

Appendix IS-6

Water Resources Report

**1000 SEWARD MIXED-USE PROJECT
TECHNICAL REPORT: WATER RESOURCES
JUNE, 2020**

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I. INTRODUCTION

I.1.PROJECT DESCRIPTION

The 1000 Seward Project (Project) would include the development of a mixed-use commercial project with a total floor area of 150,600 square feet under two design options. Under Option A, the Project would include 136,200 square feet of office uses, 12,200 square feet of restaurant uses (of which 6,100 square feet may be used for an entertainment use), and 2,200 square feet of retail uses (Option A). Under Option B, the Project would include approximately 134,100 square feet of office uses, 14,300 square feet of restaurant space (of which 6,100 square feet may be used for an entertainment use), and 2,200 square feet of retail space (Option B). The proposed uses would be located within a single ten-story building (with an additional rooftop level for mechanical equipment) with a maximum height of 133 feet to the top habitable floor and approximately 155 feet to the top of rooftop mechanical equipment level. Under Option A, the Project would also provide up to 35,600 square feet of open space which would include terraces, seating, lounge areas, and landscaping, or up to 34,550 square feet of open space under Option B. Under either option, in accordance with the City of Los Angeles (City) Municipal Code (LAMC), the Project would provide 310 vehicular parking spaces and 55 bicycle parking spaces (34 long-term and 21 short-term) within three subterranean levels and four above grade fully-enclosed and mechanically ventilated parking levels. Under Option A, the two existing buildings on the Project Site totaling 10,993 square feet along with the surface parking areas would be demolished. Under Option B, the 2,551-square-foot restaurant would remain, while the 8,442-square-foot studio/production space and surface parking areas would be demolished. Overall, under either option the Project would include the same uses and would result in 150,600 square feet of floor area within the Project Site with a FAR of 4.4:1. Project construction is anticipated to be completed in 2025.

I.2.SCOPE OF WORK

This report provides a description of the existing surface water hydrology, surface water quality, groundwater level, and groundwater quality at the Project Site. It also analyzes the Project's potential impacts related to surface water hydrology, surface water quality, groundwater level, and groundwater quality. Both Option A and Option B described above will result in the same post-construction impacts to surface water hydrology, surface water quality, groundwater level, and groundwater quality. This is due to the fact that the building use (restaurant, retail, and commercial office) does not dictate the impacts to surface water or groundwater. Therefore, neither option is considered more conservative than the other, and the analysis below is consistent between both options.

2. REGULATORY FRAMEWORK

2.1.SURFACE WATER HYDROLOGY

County of Los Angeles Hydrology Manual

Per the City of Los Angeles (City) Special Order No. 007-1299, December 3, 1999, the City has adopted the Los Angeles County (County) Department of Public Works Hydrology Manual as its basis of design for storm drainage facilities. The Hydrology Manual requires that a storm drain conveyance system be designed for a 25-year storm event and that the combined capacity of a storm drain and street flow system accommodate flow from a 50-year storm event. Areas with sump conditions are required to have a storm drain conveyance system capable of conveying flow from a 50-year storm event.¹ The County also limits the allowable discharge into existing storm drain facilities based on the municipal separate storm sewer systems (MS4) Permit, which is enforced on all new developments that discharge directly into the County's storm drain system. Any proposed drainage improvements of County owned storm drain facilities such as catch basins and storm drain lines require approval/review from the County Flood Control District department.

Los Angeles Municipal Code

Any proposed drainage improvements within the street right of way or any other property owned by, to be owned by, or under the control of the City requires the approval of a B-permit (Section 62.105, LAMC). Under the B-permit process, storm drain installation plans are subject to review and approval by the City of Los Angeles Department of Public Works, Bureau of Engineering (BOE). Additionally, any connections to the City's storm drain system from a property line to a catch basin or a storm drain pipe requires a storm drain permit from BOE.

2.2.SURFACE WATER QUALITY

Clean Water Act

The Clean Water Act (CWA) was first introduced in 1948 as the Water Pollution Control Act. The CWA authorizes Federal, state, and local entities to cooperatively create comprehensive programs for eliminating or reducing the pollution of state waters and tributaries. The primary goals of the CWA are to restore and maintain the chemical, physical, and biological integrity of the nation's waters and to make all surface waters fishable and swimmable. As such, the CWA forms the national framework for the management of water quality and the control of pollutant discharges. The CWA also sets forth a number of objectives in order to achieve the above-mentioned goals. These objectives include regulating pollutant and toxic pollutant discharges; providing for water quality that protects and fosters the propagation of fish, shellfish and wildlife; developing

¹ Los Angeles County Department of Public Works Hydrology Manual, January 2006, <http://ladpw.org/wrd/publication/index.cfm>, accessed January 25, 2020.

waste treatment management plans; and developing and implementing programs for the control of non-point sources of pollution.²

Since its introduction, major amendments to the CWA have been enacted (e.g., 1961, 1966, 1970, 1972, 1977, and 1987). Amendments enacted in 1970 created the U.S. Environmental Protection Agency (USEPA), while amendments enacted in 1972 deemed the discharge of pollutants into waters of the United States from any point source unlawful unless authorized by a USEPA National Pollutant Discharge Elimination System (NPDES) permit. Amendments enacted in 1977 mandated development of a “Best Management Practices” Program at the state level and provided the Water Pollution Control Act with the common name of “Clean Water Act,” which is universally used today. Amendments enacted in 1987 required the USEPA to create specific requirements for discharges.

In response to the 1987 amendments to the CWA and as part of Phase I of its NPDES permit program, the USEPA began requiring NPDES permits for: (1) municipal separate storm sewer systems (MS4) generally serving, or located in, incorporated cities with 100,000 or more people (referred to as municipal permits); (2) 11 specific categories of industrial activity (including landfills); and (3) construction activity that disturbs five acres or more of land. Phase II of the USEPA’s NPDES permit program, which went into effect in early 2003, extended the requirements for NPDES permits to: (1) numerous small MS4s,³ (2) construction sites of one to five acres, and (3) industrial facilities owned or operated by small municipal separate storm sewer systems. The NPDES permit program is typically administered by individual authorized states.

In 2008, the USEPA published draft Effluent Limitation Guidelines (ELGs) for the construction and development industry. On December 1, 2009 the EPA finalized its 2008 Effluent Guidelines Program Plan.

In California, the NPDES stormwater permitting program is administered by the State Water Resources Control Board (SWRCB). The SWRCB was created by the Legislature in 1967. Its joint authority over water distribution and water quality protection allows the Board to provide protection for the State’s waters, through its nine Regional Water Quality Control Boards (RWQCBs). The RWQCBs develop and enforce water quality objectives and implement plans that will best protect California’s waters, acknowledging areas of different climate, topography, geology, and hydrology.

² Non-point sources of pollution are carried through the environment via elements such as wind, rain, or stormwater and are generated by diffuse land use activities (such as runoff from streets and sidewalks or agricultural activities) rather than from an identifiable or discrete facility.

³ A small MS4 is any MS4 not already covered by the Phase I program as a medium or large MS4. The Phase II Rule automatically covers on a nationwide basis all small MS4s located in “urbanized areas” as defined by the Bureau of the Census (unless waived by the NPDES permitting authority), and on a case-by-case basis those small MS4s located outside of urbanized areas that the NPDES permitting authority designates.

The RWQCBs develop “basin plans” for their hydrologic areas, issue waste discharge requirements, enforce action against stormwater discharge violators, and monitor water quality.⁴

Federal Anti-Degradation Policy

The Federal Anti-Degradation Policy (40 Code of Federal Regulations 131.12) requires states to develop statewide anti-degradation policies and identify methods for implementing them. Pursuant to the Code of Federal Regulations (CFR), state anti-degradation policies and implementation methods shall, at a minimum, protect and maintain (1) existing in-stream water uses; (2) existing water quality, where the quality of the waters exceeds levels necessary to support existing beneficial uses, unless the state finds that allowing lower water quality is necessary to accommodate economic and social development in the area; and (3) water quality in waters considered an outstanding national resource.

California Porter-Cologne Act

The Porter-Cologne Water Quality Control Act established the legal and regulatory framework for California’s water quality control. The California Water Code (CWC) authorizes the SWRCB to implement the provisions of the CWA, including the authority to regulate waste disposal and require cleanup of discharges of hazardous materials and other pollutants.

As discussed above, under the CWC, the SWRCB is divided into nine RWQCBs, governing the implementation and enforcement of the CWC and CWA. The Project Site is located within Region 4, also known as the Los Angeles Region. Each RWQCB is required to formulate and adopt a Basin Plan for its region. This Basin Plan must adhere to the policies set forth in the CWC and established by the SWRCB. The RWQCB is also given authority to include within its regional plan water discharge prohibitions applicable to particular conditions, areas, or types of waste.

California Anti-Degradation Policy

The California Anti-Degradation Policy, otherwise known as the *Statement of Policy with Respect to Maintaining High Quality Water in California* was adopted by the SWRCB (State Board Resolution No. 68-16) in 1968. Unlike the Federal Anti-Degradation Policy, the California Anti-Degradation Policy applies to all waters of the State, not just surface waters. The policy states that whenever the existing quality of a water body is better than the quality established in individual Basin Plans, such high quality shall be maintained and discharges to that water body shall not unreasonably affect present or anticipated beneficial use of such water resource.

⁴ USEPA. U.S. Environmental Protection Agency - Clean Water Act. July 2011. <<http://www.epa.gov/lawsregs/laws/cwa.html>>.

California Toxics Rule

In 2000, the USEPA promulgated the California Toxics Rule, which establishes water quality criteria for certain toxic substances to be applied to waters in the State. The USEPA promulgated this rule based on the USEPA's determination that the numeric criteria are necessary in the State to protect human health and the environment. The California Toxics Rule establishes acute (i.e., short-term) and chronic (i.e., long-term) standards for bodies of water such as inland surface waters and enclosed bays and estuaries that are designated by the Los Angeles RWQCB (LARWQCB) as having beneficial uses protective of aquatic life or human health.

Board Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties

As required by the California Water Code, the LARWQCB has adopted a plan entitled “Water Quality Control Plan, Los Angeles Region: Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties” (Basin Plan). Specifically, the Basin Plan designates beneficial uses for surface and groundwater, sets narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the State's anti-degradation policy, and describes implementation programs to protect all waters in the Los Angeles Region. In addition, the Basin Plan incorporates (by reference) all applicable State and Regional Board plans and policies and other pertinent water quality policies and regulations. Those of other agencies are referenced in appropriate sections throughout the Basin Plan.⁵

The Basin Plan is a resource for the LARWQCB and others who use water and/or discharge wastewater in the Los Angeles Region. Other agencies and organizations involved in environmental permitting and resource management activities also use the Basin Plan. Finally, the Basin Plan provides valuable information to the public about local water quality issues.

NPDES Permit Program

The NPDES permit program was first established under authority of the CWA to control the discharge of pollutants from any point source into the waters of the United States. As indicated above, in California, the NPDES stormwater permitting program is administered by the SWRCB through its nine RWQCBs.

The General Permit

SWRCB Order No. 2012-0006-DWQ known as “The General Permit” was adopted on July 17, 2012. This NPDES permit establishes a risk-based approach to stormwater

⁵ Los Angeles Regional Water Quality Control Board. LARWQCB Basin Plan.
<http://www.waterboards.ca.gov/losangeles/water_issues/programs/basin_plan/> accessed January 25, 2020.

control requirements for construction projects by identifying three project risk levels. The main objectives of the General Permit are to:

1. Reduce erosion
2. Minimize or eliminate sediment in stormwater discharges
3. Prevent materials used at a construction site from contacting stormwater
4. Implement a sampling and analysis program
5. Eliminate unauthorized non-stormwater discharges from construction sites
6. Implement appropriate measures to reduce potential impacts on waterways both during and after construction of projects
7. Establish maintenance commitments on post-construction pollution control measures

California mandates requirements for all construction activities disturbing more than one acre of land to develop and implement Stormwater Pollution Prevention Plans (SWPPP). The SWPPP documents the selection and implementation of Best Management Practices (BMPs) for a specific construction project, charging owners with stormwater quality management responsibilities. A construction site subject to the General Permit must prepare and implement a SWPPP that meets the requirements of the General Permit.^{6, 7}

Los Angeles County Municipal Storm Water System (MS4) Permit

As described above, USEPA regulations require that MS4 permittees implement a program to monitor and control pollutants being discharged to the municipal system from both industrial and commercial projects that contribute a substantial pollutant load to the MS4.

On November 8, 2012, the LARWQCB adopted Order No. R4-2012-0175 under the CWA and the Porter-Cologne Act. This Order is the NPDES permit or MS4 permit for municipal stormwater and urban runoff discharges within Los Angeles County. The requirements of this Order (the Permit) cover 84 cities and most of the unincorporated areas of Los Angeles County. Under the Permit, the Los Angeles County Flood Control District (LACFCD) is designated as the Principal Permittee. The other permittees are the 84 Los Angeles County cities (including the City of Los Angeles) and Los Angeles

⁶ State Water Resources Control Board. State Water Resources Control Board. July 2012, http://www.swrcb.ca.gov/water_issues/programs/npdes/.

⁷ USEPA. U.S. Environmental Protection Agency - NPDES. July 2012, <https://www.epa.gov/npdes>.

County. Collectively, these are the “Co-Permittees”. The Principal Permittee helps to facilitate activities necessary to comply with the requirements outlined in the Permit but is not responsible for ensuring compliance of any of the Co-Permittees.

Stormwater Quality Management Program (SQMP)

In compliance with the Permit, the Co-Permittees are required to implement a stormwater quality management program (SQMP) with the goal of accomplishing the requirements of the Permit and reducing the amount of pollutants in stormwater runoff. The SQMP requires the County of Los Angeles and the 84 incorporated cities to:

- Implement a public information and participation program to conduct outreach on storm water pollution;
- Control discharges at commercial/industrial facilities through tracking, inspecting, and ensuring compliance at facilities that are critical sources of pollutants;
- Implement a development planning program for specified development projects;
- Implement a program to control construction runoff from construction activity at all construction sites within the relevant jurisdictions;
- Implement a public agency activities program to minimize storm water pollution impacts from public agency activities; and
- Implement a program to document, track, and report illicit connections and discharges to the storm drain system.

The Permit contains the following provisions for implementation of the SQMP by the Co-Permittees:

1. General Requirements:

- Each permittee is required to implement the SQMP in order to comply with applicable stormwater program requirements.
- The SQMP shall be implemented and each permittee shall implement additional controls so that discharge of pollutants is reduced.

2. Best Management Practice Implementation:

- Permittees are required to implement the most effective combination of BMPs for stormwater/urban runoff pollution control. This should result in the reduction of storm water runoff.

3. Revision of the SQMP:

- Permittees are required to revise the SQMP in order to comply with requirements of the RWQCB while complying with regional watershed requirements and/or waste load allocations for implementation of Total Maximum Daily Loads (TMDLs) for impaired waterbodies.

4. Designation and Responsibilities of the Principal Permittee:

The Los Angeles County Flood Control District is designated as the Principal Permittee who is responsible for:

- Coordinating activities that comply with requirements outlined in the NPDES Permit;
- Coordinating activities among Permittees;
- Providing personnel and fiscal resources for necessary updates to the SQMP;
- Providing technical support for committees required to implement the SQMP; and
- Implementing the Countywide Monitoring Program required under this Order and assessing the results of the monitoring program.

5. Responsibilities of Co-Permittees:

Each Co-Permittee is required to comply with the requirements of the SQMP as applicable to the discharges within its geographical boundaries. These requirements include:

- Coordinating among internal departments to facilitate the implementation of the SQMP requirements in an efficient way;
- Participating in coordination with other internal agencies as necessary to successfully implement the requirements of the SQMP; and
- Preparing an annual Budget Summary of expenditures for the storm water management program by providing an estimated breakdown of expenditures for different areas of concern, including budget projections for the following year.

6. Watershed Management Committees (WMCs):

- Each WMC shall be comprised of a voting representative from each Permittee in the Watershed Management Area (WMA).
- Each WMC is required to facilitate exchange of information between co-permittees, establish goals and deadlines for WMAs, prioritize pollution

control measures, develop and update adequate information, and recommend appropriate revisions to the SQMP.

7. Legal Authority:

- Co-Permittees are granted the legal authority to prohibit non-storm water discharges to the storm drain system including discharge to the MS4 from various development types.

