



County Project Specific Water Quality Management Plan

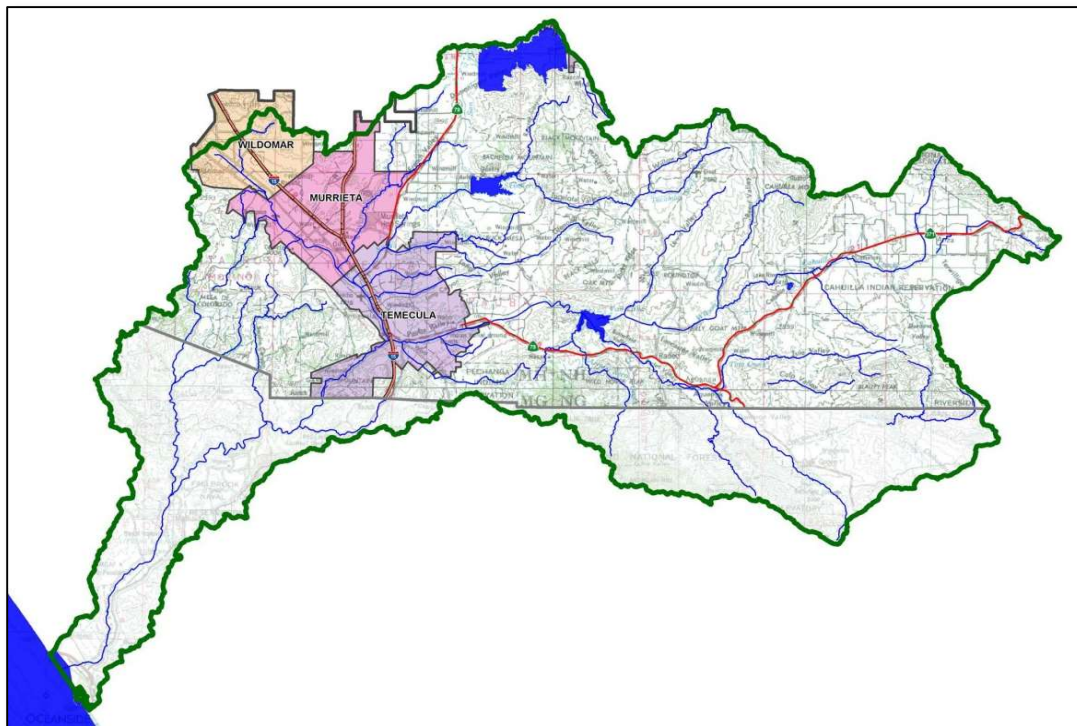
*A Template for preparing Project Specific WQMPs for Priority Development Projects only for use in the unincorporated portions of Riverside County located within the **Santa Margarita Region**.*

Project Title: U-Stor-It Winchester

Development No: CUP210126

Design Review/Case No: TBD

BMP_i (Latitude, Longitude): 33.629219, -117.088981



- ☒ Preliminary
☐ Final

Original Date Prepared: 06/25/2024

Revision Date(s): 02/18/2025, 04/16/2025

*Based on 2018 WQMP, prepared for Compliance with Regional Board Order No. **R9-2013-0001** as amended by Order No. **R9-2015-0001** and Order No. **R9-2015-0100***

The County updated this template on July 24, 2018

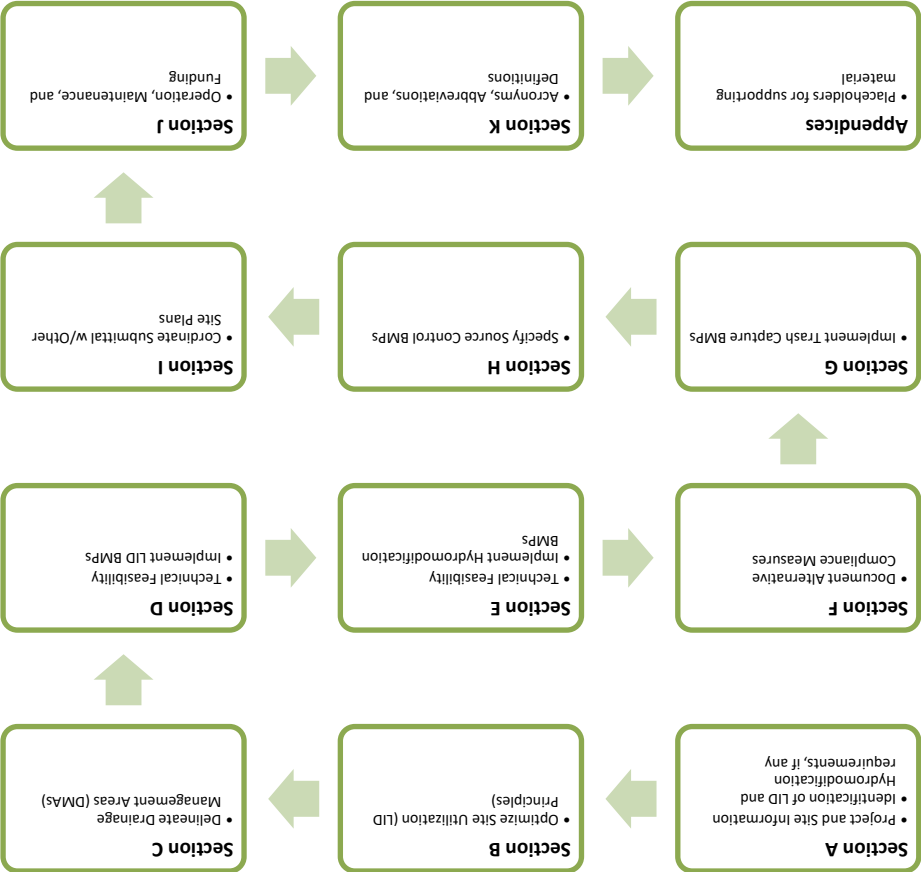
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A Brief Introduction

The Regional Municipal Separate Stormwater Sewer System (MS4) Permit¹ requires that a Project-Specific WQMP be prepared for all development projects within the Santa Margarita Region (SMR) that meet the 'Priority Development Project' categories and thresholds listed in the SMR Water Quality Management Plan (WQMP). This Project-Specific WQMP Template for Development Projects in the **Santa Margarita Region** has been prepared to help document compliance and prepare a WQMP submittal. Below is a flowchart for the layout of this Template that will provide the steps required to document compliance.



To ensure compliance with State permanent recordkeeping, the County of Riverside is no longer accepting hard copies of the approved Final or Preliminary WQMPs or Hydrology Reports. Electronic submittals are highly encouraged for submittal reviews, single PDF file submittal on two CD copies, to the Transportation Department (4080 Lemon Street, 8th Floor, Riverside, CA 92501) is preferred.

For Approved Final WQMPs, submit with the single file WQMP on CD:

- A wet-signed and notarized BMP maintenance agreement (See Appendix 9 for details)
- Owner's Certification signed and scanned into the PDF, or wet-signed hard copy, dated after approval.
- Print out of the WQMP site map (11x17") and Coversheet (8.5x11")
- The CD should include a Hydrology report when applicable. The County requires a hydrology report with hydraulics for the design of drainage facilities. Then provide a print out of the Pre- & Post-Hydrology map (11x17") and Report Coversheet (8.5x11")
- For tracts, submit the County EDA approved maintenance exhibit
- Signed Exhibit B.9 - WQMP O&M Cost Sheet.xlsx

¹ Order No. R9-2013-0001 as amended by Order Nos. R9-2015-0001 and R9-2015-0100, NPDES No. CAS0109266, National Pollutant Discharge Elimination System (NPDES) Permit and Waste Discharge Requirements for Discharges from the MS4s Draining the Watersheds within the San Diego Region, California Regional Water Quality Control Board, May 8, 2013.

Signed and scanned into the PDF for Final Approved WQMP, or wet-signed hard copy

OWNER'S CERTIFICATION

This Project-Specific WQMP has been prepared for U-STOR-IT by Omega Engineering Consultants for the U-STOR-IT-Winchester project.

This WQMP is intended to comply with the requirements of Riverside County for County Ordinance No. 754 which includes the requirement for the preparation and implementation of a Project-Specific WQMP.

The undersigned, while owning the property/project described in the preceding paragraph, shall be responsible for the implementation and funding of this WQMP and will ensure that this WQMP is amended as appropriate to reflect up-to-date conditions on the site. In addition, the property owner accepts responsibility for interim operation and maintenance of Stormwater Best Management Practices until such time as this responsibility is formally transferred to a subsequent owner. This WQMP will be reviewed with the facility operator, facility supervisors, employees, tenants, maintenance and service contractors, or any other party (or parties) having responsibility for implementing portions of this WQMP. At least one copy of this WQMP will be maintained at the project site or project office in perpetuity. The undersigned is authorized to certify and to approve implementation of this WQMP. The undersigned is aware that implementation of this WQMP is enforceable under Riverside County Water Quality Ordinance (No. 754).

"I, the undersigned, certify under penalty of law that the provisions of this WQMP have been reviewed and accepted and that the WQMP will be transferred to future successors in interest."

Owner's Signature

Date

Owner's Printed Name

Owner's Title/Position

PREPARER'S CERTIFICATION

"The selection, sizing and design of stormwater treatment and other stormwater quality and quantity control Best Management Practices in this plan meet the requirements of Regional Water Quality Control Board Order No. **R9-2013-0001** as amended by Order Nos. **R9-2015-0001** and **R9-2015-0100**."

FOR PLAN CHECK ONLY

Preparer's Signature

Date

Patric de Boer

Preparer's Printed Name

Project Engineer

Preparer's Title/Position

Preparer's Licensure:

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Section A: Project and Site Information

Use the table below to compile and summarize basic site information that will be important for completing subsequent steps. Subsections A.1 through A.4 provide additional detail on documentation of additional project and site information. The Regional MS4 Permit has effectively removed the ability for a project to be grandfathered from WQMP requirements. Even if a project were able to meet all the requirements stated in Section 1.2 of the WQMP, the 2014 WQMP requirements would apply.

PROJECT INFORMATION	
Type of PDP:	New Development
Type of Project:	Commercial
Planning Case Number:	TBD
Rough Grade Permit No.:	TBD
Development Name:	U-STOR-IT Winchester
PROJECT LOCATION	
Latitude & Longitude (DMS):	33.629219, -117.088981
Project Watershed and Sub-Watershed:	Murrieta Creek, Warm Spring Creek
24-Hour 85 th Percentile Storm Depth (inches):	0.60"
Is project subject to Hydromodification requirements?	☒ Y ☐ N (Select based on Section A.3)
APN(s):	472-110-038
Map Book and Page No.:	Page # 899, Grids F2 & F3
PROJECT CHARACTERISTICS	
Proposed or Potential Land Use(s)	Commercial
Proposed or Potential SIC Code(s)	4225
Existing Impervious Area of Project Footprint (SF)	0
Total area of <u>proposed</u> Impervious Surfaces within the Project Limits (SF)/or Replacement	255,880
Total Project Area (ac)	8.86
Does the project consist of offsite road improvements?	☒ Y ☐ N
Does the project propose to construct unpaved roads?	☐ Y ☒ N
Is the project part of a larger common plan of development (phased project)?	☐ Y ☒ N
Has preparation of Project-Specific WQMP included coordination with other site plans?	☒ Y ☐ N
EXISTING SITE CHARACTERISTICS	
Is the project located within any Multi-Species Habitat Conservation Plan area (MSHCP Criteria Cell?)	☐ Y ☒ N If "Y" insert Cell Number
Is a Geotechnical Report attached?	☒ Y ☐ N
If no Geotech. Report, list the Natural Resources Conservation Service (NRCS) soils type(s) present on the site (A, B, C and/or D)	Soil Type C
<u>Provide a brief description of the project:</u>	
The project proposes to grade the vacant lot on 33890 Winchester Road, Winchester CA. The project proposes to construct a self-storage facility, parking lot, bioretention facility and associated improvements. The grading activities will disturb 8.86 acres, all of which are on-site. Maintenance or cleaning of RV trailers will not be allowed on the site. Also, trailers will not be allowed to park outside of the property.	

Paver and dirt roads are considered pervious for determining WQMP applicability.

A.1 Maps and Site Plans

When completing your Project-Specific WQMP, include a map of the Project vicinity and existing site. In addition, include all grading, drainage, landscape/plant palette and other pertinent construction plans in Appendix 2. At a **minimum**, your WQMP Site Plan should include the following:

- Vicinity and location maps
- Parcel Boundary and Project Footprint
- Existing and Proposed Topography
- Drainage Management Areas (DMAs)
- Proposed Structural Best Management Practices (BMPs)
- Drainage Paths
- Drainage infrastructure, inlets, overflows
- Source Control BMPs
- Site Design BMPs
- Buildings, Roof Lines, Downspouts
- Impervious Surfaces
- Pervious Surfaces (i.e. Landscaping)
- Standard Labeling
- Cross Section and Outlet details

Use your discretion on whether or not you may need to create multiple sheets or can appropriately accommodate these features on one or two sheets. Keep in mind that the Copermittee plan reviewer must be able to easily analyze your Project utilizing this template and its associated site plans and maps. Complete the checklists in Appendix 1 to verify that all exhibits and components are included.

A.2 Identify Receiving Waters

Using Table A-1 below, list in order of upstream to downstream, the Receiving Waters that the Project site is tributary to. Continue to fill each row with the Receiving Water's 303(d) listed impairments (if any), designated Beneficial Uses, and proximity, if any, to a RARE Beneficial Use. Include a map of the Receiving Waters in Appendix 1. This map should identify the path of the stormwater discharged from the site all the way to the outlet of the Santa Margarita River to the Pacific Ocean. Use the most recent 303(d) list available from the State Water Resources Control Board Website.

(http://www.waterboards.ca.gov/sandiego/water_issues/programs/basin_plan/)

Table A-1 Identification of Receiving Waters

Receiving Waters	USEPA Approved 303(d) List Impairments	Designated Beneficial Uses	Proximity to RARE Beneficial Use
Warm Springs Creek	Chlorpyrifos, Escherichia coli (E. coli), Fecal Coliform, Iron, Manganese, Nitrogen, Phosphorus	AGR, IND, MUN, PROC, REC1, REC2, WARM, WILD	N/A
Murrieta Creek	Chlorpyrifos, Copper, Iron, Manganese, Nitrogen, Toxicity	AGR, GWR, IND, MUN, PROC, REC1, REC2, SHELL, WILD	N/A
Santa Margarita River (Upper)	Toxicity	AGR, COLD, IND, MUN, PROC, RARE, REC1, REC2, WARM, WILD	N/A
Santa Margarita River (Lower)	Enterococcus, Fecal Coliform, Phosphorus, Nitrogen	AGR, COLD, IND, MUN, PROC, RARE, REC1, REC2, WARM, WILD	N/A
Santa Margarita Lagoon	N/A	EST, MAR, MIGR, RARE, REC1, REC2, WILD	The project site is approximately 33 miles northeast of the nearest RARE-designated waters (Santa Margarita Lagoon)

A.3 Drainage System Susceptibility to Hydromodification

Using Table A-2 below, list in order of the point of discharge at the project site down to the Santa Margarita River², each drainage system or receiving water that the project site is tributary to. Continue to fill each row with the material of the drainage system, and any exemption (if applicable). Based on the results, summarize the applicable hydromodification performance standards that will be documented in Section E. Exempted categories of receiving waters include:

- Existing storm drains that discharge directly to water storage reservoirs, lakes, or enclosed embayments, or
- Conveyance channels whose bed and bank are concrete lined all the way from the point of discharge to water storage reservoirs, lakes, enclosed embayments, or the Pacific Ocean.
- Other water bodies identified in an approved WMAA (See Exhibit G to the WQMP)

Include a map exhibiting each drainage system and the associated susceptibility in Appendix 1.

Table A-2 Identification of Susceptibility to Hydromodification

Drainage System	Drainage System Material	Hydromodification Exemption	Hydromodification Exempt
Warm Springs Creek	Unlined Channel	NONE	☐ Y ☒ N
Murrieta Creek	Unlined Channel		☒ Y ☐ N
Santa Margarita River (Upper)	Unlined Channel		☒ Y ☐ N
Santa Margarita River (Lower)	Unlined Channel		☒ Y ☐ N
Santa Margarita Lagoon	Unlined Channel		☒ Y ☐ N
Summary of Performance Standards			
☐ Hydromodification Exempt – Select if “Y” is selected in the Hydromodification Exempt column above, project is exempt from hydromodification requirements.			
☒ Not Exempt -Select if “N” is selected in any row of the Hydromodification Exempt column above. Project is subject to hydrologic control requirements and may be subject to sediment supply requirements.			

² Refer to Exhibit G of the WQMP for a map of exempt and potentially exempt areas. These maps are from the Draft SMR WMAA as of January 5, 2018 and will be replaced upon acceptance of the SMR WMAA.

A.4 Additional Permits/Approvals required for the Project:

Table A-3 Other Applicable Permits

Agency	Permit Required	
State Department of Fish and Game, 1602 Streambed Alteration Agreement	☐ Y	☒ N
State Water Resources Control Board, Clean Water Act Section 401 Water Quality Certification	☐ Y	☒ N
US Army Corps of Engineers, Clean Water Act Section 404 Permit	☐ Y	☒ N
US Fish and Wildlife, Endangered Species Act Section 7 Biological Opinion	☐ Y	☒ N
Statewide Construction General Permit Coverage	☒ Y	☐ N
Statewide Industrial General Permit Coverage	☐ Y	☒ N
Western Riverside MSHCP Consistency Approval (e.g., JPR, DBESP)	☐ Y	☒ N
Other (please list in the space below as required)	☐ Y	☒ N

If yes is answered to any of the questions above, the Copermittee may require proof of approval/coverage from those agencies as applicable including documentation of any associated requirements that may affect this Project-Specific WQMP.

Section B: Optimize Site Utilization (LID Principles)

Review of the information collected in Section 'A' will aid in identifying the principal constraints on site design and selection of LID BMPs as well as opportunities to reduce imperviousness and incorporate LID Principles into the site and landscape design. For example, **constraints** might include impermeable soils, high groundwater, groundwater pollution or contaminated soils, steep slopes, geotechnical instability, high-intensity land use, heavy pedestrian or vehicular traffic, utility locations or safety concerns. **Opportunities** might include existing natural areas, low areas, oddly configured or otherwise unbuildable parcels, easements and landscape amenities including open space and buffers (which can double as locations for LID Bioretention BMPs), and differences in elevation (which can provide hydraulic head). Prepare a brief narrative for each of the site optimization strategies described below. This narrative will help you as you proceed with your Low Impact Development (LID) design and explain your design decisions to others.

Apply the following LID Principles to the layout of the PDP to the extent they are applicable and feasible. Putting thought upfront about how best to organize the various elements of a site can help to significantly reduce the PDP's potential impact on the environment and reduce the number and size of Structural LID BMPs that must be implemented. Integrate opportunities to accommodate the following LID Principles within the preliminary PDP site layout to maximize implementation of LID Principles.

Site Optimization

Complete checklist below to determine applicable Site Design BMPs for your site.

Project- Specific WQMP Site Design BMP Checklist	
<p>The following questions below are based upon Section 3.2 of the SMR WQMP will help you determine how to best optimize your site and subsequently identify opportunities and/or constraints, and document compliance.</p>	
SITE DESIGN REQUIREMENTS	
<p>Answer the following questions below by indicating “Yes,” “No,” or “N/A” (Not Applicable). Justify all “No” and “N/A” answers by inserting a narrative at the end of the section. The narrative should include identification and justification of any constraints that would prevent the use of those categories of LID BMPs. Upon identifying Site Design BMP opportunities, include these on your WQMP Site plan in Appendix 1.</p>	
☒ Yes ☐ No ☐ N/A	<p>Did you identify and preserve existing drainage patterns?</p> <p>Integrating existing drainage patterns into the site plan helps to maintain the time of concentration and infiltration rates of runoff, decreasing peak flows, and may also help preserve the contribution of Critical Coarse Sediment (i.e., Bed Sediment Supply) from the PDP to the Receiving Water. Preserve existing drainage patterns by:</p> <ul style="list-style-type: none"> Minimizing unnecessary site grading that would eliminate small depressions, where appropriate add additional “micro” storage throughout the site landscaping. Where possible conform the PDP site layout along natural landforms, avoid excessive grading and disturbance of vegetation and soils, preserve or replicate the sites natural drainage features and patterns. Set back PDP improvements from creeks, wetlands, riparian habitats and any other natural water bodies. Use existing and proposed site drainage patterns as a natural design element, rather than using expensive impervious conveyance systems. Use depressed landscaped areas, vegetated buffers, and bioretention areas as amenities and focal points within the site and landscape design.
<p>Discuss how this was included or provide a discussion/justification for “No” or “N/A” answer. <i>Existing site drainage patterns were kept at the same location on the proposed conditions.</i></p>	
☐ Yes ☐ No ☒ N/A	<p>Did you identify and protect existing vegetation?</p> <p>Identify any areas containing dense native vegetation or well-established trees, and try to avoid disturbing these areas. Soils with thick, undisturbed vegetation have a much higher capacity to store and infiltrate runoff than do disturbed soils. Reestablishment of a mature vegetative community may take decades. Sensitive areas, such as streams and floodplains should also be avoided.</p> <ul style="list-style-type: none"> Define the development envelope and protected areas, identifying areas that are most suitable for development and areas that should be left undisturbed. Establish setbacks and buffer zones surrounding sensitive areas. Preserve significant trees and other natural vegetation where possible.
<p>Discuss how this was included or provide a discussion/justification for “No” or “N/A” answer. <i>No existing vegetation exists on-site</i></p>	

Project- Specific WQMP Site Design BMP Checklist	
☒ Yes ☐ No ☐ N/A	<p>Did you identify and preserve natural infiltration capacity?</p> <p>A key component of LID is taking advantage of a site's natural infiltration and storage capacity. A site survey and geotechnical investigation can help define areas with high potential for infiltration and surface storage.</p> <ul style="list-style-type: none"> • Identify opportunities to locate LID Principles and Structural BMPs in highly pervious areas. Doing so will maximize infiltration and limit the amount of runoff generated. • Concentrate development on portions of the site with less permeable soils, and preserve areas that can promote infiltration.
<p>Discuss how this was included or provide a discussion/justification for "No" or "N/A" answer.</p>	
☒ Yes ☐ No ☐ N/A	<p>Did you minimize impervious area?</p> <p>Look for opportunities to limit impervious cover through identification of the smallest possible land area that can be practically impacted or disturbed during site development.</p> <ul style="list-style-type: none"> • Limit overall coverage of paving and roofs. This can be accomplished by designing compact, taller structures, narrower and shorter streets and sidewalks, clustering buildings and sharing driveways, smaller parking lots (fewer stalls, smaller stalls, and more efficient lanes), and indoor or underground parking. • Inventory planned impervious areas on your preliminary site plan. Identify where permeable pavements, or other permeable materials, such as crushed aggregate, turf block, permeable modular blocks, pervious concrete or pervious asphalt could be substituted for impervious concrete or asphalt paving. This will help reduce the amount of Runoff that may need to be addressed through Structural BMPs. • Examine site layout and circulation patterns and identify areas where landscaping can be substituted for pavement, such as for overflow parking. • Consider green roofs. Green roofs are roofing systems that provide a layer of soil/vegetative cover over a waterproofing membrane. A green roof mimics pre-development conditions by filtering, absorbing, and evapotranspiring precipitation to help manage the effects of an otherwise impervious rooftop.
<p>Discuss how this was included or provide a discussion/justification for "No" or "N/A" answer.</p>	

Project- Specific WQMP Site Design BMP Checklist	
☒ Yes ☐ No ☐ N/A	<p>Did you identify and disperse runoff to adjacent pervious areas or small collection areas? Look for opportunities to direct runoff from impervious areas to adjacent landscaping, other pervious areas, or small collection areas where such runoff may be retained. This is sometimes referred to as reducing Directly Connected Impervious Areas.</p> <ul style="list-style-type: none"> • Direct roof runoff into landscaped areas such as medians, parking islands, planter boxes, etc., and/or areas of pervious paving. Instead of having landscaped areas raised above the surrounding impervious areas, design them as depressed areas that can receive Runoff from adjacent impervious pavement. For example, a lawn or garden depressed 3"-4" below surrounding walkways or driveways provides a simple but quite functional landscape design element. • Detain and retain runoff throughout the site. On flatter sites, smaller Structural BMPs may be interspersed in landscaped areas among the buildings and paving. • On hillside sites, drainage from upper areas may be collected in conventional catch basins and piped to landscaped areas and LID BMPs and/or Hydrologic Control BMPs in lower areas. Low retaining walls may also be used to create terraces that can accommodate LID BMPs. Wherever possible, direct drainage from landscaped slopes offsite and not to impervious surfaces like parking lots. • Reduce curb maintenance and provide for allowances for curb cuts. • Design landscaped areas or other pervious areas to receive and infiltrate runoff from nearby impervious areas. • Use Tree Wells to intercept, infiltrate, and evapotranspire precipitation and runoff before it reaches structural BMPs. Tree wells can be used to limit the size of Drainage Management Areas that must be treated by structural BMPs. Guidelines for Tree Wells are included in the Tree Well Fact Sheet in the LID BMP Design Handbook.
<p>Discuss how this was included or provide a discussion/justification for "No" or "N/A" answer. The project will use street tree areas along the proposed cul-de-sac and along the southeast property line to treat runoff from the proposed dedicated Right of Way.</p>	
☒ Yes ☐ No ☐ N/A	<p>Did you utilize native or drought tolerant species in site landscaping? Wherever possible, use native or drought tolerant species within site landscaping instead of alternatives. These plants are uniquely suited to local soils and climate and can reduce the overall demands for potable water use associated with irrigation.</p>
<p>Discuss how this was included or provide a discussion/justification for "No" or "N/A" answer. <i>Drought tolerant species will be utilized in site landscaping.</i></p>	

Project- Specific WQMP Site Design BMP Checklist	
☐ Yes ☒ No ☐ N/A	<p>Did implement harvest and use of runoff?</p> <p>Under the Regional MS4 Permit, Harvest and Use BMPs must be employed to reduce runoff on any site where they are applicable and feasible. However, Harvest and Use BMPs are effective for retention of stormwater runoff only when there is adequate demand for non-potable water during the wet season. If demand for non-potable water is not sufficiently large, the actual retention of stormwater runoff will be diminished during larger storms or during back-to-back storms.</p> <p>For the purposes of planning level Harvest and Use BMP feasibility screening, Harvest and Use is only considered to be a feasible if the total average wet season demand for non-potable water is sufficiently large to use the entire DCV within 72 hours. If the average wet season demand for non-potable water is not sufficiently large to use the entire DCV within 72 hours, then Harvest and Use is not considered to be feasible and need not be considered further.</p> <p>The general feasibility and applicability of Harvest and Use BMPs should consider:</p> <ul style="list-style-type: none"> Any downstream impacts related to water rights that could arise from capturing stormwater (not common). Conflicts with recycled water used – where the project is conditioned to use recycled water for irrigation, this should be given priority over stormwater capture as it is a year-round supply of water. Code Compliance - If a particular use of captured stormwater, and/or available methods for storage of captured stormwater would be contrary to building codes in effect at the time of approval of the preliminary Project-Specific WQMP, then an evaluation of harvesting and use for that use would not be required. Wet season demand – the applicant shall demonstrate, to the acceptance of the County of Riverside, that there is adequate demand for harvested water during the wet season to drain the system in a reasonable amount of time.
<p>Discuss how this was included or provide a discussion/justification for “No” or “N/A” answer. <i>Harvest and use is not considered feasible since there is not enough demand from the proposed conditions. Please see next page for "Harvest and Use Assessment."</i></p>	
☒ Yes ☐ No ☐ N/A	<p>Did you keep the runoff from sediment producing pervious area hydrologically separate from developed areas that require treatment?</p> <p>Pervious area that qualify as self-treating areas or off-site open space should be kept separate from drainage to structural BMPs whenever possible. This helps limit the required size of structural BMPs, helps avoid impacts to sediment supply, and helps reduce clogging risk to BMPs.</p>
<p>Discuss how this was included or provide a discussion/justification for “No” or “N/A” answer. <i>Offsite runoff will bypass the site by draining on the proposed concrete lined channel that will run along the westerly property line.</i></p>	

Section C: Delineate Drainage Management Areas (DMAs) & Green Streets

This section provides streamlined guidance and documentation of the DMA delineation and categorization process, for additional information refer to the procedure in Section 3.3 of the SMR WQMP which discusses the methods of delineating and mapping your project site into individual DMAs. Complete Steps 1 to 4 to successfully delineate and categorize DMAs.

Step 1: Identify Surface Types and Drainage Pathways

Carefully delineate pervious areas and impervious areas (including roofs) throughout site and identify overland flow paths and above ground and below ground conveyances. Also identify common points (such as BMPs) that these areas drain to.

Step 2: DMA Delineation

Use the information in Step 1 to divide the entire PDP site into individual, discrete DMAs. Typically, lines delineating DMAs follow grade breaks and roof ridge lines. Where possible, establish separate DMAs for each surface type (e.g., landscaping, pervious paving, or roofs). Assign each DMA a unique code and determine its size in square feet. The total area of your site should total the sum of all of your DMAs (unless water from outside the project limits comes in with water from inside the project limits, i.e. run-on). Complete Table C-1

Table C-1 DMA Identification

DMA Name or Identification	Surface Type(s) ¹	Area (Sq. Ft.)	DMA Type
DMA-1	Mixed	364,684	To be Determined in Step 3
DMA-2	Mixed	17,282	
DMA-3	Mixed	11,464	
DMA-4	Mixed	32,042	

Add Columns as Needed. Consider a separate DMA for Tree Wells or other LID principals like Self-Retaining areas are used for mitigation.

Step 3: DMA Classification

Determine how drainage from each DMA will be handled by using information from Steps 1 and 2 and by completing Steps 3.A to 3.C. Each DMA will be classified as one of the following four types:

- Type 'A': Self-Treating Areas:
- Type 'B': Self-Retaining Areas
- Type 'C': Areas Draining to Self-Retaining Areas
- Type 'D': Areas Draining to BMPs

Tree wells are considered Type 'B' areas, and their tributary areas limited to a 10:1 ratio are considered Type 'C' areas. If Tree wells are proposed, consider grading or other features to minimize the pervious runoff to the tree wells, to avoid overwhelming the trees. Type 'A', 'B', and 'C' are considered LID Principals that can be used to minimize or potentially eliminate structural LID BMPs.

If Tree wells are proposed, a landscape architect shall be consulted on the tree selection, since compliance will be determined based on the survival of the tree. The tree type should be noted on the WQMP site map.

Step 3.A – Identify Type 'A' Self-Treating Area

Indicate if the DMAs meet the following criteria by answering "Yes" or "No".

- ☐ Yes ☐ No Area is undisturbed from their natural condition OR restored with Native and/or California Friendly vegetative covers.
- ☐ Yes ☐ No Area is irrigated, if at all, with appropriate low water use irrigation systems to prevent irrigation runoff.
- ☐ Yes ☐ No Runoff from the area will not comeingle with runoff from the developed portion of the site, or across other landscaped areas that do not meet the above criteria.

If all answers indicate “Yes,” complete Table C-2 to document the DMAs that are classified as Self-Treating Areas.

Table C-2 Type ‘A’, Self-Treating Areas

DMA Name or Identification	Area (Sq. Ft.)	Stabilization Type	Irrigation Type (if any)
N/A	N/A	N/A	N/A

Step 3.B – Identify Type ‘B’ Self-Retaining Area and Type ‘C’ Areas Draining to Self-Retaining Areas

Type ‘B’ Self-Retaining Area: A Self-Retaining Area is shallowly depressed 'micro infiltration' areas designed to retain the Design Storm rainfall that reaches the area, without producing any Runoff.

Indicate if the DMAs meet the following criteria by answering “Yes,” “No,” or “N/A”.

- ☒ Yes ☐ No ☐ N/A Inlet elevations of area/overflow drains, if any, should be clearly specified to be three inches or more above the low point to promote ponding.
- ☒ Yes ☐ No ☐ N/A Soils will be freely draining to not create vector or nuisance conditions.
- ☐ Yes ☐ No ☒ N/A Pervious pavements (e.g., crushed stone, porous asphalt, pervious concrete, or permeable pavers) can be self-retaining when constructed with a gravel base course four or more inches deep below any underdrain discharge elevation.

