet at project site outlet, include upstream DMA (Using example schematic in Form 3-1, DMA A will include drainage from DMA C)*		0	0	0	0	0	0
4 Pervious area infiltration rate (in/hr) *Use pervious area CN and antecedent moisture condition with Appendix C-3 of the TGD for WQMP*		0	0	0	0	0	0
5 Maximum loss rate (in/hr) *F_m = Item 3 * Item 4* *Use area-weighted F_m from DMA with outlet at project site outlet, include upstream DMA (Using example schematic in Form 3-1, DMA A will include drainage from DMA C)*		0	0	0	0	0	0
6 Peak Flow from DMA (cfs) *Q_p =Item 2 * 0.9 * (Item 1 - Item 5)*		0	0	0	0	0	0
7 Time of concentration adjustment factor for other DMA to site discharge point *Form 4.2-4 Item 12 DMA / Other DMA upstream of site discharge point (If ratio is greater than 1.0, then use maximum value of 1.0)*	DMA A	*n/a*			*n/a*		
	DMA B		*n/a*			*n/a*	
	DMA C			*n/a*			*n/a*

8 Pre-developed Q_p at T_c for DMA A: 0

*Q_p = Item 6_{DMAA} + [Item 6_{DMAB} * (Item 1_{DMAA} - Item 5_{DMAB})/(Item 1_{DMAB} - Item 5_{DMAB})* Item $7_{DMAA/2}$] + [Item 6_{DMAC} * (Item 1_{DMAA} - Item 5_{DMAC})/(Item 1_{DMAC} - Item 5_{DMAC})* Item $7_{DMAA/3}$]*

9 Pre-developed Q_p at T_c for DMA B: 0

*Q_p = Item 6_{DMAB} + [Item 6_{DMAA} * (Item 1_{DMAB} - Item 5_{DMAA})/(Item 1_{DMAA} - Item 5_{DMAA})* Item $7_{DMAB/1}$] + [Item 6_{DMAC} * (Item 1_{DMAB} - Item 5_{DMAC})/(Item 1_{DMAC} - Item 5_{DMAC})* Item $7_{DMAB/3}$]*

10 Pre-developed Q_p at T_c for DMA C: 0

*Q_p = Item 6_{DMAC} + [Item 6_{DMAA} * (Item 1_{DMAC} - Item 5_{DMAA})/(Item 1_{DMAA} - Item 5_{DMAA})* Item $7_{DMAC/1}$] + [Item 6_{DMAB} * (Item 1_{DMAC} - Item 5_{DMAB})/(Item 1_{DMAB} - Item 5_{DMAB})* Item $7_{DMAC/2}$]*

10 Peak runoff from pre-developed condition confluence analysis (cfs): 0

Maximum of Item 8, 9, and 10 (including additional forms as needed)

11 Post-developed Q_p at T_c for DMA A: 0

Same as Item 8 for post-developed values

12 Post-developed Q_p at T_c for DMA B: 0

Same as Item 9 for post-developed values

13 Post-developed Q_p at T_c for DMA C: 0

Same as Item 10 for post-developed values

14 Peak runoff from post-developed condition confluence analysis (cfs): 0

Maximum of Item 11, 12, and 13 (including additional forms as needed)

15 Peak runoff reduction needed to meet HCOC Requirement (cfs): 0

*$Q_{p\text{-}HCOC}$ = (Item 14 * 0.95) – Item 10*

4.3 Project Conformance Analysis

Complete the following forms for each project site DA to document that the proposed LID BMPs conform to the project DCV developed to meet performance criteria specified in the MS4 Permit (WQMP Template Section 4.2). For the LID DCV, the forms are ordered according to hierarchy of BMP selection as required by the MS4 Permit (see Section 5.3.1 in the TGD for WQMP). The forms compute the following for on-site LID BMP:

- Site Design and Hydrologic Source Controls (Form 4.3-2)
- Retention and Infiltration (Form 4.3-3)
- Harvested and Use (Form 4.3-4) or
- Biotreatment (Form 4.3-5).

At the end of each form, additional fields facilitate the determination of the extent of mitigation provided by the specific BMP category, allowing for use of the next category of BMP in the hierarchy, if necessary.

The first step in the analysis, using Section 5.3.2.1 of the TGD for WQMP, is to complete Forms 4.3-1 and 4.3-3) to determine if retention and infiltration BMPs are infeasible for the project. For each feasibility criterion in Form 4.3-1, if the answer is "Yes," provide all study findings that includes relevant calculations, maps, data sources, etc. used to make the determination of infeasibility.

Next, complete Forms 4.3-2 and 4.3-4 to determine the feasibility of applicable HSC and harvest and use BMPs, and, if their implementation is feasible, the extent of mitigation of the DCV.

If no site constraints exist that would limit the type of BMP to be implemented in a DA, evaluate the use of combinations of LID BMPs, including all applicable HSC BMPs to maximize on-site retention of the DCV. If no combination of BMP can mitigate the entire DCV, implement the single BMP type, or combination of BMP types, that maximizes on-site retention of the DCV within the minimum effective area.

If the combination of LID HSC, retention and infiltration, and harvest and use BMPs are unable to mitigate the entire DCV, then biotreatment BMPs may be implemented by the project proponent. If biotreatment BMPs are used, then they must be sized to provide sufficient capacity for effective treatment of the remainder of the volume-based performance criteria that cannot be achieved with LID BMPs (TGD for WQMP Section 5.4.4.2). Under no circumstances shall any portion of the DCV be released from the site without effective mitigation and/or treatment.

Form 4.3-1 Infiltration BMP Feasibility (Entire Site)

Feasibility Criterion – Complete evaluation for each DA on the Project Site

1 Would infiltration BMP pose significant risk for groundwater related concerns? ☒ Yes ☐ No

Refer to Section 5.3.2.1 of the TGD for WQMP

If Yes, Provide basis: Per the Phase I Environmental Site Assessment (ESA) excerpt provided in Attachment K, the site consists of structures that are part of a decommissioned electric power generating facility, known as the Etiwanda Generating Station, including buildings, power generating units, cooling towers and retention basins/ponds. A 2019 investigation revealed that soil and soil gas samples collected in several locations contained concentrations of chemicals above human health and/or disposal criteria. Under these conditions, infiltration is not recommended.

2 Would installation of infiltration BMP significantly increase the risk of geotechnical hazards ☐ Yes ☒ No

(Yes, if the answer to any of the following questions is yes, as established by a geotechnical expert):

- The location is less than 50 feet away from slopes steeper than 15 percent
- The location is less than eight feet from building foundations or an alternative setback.
- A study certified by a geotechnical professional or an available watershed study determines that stormwater infiltration would result in significantly increased risks of geotechnical hazards.

If Yes, Provide basis: (attach)

3 Would infiltration of runoff on a Project site violate downstream water rights? ☐ Yes ☒ No

If Yes, Provide basis: (attach)

4 Is proposed infiltration facility located on hydrologic soil group (HSG) D soils or does the site geotechnical investigation indicate presence of soil characteristics, which support categorization as D soils? ☐ Yes ☒ No

If Yes, Provide basis: (attach)

5 Is the design infiltration rate, after accounting for safety factor of 2.0, below proposed facility less than 0.3 in/hr (accounting for soil amendments)? ☐ Yes ☒ No

If Yes, Provide basis: (attach)

6 Would on-site infiltration or reduction of runoff over pre-developed conditions be partially or fully inconsistent with watershed management strategies as defined in the WAP, or impair beneficial uses? ☐ Yes ☒ No

See Section 3.5 of the TGD for WQMP and WAP

If Yes, Provide basis: (attach)

7 Any answer from Item 1 through Item 3 is "Yes": ☒ Yes ☐ No

If yes, infiltration of any volume is not feasible onsite. Proceed to Form 4.3-4, Harvest and Use BMP. If no, then proceed to Item 8 below.

8 Any answer from Item 4 through Item 6 is "Yes": ☐ Yes ☒ No

If yes, infiltration is permissible but is not required to be considered. Proceed to Form 4.3-2, Hydrologic Source Control BMP.
If no, then proceed to Item 9, below.

9 All answers to Item 1 through Item 6 are "No": ☐ Yes ☒ No

Infiltration of the full DCV is potentially feasible, LID infiltration BMP must be designed to infiltrate the full DCV to the MEP.
Proceed to Form 4.3-2, Hydrologic Source Control BMP.

4.3.1 Site Design Hydrologic Source Control BMP

Section XI.E. of the Permit emphasizes the use of LID preventative measures; and the use of LID HSC BMPs reduces the portion of the DCV that must be addressed in downstream BMPs. Therefore, all applicable HSC shall be provided except where they are mutually exclusive with each other, or with other BMPs. Mutual exclusivity may result from overlapping BMP footprints such that either would be potentially feasible by itself, but both could not be implemented. Please note that while there are no numeric standards regarding the use of HSC, if a project cannot feasibly meet BMP sizing requirements or cannot fully address HCOCs, feasibility of all applicable HSC must be part of demonstrating that the BMP system has been designed to retain the maximum feasible portion of the DCV. Complete Form 4.3-2 to identify and calculate estimated retention volume from implementing site design HSC BMP. Refer to Section 5.4.1 in the TGD for more detailed guidance.

Form 4.3-2 Site Design Hydrologic Source Control BMPs (DA)

1 **Implementation of Impervious Area Dispersion BMP (i.e. routing runoff from impervious to pervious areas), excluding impervious areas planned for routing to on-lot infiltration BMP:** ☐ Yes ☒ No *If yes, complete Items 2-5; If no, proceed to Item 6*	DA DMA BMP Type	DA DMA BMP Type	DA DMA BMP Type *(Use additional forms for more BMPs)*
2 **Total impervious area draining to pervious area (ft^2)**	0	0	0
3 **Ratio of pervious area receiving runoff to impervious area**	0	0	0
4 **Retention volume achieved from impervious area dispersion (ft^3)** *V = Item2 * Item 3 * (0.5/12), assuming retention of 0.5 inches of runoff*	0	0	0
5 **Sum of retention volume achieved from impervious area dispersion (ft^3):** 0 $V_{retention}$ *=Sum of Item 4 for all BMPs*			
6 **Implementation of Localized On-lot Infiltration BMPs (e.g. on-lot rain gardens):** ☐ Yes ☒ No *If yes, complete Items 7-13 for aggregate of all on-lot infiltration BMP in each DA; If no, proceed to Item 14*	DA DMA BMP Type	DA DMA BMP Type	DA DMA BMP Type *(Use additional forms for more BMPs)*
7 **Ponding surface area (ft^2)**	0	0	0
8 **Ponding depth (ft)**	0	0	0
9 **Surface area of amended soil/gravel (ft^2)**	0	0	0
10 **Average depth of amended soil/gravel (ft)**	0	0	0
11 **Average porosity of amended soil/gravel**	0	0	0
12 **Retention volume achieved from on-lot infiltration (ft^3)** $V_{retention}$ *= (Item 7 *Item 8) + (Item 9 * Item 10 * Item 11)*	0	0	0
13 **Runoff volume retention from on-lot infiltration (ft^3):** 0 $V_{retention}$ *=Sum of Item 12 for all BMPs*			
14 **Implementation of evapotranspiration BMP (green, brown, or blue roofs):** ☐ Yes ☒ No *If yes, complete Items 15-20. If no, proceed to Item 21*	DA DMA BMP Type	DA DMA BMP Type	DA DMA BMP Type *(Use additional forms for more BMPs)*
15 **Rooftop area planned for ET BMP (ft^2)**	0	0	0
16 **Average wet season ET demand (in/day)** *Use local values, typical ~ 0.1*	0	0	0

Form 4.3-2 Site Design Hydrologic Source Control BMPs (DA)

17 **Daily ET demand (ft^3/day)** *Item 15 * (Item 16 / 12)*	0	0	0
18 **Drawdown time (hrs)** *Copy Item 6 in Form 4.2-1*	0	0	0
19 **Retention Volume (ft^3)** *$V_{retention}$ = Item 17 * (Item 18 / 24)*	0	0	0
20 **Runoff volume retention from evapotranspiration BMPs (ft^3):** 0 *$V_{retention}$ =Sum of Item 19 for all BMPs*			
21 **Implementation of Street Trees:** ☐ Yes ☒ No *If yes, complete Items 22-25. If no, proceed to Item 26*	DA DMA BMP Type	DA DMA BMP Type	DA DMA BMP Type *(Use additional forms for more BMPs)*
22 **Number of Street Trees**	0	0	0
23 **Average canopy cover over impervious area (ft^2)**	0	0	0
24 **Runoff volume retention from street trees (ft^3)** *$V_{retention}$ = Item 22 * Item 23 * (0.05/12) assume runoff retention of 0.05 inches*	0	0	0
25 **Runoff volume retention from street tree BMPs (ft^3):** 0 *$V_{retention}$ = Sum of Item 24 for all BMPs*			
26 **Implementation of residential rain barrel/cisterns:** ☐ Yes ☒ No *If yes, complete Items 27-29; If no, proceed to Item 30*	DA DMA BMP Type	DA DMA BMP Type	DA DMA BMP Type *(Use additional forms for more BMPs)*
27 **Number of rain barrels/cisterns**	0	0	0
28 **Runoff volume retention from rain barrels/cisterns (ft^3)** *$V_{retention}$ = Item 27 * 3*	0	0	0
29 **Runoff volume retention from residential rain barrels/Cisterns (ft^3):** 0 *$V_{retention}$ =Sum of Item 28 for all BMPs*			
30 **Total Retention Volume from Site Design Hydrologic Source Control BMPs:** 0 *Sum of Items 5, 13, 20, 25 and 29*			

4.3.2 Infiltration BMPs

Use Form 4.3-3 to compute on-site retention of runoff from proposed retention and infiltration BMPs. Volume retention estimates are sensitive to the percolation rate used, which determines the amount of runoff that can be infiltrated within the specified drawdown time. The infiltration safety factor reduces field measured percolation to account for potential inaccuracy associated with field measurements, declining BMP performance over time, and compaction during construction. Appendix D of the TGD for WQMP provides guidance on estimating an appropriate safety factor to use in Form 4.3-3.

If site constraints limit the use of BMPs to a single type and implementation of retention and infiltration BMPs mitigate no more than 40% of the DCV, then they are considered infeasible and the Project Proponent may evaluate the effectiveness of BMPs lower in the LID hierarchy of use (Section 5.5.1 of the TGD for WQMP)

If implementation of infiltrations BMPs is feasible as determined using Form 4.3-1, then LID infiltration BMPs shall be implemented to the MEP (section 4.1 of the TGD for WQMP).

Form 4.3-3 Infiltration LID BMP – including underground BMPs (DA 1)

1 Remaining LID DCV not met by site design HSC BMP (ft^3): 250,848 *V_{unmet} = Form 4.2-1 Item 7 - Form 4.3-2 Item 30*			
BMP Type *Use columns to the right to compute runoff volume retention from proposed infiltration BMP (select BMP from Table 5-4 in TGD for WQMP) - Use additional forms for more BMPs*			
2 Infiltration rate of underlying soils (in/hr) *See Section 5.4.2 and Appendix D of the TGD for WQMP for minimum requirements for assessment methods*			
3 Infiltration safety factor *See TGD Section 5.4.2 and Appendix D*			
4 Design percolation rate (in/hr) *P_{design} = Item 2 / Item 3*			
5 Ponded water drawdown time (hr) *Copy Item 6 in Form 4.2-1*			
6 Maximum ponding depth (ft) *BMP specific, see Table 5-4 of the TGD for WQMP for BMP design details*			
7 Ponding Depth (ft) *d_{BMP} = Minimum of (1/12*Item 4*Item 5) or Item 6*			
8 Infiltrating surface area, SA_{BMP} (ft^2) *the lesser of the area needed for infiltration of full DCV or minimum space requirements from Table 5.7 of the TGD for WQMP*			
9 Amended soil depth, d_{media} (ft) *Only included in certain BMP types, see Table 5-4 in the TGD for WQMP for reference to BMP design details*			
10 Amended soil porosity			
11 Gravel depth, d_{media} (ft) *Only included in certain BMP types, see Table 5-4 of the TGD for WQMP for BMP design details*			
12 Gravel porosity			
13 Duration of storm as basin is filling (hrs) *Typical ~ 3hrs*			
14 Above Ground Retention Volume (ft^3) *$V_{retention}$ = Item 8 * [Item7 + (Item 9 * Item 10) + (Item 11 * Item 12) + (Item 13 * (Item 4 / 12))]*			
15 Underground Retention Volume (ft^3) *Volume determined using manufacturer's specifications and calculations*			
16 Total Retention Volume from LID Infiltration BMPs: 0 *(Sum of Items 14 and 15 for all infiltration BMP included in plan)*			
17 Fraction of DCV achieved with infiltration BMP: 0% *Retention% = Item 16 / Form 4.2-1 Item 7*			
18 Is full LID DCV retained onsite with combination of hydrologic source control and LID retention/infiltration BMPs? ☐ Yes ☒ No *If yes, demonstrate conformance using Form 4.3-10; If no, then reduce Item 3, Factor of Safety to 2.0 and increase Item 8, Infiltrating Surface Area, such that the portion of the site area used for retention and infiltration BMPs equals or exceeds the minimum effective area thresholds (Table 5-7 of the TGD for WQMP) for the applicable category of development and repeat all above calculations.*			

Form 4.3-4 Infiltration LID BMP – including underground BMPs (DA 2)

1 Remaining LID DCV not met by site design HSC BMP (ft^3): 28,887 *V_{unmet} = Form 4.2-1 Item 7 - Form 4.3-2 Item 30*				
BMP Type *Use columns to the right to compute runoff volume retention from proposed infiltration BMP (select BMP from Table 5-4 in TGD for WQMP) - Use additional forms for more BMPs*				
2 Infiltration rate of underlying soils (in/hr) *See Section 5.4.2 and Appendix D of the TGD for WQMP for minimum requirements for assessment methods*				
3 Infiltration safety factor *See TGD Section 5.4.2 and Appendix D*				
4 Design percolation rate (in/hr) *P_{design} = Item 2 / Item 3*				
5 Ponded water drawdown time (hr) *Copy Item 6 in Form 4.2-1*				
6 Maximum ponding depth (ft) *BMP specific, see Table 5-4 of the TGD for WQMP for BMP design details*				
7 Ponding Depth (ft) *d_{BMP} = Minimum of (1/12*Item 4*Item 5) or Item 6*				
8 Infiltrating surface area, SA_{BMP} (ft^2) *the lesser of the area needed for infiltration of full DCV or minimum space requirements from Table 5.7 of the TGD for WQMP*				
9 Amended soil depth, d_{media} (ft) *Only included in certain BMP types, see Table 5-4 in the TGD for WQMP for reference to BMP design details*				
10 Amended soil porosity				
11 Gravel depth, d_{media} (ft) *Only included in certain BMP types, see Table 5-4 of the TGD for WQMP for BMP design details*				
12 Gravel porosity				
13 Duration of storm as basin is filling (hrs) *Typical ~ 3hrs*				
14 Above Ground Retention Volume (ft^3) *$V_{retention}$ = Item 8 * [Item7 + (Item 9 * Item 10) + (Item 11 * Item 12) + (Item 13 * (Item 4 / 12))]*				
15 Underground Retention Volume (ft^3) *Volume determined using manufacturer's specifications and calculations*				
16 Total Retention Volume from LID Infiltration BMPs: 0 *(Sum of Items 14 and 15 for all infiltration BMP included in plan)*				
17 Fraction of DCV achieved with infiltration BMP: 0% *Retention% = Item 16 / Form 4.2-1 Item 7*				
18 Is full LID DCV retained onsite with combination of hydrologic source control and LID retention/infiltration BMPs? ☐ Yes ☒ No *If yes, demonstrate conformance using Form 4.3-10; If no, then reduce Item 3, Factor of Safety to 2.0 and increase Item 8, Infiltrating Surface Area, such that the portion of the site area used for retention and infiltration BMPs equals or exceeds the minimum effective area thresholds (Table 5-7 of the TGD for WQMP) for the applicable category of development and repeat all above calculations.*				

Form 4.3-4 Infiltration LID BMP – including underground BMPs (DA 3)

1 Remaining LID DCV not met by site design HSC BMP (ft^3): 25,222
V_{unmet} = Form 4.2-1 Item 7 - Form 4.3-2 Item 30

BMP Type *Use columns to the right to compute runoff volume retention from proposed infiltration BMP (select BMP from Table 5-4 in TGD for WQMP) - Use additional forms for more BMPs*			
2 Infiltration rate of underlying soils (in/hr) *See Section 5.4.2 and Appendix D of the TGD for WQMP for minimum requirements for assessment methods*			
3 Infiltration safety factor *See TGD Section 5.4.2 and Appendix D*			
4 Design percolation rate (in/hr) *P_{design} = Item 2 / Item 3*			
5 Ponded water drawdown time (hr) *Copy Item 6 in Form 4.2-1*			
6 Maximum ponding depth (ft) *BMP specific, see Table 5-4 of the TGD for WQMP for BMP design details*			
7 Ponding Depth (ft) *d_{BMP} = Minimum of (1/12*Item 4*Item 5) or Item 6*			
8 Infiltrating surface area, SA_{BMP} (ft^2) *the lesser of the area needed for infiltration of full DCV or minimum space requirements from Table 5.7 of the TGD for WQMP*			
9 Amended soil depth, d_{media} (ft) *Only included in certain BMP types, see Table 5-4 in the TGD for WQMP for reference to BMP design details*			
10 Amended soil porosity			
11 Gravel depth, d_{media} (ft) *Only included in certain BMP types, see Table 5-4 of the TGD for WQMP for BMP design details*			
12 Gravel porosity			
13 Duration of storm as basin is filling (hrs) *Typical ~ 3hrs*			
14 Above Ground Retention Volume (ft^3) *$V_{retention}$ = Item 8 * [Item7 + (Item 9 * Item 10) + (Item 11 * Item 12) + (Item 13 * (Item 4 / 12))]*			
15 Underground Retention Volume (ft^3) *Volume determined using manufacturer's specifications and calculations*			

16 Total Retention Volume from LID Infiltration BMPs: 0
(Sum of Items 14 and 15 for all infiltration BMP included in plan)

17 Fraction of DCV achieved with infiltration BMP: 0%
Retention% = Item 16 / Form 4.2-1 Item 7

18 Is full LID DCV retained onsite with combination of hydrologic source control and LID retention/infiltration BMPs?

☐ Yes ☒ No

If yes, demonstrate conformance using Form 4.3-10; If no, then reduce Item 3, Factor of Safety to 2.0 and increase Item 8, Infiltrating Surface Area, such that the portion of the site area used for retention and infiltration BMPs equals or exceeds the minimum effective area thresholds (Table 5-7 of the TGD for WQMP) for the applicable category of development and repeat all above calculations.

4.3.3 Harvest and Use BMP

Harvest and use BMP may be considered if the full LID DCV cannot be met by maximizing infiltration BMPs. Use Form 4.3-4 to compute on-site retention of runoff from proposed harvest and use BMPs.

Volume retention estimates for harvest and use BMPs are sensitive to the on-site demand for captured stormwater. Since irrigation water demand is low in the wet season, when most rainfall events occur in San Bernardino County, the volume of water that can be used within a specified drawdown period is relatively low. The bottom portion of Form 4.3-4 facilitates the necessary computations to show infeasibility if a minimum incremental benefit of 40 percent of the LID DCV would not be achievable with MEP implementation of on-site harvest and use of stormwater (Section 5.5.4 of the TGD for WQMP).

Form 4.3-5 Harvest and Use BMPs (DA 1)

1 Remaining LID DCV not met by site design HSC or infiltration BMP (ft^3): 250,848 *V_{unmet} = Form 4.2-1 Item 7 - Form 4.3-2 Item 30 – Form 4.3-3 Item 16*			
BMP Type(s) *Compute runoff volume retention from proposed harvest and use BMP (Select BMPs from Table 5-4 of the TGD for WQMP) - Use additional forms for more BMPs*	DA DMA BMP Type *(Use additional forms for more BMPs)*	DA DMA BMP Type *(Use additional forms for more BMPs)*	DA DMA BMP Type *(Use additional forms for more BMPs)*
2 Describe cistern or runoff detention facility	n/a	n/a	n/a
3 Storage volume for proposed detention type (ft^3) *Volume of cistern*			
4 Landscaped area planned for use of harvested stormwater (ft^2)			
5 Average wet season daily irrigation demand (in/day) Use local values, typical ~ 0.1 in/day			
6 Daily water demand (ft^3/day) *Item 4 * (Item 5 / 12)*			
7 Drawdown time (hrs) *Copy Item 6 from Form 4.2-1*			
8 Retention Volume (ft^3) *$V_{retention}$ = Minimum of (Item 3) or (Item 6 * (Item 7 / 24))*			
9 Total Retention Volume (ft^3) from Harvest and Use BMP: 0 *Sum of Item 8 for all harvest and use BMP included in plan*			
10 Is the full DCV retained with a combination of LID HSC, retention and infiltration, and harvest & use BMPs? ☐ Yes ☒ No *If yes, demonstrate conformance using Form 4.3-10. If no, then re-evaluate combinations of all LID BMP and optimize their implementation such that the maximum portion of the DCV is retained on-site (using a single BMP type or combination of BMP types). If the full DCV cannot be mitigated after this optimization process, proceed to Section 4.3.4.*			

* This concept was not utilized because it is an industrial facility where the amount of impervious area is much greater than landscape. However, stormwater is detained for biotreatment prior to discharging into the storm drain system.

Form 4.3-5 Harvest and Use BMPs (DA 2)

1 Remaining LID DCV not met by site design HSC or infiltration BMP (ft^3): 28,887 *V_{unmet} = Form 4.2-1 Item 7 - Form 4.3-2 Item 30 – Form 4.3-3 Item 16*			
BMP Type(s) *Compute runoff volume retention from proposed harvest and use BMP (Select BMPs from Table 5-4 of the TGD for WQMP) - Use additional forms for more BMPs*	DA DMA BMP Type *(Use additional forms for more BMPs)*	DA DMA BMP Type *(Use additional forms for more BMPs)*	DA DMA BMP Type *(Use additional forms for more BMPs)*
2 Describe cistern or runoff detention facility	n/a	n/a	n/a
3 Storage volume for proposed detention type (ft^3) *Volume of cistern*			
4 Landscaped area planned for use of harvested stormwater (ft^2)			
5 Average wet season daily irrigation demand (in/day) Use local values, typical ~ 0.1 in/day			
6 Daily water demand (ft^3/day) *Item 4 * (Item 5 / 12)*			
7 Drawdown time (hrs) *Copy Item 6 from Form 4.2-1*			
8 Retention Volume (ft^3) *$V_{retention}$ = Minimum of (Item 3) or (Item 6 * (Item 7 / 24))*			
9 Total Retention Volume (ft^3) from Harvest and Use BMP: 0 *Sum of Item 8 for all harvest and use BMP included in plan*			
10 Is the full DCV retained with a combination of LID HSC, retention and infiltration, and harvest & use BMPs? ☐ Yes ☒ No *If yes, demonstrate conformance using Form 4.3-10. If no, then re-evaluate combinations of all LID BMP and optimize their implementation such that the maximum portion of the DCV is retained on-site (using a single BMP type or combination of BMP types). If the full DCV cannot be mitigated after this optimization process, proceed to Section 4.3.4.*			

* This concept was not utilized because it is an industrial facility where the amount of impervious area is much greater than landscape. However, stormwater is detained for biotreatment prior to discharging into the storm drain system.

Form 4.3-5 Harvest and Use BMPs (DA 3)

1 Remaining LID DCV not met by site design HSC or infiltration BMP (ft^3): 25,222
V_{unmet} = Form 4.2-1 Item 7 - Form 4.3-2 Item 30 – Form 4.3-3 Item 16

BMP Type(s) *Compute runoff volume retention from proposed harvest and use BMP (Select BMPs from Table 5-4 of the TGD for WQMP) - Use additional forms for more BMPs*	DA DMA BMP Type *(Use additional forms for more BMPs)*	DA DMA BMP Type *(Use additional forms for more BMPs)*	DA DMA BMP Type *(Use additional forms for more BMPs)*
2 Describe cistern or runoff detention facility	n/a	n/a	n/a
3 Storage volume for proposed detention type (ft^3) *Volume of cistern*			
4 Landscaped area planned for use of harvested stormwater (ft^2)			
5 Average wet season daily irrigation demand (in/day) Use local values, typical ~ 0.1 in/day			
6 Daily water demand (ft^3/day) *Item 4 * (Item 5 / 12)*			
7 Drawdown time (hrs) *Copy Item 6 from Form 4.2-1*			
8 Retention Volume (ft^3) *$V_{retention}$ = Minimum of (Item 3) or (Item 6 * (Item 7 / 24))*			

9 Total Retention Volume (ft^3) from Harvest and Use BMP: 0
Sum of Item 8 for all harvest and use BMP included in plan

10 Is the full DCV retained with a combination of LID HSC, retention and infiltration, and harvest & use BMPs? ☐ Yes ☒ No
If yes, demonstrate conformance using Form 4.3-10. If no, then re-evaluate combinations of all LID BMP and optimize their implementation such that the maximum portion of the DCV is retained on-site (using a single BMP type or combination of BMP types). If the full DCV cannot be mitigated after this optimization process, proceed to Section 4.3.4.

* This concept was not utilized because it is an industrial facility where the amount of impervious area is much greater than landscape. However, stormwater is detained for biotreatment prior to discharging into the storm drain system.

4.3.4 Biotreatment BMP

Biotreatment BMPs may be considered if the full LID DCV cannot be met by maximizing retention and infiltration, and harvest and use BMPs. A key consideration when using biotreatment BMP is the effectiveness of the proposed BMP in addressing the pollutants of concern for the project (see Table 5-5 of the TGD for WQMP).

Use Form 4.3-5 to summarize the potential for volume based and/or flow based biotreatment options to biotreat the remaining unmet LID DCV. Biotreatment computations are included as follows:

- Use Form 4.3-6 to compute biotreatment in small volume based biotreatment BMP (e.g. bioretention w/underdrains);
- Use Form 4.3-7 to compute biotreatment in large volume based biotreatment BMP (e.g. constructed wetlands);
- Use Form 4.3-8 to compute sizing criteria for flow-based biotreatment BMP (e.g. bioswales)

Form 4.3-6 Selection and Evaluation of Biotreatment BMP (DA 1 DMA A)

1 **Remaining LID DCV not met by site design HSC, infiltration, or harvest and use BMP for potential biotreatment (ft^3):** 114,355 *Form 4.2-1 Item 7 – Form 4.3-2 Item 30 – Form 4.3-3 Item 16- Form 4.3-4 Item 9*	**List pollutants of concern** *Copy from Form 2.3-1* *None* Pathogens Metals Nitrogen	
2 **Biotreatment BMP Selected** *(Select biotreatment BMP(s) necessary to ensure all pollutants of concern are addressed through Unit Operations and Processes, described in Table 5-5 of the TGD for WQMP)*	**Volume-based biotreatment** *Use Forms 4.3-6 and 4.3-7 to compute treated volume*	**Flow-based biotreatment** *Use Form 4.3-8 to compute treated volume*
	☐ Bioretention with underdrain ☐ Planter box with underdrain ☐ Constructed wetlands ☐ Wet extended detention ☐ Dry extended detention ☒ Proprietary biotreatment (volume)	☐ Vegetated swale ☐ Vegetated filter strip ☐ Proprietary biotreatment
3 **Volume biotreated in volume based biotreatment BMP (ft^3):** 114,355 *Form 4.3-6 Item 15 + Form 4.3-7 Item 13*	**4** **Compute remaining LID DCV with implementation of volume based biotreatment BMP (ft^3):** 0 *Item 1 – Item 3*	**5** **Remaining fraction of LID DCV for sizing flow based biotreatment BMP:** 0% *Item 4 / Item 1*
6 **Flow-based biotreatment BMP capacity provided (cfs):** 0 *Use Figure 5-2 of the TGD for WQMP to determine flow capacity required to provide biotreatment of remaining percentage of unmet LID DCV (Item 5), for the project's precipitation zone (Form 3-1 Item 1)*		
7 **Metrics for MEP determination:** **Provided a WQMP with the portion of site area used for suite of LID BMP equal to minimum thresholds in Table 5-7 of the TGD for WQMP for the proposed category of development:** ☐ *If maximized on-site retention BMPs is feasible for partial capture, then LID BMP implementation must be optimized to retain and infiltrate the maximum portion of the DCV possible within the prescribed minimum effective area. The remaining portion of the DCV shall then be mitigated using biotreatment BMP.*		

Form 4.3-6 Selection and Evaluation of Biotreatment BMP (DA 1 DMA B)

1 Remaining LID DCV not met by site design HSC, infiltration, or harvest and use BMP for potential biotreatment (ft^3): 136,493 *Form 4.2-1 Item 7 – Form 4.3-2 Item 30 – Form 4.3-3 Item 16- Form 4.3-4 Item 9*	**List pollutants of concern** *Copy from Form 2.3-1* *None* Pathogens Metals Nitrogen	
2 Biotreatment BMP Selected *(Select biotreatment BMP(s) necessary to ensure all pollutants of concern are addressed through Unit Operations and Processes, described in Table 5-5 of the TGD for WQMP)*	**Volume-based biotreatment** *Use Forms 4.3-6 and 4.3-7 to compute treated volume* ☐ Bioretention with underdrain ☐ Planter box with underdrain ☐ Constructed wetlands ☐ Wet extended detention ☐ Dry extended detention ☒ Proprietary biotreatment (volume)	**Flow-based biotreatment** *Use Form 4.3-8 to compute treated volume* ☐ Vegetated swale ☐ Vegetated filter strip ☐ Proprietary biotreatment
3 Volume biotreated in volume based biotreatment BMP (ft^3): 136,493 *Form 4.3-6 Item 15 + Form 4.3-7 Item 13*	**4 Compute remaining LID DCV with implementation of volume based biotreatment BMP (ft^3):** 0 *Item 1 – Item 3*	**5 Remaining fraction of LID DCV for sizing flow based biotreatment BMP:** 0% *Item 4 / Item 1*
6 Flow-based biotreatment BMP capacity provided (cfs): 0 *Use Figure 5-2 of the TGD for WQMP to determine flow capacity required to provide biotreatment of remaining percentage of unmet LID DCV (Item 5), for the project's precipitation zone (Form 3-1 Item 1)*		
7 Metrics for MEP determination: **Provided a WQMP with the portion of site area used for suite of LID BMP equal to minimum thresholds in Table 5-7 of the TGD for WQMP for the proposed category of development:** ☐ *If maximized on-site retention BMPs is feasible for partial capture, then LID BMP implementation must be optimized to retain and infiltrate the maximum portion of the DCV possible within the prescribed minimum effective area. The remaining portion of the DCV shall then be mitigated using biotreatment BMP.*		

Form 4.3-6 Selection and Evaluation of Biotreatment BMP (DA 2)

1 Remaining LID DCV not met by site design HSC, infiltration, or harvest and use BMP for potential biotreatment (ft^3): 28,887 *Form 4.2-1 Item 7 – Form 4.3-2 Item 30 – Form 4.3-3 Item 16- Form 4.3-4 Item 9*	**List pollutants of concern** *Copy from Form 2.3-1* *None* Pathogens Metals Nitrogen	
2 Biotreatment BMP Selected *(Select biotreatment BMP(s) necessary to ensure all pollutants of concern are addressed through Unit Operations and Processes, described in Table 5-5 of the TGD for WQMP)*	**Volume-based biotreatment** *Use Forms 4.3-6 and 4.3-7 to compute treated volume* ☐ Bioretention with underdrain ☐ Planter box with underdrain ☐ Constructed wetlands ☐ Wet extended detention ☐ Dry extended detention ☒ Proprietary biotreatment (volume)	**Flow-based biotreatment** *Use Form 4.3-8 to compute treated volume* ☐ Vegetated swale ☐ Vegetated filter strip ☐ Proprietary biotreatment
3 Volume biotreated in volume based biotreatment BMP (ft^3): 28,887 *Form 4.3-6 Item 15 + Form 4.3-7 Item 13*	**4 Compute remaining LID DCV with implementation of volume based biotreatment BMP (ft^3):** 0 *Item 1 – Item 3*	**5 Remaining fraction of LID DCV for sizing flow based biotreatment BMP:** 0% *Item 4 / Item 1*
6 Flow-based biotreatment BMP capacity provided (cfs): 0 *Use Figure 5-2 of the TGD for WQMP to determine flow capacity required to provide biotreatment of remaining percentage of unmet LID DCV (Item 5), for the project's precipitation zone (Form 3-1 Item 1)*		
7 Metrics for MEP determination: **Provided a WQMP with the portion of site area used for suite of LID BMP equal to minimum thresholds in Table 5-7 of the TGD for WQMP for the proposed category of development:** ☐ *If maximized on-site retention BMPs is feasible for partial capture, then LID BMP implementation must be optimized to retain and infiltrate the maximum portion of the DCV possible within the prescribed minimum effective area. The remaining portion of the DCV shall then be mitigated using biotreatment BMP.*		

Form 4.3-6 Selection and Evaluation of Biotreatment BMP (DA 3)

1 Remaining LID DCV not met by site design HSC, infiltration, or harvest and use BMP for potential biotreatment (ft^3): 25,222 *Form 4.2-1 Item 7 – Form 4.3-2 Item 30 – Form 4.3-3 Item 16- Form 4.3-4 Item 9*		**List pollutants of concern** *Copy from Form 2.3-1* *None* Pathogens Metals Nitrogen
2 Biotreatment BMP Selected *(Select biotreatment BMP(s) necessary to ensure all pollutants of concern are addressed through Unit Operations and Processes, described in Table 5-5 of the TGD for WQMP)*	**Volume-based biotreatment** *Use Forms 4.3-6 and 4.3-7 to compute treated volume* ☐ Bioretention with underdrain ☐ Planter box with underdrain ☐ Constructed wetlands ☐ Wet extended detention ☐ Dry extended detention ☒ Proprietary biotreatment (volume)	**Flow-based biotreatment** *Use Form 4.3-8 to compute treated volume* ☐ Vegetated swale ☐ Vegetated filter strip ☐ Proprietary biotreatment
3 Volume biotreated in volume based biotreatment BMP (ft^3): 25,222* *Form 4.3-6 Item 15 + Form 4.3-7 Item 13*	**4 Compute remaining LID DCV with implementation of volume based biotreatment BMP (ft^3):** 0 *Item 1 – Item 3*	**5 Remaining fraction of LID DCV for sizing flow based biotreatment BMP:** 0% *Item 4 / Item 1*
6 Flow-based biotreatment BMP capacity provided (cfs): 0 *Use Figure 5-2 of the TGD for WQMP to determine flow capacity required to provide biotreatment of remaining percentage of unmet LID DCV (Item 5), for the project's precipitation zone (Form 3-1 Item 1)*		
7 Metrics for MEP determination: **Provided a WQMP with the portion of site area used for suite of LID BMP equal to minimum thresholds in Table 5-7 of the TGD for WQMP for the proposed category of development:** ☐ *If maximized on-site retention BMPs is feasible for partial capture, then LID BMP implementation must be optimized to retain and infiltrate the maximum portion of the DCV possible within the prescribed minimum effective area. The remaining portion of the DCV shall then be mitigated using biotreatment BMP.*		

Form 4.3-7 Volume Based Biotreatment (DA 1)
Bioretention and Planter Boxes with Underdrains

Biotreatment BMP Type *(Bioretention w/underdrain, planter box w/underdrain, other comparable BMP)*	DA 1 DMA A STC & MWS "A"	DA 1 DMA B STC & MWS "B"
1 **Pollutants addressed with BMP** *List all pollutant of concern that will be effectively reduced through specific Unit Operations and Processes described in Table 5-5 of the TGD for WQMP*	*	*
2 **Amended soil infiltration rate** *Typical ~ 5.0*	*	*
3 **Amended soil infiltration safety factor** *Typical ~ 2.0*	*	*
4 **Amended soil design percolation rate (in/hr)** P_{design} = *Item 2 / Item 3*	*	*
5 **Ponded water drawdown time (hr)** *Copy Item 6 from Form 4.2-1*	*	*
6 **Maximum ponding depth (ft)** *see Table 5-6 of the TGD for WQMP for reference to BMP design details*	*	*
7 **Ponding Depth (ft)** d_{BMP} = *Minimum of (1/12 * Item 4 * Item 5) or Item 6*	*	*
8 **Amended soil surface area (ft^2)**	*	*
9 **Amended soil depth (ft)** *see Table 5-6 of the TGD for WQMP for reference to BMP design details*	*	*
10 **Amended soil porosity, *n***	*	*
11 **Gravel depth (ft)** *see Table 5-6 of the TGD for WQMP for reference to BMP design details*	*	*
12 **Gravel porosity, *n***	*	*
13 **Duration of storm as basin is filling (hrs)** *Typical ~ 3hrs*	*	*
14 **Biotreated Volume (ft^3)** $V_{biotreated}$ = *Item 8 * [(Item 7/2) + (Item 9 * Item 10) +(Item 11 * Item 12) + (Item 13 * (Item 4 / 12))]*	7,536 + 349 + 106,520 = 114,405	9,420 + 349 + 126,888 = 136,657
15 **Total biotreated volume from bioretention and/or planter box with underdrains BMP:** 251,062 *Sum of Item 14 for all volume-based BMPs included in this form*		

*Volume Treated During Event + Volume Treated Following Event + Volume provided in CMP. See Attachment B for software calculations.

Form 4.3-7 Volume Based Biotreatment (DA 2)
Bioretention and Planter Boxes with Underdrains

Biotreatment BMP Type *(Bioretention w/underdrain, planter box w/underdrain, other comparable BMP)*	DA 2 DMA A STC & MWS "C"	n/a
1 **Pollutants addressed with BMP** *List all pollutant of concern that will be effectively reduced through specific Unit Operations and Processes described in Table 5-5 of the TGD for WQMP*	*	
2 **Amended soil infiltration rate** *Typical ~ 5.0*	*	
3 **Amended soil infiltration safety factor** *Typical ~ 2.0*	*	
4 **Amended soil design percolation rate (in/hr)** P_{design} = *Item 2 / Item 3*	*	
5 **Ponded water drawdown time (hr)** *Copy Item 6 from Form 4.2-1*	*	
6 **Maximum ponding depth (ft)** *see Table 5-6 of the TGD for WQMP for reference to BMP design details*	*	
7 **Ponding Depth (ft)** d_{BMP} = *Minimum of (1/12 * Item 4 * Item 5) or Item 6*	*	
8 **Amended soil surface area (ft^2)**	*	
9 **Amended soil depth (ft)** *see Table 5-6 of the TGD for WQMP for reference to BMP design details*	*	
10 **Amended soil porosity, *n***	*	
11 **Gravel depth (ft)** *see Table 5-6 of the TGD for WQMP for reference to BMP design details*	*	
12 **Gravel porosity, *n***	*	
13 **Duration of storm as basin is filling (hrs)** *Typical ~ 3hrs*	*	
14 **Biotreated Volume (ft^3)** $V_{biotreated}$ = *Item 8 * [(Item 7/2) + (Item 9 * Item 10) +(Item 11 * Item 12) + (Item 13 * (Item 4 / 12))]*	1,884 + 349 + 26,712 = 28,945	
15 **Total biotreated volume from bioretention and/or planter box with underdrains BMP:** 28,945 *Sum of Item 14 for all volume-based BMPs included in this form*		

*Volume Treated During Event + Volume Treated Following Event + Volume provided in CMP. See Attachment B for software calculations.

Form 4.3-7 Volume Based Biotreatment (DA 3)
Bioretention and Planter Boxes with Underdrains

Biotreatment BMP Type *(Bioretention w/underdrain, planter box w/underdrain, other comparable BMP)*	DA 3 DMA A STC & MWS "C"	n/a
1 **Pollutants addressed with BMP** *List all pollutant of concern that will be effectively reduced through specific Unit Operations and Processes described in Table 5-5 of the TGD for WQMP*	*	
2 **Amended soil infiltration rate** *Typical ~ 5.0*	*	
3 **Amended soil infiltration safety factor** *Typical ~ 2.0*	*	
4 **Amended soil design percolation rate (in/hr)** P_{design} = *Item 2 / Item 3*	*	
5 **Ponded water drawdown time (hr)** *Copy Item 6 from Form 4.2-1*	*	
6 **Maximum ponding depth (ft)** *see Table 5-6 of the TGD for WQMP for reference to BMP design details*	*	
7 **Ponding Depth (ft)** d_{BMP} = *Minimum of (1/12 * Item 4 * Item 5) or Item 6*	*	
8 **Amended soil surface area (ft^2)**	*	
9 **Amended soil depth (ft)** *see Table 5-6 of the TGD for WQMP for reference to BMP design details*	*	
10 **Amended soil porosity, *n***	*	
11 **Gravel depth (ft)** *see Table 5-6 of the TGD for WQMP for reference to BMP design details*	*	
12 **Gravel porosity, *n***	*	
13 **Duration of storm as basin is filling (hrs)** *Typical ~ 3hrs*	*	
14 **Biotreated Volume (ft^3)** $V_{biotreated}$ = *Item 8 * [(Item 7/2) + (Item 9 * Item 10) +(Item 11 * Item 12) + (Item 13 * (Item 4 / 12))]*	1,570+ 348 + 23,362 = 25,280	
15 **Total biotreated volume from bioretention and/or planter box with underdrains BMP:** 25,280 *Sum of Item 14 for all volume-based BMPs included in this form*		

*Volume Treated During Event + Volume Treated Following Event + Volume provided in CMP. See Attachment B for software calculations.

Form 4.3-8 Volume Based Biotreatment
Constructed Wetlands and Extended Detention

Biotreatment BMP Type *Constructed wetlands, extended wet detention, extended dry detention, or other comparable proprietary BMP. If BMP includes multiple modules (e.g. forebay and main basin), provide separate estimates for storage and pollutants treated in each module.*	DA DMA BMP Type *(Use additional forms for more BMPs)*		DA DMA BMP Type *(Use additional forms for more BMPs)*	
	Forebay	Basin	Forebay	Basin
1 **Pollutants addressed with BMP forebay and basin** *List all pollutant of concern that will be effectively reduced through specific Unit Operations and Processes described in Table 5-5 of the TGD for WQMP*	n/a	n/a	n/a	n/a
2 **Bottom width (ft)**	0	0	0	0
3 **Bottom length (ft)**	0	0	0	0
4 **Bottom area (ft^2)** A_{bottom} = *Item 2 * Item 3*	0	0	0	0
5 **Side slope (ft/ft)**	0	0	0	0
6 **Depth of storage (ft)**	0	0	0	0
7 **Water surface area (ft^2)** $A_{surface}$ =*(Item 2 + (2 * Item 5 * Item 6)) * (Item 3 + (2 * Item 5 * Item 6))*	0	0	0	0
8 **Storage volume (ft^3)** *For BMP with a forebay, ensure fraction of total storage is within ranges specified in BMP specific fact sheets, see Table 5-6 of the TGD for WQMP for reference to BMP design details* V =*Item 6 / 3 * [Item 4 + Item 7 + (Item 4 * Item 7)^0.5]*	0	0	0	0
9 **Drawdown Time (hrs)** *Copy Item 6 from Form 2.1*	0		0	
10 **Outflow rate (cfs)** Q_{BMP} = *(Item $8_{forebay}$ + Item 8_{basin}) / (Item 9 * 3600)*	0		0	
11 **Duration of design storm event (hrs)**	0		0	
12 **Biotreated Volume (ft^3)** $V_{biotreated}$ = *(Item $8_{forebay}$ + Item 8_{basin}) +(Item 10 * Item 11 * 3600)*	0		0	
13 **Total biotreated volume from constructed wetlands, extended dry detention, or extended wet detention:** 0 *(Sum of Item 12 for all BMP included in plan)*				

Form 4.3-9 Flow Based Biotreatment

Biotreatment BMP Type *Vegetated swale, vegetated filter strip, or other comparable proprietary BMP*	DA DMA BMP Type *(Use additional forms for more BMPs)*	DA DMA BMP Type *(Use additional forms for more BMPs)*	DA DMA BMP Type *(Use additional forms for more BMPs)*
1 **Pollutants addressed with BMP** *List all pollutant of concern that will be effectively reduced through specific Unit Operations and Processes described in TGD Table 5-5*	n/a	n/a	n/a
2 **Flow depth for water quality treatment (ft)** *BMP specific, see Table 5-6 of the TGD for WQMP for reference to BMP design details*	0	0	0
3 **Bed slope (ft/ft)** *BMP specific, see Table 5-6 of the TGD for WQMP for reference to BMP design details*	0	0	0
4 Manning's roughness coefficient	0	0	0
5 **Bottom width (ft)** b_w = *(Form 4.3-5 Item 6 * Item 4) / (1.49 * Item 2^1.67 * Item 3^0.5)*	0	0	0
6 **Side Slope (ft/ft)** *BMP specific, see Table 5-6 of the TGD for WQMP for reference to BMP design details*	0	0	0
7 **Cross sectional area (ft²)** *A = (Item 5 * Item 2) + (Item 6 * Item 2^2)*	0	0	0
8 **Water quality flow velocity (ft/sec)** *V = Form 4.3-5 Item 6 / Item 7*	0	0	0
9 **Hydraulic residence time (min)** *Pollutant specific, see Table 5-6 of the TGD for WQMP for reference to BMP design details*	0	0	0
10 **Length of flow based BMP (ft)** *L = Item 8 * Item 9 * 60*	0	0	0
11 **Water surface area at water quality flow depth (ft²)** SA_{top} = *(Item 5 + (2 * Item 2 * Item 6)) * Item 10*	0	0	0

4.3.5 Conformance Summary

Complete Form 4.3-9 to demonstrate how on-site LID DCV is met with proposed site design hydrologic source control, infiltration, harvest and use, and/or biotreatment BMP. The bottom line of the form is used to describe the basis for infeasibility determination for on-site LID BMP to achieve full LID DCV, and provides methods for computing remaining volume to be addressed in an alternative compliance plan. If the project has more than one outlet, then complete additional versions of this form for each outlet.

Form 4.3-10 Conformance Summary and Alternative Compliance Volume Estimate (DA 1 DMA A)

1 **Total LID DCV for the Project DA-1 (ft^3):** 114,355
Copy Item 7 in Form 4.2-1

2 **On-site retention with site design hydrologic source control LID BMP (ft^3):** 0
Copy Item 30 in Form 4.3-2

3 **On-site retention with LID infiltration BMP (ft^3):** 0
Copy Item 16 in Form 4.3-3

4 **On-site retention with LID harvest and use BMP (ft^3):** 0
Copy Item 9 in Form 4.3-4

5 **On-site biotreatment with volume based biotreatment BMP (ft^3):** 114,405
Copy Item 3 in Form 4.3-5

6 **Flow capacity provided by flow based biotreatment BMP (cfs):** 0
Copy Item 6 in Form 4.3-5

7 **LID BMP performance criteria are achieved if answer to any of the following is "Yes":**

- Full retention of LID DCV with site design HSC, infiltration, or harvest and use BMP: ☐ Yes ☒ No
  If yes, sum of Items 2, 3, and 4 is greater than Item 1
- Combination of on-site retention BMPs for a portion of the LID DCV and volume-based biotreatment BMP that address all pollutants of concern for the remaining LID DCV: ☐ Yes ☒ No
  If yes, a) sum of Items 2, 3, 4, and 5 is greater than Item 1, and Items 2, 3 and 4 are maximized; or b) Item 6 is greater than Form 4.3--5 Item 6 and Items 2, 3 and 4 are maximized
- On-site retention and infiltration is determined to be infeasible and biotreatment BMP provide biotreatment for all pollutants of concern for full LID DCV: ☒ Yes ☐ No
  If yes, Form 4.3-1 Items 7 and 8 were both checked yes

8 **If the LID DCV is not achieved by any of these means, then the project may be allowed to develop an alternative compliance plan. Check box that describes the scenario which caused the need for alternative compliance:**

- Combination of HSC, retention and infiltration, harvest and use, and biotreatment BMPs provide less than full LID DCV capture: ☐
  *Checked yes for Form 4.3-5 Item 7, Item 6 is zero, and sum of Items 2, 3, 4, and 5 is less than Item 1. If so, apply water quality credits and calculate volume for alternative compliance, V_{alt} = (Item 1 – Item 2 – Item 3 – Item 4 – Item 5) * (100 - Form 2.4-1 Item 2)%*
- An approved Watershed Action Plan (WAP) demonstrates that water quality and hydrologic impacts of urbanization are more effective when managed in at an off-site facility: ☐
  Attach appropriate WAP section, including technical documentation, showing effectiveness comparisons for the project site and regional watershed

Form 4.3-10 Conformance Summary and Alternative Compliance Volume Estimate (DA 1 DMA B)

1 **Total LID DCV for the Project DA-1 (ft^3):** 136,493

Copy Item 7 in Form 4.2-1

2 **On-site retention with site design hydrologic source control LID BMP (ft^3):** 0

Copy Item 30 in Form 4.3-2

3 **On-site retention with LID infiltration BMP (ft^3):** 0

Copy Item 16 in Form 4.3-3

4 **On-site retention with LID harvest and use BMP (ft^3):** 0

Copy Item 9 in Form 4.3-4

5 **On-site biotreatment with volume based biotreatment BMP (ft^3):** 136,657

Copy Item 3 in Form 4.3-5

6 **Flow capacity provided by flow based biotreatment BMP (cfs):** 0

Copy Item 6 in Form 4.3-5

7 **LID BMP performance criteria are achieved if answer to any of the following is "Yes":**

- Full retention of LID DCV with site design HSC, infiltration, or harvest and use BMP: ☐ Yes ☒ No
  If yes, sum of Items 2, 3, and 4 is greater than Item 1
- Combination of on-site retention BMPs for a portion of the LID DCV and volume-based biotreatment BMP that address all pollutants of concern for the remaining LID DCV: ☐ Yes ☒ No
  If yes, a) sum of Items 2, 3, 4, and 5 is greater than Item 1, and Items 2, 3 and 4 are maximized; or b) Item 6 is greater than Form 4.3--5 Item 6 and Items 2, 3 and 4 are maximized
- On-site retention and infiltration is determined to be infeasible and biotreatment BMP provide biotreatment for all pollutants of concern for full LID DCV: ☒ Yes ☐ No
  If yes, Form 4.3-1 Items 7 and 8 were both checked yes

8 **If the LID DCV is not achieved by any of these means, then the project may be allowed to develop an alternative compliance plan. Check box that describes the scenario which caused the need for alternative compliance:**

- Combination of HSC, retention and infiltration, harvest and use, and biotreatment BMPs provide less than full LID DCV capture: ☐
  *Checked yes for Form 4.3-5 Item 7, Item 6 is zero, and sum of Items 2, 3, 4, and 5 is less than Item 1. If so, apply water quality credits and calculate volume for alternative compliance, V_{alt} = (Item 1 – Item 2 – Item 3 – Item 4 – Item 5) * (100 - Form 2.4-1 Item 2)%*
- An approved Watershed Action Plan (WAP) demonstrates that water quality and hydrologic impacts of urbanization are more effective when managed in at an off-site facility: ☐
  Attach appropriate WAP section, including technical documentation, showing effectiveness comparisons for the project site and regional watershed

Form 4.3-10 Conformance Summary and Alternative Compliance Volume Estimate (DA 2)

1 Total LID DCV for the Project DA-1 (ft^3): 28,887

Copy Item 7 in Form 4.2-1

2 On-site retention with site design hydrologic source control LID BMP (ft^3): 0

Copy Item 30 in Form 4.3-2

3 On-site retention with LID infiltration BMP (ft^3): 0

Copy Item 16 in Form 4.3-3

4 On-site retention with LID harvest and use BMP (ft^3): 0

Copy Item 9 in Form 4.3-4

5 On-site biotreatment with volume based biotreatment BMP (ft^3): 28,945

Copy Item 3 in Form 4.3-5

6 Flow capacity provided by flow based biotreatment BMP (cfs): 0

Copy Item 6 in Form 4.3-5

7 LID BMP performance criteria are achieved if answer to any of the following is "Yes":

- Full retention of LID DCV with site design HSC, infiltration, or harvest and use BMP: ☐ Yes ☒ No
  If yes, sum of Items 2, 3, and 4 is greater than Item 1
- Combination of on-site retention BMPs for a portion of the LID DCV and volume-based biotreatment BMP that address all pollutants of concern for the remaining LID DCV: ☐ Yes ☒ No
  If yes, a) sum of Items 2, 3, 4, and 5 is greater than Item 1, and Items 2, 3 and 4 are maximized; or b) Item 6 is greater than Form 4.3--5 Item 6 and Items 2, 3 and 4 are maximized
- On-site retention and infiltration is determined to be infeasible and biotreatment BMP provide biotreatment for all pollutants of concern for full LID DCV: ☒ Yes ☐ No
  If yes, Form 4.3-1 Items 7 and 8 were both checked yes

8 If the LID DCV is not achieved by any of these means, then the project may be allowed to develop an alternative compliance plan. Check box that describes the scenario which caused the need for alternative compliance:

- Combination of HSC, retention and infiltration, harvest and use, and biotreatment BMPs provide less than full LID DCV capture: ☐
  *Checked yes for Form 4.3-5 Item 7, Item 6 is zero, and sum of Items 2, 3, 4, and 5 is less than Item 1. If so, apply water quality credits and calculate volume for alternative compliance, V_{alt} = (Item 1 – Item 2 – Item 3 – Item 4 – Item 5) * (100 - Form 2.4-1 Item 2)%*
- An approved Watershed Action Plan (WAP) demonstrates that water quality and hydrologic impacts of urbanization are more effective when managed in at an off-site facility: ☐
  Attach appropriate WAP section, including technical documentation, showing effectiveness comparisons for the project site and regional watershed

Form 4.3-10 Conformance Summary and Alternative Compliance Volume Estimate (DA 3)

1 **Total LID DCV for the Project DA-1 (ft^3):** 25,222

Copy Item 7 in Form 4.2-1

2 **On-site retention with site design hydrologic source control LID BMP (ft^3):** 0

Copy Item 30 in Form 4.3-2

3 **On-site retention with LID infiltration BMP (ft^3):** 0

Copy Item 16 in Form 4.3-3

4 **On-site retention with LID harvest and use BMP (ft^3):** 0

Copy Item 9 in Form 4.3-4

5 **On-site biotreatment with volume based biotreatment BMP (ft^3):** 25,280

Copy Item 3 in Form 4.3-5

6 **Flow capacity provided by flow based biotreatment BMP (cfs):** 0

Copy Item 6 in Form 4.3-5

7 **LID BMP performance criteria are achieved if answer to any of the following is "Yes":**

- Full retention of LID DCV with site design HSC, infiltration, or harvest and use BMP: ☐ Yes ☒ No
  If yes, sum of Items 2, 3, and 4 is greater than Item 1
- Combination of on-site retention BMPs for a portion of the LID DCV and volume-based biotreatment BMP that address all pollutants of concern for the remaining LID DCV: ☐ Yes ☒ No
  If yes, a) sum of Items 2, 3, 4, and 5 is greater than Item 1, and Items 2, 3 and 4 are maximized; or b) Item 6 is greater than Form 4.3--5 Item 6 and Items 2, 3 and 4 are maximized
- On-site retention and infiltration is determined to be infeasible and biotreatment BMP provide biotreatment for all pollutants of concern for full LID DCV: ☒ Yes ☐ No
  If yes, Form 4.3-1 Items 7 and 8 were both checked yes

8 **If the LID DCV is not achieved by any of these means, then the project may be allowed to develop an alternative compliance plan. Check box that describes the scenario which caused the need for alternative compliance:**

- Combination of HSC, retention and infiltration, harvest and use, and biotreatment BMPs provide less than full LID DCV capture: ☐
  *Checked yes for Form 4.3-5 Item 7, Item 6 is zero, and sum of Items 2, 3, 4, and 5 is less than Item 1. If so, apply water quality credits and calculate volume for alternative compliance, V_{alt} = (Item 1 – Item 2 – Item 3 – Item 4 – Item 5) * (100 - Form 2.4-1 Item 2)%*
- An approved Watershed Action Plan (WAP) demonstrates that water quality and hydrologic impacts of urbanization are more effective when managed in at an off-site facility: ☐
  Attach appropriate WAP section, including technical documentation, showing effectiveness comparisons for the project site and regional watershed

4.3.6 Hydromodification Control BMP

Use Form 4.3-10 to compute the remaining runoff volume retention, after LID BMP are implemented, needed to address HCOC, and the increase in time of concentration and decrease in peak runoff necessary to meet targets for protection of waterbodies with a potential HCOC. Describe hydromodification control BMP that address HCOC, which may include off-site BMP and/or in-stream controls. Section 5.6 of the TGD for WQMP provides additional details on selection and evaluation of hydromodification control BMP.