City of Los Angeles Water Quality Compliance Master Plan for Urban Runoff

The Water Quality Compliance Master Plan for Urban Runoff (WQCMPUR) was developed by LASAN Watershed Projection Division (WPD) in collaboration with stakeholders in response to City Council Motion CF 07-0663, dated March 2, 2007. The Council Motion required the development of a water quality master plan with strategic directions for planning, budgeting, and funding to improve stormwater quality and urban runoff water quality. The WQCMPUR provides a 20-year strategy to reduce pollutant loads flowing into local rivers, creeks, lakes, and beaches and was adopted by the Board of Public Works in 2009. The purpose of the WQCMPUR is to provide a broad watershed-based perspective using “green” and natural solutions to improve Los Angeles water quality and maintain compliance with current and emerging water quality regulations. Applying the guidelines of the WQCMPUR will assist the City in making cleaner neighborhoods, improving surface water quality, reducing flood risk, and providing more open space throughout the City.

- The Master Plan identifies and describes the various watersheds in the City, summarizes the water quality conditions of the City’s waters, identifies known sources of pollutants, describes the governing regulations for water quality, describes the BMPs that are being implemented by the City, discusses existing TMDL Implementation Plans and Watershed Management Plans. Additionally, the Master Plan provides an implementation strategy that includes the following three initiatives to achieve water quality goals:
- Water Quality Management Initiative, which describes how Water Quality Management Plans for each of the City’s watershed and TMDL-specific Implementation Plans will be developed to ensure compliance with water quality regulations.
- The Citywide Collaboration Initiative, which recognizes that urban runoff management and urban (re)development are closely linked, requiring collaborations of many City agencies. This initiative requires the development of City policies, guidelines, and ordinances for green and sustainable approaches for urban runoff management.
- The Outreach Initiative, which promotes public education and community engagement with a focus on preventing urban runoff pollution.

- The Master Plan includes a financial plan that provides a review of current sources of revenue, estimates costs for water quality compliance, and identifies new potential sources of revenue.

City of Los Angeles Stormwater Program

The City of Los Angeles supports the policies of the Construction General Permit and the Los Angeles County NPDES permit through the *Development Best Management Practices Handbook. Part A Construction Activities*, 3rd Edition (Handbook), and associated ordinances were adopted in September 2004. *Part B Planning Activities*, 5th Edition was adopted in May 2016. The Handbook provides guidance for developers in complying with the requirements of the Development Planning Program regulations of the City's Stormwater Program. Compliance with the requirements of this Handbook is required by City of Los Angeles Ordinance No. 173,494. The Handbook and ordinances also have specific minimum BMP requirements for all construction activities and require dischargers whose construction projects disturb one acre or more of soil to prepare a SWPPP and file a Notice of Intent (NOI) with the SWRCB. The NOI informs the SWRCB of a particular project and results in the issuance of a Waste Discharger Identification (WDID) number, which is needed to demonstrate compliance with the General Permit.

The City of Los Angeles implements the requirement to incorporate stormwater BMPs through the City's plan review and approval process. During the review process, project plans are reviewed for compliance with the City's General Plan, zoning ordinances, and other applicable local ordinances and codes, including storm water requirements. Plans and specifications are reviewed to ensure that the appropriate BMPs are incorporated to address storm water pollution prevention goals. The Standard Urban Stormwater Mitigation Plan (SUSMP) provisions that are applicable to new residential and commercial developments include, but are not limited to, the following:⁸

- Peak Storm Water Runoff Discharge Rate: Post-development peak storm water runoff discharge rates shall not exceed the estimated pre-development rate for developments where the increased peak storm water discharge rate will result in increased potential for downstream erosion;
- Provide storm drain system Stenciling and Signage (only applicable if a catch basin is built on-site);
- Properly design outdoor material storage areas to provide secondary containment to prevent spills;
- Properly design trash storage areas to prevent off-site transport of trash;

⁸ City of Los Angeles Stormwater Program website, <http://www.lastormwater.org/green-la/standard-urban-stormwater-mitigation-plan/>; accessed January 25, 2020.

- Provide proof of ongoing BMP Maintenance of any structural BMPs installed;

Design Standards for Structural or Treatment control BMPs:

- Conserve natural and landscaped areas;
- Provide planter boxes and/or landscaped areas in yard/courtyard spaces;
- Properly design trash storage areas to provide screens or walls to prevent off-site transport of trash;
- Provide proof on ongoing BMP maintenance of any structural BMPs installed;

Design Standards for Structural or Treatment Control BMPs:

- Post-construction treatment control BMPs are required to incorporate, at minimum, either a volumetric or flow based treatment control design or both, to mitigate (infiltrate, filter or treat) storm water runoff.

In addition, project applicants subject to the SUSMP requirements must select source control and, in most cases, treatment control BMPs from the list approved by the RWQCB. The BMPs must control peak flow discharge to provide stream channel and over bank flood protection, based on flow design criteria selected by the local agency. Further, the source and treatment control BMPs must be sufficiently designed and constructed to collectively treat, infiltrate, or filter stormwater runoff from one of the following:

- The 85th percentile 24-hour runoff event determined as the maximized capture stormwater volume for the area, from the formula recommended in *Urban Runoff Quality Management, WEF Manual of Practice No. 23/ASCE Manual of Practice No. 87, (1998)*;
- The volume of annual runoff based on unit basin storage water quality volume, to achieve 80 percent or more volume treatment by the method recommended in *California Stormwater Best Management Practices Handbook—Industrial/Commercial, (1993)*;
- The volume of runoff produced from a 0.75-inch storm event, prior to its discharge to a stormwater conveyance system; or
- The volume of runoff produced from a historical-record based reference 24-hour rainfall criterion for “treatment” (0.75-inch average for the Los Angeles County area) that achieves approximately the same reduction in pollutant loads achieved by the 85th percentile 24-hour runoff event.

Los Angeles Municipal Code

Section 64.70 of the LAMC sets forth the City's Stormwater and Urban Runoff Pollution Control Ordinance. The ordinance prohibits the discharge of the following into any storm drain system:

- Any liquids, solids, or gases which by reason of their nature or quantity are flammable, reactive, explosive, corrosive, or radioactive, or by interaction with other materials could result in fire, explosion or injury.
- Any solid or viscous materials, which could cause obstruction to the flow or operation of the storm drain system.
- Any pollutant that injures or constitutes a hazard to human, animal, plant, or fish life, or creates a public nuisance.
- Any noxious or malodorous liquid, gas, or solid in sufficient quantity, either singly or by interaction with other materials, which creates a public nuisance, hazard to life, or inhibits authorized entry of any person into the storm drain system.
- Any medical, infectious, toxic or hazardous material or waste.

Additionally, unless otherwise permitted by a NPDES permit, the ordinance prohibits industrial and commercial developments from discharging untreated wastewater or untreated runoff into the storm drain system. Furthermore, the ordinance prohibits trash or any other abandoned objects/materials from being deposited such that they could be carried into the storm drains. Lastly, the ordinance not only makes it a crime to discharge pollutants into the storm drain system and imposes fines on violators, but also gives City public officers the authority to issue citations or arrest business owners or residents who deliberately and knowingly dump or discharge hazardous chemicals or debris into the storm drain system.

Earthwork activities, including grading, are governed by the Los Angeles Building Code, which is contained in LAMC, Chapter IX, Article I. Specifically, Section 91.7013 includes regulations pertaining to erosion control and drainage devices, and Section 91.7014 includes general construction requirements, as well as requirements regarding flood and mudflow protection.

Low Impact Development (LID)

In October 2011, the City of Los Angeles passed an ordinance (Ordinance No. 181,899) amending LAMC Chapter VI, Article 4.4, Sections 64.70.01 and 64.72 to expand the applicability of the existing SUSMP requirements by imposing rainwater Low Impact Development (LID) strategies on projects that require building permits. The LID ordinance became effective on May 12, 2012.

LID is a stormwater management strategy with goals to mitigate the impacts of increased runoff and stormwater pollution as close to its source as possible. LID

promotes the use of natural infiltration systems, evapotranspiration, and the reuse of stormwater. The goal of these LID practices is to remove nutrients, bacteria, and metals from stormwater while also reducing the quantity and intensity of stormwater flows. Through the use of various infiltration strategies, LID is aimed at minimizing impervious surface area. Where infiltration is not feasible, the use of bioretention, rain gardens, green roofs, and rain barrels that will store, evaporate, detain, and/or treat runoff may be used.⁹

The intent of the City of Los Angeles LID standards is to:

- Require the use of LID practices in future developments and redevelopments to encourage the beneficial use of rainwater and urban runoff;
- Reduce stormwater/urban runoff while improving water quality;
- Promote rainwater harvesting;
- Reduce offsite runoff and provide increased groundwater recharge;
- Reduce erosion and hydrologic impacts downstream; and
- Enhance the recreational and aesthetic values in our communities.

The City of Los Angeles Bureau of Sanitation, Watershed Protection Division has adopted the LID standards as issued by the LARWQCB and the City of Los Angeles Department of Public Works. The LID Ordinance conforms to the regulations outlined in the NPDES Permit and SUSMP.

2.3. GROUNDWATER

Board Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties

As noted above, and as required by the CWC, the LARWQCB has adopted the Basin Plan. Specifically, the Basin Plan designates beneficial uses for surface and groundwaters, sets narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the State's anti-degradation policy, and describes implementation programs to protect all waters in the Los Angeles Region. In addition, the Basin Plan incorporates (by reference) all applicable State and Regional Board plans and policies and other pertinent water quality policies and regulations. Those of other agencies are referenced in appropriate sections throughout the Basin Plan.

⁹ City of Los Angeles. "Development Best Management Practices Handbook." June, 2011

The Basin Plan is a resource for the Regional Board and others who use water and/or discharge wastewater in the Los Angeles Region. Other agencies and organizations involved in environmental permitting and resource management activities also use the Basin Plan. Finally, the Basin Plan provides valuable information to the public about local water quality issues.

Safe Drinking Water Act (SDWA)

The Federal Safe Drinking Water Act, established in 1974, sets drinking water standards throughout the country and is administered by the USEPA. The drinking water standards established in the SDWA are referred to as the National Primary Drinking Water Regulations (Primary Standards, Title 40, CFR Part 141) and the National Secondary Drinking Water Regulations (Second Standards, 40 CFR Part 143). California passed its own Safe Drinking Water Act in 1986 that authorizes the State's Department of Health Services (DHS) to protect the public from contaminants in drinking water by establishing maximum contaminants levels (MCLs), as set forth in the California Code of Regulations (CCR), Title 22, Division 4, Chapter 15, that are at least as stringent as those developed by the USEPA, as required by the federal SDWA.

California Water Plan

The California Water Plan (the Plan) provides a framework for water managers, legislators, and the public to consider options and make decisions regarding California's water future. The Plan, which is updated every five years, presents basic data and information on California's water resources including water supply evaluations and assessments of agricultural, urban, and environmental water uses to quantify the gap between water supplies and uses. The Plan also identifies and evaluates existing and proposed statewide demand management and water supply augmentation programs and projects to address the State's water needs.

The goal for the California Water Plan Update is to meet Water Code requirements, receive broad support among those participating in California's water planning, and be a useful document for the public, water planners throughout the state, legislators and other decision-makers.

3. ENVIRONMENTAL SETTING

3.1. SURFACE WATER HYDROLOGY

3.1.1. REGIONAL

The Project Site is located within the greater Los Angeles area within the Ballona Creek Watershed. Ballona Creek is a 9 mile long flood protection channel that drains the Los Angeles basin, from the Santa Monica Mountains on the north, the Harbor Freeway (110) on the east, and the Baldwin Hills on the south. The Ballona Creek Watershed totals about 130 square miles. It borders the crest of the Santa Monica Mountains on

the north, the Ventura-Los Angeles County line, and extends to downtown Los Angeles. To the south, the Watershed extends across the Los Angeles plain to include the area north of Baldwin Hills. The major tributaries to Ballona Creek include Centinela Creek, Sepulveda Canyon Channel, Benedict Canyon Channel, and numerous storm drains. Refer to Figure 5 for the Ballona Creek Watershed Map.

3.1.2. LOCAL

Stormwater runoff from the Project Site discharges into the curb and gutter which conveys stormwater to nearby street catch basins. The catch basins discharge the stormwater into various underground pipe networks into Ballona Creek. Ballona Creek flows generally southwest, ultimately discharging into the Pacific Ocean at the Santa Monica Bay. Ballona Creek is designed to discharge to Santa Monica Bay up to approximately 71,400 cubic feet of stormwater per second from a 50-year frequency storm event.¹⁰

3.1.3. ON SITE

The Project Site is currently developed with two one story buildings totaling 10,993 square feet and surface parking areas totaling approximately 20,700 square feet. The parking lot sheet flows to the southeast into curb and gutter along Hudson Avenue and Romaine Street, and the building roof drains daylight into the curb face along Seward Street and Romaine Street. Due to the lack of catch basins in the immediate area, stormwater will flow in the curb and gutter before discharging into a catch basin on the Northeast corner of Willoughby Avenue and Las Palmas Avenue. The curb and gutter then discharges via a catch basin into the local storm drain system. Refer to Figure 1 for existing on-site drainage pattern.

Figure 2 shows all the input parameters used for analyzing the existing site. Table 1 shows the existing volumetric flow rate generated by a 50-year storm event.

Table 1- Existing Drainage Stormwater Runoff Calculations		
Drainage Area	Area (Acres)	Q50 (cfs) (volumetric flow rate measured in cubic feet per second)
Entire Site	0.78	2.407

3.2. SURFACE WATER QUALITY

3.2.1. REGIONAL

¹⁰ <http://www.ladpw.org/wmd/watershed/bc/>; accessed January 25, 2020

As stated above, the Project Site lies within the Ballona Creek Watershed. Constituents of concern listed for Ballona Creek under California's Clean Water Act Section 303(d) List include cadmium (sediment), chlordane (tissue & sediment), coliform bacteria, copper (dissolved), cyanide, DDT, lead, polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), selenium, sediment toxicity, Shellfish Harvesting Advisory, silver, toxicity, trash, viruses (Enteric), and zinc. No TMDL data have been recorded by EPA for this waterbody.¹¹

3.2.2. LOCAL

In general, urban stormwater runoff occurs following precipitation events, with the volume of runoff flowing into the drainage system depending on the intensity and duration of the rain event. Contaminants that may be found in stormwater from developed areas include sediments, trash, bacteria, metals, nutrients, organics and pesticides. The source of contaminants includes surface areas where precipitation falls, as well as the air through which it falls. Contaminants on surfaces such as roads, maintenance areas, parking lots, and buildings, which are usually contained in dry weather conditions, may be carried by rainfall runoff into drainage systems. The City typically installs catch basins with screens to capture debris before entering the storm drain system. In addition, the City conducts routine street cleaning operations, as well as periodic cleaning and maintenance of catch basins, to reduce stormwater pollution within the City.

3.2.3. ON SITE

Based on a site investigation, it appears the Project Site currently does not implement Best Management Practices (BMPs) and apparently has no means of treatment for stormwater runoff. Refer to Figure I for the existing on-site drainage pattern.

3.3. GROUNDWATER HYDROLOGY

3.3.1. REGIONAL

Groundwater use for domestic water supply is a major beneficial use of groundwater basins in Los Angeles County. The City of Los Angeles overlies the Los Angeles Coastal Plain Groundwater Basin (Basin). The Basin is comprised of the Hollywood, Santa Monica, Central, and West Coast Subbasins. Groundwater flow in the Basin is generally south-southwesterly and may be restricted by natural geological features. Replenishment of groundwater basins occurs mainly by percolation of precipitation throughout the region via permeable surfaces, spreading grounds, and groundwater migration from adjacent basins, as well as injection wells designed to pump freshwater along specific seawater barriers to prevent the intrusion of salt water.

¹¹

https://iaspub.epa.gov/waters10/attains_waterbody.control?p_auid=CAR4051300019980918142302&p_list_id=CAR4051300019980918142302&p_cycle=2012; accessed January 25, 2020.