If all answers indicate “Yes,” DMAs may be categorized as Type ‘B’, proceed to identify Type ‘C’ Areas Draining to Self-Retaining Areas.

Type ‘C’ Areas Draining to Self-Retaining Areas: Runoff from impervious or partially pervious areas can be managed by routing it to Self-Retaining Areas consistent with the LID Principle discussed in SMR WQMP Section 3.2.5 for 'Dispersing Runoff to Adjacent Pervious Areas'.

Indicate if the DMAs meet the following criteria by answering “Yes” or “No”.

- ☒ Yes ☐ No The drainage from the tributary area must be directed to and dispersed within the Self-Retaining Area.
- ☐ Yes ☒ No The maximum ratio of Tributary Area to Self-Retaining area is $(2 \div \text{Impervious Fraction})$: 1

If all answers indicate “Yes,” DMAs may be categorized as Type ‘C’.

Complete Table C-3 and Table C-4 to identify Type ‘B’ Self-Retaining Areas and Type ‘C’ Areas Draining to Self-Retaining Areas.

Table C-3 Type ‘B’, Self-Retaining Areas

Self-Retaining Area				Type ‘C’ DMAs that are draining to the Self-Retaining Area		
DMA Name/ ID	Post-project surface type	Area (square feet)	Storm Depth (inches)	DMA Name / ID	[C] from Table C-4=	Required Retention Depth (inches)
		[A]	[B]		[C]	$[D] = [B] + \frac{[B] \cdot [C]}{[A]}$
DMA-2	Tree Soil Area	1,240	0.60	DMA-2	13,367	7.1
DMA-3	Landscape areas w/ check dams	3,390	0.60	DMA-3	7,677	2.0
DMA-4	Landscape areas w/ check dams	12,455	0.60	DMA-4	20,452	1.6

Note: Tree well areas can extend well beyond the drip line. The Tree Well area for open top types would include the shallow depressed area at the soil surface. The Tree Well area for Structural Soil Tree Wells or Suspended Pavement Tree Wells includes the area with open-graded gravel or void space over the structural soil or structural cells. Please specify type in this table and WQMP site map. See LID handbook Tree Well factsheet for additional details.

***Note: Coventry Lane will be treated using self-retaining areas to the maximum extent practicable.**

Table C-4 Type 'C', Areas that Drain to Self-Retaining Areas

DMA					Receiving Self-Retaining DMA		
DMA Name/ ID	Area (square feet)	Post-project surface type	Runoff factor	Product		Area (square feet)	Ratio
	[A]					[D]	[C]/[D]
DMA-2	17,282	Tree Soil Area	0.77	13,367	DMA-2	1,240	10.8
DMA-3	11,464	Landscape areas w/ check dams	0.67	7,677	DMA-3.1	3,390	2.3
DMA-4	32,042	Landscape areas w/ check dams	0.64	20,452	DMA-4.1	5,500	3.7

Note: (See Section 3.3 of SMR WQMP) Ensure that partially pervious areas draining to a Self-Retaining area do not exceed the following ratio:

$$\left(\frac{2}{\text{Impervious Fraction}} \right) : 1$$

(Tributary Area: Self-Retaining Area)

***Note: Coventry Lane will be treated using self-retaining areas to the maximum extent practicable.**

Step 3.B.1 – Document the use of Green Street Exemption (see Section 3.11 of the WQMP Guidance)

The Regional MS4 Permit specifies that projects that consist of **retrofitting or redevelopment of existing paved alleys, streets, or roads** may be exempted from classification as PDPs if they are designed and constructed in accordance with USEPA Green Streets Guidance. This does not apply for interior roads for PDP projects. For projects with road frontage improvements, Green Street standards can be used in the frontage road right-of-way. The remainder of the project is subject to full WQMP and Hydromodification requirements. See excerpt from Section 3.11 of the WQMP Guidance below:

3.11.4 BMP Sizing Targets for Applicable Green Streets Projects

Applicable green street projects are not required to meet the same sizing requirements for BMPs as other projects, but should attempt to meet a sizing target to the MEP. The following steps are used to size BMPs for applicable Green Streets projects:

1. Delineate drainage areas tributary to BMP locations and compute imperviousness.
2. Determine sizing goal by referring to sizing criteria presented in Section 2.3.2 (V_{BMP}).
3. Attempt to provide the target BMP sizing according to Step 2.

4. If the target criteria cannot be achieved, document the constraints that override the application of BMPs, and provide the largest portion of the sizing criteria that can be reasonably provided given constraints.

Even if BMPs cannot be sized to meet the target sizing criteria, it is still important to design the BMP inlet, energy dissipation, and overflow capacity for the full tributary area to ensure that flooding and scour is avoided. It is strongly recommended that BMPs which are designed to less than their target design volume be designed to bypass peak flows.

Table C-4.1 – Green Streets

DMA Name or ID	Street Name	BMP Sizing Targets Calculations and documenting constraints included in Appendix 6*
		☐ Yes ☐ No
		☐ Yes ☐ No
		☐ Yes ☐ No
		☐ Yes ☐ No
		☐ Yes ☐ No
*WQMP shall not be approved without calculations or documenting constraints for Green Street Exemption.		

Step 3.C – Identify Type ‘D’ Areas Draining to BMPs

Areas draining to BMPs are those that could not be fully managed through LID Principles (DMA Types A through C) and will instead drain to an LID BMP and/or a Conventional Treatment BMP designed to manage water quality impacts from that area, and Hydromodification where necessary.

Complete Table C-5 to document which DMAs are classified as Areas Draining to BMPs

Table C-5 Type ‘D’, Areas Draining to BMPs

DMA Name or ID	BMP Name or ID Receiving Runoff from DMA
DMA-1	BMP-1

Note: More than one DMA may drain to a single LID BMP; however, one DMA may not drain to more than one BMP.

Section D: Implement LID BMPs

The Regional MS4 Permit requires the use of LID BMPs to provide retention or treatment of the DCV and includes a BMP hierarchy which requires Full Retention BMPs (Priority 1) to be considered before Biofiltration BMPs (Priority 2) and Flow-Through Treatment BMPs and Alternative Compliance BMPs (Priority 3). LID BMP selection must be based on technical feasibility and should be considered early in the site planning and design process. Use this section to document the selection of LID BMPs for each DMA. Note that feasibility is based on the DMA scale and may vary between DMAs based on site conditions.

D.1 Full Infiltration Applicability

An assessment of the feasibility of utilizing full infiltration BMPs is required for all projects, *except where it can be shown that site design LID principles fully retain the DCV (i.e., all DMAs are Type A, B, or C), or where Harvest and Use BMPs fully retain the DCV. Check the following box if applicable:*

- ☒ Site design LID principles or Tree Wells fully retain the DCV (i.e., all DMAs are Type A, B, or C),
(Proceed to Section E).

If the above box remains unchecked, perform a [site-specific](#) evaluation of the feasibility of Infiltration BMPs using each of the applicable criteria identified in Chapter 2.3.3 of the SMR WQMP and complete the remainder of Section D.1.

Geotechnical Report

A Geotechnical Report or Phase I Environmental Site Assessment may be required by the Copermittee to confirm present and past site characteristics that may affect the use of Infiltration BMPs. In addition, the Copermittee, at their discretion, may not require a geotechnical report for small projects as described in Chapter 2 of the SMR WQMP. If a geotechnical report has been prepared, include it in Appendix 3. In addition, if a Phase I Environmental Site Assessment has been prepared, include it in Appendix 4.

Infiltration Feasibility

Table D-1 below is meant to provide a simple means of assessing which DMAs on your site support Infiltration BMPs and is discussed in the SMR WQMP in Chapter 2.3.3. Check the appropriate box for each question and then list affected DMAs as applicable. If additional space is needed, add a row below the corresponding answer.

Table D-1 Infiltration Feasibility

Downstream Impacts (SMR WQMP Section 2.3.3.a)		
Does the project site...	YES	NO
...have any DMAs where infiltration would negatively impact downstream water rights or other Beneficial Uses ³ ?		X
If Yes, list affected DMAs:		
Groundwater Protection (SMR WQMP Section 2.3.3.b)		
Does the project site...	YES	NO
...have any DMAs with industrial, and other land uses that pose a high threat to water quality, which cannot be treated by Bioretention BMPs? Or have DMAs with active industrial process areas?		X
If Yes, list affected DMAs:		
...have any DMAs with a seasonal high groundwater mark shallower than 10 feet?		X
If Yes, list affected DMAs:		
...have any DMAs located within 100 feet horizontally of a water supply well?		X
If Yes, list affected DMAs:		
...have any DMAs that would restrict BMP locations to within a 2:1 (horizontal: vertical) influence line extending from any septic leach line?		X
If Yes, list affected DMAs:		
...have any DMAs been evaluated by a licensed Geotechnical Engineer, or Environmental Engineer, who has concluded that the soils do not have adequate physical and chemical characteristics for the protection of groundwater, and has treatment provided by amended media layers in Bioretention BMPs been considered in evaluating this factor?		X
If Yes, list affected DMAs:		
Public Safety and Offsite Improvements (SMR WQMP Section 2.3.3.c)		
Does the project site...	YES	NO
...have any areas identified by the geotechnical report as posing a public safety risk where infiltration of stormwater could have a negative impact, such as potential seepage through fill conditions?		X
If Yes, list affected DMAs:		
Infiltration Characteristics For LID BMPs (SMR WQMP Section 2.3.3.d)		
Does the project site...	YES	NO
...have measured infiltration rates of less than 2.4 inches / hour? Riverside County may allow measure rates as low as 0.8in/hr to support infiltration BMPs, if the Engineer believes infiltration is appropriate and sustainable. Mark no, if this is the case.	X	
If Yes, list affected DMAs: DMA-1		
Cut/Fill Conditions (SMR WQMP Section 2.3.3.e)		
Does the project site...	YES	NO
...have significant cut and/or fill conditions that would preclude in-situ testing of infiltration rates at the final infiltration surface?		X
If Yes, list affected DMAs:		
Other Site-Specific Factors (SMR WQMP Section 2.3.3.f)		
Does the project site...	YES	NO
...have DMAs where the geotechnical investigation discovered other site-specific factors that would preclude effective and/or safe infiltration?		X
Describe here: N/A		

If you answered “Yes” to any of the questions above for any DMA, Infiltration BMPs that rely solely on infiltration should not be used for those DMAs and you should proceed to the assessment for Biofiltration BMPs below. Biofiltration BMPs that provide partial infiltration may still be feasible and should be assessed in Section D.2. Summarize concerns identified in the Geotechnical Report, if any, that resulted in a “YES” response above in the table below.

³ Such a condition must be substantiated by sufficient modeling to demonstrate an impact and would be subject to County of Riverside discretion. There is not a standardized method for assessing this criterion. Water rights evaluations should be site-specific.

Table D-2 Geotechnical Concerns for Onsite Infiltration

Type of Geotechnical Concern	DMAs Feasible (By Name or ID)	DMAs Infeasible (By Name or ID)
Collapsible Soil	N/A	N/A
Expansive Soil	N/A	N/A
Slopes	N/A	N/A
Liquefaction	N/A	N/A
Low Infiltration Rate	DMA-1	N/A
Other	N/A	N/A

D.2 Biofiltration Applicability

This section should document the applicability of biofiltration BMPs for Type D DMAs that are not feasible for full infiltration BMPs. The key decisions to be documented in this section include:

1. Are biofiltration BMPs with partial infiltration feasible?
 - a. Biofiltration BMPs must be designed to maximize incidental infiltration via a partial infiltration design unless it is demonstrated that this design is not feasible.
 - b. These designs can be used at sites with low infiltration rates where other feasibility factors do not preclude incidental infiltration.

Document summary in Table D-3.

2. If not, what are the factors that require the use of biofiltration with no infiltration? This may include:
 - a. Geotechnical hazards
 - b. Water rights issues
 - c. Water balance issues
 - d. Soil contamination or groundwater quality issues
 - e. Very low infiltration rates (factored rates < 0.1 in/hr)
 - f. Other factors, demonstrated to the acceptance of the local jurisdiction

If this applies to any DMAs, then rationale must be documented in Table D-3.

3. Are biofiltration BMPs infeasible?
 - a. If yes, then provide a site-specific analysis demonstrating the technical infeasibility of all LID BMPs has been performed and is included in Appendix 5. If you plan to submit an analysis demonstrating the technical infeasibility of LID BMPs, request a pre-submittal meeting with the Copermittee with jurisdiction over the Project site to discuss this option. Proceed below.

Table D-3 Evaluation of Biofiltration BMP Feasibility

DMA ID	Is Partial/ Incidental Infiltration Allowable? (Y/N)	Basis for Infeasibility of Partial Infiltration (provide summary and include supporting basis if partial infiltration not feasible)
DMA-1	Y	N/A

Proprietary Biofiltration BMP Approval Criteria

Does the Co-Permittee allow Proprietary BMPs as an equivalent to Biofiltration, if specific criteria is met?

☐ Yes or ☒ No, if no skip to Section F to document your alternative compliance measures.

If the project will use proprietary BMPs as biofiltration BMPs, then this section and Appendix 5 shall be completed to document that the proprietary BMPs are selected in accordance with Section 2.3.6 of the SMR WQMP and County requirements. Proprietary Biofiltration BMPs must meet both of the following approval criteria:

1. Demonstrate equivalency to Biofiltration by completing the BMP Design worksheet and Proprietary Biofiltration Criteria, which is found in Appendix 5, including all supporting documentation, and
2. Obtain Co-Permittee concurrence for the long term Operation and Maintenance Plan for the proprietary BMP. The Co-Permittee has the sole discretion to allow or reject Proprietary BMPs, especially if they will be maintained publicly through a CFD, CSA, or L&LMD.

Add additional rows to Table D-4 to document approval criteria are met for each type of BMP proposed.

Table D-4 Proprietary BMP Approval Requirement Summary

Proposed Proprietary Biofiltration BMP	Approval Criteria	Notes/Comments
N/A	BMP Design worksheets and Proprietary Biofiltration Criteria are completed in Appendix 5	☐ Yes or ☐ No
	Proposed BMP has an active TAPE GULD Certification for the project pollutants of concern ⁴ or equivalent 3 rd party demonstrated performance.	☐ Yes or ☐ No
	Is there any media or cartridge required to maintain the function of the BMP sole-sourced or proprietary in any way? If yes, obtain explicit approval by the Agency. Potentially full replacement costs to a non-proprietary BMP needs to be considered.	☐ Yes or ☐ No If yes, provide the date of concurrence from the Co-Permittee.
	☐ The BMP includes biological features including vegetation supported by engineered or other growing media.	

⁴ Use Table F-1, F-2, and F-3 to identify and document the pollutants of concern and include these tables in Appendix 5.

D.3 Feasibility Assessment Summaries

From the Infiltration, Biofiltration with Partial Infiltration and Biofiltration with No Infiltration Sections above, complete Table D-5 below to summarize which LID BMPs are technically feasible, and which are not, based upon the established hierarchy.

Table D-5 LID Prioritization Summary Matrix

DMA Name/ID	LID Principles or Tree Wells	LID BMP Hierarchy			No LID (Alternative Compliance)
		1. Infiltration	2. Biofiltration with Partial Infiltration*	3. Biofiltration with No Infiltration*	
DMA-1/BMP-1	☐	☐	☒	☐	☐
	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐

*Includes Proprietary Biofiltration, if accepted by the Co-Permittee.

For those DMAs where LID BMPs are not feasible, provide a narrative in Table D-6 below summarizing why they are not feasible, include your technical infeasibility criteria in Appendix 5, and proceed to Section F below to document Alternative Compliance measures for those DMAs. Recall that each proposed DMA must pass through the LID BMP hierarchy before alternative compliance measures may be considered.

This is based on the clarification letter titled “San Diego Water Board’s Expectations of Documentation to Support a Determination of Priority Development Project Infiltration Infeasibility” (April 28, 2017, Via email from San Diego Regional Water Quality Control Board to San Diego County Municipal Storm Water Copermittees⁵).

Table D-6 Summary of Infeasibility Documentation

Question	Narrative Summary (include reference to applicable appendix/attachment/report, as applicable)
a) When in the entitlement process did a geotechnical engineer analyze the site for infiltration feasibility?	See attachment on Appendix 3.
b) When in the entitlement process were other investigations conducted (e.g., groundwater quality, water rights) to evaluate infiltration feasibility?	See attachment on Appendix 3.
c) What was the scope and results of testing, if conducted, or rationale for why testing was not needed to reach findings?	See attachment on Appendix 3 for more details.
d) What public health and safety requirements affected infiltration locations?	N/A

⁵ <http://www.projectcleanwater.org/download/pdp-infiltration-infeasibility/>

e) What were the conclusions and recommendations of the geotechnical engineer and/or other professional responsible for other investigations?	The geotechnical consultant recommends to use an infiltration rate of 0.13 in/hr with a factor of safety of 3. See attachment on Appendix 3 for more details.
f) What was the history of design discussions between the permittee and applicant for the proposed project, resulting in the final design determination related locations feasible for infiltration?	N/A
g) What site design alternatives were considered to achieve infiltration or partial infiltration on site?	N/A
h) What physical impairments (i.e., fire road egress, public safety considerations, utilities) and public safety concerns influenced site layout and infiltration feasibility?	N/A
i) What LID Principles (site design BMPs) were included in the project site design?	Bioretention facility with incidental infiltration.

D.4 LID BMP Sizing

Each LID BMP must be designed to ensure that the DCV will be captured by the selected BMPs with no discharge to the storm drain or surface waters during the DCV size storm. Infiltration BMPs must at minimum be sized to capture the DCV to achieve pollutant control requirements. Biofiltration BMPs must at a minimum be sized to:

- Treat 1.5 times the DCV not reliably retained on site using a volume-base or flow-based sizing method, or
- Include static storage volume, including pore spaces and pre-filter detention volume, at least 0.75 times the portion of the DCV not reliably retained on site.

First, calculate the DCV for each LID BMP using the V_{BMP} worksheet in Appendix F of the LID BMP Design Handbook. Second, design the LID BMP to meet the required V_{BMP} using the methods included in Section 3 of the LID BMP Design Handbook. Utilize the worksheets found in the LID BMP Design Handbook or consult with the Copermittee to assist you in correctly sizing your LID BMPs. Use Table D-7 below to document the DCV each LID BMP. Provide the completed design procedure sheets for each LID BMP in Appendix 6. You may add additional rows to the table below as needed.

Table D-7 DCV Calculations for LID BMPs

DMA Type/ID	DMA (square feet)	Post-Project Surface Type	Effective Impervious Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	BMP-1		
	[A]		[B]	[C]	[A] x [C]			
DMA-1/BMP-1	364,684	Mixed	0.80	0.59	215,164	Design Storm Depth (in)	DCV, V_{BMP} (cubic feet)	Proposed Volume on Plans (cubic feet)
-	-	-	-	-	-			
-	-	-	-	-	-			
-	-	-	-	-	-			
	$A_T = \Sigma[A]$	364,684 sf			$\Sigma = 215,164$	[0.60]	$[F] = \frac{[D] \times [E]}{12}$ 10,941 cf	[G] 11,994 cf

[B], [C] is obtained as described in Section 2.6.1.b of the SMR WQMP

[E] is obtained from Exhibit A in the SMR WQMP

[G] is obtained from a design procedure sheet, such as in LID BMP Design Handbook and placed in Appendix 6.

Complete Table D-8 below to document the Design Capture Volume and the Proposed Volume for each LID BMP. You can add rows to the table as needed. Alternatively, the Santa Margarita Hydrology Model (SMRHM) can be used to size LID BMPs to address the DCV and, if applicable, to size Hydrologic Control BMPs to meet the Hydrologic Performance Standard described in the SMR WQMP, as identified in Section E.

Table D-8 LID BMP Sizing

BMP Name / ID	DMA No.	BMP Type / Description	Design Capture Volume (ft ³)	Proposed Volume (ft ³)
BMP-1	DMA-1	Biofiltration w/ partial infiltration	10,941	11,994 treatment
				(41,820 storage)

Section E: Implement Hydrologic Control BMPs and Sediment Supply BMPs

See Appendix 7 for additional required information.

If a completed Table 1.2 demonstrates that the project is exempt from Hydromodification Performance Standards, specify N/A and proceed to Section G.

☐ N/A Project is Exempt from Hydromodification Performance Standards.

If a PDP is not exempt from hydromodification requirements than the PDP must satisfy the requirements of the performance standards for hydrologic control BMPs and Sediment Supply BMPs. The PDP may choose to satisfy hydrologic control requirements using onsite or offsite BMPs (i.e. Alternative Compliance). Sediment supply requirements cannot be met via alternative compliance. If N/A is not selected above, select one of the two options below and complete the applicable sections.

☒ Project is Not Hydromodification Exempt and chooses to implement Hydrologic Control and Sediment Supply BMPs Onsite (complete Section E).

☐ Project is Not Hydromodification Exempt and chooses to implement Hydrologic Control Requirements using Alternative Compliance (complete Section F). Selection of this option must be approved by the Copermittee.

E.1 Hydrologic Control BMP Selection

Capture of the DCV and achievement of the Hydrologic Performance Standard may be met by combined and/or separate structural BMPs. The user should consider the full suite of Hydrologic Control BMPs to manage runoff from the post-development condition and meet the Hydrologic Performance Standard identified in this section.

For the Preliminary WQMP, in lieu of preparing detailed routing calculations, the basin size may be estimated as the difference in volume between the pre-development and post-development hydrograph for the 10-year 24-hour storm event plus the V_{bmp} . This does not relieve the engineer of the responsibility for meeting the full Hydrologic Control requirements during final design.

The Hydrologic Performance Standard consists of matching or reducing the flow duration curve of post-development conditions to that of pre-existing, naturally occurring conditions, for the range of geomorphically significant flows (the low flow threshold runoff event up to the 10-year runoff event). 10% of the 2-year runoff event can be used for the low flow threshold without any justification. Higher low flow thresholds can be used with site-specific analysis, see Section 2.6.2.b of the WQMP guidance document. Select each of the hydrologic control BMP types that are applied to meet the above performance standard on the site.

☐ LID principles as defined in Section 3.2 of the SMR WQMP, including Tree Wells.

- ☒ Structural LID BMPs that may be modified or enlarged, if necessary, beyond the DCV.
- ☐ Structural Hydrologic Control BMPs that are distinct from the LID BMPs above. The LID BMP Design Handbook provides information not only on Hydrologic Control BMP design, but also on BMP design to meet the combined LID requirement and Hydrologic Performance Standard. The Handbook specifies the type of BMPs that can be used to meet the Hydrologic Performance Standard.

E.2 Hydrologic Control BMP Sizing

Hydrologic Control BMPs must be designed to ensure that the flow duration curve of the post-development DMA will not exceed that of the pre-existing, naturally occurring, DMA for the range of geomorphically significant flows. Using SMRHM, (or another acceptable continuous simulation model if approved by the Copermittee) the applicant shall demonstrate that the performance of the Hydrologic Control BMPs complies with the Hydrologic Performance Standard. Complete Table E-1 below and identify, for each DMA, the type of Hydrologic Control BMP, if the SMRHM model confirmed the management (Identified as “passed” in SMRHM), the total volume capacity of the Hydrologic Control BMP, the Hydrologic Control BMP footprint at top floor elevation, and the drawdown time of the Hydrologic Control BMP. SMRHM summary reports should be documented in Appendix 7. Refer to the SMRHM Guidance Document for additional information on SMRHM. You can add rows to the table as needed.

Table E-1 Hydrologic Control BMP Sizing

BMP Name / ID	DMA No.	BMP Type / Description	SMRHM* Passed	BMP Volume (ft ³ /ac-ft)	BMP Footprint (ft ² /ac)	Drawdown time (hr)
BMP-1	DMA-1	Biofiltration w/ partial infiltration	☒	41,820 cf	12,056 sf	< 36 hrs

**Or other continuous simulation model, compliant with the WQMP and Permit. If Tree Wells are proposed for some or all of the project, check the box for Tree Wells in Section E.1 and enter each Tree Well DMA in Table E-1 above for the BMP Name/ID, DMA No. and BMP Type/Description. For Tree Wells, leave SMRHM* Passed Column and the columns to the left blank.*

If a bioretention BMP with capped underdrain is used and hydromodification requirements apply, then sizing calculations must demonstrate that the BMP meets flow duration control criteria with the underdrain capped and uncapped. Both calculations must be included.

E.3 Implement Sediment Supply BMPs

The sediment supply performance standard applies to PDPs for which hydromodification applied that have the potential to impact Potential Critical Coarse Sediment Yield Areas. Refer to Exhibit G-1 of the WQMP Guidance Document to determine if there are onsite Potential Critical Coarse Sediment Yield Areas (based on on-going WMAA analysis) or Potential Sediment Source Areas (sites added through the Regional Board review process). Select one of the two options below and include the Potential Critical Coarse Sediment Yield Area Exhibit showing your project location in Appendix 7.

- ☒ There are no mapped Potential Critical Coarse Sediment Yield Areas or Potential Sediment Source Areas on the site. Include a copy of Exhibit G - CCSY & PSS Areas in Appendix 7, with the project location marked. If the project is outside of the "Potential Critical Coarse Sediment Yield Areas and Potential Sediment Source Areas" then check this box. The Sediment Supply Performance Standard is met with no further action is needed.
- ☐ There are mapped Potential Critical Coarse Sediment Yield Areas or Potential Sediment Source Areas on the site, the Sediment Supply Performance Standard will be met through Option 1 (E.3.1) or Option 2 (E.3.2) below.

☒ **E.3.1 Option 1: Avoid Potential Critical Coarse Sediment Yield Areas and Potential Sediment Source Areas**

The simplest approach for complying with the Sediment Supply Performance Standard is to avoid impacts to areas identified as Potential Critical Coarse Sediment Yield Areas or Potential Sediment Supply Areas. If a portion of PDP is identified as a Potential Critical Coarse Sediment Yield Area or a Potential Sediment Source Area, that PDP may still achieve compliance with the Sediment Supply Performance Standards if Potential Critical Coarse Sediment Yield Areas and Potential Sediment Supply Areas are avoided, i.e. areas are not developed and thereby delivery of Critical Coarse Sediment to the receiving waters is not impeded by site developments.

Provide a narrative describing how the PDP has avoided impacts to Potential Critical Coarse Sediment Yield Areas and/or Potential Sediment Source Areas below.

The site does not drain to Critical Coarse Sediment Yield Areas.

If it is not feasible to avoid these areas, proceed to Option 2 to complete a Site-Specific Critical Coarse Sediment Analysis.

☐ **E.3.2 Option 2: Site-Specific Critical Coarse Sediment Analysis**

Perform a stepwise assessment to ensure the pre-project source(s) of Critical Coarse Sediment (i.e., Bed Sediment Supply) is maintained:

Step 1: Identify if the site is an actual verified Critical Coarse Sediment Yield Area supplying Bed Sediment Supply to the receiving channel

- ☐ **Step 1.A** – Is the Bed Sediment of onsite streams similar to that of receiving streams?

Rate the similarity: ☐ High
☐ Medium
☐ Low

Results from the geotechnical and sieve analysis to be performed both onsite and in the receiving channel should be documented in Appendix 7. Of particular interest, the results of the sieve analysis, the soil erodibility factor, a description of the topographic relief of the project area, and the lithology of onsite soils should be reported in Appendix 7.

- ☐ **Step 1.B** – Are onsite streams capable of delivering Bed Sediment Supply from the site, if any, to the receiving channel?

Rate the potential: ☐ High
☐ Medium
☐ Low

Results from the analyses of the sediment delivery potential to the receiving channel should be documented in Appendix 7 and identify, at a minimum, the Sediment Source, the distance to the receiving channel, the onsite channel density, the project watershed area, the slope, length, land use, and rainfall intensity.

- ☐ **Step 1.C** – Will the receiving channel adversely respond to a change in Bed Sediment Load?

Rate the need for bed sediment supply:

☐ High
☐ Medium
☐ Low

Results from the in-stream analysis to be performed both onsite should be documented in Appendix 7. The analysis should, at a minimum, quantify the bank stability and the degree of incision, provide a gradation of the Bed Sediment within the receiving channel, and identify if the channel is sediment supply-limited.

- ☐ **Step 1.D** – Summary of Step 1

Summarize in Table E.3 the findings of Step 1 and associate a score (in parenthesis) to each step. The sum of the three individual scores determines if a stream is a significant contributor to the receiving stream.

- Sum is equal to or greater than eight - Site is a significant source of sediment bed material – all on-site streams must be preserved or by-passed within the site plan. The applicant shall proceed to Step 2 for all onsite streams.
- Sum is greater than five but lower than eight. Site is a source of sediment bed material – some of the on-site streams must be preserved (with identified streams noted). The applicant shall proceed to Step 2 for the identified streams only.
- Sum is equal to or lower than five. Site is not a significant source of sediment bed material. The applicant may advance to Section F.

Table E-2 Triad Assessment Summary

Step	Rating			Total Score
1.A	☐ High (3)	☐ Medium (2)	☐ Low (1)	
1.B	☐ High (3)	☐ Medium (2)	☐ Low (1)	
1.C	☐ High (3)	☐ Medium (2)	☐ Low (1)	
Significant Source Rating of Bed Sediment to the receiving channel(s)				

Step 2: Avoid Development of Critical Coarse Sediment Yield Areas, Potential Sediment Sources Areas, and Preserve Pathways for Transport of Bed Sediment Supply to Receiving Waters

Onsite streams identified as a actual verified Critical Coarse Sediment Yield Areas should be avoided in the site design and transport pathways for Critical Coarse Sediment should be preserved

Check those that apply:

☒ The site design does avoid all onsite channels identified as actual verified Critical Coarse Sediment Yield Areas **AND**

☒ The drainage design bypasses flow and sediment from onsite upstream drainages identified as actual verified Critical Coarse Sediment Yield Areas to maintain Critical Coarse Sediment supply to receiving waters

(If both are yes, the applicant may disregard subsequent steps of Section E.3 and directly advance directly to Section G)

Or -

Provide in Appendix 7 a site map that identifies all onsite channels and highlights those onsite channels that were identified as a Significant Source of Bed Sediment. The site map shall demonstrate, if feasible, that the site design avoids those onsite channels identified as a Significant Source of Bed Sediment. In addition, the applicant shall describe the characteristics of each onsite channel identified as a Significant Source of Bed Sediment. If the design plan cannot avoid the onsite channels, please provide a rationale for each channel individually.

The site map shall demonstrate that the drainage design bypasses those onsite channels that supply Critical Coarse Sediment to the receiving channel(s). In addition, the applicant shall describe the characteristics of each onsite channel identified as an actual verified Critical Coarse Sediment Yield Area.

Identified Channel #1 - Insert narrative description here

Identified Channel #2 - Insert narrative description here

☐ The site design **does NOT avoid** all onsite channels identified as actual verified Critical Coarse Sediment Yield Areas

OR

☐ The project blocks the potential for Critical Coarse Sediment from migrating to receiving waters.

(If either of these are the case, the applicant shall continue completing this section).

E.3.3 Sediment Supply BMPs to Result in No Net Impact to Downstream Receiving Waters

If impacts to Critical Coarse Sediment Yield Areas cannot be avoided, sediment supply BMPs must be implemented such there is no net impact to receiving waters. Sediment supply BMPs may consist of approaches that permit flux of bed sediment supply from Critical Coarse Sediment Yield Areas within the project boundary. This approach is subject to acceptance by the County of Riverside. It may require extensive documentation and analysis by qualified professionals to support this demonstration.

Appendix H of the San Diego Model BMP Design Manual provides additional information on site-specific investigation of Critical Coarse Sediment Supply areas.

<http://www.projectcleanwater.org/download/2018-model-bmp-design-manual/>

If applicable, insert narrative description here

Documentation of sediment supply BMPs should be detailed in Appendix 7.