Form 4.3-11 Hydromodification Control BMPs (DA 1)

1 **Volume reduction needed for HCOC performance criteria (ft^3):** 0 *(Form 4.2-2 Item 4 * 0.95) – Form 4.2-2 Item 1*	2 **On-site retention with site design hydrologic source control, infiltration, and harvest and use LID BMP (ft^3):** 0 *Sum of Form 4.3-9 Items 2, 3, and 4 Evaluate option to increase implementation of on-site retention in Forms 4.3-2, 4.3-3, and 4.3-4 in excess of LID DCV toward achieving HCOC volume reduction*
3 **Remaining volume for HCOC volume capture (ft^3):** 0 *Item 1 – Item 2*	4 **Volume capture provided by incorporating additional on-site or off-site retention BMPs (ft^3):** 0 *Existing downstream BMP may be used to demonstrate additional volume capture (if so, attach to this WQMP a hydrologic analysis showing how the additional volume would be retained during a 2-yr storm event for the regional watershed)*

5 **If Item 4 is less than Item 3, incorporate in-stream controls on downstream waterbody segment to prevent impacts due to hydromodification** ☐
Attach in-stream control BMP selection and evaluation to this WQMP

6 **Is Form 4.2-2 Item 11 less than or equal to 5%:** ☐ Yes ☐ No

If yes, HCOC performance criteria is achieved. If no, select one or more mitigation options below:

- Demonstrate increase in time of concentration achieved by proposed LID site design, LID BMP, and additional on-site or off-site retention BMP ☐
  BMP upstream of a waterbody segment with a potential HCOC may be used to demonstrate increased time of concentration through hydrograph attenuation (if so, show that the hydraulic residence time provided in BMP for a 2-year storm event is equal or greater than the addition time of concentration requirement in Form 4.2-4 Item 15)
- Increase time of concentration by preserving pre-developed flow path and/or increase travel time by reducing slope and increasing cross-sectional area and roughness for proposed on-site conveyance facilities ☐
- Incorporate appropriate in-stream controls for downstream waterbody segment to prevent impacts due to hydromodification, in a plan approved and signed by a licensed engineer in the State of California ☐

7 **Form 4.2-2 Item 12 less than or equal to 5%:** ☐ Yes ☐ No

If yes, HCOC performance criteria is achieved. If no, select one or more mitigation options below:

- Demonstrate reduction in peak runoff achieved by proposed LID site design, LID BMPs, and additional on-site or off-site retention BMPs ☐
  BMPs upstream of a waterbody segment with a potential HCOC may be used to demonstrate additional peak runoff reduction through hydrograph attenuation (if so, attach to this WQMP, a hydrograph analysis showing how the peak runoff would be reduced during a 2-yr storm event)
- Incorporate appropriate in-stream controls for downstream waterbody segment to prevent impacts due to hydromodification, in a plan approved and signed by a licensed engineer in the State of California ☐

4.4 Alternative Compliance Plan (if applicable)

Describe an alternative compliance plan (if applicable) for projects not fully able to infiltrate, harvest and use, or biotreat the DCV via on-site LID practices. A project proponent must develop an alternative compliance plan to address the remainder of the LID DCV. Depending on project type some projects may qualify for water quality credits that can be applied to reduce the DCV that must be treated prior to development of an alternative compliance plan (see Form 2.4-1, Water Quality Credits). Form 4.3-9 Item 8 includes instructions on how to apply water quality credits when computing the DCV that must be met through alternative compliance. Alternative compliance plans may include one or more of the following elements:

- On-site structural treatment control BMP - All treatment control BMP should be located as close to possible to the pollutant sources and should not be located within receiving waters;
- Off-site structural treatment control BMP - Pollutant removal should occur prior to discharge of runoff to receiving waters;
- Urban runoff fund or In-lieu program, if available

Depending upon the proposed alternative compliance plan, approval by the executive officer may or may not be required (see Section 6 of the TGD for WQMP).

Section 5 Inspection and Maintenance Responsibility for Post Construction BMP

All BMP included as part of the project WQMP are required to be maintained through regular scheduled inspection and maintenance (refer to Section 8, Post Construction BMP Requirements, in the TGD for WQMP). Fully complete Form 5-1 summarizing all BMP included in the WQMP. Attach additional forms as needed. The WQMP shall also include a detailed Operation and Maintenance Plan for all BMP and may require a Maintenance Agreement (consult the jurisdiction's LIP). If a Maintenance Agreement is required, it must also be attached to the WQMP.

Form 5-1 BMP Inspection and Maintenance

BMP	Responsible Party(ies)	Inspection/Maintenance Activities Required	Minimum Frequency of Activities
Underground Detention Chambers	Owner	The isolator row shall be inspected for debris and sediment accumulations and maintained by a qualified technician and he/she will properly dispose of all wastes and inspect for standing water. A manhole is installed in order to inspect and maintain the inlet row. All entry into the chamber system must be done per OSHA codes to ensure operator and inspector safety. Inspection ports should be checked 48 hours after storm events to see that the water is draining down, at least once each rainy season, following a major storm event. Records shall be maintained by owner to document inspections.	The isolator row shall be inspected semi-annually (by October 1st and February 1st) and cleaned by water-flush and vacuum when solids accumulate to 3" depth. Maintenance to be conducted through service contract with the vendor or equally qualified contractor.
Hydrodynamic Separator	Owner	Visual inspection to quantify the accumulation of hydrocarbons, trash, and sediment in the system. Use vacuum truck to clean and remove pollutants from the system upon reaching 75% capacity. Clean area outside of the screen if pollutant build-up exists.	Visually inspect twice a year (spring and fall) or as frequently as needed. Vacuum frequency as determined by inspection.
Drain Inserts	Owner	Visually inspect for defects and illegal dumping. Notify proper authorities if illegal dumping has occurred. Using an industrial vacuum, the collected materials shall be removed from the filter basket and disposed of properly. Inspect biosorb hydrocarbon boom and replace as necessary.	Two times per year (May and September) or following any rain event that would potentially accumulate a large amount of debris in the system. Replace boom twice per year, at a minimum.
Proprietary Biofiltration Unit	Owner	Remove trash from Screening Device, sediment from Separation Chamber and replace cartridge Filter Media, and Drain Down Filter Media. The owner should keep maintenance/inspection record(s) for a minimum of five years from the date of maintenance. These records should be made available to the governing municipality for inspection upon request at any time. Transport all debris, trash, organics and sediments to approved facility for disposal in accordance with local and state requirements.	Average maintenance interval of 6 to 12 months for removing trash from Screening Device. Average interval of 12 to 24 months for removing sediment, replacing Cartridge Filter Media, replacing Drain Down Filter Media and trimming vegetation.

Form 5-1 BMP Inspection and Maintenance

Storm Drain Stenciled Message	Owner	Visually inspect for legibility and replace or repaint as necessary.	Annually (September)
N1: Education of Property Owners, Tenants and Occupants on Stormwater BMPs	Owner	Property owner will familiarize him/herself with the educational materials in Attachment "E" and the contents of the WQMP.	Annually (January) for all employees and within 2 months for new hires.
N2: Activity Restrictions	Owner	Activities are restricted to only those for which a BMP has been implemented. The owner shall develop ongoing activity restrictions that include those that have the potential to create adverse impacts on water quality. Activities include, but are not limited to: handling and disposal of contaminants, fertilizer and pesticide application restrictions, litter control and pick-up, and vehicle or equipment repair as well as any other activities that may potentially contribute to water pollution.	Ongoing
N3: Landscape Management BMPs	Owner	Irrigation must be consistent with City's Water Conservation Ordinance. Fertilizer and pesticide usage will be consistent with County Management Guidelines for Use of Fertilizers and Pesticides.	Ongoing
N4: BMP Maintenance	Owner	BMP maintenance, implementation schedules, and responsible parties are included with each specific BMP narrative.	As described in each BMP listed within this form.
N7: Spill Contingency Plan	Owner	Owner/tenant will have a spill contingency plan, a separate document, based on specific site needs.	Ongoing
N10: Uniform Fire Code Implementation	Owner	If applicable, owner will comply with Article 80 of the Uniform Fire Code enforced by the fire protection agency. The facility operators will be educated annually regarding requirements for handling, storage and proper disposal of hazardous substances.	Ongoing
N11: Litter/Debris Control Program	Owner	Contract with their landscape maintenance firm to provide this service during regularly schedule maintenance. They are required to implement trash management and litter control procedures in the common areas aimed at reducing pollution of drainage water.	Weekly
N12: Employee Training	Owner	The owner will ensure that tenants are also familiar with onsite BMPs and necessary maintenance required of the tenants. Owner will check with City and County at least once a year to obtain new or updated educational materials and provide these materials to tenants. Employees shall be trained to clean up spills and participate in ongoing maintenance. The WQMP requires annual employee training and new hires within 2 months.	Annually (January) for all employees and within 2 months for new hires.

Form 5-1 BMP Inspection and Maintenance

N13: Housekeeping of Loading Docks	Owner	Keep all fluids indoors. Clean up spills immediately and keep spills from entering storm drain system. No direct discharges into the storm drain system. Area shall be inspected weekly for proper containment and practices with spills cleaned up immediately and disposed of properly.	Ongoing
N14: Catch Basin Inspection Program	Owner	Monthly inspection by property owner's designee. Inspection consists of immediate repair of any deterioration of the structures and maintenance of drain inserts before and after major rain events. Drain insert maintenance shall be per manufacturer's guidelines.	Monthly inspection and maintain as necessary.
N15: Vacuum Sweeping of Private Streets and Parking Lots	Owner	All landscape maintenance contractors will be required to sweep up all landscape cuttings, mowings and fertilizer materials off paved areas weekly and dispose of properly. Parking areas and drive ways will be swept monthly by sweeping contractor.	Monthly
N17: Comply with all other applicable NPDES permits	Owner	Will comply with Construction General Permit and Industrial General Permit (may apply for No Exposure Certification/NEC).	Ongoing
S1: Provide storm drain system stenciling and signage (CASQA New Development BMP Handbook SD-13)	Owner	"No Dumping – Drains to River" stencils will be applied. Legibility of stencil will be maintained on a yearly basis.	Annually (January)
S3: Design and construct trash and waste storage areas to reduce pollution introduction (CASQA New Development BMP Handbook SD-32)	Owner	Paved with an impervious surface, designed not to allow run-on from adjoining areas, designed to divert drainage from adjoining roofs and pavements diverted around the area, screened or walled to prevent off-site transport of trash. Detail to be provided once available.	Ongoing
S4: Use efficient irrigation systems & landscape design, water conservation, smart controllers, and source control (Statewide Model Landscape Ordinance; CASQA New Development BMP Handbook SD-12)	Owner	Irrigation systems shall include reducers or shutoff valves triggered by a pressure drop to control water loss in the event of broken sprinkler heads or lines. Timers will be used to avoid over watering and watering cycles and duration shall be adjusted seasonally by the landscape maintenance contractor. The landscaping areas will be grouped with plants that have similar water requirements. Native or drought tolerant species shall also be used where appropriate to reduce excess irrigation runoff and promote surface filtration.	Adjust watering cycles and duration seasonally / quarterly (Oct, Jan, Apr, and Jul).

Section 6 WQMP Attachments

6.1 Site Plan and Drainage Plan

Include a site plan and drainage plan sheet set containing the following minimum information:

- Project location
- Site boundary
- Land uses and land covers, as applicable
- Suitability/feasibility constraints
- Structural Source Control BMP locations
- Site Design Hydrologic Source Control BMP locations
- LID BMP details
- Drainage delineations and flow information
- Drainage connections

See Attachment C for Site and Drainage Plan.

6.2 Electronic Data Submittal

Minimum requirements include submittal of PDF exhibits in addition to hard copies. Format must not require specialized software to open. If the local jurisdiction requires specialized electronic document formats (consult the LIP), this section will describe the contents (e.g., layering, nomenclature, geo-referencing, etc.) of these documents so that they may be interpreted efficiently and accurately.

6.3 Post Construction

Attach all O&M Plans and Memorandum of Agreement for BMP to the WQMP (Attachment D).

6.4 Other Supporting Documentation

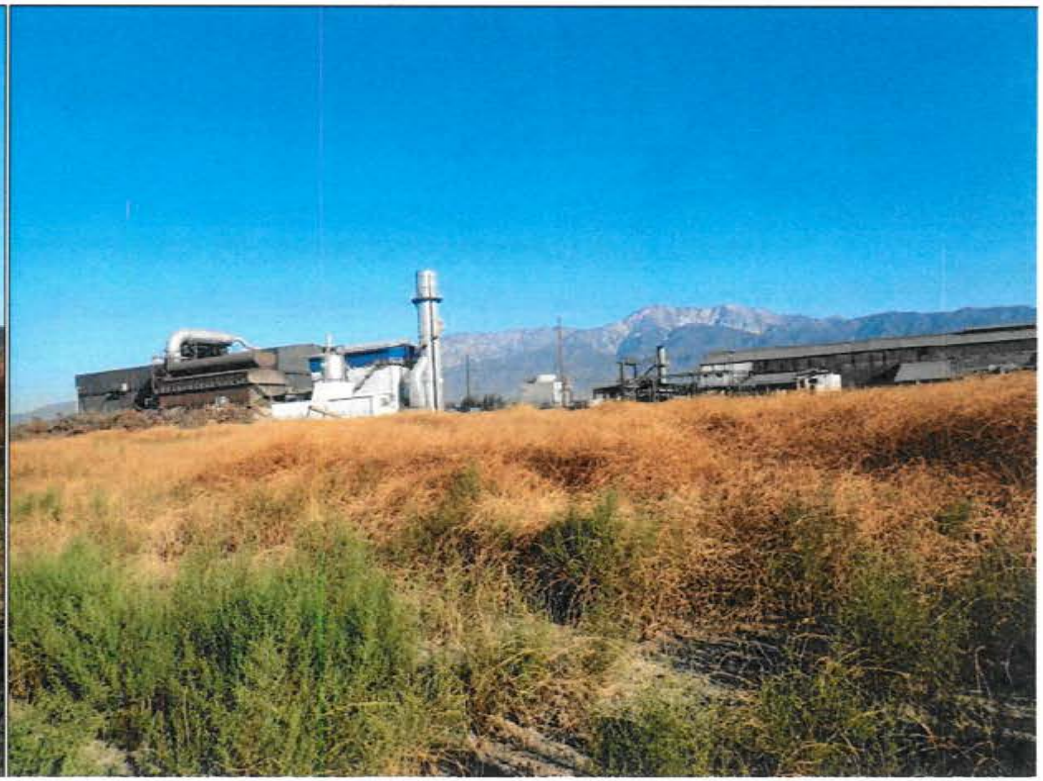
- BMP Educational Materials (Attachment E)
- Soil/Infiltration Report (Attachment F) (NA)
- BMP Maintenance Material (Attachment G)
- Conditions of Approval (Attachment H)
- Class V Injection Well Registration (Attachment I)
- Activity Restrictions (Attachment J)
- Phase I ESA (Attachment K)

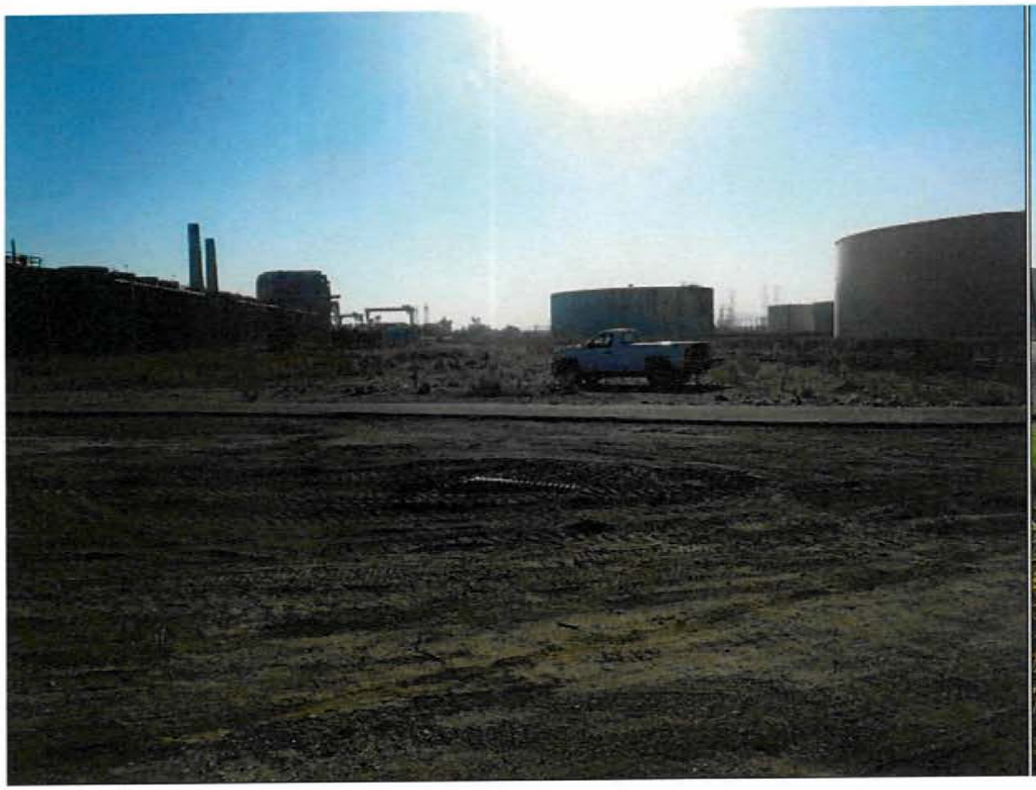
Attachment A
Existing Condition Site Photos














SPEED
LIMIT
5

Attachment B
BMP Design Calculations & Supporting Documentation

www.nws.noaa.gov

NOAA's National Weather Service

Hydrometeorological Design Studies Center

Precipitation Frequency Data Server (PFDS)

Home | Site Map | News | Organization | Search | NWS | All NOAA | Go

General Information
- Homepage
- Progress Reports
- FAQ
- Glossary

Precipitation Frequency
- Data Server
- GIS Grids
- Maps
- Time Series
- Temporals
- Documents

Probable Maximum Precipitation
- Documents

Miscellaneous
- Publications
- Storm Analysis
- Record Precipitation

Contact Us
- Inquiries

NOAA ATLAS 14 POINT PRECIPITATION FREQUENCY ESTIMATES: CA

Data description

Data type: Precipitation depth | Units: English | Time series type: Partial duration

Select location

1) Manually:

a) By location (decimal degrees, use "-" for S and W): Latitude: 34.091404 Longitude: -117.52738 Submit

b) By station (list of CA stations): Select station

c) By address: Search

2) Use map (if ESRI interactive map is not loading, try adding the host: **https://js.arcgis.com/** to the firewall, or contact us at hdsc.questions@noaa.gov):



POINT PRECIPITATION FREQUENCY (PF) ESTIMATES

WITH 90% CONFIDENCE INTERVALS AND SUPPLEMENTARY INFORMATION
NOAA Atlas 14, Volume 6, Version 2

PF tabular | PF graphical | Supplementary information | Print page

PDS-based precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years) 1	2	5	10	25	50	100	200	500
5-min	0.107 (0.090–0.130)	0.141 (0.118–0.172)	0.188 (0.156–0.228)	0.227 (0.186–0.278)	0.281 (0.224–0.358)	0.325 (0.253–0.422)	0.371 (0.282–0.495)	0.420 (0.310–0.576)	0.489 (0.345–0.701)
10-min	0.154 (0.128–0.187)	0.203 (0.169–0.246)	0.269 (0.223–0.327)	0.325 (0.267–0.399)	0.403 (0.321–0.513)	0.466 (0.363–0.606)	0.532 (0.404–0.709)	0.602 (0.444–0.826)	0.702 (0.495–1.00)
15-min	0.186 (0.155–0.226)	0.245 (0.204–0.298)	0.325 (0.270–0.396)	0.393 (0.323–0.482)	0.488 (0.388–0.620)	0.564 (0.439–0.732)	0.644 (0.488–0.857)	0.729 (0.537–0.999)	0.848 (0.599–1.21)
30-min	0.274 (0.228–0.332)	0.360 (0.300–0.437)	0.478 (0.397–0.582)	0.577 (0.475–0.708)	0.717 (0.570–0.911)	0.828 (0.644–1.08)	0.945 (0.717–1.26)	1.07 (0.788–1.47)	1.25 (0.880–1.78)
60-min	0.400 (0.333–0.485)	0.526 (0.438–0.639)	0.698 (0.579–0.850)	0.843 (0.694–1.03)	1.05 (0.832–1.33)	1.21 (0.941–1.57)	1.38 (1.05–1.84)	1.56 (1.15–2.14)	1.82 (1.29–2.61)
2-hr	0.614 (0.511–0.744)	0.788 (0.656–0.957)	1.02 (0.850–1.25)	1.22 (1.01–1.50)	1.50 (1.19–1.91)	1.72 (1.34–2.24)	1.96 (1.48–2.61)	2.20 (1.62–3.02)	2.55 (1.80–3.65)
3-hr									

	0.786 (0.655–0.953)	1.00 (0.834–1.22)	1.29 (1.07–1.57)	1.54 (1.26–1.88)	1.87 (1.49–2.38)	2.14 (1.67–2.78)	2.42 (1.84–3.23)	2.72 (2.00–3.73)	3.13 (2.21–4.48)
6-hr	1.13 (0.945–1.37)	1.44 (1.20–1.75)	1.85 (1.54–2.25)	2.19 (1.80–2.68)	2.64 (2.10–3.36)	3.00 (2.33–3.90)	3.37 (2.55–4.48)	3.75 (2.76–5.14)	4.27 (3.01–6.11)
12-hr	1.51 (1.26–1.83)	1.95 (1.62–2.37)	2.51 (2.09–3.06)	2.96 (2.44–3.63)	3.56 (2.83–4.52)	4.00 (3.11–5.20)	4.45 (3.37–5.92)	4.90 (3.61–6.71)	5.50 (3.88–7.87)
24-hr	2.03 (1.79–2.34)	2.68 (2.37–3.09)	3.50 (3.09–4.05)	4.14 (3.62–4.83)	4.97 (4.21–5.99)	5.58 (4.63–6.86)	6.17 (5.00–7.78)	6.76 (5.33–8.76)	7.53 (5.69–10.2)
2-day	2.50 (2.21–2.88)	3.39 (3.00–3.91)	4.53 (3.99–5.24)	5.43 (4.75–6.34)	6.64 (5.62–8.00)	7.54 (6.25–9.27)	8.44 (6.83–10.6)	9.34 (7.36–12.1)	10.5 (7.98–14.2)
3-day	2.73 (2.42–3.15)	3.76 (3.33–4.34)	5.11 (4.50–5.91)	6.20 (5.42–7.23)	7.69 (6.51–9.26)	8.83 (7.32–10.9)	9.99 (8.09–12.6)	11.2 (8.81–14.5)	12.8 (9.68–17.3)
4-day	2.99 (2.65–3.45)	4.15 (3.67–4.79)	5.68 (5.01–6.57)	6.94 (6.07–8.10)	8.67 (7.34–10.5)	10.0 (8.31–12.3)	11.4 (9.23–14.4)	12.8 (10.1–16.6)	14.8 (11.2–20.0)
7-day	3.50 (3.10–4.04)	4.89 (4.32–5.64)	6.73 (5.94–7.79)	8.26 (7.23–9.64)	10.4 (8.79–12.5)	12.0 (9.99–14.8)	13.8 (11.1–17.3)	15.6 (12.3–20.1)	18.0 (13.6–24.3)
10-day	3.81 (3.37–4.39)	5.33 (4.71–6.15)	7.37 (6.50–8.53)	9.07 (7.94–10.6)	11.4 (9.69–13.8)	13.3 (11.0–16.4)	15.2 (12.3–19.2)	17.3 (13.6–22.4)	20.1 (15.2–27.1)
20-day	4.40 (3.90–5.07)	6.27 (5.54–7.23)	8.79 (7.75–10.2)	10.9 (9.55–12.7)	13.9 (11.8–16.8)	16.3 (13.5–20.0)	18.8 (15.2–23.7)	21.4 (16.9–27.7)	25.2 (19.0–33.9)
30-day	5.19 (4.59–5.98)	7.44 (6.58–8.59)	10.5 (9.27–12.2)	13.1 (11.5–15.3)	16.8 (14.2–20.2)	19.8 (16.4–24.3)	22.9 (18.5–28.8)	26.2 (20.7–33.9)	30.9 (23.4–41.7)
45-day	6.13 (5.43–7.07)	8.80 (7.78–10.2)	12.5 (11.0–14.4)	15.6 (13.7–18.2)	20.1 (17.0–24.2)	23.7 (19.7–29.1)	27.5 (22.3–34.7)	31.7 (25.0–41.0)	37.6 (28.4–50.7)
60-day	7.11 (6.30–8.20)	10.2 (8.99–11.7)	14.4 (12.7–16.6)	18.0 (15.7–21.0)	23.2 (19.6–27.9)	27.4 (22.7–33.7)	31.9 (25.8–40.2)	36.8 (29.0–47.6)	43.7 (33.1–59.0)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration a recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitatic estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

Estimates from the table in CSV format: Precipitation frequency estimates Submit

US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
Office of Water Prediction (OWP)
1325 East West Highway
Silver Spring, MD 20910
Page Author: HDSC webmaster
Page last modified: April 21, 2017

FLOW-BASED BMP DESIGN (pretreatment)

$C_{BMP} = 0.858(imp)^3 - 0.78(imp)^2 + 0.774(imp) + 0.04$
$I_{BMP} = (0.526)(0.2787)(2) = 0.293$ in/hr
$Q = C_{BMP} * 0.293 * Area$

DA 1 DMA A – CDS "A"

Region		Valley	
Drainage Area (acres)		23.10	acres
Drainage Area (sq-ft)		1,006,236	sq-ft
Impervious Coeff	i =	1.00	< 1.0
Runoff Coeff	**C =**	0.89	
1-hr 2-yr from NOAA		0.526	
Itensity Coeff		0.2787	
Intensity BMP (in/hr)		0.293	
Flow (cfs)	Q =	6.04	

CONTECH CDS4045-8
Q-required = 6.04 cfs
Q-provided = 7.50 cfs

DA 1 DMA B – CDS "B"

Region		Valley	
Drainage Area (acres)		29.95	acres
Drainage Area (sq-ft)		1,304,622	sq-ft
Impervious Coeff	i =	0.96	< 1.0
Runoff Coeff	**C =**	0.82	
1-hr 2-yr from NOAA		0.526	
Itensity Coeff		0.2787	
Intensity BMP (in/hr)		0.293	
Flow (cfs)	Q =	7.23	

CONTECH CDS5640-10
Q-required = 7.23 cfs
Q-provided = 9.00 cfs

DA 2 DMA A – CDS "C"

Region		Valley	
Drainage Area (acres)		6.45	acres
Drainage Area (sq-ft)		280,962	sq-ft
Impervious Coeff	i =	0.95	< 1.0
Runoff Coeff	**C =**	0.81	
1-hr 2-yr from NOAA		0.526	
Itensity Coeff		0.2787	
Intensity BMP (in/hr)		0.293	
Flow (cfs)	Q =	1.53	

CONTECH CDS2025-5
Q-required = 1.53 cfs
Q-provided = 1.60 cfs

VOLUME-BASED BMP DESIGN

$C_{BMP} = 0.858(imp)^3 - 0.78(imp)^2 + 0.774(imp) + 0.04$
P6 = (0.526)(1.4807) = 0.779 inches
P0 = (1.963)(C_{BMP})(0.779)
DCV = (P0 * Area) / 12

DA 1 DMA A – STORMTECH CHAMBERS & MODULAR WETLANDS "A"

Region		Valley	
Drainage Area (acres)		21.05	acres
Drainage Area (sq-ft)		916,938	sq-ft
Impervious Coeff	i =	1.00	< 1.0
Runoff Coeff	**C =**	0.892	
1-hr 2-yr from NOAA		0.526	
P6 Coeff		1.4807	
Mean 6-hr (P6)		0.779	
Drawdown Rate (a)		1.963	
DCV		104,207	cu-ft
DCV		2.392	acre-ft

ROW IMPROVEMENTS – STORMTECH CHAMBERS & MODULAR WETLANDS "A"

Region		Valley	
Drainage Area (acres)		2.05	acres
Drainage Area (sq-ft)		89,298	sq-ft
Impervious Coeff	i =	1	< 1.0
Runoff Coeff	**C =**	0.892	
1-hr 2-yr from NOAA		0.526	
P6 Coeff		1.4807	
Mean 6-hr (P6)		0.779	
Drawdown Rate (a)		1.963	
DCV		10,148	cu-ft
DCV		0.233	acre-ft

Total DCV = 104,207 cu-ft + 10,148 cu-ft = 114,355 cu-ft

WetlandMOD VOLUME BASED SIZING SHEET



Horizontal Flow Biofiltration System

Project Location

Project Name	Etiwanda Distribution Center (DA 1 DMA A)
City/Town	Rancho Cucamonga
State	California
Zip Code	91739

SIZING CALCULATIONS	**Inputs**	**Units**	**Notes/References**
Impervious Area			
BMP Drainage Area (not required - manual entry - not part of formula)	23.1	Acres	This includes all areas that will contribute runoff to the proposed BMP, including pervious areas, impervious areas, and off-site areas, whether or not they are directly or indirectly connected to the BMP.
Watershed Impervious Ratio (not required - manual entry - not part of formula)			Watershed Imperviousness Ratio", is equal to the percent of total impervious area in the "BMP Drainage Area" divided by 100
Runoff Coefficient "C" (not required - manual entry - not part of formula)			
Water Quality Volume (required)	114355	cubic feet	Use sizing procedures provided by state or local agencies to determine the appropriate Water Quality Volume. Intensities and design storms vary widely by region and method.
Design Storm Duration	3	hours	Varies depending on geographical region. Set at 0 for pump system set up. LA County 3 hours. Call for details.
MWS - Linear Sizing			
MWS - Linear Model Number (from matrix)	MWS-L-10-20	quantity	Please choose size from "Model Size Matrix" Tab
# Of Units	4	quantity	Select the number of systems required to treat the water quality volume. Will very depending on drain down time regulaitons.
Discharge Rate (from matrix)	78.50	gallons/minute	Rate of 0.26 gpm/sq ft or 25 in/hr. Field Verified.
Volume Treated During Event			
Processed through MWS - Linear	7535.9	cubic feet	314.00 gals/minute
Volume Treated Following Event			
MWS - Linear Static Capacity (from matrix)	349	cubic feet	
Volume Needed in *Pre-Storage*	106470	cubic feet	Set at zero to start. Size pre-storage system to hold this volume
			Sizing complete when equal to value of zero.
TOTAL STORMWATER TREATED	114355	cubic feet	Note: This amount should be equal to the "Water Quality Volume"
Drain Down Time	42.52	hours	Drain down time must be equal to or less than requirement of local juristiction. Default 48 hours.

Feel free to fax or email proposed sizing calculations to Modular Wetlands Systems, Inc. for assistance with sizing, compliance, and design.

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Fax: 760.433.3176
Email: Info@modularwetlands.com

StormTech
Detention • Retention • Recharge
Subsurface Stormwater Management™

MC-4500 Site Calculator

Project Information:

Project Name: Etiwanda Distribution Center (DA 1 DMA A)
Location: Rancho Cucamonga
Date: 11/10/2021
Engineer: Thienes Engineering Inc.
StormTech RPM:

System Requirements

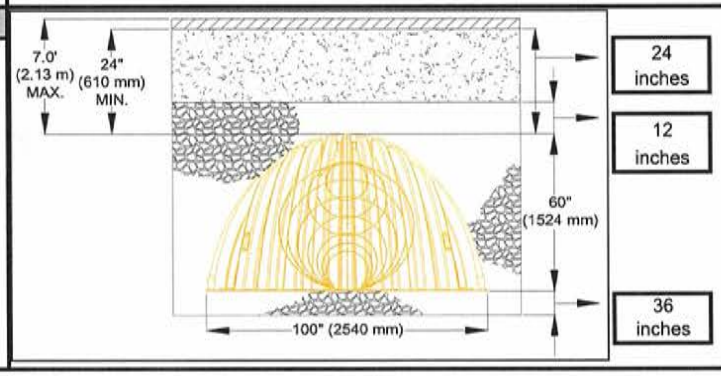
Units		Imperial	
Required Storage Volume		106470	CF
Stone Porosity (Industry Standard = 40%)		40	%
Stone Above Chambers	(12 inch min.)	12	inches
Stone Foundation Depth	(9 inch min.)	36	inches
Average Cover over Chambers	(24 inch min.)	24	inches
Bed size controlled by WIDTH or LENGTH?		WIDTH	
Limiting WIDTH or LENGTH dimension		70	feet
Storage Volume per Chamber		195.5	CF
Storage Volume per End Cap		137.7	CF

System Sizing

Number of Chambers Required	535	each
Number of End Caps Required	14	each
Bed Size (including perimeter stone)	20,335	square feet
Stone Required (including perimeter stone)	6591	tons
Volume of Excavation	7532	cubic yards
Non-woven Filter Fabric Required (20% Safety Factor)	6339	square yards
Length of Isolator Row	317.0	feet
Woven Isolator Row Fabric (20% Safety Factor)	871	square yards
Installed Storage Volume	106,520	cubic feet

Controlled by Width (Rows)

Maximum Width =		70	feet
3 rows of	77	chambers	
4 row of	76	chambers	
Maximum Length =		317.0	feet
Maximum Width =		64.8	feet



DA 1 DMA B– STORMTECH CHAMBERS & MODULAR WETLANDS "B"

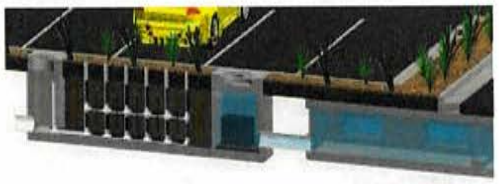
Region		Valley	
Drainage Area (acres)		24.95	acres
Drainage Area (sq-ft)		1,086,822	sq-ft
Impervious Coeff	i =	0.95	< 1.0
Runoff Coeff	C =	0.807	
1-hr 2-yr from NOAA		0.526	
P6 Coeff		1.4807	
Mean 6-hr (P6)		0.779	
Drawdown Rate (a)		1.963	
DCV		111,741	cu-ft
DCV		2.565	acre-ft

ROW IMPROVEMENTS – STORMTECH CHAMBERS & MODULAR WETLANDS "B"

Region		Valley	
Drainage Area (acres)		5.00	acres
Drainage Area (sq-ft)		217,800	sq-ft
Impervious Coeff	i =	1	< 1.0
Runoff Coeff	C =	0.892	
1-hr 2-yr from NOAA		0.526	
P6 Coeff		1.4807	
Mean 6-hr (P6)		0.779	
Drawdown Rate (a)		1.963	
DCV		24,752	cu-ft
DCV		0.568	acre-ft

Total DCV = 111,741 cu-ft + 24,752 cu-ft = 136,493 cu-ft

WetlandMOD VOLUME BASED SIZING SHEET



Horizontal Flow Biofiltration System

Project Location

Project Name	Etiwanda Distribution Center (DA 1 DMA B)
City/Town	Rancho Cucamonga
State	California
Zip Code	91739

SIZING CALCULATIONS	Inputs	Units	Notes/References
Impervious Area			
BMP Drainage Area (not required - manual entry - not part of formula)	29.95	Acres	This includes all areas that will contribute runoff to the proposed BMP, including pervious areas, impervious areas, and off-site areas, whether or not they are directly or indirectly connected to the BMP.
Watershed Impervious Ratio (not required - manual entry - not part of formula)			Watershed Imperviousness Ratio", is equal to the percent of total impervious area in the "BMP Drainage Area" divided by 100
Runoff Coefficient "C" (not required - manual entry - not part of formula)			
Water Quality Volume (required)	136493	cubic feet	Use sizing procedures provided by state or local agencies to determine the appropriate Water Quality Volume. Intensities and design storms vary widely by region and method.
Design Storm Duration	3	hours	Varies depending on geographical region. Set at 0 for pump system set up. LA County 3 hours. Call for details.
MWS - Linear Sizing			
MWS - Linear Model Number (from matrix)	MWS-L-10-20	quantity	Please choose size from "Model Size Matrix" Tab
# Of Units	5	quantity	Select the number of systems required to treat the water quality volume. Will very depending on drain down time regulaitons.
Discharge Rate (from matrix)	78.50	gallons/minute	Rate of 0.26 gpm/sq ft or 25 in/hr. Field Verified.
Volume Treated During Event			
Processed through MWS - Linear	9419.9	cubic feet	392.50 gals/minute
Volume Treated Following Event			
MWS - Linear Static Capacity (from matrix)	349	cubic feet	
Volume Needed in *Pre-Storage*	126724	cubic feet	Set at zero to start. Size pre-storage system to hold this volume
			Sizing complete when eqaul to value of zero.
TOTAL STORMWATER TREATED	136493	cubic feet	Note: This amount should be equal to the "Water Quality Volume"
Drain Down Time	40.47	hours	Drain down time must be equal to or less than requirement of local juristiction. Default 48 hours.

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Fax: 760.433.3176

Email: Info@modularwetlands.com

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MC-4500 Site Calculator

Project Information:

Project Name: Etiwanda Distribution Center (DA 1 DMA B)
Location: Rancho Cucamonga
Date: 11/10/2021
Engineer: Thienes Engineering Inc.
StormTech RPM:

System Requirements

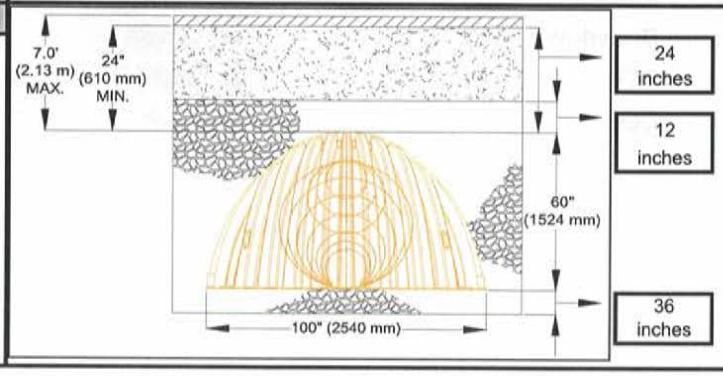
Units		Imperial	
Required Storage Volume		126724	CF
Stone Porosity (Industry Standard = 40%)		40	%
Stone Above Chambers	(12 inch min.)	12	inches
Stone Foundation Depth	(9 inch min.)	36	inches
Average Cover over Chambers	(24 inch min.)	24	inches
Bed size controlled by WIDTH or LENGTH?		WIDTH	
Limiting WIDTH or LENGTH dimension		50	feet
Storage Volume per Chamber		195.5	CF
Storage Volume per End Cap		137.7	CF

System Sizing

Number of Chambers Required	642	each
Number of End Caps Required	10	each
Bed Size (including perimeter stone)	24,398	square feet
Stone Required (including perimeter stone)	7920	tons
Volume of Excavation	9036	cubic yards
Non-woven Filter Fabric Required (20% Safety Factor)	7881	square yards
Length of Isolator Row	526.3	feet
Woven Isolator Row Fabric (20% Safety Factor)	1446	square yards
Installed Storage Volume	126,888	cubic feet

Controlled by Width (Rows)

Maximum Width =		50	feet
2 rows of	129	chambers	
3 row of	128	chambers	
Maximum Length =		526.3	feet
Maximum Width =		46.7	feet



DA 2 DMA A – STORMTECH CHAMBERS & MODULAR WETLANDS "C"

Region		Valley	
Drainage Area (acres)		6.45	acres
Drainage Area (sq-ft)		280,962	sq-ft
Impervious Coeff	i =	0.95	< 1.0
Runoff Coeff	**C =**	0.807	
1-hr 2-yr from NOAA		0.526	
P6 Coeff		1.4807	
Mean 6-hr (P6)		0.779	
Drawdown Rate (a)		1.963	
DCV		28,887	cu-ft
DCV		0.663	acre-ft

WetlandMOD VOLUME BASED SIZING SHEET



Horizontal Flow Biofiltration System

Project Location

Project Name	Etiwanda Distribution Center (DA 2 DMA A)
City/Town	Rancho Cucamonga
State	California
Zip Code	91739

SIZING CALCULATIONS	Inputs	Units	Notes/References
Impervious Area			
BMP Drainage Area (not required - manual entry - not part of formula)	6.45	Acres	This includes all areas that will contribute runoff to the proposed BMP, including pervious areas, impervious areas, and off-site areas, whether or not they are directly or indirectly connected to the BMP.
Watershed Impervious Ratio (not required - manual entry - not part of formula)			Watershed Imperviousness Ratio", is equal to the percent of total impervious area in the "BMP Drainage Area" divided by 100
Runoff Coefficient "C" (not required - manual entry - not part of formula)			
Water Quality Volume (required)	28887	cubic feet	Use sizing procedures provided by state or local agencies to determine the appropriate Water Quality Volume. Intensities and design storms vary widely by region and method.
Design Storm Duration	3	hours	Varies depending on geographical region. Set at 0 for pump system set up. LA County 3 hours. Call for details.
MWS - Linear Sizing			
MWS - Linear Model Number (from matrix)	MWS-L-10-20	quantity	Please choose size from "Model Size Matrix" Tab
# Of Units	1	quantity	Select the number of systems required to treat the water quality volume. Will very depending on drain down time regulaitons.
Discharge Rate (from matrix)	78.50	gallons/minute	Rate of 0.26 gpm/sq ft or 25 in/hr. Field Verified.
Volume Treated During Event			
Processed through MWS - Linear	1884.0	cubic feet	78.50 gals/minute
Volume Treated Following Event			
MWS - Linear Static Capacity (from matrix)	349	cubic feet	
Volume Needed in *Pre-Storage*	26654	cubic feet	Set at zero to start. Size pre-storage system to hold this volume
			Sizing complete when eqaul to value of zero.
TOTAL STORMWATER TREATED	**28887**	cubic feet	Note: This amount should be equal to the "Water Quality Volume"
Drain Down Time	**43.00**	hours	Drain down time must be equal to or less than requirement of local juristiction. Default 48 hours.

Feel free to fax or email proposed sizing calculations to Modular Wetlands Systems, Inc. for assistance with sizing, compliance, and design.

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Fax: 760.433.3176
Email: Info@modularwetlands.com

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MC-4500 Site Calculator

Project Information:

Project Name:	Etiwanda Distribution Center (DA 2 DMA A)
Location:	Rancho Cucamonga
Date:	11/9/2021
Engineer:	Thienes Engineering Inc.
StormTech RPM:	

System Requirements

Units		Imperial	
Required Storage Volume		26654	CF
Stone Porosity (Industry Standard = 40%)		40	%
Stone Above Chambers	(12 inch min.)	12	inches
Stone Foundation Depth	(9 inch min.)	36	inches
Average Cover over Chambers	(24 inch min.)	24	inches
Bed size controlled by WIDTH or LENGTH?		WIDTH	
Limiting WIDTH or LENGTH dimension		45	feet
Storage Volume per Chamber		195.5	CF
Storage Volume per End Cap		137.7	CF

System Sizing

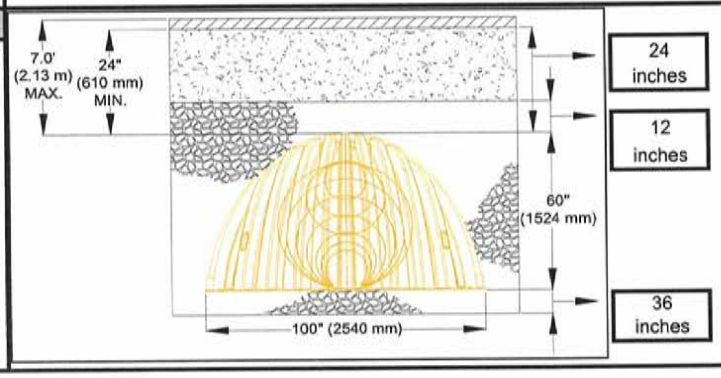
Number of Chambers Required	131	each
Number of End Caps Required	8	each
Bed Size (including perimeter stone)	5,205	square feet
Stone Required (including perimeter stone)	1712	tons
Volume of Excavation	1928	cubic yards
Non-woven Filter Fabric Required (20% Safety Factor)	1814	square yards
Length of Isolator Row	139.9	feet
Woven Isolator Row Fabric (20% Safety Factor)	384	square yards
Installed Storage Volume	26,712	cubic feet

Controlled by Width (Rows)

Maximum Width = 45 feet

3 rows of 33 chambers
1 row of 32 chambers

Maximum Length = 139.9 feet
Maximum Width = 37.6 feet



DA 3 DMA A – STORMTECH CHAMBERS & MODULAR WETLANDS "D"

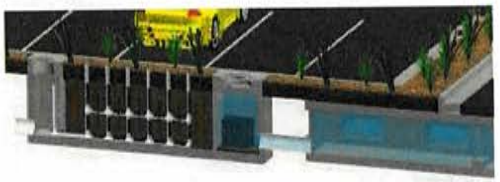
Region		Valley	
Drainage Area (acres)		3.20	acres
Drainage Area (sq-ft)		139,392	sq-ft
Impervious Coeff	i =	0.95	< 1.0
Runoff Coeff	C =	0.807	
1-hr 2-yr from NOAA		0.526	
P6 Coeff		1.4807	
Mean 6-hr (P6)		0.779	
Drawdown Rate (a)		1.963	
DCV		14,331	cu-ft
DCV		0.329	acre-ft

ROW IMPROVEMENTS – STORMTECH CHAMBERS & MODULAR WETLANDS "D"

Region		Valley	
Drainage Area (acres)		2.20	acres
Drainage Area (sq-ft)		95,832	sq-ft
Impervious Coeff	i =	1	< 1.0
Runoff Coeff	C =	0.892	
1-hr 2-yr from NOAA		0.526	
P6 Coeff		1.4807	
Mean 6-hr (P6)		0.779	
Drawdown Rate (a)		1.963	
DCV		10,891	cu-ft
DCV		0.250	acre-ft

Total DCV = 14,331 cu-ft + 10,891 cu-ft = 25,222 cu-ft

WetlandMOD VOLUME BASED SIZING SHEET



Horizontal Flow Biofiltration System

Project Location

Project Name	Etiwanda Distribution Center (DA 3 DMA A)
City/Town	Rancho Cucamonga
State	California
Zip Code	91739

SIZING CALCULATIONS	Inputs	Units	Notes/References
Impervious Area			
BMP Drainage Area (not required - manual entry - not part of formula)	5.4	Acres	This includes all areas that will contribute runoff to the proposed BMP, including pervious areas, impervious areas, and off-site areas, whether or not they are directly or indirectly connected to the BMP.
Watershed Impervious Ratio (not required - manual entry - not part of formula)			Watershed Imperviousness Ratio", is equal to the percent of total impervious area in the "BMP Drainage Area" divided by 100
Runoff Coefficient "C" (not required - manual entry - not part of formula)			
Water Quality Volume (required)	25222	cubic feet	Use sizing procedures provided by state or local agencies to determine the appropriate Water Quality Volume. Intensities and design storms vary widely by region and method.
Design Storm Duration	3	hours	Varies depending on geographical region. Set at 0 for pump system set up. LA County 3 hours. Call for details.
MWS - Linear Sizing			
MWS - Linear Model Number (from matrix)	MWS-L-8-20	quantity	Please choose size from "Model Size Matrix" Tab
# Of Units	1	quantity	Select the number of systems required to treat the water quality volume. Will very depending on drain down time regulaitons.
Discharge Rate (from matrix)	65.42	gallons/minute	Rate of 0.26 gpm/sq ft or 25 in/hr. Field Verified.
Volume Treated During Event			
Processed through MWS - Linear	1570.0	cubic feet	65.42 gals/minute
Volume Treated Following Event			
MWS - Linear Static Capacity (from matrix)	348	cubic feet	
Volume Needed in *Pre-Storage*	23304	cubic feet	Set at zero to start. Size pre-storage system to hold this volume
			Sizing complete when equal to value of zero.
TOTAL STORMWATER TREATED	**25222**	cubic feet	Note: This amount should be equal to the "Water Quality Volume"
Drain Down Time	**45.20**	hours	Drain down time must be equal to or less than requirement of local juristiction. Default 48 hours.

Feel free to fax or email proposed sizing calculations to Modular Wetlands Systems, Inc. for assistance with sizing, compliance, and design.