3.3.2. LOCAL

Within the Basin, the Project Site specifically overlies the Hollywood Basin (Subbasin), which underlies the northern portion of the Basin. The Subbasin is bounded on the north by Santa Monica Mountains and the Hollywood fault, on the east by the Elysian Hills, on the west by the Inglewood fault zone, and on the south by the La Brea High, formed by an anticline that brings impermeable rocks close to the surface.¹²

Groundwater in the Subbasin is replenished by percolation of precipitation and stream flow from the higher areas to the north. Paving of streets and lining of drainage channels have decreased greatly the surface area open to direct percolation. Therefore, natural recharge is somewhat limited. A complete water budget is not available for this area, however the estimated total annual recharge is approximately 2,500 acre-feet per year (AFY).¹³

The Subbasin has numerous public and private water producers that currently own and operate groundwater production wells. The combined estimated urban extraction from the Subbasin annually is 3,300 AFY.¹⁴ Groundwater flow is generally westward through the Subbasin toward the Inglewood fault. The Project Site is located toward the mid-eastern portion of the Subbasin.

3.3.3. ON-SITE

Currently, the Project Site is improved with an existing paved parking lot, and single-story commercial buildings and therefore does not contribute to groundwater recharge. The below discussion is based upon a review available public documents and records for Los Angeles County and on-site explorations conducted as part of the *Geotechnical Investigation* for the Project Site by Geocon West, Inc., dated January 7, 2020

Groundwater depths in the vicinity of the project range from 18 to 27 feet (based on site borings and well record data).

The Seismic Hazard Report for the Hollywood 7.5-Minute Quadrangle (CGS, 1999) (CGS, 2014) indicated the historically highest groundwater is approximately 20 feet below the ground surface.

3.4. GROUNDWATER QUALITY

3.4.1. REGIONAL

As stated above, the City of Los Angeles overlies the Los Angeles Coastal Plain Groundwater Basin, which falls under the jurisdiction of the LARWQCB. According to

¹² https://water.ca.gov/LegacyFiles/groundwater/bulletin118/docs/Bulletin_118_Interim_Update_2016.pdf accessed January 25, 2020

¹³ Ibid.

¹⁴ Ibid.

LARWQCB's Basin Plan, water quality objectives applying to all ground waters of the region include bacteria, chemical constituents and radioactivity, mineral quality, nitrogen (nitrate, nitrite), and taste and odor.¹⁵

3.4.2. LOCAL

As stated above, the Project Site specifically overlies the Hollywood Subbasin. Based upon LARWQCB's Basin Plan, constituents of concern listed for the Hollywood Subbasin include boron, chloride, sulfate, Total Dissolved Solids (TDS), and nitrate.¹⁶

3.4.3. ON-SITE

The Project Site is fully improved with the existing paved parking lot and three single-story commercial buildings, and therefore does not contribute to groundwater recharge. Therefore, the Project Site in its current condition does not contribute to groundwater pollution or otherwise adversely impact groundwater quality.

4. SIGNIFICANCE THRESHOLDS

4.1. SURFACE WATER HYDROLOGY

Appendix G of the State of California's CEQA Guidelines provides a set of sample questions that address impacts with regard to surface water hydrology. These questions are as follows:

Would the project:

- Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality;
- Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin;
- 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 which would:
 - i. result in substantial erosion or siltation on- or off-site;

¹⁵ Los Angeles Regional Water Quality Control Board, Basin Plan, March 2013, http://www.waterboards.ca.gov/losangeles/water_issues/programs/basin_plan/electronics_documents/Final%20Chapter%203%20Text.pdf accessed January 25, 2020.

¹⁶ Ibid.

- ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on 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; or
 - iv. impede or redirect flood flows;
- In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation;
 - Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

In the context of these questions from Appendix G of the CEQA Guidelines, the City of Los Angeles CEQA Thresholds Guide (*L.A. CEQA Thresholds Guide*) states that a project would normally have a significant impact on surface water hydrology if it would:

- Cause flooding during the projected 50-year developed storm event, which would have the potential to harm people or damage property or sensitive biological resources;
- Substantially reduce or increase the amount of surface water in a water body; or
- Result in a permanent, adverse change to the movement of surface water sufficient to produce a substantial change in the current or direction of water flow.

4.2. SURFACE WATER QUALITY

Appendix G of the CEQA Guidelines provides a set of sample questions that address impacts with regard to surface water quality. These questions are as follows:

Would the project:

- Violate any water quality standard or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

In the context of the above questions from Appendix G, the *L.A. CEQA Thresholds Guide* states that a project would normally have a significant impact on surface water quality if it would result in discharges that would create pollution, contamination or nuisance, as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or Water Quality Control Plan for the receiving water body.

The CWC includes the following definitions:

- “Pollution” means an alteration of the quality of the waters of the state to a degree which unreasonably affects either of the following: 1) the waters for beneficial uses or 2) facilities which serve these beneficial uses. “Pollution” may include “Contamination”.
- “Contamination” means an impairment of the quality of the waters of the state by waste to a degree, which creates a hazard to the public health through poisoning or through the spread of disease. “Contamination” includes any equivalent effect resulting from the disposal of waste, whether or not waters of the state are affected.
- “Nuisance” means anything which meets all of the following requirements: 1) is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property; 2) affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal; and 3) occurs during, or as a result of, the treatment or disposal of wastes.¹⁷

4.3. GROUNDWATER HYDROLOGY

Appendix G of the CEQA Guidelines provides a sample question that addresses impacts with regard to groundwater. This question is as follows:

Would the project:

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

In the context of the above question from Appendix G, the *L.A. CEQA Thresholds Guide* states that a project would normally have a significant impact on groundwater if it would:

- Change potable water levels sufficiently to:
 - Reduce the ability of a water utility to use the groundwater basin for public water supplies, conjunctive use purposes, storage of imported water, summer/winter peaking, or to respond to emergencies and drought;
 - Reduce yields of adjacent wells or well fields (public or private); or
 - Adversely change the rate or direction of flow of groundwater; or

¹⁷ City of Los Angeles. *L.A. CEQA Thresholds Guide*. 2006
<http://www.environmentla.org/programs/Thresholds/Complete%20Threshold%20Guide%202006.pdf>

- Result in demonstrable and sustained reduction of groundwater recharge capacity.

4.4. GROUNDWATER QUALITY

With respect to groundwater quality, and in the context of the above question from Appendix G pertaining to groundwater, the *L.A. CEQA Thresholds Guide* states that a project would normally have a significant impact on groundwater quality if it would:

- Affect the rate or change the direction of movement of existing contaminants;
- Expand the area affected by contaminants;
- Result in an increased level of groundwater contamination (including that from direct percolation, injection or salt water intrusion); or
- Cause regulatory water quality standards at an existing production well to be violated, as defined in the California Code of Regulations (CCR), Title 22, Division 4, and Chapter 15 and in the Safe Drinking Water Act.

5. METHODOLOGY

5.1. SURFACE WATER HYDROLOGY

The Project Site is located within the City of Los Angeles, and drainage collection, treatment and conveyance are regulated by the City. Per the City's Special Order No. 007-1299, December 3, 1999, the City has adopted the Los Angeles County Department of Public Works (LACDPW) Hydrology Manual as its basis of design for storm drainage facilities. The LACDPW Hydrology Manual requires projects to have drainage facilities that meet the Urban Flood level of protection. The Urban Flood is runoff from a 25-year frequency design storm falling on a saturated watershed. A 25-year frequency design storm has a probability of 1/25 of being equaled or exceeded in any year. The *L.A. CEQA Thresholds Guide*, however, establishes the 50-year frequency design storm event as the threshold to analyze potential impacts on surface water hydrology as a result of development. To provide a more conservative analysis, this report analyzes the larger storm event threshold, i.e., the 50-year frequency design storm event.

The Modified Rational Method was used to calculate storm water runoff. The "peak" (maximum value) runoff for a drainage area is calculated using the formula, **$Q = CIA$**

Where,

Q = Volumetric flow rate (cfs)

C = Runoff coefficient (dimensionless)

I = Rainfall Intensity at a given point in time (in/hr)

A = Basin area (acres)

The Modified Rational Method assumes that a steady, uniform rainfall rate will produce maximum runoff when all parts of the basin area are contributing to outflow. This occurs when the storm event lasts longer than the time of concentration. The time of concentration (T_c) is the time it takes for rain in the most hydrologically remote part of the basin area to reach the outlet.

The method assumes that the runoff coefficient (C) remains constant during a storm. The runoff coefficient is a function of both the soil characteristics and the percentage of impervious surfaces in the drainage area.

LACDPW has developed a time of concentration calculator, Hydrocalc, to automate time of concentration calculations as well as the peak runoff rates and volumes using the Modified Rational Method design criteria as outlined in the Hydrology Manual. The data input requirements include: sub-area size, soil type, land use, flow path length, flow path slope and rainfall isohyet. The Hydrocalc Calculator was used to calculate the storm water peak runoff flow rate for the Project conditions by evaluating an individual sub-area independent of all adjacent subareas. See Figures 2 and 3 for the Hydrocalc Calculator results and Figure 4 for the Isohyet Map.

5.2. SURFACE WATER QUALITY

5.2.1. CONSTRUCTION

Construction BMPs will be designed and maintained as part of the implementation of the local SWPPP (Erosion Control Plan) in compliance with the General Permit. The Erosion Control Plan shall be implemented when construction commences and, before any site clearing or demolition activity. During construction, the Erosion Control Plan will be referred to regularly and amended as changes occur throughout the construction process.

5.2.2. OPERATION

The Project will meet the requirements of the City's LID standards.¹⁸ Under section 3.1.3. of the LID Manual, post-construction stormwater runoff from a new development must be infiltrated, evapotranspired, captured and used, and/or treated through high efficiency BMPs onsite for at least the volume of water produced by the greater of the 85th percentile storm or the 0.75 inch storm event. The LID Manual prioritizes the selection of BMPs used to comply with stormwater mitigation requirement. The order of priority is:

¹⁸ The Development Best Management Practices Handbook, Part B Planning Activities, 5th edition was adopted by the City of Los Angeles, Board of Public Works on May 9, 2016 to reflect LID requirements that took effect May 12, 2012.

1. Infiltration Systems
2. Stormwater Capture and Use
3. High Efficient Biofiltration/Bioretenion Systems
4. Combination of Any of the Above

Feasibility screening delineated in the LID manual is applied to determine which BMP will best suit the Project.

5.3. GROUNDWATER

The significance of this Project as it relates to the level of the underlying groundwater table of the Hollywood Subbasin included a review of the following considerations:

Analysis and Description of the Project's Existing Condition

- Identification of the Hollywood Subbasin as the underlying groundwater basin, and description of the level, quality, direction of flow, and existing uses for the water;
- Description of the location, existing uses, production capacity, quality, and other pertinent data for spreading grounds and potable water wells in the vicinity (usually within a one mile radius), and;
- Area and degree of permeability of soils on the Project Site, and;

Analysis of the Project Impact on Groundwater Level

- Description of the rate, duration, location and quantity of extraction, dewatering, spreading, injection, or other activities;
- The projected reduction in groundwater resources and any existing wells in the vicinity (usually within a one mile radius); and
- The projected change in local or regional groundwater flow patterns.

In addition, this report discusses the impact of both existing and proposed activities at the Project Site on the groundwater quality of the underlying Hollywood Subbasin.

Short-term groundwater quality impacts could potentially occur during construction of the Project as a result of soil or shallow groundwater being exposed to construction materials, wastes, and spilled materials. These potential impacts are qualitatively assessed.

6. PROJECT IMPACT ANALYSIS

6.1. CONSTRUCTION

6.1.1. SURFACE WATER HYDROLOGY

Construction activities for the Project would include demolition of the existing parking lot and commercial buildings, excavation for subterranean parking, building the high-rise building, and constructing hardscape and landscape around the building. These activities have the potential to temporarily alter existing drainage patterns and flows on the Project Site by exposing the underlying soils, modifying flow direction, and making the Project Site temporarily more permeable. Also, exposed and stockpiled soils could be subject to erosion and conveyance into nearby storm drains during storm events. In addition, on-site watering activities to reduce airborne dust could contribute to pollutant loading in runoff.

As noted above, the Project would implement an Erosion Control Plan that specifies BMPs and erosion control measures to be used during construction to manage runoff flows and prevent pollution. BMPs would be designed to reduce runoff and pollutant levels in runoff during construction. The Erosion Control Plan measures are designed to (and would in fact) contain and treat, as necessary, stormwater or construction watering on the Project Site so runoff does not impact off-site drainage facilities or receiving waters. Construction activities are temporary and flow directions and runoff volumes during construction will be controlled.

In addition, the Project would be required to comply with all applicable City grading permit regulations that require necessary measures, plans, and inspections to reduce sedimentation and erosion. Thus, through compliance with all NPDES General Construction Permit requirements, implementation of BMPs, and compliance with applicable City grading regulations, the Project would not substantially alter the Project Site drainage patterns in a manner that would result in substantial erosion, siltation, or flooding on- or off-site. Similarly, adherence to standard compliance measurements in construction activities would ensure that construction of the Project would not cause flooding, substantially increase or decrease the amount of surface water flow from the Project Site into a water body, or result in a permanent, adverse change to the movement of surface water. Therefore, construction-related impacts to surface water hydrology would be less than significant.

6.1.2. SURFACE WATER QUALITY

Construction activities such as earth moving, maintenance/operation of construction equipment, potential dewatering, and handling/storage/disposal of materials could contribute to pollutant loading in stormwater runoff.

As discussed below, the Project is expected to require dewatering during construction. Dewatering operations are practices that discharge non-stormwater, such as groundwater, that must be removed from a work location to proceed with construction into the drainage system. Discharges from dewatering operations can contain high levels of fine sediments, which if not properly treated, could lead to exceedance of the NPDES requirements. If groundwater is encountered during construction, temporary pumps and

filtration would be utilized in compliance with the NPDES permit. Any such temporary system would comply with all relevant NPDES requirements related to construction and discharges from dewatering operations.

With the implementation of site-specific BMPs included as part of the Erosion Control Plan, the Project would reduce or eliminate the discharge of potential pollutants from the stormwater runoff. In addition, the Project applicant would be required to comply with City grading permit regulations, which require necessary measures, plans (including a wet weather erosion control plan if construction occurs during the rainy season), and inspection to reduce sedimentation and erosion. Therefore, with compliance with NPDES requirements and City grading regulations, construction of the Project would not result in discharge that would cause: (1) pollution which would alter the quality of the water of the State (i.e., Ballona Creek) to a degree which unreasonably affects beneficial uses of the waters; (2) contamination of the quality of the water of the State by waste to a degree which creates a hazard to the public health through poisoning or through the spread of diseases; or (3) nuisance that would be injurious to health; affect an entire community or neighborhood, or any considerable number of persons; and occurs during or as a result of the treatment or disposal of wastes. Furthermore, construction of the Project would not result in discharges that would cause regulatory standards to be violated in Ballona Creek. Therefore, temporary construction-related impacts on surface water quality would be less than significant.

6.1.3. GROUNDWATER HYDROLOGY

As stated above, construction activities for the Project would include excavation for subterranean parking, building up the structure, and hardscape and landscape around the structure. The historic high groundwater level in the vicinity of the Project Site is on the order of 20 feet below grade. A geotechnical investigation was conducted at the Project Site and in-situ borings, dated November 11, 2019, found groundwater at approximately 18 and 27 feet below the existing surface. If groundwater is encountered during construction, temporary pumps and filtration would be utilized in compliance all applicable regulations and requirements, including with all relevant NPDES requirements related to construction and discharges from dewatering operations. Therefore, the Project would result in less than significant impacts related to groundwater and would not substantially deplete groundwater supplies in a manner that would result in a net deficit in aquifer volume or lowering of the local groundwater table.

6.1.4. GROUNDWATER QUALITY

As discussed above, the Project would include excavations for subterranean parking. The Project would also result in a net export of existing soil material. Although not anticipated at the Project Site, any contaminated soils found would be captured within that volume of excavated material, removed from the Project Site, and remediated at an approved disposal facility in accordance with regulatory requirements.

During on-site grading and building construction, hazardous materials, such as fuels, paints, solvents, and concrete additives, could be used and would therefore require proper management and, in some cases, disposal. The management of any resultant hazardous wastes could increase the opportunity for hazardous materials releases into groundwater. Compliance with all applicable federal, state, and local requirements concerning the handling, storage and disposal of hazardous waste, would reduce the potential for the construction of the Project to release contaminants into groundwater that could affect existing contaminants, expand the area or increase the level of groundwater contamination, or cause a violation of regulatory water quality standards at an existing production well. In addition, as there are no groundwater production wells or public water supply wells within one mile of the Project Site, construction activities would not be anticipated to affect existing wells. Therefore, the Project would not result in any substantial increase in groundwater contamination through hazardous materials releases and impacts on groundwater quality would be less than significant.