Section F: Alternative Compliance

Alternative Compliance may be used to achieve compliance with pollutant control and/or hydromodification requirements for a given PDP. Alternative Compliance may be used under two scenarios, check the applicable box if the PDP is proposing to use Alternative Compliance to satisfy all or a portion of the Pollutant Control and/or Hydrologic Control requirements (but not sediment supply requirements)

- ☐ If it is not feasible to fully implement Infiltration or Biofiltration BMPs at a PDP site, Flow-Through Treatment Control BMPs may be used to treat pollutants contained in the portion of DCV not reliably retained on site and Alternative Compliance measures must also be implemented to mitigate for those pollutants in the DCV that are not retained or removed on site prior to discharging to a receiving water.
- ☐ Alternative Compliance is selected to comply with either pollutant control or hydromodification flow control requirements even if complying with these requirements is potentially feasible on-site. If such voluntary Alternative Compliance is implemented, Flow-Through Treatment Control BMPs must still be used to treat those pollutants in the portion of the DCV not reliably retained on site prior to discharging to a receiving water.

Refer to Section 2.7 of the SMR WQMP and consult the Local Jurisdiction for currently available Alternative Compliance pathways. Coordinate with the Copermittee if electing to participate in Alternative Compliance and complete the sections below to document implementation of the Flow-Through BMP component of the program.

F.1 Identify Pollutants of Concern

The purpose of this section is to help you appropriately plan for mitigating your Pollutants of Concern in lieu of implementing LID BMPs and to document compliance and.

Utilize Table A-1 from Section A, which noted your project's Receiving Waters, to identify impairments for Receiving Waters (including downstream receiving waters) by completing Table F-1. Table F-1 includes the watersheds identified as impaired in the Approved 2010 303(d) list; check box corresponding with the PDP's receiving water. The most recent 303(d) lists are available from the State Water Resources Control Board website:

https://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml).https://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml.

Table F-1 Summary of Approved 2010 303(d) listed waterbodies and associated pollutants of concern for the Riverside County SMR Region and downstream waterbodies.

Water Body		Nutrients¹	Metals²	Toxicity	Bacteria and Pathogens	Pesticides and Herbicides	Sulfate	Total Dissolved Solids
☐	De Luz Creek	X	X				X	
☐	Long Canyon Creek		X		X	X		
☒	Murrieta Creek	X	X	X		X		
☐	Redhawk Channel	X	X		X	X		X
☐	Santa Gertudis Creek	X	X		X	X		
☐	Santa Margarita Estuary	X						
☒	Santa Margarita River (Lower)	X			X			
☒	Santa Margarita River (Upper)	X		X				
☒	Temecula Creek	X	X	X		X		X
☒	Warm Springs Creek	X	X		X	X		

¹Nutrients include nitrogen, phosphorus and eutrophic conditions caused by excess nutrients.

²Metals includes copper, iron, and manganese.

Use Table F-2 to identify the pollutants identified with the project site. Indicate the applicable PDP Categories and/or Project Features by checking the boxes that apply. If the identified General Pollutant Categories are the same as those listed for your Receiving Waters, then these will be your Pollutants of Concern; check the appropriate box or boxes in the last row.

Table F-2 Potential Pollutants by Land Use Type

Priority Development Project Categories and/or Project Features (check those that apply)		General Pollutant Categories									
		Bacterial Indicators	Metals	Nutrients	Pesticides	Toxic Organic Compounds	Sediments	Trash & Debris	Oil & Grease	Total Dissolved Solids	Sulfate
☐	Detached Residential Development	P	N	P	P	N	P	P	P	N	N
☐	Attached Residential Development	P	N	P	P	N	P	P	P ⁽²⁾	N	N
☒	Commercial/Industrial Development	P ⁽³⁾	P ⁽⁷⁾	P ⁽¹⁾	P ⁽¹⁾	P	P ⁽¹⁾	P	P	N	N
☐	Automotive Repair Shops	N	P	N	N	P ^(4, 5)	N	P	P	N	N
☐	Restaurants (>5,000 ft ²)	P	N	N	P ⁽¹⁾	N	N	P	P	N	N
☐	Hillside Development (>5,000 ft ²)	P	N	P	P	N	P	P	P	N	N
☒	Parking Lots (>5,000 ft ²)	P ⁽⁶⁾	P ⁽⁷⁾	P ⁽¹⁾	P ⁽¹⁾	P ⁽⁴⁾	P	P	P	N	N
☐	Streets, Highways, and Freeways	P ⁽⁶⁾	P ⁽⁷⁾	P ⁽¹⁾	P ⁽¹⁾	P ⁽⁴⁾	P	P	P	N	N
☐	Retail Gasoline Outlets	N	P ⁽⁷⁾	N	N	P ⁽⁴⁾	N	P	P	N	N
Project Priority Pollutant(s) of Concern		☐	☐	☐	☐	☒	☒	☒	☒	☐	☐

P = Potential

N = Not Potential

⁽¹⁾ A potential Pollutant if non-native landscaping exists or is proposed onsite; otherwise not expected

⁽²⁾ A potential Pollutant if the project includes uncovered parking areas; otherwise not expected

⁽³⁾ A potential Pollutant is land use involving animal waste products; otherwise not expected

⁽⁴⁾ Including petroleum hydrocarbons

⁽⁵⁾ Including solvents

⁽⁶⁾ Bacterial indicators are routinely detected in pavement runoff

⁽⁷⁾ A potential source of metals, primarily copper and zinc. Iron, magnesium, and aluminum are commonly found in the environment and are commonly associated with soils, but are not primarily of anthropogenic stormwater origin in the municipal environment.

F.2 Treatment Control BMP Selection

Treatment Control BMPs typically provide proprietary treatment mechanisms to treat potential Pollutants in runoff, but do not sustain significant biological processes. Treatment Control BMPs must be selected to address the Project Priority Pollutants of Concern (identified above) and meet the acceptance criteria described in Section 2.3.7 of the SMR WQMP. Documentation of acceptance criteria must be included in Appendix 6. In addition, ensure that proposed Treatment Control BMPs are properly identified on the WQMP Site Plan in Appendix 1.

Table F-3 Treatment Control BMP Selection

Selected Treatment Control BMP Name or ID ¹	Priority Pollutant(s) of Concern to Mitigate ²	Removal Efficiency Percentage ³

¹ Treatment Control BMPs must not be constructed within Receiving Waters. In addition, a proposed Treatment Control BMP may be listed more than once if they possess more than one qualifying pollutant removal efficiency.

² Cross Reference Table E.1 above to populate this column.

³ As documented in a Copermittee Approved Study and provided in Appendix 6.

F.3 Sizing Criteria

Utilize Table F-4 below to appropriately size flow-through BMPs to the DCV, or Design Flow Rate, as applicable. Please reference Chapter 3.5.1 of the SMR WQMP for further information.

Table F-4 Treatment Control BMP Sizing

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type	Effective Impervious Fraction, I _f	DMA Runoff Factor	DMA Areas x Runoff Factor	Enter BMP Name / Identifier Here	
	[A]		[B]	[C]	[A] x [C]		
						Design Storm (in)	Design Flow Rate (cfs)
	A _T = Σ[A]				Σ= [D]	[E]	[F] = $\frac{[D] \times [E]}{[G]}$

[B], [C] is obtained as described in Section 2.6.1.b from the SMR WQMP

[E] either 0.2 inches or 2 times the 85th percentile hourly rainfall intensity

[G] = 43,560,.

F.4 Hydrologic Performance Standard – Alternative Compliance Approach

Alternative compliance options are only available if the governing Copermittee has acknowledged the infeasibility of onsite Hydrologic Control BMPs and approved an alternative compliance approach. See Section 3.5 and 3.6 of the SMR WQMP.

Select the pursued alternative and describe the specifics of the alternative:

- ☐ Offsite Hydrologic Control Management within the same channel system

Insert narrative description here

- ☐ In-Stream Restoration Project

Insert narrative description here

For Offsite Hydrologic Control BMP Option

Each Hydrologic Control BMP must be designed to ensure that the flow duration curve of the post-development DMA will not exceed that of the pre-existing, naturally occurring, DMA by more than ten percent over a one-year period. Using SMRHM, the applicant shall demonstrate that the performance of each designed Hydrologic Control BMP is equivalent with the Hydrologic Performance Standard for onsite conditions. Complete Table F-5 below and identify, for each Hydrologic Control BMP, the equivalent DMA the Hydrologic Control BMP mitigates, that the SMRHM model passed, the total volume capacity of the BMP, the BMP footprint at top floor elevation, and the drawdown time of the BMP. SMRHM summary reports for the alternative approach should be documented in Appendix 7. Refer to the SMRHM Guidance Document for additional information on SMRHM. You can add rows to the table as needed.

Table F-5 Offsite Hydrologic Control BMP Sizing

BMP Name / Type	Equivalent DMA (ac)	SMRHM Passed	BMP Volume (ac-ft)	BMP Footprint (ac)	Drawdown time (hr)
		☐			
		☐			
		☐			
		☐			

For Instream Restoration Option

Attach to Appendix 7 the technical report detailing the condition of the receiving channel subject to the proposed hydrologic and sediment regimes. Provide the full design plans for the in-stream restoration project that have been approved by the Copermittee. Utilize the San Diego Regional Water Quality Equivalency Guidance Document.

Section G: Implement Trash Capture BMPs

The Santa Margarita Regional Board has required Full Trash Capture compliance thru Order No. R9-2017-007. For the Santa Margarita Watershed, the County is requiring Track 1 full trash capture compliance for projects proposing the following uses as part of their development after **December 3, 2018**.

- High-density residential: all land uses with at least ten (10) developed dwelling units/acre.
- Industrial: land uses where the primary activities on the developed parcels involve product manufacture, storage, or distribution (e.g., manufacturing businesses, warehouses, equipment storage lots, junkyards, wholesale businesses, distribution centers, or building material sales yards).
- Commercial: land uses where the primary activities on the developed parcels involve the sale or transfer of goods or services to consumers (e.g., business or professional buildings, shops, restaurants, theaters, vehicle repair shops, etc.).
- Mixed urban: land uses where high-density residential, industrial, and/or commercial land uses predominate collectively (i.e., are intermixed).
- Public transportation stations: facilities or sites where public transit agencies' vehicles load or unload passengers or goods (e.g., bus stations and stops).

Riverside County Maintenance is generally supportive of United Storm Water – Connector Pipe Screens or equivalent. Equivalent systems or alternative designs shall be on the State of California Approved Trash Capture Device List and requires approval by the Transportation Department for maintenance. Riverside County is developing Trash Capture Device Standards, which are expected to be added to the Transportation Plan Check Policies and Guidelines when available. Design calculations are not expected to be required if the project uses standard sizes per the County's Trash Capture Device Standards. Until the Trash Capture Device Standards are available and the project uses standard sizes, the project shall complete the following tables and furnish hydraulic analysis calculating the flowrate in the catch basin does not exceed the flowrate capacity of the trash capture device in a fully clogged condition.

Trash Capture BMPs may be applicable to Type 'D' DMAs, as defined in Section 2.3.4 of the SMR WQMP. Trash Capture BMPs are designed to treat Q_{TRASH} , the runoff flow rate generated during the 1-year 1-hour precipitation depth. Utilize Table G-1 to size Trash Capture BMP. Refer to Table G-2 to determine the Trash Capture Design Storm Intensity (E).

Table G-1 Sizing Trash Capture BMPs

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type	Effective Impervious Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	Enter BMP Name / Identifier Here	
	[A]		[B]	[C]	[A] x [C]		
	$\Lambda_T = \Sigma[A]$				$\Sigma = [D]$	[E]	$[F] = \frac{[D] \times [E]}{[G]}$

[B], [C] is obtained as described in Section 2.6.1.b from the SMR WQMP

[G] = 43,560

Table G-2 Approximate precipitation depth/intensity values for calculation of the Trash Capture Design Storm

City	1-year 1-hour Precipitation Depth/Intensity (inches/hr)
Murrieta	0.47
Temecula	0.50
Wildomar	0.37

Use Table G-3 to summarize and document the selection and sizing of Trash Capture BMPs.

Table G-3 Trash Capture BMPs

BMP Name / ID	DMA No(s)	BMP Type / Description	Required Trash Capture Flowrate (cfs)	Provided Trash Capture Flowrate (cfs) ¹

¹ For connector pipe screens, the Trash Capture Flowrate shall be based on a fully clogged condition for the screen, where the water level is at the top of the screen. Then determined the Flowrate based on weir equation ($Q_{weir} = C \times L \times H^{3/2}$), where $C = 3.4$. The height used to calculate the weir flow rate shall maintain a 6" freeboard to the invert of the catch basin opening at the road. This analysis is meant to replicate the hydraulic analysis used in the County's Full Trash Capture Device Standards.

Section H: Source Control BMPs

Section H need only be completed at the Preliminary WQMP phase if source control is critical to the project successfully handling the anticipated pollutants.

Source Control BMPs include permanent, structural features that may be required in your Project plans, such as roofs over and berms around trash and recycling areas, and Operational BMPs, such as regular sweeping and “housekeeping,” that must be implemented by the site’s occupant or user. The Maximum Extent Practicable (MEP) standard typically requires both types of BMPs. In general, Operational Source Control BMPs cannot be substituted for a feasible and effective Structural Source Control BMP. Complete checklist below to determine applicable Source Control BMPs for your site.

Project-Specific WQMP Source Control BMP Checklist		
All development projects must implement Source Control BMPs. Source Control BMPs are used to minimize pollutants that may discharge to the MS4. Refer to Chapter 3 (Section 3.8) of the SMR WQMP for additional information. Complete Steps 1 and 2 below to identify Source Control BMPs for the project site.		
STEP 1: IDENTIFY POLLUTANT SOURCES		
Review project site plans and identify the applicable pollutant sources. “Yes” indicates that the pollutant source is applicable to project site. “No” indicates that the pollutant source is not applicable to project site.		
☐ Yes ☒ No ☒ Yes ☐ No ☐ Yes ☒ No ☒ Yes ☐ No ☐ Yes ☒ No ☒ Yes ☐ No ☐ Yes ☒ No ☐ Yes ☒ No	Storm Drain Inlets Floor Drains Sump Pumps Pest Control/Herbicide Application Food Service Areas Trash Storage Areas Industrial Processes Vehicle and Equipment Cleaning and Maintenance/Repair Areas	☐ Yes ☒ No ☐ Yes ☒ No ☐ Yes ☒ No ☐ Yes ☒ No ☒ Yes ☐ No ☒ Yes ☐ No ☐ Yes ☒ No Outdoor storage areas Material storage areas Fueling areas Loading Docks Fire Sprinkler Test/Maintenance water Plazas, Sidewalks and Parking Lots Pools, Spas, Fountains and other water features
STEP 2: REQUIRED SOURCE CONTROL BMPs		
List each Pollutant source identified above in column 1 and fill in the corresponding Structural Source Control BMPs and Operational Control BMPs by referring to the Stormwater Pollutant Sources/Source Control Checklist included in Appendix 8. The resulting list of structural and operational source control BMPs must be implemented as long as the associated sources are present on the project site. Add additional rows as needed.		
Pollutant Source	Structural Source Control BMP	Operational Source Control BMP
Floor Drains	N/A	Inspect and maintain drains to prevent blockages and overflow
Pest Control/Herbicide Application	Show self-retaining landscape areas, if any.	-Provide integrated pest management information for owners, lessees, and operators. -Maintain landscaping using minimum or no pesticides.

Trash Storage Areas	N/A	Refuse area will remain covered and protected from wind dispersal. Owner shall be responsible to keep area clean of litter and spills.
Fire Sprinkler Test/Maintenance Water	Provide means to drain fire sprinkler test water to sewer.	See the note in Fact Sheet SC-41, "Building and Grounds Maintenance," in the CASQA Stormwater Quality Handbooks
Plazas, Sidewalks and Parking Lots	N/A	Owner to be responsible for sweeping plazas, sidewalks, and parking lots. This is to be done regularly and as needed to prevent accumulation of litter and debris.

Section I: Coordinate Submittal with Other Site Plans

For Final WQMPs, populate Table I-1 below to assist the plan checker in an expeditious review of your project. During construction and at completion, County of Riverside inspectors will verify the installation of BMPs against the approved plans. The first two columns will contain information that was prepared in previous steps, while the last column will be populated with the corresponding plan sheets. This table is to be completed with the submittal of your final Project-Specific WQMP.

Table I-1 Construction Plan Cross-reference

BMP No. or ID	BMP Identifier and Description	Corresponding Plan Sheet(s)
BMP-1	Biofiltration w/ partial infiltration	C-4

Note that the updated table — or Construction Plan WQMP Checklist — is **only a reference tool** to facilitate an easy comparison of the construction plans to your Project-Specific WQMP. The Copermittee with jurisdiction over the Project site can advise you regarding the process required to propose changes to the approved Project-Specific WQMP.

Use Table I-2 to identify other applicable permits that may impact design of the site. If yes is answered to any of the items below, the Copermittee may require proof of approval/coverage from those agencies as applicable including documentation of any associated requirements that may affect this Project-Specific WQMP.

Table I-2 Other Applicable Permits

Agency	Permit Required	
State Department of Fish and Game, 1602 Streambed Alteration Agreement	☐ Y	☒ N
State Water Resources Control Board, Clean Water Act Section 401 Water Quality Certification	☐ Y	☒ N

US Army Corps of Engineers, Clean Water Act Section 404 Permit	☐ Y	☒ N
US Fish and Wildlife, Endangered Species Act Section 7 Biological Opinion	☐ Y	☒ N
Statewide Construction General Permit Coverage	☒ Y	☐ N
Statewide Industrial General Permit Coverage	☐ Y	☒ N
Western Riverside MSHCP Consistency Approval (e.g., JPR, DBESP)	☐ Y	☒ N
Other <i>(please list in the space below as required)</i>	☐ Y	☒ N

Section J: Operation, Maintenance and Funding

Applicant is required to state the intended responsible party for BMP Operation, Maintenance and Funding at the Preliminary WQMP phase. The remaining requirements as outlined above are required for Final WQMP only.

The Copermittee with jurisdiction over the Project site will periodically verify that BMPs on your Project are maintained and continue to operate as designed. To make this possible, the Copermittee will require that you include in Appendix 9 of this Project-Specific WQMP:

1. A means to finance and implement maintenance of BMPs in perpetuity, including replacement cost.
2. Acceptance of responsibility for maintenance from the time the BMPs are constructed until responsibility for operation and maintenance is legally transferred. A warranty covering a period following construction may also be required.
3. An outline of general maintenance requirements for the Stormwater BMPs you have selected.
4. Figures delineating and designating pervious and impervious areas, location, and type of Stormwater BMP, and tables of pervious and impervious areas served by each facility. Geo-locating the BMPs using a coordinate system of latitude and longitude is recommended to help facilitate a future statewide database system.
5. A separate list and location of self-retaining areas or areas addressed by LID Principles that do not require specialized Operations and Maintenance or inspections but will require typical landscape maintenance as noted in Chapter 5, in the SMR WQMP. Include a brief description of typical landscape maintenance for these areas.

The Copermittee with jurisdiction over the Project site will also require that you prepare and submit a detailed BMP Operation and Maintenance Plan that sets forth a maintenance schedule for each of the BMPs built on your site. An agreement assigning responsibility for maintenance and providing for inspections and certification may also be required.

Details of these requirements and instructions for preparing a BMP Operation and Maintenance Plan are in Chapter 5 of the SMR WQMP.

Maintenance Mechanism: The owner, U-Stor-It, Attn.: Peter Nora, will be responsible for the maintenance of the proposed bioretention basin

Will the proposed BMPs be maintained by a Homeowners' Association (HOA) or Property Owners Association (POA)?

☐ Y ☒ N

Include your Operation and Maintenance Plan and Maintenance Mechanism in Appendix 9, **see Appendix 9 for additional instructions**. Additionally, include all pertinent forms of educational materials for those personnel that will be maintaining the proposed BMPs within this Project-Specific WQMP in Appendix 10.

Section K: Acronyms, Abbreviations and Definitions

Regional MS4 Permit	Order No. R9-2013-0001 as amended by Order No. R9-2015-0001 and Order No. R9-2015-0100 an NPDES Permit issued by the San Diego Regional Water Quality Control Board.
Applicant	Public or private entity seeking the discretionary approval of new or replaced improvements from the Copermittee with jurisdiction over the project site. The Applicant has overall responsibility for the implementation and the approval of a Priority Development Project. The WQMP uses consistently the term “user” to refer to the applicant such as developer or project proponent. The WQMP employs also the designation “user” to identify the Registered Professional Civil Engineer responsible for submitting the Project-Specific WQMP, and designing the required BMPs.
Best Management Practice (BMP)	Defined in 40 CFR 122.2 as schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements, operating procedures and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. In the case of municipal storm water permits, BMPs are typically used in place of numeric effluent limits.
BMP Fact Sheets	BMP Fact Sheets are available in the LID BMP Design Handbook. Individual BMP Fact Sheets include siting considerations, and design and sizing guidelines for seven types of structural BMPs (infiltration basin, infiltration trench, permeable pavement, harvest-and-use, bioretention, extended detention basin, and sand filter).
California Stormwater Quality Association (CASQA)	Publisher of the California Stormwater Best Management Practices Handbooks, available at www.cabmphandbooks.com .
Conventional Treatment Control BMP	A type of BMP that provides treatment of stormwater runoff. Conventional treatment control BMPs, while designed to treat particular Pollutants, typically do not provide the same level of volume reduction as LID BMPs, and commonly require more specialized maintenance than LID BMPs. As such, the Regional MS4 Permit and this WQMP require the use of LID BMPs wherever feasible, before Conventional Treatment BMPs can be considered or implemented.
Copermittees	The Regional MS4 Permit identifies the Cities of Murrieta, Temecula, and Wildomar, the County, and the District, as Copermittees for the SMR.

County	The abbreviation refers to the County of Riverside in this document.
CEQA	California Environmental Quality Act - a statute that requires state and local agencies to identify the significant environmental impacts of their actions and to avoid or mitigate those impacts, if feasible.
CIMIS	California Irrigation Management Information System - an integrated network of 118 automated active weather stations all over California managed by the California Department of Water Resources.
CWA	Clean Water Act - is the primary federal law governing water pollution. Passed in 1972, the CWA established the goals of eliminating releases of high amounts of toxic substances into water, eliminating additional water pollution by 1985, and ensuring that surface waters would meet standards necessary for human sports and recreation by 1983. CWA Section 402(p) is the federal statute requiring NPDES permits for discharges from MS4s.
CWA Section 303(d) Waterbody	Impaired water in which water quality does not meet applicable water quality standards and/or is not expected to meet water quality standards, even after the application of technology based pollution controls required by the CWA. The discharge of urban runoff to these water bodies by the Copermittees is significant because these discharges can cause or contribute to violations of applicable water quality standards.
Design Storm	The Regional MS4 Permit has established the 85th percentile, 24-hour storm event as the "Design Storm". The applicant may refer to Exhibit A to identify the applicable Design Storm Depth (D85) to the project.
DCV	Design Capture Volume (DCV) is the volume of runoff produced from the Design Storm to be mitigated through LID Retention BMPs, Other LID BMPs and Volume Based Conventional Treatment BMPs, as appropriate.
Design Flow Rate	The design flow rate represents the minimum flow rate capacity that flow-based conventional treatment control BMPs should treat to the MEP, when considered.
DCIA	Directly Connected Impervious Areas - those impervious areas that are hydraulically connected to the MS4 (i.e. street curbs, catch basins, storm drains, etc.) and thence to the structural BMP without flowing over pervious areas.
Discretionary Approval	A decision in which a Copermittee uses its judgment in deciding whether and how to carry out or approve a project.
District	Riverside County Flood Control and Water Conservation District.

DMA	A Drainage Management Area - a delineated portion of a project site that is hydraulically connected to a common structural BMP or conveyance point. The Applicant may refer to Section 3.3 for further guidelines on how to delineate DMAs.
Drawdown Time	Refers to the amount of time the design volume takes to pass through the BMP. The specified or incorporated drawdown times are to ensure that adequate contact or detention time has occurred for treatment, while not creating vector or other nuisance issues. It is important to abide by the drawdown time requirements stated in the fact sheet for each specific BMP.
Effective Area	Area which 1) is suitable for a BMP (for example, if infiltration is potentially feasible for the site based on infeasibility criteria, infiltration must be allowed over this area) and 2) receives runoff from impervious areas.
ESA	An Environmental Sensitive Area (ESA) designates an area "in which plants or animals life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which would be easily disturbed or degraded by human activities and developments". (Reference: California Public Resources Code § 30107.5).
ET	Evapotranspiration (ET) is the loss of water to the atmosphere by the combined processes of evaporation (from soil and plant surfaces) and transpiration (from plant tissues). It is also an indicator of how much water crops, lawn, garden, and trees need for healthy growth and productivity
FAR	The Floor Area Ratio (FAR) is the total square feet of a building divided by the total square feet of the lot the building is located on.
Flow-Based BMP	Flow-based BMPs are conventional treatment control BMPs that are sized to treat the design flow rate.
FPPP	Facility Pollution Prevention Plan
HCOC	Hydrologic Condition of Concern - Exists when the alteration of a site's hydrologic regime caused by development would cause significant impacts on downstream channels and aquatic habitats, alone or in conjunction with impacts of other projects.
HMP	Hydromodification Management Plan - Plan defining Performance Standards for PDPs to manage increases in runoff discharge rates and durations.
Hydrologic Control BMP	BMP to mitigate the increases in runoff discharge rates and durations and meet the Performance Standards set forth in the HMP.
HSG	Hydrologic Soil Groups - soil classification to indicate the minimum rate of infiltration obtained for bare soil after prolonged wetting. The HSGs are A (very low runoff potential/high infiltration rate), B, C, and D (high runoff potential/very low infiltration rate)

Hydromodification	The Regional MS4 Permit identifies that increased volume, velocity, frequency and discharge duration of storm water runoff from developed areas has the potential to greatly accelerate downstream erosion, impair stream habitat in natural drainages, and negatively impact beneficial uses.
JRMP	A separate Jurisdictional Runoff Management Plan (JRMP) has been developed by each Copermittee and identifies the local programs and activities that the Copermittee is implementing to meet the Regional MS4 Permit requirements.
LID	Low Impact Development (LID) is a site design strategy with a goal of maintaining or replicating the pre-development hydrologic regime through the use of design techniques. LID site design BMPs help preserve and restore the natural hydrologic cycle of the site, allowing for filtration and infiltration which can greatly reduce the volume, peak flow rate, velocity, and pollutant loads of storm water runoff.
LID BMP	A type of stormwater BMP that is based upon Low Impact Development concepts. LID BMPs not only provide highly effective treatment of stormwater runoff, but also yield potentially significant reductions in runoff volume – helping to mimic the pre-project hydrologic regime, and also require less ongoing maintenance than Treatment Control BMPs. The applicant may refer to Chapter 2.
LID BMP Design Handbook	The LID BMP Design Handbook was developed by the Copermittees to provide guidance for the planning, design and maintenance of LID BMPs which may be used to mitigate the water quality impacts of PDPs within the County.
LID Bioretention BMP	LID Bioretention BMPs are bioretention areas are vegetated (i.e., landscaped) shallow depressions that provide storage, infiltration, and evapotranspiration, and provide for pollutant removal (e.g., filtration, adsorption, nutrient uptake) by filtering stormwater through the vegetation and soils. In bioretention areas, pore spaces and organic material in the soils help to retain water in the form of soil moisture and to promote the adsorption of pollutants (e.g., dissolved metals and petroleum hydrocarbons) into the soil matrix. Plants use soil moisture and promote the drying of the soil through transpiration. The Regional MS4 Permit defines “retain” as to keep or hold in a particular place, condition, or position without discharge to surface waters.
LID Biofiltration BMP	BMPs that reduce stormwater pollutant discharges by intercepting rainfall on vegetative canopy, and through incidental infiltration and/or evapotranspiration, and filtration, and other biological and chemical processes. As stormwater passes down through the planting soil, pollutants are filtered, adsorbed, biodegraded, and sequestered by the soil and plants, and collected through an underdrain.

LID Harvest and Reuse BMP	BMPs used to facilitate capturing Stormwater Runoff for later use without negatively impacting downstream water rights or other Beneficial Uses.
LID Infiltration BMP	BMPs to reduce stormwater runoff by capturing and infiltrating the runoff into in-situ soils or amended onsite soils. Typical LID Infiltration BMPs include infiltration basins, infiltration trenches and pervious pavements.
LID Retention BMP	BMPs to ensure full onsite retention without runoff of the DCV such as infiltration basins, bioretention, chambers, trenches, permeable pavement and pavers, harvest and reuse.
LID Principles	Site design concepts that prevent or minimize the causes (or drivers) of post-construction impacts, and help mimic the pre-development hydrologic regime.
MEP	Maximum Extent Practicable - standard established by the 1987 amendments to the CWA for the reduction of Pollutant discharges from MS4s. Refer to Attachment C of the Regional MS4 Permit for a complete definition of MEP.
MF	Multi-family - zoning classification for parcels having 2 or more living residential units.
MS4	Municipal Separate Storm Sewer System (MS4) is a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains): (i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or designated and approved management agency under section 208 of the CWA that discharges to waters of the United States; (ii) Designated or used for collecting or conveying storm water; (iii) Which is not a combined sewer; (iv) Which is not part of the Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.26.
New Development Project	Defined by the Regional MS4 Permit as 'Priority Development Projects' if the project, or a component of the project meets the categories and thresholds described in Section 1.1.1.
NPDES	National Pollution Discharge Elimination System - Federal program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under Sections 307, 318, 402, and 405 of the CWA.
NRCS	Natural Resources Conservation Service

PDP	Priority Development Project - Includes New Development and Redevelopment project categories listed in Provision E.3.b of the Regional MS4 Permit.
Priority Pollutants of Concern	Pollutants expected to be present on the project site and for which a downstream water body is also listed as Impaired under the CWA Section 303(d) list or by a TMDL.
Project-Specific WQMP	A plan specifying and documenting permanent LID Principles and Stormwater BMPs to control post-construction Pollutants and stormwater runoff for the life of the PDP, and the plans for operation and maintenance of those BMPs for the life of the project.
Receiving Waters	Waters of the United States.
Redevelopment Project	The creation, addition, and or replacement of impervious surface on an already developed site. Examples include the expansion of a building footprint, road widening, the addition to or replacement of a structure, and creation or addition of impervious surfaces. Replacement of impervious surfaces includes any activity that is not part of a routine maintenance activity where impervious material(s) are removed, exposing underlying soil during construction. Redevelopment does not include trenching and resurfacing associated with utility work; resurfacing existing roadways; new sidewalk construction, pedestrian ramps, or bike lane on existing roads; and routine replacement of damaged pavement, such as pothole repair. Project that meets the criteria described in Section 1.
Runoff Fund	Runoff Funds have not been established by the Copermittees and are not available to the Applicant. If established, a Runoff Fund will develop regional mitigation projects where PDPs will be able to buy mitigation credits if it is determined that implementing onsite controls is infeasible.
San Diego Regional Board	San Diego Regional Water Quality Control Board - The term "Regional Board", as defined in Water Code section 13050(b), is intended to refer to the California Regional Water Quality Control Board for the San Diego Region as specified in Water Code Section 13200. State agency responsible for managing and regulating water quality in the SMR.
SCCWRP	Southern California Coastal Water Research Project
Site Design BMP	Site design BMPs prevent or minimize the causes (or drivers) of post-construction impacts, and help mimic the pre-development hydrologic regime.
SF	Parcels with a zoning classification for a single residential unit.
SMC	Southern California Stormwater Monitoring Coalition
SMR	The Santa Margarita Region (SMR) represents the portion of the Santa Margarita Watershed that is included within the County of Riverside.