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Fax: 760.433.3176
Email: Info@modularwetlands.com

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MC-4500 Site Calculator

Project Information:

Project Name: Etiwanda Distribution Center (DA 3 DMA A)
Location: Rancho Cucamonga
Date: 11/10/2021
Engineer: Thienes Engineering Inc.
StormTech RPM:

System Requirements

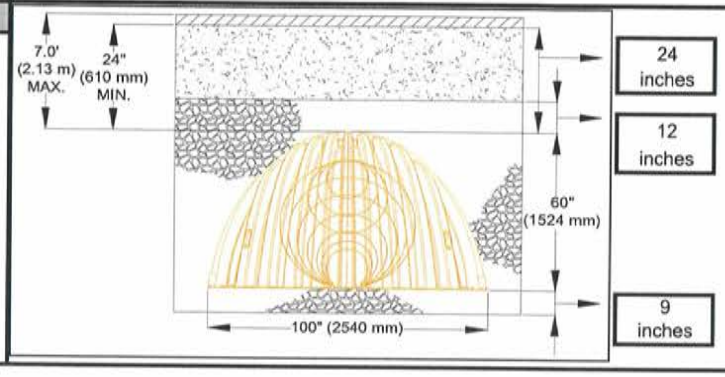
Units		Imperial	
Required Storage Volume		23304	CF
Stone Porosity (Industry Standard = 40%)		40	%
Stone Above Chambers	(12 inch min.)	12	inches
Stone Foundation Depth	(9 inch min.)	9	inches
Average Cover over Chambers	(24 inch min.)	24	inches
Bed size controlled by WIDTH or LENGTH?		WIDTH	
Limiting WIDTH or LENGTH dimension		50	feet
Storage Volume per Chamber		162.6	CF
Storage Volume per End Cap		108.6	CF

System Sizing

Number of Chambers Required	137	each
Number of End Caps Required	10	each
Bed Size (including perimeter stone)	5,427	square feet
Stone Required (including perimeter stone)	1138	tons
Volume of Excavation	1558	cubic yards
Non-woven Filter Fabric Required (20% Safety Factor)	1747	square yards
Length of Isolator Row	119.8	feet
Woven Isolator Row Fabric (20% Safety Factor)	329	square yards
Installed Storage Volume	23,362	cubic feet

Controlled by Width (Rows)

Maximum Width =		50	feet
2 rows of	28 chambers		
3 row of	27 chambers		
Maximum Length =		119.8	feet
Maximum Width =		46.7	feet



Attachment C
Site and Drainage Plan



Last Update: 11/9/21
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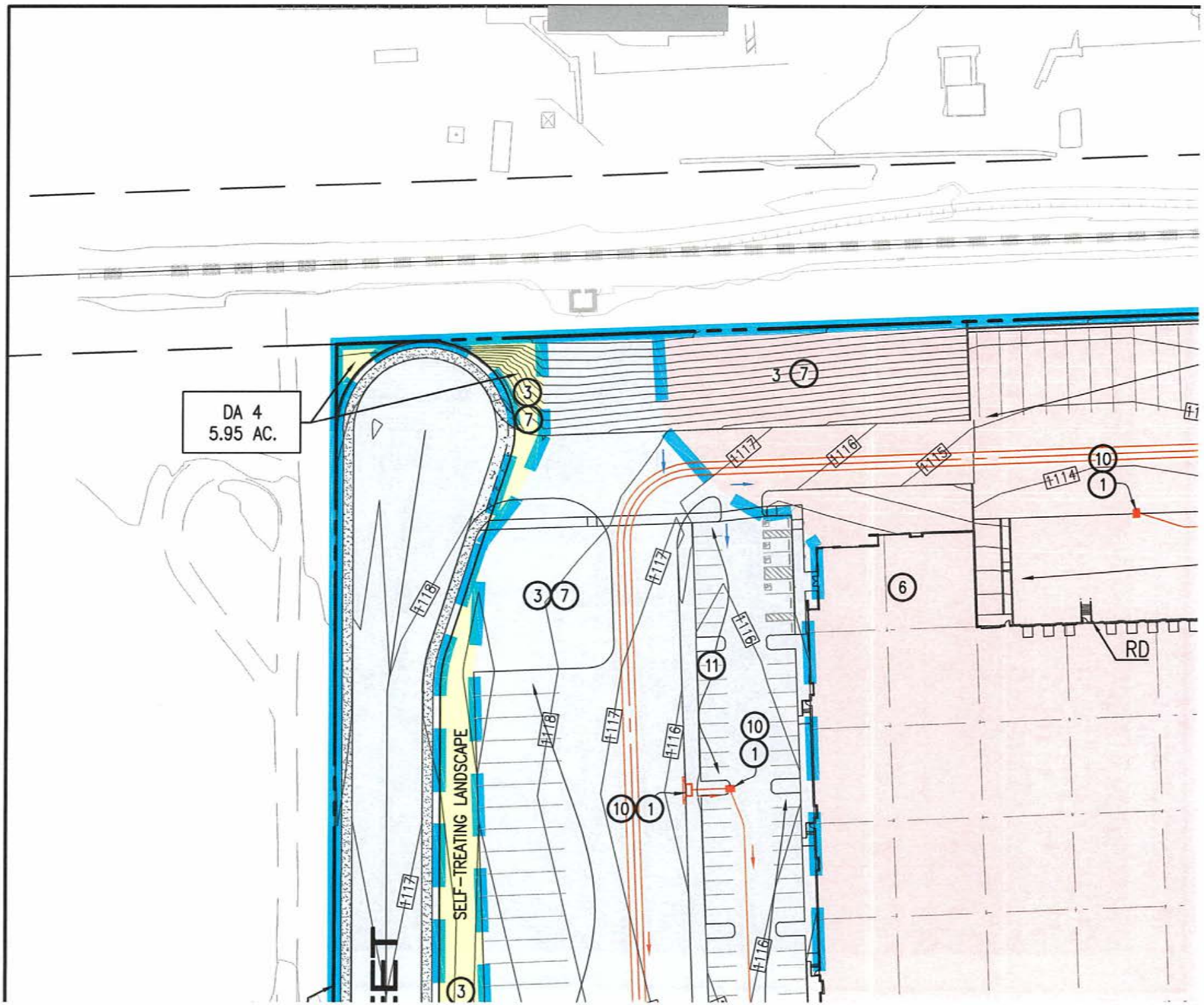
Thienes Engineering, Inc.
CIVIL ENGINEERING • LAND SURVEYING
14349 FIRESTONE BOULEVARD
LA MIRADA, CALIFORNIA 90638
PH.(714)521-4811 FAX(714)521-4173

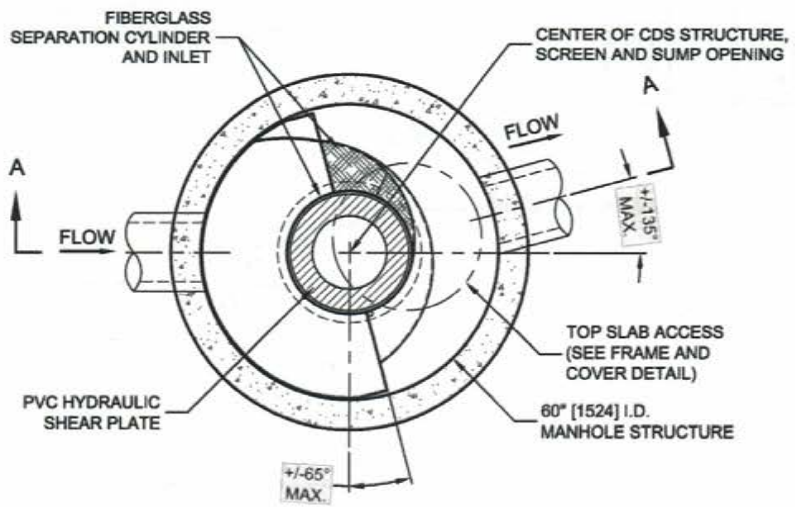
VICINITY MAP

FOR

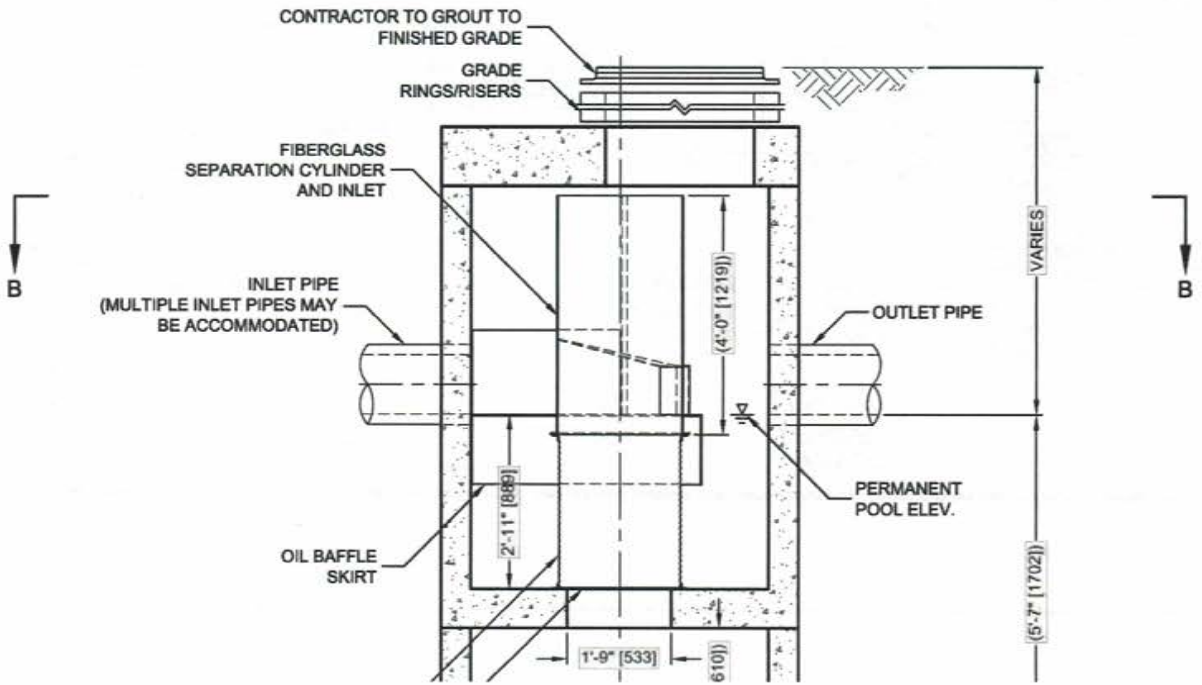
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RANCHO CUCAMONGA, CA

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DA 4
5.95 AC.
SELF-TREATING LANDSCAPE
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PLAN VIEW B-B
N.T.S.



CDS2025-5-C RAT
14.0 CFS [396 L/s].

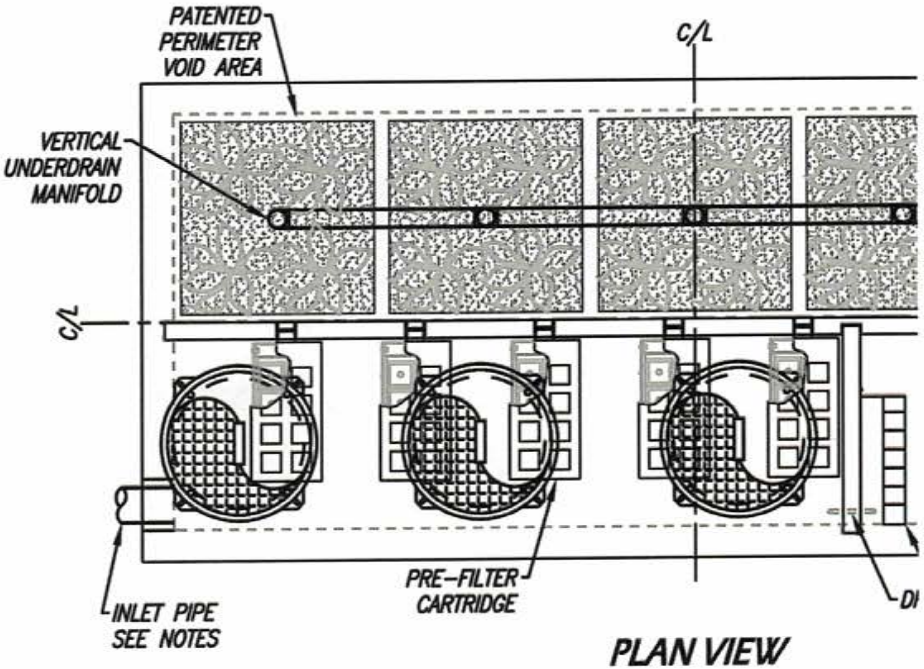
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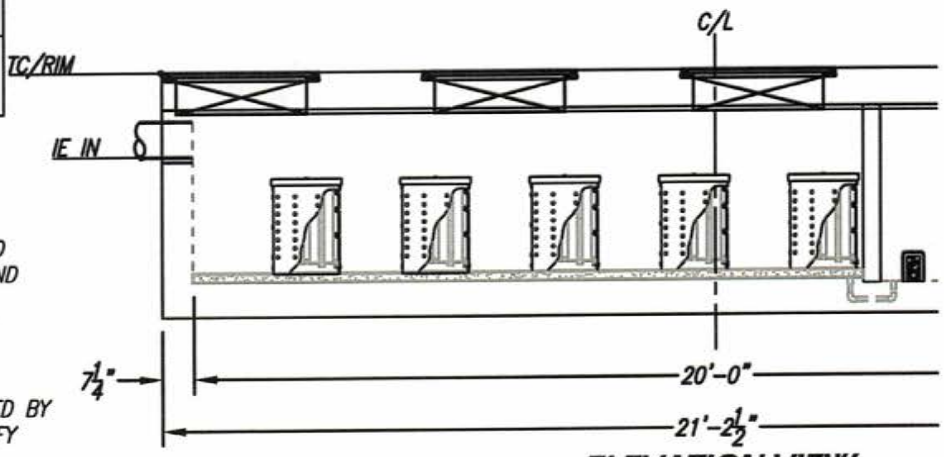
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SITE SPECIFIC DATA			
PROJECT NAME			
PROJECT LOCATION			
STRUCTURE ID			
TREATMENT REQUIRED			
VOLUME BASED (CF)		FLOW BASED (CFS)	
TREATMENT HGL AVAILABLE (FT)			
PEAK BYPASS REQUIRED (CFS) – IF APPLICABLE			
PIPE DATA	I.E.	MATERIAL	DIAMETER
INLET PIPE 1			
INLET PIPE 2			
OUTLET PIPE			
	PRETREATMENT	BIOFILTRATION	DISCHARGE
RIM ELEVATION			
SURFACE LOAD	PARKWAY	OPEN PLANTER	PARKWAY
FRAME & COVER	ø30"	N/A	ø24"
WETLANDMEDIA VOLUME (CY)			11.85
WETLANDMEDIA DELIVERY METHOD			TBD
ORIFICE SIZE (DIA. INCHES)			ø2.43"
MAXIMUM PICK WEIGHT (LBS)			TBD
NOTES:			



PLAN VIEW



ELEVATION VIEW

INSTALLATION NOTES

1. CONTRACTOR TO PROVIDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS REQUIRED TO OFFLOAD AND INSTALL THE SYSTEM AND APPURTENANCES IN ACCORDANCE WITH THIS DRAWING AND THE MANUFACTURERS SPECIFICATIONS, UNLESS OTHERWISE STATED IN MANUFACTURERS CONTRACT.
2. UNIT MUST BE INSTALLED ON LEVEL BASE. MANUFACTURER RECOMMENDS A MINIMUM 6" LEVEL ROCK BASE UNLESS SPECIFIED BY THE PROJECT ENGINEER. CONTRACTOR IS RESPONSIBLE TO VERIFY PROJECT ENGINEERS RECOMMENDED BASE SPECIFICATIONS.
3. ALL PIPES MUST BE FLUSH WITH INSIDE SURFACE OF CONCRETE. (PIPES CANNOT INTRUDE BEYOND FLUSH). INVERT OF OUTFLOW PIPE MUST BE FLUSH WITH DISCHARGE CHAMBER FLOOR. ALL GAPS

SEE

P FOR NORTH-WESTERLY OFFSITE AREAS

Attachment D
Memorandum of Agreement of Storm Water Quality Management Plan

RECORDING REQUESTED BY
City of Rancho Cucamonga
AND WHEN RECORDED MAIL DOCUMENT TO:

NAME	City of Rancho Cucamonga Engineering Services Dept.
STREET ADDRESS	10500 Civic Center Drive
CITY, STATE & ZIP CODE	Rancho Cucamonga, CA 91730

SPACE ABOVE FOR RECORDER'S USE ONLY

MEMORANDUM OF AGREEMENT OF STORM WATER QUALITY MANAGEMENT PLAN

THIS COVER SHEET ADDED TO PROVIDE ADEQUATE SPACE FOR RECORDING INFORMATION

File: TEI 3687

Prepared by: Thienes Engineering, Inc.

Checked by: RS/LP/VL

Assessor's Parcel Number: 0229-283-79 and -83

MEMORANDUM OF AGREEMENT OF STORM WATER QUALITY MANAGEMENT PLAN

The undersigned hereby enters into this Memorandum of Storm Water Quality Management Plan (the "Memorandum") on this _____ day of MONTH, 2022 with reference to the following:

A. The undersigned is the owner of certain real property located in the City of Rancho Cucamonga, County of San Bernardino, State of California legally described below and hereto referred to as "Exhibit A" (the "Real Property") and "Exhibit B" (Vicinity Map). Each exhibit is attached hereto and incorporated herein by this reference and also in the Water Quality Management Plan document, on file with the owner or its successors or assigns, and the City and hereinafter is referred to as "WQMP".

B. The undersigned is seeking certain permits and approvals from the City of Rancho Cucamonga ("City") for the development of the Real Property as follows: Precise Grading and Building Permit (the "Approvals").

C. In consideration of the City granting the Approvals, I the undersigned, agree to and accept the terms and conditions of the Storm Water Quality Management Plan (the "Plan") approved by the City's Engineering Services Department on MM/DD/2022, and bind the Real Property with the provisions of the Plan, which is on file with the City of Rancho Cucamonga's Engineering Services Department, File No. DRCXXXX-XXXXX, PGRXXXX-XXXXX, WQMPXXXX-XXXXX.

D. In consideration of the City granting the Approvals, the undersigned has agreed to and accepts the terms and conditions of the Plan as it relates to the Real Property and agrees that the Real Property shall be bound by and subject to the Plan.

E. The owner has chosen to install structures as required by Best Management Practices (BMPs) and to implement non-structural BMPs as described in Exhibit "C" (List of BMP Maintenance Items) and depicted in Exhibit "D" (BMP Site Map). The purpose of the WQMP is to minimize pollutants in urban runoff and to minimize other adverse impacts of urban runoff;

F. Said WQMP has been certified by the Owner and reviewed and approved by the City;

G. Said BMPs, with installation and/or implementation on private property and draining only private property, are part of a private facility with all implementation, maintenance or replacement, therefore, the sole responsibility of the Owner in accordance with the terms of this Agreement;

NOW, THEREFORE, it is hereby agreed by the undersigned as follows:

1. Owner hereby provides the City of Rancho Cucamonga's designee complete inspection access, of any duration, to the areas in which BMPs are applied and their immediate vicinity at any time, upon reasonable notice, or in the event of emergency, as determined by the City's Engineer, no advance notice, for the purpose of inspection, sampling, testing of device(s), and in case of emergency, to undertake all necessary repairs or other preventative measures at owner's expense as provided in paragraph 3 below. City shall make every effort at all times to minimize or avoid interference with Owner's use of the property.

2. The undersigned hereby agrees to the terms and conditions of the Plan, the provisions of which are incorporated by reference as though set out herein in full, and agrees that the Real Property shall be bound by and subject to the terms and conditions of the Plan, subject to minor modifications incorporated during construction, as approved by the City of Rancho Cucamonga Engineering Services Director.

3. The undersigned agrees to conduct the necessary routine maintenance of any structural devices designed into or installed as part of the storm water drainage system on the Real Property to reduce

pollutants in storm water runoff to the maximum extent practicable or to reestablish infiltration through the lifetime of the development which is the subject of Approvals.

4. The undersigned agrees to hold the City, its officials, officers, employees, volunteers, and agents free and harmless from any and all claims, demands, causes of action, costs, expenses, liability, loss, damage, or injury, in law or equity, to property or persons, arising from the imposition of the Plan by the City.

5. The agreements contained herein and the terms and conditions of the Plan are covenants intended to run with the land and shall burden the Real Property and shall be binding upon future owners of all or any portion of the Real Property. Upon a transfer of the Real Property, the transferor (including the undersigned) shall be relieved of any obligations under this Memorandum or the Plan arising from and after the effective date of the transfer.

6. The provisions of this Memorandum are intended to constitute equitable servitudes which shall encumber the Real Property and be binding upon future owners of the Real Property or any portion thereof.

7. The provisions of the Memorandum may be enforced by the City, which, among other remedies, shall have the remedy of injunctive relief and other equitable remedies.

8. This Memorandum shall not be amended, modified or terminated without the prior written consent of the City, which consent to be effective shall be contained in a document executed by the City and recorded against the Real Property.

Owner Name: BTC III Etiwanda Commerce Center

Authorized Signature _____

Print Name: Chris Sanford

Title: Senior Vice President

Date: _____

Project Description: Construction of an industrial development consisting of two (2) industrial logistics buildings on Etiwanda Avenue on approximately 70.85 acres of land.

ALL CAPACITY ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF _____

COUNTY OF _____

On _____ (Date) before me, _____ (Name and title of the officer),

personally appeared _____ (Name of person signing)

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

_____
Signature of officer

(Seal)

Attachment E
Educational Materials

Non-Stormwater Discharges SC-10

Description

Non-stormwater discharges (NSWDs) are flows that do not consist entirely of stormwater. Some non-stormwater discharges do not include pollutants and may be discharged to the storm drain if local regulations allow. These include uncontaminated groundwater and natural springs. There are also some non-stormwater discharges that typically do not contain pollutants and may be discharged to the storm drain with conditions. These include: potable water sources, fire hydrant flushing, air conditioner condensate, landscape irrigation drainage and landscape watering, emergency firefighting, etc. as discussed in Section 2.

However there are certain non-stormwater discharges that pose an environmental concern. These discharges may originate from illegal dumping of industrial material or wastes and illegal connections such as internal floor drains, appliances, industrial processes, sinks, and toilets that are illegally connected to the nearby storm drainage system through on-site drainage and piping. These unauthorized discharges (examples of which may include: process waste waters, cooling waters, wash waters, and sanitary wastewater) can carry substances such as paint, oil, fuel and other automotive fluids, chemicals and other pollutants into storm drains.

Non-stormwater discharges will need to be addressed through a combination of detection and elimination. The ultimate goal is to effectively eliminate unauthorized non-stormwater discharges to the stormwater drainage system through implementation of measures to detect, correct, and enforce against illicit connections and illegal discharges of

Objectives
■ *Cover*
■ *Contain*
■ *Educate*
■ *Reduce/Minimize*
■ *Product Substitution*

Targeted Constituents	
Sediment	
Nutrients	✓
Trash	
Metals	✓
Bacteria	✓
Oil and Grease	✓
Organics	✓

Minimum BMPs Covered	
Good Housekeeping	✓
Preventative Maintenance	
Spill and Leak Prevention and Response	✓
Material Handling & Waste Management	
Erosion and Sediment Controls	
Employee Training Program	✓
Quality Assurance Record Keeping	✓

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pollutants on streets and into the storm drain system and downstream water bodies.

Approach

Initially the Discharger must make an assessment of non-stormwater discharges to determine which types must be eliminated or addressed through BMPs. The focus of the following approach is the elimination of unauthorized non-stormwater discharges. See other BMP Fact Sheets for activity-specific pollution prevention procedures.

General Pollution Prevention Protocols

- Implement waste management controls described in SC-34 Waste Handling and Disposal.
- Develop clear protocols and lines of communication for effectively prohibiting non-stormwater discharges, especially those that are not classified as hazardous. These are often not responded to as effectively as they need to be.
- Stencil or demarcate storm drains, where applicable, to prevent illegal disposal of pollutants. Storm drain inlets should have messages such as "Dump No Waste Drains to Stream" or similar stenciled or demarcated next to them to warn against ignorant or unintentional dumping of pollutants into the storm drainage system.
- Manage and control sources of water such as hose bibs, faucets, wash racks, irrigation heads, etc. Identify hoses and faucets in the SWPPP, and post signage for appropriate use.

Non-Stormwater Discharge Investigation Protocols

Identifying the sources of non-stormwater discharges requires the Discharger to conduct an investigation of the facility at regular intervals. There are several categories of non-stormwater discharges:

- Visible, easily identifiable discharges, typically generated as surface runoff, such as uncontained surface runoff from vehicle or equipment washing; and
- Non-visible, (e.g., subsurface) discharges into the site drainage system through a variety of pathways that are not obvious.

The approach to detecting and eliminating non-stormwater discharges will vary considerably, as discussed below:

Visible and identifiable discharges

- Conduct routine inspections of the facilities and of each major activity area and identify visible evidence of unauthorized non-stormwater discharges. This may include:
  - ✓ Visual observations of actual discharges occurring;

- ✓ Evidence of surface staining, discoloring etc. that indicates that discharges have occurred;
- ✓ Pools of water in low lying areas when a rain event has not occurred; and
- ✓ Discussions with operations personnel to understand practices that may lead to unauthorized discharges.

- ☐ If evidence of non-stormwater discharges is discovered:
  - ✓ Document the location and circumstances using Worksheets 5 and 6 (Section 2 of the manual), including digital photos;
  - ✓ Identify and implement any quick remedy or corrective action (e.g., moving uncovered containers inside or to a proper location); and
  - ✓ Develop a plan to eliminate the discharge. Consult the appropriate activity-specific BMP Fact Sheet for alternative approaches to manage and eliminate the discharge.
- ☐ Consult the appropriate activity-specific BMP Fact Sheet for alternative approaches to manage and eliminate the discharge. Make sure the facility SWPPP is up-to-date and includes applicable BMPs to address the non-stormwater discharge.

Other Illegal Discharges (Non visible)

Illicit Connections

- ☐ Locate discharges from the industrial storm drainage system to the municipal storm drain system through review of "as-built" piping schematics.
- ☐ Isolate problem areas and plug illicit discharge points.
- ☐ Locate and evaluate discharges to the storm drain system.
- ☐ Visual Inspection and Inventory:
  - ✓ Inventory and inspect each discharge point during dry weather.
  - ✓ Keep in mind that drainage from a storm event can continue for a day or two following the end of a storm and groundwater may infiltrate the underground stormwater collection system.
  - ✓ Non-stormwater discharges are often intermittent and may require periodic inspections.

Review Infield Piping

- ☐ A review of the "as-built" piping schematic is a way to determine if there are any connections to the stormwater collection system.

- Inspect the path of loading/unloading area drain inlets and floor drains in older buildings.

- Never assume storm drains are connected to the sanitary sewer system.

Monitoring for investigation/detection of illegal discharges

- If a suspected illegal or unknown discharge is detected, monitoring of the discharge may help identify the content and/or suggest the source. This may be done with a field screening analysis, flow meter measurements, or by collecting a sample for laboratory analysis. Section 5 and Appendix D describe the necessary field equipment and procedures for field investigations.

- Investigative monitoring may be conducted over time. For example if, a discharge is intermittent, then monitoring might be conducted to determine the timing of the discharge to determine the source.

- Investigative monitoring may be conducted over a spatial area. For example, if a discharge is observed in a pipe, then monitoring might be conducted at accessible upstream locations in order to pinpoint the source of the discharge.

- Generally, investigative monitoring requiring collection of samples and submittal for lab analysis requires proper planning and specially trained staff.

Smoke Testing

Smoke testing of wastewater and stormwater collection systems is used to detect connections between the two piping systems. Smoke testing is generally performed at a downstream location and the smoke is forced upstream using blowers to create positive pressure. The advantage to smoke testing is that it can potentially identify multiple potential discharge sources at once.

- Smoke testing uses a harmless, non-toxic smoke cartridges developed specifically for this purpose.

- Smoke testing requires specialized equipment (e.g., cartridges, blowers) and is generally only appropriate for specially trained staff.

- A Standard Operating Procedure (SOP) for smoke testing is highly desirable. The SOP should address the following elements:

  - ✓ Proper planning and notification of nearby residents and emergency services is necessary since introducing smoke into the system may result in false alarms;

  - ✓ During dry weather, the stormwater collection system is filled with smoke and then traced back to sources;

- ✓ Temporary isolation of segments of pipe using sand bags is often needed to force the smoke into leaking pipes; and
- ✓ The appearance of smoke in a waste vent pipe, at a sewer manhole, or even the base of a toilet indicates that there may be a connection between the sanitary and storm water systems.

- Most municipal wastewater agencies will have necessary staff and equipment to conduct smoke testing and they should be contacted if cross connections with the sanitary sewer are suspected. See SC-44 Drainage System Maintenance for more information.

Dye Testing

- Dye testing is typically performed when there is a suspected specific pollutant source and location (i.e., leaking sanitary sewer) and there is evidence of dry weather flows in the stormwater collection system.
- Dye is released at a probable upstream source location, either the facility's sanitary or process wastewater system. The dye must be released with a sufficient volume of water to flush the system.
- Operators then visually examine the downstream discharge points from the stormwater collection system for the presence of the dye.
- Dye testing can be performed informally using commercially available products in order to conduct an initial investigation for fairly obvious cross-connections.
- More detailed dye testing should be performed by properly trained staff and follow SOPs. Specialized equipment such as fluorometers may be necessary to detect low concentrations of dye.
- Most municipal wastewater agencies will have necessary staff and equipment to conduct dye testing and they should be contacted if cross connections with the sanitary sewer are suspected.

TV Inspection of Drainage System

- Closed Circuit Television (CCTV) can be employed to visually identify illicit connections to the industrial storm drainage system. Two types of CCTV systems are available: (1) a small specially designed camera that can be manually pushed on a stiff cable through storm drains to observe the interior of the piping, or (2) a larger remote operated video camera on treads or wheels that can be guided through storm drains to view the interior of the pipe.
- CCTV systems often include a high-pressure water jet and camera on a flexible cable. The water jet cleans debris and biofilm off the inside of pipes so the camera can take video images of the pipe condition.

- CCTV units can detect large cracks and other defects such as offsets in pipe ends caused by root intrusions or shifting substrate.
- CCTV can also be used to detect dye introduced into the sanitary sewer.
- CCTV inspections require specialized equipment and properly trained staff and are generally best left to specialized contractors or municipal public works staff.

Illegal Dumping

- Substances illegally dumped on streets and into the storm drain systems and creeks may include paints, used oil and other automotive fluids, construction debris, chemicals, fresh concrete, leaves, grass clippings, and pet wastes. These wastes can cause stormwater and receiving water quality problems as well as clog the storm drain system itself.
- Establish a system for tracking incidents. The system should be designed to identify the following:
  - ✓ Illegal dumping hot spots;
  - ✓ Types and quantities (in some cases) of wastes;
  - ✓ Patterns in time of occurrence (time of day/night, month, or year);
  - ✓ Mode of dumping (abandoned containers, "midnight dumping" from moving vehicles, direct dumping of materials, accidents/spills);
  - ✓ An anonymous tip/reporting mechanism; and
  - ✓ Evidence of responsible parties (e.g., tagging, encampments, etc.).
- One of the keys to success of reducing or eliminating illegal dumping is increasing the number of people at the facility who are aware of the problem and who have the tools to at least identify the incident, if not correct it. Therefore, train field staff to recognize and report the incidents.

Once a site has been cleaned:

- Post "No Dumping" signs with a phone number for reporting dumping and disposal.
- Landscaping and beautification efforts of hot spots may also discourage future dumping, as well as provide open space and increase property values.
- Lighting or barriers may also be needed to discourage future dumping.
- See fact sheet SC-11 Spill Prevention, Control, and Cleanup.

Inspection

- Regularly inspect and clean up hot spots and other storm drainage areas where illegal dumping and disposal occurs.
- Conduct field investigations of the industrial storm drain system for potential sources of non-stormwater discharges.
- Pro-actively conduct investigations of high priority areas. Based on historical data, prioritize specific geographic areas and/or incident type for pro-active investigations.



Spill and Leak Prevention and Response

- On paved surfaces, clean up spills with as little water as possible. Use a rag for small spills, a damp mop for general cleanup, and absorbent material for larger spills. If the spilled material is hazardous, then the used cleanup materials are also hazardous and must be sent to a certified laundry (rags) or disposed of as hazardous waste.
- Never hose down or bury dry material spills. Sweep up the material and dispose of properly.
- Use adsorbent materials on small spills rather than hosing down the spill. Remove the adsorbent materials promptly and dispose of properly.
- For larger spills, a private spill cleanup company or Hazmat team may be necessary.
- See SC-11 Spill Prevention Control and Cleanup.



Employee Training Program

- Training of technical staff in identifying and documenting illegal dumping incidents is required. The frequency of training must be presented in the SWPPP, and depends on site-specific industrial materials and activities.
- Consider posting a quick reference table near storm drains to reinforce training.
- Train employees to identify non-stormwater discharges and report discharges to the appropriate departments.
- Educate employees about spill prevention and cleanup.
- Well-trained employees can reduce human errors that lead to accidental releases or spills. The employee should have the tools and knowledge to immediately begin cleaning up a spill should one occur. Employees should be familiar with the Spill Prevention Control and Countermeasure Plan. Employees should be able to identify work/jobs with high potential for spills and suggest methods to reduce possibility.
- Determine and implement appropriate outreach efforts to reduce non-permissible non-stormwater discharges.

- Conduct spill response drills annually (if no events occurred) in order to evaluate the effectiveness of the plan.
- When a responsible party is identified, educate the party on the impacts of his or her actions.



Quality Assurance and Record Keeping

Performance Evaluation

- Annually review internal investigation results; assess whether goals were met and what changes or improvements are necessary.
- Obtain feedback from personnel assigned to respond to, or inspect for, illicit connections and illegal dumping incidents.
- Develop document and data management procedures.
- A database is useful for defining and tracking the magnitude and location of the problem.
- Report prohibited non-stormwater discharges observed during the course of normal daily activities so they can be investigated, contained, and cleaned up or eliminated.
- Document that non-stormwater discharges have been eliminated by recording tests performed, methods used, dates of testing, and any on-site drainage points observed.
- Annually document and report the results of the program.
- Maintain documentation of illicit connection and illegal dumping incidents, including significant conditionally exempt discharges that are not properly managed.
- Document training activities.

Potential Limitations and Work-Arounds

Some facilities may have space constraints, limited staffing and time limitations that may preclude implementation of BMPs. Provided below are typical limitations and recommended "work-arounds."

- Many facilities do not have accurate, up-to-date 'as-built' plans or drawings which may be necessary in order to conduct non-stormwater discharge assessments.
  - ✓ Online tools such as Google Earth™ can provide an aerial view of the facility and may be useful in understanding drainage patterns and potential sources of non-stormwater discharges
  - ✓ Local municipal jurisdictions may have useful drainage systems maps.

- Video surveillance cameras are commonly used to secure the perimeter of industrial facilities against break-ins and theft. These surveillance systems may also be useful for capturing illegal dumping activities. Minor, temporary adjustments to the field of view of existing surveillance camera systems to target known or suspected problem areas may be a cost-effective way of capturing illegal dumping activities and identifying the perpetrators.

Potential Capital Facility Costs and Operation & Maintenance Requirements

Facilities

- Capital facility cost requirements may be minimal unless cross-connections to storm drains are detected.
- Indoor floor drains may require re-plumbing if cross-connections are detected.
- Leaky sanitary sewers will require repair or replacement which can have significant costs depending on the size and industrial activity at the facility.

Maintenance (including administrative and staffing)

- The primary effort is for staff time and depends on how aggressively a program is implemented.
- Costs for containment, and disposal of any leak or discharge is borne by the Discharger.
- Illicit connections can be difficult to locate especially if there is groundwater infiltration.
- Illegal dumping and illicit connection violations requires technical staff to detect and investigate them.

Supplemental Information

Permit Requirements

The IGP authorizes certain Non-Storm Water Discharges (NSWDs) provided BMPs are included in the SWPPP and implemented to:

- Reduce or prevent the contact of authorized NSWDs with materials or equipment that are potential sources of pollutants;
- Reduce, to the extent practicable, the flow or volume of authorized NSWDs;
- Ensure that authorized NSWDs do not contain quantities of pollutants that cause or contribute to an exceedance of a water quality standards (WQS); and,

- Reduce or prevent discharges of pollutants in authorized NSWDs in a manner that reflects best industry practice considering technological availability and economic practicability and achievability."

References and Resources

Center for Watershed Protection, 2004. *Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments*, EPA Cooperative Agreement X-82907801-0.

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Orange County Stormwater Program, Best Management Practices for Industrial/Commercial Business Activities. Available online at: http://ocwatersheds.com/documents/bmp/industrialcommercialbusinessesactivities.

Sacramento Stormwater Management Program, *Best Management Practices for Industrial Storm Water Pollution Control*, Available online at: http://www.msa.saccounty.net/sactostormwater/documents/guides/industrial-BMP-manual.pdf.

Santa Clara Valley Urban Runoff Pollution Prevention Program. http://www.scvurppp.org.

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The Storm Water Managers Resource Center, http://www.stormwatercenter.net/.

US EPA. National Pollutant Discharge Elimination System. Available online at: http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=factsheet_results&view=specific&bmp=111.

WEF Press Alexandria, Virginia, 2009.Existing Sewer Evaluation and Rehabilitation: *WEF Manual of Practice No. FD-6 ASCE/EWRI Manuals and Reports on Engineering Practice No. 62, Third Edition.*

Spill Prevention, Control & Cleanup SC-11

Description

Many activities that occur at an industrial or commercial site have the potential to cause accidental spills. Preparation for accidental spills, with proper training and reporting systems implemented, can minimize the discharge of pollutants to the environment.

Spills and leaks are one of the largest contributors of stormwater pollutants. Spill prevention and control plans are applicable to any site at which hazardous materials are stored or used. An effective plan should have spill prevention and response procedures that identify hazardous material storage areas, specify material handling procedures, describe spill response procedures, and provide locations of spill clean-up equipment and materials. The plan should take steps to identify and characterize potential spills, eliminate and reduce spill potential, respond to spills when they occur in an effort to prevent pollutants from entering the stormwater drainage system, and train personnel to prevent and control future spills. An adequate supply of spill clean-up materials must be maintained onsite.

Objectives
■ *Cover*
■ *Contain*
■ *Educate*
■ *Reduce/Minimize*
■ *Product Substitution*

Targeted Constituents	
Sediment	
Nutrients	
Trash	
Metals	✓
Bacteria	
Oil and Grease	✓
Organics	✓

Minimum BMPs Covered	
Good Housekeeping	
Preventative Maintenance	
Spill and Leak Prevention and Response	✓
Material Handling & Waste Management	
Erosion and Sediment Controls	
Employee Training Program	✓
Quality Assurance Record Keeping	✓

Approach

General Pollution Prevention Protocols

- ☐ Develop procedures to prevent/mitigate spills to storm drain systems.
- ☐ Develop and standardize reporting procedures, containment, storage, and disposal activities, documentation, and follow-up procedures.
- ☐ Establish procedures and/or controls to minimize spills and leaks. The procedures should address:
  - ✓ Description of the facility, owner and address, activities, chemicals, and quantities present;

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- ✓ Facility map of the locations of industrial materials;
- ✓ Notification and evacuation procedures;
- ✓ Cleanup instructions;
- ✓ Identification of responsible departments; and
- ✓ Identify key spill response personnel.

- □ Recycle, reclaim, or reuse materials whenever possible. This will reduce the amount of process materials that are brought into the facility.



Spill and Leak Prevention and Response

Spill Prevention

- □ Develop procedures to prevent/mitigate spills to storm drain systems. Develop and standardize reporting procedures, containment, storage, and disposal activities, documentation, and follow-up procedures.

- □ If illegal dumping is observed at the facility:
  - ✓ Post "No Dumping" signs with a phone number for reporting illegal dumping and disposal. Signs should also indicate fines and penalties applicable for illegal dumping.
  - ✓ Landscaping and beautification efforts may also discourage illegal dumping.
  - ✓ Bright lighting and/or entrance barriers may also be needed to discourage illegal dumping.

- □ Store and contain liquid materials in such a manner that if the container is ruptured, the contents will not discharge, flow, or be washed into the storm drainage system, surface waters, or groundwater.

- □ If the liquid is oil, gas, or other material that separates from and floats on water, install a spill control device (such as a tee section) in the catch basins that collects runoff from the storage tank area.



Preventative Maintenance

- □ Place drip pans or absorbent materials beneath all mounted taps, and at all potential drip and spill locations during filling and unloading of tanks. Any collected liquids or soiled absorbent materials must be reused/recycled or properly disposed.

- □ Store and maintain appropriate spill cleanup materials in a location known to all near the tank storage area; and ensure that employees are familiar with the site's spill control plan and/or proper spill cleanup procedures.

- ☐ Sweep and clean the storage area monthly if it is paved, *do not hose down the area to a storm drain.*
- ☐ Check tanks (and any containment sumps) daily for leaks and spills. Replace tanks that are leaking, corroded, or otherwise deteriorating with tanks in good condition. Collect all spilled liquids and properly dispose of them.
- ☐ Label all containers according to their contents (e.g., solvent, gasoline).
- ☐ Label hazardous substances regarding the potential hazard (corrosive, radioactive, flammable, explosive, poisonous).
- ☐ Prominently display required labels on transported hazardous and toxic materials (per US DOT regulations).
- ☐ Identify key spill response personnel.

Spill Response

- ☐ Clean up leaks and spills immediately.
- ☐ Place a stockpile of spill cleanup materials where it will be readily accessible (e.g., near storage and maintenance areas).
- ☐ On paved surfaces, clean up spills with as little water as possible.
  - ✓ Use a rag for small spills, a damp mop for general cleanup, and absorbent material for larger spills.
  - ✓ If the spilled material is hazardous, then the used cleanup materials are also hazardous and must be sent to a certified laundry (rags) or disposed of as hazardous waste.
  - ✓ If possible use physical methods for the cleanup of dry chemicals (e.g., brooms, shovels, sweepers, or vacuums).
- ☐ Never hose down or bury dry material spills. Sweep up the material and dispose of properly.
- ☐ Chemical cleanups of material can be achieved with the use of adsorbents, gels, and foams. Use adsorbent materials on small spills rather than hosing down the spill. Remove the adsorbent materials promptly and dispose of properly.
- ☐ For larger spills, a private spill cleanup company or Hazmat team may be necessary.

Reporting

- Report spills that pose an immediate threat to human health or the environment to the Regional Water Quality Control Board or local authority as location regulations dictate.
- Federal regulations require that any oil spill into a water body or onto an adjoining shoreline be reported to the National Response Center (NRC) at 800-424-8802 (24 hour).
- Report spills to 911 for dispatch and clean-up assistance when needed. Do not contact fire agencies directly.
- Establish a system for tracking incidents. The system should be designed to identify the following:
  - ✓ Types and quantities (in some cases) of wastes;
  - ✓ Patterns in time of occurrence (time of day/night, month, or year);
  - ✓ Mode of dumping (abandoned containers, "midnight dumping" from moving vehicles, direct dumping of materials, accidents/spills);
  - ✓ Clean-up procedures; and
  - ✓ Responsible parties.



Employee Training Program

- Educate employees about spill prevention and cleanup.
- Well-trained employees can reduce human errors that lead to accidental releases or spills:
  - ✓ The employee should have the tools and knowledge to immediately begin cleaning up a spill should one occur; and
  - ✓ Employees should be familiar with the Spill Prevention Control and Countermeasure Plan.
- Employees should be educated about aboveground storage tank requirements. Employees responsible for aboveground storage tanks and liquid transfers should be thoroughly familiar with the Spill Prevention Control and Countermeasure Plan and the plan should be readily available.
- Train employees to recognize and report illegal dumping incidents.

Other Considerations (Limitations and Regulations)

- State regulations exist for facilities with a storage capacity of 10,000 gallons or more of petroleum to prepare a Spill Prevention Control and Countermeasure (SPCC) Plan (Health & Safety Code Chapter 6.67).
- State regulations also exist for storage of hazardous materials (Health & Safety Code Chapter 6.95), including the preparation of area and business plans for emergency response to the releases or threatened releases.
- Consider requiring smaller secondary containment areas (less than 200 sq. ft.) to be connected to the sanitary sewer, prohibiting any hard connections to the storm drain.

Requirements

Costs (including capital and operation & maintenance)

- Will vary depending on the size of the facility and the necessary controls.
- Prevention of leaks and spills is inexpensive. Treatment and/or disposal of contaminated soil or water can be quite expensive.

Maintenance (including administrative and staffing)

- Develop spill prevention and control plan, provide and document training, conduct inspections of material storage areas, and supply spill kits.
- Extra time is needed to properly handle and dispose of spills, which results in increased labor costs.

Supplemental Information

Further Detail of the BMP

Reporting

Record keeping and internal reporting represent good operating practices because they can increase the efficiency of the facility and the effectiveness of BMPs. A good record keeping system helps the facility minimize incident recurrence, correctly respond with appropriate cleanup activities, and comply with legal requirements. A record keeping and reporting system should be set up for documenting spills, leaks, and other discharges, including discharges of hazardous substances in reportable quantities. Incident records describe the quality and quantity of non-stormwater discharges to the storm sewer. These records should contain the following information:

- Date and time of the incident;
- Weather conditions;
- Duration of the spill/leak/discharge;

- Cause of the spill/leak/discharge;
- Response procedures implemented;
- Persons notified; and
- Environmental problems associated with the spill/leak/discharge.

Separate record keeping systems should be established to document housekeeping and preventive maintenance inspections, and training activities. All housekeeping and preventive maintenance inspections should be documented. Inspection documentation should contain the following information:

- Date and time the inspection was performed;
- Name of the inspector;
- Items inspected;
- Problems noted;
- Corrective action required; and
- Date corrective action was taken.

Other means to document and record inspection results are field notes, timed and dated photographs, videotapes, and drawings and maps.

Aboveground Tank Leak and Spill Control

Accidental releases of materials from aboveground liquid storage tanks present the potential for contaminating stormwater with many different pollutants. Materials spilled, leaked, or lost from tanks may accumulate in soils or on impervious surfaces and be carried away by stormwater runoff.

The most common causes of unintentional releases are:

- Installation problems;
- Failure of piping systems (pipes, pumps, flanges, couplings, hoses, and valves);
- External corrosion and structural failure;
- Spills and overfills due to operator error; and
- Leaks during pumping of liquids or gases from truck or rail car to a storage tank or vice versa.

Storage of reactive, ignitable, or flammable liquids should comply with the Uniform Fire Code and the National Electric Code. Practices listed below should be employed to enhance the code requirements:

- Tanks should be placed in a designated area.
- Tanks located in areas where firearms are discharged should be encapsulated in concrete or the equivalent.
- Designated areas should be impervious and paved with Portland cement concrete, free of cracks and gaps, in order to contain leaks and spills.
- Liquid materials should be stored in UL approved double walled tanks or surrounded by a curb or dike to provide the volume to contain 10 percent of the volume of all of the containers or 110 percent of the volume of the largest container, whichever is greater. The area inside the curb should slope to a drain.
- For used oil or dangerous waste, a dead-end sump should be installed in the drain.
- All other liquids should be drained to the sanitary sewer if available. The drain must have a positive control such as a lock, valve, or plug to prevent release of contaminated liquids.
- Accumulated stormwater in petroleum storage areas should be passed through an oil/water separator.

Maintenance is critical to preventing leaks and spills. Conduct routine inspections and:

- Check for external corrosion and structural failure.
- Check for spills and overfills due to operator error.
- Check for failure of piping system (pipes, pumps, flanges, coupling, hoses, and valves).
- Check for leaks or spills during pumping of liquids or gases from truck or rail car to a storage facility or vice versa.
- Visually inspect new tank or container installation for loose fittings, poor welding, and improper or poorly fitted gaskets.
- Inspect tank foundations, connections, coatings, and tank walls and piping system. Look for corrosion, leaks, cracks, scratches, and other physical damage that may weaken the tank or container system.
- Frequently relocate accumulated stormwater during the wet season.

- Periodically conduct integrity testing by a qualified professional.

Vehicle Leak and Spill Control

Major spills on roadways and other public areas are generally handled by highly trained Hazmat teams from local fire departments or environmental health departments. The measures listed below pertain to leaks and smaller spills at vehicle maintenance shops.

In addition to implementing the spill prevention, control, and clean up practices above, use the following measures related to specific activities:

Vehicle and Equipment Maintenance

- Perform all vehicle fluid removal or changing inside or under cover to prevent the run-on of stormwater and the runoff of spills.
- Regularly inspect vehicles and equipment for leaks, and repair immediately.
- Check incoming vehicles and equipment (including delivery trucks, and employee and subcontractor vehicles) for leaking oil and fluids. Do not allow leaking vehicles or equipment onsite.
- Always use secondary containment, such as a drain pan or drop cloth, to catch spills or leaks when removing or changing fluids.
- Immediately drain all fluids from wrecked vehicles.
- Store wrecked vehicles or damaged equipment under cover.
- Place drip pans or absorbent materials under heavy equipment when not in use.
- Use absorbent materials on small spills rather than hosing down the spill.
- Remove the adsorbent materials promptly and dispose of properly.
- Promptly transfer used fluids to the proper waste or recycling drums. Don't leave full drip pans or other open containers lying around.
- Oil filters disposed of in trashcans or dumpsters can leak oil and contaminate stormwater. Place the oil filter in a funnel over a waste oil recycling drum to drain excess oil before disposal. Oil filters can also be recycled. Ask your oil supplier or recycler about recycling oil filters.
- Store cracked batteries in a non-leaking secondary container. Do this with all cracked batteries, even if you think all the acid has drained out. If you drop a battery, treat it as if it is cracked. Put it into the containment area until you are sure it is not leaking.

Vehicle and Equipment Fueling

- Design the fueling area to prevent the run-on of stormwater and the runoff of spills:

  Cover fueling area if possible.

  Use a perimeter drain or slope pavement inward with drainage to a sump.

  Pave fueling area with concrete rather than asphalt.

- If dead-end sump is not used to collect spills, install an oil/water separator.
- Install vapor recovery nozzles to help control drips as well as air pollution.
- Discourage "topping-off' of fuel tanks.
- Use secondary containment when transferring fuel from the tank truck to the fuel tank.
- Use absorbent materials on small spills and general cleaning rather than hosing down the area. Remove the absorbent materials promptly.
- Carry out all Federal and State requirements regarding underground storage tanks, or install above ground tanks.
- Do not use mobile fueling of mobile industrial equipment around the facility; rather, transport the equipment to designated fueling areas.
- Keep your Spill Prevention Control and Countermeasure (SPCC) Plan up-to-date.
- Train employees in proper fueling and cleanup procedures.

Industrial Spill Prevention Response

For the purposes of developing a spill prevention and response program to meet the stormwater regulations, facility managers should use information provided in this fact sheet and the spill prevention/response portions of the fact sheets in this handbook, for specific activities.

The program should:

- Integrate with existing emergency response/hazardous materials programs (e.g., Fire Department).
- Develop procedures to prevent/mitigate spills to storm drain systems.
- Identify responsible departments.

- Develop and standardize reporting procedures, containment, storage, and disposal activities, documentation, and follow-up procedures.
- Address spills at municipal facilities, as well as public areas.
- Provide training concerning spill prevention, response and cleanup to all appropriate personnel.

References and Resources

California's Nonpoint Source Program Plan. http://www.swrcb.ca.gov/nps/index.html.

Clark County Storm Water Pollution Control Manual. Available online at: http://www.co.clark.wa.us/pubworks/bmpman.pdf.

King County Storm Water Pollution Control Manual. Available online at: http://dnr.metrokc.gov/wlr/dss/spcm.htm.

Orange County Stormwater Program, Best Management Practices for Industrial/Commercial Business Activities. Available online at: http://ocwatersheds.com/documents/bmp/industrialcommercialbusinessesactivities

Santa Clara Valley Urban Runoff Pollution Prevention Program. http://www.scvurppp.org.

The Stormwater Managers Resource Center. http://www.stormwatercenter.net/.

Outdoor Loading/Unloading SC-30

Description

The loading/unloading of materials usually takes place outside on docks or terminals; therefore, materials spilled, leaked, or lost during loading/unloading may collect in the soil or on other surfaces and have the potential to be carried away by wind, stormwater runoff or when the area is cleaned. Additionally, rainfall may wash pollutants from machinery used to unload or move materials. Implementation of the following protocols will prevent or reduce the discharge of pollutants to stormwater from outdoor loading/unloading of materials.

Approach

Reduce potential for pollutant discharge through source control pollution prevention and BMP implementation. Successful implementation depends on effective training of employees on applicable BMPs and general pollution prevention strategies and objectives.

General Pollution Prevention Protocols

- ☐ Park tank trucks or delivery vehicles in designated areas so that spills or leaks can be contained.
- ☐ Limit exposure of material to rainfall whenever possible.
- ☐ Prevent stormwater run-on.
- ☐ Check equipment regularly for leaks.

Good Housekeeping

- ☐ Develop an operations plan that describes procedures for loading and/or unloading.
- ☐ Conduct loading and unloading in dry weather if possible.

Objectives
■ *Cover*
■ *Contain*
■ *Educate*
■ *Reduce/Minimize*
■ *Product Substitution*

Targeted Constituents	
Sediment	✓
Nutrients	✓
Trash	
Metals	✓
Bacteria	
Oil and Grease	✓
Organics	✓

Minimum BMPs Covered	
Good Housekeeping	✓
Preventative Maintenance	
Spill and Leak Prevention and Response	✓
Material Handling & Waste Management	✓
Erosion and Sediment Controls	
Employee Training Program	✓
Quality Assurance Record Keeping	✓

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- ☐ Cover designated loading/unloading areas to reduce exposure of materials to rain.
- ☐ Consider placing a seal or door skirt between delivery vehicles and building to prevent exposure to rain.
- ☐ Design loading/unloading area to prevent stormwater run-on, which would include grading or berming the area, and position roof downspouts so they direct stormwater away from the loading/unloading areas.
- ☐ Have employees load and unload all materials and equipment in covered areas such as building overhangs at loading docks if feasible.
- ☐ Load/unload only at designated loading areas.
- ☐ Use drip pans underneath hose and pipe connections and other leak-prone spots during liquid transfer operations, and when making and breaking connections. Several drip pans should be stored in a covered location near the liquid transfer area so that they are always available, yet protected from precipitation when not in use. Drip pans can be made specifically for railroad tracks. Drip pans must be cleaned periodically, and drip collected materials must be disposed of properly.
- ☐ Pave loading areas with concrete instead of asphalt.
- ☐ Avoid placing storm drains inlets in the area.
- ☐ Grade and/or berm the loading/unloading area with drainage to sump; regularly remove materials accumulated in sump.



Spill Response and Prevention Procedures

- ☐ Keep your spill prevention and control plan up-to-date or have an emergency spill cleanup plan readily available, as applicable.
- ☐ Contain leaks during transfer.
- ☐ Store and maintain appropriate spill cleanup materials in a location that is readily accessible and known to all employees.
- ☐ Ensure that employees are familiar with the site's spill control plan and proper spill cleanup procedures.
- ☐ Use drip pans or comparable devices when transferring oils, solvents, and paints.



Material Handling and Waste Management

- ☐ Spot clean leaks and drips routinely to prevent runoff of spillage.
- ☐ Do not pour liquid wastes into floor drains, sinks, outdoor storm drain inlets, or other storm drains or sewer connections.

- ☐ Do not put used or leftover cleaning solutions, solvents, and automotive fluids in the storm drain or sanitary sewer.
- ☐ Collect leaking or dripping fluids in drip pans or containers. Fluids are easier to recycle if kept separate.
- ☐ Promptly transfer used fluids to the proper waste or recycling drums. Do not leave drip pans or other open containers lying around.
- ☐ Minimize the possibility of stormwater pollution from outside waste receptacles by doing at least one of the following:
  - ✓ Use only watertight waste receptacle(s) and keep the lid(s) closed.
  - ✓ Grade and pave the waste receptacle area to prevent run-on of stormwater.
  - ✓ Install a roof over the waste receptacle area.
  - ✓ Install a low containment berm around the waste receptacle area.
  - ✓ Use and maintain drip pans under waste receptacles.
- ☐ Post "no littering" signs.
- ☐ Perform work area clean-up and dry sweep after daily operations.



Employee Training Program

- ☐ Train employees (e.g., fork lift operators) and contractors on proper spill containment and cleanup.
- ☐ Have employees trained in spill containment and cleanup present during loading/unloading.
- ☐ Train employees in proper handling techniques during liquid transfers to avoid spills.
- ☐ Make sure forklift operators are properly trained on loading and unloading procedures.



Quality Assurance and Record Keeping

- ☐ Keep accurate maintenance logs that document activities performed, quantities of materials removed, and improvement actions.
- ☐ Keep accurate logs of spill response actions that document what was spilled, how it was cleaned up, and how the waste was disposed.
- ☐ Establish procedures to complete logs and file them in the central office.
- ☐ Keep accurate logs of daily clean-up operations.

Potential Limitations and Work-Arounds

Some facilities may have space constraints, limited staffing and time limitations that may preclude implementation of BMPs. Provided below are typical limitations and recommended "work-arounds."

- Space and time limitations may preclude all transfers from being performed indoors or under cover.
  - ✓ Designate specific areas for outdoor loading and unloading.
  - ✓ Require employees to understand and follow spill and leak prevention BMPs.
- It may not be possible to conduct transfers only during dry weather.
  - ✓ Limit materials and equipment rainfall exposure to all extents practicable.
  - ✓ Require employees to understand and follow spill and leak prevention BMPs.

Potential Capital Facility Costs and Operation & Maintenance Requirements

Facilities

Many facilities will already have indoor or covered areas where loading/unloading takes place and will require no additional capital expenditures.

If outdoor activities are required, construction of berms or other means to retain spills and leaks may require appropriate constructed systems for containment. These containment areas may require significant new capital investment.

Capital investments will likely be required at some sites if adequate cover and containment facilities do not exist and can vary significantly depending upon site conditions.

Maintenance

Most of the operations and maintenance activities associated with implementing this BMP are integrally linked to routine operations as previously described. Therefore additional O&M is not required.

- Conduct regular inspections and make repairs and improvements as necessary.
- Check loading and unloading equipment regularly for leaks.
- Conduct regular broom dry-sweeping of area. Do not wash with water.

Supplemental Information

Loading and Unloading of Liquids

- Loading or unloading of liquids should occur in the manufacturing building so that any spills that are not completely retained can be discharged to the sanitary sewer,

treatment plant, or treated in a manner consistent with local sewer authorities and permit requirements.

- For loading and unloading tank trucks to above and below ground storage tanks, the following procedures should be used:
  - ✓ The area where the transfer takes place should be paved. If the liquid is reactive with the asphalt, Portland cement should be used to pave the area.
  - ✓ The transfer area should be designed to prevent run-on of stormwater from adjacent areas. Sloping the pad and using a curb, like a speed bump, around the uphill side of the transfer area should reduce run-on.
  - ✓ The transfer area should be designed to prevent runoff of spilled liquids from the area. Sloping the area to a drain should prevent runoff. The drain should be connected to a dead-end sump or to the sanitary sewer. A positive control valve should be installed on the drain.
- For transfer from rail cars to storage tanks that must occur outside, use the following procedures:
  - ✓ Drip pans should be placed at locations where spillage may occur, such as hose connections, hose reels, and filler nozzles. Use drip pans when making and breaking connections.
  - ✓ Drip pan systems should be installed between the rails to collect spillage from tank cars.

References and Resources

Minnesota Pollution Control Agency, *Industrial Stormwater Best Management Practices Guidebook BMP 26 Fueling and Liquid Loading/Unloading Operations.* Available online at: http://www.pca.state.mn.us/index.php/view-document.html?gid=10557.

New Jersey Department of Environmental Protection, 2013. *Basic Industrial Stormwater General Permit Guidance Document NJPDES General Permit No NJ0088315.* Available online at: http://www.nj.gov/dep/dwq/pdf/5G2_guidance_color.pdf.

Orange County Stormwater Program, Best Management Practices for Industrial/Commercial Business Activities. Available online at: http://ocwatersheds.com/documents/bmp/industrialcommercialbusinessesactivities.