6.2. OPERATION

6.2.1. SURFACE WATER HYDROLOGY

The Project Site is not located within a 100-year flood plain or within an area that could be impacted by a seiche, tsunami or mudflow (Refer to Figure 6). Therefore, impacts related to those potential issues are less than significant. The Project Site is not within a potential inundation area, flood control basin, or areas potentially impacted by a tsunami according to the City of Los Angeles General Plan Safety Element, Exhibit G: Inundation & Tsunami Hazard Areas (Refer to Figure 7). Therefore, considering the above information, there is no documented risk of flooding from inundation by a seiche or dam failure and impacts are less than significant.

In the existing condition, based upon a site visit, the Project Site is approximately 100% impervious, and it appears stormwater discharges from the Project Site without filtration. Considering the Project will develop a building and paved areas that cover virtually the entire surface area of the Project Site, the post-project condition will also be approximately 100% impervious. Though the proposed landscaping/planters will technically reduce the imperviousness of the Project Site, a more conservative analysis assumes 100% imperviousness in the proposed condition. Accordingly, there is virtually no incremental increase or decrease in the imperviousness of the Project Site that would substantially increase runoff volumes into the existing storm drain system. Therefore, peak flow rates would not change.

Table 2 shows the proposed 50-year frequency design storm event peak flow rate within the Project Site. A comparison of the pre- and post-peak flow rates indicates that there would be no increase in stormwater runoff.

Table 2 – Proposed Drainage Stormwater Runoff Calculations				
Drainage Area	Project Site Area (Acres)	Pre-Project Q ₅₀ (cfs) (volumetric flow rate measured in cubic feet per second)	Post-Project Q ₅₀ (cfs) (volumetric flow rate measured in cubic feet per second)	Incremental Increase from Existing to Proposed Condition
Entire Site	0.78	2.407	2.407	0%

In the existing condition, hardscape sheet flows into the street and is discharged into the public storm drain system. The post-Project condition will manage stormwater flow to discharge points at the curb face, which will discharge the stormwater to the public storm drain system. As stated above, this Project is not in a flood zone, nor will the post-Project condition result in a net increase to the flow rate or volume of runoff that is going to the public storm drain system. Therefore, the Project would not cause flooding during a 50-year storm event or result in an adverse change to the movement of surface water on the Project Site.

The stormwater infrastructure located in Willoughby Avenue and Las Palmas Avenue has sufficient capacity to accept the stormwater runoff from the existing conditions. As noted above, the Project would not increase the rate or volume of stormwater runoff. In other words, the Project would not substantially reduce or increase the amount of surface water discharged into the existing infrastructure or any waterbody. Therefore, impacts related to stormwater infrastructure improvements would be less than significant.

The LID requirements for the Project Site would outline the stormwater treatment post-construction BMPs required to control pollutants associated with storm events up to the 85th percentile storm event, per the City's Stormwater Program. The Project BMPs will control stormwater runoff with no increase in runoff resulting from the Project. Refer to Exhibit 2 for typical LID BMPs. The Project would not impact existing storm drain infrastructure serving the Project Site and runoff would continue to follow the same discharge paths and drain to the same stormwater systems.

As stated above, this Project is not in a flood zone, nor will the post-Project condition result in a net increase to the flow rate or volume of runoff that is going to the public storm drain system. Thus, the Project would not cause flooding during the 50-year developed storm event, would not create runoff which would exceed the capacity of existing or planned drainage systems, would not require construction of new

stormwater drainage facilities or expansion of existing facilities, would not substantially reduce or increase the amount of surface water in a water body, or result in a permanent adverse change to the movement of surface water. Therefore, potential operational impacts to site surface water hydrology would be less than significant.

6.2.2. SURFACE WATER QUALITY

The Project Site will not increase concentrations of the items listed as constituents of concern for the Ballona Creek Watershed.

Under section 3.1.3. of the LID Manual, post-construction stormwater runoff from a new development must be infiltrated, evapotranspired, captured and used, and/or treated through high efficiency BMPs onsite for at least the volume of water produced by the greater of the 85th percentile storm or the 0.75 inch storm event. In accordance with the feasibility discussion in Methodology Section 5.2. Surface Water Quality, the Project will implement one of the above-mentioned BMPs for managing stormwater runoff in accordance with current LID requirements. Since it appears there are currently no existing onsite BMPs, stormwater run-off during post-Project conditions will result in improved surface water quality.

Due to the incorporation of the required LID BMP(s), operation of the Project would not result in discharges that would cause: (1) pollution which would alter the quality of the waters of the State (i.e., Ballona Creek) to a degree which unreasonably affects beneficial uses of the waters; (2) contamination of the quality of the waters of the State by waste to a degree which creates a hazard to the public health through poisoning or through the spread of diseases; or (3) nuisance that would be injurious to health; affect an entire community or neighborhood, or any considerable number of persons; and occurs during or as a result of the treatment or disposal of wastes.

As is typical of most urban developments, stormwater runoff from the Project Site has the potential to introduce pollutants into the stormwater system. Anticipated and potential pollutants generated by the Project are sediment, nutrients, pesticides, metals, pathogens, and oil and grease. The pollutants listed above are expected to, and would in fact, be mitigated through the implementation of approved LID BMPs.

Furthermore, operation of the Project would not result in discharges that would cause regulatory standards to be violated. Currently, the Project Site is approximately 100% impervious surfaces including an existing 20,700 square foot paved surface lot and three existing buildings totaling approximately 10,993 square feet. The Project will maintain the same percentage of impervious surface. However, a portion of the Project Site will be allocated for stormwater BMPs specifically intended to control and treat stormwater runoff in compliance with LID requirements. As stated above, it appears the Project Site currently discharges without any means of treatment. However, the Project would include the installation of LID BMPs, which would mitigate at minimum the first flush or the equivalent of the greater between the 85th percentile storm and first 0.75-inch of rainfall for any storm event. The installed BMP systems will be designed with an internal

bypass or overflow system to prevent upstream flooding due to large storm events. The stormwater which bypasses the BMP systems would discharge to an approved discharge point in the public right-of-way.

As a result of the implementation of the local SWPPP and LID BMPs, there will be no operational impacts on surface water quality.

6.2.3. GROUNDWATER HYDROLOGY

Regarding groundwater recharge, the entire Project Site is virtually impervious in the existing condition, and there is minimal groundwater recharge potential. The Project will develop hardscape and structures that cover virtually the entire Project Site with impervious surfaces, and therefore the groundwater recharge potential will remain minimal. As stated above, the stormwater which bypasses the BMP systems would discharge to an approved discharge point in the public right-of-way and not result in infiltration of a large amount of rainfall that would affect groundwater hydrology, including the direction of groundwater flow. Therefore, the Project's potential impact on groundwater recharge is less than significant.

As discussed above, Project development would require excavations for the subterranean parking. As described above in the "Geotechnical Investigation" by Geocon West, Inc., for the Project Site, the historic high groundwater level is on the order of 20 feet below grade. If groundwater is encountered during construction, temporary pumps and filtration would be utilized in compliance with the NPDES permit. The temporary system would comply with all relevant NPDES requirements related to construction and discharges from dewatering operations. Furthermore, there are no existing wells or spreading grounds within one mile of the Project Site and the Project would not include new injection or supply wells.

Based on the above, operation of the Project would result in a less than significant impact on groundwater hydrology, including groundwater levels.

6.2.4. GROUNDWATER QUALITY

The Project does not include the installation or operation of water wells, or any extraction or recharge system that is in the vicinity of the coast, an area of known groundwater contamination or seawater intrusion, a municipal supply well or spreading ground facility.

Operational activities which could affect groundwater quality include spills of hazardous materials and leaking underground storage tanks. No underground storage tanks are currently operated or will be operated by the Project. In addition, while the development of new building facilities would slightly increase the use of on-site hazardous materials as described above, compliance with all applicable existing regulations at the Project Site regarding the handling and potentially required cleanup of hazardous materials would prevent the Project from affecting or expanding any potential areas of contamination, increasing the level of contamination, or causing regulatory

water quality standards at an existing production well to be violated, as defined in the California Code of Regulations, Title 22, Division 4, Chapter 15 and the Safe Drinking Water Act. Furthermore, as described above, operation of the Project would not require extraction from the groundwater supply based on the depth of excavation for the proposed uses and the depth of groundwater below the Project Site.

The Project is not anticipated to result in releases or spills of contaminants that could reach a groundwater recharge area or spreading ground or otherwise reach groundwater through percolation. The Project does not involve drilling to or through a clean or contaminated aquifer. Therefore, the Project's potential impact on groundwater recharge is less than significant.

6.3. CUMULATIVE IMPACT ANALYSIS

6.3.1. SURFACE WATER HYDROLOGY

The geographic context for the cumulative impact analysis on surface water hydrology is the Ballona Creek Watershed. The Project in conjunction with forecasted growth in the Ballona Creek Watershed could cumulatively increase stormwater runoff flows. However, as noted above, the Project would have no net impact on stormwater flows. Also, in accordance with City requirements, related projects and other future development projects would be required to implement BMPs to manage stormwater in accordance with LID guidelines. Furthermore, the City of Los Angeles Department of Public Works would review each future development project on a case-by-case basis to ensure sufficient local and regional infrastructure is available to accommodate stormwater runoff. Therefore, potential cumulative impacts associated with the Project on surface water hydrology would be less than significant.

6.3.2. SURFACE WATER QUALITY

Future growth in the Ballona Creek Watershed would be subject to NPDES requirements relating to water quality for both construction and operation. In addition, since the Project Site is located in a highly urbanized area, future land use changes or development are not likely to cause substantial changes in regional surface water quality. As noted above, the Project does not have an adverse impact on water quality, and would in fact improve the quality of on-site flows due to the introduction of new BMPs that would collect, treat, and discharge flows from the Project Site (which are not being treated under existing conditions). Also, it is anticipated that similar to the Project, other future development projects would also be subject to LID requirements and implementation of measures to comply with total maximum daily loads. Increases in regional controls associated with other elements of the MS4 Permit would improve regional water quality over time. Therefore, based on the fact that the Project would not have an adverse impact, and given compliance with all applicable laws, rules and regulations, cumulative impacts to surface water quality would be less than significant.

6.3.3. GROUNDWATER HYDROLOGY

The geographic context for the cumulative impact analysis on groundwater level is the Hollywood Subbasin. Although the Project is geographically within the boundaries of the Hollywood Subbasin, water for the Project Site will be supplied by the Los Angeles Department of Water and Power, which derives its water supply from sources alternative to the Hollywood Subbasin groundwater supply. Therefore, potential cumulative impacts associated with the Project on groundwater hydrology would be less than significant.

Furthermore, as previously discussed, implementation of the Project would result in negligible change in impervious surface area. Development of the related projects could result in changes in impervious surface area within their respective project sites. While any calculation of the extent to which the related projects would increase or decrease impervious or pervious surfaces that might affect groundwater hydrology would be speculative, the development of such related projects would be subject to review and approval pursuant to all applicable regulatory requirements, including any required mitigation of potential groundwater hydrology impacts. In addition, as the related projects are located in a highly urbanized area, any potential reduction in groundwater recharge due to the overall net change in impervious area within the area encompassed by the related project sites would be minimal in the context of the regional groundwater basin, and would thus not result in a significant cumulative effect to groundwater hydrology.

Based on the above, cumulative impacts to groundwater hydrology would be less than significant.

6.3.4. GROUNDWATER QUALITY

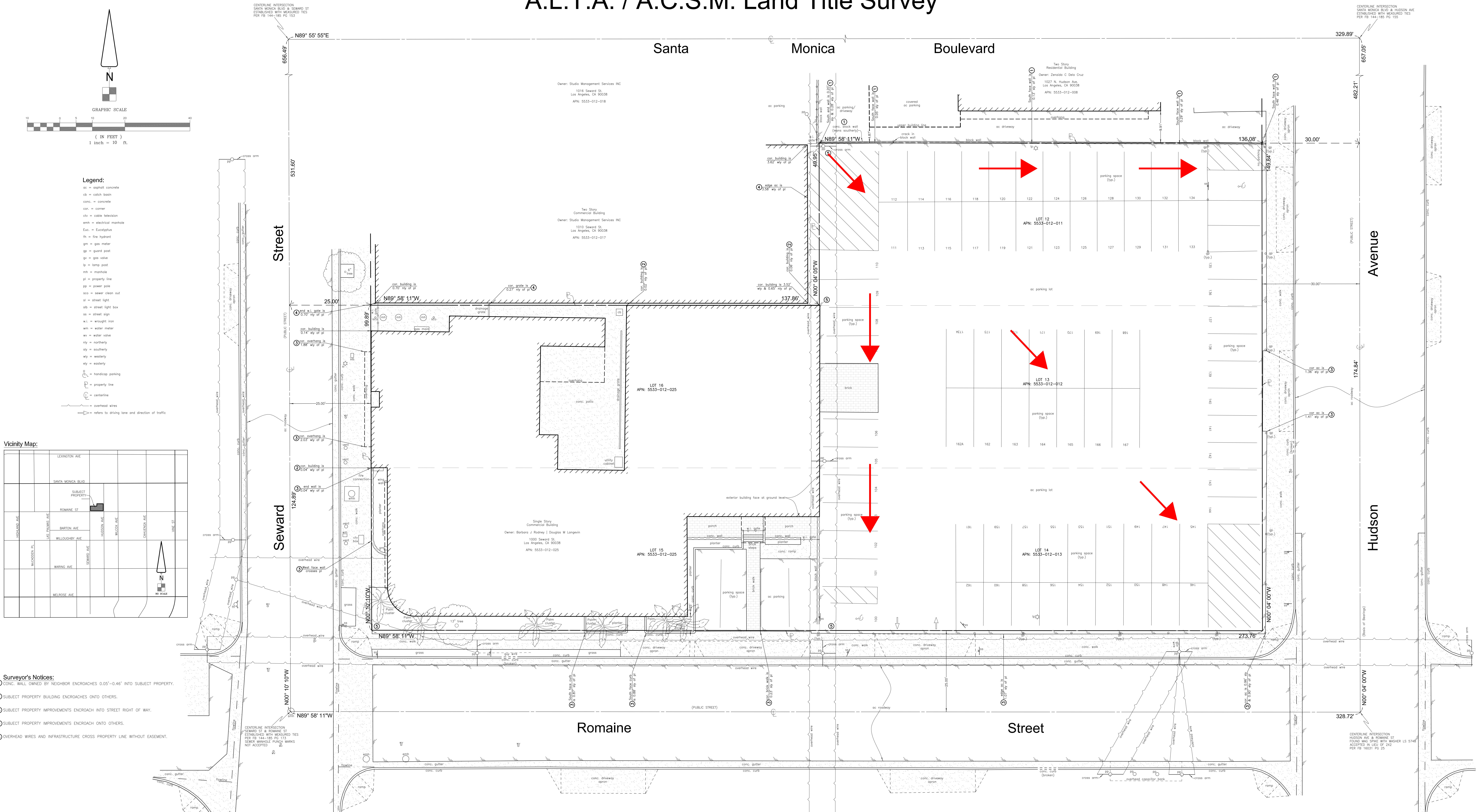
Future growth in the Hollywood Subbasin would be subject to LARWQCB requirements relating to groundwater quality. In addition, since the Project Site is located in a highly urbanized area, future land use changes or development are not likely to cause substantial changes in regional groundwater quality. As noted above, the Project does not have an adverse impact on groundwater quality. Also, it is anticipated that, like the Project, other future development projects would also be subject to LARWQCB requirements and implementation of measures to comply with total maximum daily loads in addition to requirements of California Code of Regulations, Title 22, Division 4, Chapter 15 and the Safe Drinking Water Act. Therefore, based on the fact that the Project does not have an adverse impact on groundwater quality and through compliance with all applicable laws, rules and regulations, cumulative impacts to groundwater quality would be less than significant.

7. LEVEL OF SIGNIFICANCE

Based on the analysis contained in this report, no significant impacts have been identified for surface water hydrology, surface water quality, groundwater hydrology or groundwater quality for this Project.