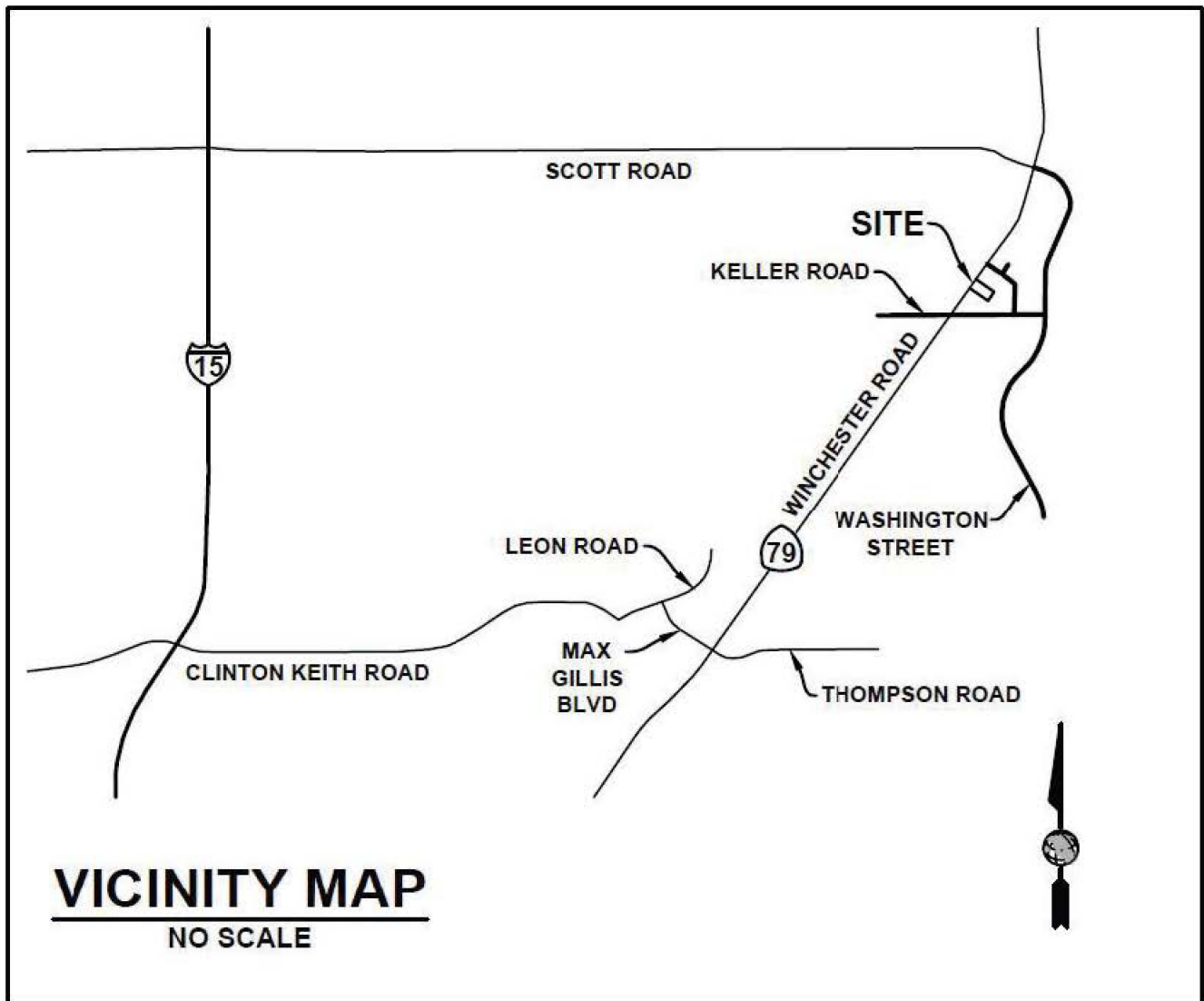
Source Control BMP	Source Control BMPs land use or site planning practices, or structural or nonstructural measures that aim to prevent runoff pollution by reducing the potential for contamination at the source of pollution. Source control BMPs minimize the contact between Pollutants and runoff.
Structural BMP	Structures designed to remove pollutants from stormwater runoff and mitigate hydromodification impacts.
SWPPP	Storm Water Pollution Prevention Plan
Tentative Tract Map	Tentative Tract Maps are required for all subdivision creating five (5) or more parcels, five (5) or more condominiums as defined in Section 783 of the California Civil Code, a community apartment project containing five (5) or more parcels, or for the conversion of a dwelling to a stock cooperative containing five (5) or more dwelling units.
TMDL	Total Maximum Daily Load - the maximum amount of a Pollutant that can be discharged into a waterbody from all sources (point and non-point) and still maintain Water Quality Standards. Under CWA Section 303(d), TMDLs must be developed for all waterbodies that do not meet Water Quality Standards after application of technology-based controls.
USEPA	United States Environmental Protection Agency
Volume-Based BMP	Volume-Based BMPs applies to BMPs where the primary mode of pollutant removal depends upon the volumetric capacity such as detention, retention, and infiltration systems.
WQMP	Water Quality Management Plan
Wet Season	The Regional MS4 Permit defines the wet season from October 1 through April 30.

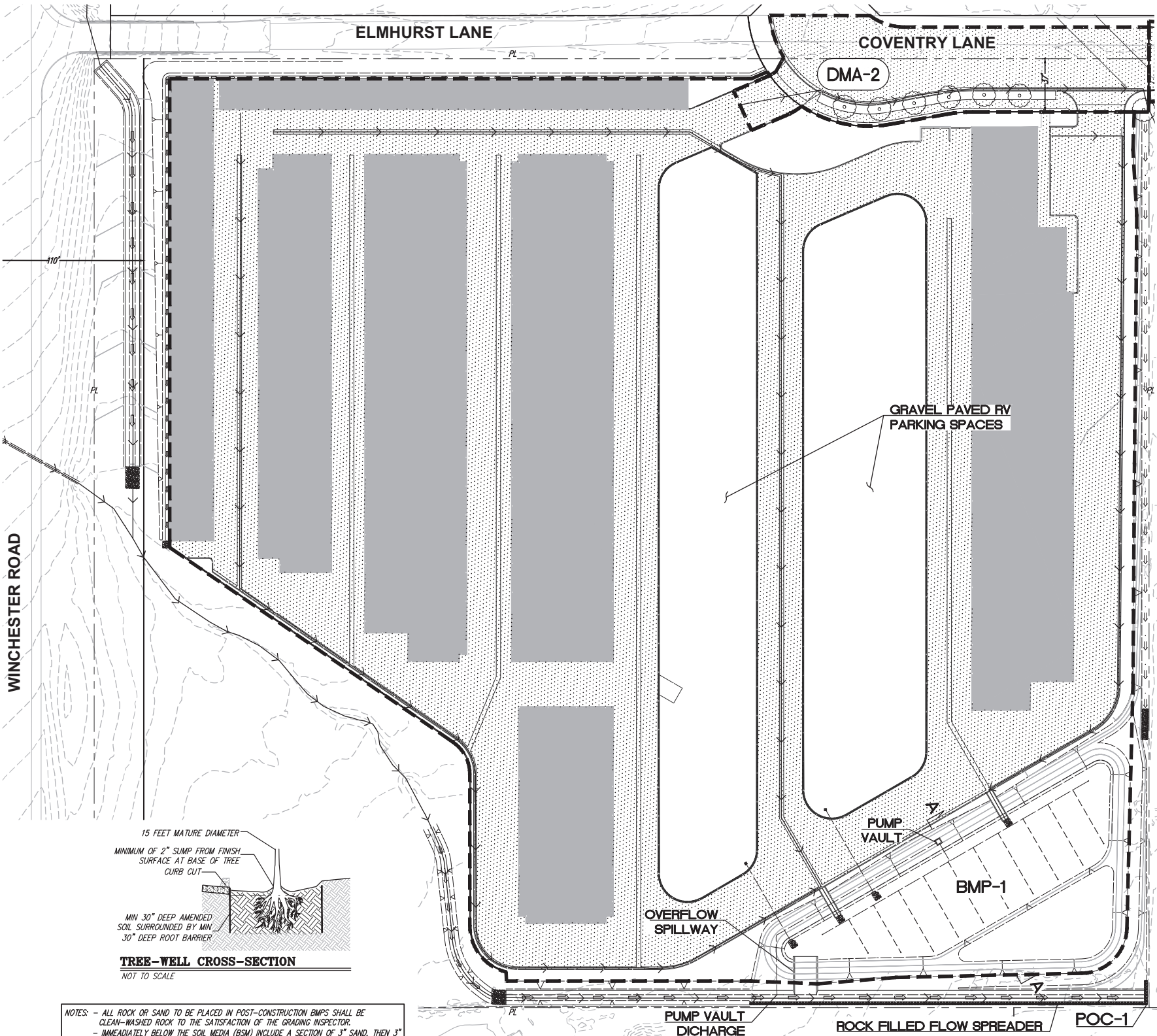
Appendix 1: Maps and Site Plans

Location Map, WQMP Site Plan and Receiving Waters Map

Complete the checklist below to verify all exhibits and components are included in the Project-Specific WQMP. Refer Section 4 of the SMR WQMP and Section D of this Template.

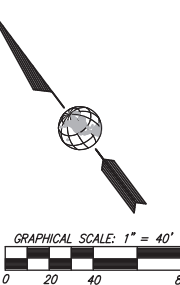
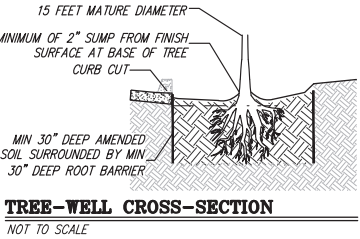
Map and Site Plan Checklist	
Indicate all Maps and Site Plans are included in your Project-Specific WQMP by checking the boxes below.	
☒	Vicinity and Location Map
☒	Existing Site Map (unless exiting conditions are included in WQMP Site Plan)
☒	WQMP Site Plan
☒	Parcel Boundary and Project Footprint
☒	Existing and Proposed Topography & Drainage Management Areas (DMAs)
☒	Proposed Structural Best Management Practices (BMPs), with cross sections
☒	Drainage Paths
☒	Drainage infrastructure, inlets, overflows
☒	Source Control & Site Design BMPs (notes can be used for BMPs that can't be depicted)
☒	Buildings, Roof Lines, Downspouts
☒	Impervious Surfaces
☒	Pervious Surfaces (i.e. Landscaping)
☒	Standardized Labeling
☐	Use Riverside County Flood Control CB-110 for outlet structure with block outs for a trash screen out the outside, and an orifice/weir plate(s) on the inside of the structure or other design that is as easy to maintain. The screen should be as large as possible to minimize clogging.
☐	If BMPs are in the road R/W (only with CFD/CSA maintenance or LID Principals) add "BMP" paddle markers at the start and end of each BMPs and LID principals
☒	When underdrain are proposed, gravel shall be clean washed gravel, AASHTO #57 stone preferred. Underdrains shall be Schedule 40 PVC, with a minimum slope of 0.005, with cleanouts equal in diameter of the subdrain that extends 6 inches above the media with a lockable screw cap, spaced every 50 feet, at the collector drain line connection, and at any bends.
☐	When BSM is proposed, BSM shall consist of 60-80% clean sand, up to 20% clean topsoil, and 20% of a nutrient-stabilized organic amendment. BSM shall be placed on top of 3-inches of Choker Sand placed on top of 3-inches of ASTM No. 8 stone (1/4 to 1/2-inch pea gravel), and placed on top of 12 to 24-inches of a clean, open-graded drain rock layer.
☐	For Tracts, the Regional Board requires <u>fully functioning</u> WQMP BMPs for opening model home complexes, sales offices, or use of roads (i.e. prior to occupancy or intended use of any portion of the project). The County encourages phasing post-construction BMPs, small structural BMPs (e.g. specifically for sales offices), or self-retaining areas. This phasing can be shown on the WQMP site map and sequencing shall be included on the Grading plans, so that a fully functioning WQMP BMP is addressing any portion of the project that has been granted occupancy or granted the intended use.



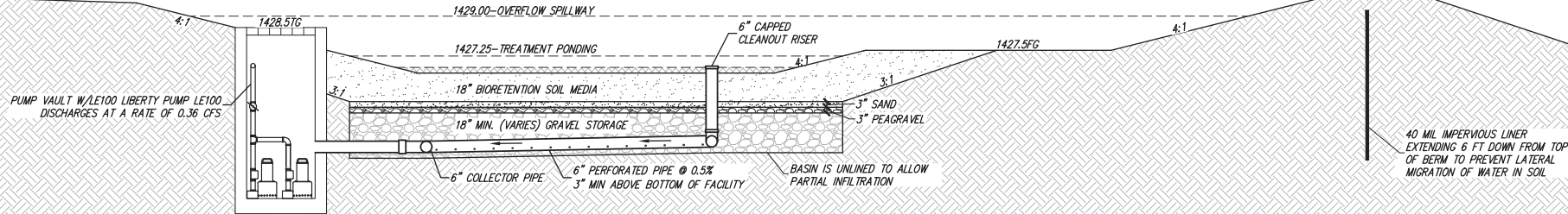


COVENTRY LANE WILL BE IMPROVED TO 24' FULL-WIDTH AC PAVEMENT W/ 4' GRADED SHOULDERS TO CONNECT TO KELLER ROAD (±1,400'). THE IMPROVEMENTS OF COVENTRY LANE WILL BE TREATED VIA SELF-RETAINING REQUIREMENTS TO THE MAXIMUM EXTENT PRACTICABLE.

SEE NEXT SHEET FOR IMPROVEMENTS ON COVENTRY LANE



NOTES: - ALL ROCK OR SAND TO BE PLACED IN POST-CONSTRUCTION BMPs SHALL BE CLEAN-WASHED ROCK TO THE SATISFACTION OF THE GRADING INSPECTOR.
- IMMEDIATELY BELOW THE SOIL MEDIA (BSM) INCLUDE A SECTION OF 3" SAND, THEN 3" PEAGRAVEL. ALL SUBDRAINS SHALL BE SCH. 40 WITH A MINIMUM SLOPE OF 0.5%.



BMP-1, BIOFILTRATION W/ PARTIAL INFILTRATION BASIN CROSS SECTION
NOT TO SCALE

LEGEND



DMA DATA TABLE					
DMA-NO.	TOT. AREA (SF)	IMP. AREA (SF)	IMP. (%)	DCV OR V _{BMP} (CF)	NOTES
DMA-1	364,684	257,939	71	10,941	DRAINS TO BMP-1 (BIOFILTRATION W/ PARTIAL INFILTRATION)
DMA-2	17,282	1,758	90	668	DRAINS TO STREET TREES (SELF-RETAINING)

BMP DATA TABLE				
BMP-NO.	TRIBUTARY DMA	PROPOSED FOOTPRINT (SF)	% OF TOTAL TRIBUTARY AREA	NOTES
BMP-1	DMA-1	12,056	3.3%	BIOFILTRATION W/ PARTIAL INFILTRATION BASIN, PROVIDED TREATMENT VOLUME=11,994 CF

STREET TREES DATA TABLE						
TRIBUTARY DMA	TOT. AREA (SF)	IMP. AREA (SF)	V _{BMP} (CF)	# OF TREES	TOTAL TREE CREDIT VOLUME PROPOSED (CF)	TOTAL TREE SOIL AREA (SF)
DMA-2	17,282	15,524	668	7	700	1,239

SELF-RETAINING AREAS						
SELF-RETAINING AREAS				RECEIVING SELF-RETAINING DMA		
DMA-#	POST-PROJECT SURFACE TYPE	AREA (SF)	STORM DEPTH (IN)	DMA-#	AREA (SF)	RATIO
DMA-2	TREE SOIL AREA	1,240	0.60	DMA-2	13,367	7.1

AREAS THAT DRAIN TO SELF-RETAINING AREAS							
DMA					RECEIVING SELF-RETAINING DMA		
DMA-#	AREA (SF)	POST-PROJECT SURFACE TYPE	RUNOFF FACTOR	PRODUCT	DMA-#	AREA (SF)	RATIO
DMA-2	17,282	TREE SOIL AREA	0.77	13,367	DMA-2	1,240	10.8

MISC NOTES

1. UNDERLYING NRCS HYDROLOGIC SOIL GROUP FOR SITE IS TYPE C
2. GROUNDWATER DEPTH WAS NOT ENCOUNTERED IN GEOTECHNICAL INVESTIGATION
3. NO EXISTING NATURAL HYDROLOGIC FEATURES
4. NO CRITICAL COARSE SEDIMENT YIELD AREAS ON SITE OR UPSTREAM OF SITE

SOURCE CONTROL BMP NOTES

- ALL APPLICABLE SOURCE CONTROL BMPs SHALL BE UTILIZED
- FLOOR DRAINS
 - PEST CONTROL/HERBICIDE APPLICATION
 - TRASH STORAGE AREAS
 - FIRE SPRINKLER TEST/MAINTENANCE WATER
 - PLAZAS, SIDEWALKS AND PARKING LOTS

SITE DESIGN BMP NOTES

- ALL APPLICABLE SITE CONTROL BMPs SHALL BE UTILIZED
- PRESERVE EXISTING DRAINAGE PATTERNS
 - IDENTIFY AND PRESERVE NATURAL INFILTRATION CAPACITY
 - MINIMIZE IMPERVIOUS AREAS
 - UTILIZE NATIVE OR DROUGHT TOLERANT SPECIES IN SITE LANDSCAPING
 - KEEP THE RUNOFF FROM SEDIMENT PRODUCING PERVIOUS AREA HYDROLOGICALLY SEPARATE FROM DEVELOPED AREAS THAT REQUIRE TREATMENT

BMP INSPECTION SCHEDULE NOTES

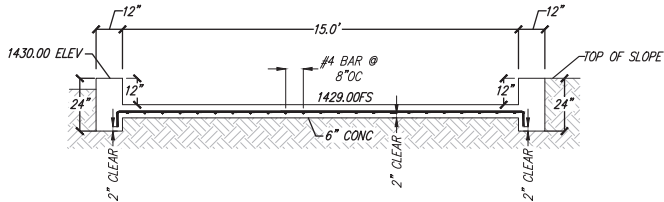
CONTRACTOR MUST CONTACT ENGINEER FOR INSPECTION OF BMPs AT THE FOLLOWING STAGES OF CONSTRUCTION:

- PRIOR TO START OF CONSTRUCTION OF BIORETENTION AREA
- PRIOR TO CONSTRUCTION OF OUTLET STRUCTURES
- AFTER GRADING OF THE BASIN AREA FOR CERTIFICATION
- AFTER PLACEMENT OF TREATMENT SOIL
- AFTER IRRIGATION AND LANDSCAPING ACTIVITIES

*SURVEY STAKES SHALL BE AVAILABLE FOR EACH AND EVERY INSPECTION

BIOFILTRATION SOIL MEDIA NOTE

1. LONG-TERM PERCOLATION RATE OF 5.0 IN/HR MIN. & MAXIMUM RATE OF 10 IN/HR.
2. SOIL MEDIA SHALL BE LOOSELY PLACED (<80% COMPACTION)
3. CONTRACTOR SHALL SUBMIT BIO-MEDIA BLEND MATERIAL CUTSHEETS AND INFILTRATION INFORMATION FOR REVIEW AND APPROVAL PRIOR TO ORDERING AND PLACEMENT.
4. BIORETENTION SOIL MEDIA COMPOSITION BY VOLUME: *
 - 80% SAND (PER APPENDIX G.1, COUNTY OF SAN DIEGO LID MANUAL)
 - 5% SILT (PER APPENDIX G.1, COUNTY OF SAN DIEGO LID MANUAL)
 - 5% CLAY (PER APPENDIX G.1, COUNTY OF SAN DIEGO LID MANUAL)
 - 10% ORGANIC MATTER



OVERFLOW SPILLWAY DETAIL
NOT TO SCALE

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33880 WINCHESTER ROAD
WINCHESTER, CA 92586

APPLICANT:
U-STOR-IT
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501 W. BROADWAY - STE. 202
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619.255.7478
peter@cc-h.com

PARCEL NUMBER:
472-110-038



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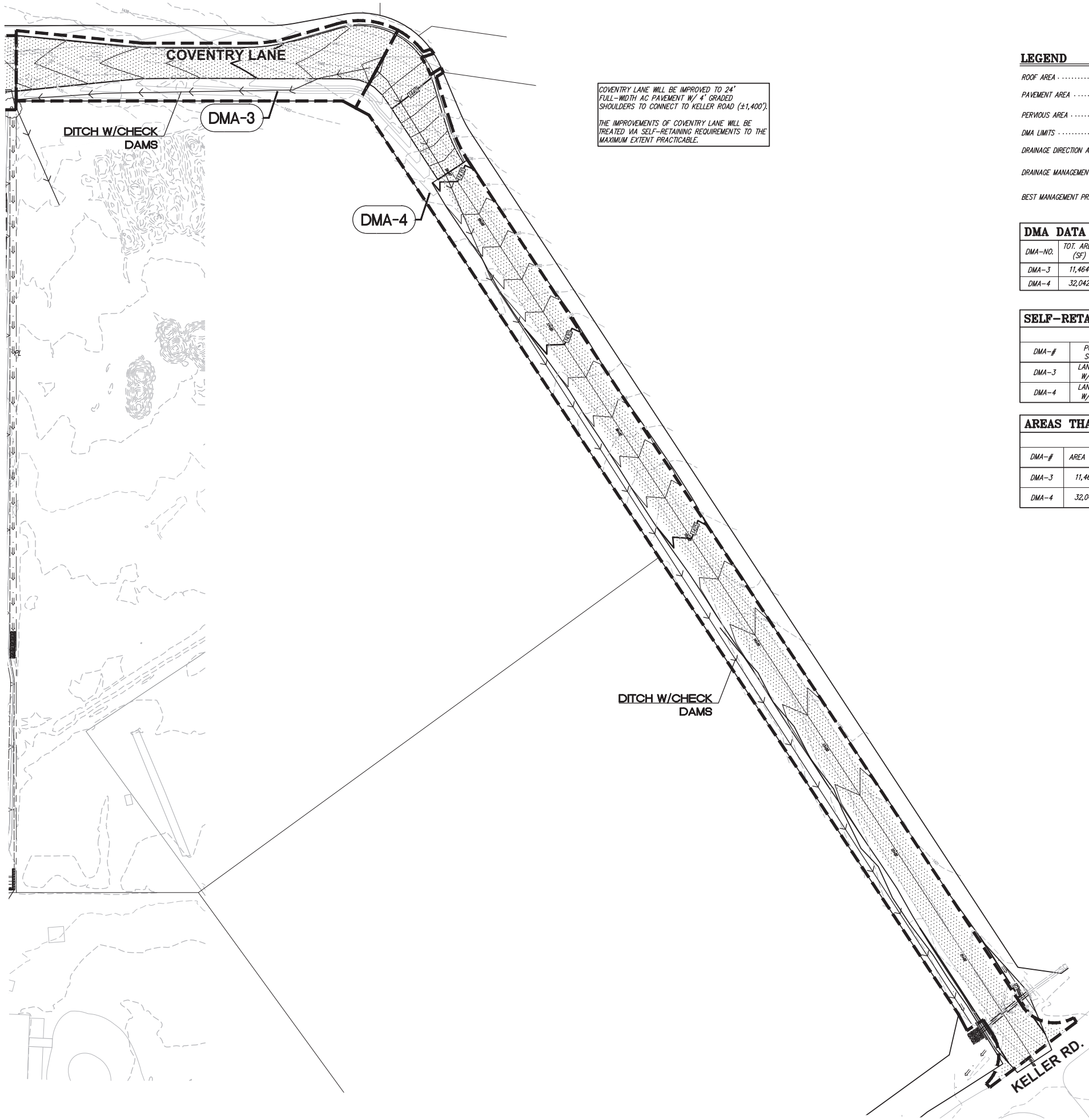
2023.08.10: PLANNING & ZONING SUBMITTAL	
2024.06.25: PLANNING & ZONING SUBMITTAL	
2024.11.18: PLANNING & ZONING SUBMITTAL	
2025.03.06: PLANNING & ZONING SUBMITTAL	

DDCA
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PROJECT NO.	121149
PROJECT MGR.	SHT
DMA MAP	



LEGEND

ROOF AREA	
PAVEMENT AREA	
PERVIOUS AREA	
DMA LIMITS	
DRAINAGE DIRECTION ARROW	
DRAINAGE MANAGEMENT AREA	DMA-#
BEST MANAGEMENT PRACTICE	BMP-#

DMA DATA TABLE

DMA-NO.	TOT. AREA (SF)	IMP. AREA (SF)	IMP. (%)	DCV OR V _{BMP} (CF)	NOTES
DMA-3	11,464	9,112	79	384	SELF-RETAINING
DMA-4	32,042	24,356	76	1,023	SELF-RETAINING

SELF-RETAINING AREAS

SELF-RETAINING AREAS				RECEIVING SELF-RETAINING DMA		
DMA-#	POST-PROJECT SURFACE TYPE	AREA (SF)	STORM DEPTH (IN)	DMA-#	AREA (SF)	RATIO
DMA-3	LANDSCAPE AREAS W/ CHECK DAMS	3,390	0.60	DMA-3	7,677	2.0
DMA-4	LANDSCAPE AREAS W/ CHECK DAMS	12,455	0.60	DMA-4	20,452	1.6

AREAS THAT DRAIN TO SELF-RETAINING AREAS

DMA					RECEIVING SELF-RETAINING DMA		
DMA-#	AREA (SF)	POST-PROJECT SURFACE TYPE	RUNOFF FACTOR	PRODUCT	DMA-#	AREA (SF)	RATIO
DMA-3	11,464	LANDSCAPE AREAS W/ CHECK DAMS	0.67	7,677	DMA-3	3,390	2.3
DMA-4	32,042	LANDSCAPE AREAS W/ CHECK DAMS	0.64	20,452	DMA-4	5,500	3.7

U-STOR-IT WINCHESTER

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PROJECT NO.	121149
PROJECT MGR.	SHT

Appendix 2: Construction Plans

*The latest set of Grading, Drainage Plans, and Street Improvement plans **shall be included***

Bioretention/Biofiltration BMPs construction notes (Santa Margarita Region only). For Bioretention and Biofiltration facilities, the **following construction notes shall be shown on the Grading and/or Drainage plans**:

1. *The Engineer shall furnish to the County a copy of the source testing and a signed certification that the fully blended Bioretention/Biofiltration Soil Media (BSM) material meets all of the WQMP requirements before material is imported or if the material is mixed onsite prior to installation.*
2. *As BSM material is being installed, Quality Assurance (QA) tests shall be conducted or for every 1,200 tons or 800 cubic yards mixed on-site from a completely mixed stockpile or windrow, with a minimum of three tests. For imported material from a supplier with a quality control program the QA tests shall be conducted 2,400 tons or 1,600 cubic yards from the supplier.*
3. *The Engineer conducting the Quality Control testing shall furnish to the County copy of the QA testing and a certification that the BSM for the project meets all of the following requirements. Certified mitigation plans can be used for exceedances, as long as all requirements are designed to be met.*
 - a. *BSM shall not be compacted. BSM shall consist of 60-80% clean sand, up to 20% clean topsoil, and 20% of a nutrient-stabilized organic amendment. The initial infiltration rate shall be greater than 8 inches per hour per laboratory test.*
 - b. *pH: 6.0 – 8.5; Salinity: 0.5 to 3.0 mmho/cm as electrical conductivity; Sodium absorption ratio: < 6.0; Chloride: < 800 ppm in saturated extract; Cation Exchange Capacity (CEC): > 10 meq/100 g; Organic Matter: 2 to 5-percent on a dry weight basis; Carbon: Nitrogen Ratio: 12 to 40, preferably 15 to 40; Gravel larger than 2mm: 0 to 25-percent of the total sample; Clay smaller than 0.005mm: 0 to 5 percent of the non-gravel fraction.*
 - c. *BSM shall be tested to limit the leaching of potential inherent pollutants. BSM used in Biofiltration BMPs shall conform to the following limits for pollutant concentrations in saturated extract: Phosphorus: < 1 mg/L; Nitrate < 3 mg/L, Copper < 0.025 mg/L. These pollutant limits are for the amount that is leached from the sample, not from the soil sample itself. Testing may be performed after laboratory rinsing of media with up to 15 pore volumes of water. Equivalent test results will be accepted if certified by a laboratory or appropriate testing facility.*
 - d. *Low nutrient compost used in BSM shall be sourced from a facility permitted through CalRecycle, preferably through USCC STA program. Compost shall conform to the following requirements: Physical contaminants <1% by dry weight; Carbon:Nitrogen ratio: 12:1 to 40:1; Maturity/Stability shall conform to either: Solvita Maturity Index: ≥ 5.5, CO2 Evolution: < 2.5 mg CO2-C per g compost organic matter per day, or < 5 mg CO2-C per g compost C per day; Select Pathogens and Trace metals shall pass US EPA Class A Standard. Testing shall be no more than 6 months old and representative of current stockpiles.*
 - e. *Coconut coir pith used in BSM shall be thoroughly rinsed with freshwater and screened to remove coarse fibers as part of production and aged > 6 months. Peat used in BSM shall be sphagnum peat.*

Please notify the County if additional sources and laboratories can be added to this list. The Potential Sources and Laboratories are not part of the construction note - **Potential BSM sources may include:** Gail Materials (Temescal Valley), Agriservice (Oceanside), and Greatsoils (Escondido). Earthworks (Riverside); **Potential Laboratories may include:** Fruit Growers Laboratory, Inc. (Santa Paula, <http://www.fglinc.com/>) Wallace Laboratories (El Segundo, <http://us.wlabs.com/>). Control Labs (Watsonville, <http://www.controllabs.com>) and A&L Western Laboratories (Modesto, <http://www.al-labs-west.com/>).

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BY: MAX ORY

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UTILITY INFORMATION:

WATER – EASTERN MUNICIPAL WATER DISTRICT (NO SERVICE, ±1,900 LINE EXTENSION)
SEWER – EASTERN MUNICIPAL WATER DISTRICT (NO SERVICE, PROJECT WILL UTILIZE SEPTIC)
GAS – SOCAL GAS
ELECTRIC – SOCAL EDISON
SCHOOL DISTRICT – MENIFEE UNION & PERRIS UNION HIGH

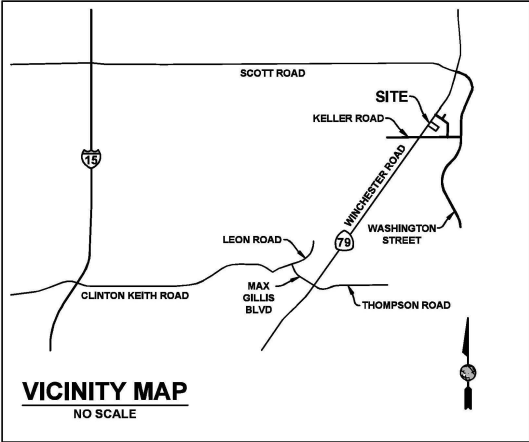
FLOOD PLAIN:

THE PROPERTY SHOWN HEREON IS CONTAINED WITHIN F.E.M.A. FLOOD ZONE "X" BEING AN AREA DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN AS SHOWN ON FLOOD INSURANCE RATE MAP NUMBER 06065C2090G, DATED AUGUST 28, 2008. ANY LIMITS OF SAID FLOODPLAIN WITHIN THE EXTENT OF THIS PLAT ARE SHOWN HEREON.

SETBACKS:

NO SETBACKS REQUIRED FOR PERMITTED COMMERCIAL USES UNDER 35 FT. IN HEIGHT. ANY PORTION OF A BUILDING WHICH EXCEEDS 35 FT. IN HEIGHT SHALL BE SET BACK FROM THE FRONT, REAR, AND SIDE LOT LINES NOT LESS THAN 2 FT. FOR EACH FOOT BY WHICH THE HEIGHT EXCEEDS 35 FT.

CONDITIONAL USE PERMIT



OWNER:

NAME: U-STOR-IT
CONTACT: PETER NORA
ADDRESS: 501 W. BROADWAY STE 202, SAN DIEGO, CA 92101
PHONE: (619) 255-7478
EMAIL: PETER@UCOF-LLC.COM

SITE ADDRESS:

33890 WINCHESTER ROAD
WINCHESTER, CA 92596

ASSESSOR'S PARCEL NUMBER:

472-110-038

ZONING INFORMATION:

EXISTING ZONING: R-R-2 1/2

PROPOSED ZONING: C-1/C-P

EXISTING GENERAL PLAN LAND USE: RURAL RESIDENTIAL

TITLE INFORMATION:

TITLE INFORMATION FOR THIS SURVEY IS BASED ON A COMMITMENT FOR TITLE INSURANCE AS PREPARED BY FIRST AMERICAN TITLE INSURANCE COMPANY AS FILE NO. NCS-1049560-QNT1, COMMITMENT DATE: JANUARY 19, 2021.