Oregon Department of Environmental Quality, 2013. *Industrial Stormwater Best Management Practices Manual- BMP 26 Fueling and Liquid Loading/Unloading Operations.* Available online at: http://www.deq.state.or.us/wq/wqpermit/docs/IndBMP021413.pdf.

Sacramento Stormwater Management Program, *Best Management Practices for Industrial Storm Water Pollution Control*. Available online at: http://www.msa.saccounty.net/sactostormwater/documents/guides/industrial-BMP-manual.pdf.

Sacramento County Environmental Management Stormwater Program: *Best Management Practices*. Available online at: http://www.emd.saccounty.net/EnvHealth/Stormwater/Stormwater-BMPs.html.

Santa Clara Valley Urban Runoff Pollution Prevention Program. http://www.scvurppp-w2k.com/.

US EPA. National Pollutant Discharge Elimination System – Industrial Fact Sheet Series for Activities Covered by EPA's Multi Sector General Permit. Available online at: http://cfpub.epa.gov/npdes/stormwater/swsectors.cfm.

Outdoor Equipment Operations SC-32

Description

Outside process equipment operations and maintenance can contaminate stormwater runoff. Activities, such as grinding, painting, coating, sanding, degreasing or parts cleaning, landfills and waste piles, and solid waste treatment and disposal are examples of process operations that can lead to contamination of stormwater runoff. The targeted constituents will vary for each site depending on the operation being performed.

Approach

Implement source control BMPs to limit exposure of outdoor equipment to direct precipitation and stormwater run-on. Refer to SC-22 Vehicle and Equipment Repair for additional information.

General Pollution Prevention Protocols

- ☐ Perform the activity during dry periods whenever possible.
- ☐ Install secondary containment measures where leaks and spills may occur.
- ☐ Use non-toxic chemicals for maintenance and minimize or eliminate the use of solvents.
- ☐ Connect process equipment area to public sanitary sewer or facility wastewater treatment system when possible. Some jurisdictions require that secondary containment areas be connected to the sanitary sewer, prohibiting any hard connections to the storm drain.



Good Housekeeping

- ☐ Manage materials and waste properly (see Material Handling and Waste Management) to reduce adverse impacts on stormwater quality.

Objectives
■ *Cover*
■ *Contain*
■ *Educate*
■ *Reduce/Minimize*

Targeted Constituents	
Sediment	✓
Nutrients	✓
Trash	✓
Metals	✓
Bacteria	✓
Oil and Grease	✓
Organics	✓

Minimum BMPs Covered	
Good Housekeeping	✓
Preventative Maintenance	✓
Spill and Leak Prevention and Response	✓
Material Handling & Waste Management	✓
Erosion and Sediment Controls	
Employee Training Program	✓
Quality Assurance Record Keeping	✓

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- ☐ Cover the work area with a permanent roof if possible.
- ☐ Use drop cloths for sanding and painting operations.
- ☐ Use a vacuum for fine particle clean-up in pavement cracks and crevices.
- ☐ Minimize contact of stormwater with outside process equipment operations through berming and drainage routing (run-on prevention).
- ☐ "Spot clean" leaks and drips routinely. Leaks are not cleaned up until the absorbent is picked up and disposed of properly.
- ☐ Paint signs on storm drain inlets to indicate that they are not to receive liquid or solid wastes.
- ☐ Use roll down or permanent walls when windy/breezy to prevent wind transport of particulates/pollutants.



Preventative Maintenance

- ☐ Design outdoor equipment areas to prevent stormwater runoff and spills. Use a perimeter drain or slope pavement inward with drainage to sump.
- ☐ Dry clean the work area regularly. Do not wash outdoor equipment with water if there is a direct connection to the storm drain.
- ☐ Pave area with concrete rather than asphalt.
- ☐ Inspect outdoor equipment regularly for leaks or spills. Also check for structural failure, spills and overfills due to operator error, and/or failure of piping system.
- ☐ Inspect and clean, if necessary, storm drain inlets and catch basins within the outdoor equipment area before October 1 each year.



Spill Response and Prevention Procedures

- ☐ Keep your Spill Prevention Control and Countermeasure (SPCC) Plan up-to-date.
- ☐ Have employees trained in emergency spill cleanup procedures present when dangerous waste, liquid chemicals, or other wastes are delivered.
- ☐ Place a stockpile of spill cleanup materials where it will be readily accessible.
- ☐ Prevent operator errors by using engineering safe guards and thus reducing accidental releases of pollutant.



Material Handling and Waste Management

- ☐ Do not pour liquid wastes into floor drains, sinks, outdoor storm drain inlets, or other storm drain or sewer connections.
- ☐ Collect leaking or dripping fluids in drip pans or containers. Fluids are easier to recycle if kept separate.
- ☐ Promptly transfer used fluids to the proper waste or recycling drums. Do not leave drip pans or other open containers lying around.
- ☐ Minimize the possibility of stormwater pollution from outside waste receptacles by doing at least one of the following:
  - ✓ Use only watertight waste receptacle(s) and keep the lid(s) closed.
  - ✓ Grade and pave the waste receptacle area to prevent run-on of stormwater.
  - ✓ Install a roof over the waste receptacle area.



Employee Training Program

- ☐ Educate employees about pollution prevention measures and goals.
- ☐ Train employees on proper equipment operation and maintenance procedures.
- ☐ Train all employees upon hiring and annually thereafter on proper methods for handling and disposing of waste. Ensure that all employees understand stormwater discharge prohibitions, wastewater discharge requirements, and these best management practices.
- ☐ Use a training log or similar method to document training.
- ☐ Ensure that employees are familiar with the site's spill control plan and/or proper spill cleanup procedures.



Quality Assurance and Record Keeping

- ☐ Keep accurate maintenance logs that document minimum BMP activities performed for outdoor equipment, types and quantities of materials removed and disposed of, and any improvement actions.
- ☐ Keep accurate logs of spill response actions that document what was spilled, how it was cleaned up, and how the waste was disposed.
- ☐ Establish procedures to complete logs and file them in the central office.

Potential Limitations and Work-Arounds

Some facilities may have space constraints, limited staffing and time limitations that may preclude implementation of BMPs. Provided below are typical limitations and recommended "work-arounds."

- Providing cover over outdoor equipment may be impractical or cost-prohibitive.
  - ✓ Operate outdoor equipment only during periods of dry weather.
- Regular operations and time limitations may require outdoor activities during wet weather.
  - ✓ Designate specific areas for outdoor activities.
  - ✓ Allow time for work area clean-up after each shift.
  - ✓ Require employees to understand and follow preventive maintenance and spill and leak prevention BMPs.
  - ✓ Design and install secondary containment and good housekeeping BMPs for outdoor equipment area.
- Storage sheds often must meet building and fire code requirements.

Potential Capital Facility Costs and Operation & Maintenance Requirements

Facilities

- Many facilities will already have indoor covered areas where vehicle and equipment repairs take place and will require no additional capital expenditures.
- If outdoor activities are required, construction of berms or other means to retain spills and leaks may require appropriate constructed systems for containment. These containment areas may require significant new capital investment.
- Capital investments will likely be required at some sites if adequate cover and containment facilities do not exist and can vary significantly depending upon site conditions.

Maintenance

- Most of the operations and maintenance activities associated with implementing this BMP are integrally linked to routine operations as previously described. Therefore additional O&M is not required.
- For facilities responsible for pre-treating their wastewater prior to discharging, the proper functioning of structural treatment system is an important maintenance consideration.
- Routine cleanout of oil and grease is required for the devices to maintain their effectiveness, usually at least once a month. During periods of heavy rainfall, cleanout is required more often to ensure pollutants are not washed through the trap. Sediment removal is also required on a regular basis to keep the device working efficiently.

Outdoor Equipment Operations SC-32

References and Resources

Minnesota Pollution Control Agency. *Industrial Stormwater Best Management Practices Guidebook BMP 26 Fueling and Liquid Loading/Unloading Operations.* Available online at: http://www.pca.state.mn.us/index.php/view-document.html?gid=10557.

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Santa Clara Valley Urban Runoff Pollution Prevention Program. http://www.scvurppp-w2k.com/

US EPA. National Pollutant Discharge Elimination System – Industrial Fact Sheet Series for Activities Covered by EPA's Multi Sector General Permit. Available online at: http://cfpub.epa.gov/npdes/stormwater/swsectors.cfm.

Waste Handling & Disposal SC-34

Description

Improper storage and handling of solid wastes can allow toxic compounds, oils and greases, heavy metals, nutrients, suspended solids, and other pollutants to enter stormwater runoff. The discharge of pollutants to stormwater from waste handling and disposal can be prevented and reduced by tracking waste generation, storage, and disposal; reducing waste generation and disposal through source reduction, reuse, and recycling; and preventing run-on and runoff.

Approach

Reduce potential for pollutant discharge through source control pollution prevention and BMP implementation. Successful implementation depends on effective training of employees on applicable BMPs and general pollution prevention strategies and objectives.

General Pollution Prevention Protocols

- ☐ Accomplish reduction in the amount of waste generated using the following source controls:
  - ✓ Production planning and sequencing;
  - ✓ Process or equipment modification;
  - ✓ Raw material substitution or elimination;
  - ✓ Loss prevention and housekeeping;
  - ✓ Waste segregation and separation; and
  - ✓ Close loop recycling.
- ☐ Establish a material tracking system to increase awareness about material usage. This may reduce spills and minimize contamination, thus reducing the amount of waste produced.
- ☐ Recycle materials whenever possible.

Objectives
■ *Cover*
■ *Contain*
■ *Educate*
■ *Reduce/Minimize*
■ *Product Substitution*

Targeted Constituents	
Sediment	
Nutrients	
Trash	
Metals	✓
Bacteria	✓
Oil and Grease	✓
Organics	✓

Minimum BMPs Covered	
Good Housekeeping	✓
Preventative Maintenance	✓
Spill and Leak Prevention and Response	✓
Material Handling & Waste Management	✓
Erosion and Sediment Controls	
Employee Training Program	✓
Quality Assurance Record Keeping	✓

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- ☐ Use the entire product before disposing of the container.
- ☐ To the extent possible, store wastes under cover or indoors after ensuring all safety concerns such as fire hazard and ventilation are addressed.
- ☐ Provide containers for each waste stream at each work station. Allow time after shift to clean area.



Good Housekeeping

- ☐ Cover storage containers with leak proof lids or some other means. If waste is not in containers, cover all waste piles (plastic tarps are acceptable coverage) and prevent stormwater run-on and runoff with a berm. The waste containers or piles must be covered except when in use.
- ☐ Use drip pans or absorbent materials whenever grease containers are emptied by vacuum trucks or other means. Grease cannot be left on the ground. Collected grease must be properly disposed of as garbage.
- ☐ Dispose of rinse and wash water from cleaning waste containers into a sanitary sewer if allowed by the local sewer authority. Do not discharge wash water to the street or storm drain. Clean in a designated wash area that drains to a clarifier.
- ☐ Transfer waste from damaged containers into safe containers.
- ☐ Take special care when loading or unloading wastes to minimize losses. Loading systems can be used to minimize spills and fugitive emission losses such as dust or mist. Vacuum transfer systems can minimize waste loss.
- ☐ Keep the waste management area clean at all times by sweeping and cleaning up spills immediately.
- ☐ Use dry methods when possible (e.g., sweeping, use of absorbents) when cleaning around restaurant/food handling dumpster areas. If water must be used after sweeping/using absorbents, collect water and discharge through grease interceptor to the sewer.
- ☐ Stencil or demarcate storm drains on the facility's property with prohibitive message regarding waste disposal.
- ☐ Cover waste piles with temporary covering material such as reinforced tarpaulin, polyethylene, polyurethane, polypropylene or hypalon.
- ☐ If possible, move the activity indoor after ensuring all safety concerns such as fire hazard and ventilation are addressed.



Preventative Maintenance

- ☐ Prevent stormwater run-on from entering the waste management area by enclosing the area or building a berm around the area.
- ☐ Prevent waste materials from directly contacting rain.

- ☐ Cover waste piles with temporary covering material such as reinforced tarpaulin, polyethylene, polyurethane, polypropylene or hypalon.
- ☐ Cover the area with a permanent roof if feasible.
- ☐ Cover dumpsters to prevent rain from washing waste out of holes or cracks in the bottom of the dumpster.
- ☐ Check waste containers weekly for leaks and to ensure that lids are on tightly. Replace any that are leaking, corroded, or otherwise deteriorating.
- ☐ Sweep and clean the waste management area regularly. Use dry methods when possible (e.g., sweeping, vacuuming, use of absorbents) when cleaning around restaurant/food handling dumpster areas. If water must be used after sweeping/using absorbents, collect water and discharge through grease interceptor to the sewer.
- ☐ Inspect and replace faulty pumps or hoses regularly to minimize the potential of releases and spills.
- ☐ Repair leaking equipment including valves, lines, seals, or pumps promptly.



Spill Response and Prevention Procedures

- ☐ Keep your spill prevention and plan up-to-date.
- ☐ Have an emergency plan, equipment and trained personnel ready at all times to deal immediately with major spills.
- ☐ Collect all spilled liquids and properly dispose of them.
- ☐ Store and maintain appropriate spill cleanup materials in a location known to all near the designated wash area.
- ☐ Ensure that vehicles transporting waste have spill prevention equipment that can prevent spills during transport. Spill prevention equipment includes:
  - ✓ Vehicles equipped with baffles for liquid waste; and
  - ✓ Trucks with sealed gates and spill guards for solid waste.



Material Handling and Waste Management

Litter Control

- ☐ Post "No Littering" signs and enforce anti-litter laws.
- ☐ Provide a sufficient number of litter receptacles for the facility.
- ☐ Clean out and cover litter receptacles frequently to prevent spillage.

Waste Collection

- ☐ Keep waste collection areas clean.

- ☐ Inspect solid waste containers for structural damage regularly. Repair or replace damaged containers as necessary.
- ☐ Secure solid waste containers; containers must be closed tightly when not in use.
- ☐ Do not fill waste containers with washout water or any other liquid.
- ☐ Ensure that only appropriate solid wastes are added to the solid waste container. Certain wastes such as hazardous wastes, appliances, fluorescent lamps, pesticides, etc., may not be disposed of in solid waste containers (see chemical/ hazardous waste collection section below).
- ☐ Do not mix wastes; this can cause chemical reactions, make recycling impossible, and complicate disposal. Affix labels to all waste containers.

Chemical/Hazardous Wastes

- ☐ Select designated hazardous waste collection areas on-site.
- ☐ Store hazardous materials and wastes in covered containers and protect them from vandalism.
- ☐ Place hazardous waste containers in secondary containment.
- ☐ Make sure that hazardous waste is collected, removed, and disposed of only at authorized disposal areas.
- ☐ Hazardous waste cannot be reused or recycled; it must be disposed of by a licensed hazardous waste hauler.



Employee Training Program

- ☐ Educate employees about pollution prevention measures and goals.
- ☐ Train employees how to properly handle and dispose of waste using the source control BMPs described above.
- ☐ Train employees and subcontractors in proper hazardous waste management.
- ☐ Use a training log or similar method to document training.
- ☐ Ensure that employees are familiar with the site's spill control plan and/or proper spill cleanup procedures.



Quality Assurance and Record Keeping

- ☐ Keep accurate maintenance logs that document minimum BMP activities performed for waste handling and disposal, types and quantities of waste disposed of, and any improvement actions.
- ☐ Keep accurate logs of spill response actions that document what was spilled, how it was cleaned up, and how the waste was disposed.

- Establish procedures to complete logs and file them in the central office.

Potential Capital Facility Costs and Operation & Maintenance Requirements

Facilities

- Capital costs will vary substantially depending on the size of the facility and the types of waste handled. Significant capital costs may be associated with reducing wastes by modifying processes or implementing closed-loop recycling.
- Many facilities will already have indoor covered areas where waste materials will be stored and will require no additional capital expenditures for providing cover.
- If outdoor storage of wastes is required, construction of berms or other means to prevent stormwater run-on and runoff may require appropriate constructed systems for containment.
- Capital investments will likely be required at some sites if adequate cover and containment facilities do not exist and can vary significantly depending upon site conditions.

Maintenance

- Check waste containers weekly for leaks and to ensure that lids are on tightly. Replace any that are leaking, corroded, or otherwise deteriorating.
- Sweep and clean the waste management area regularly. Use dry methods when possible (e.g., sweeping, use of absorbents) when cleaning around restaurant/food handling dumpster areas. If water must be used after sweeping/using absorbents, collect water and discharge through grease interceptor to the sewer.
- Inspect and replace faulty pumps or hoses regularly to minimize the potential of releases and spills.
- Repair leaking equipment including valves, lines, seals, or pumps promptly.

References and Resources

Minnesota Pollution Control Agency, *Industrial Stormwater Best Management Practices Guidebook*. Available online at: http://www.pca.state.mn.us/index.php/view-document.html?gid=10557.

New Jersey Department of Environmental Protection, 2013. *Basic Industrial Stormwater General Permit Guidance Document NJPDES General Permit No NJ0088315,* Revised. Available online at: http://www.nj.gov/dep/dwq/pdf/5G2_guidance_color.pdf.

Orange County Stormwater Program, Best Management Practices for Industrial/Commercial Business Activities. Available online at: http://ocwatersheds.com/documents/bmp/industrialcommercialbusinessesactivities

Oregon Department of Environmental Quality, 2013. *Industrial Stormwater Best Management Practices Manual- BMP 26 Fueling and Liquid Loading/Unloading Operations*. Available online at: http://www.deq.state.or.us/wq/wqpermit/docs/IndBMP021413.pdf.

Sacramento Stormwater Management Program. *Best Management Practices for Industrial Storm Water Pollution Control*. Available online at: http://www.msa.saccounty.net/sactostormwater/documents/guides/industrial-BMP-manual.pdf.

Sacramento County Environmental Management Stormwater Program: Best Management Practices. Available online at: http://www.emd.saccounty.net/EnvHealth/Stormwater/Stormwater-BMPs.html.

Santa Clara Valley Urban Runoff Pollution Prevention Program. http://www.scvurppp-w2k.com/

US EPA. National Pollutant Discharge Elimination System – Industrial Fact Sheet Series for Activities Covered by EPA's Multi Sector General Permit. Available online at: http://cfpub.epa.gov/npdes/stormwater/swsectors.cfm.

Safer Alternative Products SC-35

Description

Promote the use of less harmful products and products that contain little or no TMDL and 303(d) list pollutants. Alternatives exist for most product classes including chemical fertilizers, pesticides, cleaning solutions, janitorial chemicals, automotive and paint products, and consumables (batteries, fluorescent lamps).

Approach

Pattern a new program after the many established programs around the state and country. Integrate this best management practice as much as possible with existing programs at your facility.

Develop a comprehensive program based on:

- The "Precautionary Principle," which is an alternative to the "Risk Assessment" model that says it's acceptable to use a potentially harmful product until physical evidence of its harmful effects are established and deemed too costly from an environmental or public health perspective. For instance, a risk assessment approach might say it's acceptable to use a pesticide until there is direct proof of an environmental impact. The Precautionary Principle approach is used to evaluate whether a given product is safe, whether it is really necessary, and whether alternative products would perform just as well.
- Environmentally Preferable Purchasing Program to minimize the purchase of products containing hazardous ingredients used in the facility's custodial services, fleet maintenance, and facility maintenance in favor of using alternate products that pose less risk to employees and to the environment.
- Integrated Pest Management (IPM) or Less-Toxic Pesticide Program, which uses a pest management approach that minimizes the use of toxic chemicals and gets rid of pests

Objectives
■ *Educate*
■ *Reduce/Minimize*
■ *Product Substitution*

Targeted Constituents	
Sediment	
Nutrients	✓
Trash	
Metals	✓
Bacteria	
Oil and Grease	✓
Organics	✓

Minimum BMPs Covered	
Good Housekeeping	
Preventative Maintenance	
Spill and Leak Prevention and Response	
Material Handling & Waste Management	
Erosion and Sediment Controls	
Employee Training Program	✓
Quality Assurance Record Keeping	

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by methods that pose a lower risk to employees, the public, and the environment.

- Energy Efficiency Program including no-cost and low-cost energy conservation and efficiency actions that can reduce both energy consumption and electricity bills, along with long-term energy efficiency investments.

Consider the following mechanisms for developing and implementing a comprehensive program:

- Policies
- Procedures
  - ✓ Standard operating procedures (SOPs);
  - ✓ Purchasing guidelines and procedures; and
  - ✓ Bid packages (services and supplies).
- Materials
  - ✓ Preferred or approved product and supplier lists;
  - ✓ Product and supplier evaluation criteria;
  - ✓ Training sessions and manuals; and
  - ✓ Fact sheets for employees.

Implement this BMP in conjunction with the Vehicle and Equipment Management fact sheets (SC-20 – SC-22) and SC-41 Building and Grounds Maintenance.



Employee Training Program

- Employees who handle potentially harmful materials should be trained in the use of safer alternatives.
- Purchasing departments should be trained on safer alternative products and encouraged to procure less hazardous materials and products that contain little or no harmful substances or TMDL pollutants.
- Employees and contractors / service providers can both be educated about safer alternatives by using information developed by a number of organizations including the references and resources provided in this fact sheet.

Potential Limitations and Work-Arounds

Some facilities may have space constraints, limited staffing and time limitations that may preclude implementation of BMPs. Provided below are typical limitations and recommended "work-arounds"

- Alternative products may not be available, suitable, or effective in every case.

- ✓ Minimize use of hazardous/harmful products if no alternative product is available.

Regulatory Considerations

This BMP has no regulatory requirements unless local/municipal ordinance applies. Existing regulations already encourage facilities to reduce the use of hazardous materials through incentives such as reduced:

- ☐ Specialized equipment storage and handling requirements;
- ☐ Storm water runoff sampling requirements;
- ☐ Training and licensing requirements; and
- ☐ Record keeping and reporting requirements.

Cost Considerations

- ☐ The primary cost is for staff time to: 1) develop new policies and procedures and 2) educate purchasing departments and employees who handle potentially harmful materials about the availability, procurement, and use of safer alternatives.
- ☐ Some alternative products may be slightly more expensive than conventional products.

Supplemental Information

The following discussion provides some general information on safer alternatives. More specific information on particular hazardous materials and the available alternatives may be found in the references and resources listed below.

- ☐ Automotive products – Less toxic alternatives are not available for many automotive products, especially engine fluids. But there are alternatives to grease lubricants, car polishes, degreasers, and windshield washer solution. Refined motor oil is also available.
- ☐ Vehicle/Trailer lubrication – Fifth wheel bearings on trucks require routine lubrication. Adhesive lubricants are available to replace typical chassis grease.
- ☐ Cleaners – Vegetables-based or citrus-based soaps are available to replace petroleum-based soaps/detergents.
- ☐ Paint products – Water-based paints, wood preservatives, stains, and finishes with low VOC content are available.
- ☐ Pesticides – Specific alternative products or methods exist to control most insects, fungi, and weeds.
- ☐ Chemical Fertilizers – Compost and soil amendments are natural alternatives.
- ☐ Consumables – Manufacturers have either reduced or are in the process of reducing the amount of heavy metals in consumables such as batteries and fluorescent lamps.

All fluorescent lamps contain mercury, however low-mercury containing lamps are now available from most hardware and lighting stores. Fluorescent lamps are also more energy efficient than the average incandescent lamp.

- Janitorial chemicals – Even biodegradable soap can harm fish and wildlife before it biodegrades. Biodegradable does not mean non-toxic. Safer products and procedures are available for floor stripping and cleaning, as well as carpet, glass, metal, and restroom cleaning and disinfecting. Use paper products with post-consumer recycled content and implement electric had dryers.

Examples

There are a number of business and trade associations, and communities with effective programs. Some of the more prominent are listed below in the references and resources section.

References and Resources

Note: Many of these references provide alternative products for materials that typically are used inside and disposed to the sanitary sewer as well as alternatives to products that usually end up in the storm drain.

General Sustainable Practices and Pollution Prevention Including Pollutant-Specific Information

California Department of Toxic Substances Control, http://www.dtsc.ca.gov/PollutionPrevention/GreenTechnology/Index.cfm.

CalRecycle, http://www.calrecycle.ca.gov/Business/Regulated.htm.

City of Santa Monica Office of Sustainability and Environment, http://www.smgov.net/departments/ose/.

City of Palo Alto, http:// www.city.palo-alto.ca.us/cleanbay.

City and County of San Francisco, Department of the Environment, http://www.sfenvironment.org/toxics-health/greener-business-practices.

Green Business Program, http://www.greenbiz.ca.gov/GRlocal.html .

Product Stewardship Institute, http://www.productstewardship.us/index.cfm.

Sacramento Clean Water Business Partners. http://www.sacstormwater.org/CleanWaterBusinessPartners/CleanWaterBusinessPartners.html.

USEPA. National Pollutant Discharge Elimination System (NPDES) Stormwater Discharges From Industrial Facilities, http://cfpub.epa.gov/npdes/stormwater/indust.cfm.

USEPA Region IX Pollution Prevention Program, http://www.epa.gov/region9/waste/p2/business.html.

Western Sustainability and Pollution Prevention Network, http://wsppn.org/.

Metals (mercury, copper)

National Electrical Manufacturers Association – Environmental Stewardship, http://www.nema.org/Policy/Environmental-Stewardship/pages/default.aspx.

Sustainable Conservation, http://www.suscon.org.

Auto Recycling Project

Brake Pad Partnership

Pesticides and Chemical Fertilizers

Bio-Integral Resource Center, http://www.birc.org.

California Department of Pesticide Regulation, http://www.cdpr.ca.gov/dprprograms.htm.

University of California Statewide IPM Program, http://www.ipm.ucdavis.edu/default.html.

Dioxins

Bay Area Dioxins Project, http://www.abag.ca.gov/bayarea/dioxin/project_materials.htm.

Building & Grounds Maintenance SC-41

Description

Stormwater runoff from building and grounds maintenance activities can be contaminated with toxic hydrocarbons in solvents, fertilizers and pesticides, suspended solids, heavy metals, abnormal pH, and oils and greases. Utilizing the protocols in this fact sheet will prevent or reduce the discharge of pollutants to stormwater from building and grounds maintenance activities by washing and cleaning up with as little water as possible, following good landscape management practices, preventing and cleaning up spills immediately, keeping debris from entering the storm drains, and maintaining the stormwater collection system.

Approach

Reduce potential for pollutant discharge through source control pollution prevention and BMP implementation. Successful implementation depends on effective training of employees on applicable BMPs and general pollution prevention strategies and objectives.

General Pollution Prevention Protocols

- ☐ Switch to non-toxic chemicals for maintenance to the maximum extent possible.
- ☐ Choose cleaning agents that can be recycled.
- ☐ Encourage proper lawn management and landscaping, including use of native vegetation.
- ☐ Encourage use of Integrated Pest Management techniques for pest control.
- ☐ Encourage proper onsite recycling of yard trimmings.
- ☐ Recycle residual paints, solvents, lumber, and other material as much as possible.

Objectives
■ *Cover*
■ *Contain*
■ *Educate*
■ *Reduce/Minimize*
■ *Product Substitution*

Targeted Constituents	
Sediment	✓
Nutrients	✓
Trash	
Metals	✓
Bacteria	✓
Oil and Grease	
Organics	

Minimum BMPs Covered	
Good Housekeeping	✓
Preventative Maintenance	
Spill and Leak Prevention and Response	✓
Material Handling & Waste Management	✓
Erosion and Sediment Controls	
Employee Training Program	✓
Quality Assurance Record Keeping	✓

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- ☐ Clean work areas at the end of each work shift using dry cleaning methods such as sweeping and vacuuming.



Good Housekeeping

Pressure Washing of Buildings, Rooftops, and Other Large Objects

- ☐ In situations where soaps or detergents are used and the surrounding area is paved, pressure washers must use a water collection device that enables collection of wash water and associated solids. A sump pump, wet vacuum or similarly effective device must be used to collect the runoff and loose materials. The collected runoff and solids must be disposed of properly.

- ☐ If soaps or detergents are not used, and the surrounding area is paved, wash runoff does not have to be collected but must be screened. Pressure washers must use filter fabric or some other type of screen on the ground and/or in the catch basin to trap the particles in wash water runoff.

- ☐ If you are pressure washing on a grassed area (with or without soap), runoff must be dispersed as sheet flow as much as possible, rather than as a concentrated stream. The wash runoff must remain on the grass and not drain to pavement.

Landscaping Activities

- ☐ Dispose of grass clippings, leaves, sticks, or other collected vegetation as garbage, or by composting. Do not dispose of collected vegetation into waterways or storm drainage systems.

- ☐ Use mulch or other erosion control measures on exposed soils. See also SC-40, Contaminated and Erodible Areas, for more information.

Building Repair, Remodeling, and Construction

- ☐ Do not dump any toxic substance or liquid waste on the pavement, the ground, or toward a storm drain.

- ☐ Use ground or drop cloths underneath outdoor painting, scraping, and sandblasting work, and properly dispose of collected material daily.

- ☐ Use a ground cloth or oversized tub for activities such as paint mixing and tool cleaning.

- ☐ Clean paintbrushes and tools covered with water-based paints in sinks connected to sanitary sewers or in portable containers that can be dumped into a sanitary sewer drain. Brushes and tools covered with non-water-based paints, finishes, or other materials must be cleaned in a manner that enables collection of used solvents (e.g., paint thinner, turpentine, etc.) for recycling or proper disposal.

- ☐ Use a storm drain cover, filter fabric, or similarly effective runoff control mechanism if dust, grit, wash water, or other pollutants may escape the work area and enter a catch basin. This is particularly necessary on rainy days. The containment device(s) must be in place at the beginning of the work day, and accumulated dirty runoff and

solids must be collected and disposed of before removing the containment device(s) at the end of the work day.

- If you need to de-water an excavation site, you may need to filter the water before discharging to a catch basin or off-site. If directed off-site, you should direct the water through hay bales and filter fabric or use other sediment filters or traps.
- Store toxic material under cover during precipitation events and when not in use. A cover would include tarps or other temporary cover material.

Mowing, Trimming, and Planting

- Dispose of leaves, sticks, or other collected vegetation as garbage, by composting or at a permitted landfill. Do not dispose of collected vegetation into waterways or storm drainage systems.
- Use mulch or other erosion control measures when soils are exposed.
- Place temporarily stockpiled material away from watercourses and drain inlets, and berm or cover stockpiles to prevent material releases to the storm drain system.
- Consider an alternative approach when bailing out muddy water: do not put it in the storm drain; pour over landscaped areas.
- Use hand weeding where practical.

Fertilizer and Pesticide Management

- Do not use pesticides if rain is expected.
- Do not mix or prepare pesticides for application near storm drains.
- Use the minimum amount needed for the job.
- Calibrate fertilizer distributors to avoid excessive application.
- Employ techniques to minimize off-target application (e.g., spray drift) of pesticides, including consideration of alternative application techniques.
- Apply pesticides only when wind speeds are low.
- Fertilizers should be worked into the soil rather than dumped or broadcast onto the surface.
- Irrigate slowly to prevent runoff and then only as much as is needed.
- Clean pavement and sidewalk if fertilizer is spilled on these surfaces before applying irrigation water.

Inspection

- Inspect irrigation system periodically to ensure that the right amount of water is being applied and that excessive runoff is not occurring. Minimize excess watering and repair leaks in the irrigation system as soon as they are observed.

Building & Grounds Maintenance SC-41



Spill Response and Prevention Procedures

- ☐ Keep your Spill Prevention Control and Countermeasure (SPCC) Plan up-to-date.
- ☐ Place a stockpile of spill cleanup materials, such as brooms, dustpans, and vacuum sweepers (if desired) near the storage area where it will be readily accessible.
- ☐ Have employees trained in spill containment and cleanup present during the loading/unloading of dangerous wastes, liquid chemicals, or other materials.
- ☐ Familiarize employees with the Spill Prevention Control and Countermeasure Plan.
- ☐ Clean up spills immediately.



Material Handling and Waste Management

- ☐ Follow all federal, state, and local laws and regulations governing the use, storage, and disposal of fertilizers and pesticides and training of applicators and pest control advisors.
- ☐ Use less toxic pesticides that will do the job when applicable. Avoid use of copper-based pesticides if possible.
- ☐ Dispose of empty pesticide containers according to the instructions on the container label.
- ☐ Use up the pesticides. Rinse containers, and use rinse water as product. Dispose of unused pesticide as hazardous waste.
- ☐ Implement storage requirements for pesticide products with guidance from the local fire department and County Agricultural Commissioner. Provide secondary containment for pesticides.



Employee Training Program

- ☐ Educate and train employees on pesticide use and in pesticide application techniques to prevent pollution.
- ☐ Train employees and contractors in proper techniques for spill containment and cleanup.
- ☐ Be sure the frequency of training takes into account the complexity of the operations and the needs of individual staff.



Quality Assurance and Record Keeping

- ☐ Keep accurate logs that document maintenance activities performed and minimum BMP measures implemented.
- ☐ Keep accurate logs of spill response actions that document what was spilled, how it was cleaned up, and how the waste was disposed.
- ☐ Establish procedures to complete logs and file them in the central office.

Potential Capital Facility Costs and Operation & Maintenance Requirements

Facilities

- Additional capital costs are not anticipated for building and grounds maintenance. Implementation of the minimum BMPs described above should be conducted as part of regular site operations.

Maintenance

- Maintenance activities for the BMPs described above will be minimal, and no additional cost is anticipated.

Supplemental Information

Fire Sprinkler Line Flushing

Site fire sprinkler line flushing may be a source of non-stormwater runoff pollution. The water entering the system is usually potable water, though in some areas it may be non-potable reclaimed wastewater. There are subsequent factors that may drastically reduce the quality of the water in such systems. Black iron pipe is usually used since it is cheaper than potable piping, but it is subject to rusting and results in lower quality water. Initially, the black iron pipe has an oil coating to protect it from rusting between manufacture and installation; this will contaminate the water from the first flush but not from subsequent flushes. Nitrates, poly-phosphates and other corrosion inhibitors, as well as fire suppressants and antifreeze may be added to the sprinkler water system. Water generally remains in the sprinkler system a long time (typically a year) and between flushes may accumulate iron, manganese, lead, copper, nickel, and zinc. The water generally becomes anoxic and contains living and dead bacteria and breakdown products from chlorination. This may result in a significant BOD problem and the water often smells. Consequently dispose fire sprinkler line flush water into the sanitary sewer. Do not allow discharge to storm drain or infiltration due to potential high levels of pollutants in fire sprinkler line water.

References and Resources

City of Seattle, Seattle Public Utilities Department of Planning and Development, 2009. *Stormwater Manual Vol. 1 Source Control Technical Requirements Manual.*

Kennedy/Jenks Consultants, 2007. *The Truckee Meadows Industrial and Commercial Storm Water Best Management Practices Handbook.* Available online at: http://www.cityofsparks.us/sites/default/files/assets/documents/env-control/construction/TM-I-C_BMP_Handbook_2-07-final.pdf.

Orange County Stormwater Program, Best Management Practices for Industrial/Commercial Business Activities. Available online at: http://ocwatersheds.com/documents/bmp/industrialcommercialbusinessesactivities.

Sacramento Stormwater Management Program. *Best Management Practices for Industrial Storm Water Pollution Control.* Available online at:

http://www.msa.saccounty.net/sactostormwater/documents/guides/industrial-BMP-manual.pdf.

US EPA, 1997. *Best Management Practices Handbook for Hazardous Waste Containers*. Available online at: http://www.epa.gov/region6/6en/h/handbk4.pdf.

Ventura Countywide Stormwater Management Program Clean Business Fact Sheets. Available online at: http://www.vcstormwater.org/documents/programs_business/building.pdf.

Building Repair and Construction SC-42

Description

Site modifications are common, particularly at large industrial sites. The activity may vary from minor and normal building repair to major remodeling, or the construction of new facilities. These activities can generate pollutants including solvents, paints, paint and varnish removers, finishing residues, spent thinners, soap cleaners, kerosene, asphalt and concrete materials, adhesive residues, and old asbestos installation. Protocols in this fact sheet are intended to prevent or reduce the discharge of pollutants to stormwater from building repair, remodeling, and minor construction by using soil erosion controls, enclosing or covering building material storage areas, using good housekeeping practices, using safer alternative products, and training employees.

This fact sheet is intended to be used for minor repairs and construction. If major construction is required, the guidelines in the Construction BMP Handbook should be followed.

Approach

The BMP approach is to reduce potential for pollutant discharges through source control pollution prevention and BMP implementation. Successful implementation depends on effective training of employees on applicable BMPs and general pollution prevention strategies and objectives.

General Pollution Prevention Protocols

- ☐ Recycle residual paints, solvents, lumber, and other materials to the maximum extent practicable.
- ☐ Avoid outdoor repairs and construction during periods of wet weather.
- ☐ Use safer alternative products to the maximum extent practicable. See also SC-35 Safer Alternative Products for more information.

Objectives
■ *Cover*
■ *Contain*
■ *Educate*
■ *Reduce/Minimize*
■ *Product Substitution*

Targeted Constituents	
Sediment	✓
Nutrients	
Trash	✓
Metals	✓
Bacteria	
Oil and Grease	✓
Organics	✓

Minimum BMPs Covered	
Good Housekeeping	✓
Preventative Maintenance	
Spill and Leak Prevention and Response	✓
Material Handling & Waste Management	✓
Erosion and Sediment Controls	✓
Employee Training Program	✓
Quality Assurance Record Keeping	✓

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- Buy recycled products to the maximum extent practicable.
- Inform on-site contractors of company policy on these matters and include appropriate provisions in their contract to ensure certain proper housekeeping and disposal practices are implemented.
- Make sure that nearby storm drains are well marked to minimize the chance of inadvertent disposal of residual paints and other liquids.



Good Housekeeping

Repair & Remodeling

- Keep the work site clean and orderly. Remove debris in a timely fashion. Sweep and vacuum the area regularly to remove sediments and small debris.
- Cover raw materials of particular concern that must be left outside, particularly during the rainy season. See also SC-33 Outdoor Storage of Raw Materials for more information.
- Use equipment and tools such as bag sanders to reduce accumulation of debris.
- Limit/prohibit work on windy days; implement roll-down walls or other measures to reduce wind transport of pollutants.
- Do not dump waste liquids down the storm drain.
- Dispose of wash water, sweepings, and sediments properly.
- Store liquid materials properly that are normally used in repair and remodeling such as paints and solvents. See also SC-31 Outdoor Liquid Container Storage for more information.
- Sweep out rain gutters or wash the gutter and trap the particles at the outlet of the downspout. A sock or geofabric placed over the outlet may effectively trap the materials. If the downspout is tight lined, place a temporary plug at the first convenient point in the storm drain and pump out the water with a vactor truck, and clean the catch basin sump where you placed the plug.
- Clean the storm drain system in the immediate vicinity of the construction activity after it is completed. See also SC-44 Drainage System Maintenance for more information.

Painting

- Enclose painting operations consistent with local air quality regulations and OSHA.
- Local air pollution regulations may, in many areas of the state, specify painting procedures which if properly carried out are usually sufficient to protect water quality.
- Develop paint handling procedures for proper use, storage, and disposal of paints.

- ☐ Transport paint and materials to and from job sites in containers with secure lids and tied down to the transport vehicle.
- ☐ Test and inspect spray equipment prior to starting to paint. Tighten all hoses and connections and do not overfill paint containers.
- ☐ Mix paint indoors before using so that any spill will not be exposed to rain. Do so even during dry weather because cleanup of a spill will never be 100 percent effective.
- ☐ Transfer and load paint and hot thermoplastic away from storm drain inlets.
- ☐ Do not transfer or load paint near storm drain inlets.
- ☐ Plug nearby storm drain inlets prior to starting painting and remove plugs when job is complete when there is risk of a spill reaching storm drains.
- ☐ Cover nearby storm drain inlets prior to starting work if sand blasting is used to remove paint.
- ☐ Use a ground cloth to collect the chips if painting requires scraping or sand blasting of the existing surface. Dispose of the residue properly.
- ☐ Cover or enclose painting operations properly to avoid drift.
- ☐ Clean the application equipment in a sink that is connected to the sanitary sewer if using water based paints.
- ☐ Capture all cleanup-water and dispose of properly.
- ☐ Dispose of paints containing lead or tributyl tin and considered a hazardous waste properly.
- ☐ Store leftover paints if they are to be kept for the next job properly, or dispose properly.
- ☐ Recycle paint when possible. Dispose of paint at an appropriate household hazardous waste facility.



Spill Response and Prevention Procedures

- ☐ Keep your spill prevention and control plan up-to-date.
- ☐ Place a stockpile of spill cleanup materials where it will be readily accessible.
- ☐ Clean up spills immediately.
- ☐ Excavate and remove the contaminated (stained) soil if a spill occurs on dirt.



Material Handling and Waste Management

- ☐ Post "No Littering" signs and enforce anti-litter laws.

- ☐ Provide a sufficient number of litter receptacles for the facility.
- ☐ Clean out and cover litter receptacles frequently to prevent spillage.
- ☐ Keep waste collection areas clean.
- ☐ Inspect solid waste containers for structural damage regularly. Repair or replace damaged containers as necessary.
- ☐ Secure solid waste containers; containers must be closed tightly when not in use.
- ☐ Do not fill waste containers with washout water or any other liquid.
- ☐ Ensure that only appropriate solid wastes are added to the solid waste container. Certain wastes such as hazardous wastes, appliances, fluorescent lamps, pesticides, etc., may not be disposed of in solid waste containers (see chemical/ hazardous waste collection section below).
- ☐ Do not mix wastes; this can cause chemical reactions, make recycling impossible, and complicate disposal. Affix labels to all waste containers.
- ☐ Make sure that hazardous waste is collected, removed, and disposed of properly. See also SC-34, Waste Handling and Disposal for more information.



Sediment and Erosion Controls

- ☐ Limit disturbance to bare soils and preserve natural vegetation whenever possible. See also EC-2, Preservation of Existing Vegetation, in the Construction BMP Handbook.
- ☐ Stabilize loose soils by re-vegetating whenever possible. See also EC-4 Hydroseeding, in the Construction BMP Handbook.
- ☐ Utilize non-vegetative stabilization methods for areas prone to erosion where vegetative options are not feasible. Examples include:
  - ✓ Areas of vehicular or pedestrian traffic such as roads or paths;
  - ✓ Arid environments where vegetation would not provide timely ground coverage, or would require excessive irrigation;
  - ✓ Rocky substrate, infertile or droughty soils where vegetation would be difficult to establish; and
  - ✓ Areas where vegetation will not grow adequately within the construction time frame.

  There are several non-vegetative stabilization methods and selection should be based on site-specific conditions. See also EC-16 Non-Vegetative Stabilization, in the Construction BMP Handbook.

- ☐ Utilize chemical stabilization when needed. See also EC-5 Soil Binders, in the Construction BMP Handbook.
- ☐ Use geosynthetic membranes to control erosion if feasible. See also EC-7 Geotextiles and Mats, in the Construction BMP Handbook.
- ☐ Stabilize all roadways, entrances, and exits to sufficiently control discharges of erodible materials from discharging or being tracked off the site. See also TC 1-3 Tracking Control, in the Construction BMP Handbook.
- ☐ Refer to the supplemental information provided below for projects that involve more extensive soil disturbance activities.



Employee Training Program

- ☐ Educate employees about pollution prevention measures and goals.
- ☐ Train employees how to properly implement the source control BMPs described above. Detailed information for Sediment and Erosion Control BMPs is provided in the Construction BMP Handbook.
- ☐ Proper education of off-site contractors is often overlooked. The conscientious efforts of well trained employees can be lost by unknowing off-site contractors, so make sure they are well informed about pollutant source control responsibilities.
- ☐ Use a training log or similar method to document training.



Quality Assurance and Record Keeping

- ☐ Keep accurate maintenance logs that document minimum BMP activities performed for building repair and construction, types and quantities of waste disposed of, and any improvement actions.
- ☐ Keep accurate logs of spill response actions that document what was spilled, how it was cleaned up, and how the waste was disposed.
- ☐ Establish procedures to complete logs and file them in the central office.

Potential Limitations and Work-Arounds

Some facilities may have space constraints, limited staffing and time limitations that may preclude implementation of BMPs. Provided below are typical limitations and recommended "work-arounds."

- ☐ This BMP is for minor construction only. The State's General Construction Activity Stormwater Permit has more extensive requirements for larger projects that would disturb one or more acres of surface.
  - ✓ Refer to the companion "Construction Best Management Practice Handbook" which contains specific guidance and best management practices for larger-scale projects.

- Time constraints may require some outdoor repairs and construction during wet weather.
  - ✓ Require employees to understand and follow good housekeeping and spill and leak prevention BMPs.
  - ✓ Inspect sediment and erosion control BMPs daily during periods of wet weather and repair or improve BMP implementation as necessary.
- Hazardous waste that cannot be reused or recycled must be disposed of by a licensed hazardous waste hauler.
  - ✓ Minimize use of hazardous materials to the maximum extent practicable.
- Be certain that actions to help stormwater quality are consistent with Cal- and Fed-OSHA and air quality regulations.
- Prices for recycled/safer alternative materials and fluids may be higher than those of conventional materials.

Potential Capital Facility Costs and Operation & Maintenance Requirements

Facilities

- Limited capital investments may be required at some sites if adequate cover and containment facilities do not exist for construction materials and wastes.
- Purchase and installation of erosion and sediment controls, if needed will require additional capital investments, and this amount will vary depending on site characteristics and the types of BMPs being implemented.
- Minimize costs by maintaining existing vegetation and limiting construction operations on bare soils.

Maintenance

- The erosion and sediment control BMPs described above require periodic inspection and maintenance to remain effective. The cost of these actions will vary depending on site characteristics and the types of BMPs being implemented.
- Irrigation costs may be required to establish and maintain vegetation.

Supplemental Information

Soil/Erosion Control

If the work involves exposing large areas of soil, employ the appropriate soil erosion and control techniques. See the Construction Best Management Practice Handbook. If old buildings are being torn down and not replaced in the near future, stabilize the site using measures described in SC-40 Contaminated or Erodible Areas.

If a building is to be placed over an open area with a storm drainage system, make sure the storm inlets within the building are covered or removed, or the storm line is connected to the sanitary sewer. If because of the remodeling a new drainage system is to be installed or the existing system is to be modified, consider installing catch basins as they serve as effective "in-line" treatment devices. Include in the catch basin a "turn-down" elbow or similar device to trap floatables.

References and Resources

City of Seattle, Seattle Public Utilities Department of Planning and Development, 2009. *Stormwater Manual Vol. 1 Source Control Technical Requirements Manual.*

California Stormwater Quality Association, 2012. *Construction Stormwater Best Management Practice Handbook.* Available at http://www.casqa.org.

Kennedy/Jenks Consultants, 2007. *The Truckee Meadows Industrial and Commercial Storm Water Best Management Practices Handbook.* Available online at: http://www.cityofsparks.us/sites/default/files/assets/documents/env-control/construction/TM-I-C_BMP_Handbook_2-07-final.pdf.

Sacramento Stormwater Management Program. *Best Management Practices for Industrial Storm Water Pollution Control.* Available online at: http://www.msa.saccounty.net/sactostormwater/documents/guides/industrial-BMP-manual.pdf.

US EPA. *Construction Site Stormwater Runoff Control.* Available online at: http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=min_measure&min_measure_id=4.

Parking Area Maintenance SC-43

Description

Parking lots can contribute a number of substances, such as trash, suspended solids, hydrocarbons, oil and grease, and heavy metals that can enter receiving waters through stormwater runoff or non-stormwater discharges. The protocols in this fact sheet are intended to prevent or reduce the discharge of pollutants from parking areas and include using good housekeeping practices, following appropriate cleaning BMPs, and training employees.

BMPs for other outdoor areas on site (loading/unloading, material storage, and equipment operations) are described in SC-30 through SC-33.

Approach

The goal of this program is to ensure stormwater pollution prevention practices are considered when conducting activities on or around parking areas to reduce potential for pollutant discharge to receiving waters. Successful implementation depends on effective training of employees on applicable BMPs and general pollution prevention strategies and objectives.

General Pollution Prevention Protocols

- ☐ Encourage advanced designs and maintenance strategies for impervious parking lots. Refer to the treatment control BMP fact sheets in this manual for additional information.
- ☐ Keep accurate maintenance logs to evaluate BMP implementation.



Good Housekeeping

- ☐ Keep all parking areas clean and orderly. Remove debris, litter, and sediments in a timely fashion.
- ☐ Post "No Littering" signs and enforce anti-litter laws.

Objectives
■ *Cover*
■ *Contain*
■ *Educate*
■ *Reduce/Minimize*
■ *Product Substitution*

Targeted Constituents	
Sediment	✓
Nutrients	
Trash	✓
Metals	✓
Bacteria	
Oil and Grease	✓
Organics	✓

Minimum BMPs Covered	
Good Housekeeping	✓
Preventative Maintenance	✓
Spill and Leak Prevention and Response	✓
Material Handling & Waste Management	
Erosion and Sediment Controls	
Employee Training Program	✓
Quality Assurance Record Keeping	✓

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- ☐ Provide an adequate number of litter receptacles.
- ☐ Clean out and cover litter receptacles frequently to prevent spillage.



Preventative Maintenance

Inspection

Have designated personnel conduct inspections of parking facilities and stormwater conveyance systems associated with parking facilities on a regular basis.

- ☐ Inspect cleaning equipment/sweepers for leaks on a regular basis.

Surface Cleaning

- ☐ Use dry cleaning methods (e.g., sweeping, vacuuming) to prevent the discharge of pollutants into the stormwater conveyance system if possible.
- ☐ Establish frequency of public parking lot sweeping based on usage and field observations of waste accumulation.
- ☐ Sweep all parking lots at least once before the onset of the wet season.
- ☐ Dispose of parking lot sweeping debris and dirt at a landfill.
- ☐ Follow the procedures below if water is used to clean surfaces:
  - ✓ Block the storm drain or contain runoff.
  - ✓ Collect and pump wash water to the sanitary sewer or discharge to a pervious surface. Do not allow wash water to enter storm drains.
- ☐ Follow the procedures below when cleaning heavy oily deposits:
  - ✓ Clean oily spots with absorbent materials.
  - ✓ Use a screen or filter fabric over inlet, then wash surfaces.
  - ✓ Do not allow discharges to the storm drain.
  - ✓ Vacuum/pump discharges to a tank or discharge to sanitary sewer.
  - ✓ Dispose of spilled materials and absorbents appropriately.

Surface Repair

- ☐ Check local ordinance for SUSMP/LID ordinance.
- ☐ Preheat, transfer or load hot bituminous material away from storm drain inlets.
- ☐ Apply concrete, asphalt, and seal coat during dry weather to prevent contamination from contacting stormwater runoff.
- ☐ Cover and seal nearby storm drain inlets where applicable (with waterproof material or mesh) and manholes before applying seal coat, slurry seal, etc. Leave covers in

place until job is complete and all water from emulsified oil sealants has drained or evaporated. Clean any debris from these covered manholes and drains for proper disposal.

- Use only as much water as necessary for dust control during sweeping to avoid runoff.
- Catch drips from paving equipment that is not in use with pans or absorbent material placed under the machines. Dispose of collected material and absorbents properly.



Spill Response and Prevention Procedures

- Keep your Spill Prevention Control and Countermeasure (SPCC) Plan up-to-date.
- Place a stockpile of spill cleanup materials where it will be readily accessible or at a central location.
- Clean up fluid spills immediately with absorbent rags or material.
- Dispose of spilled material and absorbents properly.



Employee Training Program

- Provide regular training to field employees and/or contractors regarding cleaning of paved areas and proper operation of equipment.
- Train employees and contractors in proper techniques for spill containment and cleanup.
- Use a training log or similar method to document training.



Quality Assurance and Record Keeping

- Keep accurate maintenance logs that document minimum BMP activities performed for parking area maintenance, types and quantities of waste disposed of, and any improvement actions.
- Keep accurate logs of spill response actions that document what was spilled, how it was cleaned up, and how the waste was disposed.
- Establish procedures to complete logs and file them in the central office.

Potential Capital Facility Costs and Operation & Maintenance Requirements

Facilities

- Capital investments may be required at some sites to purchase sweeping equipment, train sweeper operators, install oil/water/sand separators, or implement advanced BMPs. These costs can vary significantly depending upon site conditions and the amount of BMPs required.

Maintenance

- ☐ Sweep and clean parking lots regularly to minimize pollutant transport into storm drains from stormwater runoff.
- ☐ Clean out oil/water/sand separators regularly, especially after heavy storms.
- ☐ Maintain advanced BMPs such as vegetated swales, infiltration trenches, or detention basins as appropriate. Refer to the treatment control fact sheets for more information.

Supplemental Information

Advanced BMPs

Some parking areas may require advanced BMPs to further reduce pollutants in stormwater runoff, and a few examples are listed below. Refer to the Treatment Control Fact Sheets and the New Development and Redevelopment Manual for more information.

- ☐ When possible, direct sheet runoff to flow into biofilters (vegetated strip and swale) and/or infiltration devices.
- ☐ Utilize sand filters or oleophilic collectors for oily waste in low quantities.
- ☐ Arrange rooftop drains to prevent drainage directly onto paved surfaces.
- ☐ Design lot to include semi-permeable hardscape.

References and Resources

City of Seattle, Seattle Public Utilities Department of Planning and Development, 2009. *Stormwater Manual Vol. 1 Source Control Technical Requirements Manual.*

California Stormwater Quality Association, 2003. *New Development and Redevelopment Stormwater Best Management Practice Handbook.* Available online at: https://www.casqa.org/resources/bmp-handbooks/new-development-redevelopment-bmp-handbook.

Kennedy/Jenks Consultants, 2007. *The Truckee Meadows Industrial and Commercial Storm Water Best Management Practices Handbook.* Available online at: http://www.cityofsparks.us/sites/default/files/assets/documents/env-control/construction/TM-I-C_BMP_Handbook_2-07-final.pdf.

Orange County Stormwater Program, Best Management Practices for Industrial/Commercial Business Activities. Available online at: http://ocwatersheds.com/documents/bmp/industrialcommercialbusinessesactivities.

Pollution from Surface Cleaning Folder, 1996, 2003. Bay Area Stormwater Management Agencies Association. Available online at: http://basmaa.org/Portals/0/documents/pdf/Pollution%20from%20Surface%20Cleaning.pdf.

Sacramento Stormwater Management Program. *Best Management Practices for Industrial Storm Water Pollution Control.* Available online at: http://www.msa.saccounty.net/sactostormwater/documents/guides/industrial-BMP-manual.pdf.

The Storm Water Managers Resource Center, http://www.stormwatercenter.net.

US EPA. *Post-Construction Stormwater Management in New Development and Redevelopment.* BMP Fact Sheets. Available online at: http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=min_measure&min_measure_id=5.

Drainage System Maintenance SC-44

Description

As a consequence of its function, the stormwater drainage facilities on site convey stormwater that may contain certain pollutants either to the offsite conveyance system that collects and transports urban runoff and stormwater, or directly to receiving waters. The protocols in this fact sheet are intended to reduce pollutants leaving the site to the offsite drainage infrastructure or to receiving waters through proper on-site conveyance system operation and maintenance. The targeted constituents will vary depending on site characteristics and operations.

Approach

Successful implementation depends on effective training of employees on applicable BMPs and general pollution prevention strategies and objectives.

General Pollution Prevention Protocols

- ☐ Maintain catch basins, stormwater inlets, and other stormwater conveyance structures on a regular basis to remove pollutants, reduce high pollutant concentrations during the first flush of storms, prevent clogging of the downstream conveyance system, restore catch basins' sediment trapping capacity, and ensure the system functions properly hydraulically to avoid flooding.

- ☐ Develop and follow a site specific drainage system maintenance plan that describes maintenance locations, methods, required equipment, water sources, sediment collection areas, disposal requirements, and any other pertinent information.



Good Housekeeping

Illicit Connections and Discharges

- ☐ Look for evidence of illegal discharges or illicit connections during routine maintenance of conveyance system and drainage structures:

Objectives
■ *Cover*
■ *Contain*
■ *Educate*
■ *Reduce/Minimize*

Targeted Constituents	
Sediment	✓
Nutrients	✓
Trash	✓
Metals	✓
Bacteria	✓
Oil and Grease	✓
Organics	✓

Minimum BMPs Covered	
Good Housekeeping	✓
Preventative Maintenance	✓
Spill and Leak Prevention and Response	✓
Material Handling & Waste Management	
Erosion and Sediment Controls	
Employee Training Program	✓
Quality Assurance Record Keeping	✓

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- ✓ Identify evidence of spills such as paints, discoloring, odors, etc.
- ✓ Record locations of apparent illegal discharges/illicit connections.
- ✓ Track flows back to potential discharges and conduct aboveground inspections. This can be done through visual inspection of upgradient manholes or alternate techniques including zinc chloride smoke testing, fluorometric dye testing, physical inspection testing, or television camera inspection.
- ✓ Eliminate the discharge once the origin of flow is established.