APPENDIX

A.L.T.A. / A.C.S.M. Land Title Survey



Surveyor's Notices:

- CONC. WALL OWNED BY NEIGHBOR ENDOACHES 0.05'-0.46' INTO SUBJECT PROPERTY.
- SUBJECT PROPERTY BUILDING ENDOACHES ONTO OTHERS.
- SUBJECT PROPERTY IMPROVEMENTS ENDOACH INTO STREET RIGHT OF WAY.
- SUBJECT PROPERTY IMPROVEMENTS ENDOACH ONTO OTHERS.
- OVERHEAD WIRES AND INFRASTRUCTURE CROSS PROPERTY LINE WITHOUT EASEMENT.

Date of Plan:
August 4, 2015

Date of Field Survey:
July 15, 2015

Address:
1003 SEWARD ST., 1003, 1007 AND 1013 N. HUDSON AVE., LOS ANGELES, CA 90038

Adjoining Addresses and Owner's Information:
THE ADJOINING ADDRESSES AND OWNER'S INFORMATION SHOWN ON THIS MAP ARE PER DODGECD.COM AND L.A. COUNTY TAX ASSESSOR.

Assessor's Parcel Number (APN):
5533-012-011, 012, 013 and 025

General:
ALL EASEMENT DESCRIPTIONS SHOWN HEREON ARE PER PRELIMINARY REPORTS STATED HEREON AND MAY BE SHORTENED OR ABREVIATED. ORIGINAL DOCUMENT MUST BE USED FOR COMPLETE VERBAGE AND INTERPRETATION. OTHER EASEMENTS MAY EXIST WITHIN SUBJECT PROPERTY, NOT INCLUDED WITHIN SAID PRELIMINARY REPORTS. HAHN AND ASSOCIATES, INC. DID NOT PERFORM A TITLE SEARCH FOR THIS PROJECT. PROPERTY LINE CLEARS ARE ORIENTED IN PLAN VIEW, PERPENDICULAR TO PROPERTY LINE. FENCING IS DEPICTED TO CENTER OF FENCE.

No Observed Evidence of Current Earth Moving Work, Building Construction or Building Additions.
NO OBSERVED EVIDENCE OF SITE USE AS SOLID WASTE DUMP, SUMP OR SANITARY LAND FILL.

Basis of Bearings:
THE BEARING OF "N 02°14'00" W ALONG THE CENTERLINE OF HUDSON AVENUE AS SHOWN ON WHITE & NEWBY'S HOLLYWOOD BLVD TRACT, MAP BOOK 8, PAGE 176 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER, WAS USED AS THE BASIS OF BEARINGS FOR THIS SURVEY.

Boundary:
ESTABLISHED PER LEGAL DESCRIPTION IN PTR, ADJUSTED TO FOUND CITY CENTERLINE MONUMENTS, USING STANDARD SURVEYING PROCEDURES.

Area:
GROSS AREA: 34,152 SQUARE FEET, 0.78 ACRES

Preliminary Title Report (PTR):
PREPARED BY FIRST AMERICAN TITLE COMPANY, ORDER NO.: NCS-740845-LA2, DATED JUNE 19, 2015.

Legal Description Per PTR:
THE LAND REFERRED TO IN THIS COMMITMENT IS SITUATED IN THE CITY OF LOS ANGELES, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

Exceptions per PTR:

- NOT A SURVEY MATTER.
- NOT A SURVEY MATTER.
- COVENANTS, CONDITIONS, RESTRICTIONS AND EASEMENTS IN THE DOCUMENT RECORDED APRIL 20, 1909 IN BOOK 3708 OF DEEDS, PAGE 184, BUT DELETING ANY COVENANT, CONDITION OR RESTRICTION INDICATING A PREFERENCE, LIMITATION OR DISCRIMINATION BASED ON RACE, COLOR, RELIGION, SEX, HANDICAP, FAMILY STATUS, NATIONAL ORIGIN, SEXUAL ORIENTATION, MARITAL STATUS, ANCESTRY, SOURCE OF INCOME OR DISABILITY, TO THE EXTENT SUCH COVENANTS, CONDITIONS OR RESTRICTIONS VIOLATE TITLE 42, SECTION 54040(c), OF THE UNITED STATES CODES OR SECTION 19505 OF THE CALIFORNIA GOVERNMENT CODE. LAWFUL RESTRICTIONS UNDER STATE AND FEDERAL LAW ON THE AGE OF OCCUPANTS IN SENIOR HOUSING OR HOUSING FOR OLDER PERSONS SHALL NOT BE CONSIDERED AS RESTRICTIONS BASED ON FAMILIAL STATUS. (AFFECTS LOTS 13, 15 AND 16)
- A SUBSURFACE OIL AND GAS LEASE, EXECUTED BY MARY LEVIN AS LESSOR AND HECO CORPORATION, A CORPORATION AS LESSEE, RECORDED NOVEMBER 15, 1956 AS BOOK 52862, PAGE 231 OF OFFICIAL RECORDS, AFFECTING THE LAND LYING BELOW A DEPTH OF 500 FEET FROM THE SURFACE THEREOF, WITHOUT THE RIGHT OF SURFACE ENTRY. DEFECTS, LIENS, ENCUMBRANCES OR OTHER MATTERS AFFECTING THE LEASEHOLD ESTATE, WHETHER OR NOT SHOWN BY THE PUBLIC RECORDS ARE NOT SHOWN HEREIN. (AFFECTS LOTS 13, 15 AND 16)
- COVENANTS, CONDITIONS, RESTRICTIONS AND EASEMENTS IN THE DOCUMENT RECORDED IN BOOK 5719 OF DEEDS, PAGE 288, BUT DELETING ANY COVENANT, CONDITION OR RESTRICTION INDICATING A PREFERENCE, LIMITATION OR DISCRIMINATION BASED ON RACE, COLOR, RELIGION, SEX, HANDICAP, FAMILY STATUS, NATIONAL ORIGIN, SEXUAL ORIENTATION, MARITAL STATUS, ANCESTRY, SOURCE OF INCOME OR DISABILITY, TO THE EXTENT SUCH COVENANTS, CONDITIONS OR RESTRICTIONS VIOLATE TITLE 42, SECTION 54040(c), OF THE UNITED STATES CODES OR SECTION 19505 OF THE CALIFORNIA GOVERNMENT CODE. LAWFUL RESTRICTIONS UNDER STATE AND FEDERAL LAW ON THE AGE OF OCCUPANTS IN SENIOR HOUSING OR HOUSING FOR OLDER PERSONS SHALL NOT BE CONSIDERED AS RESTRICTIONS BASED ON FAMILIAL STATUS. (AFFECTS LOT 14)
- A SUBSURFACE OIL AND GAS LEASE, EXECUTED BY MARY LUCERO AND WILLIAM W. MELVILLE ALSO KNOWN AS WILLIAM MELVILLE AS LESSOR AND HECO CORPORATION, A CORPORATION AS LESSEE, RECORDED APRIL 09, 1997 AS BOOK 54168, PAGE 285 OF OFFICIAL RECORDS, AFFECTING THE LAND LYING BELOW A DEPTH OF (NOT SHOWN) FEET FROM THE SURFACE THEREOF, WITHOUT THE RIGHT OF SURFACE ENTRY. DEFECTS, LIENS, ENCUMBRANCES OR OTHER MATTERS AFFECTING THE LEASEHOLD ESTATE, WHETHER OR NOT SHOWN BY THE PUBLIC RECORDS ARE NOT SHOWN HEREIN. (AFFECTS LOT 16)

Surveyor's Certificate:

TO: 39 SOUTH, INC. AND FIRST AMERICAN TITLE COMPANY:

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2011 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/ACSM LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 2, 3, 4, 6(c), 8, 9, 11(c), 13, 14, 16, 18, 20(g) AND 21 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON JULY 15, 2015.

DATE OF PLAT OR MAP: AUGUST 4, 2015

Brandon M. Hahn

NAME: BRANDON M. HAHN

DATE OF SIGNATURE: AUGUST 4, 2015

REGISTRATION NO.: PLS. 7582

Survey Prepared For:

The Post Group
1415 N. Cahuenga Blvd.
Hollywood, CA 90028

Survey Prepared By:

Hahn and Associates, Inc.
26074 Avenue Hall, Suite 2
Santa Clarita, CA 91355
(661) 775-9500

Exceptions Legend:

- △ = NOT PLOTTABLE (SEE TITLE REPORT AND ACTUAL DOCUMENTS FOR DETAILS)
- = PLOTTED HEREON (SEE TITLE REPORT AND ACTUAL DOCUMENTS FOR DETAILS)

FIGURE 2

Peak Flow Hydrologic Analysis

File location: Q:/19733 - 1000 Seward St/JLA C/C E/06 EIR/Tech Report - Water Resources/FIGURE 2 - Existing Hydrology.pdf
Version: HydroCalc 1.0.2

Input Parameters

Project Name	1000 Seward
Subarea ID	Existing Hydrology
Area (ac)	0.78
Flow Path Length (ft)	200.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	13
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	5.9
Peak Intensity (in/hr)	3.5201
Undeveloped Runoff Coefficient (Cu)	0.9482
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	2.4711
Burned Peak Flow Rate (cfs)	2.4711
24-Hr Clear Runoff Volume (ac-ft)	0.3423
24-Hr Clear Runoff Volume (cu-ft)	14910.4847

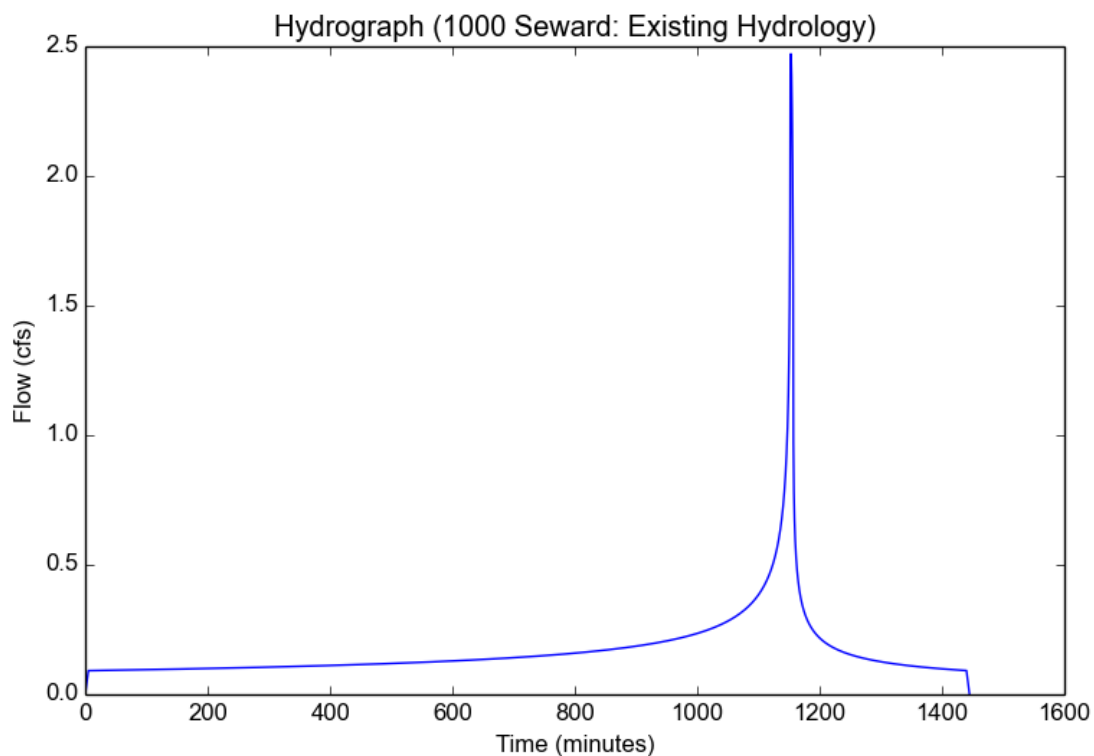


FIGURE 3

Peak Flow Hydrologic Analysis

File location: Q:/19733 - 1000 Seward St/JLA C/C E/06 EIR/Tech Report - Water Resources/FIGURE 3 - Proposed Hydrology.pdf
Version: HydroCalc 1.0.2

Input Parameters

Project Name	1000 Seward
Subarea ID	Proposed Hyrdrology
Area (ac)	0.78
Flow Path Length (ft)	200.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.9
Soil Type	13
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	5.9
Peak Intensity (in/hr)	3.5201
Undeveloped Runoff Coefficient (Cu)	0.9482
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	2.4711
Burned Peak Flow Rate (cfs)	2.4711
24-Hr Clear Runoff Volume (ac-ft)	0.315
24-Hr Clear Runoff Volume (cu-ft)	13723.1591

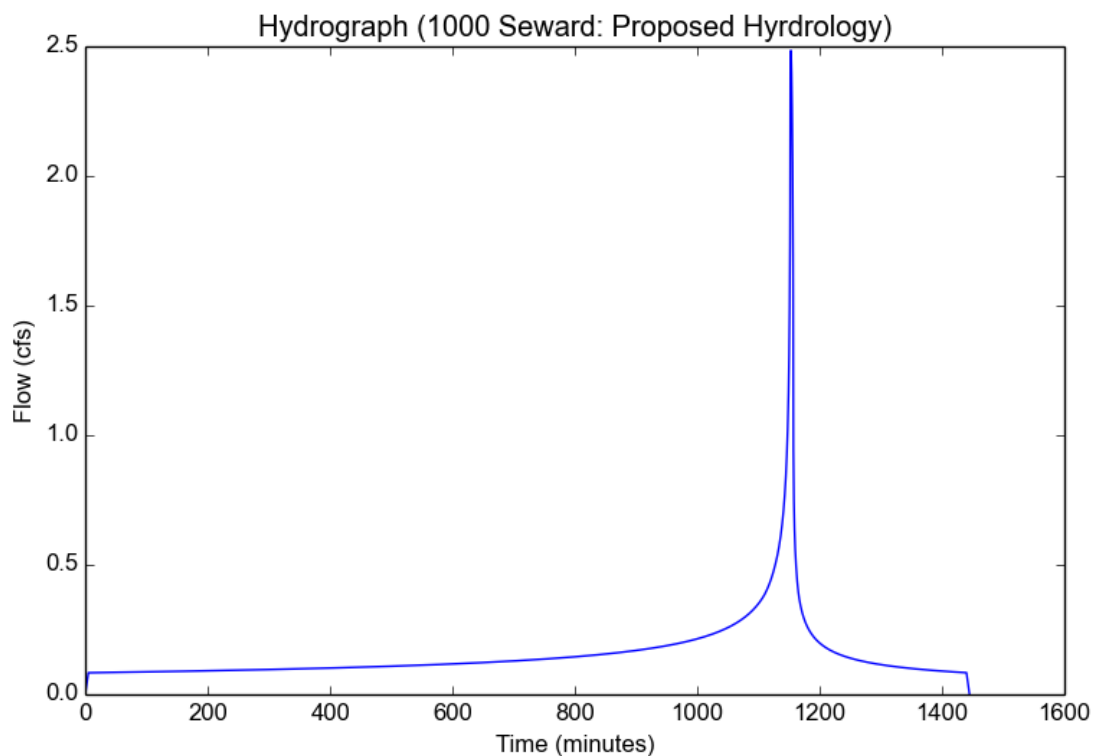
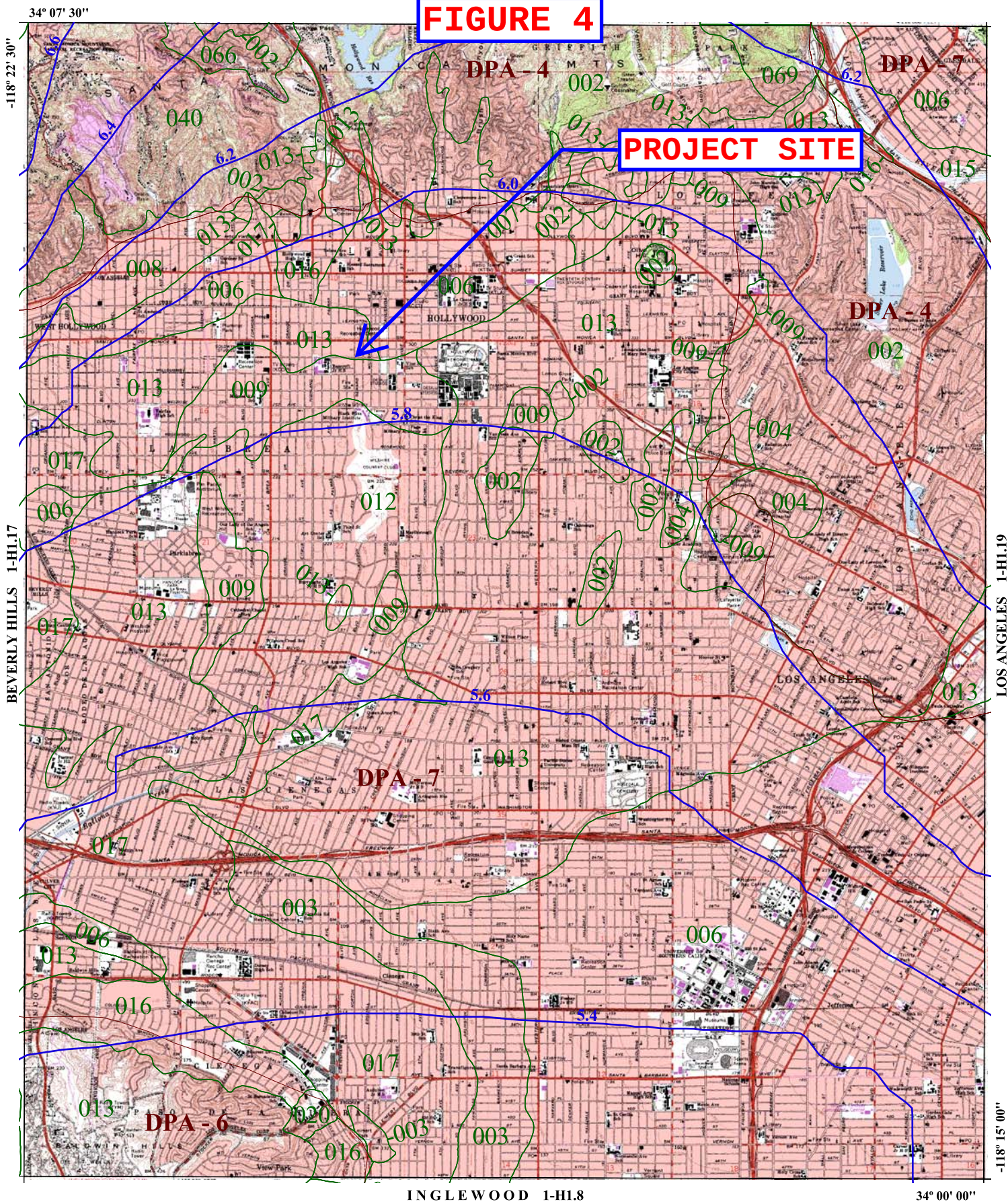