LEGAL DESCRIPTION:

THAT PORTION OF THE SOUTH 1/4 OF SECTION 21, TOWNSHIP 6 SOUTH, RANGE 2 WEST, SAN BERNARDINO BASE AND MERIDIAN, DESCRIBED AS FOLLOWS:

COMMENCING AT THE INTERSECTION OF THE SOUTH LINE OF SECTION 21 WHICH THE SOUTHEASTERLY RIGHT OF WAY LINE OF WINCHESTER ROAD, 100 FEET WIDE, AS RECORDED IN BOOK 165, PAGE 56 OF RIVERSIDE COUNTY RECORDS, DATED APRIL 15, 1949; THENCE NORTH 35 DEG. 34' 35" EAST ALONG SAID SOUTHEAST RIGHT OF WAY LINE 1276.44 FEET TO THE TRUE POINT OF BEGINNING; THENCE CONTINUING NORTH 35 DEG. 34' 35" EAST, 660 FEET ALONG SAID RIGHT OF WAY LINE; THENCE SOUTH 54 DEG. 25' 15" EAST, 759 FEET; THENCE SOUTH 35 DEG. 34' 45" WEST, 660 FEET; THENCE NORTH 54 DEG. 25' 15" WEST, 759 FEET TO THE TRUE POINT OF BEGINNING.

EXCEPTING THEREFROM THAT PORTION CONVEYED TO THE STATE OF CALIFORNIA, BY A GRANT DEED RECORDED JANUARY 19, 2012 AS INSTRUMENT NO. 2012-0022665 OF OFFICIAL RECORDS.

VERTICAL BENCHMARK:

DESCRIPTION: NATIONAL GEODETIC SURVEY (NGS) DESIGNATED POINT "X 311" (PID 0X1680), BEING A 3.5" DISC SET FLUSH IN TOP OF AN 8"x8" CONCRETE POST, AT THE NORTHWEST CORNER OF KELLER ROAD AND WASHINGTON STREET.

ELEVATION: 1433.58' (NAVD88)

SOURCE OF TOPOGRAPHY:

AERIAL PHOTOGRAPHY COMPLETED BY AEROTECH MAPPING, INC. ON FEBRUARY 26, 2021.

BASIS OF BEARINGS:

THE BASIS OF BEARINGS FOR THIS SURVEY IS THE NORTHERLY LINE OF PARCEL 1 PER PARCEL MAP 9471, FILED IN BOOK 42 OF PARCEL MAPS AT PAGES 37-38, SAID BEARING BEING "NORTH 54°26'00" WEST"

AREA SUMMARY:

TOTAL PARCEL AREA (NET)	484,620	SF
% IMPERVIOUS (PROPOSED)	71%	
% IMPERVIOUS (EXISTING)	1%	

EXISTING LEGEND:

ITEM	SYMBOL
PROPERTY LINE	---
CENTERLINE	---
RIGHT-OF-WAY	---
EX. CONTOUR	---

PROPOSED LEGEND:

ITEM	SYMBOL
PROPOSED CONTOURS	---
PROPOSED GRADE BREAK	---
PROPOSED FINISH FLOOR ELEVATION	FF-378.00
PROPOSED TOP OF CURB ELEVATION	374.00TC
PROPOSED PAVEMENT ELEVATION	374.00P
PROPOSED TOP OF WALL ELEVATION	374.00TW
PROPOSED GRADE AT BASE OF WALL ELEV.	374.00BW
PROPOSED FLOWLINE ELEVATION	374.00FL
PROPOSED FINISHED GRADE ELEVATION	374.00FG
PROPOSED GRADIENT	1.1%
PROPOSED 6" PCC CURB	---
PROPOSED 6" PCC CURB & GUTTER	---
PROPOSED FLOW LINE	---
PROPOSED BUILDING	---
PROPOSED WALL	---
PROPOSED PARKING STALL STRIPING	---
PROPOSED HANDICAP STRIPING	---
PROPOSED PVT. STORM DRAIN (SIZE PER PLAN)	---
PROPOSED RIPRAP STABILIZATION	---
PROPOSED PVT. STORM DRAIN INLET/CLEAN OUT/CONNECTION (SIZE AND TYPE PER PLAN)	---
PROPOSED PVT. ROOFDRAINS	---
PROPOSED SWALE	---
PROPOSED PVT. SEWER LINE (SIZE PER PLAN)	---
PROPOSED PVT. PCC PAVEMENT WALK	---
PROPOSED PVT. PCC PAVEMENT	---
PROPOSED PVT. BIOFILTRATION	---
PROPOSED DRIVEWAY	---
PROPOSED OFFSITE PCC PAVEMENT	---
PROPOSED FIRE ACCESS LANE	---

SHEET INDEX:

NO.	DESCRIPTION
1	TITLE
2	CONSTRAINTS
3	GRADING
4	DMA MAP
5	FIRE ACCESS

U-STOR-IT WINCHESTER

33890 WINCHESTER ROAD
WINCHESTER, CA 92596

APPLICANT:
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619.255.7478
peter@ucof-llc.com

PARCEL NUMBER:
472-110-038



OMEGA

ENGINEERING CONSULTANTS
4320 VERNIDGE AVE. SUITE C
SAN DIEGO, CA 92123
PH: (619) 634-8620 FAX: (619) 634-8627

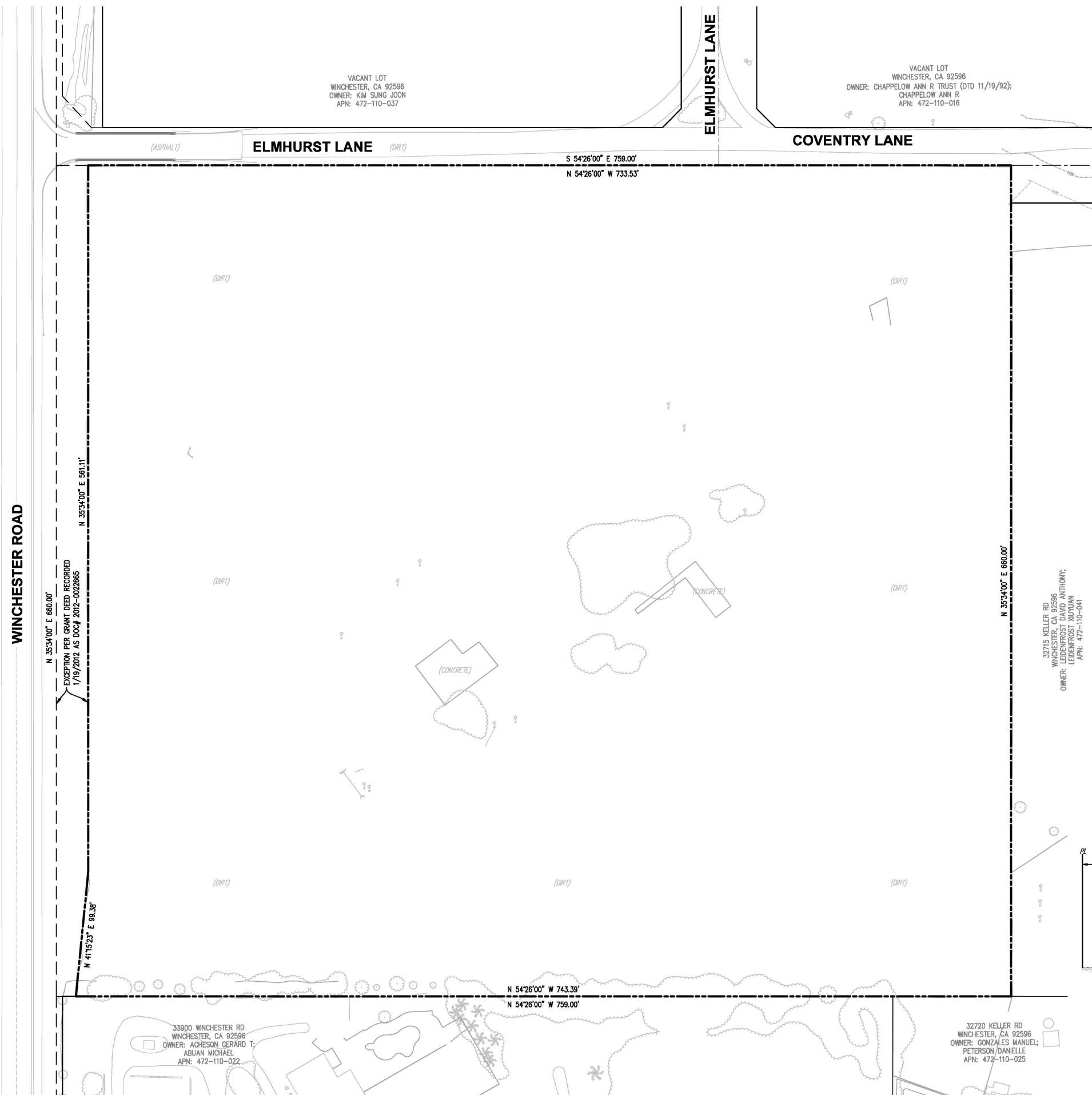
2023.08.10: PLANNING & ZONING SUBMITTAL	2024.06.25: PLANNING & ZONING SUBMITTAL	2024.11.16: PLANNING & ZONING SUBMITTAL	2025.03.06: PLANNING & ZONING SUBMITTAL

DDCA architects

Direct Design Ltd.
Carroll Associates

3321 South State Route 31
Prairie Grove, Illinois 60012
P. 815.444.8444

PROJECT NO.	121149
PROJECT MGR.	SHT
TITLE	
C-1	



EXISTING LEGEND

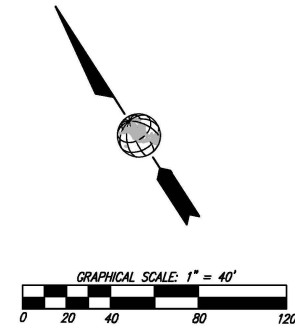
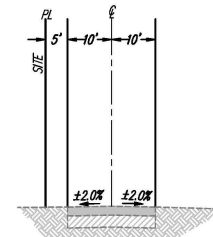
ITEM _____

PROPERTY LINE 

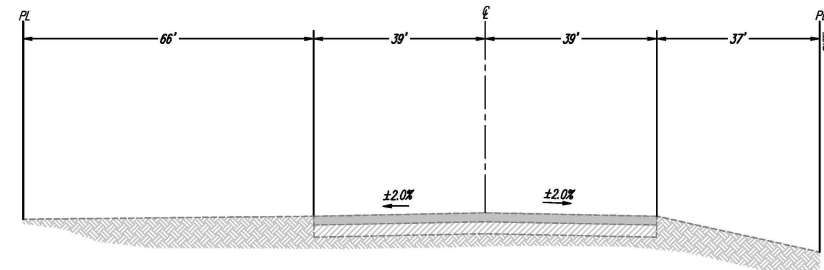
CENTERLINE 

RIGHT-OF-WAY

EX. CONTOUR  552



TYPICAL SECTION - ELMHURST LANE
NOT TO SCALE



TYPICAL SECTION - WINCHESTER ROAD
NOT TO SCALE

U-STOR-IT WINCHESTER
33890 WINCHESTER ROAD
WINCHESTER, CA 92596

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472-110-038



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2023.08.10	PLANNING & ZONING SUBMITTAL
2024.06.25	PLANNING & ZONING SUBMITTAL
2024.11.18	PLANNING & ZONING SUBMITTAL
2025.03.06	PLANNING & ZONING SUBMITTAL

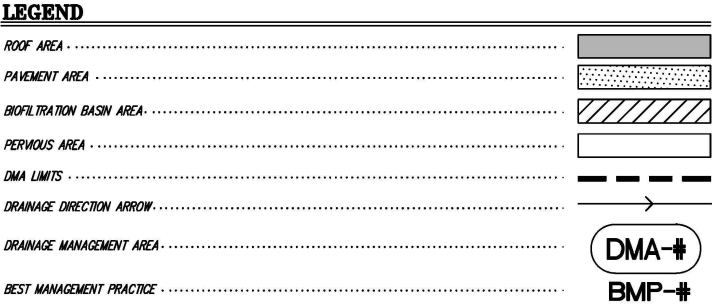
3321 South State Route 31
Prairie Grove, Illinois 60012
P.815.444.8444



Direct Design Ltd.
Carroll Associates

PROJECT NO.	121149
PROJECT MGR.	SHT
CONSTRAINTS	

C-2



DMA DATA TABLE					
DMA-NO.	TOT. AREA (SF)	IMP. AREA (SF)	IMP (%)	DCV OR V _{IMP} (CF)	NOTES
DMA-1	364,684	257,939	71	10,941	DRAINS TO BMP-1 (BIOFILTRATION W/ PARTIAL INFILTRATION)
DMA-2	17,282	1,758	90	668	DRAINS TO STREET TREES (SELF-RETAINING)

BMP DATA TABLE				
BMP-NO.	TRIBUTARY DWA	PROPOSED FOOTPRINT (SF)	% OF TOTAL TRIBUTARY AREA	NOTES
BMP-1	DWA-1	12,056	3.3%	BIOFILTRATION W/ PARTIAL INFILTRATION BASIN, PROVIDED TREATMENT VOLUME=11,994 CF

STREET TREES DATA TABLE							
TRIBUTARY DMA	TOT. AREA (SF)	IMP. AREA (SF)	V _{IMP} (CF)	# OF TREES	TOTAL TREE CREDIT VOLUME PROPOSED (CF)	TOTAL TREE SOIL AREA (SF)	TREE IMP. AREA PER TREE (SF)
DMA-2	17,282	15,524	668	7	700	1,239	177

SELF-RETAINING AREAS						
SELF-RETAINING AREAS				RECEIVING SELF-RETAINING DMA		
DMA-#	POST-PROJECT SURFACE TYPE	AREA (SF)	STORM DEPTH (IN)	DMA-#	AREA (SF)	RATIO
DMA-2	TREE SOIL AREA	1,240	0.60	DMA-2	13,367	7.1

AREAS THAT DRAIN TO SELF-RETAINING AREAS							
DMA					RECEIVING SELF-RETAINING DMA		
DMA-#	AREA (SF)	POST-PROJECT SURFACE TYPE	RUNOFF FACTOR	PRODUCT	DMA-#	AREA (SF)	RATIO
DMA-2	17,282	TREE SOIL AREA	0.77	13,367	DMA-2	1,240	10.8

MISC NOTES

1. UNDERLYING NRCS HYDROLOGIC SOIL GROUP FOR SITE IS TYPE C
2. GROUNDWATER DEPTH WAS NOT ENCOUNTERED IN GEOTECHNICAL INVESTIGATION
3. NO EXISTING NATURAL HYDROLOGIC FEATURES
4. NO CRITICAL COARSE SEDIMENT YIELD AREAS ON SITE OR UPSTREAM OF SITE

SOURCE CONTROL BMP NOTES

ALL APPLICABLE SOURCE CONTROL BMPs SHALL BE UTILIZED

- FLOOR DRAINS
- PEST CONTROL/HERBICIDE APPLICATION
- TRASH STORAGE AREAS
- FIRE SPRINKLER TEST/MAINTENANCE WATER
- PLAZAS, SIDEWALKS AND PARKING LOTS

SITE DESIGN BMP NOTES

ALL APPLICABLE SITE CONTROL BMPs SHALL BE UTILIZED

- PRESERVE EXISTING DRAINAGE PATTERNS
- IDENTIFY AND PRESERVE NATURAL INFILTRATION CAPACITY
- MINIMIZE IMPERVIOUS AREAS
- UTILIZE NATIVE OR DROUGHT TOLERANT SPECIES IN SITE LANDSCAPING
- KEEP THE RUNOFF FROM SEDIMENT PRODUCING PERVIOUS AREA HYDROLOGICALLY SEPARATE FROM DEVELOPED AREAS THAT REQUIRE TREATMENT

BMP INSPECTION SCHEDULE NOTES

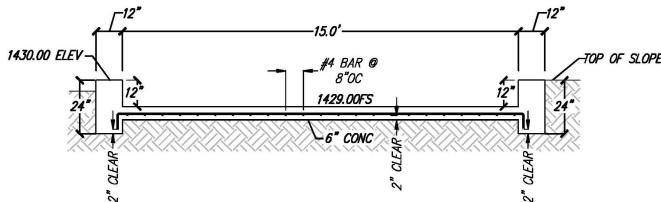
CONTRACTOR MUST CONTACT ENGINEER FOR INSPECTION OF BMPS AT THE FOLLOWING STAGES OF CONSTRUCTION:

- PRIOR TO START OF CONSTRUCTION OF BIORETENTION AREA
- PRIOR TO CONSTRUCTION OF OUTLET STRUCTURES
- AFTER GRADING OF THE BASIN AREA FOR CERTIFICATION
- AFTER PLACEMENT OF TREATMENT SOIL
- AFTER IRRIGATION AND LANDSCAPING ACTIVITIES

**SURVEY STAKES SHALL BE AVAILABLE FOR EACH AND EVERY INSPECTION*

BIOFILTRATION SOIL MEDIA NOTE

1. LONG-TERM PERCOLATION RATE OF 5.0 IN/HR MIN. & MAXIMUM RATE OF 10 IN/HR.
2. SOIL MEDIA SHALL BE LOOSELY PLACED (<80% COMPACTION)
3. CONTRACTOR SHALL SUBMIT BIO-MEDIA BLEND MATERIAL CUTSHEETS AND INFILTRATION INFORMATION FOR REVIEW AND APPROVAL PRIOR TO ORDERING AND PLACEMENT.
4. BIORETENTION SOIL MEDIA COMPOSITION BY VOLUME: *
 - 80% SAND (PER APPENDIX G.1, COUNTY OF SAN DIEGO LID MANUAL)
 - 5% SILT (PER APPENDIX G.1, COUNTY OF SAN DIEGO LID MANUAL)
 - 5% CLAY (PER APPENDIX G.1, COUNTY OF SAN DIEGO LID MANUAL)
 - 10% ORGANIC MATTER



OVERFLOW SPILLWAY DETAIL

NOT TO SCALE

<p>U-STOR-IT WINCHESTER</p> <p>33890 WINCHESTER ROAD WINCHESTER, CA 92596</p>	<p>APPLICANT: U-STOR-IT PETER NORA 501 W. BROADWAY - STE. 202 SAN DIEGO, CA 92101 619.255.7478 peter@cof-llc.com</p> <p><u>PARCEL NUMBER:</u> 472-110-038</p>
--	--



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2024.11.18	PLANNING & ZONING SUBMITTAL
2025.03.06	PLANNING & ZONING SUBMITTAL

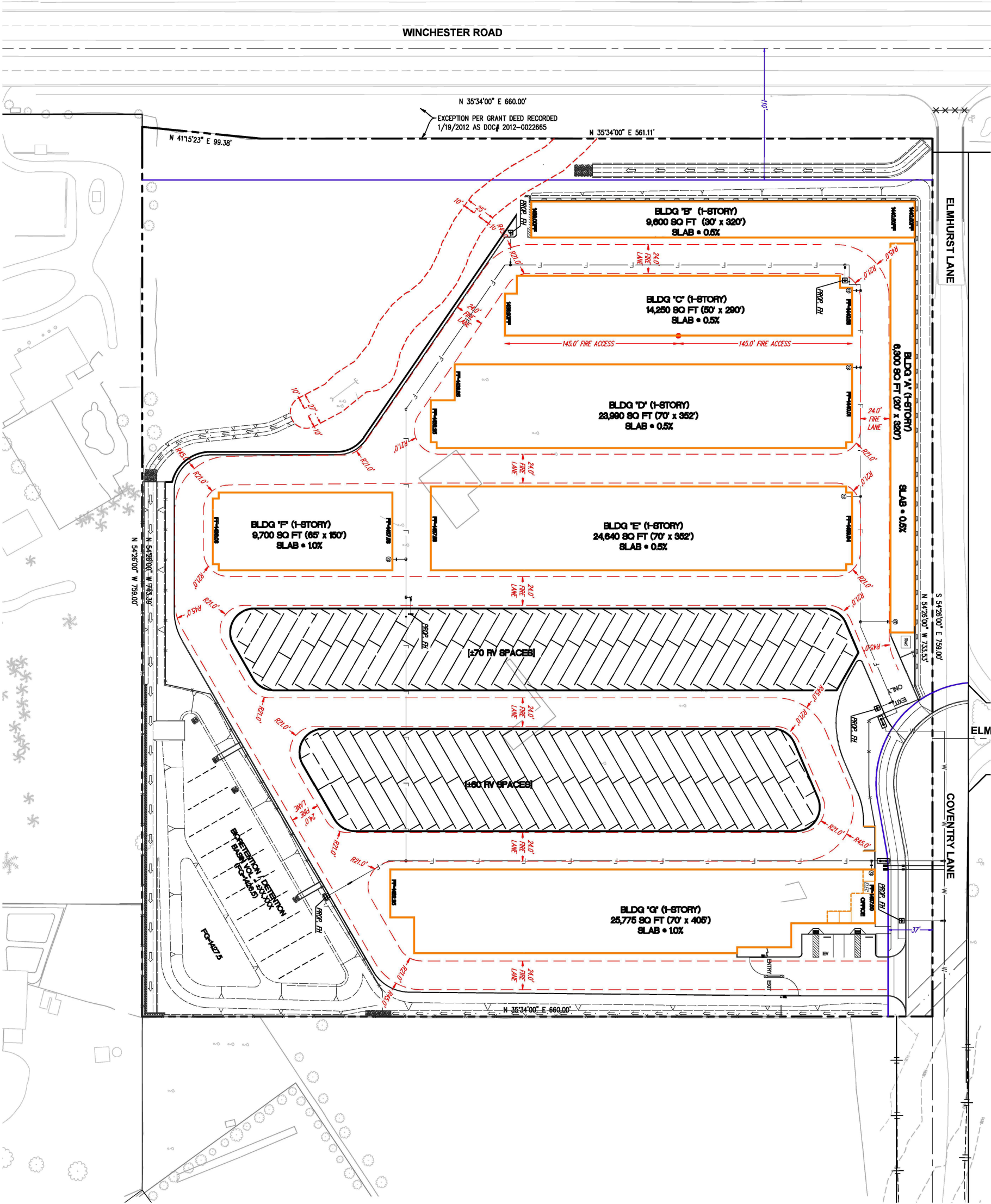
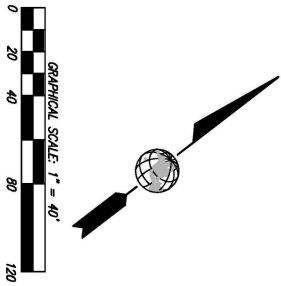
DDCA architects

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PROJECT NO.	121149
PROJECT MGR.	SHT
DMA MAP	

C-4



LEGEND	
LINE	5/8" X 1/8"
PROPERTY LINE	---
CONTRIBUTOR	---
RIGHT-OF-WAY	---
FIRE ACCESS LANE	---
PROPOSED BUILDING	---

C-5

PROJECT NO. 121148
PROJECT NAME: SHT
FIRE ACCESS PLAN

DDCA
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2023.08.10 PLANNING & ZONING SUBMITTAL
2024.06.25 PLANNING & ZONING SUBMITTAL
2024.11.18 PLANNING & ZONING SUBMITTAL
2025.03.06 PLANNING & ZONING SUBMITTAL

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472-110-038

U-STOR-IT WINCHESTER
33890 WINCHESTER ROAD
WINCHESTER, CA 92596

Appendix 3: Soils Information

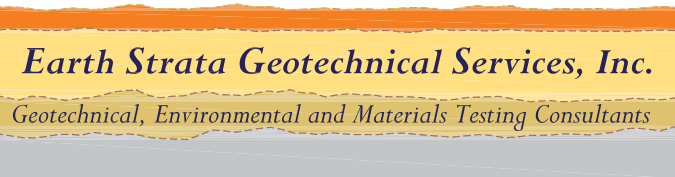
Geotechnical Study, Other Infiltration Testing Data, and/or Other Documentation

Examples of material to provide in Appendix 3 may include but are not limited to the following:

- Geotechnical Study/Report prepared for the project,
- Additional soils testing data (if not included in the Geotechnical Study),
- Exhibits/Maps/Other Documentation of the Hydrologic Soils Groups (HSG)s at the project site.

This information should support the Full Infiltration Applicability, and Biofiltration Applicability sections of this Template. Refer to Section 2.3 of the SMR WQMP and Sections A and D of this Template.

The County will accept explicit recommendations from the Geotechnical Engineer, such as specifying a design infiltration rate (unfactored) when infiltration rates vary, recommendations for impermeable liners due to concerns about seepage in fill areas/near gas tanks, or other site specific recommendations based on physical conditions.



May 25, 2021

Project No. 213675-12A

Mr. Peter Nora

U-Store-It

501 West Broadway, Suite 2020

San Diego, CA 92101

Subject: Infiltration Testing for Water Quality Treatment Areas, Proposed Storage Facility Development, Assessor Parcel Numbers 472-110-038-4, Located at 33890 Winchester Road, Winchester Area, Riverside County, California

INTRODUCTION

Earth Strata Geotechnical Services is pleased to present this infiltration feasibility report for the proposed storage facility development, located at 33890 Winchester Road, Assessor Parcel Number 472-110-038, in the Winchester area of Riverside County, California. The purpose of our study was to determine the infiltration rates and physical characteristics of the subsurface earth materials at the approximate depth of the proposed WQMP area within the proposed development. This feasibility report provides the infiltration rates to be used for the design and the development of the water quality management plan, where applicable.

PROPERTY DESCRIPTION

The subject property is located at 33890 Winchester Road in the Winchester area of Riverside County, California. The approximate location of the site is shown on the Vicinity Map, Figure 1.

The subject property is comprised of approximately 11.12 acres of previously developed land. The site has not been graded. Topographic relief at the subject property is relatively low with the terrain being generally flat. Elevations at the site range from approximately 1,425 to 1,443 feet above mean sea level (msl), for a difference of about 18± feet across the entire site. Drainage within the subject property generally flows to the south.

The site is currently bordered by residential development to the southwest and southeast, Highway 79 to the northwest and Elmhurst Lane to the northeast. Most of the vegetation on the site consists of moderate to dense amounts of annual weeds/grasses, along with small to large trees in the central portion of the subject site.

PROPOSED CONSTRUCTION

Based on plans provided by the owner, the proposed development as illustrated on the conceptual grading plans will consist of a storage facility development complete with interior streets, utilities, driveways, park and an onsite water quality treatment basin.

SUBSURFACE EXPLORATION

Subsurface Exploration

Subsurface exploration within the subject site was performed on May 5, 2021 for the exploratory excavations. A truck mounted hollow-stem-auger drill rig was utilized to drill six (6) borings throughout the property to a maximum depth of 12 feet and one (1) boring to a depth of 15 feet in the vicinity of the proposed WQMP area. The exploratory holes were excavated for geotechnical evaluation purposes with respect to the proposed developments and to interpret whether groundwater or impermeable soil layers were present. The approximate locations of the exploratory excavations are shown on the attached Infiltration Location Map, Plate 1 and descriptive logs are presented in Appendix A.

Earth materials encountered during exploration were classified and logged in general accordance with the Standard Practice for Description and Identification of Soils (Visual-Manual Procedure) of ASTM D 2488. Upon completion of laboratory testing, exploratory logs and sample descriptions may have been reconciled to reflect laboratory test results with regard to ASTM D 2487.

Earth Materials

A general description of the earth materials observed on site is provided below.

- Quaternary Very Old Axial Channel Deposits (map symbol Qvoa): Quaternary very old axial channel deposits were encountered within the upper 5 to 7 feet. These alluvial deposits consist predominately of brown to light brown, fine to coarse grained silty sand and sandy silt. These deposits were generally noted to be in a dry to moist, loose to dense state and soft to hard state.
- Triassic Phyllite (map symbol Trmp): Phyllite was encountered below the channel deposits to the maximum depth explored. This unit was generally noted to be weathered, slightly moist to very moist, and in a hard state.

INFILTRATION TESTING

The double ring infiltrometer test method was utilized to perform a total of four (4) infiltration tests on May 7, 2021 to evaluate near surface infiltration rates in order to estimate the amount of storm water runoff that can infiltrate into the onsite water quality treatment plan areas. The infiltration tests were performed in general accordance with the requirements of double ring infiltration testing, ASTM D 3385 and Appendix A of the Riverside County Flood Control and Water Conservation District.

The infiltration tests were performed using double ring infiltrometer and Mariotte tubes at a depth of 5 feet below existing grades. The locations of the infiltration tests are indicated on the attached infiltration Location Map, Plate 1. The double ring infiltrometer tests were located by property boundary measurement on the site plan and by using geographic features. Infiltration test data recorded in the field are summarized in the following table and is included within Appendix B including the graph of Infiltration Rate versus Elapsed Time.

Infiltration Test Summary

TEST NUMBER	INFILTRATION HOLE DEPTH (ft.)	INFILTRATION RATE (in/hr)	INFILTRATION RATE w/ FACTOR OF SAFETY	DESCRIPTION
DR-1	5	0.43	0.143	Clayey SAND
DR-2	5	0.86	0.286	Clayey SAND
DR-3	5	0.27	0.090	Clayey SAND
DR-4	5	0.38	0.126	Clayey SAND

The infiltration test rates ranged from 0.27 to 0.86 inches per hour (in/hr). A factor of safety of 3 will need to be utilized per the referenced design standards.

CONCLUSIONS AND RECOMMENDATIONS

General

From geotechnical and engineering geologic points of view, the proposed WQMP areas, where tested, is considered suitable for infiltration for the proposed development, provided the following conclusions and recommendations are incorporated into the plans and are implemented during construction.

Groundwater

Groundwater was not observed during our subsurface exploration to a total depth of 15 feet, which meets the minimum separation of 10 feet from the bottom of infiltration facility to the groundwater mark. Therefore, potential groundwater impact is considered very low.

Geologic/ Geotechnical Screening

The proposed WQMP areas should be located away from and at a lower elevation than the proposed structures in competent native earth materials.

The proposed structures will be supported by compacted fill and competent earth materials, with no shallow groundwater. According to the County of Riverside reports, the subject site is located in an area where liquefaction potential is considered low. As such, the potential for earthquake induced liquefaction and lateral spreading beneath the proposed structures is considered low due to the recommended compacted fill, lack of shallow groundwater, and the dense nature of the deeper onsite earth materials.

Therefore, infiltration within the proposed WQMP areas will not encroach on any proposed structures and will not increase the risk of geologic hazards.

Recommended Factor of Safety

The recommended factor of safety, in accordance with the Riverside County Flood Control Design Handbook, for the infiltration design is 3.

Based on the data presented in this report and the recommendations set forth herein, it is the opinion of Earth Strata Geotechnical Services that the WQMP area can be designed for an infiltration rate of 0.13 inches per hour in the vicinity of DR-1, DR-2, DR-3, and DR-4.

GRADING PLAN REVIEW AND CONSTRUCTION SERVICES

This report has been prepared for the exclusive use of **U-Store-It** and their authorized representative **Peter Nora**. It likely does not contain sufficient information for other parties or other uses. Earth Strata should be engaged to review the final design plans and specifications prior to construction. This is to verify that the recommendations contained in this report have been properly incorporated into the project plans and specifications. Should Earth Strata not be accorded the opportunity to review the project plans and specifications, we are not responsible for misinterpretation of our recommendations.

Earth Strata should be retained to provide observations during construction to validate this report. In order to allow for design changes in the event that the subsurface conditions differ from those anticipated prior to construction.

Earth Strata should review any changes in the project and modify and approve in writing the conclusions and recommendations of this report. This report and the drawings contained within are intended for

design input purposes only and are not intended to act as construction drawings or specifications. In the event that conditions encountered during grading or construction operations appear to be different than those indicated in this report, this office should be notified immediately, as revisions may be required.

REPORT LIMITATIONS

Our services were performed using the degree of care and skill ordinarily exercised, under similar circumstances, by reputable soils engineers and geologists, practicing at the time and location this report was prepared. No other warranty, expressed or implied, is made as to the conclusions and professional advice included in this report.

Earth materials vary in type, strength, and other geotechnical properties between points of observation and exploration. Groundwater and moisture conditions can also vary due to natural processes or the works of man on this or adjacent properties. As a result, we do not and cannot have complete knowledge of the subsurface conditions beneath the subject property. No practical study can completely eliminate uncertainty with regard to the anticipated geotechnical conditions in connection with a subject property.