- ☐ Stencil or demarcate storm drains, where applicable, to prevent illegal disposal of pollutants. Storm drain inlets should have messages such as "Dump No Waste Drains to Stream" or similar stenciled next to them to warn against ignorant or intentional dumping of pollutants into the storm drainage system.
- ☐ Refer to fact sheet SC-10 Non-Stormwater Discharges for additional information.

Illegal Dumping

- ☐ Inspect and clean up hot spots and other storm drainage areas regularly where illegal dumping and disposal occurs.
- ☐ Establish a system for tracking incidents. The system should be designed to identify the following:
  - ✓ Illegal dumping hot spots;
  - ✓ Types and quantities (in some cases) of wastes;
  - ✓ Patterns in time of occurrence (time of day/night, month, or year);
  - ✓ Mode of dumping (abandoned containers, "midnight dumping" from moving vehicles, direct dumping of materials, accidents/spills); and
  - ✓ Responsible parties.
- ☐ Post "No Dumping" signs in problem areas with a phone number for reporting dumping and disposal. Signs should also indicate fines and penalties for illegal dumping.
- ☐ Refer to fact sheet SC-10 Non-Stormwater Discharges for additional information.



Preventative Maintenance

Catch Basins/Inlet Structures

- ☐ Staff should regularly inspect facilities to ensure compliance with the following:
  - ✓ Immediate repair of any deterioration threatening structural integrity.
  - ✓ Cleaning before the sump is 40% full. Catch basins should be cleaned as frequently as needed to meet this standard.

- ☐ Clean catch basins, storm drain inlets, and other conveyance structures before the wet season to remove sediments and debris accumulated during the summer.
- ☐ Conduct inspections more frequently during the wet season for problem areas where sediment or trash accumulates more often. Prioritize storm drain inlets; clean and repair as needed.
- ☐ Keep accurate logs of the number of catch basins cleaned.
- ☐ Store wastes collected from cleaning activities of the drainage system in appropriate containers or temporary storage sites in a manner that prevents discharge to the storm drain.
- ☐ Dewater the wastes if necessary with outflow into the sanitary sewer if permitted. Water should be treated with an appropriate filtering device prior to discharge to the sanitary sewer. If discharge to the sanitary sewer is not allowed, water should be pumped or vacuumed to a tank and properly disposed. Do not dewater near a storm drain or stream.

Storm Drain Conveyance System

- ☐ Locate reaches of storm drain with deposit problems and develop a flushing schedule that keeps the pipe clear of excessive buildup.
- ☐ Collect and pump flushed effluent to the sanitary sewer for treatment whenever possible.

Pump Stations

- ☐ Clean all storm drain pump stations prior to the wet season to remove silt and trash.
- ☐ Do not allow discharge to reach the storm drain system when cleaning a storm drain pump station or other facility.
- ☐ Conduct routine maintenance at each pump station.
- ☐ Inspect, clean, and repair as necessary all outlet structures prior to the wet season.

Open Channel

- ☐ Modify storm channel characteristics to improve channel hydraulics, increase pollutant removals, and enhance channel/creek aesthetic and habitat value.
- ☐ Conduct channel modification/improvement in accordance with existing laws. Any person, government agency, or public utility proposing an activity that will change the natural state of any river, stream, or lake in California, must enter into a Steam or Lake Alteration Agreement with the Department of Fish and Wildlife. The developer-applicant should also contact local governments (city, county, special districts), other state agencies (SWRCB, RWQCB, Department of Forestry, Department of Water Resources), and Army Corps of Engineers and USFWS.



Spill Response and Prevention Procedures

- ☐ Keep your spill prevention control plan up-to-date.

- ☐ Investigate all reports of spills, leaks, and/or illegal dumping promptly.
- ☐ Place a stockpile of spill cleanup materials where it will be readily accessible or at a central location.
- ☐ Clean up all spills and leaks using "dry" methods (with absorbent materials and/or rags) or dig up, remove, and properly dispose of contaminated soil.



Employee Training Program

- ☐ Educate employees about pollution prevention measures and goals.
- ☐ Train employees how to properly handle and dispose of waste using the source control BMPs described above.
- ☐ Train employees and subcontractors in proper hazardous waste management.
- ☐ Use a training log or similar method to document training.
- ☐ Ensure that employees are familiar with the site's spill control plan and/or proper spill cleanup procedures.
- ☐ Have staff involved in detection and removal of illicit connections trained in the following:
  - ✓ OSHA-required Health and Safety Training (29 CFR 1910.120) plus annual refresher training (as needed).
  - ✓ OSHA Confined Space Entry training (Cal-OSHA Confined Space, Title 8 and Federal OSHA 29 CFR 1910.146).
  - ✓ Procedural training (field screening, sampling, smoke/dye testing, TV inspection).



Quality Assurance and Record Keeping

- ☐ Keep accurate maintenance logs that document minimum BMP activities performed for drainage system maintenance, types and quantities of waste disposed of, and any improvement actions.
- ☐ Keep accurate logs of spill response actions that document what was spilled, how it was cleaned up, and how the waste was disposed.
- ☐ Keep accurate logs of illicit connections, illicit discharges, and illegal dumping into the storm drain system including how wastes were cleaned up and disposed.
- ☐ Establish procedures to complete logs and file them in the central office.

Potential Limitations and Work-Arounds

Provided below are typical limitations and recommended "work-arounds" for drainage system maintenance:

- Clean-up activities may create a slight disturbance for local aquatic species. Access to items and material on private property may be limited. Trade-offs may exist between channel hydraulics and water quality/riparian habitat. If storm channels or basins are recognized as wetlands, many activities, including maintenance, may be subject to regulation and permitting.

  - ✓ Perform all maintenance onsite and do not flush accumulated material downstream to private property or riparian habitats.

- Storm drain flushing is most effective in small diameter pipes (36-inch diameter pipe or less, depending on water supply and sediment collection capacity). Other considerations associated with storm drain flushing may include the availability of a water source, finding a downstream area to collect sediments, and liquid/sediment disposal.

  - ✓ Develop and follow a site specific drainage system maintenance plan that describes maintenance locations, methods, required equipment, water sources, sediment collection areas, disposal requirements, and any other pertinent information.

- Regulations may include adoption of substantial penalties for illegal dumping and disposal.

  - ✓ Do not dump illegal materials anywhere onsite.

  - ✓ Identify illicit connections, illicit discharge, and illegal dumping.

  - ✓ Cleanup spills immediately and properly dispose of wastes.

- Local municipal codes may include sections prohibiting discharge of soil, debris, refuse, hazardous wastes, and other pollutants into the sanitary sewer system.

  - ✓ Collect all materials and pollutants accumulated in drainage system and dispose of according to local regulations.

  - ✓ Install debris excluders in areas with a trash TMDL.

Potential Capital Facility Costs and Operation & Maintenance Requirements

Facilities

- Capital costs will vary substantially depending on the size of the facility and characteristics of the drainage system. Significant capital costs may be associated with purchasing water trucks, vacuum trucks, and any other necessary cleaning equipment or improving the drainage infrastructure to reduce the potential .

- Developing and implementing a site specific drainage system maintenance plan will require additional capital if a similar program is not already in place.

Maintenance

- Two-person teams may be required to clean catch basins with vactor trucks.
- Teams of at least two people plus administrative personnel are required to identify illicit discharges, depending on the complexity of the storm sewer system.
- Arrangements must be made for proper disposal of collected wastes.
- Technical staff are required to detect and investigate illegal dumping violations.
- Methods used for illicit connection detection (smoke testing, dye testing, visual inspection, and flow monitoring) can be costly and time-consuming. Site-specific factors, such as the level of impervious area, the density and ages of buildings, and type of land use will determine the level of investigation necessary.

Supplemental Information

Storm Drain Flushing

Flushing is a common maintenance activity used to improve pipe hydraulics and to remove pollutants in storm drainage systems. Flushing may be designed to hydraulically convey accumulated material to strategic locations, such as an open channel, another point where flushing will be initiated, or the sanitary sewer and the treatment facilities, thus preventing re-suspension and overflow of a portion of the solids during storm events. Flushing prevents "plug flow" discharges of concentrated pollutant loadings and sediments. Deposits can hinder the designed conveyance capacity of the storm drain system and potentially cause backwater conditions in severe cases of clogging.

Storm drain flushing usually takes place along segments of pipe with grades that are too flat to maintain adequate velocity to keep particles in suspension. An upstream manhole is selected to place an inflatable device that temporarily plugs the pipe. Further upstream, water is pumped into the line to create a flushing wave. When the upstream reach of pipe is sufficiently full to cause a flushing wave, the inflated device is rapidly deflated with the assistance of a vacuum pump, thereby releasing the backed up water and resulting in the cleaning of the storm drain segment.

To further reduce impacts of stormwater pollution, a second inflatable device placed well downstream may be used to recollect the water after the force of the flushing wave has dissipated. A pump may then be used to transfer the water and accumulated material to the sanitary sewer for treatment. In some cases, an interceptor structure may be more practical or required to recollect the flushed waters.

It has been found that cleansing efficiency of periodic flush waves is dependent upon flush volume, flush discharge rate, sewer slope, sewer length, sewer flow rate, sewer diameter, and population density. As a rule of thumb, the length of line to be flushed should not exceed 700 feet. At this maximum recommended length, the percent removal efficiency ranges between 65-75% for organics and 55-65% for dry weather grit/inorganic material. The percent removal efficiency drops rapidly beyond that. Water is commonly supplied by a water truck, but fire hydrants can also supply water. To make the best use of water, it is recommended that reclaimed water be used if allowed or that fire hydrant line flushing coincide with storm sewer flushing.

References and Resources

City of Seattle, Seattle Public Utilities Department of Planning and Development, 2009. *Stormwater Manual Vol. 1 Source Control Technical Requirements Manual.*

Knox County Tennessee *Stormwater Management Manual* Chapter 5 Drainage System Maintenance, 2008. Available online at: http://www.knoxcounty.org/stormwater/manual/Volume%201/knoxco_swmm_v1_chap5_jan2008.pdf.

US EPA. Storm Drain System Cleaning, 2012. Available online at: http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=browse&Rbutton=detail&bmp=102.

Efficient Irrigation SD-12



Design Objectives

- ☑ Maximize Infiltration
- ☑ Provide Retention
- ☑ Slow Runoff
- Minimize Impervious Land Coverage
- Prohibit Dumping of Improper Materials
- Contain Pollutants
- Collect and Convey

Description

Irrigation water provided to landscaped areas may result in excess irrigation water being conveyed into stormwater drainage systems.

Approach

Project plan designs for development and redevelopment should include application methods of irrigation water that minimize runoff of excess irrigation water into the stormwater conveyance system.

Suitable Applications

Appropriate applications include residential, commercial and industrial areas planned for development or redevelopment. (Detached residential single-family homes are typically excluded from this requirement.)

Design Considerations

Designing New Installations

The following methods to reduce excessive irrigation runoff should be considered, and incorporated and implemented where determined applicable and feasible by the Permittee:

- Employ rain-triggered shutoff devices to prevent irrigation after precipitation.
- Design irrigation systems to each landscape area's specific water requirements.
- Include design featuring flow reducers or shutoff valves triggered by a pressure drop to control water loss in the event of broken sprinkler heads or lines.
- Implement landscape plans consistent with County or City water conservation resolutions, which may include provision of water sensors, programmable irrigation times (for short cycles), etc.

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- Design timing and application methods of irrigation water to minimize the runoff of excess irrigation water into the storm water drainage system.
- Group plants with similar water requirements in order to reduce excess irrigation runoff and promote surface filtration. Choose plants with low irrigation requirements (for example, native or drought tolerant species). Consider design features such as:
  - Using mulches (such as wood chips or bar) in planter areas without ground cover to minimize sediment in runoff
  - Installing appropriate plant materials for the location, in accordance with amount of sunlight and climate, and use native plant materials where possible and/or as recommended by the landscape architect
  - Leaving a vegetative barrier along the property boundary and interior watercourses, to act as a pollutant filter, where appropriate and feasible
  - Choosing plants that minimize or eliminate the use of fertilizer or pesticides to sustain growth
- Employ other comparable, equally effective methods to reduce irrigation water runoff.

Redeveloping Existing Installations

Various jurisdictional stormwater management and mitigation plans (SUSMP, WQMP, etc.) define "redevelopment" in terms of amounts of additional impervious area, increases in gross floor area and/or exterior construction, and land disturbing activities with structural or impervious surfaces. The definition of " redevelopment" must be consulted to determine whether or not the requirements for new development apply to areas intended for redevelopment. If the definition applies, the steps outlined under "designing new installations" above should be followed.

Other Resources

A Manual for the Standard Urban Stormwater Mitigation Plan (SUSMP), Los Angeles County Department of Public Works, May 2002.

Model Standard Urban Storm Water Mitigation Plan (SUSMP) for San Diego County, Port of San Diego, and Cities in San Diego County, February 14, 2002.

Model Water Quality Management Plan (WQMP) for County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County, Draft February 2003.

Ventura Countywide Technical Guidance Manual for Stormwater Quality Control Measures, July 2002.

Storm Drain Signage SD-13



Design Objectives

- Maximize Infiltration
- Provide Retention
- Slow Runoff
- Minimize Impervious Land Coverage
- ☑ Prohibit Dumping of Improper Materials
- Contain Pollutants
- Collect and Convey

Description

Waste materials dumped into storm drain inlets can have severe impacts on receiving and ground waters. Posting notices regarding discharge prohibitions at storm drain inlets can prevent waste dumping. Storm drain signs and stencils are highly visible source controls that are typically placed directly adjacent to storm drain inlets.

Approach

The stencil or affixed sign contains a brief statement that prohibits dumping of improper materials into the urban runoff conveyance system. Storm drain messages have become a popular method of alerting the public about the effects of and the prohibitions against waste disposal.

Suitable Applications

Stencils and signs alert the public to the destination of pollutants discharged to the storm drain. Signs are appropriate in residential, commercial, and industrial areas, as well as any other area where contributions or dumping to storm drains is likely.

Design Considerations

Storm drain message markers or placards are recommended at all storm drain inlets within the boundary of a development project. The marker should be placed in clear sight facing toward anyone approaching the inlet from either side. All storm drain inlet locations should be identified on the development site map.

Designing New Installations

The following methods should be considered for inclusion in the project design and show on project plans:

- Provide stenciling or labeling of all storm drain inlets and catch basins, constructed or modified, within the project area with prohibitive language. Examples include "NO DUMPING

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– DRAINS TO OCEAN" and/or other graphical icons to discourage illegal dumping.

- Post signs with prohibitive language and/or graphical icons, which prohibit illegal dumping at public access points along channels and creeks within the project area.

Note - Some local agencies have approved specific signage and/or storm drain message placards for use. Consult local agency stormwater staff to determine specific requirements for placard types and methods of application.

Redeveloping Existing Installations

Various jurisdictional stormwater management and mitigation plans (SUSMP, WQMP, etc.) define "redevelopment" in terms of amounts of additional impervious area, increases in gross floor area and/or exterior construction, and land disturbing activities with structural or impervious surfaces. If the project meets the definition of "redevelopment", then the requirements stated under " designing new installations" above should be included in all project design plans.

Additional Information

Maintenance Considerations

- Legibility of markers and signs should be maintained. If required by the agency with jurisdiction over the project, the owner/operator or homeowner's association should enter into a maintenance agreement with the agency or record a deed restriction upon the property title to maintain the legibility of placards or signs.

Placement

- Signage on top of curbs tends to weather and fade.
- Signage on face of curbs tends to be worn by contact with vehicle tires and sweeper brooms.

Supplemental Information

Examples

- Most MS4 programs have storm drain signage programs. Some MS4 programs will provide stencils, or arrange for volunteers to stencil storm drains as part of their outreach program.

Other Resources

A Manual for the Standard Urban Stormwater Mitigation Plan (SUSMP), Los Angeles County Department of Public Works, May 2002.

Model Standard Urban Storm Water Mitigation Plan (SUSMP) for San Diego County, Port of San Diego, and Cities in San Diego County, February 14, 2002.

Model Water Quality Management Plan (WQMP) for County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County, Draft February 2003.

Ventura Countywide Technical Guidance Manual for Stormwater Quality Control Measures, July 2002.

Maintenance Bays & Docks SD-31



Design Objectives

- Maximize Infiltration
- Provide Retention
- Slow Runoff
- Minimize Impervious Land Coverage
- ☑ Prohibit Dumping of Improper Materials
- ☑ Contain Pollutants
- Collect and Convey

Description

Several measures can be taken to prevent operations at maintenance bays and loading docks from contributing a variety of toxic compounds, oil and grease, heavy metals, nutrients, suspended solids, and other pollutants to the stormwater conveyance system.

Approach

In designs for maintenance bays and loading docks, containment is encouraged. Preventative measures include overflow containment structures and dead-end sumps. However, in the case of loading docks from grocery stores and warehouse/distribution centers, engineered infiltration systems may be considered.

Suitable Applications

Appropriate applications include commercial and industrial areas planned for development or redevelopment.

Design Considerations

Design requirements for vehicle maintenance and repair are governed by Building and Fire Codes, and by current local agency ordinances, and zoning requirements. The design criteria described in this fact sheet are meant to enhance and be consistent with these code requirements.

Designing New Installations

Designs of maintenance bays should consider the following:

- Repair/maintenance bays and vehicle parts with fluids should be indoors; or designed to preclude urban run-on and runoff.
- Repair/maintenance floor areas should be paved with Portland cement concrete (or equivalent smooth impervious surface).

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- Repair/maintenance bays should be designed to capture all wash water leaks and spills. Provide impermeable berms, drop inlets, trench catch basins, or overflow containment structures around repair bays to prevent spilled materials and wash-down waters form entering the storm drain system. Connect drains to a sump for collection and disposal. Direct connection of the repair/maintenance bays to the storm drain system is prohibited. If required by local jurisdiction, obtain an Industrial Waste Discharge Permit.
- Other features may be comparable and equally effective.

The following designs of loading/unloading dock areas should be considered:

- Loading dock areas should be covered, or drainage should be designed to preclude urban run-on and runoff.
- Direct connections into storm drains from depressed loading docks (truck wells) are prohibited.
- Below-grade loading docks from grocery stores and warehouse/distribution centers of fresh food items should drain through water quality inlets, or to an engineered infiltration system, or an equally effective alternative. Pre-treatment may also be required.
- Other features may be comparable and equally effective.

Redeveloping Existing Installations

Various jurisdictional stormwater management and mitigation plans (SUSMP, WQMP, etc.) define "redevelopment" in terms of amounts of additional impervious area, increases in gross floor area and/or exterior construction, and land disturbing activities with structural or impervious surfaces. The definition of " redevelopment" must be consulted to determine whether or not the requirements for new development apply to areas intended for redevelopment. If the definition applies, the steps outlined under "designing new installations" above should be followed.

Additional Information

Stormwater and non-stormwater will accumulate in containment areas and sumps with impervious surfaces. Contaminated accumulated water must be disposed of in accordance with applicable laws and cannot be discharged directly to the storm drain or sanitary sewer system without the appropriate permit.

Other Resources

A Manual for the Standard Urban Stormwater Mitigation Plan (SUSMP), Los Angeles County Department of Public Works, May 2002.

Model Standard Urban Storm Water Mitigation Plan (SUSMP) for San Diego County, Port of San Diego, and Cities in San Diego County, February 14, 2002.

Model Water Quality Management Plan (WQMP) for County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County, Draft February 2003.

Ventura Countywide Technical Guidance Manual for Stormwater Quality Control Measures, July 2002.

Trash Storage Areas SD-32

Design Objectives

- Maximize Infiltration
- Provide Retention
- Slow Runoff
- Minimize Impervious Land Coverage
- Prohibit Dumping of Improper Materials
- ☑ Contain Pollutants
- Collect and Convey

Description

Trash storage areas are areas where a trash receptacle (s) are located for use as a repository for solid wastes. Stormwater runoff from areas where trash is stored or disposed of can be polluted. In addition, loose trash and debris can be easily transported by water or wind into nearby storm drain inlets, channels, and/or creeks. Waste handling operations that may be sources of stormwater pollution include dumpsters, litter control, and waste piles.

Approach

This fact sheet contains details on the specific measures required to prevent or reduce pollutants in stormwater runoff associated with trash storage and handling. Preventative measures including enclosures, containment structures, and impervious pavements to mitigate spills, should be used to reduce the likelihood of contamination.

Suitable Applications

Appropriate applications include residential, commercial and industrial areas planned for development or redevelopment. (Detached residential single-family homes are typically excluded from this requirement.)

Design Considerations

Design requirements for waste handling areas are governed by Building and Fire Codes, and by current local agency ordinances and zoning requirements. The design criteria described in this fact sheet are meant to enhance and be consistent with these code and ordinance requirements. Hazardous waste should be handled in accordance with legal requirements established in Title 22, California Code of Regulation.

Wastes from commercial and industrial sites are typically hauled by either public or commercial carriers that may have design or access requirements for waste storage areas. The design criteria in this fact sheet are recommendations and are not intended to be in conflict with requirements established by the waste hauler. The waste hauler should be contacted prior to the design of your site trash collection areas. Conflicts or issues should be discussed with the local agency.

Designing New Installations

Trash storage areas should be designed to consider the following structural or treatment control BMPs:

- Design trash container areas so that drainage from adjoining roofs and pavement is diverted around the area(s) to avoid run-on. This might include berming or grading the waste handling area to prevent run-on of stormwater.
- Make sure trash container areas are screened or walled to prevent off-site transport of trash.

- Use lined bins or dumpsters to reduce leaking of liquid waste.
- Provide roofs, awnings, or attached lids on all trash containers to minimize direct precipitation and prevent rainfall from entering containers.
- Pave trash storage areas with an impervious surface to mitigate spills.
- Do not locate storm drains in immediate vicinity of the trash storage area.
- Post signs on all dumpsters informing users that hazardous materials are not to be disposed of therein.

Redeveloping Existing Installations

Various jurisdictional stormwater management and mitigation plans (SUSMP, WQMP, etc.) define "redevelopment" in terms of amounts of additional impervious area, increases in gross floor area and/or exterior construction, and land disturbing activities with structural or impervious surfaces. The definition of " redevelopment" must be consulted to determine whether or not the requirements for new development apply to areas intended for redevelopment. If the definition applies, the steps outlined under "designing new installations" above should be followed.

Additional Information

Maintenance Considerations

The integrity of structural elements that are subject to damage (i.e., screens, covers, and signs) must be maintained by the owner/operator. Maintenance agreements between the local agency and the owner/operator may be required. Some agencies will require maintenance deed restrictions to be recorded of the property title. If required by the local agency, maintenance agreements or deed restrictions must be executed by the owner/operator before improvement plans are approved.

Other Resources

A Manual for the Standard Urban Stormwater Mitigation Plan (SUSMP), Los Angeles County Department of Public Works, May 2002.

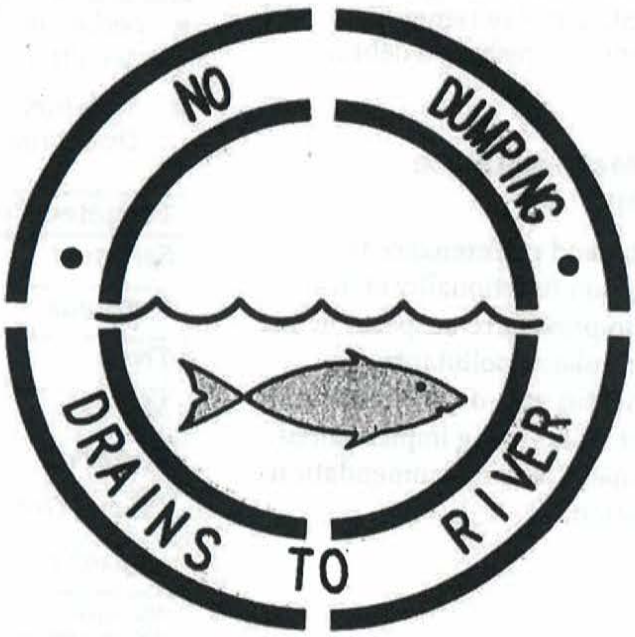
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Model Water Quality Management Plan (WQMP) for County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County, Draft February 2003.

Ventura Countywide Technical Guidance Manual for Stormwater Quality Control Measures, July 2002.

Attachment F
Infiltration Report (NA)

Attachment G
BMP Maintenance Material



SAMPLE STENCIL TO BE USED NEAR GRATE AND CURB OPENING INLETS

SYMBOL TO BE 24" IN DIAMETER

Thienes Engineering
CIVIL ENGINEERING • LAND SURVEYING
14349 FIRESTONE BOULEVARD
LA MIRADA, CALIFORNIA 90638
PH.(714)521-4811 FAX(714)521-4173

SAMPLE CATCH BASIN STENCIL
PER BMP SD-13

Drain Inlet Insert MP-52

General Description

Drain inlet inserts, also known as catch basin, drop inlet or curb inlet inserts, are used to remove pollutants at the point of entry to the storm drain system. There are a multitude of inserts of various shapes and configurations including baffles, baskets, boxes, fabrics, sorbent media, screens, and skimmers. The effectiveness of drain inlet inserts depends on their design, application, loading, and frequency of maintenance to remove accumulated sediment, trash, and debris.

Inspection/Maintenance Considerations

Routine inspection and maintenance is necessary to maintain functionality of drain inlet inserts and to prevent re-suspension and discharge of accumulated pollutants. Maintenance activities vary depending on the type of drain inlet insert being implemented; refer to the manufacturer's recommendations for more information.

Advanced BMPs Covered



Maintenance Concerns

- *Sediment, Trash, and Debris Accumulations*
- *Pollutant Re-suspension and Discharge*

Targeted Constituents*	
Sediment	✓
Nutrients	✓
Trash	✓
Metals	✓
Bacteria	
Oil and Grease	✓
Organics	✓

**Removal Effectiveness varies for different manufacturer designs. See New Development and Redevelopment Handbook-Section 5 for more information.*

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Inspection Activities	Suggested Frequency
☐ Verify that stormwater enters the unit and does not leak around the perimeter.	After construction.
☐ Inspect for sediment, trash, and debris buildup and proper functioning.	At the beginning of the wet season and after significant storms
Maintenance Activities	**Suggested Frequency**
☐ Remove accumulated sediment, trash, and debris. ☐ Replace sorbent media.	At the beginning of the wet season and as necessary

References

California Department of Transportation. *Treatment BMP Technology Report (CTSW-RT-09-239.06)*, April, 2010. http://www.dot.ca.gov/hq/env/stormwater/pdf/CTSW-RT-09-239-06.pdf.

California Stormwater Quality Association. *Stormwater Best Management Practice Handbook, New Development and Redevelopment*, 2003. https://www.casqa.org/resources/bmp-handbooks/new-development-redevelopment-bmp-handbook.

Orange County Stormwater Program. Technical Guidance Document BMP Fact Sheets. http://media.ocgov.com/gov/pw/watersheds/documents/wqmp/tgd/technical_guidance_document_bmp_fact_sheets.asp.

San Francisco Public Utilities Commission, et al. San Francisco Stormwater Design Guidelines. Appendix A, Stormwater BMP Fact Sheets, June, 2010. http://www.sfwater.org/modules/showdocument.aspx?documentid=2778.

Tahoe Regional Planning Agency. Best Management Practices Handbook, 2012. http://www.tahoebmp.org/Documents/2012%20BMP%20Handbook.pdf.

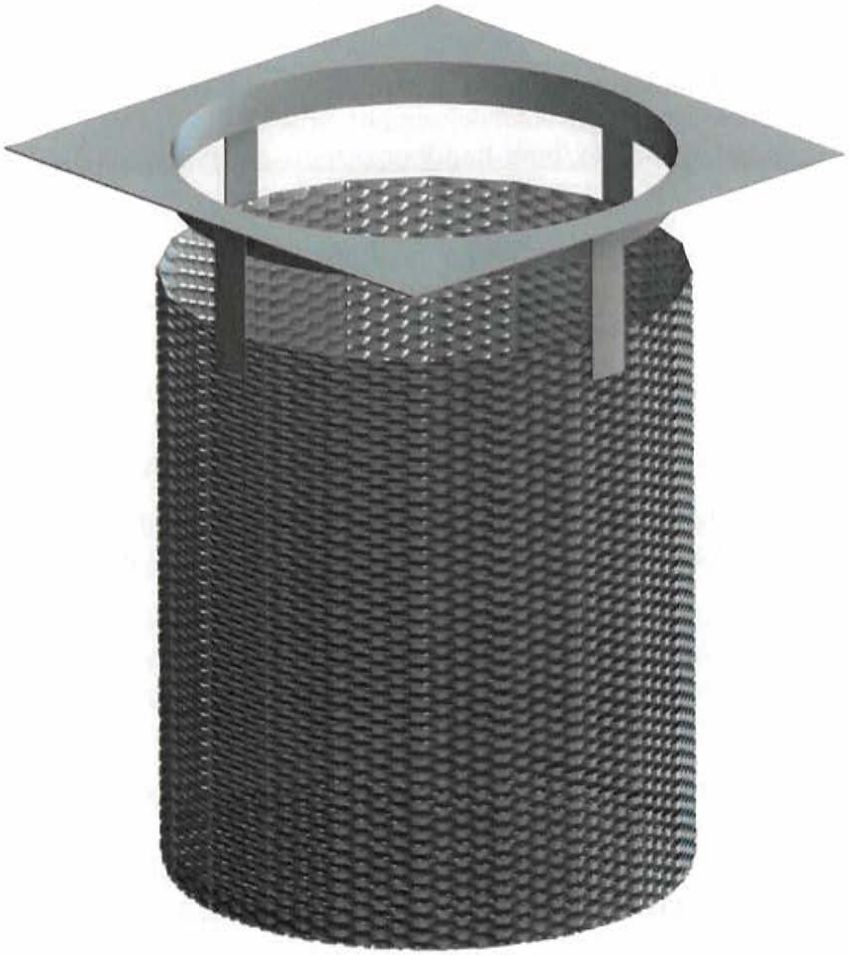
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Ventura Countywide Stormwater Quality Management Program. *Technical Guidance Manual for Stormwater Quality Control Measures*, May, 2010. http://www.vcstormwater.org/documents/workproducts/technicalguidancemanual/201orevisions/Ventura%20Technical%20Guidance%20Document_5-6-10.pdf.

Grate Inlet Filter

Bio Clean
A Forterra Company

OPERATION & MAINTENANCE



Bio Clean Environmental Services, Inc.
398 Via El Centro
Oceanside, CA 92058

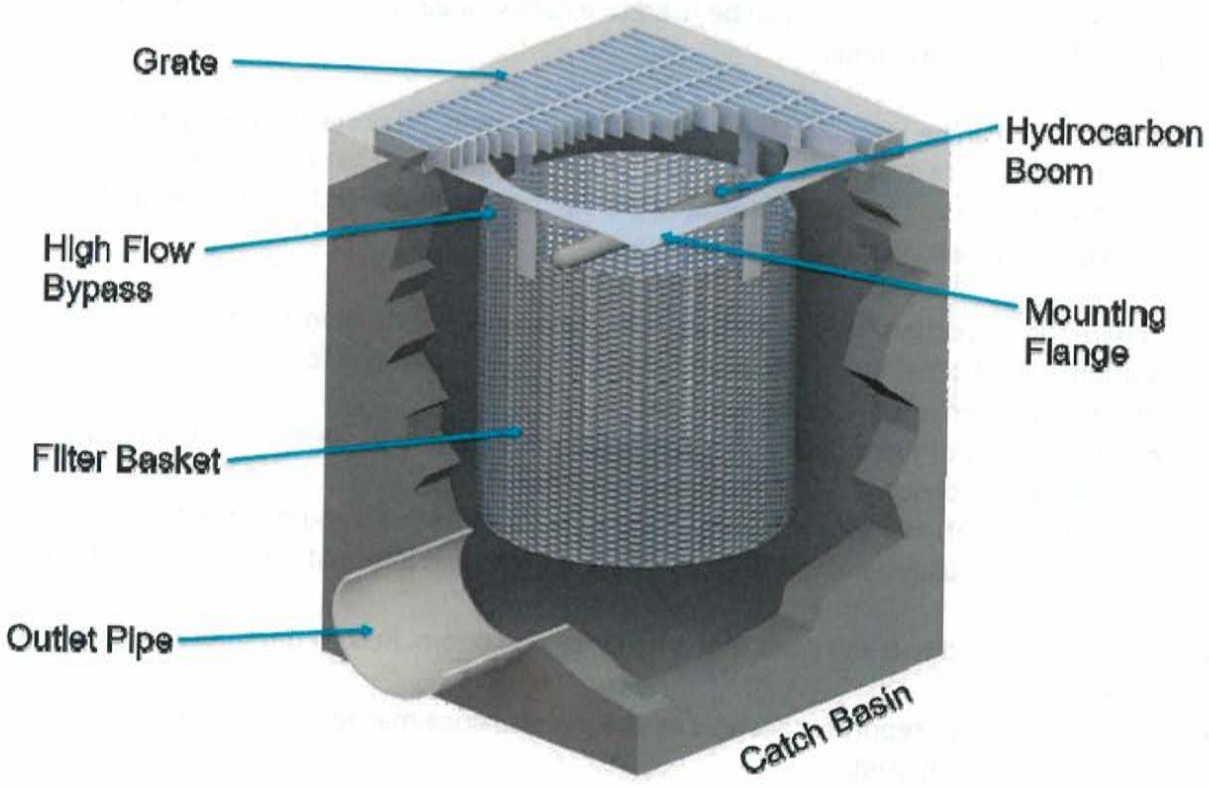
www.BioCleanEnvironmental.com
p: 760.433.7640
f: 760.433.3176

Bio Clean
A Forterra Company

OPERATION & MAINTENANCE

The Bio Clean Grate Inlet Filter is a stormwater device designed to remove high levels of trash, debris, sediments and hydrocarbons. The filter is available in several configurations including trash full capture, multi-level screening, Kraken membrane filter and media filter variations. This manual covers maintenance procedures of the trash full capture and multi-level screening configurations. A supplemental manual is available for the Kraken and media filter variations. This filter is made of 100% stainless steel and is available and various sizes and depths allowing it to fit in any grated catch basin inlet. The filters heavy duty construction allows for cleaning with any vacuum truck. The filet can also easily be cleaned by hand.

As with all stormwater BMPs, inspection and maintenance on the Grate Inlet Filter is necessary. Stormwater regulations require BMPs be inspected and maintained to ensure they are operating as designed to allow for effective pollutant removal and provide protection to receiving water bodies. It is recommended that inspections be performed multiple times during the first year to assess site-specific loading conditions. This is recommended because pollutant loading can vary greatly from site to site. Variables such as nearby soil erosion or construction sites, winter sanding of roads, amount of daily traffic and land use can increase pollutant loading on the system. The first year of inspections can be used to set inspection and maintenance intervals for subsequent years. Without appropriate maintenance a BMP can exceed its storage capacity which can negatively affect its continued performance in removing and retaining captured pollutants.



System Diagram:

Inspection Equipment

Following is a list of equipment to allow for simple and effective inspection of the Grate Inlet Filter:

- Bio Clean Environmental Inspection Form (contained within this manual).
- Manhole hook or appropriate tools to remove access hatches and covers.
- Appropriate traffic control signage and procedures.
- Protective clothing and eye protection.
- Note: entering a confined space requires appropriate safety and certification. It is generally not required for routine inspections or maintenance of the system.



Inspection Steps

The core to any successful stormwater BMP maintenance program is routine inspections. The inspection steps required on the Grate Inlet Filter are quick and easy. As mentioned above the first year should be seen as the maintenance interval establishment phase. During the first year more frequent inspections should occur in order to gather loading data and maintenance requirements for that specific site. This information can be used to establish a base for long-term inspection and maintenance interval requirements.

The Grate Inlet Filter can be inspected though visual observation. All necessary pre-inspection steps must be carried out before inspection occurs, such as safety measures to protect the inspector and nearby pedestrians from any dangers associated with an open grated inlet. Once the grate has been safely removed the inspection process can proceed:

- Prepare the inspection form by writing in the necessary information including project name, location, date & time, unit number and other info (see inspection form).
- Observe the filter with the grate removed.
- Look for any out of the ordinary obstructions on the grate or in the filter and its bypass. Write down any observations on the inspection form.
- Through observation and/or digital photographs estimate the amount of trash, foliage and sediment accumulated inside the filter basket. Record this information on the inspection form.
- Observe the condition and color of the hydrocarbon boom. Record this information on the inspection form.
- Finalize inspection report for analysis by the maintenance manager to determine if maintenance is required.

Maintenance Indicators

Based upon observations made during inspection, maintenance of the system may be required based on the following indicators:

- Missing or damaged internal components.
- Obstructions in the filter basket and its bypass.
- Excessive accumulation of trash, foliage and sediment in the filter basket. Maintenance is required when the basket is greater than half-full.
- The following chart shows the 50% and 100% storage capacity of each filter height:

Model	Filter Basket Diameter (in)	Filter Basket Height (in)	50% Storage Capacity (cu ft)	100% Storage Capacity (cu ft)
BC-GRATE-12-12-12	10.00	12.00	0.27	0.55
BC-GRATE-18-18-18	16.00	18.00	1.05	2.09
BC-GRATE-24-24-24	21.00	24.00	2.41	4.81
BC-GRATE-30-30-24	27.00	24.00	3.98	7.95
BC-GRATE-36-36-24	33.00	24.00	5.94	11.88
BC-GRATE-48-48-18	44.00	18.00	7.92	15.84

Maintenance Equipment

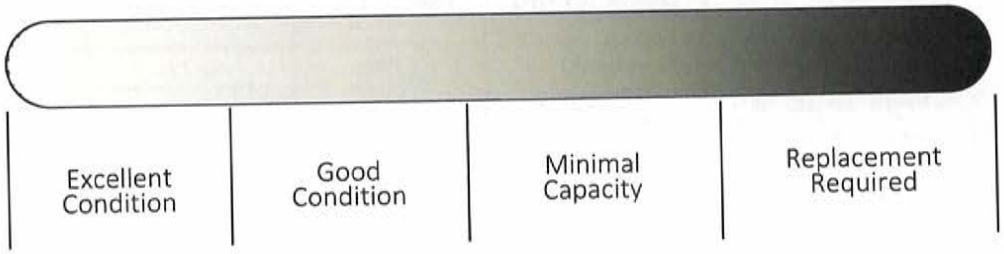
It is recommended that a vacuum truck be utilized to minimize the time required to maintain the Curb Inlet Filter, though it can easily cleaned by hand:

- Bio Clean Environmental Maintenance Form (contained in O&M Manual).
- Manhole hook or appropriate tools to remove the grate.
- Appropriate safety signage and procedures.
- Protective clothing and eye protection.
- Note: entering a confined space requires appropriate safety and certification. It is generally not required for routine maintenance of the system. Small or large vacuum truck (with pressure washer attachment preferred).

Maintenance Procedures

It is recommended that maintenance occurs at least two days after the most recent rain event to allow debris and sediments to dry out. Maintaining the system while flows are still entering it will increase the time and complexity required for maintenance. Cleaning of the Grate Inlet Filter can be performed utilizing a vacuum truck. Once all safety measures have been set up cleaning of the Grate Inlet Filter can proceed as followed:

- Remove grate (traffic control and safety measures to be completed prior).
- Using an extension on a vacuum truck position the hose over the opened catch basin. Insert the vacuum hose down into the filter basket and suck out trash, foliage and sediment. A pressure wash is recommended and will assist in spraying of any debris stuck on the side or bottom of the filter basket. Power wash off the filter basket sides and bottom.
- Next remove the hydrocarbon boom that is attached to the inside of the filter basket. The hydrocarbon boom is fastened to rails on two opposite sides of the basket (vertical rails). Assess the color and condition of the boom using the following information in the next bullet point. If replacement is required install and fasten on a new hydrocarbon boom. Booms can be ordered directly from the manufacturer.
- Follow is a replacement indication color chart for the hydrocarbon booms:



- The last step is to replace the grate and remove all traffic control.
- All removed debris and pollutants shall be disposed of following local and state requirements.
- Disposal requirements for recovered pollutants may vary depending on local guidelines. In most areas the sediment, once dewatered, can be disposed of in a sanitary landfill. It is not anticipated that the sediment would be classified as hazardous waste.
- In the case of damaged components, replacement parts can be ordered from the manufacturer. Hydrocarbon booms can also be ordered directly from the manufacturer as previously noted.

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Maintenance Sequence

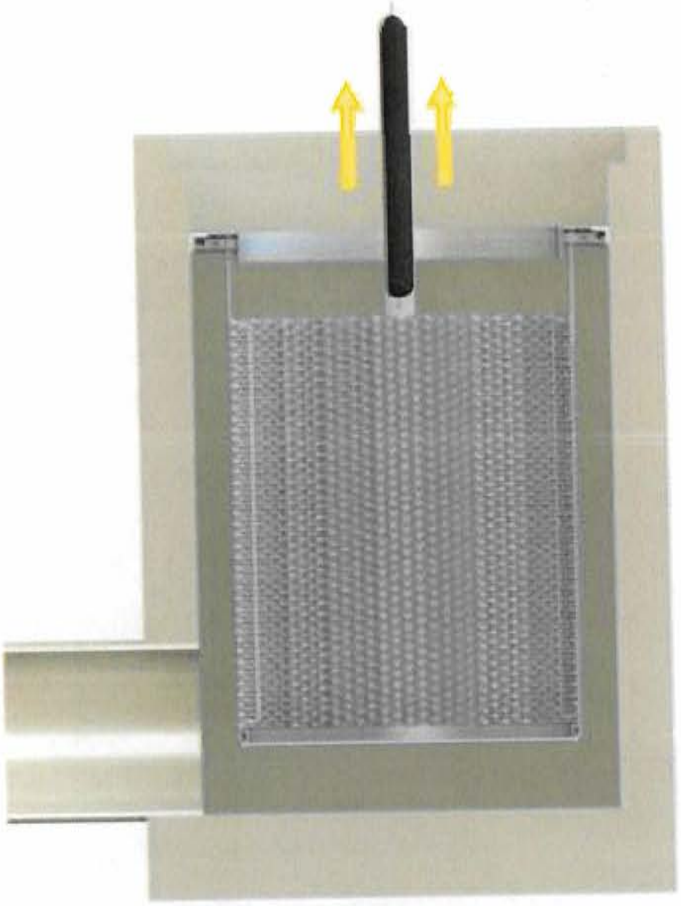
Remove grate and set up vacuum truck to clean the filter basket.





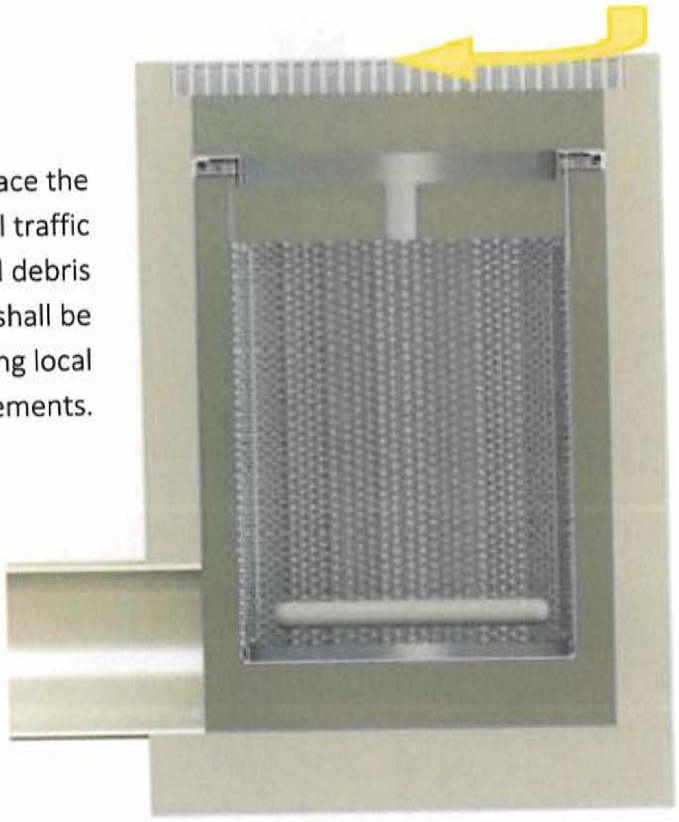
Insert the vacuum hose down into the filter basket and suck out debris. Use a pressure washer to assist in vacuum removal. Pressure wash off screens.

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Remove the hydrocarbon boom that is attached to the inside of the filter basket. The hydrocarbon boom is fastened to rails on two opposite sides of the basket (vertical rails). Assess the color and condition of the boom using the following information in the next bullet point. If replacement is required install and fasten on a new hydrocarbon boom.

Close up and replace the grate and remove all traffic control. All removed debris and pollutants shall be disposed of following local and state requirements.



For Maintenance Services or Information Please Contact Us At:
760-433-7640
Or Email:
info@biocleanenvironmental.com

Bio Clean
A Forterra Company

Inspection and Maintenance Report
Catch Basin Only

Project Name _____

Project Address _____ (city) (Zip Code)

Owner / Management Company _____

Contact _____ Phone ( ) –

Inspector Name _____ Date ____/____/____ Time _____ AM / PM

Type of Inspection ☐ Routine ☐ollow Up ☐omplaint ☐torm Storm Event in Last 72-hours? ☐ ☐s

Weather Condition _____ Additional Notes _____

For Office Use Only
(Reviewed By)
(Date) Office personnel to complete section to the left.

Site Map #	GPS Coordinates of Insert	Catch Basin Size	Evidence of Illicit Discharge?	Trash Accumulation	Foliage Accumulation	Sediment Accumulation	Signs of Structural Damage?	Functioning Properly or Maintenance Needed?
1	Lat: Long:							
2	Lat: Long:							
3	Lat: Long:							
4	Lat: Long:							
5	Lat: Long:							
6	Lat: Long:							
7	Lat: Long:							
8	Lat: Long:							
10	Lat: Long:							
11	Lat: Long:							
12	Lat: Long:							

Comments:

398 Via El Centro, Oceanside, CA 92058 P. 760.433.7640 F. 760.433.3176

Gravity Separators MP-51

General Description

Gravity separators: (alternatively, swirl concentrators, swirl or vortex separators, or hydrodynamic separators) are gravity separators, and in principle are essentially wet vaults. The difference from wet vaults, however, is that the gravity separator is round, rather than rectangular, and the water moves in a centrifugal fashion before exiting. By having the water move in a circular fashion, rather than a straight line as is the case with a standard wet vault, it is possible to obtain significant removal of suspended sediments and attached pollutants with less space. They can provide effective pretreatment when paired with filtration devices, such as media filters or bioretention systems.

Gravity separators were originally developed for combined sewer overflows (CSOs), where they are used primarily to remove coarse inorganic solids. Gravity separation has been adapted to stormwater treatment by several manufacturers.

Inspection/Maintenance Considerations

Gravity separators require routine removal of accumulated sediment, trash, and debris. As some of the systems have standing water that remains between storms, gravity separators can become a nuisance due to mosquito breeding. Also, a loss of dissolved pollutants may occur as accumulated organic matter (e.g., leaves) decomposes in the units.

Advanced BMPs Covered



Maintenance Concerns

- *Sediment, Trash, and Debris Accumulations*
- *Vector Control*

Targeted Constituents*

Sediment	✓
Nutrients	✓
Trash	✓
Metals	✓
Bacteria	
Oil and Grease	
Organics	

**Removal Effectiveness varies for different manufacturer designs. See New Development and Redevelopment Handbook-Section 5 for more information.*

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Inspection Activities	Suggested Frequency
☐ Inspect the unit twice during the first wet season of operation, setting the cleaning frequency accordingly.	Post construction
☐ Inspect for floating debris, sediment buildup, and accumulated petroleum products.	Annual
☐ Contact the local mosquito and vector control agency if mosquito breeding is observed or suspected.	As needed
Maintenance Activities	**Suggested Frequency**
☐ Remove sediment that has accumulated in the vault after construction in the drainage area is complete.	Post construction
☐ The recommended frequency of cleaning differs with the manufacturer, ranging from one to two years. ☐ Maintenance consists of the removal of accumulated material with a vactor truck. It may be necessary to remove and dispose the floatables separately due to the presence of petroleum product. Annual maintenance is typical.	Annual, or per manufacturers recommendations
☐ Remove floating debris and accumulated petroleum products as needed. Floating oil should be removed from wet vaults that are used as oil/water separators when oil accumulation exceeds one inch.	Annual, or more frequent as needed

References

California Department of Transportation. *Treatment BMP Technology Report (CTSW-RT-09-239.06)*, April, 2010. http://www.dot.ca.gov/hq/env/stormwater/pdf/CTSW-RT-09-239-06.pdf.

California Stormwater Quality Association. *Stormwater Best Management Practice Handbook, New Development and Redevelopment*, 2003. https://www.casqa.org/resources/bmp-handbooks/new-development-redevelopment-bmp-handbook.

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CONTECH®
ENGINEERED SOLUTIONS

CDS® Inspection and Maintenance Guide



CDS TECHNOLOGIES

Maintenance

The CDS system should be inspected at regular intervals and maintained when necessary to ensure optimum performance. The rate at which the system collects pollutants will depend more heavily on site activities than the size of the unit. For example, unstable soils or heavy winter sanding will cause the grit chamber to fill more quickly but regular sweeping of paved surfaces will slow accumulation.

Inspection

Inspection is the key to effective maintenance and is easily performed. Pollutant transport and deposition may vary from year to year and regular inspections will help ensure that the system is cleaned out at the appropriate time. At a minimum, inspections should be performed twice per year (e.g. spring and fall) however more frequent inspections may be necessary in climates where winter sanding operations may lead to rapid accumulations, or in equipment washdown areas. Installations should also be inspected more frequently where excessive amounts of trash are expected.

The visual inspection should ascertain that the system components are in working order and that there are no blockages or obstructions in the inlet and separation screen. The inspection should also quantify the accumulation of hydrocarbons, trash, and sediment in the system. Measuring pollutant accumulation can be done with a calibrated dipstick, tape measure or other measuring instrument. If absorbent material is used for enhanced removal of hydrocarbons, the level of discoloration of the sorbent material should also be identified during inspection. It is useful and often required as part of an operating permit to keep a record of each inspection. A simple form for doing so is provided.

Access to the CDS unit is typically achieved through two manhole access covers. One opening allows for inspection and cleanout of the separation chamber (cylinder and screen) and isolated sump. The other allows for inspection and cleanout of sediment captured and retained outside the screen. For deep units, a single manhole access point would allows both sump cleanout and access outside the screen.

The CDS system should be cleaned when the level of sediment has reached 75% of capacity in the isolated sump or when an appreciable level of hydrocarbons and trash has accumulated. If absorbent material is used, it should be replaced when significant discoloration has occurred. Performance will not be impacted until 100% of the sump capacity is exceeded however it is recommended that the system be cleaned prior to that for easier removal of sediment. The level of sediment is easily determined by measuring from finished grade down to the top of the sediment pile. To avoid underestimating the level of sediment in the chamber, the measuring device must be lowered to the top of the sediment pile carefully. Particles at the top of the pile typically offer less resistance to the end of the rod than consolidated particles toward the bottom of the pile. Once this measurement is recorded, it should be compared to the as-built drawing for the unit to determine weather the height of the sediment pile off the bottom of the sump floor exceeds 75% of the total height of isolated sump.

Cleaning

Cleaning of a CDS systems should be done during dry weather conditions when no flow is entering the system. The use of a vacuum truck is generally the most effective and convenient method of removing pollutants from the system. Simply remove the manhole covers and insert the vacuum hose into the sump. The system should be completely drained down and the sump fully evacuated of sediment. The area outside the screen should also be cleaned out if pollutant build-up exists in this area.

In installations where the risk of petroleum spills is small, liquid contaminants may not accumulate as quickly as sediment. However, the system should be cleaned out immediately in the event of an oil or gasoline spill should be cleaned out immediately. Motor oil and other hydrocarbons that accumulate on a more routine basis should be removed when an appreciable layer has been captured. To remove these pollutants, it may be preferable to use absorbent pads since they are usually less expensive to dispose than the oil/water emulsion that may be created by vacuuming the oily layer. Trash and debris can be netted out to separate it from the other pollutants. The screen should be power washed to ensure it is free of trash and debris.

Manhole covers should be securely seated following cleaning activities to prevent leakage of runoff into the system from above and also to ensure that proper safety precautions have been followed. Confined space entry procedures need to be followed if physical access is required. Disposal of all material removed from the CDS system should be done in accordance with local regulations. In many jurisdictions, disposal of the sediments may be handled in the same manner as the disposal of sediments removed from catch basins or deep sump manholes.



CDS Model	Diameter		Distance from Water Surface to Top of Sediment Pile		Sediment Storage Capacity	
	ft	m	ft	m	yd3	m3
CDS2015-4	4	1.2	3.0	0.9	0.5	0.4
CDS2015	5	1.5	3.0	0.9	1.3	1.0
CDS2020	5	1.5	3.5	1.1	1.3	1.0
CDS2025	5	1.5	4.0	1.2	1.3	1.0
CDS3020	6	1.8	4.0	1.2	2.1	1.6
CDS3030	6	1.8	4.6	1.4	2.1	1.6
CDS3035	6	1.8	5.0	1.5	2.1	1.6
CDS4030	8	2.4	4.6	1.4	5.6	4.3
CDS4040	8	2.4	5.7	1.7	5.6	4.3
CDS4045	8	2.4	6.2	1.9	5.6	4.3

Table 1: CDS Maintenance Indicators and Sediment Storage Capacities



Support

- Drawings and specifications are available at www.contechstormwater.com.
- Site-specific design support is available from our engineers.

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CDS Inspection & Maintenance Log

CDS Model: _____ Location: _____

Date	Water depth to sediment[1]	Floatable Layer Thickness[2]	Describe Maintenance Performed	Maintenance Personnel	Comments

1. The water depth to sediment is determined by taking two measurements with a stadia rod: one measurement from the manhole opening to the top of the sediment pile and the other from the manhole opening to the water surface. If the difference between these measurements is less than the values listed in table 1 the system should be cleaned out. **Note: to avoid underestimating the volume of sediment in the chamber, the measuring device must be carefully lowered to the top of the sediment pile.**

2. For optimum performance, the system should be cleaned out when the floating hydrocarbon layer accumulates to an appreciable thickness. In the event of an oil spill, the system should be cleaned immediately.

Infiltration Basin TC-11

General Description

An infiltration basin is a shallow impoundment that is designed to infiltrate stormwater. Infiltration basins store stormwater runoff until it gradually exfiltrates into the underlying soil. Pollutant removal occurs through the infiltration of runoff and the adsorption of pollutants into the soil and vegetation. Additional benefits include:

- Reduced runoff volume and attenuation of peak flows, and
- Facilitated groundwater recharge thus helping to maintain low flows in stream systems.

Inspection/Maintenance Considerations

The use and regular maintenance of pretreatment BMPs will significantly minimize maintenance requirements for the basin. Installing vegetated swales or a sediment forebay upstream from the infiltration basin can provide effective pretreatment and reduce maintenance.

Spill response procedures and controls should be implemented to prevent spills from reaching the infiltration system. This BMP may require groundwater monitoring, and basins cannot be put into operation until the upstream tributary area is stabilized.

Advanced BMPs Covered



Maintenance Concerns

- *Vector Control*
- *Clogged soil or outlet structures*
- *Vegetation/Landscape Maintenance*
- *Groundwater contamination*
- *Accumulation of metals*
- *Aesthetics*

Targeted Constituents

Sediment	■
Nutrients	■
Trash	■
Metals	■
Bacteria	■
Oil and Grease	■
Organics	■

Legend (Removal Effectiveness)

● Low ▲ Medium ■ High

✱ Requires Pretreatment

Note: The removal effectiveness ratings shown in the table are for properly designed, sited, and maintained BMPs; some configurations will have variations in pollutant effectiveness.