FIGURE 4



INGLEWOOD 1-H1.8

34° 00' 00"



016

SOIL CLASSIFICATION AREA

7.2

INCHES OF RAINFALL

DPA - 6

DEBRIS POTENTIAL AREA

1 0 1 2 Miles

25-YEAR 24-HOUR ISOHYET REDUCTION FACTOR: 0.878
10-YEAR 24-HOUR ISOHYET REDUCTION FACTOR: 0.714

HOLLYWOOD
50-YEAR 24-HOUR ISOHYET

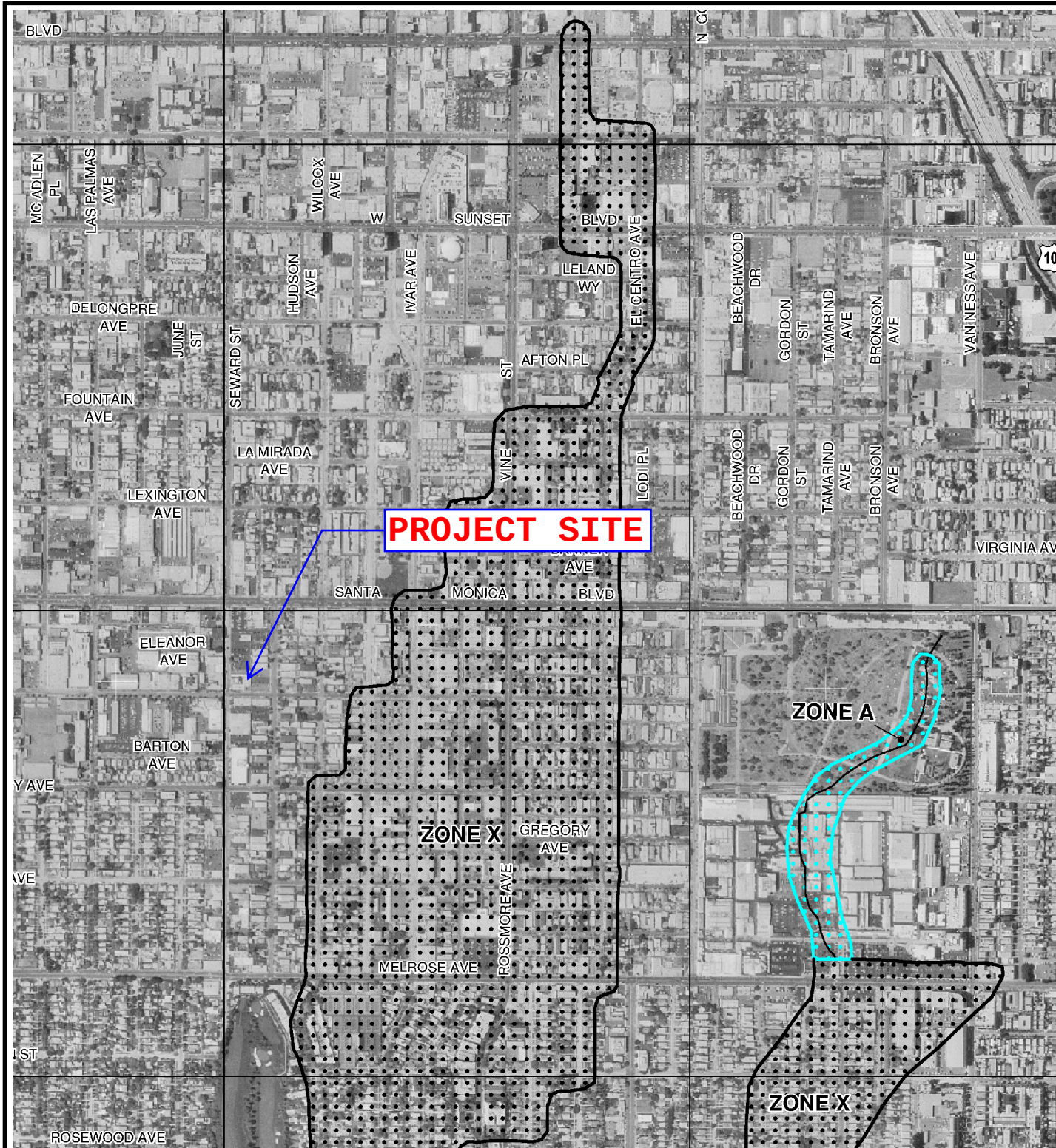
1-H1.18





- Data contained in this map is produced in whole or part from the Los Angeles County Department of Public Works' digital database.

FIGURE 6



NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 1605F

FIRM FLOOD INSURANCE RATE MAP LOS ANGELES COUNTY, CALIFORNIA AND INCORPORATED AREAS

PANEL 1605 OF 2350

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
LOS ANGELES COUNTY	065043	1605	F
BEVERLY HILLS, CITY OF	060655	1605	F
LOS ANGELES, CITY OF	060137	1605	F
WEST HOLLYWOOD, CITY OF	060720	1605	F

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
06037C1605F

EFFECTIVE DATE
SEPTEMBER 26, 2008

Federal Emergency Management Agency

FIGURE 7

PROJECT SITE

SAFETY ELEMENT EXHIBIT G Inundation & Tsunami Hazard Areas In the City of Los Angeles

-  Flood Control Basin
-  Potential Inundation Areas
-  Areas Potentially Impacted by a Tsunami
-  Boundaries of Inundation Areas from Specific Flood Control Basins

SAFETY ELEMENT EXHIBIT G
Inundation & Tsunami Hazard Areas

Source: Environmental Impact Report, Framework Element, Los Angeles City General Plan, May 1995; Technical Appendix to the Safety Element of the Los Angeles County General Plan Hazard Reduction in Los Angeles County, Volume 2, Plate 6, "Flood and Inundation Hazards" January 1990; California Environmental Quality Act of 1970 (CEQA), Public Resources Code Section 21000 et seq. with guidelines as amended, 1992; California Government Code Title 7 chapter 3, article 5 section 85302(g), as amended 1993.

Prepared by the General Plan Framework Section • City of Los Angeles Planning Department • Citywide Graphics • March, 1994 • Council File No. 89-2104

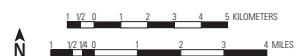
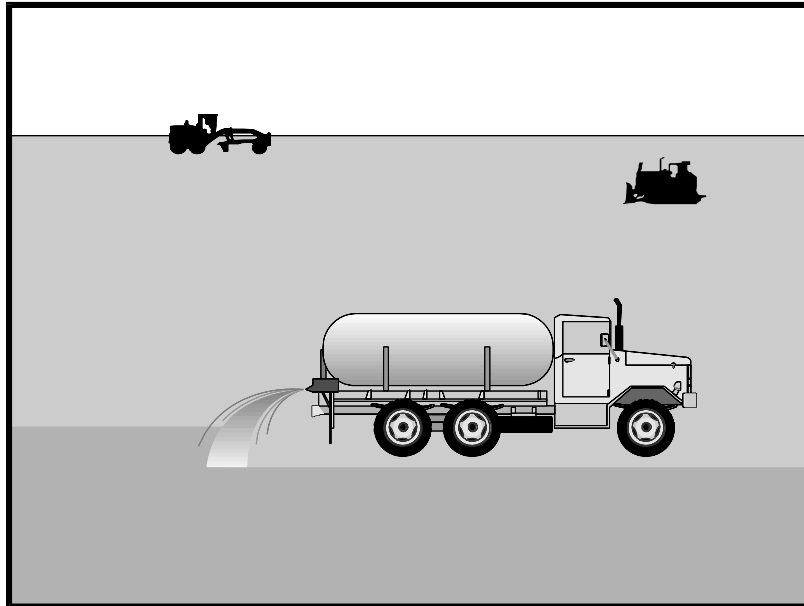


EXHIBIT I



Description and Purpose

Soil binding consists of application and maintenance of a soil stabilizer to exposed soil surfaces. Soil binders are materials applied to the soil surface to temporarily prevent water and wind induced erosion of exposed soils on construction sites.

Suitable Applications

Soil binders are typically applied to disturbed areas requiring temporary protection. Because soil binders, when used as a stand-alone practice, can often be incorporated into the soil, they are a good alternative to mulches in areas where grading activities will soon resume. Soil binders are commonly used in the following areas:

- Rough graded soils that will be inactive for a short period of time
- Soil stockpiles
- Temporary haul roads prior to placement of crushed rock
- Compacted soil road base
- Construction staging, materials storage, and layout areas

Limitations

- Soil binders are temporary in nature and may need reapplication.

Categories

EC	Erosion Control	☒
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	☒
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:

- ☒ **Primary Category**
- ☒ **Secondary Category**

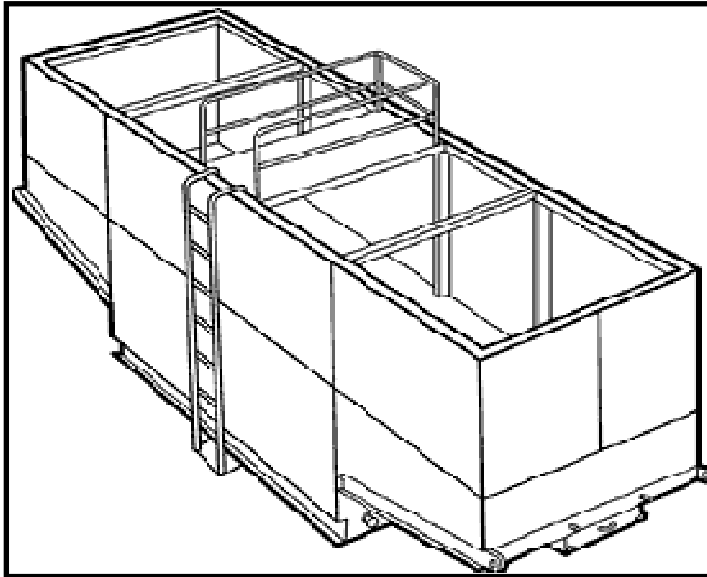
Targeted Constituents

Sediment	☒
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives

- EC-3 Hydraulic Mulch
- EC-4 Hydroseeding
- EC-6 Straw Mulch
- EC-7 Geotextiles and Mats
- EC-8 Wood Mulching





Description and Purpose

Dewatering operations are practices that manage the discharge of pollutants when non-stormwater and accumulated precipitation (stormwater) must be removed from a work location to proceed with construction work or to provide vector control.

The General Permit incorporates Numeric Effluent Limits (NEL) and Numeric Action Levels (NAL) for turbidity (see Section 2 of this handbook to determine your project's risk level and if you are subject to these requirements).

Discharges from dewatering operations can contain high levels of fine sediment that, if not properly treated, could lead to exceedences of the General Permit requirements.

Suitable Applications

These practices are implemented for discharges of non-stormwater from construction sites. Non-stormwaters include, but are not limited to, groundwater, water from cofferdams, water diversions, and waters used during construction activities that must be removed from a work area to facilitate construction.

Practices identified in this section are also appropriate for implementation when managing the removal of accumulated precipitation (stormwater) from depressed areas at a construction site.

Stormwater mixed with non-stormwater should be managed as non-stormwater.

Categories

EC	Erosion Control	
SE	Sediment Control	☒
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	☒
WM	Waste Management and Materials Pollution Control	

Legend:

- ☒ **Primary Category**
- ☒ **Secondary Category**

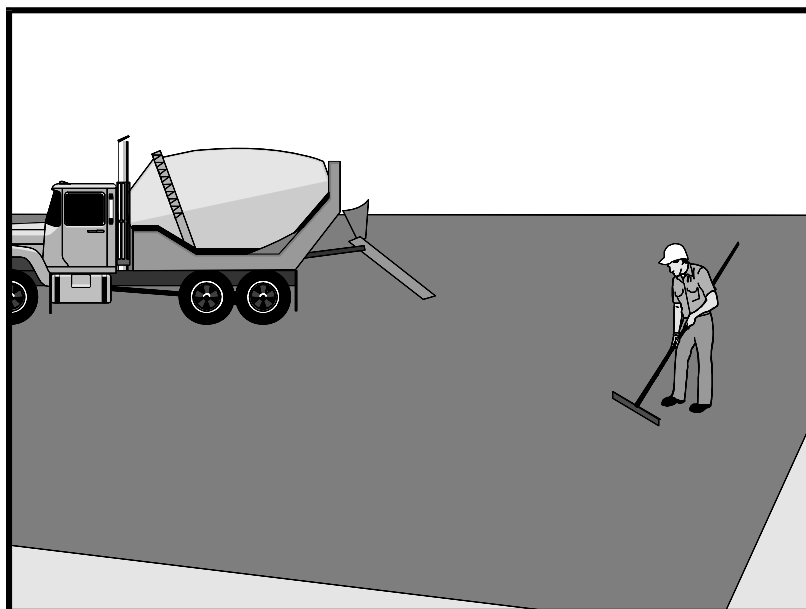
Targeted Constituents

Sediment	☒
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	☒
Organics	

Potential Alternatives

- SE-5: Fiber Roll
- SE-6: Gravel Bag Berm





Description and Purpose

Prevent or reduce the discharge of pollutants from paving operations, using measures to prevent runoff and runoff pollution, properly disposing of wastes, and training employees and subcontractors.

The General Permit incorporates Numeric Effluent Limits (NEL) and Numeric Action Levels (NAL) for pH and turbidity (see Section 2 of this handbook to determine your project's risk level and if you are subject to these requirements).