The conclusions and recommendations within this report are based upon the findings at the points of observation and are subject to confirmation by Earth Strata during construction. This report is considered valid for a period of one year from the time the report was issued.

This report was prepared with the understanding that it is the responsibility of the owner or their representative, to ensure that the conclusions and recommendations contained herein are brought to the attention of the other project consultants and are incorporated into the plans and specifications. The owners' contractor should properly implement the conclusions and recommendations during grading and construction, and notify the owner if they consider any of the recommendations presented herein to be unsafe or unsuitable.

Respectfully submitted,

EARTH STRATA GEOTECHNICAL SERVICES

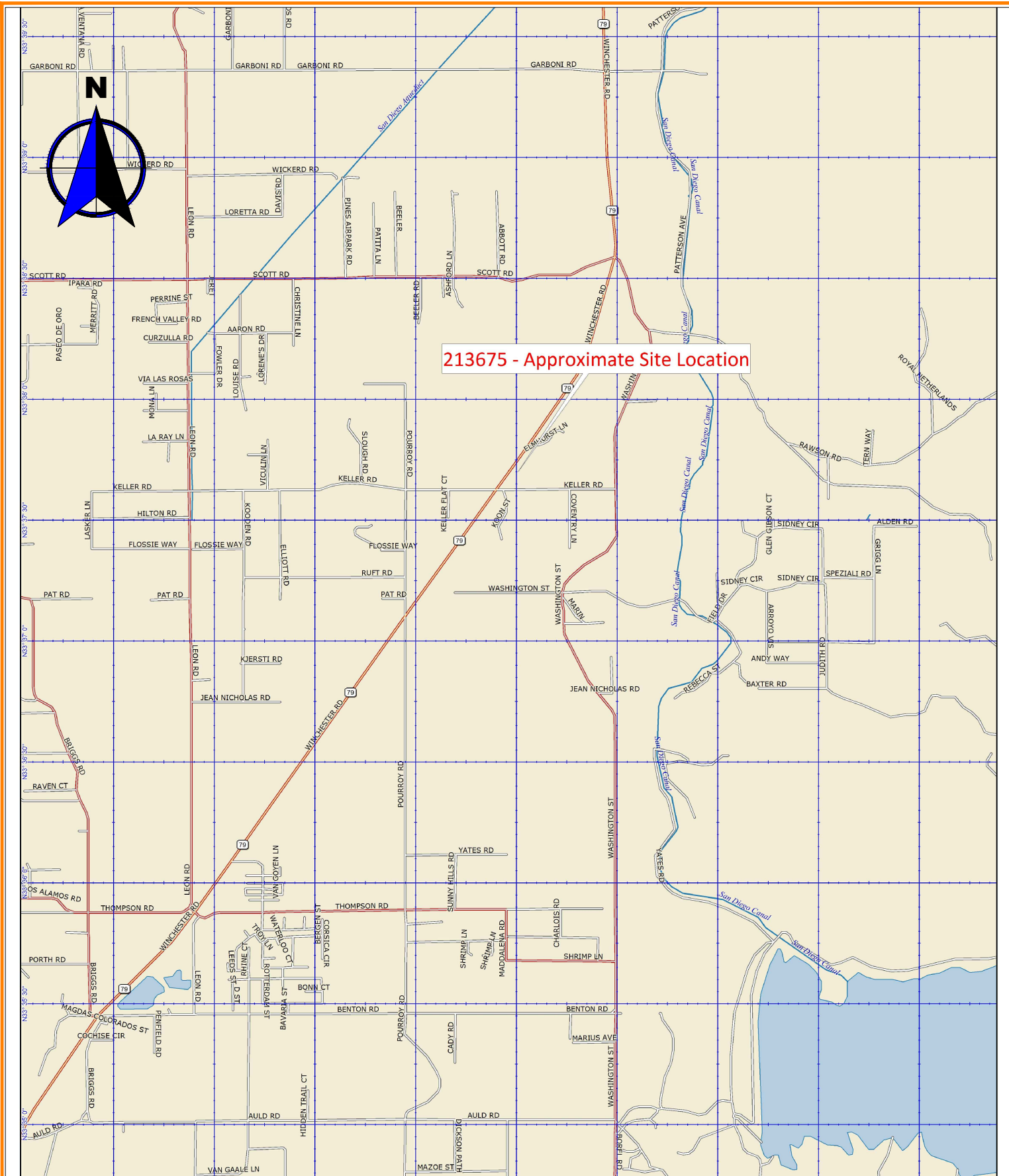
Stephen M. Poole, PE 40219
President
Principal Engineer

SMP/jmr

Distribution: (1) Addressee

Attachments: Figure 1 – Vicinity Map (*Rear of Text*)
Appendix A – Exploratory Logs (*Rear of Text*)
Appendix B – Infiltration Test Sheets (*Rear of Text*)
Plate 1 – Infiltration Location Map (*Rear of Text*)

FIGURE 1
VICINITY MAP



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Earth Strata Geotechnical Services, Inc.

Geotechnical, Environmental and Materials Testing Consultants

www.ESGSINC.com (951) 397-8315

PROPOSED STORAGE FACILITY DEVELOPMENT

213675-10A

VICINITY MAP

SCALE 1:40,625

MAY 2021

FIGURE 1

APPENDIX A
EXPLORATORY LOGS

Geotechnical Boring Log B-1

Date: May 5, 2021	Project Name: Winchester Road	Page: 1 of 1
Project Number: 213675-10A	Logged By: GG	
Drilling Company: Drilling It	Type of Rig: B-61	
Drive Weight (lbs): 140	Drop (in): 30	Hole Diameter (in): 8
Top of Hole Elevation (ft): See Map	Hole Location: See Geotechnical Map	

Depth (ft)	Blow Count Per Foot	Sample Depth	Dry Density (pcf)	Moisture (%)	Classification Symbol	MATERIAL DESCRIPTION
0						<u>Quaternary Very Old Axial Channel Deposits (Qvoa)</u>
					ML	Sandy SILT, brown, dry, soft to very stiff, fine to coarse sand, with gravel, slight porosity
	35	2.5	111.6	4.0		
5						
	77/5"	5	99.9	5.6		<u>Triassic Phyllite (Trmp)</u>
						Phyllite; dark gray, slightly moist, hard, fine grained, brittle, breaks down to
	96/3"	7.5	102.0	10.2		sandy SILT with gravel
10						Refusal at 8 feet
						No Groundwater
15						
20						
25						
30						

42184 Remington Avenue, Temecula, CA 92590

Earth Strata Geotechnical Services, Inc.

Geotechnical, Environmental and Materials Testing Consultants

www.ESGSINC.com (951) 397-8315

Geotechnical Boring Log B-2

Date: May 5, 2021	Project Name: Winchester Road	Page: 1 of 1
Project Number: 213675-10A	Logged By: GG	
Drilling Company: Drilling It	Type of Rig: B-61	
Drive Weight (lbs): 140	Drop (in): 30	Hole Diameter (in): 8
Top of Hole Elevation (ft): See Map	Hole Location: See Geotechnical Map	

Depth (ft)	Blow Count Per Foot	Sample Depth	Dry Density (pcf)	Moisture (%)	Classification Symbol	MATERIAL DESCRIPTION
0						Quaternary Very Old Axial Channel Deposits (Qvoa)
					ML	Sandy SILT, light brown, dry, soft, fine sand, with gravel, slight porosity
	30	2.5	107.5	3.4		
5						
	43	5	92.0	8.8		very stiff
	68/6"	7.5	113.4	15.1		Triassic Phyllite (Trmp)
						Phyllite; dark gray, moist, hard, fine grained, brittle, breaks down to
10						sandy SILT with gravel
	68/4"	10	106.8	11.8		
						Refusal at 11 feet
						No Groundwater
15						
20						
25						
30						

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Geotechnical Boring Log B-3

Date: May 5, 2021	Project Name: Winchester Road	Page: 1 of 1
Project Number: 213675-10A	Logged By: GG	
Drilling Company: Drilling It	Type of Rig: B-61	
Drive Weight (lbs): 140	Drop (in): 30	Hole Diameter (in): 8
Top of Hole Elevation (ft): See Map	Hole Location: See Geotechnical Map	

Depth (ft)	Blow Count Per Foot	Sample Depth	Dry Density (pcf)	Moisture (%)	Classification Symbol	MATERIAL DESCRIPTION
0						Quaternary Very Old Axial Channel Deposits (Qvoa)
					ML	Sandy SILT, brown, slightly moist, soft, fine sand, slight porosity
	24	2.5	106.7	5.8		
5						
	32	5	102.2	8.2		very stiff
	96/4"	7.5	99.7	6.9		Triassic Phyllite (Trmp)
						Phyllite; dark gray, moist, hard, fine grained, brittle, breaks down to
10	50/5"	10	103.8	9.6		sandy SILT with gravel
						Refusal at 12 feet
						No Groundwater
15						
20						
25						
30						

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Geotechnical Boring Log B-4

Date: May 5, 2021	Project Name: Winchester Road	Page: 1 of 1
Project Number: 213675-10A	Logged By: GG	
Drilling Company: Drilling It	Type of Rig: B-61	
Drive Weight (lbs): 140	Drop (in): 30	Hole Diameter (in): 8
Top of Hole Elevation (ft): See Map	Hole Location: See Geotechnical Map	

Depth (ft)	Blow Count Per Foot	Sample Depth	Dry Density (pcf)	Moisture (%)	Classification Symbol	MATERIAL DESCRIPTION
0						<u>Quaternary Very Old Axial Channel Deposits (Qvoa)</u>
					SM	Sandy SILT, brown, moist, loose to very dense, fine to coarse sand, with gravel
	68/5"	2.5	107.9	9.8		slight porosity
5						
	86/3"	5	102.1	9.2		
						<u>Triassic Phyllite (Trmp)</u>
						Phyllite; dark gray, moist, hard, fine grained, brittle, breaks down to
						sandy SILT with gravel
10						Refusal at 7 feet
						No Groundwater
15						
20						
25						
30						

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Geotechnical Boring Log B-5

Date: May 5, 2021	Project Name: Winchester Road	Page: 1 of 1
Project Number: 213675-10A	Logged By: GG	
Drilling Company: Drilling It	Type of Rig: B-61	
Drive Weight (lbs): 140	Drop (in): 30	Hole Diameter (in): 8
Top of Hole Elevation (ft): See Map	Hole Location: See Geotechnical Map	

Depth (ft)	Blow Count Per Foot	Sample Depth	Dry Density (pcf)	Moisture (%)	Classification Symbol	MATERIAL DESCRIPTION
0						Quaternary Very Old Axial Channel Deposits (Qvoa)
					ML	Sandy SILT, brown, slightly moist, soft to stiff, fine sand, slight porosity
	29	2.5	104.6	6.0		
5						
	21	5	108.2	9.3		
	77/5"	7.5	102.1	11.4		Triassic Phyllite (Trmp)
						Phyllite; dark gray, moist, hard, fine grained, brittle, breaks down to
10						sandy SILT with gravel
	91/5"	10	94.1	28.4		Very Moist below 10 feet
						Refusal at 7 feet
						No Groundwater
15						
20						
25						
30						

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Geotechnical Monitoring Well Log MW 1

Date: May 5, 2021	Project Name: Winchester Road	Page: 1 of 1
Project Number: 213675-10A	Logged By: GG	
Drilling Company: Drilling It	Type of Rig: B-61	
Drive Weight (lbs): 140	Drop (in): 30	Hole Diameter (in): 8
Top of Hole Elevation (ft): See Map	Hole Location: See Geotechnical Map	

Depth (ft)	Blow Count Per Foot	Sample Depth	Dry Density (pcf)	Moisture (%)	Classification Symbol	MATERIAL DESCRIPTION
0						<u>Quaternary Alluvium (Qa)</u>
					ML	Sandy SILT, light brown, dry, loose, fine sand, with gravel, slight porosity
5						
						<u>Triassic Phyllite (Trmp)</u>
						Phyllite; dark gray, moist, hard, fine grained, brittle, breaks down to
10						sandy SILT with gravel
15						Total Depth: 15 feet
						No Groundwater
20						
25						
30						

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APPENDIX B

INFILTRATION TEST SHEETS

[illegible]

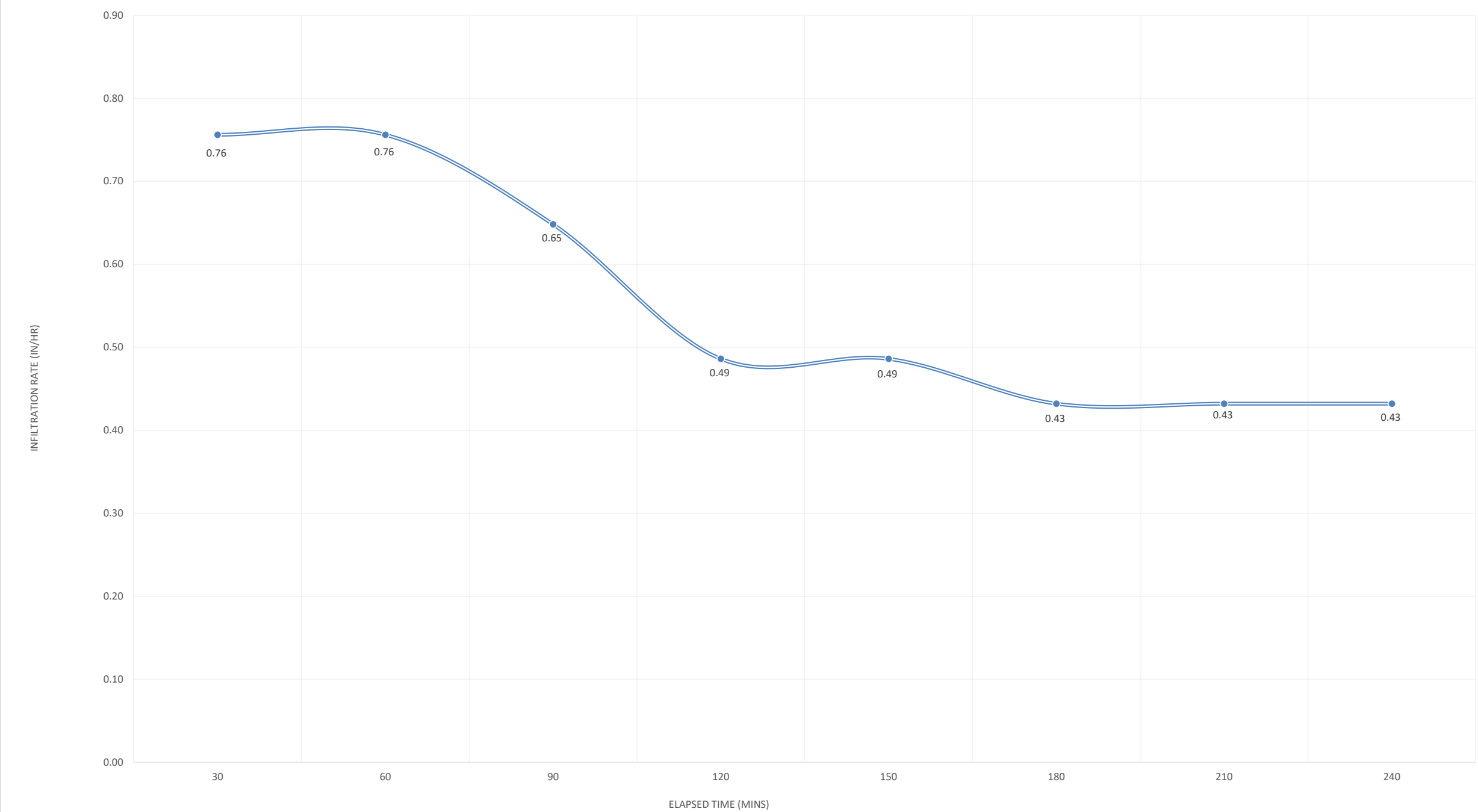
Project Identification:	0		
Test Location:	DR-1		
Liquid Used:	TAP WATER	pH:	8.0
Tested By:	0		
Depth to water table:	0		

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ELAPSED TIME VS. INFILTRATION RATE



[illegible]

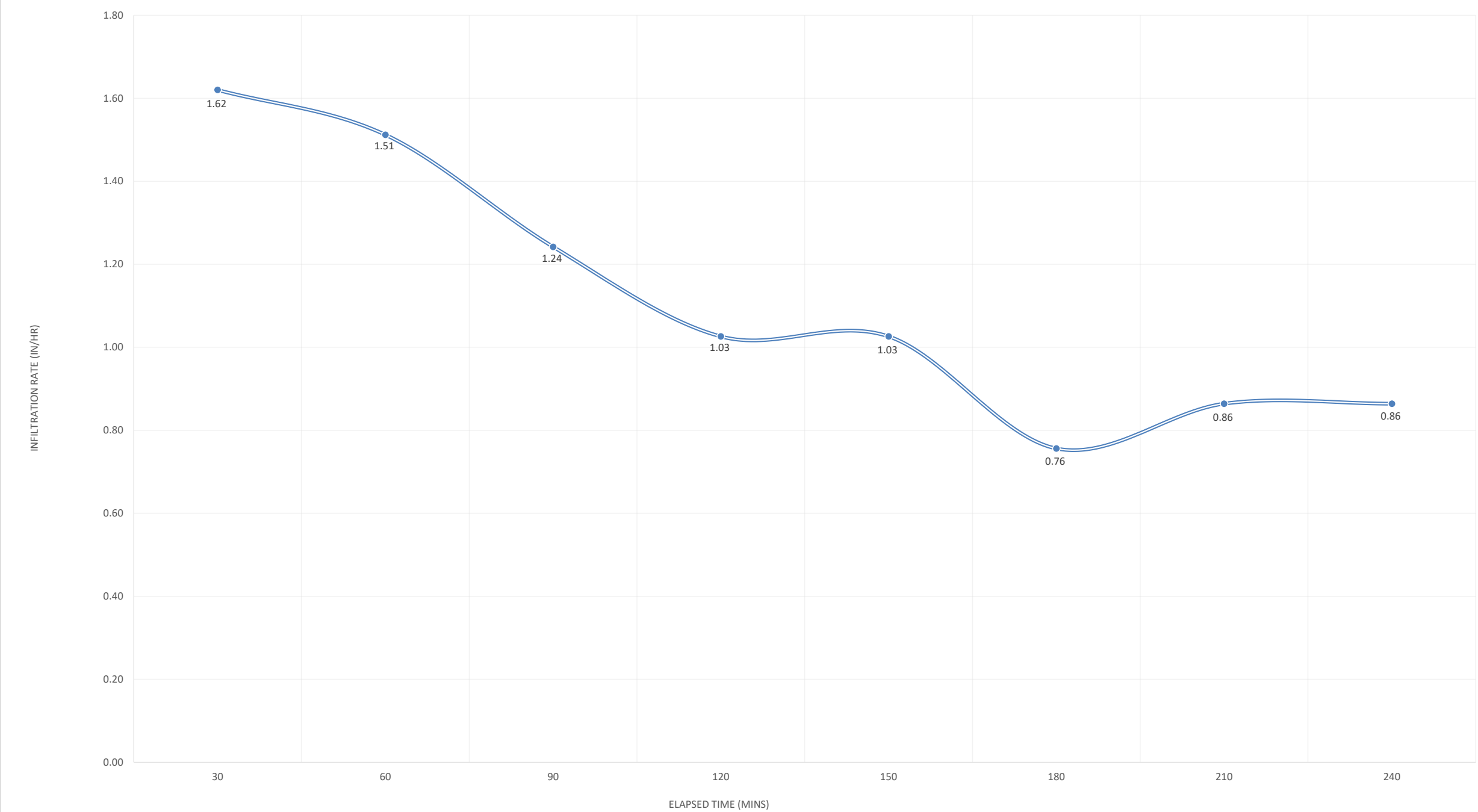
Project Identification:	0		
Test Location:	DR-2		
Liquid Used:	TAP WATER	pH:	8.0
Tested By:	0		
Depth to water table:	> 30 Feet		

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ELAPSED TIME VS. INFILTRATION RATE



[illegible]

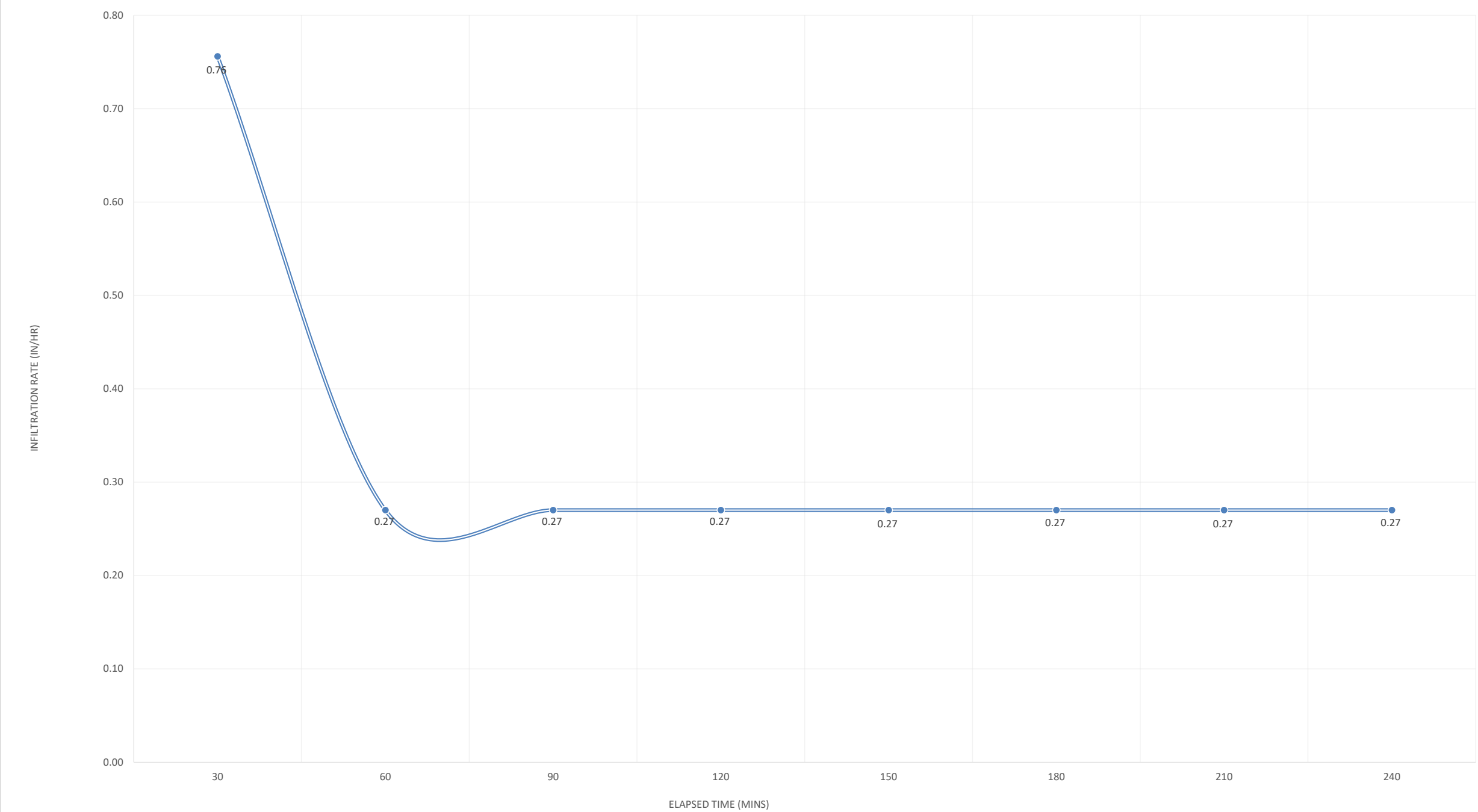
Project Identification:	0		
Test Location:	DR-3		
Liquid Used:	TAP WATER	pH:	8.0
Tested By:	0		
Depth to water table:	> 30 Feet		

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ELAPSED TIME VS. INFILTRATION RATE



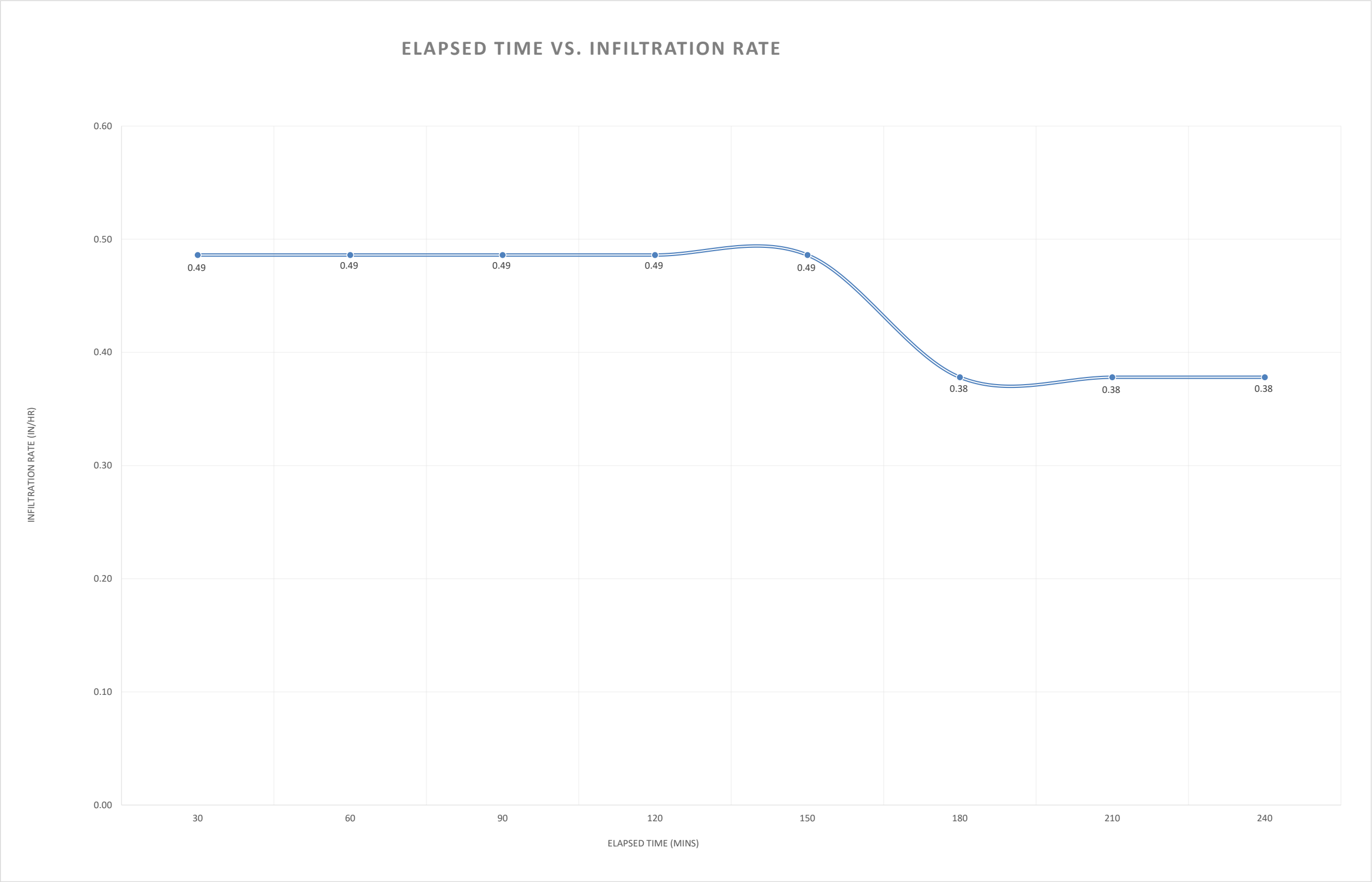
[illegible]

Project Identification:	0		
Test Location:	DR-4		
Liquid Used:	TAP WATER	pH:	8.0
Tested By:	0		
Depth to water table:	> 30 Feet		

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LEGEND

Locations are Approximate

Symbols

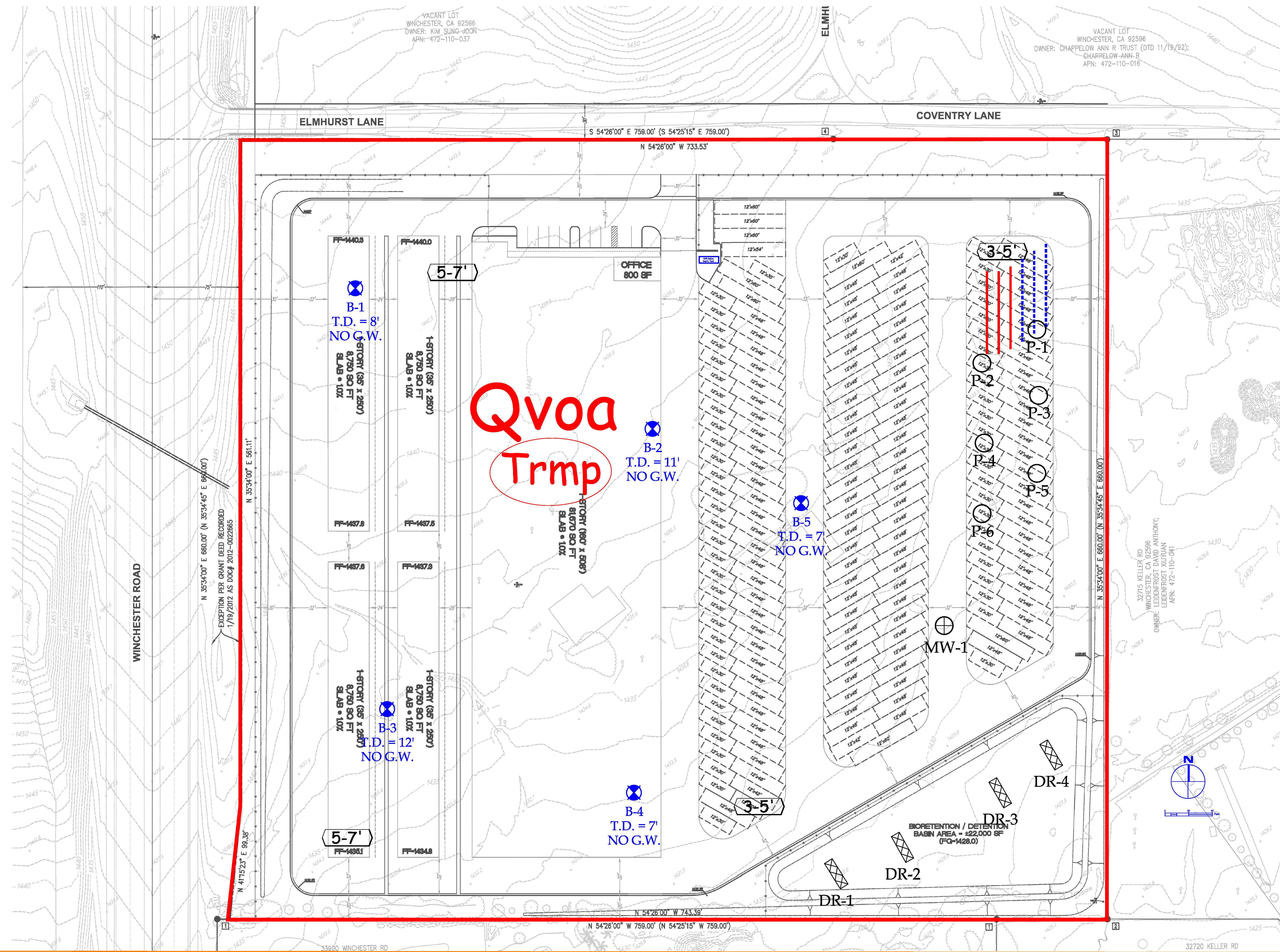
- Limits of Report
- P-6

- Percolation Test Location
- MW-1

- Percolation Monitoring Well Location
- B-5
T.D. = 7'
NO G.W.