CASQA
CALIFORNIA STORMWATER QUALITY ASSOCIATION

Infiltration Basin TC-11

Inspection Activities	Suggested Frequency
☐ Observe drain time for a storm after completion or modification of the facility to confirm that the desired drain time has been obtained. ☐ Newly established vegetation should be inspected several times to determine if any landscape maintenance (reseeding, irrigation, etc.) is necessary. ☐ Inspect for upslope or adjacent contributing sediment sources and ensure that pretreatment systems are in place.	Post construction and semi-annually (beginning and end of rainy season)
☐ Inspect for the following issues: differential accumulation of sediment, signs of wetness or damage to structures, erosion of the basin floor, dead or dying grass on the bottom, condition of riprap, drain time, signs of petroleum hydrocarbon contamination, standing water, trash and debris, sediment accumulation, slope stability, pretreatment device condition	Semi-annually and after extreme events

Maintenance Activities	Suggested Frequency
☐ Factors responsible for clogging should be repaired immediately.	Immediately
☐ Remove invasive weeds once monthly during the first two growing seasons.	Monthly during growing season
☐ Stabilize eroded banks with erosion control mat or mulch and revegetate. ☐ Repair undercut and eroded areas at inflow and outflow structures. ☐ Maintain access to the basin for regular maintenance activities. ☐ Mow as appropriate for vegetative cover species. ☐ Monitor health of vegetation and replace as necessary. ☐ Control mosquitoes as necessary. ☐ Remove litter and debris from infiltration basin area as required. ☐ Trim vegetation to prevent establishment of woody vegetation that decreases storage volume.	Standard maintenance (as needed)
☐ Mow and remove grass clippings, litter, and debris. ☐ Replant eroded or barren spots to prevent erosion and accumulation of sediment.	Semi-annual
☐ Scrape bottom and remove sediment when accumulated sediment reduces original infiltration rate by 25-50%. Restore original cross-section and infiltration rate. Properly dispose of sediment. ☐ Seed or sod to restore ground cover. ☐ Disc or otherwise aerate bottom. ☐ Dethatch basin bottom.	3-5 year maintenance

If there are actual signs of clogging or significant loss of infiltrative capacity the following maintenance activities should be considered:

- ☐ Mechanically de-thatching and/or aerating the top soils along the sides and bottom of the basin.
- ☐ Tilling or dicing to scarify the bottom of the basin

These activities should be on an "as-needed" rather than on a routine basis. Always remove deposited sediments before scarification, and use a hand-guided rotary tiller, if possible, or a disc harrow pulled by a light tractor.

Clogged infiltration basins with surface standing water can become a breeding area for mosquitoes and midges. Maintenance efforts associated with infiltration basins should include frequent inspections to ensure that water infiltrates into the subsurface completely (recommended infiltration rate of 96 hours or less) and that vegetation is carefully managed to prevent creating mosquito and other vector habitats.

Additional Information

In most cases, surface sediment removed from an infiltration basin during periodic maintenance to restore capacity does not contain toxic materials (e/g metals, oil and grease, or organics) at levels posing a hazardous concern. Studies to date indicate that pond sediments are generally below toxicity limits and can be safely landfilled or disposed onsite. Onsite sediment disposal is always preferable (if local authorities permit) as long as the sediments are deposited away from the perimeter to prevent their reentry into the basin. Sediments should be tested for toxic materials in compliance with current landfill requirements and disposed of properly.

Maintenance activities should use lightweight equipment (e.g. bobcat), which will not compact the underlying soil to remove the top layer of sediment. The remaining soil should be tilled and revegetated as soon as possible.

Sediment removal within the basin should be performed when the sediment is dry enough so that it is cracked and readily separates from the basin floor. This minimizes intermixing of the finer sediment with underlying coarser material on the basin floor.

Special maintenance considerations are required maintain infiltration basins effectiveness in cold climates. Treating runoff containing salt-based deicers in an infiltration basin may reduce soil fertility cause vegetation to fail. Incorporating mulch into the soil can help to mitigate this problem. Infiltration basins should not be used to store snow plowed from highways or parking lots. The sand in this snow can clog the basin. In addition, the chlorides and other pollutants can contaminate the groundwater.

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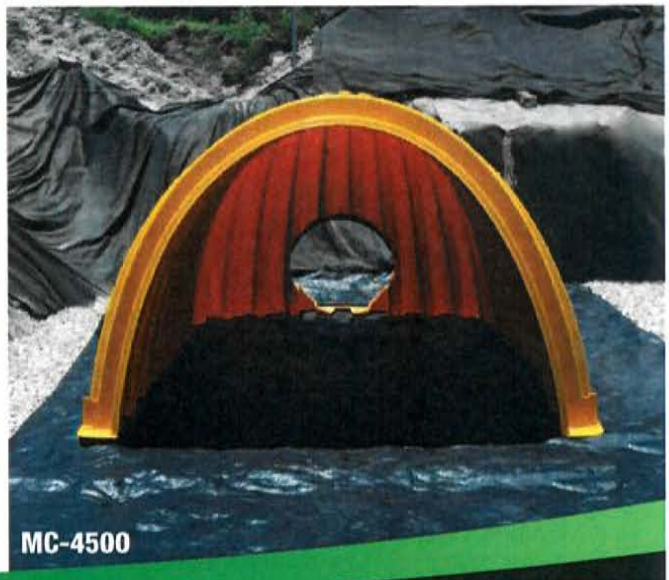
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Isolator® Row O&M Manual







THE MOST ADVANCED NAME IN WATER MANAGEMENT SOLUTIONS™

ADS

THE ISOLATOR® ROW

INTRODUCTION

An important component of any Stormwater Pollution Prevention Plan is inspection and maintenance. The StormTech Isolator Row is a technique to inexpensively enhance Total Suspended Solids (TSS) removal and provide easy access for inspection and maintenance.

THE ISOLATOR ROW

The Isolator Row is a row of StormTech chambers, either SC-160LP, SC-310, SC-310-3, SC-740, DC-780, MC-3500 or MC-4500 models, that is surrounded with filter fabric and connected to a closely located manhole for easy access. The fabric-wrapped chambers provide for settling and filtration of sediment as storm water rises in the Isolator Row and ultimately passes through the filter fabric. The open bottom chambers and perforated sidewalls (SC-310, SC- 310-3 and SC-740 models) allow storm water to flow both vertically and horizontally out of the chambers. Sediments are captured in the Isolator Row protecting the storage areas of the adjacent stone and chambers from sediment accumulation.

Two different fabrics are used for the Isolator Row. A woven geotextile fabric is placed between the stone and the Isolator Row chambers. The tough geotextile provides a media for storm water filtration and provides a durable surface for maintenance operations. It is also designed to prevent scour of the underlying stone and remain intact during high pressure jetting. A non-woven fabric is placed over the chambers to provide a filter media for flows passing through the perforations in the sidewall of the chamber. The non-woven fabric is not required over the SC-160LP, DC-780, MC-3500 or MC-4500 models as these chambers do not have perforated side walls.

The Isolator Row is typically designed to capture the "first flush" and offers the versatility to be sized on a volume basis or flow rate basis. An upstream manhole not only provides access to the Isolator Row but typically includes a high flow weir such that storm water flowrates or volumes that exceed the capacity of the Isolator Row overtop the over flow weir and discharge through a manifold to the other chambers.

The Isolator Row may also be part of a treatment train. By treating storm water prior to entry into the chamber system, the service life can be extended and pollutants such as hydrocarbons can be captured. Pre-treatment best management practices can be as simple as deep sump catch basins, oil-water separators or can be innovative storm water treatment devices. The design of the treatment train and selection of pretreatment devices by the design engineer is often driven by regulatory requirements. Whether pretreatment is used or not, the Isolator Row is recommended by StormTech as an effective means to minimize maintenance requirements and maintenance costs.

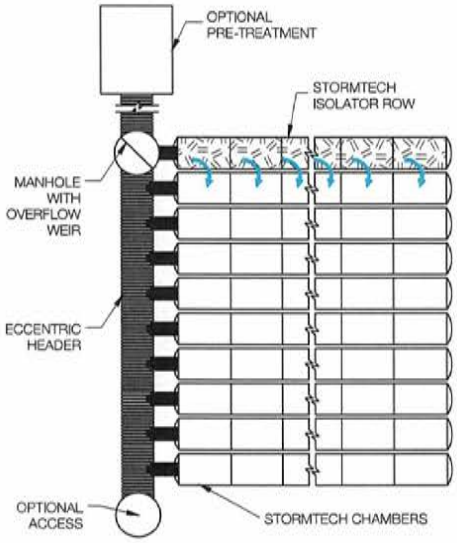
Note: See the StormTech Design Manual for detailed information on designing inlets for a StormTech system, including the Isolator Row.



Looking down the Isolator Row from the manhole opening, woven geotextile is shown between the chamber and stone base.



StormTech Isolator Row with Overflow Spillway (not to scale)





ISOLATOR ROW INSPECTION/MAINTENANCE

INSPECTION

The frequency of inspection and maintenance varies by location. A routine inspection schedule needs to be established for each individual location based upon site specific variables. The type of land use (i.e. industrial, commercial, residential), anticipated pollutant load, percent imperviousness, climate, etc. all play a critical role in determining the actual frequency of inspection and maintenance practices.

At a minimum, StormTech recommends annual inspections. Initially, the Isolator Row should be inspected every 6 months for the first year of operation. For subsequent years, the inspection should be adjusted based upon previous observation of sediment deposition.

The Isolator Row incorporates a combination of standard manhole(s) and strategically located inspection ports (as needed). The inspection ports allow for easy access to the system from the surface, eliminating the need to perform a confined space entry for inspection purposes.

If upon visual inspection it is found that sediment has accumulated, a stadia rod should be inserted to determine the depth of sediment. When the average depth of sediment exceeds 3 inches throughout the length of the Isolator Row, clean-out should be performed.

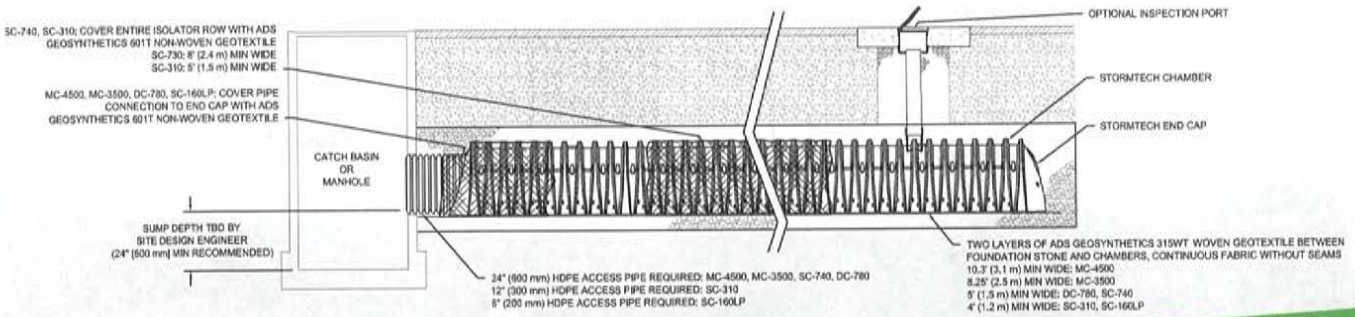
MAINTENANCE

The Isolator Row was designed to reduce the cost of periodic maintenance. By "isolating" sediments to just one row, costs are dramatically reduced by eliminating the need to clean out each row of the entire storage bed. If inspection indicates the potential need for maintenance, access is provided via a manhole(s) located on the end(s) of the row for cleanout. If entry into the manhole is required, please follow local and OSHA rules for a confined space entries.

Maintenance is accomplished with the JetVac process. The JetVac process utilizes a high pressure water nozzle to propel itself down the Isolator Row while scouring and suspending sediments. As the nozzle is retrieved, the captured pollutants are flushed back into the manhole for vacuuming. Most sewer and pipe maintenance companies have vacuum/JetVac combination vehicles. Selection of an appropriate JetVac nozzle will improve maintenance efficiency. Fixed nozzles designed for culverts or large diameter pipe cleaning are preferable. Rear facing jets with an effective spread of at least 45" are best. Most JetVac reels have 400 feet of hose allowing maintenance of an Isolator Row up to 50 chambers long. **The JetVac process shall only be performed on StormTech Isolator Rows that have AASHTO class 1 woven geotextile (as specified by StormTech) over their angular base stone.**

StormTech Isolator Row (not to scale)

Note: Non-woven fabric is only required over the inlet pipe connection into the end cap for SC-160LP, DC-780, MC-3500 and MC-4500 chamber models and is not required over the entire Isolator Row.



ISOLATOR ROW STEP BY STEP MAINTENANCE PROCEDURES

STEP 1

Inspect Isolator Row for sediment.

A) Inspection ports (if present)
   i. Remove lid from floor box frame
   ii. Remove cap from inspection riser
   iii. Using a flashlight and stadia rod,measure depth of sediment and record results on maintenance log.
   iv. If sediment is at or above 3 inch depth, proceed to Step 2. If not, proceed to Step 3.

B) All Isolator Rows
   i. Remove cover from manhole at upstream end of Isolator Row
   ii. Using a flashlight, inspect down Isolator Row through outlet pipe
      1. Mirrors on poles or cameras may be used to avoid a confined space entry
      2. Follow OSHA regulations for confined space entry if entering manhole
   iii. If sediment is at or above the lower row of sidewall holes (approximately 3 inches), proceed to Step 2. If not, proceed to Step 3.

STEP 2

Clean out Isolator Row using the JetVac process.

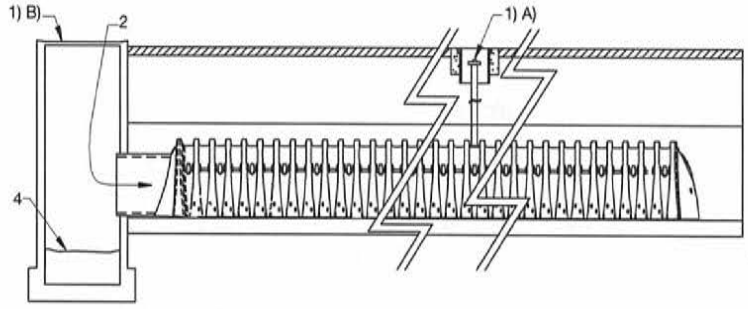
A) A fixed floor cleaning nozzle with rear facing nozzle spread of 45 inches or more is preferable
B) Apply multiple passes of JetVac until backflush water is clean
C) Vacuum manhole sump as required

STEP 3

Replace all caps, lids and covers, record observations and actions.

STEP 4

Inspect & clean catch basins and manholes upstream of the StormTech system.



SAMPLE MAINTENANCE LOG

Date	Stadia Rod Readings		Sediment Depth (1)–(2)	Observations/Actions	Inspector
	Fixed point to chamber bottom (1)	Fixed point to top of sediment (2)			
3/15/11	6.3 ft	none		New installation. Fixed point is CI frame at grade	DJM
9/24/11		6.2	0.1 ft	Some grit felt	SM
6/20/13		5.8	0.5 ft	Mucky feel, debris visible in manhole and in Isolator Row, maintenance due	NV
7/7/13	6.3 ft		0	System jetted and vacuumed	DJM

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Attachment H
Conditions of Approval

Attachment I
Class V Injection Well Registration

Attachment J
Activity Restrictions

Activity Restrictions

It is the responsibility of the owner to prohibit:

- Vehicle washing, maintenance or repair outside of designated areas
- Hosing down paved areas
- Disposal of animal waste not in appropriate locations
- Use of chemicals, pesticides, toxins, etc. on paved or landscape areas
- Dumping of any waste into drainage facilities
- Blowing or sweeping of debris (leaf litter, grass clippings, litter, etc.) into drainage facilities.
- Discharge of fertilizer or pesticides to drainage facilities
- Keeping dumpsters lids open
- Washing kitchen wastes or kitchen equipment to storm water drainage features
- The owner will inform employees, contractors, etc. that spills are to be swept or vacuumed
- Connections of pool/spa drains to streets or storm drains.
- Discharges of paint or masonry wastes to streets or storm drains

Attachment K
Phase I ESA

PHASE I ENVIRONMENTAL SITE ASSESSMENT

8996 Etiwanda Avenue

Rancho Cucamonga, California

October 20, 2020

Prepared for:

Black Creek Industrial Acquisitions LLC
518 17th Street, 17th Floor
Denver, Colorado 80202

PATH FORWARD
Environmental Engineering & Geology

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Project No.: 124-108-100

EXECUTIVE SUMMARY

Black Creek Industrial Acquisitions LLC retained Path Forward Partners, Inc. (Path Forward) to conduct a Phase I Environmental Site Assessment (ESA) in conjunction with a prospective acquisition of the property located at 8996 Etiwanda Avenue, San Bernardino County, Rancho Cucamonga, California (subject property or Site). The subject property is identified by Assessor's Parcel Number 0229-283-79-0000.

Path Forward conducted this ESA in conformance with *ASTM Designation: E1527-13 Standard Practice for ESAs: Phase I ESA Process*. The scope of work and the terms and conditions are described in our Proposal No. 124-108-100 dated August 27, 2020. Exceptions and limitations encountered during this ESA are identified in the report.

Approximately 80 percent of the 62-acre property is paved, covered with gravel, and/or covered by Site structures that are part of a decommissioned electric power generating facility, known as the Etiwanda Generating Station, including buildings, power generating units, cooling towers, and retention basins/ponds. The remaining 20 percent of the Site is open space or vegetated.

Path Forward identified obvious subject property uses from the present back to 1938, at which time the subject property used for agricultural purposes. The electric power generating facility was constructed by Southern California Edison (SCE) on the subject property in 1951. Additional equipment and retention basins were added to the facility through 1979. The power generating facility operated on-Site until 2018. In 2003, some of the facility equipment was decommissioned. By 2018, the owner, GenOn, had ceased facility operations and the remaining equipment was decommissioned.

This ESA has revealed evidence of recognized environmental conditions (RECs), as defined in Section 1.1, in connection with the subject property, as follows:

- Pending RCRA Facility Investigation: The Superior Court of Los Angeles issued a Final Judgment pursuant to Stipulation on February 1, 1995. The Stipulation alleged that SCE had stored hazardous wastes in unpermitted surface impoundments at the company's power generating stations in Southern California, including the Etiwanda Generating Station. As part of the Stipulation, SCE was required to conduct Resource Conservation and Recovery Act (RCRA) closure of three surface impoundments (two wastewater retention basins and one boiler chemical cleaning basin) and the associated pipelines and appurtenances that connect the basins to the power generating units at the subject property according to Chapter 15 of Title 22, California Code of Regulations. The basins were granted case closure in 2011, as discussed below in the HREC section. The remainder of the subject property was ordered to be evaluated under RCRA corrective action. A Site-wide RCRA Facility Investigation (RFI) is required to evaluate soil beneath

inaccessible areas of the subject property (e.g., beneath the powerblock and cooling towers) and to determine if additional areas of the subject property require further assessment. The potential for impacts beneath Site features due to the historical operation of the power generating facility is considered a REC.

- Pending Data Gap Investigation: SCE submitted a workplan for the data gap soil sampling event to Department of Toxic Substances Control (DTSC) on October 15, 2020. The workplan indicates that soil samples will be collected at one hypochlorite tank/sump, three sulfuric acid aboveground storage tanks (ASTs) and two auxiliary transformers located on the subject property (SCE 2020). SCE stated that the data from the soil sampling event would be included in the RFI workplan along with other data previously collected at the subject property. SCE does not plan to conduct additional sampling in other inaccessible areas of the subject property, such as beneath the generating units and peaker unit. SCE stated that impacts identified in these areas during Site redevelopment will be managed in accordance with a Soil Management Plan that will be proposed in the RFI. The potential for impacts beneath Site features proposed for investigation is considered a REC.

- Arsenic in Soil: A Phase II investigation conducted in 1997 identified five areas on the subject property containing arsenic concentrations in soil above screening criteria identified in 1997. The identified areas are generally defined as surface water discharge, pipelines, cooling towers 3 and 4, sulfuric acid storage tanks, and the former water softener and brine pit. The maximum concentrations detected in 1997 were compared to the current DTSC approved background concentration of 12 milligrams per kilogram (mg/kg). Maximum arsenic concentrations detected at three of the areas, cooling towers 3 and 4 (17 mg/kg), sulfuric acid storage tanks (22 mg/kg), and former water softener and brine pit (17 mg/kg), exceeded the background concentration. The maximum concentrations detected at the surface water discharge (5.3 mg/kg) and pipelines (2.6 mg/kg) were below the background concentration.

  An additional investigation conducted in the vicinity of the Units 1 and 2 cooling towers conducted in March through May 2005 detected arsenic in shallow soils at concentrations ranging from 160 to 390 mg/kg. In August 2005, additional shallow soil sampling in the vicinity of the Units 1 and 2 cooling towers found arsenic at concentrations between 1.89 and 70.2 mg/kg. URS concluded that elevated arsenic concentrations "do not extend much past the base of the cooling tower units." In September 2019, SCE's consultant, Northgate Environmental, prepared a Cooling Towers Removal Activities Memorandum that outlines the excavation activities planned in the immediate vicinity of the Units 1 and 2 cooling towers (Northgate 2019).

  The elevated arsenic concentrations remaining in on-Site soils in the vicinity of cooling towers 1 and 2, cooling towers 3 and 4, sulfuric acid storage tanks, and former water softener and brine pit is considered a REC.

- 2019 Investigation Results: In October 2019, Ardent Environmental Group (Ardent) conducted a site investigation on behalf of a prospective buyer. Figures and tables from this investigation were provided to Path Forward but an accompanying report was not available. Based on a review of the figures and tables, soil and soil gas samples collected in several locations on the subject property contained concentrations of chemicals above human health and/or disposal criteria. Chemicals detected in soil above human health and/or disposal criteria include total petroleum hydrocarbons (TPH) as diesel in Chadwick Channel, arsenic and lead near the Unit 3 cooling tower, arsenic, copper, and lead in Landfill I (see 2020 Soil Excavation below), and thallium in the Unit 3 cooling tower flume. Chemicals detected in soil gas above human health and/or disposal criteria include bromodichloromethane, chloroform, 1,1-dichloroethane (1,1-DCA), tetrachloroethylene (PCE), and vinyl chloride in the maintenance shop area and 1,1-DCA, PCE, and vinyl chloride in the septic system associated with the maintenance shop. Given that the areas where elevated concentrations of chemicals were detected have not been further investigated, the extent of impacts in these areas has not been defined. The results of the 2019 Investigation indicating the presence of impacts above human health and/or disposal criteria is a REC.

- 2020 Soil Excavation: Metals-impacted soil in the northwest portion of the property (identified as Landfill I) was identified during a 2019 subsurface investigation conducted by Ardent. Between May and July 2020, approximately 6,445 tons of metals-impacted soil was identified and excavated from this area of the subject property. The soil was profiled as non-RCRA hazardous waste and disposed off-Site. The Soil Removal Memorandum prepared by ERM and dated September 22, 2020 states that, based on the results of field screening, visual observations and analytical results of the confirmation samples, all impacted soil containing elevated metals concentrations in the northwest portion of the subject property has been removed. ERM recommended no further action to mitigate this area.

  During the site visit performed by Path Forward, additional "black sand" was identified in northwest portion of the property (identified as Landfill II). In September 2020, ERM collected one additional soil sample of "black sand" that appeared similar to the area of excavation in Landfill I. The metals concentrations detected were similar to those detected in the Landfill I area; however, were below human health risk based levels. Given that only one sample was collected in this area, the extent of soil with elevated metals concentrations is not known. The presence of Black Sand in Landfill II is considered a REC.

- Spills and Releases: Numerous spills and releases from the cooling towers, tanks, and equipment have occurred since Site operations began in 1953. SCE records, San Bernardino County Fire Department records and records in the CHMIRS database indicate that releases to Chadwick Channel and other areas on the subject property have occurred throughout the history of Site operations. For example, records indicate

that transformer leakage in 1991 generated approximately 80 tons of transformer oil-containing soil and that an approximately 45-gallon release of non-PCB mineral oil was recovered by removal of soil in 1995. In addition, oil staining was noted in the powerblock and near various equipment at the Site during the Site reconnaissance conducted by Path Forward and others. Previous investigations conducted at the subject property have not included sampling in areas of subsurface and aboveground piping that conveys fuel oil from oil tanks to the powerblock. Given the long history of industrial operations including significant quantities of petroleum and other products and known release events, it is possible that impacts are present beneath inaccessible areas, such as the powerblocks and cooling towers, and near other equipment at the subject property, such as pipelines. This long industrial history and documented releases is considered a REC.

This ESA has revealed evidence of historical recognized environmental conditions (HRECs), as defined in Section 1.1, in connection with the subject property, as follows:

- Retention Basin RCRA Investigation and Closure: As discussed above in the REC section, the Superior Court of Los Angeles issued a Final Judgment pursuant to Stipulation on February 1, 1995. The Stipulation alleged that SCE had stored hazardous wastes in unpermitted surface impoundments at the company's power generating stations in Southern California, including the Etiwanda Generating Station. As part of the Stipulation, SCE was required to conduct RCRA closure of three surface impoundments (two wastewater retention basins and one boiler chemical cleaning basin) and the associated pipelines and appurtenances (the "Retention Basin Site") that connect the basins to the power generating units at the subject property according to Chapter 15 of Title 22, California Code of Regulations.

  SCE conducted investigations to determine whether the basins or associated conveyance systems had released wastewater to the underlying soil. The investigations concluded that leakage had occurred through the basin liners causing limited changes in the native soil chemistry. A DTSC-approved Water Quality Monitoring Program (WQMP) was subsequently conducted. A Closure Documentation Report (CDR) submitted to the DTSC in 2011 summarizes the data collected for the RCRA closure project. The CDR concluded that the extensive sampling and resultant analytical data illustrates a complete characterization of the soil beneath the retention basins and associated pipeline system. The CDR also concluded that there is no direct pathway for leakage to impact the groundwater and that there is no evidence of a continuous leak of wastewater to the sediments. The retention basins were found to meet closure requirements for the soil and groundwater chemicals of potential concern (COPCs) based on the results of a human health risk assessment that concluded that human health risks are within acceptable limits for future unrestricted industrial or residential use and that groundwater use is also acceptable for unrestricted use. The

environmental and ecological scoping-level risk assessment determined that ecological exposure pathways are incomplete.

The DTSC reviewed the CDR and issued a Closure Certification Acknowledgment letter on December 29, 2011 (DTSC 2011). The letter states that the DTSC considers the Retention Basin Site as being officially closed on December 20, 2011 and confirms that the Retention Basin Site has been investigated. The RCRA closure of the retention basins at the subject property is considered an HREC.

- 1985 Underground Storage Tank (UST) No Further Action Letter: An October 13, 1985 report provided the results of a soil investigation for three USTs (120-gallon naphtha, 550-gallon kerosene, and 550-gallon unleaded gasoline) that were removed in 1986. Five soil borings were advanced to 49 feet below ground surface (bgs) each, and a total of 24 soil samples were collected. All samples were analyzed for total recoverable petroleum hydrocarbons (TRPH). The highest TRPH result was 11 mg/kg from a sample collected at a depth of 10 feet bgs. The investigation results were submitted to the County of San Bernardino Department of Environmental Health Services on December 11, 1985. The DEHS reviewed the results and issued a letter dated December 27, 1985 that states "this Department concurs that the levels of contamination found do not present an environmental or public health threat." The no further action letter for the UST closure is considered an HREC.

- 1998 Tank Area No Further Action Letter: A May 26, 1998 letter, the Regional Water Quality Control Board (RWQCB) stated that their review of a April 9, 1998 Baseline Tank Study Report, which was not available in the records reviewed, indicates that additional investigation was required in borings where TPH concentrations were increasing with depth. The Baseline Tank Study Report included soil data collected in the "west and east tank areas" at the subject property. The location of these areas was not identified in records reviewed. The RWQCB letter states that further characterization of these areas could be conducted during remedial activities in these areas. A December 9, 1998 letter from the RWQCB to SCE indicated that, based on a review of the results of sampling contained in an August 21, 1998 report, which was also not available in the records reviewed, no further action was required. The no further action letter for the Tank Area is considered an HREC.

- Chadwick Channel Excavation Activity: The 1997 Phase II ESA indicates former occupants of properties to the north of the Site (TAMCO and Ameron) were responsible for several releases to the Chadwick Channel and other areas located to the north of the Site in the 1980s and 1990s. An investigation conducted in 1985 reportedly detected concentrations of arsenic in Chadwick Channel above screening criteria, and concentrations of lead and chromium above hazardous waste criteria. Results of the 1985 investigation were reportedly presented in a Site Characterization Study for the Etiwanda Generating Station; however, this report was not available for Path Forward's

review. On July 22, 1987, SCE received a letter from the RWQCB that states, based on review of the "Site Characterization study" that addressed the chemical composition and extent of impact to soil in the drainage channel and spreading basin, which is located south of the subject property, no further remedial action will be required.

Path Forward also reviewed a 1997 Chadwick Channel Site Investigation and Cleanup report that indicates that soil containing nickel at concentrations above the California Total Threshold Limiting Concentration (TTLC) were delineated near the former Unit 4 drain line discharge in Chadwick Channel. Beryllium was also detected at concentrations above its Preliminary Remediation Goal (PRG). The soil was excavated and sidewall and bottom samples confirmed that all impacted soil was removed. Agency closure of the 1997 excavation activities was not found during this assessment. The no further action letter and remediation of the area of Chadwick Channel near the former Unit 4 drainage line discharge are considered an HREC.

This ESA has revealed no evidence of controlled recognized environmental conditions (CRECs), as defined in Section 1.1, in connection with the subject property.

This ESA has revealed the following de minimis conditions, as defined in Section 1.1, in connection with the subject property:

- Former Agricultural Uses: The subject property was used for agricultural purposes sometime prior to 1938 until the early 1950s. Although not documented at the subject property, activities commonly associated with agricultural uses may include the use and storage of hazardous materials and petroleum products (*e.g.*, agricultural chemicals). Information was not available as to the potential historical usage of pesticides, fertilizers or insecticides. Based on our experience, these residual concentrations, if present, are not typically at concentrations that would require cleanup by a regulatory agency or pose a significant human health risk to commercial or industrial site users. There is potential that the near surface soils may contain residual agricultural chemicals that may affect disposal costs in the event redevelopment is planned and such soils are removed from the property. The historical agricultural use is considered a de minimis condition.

- Closed in place UST(s): A 550-gallon UST was installed at the subject property in 1986 or 1996. The 2007 Phase I ESA indicates that a construction inspection record dated January 13, 2000 and prepared by the Rancho Cucamonga Fire Department (RCFD) indicates that a 500-gallon fiberglass UST was removed from the Etiwanda facility. No noncompliance was observed. The inspection report indicated the UST was removed and transported offsite. Although a copy of the closure report was requested, the report was not contained in the file. However, the 2019 Phase I ESA indicates that the 550-gallon UST was closed in place at the Site in 2000 although closure and removal documentation was not available for review. Based on Path Forward's review of San

Bernardino County Fire Department (SBCFD) records, an Underground Storage Tanks form for permanent on-site closure of a 2,000-gallon UST was filed with the CUPA on January 3, 2000. The form indicates that the UST was filled with inert material and closed in place. No information regarding UST contents or location was found in the records reviewed. Based on the conflicting information provided in the previous Phase Is and records reviewed by Path Forward, it is possible that one or two USTs may have been closed in place at the subject property; one 550-gallon UST may be located south of the warehouse and the location of one 2,000-gallon UST is unknown.

- Potential UST: The 1997 Phase II ESA indicates that Edison Drawing 5625202 identifies a UST near a carport area, as shown on Figure 3. Geraghty & Miller conducted a geophysical survey in the area identified and did not identify a UST in this area but concluded that a UST may be found in this area during Site redevelopment.

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1.0 INTRODUCTION

Black Creek Industrial Acquisitions LLC (User) retained Path Forward Partners Inc. (Path Forward) to conduct a Phase I Environmental Site Assessment (ESA) in conjunction with a prospective acquisition of the property located at 8996 Etiwanda Avenue, San Bernardino County, Rancho Cucamonga, California (subject property or Site). The subject property is identified by Assessor's Parcel Number 0229-283-79-0000. Figure 1 shows the approximate subject property location.

1.1 Purpose

One purpose of this Phase I ESA is to permit a user to satisfy one of the requirements to qualify for the innocent landowner, contiguous property owner, or bona fide prospective purchaser limitations on CERCLA liability. A Phase I ESA is performed to identify recognized environmental conditions (RECs), historical recognized environmental conditions (HRECs), and controlled recognized environmental conditions (CRECs) in connection with the subject property by performing all appropriate inquiry into subject property ownership and use as well as into uses of adjoining properties and surrounding areas within approximate minimum search distances from the subject property.

ASTM Designation: E1527-13 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessments Process (ASTM E1527) defines the terms REC, CREC, HREC and de minimis as follows (emphasis in original to indicate formally defined terms):

> **REC** – "The presence or likely presence of any *hazardous substances* or *petroleum products* in, on, or at a *property*: (1) due to any *release* to the environment; (2) under conditions indicative of a *release* to the *environment*; or (3) under conditions that pose a *material threat* of a future *release* to the *environment*. *De minimis* conditions are not *recognized environmental conditions*."
>
> **CREC** – "A *recognized environmental condition* resulting from a past *release* of *hazardous substances* or *petroleum products* that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), with *hazardous substances* or *petroleum products* allowed to remain in place subject to the implementation of required controls (for example, *property* use restrictions, *activity and use limitations, institutional controls*, or *engineering controls*). A condition considered by the *environmental professional* to be a *controlled recognized environmental condition* shall be listed in the findings section of the *Phase I Environmental Site Assessment report*, and as a recognized environmental condition in the conclusions section of the *Phase I Environmental Site Assessment report*."

HREC – "A past *release* of any *hazardous substances* or *petroleum products* that has occurred in connection with the *property* and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls (for example, *property* use restrictions, *activity and use limitations*, *institutional controls*, or *engineering controls*). Before calling the past release a *historical recognized environmental condition*, the *environmental professional* must determine whether the past *release* is a *recognized environmental condition* at the time the *Phase I Environmental Site Assessment* is conducted (for example, if there has been a change in the regulatory criteria). If the EP considers the past *release* to be a *recognized environmental condition* at the time the Phase I ESA is conducted, the condition shall be included in the conclusions section of the report as a *recognized environmental condition*."

De Minimis Condition – "A condition that generally does not present a threat to human health or the *environment* and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be *de minimis* conditions are not *recognized environmental conditions* nor *controlled recognized environmental conditions*.

1.2 Methodology

Path Forward conducted the Phase I ESA in conformance with ASTM E1527. The scope of work and the terms and conditions are described in our Proposal No. 124-108-100 dated August 27, 2020.

1.3 Limitations

Path Forward obtained information for this ESA from various sources including historical sources, public records, the User, interviews and an environmental database report. For purposes of performing this Phase I ESA, this information is assumed to be correct and complete. Path Forward is not responsible for the quality or content of information from these sources.

Path Forward encountered the following data gaps or limitations in performing this ESA:

- Path Forward was not able to access the interior of two of shipping containers. No staining was noted in the vicinity of the shipping containers.

The information and opinions rendered in this report are exclusively for use by Black Creek Industrial Acquisitions LLC, its successors and/or assigns. Path Forward will not distribute or publish this report without consent except as required by law or court order. The information and opinions expressed in this report are given in response to a limited assignment and should be considered and implemented only in light of that assignment. The services provided by Path

Forward in completing this project were consistent with normal standards of the profession. No other warranty, expressed or implied, is made.

2.0 RECONNAISSANCE

Date of Site Visit:	September 17, 2020
Path Forward Person(s):	David A. Grunat, P.G. C.H.G. and Karen T. Smith
Property Escort:	Jon Sacks of GenOn and Steve Williams of ERM
Inaccessible Areas:	Interior of two shipping containers

The subject property reconnaissance was performed by vehicle and on foot. Adjoining properties were observed from the subject property and from public thoroughfares. Photographs are presented in Appendix A. Figure 2 depicts a site plan.

2.1 Subject Property Use

Approximately 80 percent of the 62-acre subject property is paved, covered with gravel, and/or covered by Site structures that are part of a decommissioned electric power generating facility, known as the Etiwanda Generating Station, including buildings, power generating units, cooling towers, and retention basins/ponds. The structures and basins/ponds located on the subject property are shown on Figure 2 and include the following:

- Guard shack;
- Administrative office building;
- Former maintenance shop;
- Former warehouse building;
- Former welding shop;
- Control room;
- Capped natural gas piping easement;
- The Chadwick Channel drainage ditch;
- Four decommissioned natural gas/oil/distillate- fueled electric generating units (Units 1, 2, 3, and 4)
- Decommissioned peaker unit (Unit 5);

- Cooling towers for Units 1-4;
- Cooling tower make-up water pond;
- Former hazardous waste accumulation area;
- Decommissioned reverse osmosis equipment and retention basin;
- Former laydown area;
- Fueling station;
- North and South retention basins;
- Former boiler chemical cleaning basin;
- Electrical transformers;
- Aboveground storage tanks; and
- Several auxiliary storage sheds/trailers.

The remaining 20 percent of the Site is open space or vegetated. The subject property is surrounded by chain-link fencing. Access to the subject property is through a gate on the eastern side of the subject property on Etiwanda Avenue. A manned guard shack monitors access to the subject property. Paved and dirt roads are located throughout the subject property. Paved parking areas are located north, south, and west of the administrative office building.

GenOn ceased operating the Etiwanda Generating Station on June 28, 2018. A facility caretaker employed by GenOn currently works at the subject property. The caretaker is responsible for facility maintenance and upkeep, operation of sumps, and keeping required permits and records up to date. The caretaker uses a gasoline-powered golf cart to travel on the Site. A third-party contractor staffs and operates the guard shack 24 hours a day, seven days a week.

Utilities are provided to the subject property as follows:

Electricity:	Southern California Edison
Gas:	Natural gas connections at the Site are currently capped and not in use.
Sewer:	On-Site septic tanks; no city sewer connection.
Water:	Bottled water for drinking purposes. Former on- and off-Site groundwater production wells were formerly utilized for non-potable use.

An underground pipeline aqueduct owned by the Metropolitan Water District (MWD) runs east-to-west along the southern portion of the subject property from the guard shack area to the western property boundary.

2.1.1 Hazardous Substances and Petroleum Products

Path Forward assessed the subject property for indications of the use, storage, or disposal of hazardous substances and petroleum products (e.g., manufacturing activities, drums, containers, stressed vegetation, stains, sheens, and heating/cooling systems). Path Forward observed no such indications, except for the following:

- Southeastern portion of the Site: 250-gallon gasoline AST in the fueling station.
- Unit 4: Several labeled and unlabeled drums and smaller containers were observed including a 30-gallon drum of trisodium phosphate, a 5-gallon container of unfiltered oil, and an approximately 2-gallon container of oil.
- Maintenance building: Several labeled and unlabeled smaller containers were observed including retail-sized containers of cleaners and aerosols.
- Warehouse building: Several labeled and unlabeled smaller containers were observed including 5-gallon pails on wooden pallets and several small containers of oil.
- Hazardous waste accumulation area: Two 8-gallon oily waste containers and five empty 55-gallon drums.
- Throughout the Site: Oil-filled transformers.

Since ceasing operations in June 2018, GenOn has removed bulk chemicals formerly stored at the subject property. Most of the tanks and reservoirs of oils and chemicals have been drained and properly closed as documented in the 2018 Closure Report (ERM 2018). The Closure Report states that oil-filled equipment serving Units 1, 2, and 5 was previously drained of oil and decommissioned when the units were taken out of service in 2003. In June 2018, GenOn prepared a Closure Plan that was approved by the City of Rancho Cucamonga. Between June and September 2018, additional closure activities were completed and documented in the Closure Report. The closure activities included draining, cleaning, and certifying the tanks and equipment in Units 3 and 4. Empty tanks and equipment from Units 1, 2, and 5 were cleaned and inspected and equipment that was in service in these units was emptied, cleaned and closed, with the exception of some equipment that remains in use, such as transformers.

Table 1 from the Closure Report, which is included in Appendix C, summarizes the completed closure activities, which include the following:

- Petroleum was drained from ASTs, transformers, and other oil-bearing equipment and the equipment was cleaned.
- The three retention basins were emptied of waste materials and cleaned.
- Chemicals stored in ASTs were cleaned using a combination of manual scraping of bottom sludge and pressure washing tank interiors with hot water.
- Portable containers (totes, 55-galllon drums, 5-gallon and smaller containers) of petroleum and other chemicals were removed from the Site for disposal.

Figure 2 through 10 of the Closure Report show the locations of the tanks and equipment that were addressed during the closure activities documented in the Closure Report. These figures are included in Appendix C.

2.1.2 Underground Storage Tanks (USTs)

Path Forward assessed the subject property for indications of USTs (*e.g.*, vent piping, dispensing equipment, pavement variations, and fill ports). Path Forward observed no such indications. Records reviewed during this assessment indicate several USTs containing petroleum products, wastewater, and other constituents have historically been in use at the Site, as discussed below.

Based on a review of previous reports, three USTs were historically located between Units 2 and 3, south of the warehouse building, as shown on Figure 3. Soil samples collected in this area in 1985 identified TRPH was detected at a maximum concentration of 11 mg/kg at a depth of 10 feet bgs and was not detected in samples collected at 40 feet bgs. The tanks were removed in 1986 and replaced by a 550-gallon double-walled fiberglass tank used to store unleaded fuel. The 550-gallon UST was reportedly installed with leak and integrity testing devices. No leaks or tank failures were reported. Based on the presence of the leak detection system, samples were not collected in this area in 1997 (URS 1997). The 2019 Phase I ESA indicates that the 550-gallon UST was closed in place at the Site in 2000 although closure and removal documentation was not available for review by ERM.

The 1997 Phase II ESA indicates that Edison Drawing 5625202 identifies a UST near a carport area, as shown on Figure 3. Geraghty & Miller conducted a geophysical survey in the area identified and did not identify a UST in this area but concluded that a UST may be found in this area during Site redevelopment.

In addition to the USTs, a distillate line runs beneath the ground from the distillate AST in the southern portion of the Site to peaker Unit 5, as shown on Figure 3.

The Subject Property was identified in the historical UST (HIST UST) and the Statewide Environmental Evaluation and Planning System (SWEEPS) UST databases of the EDR report. The

EDR report HIST and SWEEPS UST databases include 53 UST listings at the subject property address, some of which appear to be duplicate listings.

2.1.3 Aboveground Storage Tanks (ASTs)

Path Forward assessed the subject property for indications of ASTs (*e.g.*, pavement bolts, containers, reservoirs, and generators). Path Forward observed one AST that is currently in use for fueling Site vehicles: a 250-gallon AST used to store gasoline in the southeastern portion of the Site, as shown on Figure 2. The AST appeared to be in good condition, absent of leaks and staining. Other ASTs observed on the Site have been drained and properly closed as documented in the Closure Report discussed in Section 2.1.1. The ASTs were observed to be in fair to good condition and many were marked with spray paint indicating the tanks were "closed." ASTs that were formerly used to contain hazardous materials were equipped with secondary containment or were located in the power blocks which are equipped with floor drains that discharge to oil-water separators, as discussed in Section 2.1.4.

2.1.4 Liquid Waste

Path Forward assessed the subject property for indications of liquid waste discharge sources (*e.g.*, sumps, drains, clarifiers, pools of liquid, pits, ponds, lagoons, septic systems, wastewater, and storm water). Path Forward observed the following liquid waste discharge sources.

Sanitary wastewater generated at the subject property discharges to four on-Site septic tanks. The location of the septic systems is shown on Figure 3. Records reviewed indicate that the septic system located east of the maintenance shop consists of a 7,000-gallon tank with five inline 3,000-gallon seepage pits located downstream in the parking area of the shop building. Records indicate that this system backed up in 1996.

Process wastewater is not currently generated at the subject property. Floor drains and catch basins are located throughout the subject property. The drains and catch basins discharge to sumps and retention basins located on the subject property. The basins that are located on the subject property are shown on Figure 3 and discussed below.

- Two retention basins, identified as the north and south retention basins, are located in the southeast portion of the subject property. The basins have a gunite base and are lined with a poly liner. The basins formerly received water from an oil-water sump located north of Unit 4. An oil-water separator in the south basin removed oil remaining in the water and discharged water to the basins. Wastewater from the basins was periodically discharged to two lines that lead to the off-Site La Verne or Chino Wastewater Treatment facilities. The basins were cleaned as a part of the closure activities discussed in Section 2.1.1.

- The boiler water washdown basin, which is also identified as the chemical cleaning basin, is in the southeasternmost corner of the subject property and is lined with a

combination of gunite, geo-netting, and poly liner. The basin was previously used to retain wash down from on-Site boilers. By 2006, facility personnel stated that boiler water washdown instead was directed to Baker tanks (URS 2007).

- A retention basin located adjacent to the reverse osmosis facility in the south-central portion of the subject property was used to contain mineralized water that was a by-product of the reverse osmosis process. Water from the basin was used in the cooling towers. The basin was cleaned as a part of the closure activities discussed in Section 2.1.1.

- The cooling tower makeup water basin is located in the northeast corner of the subject property. Currently, the basin is used to store stormwater. Previously, water from three water production wells, Colorado River water, and reclaimed water was stored in the basin. The water was pumped through the cooling towers and made five loops before being discharged to the off-Site wastewater treatment facilities in La Verne and Chino. The 2007 Phase I ESA indicates that 17,395,000 gallons of wastewater was discharged in December 2006 (URS 2007).

- One former cooling tower sludge basin is located adjacent to the south side of the Units 1 and 2 cooling towers, as shown on Figure 3. The cooling tower sludge basin was not in use in 2007. Instead, sludge generated during cooling tower cleaning was placed in 20-yard roll-off containers that allowed water to be leached from the bins (URS 2007).

Three sumps are present around Generating Units 3 and 4. One sump on the north side of the units discharges to the north and south retention basins. One sump located in the powerblock discharges to an oil-water sump. An oil sump is located just south of the oil-water sump. Sumps in Generating Units 1 and 2 are reportedly similar in layout to those in Units 3 and 4. According to Site personnel, the sumps are not active. Storm water that collects in the sumps is manually discharged to the retention basins when necessary. During the Site visit an oily sheen was noted on accumulated stormwater within these sumps.

The 2019 Phase I ESA indicates that the Etiwanda Generating Station received a Notice of Significant Noncompliance (Enforcement Action Number 0192569) from the County of Sanitation Districts of Los Angeles on February 27, 2019. According to the violation, GenOn was found to be in violation of the Site's wastewater discharge permit requirements on at least one occasion in 2018. As a result, GenOn was included in the list of dischargers in Significant Noncompliance for 2018. Chronic and Technical Review Criteria (TRC) violations were determined for soluble sulfide on December 31, 2018 (ERM 2019).

Stormwater runoff at the subject property is directed through two main north-south conveyances, Chadwick Channel and a 30-inch storm drainpipe.

- Chadwick Channel is a unvegetated channel constructed of native soils that enters the subject property from the north between the cooling towers for Units 3 and 4. The

channel is six feet deep and 60 feet wide at the channel bottom. The surface channel trends west on the south side of the Unit 4 cooling tower and then trends south exiting the subject property to the southwest of the reverse osmosis retention basin, as shown on Figure 3. The channel terminates at an off-Site retention/energy dissipation basin south of the subject property. The surface of the channel was dry at the time of the Site reconnaissance.

- A 30-inch storm drainpipe enters the subject property at the east end of the cooling tower for Unit 3. The drain runs south and exits the subject property near the former distillate AST.

According to facility personnel, stormwater runoff from facilities to the north of the subject property commingles with runoff from the subject property. GenOn tests the storm drain influent and effluent twice per rainy season.

GenOn formerly maintained coverage under the General Permit for Storm Water Discharges Associated with Industrial Activity. The Central Valley Regional Water Quality Board approved the Notice of Termination (NOT) for the Subject Property on September 13, 2018 and the permit was terminated. ERM conducted a review of historical sampling results related to the former storm water permit maintained at the Site and found that exceedances of metals have been detected in surface water samples originating from off-Site sources (ERM 2019).

2.1.5 Solid Waste

Path Forward assessed the subject property for indications of solid waste disposal (*e.g.*, mounding, depressions, fill material, bins, debris, and active human use). Path Forward observed no such indications with the exception of municipal trash and recyclables generated in the administration building.

During operation of the power generating facility, SCE was registered as a large quantity generator (>2,200 pounds/month) and was issued Generator ID No. CAD008302903 on April 7, 1998. URS provided the following hazardous waste generation information based on review of a 2006 business plan and information from facility personnel (URS 2007):

Name of Waste	Size of Largest Container	Approximate Quantity
Asbestos	10,000 pounds	50,000 pounds/annual
Grit/Duct Sweep	6,400 pounds	1,000 pounds/annual
Cooling Tower Sludge	48,000 pounds	750,000 pounds/every 5-10 years
Cooling Tower Wood	80,000 pounds	750,000 pounds/annual
Grease, Fuel Oil, Tar	55 gallons	8,000 gallons/annual
Mercury Debris	50 pounds	5 pounds/annual

Name of Waste	Size of Largest Container	Approximate Quantity
Mercury	50 pounds	0 pounds in 2006
Oil, Debris, Soil	500 pounds	20,000 pounds/annual
Oil/Water Separator Sludge, Solid	5,000 gallons	250,000 pounds/every 8-10 years
Oil with Solvent	55 gallons	100 gallons/annual
Paint Chips/Debris with Lead	300 pounds	200 pounds/annual
Paint Solids/Sludge	55 gallons	25 gallons/annual

Records reviewed during this assessment indicate that two areas of the former SCE property, which includes the subject property, may have formerly been used as construction debris landfills. One area in the northwest portion of the subject property is identified in previous reports as Landfill 1 and is located on the subject property. The second landfill area was located southeast of the southeast fuel tank in a location that is not on the subject property. Investigations conducted in the on-Site landfill area are discussed in Section 5.5.

2.1.6 Polychlorinated Biphenyls (PCBs)

Path Forward assessed the subject property for indications of PCBs (*e.g.*, transformers, capacitors, elevators, and lifts). Transformers are located throughout the subject property including adjacent to the four power generating units and cooling towers. The 1997 Phase I ESA indicates that the transformers present in 1997 contained oil with less than 50 ppm PCBs. The transformers were reported to have contained oil with higher concentrations of PCBs prior to 1976. The Closure Report documents transformers that were drained during the 2018 closure activities and prior to 2018. The Closure Report also documents the transformers that continued to remain in service post-closure. Figures and tables showing the locations of the transformers are included in Appendix C.

SCE records reviewed during the 1997 Phase I ESA indicate that transformer leakage had generated approximately 80 tons of transformer oil-containing soil in 1991. The records indicate that off-Site thermal treatment was recommended for the soil. No records of off-Site disposal was found in the records reviewed.

2.1.7 Wells

Path Forward assessed the subject property for indications of supply, irrigation, monitor, injection, dry, abandoned, or other wells (*e.g.*, protruding pipes, cover plates, pumps, small sheds, large water storage containers, and mounded grout). Path Forward observed one well in the northern portion of the subject property. The well is identified as a stilling well in records reviewed for this assessment. According to facility personnel, the well is not currently in use.

Two production wells identified as the East Well and Central Well that were located south of the subject property, as shown on Figure 4, formerly provided process water to the subject

property. An additional production well was installed on the subject property in 2006, on the southern portion of the subject property southwest of the reverse osmosis basin. The well, which was identified as the West Well (see Figure 4), was decommissioned in 2019 as documented in the West Well Closure Memorandum prepared by ERM and dated February 3, 2020 (ERM 2020).

As discussed in Section 5.5., groundwater monitoring wells historically were installed on and south of the subject property to investigate impacts from the retention basins. The locations of these wells are shown on Figure 4.

2.2 Adjoining Property and Surrounding Area Use

Adjoining property and surrounding area use are primarily commercial/industrial.

- North: Railroad tracks, beyond which are industrial properties occupied by CMC Steel California (12459 Arrow Route), Central Transport (8822 Etiwanda Avenue), and Bernell Hydraulics (8810 Etiwanda Avenue).
- South: SCE Switchyard and Inland Empire Utilities Authority ASTs, which are used to store reclaimed water.
- East: Etiwanda Avenue, beyond which is a vacant building that was formerly occupied by All State Recycling (8889 Etiwanda Avenue), a bail bonds office (12951 Napa Street), and vacant land.
- West: Undeveloped, vacant land.

Photographs of the adjoining properties are presented in Appendix A.

3.0 USER PROVIDED INFORMATION

ASTM E 1527 defines "user" as the party seeking to use Practice E 1527 to complete an environmental site assessment of the subject property, and in this case, the user is Black Creek Industrial Acquisitions, LLC. Andrea Karp, on behalf of the user, is unaware of any environmental liens, AULs, or any other environmental issues associated with the subject property. During this ESA, the property owner provided information to the User for review by Path Forward, as noted in Section 5.5.

4.0 INTERVIEWS

4.1 Current Owner, Operators, Occupants

On September 17, 2020, David Grunat and Karen Smith of Path Forward interviewed Jon Sacks of GenOn and Steve Williams of ERM, representatives of the subject property owner. According to Mr. Sacks, he has no environmental information regarding the subject property beyond the records that were provided during this ESA (as discussed in Section 5.5).

4.2 Past Owners, Operators, and Occupants

Path Forward did not identify past subject property owners, operators, and occupants for interviews except for a phone interview with the DTSC in which representatives from past owner, SCE, participated, as discussed in Section 4.4 below.

4.3 Nearby Property Owners and Occupants

The subject property is not abandoned. Therefore, Path Forward did not interview nearby property owners and occupants.

4.4 Government Officials

Path Forward participated in a call with representatives from DTSC, GenOn (current subject property owner), and SCE (former subject property owner) on October 14, 2020. DTSC confirmed that SCE is required to prepare a RFI for the subject property. SCE confirmed they are in the process of preparing an RFI workplan.

Prior to submitting the RFI workplan to the DTSC, SCE plans to conduct a data gap soil sampling event to provide analytical data for selected areas of the Etiwanda Generating Station. SCE submitted a workplan for the data gap soil sampling event to DTSC on October 15, 2020. The workplan indicates that soil samples will be collected at one hypochlorite tank/sump, three sulfuric acid ASTs and two auxiliary transformers located on the subject property (SCE 2020). SCE stated that the data from the soil sampling event would be included in the RFI workplan along with other data previously collected at the subject property. SCE does not plan to conduct additional sampling in other inaccessible areas of the subject property, such as beneath the generating units and peaker unit. SCE stated that impacts identified in these areas during Site redevelopment will be managed in accordance with a Soil Management Plan that will be proposed in the RFI.

During the call, SCE representatives noted that the 1998 PSA limits SCE's liability for environmental impacts at the subject property until the fifteenth anniversary of the closing of the sale of the subject property. The environmental impacts are defined in the PSA in Article I, Section 1.1.(e) as follows:

"Existing Soils Contamination" shall mean the actual presence prior to the closing of hazardous materials in the soil or groundwater of the real properties included in the assets , as well as migration through soil or groundwater of hazardous materials actually present prior to the closing in the soil or groundwater of the real properties included in the assets, if (i) the seller, as of the date hereof and the closing date, has knowledge of such presence of such hazardous materials, it being agreed that seller has knowledge of matters disclosed in the Phase I and Phase II environmental assessments referred to in Section 3.7 and of matters otherwise disclosed in Schedule 3.7, (ii) such presence of such hazardous materials prior to the closing is demonstrated through the tests that buyer is entitled to make under Section 6.4, or (iii) such

hazardous material are proven by clean and convincing evidence on or before the fifteenth anniversary of the closing to have been present in such soil or groundwater prior to the closing."

As discussed during the phone call, SCE maintains that they are only responsible for arsenic impacts identified in soil near the Units 1 and 2 cooling towers and that GenOn is responsible for other impacts that have been identified since 2013 and that may be discovered during Site redevelopment. SCE's consultant, Northgate Environmental, prepared a Cooling Towers Removal Activities Memorandum dated September 23, 2019 that outlines the excavation activities planned in the immediate vicinity of the Units 1 and 2 cooling towers (Northgate 2019).

5.0 RECORDS REVIEW

Path Forward reviewed records pertaining to the subject property. In addition, where warranted and practical, Path Forward reviewed records pertaining to adjoining and nearby properties.

5.1 Physical Setting Sources

5.1.1 Physiography

Path Forward reviewed the United States Geological Survey's (USGS) 2012 7.5-minute Series Guasti Quadrangle Topographic Map. The ground surface elevation at the subject property is approximately 1,090 to 1,130 feet above mean sea level (msl) with a slight downward slope to the south. Surface water at the subject property drains via overland flow towards the southern boundary of the subject property. Surface water from northern surrounding properties enters the subject property via the Chadwick Channel, a drainage ditch, which transects the subject property from the north to the south, as shown on Figure 2. The channel originates off-Site to the north and extends beneath the northern adjoining railroad tracks prior to entering the subject property. This channel is six feet deep and 60 feet wide at the channel bottom and terminates at an off-Site retention/energy dissipation basin north of 6th Avenue before entering the regional municipal storm collection system.