Many types of construction materials associated with paving and grinding operations, including mortar, concrete, and cement and their associated wastes have basic chemical properties that can raise pH levels outside of the permitted range. Additional care should be taken when managing these materials to prevent them from coming into contact with stormwater flows, which could lead to exceedances of the General Permit requirements.

Suitable Applications

These procedures are implemented where paving, surfacing, resurfacing, or sawcutting, may pollute stormwater runoff or discharge to the storm drain system or watercourses.

Limitations

- Paving opportunities may be limited during wet weather.
- Discharges of freshly paved surfaces may raise pH to environmentally harmful levels and trigger permit violations.

Categories

EC	Erosion Control	
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	☒
WM	Waste Management and Materials Pollution Control	☒

Legend:

- ☒ **Primary Category**
- ☒ **Secondary Category**

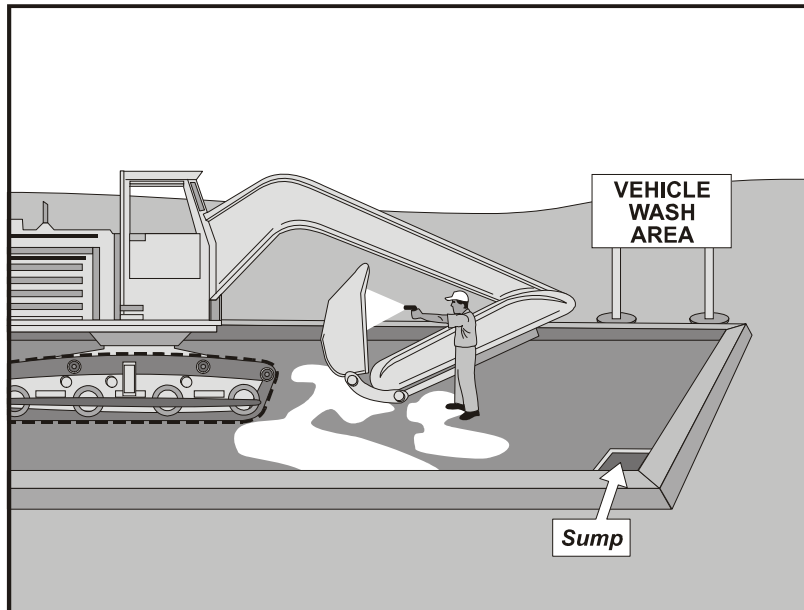
Targeted Constituents

Sediment	☒
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	☒
Organics	

Potential Alternatives

None





Description and Purpose

Vehicle and equipment cleaning procedures and practices eliminate or reduce the discharge of pollutants to stormwater from vehicle and equipment cleaning operations. Procedures and practices include but are not limited to: using offsite facilities; washing in designated, contained areas only; eliminating discharges to the storm drain by infiltrating the wash water; and training employees and subcontractors in proper cleaning procedures.

Suitable Applications

These procedures are suitable on all construction sites where vehicle and equipment cleaning is performed.

Limitations

Even phosphate-free, biodegradable soaps have been shown to be toxic to fish before the soap degrades. Sending vehicles/equipment offsite should be done in conjunction with TC-1, Stabilized Construction Entrance/Exit.

Implementation

Other options to washing equipment onsite include contracting with either an offsite or mobile commercial washing business. These businesses may be better equipped to handle and dispose of the wash waters properly. Performing this work offsite can also be economical by eliminating the need for a separate washing operation onsite.

If washing operations are to take place onsite, then:

Categories

EC	Erosion Control	
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	☒
WM	Waste Management and Materials Pollution Control	

Legend:

- ☒ **Primary Objective**
- ☒ **Secondary Objective**

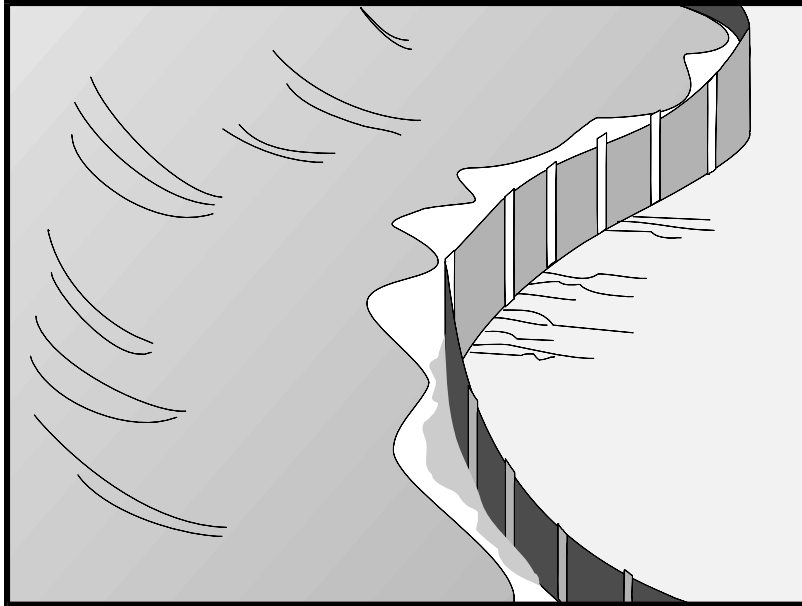
Targeted Constituents

Sediment	☒
Nutrients	☒
Trash	
Metals	
Bacteria	
Oil and Grease	☒
Organics	☒

Potential Alternatives

None





Description and Purpose

A silt fence is made of a woven geotextile that has been entrenched, attached to supporting poles, and sometimes backed by a plastic or wire mesh for support. The silt fence detains sediment-laden water, promoting sedimentation behind the fence.

Suitable Applications

Silt fences are suitable for perimeter control, placed below areas where sheet flows discharge from the site. They could also be used as interior controls below disturbed areas where runoff may occur in the form of sheet and rill erosion and around inlets within disturbed areas (SE-10). Silt fences are generally ineffective in locations where the flow is concentrated and are only applicable for sheet or overland flows. Silt fences are most effective when used in combination with erosion controls. Suitable applications include:

- Along the perimeter of a project.
- Below the toe or down slope of exposed and erodible slopes.
- Along streams and channels.
- Around temporary spoil areas and stockpiles.
- Around inlets.
- Below other small cleared areas.

Categories

EC	Erosion Control	
SE	Sediment Control	☒
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:

- ☒ **Primary Category**
- ☒ **Secondary Category**

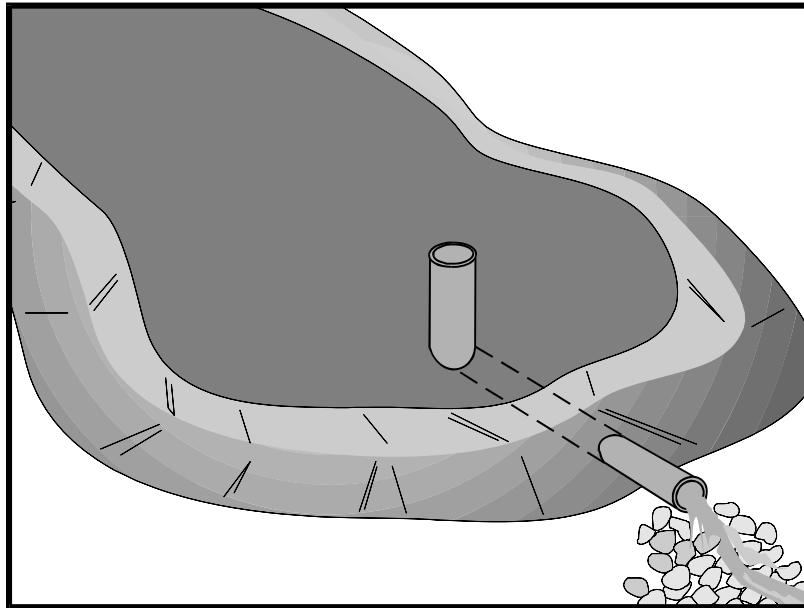
Targeted Constituents

Sediment	☒
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives

- SE-5 Fiber Rolls
- SE-6 Gravel Bag Berm
- SE-8 Sandbag Barrier
- SE-10 Storm Drain Inlet Protection
- SE-14 Biofilter Bags





Description and Purpose

A sediment basin is a temporary basin formed by excavation or by constructing an embankment so that sediment-laden runoff is temporarily detained under quiescent conditions, allowing sediment to settle out before the runoff is discharged.

Sediment basin design guidance presented in this fact sheet is intended to provide options, methods, and techniques to optimize temporary sediment basin performance and basin sediment removal. Basin design guidance provided in this fact sheet is not intended to guarantee basin effluent compliance with numeric discharge limits (numeric action levels or numeric effluent limits for turbidity). Compliance with discharge limits requires a thoughtful approach to comprehensive BMP planning, implementation, and maintenance. Therefore, optimally designed and maintained sediment basins should be used in conjunction with a comprehensive system of BMPs that includes:

- Diverting runoff from undisturbed areas away from the basin
- Erosion control practices to minimize disturbed areas on-site and to provide temporary stabilization and interim sediment controls (e.g., stockpile perimeter control, check dams, perimeter controls around individual lots) to reduce the basin's influent sediment concentration.

At some sites, sediment basin design enhancements may be required to adequately remove sediment. Traditional

Categories

EC	Erosion Control	
SE	Sediment Control	☒
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:

- ☒ Primary Category
- ☒ Secondary Category

Targeted Constituents

Sediment	☒
Nutrients	
Trash	☒
Metals	
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives

SE-3 Sediment Trap (for smaller areas)





Description and Purpose

Street sweeping and vacuuming includes use of self-propelled and walk-behind equipment to remove sediment from streets and roadways, and to clean paved surfaces in preparation for final paving. Sweeping and vacuuming prevents sediment from the project site from entering storm drains or receiving waters.

Suitable Applications

Sweeping and vacuuming are suitable anywhere sediment is tracked from the project site onto public or private paved streets and roads, typically at points of egress. Sweeping and vacuuming are also applicable during preparation of paved surfaces for final paving.

Limitations

Sweeping and vacuuming may not be effective when sediment is wet or when tracked soil is caked (caked soil may need to be scraped loose).

Implementation

- Controlling the number of points where vehicles can leave the site will allow sweeping and vacuuming efforts to be focused, and perhaps save money.
- Inspect potential sediment tracking locations daily.
- Visible sediment tracking should be swept or vacuumed on a daily basis.
- Do not use kick brooms or sweeper attachments. These tend to spread the dirt rather than remove it.

Categories

EC	Erosion Control	
SE	Sediment Control	☒
TC	Tracking Control	☒
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:

- ☒ Primary Objective
- ☒ Secondary Objective

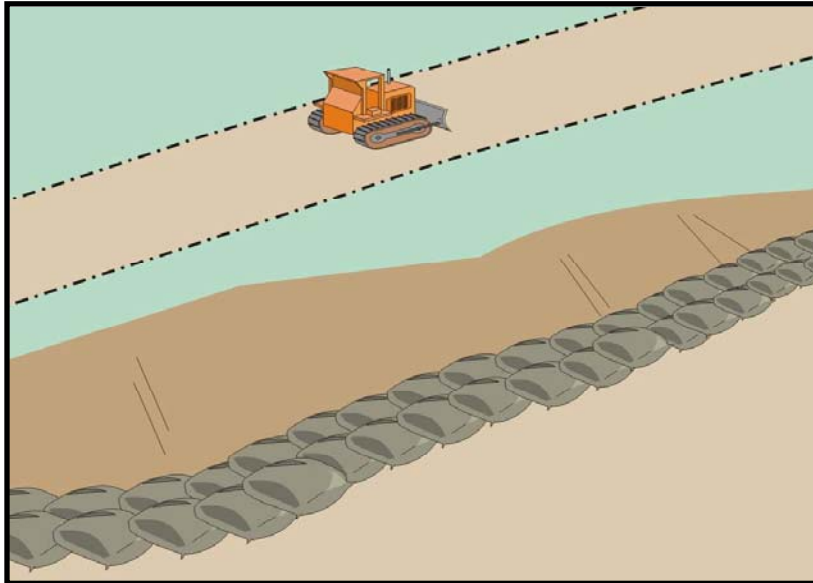
Targeted Constituents

Sediment	☒
Nutrients	
Trash	☒
Metals	
Bacteria	
Oil and Grease	☒
Organics	

Potential Alternatives

None





Categories

EC	Erosion Control	☒
SE	Sediment Control	☒
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:

☒	Primary Category
☒	Secondary Category

Description and Purpose

A sandbag barrier is a series of sand-filled bags placed on a level contour to intercept or to divert sheet flows. Sandbag barriers placed on a level contour pond sheet flow runoff, allowing sediment to settle out.

Suitable Applications

Sandbag barriers may be suitable:

- As a linear sediment control measure:
 - Below the toe of slopes and erodible slopes.
 - As sediment traps at culvert/pipe outlets.
 - Below other small cleared areas.
 - Along the perimeter of a site.
 - Down slope of exposed soil areas.
 - Around temporary stockpiles and spoil areas.
 - Parallel to a roadway to keep sediment off paved areas.
 - Along streams and channels.
- As linear erosion control measure:
 - Along the face and at grade breaks of exposed and erodible slopes to shorten slope length and spread runoff as sheet flow.

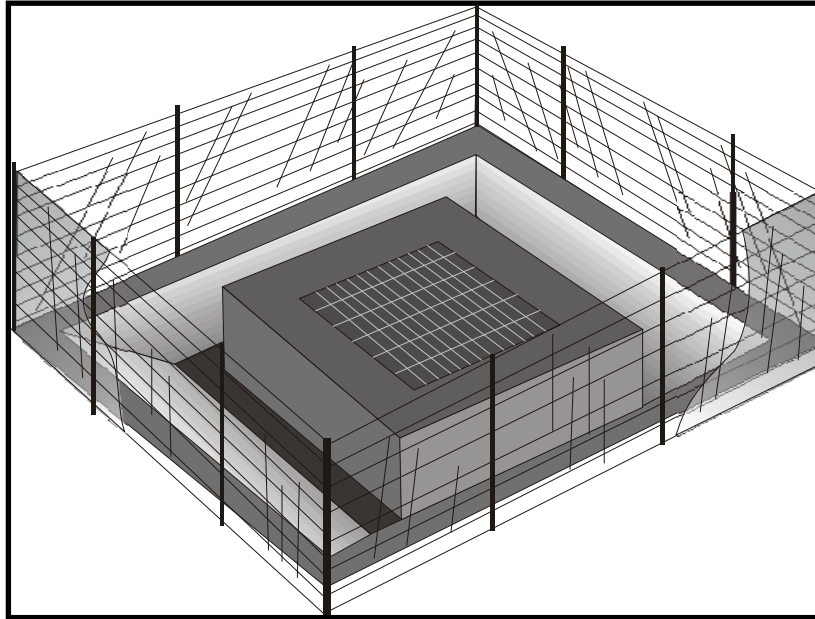
Targeted Constituents

Sediment	☒
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives

- SE-1 Silt Fence
- SE-5 Fiber Rolls
- SE-6 Gravel Bag Berm
- SE-14 Biofilter Bags





Description and Purpose

Storm drain inlet protection consists of a sediment filter or an impounding area in, around or upstream of a storm drain, drop inlet, or curb inlet. Storm drain inlet protection measures temporarily pond runoff before it enters the storm drain, allowing sediment to settle. Some filter configurations also remove sediment by filtering, but usually the ponding action results in the greatest sediment reduction. Temporary geotextile storm drain inserts attach underneath storm drain grates to capture and filter storm water.

Suitable Applications

Every storm drain inlet receiving runoff from unstabilized or otherwise active work areas should be protected. Inlet protection should be used in conjunction with other erosion and sediment controls to prevent sediment-laden stormwater and non-stormwater discharges from entering the storm drain system.

Limitations

- Drainage area should not exceed 1 acre.
- In general straw bales should not be used as inlet protection.
- Requires an adequate area for water to pond without encroaching into portions of the roadway subject to traffic.