- Geotechnical Boring Location
- DR-4

- Double Ring Infiltrometer Test Location



INFILTRATION TEST LOCATION MAP

LOCATED AT 33890 WINCHESTER ROAD
WINCHESTER AREA, CALIFORNIA
APN 472-110-038

PROJECT	MR. PETER NORA		
CLIENT	U-STORE IT		
PROJECT NO.	213675-12A		
DATE	MAY 2021		
SCALE	1:40		
DWG XREFS			
REVISION			
DRAWN BY	GW	PLATE	1 OF 1

Appendix 4: Historical Site Conditions

Phase I Environmental Site Assessment or Other Information on Past Site Use

Examples of material to provide in Appendix 4 may include but are not limited to the following:

- Environmental Site Assessments conducted for the project,
- Other information on Past Site Use that impacts the feasibility of LID BMP implementation on the site.

This information should support the Full Infiltration Applicability, and Biofiltration Applicability sections of this Template. Refer to Section 2.3 of the SMR WQMP and Sections D of this Template.

September 1996

No construction

Legend

 33890 Winchester Rd



Google Earth

Image U.S. Geological Survey

 Bill & Dave's Landscape Maintenance



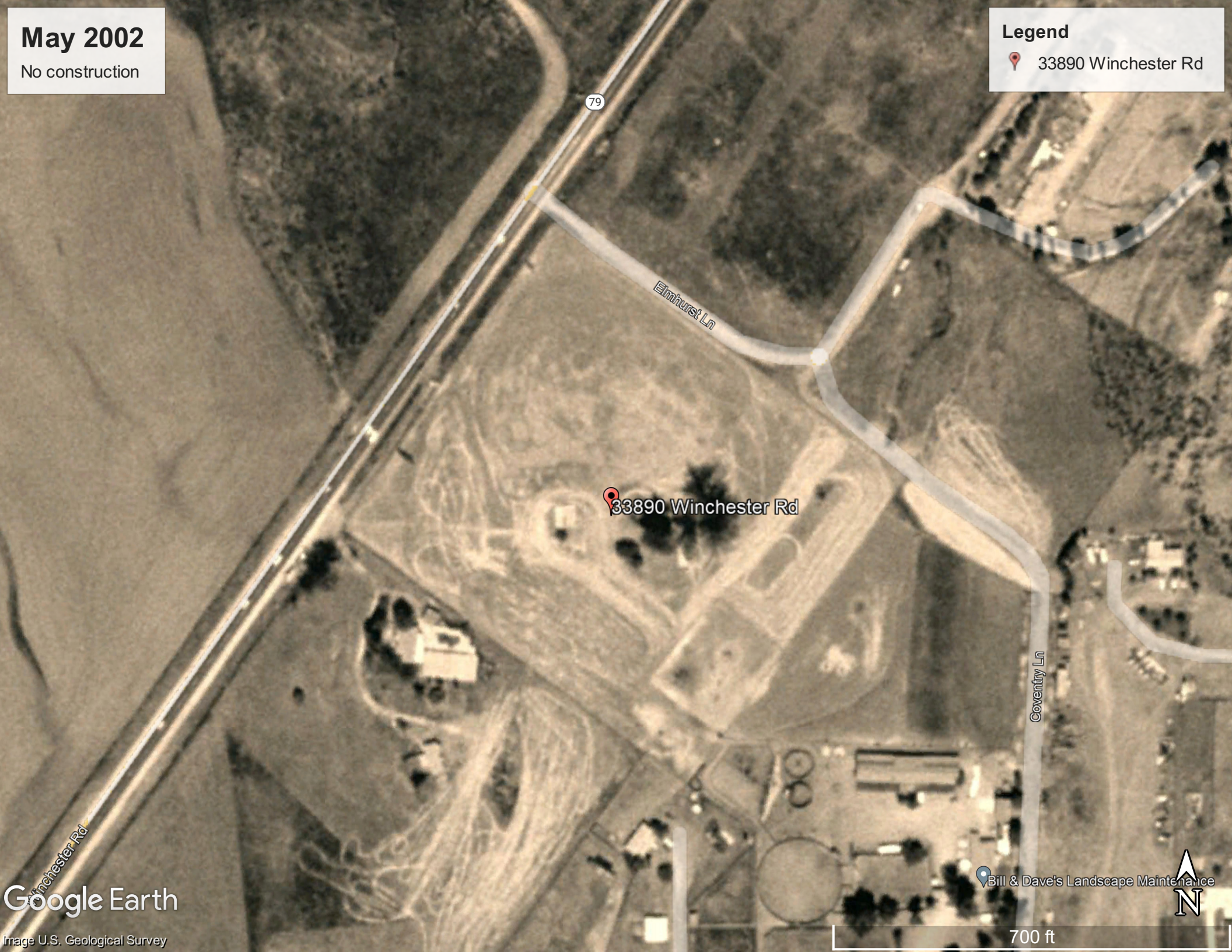
700 ft

May 2002

No construction

Legend

 33890 Winchester Rd



June 2012

No construction

Legend

33890 Winchester Rd

79

Elmhurst Ln

33890 Winchester Rd

Coventry Ln

Bill & Dave's Landscape Maintenance

Google Earth

700 ft



December 2018

No construction

Legend

 33890 Winchester Rd

79

Elmhurst Ln

 33890 Winchester Rd

Coventry Ln

 Bill & Dave's Landscape Maintenance

N

700 ft

Google Earth

Appendix 5: LID Feasibility Supplemental Information

Information that supports or supplements the determination of LID technical feasibility documented in Section D

Examples of material to provide in Appendix 5 may include but are not limited to the following:

- Technical feasibility criteria for DMAs
- Site specific analysis of technical infeasibility of all LID BMPs (if Alternative Compliance is needed)
- Documentation of Approval criteria for Proprietary Biofiltration BMPs

This information should support the Full Infiltration Applicability, and Biofiltration Applicability sections of this Template. Refer to Section 2.3 of the SMR WQMP and Sections D of this Template.

Proprietary Biofiltration Criteria

The applicant shall provide documentation of compliance with each criterion in this checklist as part of the project submittal. Proprietary Biofiltration BMPs shall not be proposed if the BMP will accept undeveloped off-site tributary flows, where potential silt/sediment could clog or otherwise negatively impact the BMP.

1	All BMPs must be sited/designed with the max. feasible infiltration/evapotranspiration⁶.	
	Requirement	Response
1a	What was the development status of the site prior to project application (i.e. raw ungraded land, or redevelopment with existing graded conditions)? – There will be more expectations to infiltrate if the project is a new development.	
1b	History of design discussions/coordination for the site proposed project, resulting in the final design determination (i.e. infiltration vs. flow-thru):	
1c	The consideration of site design alternatives to achieve infiltration or partial infiltration on site;	
1d	The physical impairments (i.e., fire road egress, public safety considerations, sewer lines, etc.) and public safety concerns (impermeable liners only to avoid geotech or contamination issues);	
1e	The extent low impact development BMP requirements were included in the project site design (site design worksheets can be attached).	
1f	When in the development process (e.g. entitlement or plan check, with dates of geotechnical work and development approval dates) did a geotechnical engineer analyze the site for infiltration feasibility?	
1g	What was the scope of the geotechnical testing?	
1h	What are Public Health and Safety requirements that affect infiltration locations?	
1i	What are the conclusions and recommendations from the geotechnical engineer, in regards to infiltrating/retaining on-site or allowing some or all of the flows to flow-thru as a proprietary BMP?	
1j	How will the proposed proprietary biofiltration BMPs achieve maximum feasible retention	

⁶ To address San Diego Regional Board letter dated April 28, 2017 regarding documentation to support infeasibility to retain or infiltrate storm water on-site. This document will be used to meet the Regional Board requirements for documentation. As such, not apply or non-responses will not be accepted.

	(evapotranspiration and infiltration) of the water quality volume, as required by MS4 Permits?	
--	--	--

2	Proprietary Biofiltration BMP sizing (all proprietary/compact BMPs require TAPE approval)⁷	
	Requirement	Response
2a	Use Table F-1 and F-2 of the WQMP template to identify and list all the pollutants of concern.	
2b	Attached Active Technology Acceptance Protocol-Ecology (TAPE) certification, with General Use Level Designation (GULD) for all of applicable pollutants of concern	Yes _____ or No _____
2c	The most restrictive loading rates outlined in TAPE GULD approval ⁸ for all of the pollutants of concern.	
2d	Attach calculations, and all relevant steps to show that the sizing of the proprietary BMP is based on the flowrate (or volume) used to obtain TAPE/GULD approval (the most restrictive rate).	Yes _____ or No _____
2e	Are the infiltration rates are outlet controlled (e.g., via an underdrain and orifice/weir) or controlled by the infiltration rate of the media? Faster infiltration rates thru the media tend to reduce O&M issues.	Is the design infiltration rate controlled by the outlet? Yes _____ or No _____ If No, provide the rates for the outlet and the media and explain why outlet control is not practicable.
2f	Does the water surface drains to at least 12 inches below the media surface within 24 hours from the end of storm event flow to preserve plant health and promote healthy soil structure?	Yes _____ or No _____

3	Biofiltration BMPs must be designed to promote appropriate biological activity to support and maintain treatment processes.	
	Requirement	Response
3a	Plants tolerant of project climate, design ponding depths and the treatment media composition.	Provide documentation justifying plant selection. ⁹

⁷ Full scale field testing data that has been verified by Washington Department of Ecology and General Use Level Designation is required. <https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Stormwater-permittee-guidance-resources/Emerging-stormwater-treatment-technologies>. Otherwise, the County has no obligation to accept the use of any other proprietary flow-thru BMP. Additional guidance can be found at the end of this checklist from the San Diego BMPDM Appendix F.1 for other verified third-party, field scale testing performance criteria that does not meet the Washington Department of Ecology standards.

⁸ E.g. if the BMP was certified/verified with 100 gallons per minute treatment rate, the BMP shall be sized with no more than the equivalent rate).

⁹ See Appendix E.20 of the San Diego BMPDM for initial plan list for consideration for Riverside County.

3b	Plants that minimize irrigation requirements.	Provide documentation describing irrigation requirements for establishment and long term operation.
3c	Plant location and growth will not impede expected long-term media filtration rates and will enhance long-term infiltration rates to the extent possible.	Provide documentation justifying plant selection. ⁴
3d	If plants are not applicable to the biofiltration design, other biological processes are supported as needed to sustain treatment processes (e.g., biofilm in a subsurface flow wetland). TAPE GULD approval that identifies approval with and without plants can be submitted for approval.	For biofiltration designs without plants, describe the biological processes that will support effective treatment and how they will be sustained.

4	Biofiltration BMPs must be designed with a hydraulic loading rate to prevent erosion, scour, and channeling within the BMP. Erosion, scour, and/or channeling can disrupt treatment processes and reduce effectiveness.	
	Requirement	Response
4a	What pre-treatment devices (e.g. vegetated buffers, catch basin inserts) and designs (e.g. forebay berms with cutouts) are proposed?	
4b	Adequate scour protection has been provided for both sheet flow and pipe inflows to the BMP.	
4c	Where scour protection has not been provided, flows into and within the BMP are kept to non-erosive velocities.	What are the maximum velocities for sheet flow and pipe inflows into the BMP?
4d	The BMP is used in a manner consistent with manufacturer guidelines and conditions of its third-party certification (e.g. maximum tributary area, maximum inflow velocities, etc.).	Manufacturer Requirements vs. the Design
4e	To preserve permeability, the media should have substantial void ratios and avoidance of choking layers.	Provide media gradation calculations and (if proposed) geotextile selection calculations if the geotextile could affect hydraulic loading rate.

5	Biofiltration BMP must include operation and maintenance design features and planning considerations for continued effectiveness of pollutant removal and flow control functions. Biofiltration BMPs require regular maintenance in order provide ongoing function as intended. Additionally, it is not possible to foresee and avoid potential issues as part of design; therefore, plans must be in place to correct issues if they arise.	
	Requirement	Response

5a	Is there any media or cartridge required to maintain the function of the BMP sole-sourced or proprietary in any way? If yes, obtain explicit approval by the Agency. Potentially full replacement costs to a non-proprietary BMP needs to be considered.	Yes _____ or No _____, explain:
5b	The maintenance plan specific for the proprietary BMP specific inspection activities, regular/periodic maintenance activities and specific corrective actions relating to scour, erosion, channeling, media clogging, vegetation health, and inflow and outflow structures.	This is in addition to the O&M Plan described in the WQMP guidance document, Section 5.
5c	Adequate site area and features have been provided for BMP inspection and maintenance access.	Illustrate maintenance access routes, setbacks, maintenance features as needed on project water quality plans
5d	For proprietary biofiltration BMPs, the BMP maintenance plan is consistent with manufacturer guidelines and conditions of its third-party certification (i.e., maintenance activities, frequencies).	Yes _____ or No _____
5e	Describe all portions of the BMP that may potentially clog or present an O&M issue.	
5f	Describe design features to address each of the potential clogging or O&M issues.	

By signing below, the preparer certifies all the information provided with this submittal and submittals related to proprietary BMPs for the project is accurate, and relevant information to assess the long term operation and maintenance of this proprietary BMP was not omitted with this submittal.

Prepared by: _____

Title: _____

Signature: _____

Date: _____

Alternative Pollutant Treatment Performance Standard

County staff may allow the applicant to submit alternative third-party documentation that the pollutant treatment performance of the system is consistent with Technology Acceptance Protocol-Ecology certifications. Table F.1-1 describes the required levels of certification and Table F.1-2 describes the pollutant treatment performance levels associated with each level of certification. Acceptance of this approach is at the sole discretion of County staff, preference would be given to:

- a. Verified third-party, field-scale testing performance under the Technology Acceptance Reciprocity Partnership Tier II Protocol. This protocol is no longer operated, however this is considered to be a valid protocol and historic verifications are considered to be representative provided that product models being proposed are consistent with those that were tested. Technology Acceptance Reciprocity Partnership verifications were conducted under New Jersey Corporation for Advance Testing and are archived at the website linked below. Note that Technology Acceptance Reciprocity Partnership verifications must be matched to pollutant treatment standards in Table F.1-2 then matched to an equivalent Technology Acceptance Protocol-Ecology certification in Table F.1-1.
- b. Verified third-party, field-scale testing performance under the New Jersey Corporation for Advance Testing protocol. Note that New Jersey Corporation for Advance Testing verifications must be matched to pollutant treatment standards in Table F.1-2 then matched to an equivalent Technology Acceptance Protocol- Ecology certification in Table F.1-1. A list of field-scale verified technologies under Technology Acceptance Reciprocity Partnership Tier II and New Jersey Corporation for Advance Testing can be accessed at: <http://www.njcat.org/verification-process/technology-verification-database.html> (refer to: field verified technologies only).

Table F.1-1: Required Technology Acceptance Protocol-Ecology Certifications for Pollutants of Concern for Biofiltration Performance Standard

Project Pollutant of Concern	Required Technology Acceptance Protocol-Ecology Certification for Biofiltration Performance Standard
Trash	Basic Treatment OR Phosphorus Treatment OR Enhanced Treatment
Sediments	Basic Treatment OR Phosphorus Treatment OR Enhanced Treatment
Oil and Grease	Basic Treatment OR Phosphorus Treatment OR Enhanced Treatment
Nutrients	Phosphorus Treatment ¹
Metals	Enhanced Treatment
Pesticides	Basic Treatment (including filtration) ² OR Phosphorus Treatment OR Enhanced Treatment
Organics	Basic Treatment (including filtration) ² OR Phosphorus Treatment OR Enhanced Treatment
Bacteria and Viruses	Basic Treatment (including bacteria removal processes) ³ OR Phosphorus Treatment OR Enhanced Treatment

1 – There is no Technology Acceptance Protocol-Ecology equivalent for nitrogen compounds; however systems that are designed to retain phosphorus (as well as meet basic treatment designation), generally also provide treatment of nitrogen compounds. Where nitrogen is a pollutant of concern, relative performance of available certified systems for nitrogen removal should be considered in BMP selection.

2 – Pesticides, organics, and oxygen demanding substances are typically addressed by particle filtration consistent with the level of treatment required to achieve Basic treatment certification; if a system with Basic treatment certification does not provide filtration, it is not acceptable for pesticides, organics or oxygen demanding substances.

3 – There is no Technology Acceptance Protocol-Ecology equivalent for pathogens (viruses and bacteria), and testing data are limited because of typical sample hold times. Systems with Technology Acceptance Protocol-Ecology Basic Treatment must include one or more significant bacteria removal process such as media filtration, physical sorption, predation, reduced redox conditions, and/or solar inactivation. Where design options are available to enhance pathogen removal (i.e., pathogen-specific media mix offered by vendor), this design variation should be used.

Table F.1-2: Performance Standards for Technology Acceptance Protocol-Ecology Certification

Performance Goal	Influent Range	Criteria
Basic Treatment	20 – 100 mg/L TSS	Effluent goal ≤ 20 mg/L TSS
	100 – 200 mg/L TSS	$\geq 80\%$ TSS removal
	>200 mg/L TSS	> 80% TSS removal
Enhanced (Dissolved Metals) Treatment	Dissolved copper 0.005 – 0.02 mg/L	Must meet basic treatment goal and better than basic treatment currently defined as >30% dissolved copper removal
	Dissolved zinc 0.02 – 0.3 mg/L	Must meet basic treatment goal and better than basic treatment currently defined as >60% dissolved zinc removal
Phosphorous Treatment	Total phosphorous 0.1 – 0.5 mg/L	Must meet basic treatment goal and exhibit $\geq 50\%$ total phosphorous removal
Oil Treatment	Total petroleum hydrocarbon > 10 mg/L	No ongoing or recurring visible sheen in effluent Daily average effluent Total petroleum hydrocarbon concentration < 10 mg/L Maximum effluent Total petroleum hydrocarbon concentration for a 15 mg/L for a discrete (grab) sample
Pretreatment	50 – 100 mg/L TSS	≤ 50 mg/L TSS
	≥ 200 mg/L TSS	$\geq 50\%$ TSS removal

Appendix 6: LID BMP Design Details

BMP Sizing, Design Details and other Supporting Documentation to supplement Section D

Examples of material to provide in Appendix 6 may include but are not limited to the following:

- DCV calculations,
- LID BMP sizing calculations from Exhibit C of the SMR WQMP
- Design details/drawings from manufacturers for proprietary BMPs

This information should support the Full Infiltration Applicability, and Biofiltration Applicability sections of this Template. Refer to Section 3.4 of the SMR WQMP and Sections D.4 of this Template.

Santa Margarita Watershed BMP Design Volume, V_{BMP} (Rev. 03-2012)		Legend:	Required Entries Calculated Cells
(Note this worksheet shall only be used in conjunction with BMP designs from the LID BMP Design Handbook)			
Company Name	Omega Engineering Consultants	Date	2/17/2025
Designed by	Patric De Boer	County/City Case No	
Company Project Number/Name	U-Stor-It Winchester		
Drainage Area Number/Name	DMA-1		
Enter the Area Tributary to this Feature		$A_T =$	8.37 acres
85 th Percentile, 24-hour Rainfall Depth, from the Isohyetal Map in Handbook Appendix E			
Site Location	Township	6 S	
	Range	2 W	
	Section	22	
Enter the 85 th Percentile, 24-hour Rainfall Depth	$D_{85} =$	0.60	
Determine the Effective Impervious Fraction			
Type of post-development surface cover (use pull down menu)	Mixed Surface Types		
Effective Impervious Fraction	$I_f =$	0.80	
Calculate the composite Runoff Coefficient, C for the BMP Tributary Area			
Use the following equation based on the WEF/ASCE Method $C = 0.858I_f^3 - 0.78I_f^2 + 0.774I_f + 0.04$		$C =$	0.59
Determine Design Storage Volume, V_{BMP}			
Calculate V_U , the 85% Unit Storage Volume $V_U = D_{85} \times C$	$V_u =$	0.36	(in*ac)/ac
Calculate the design storage volume of the BMP, V_{BMP} . $V_{BMP} \text{ (ft}^3\text{)} = \frac{V_U \text{ (in-ac/ac)} \times A_T \text{ (ac)} \times 43,560 \text{ (ft}^2\text{/ac)}}{12 \text{ (in/ft)}}$		$V_{BMP} =$	10,941 ft ³
Notes:			

Biofiltration with Partial Infiltration Facility - Design Procedure		BMP ID	Legend:	Required Entries
				Calculated Cells
Company Name:	Omega Engineering Consultants		Date: 2/17/2025	
Designed by:	Patric de Boer		County/City Case No.: Riverside	
Design Volume				
Enter the area tributary to this feature			$A_T =$	8.37 acres
Enter V_{BMP} determined from Section 2.1 of this Handbook			$V_{BMP} =$	10,941 ft ³
Enter initial estimate of footprint of BMP, $Area_{BMP}$ (Guidance: A reasonable starting point is 3% of the tributary impervious area)			$Area_{BMP} =$	12,625 ft ²
<p>Note: This area shall be measured at the mid-ponding depth of the BMP. For systems with side-slopes, this should be the contour that is midway between the floor of the basin and the maximum water quality ponding elevation of the basin. The underlying gravel layer (infiltration storage layer) should extend to this contour. For systems with vertical walls, the effective area is the full footprint.</p>				
Portion of DCV Reliably Retained				
Depth of Gravel Infiltration Storage Layer (18" minimum; 30" maximum)			$d_g =$	18.0 inches
Portion of V_{BMP} Reliably Retained via Infiltration Storage in Gravel Layer				
$V_{retained} = d_g \text{ (in)} \times 0.4 \times Area_{BMP} \text{ (ft}^2\text{)} \times 1/12$			$V_{Retained} =$	7575.0 ft ³
Portion of V_{BMP} not Reliably Retained				
$V_{Not \text{ Reliably Retained}} = V_{BMP} - V_{Retained}$			$V_{Not \text{ Reliably Retained}} =$	3366.0 ft ³
Biofiltration with Partial Retention Facility Surface Area				
Depth of Surface Ponding Layer (6" minimum, 12" maximum)			$d_p =$	6.0 inches
Depth of Engineered Soil Media (24" to 36"; 18" if vertically constrained)			$d_s =$	18.0 inches
Design Media Filtration Rate (2.5 in/hr)			$I_{design} =$	2.5 in/hr
Allowable Routing Period, $T_{routing}$ (5 hrs)			$T_{routing} =$	5.0 hr
Effective Biofiltration Depth, d_{E_bio}				
$d_{E_bio} \text{ (ft)} = (d_p + (0.3 \times d_s) + (I_{design} * T_{routing})) \text{ (ft)}$			$d_{E_bio} =$	2.0 ft
Effective Static Depth, $d_{E_bio_static}$				
$d_{E_bio_static} = (d_p + (0.3 * d_s)) \text{ (ft)}$			$d_{E_bio_static} =$	1.0 ft
$V_{biofiltered} = d_{E_bio} * Area_{BMP}$			$V_{biofiltered} =$	25144.8 ft ³
$V_{biofiltered_static} = d_{E_bio_static} * Area_{BMP}$			$V_{biofiltered_static} =$	11993.8 ft ³

Sizing Option 1 Result

Criteria 1: $V_{\text{biofiltered (with routing)}} > 150\% \text{ of } V_{\text{not reliably retained}}$

Results: **PASS**

Sizing Option 2 Result

Criteria 2: $V_{\text{biofiltered_static}} > 0.75 \times V_{\text{Not Reliably Retained}}$

Results: **PASS**

Note

If neither of these criteria are met, then increase retention depth, increase footprint, or both, and rerun calculations. This calculation is inherently iterative.

Biofiltration with Partial Retention Facility Properties

Side Slopes in Partial Retention with Biofiltration Facility

z = :1

Diameter of Underdrain

inches

Longitudinal Slope of Site (3% maximum)

%

Check Dam Spacing

feet

Describe Vegetation:

Notes:

Appendix 7: Hydromodification & Critical Coarse Sediment

Supporting Detail for Hydromodification compliance & Exhibit G - CCSY & PSS Areas with the project location.

The preparer shall include the following in this Appendix (Refer to Section 2.4 and 3.6 of the SMR WQMP and Sections E of this Template):

- Hydromodification Exemption Exhibit (if the project is in an area exempt from Hydromod)
- Potential Critical Coarse Sediment Yield Area Mapping (to show if the site is out of a CCSYA)
- Hydromodification BMP sizing calculations (i.e. County Hydromod Spreadsheet – Hydromod, and BMP Design tabs, SMRHM report files, or other acceptable Hydromod calculations)
- Site-Specific Critical Coarse Sediment Analysis (if a project impacts a CCSYA)
- Design details/drawings from manufacturers for proprietary BMPs (if proprietary BMPs are proposed)

In addition, the project shall comply with drainage law and good practices:

- Protect the Site and Roads from Q100yr, without impacting adjacent property owners.
- Pad elevations must be above the Q100yr water surface at all locations.

I. Identify Offsite Hydrology

- A. If the project intends to allow the flows to pass through the project uninterrupted, the flows must remain along its natural flow-path and natural condition. The project must also:
 - (1) Ensure that the existing stream is stable. If not, the design must include stabilization.
 - (2) Does the 100 year flow path affect proposed project elements, such as streets and fill slopes? If so, the project must properly design for impingements, provide revetment, etc. If the water surface changes due to impingements on neighbor's properties, Permission to pond letters must be provided.
- B. If the project intends to collect and convey the offsite flows, see the next section:

II. Hydraulics

- A. Project must provide collection inlets that can be accessed for maintenance. If located outside of the project boundary, the project must provide a Permission Letter or drainage easement. If the inlet creates new ponding on private property, the project must provide a Permission to Pond letter or easement.
- B. The project should not divert watershed areas over 1 acre. If so, Permission Letter to accept project's diversion and drainage concept must be received by the project.
- C. The project should have an adequate outlet. If not, include Permission Letters and implement Increased Runoff criteria (2, 5, 10 year storm events and the 1, 3, 6 and 24 hour durations). 100 year storm routing is not to be used. Runoff from the offsite plus onsite must be returned to its natural (existing) condition of velocity, peak flow-rate, flow-width and location/right of way, if permission letters have not been obtained.
- D. The project must adequately convey the 100 year storm between the combination of street flow and pipe flow per County Ordinance.
- E. The project should use the downstream connection as the Q100yr water surface control elevation, to ensure 6 inches minimum of freeboard in proposed drainage system.

III. Basin Layout

- A. Implement Basin Guidelines as best as possible from Appendix C, Design Handbook for LID BMPs.

It is expressly agreed and understood by the LSEK of this Excel Spreadsheet file (file) released hereby (whether released in digital or hard copy form) that Riverside County (County) makes no representation as to its accuracy. Further, it is the intent of the parties hereto that the LSEK shall review and verify calculations, analyze results, and/or independently determine the accuracy thereof prior to placing any reliance whatsoever on the information. Further, the LSEK shall hold the County, together with the officers, agents and employees of each, free and harmless from any liability whatsoever, including wrongful death, based or asserted upon any act or omission of the District or County, their officers, agents, employees or subcontractors, relating to or in any way connected with the unauthorized use of these files or information; and LSEK agrees to protect and defend, including all attorney fees and other expenses, each of the foregoing bodies and persons in any legal action based or asserted upon any such acts or omissions. LSEK also agrees not to sell, reproduce or release these files to others for any purpose whatsoever, except those files which the files were acquired, verified and combined with LSEK'S own work product. Reasonable effort was made to fully comply with the San Diego M54 Permit requirements using the methods found in the Riverside County Hydrology Manual. If the user finds an error in any way, please contact the County so that the error can be corrected. Any direct tampering of the equations in this spreadsheet would be considered extremely inappropriate, and potentially fraudulent.

Santa Margarita Region - County HydroMod Iterative Spreadsheet Model

Only for use the unincorporated portions of Riverside County, unless otherwise approved by the Co-Permittee

Development Project Number(s):	Winchester Road U-Store-it
Latitude (decimal format):	33.630286
Longitude (decimal format):	-117.089253
Rain Gauge	Wildomar/North Murietta
BMP Type (per WQMP):	Bioretention
BMP Number (Sequential):	1

Pre-Development - Hydrology Information			
DRAINAGE AREA (ACRES) - 10 acre max	8.37	2-YEAR, 1-HOUR INTENSITY (IN/HR) - Plate D-4.3	0.528
LONGEST WATERCOURSE (FT) - 1,000' max	680	10-YEAR, 1-HOUR INTENSITY (IN/HR) - Plate D-4.1	0.916
UPSTREAM ELEVATION OF WATERCOURSE (FT)	1445	SLOPE OF THE INTENSITY DURATION - Plate D-4.6	0.55
DOWNSREAM ELEV. OF WATERCOURSE (FT)	1430	CLOSEST IMPERVIOUS PERCENTAGE (%)	0% Undeveloped - Poor Cover
EXISTING IMPERVIOUS PERCENTAGE (%)	0	Use 10% of Q2 to avoid Field Screening requirements	Yes

Pre-Development - Soils Information			
Cover Type #	5	Subarea Acreage	8.37 Ac.
Cover Type	Chaparral, Narrowleaf	Cover Type	Vegetative Cover
Soil A %		Soil B %	100
Soil C %		Soil D %	75
RI Index	88	AMC I	95
RI Index	95	AMC II	88
RI Index	0	AMC III	0
Weighted Average RI Numbers =	75.0	88.0	95.0

Per Dr. Luis Parra, the AMC condition is based on the rainfall record. Applying NEH-4 (1964) for the non-freezing conditions in Riverside County the AMC conditions are:

AMC-I for less than 0.5" of rain the previous 5 days; AMC-II for between 0.5" to 1.1" of rain the previous 5 days; or AMC-III for more than 1.1" for the previous 5 days.

Pre-Development			
Pre-Development - Calculated Range of Flow Rates analyzed for Hydromod (Susceptible Range of Flows)			
Calculated Upper Flow-rate limit		Calculated Lower Flow-rate limit	
Ex. 10-year Flowrate ¹ = 6.307 cfs		Ex. 10% of the 2-year Flowrate ¹ = 0.721 cfs	
(Co-Permittee Approval is required) User-Defined Discharge Values with accompanying Hydrology Study ¹			
Ex. 10-year Flowrate (Attach Study) = [] cfs		Ex. 2-year Flowrate (Attach Study) = [] cfs	

Post-Project - Hydrograph Information			
DRAINAGE AREA (ACRES)	8.37	PROPOSED IMPERVIOUS PERCENTAGE (%)	53
LONGEST WATERCOURSE (FT)	1000	DIFFERENCE IN ELEV (FT) - along watercourse	8.51
Go to "BMP Design" tab to design your BMP, then check results below.	Print both this "HydroMod" Sheet and the "BMP Design" sheet for your submittal.		

Post-Project - Soils Information			
Cover Type #	22	Subarea Acreage	8.37 Ac.
Cover Type	Urban Landscaping	Cover Type	Vegetative Cover
Soil A %		Soil B %	100
Soil C %		Soil D %	50
RI Index	69	AMC I	84
RI Index	84	AMC II	0
RI Index	0	AMC III	0
Weighted Average RI Numbers =	50.0	69.0	84.0

Per Dr. Luis Parra, the AMC condition is based on the rainfall record. Applying NEH-4 (1964) for the non-freezing conditions in Riverside County the AMC conditions are:

AMC-I for less than 0.5" of rain the previous 5 days; AMC-II for between 0.5" to 1.1" of rain the previous 5 days; or AMC-III for more than 1.1" for the previous 5 days.

Results			
Hydromod Ponded depth	0.25 feet	First result out of compliance in the rainfall record	See below for the Height in the Basin (Stage) that is causing a non-compliant result
Is the Hydromod BMP properly sized?	Yes, this is acceptable	Requirement	Proposed
Mitigated Q < 110% of Pre-Dev. Q?	Yes, this is acceptable	Issue @ Stage =	---
Mitigated Duration < 110% of Pre-Dev?	Yes, this is acceptable	Issue @ Stage =	---

Responsible-in-charge:	Patric de Boer	Date:	2/17/2025
------------------------	----------------	-------	-----------

Signature: _____
Spreadsheet Developed by: Benjie Cho, P.E.