5.1.2 Geology

The subject property is located near the junction of the Transverse Ranges and Peninsular Ranges physiographic provinces. The subject property is in a basin on the Pacific side of the San Gabriel Mountains and is on a broad, gently sloping inland alluvial fan. The basin is predominantly an urbanized landscape situated on gently sloping Late Quaternary (Pleistocene and Holocene) alluvial deposits from the Santa Ana River that drains this area of the Transverse Ranges and northern Peninsular Ranges southeastward toward the Pacific Ocean.

The geology of the subject property is composed of igneous and metamorphic Mesozoic crystalline basement to the north and Late Quaternary basin fill deposits. Most of the sediments in the area of the subject property are alluvial and colluvial deposits composed of interbedded clays, silts, sands, and gravels up to 1,000 feet thick. Investigations conducted at the subject property indicate that the upper 450 feet of sediments beneath the subject property is comprised of layered sands and clays with localized gravel (Jamison 2011).

5.1.3 Hydrology

The subject property is located within the Baja Sub Area of the Mojave River groundwater basin. There are two aquifers located in the vicinity of subject property: the Floodplain Aquifer and the Regional Aquifer. The Floodplain Aquifer is made up of the modern Mojave River alluvium, which consists of unconsolidated permeable, coarse sands and gravel extended to a depth of approximately 200 feet bgs. The Floodplain Aquifer is the principal aquifer system in the area and overlies the Regional Aquifer, which is approximately 500 feet bgs below the subject property and much deeper in other areas to the east and west. The Floodplain Aquifer consists of less permeable alluvial fan deposits and older Mojave River alluvial deposits.

Records reviewed indicate that depth to groundwater in wells formerly located on the subject property is approximately 420 feet bgs. The groundwater flow direction is to the southwest.

5.2 Historical Use Information

The following table summarizes historical uses and occupancies of the subject property as identified by the ESA. Details of reviewed records are discussed below.

Years	Development/Use
1938 to 1951	Agricultural use.
1951 to present	The subject property was developed with an electric power generating facility which utilized four oil/gas fired boilers for steam generation and a single gas/distillate fired peaker unit with various storage tanks, equipment, and structures designed to contain petroleum products including, but not limited to, natural gas, No. 6 fuel oil, distillate (jet propellants [JP-5]), lubricating oil, displacement oil, gear oil, mineral oil, gasoline fuel, and waste oil. The predominant structures located on the subject property included large cooling towers aboveground steel tanks used to store petroleum products, process units that included boilers, tanks and various mechanical equipment and vessels, retention basins, and buildings used for offices and control and maintenance operations. The north and south retention basins were constructed in 1952. The boiler chemical cleaning basin was constructed in 1979. The process units are also referred to as powerblocks. The powerblock equipment converts energy from a fuel (fuel oil, distillate, or natural gas) to electricity. Contained within the powerblocks are various structures (such as battery rooms, lube oil rooms, elevators, various sumps, and control rooms) and equipment (such as boilers, pre-heaters, blowers, and turbines). Powerblock Units 1 and 2 began operations in 1953; Units 3 and 4 began operations in 1963. Peaker Unit 5 began operation in 1970. Unit 5 was used to generate

Years	Development/Use
	additional electricity during high demand hours. Units 1, 2, and 5 were decommissioned in 2003. Power generating operations were discontinued at the subject property when Units 3 and 4 were decommissioned in June 2018.
	Commercial and residential development in the subject property vicinity occurred during this time period as well. Additional power generating equipment including ASTs and an electric substation were developed on the properties to the south beginning in the 1950s. Development of the CMC Steel facility located north of the subject property also began in the 1950s. A recycling facility located near the northeast corner of the subject property began operations in the 1970s.

SCE owned and operated the Etiwanda Generating Station from 1953 to 1998 when it sold the subject property portion of the generating station to Alta Power Generation LLC, an early predecessor of GenOn. SCE retained the areas to the west and south of the current subject property boundary, including a former tank farm with several fuel oil ASTs, a switchyard, and undeveloped land.

5.2.1 Fire Insurance Maps

Path Forward requested a search of historical Sanborn Fire Insurance Maps from the Environmental Data Resources, Inc. (EDR) collection. According to EDR, such maps are not available.

5.2.2 Aerial Photographs

Path Forward reviewed aerial photographs of the subject property, adjoining properties, and surrounding area obtained from EDR. Photograph summaries follow:

Years Listed	Subject Property and Adjoining Property Uses
1938, 1949	The subject property is a vacant parcel that appears to be used for agricultural purposes.
1953	The subject property appears to have been developed with the power generating facility. Many of the structures that are currently located on the subject property are evident except for Units 3 and 4 and their associated cooling towers and Unit 5. An unlined drainage channel is present in the middle of the property between the north and south property boundaries. Railroad tracks are evident along the northern property boundary.
	Development south of the subject property includes an electric substation and four ASTs adjacent to the southwest portion of the subject property.
1959	The subject property is generally unchanged except for the northwestern portion of the subject property which appears to be used for agricultural purposes. In addition, the cooling tower sludge basin is evident on the south side of the cooling towers for Units 1 and 2.
	An industrial operation has been developed on the property to the north of the subject property.

Years Listed	Subject Property and Adjoining Property Uses
1966	Units 3 and 4 and their associated cooling towers are evident on the 1966 aerial photograph. Four additional ASTs are evident on the property to the southwest of the subject property.
1975	The peaker unit (Unit 5) and the distillate AST in the southeast corner of the subject property are evident on the subject property. Additional industrial development is evident on the property to the north of the subject property. The property located across Etiwanda Avenue near the northeast corner of the subject property has been developed with a commercial operation.
1985	Two additional retention basins are evident on the subject property: the reverse osmosis basin to the south of Units 3 and 4 and the boiler water washdown basin in the southeast corner of the subject property. Additional commercial and industrial development is evident north and south of the subject property.
1990, 1994	The subject property is generally unchanged. Additional industrial development is evident north of the subject property.
2005	The subject property is generally unchanged. Four ASTs located south of the subject property have been removed.
2009, 2012, 2016	The subject property is generally unchanged. Additional commercial and industrial development and redevelopment is evident north of the subject property.

5.2.3 Topographic Maps

Path Forward reviewed USGS topographic maps of the subject property, adjoining properties, and surrounding area from the EDR collection. Map summaries follow.

Years	Scale	Subject Property and Adjoining Property Uses
1897, 1900, 1903, 1944	1:62,500	The subject property and surrounding properties appear to be unused. A railroad track is located along the northern subject property boundary.
1941	1:24,000	The subject property appears to be unused.
1953, 1954	1:24,000	The subject property has been developed with a power plant. Five oil ASTs are located southwest of the subject property. The Kaiser Steel Plant is located southeast of the subject property beyond land used for agriculture.
1966, 1973, 1976, 1981	1:24,000	The subject property appears similar to earlier maps. Additional ASTs are located southwest of the subject property. Development of the property located north of the subject property is evident.
2012	1:24,000	The subject property and surrounding area are not depicted with features or uses except for the pond and one retention basin on the subject property.

5.2.4 Local Street Directories

Path Forward reviewed local street directory entries for the subject property and adjoining/nearby properties that EDR researched in approximately five-year intervals between the years 1922 and 2017. The subject property address is listed as follows:

Address	Year(s)	Tenants
8996 Etiwanda Avenue	1985	Etiwanda Av Fon (sic), Sephton Wtr Technlgy (sic)
	2004, 2009	Reliant Energy
	2014	GenOn
	2017	NRG Energy

5.3 Regulatory Agencies

Path Forward requested records of the following agencies to obtain information regarding the subject property.

5.3.1 Tax Assessor

Path Forward reviewed records on the website of the San Bernardino County Assessor. According to the Assessor's website, the assessor's parcel number (APN) assigned to the subject property is 0229-283-79-0000. The current Assessor's Parcel Map indicates the subject property consists of 65.71 acres.

The subject property owner is currently identified as RRI Energy Etiwanda, Inc. (EDR 2020). The subject property has historically been owned by SCE and various other entities, as discussed in the 2019 Phase I ESA:

"Alta Power Generation LLC., a subsidiary of Houston Industries Inc. and early predecessor of GenOn, acquired the subject property from SCE in 1998. In 1999, Houston Industries Inc. changed its name to Reliant Energy and subsequently to RRI Energy. In 2010, RRI Energy and Mirant Energy merged to form GenOn Energy, Inc. In 2012, NRG Energy Inc. (NRG) merged with GenOn, doing business under NRG's name. GenOn officially separated from NRG in December 2018 and GenOn facilities are no longer associated with NRG. According to information provided by GenOn, the current Site owner is GenOn California South, LP, a subsidiary of GenOn Holdings, Inc."

5.3.2 Building Department

Path Forward accessed Rancho Cucamonga's Online Permit Center on September 21, 2020. Building permit applications dated 2001 and 2013 were available for review and included applications, plans, and permits for tenant improvements related to electrical, mechanical, plumbing, roofing, air conditioning, and fire systems at the subject property.

5.3.3 Fire Department

Path Forward reviewed records available from both the Rancho Cucamonga Fire Department and San Bernardino County Fire Department. These records are discussed in the following sections.

5.3.3.1 Rancho Cucamonga Fire Department

Path Forward submitted a written request for records pertaining to the subject property parcel to the RCFD on September 15, 2020. The RCFD responded in an email dated September 15, 2020 that records requests should be submitted to the SBCFD, which is the CUPA for Rancho Cucamonga.

Based on a review of the 2007 Phase I ESA, the following records were previously filed at the RCFD (URS 2007). Path Forward was not provided with these RCFD files during this assessment.

- A partially completed application for a permit to store and use 2,000 pounds of hydrogen gas and 300,000 gallons of JP5 fuel was included in the RCFD file. The permit was not dated or signed.
- A permit application dated November 11, 1999 to remove a UST at the Etiwanda facility was filed with the RCFD.
- A construction inspection record dated January 13, 2000, was prepared by the RCFD. The inspection covered the removal of a 500-gallon fiberglass UST from the Etiwanda facility. No noncompliance was observed. The inspection report indicated the UST was removed and transported offsite. Although a copy of the closure report was requested, the report was not contained in the file.

5.3.3.2 San Bernardino County Fire Department

Path Forward submitted a written request for any records pertaining to the subject property parcel to the SBCFD, which is the Certified Unified Program Agency (CUPA) for Rancho Cucamonga, on September 15, 2020. The SBCFD responded via email on September 21, 2020 that records are available for the subject property address and Path Forward Partners reviewed available records at the SBCFD on October 9, 2020. Available records are discussed below.

5.3.3.2.1 UST Records

An October 13, 1985 report provided the results of a soil investigation for three USTs (120-gallon naphtha, 550-gallon kerosene, and 550-gallon unleaded gasoline) that were removed in 1986. Five soil borings were advanced to 49 feet bgs each, and a total of 24 soil samples were collected. All samples were analyzed for TRPH. The highest TRPH result was 11 mg/kg from a sample collected at a depth of 10 feet bgs. The investigation results were submitted to the

County of San Bernardino Department of Environmental Health Services on December 11, 1985. The DEHS reviewed the results and issued a letter dated December 27, 1985 that states "this Department concurs that the levels of contamination found do not present an environmental or public health threat" (SBCDEHS 1985; see Appendix D). After removal of the three USTs, a new 550-gallon UST with secondary containment and continuous monitoring was installed in the same location. Records on file at the SBCFD indicate that the UST was installed in either April 1986 or April 1996.

A UST inspection report dated October 14, 1998 indicates that a UST was installed in April 1996 and contained diesel fuel. The inspection report noted violations for no leak detection monitoring plan, no certification of financial responsibility, and failure to develop a response plan. There was no information in the file regarding a response from Mountain View Generating, which was the Site owner in 1998.

An Underground Storage Tanks form for permanent on-site closure of a 2,000-gallon UST was filed with the CUPA on January 3, 2000. The form indicates that the UST was filled with inert material and closed in place. No information regarding UST contents or location was found in the records reviewed.

5.3.3.2.2. Hazardous Materials Release Records

In a letter dated July 20, 1995, SCE notified the San Bernardino County Environmental Health that a release of non-PCB mineral oil took place on July 14, 1995. Approximately 45 gallons of oil was released and was recovered by removal of soil. SCE reported that the hydrocarbon-affected soil was sent for reclamation and that SCE believed the area affected was fully addressed. No follow-up was in the file.

From June 1999 to May 2011, there were nine reported releases of cooling tower water. The releases ranged in size from 20 to 5,000 gallons of cooling tower water. Releases of oil, mineral oil, and lube oil (50 gallons or less) were also reported. A release of cement/hazardous waste to a stream/river/soil from a pipe on the adjacent Ameron property was recorded in April 2012. Water samples were collected and levels of metals and pH were reportedly below hazardous waste levels. Remediated soil was kept off-Site on the Ameron property and the pipe was repaired to prevent further releases.

5.3.4 Regional Water Quality Control Board

Path Forward submitted a written request for records pertaining to the subject property parcel to the Santa Ana RWQCB on September 8, 2020. The Santa Ana RWQCB responded in an email dated September 23, 2020 that records are available for the subject parcel address. Path Forward reviewed available records at the RWQCB on October 15, 2020. Available records are discussed below.

5.3.4.1 Waste Discharge Order

A Waste Discharge Order (WDO) No. 94-21 Waste Discharge Requirements including an Exemption from Requirements of the Toxic Pits Cleanup Act (TPCA) dated January 28, 1994 was included in the records. WDO 94-21 was transferred to Mountain Vista Power Generation LLC effective January 1, 1998. The WDO exempted the boiler chemical cleaning basin from the requirements of the TPCA. The WDO was rescinded by Order No. 01-67 dated July 20, 2001, because discharges to surface impoundments had ceased.

An inspection report dated September 18, 1996 included inspection of the boiler chemical cleaning basin. According to the report, the basin had not been used for six years. The report concluded that the basin was in good condition with no violations.

5.3.4.2 Tank Study Report

A May 26, 1998 letter, the RWQCB stated that their review of a April 9, 1998 Baseline Tank Study Report, which was not available in the records reviewed, indicates that additional investigation was required in borings where TPH concentrations were increasing with depth. The Baseline Tank Study Report included soil data collected in the "west and east tank areas" at the subject property. The RWQCB letter states that further characterization of these areas could be conducted during remedial activities in these areas. A December 9, 1998 letter from the RWQCB to SCE indicated that, based on a review of the results of sampling contained in an August 21, 1998 report, which was also not available in the records reviewed, no further action was required. A copy of the letter is included in Appendix D.

5.3.5 Department of Toxic Substances Control

Path Forward submitted a written request for records pertaining to the subject property parcel to the DTSC Cypress office on September 9, 2020. DTSC responded in an email dated September 9, 2020 that records are available for the subject property address. Path Forward reviewed available records at the DTSC on October 6, 2020. Available records are discussed below.

DTSC issued a Notice of Violation (NOV) to the SCE Etiwanda facility in a letter dated July 3, 1992. The letter states that SCE stored hazardous waste in the acid retention basin without a hazardous waste storage facility permit.

The Superior Court of the State of California, County of Los Angeles issued a Judgment to SCE on February 1, 1995 requiring SCE to investigate the retention basins at the subject property and other SCE-owned properties. If the investigations determined that releases had occurred, DTSC would issue a Cleanup and Abatement Order. Investigations conducted in response to the Judgment are discussed in Section 5.5.1.

5.3.6 Other Agencies

Path Forward submitted a written request for records pertaining to the subject property parcel to the San Bernardino County Public Health Environmental Health Services (EHS) on September 15, 2020. The EHS responded in an email dated September 15, 2020 that records requests should be submitted to the SBCFD, which is the CUPA for Rancho Cucamonga.

Path Forward searched the South Coast Air Quality Management District (SCAQMD) Facility Information Detail (FIND) database on September 15, 2020. The facility address is not listed in the FIND database.

Path Forward submitted a written request for records pertaining to the subject property parcel to the California Department of Resources Recycling and Recovery (CalRecycle) on September 29, 2020. CalRecycle responded in an email dated October 9, 2020 that they do not have records for the subject property address.

5.4 Activity & Use Limitations (AULs)

Path Forward reviewed a report of title and judicial records prepared by EDR for indications of environmental liens and AULs recorded against the subject property. No environmental liens or AULs were identified.

5.5 Prior Reports

Path Forward reviewed several reports provided by the client or available from regulatory agencies.

5.5.1 1995 Judgment

The Superior Court of Los Angeles issued a Final Judgment pursuant to Stipulation on February 1, 1995 (No. BC121219). The Stipulation alleged that SCE had stored hazardous wastes in unpermitted surface impoundments at 11 of their power generating stations in California, including the Etiwanda Generating Station, in violation of the Hazardous Waste Control Law. In response, SCE agreed to conduct RCRA closure of three surface impoundments (two wastewater retention basins and one boiler chemical cleaning basin) and the associated pipelines and appurtenances that connect the basins to the power generating units at the subject property according to Chapter 15 of Title 22, California Code of Regulations. The remainder of the subject property was ordered to be evaluated under RCRA corrective action.

Eight hazardous waste management units (HWMUs) were identified at the subject property:

- North Wastewater Retention Basin
- South Wastewater Retention Basin

- Boiler Chemical Cleaning Basin
- Units 1 and 2 Fireside Wash Drain System
- Units 3 and 4 Fireside Wash Drain System
- Units 3 and 4 Fireside Wash System Sediment Trap
- Units 1 and 2 Boiler Acid Wash Drain System
- Units 3 and 4 Boiler Acid Wash Drain System

SCE conducted investigations to determine whether the basins or associated conveyance systems (pipelines), which together are identified as the "Retention Basin Site" in investigation documents. In 1996, a soil and soil vapor investigation was conducted to determine whether the Retention Basin Site had released wastewater to the underlying soil. If a leak was detected, the nature and extent of the impacts were to be investigated. The results of the investigation indicated that leakage had occurred beneath the surface impoundments as a result of elevated metal concentrations, low pH values, and the presence of volatile organic compounds (VOCs) in some soil samples. Based on these results, SCE conducted additional investigation activities in three phases of investigation between 1997 and 1998. The investigations concluded that leakage had occurred through the basin liners causing limited changes in the native soil chemistry. Based on these findings, SCE submitted a Water Quality Monitoring Program (WQMP) to the DTSC in June 2001.

After DTSC approval of the WQMP, SCE installed four groundwater monitoring wells (EW-1, EW-2, EW-3, and EW-4) in April 2002. The initial groundwater sampling event took place in the second quarter of 2002. The results of the sampling event showed that the flow direction was more westerly than expected and that no wells were downgradient of the north and south retention basins. Thus, two additional wells (EW-5 and EW-6) were installed downgradient of the retention basins. The locations of the wells are shown on Figure 4. The wells were sampled between 2002 and 2009. Monitoring results are summarized in the 2009 Annual Groundwater Monitoring Report (Hamilton 2010).

A Closure Documentation Report (CDR) submitted to the DTSC in 2011 summarizes the data collected for the Retention Basin Site closure project (Jamison and Associates 2011). The CDR concluded that the extensive sampling and resultant analytical data illustrates a complete characterization of the soil beneath the retention basins and associated pipeline system. The CDR also concluded that there is no direct pathway for leakage to impact the groundwater, that there is no evidence of a continuous leak of wastewater to the sediments, and that groundwater samples collected from EW-3 and EW-4 are from a different water source than those collected from the other four wells.

The metal chemicals of potential concern (COPCs) identified for soils under the retention basins are arsenic, antimony, mercury molybdenum, nickel, silver, and thallium based on the data collected and analyzed. Other COPCs identified for soil include six VOCs (chloroform, chloromethane, styrene, tetrachloroethene, toluene, vinyl chloride), one semivolatile organic compound (SVOC) (butyl benzyl phthalate) and dioxin/furans (evaluated as 2,3,7,8-TCDD-equivalents). No COPCs were identified for groundwater. The CDR indicates that the investigations did not detect metal or VOC parameters that would indicate a change in the groundwater between the background and compliance wells.

The retention basins were found to meet closure requirements for the soil and groundwater COPCs based on the results of a human health risk assessment that concluded that human health risks are within acceptable limits for future unrestricted industrial or residential use and that groundwater use is also acceptable for unrestricted use. The environmental and ecological scoping-level risk assessment determined that ecological exposure pathways are incomplete.

The DTSC reviewed the CDR and issued a Closure Certification Acknowledgment letter on December 29, 2011 (DTSC 2011). The letter states that the DTSC considers the Retention Basin Site as being officially closed on December 20, 2011 and confirms that the Retention Basin Site has been investigated. A copy of the letter is included in Appendix E.

5.5.2 Phase I ESA (CH2MHill 1997)

CH2MHill prepared a Phase I ESA in 1997 and identified three RECs and ten areas of concern (AOCs).

RECs identified in the 1997 Phase I ESA:

- CH2M HILL personnel observed what appeared to be an oily substance and staining in the unlined Chadwick Channel and considered Chadwick Channel to be a REC.
- As a result of visual evidence of a small spill or leak inside the secondary containment area of the northwest fuel oil tank, the area was identified as a REC.
- The presence of petroleum hydrocarbon-affected soil in the AST areas was identified as a REC.

AOCs identified in the 1997 Phase I ESA:

- Past use of the retention basins made them subject to an investigation under an order by the DTSC; based on the ongoing investigation, CH2M HILL designated the retention basins an AOC.
- As a result of the presence of a white powdery substance near the sulfuric acid tank near the cooling towers, CH2M HILL designated the white powdery area an AOC.

- As a result of the former practice of placing cooling tower sludge (possibly containing chrome and arsenic from treated wood) in an unlined leaching basin, CH2M HILL designated the former leaching basin an AOC.

- As a result of the possible presence of a landfill area near the west end of the subject Property, CH2M HILL designated the possible landfill an AOC.

- As a result of the presence of oil in a recessed sump valve box near the fuel oil pumping system in the tank farm, CH2M HILL designated the sump box an AOC.

- SCE reported that the primary fuel oil pump area and the truck loading area were the locations of possibly contaminated soil. As a result of the potential for subsurface contamination, CH2M HILL designated these areas AOCs.

- As a result of the presence of a transformer that contained PCB-bearing oil and the possibility of a PCB release, CH2M HILL designated the transformers AOCs.

- As a result of oil staining in the powerblock areas near equipment that contained oil, CH2M HILL designated the oil stained area an AOC.

- As a result of the presence of untested subsurface and aboveground piping that conveys fuel oil from oil tanks to the powerblock, CH2M HILL designated the piping an AOC.

- As a result of the presence of arsenic and chrome-treated wood in the cooling towers and the possibly that soil beneath the cooling towers may be impacted by contaminants that leached from the treated wood, CH2M HILL designated the cooling tower areas AOCs.

5.5.3 Phase II ESA (Geraghty & Miller 1997)

Geraghty & Miller (G&M) conducted a Phase II ESA to evaluate the environmental condition of the subject property by investigating RECs and AOCs identified in the 1997 Phase I ESA. Geraghty & Miller investigated 31 areas with the potential for historical or current releases of hazardous substances or petroleum products at the subject property and off-Site areas that were also owned by SCE in 1997. The Phase II report indicates that three retention basins (two general and one reverse osmosis) and the adjacent acid and caustic tanks and the boiler chemical cleaning basin were not addressed by G&M because of the ongoing investigation by SCE that was being conducted under the order of DTSC. Geraghty & Miller's conclusions and recommendations for the remaining areas are summarized below.

At four of the site features, no further action was recommended at this time; however, agency negotiation and additional sampling may be required as part of decommissioning at the following features. URS expects that any work associated with these site features will remain the responsibility of SCE (URS 1997):

- ASTs: Soil investigation around ASTs was limited and additional sampling may be required.

- Transformers: TPH and PCBs detected below screening criteria. Investigation around the transformers was limited due to restricted access.

- Powerblock: Sampling around the powerblock found in TPH, metals, and PCBs below the screening criteria; however, the investigation was limited due to restricted access.

- Possible UST: The Phase II geophysical survey and soil sampling did not identify the location of the UST identified in SCE files. The UST may be discovered during Site redevelopment.

Of the thirty-one features identified, six were noted as needing further action although one of the features was an off-Site landfill located southeast of the subject property:

- Surface water discharge: Arsenic was detected at concentrations above screening criteria in soil samples collected at points of surface water discharge.

- Pipelines: TPH was detected in soil at concentrations below screening criteria and arsenic was detected above screening criteria. Some excavation activities were conducted and a portion of the pipeline was removed. The report notes that the pipeline was determined to be lined with lead and a portion of the pipeline remained on the subject property.

- Units 3 and 4 cooling towers: Arsenic was detected at concentrations above screening criteria in soil samples collected near the cooling towers. In addition, due to restricted access, no samples were collected to evaluate the former incinerator located near Cooling Unit 3.

- Sulfuric acid storage tanks: Arsenic was detected at concentrations above screening criteria in soil samples collected near the storage tank located at Cooling Tower 3.

- Former water softener and brine pit: Arsenic was detected at concentrations above screening criteria in soil samples collected near the former water softener and brine pit.

Based on the Phase II investigation, the following site features were identified as requiring no further actions: waste discharges (from off-Site sources), underground storage tanks, AST containment structures, hazardous waste storage area, solid waste disposal area (landfill), scrap metal yard, septic systems, site of 1995 reported transformer oil spill, peaker unit floor drain and sumps, switchyard perimeter, boiler wash water storage tank area, and Units 1 and 2 cooling tower sludge dewatering basin. Four off-Site areas were also identified in the Phase II report: vineyard water tank, bone yard (laydown area), utility pole storage, and agricultural research area.

Regulatory agency records indicated that the Ameron and TAMCO facilities immediately north of the subject property reported contaminated soil near the Etiwanda Generating Station that may have not been delineated. Based on a review of available investigative data, G&M concluded that it did not appear that releases associated with Ameron and TAMCO had impacted soil on the subject property. Based on the data reviewed, G&M recommended no further action for soil. Groundwater data was not available for review by G&M and was not included in its conclusions and recommendations.

5.5.3 Chadwick Channel Remedial Activities (1997)

The 1997 Phase II ESA indicates former occupants of properties to the north of the Site (TAMCO and Ameron) were responsible for several releases to the Chadwick Channel and other areas located to the north of the Site in the 1980s and 1990s. An investigation conducted in 1985 detected concentrations of arsenic in Chadwick Channel above screening criteria, and concentrations of lead and chromium above hazardous waste criteria. Results of the 1985 investigation were reportedly presented in a Site Characterization Study; however, this report was not readily available for review. SCE received a letter from the RWQCB dated July 22, 1987 that states that, based on review of the "Site Characterization study" that addressed the chemical composition and extent of impact to soil in the drainage channel and spreading basin, which is located south of the subject property, no further remedial action will be required. A copy of the letter is included as Appendix D.

Path Forward reviewed a 1997 Chadwick Channel Site Investigation and Cleanup report that indicates that soil containing nickel at concentrations above the California Total Threshold Limiting Concentration (TTLC) were delineated near the former Unit 4 drain line discharge in Chadwick Channel. Beryllium was also detected at concentrations above its Preliminary Remediation Goal (PRG). The soil was excavated and sidewall and bottom samples confirmed that all impacted soil was removed (SCE 1997).

5.5.4 Arsenic Investigations (2005-2007)

Several investigations have been conducted to determine the extent of arsenic impacts in soil at the subject property. An investigation conducted by Earth Tech in March through May 2005 detected arsenic in shallow soils at concentrations ranging from 160 to 390 mg/kg in the shallow soil in the vicinity of the Units 1 and 2 cooling towers. In August 2005, URS collected additional shallow soil samples in 23 locations in the vicinity of the Units 1 and 2 cooling towers. Arsenic was detected at concentrations between 1.89 and 70.2 mg/kg. URS concluded that elevated arsenic concentrations "do not extend much past the base of the cooling tower units."

The 2010 Soil Characterization Report (SCR) summarizes additional arsenic investigation results and evaluation of arsenic background concentrations. The 2010 SCR was not available for review by Path Forward but is discussed in the 2019 Phase I ESA, as follows:

"Evaluations were completed in 1985, 2005 and 2007 to determine Site-specific background levels for several constituents, including arsenic. The maximum background level for the Site was determined to be 7.4 mg/kg in 1985 and 2 mg/kg in 2005/2007. However, the DTSC approved regional background level for arsenic is 12 mg/kg. Review of analytical data from the 1997 Phase II indicates arsenic levels for three of these areas (surface water discharge, pipelines, and the second solid waste disposal area (Landfill 2) were below the regional background level of 12 mg/kg but above 2 mg/kg. The remaining three areas had a detection above the regional background level of 12 mg/kg (cooling towers 3 and 4 - 17 mg/kg, sulfuric acid storage tanks - 22 mg/kg, and the former water softener and brine pit - 17 mg/kg). To date, limited arsenic impacted soils remain in place at the Site and no further investigations have been completed. These areas will be further evaluated during the RFI for the remainder of the facility." As discussed in Section 4.4, SCE submitted a workplan for excavation of the impacted soils in the vicinity of cooling towers 1 and 2 to the DTSC on September 23, 2019 (Northgate 2019).

5.5.5 Subject Property Investigation (Ardent 2019)

In October 2019, Ardent Environmental Group (Ardent) conducted a site investigation on behalf of a prospective buyer. Ardent provided figures showing soil boring and soil gas sampling locations as well as tables showing analytical results of the soil and soil gas sample analyses. The figures and tables are provided in Appendix F. A report detailing the investigation was not provided by Ardent. The following is information summarized from review of the figures and tables provided.

Soil and soil gas samples were collected from several locations on the subject property, as shown in the following table. The table below also details the chemicals analyzed by the laboratory and the general results of those analyses.

Table 1: Ardent Investigation Summary	**Ardent Table Number**	**Analytes**				
		TPH	Metals	VOCs	OCPs	PCBs
Soil Sample Locations						
Cooling Tower 1 and 2	1		x			
Sludge Drainage Area	2		x			
Cooling Tower 3	3		** (arsenic, lead)			
Cooling Tower 4	4		X			
Chadwick Channel	5	**	x			

Table 1: Ardent Investigation Summary	**Ardent Table Number**	**Analytes**				
		TPH (TPH-d)	Metals	VOCs	OCPs	PCBs
Railroad Spur	6		x		x	
Landfill I (a)	7	x	** (arsenic, copper, lead)	x		
Landfill II (a)	8	x	x	x		
Flumes	13		** (thallium)			
Tributary	14	x	x			x
Soil Gas Sample Locations						
Former Hazardous Waste Storage Area	9			x		
Existing Hazardous Waste Storage Area	10			x		
Maintenance Shop	11			** (bromodichloromethane, chloroform, 1,1-DCA, PCE, VC)		
Septic System associated with the Maintenance Shop	12			** (1,1-DCA, PCE, VC)		

Notes:

a = note that Ardent identified two adjacent landfill areas, Landfill I and Landfill II, in the northwestern portion of the subject property (as shown on Figure 2 in Appendix F). The northwestern portion of the subject property has been identified as Landfill 1 in previous reports. It appears that Ardent used the Landfill I and II identifiers to differentiate between two separate areas within the area formerly identified as Landfill 1.

X = samples analyzed for this group of compounds; no chemicals detected above human health and/or disposal criteria

** = samples analyzed for this group of compounds; chemicals listed in parentheses were detected at concentrations above human health and/or disposal criteria (see Ardent tables for details)

OCPs = organochlorine pesticides

PCBs = polychlorinated biphenyls

TPH = total petroleum hydrocarbons

VOCs = volatile organic compounds

1,1-DCA = 1,1-dichloroethane

PCE = tetrachloroethene

TPH-d = TPH as diesel

VC = vinyl chloride

As noted above, a report containing investigation details and a discussion of findings and conclusions was not provided by Ardent. As shown in the table above, soil and soil gas samples in several locations on the subject property contained concentrations of chemicals above human health and/or disposal criteria.

Between May and July 2020, ERM conducted excavation activities in the Landfill I area to address the elevated metal concentrations detected in soil samples in this area during Ardent's investigation, as discussed in Section 5.5.6. below. In September 2020, ERM collected one additional soil sample in an area of "black sand" in the Landfill II area that appeared similar to the area of excavation in Landfill I. The metals concentrations detected were similar to those detected in the Landfill I area. Given that only one sample was collected in this area, the extent of soil with elevated metals concentrations is not known.

No records of additional investigation or remedial activities in the other areas where chemicals were detected at concentrations above screening criteria was provided or found during this assessment.

5.5.6 Excavation Activities in the Northwest Portion of the Subject Property (ERM 2020)

Based on the findings of Ardent's investigation described above, GenOn elected to proactively remove the metals-impacted soil from the northwest portion of the property in the area Ardent identified as Landfill I. Between May and July 2020, ERM and their subcontractor conducted soil removal activities. Soil excavation began at the LFI-1 and LFI-3 test pit locations and were extended based on visual observations, X-ray fluorescence (XRF) analyzer field-screening data, and soil sample analytical results. Approximately 6,445 tons of waste soil was generated during excavation activities. The soil was profiled as non-RCRA hazardous waste and disposed off-Site. The Soil Removal Memorandum prepared by ERM and dated September 22, 2020 states that, based on the results of field screening, visual observations and analytical results of the confirmation samples, all impacted soil containing elevated metals concentrations in the northwest portion of the subject property has been removed. ERM recommended no further action to mitigate this area (ERM 2020). A copy of the Soil Removal Memorandum is included in Appendix G.

6.0 REGULATORY DATABASE REVIEW

Path Forward reviewed a regulatory agency database search report prepared by EDR for the subject property. EDR conducted a search of publicly available information from federal, state, tribal, and local databases for information pertinent to the subject property associated with plotted addresses located within ASTM-specified search distances from the subject property. The database report identifies about 84 facilities as well as the accessed databases.

The subject property address of 8996 Etiwanda Avenue was identified in the following databases searched by EDR:

Site Name:	Southern California, NRG Energy Inc., NRG California South, Etiwanda Generating, EPTC Etiwanda, Etiwanda Launcher Facility, Etiwanda Substation, Inland Empire Utility, 8996 Etiwanda Avenue, North Star Recycling
Databases:	RCRA-SQG, HAZNET, CERS HAZ WASTE, HIST UST, SWEEPS UST, AST, CHMIRS, HWTS, NPDES, CIWQS, LDS, WDS, WMUDS/SWAT, ICIS, EMI, US AIRS, TSCA, ECHO, COAL ASH DOE

Southern California Edison/EPTC/Reliant Etiwanda was registered as a small or large quantity generator of hazardous waste between 1990 and 2016 that has received violations. Over 300 records of hazardous waste manifests for off-Site disposal for various hazardous wastes were filed between 2004 and 2019. The UST listings include details on 53 UST listings at the subject property address; many of these listings are missing information or appear to be duplicate listings. The AST listing indicates that the facility was registered to store a total of 210,850 gallons in ASTs. The CHMIRS listings indicate that releases of cooling tower water (10 to 10,000 gallons) to Chadwick Channel occurred in 1989 through 2015. The CHMIRS listings also include information on releases of lube oil (35 gallons due to broken oil lines on equipment in 2010 and 42 gallons due to rupture of a pressure gauge in 2016). The COAL ASH DOE database indicates that the following byproducts were reported by Etiwanda Generating Station in 2018: fly ash from units with dry FGD, bottom ash from standard boiler units, bottom (bed) ash from FBC units, FGD gypsum, ash from coal gasification (IGCC) units, fly ash from standard boiler/PCD units, and fly ash from FBC units. The remaining listings are related to historical hazardous materials use and storage, wastewater discharges, and air emission registrations and do not indicate that releases have occurred.

No adjoining properties or nearby properties located up to cross gradient were identified with cases involving releases to groundwater, with the exception of the following:

Site Name:	SA Recycling		
Address:	8822 Etiwanda Avenue		
Distance:		**Direction:**	**Relative Elevation:**
0.047 miles		Northeast	Higher
Databases:	VCP, Envirostor, CHMIRS, HAZNET, NPDES, San Bern Co Permit, CIWQS, CERS, HWTS		

The Envirostor listing indicates that the facility entered into a voluntary cleanup agreement with DTSC in 2018. Automobile and scrap metal recycling operations were conducted at this facility between 1975 and 2017. Investigations identified metals, TPH, and PCBs in soil samples. Groundwater samples were not collected. DTSC determined that additional action is necessary to assess environmental conditions at the facility. Redevelopment of the property is currently underway. The facility is located upgradient of the subject property; however, given the depth to groundwater in the subject property vicinity (approximately 400 feet bgs), this facility is unlikely to have impacted the groundwater beneath the subject property. As discussed in Section 5.5.3., the 1997 Phase II ESA indicates former occupants of properties to the north of the Site were responsible for several releases to the Chadwick Channel and other areas located to the north of the Site in the 1980s and 1990s. Investigation and remediation of Chadwick Channel was conducted in 1997. It is possible that additional releases from properties located north of the Site, including the SA Recycling property, have impacted the Site via surface runoff to Chadwick Channel.

Site Name:	TAMCO/Ameron Steel and Wire (Ameron)		
Address:	12459 and 12459 B Arrow Route		
Distance: 0.443 miles		**Direction:** North-northwest	**Relative Elevation:** Higher
Databases:	SEMS-ARCHIVE, RCRA-LQG, Envirostor, LUST, SLIC, UST, VCP, CERS HAZ WASTE, SWEEPS UST, HIST UST, EPA WATCH LIST, HIST Cortese, San Bern Co Permit		

The Envirostor listing indicates the EDR report, various USTs were present on the property from the 1970s through at least the 1990s. The facility was also entered into the Cleanup Program (CPS-SLIC) and the case was closed in 1990. A LUST incident was reported in 1993 and was closed in 1994. The facility was determined to be a non-NPL (SEMS ARCHIVE) site in 1994 and was then entered into the VCP in 1995. The historic use of the facility was reportedly a recycling, scrap metal, and vehicle maintenance facility, and the contaminants of concern include hydrocarbon solvents, metals, and other inorganic solvent wastes. The facility was granted No Further Action status in 1996. The facility is located upgradient of the subject property; however, given the depth to groundwater in the subject property vicinity (approximately 400 feet bgs), this facility is unlikely to have impacted the groundwater beneath the subject property. As discussed in Section 5.5.3., the 1997 Phase II ESA indicates former occupants of properties to the north of the Site were responsible for several releases to the Chadwick Channel and other areas located to the north of the Site in the 1980s and 1990s. Investigation and remediation of Chadwick Channel was conducted in 1997. It is possible that additional releases from properties located north of the Site, including the TAMCO/Ameron property which is currently occupied by CMC Steel California, have impacted the Site via surface runoff to Chadwick Channel.

7.0 FINDINGS AND OPINIONS

Path Forward identified obvious subject property uses from the present back to 1938, at which time the subject property used for agricultural purposes. The electric power generating facility was constructed by Southern California Edison on the subject property in 1951. Additional equipment and retention basins were added to the facility through 1979. The power generating facility operated on-Site until 2018. In 2003, some of the facility equipment was decommissioned. By 2018, the owner, GenOn, had ceased facility operations and the remaining equipment was decommissioned.

This ESA identified the following findings with respect to RECs, CRECs, HRECs and de minimis conditions, as defined in Section 1.1 of this report:

- Pending RCRA Facility Investigation: The Superior Court of Los Angeles issued a Final Judgment pursuant to Stipulation on February 1, 1995. The Stipulation alleged that SCE had stored hazardous wastes in unpermitted surface impoundments at the company's power generating stations in Southern California, including the Etiwanda Generating Station. As part of the Stipulation, SCE was required to conduct Resource Conservation and Recovery Act (RCRA) closure of three surface impoundments (two wastewater retention basins and one boiler chemical cleaning basin) and the associated pipelines and appurtenances that connect the basins to the power generating units at the subject property according to Chapter 15 of Title 22, California Code of Regulations. The basins

were granted case closure in 2011, as discussed below in the HREC section. The remainder of the subject property was ordered to be evaluated under RCRA corrective action. A Site-wide RCRA Facility Investigation (RFI) is required to evaluate soil beneath inaccessible areas of the subject property (e.g., beneath the powerblock and cooling towers) and to determine if additional areas of the subject property require further assessment. The potential for impacts beneath Site features due to the historical operation of the power generating facility is considered a REC.

- Pending Data Gap Investigation: SCE submitted a workplan for the data gap soil sampling event to Department of Toxic Substances Control (DTSC) on October 15, 2020. The workplan indicates that soil samples will be collected at one hypochlorite tank/sump, three sulfuric acid aboveground storage tanks (ASTs) and two auxiliary transformers located on the subject property (SCE 2020). SCE stated that the data from the soil sampling event would be included in the RFI workplan along with other data previously collected at the subject property. SCE does not plan to conduct additional sampling in other inaccessible areas of the subject property, such as beneath the generating units and peaker unit. SCE stated that impacts identified in these areas during Site redevelopment will be managed in accordance with a Soil Management Plan that will be proposed in the RFI. The potential for impacts beneath Site features proposed for investigation is considered a REC.

- Arsenic in Soil: A Phase II investigation conducted in 1997 identified five areas on the subject property containing arsenic concentrations in soil above screening criteria identified in 1997. The identified areas are generally defined as surface water discharge, pipelines, cooling towers 3 and 4, sulfuric acid storage tanks, and the former water softener and brine pit. The maximum concentrations detected in 1997 were compared to the current DTSC approved background concentration of 12 milligrams per kilogram (mg/kg). Maximum arsenic concentrations detected at three of the areas, cooling towers 3 and 4 (17 mg/kg), sulfuric acid storage tanks (22 mg/kg), and former water softener and brine pit (17 mg/kg), exceeded the background concentration. The maximum concentrations detected at the surface water discharge (5.3 mg/kg) and pipelines (2.6 mg/kg) were below the background concentration.

  An additional investigation conducted in the vicinity of the Units 1 and 2 cooling towers conducted in March through May 2005 detected arsenic in shallow soils at concentrations ranging from 160 to 390 mg/kg. In August 2005, additional shallow soil sampling in the vicinity of the Units 1 and 2 cooling towers found arsenic at concentrations between 1.89 and 70.2 mg/kg. URS concluded that elevated arsenic concentrations "do not extend much past the base of the cooling tower units." In September 2019, SCE's consultant, Northgate Environmental, prepared a Cooling Towers Removal Activities Memorandum that outlines the excavation activities planned in the immediate vicinity of the Units 1 and 2 cooling towers (Northgate 2019).

The elevated arsenic concentrations remaining in on-Site soils in the vicinity of cooling towers 1 and 2, cooling towers 3 and 4, sulfuric acid storage tanks, and former water softener and brine pit is considered a REC.

- 2019 Investigation Results: In October 2019, Ardent Environmental Group (Ardent) conducted a site investigation on behalf of a prospective buyer. Figures and tables from this investigation were provided to Path Forward but an accompanying report was not available. Based on a review of the figures and tables, soil and soil gas samples collected in several locations on the subject property contained concentrations of chemicals above human health and/or disposal criteria. Chemicals detected in soil above human health and/or disposal criteria include total petroleum hydrocarbons (TPH) as diesel in Chadwick Channel, arsenic and lead near the Unit 3 cooling tower, arsenic, copper, and lead in Landfill I (see 2020 Soil Excavation below), and thallium in the Unit 3 cooling tower flume. Chemicals detected in soil gas above human health and/or disposal criteria include bromodichloromethane, chloroform, 1,1-dichloroethane (1,1-DCA), tetrachloroethylene (PCE), and vinyl chloride in the maintenance shop area and 1,1-DCA, PCE, and vinyl chloride in the septic system associated with the maintenance shop. Given that the areas where elevated concentrations of chemicals were detected have not been further investigated, the extent of impacts in these areas has not been defined. The results of the 2019 Investigation indicating the presence of impacts above human health and/or disposal criteria is a REC.

- 2020 Soil Excavation: Metals-impacted soil in the northwest portion of the property (identified as Landfill I) was identified during a 2019 subsurface investigation conducted by Ardent. Between May and July 2020, approximately 6,445 tons of metals-impacted soil was identified and excavated from this area of the subject property. The soil was profiled as non-RCRA hazardous waste and disposed off-Site. The Soil Removal Memorandum prepared by ERM and dated September 22, 2020 states that, based on the results of field screening, visual observations and analytical results of the confirmation samples, all impacted soil containing elevated metals concentrations in the northwest portion of the subject property has been removed. ERM recommended no further action to mitigate this area.

  During the site visit performed by Path Forward, additional "black sand" was identified in northwest portion of the property (identified as Landfill II). In September 2020, ERM collected one additional soil sample of "black sand" that appeared similar to the area of excavation in Landfill I. The metals concentrations detected were similar to those detected in the Landfill I area; however, were below human health risk based levels. Given that only one sample was collected in this area, the extent of soil with elevated metals concentrations is not known. The presence of Black Sand in Landfill II is considered a REC.

- Spills and Releases: Numerous spills and releases from the cooling towers, tanks, and equipment have occurred since Site operations began in 1953. SCE records, San Bernardino County Fire Department records and records in the CHMIRS database indicate that releases to Chadwick Channel and other areas on the subject property have occurred throughout the history of Site operations. For example, records indicate that transformer leakage in 1991 generated approximately 80 tons of transformer oil-containing soil and that an approximately 45-gallon release of non-PCB mineral oil was recovered by removal of soil in 1995. In addition, oil staining was noted in the powerblock and near various equipment at the Site during the Site reconnaissance conducted by Path Forward and others. Previous investigations conducted at the subject property have not included sampling in areas of subsurface and aboveground piping that conveys fuel oil from oil tanks to the powerblock. Given the long history of industrial operations including significant quantities of petroleum and other products and known release events, it is possible that impacts are present beneath inaccessible areas, such as the powerblocks and cooling towers, and near other equipment at the subject property, such as pipelines. This long industrial history and documented releases is considered a REC.

- Retention Basin RCRA Investigation and Closure: As discussed above in the REC section, the Superior Court of Los Angeles issued a Final Judgment pursuant to Stipulation on February 1, 1995. The Stipulation alleged that SCE had stored hazardous wastes in unpermitted surface impoundments at the company's power generating stations in Southern California, including the Etiwanda Generating Station. As part of the Stipulation, SCE was required to conduct RCRA closure of three surface impoundments (two wastewater retention basins and one boiler chemical cleaning basin) and the associated pipelines and appurtenances (the "Retention Basin Site") that connect the basins to the power generating units at the subject property according to Chapter 15 of Title 22, California Code of Regulations.

  SCE conducted investigations to determine whether the basins or associated conveyance systems had released wastewater to the underlying soil. The investigations concluded that leakage had occurred through the basin liners causing limited changes in the native soil chemistry. A DTSC-approved Water Quality Monitoring Program (WQMP) was subsequently conducted. A Closure Documentation Report (CDR) submitted to the DTSC in 2011 summarizes the data collected for the RCRA closure project. The CDR concluded that the extensive sampling and resultant analytical data illustrates a complete characterization of the soil beneath the retention basins and associated pipeline system. The CDR also concluded that there is no direct pathway for leakage to impact the groundwater and that there is no evidence of a continuous leak of wastewater to the sediments. The retention basins were found to meet closure requirements for the soil and groundwater chemicals of potential concern (COPCs) based on the results of a human health risk assessment that concluded that human health risks are within acceptable limits for future unrestricted industrial or residential

use and that groundwater use is also acceptable for unrestricted use. The environmental and ecological scoping-level risk assessment determined that ecological exposure pathways are incomplete.

The DTSC reviewed the CDR and issued a Closure Certification Acknowledgment letter on December 29, 2011 (DTSC 2011). The letter states that the DTSC considers the Retention Basin Site as being officially closed on December 20, 2011 and confirms that the Retention Basin Site has been investigated. The RCRA closure of the retention basins at the subject property is considered an HREC.

- 1985 Underground Storage Tank (UST) No Further Action Letter: An October 13, 1985 report provided the results of a soil investigation for three USTs (120-gallon naphtha, 550-gallon kerosene, and 550-gallon unleaded gasoline) that were removed in 1986. Five soil borings were advanced to 49 feet below ground surface (bgs) each, and a total of 24 soil samples were collected. All samples were analyzed for total recoverable petroleum hydrocarbons (TRPH). The highest TRPH result was 11 mg/kg from a sample collected at a depth of 10 feet bgs. The investigation results were submitted to the County of San Bernardino Department of Environmental Health Services on December 11, 1985. The DEHS reviewed the results and issued a letter dated December 27, 1985 that states "this Department concurs that the levels of contamination found do not present an environmental or public health threat." The no further action letter for the UST closure is considered an HREC.

- 1998 Tank Area No Further Action Letter: A May 26, 1998 letter, the Regional Water Quality Control Board (RWQCB) stated that their review of a April 9, 1998 Baseline Tank Study Report, which was not available in the records reviewed, indicates that additional investigation was required in borings where TPH concentrations were increasing with depth. The Baseline Tank Study Report included soil data collected in the "west and east tank areas" at the subject property. The location of these areas was not identified in records reviewed. The RWQCB letter states that further characterization of these areas could be conducted during remedial activities in these areas. A December 9, 1998 letter from the RWQCB to SCE indicated that, based on a review of the results of sampling contained in an August 21, 1998 report, which was also not available in the records reviewed, no further action was required. The no further action letter for the Tank Area is considered an HREC.

- Chadwick Channel Excavation Activity: The 1997 Phase II ESA indicates former occupants of properties to the north of the Site (TAMCO and Ameron) were responsible for several releases to the Chadwick Channel and other areas located to the north of the Site in the 1980s and 1990s. An investigation conducted in 1985 reportedly detected concentrations of arsenic in Chadwick Channel above screening criteria, and concentrations of lead and chromium above hazardous waste criteria. Results of the 1985 investigation were reportedly presented in a Site Characterization Study for the

Etiwanda Generating Station; however, this report was not available for Path Forward's review. On July 22, 1987, SCE received a letter from the RWQCB that states, based on review of the "Site Characterization study" that addressed the chemical composition and extent of impact to soil in the drainage channel and spreading basin, which is located south of the subject property, no further remedial action will be required.

Path Forward also reviewed a 1997 Chadwick Channel Site Investigation and Cleanup report that indicates that soil containing nickel at concentrations above the California Total Threshold Limiting Concentration (TTLC) were delineated near the former Unit 4 drain line discharge in Chadwick Channel. Beryllium was also detected at concentrations above its Preliminary Remediation Goal (PRG). The soil was excavated and sidewall and bottom samples confirmed that all impacted soil was removed. Agency closure of the 1997 excavation activities was not found during this assessment. The no further action letter and remediation of the area of Chadwick Channel near the former Unit 4 drainage line discharge are considered an HREC.

- Former Agricultural Uses: The subject property was used for agricultural purposes sometime prior to 1938 until the early 1950s. Although not documented at the subject property, activities commonly associated with agricultural uses may include the use and storage of hazardous materials and petroleum products (*e.g.*, agricultural chemicals). Information was not available as to the potential historical usage of pesticides, fertilizers or insecticides. Based on our experience, these residual concentrations, if present, are not typically at concentrations that would require cleanup by a regulatory agency or pose a significant human health risk to commercial or industrial site users. There is potential that the near surface soils may contain residual agricultural chemicals that may affect disposal costs in the event redevelopment is planned and such soils are removed from the property. The historical agricultural use is considered a de minimis condition.

- Closed in place UST(s): A 550-gallon UST was installed at the subject property in 1986 or 1996. The 2007 Phase I ESA indicates that a construction inspection record dated January 13, 2000 and prepared by the Rancho Cucamonga Fire Department (RCFD) indicates that a 500-gallon fiberglass UST was removed from the Etiwanda facility. No noncompliance was observed. The inspection report indicated the UST was removed and transported offsite. Although a copy of the closure report was requested, the report was not contained in the file. However, the 2019 Phase I ESA indicates that the 550-gallon UST was closed in place at the Site in 2000 although closure and removal documentation was not available for review. Based on Path Forward's review of San Bernardino County Fire Department (SBCFD) records, an Underground Storage Tanks form for permanent on-site closure of a 2,000-gallon UST was filed with the CUPA on January 3, 2000. The form indicates that the UST was filled with inert material and closed in place. No information regarding UST contents or location was found in the records reviewed. Based on the conflicting information provided in the previous Phase Is

and records reviewed by Path Forward, it is possible that one or two USTs may have been closed in place at the subject property; one 550-gallon UST may be located south of the warehouse and the location of one 2,000-gallon UST is unknown. The presence of potential closed in place USTs is considered a de minimis condition.

- Potential UST: The 1997 Phase II ESA indicates that Edison Drawing 5625202 identifies a UST near a carport area, as shown on Figure 3. Geraghty & Miller conducted a geophysical survey in the area identified and did not identify a UST in this area but concluded that a UST may be found in this area during Site redevelopment. The presence of a potential UST is considered a de minimis condition.

8.0 CONCLUSIONS

Path Forward conducted a Phase I ESA in conformance with ASTM Designation: E1527 of the subject property located at 8996 Etiwanda Avenue, San Bernardino County, Rancho Cucamonga, California. This ESA has revealed evidence of RECs in connection with the subject property, as discussed in Section 7.0.

We declare that, to the best of our professional knowledge and belief, we meet the definition of environmental professional as defined in §312.10 of 40 CFR 312. We have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. We have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

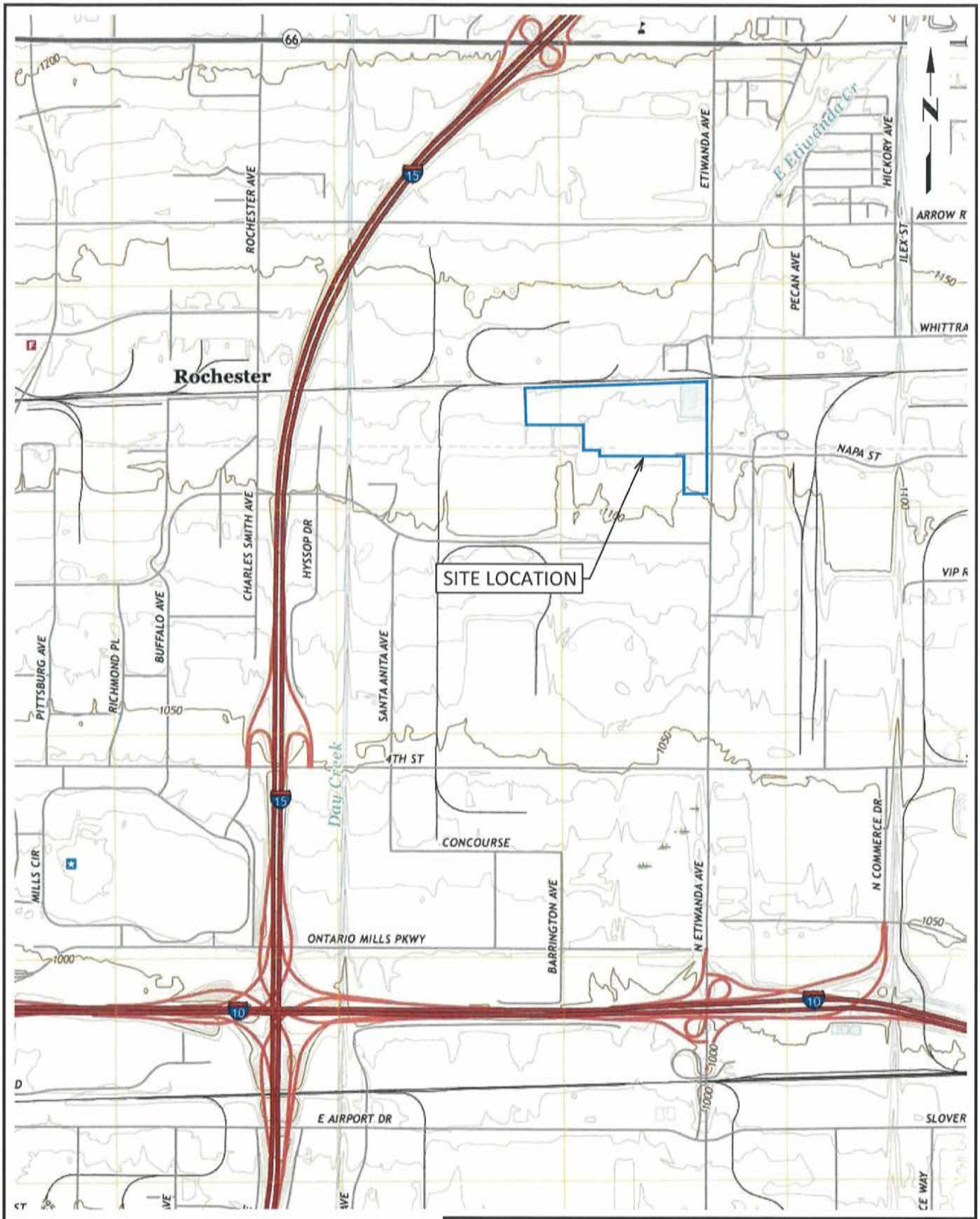
This Phase I ESA report prepared by:

DRAFT
Karen T. Smith
Senior Scientist

This report reviewed by:

DRAFT
David A. Grunat, P.G., C.H.G.
Principal Geologist

Figures



Reference:
USGS Guasti 7.5 Minute quadrangle, 2018.