Categories

EC	Erosion Control	
SE	Sediment Control	☒
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:

- ☒ **Primary Category**
- ☒ **Secondary Category**

Targeted Constituents

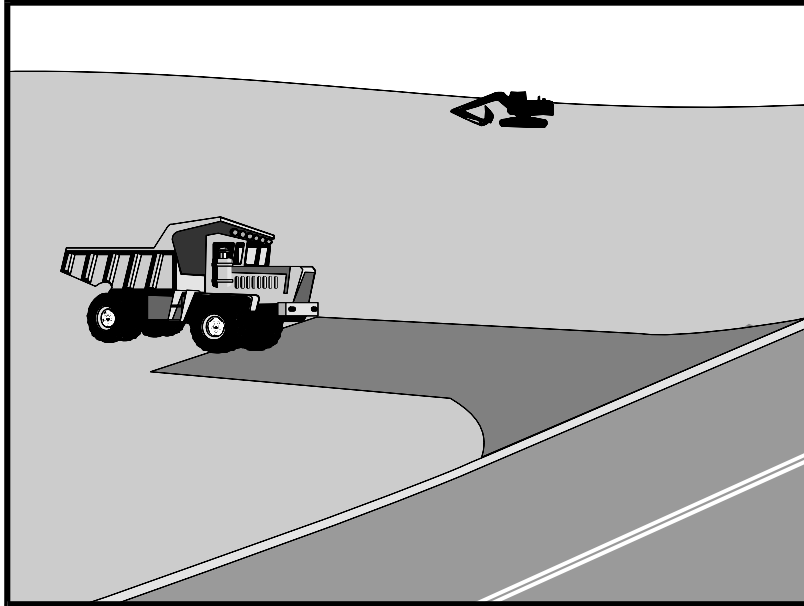
Sediment	☒
Nutrients	
Trash	☒
Metals	
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives

- SE-1 Silt Fence
- SE-5 Fiber Rolls
- SE-6 Gravel Bag Berm
- SE-8 Sandbag Barrier
- SE-14 Biofilter Bags



Stabilized Construction Entrance/Exit TC-1



Description and Purpose

A stabilized construction access is defined by a point of entrance/exit to a construction site that is stabilized to reduce the tracking of mud and dirt onto public roads by construction vehicles.

Suitable Applications

Use at construction sites:

- Where dirt or mud can be tracked onto public roads.
- Adjacent to water bodies.
- Where poor soils are encountered.
- Where dust is a problem during dry weather conditions.

Limitations

- Entrances and exits require periodic top dressing with additional stones.
- This BMP should be used in conjunction with street sweeping on adjacent public right of way.
- Entrances and exits should be constructed on level ground only.
- Stabilized construction entrances are rather expensive to construct and when a wash rack is included, a sediment trap of some kind must also be provided to collect wash water

Categories

EC	Erosion Control	☒
SE	Sediment Control	☒
TC	Tracking Control	☒
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:

- ☒ **Primary Objective**
- ☒ **Secondary Objective**

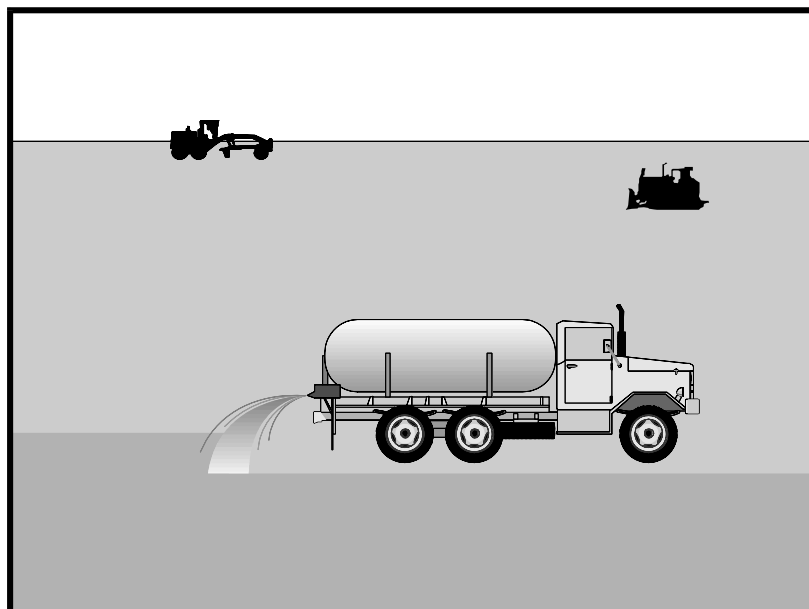
Targeted Constituents

Sediment	☒
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives

None





Description and Purpose

Wind erosion or dust control consists of applying water or other chemical dust suppressants as necessary to prevent or alleviate dust nuisance generated by construction activities. Covering small stockpiles or areas is an alternative to applying water or other dust palliatives.

California's Mediterranean climate, with a short "wet" season and a typically long, hot "dry" season, allows the soils to thoroughly dry out. During the dry season, construction activities are at their peak, and disturbed and exposed areas are increasingly subject to wind erosion, sediment tracking and dust generated by construction equipment. Site conditions and climate can make dust control more of an erosion problem than water based erosion. Additionally, many local agencies, including Air Quality Management Districts, require dust control and/or dust control permits in order to comply with local nuisance laws, opacity laws (visibility impairment) and the requirements of the Clean Air Act. Wind erosion control is required to be implemented at all construction sites greater than 1 acre by the General Permit.

Suitable Applications

Most BMPs that provide protection against water-based erosion will also protect against wind-based erosion and dust control requirements required by other agencies will generally meet wind erosion control requirements for water quality protection. Wind erosion control BMPs are suitable during the following construction activities:

Categories

EC	Erosion Control	
SE	Sediment Control	☒
TC	Tracking Control	
WE	Wind Erosion Control	☒
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:

- ☒ Primary Category
- ☒ Secondary Category

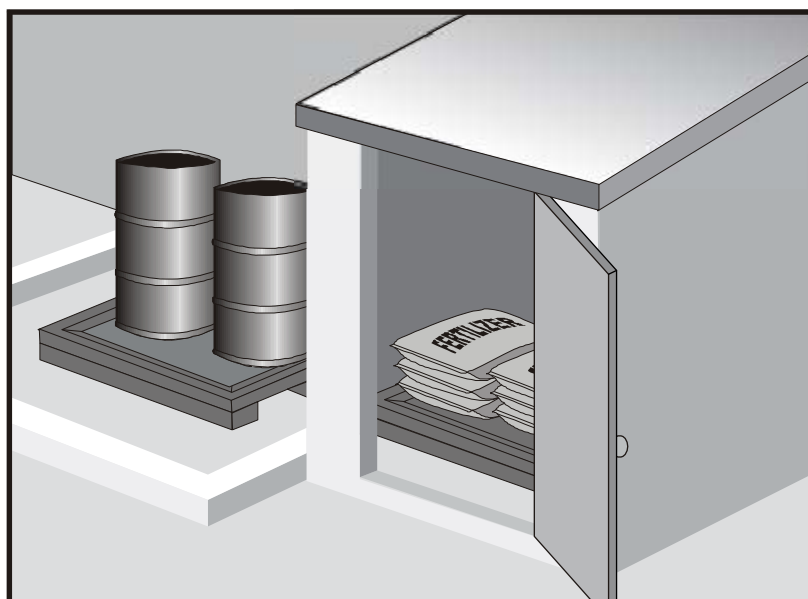
Targeted Constituents

Sediment	☒
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives

EC-5 Soil Binders





Description and Purpose

Prevent, reduce, or eliminate the discharge of pollutants from material delivery and storage to the stormwater system or watercourses by minimizing the storage of hazardous materials onsite, storing materials in watertight containers and/or a completely enclosed designated area, installing secondary containment, conducting regular inspections, and training employees and subcontractors.

This best management practice covers only material delivery and storage. For other information on materials, see WM-2, Material Use, or WM-4, Spill Prevention and Control. For information on wastes, see the waste management BMPs in this section.

Suitable Applications

These procedures are suitable for use at all construction sites with delivery and storage of the following materials:

- Soil stabilizers and binders
- Pesticides and herbicides
- Fertilizers
- Detergents
- Plaster
- Petroleum products such as fuel, oil, and grease

Categories

EC	Erosion Control	
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	☒

Legend:

- ☒ Primary Category
- ☒ Secondary Category

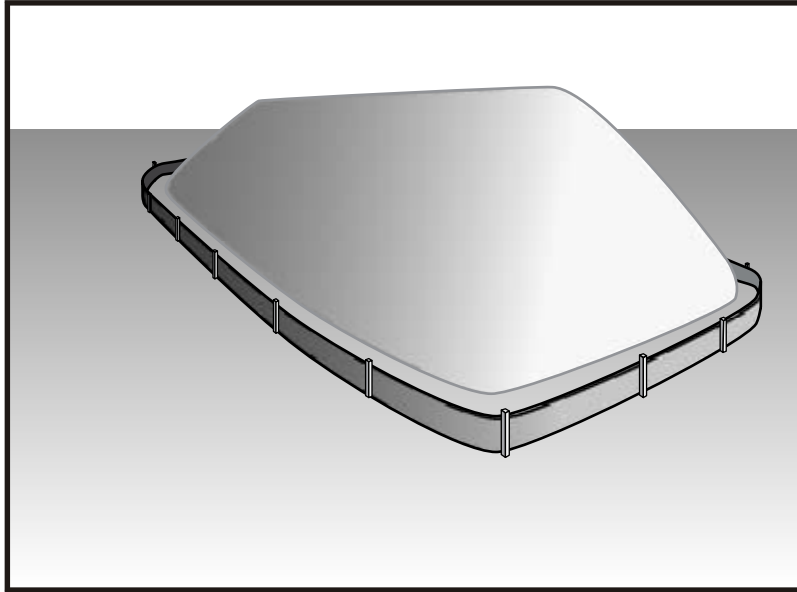
Targeted Constituents

Sediment	☒
Nutrients	☒
Trash	☒
Metals	☒
Bacteria	
Oil and Grease	☒
Organics	☒

Potential Alternatives

None





Description and Purpose

Stockpile management procedures and practices are designed to reduce or eliminate air and stormwater pollution from stockpiles of soil, soil amendments, sand, paving materials such as portland cement concrete (PCC) rubble, asphalt concrete (AC), asphalt concrete rubble, aggregate base, aggregate sub base or pre-mixed aggregate, asphalt minder (so called “cold mix” asphalt), and pressure treated wood.

Suitable Applications

Implement in all projects that stockpile soil and other loose materials.

Limitations

- Plastic sheeting as a stockpile protection is temporary and hard to manage in windy conditions. Where plastic is used, consider use of plastic tarps with nylon reinforcement which may be more durable than standard sheeting.
- Plastic sheeting can increase runoff volume due to lack of infiltration and potentially cause perimeter control failure.
- Plastic sheeting breaks down faster in sunlight.
- The use of Plastic materials and photodegradable plastics should be avoided.

Implementation

Protection of stockpiles is a year-round requirement. To properly manage stockpiles:

Categories

EC	Erosion Control	
SE	Sediment Control	☒
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	☒
WM	Waste Management and Materials Pollution Control	☒

Legend:

- ☒ **Primary Category**
- ☒ **Secondary Category**

Targeted Constituents

Sediment	☒
Nutrients	☒
Trash	☒
Metals	☒
Bacteria	
Oil and Grease	☒
Organics	☒

Potential Alternatives

None

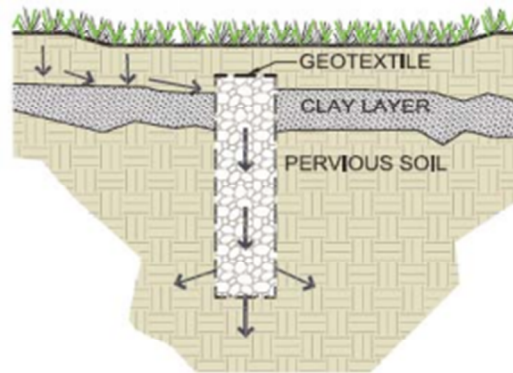


EXHIBIT 2

TYPICAL LID BMPs

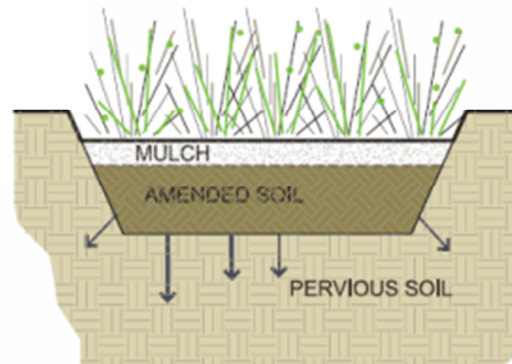
Dry Wells

A dry well is defined as an excavated, bored, drilled, or driven shaft or hole whose depth is greater than its width. Drywells are similar to infiltration trenches in their design and function, as they are designed to temporarily store and infiltrate runoff, primarily from rooftops or other impervious areas with low pollutant loading. A dry well may be either a drilled borehole filled with aggregate or a prefabricated storage chamber or pipe segment.



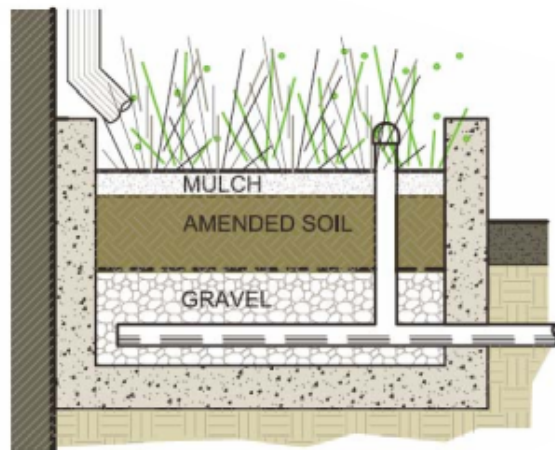
Bioretention

Bioretention stormwater treatment facilities are landscaped shallow depressions that capture and filter stormwater runoff. These facilities function as a soil and plant-based filtration device that removes pollutants through a variety of physical, biological, and chemical treatment processes. The facilities normally consist of a ponding area, mulch layer, planting soils, plantings, and, optionally, a subsurface gravel reservoir layer.



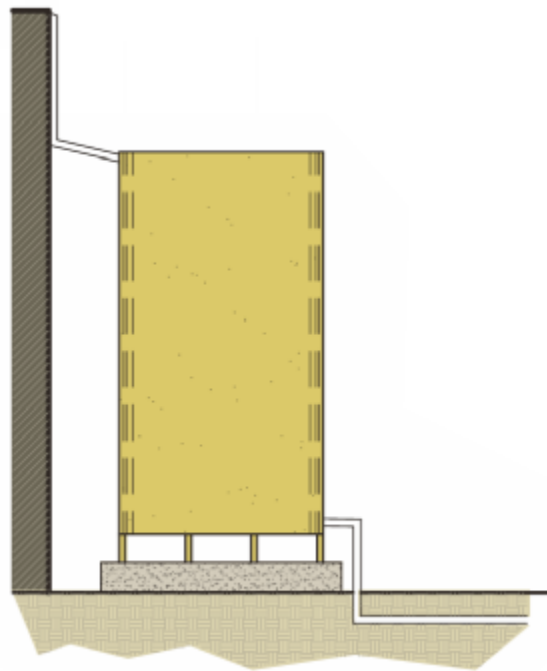
Planter Boxes

Planter boxes are bioretention treatment control measures that are completely contained within an impermeable structure with an underdrain (they do not infiltrate). They are similar to bioretention facilities with underdrains except they are situated at or above ground and are bound by impermeable walls. Planter boxes may be placed adjacent to or near buildings, other structures, or sidewalks.



4.5 CAPTURE AND USE BMPs

Capture and Use refers to a specific type of BMP that operates by capturing stormwater runoff and holding it for efficient use at a later time. On a commercial or industrial scale, capture and use BMPs are typically synonymous with cisterns, which can be implemented both above and below ground. Cisterns are sized to store a specified volume of water with no surface discharge until this volume is exceeded. The primary use of captured runoff is for subsurface drip irrigation purposes. The temporary storage of roof runoff reduces the runoff volume from a property and may reduce the peak runoff velocity for small, frequently occurring storms. In addition, by reducing the amount of stormwater runoff that flows overland into a stormwater conveyance system, less pollutants are transported through the conveyance system into local streams and the ocean. The onsite use of the harvested water for non-potable domestic purposes conserves City-supplied potable water and, where directed to unpaved surfaces, can recharge groundwater in local aquifers.



Cistern Example