SITE LOCATION MAP

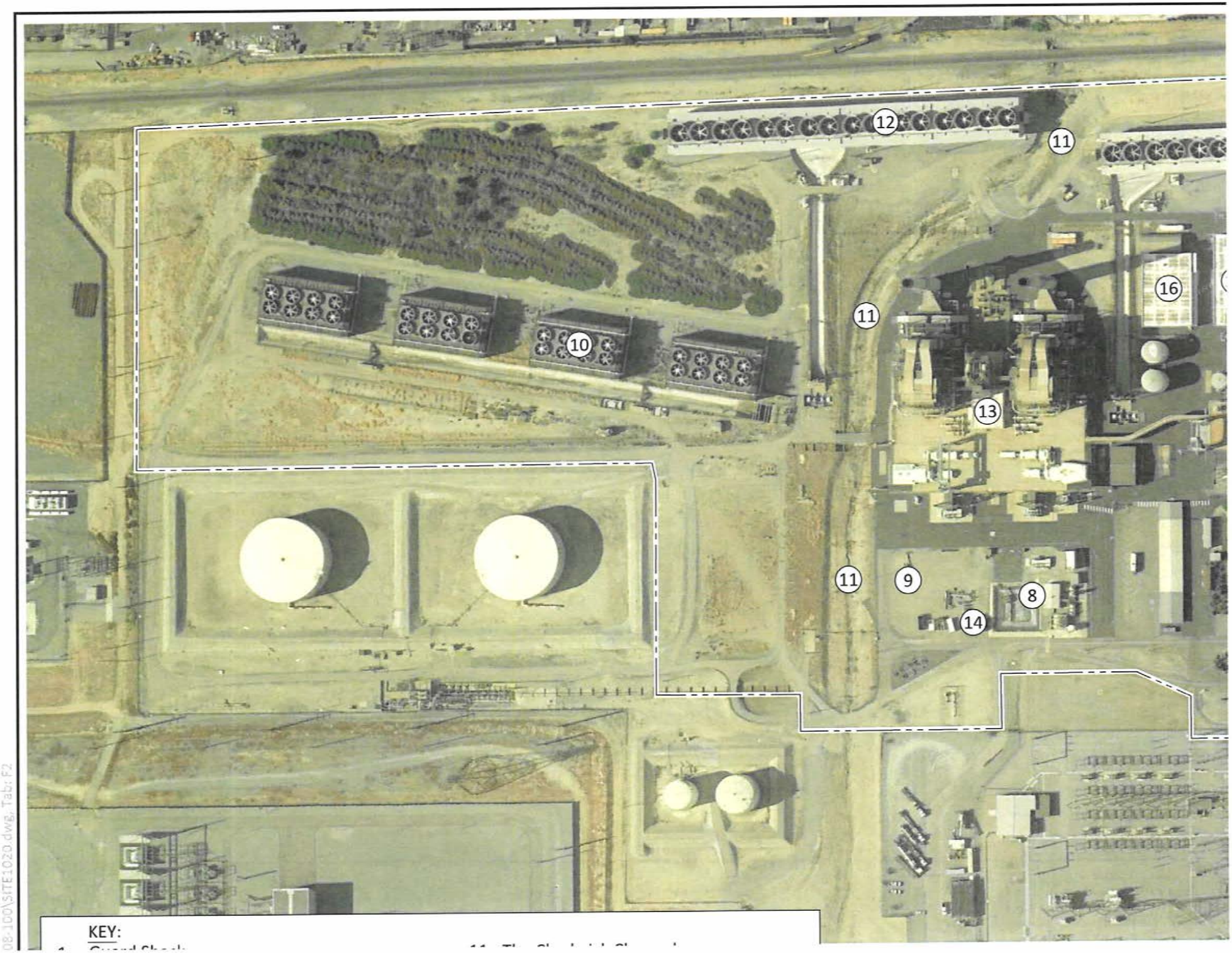
PATH FORWARD
Environmental Engineering & Geology

8996 ETIWANDA AVENUE
RANCHO CUCMONGA, CA

Figure
1

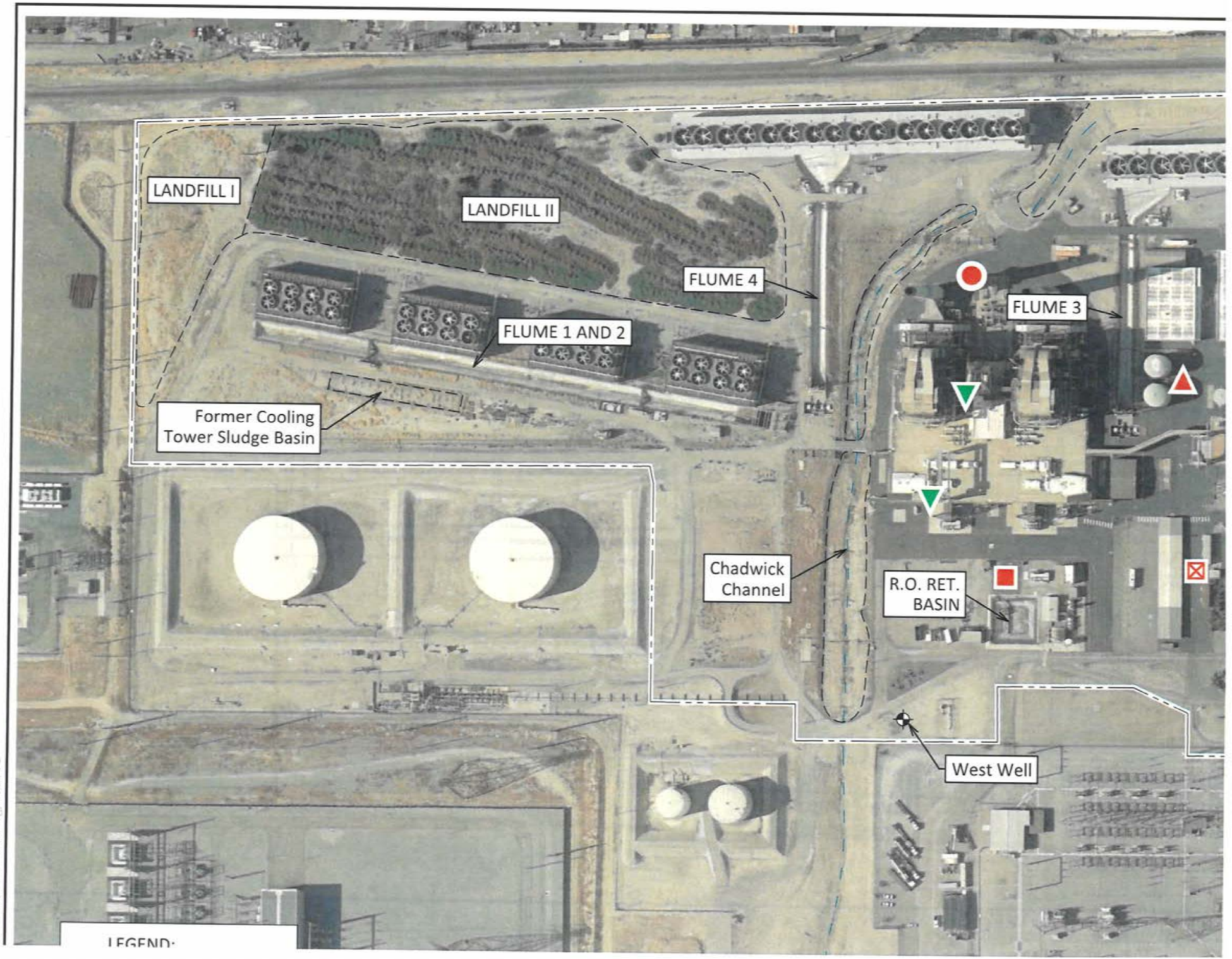
Project No. 124-108-100

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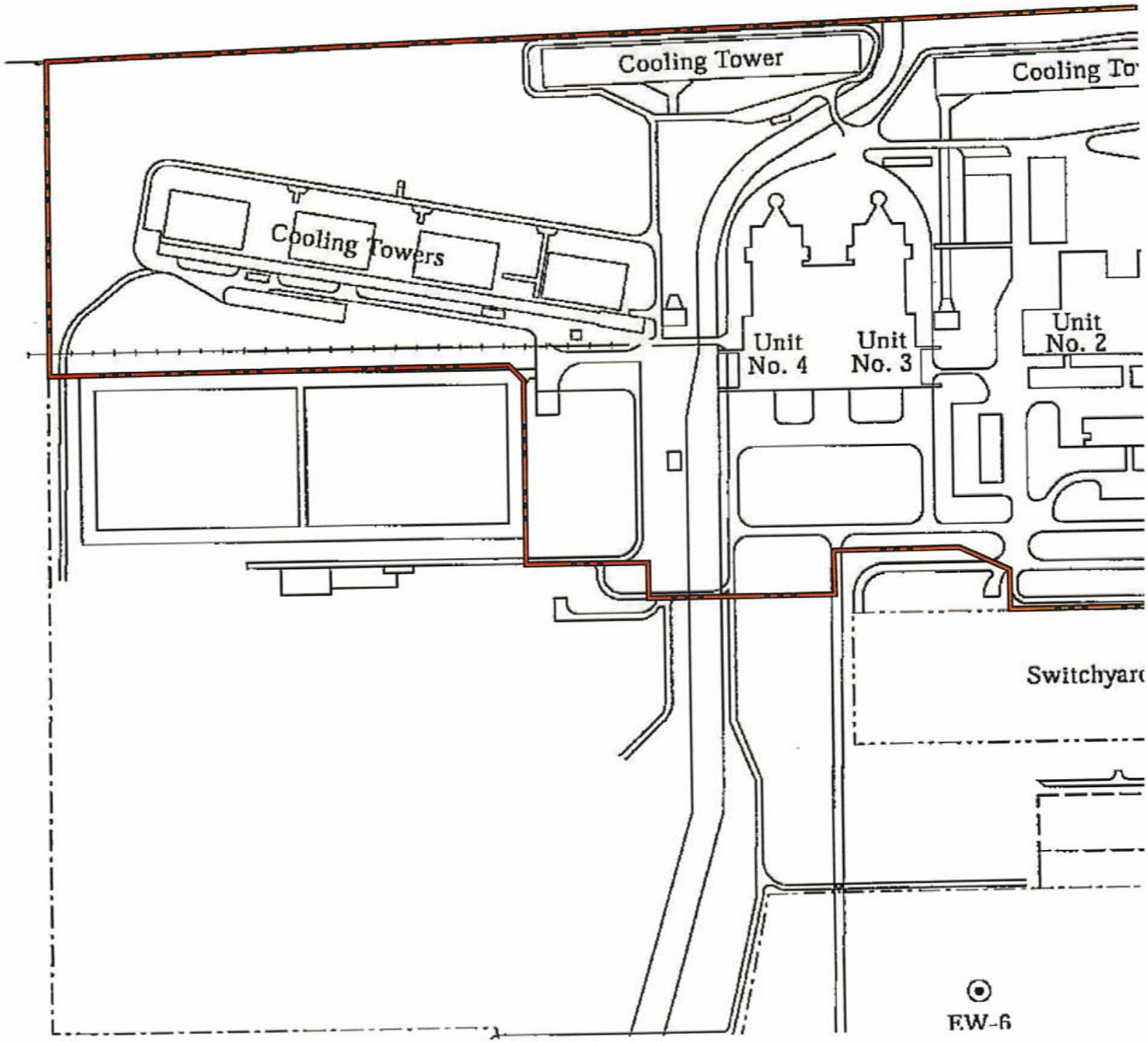


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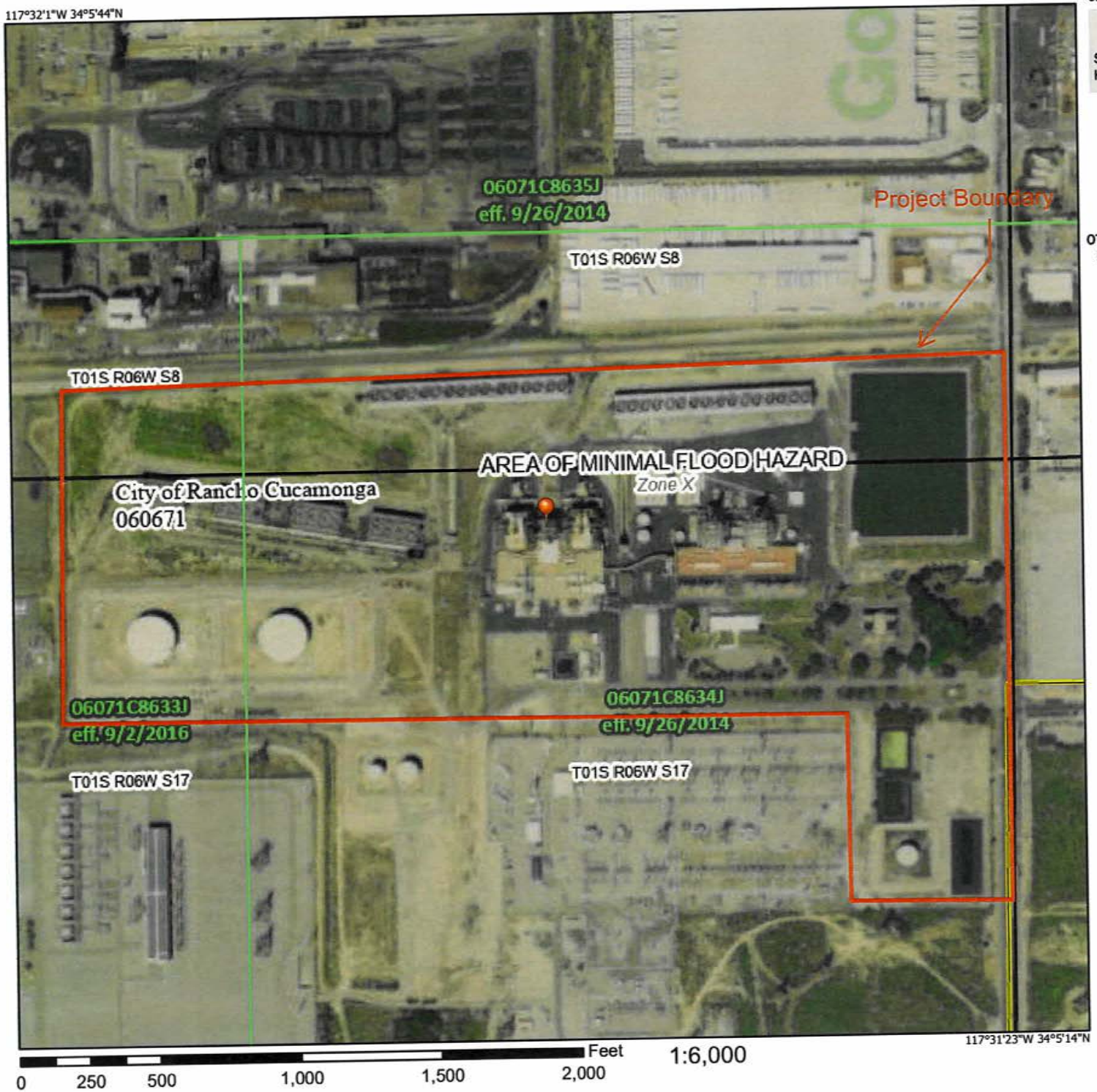
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Appendix C

Federal Emergency Management Agency (FEMA) Maps

National Flood Hazard Layer FIRMette

FEMA



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Area of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN — Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 — Cross Sections with 1% Annual Chance
- 17.5 — Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximat point selected by the user and does not repres an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 11/16/2023 at 8:35 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations (BFEs) shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) zone 11 North. The **horizontal datum** was NAD83, GRS1980 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov/ or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242** or visit its website at http://www.ngs.noaa.gov/

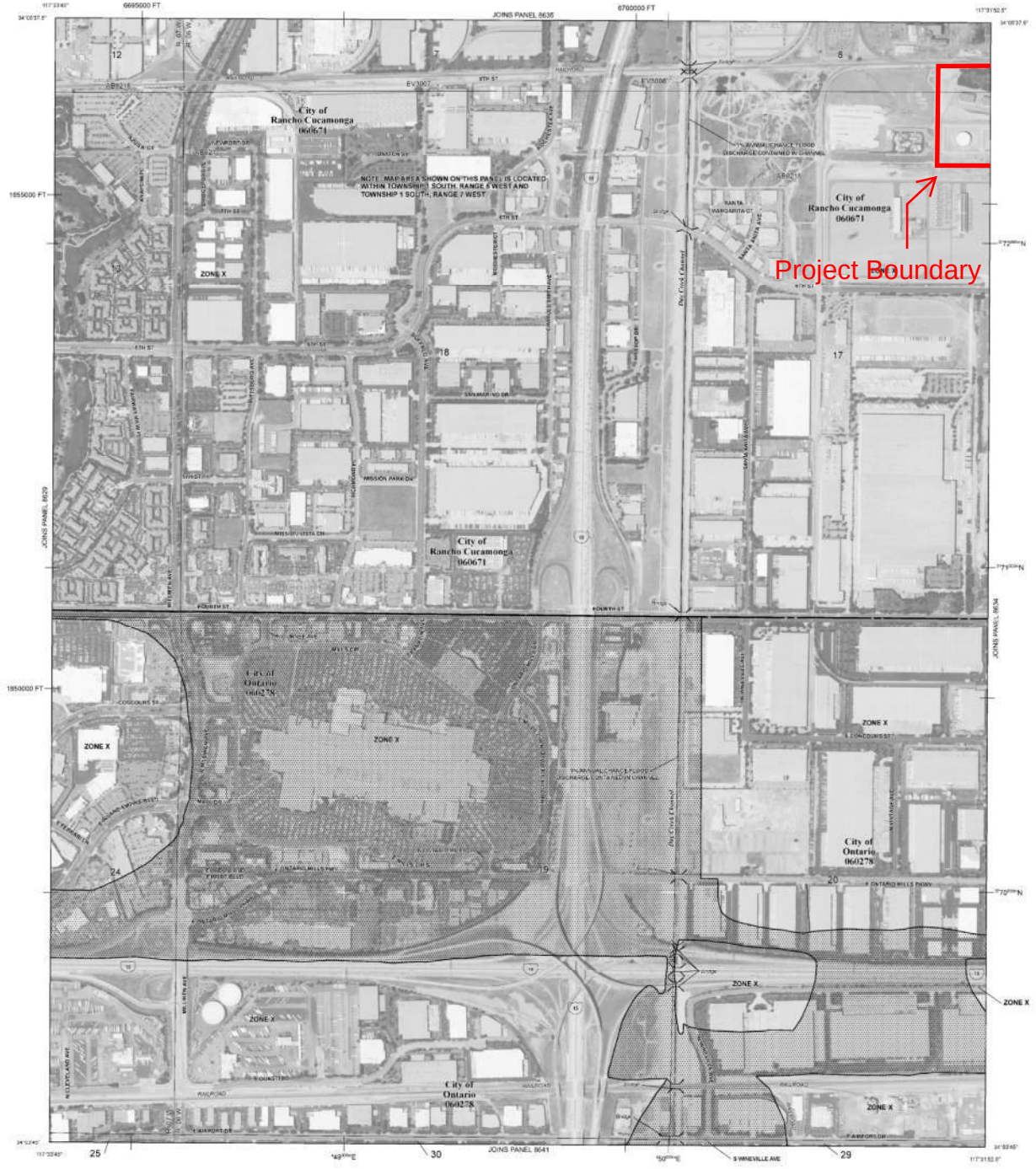
Base map information shown on this FIRM was provided in digital format by the San Bernardino County ISD GIS Department, United States Geological Survey, the Bureau of Land Management, the United States Department of Agriculture, and the National Geodetic Survey. The imagery was flown by U.S. Department of Agriculture Farm Service Agency in 2012 and was produced with a 1-meter ground sampling distance.

This map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

For information and questions about this map, available products associated with this FIRM including historic versions of this FIRM, how to order products, or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Map Service Center website at http://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website. Users may determine the current map date for each FIRM panel by visiting the FEMA Map Service Center website or by calling the FEMA Map Information eXchange.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- **ZONE A** No Base Flood Elevations determined.
- **ZONE AE** Base Flood Elevations determined.
- **ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- **ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- **ZONE AR** Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- **ZONE A99** Area to be protected from 1% annual chance flood event by a Federal flood protection system under construction; no Base Flood Elevations determined.
- **ZONE V** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- **ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

- **ZONE X** Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

- **ZONE X** Areas determined to be outside the 0.2% annual chance floodplain.
- **ZONE D** Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities.
- 513 (EL 987) — Base Flood Elevation line and value; elevation in feet*
- * Referenced to the North American Vertical Datum of 1988
- A — A — Cross section line
- 23 — 23 — Transect line
- 97°07'30", 32°22'30" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
- 4275000 mE — 1000-meter Universal Transverse Mercator grid values, zone 11
- 6000000 FT — 5000-foot grid ticks: California State Plane coordinate system, Zone V (FIPSZONE = 405), Lambert projection
- DX5510 — Bench mark (see explanation in Notes to Users section of this FIRM panel)
- M1.5 — River Mile

MAP REPOSITORIES
Refer to Map Repositories List on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
August 28, 2008

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL
September 2, 2016 – to change Base Flood Elevations, to add Base Flood Elevations, to change Special Flood Hazard Areas, to add Special Flood Hazard Areas, to change zone designations, to incorporate previously issued Letters of Map Revision, and to reflect updated topographic information.

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 8633J

FIRM

FLOOD INSURANCE RATE MAP

SAN BERNARDINO COUNTY, CALIFORNIA AND INCORPORATED AREAS

PANEL 8633 OF 9400

(See MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
ONTARIO, CITY OF	060278	8633	J
RANCHO CUCAMONGA, CITY OF	060671	8633	J

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
06071C8633J

MAP REVISED
SEPTEMBER 2, 2016

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

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The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) zone 11 North. The **horizontal datum** was NAD83, GRS1980 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

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NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242** or visit its website at http://www.ngs.noaa.gov/.

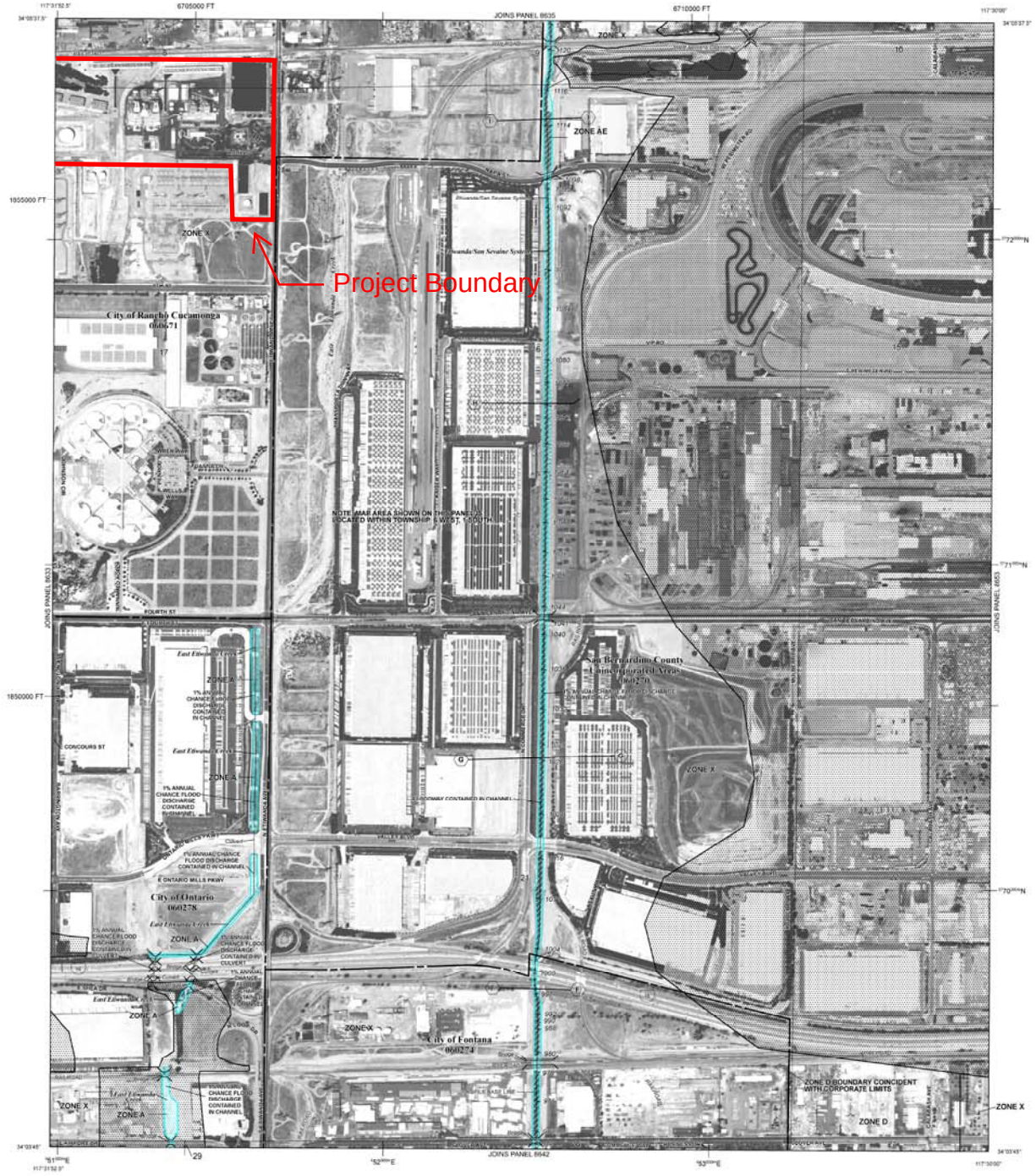
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LEGEND

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- **ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
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- **ZONE A99** Areas to be protected from 1% annual chance flood event by a Federal flood protection system under construction; no Base Flood Elevations determined.
- **ZONE V** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- **ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

- **ZONE X** Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

- **ZONE X** Areas determined to be outside the 0.2% annual chance floodplain.
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OTHERWISE PROTECTED AREAS (OPAs)

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- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities
- 513 (EL 987) — Base Flood Elevation line and value; elevation in feet*
- Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988

- A — A — Cross section line
- 23 — 23 — Transect line
- 87°07'30", 32°22'30" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
- 4275000 mE — 1000-meter Universal Transverse Mercator grid values, zone 11
- 6000000 FT — 5000-foot and tick: California State Plane coordinate system, Zone V (FIPSZONE = 4051), Lambert projection
- DX5510 — Bench mark (see explanation in Notes to Users section of this FIRM panel)
- M1.5 — River Mile

MAP REPOSITORIES
Refer to Map Repositories List on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
March 18, 1996

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL
September 26, 2014: For a description of revisions, see Notice to Users page in the Flood Insurance Study report.

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 8634J

FIRM

FLOOD INSURANCE RATE MAP

SAN BERNARDINO COUNTY, CALIFORNIA AND INCORPORATED AREAS

PANEL 8634 OF 9400

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
FONTANA, CITY OF	060274	8634	J
ONTARIO, CITY OF	060278	8634	J
RANCHO CUCAMONGA, CITY OF	060671	8634	J
SAN BERNARDINO COUNTY	060270	8634	J

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
06071C8634J

MAP REVISED
SEPTEMBER 26, 2014

Federal Emergency Management Agency

Appendix D

Pre-Project and Post-Project Drainage/Vicinity Maps

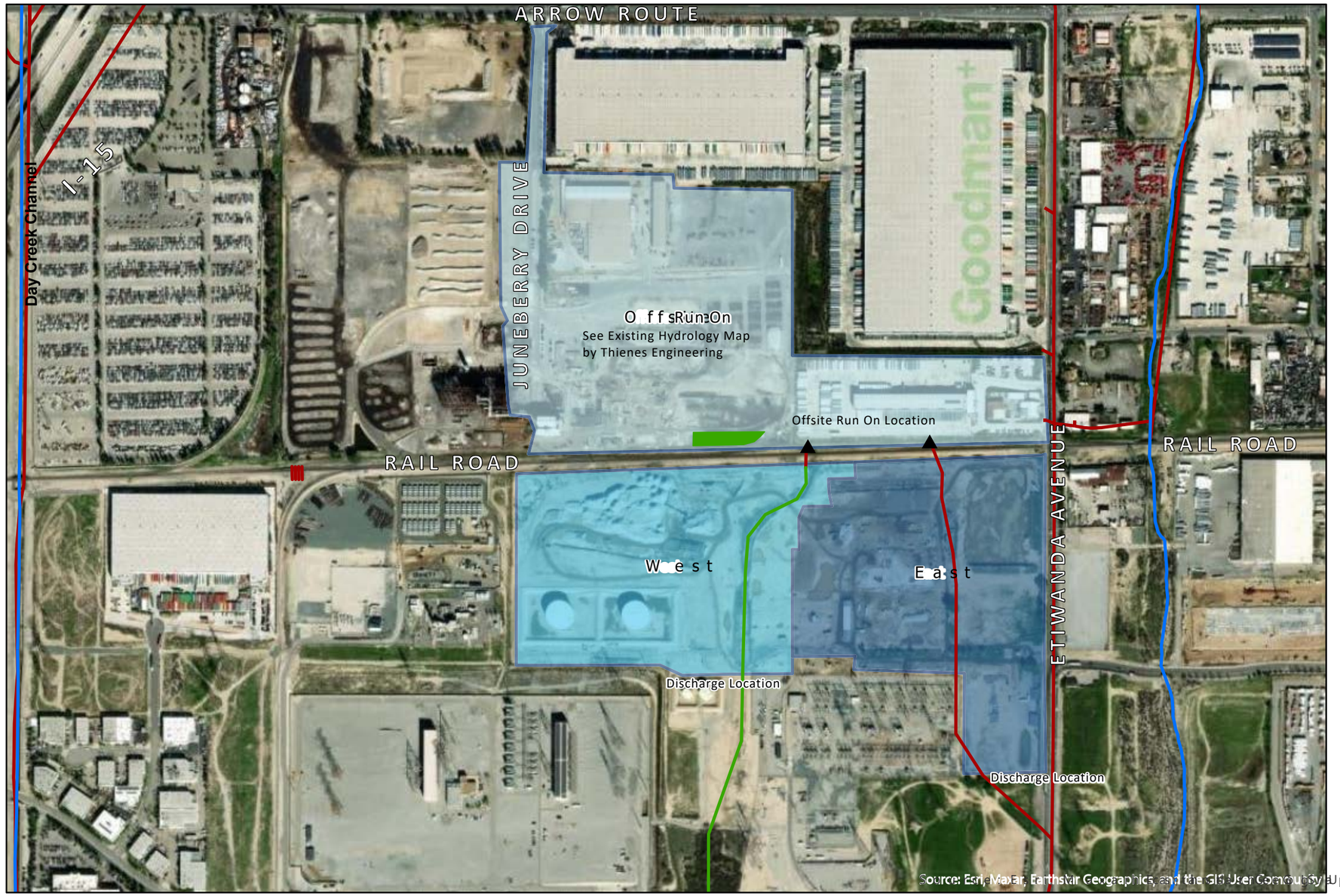
Legend

Drainage Facilities

- EHM (Waterbodies Exempt from Hydromodification)
- Non-EHM (Low)
- Non-EHM (Medium)
- Non-EHM (High)
- Non-EHM (default-high)
- Existing Storm Drain
- Existing Channel
- Existing Detention Basin

Drainage Basins

- East
- Offsite
- West
- < all other values >



N

0 200 400 800 1,200 1,600 Feet

RICK ENGINEERING COMPANY

Source of EHM Facilities and Existing Storm Drain: County of San Bernardino Public Works (https://sbcountydpw.maps.arcgis.com/apps/webappviewer)
Source of aerial imagery: Esri
Date of Exhibit 12/12/2023

SEC Rancho Cucamonga
Drainage Vicinity
Etiwanda Commerce Project Case No.

Rick Engineering JN -

Legend

Drainage Facilities

- EHM (Waterbodies Exempt from Hydromodification)
- Non-EHM (Low)
- Non-EHM (Medium)
- Non-EHM (High)
- Non-EHM (default-high)
- Proposed Storm Drain
- Existing Storm Drain
- Existing Channel
- Existing Detention Basin

Proposed BMPs

- Proprietary Biofiltration Unit and CMP Detention Facility

Drainage Basins

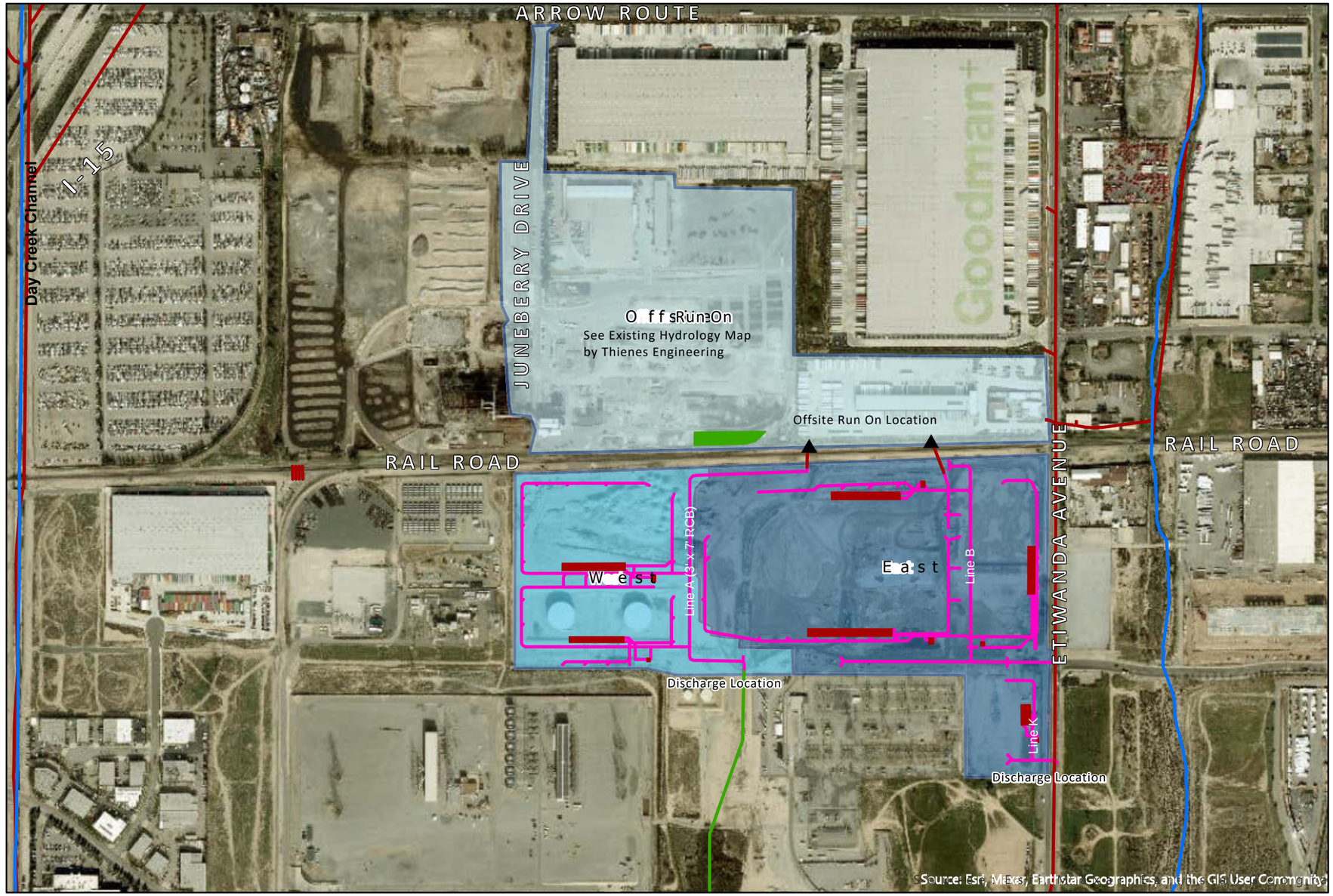
- East
- Offsite
- West
- <all other values>

Note: the Storm Drain and BMP Information shown on this exhibit is shown for reference from the following technical reports prepared by others:

"Preliminary Hydrology Calculations for Etiwanda Distribution Center", prepared by Thienes Engineering, dated November 28, 2023.

"Preliminary Water Quality Management Plan for Etiwanda Distribution Center", prepared by Thienes Engineering, dated November 10, 2021.

Note: The overall site plan has changed since the date of these two reports, and the proposed conditions may not reflect this new layout.



N

0 200 400 800 1,200 1,600 Feet

RICK ENGINEERING COMPANY

Source of EHM Facilities and Existing Storm Drain: County of San Bernardino Public Works (https://sbcountydpw.maps.arcgis.com/apps/webappviewer)
Source of aerial imagery: Esri
Date of Exhibit: 2/26/2024

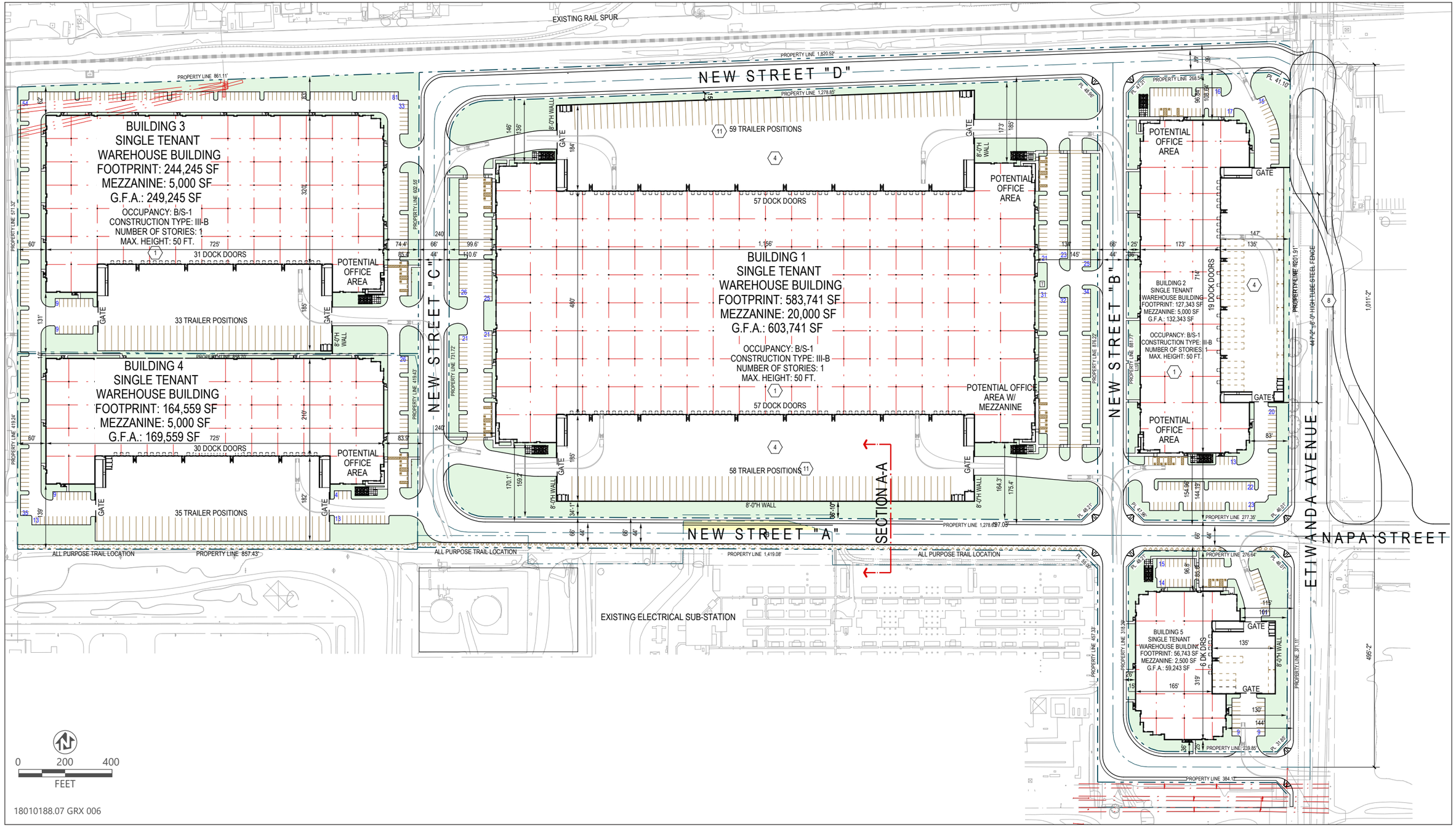
Etiwanda Distribution Center
Drainage Vicinity
Etiwanda Commerce Center
Rick Engineering JN -

Appendix E

Copy of "Preliminary Site and Drainage Map",

prepared by Thienes Engineering,

dated November 30, 2023.



Source: Image produced and provided by RGA Architecture, Inc. in 2021, adapted by Ascent in 2023

10/23/2023

Project Site Plan

DRAFT

PER SEPARATE PLAN AND REPORT

PROPOSED PUBLIC STORM DRAIN PER THE CONCEPTUAL GRADING AND DRAINAGE PLAN FOR ARROW ROUTE AND YELLOWWOOD ROAD

1.05 AC SHEET FLOWING OFFSITE; AREA INCLUDED WITHIN DA 1 DMA A

1.84 AC DISTURBED ROW AREA; AREA INCLUDED WITHIN DA 1 DMA A

0.32 AC SHEET FLOWING OFFSITE; AREA INCLUDED WITHIN DA 2 DMA A

1.94 AC DISTURBED ROW AREA; AREA INCLUDED WITHIN DA 2 DMA A

0.19 AC SHEET FLOWING OFFSITE; AREA INCLUDED WITHIN DA 2 DMA A

A.T.& S.F. RAILROAD

ETIWANDA AVENUE

'C' STREET

BLDG 3

DA 1 DMA A
11.58 AC.

PHASE 2
DA 1 DMA A
11.05 AC.

STC #1

CDS #1

MWS #1

1.05 AC SHEET FLOWING OFFSITE; AREA INCLUDED WITHIN DA 1 DMA A

TEMPORARY STOCK PILE DURING PHASE 1

FUTURE BLDG 4
PER PHASE 2

PHASE 2
DA 2 DMA A
8.79 AC.

STC #2

CDS #2

MWS #2

EXISTING 144" MWD SYSTEM

BLDG 1

DA 3 DMA A
12.77 AC.

DA 4 DMA A
16.41 AC.

STC #3

CDS #3

MWS #3

STC #4

CDS #4

MWS #4

0.68 AC SHEET FLOWING OFFSITE; AREA INCLUDED WITHIN DA 4 DMA A

'B' STREET

BLDG 2

DA 5 DMA A
7.50 AC.

STC #5

CDS #5

MWS #5

EXISTING 42" PUBLIC STORM DRAIN

EXISTING 144" MWD SYSTEM

NAPA STREET

'A' STREET

1.93 AC DISTURBED ROW AREA; AREA INCLUDED WITHIN DA 3 DMA A

2.54 AC SHEET FLOWING OFFSITE; AREA INCLUDED WITHIN DA 3 DMA A

2.52 AC DISTURBED ROW AREA; AREA INCLUDED WITHIN DA 4 DMA A

CB #1

DA 6 DMA A
3.30 AC.

BLDG 5

STC #6

CDS #6

MWS #6

1.94 AC DISTURBED ROW AREA; AREA INCLUDED WITHIN DA 5 DMA A

'B' STREET

0.71 AC SHEET FLOWING OFFSITE; AREA INCLUDED WITHIN DA 5 DMA A

0 40 80 160 240

SCALE: 1"=80'

Form 5-1 BMP Inspection and Maintenance

BMP	Responsible Party(ies)	Inspection/Maintenance Activities Required	Minimum Frequency of Activities
Underground Detention Systems	Owner	The isolator row shall be inspected for debris and sediment accumulations and maintained by a qualified technician and he/she will properly dispose of all wastes and inspect for standing water. A manhole is installed in order to inspect and maintain the inlet row. All entry into the chamber system must be done per OSHA codes to ensure operator and inspector safety. Inspection ports should be checked 48 hours after storm events to see that the water is draining down, at least once each rainy season, following a major storm event. Records shall be maintained by owner to document inspections.	The isolator row shall be inspected semi-annually (by October 1st and February 1st) and cleaned by water-flush and vacuum when solids accumulate to 3" depth. Maintenance to be conducted through service contract with the vendor or equally qualified contractor.
Hydrodynamic Separator	Owner	Visual inspection to quantify the accumulation of hydrocarbons, trash, and sediment in the system. Use vacuum truck to clean and remove pollutants from the system upon reaching 75% capacity. Clean area outside of the screen if pollutant build-up exists.	Visually inspect twice a year (spring and fall) or as frequently as needed. Vacuum frequency as determined by inspection.
Drain Inserts	Owner	Visually inspect for defects and illegal dumping. Notify proper authorities if illegal dumping has occurred. Using an industrial vacuum, the collected materials shall be removed from the filter basket and disposed of properly. Inspect biosorb hydrocarbon boom and replace as necessary.	Two times per year (May and September) or following any rain event that would potentially accumulate a large amount of debris in the system. Replace boom twice per year, at a minimum.
Proprietary Biofiltration Unit	Owner	Remove trash from Screening Device, sediment from Separation Chamber and replace cartridge Filter Media, and Drain Down Filter Media. The owner should keep maintenance/inspection record(s) for a minimum of five years from the date of maintenance. These records should be made available to the governing municipality for inspection upon request at any time. Transport all debris, trash, organics and sediments to approved facility for disposal in accordance with local and state requirements.	Average maintenance interval of 6 to 12 months for removing trash from Screening Device. Average interval of 12 to 24 months for removing sediment, replacing Cartridge Filter Media, replacing Drain Down Filter Media and trimming vegetation.
Storm Drain Stenciled Message	Owner	Visually inspect for legibility and replace or repaint as necessary.	Annually (September)
N1: Education of Property Owners, Tenants and Occupants on Stormwater BMPs	Owner	Property owner will familiarize him/herself with the educational materials in Attachment "E" and the contents of the WQMP.	Annually (January) for all employees and within 2 months for new hires.
N2: Activity Restrictions	Owner	Activities are restricted to only those for which a BMP has been implemented. The owner shall develop ongoing activity restrictions that include those that have the potential to create adverse impacts on water quality. Activities include, but are not limited to: handling and disposal of contaminants, fertilizer and pesticide application restrictions, litter control and pick-up, and vehicle or equipment repair as well as any other activities that may potentially contribute to water pollution.	Ongoing
N3: Landscape Management BMPs	Owner	Irrigation must be consistent with City's Water Conservation Ordinance. Fertilizer and pesticide usage will be consistent with County Management Guidelines for Use of Fertilizers and Pesticides.	Ongoing
N4: BMP Maintenance	Owner	BMP maintenance, implementation schedules, and responsible parties are included with each specific BMP narrative.	As described in each BMP listed within this form.
N7: Spill Contingency Plan	Owner	Owner/tenant will have a spill contingency plan, a separate document, based on specific site needs.	Ongoing
N10: Uniform Fire Code Implementation	Owner	If applicable, owner will comply with Article 80 of the Uniform Fire Code enforced by the fire protection agency. The facility operators will be educated annually regarding requirements for handling, storage and proper disposal of hazardous substances.	Ongoing
N11: Litter/Debris Control Program	Owner	Contract with their landscape maintenance firm to provide this service during regularly schedule maintenance. They are required to implement trash management and litter control procedures in the common areas aimed at reducing pollution of drainage water.	Weekly

Form 5-1 BMP Inspection and Maintenance

BMP	Responsible Party(ies)	Inspection/Maintenance Activities Required	Minimum Frequency of Activities
N12: Employee Training	Owner	The owner will ensure that tenants are also familiar with onsite BMPs and necessary maintenance required of the tenants. Owner will check with City and County at least once a year to obtain new or updated educational materials and provide these materials to tenants. Employees shall be trained to clean up spills and participate in ongoing maintenance. The WQMP requires annual employee training and new hires within 2 months.	Annually (January) for all employees and within 2 months for new hires.
N13: Housekeeping of Loading Docks	Owner	Keep all fluids indoors. Clean up spills immediately and keep spills from entering storm drain system. No direct discharges into the storm drain system. Area shall be inspected weekly for proper containment and practices with spills cleaned up immediately and disposed of properly.	Ongoing
N14: Catch Basin Inspection Program	Owner	Monthly inspection by property owner's designee. Inspection consists of immediate repair of any deterioration of the structures and maintenance of drain inserts before and after major rain events. Drain insert maintenance shall be per manufacturer's guidelines.	Monthly inspection and maintain as necessary.
N15: Vacuum Sweeping of Private Streets and Parking Lots	Owner	All landscape maintenance contractors will be required to sweep up all landscape cuttings, mowings and fertilizer materials off paved areas weekly and dispose of properly. Parking areas and drive ways will be swept monthly by sweeping contractor.	Monthly
N17: Comply with all other applicable NPDES permits	Owner	Will comply with Construction General Permit and Industrial General Permit (may apply for No Exposure Certification/NEC).	Ongoing
S1: Provide storm drain system stenciling and signage (CASQA New Development BMP Handbook SD-13)	Owner	"No Dumping – Drains to River" stencils will be applied. Legibility of stencil will be maintained on a yearly basis.	Annually (January)
S3: Design and construct trash and waste storage areas to reduce pollution introduction (CASQA New Development BMP Handbook SD-32)	Owner	Paved with an impervious surface, designed not to allow run-on from adjoining areas, designed to divert drainage from adjoining roofs and pavements diverted around the area, screened or walled to prevent off-site transport of trash. Detail to be provided once available.	Ongoing
S4: Use efficient irrigation systems & landscape design, water conservation, smart controllers, and source control (Statewide Model Landscape Ordinance; CASQA New Development BMP Handbook SD-12)	Owner	Irrigation systems shall include reducers or shutoff valves triggered by a pressure drop to control water loss in the event of broken sprinkler heads or lines. Timers will be used to avoid over watering and watering cycles and duration shall be adjusted seasonally by the landscape maintenance contractor. The landscaping areas will be grouped with plants that have similar water requirements. Native or drought tolerant species shall also be used where appropriate to reduce excess irrigation runoff and promote surface filtration.	Adjust watering cycles and duration seasonally / quarterly (Oct, Jan, Apr, and Jul).

"NO DUMPING – DRAINS TO WATERWAY" PLACARD NOTES

INSTALL ONE 4" ALUMINUM STORM DRAIN PLACARD, PAINTED BLUE WITH A 1/4" SQUARE MOUNTING HOLE (NO DUMPING DRAINS TO WATERWAY) FISH WITH WAVE (PROVIDED BY ENGINEERING SERVICES DEPARTMENT) ON CENTER OF CATCH BASIN BETWEEN SCORING LINE AND CURB LINE. STORM DRAIN PLACARD MUST BE INSTALLED WITH "NO DUMPING DRAINS TO WATERWAY" READING TOWARD THE STREET. MUST INSTALL PLACARD WITH A 1/4"x1" HAMMER SET RIVET (PROVIDED BY ENGINEERING SERVICES DEPARTMENT) AND MASONRY ADHESIVE.

BMP COORDINATES

BMP	LATITUDE	LONGITUDE
STC #1 (PHASE 1)	34.091195	−117.531672
MWS #1 (PHASE 1)	34.091064	−117.530643
CDS #1 (PHASE 1)	34.091235	−117.531085
STC #2 (PHASE 2)	34.090194	−117.531620
MWS #2 (PHASE 2)	34.089909	−117.530732
CDS #2 (PHASE 2)	34.090167	−117.531054
STC #3 (PHASE 1)	34.092202	−117.527047
MWS #3 (PHASE 1)	34.092369	−117.526070
CDS #3 (PHASE 1)	34.092239	−117.526427
STC #4 (PHASE 1)	34.090276	−117.527335
MWS #4 (PHASE 1)	34.090153	−117.525951
CDS #4 (PHASE 1)	34.090313	−117.526568
STC #5 (PHASE 1)	34.091146	−117.524244
MWS #5 (PHASE 1)	34.090106	−117.525078
CDS #5 (PHASE 1)	34.090780	−117.524206
STC #6 (PHASE 1)	34.089115	−117.524356
MWS #6 (PHASE 1)	34.088757	−117.524154
CB #1 (PHASE 1)	34.089595	−117.524692
CB #2 (PHASE 1)	34.089099	−117.524204

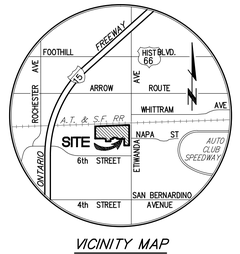
LEGEND

1. S1–STORM DRAIN SYSTEM SIGNS "NO DUMPING – DRAINS TO WATERWAY"
2. S3–TRASH ENCLOSURE
3. S4–EFFICIENT IRRIGATION
4. PROPRIETARY BIOFILTRATION SYSTEM
5. STORMTECH MC-4500 DETENTION CHAMBERS
6. N1–EDUCATIONAL MATERIALS
7. N3–LANDSCAPE MANAGEMENT BMPS
8. N4–BMP MAINTENANCE
9. N13–HOUSEKEEPING OF LOADING DOCKS
10. N14–CATCH BASIN INSPECTION
11. N15–SWEEPING OF PARKING LOTS
12. HYDRODYNAMIC SEPARATOR (PRETREATMENT)
13. SUMP PUMP
14. DRAIN INSERT(S)
15. CONNECTOR PIPE SCREEEN

ONGOING OVER THE ENTIRE SITE

RD	ROOF DRAIN
STC	STORMTECH CHAMBERS
MWS	PROPRIETARY BIOFILTRATION
CDS	HYDRODYNAMIC SEPARATOR
CPS	CONNECTOR PIPE SCREEN

PROJECT BOUNDARY
DRAINAGE AREAS
SURFACE – FLOW DIRECTION
SD – FLOW DIRECTION



VICINITY MAP
NOT TO SCALE

1. **WQMP BMP As-Built Certificate**

I hereby certify that the necessary water quality management plan best management practice devices have been constructed under my supervision and are functional to the best of my knowledge as of the date below.

Signature _____ Date _____

Wet Seal

CITY OF RANCHO CUCAMONGA BENCHMARK NO. "10016"
FD. 2" BRASS DISK STAMPED "SBCS BM NO. 700–25 1968" IN SOUTH END OF THE WEST CONCRETE BRIDGE ABUTMENT OF A STEEL GIRDER BRIDGE ACROSS THE ETIWANDA FLOOD CONTROL CHANNEL 0.2 MILES EAST OF FREEWAY NO. 15, 8 FT. SOUTH OF SOUTH RAIL.

ELEVATION = 1128.056 FEET (1987 ADJUSTMENT) (NAVD '29)

PREPARED FOR:
BTC III ETIWANDA COMMERCE CENTER
4675 MACARTHUR COURT, SUITE 625
NEWPORT BEACH, CA 92660
PHONE: (949) 892–4900

PREPARED BY:
Thienes Engineering, Inc.
CIVIL ENGINEERING • LAND SURVEYING
14349 FIRESTONE BOULEVARD
LA MIRADA, CALIFORNIA 90638
PH.(714)521–4811 FAX(714)521–4173

REGISTERED PROFESSIONAL ENGINEER — JEFFREY L. HARD SYESKO — No. 50514 — Exp. 12-31-24 — CIVIL — STATE OF CALIFORNIA

CITY OF RANCHO CUCAMONGA
PUBLIC WORKS DEPARTMENT

PRELIMINARY SITE AND DRAINAGE MAP (PHASE 1)

ETIWANDA DISTRIBUTION CENTER

8996 ETIWANDA AVENUE

Sheet 22 of 26

PLOT DATE: November 30, 2023

Last Update: 11/30/2023

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