It is expressly agreed and understood by the USER of this Excel Spreadsheet file (file) released hereby (whether released in digital or hard copy form) that Riverside County (County) makes no representation as to its accuracy. Further, it is the intent of the parties hereto that the USER shall review and verify calculations, analyze results, and/or independently determine the accuracy thereof prior to placing any reliance whatsoever on the information. Further, the USER shall hold the County, together with the officers, agents and employees of each, free and harmless from any liability whatsoever, including wrongful death, based or asserted upon any act or omission of the District or County, their officers, agents, employees or subcontractors, relating to or in any way connected with the unauthorized use of these files or information; and USER agrees to protect and defend, including all attorney fees and other expenses, each of the foregoing bodies and persons in any legal action based or asserted upon any such acts or omissions. USER also agrees not to sell, reproduce or release these files to others for any purpose whatsoever, except those incidental uses for which the files were acquired, verified and combined with USER'S own work product. Reasonable effort was made to fully comply with the San Diego MS4 Permit requirements using the methods found in the Riverside County Hydrology Manual. If the user finds an error in any way, please contact the County so that the error can be corrected. Any direct tampering of the equations in this spreadsheet would be considered extremely inappropriate, and potentially fraudulent.

BMP Design

Fill in **blue** shaded areas

0.25 feet, Stage Intervals

Larger intervals may incr. the Q at the bottom stg.

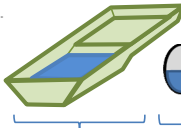
Stage-Storage-Discharge*

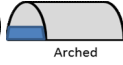
Stage (FT)	Storage (AC-FT)	Storage (FT3)	Q (CFS)
0	0	0	0
0.25	0.150	6520	0.00
0.50	0.304	13243	0.00
0.75	0.463	20169	0.00
1.00	0.627	27302	0.00
1.25	0.795	34643	6.38
1.50	0.969	42194	18.03
1.75	1.147	49957	33.13
2.00	1.330	57934	51.00
2.25	1.518	66127	71.27
2.50	1.711	74539	93.69
2.75	1.909	83170	118.07
3.00	2.113	92024	144.25
3.25	2.321	101102	172.13
3.50	2.535	110406	201.60

PROPOSED BMP DIMENSIONS

STEP1: Size the BMP, so that the Total Volume > Max HydroMod Vol. (Deeper is ok, it will be refined in the Design Geometry)

Is the BMP a Tank shape? **2** 1 for yes; 2 for no.





"Basin Shaped" "Tank Shaped"

Basin Shaped BMP (Bottom Stage 1st)

Bottom Stage H= **0.0'** SS= **4**:1

Top Area		Bottom Area	
Width	50.5	Width	50.5 FT
Length	250	Length	250 FT
area =	12625	area =	12625

Top Stage H= **3.5'** SS= **4**:1

Top Area		Bottom Area	
Width	108.25	Width	80.25 FT
Length	348	Length	320 FT
area =	37671	area =	25680

Prop. Top Stg. Vol. =	110,196	FT3
Prop Bottom Stg Vol =	-	FT3
Total Prop. Volume ¹ =	110,196	FT3
Max HydroMod Volume =	5,524	FT3
Total Acreage ² =	37,671	FT2
BMP % of Site =	10.33%	
Max HydroMod Depth ³ =	0.25	FT

¹Does not include forebay, or low flow trench
²Does not account for freeboard or access roads
³Does not consider Increased Runoff

MINIMUM DESIGN GEOMETRY

STEP3: Delete outlets, then propose the largest lowest orifice that does not, exceed the ex. Q or Duration. If the Q is acceptable, but the duration is exceeded, try decreasing orifice, then adding a weir slightly below the stage that has an issue.

OUTLETS (for Stage-Discharge)

Orifice Outlets			Weir Outlets		
Invert Height (ft)	Diameter (inches)	No. of Orifices	Crest Height (ft)	Crest Width (ft)	No. of Weirs
0					
2.5			1.00	15	1

Hydromod Depth = **0.25 FT**
+ 1' Freeboard = **1.25 FT**

Top Surface Area
Based on HydroMod Depth +1' of Freeboard

Bottom Stage	
Width	50.5 FT
Length	250 FT

Top Stage	
Width	90.25 FT
Length	330:1 FT

STEP4: Complete an increased runoff analysis, if the project can impact downstream properties. Incorporate these designs into the WQMP site plan.
Add emergency overflow weir, for flows that exceed the Hydromod volumes, sized to the 100-year peak flow rate. Add access roads (< 10% longitudinal slope) with enough width & turn around access for equipment that would be needed to scarify the bottom or remove Bioretention soil media.

Add Infiltration

Enter information from actual infiltration tests

Yes	Consider Infiltration (Yes or No)?	
4.17	Infiltration rate (in/hr) ³	2.4788 ft3/sec, Infiltration (over entire bottom)
3	Factor of Safety (3 or greater) ³	0.8263 ft3/sec, Infiltration / Factor of Safety
300	mins, Max. Time represented by tests	

³Per the RC LID Manual, Appendix A.

Only if allowed by the Co-Permittee, these infiltration inputs can be used to simulate Bioretention/Biofiltration rates with Backup Calcs and Data.

The proposed biofiltration w/ partial infiltration basin will also propose a Liberty LE100 Series pump that will discharge the HMP flow out next to the overflow spillway. The flow out of the basin will consist of 0.36 cfs of flow being pumped and an infiltration flowrate of 0.16 in/hr. The infiltration rate translates to an approximate Q_{out} of 0.0468 cfs when considering the bottom area of the basin of 12,625 sf. The total Q_{out} of the proposed basin is 0.407 cfs. In order to implement the flow being pumped into the spreadsheet, we had to back calculate the infiltration rate based on the total Q_{out} and the bottom surface area of the basin. The infiltration rate results to be 1.39 in/hr (4.17 in/hr without factor of safety).

Size a Pump

CLIENT:	U-Stor-It; Peter Nora	COUNTY:	Riverside	DATE:	2/17/25
DSN BY:	Patric de Boer	CHK BY:		DATE:	
COMMENTS:					

Elevation at Highest Point	1430.04	ft
Elevation at Low Point	1420.84	ft

CLEAR
CELLS

DISCHARGE PIPE

Discharge Pipe Length	170.0	ft	
Equivalent Length of Pipe Fittings	15.5	ft (see tables)	=====>
Discharge Pipe Inside Diameter	4.00	in	
Hazen-Williams Roughness, C	130		=====>
Other Losses	0.0	ft	

Static Head	9.2	ft	
Total Discharge Pipe Length	185.5	ft (includes equivalent length of fittings)	

Hazen-Williams	
Material	C
Brass	130
Cast Iron	100
Concrete	100
Copper	130
Fiberglass	150
PE, no joints	150
PVC	130
Steel, Smooth	100
Steel, Spiral	90
Steel, CMP	60

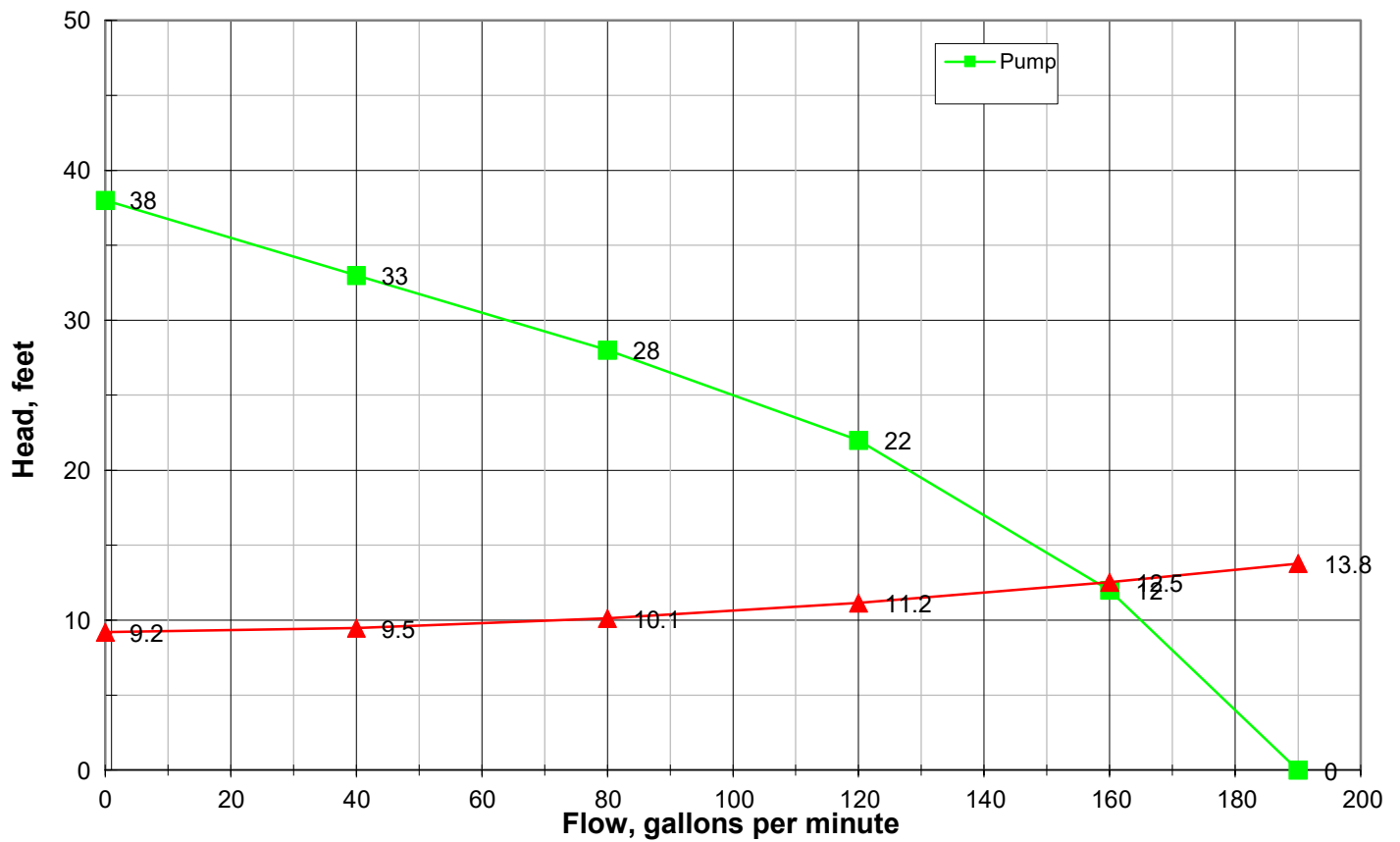
Pump Manufacturer	Liberty Pumps
Pump Model #	LE100-Series 1 hp Sewage Pump

Pump Curve		System Curve	
Flow GPM	Pump Head, ft	Flow GPM	System Head, ft
0	38	0	9.2
40	33	40	9.5
80	28	80	10.1
120	22	120	11.2
160	12	160	12.5
190	0	190	13.8
		0	9.2

Head at Operating Point	12.5	ft (Intersection of curves from graph below)	
Flow at Operating Point	160	gpm (Intersection of curves from graph below)	
	0.36	cfs	
Operating Velocity	4.1	feet/sec	
Operating Pressure	5.4	psi	

Note: Velocity will increase as static head pressure (acting against the pump) decreases

Pump & System Curves



Appendix 8: Source Control

Pollutant Sources/Source Control Checklist

For Final WQMP, include a copy of the completed Pollutant Sources/Source Control Checklist in the subsequent pages and summarize Source Control BMPs in Section H of this Template.

Appendix 8
STORMWATER POLLUTANT SOURCES/SOURCE CONTROL CHECKLIST

How to use this worksheet (also see instructions in Section H of the 2018 SMR WQMP Template):

1. Review Column 1 and identify which of these potential sources of stormwater pollutants apply to your site. Check each box that applies.
2. Review Column 2 and incorporate all of the corresponding applicable BMPs in your WQMP Exhibit.
3. Review Columns 3 and 4 and incorporate all of the corresponding applicable permanent controls and operational BMPs in your WQMP. Use the format shown in Table H.1 of this WQMP Template. Describe your specific BMPs in an accompanying narrative, and explain any special conditions or situations that required omitting BMPs or substituting alternative BMPs for those shown here.

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on WQMP Drawings	3 Permanent Controls—List in WQMP Table and Narrative	4 Operational BMPs—Include in WQMP Table and Narrative
☒ A. On-site storm drain inlets	☐ Locations of inlets.	☐ Mark all inlets with the words “Only Rain Down the Storm Drain” or similar. Catch Basin Markers may be available from the Riverside County Flood Control and Water Conservation District, call 951.955.1200 to verify.	☐ Maintain and periodically repaint or replace inlet markings. ☐ Provide stormwater pollution prevention information to new site owners, lessees, or operators. ☐ See applicable operational BMPs in Fact Sheet SC-44, “Drainage System Maintenance,” in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com ☐ Include the following in lease agreements: “Tenant shall not allow anyone to discharge anything to storm drains or to store or deposit materials so as to create a potential discharge to storm drains.”
☐ B. Interior floor drains and elevator shaft sump pumps		☐ State that interior floor drains and elevator shaft sump pumps will be plumbed to sanitary sewer.	☐ Inspect and maintain drains to prevent blockages and overflow.
☐ C. Interior parking garages		☐ State that parking garage floor drains will be plumbed to the sanitary sewer.	☐ Inspect and maintain drains to prevent blockages and overflow.

Appendix 8
STORMWATER POLLUTANT SOURCES / SOURCE CONTROL CHECKLIST

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on WQMP Drawings	3 Permanent Controls—List in WQMP Table and Narrative	4 Operational BMPs—Include in WQMP Table and Narrative
☒ D1. Need for future indoor & structural pest control		☐ Note building design features that discourage entry of pests.	☐ Provide Integrated Pest Management information to owners, lessees, and operators.
☒ D2. Landscape/ Outdoor Pesticide Use	☐ Show locations of native trees or areas of shrubs and ground cover to be undisturbed and retained. ☐ Show self-retaining landscape areas, if any. ☐ Show stormwater treatment and hydrograph modification management BMPs.	☐ State that final landscape plans will accomplish all of the following. ☐ Preserve existing native trees, shrubs, and ground cover to the maximum extent possible. ☐ Design landscaping to minimize irrigation and runoff, to promote surface infiltration where appropriate, and to minimize the use of fertilizers and pesticides that can contribute to stormwater pollution. ☐ Where landscaped areas are used to retain or detain stormwater, specify plants that are tolerant of saturated soil conditions. ☐ Consider using pest-resistant plants, especially adjacent to hardscape. To insure successful establishment, select plants appropriate to site soils, slopes, climate, sun, wind, rain, land use, air movement, ecological consistency, and plant interactions.	☐ Maintain landscaping using minimum or no pesticides. ☐ See applicable operational BMPs in “What you should know for.....Landscape and Gardening” at: http://www.rcwatershed.org/about/materials-library/#1450469138395-bb76dd39-d810 ☐ Provide IPM information to new owners, lessees and operators.

Appendix 8
STORMWATER POLLUTANT SOURCES / SOURCE CONTROL CHECKLIST

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on WQMP Drawings	3 Permanent Controls—List in WQMP Table and Narrative	4 Operational BMPs—Include in WQMP Table and Narrative
☐ E. Pools, spas, ponds, decorative fountains, and other water features.	☐ Show location of water feature and a sanitary sewer cleanout in an accessible area within 10 feet. (Exception: Public pools must be plumbed according to County Department of Environmental Health Guidelines.)	If the Co-Permittee requires pools to be plumbed to the sanitary sewer, place a note on the plans and state in the narrative that this connection will be made according to local requirements.	☐ See applicable operational BMPs in “Guidelines for Maintaining Your Swimming Pool, Jacuzzi and Garden Fountain” at: http://www.rcwatershed.org/about/materials-library/#1450469201433-f5b358c9-6008
☐ F. Food service	☐ For restaurants, grocery stores, and other food service operations, show location (indoors or in a covered area outdoors) of a floor sink or other area for cleaning floor mats, containers, and equipment. ☐ On the drawing, show a note that this drain will be connected to a grease interceptor before discharging to the sanitary sewer.	☐ Describe the location and features of the designated cleaning area. ☐ Describe the items to be cleaned in this facility and how it has been sized to insure that the largest items can be accommodated.	☐ See the brochure, “The Food Service Industry Best Management Practices for: Restaurants, Grocery Stores, Delicatessens and Bakeries” at http://www.rcwatershed.org/about/materials-library/#1450389926766-61e8af0b-53a9 Provide this brochure to new site owners, lessees, and operators.
<div style="border: 1px solid black; padding: 2px; display: inline-block;">X</div> G. Refuse areas	☐ Show where site refuse and recycled materials will be handled and stored for pickup. See local municipal requirements for sizes and other details of refuse areas. ☐ If dumpsters or other receptacles are outdoors, show how the designated area will be covered, graded, and paved to prevent run-on and show locations of berms to prevent runoff from the area. ☐ Any drains from dumpsters, compactors, and tallow bin areas shall be connected to a grease removal device before discharge to sanitary sewer.	☐ State how site refuse will be handled and provide supporting detail to what is shown on plans. ☐ State that signs will be posted on or near dumpsters with the words “Do not dump hazardous materials here” or similar.	☐ State how the following will be implemented: Provide adequate number of receptacles. Inspect receptacles regularly; repair or replace leaky receptacles. Keep receptacles covered. Prohibit/prevent dumping of liquid or hazardous wastes. Post “no hazardous materials” signs. Inspect and pick up litter daily and clean up spills immediately. Keep spill control materials available on-site. See Fact Sheet SC-34, “Waste Handling and Disposal” in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com

Appendix 8
STORMWATER POLLUTANT SOURCES/SOURCE CONTROL CHECKLIST

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on WQMP Drawings	3 Permanent Controls—List in WQMP Table and Narrative	4 Operational BMPs—Include in WQMP Table and Narrative
☐ H. Industrial processes.	☐ Show process area.	☐ If industrial processes are to be located on site, state: "All process activities to be performed indoors. No processes to drain to exterior or to storm drain system."	☐ See Fact Sheet SC-10, "Non-Stormwater Discharges" in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com See the brochure "Industrial & Commercial Facilities Best Management Practices for: Industrial, Commercial Facilities" at: http://www.rcwatershed.org/about/materials-library/#1450389926766-61e8af0b-53a9
☐ I. Outdoor storage of equipment or materials. (See rows J and K for source control measures for vehicle cleaning, repair, and maintenance.)	☐ Show any outdoor storage areas, including how materials will be covered. Show how areas will be graded and bermed to prevent run-on or run-off from area. ☐ Storage of non-hazardous liquids shall be covered by a roof and/or drain to the sanitary sewer system, and be contained by berms, dikes, liners, or vaults. ☐ Storage of hazardous materials and wastes must be in compliance with the local hazardous materials ordinance and a Hazardous Materials Management Plan for the site.	☐ Include a detailed description of materials to be stored, storage areas, and structural features to prevent pollutants from entering storm drains. Where appropriate, reference documentation of compliance with the requirements of Hazardous Materials Programs for: <ul style="list-style-type: none"> ▪ Hazardous Waste Generation ▪ Hazardous Materials Release Response and Inventory ▪ California Accidental Release (CalARP) ▪ Aboveground Storage Tank ▪ Uniform Fire Code Article 80 Section 103(b) & (c) 1991 ▪ Underground Storage Tank www.cchealth.org/groups/hazmat/	☐ See the Fact Sheets SC-31, "Outdoor Liquid Container Storage" and SC-33, "Outdoor Storage of Raw Materials" in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com

Appendix 8
STORMWATER POLLUTANT SOURCES / SOURCE CONTROL CHECKLIST

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on WQMP Drawings	3 Permanent Controls—List in WQMP Table and Narrative	4 Operational BMPs—Include in WQMP Table and Narrative
☐ J. Vehicle and Equipment Cleaning	☐ Show on drawings as appropriate: (1) Commercial/industrial facilities having vehicle/equipment cleaning needs shall either provide a covered, bermed area for washing activities or discourage vehicle/equipment washing by removing hose bibs and installing signs prohibiting such uses. (2) Multi-dwelling complexes shall have a paved, bermed, and covered car wash area (unless car washing is prohibited on-site and hoses are provided with an automatic shut-off to discourage such use). (3) Washing areas for cars, vehicles, and equipment shall be paved, designed to prevent run-on to or runoff from the area, and plumbed to drain to the sanitary sewer. (4) Commercial car wash facilities shall be designed such that no runoff from the facility is discharged to the storm drain system. Wastewater from the facility shall discharge to the sanitary sewer, or a wastewater reclamation system shall be installed.	☐ If a car wash area is not provided, describe any measures taken to discourage on-site car washing and explain how these will be enforced.	Describe operational measures to implement the following (if applicable): ☐ Washwater from vehicle and equipment washing operations shall not be discharged to the storm drain system. Refer to “Outdoor Cleaning Activities and Professional Mobile Service Providers” for many of the Potential Sources of Runoff Pollutants categories below. Brochure can be found at: http://www.rcwatershed.org/about/materials-library/#1450389926766-61e8af0b-53a9 ☐ Car dealerships and similar may rinse cars with water only.

Appendix 8
STORMWATER POLLUTANT SOURCES/SOURCE CONTROL CHECKLIST

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on WQMP Drawings	3 Permanent Controls—List in WQMP Table and Narrative	4 Operational BMPs—Include in WQMP Table and Narrative
☐ K. Vehicle/Equipment Repair and Maintenance	☐ Accommodate all vehicle equipment repair and maintenance indoors. Or designate an outdoor work area and design the area to prevent run-on and runoff of stormwater. ☐ Show secondary containment for exterior work areas where motor oil, brake fluid, gasoline, diesel fuel, radiator fluid, acid-containing batteries or other hazardous materials or hazardous wastes are used or stored. Drains shall not be installed within the secondary containment areas. ☐ Add a note on the plans that states either (1) there are no floor drains, or (2) floor drains are connected to wastewater pretreatment systems prior to discharge to the sanitary sewer and an industrial waste discharge permit will be obtained.	☐ State that no vehicle repair or maintenance will be done outdoors, or else describe the required features of the outdoor work area. ☐ State that there are no floor drains or if there are floor drains, note the agency from which an industrial waste discharge permit will be obtained and that the design meets that agency's requirements. ☐ State that there are no tanks, containers or sinks to be used for parts cleaning or rinsing or, if there are, note the agency from which an industrial waste discharge permit will be obtained and that the design meets that agency's requirements.	<p>In the Stormwater Control Plan, note that all of the following restrictions apply to use the site:</p> ☐ No person shall dispose of, nor permit the disposal, directly or indirectly of vehicle fluids, hazardous materials, or rinsewater from parts cleaning into storm drains. ☐ No vehicle fluid removal shall be performed outside a building, nor on asphalt or ground surfaces, whether inside or outside a building, except in such a manner as to ensure that any spilled fluid will be in an area of secondary containment. Leaking vehicle fluids shall be contained or drained from the vehicle immediately. ☐ No person shall leave unattended drip parts or other open containers containing vehicle fluid, unless such containers are in use or in an area of secondary containment. <p>Refer to "Automotive Maintenance & Car Care Best Management Practices for Auto Body Shops, Auto Repair Shops, Car Dealerships, Gas Stations and Fleet Service Operations; "Outdoor Cleaning Activities;" and "Professional Mobile Service Providers" for many of the Potential Sources of Runoff Pollutants. Brochures can be found at: http://www.rcwatershed.org/about/materials-library/#1450389926766-61e8af0b-53a9</p>

Appendix 8
STORMWATER POLLUTANT SOURCES / SOURCE CONTROL CHECKLIST

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
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☐ L. Fuel Dispensing Areas	☐ Fueling areas ⁶ shall have impermeable floors (i.e., portland cement concrete or equivalent smooth impervious surface) that are: a) graded at the minimum slope necessary to prevent ponding; and b) separated from the rest of the site by a grade break that prevents run-on of stormwater to the maximum extent practicable. ☐ Fueling areas shall be covered by a canopy that extends a minimum of ten feet in each direction from each pump. [Alternative: The fueling area must be covered and the cover's minimum dimensions must be equal to or greater than the area within the grade break or fuel dispensing area ¹ .] The canopy [or cover] shall not drain onto the fueling area.		☐ The property owner shall dry sweep the fueling area routinely. ☐ See the Fact Sheet SD-30 , “Fueling Areas” in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com

⁶ The fueling area shall be defined as the area extending a minimum of 6.5 feet from the corner of each fuel dispenser or the length at which the hose and nozzle assembly may be operated plus a minimum of one foot, whichever is greater.

Appendix 8
STORMWATER POLLUTANT SOURCES/SOURCE CONTROL CHECKLIST

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
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☐ M. Loading Docks	☐ Show a preliminary design for the loading dock area, including roofing and drainage. Loading docks shall be covered and/or graded to minimize run-on to and runoff from the loading area. Roof downspouts shall be positioned to direct stormwater away from the loading area. Water from loading dock areas shall be drained to the sanitary sewer, or diverted and collected for ultimate discharge to the sanitary sewer. ☐ Loading dock areas draining directly to the sanitary sewer shall be equipped with a spill control valve or equivalent device, which shall be kept closed during periods of operation. ☐ Provide a roof overhang over the loading area or install door skirts (cowling) at each bay that enclose the end of the trailer.		☐ Move loaded and unloaded items indoors as soon as possible. ☐ See Fact Sheet SC-30, "Outdoor Loading and Unloading," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com

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STORMWATER POLLUTANT SOURCES / SOURCE CONTROL CHECKLIST

IF THESE SOURCES WILL BE ON THE PROJECT SITE ...	... THEN YOUR WQMP SHOULD INCLUDE THESE SOURCE CONTROL BMPs, AS APPLICABLE		
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☒ N. Fire Sprinkler Test Water		☐ Provide a means to drain fire sprinkler test water to the sanitary sewer.	☐ See the note in Fact Sheet SC-41, "Building and Grounds Maintenance," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com
<p>O. Miscellaneous Drain or Wash Water or Other Sources</p> ☐ Boiler drain lines ☐ Condensate drain lines ☐ Rooftop equipment ☐ Drainage sumps ☒ Roofing, gutters, and trim. ☐ Other sources		☐ Boiler drain lines shall be directly or indirectly connected to the sanitary sewer system and may not discharge to the storm drain system. ☐ Condensate drain lines may discharge to landscaped areas if the flow is small enough that runoff will not occur. Condensate drain lines may not discharge to the storm drain system. ☐ Rooftop equipment with potential to produce pollutants shall be roofed and/or have secondary containment. ☐ Any drainage sumps on-site shall feature a sediment sump to reduce the quantity of sediment in pumped water. ☐ Avoid roofing, gutters, and trim made of copper or other unprotected metals that may leach into runoff. ☐ Include controls for other sources as specified by local reviewer.	

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☒ P. Plazas, sidewalks, and parking lots.			☐ Sweep plazas, sidewalks, and parking lots regularly to prevent accumulation of litter and debris. Collect debris from pressure washing to prevent entry into the storm drain system. Collect washwater containing any cleaning agent or degreaser and discharge to the sanitary sewer not to a storm drain.

Appendix 9: O&M

Operation and Maintenance Plan and Documentation of Finance, Maintenance and Recording Mechanisms

For the Final WQMP the following information shall be provided:

1. **Maintenance Plan** per Section 5.3.5 of the WQMP Guidance Document. County will regularly inspect BMPs, so BMPs without access (e.g. backyards, etc) will be rejected. Due to liability, the County does not allow for overlapping private maintenance in the public right-of-way.
2. For all projects, include **one wet-signed and notarized hardcopy of the BMP Maintenance agreement**. Please note, references to Exhibit A and B on Page 1 can be struck out if the entire parcel is mentioned in the "Legal Description" on Page 1 of the agreement. Otherwise see below for Exhibit A and B standards. For BMP agreement, ensure that the name on the agreement matches throughout and the notary sheet, Notary shall be the latest California format, the date of the agreement is the date of the notary, all text does not exceed the margins, then the County will sign, attest & record
3. For Tracts, contact County EDA regarding maintenance determinations/formations. Include a completed **Exhibit B.9 - WQMP O&M Cost Sheet.xlsx** that is signed by both the preparer (to ensure quantities are correct) and the owner (to understand the maintenance obligations in perpetuity) & an **Approved Maintenance Exhibit from EDA**.
4. For Tracts or any project, **written documentation** from the maintenance entity that they are willing to maintain (e.g. CFD, CSA, L&LMD, etc.)

BMP EXHIBIT "A" STANDARDS

1. Use the legal description of the parcel as shown on the tentative exhibit. If not available, use the one in the most current title report.
2. As a backup, if the project is a map the description of the future lot may be included for reference

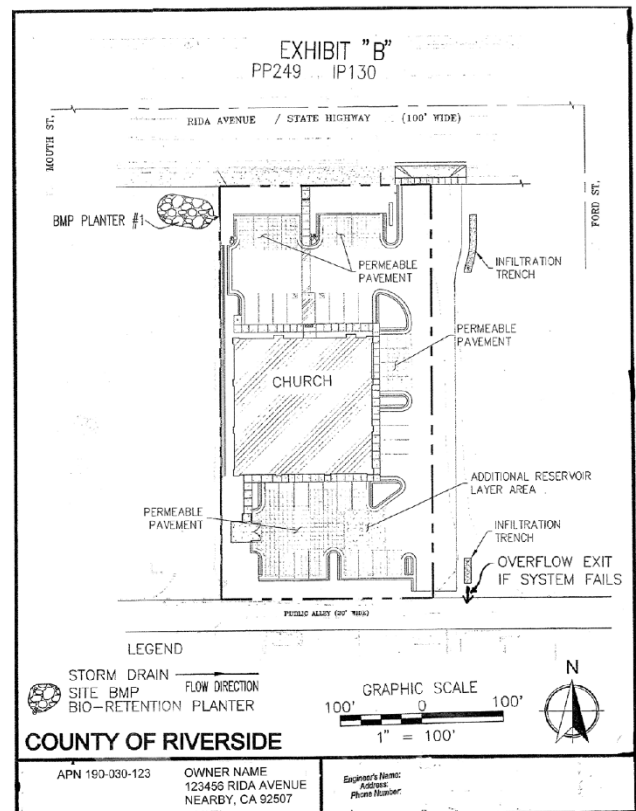
BMP EXHIBIT "B" STANDARDS

1. 0.12" minimum lettering
2. Sheet size must be 8.5" x 11"
3. Show Street names, north arrow
4. Indicate point of flow exit into street if basin system fails
5. Indicate Q100 of flow exit into street
6. Indicate direction of flow exit into street
7. Indicate by notation and/or show nearest downstream drainage facility (catch basin, culvert, riser, etc)
8. Show "Exhibit A", IP and project number (TR, PM, PUP, PP etc)
9. Title block, signature block, engineer seals, USA note is not necessary on Exhibit
10. Show scale used for drawing, provide 4" graphic scale

MAINTENANCE EXHIBIT "B" STANDARDS

1. 0.12" minimum lettering
2. Sheet size must be 8.5" x 11"
3. Show street names, north arrow
4. Show "Exhibit A", IP and project number (TR, PM, PUP, PP etc)
5. Title block, signature block, engineer seals, USA note is not necessary on Exhibit
6. Show scale used for drawing, provide 4" graphic scale

BMP EXHIBIT B EXAMPLE



Recorded at the request of: COUNTY
OF RIVERSIDE TRANSPORTATION
DEPARTMENT

THIS INSTRUMENT IS FOR THE BENEFIT
OF THE COUNTY OF RIVERSIDE AND
ENTITLED TO BE RECORDED WITHOUT
FEE.(GOV. CODE 6103)

RETURN TO:
RIVERSIDE COUNTY TRANSPORTATION
DEPARTMENT.
4080 Lemon Street, 8th Floor
Riverside, CA 92501

**COVENANT AND AGREEMENT REGARDING WATER QUALITY
MANAGEMENT PLAN BMP, CONSENT TO INSPECT, MAINTENANCE AND
INDEMNIFICATION**

APN: 472-110-038 **PROJECT No.** **IP No.**

OWNER(S): U-Stor-It, Attn.: Peter Nora

PROPERTY ADDRESS: 33890 Winchester Road, Winchester, CA 92596

LEGAL DESCRIPTION: That portion of the south 1/2 of section 21, township 6 south
: , range 2 west, San Bernardino Base and meridian. Excepting therefrom that portion conveyed
: to the state of California, by a grant deed recorded January 19, 2012 No. 2012-0022665

THIS AGREEMENT is made and entered into in Riverside County, California,
this ____ day of _____ Year_____, by and between_____

(hereinafter referred to as "Covenantor" or "Owner") and the COUNTY OF RIVERSIDE via
its Department of Transportation, a political subdivision of the State of California
(hereinafter referred to as "County"). The Covenantor and County may collectively be known
as "Parties" or individually as "Part.

RECITALS

WHEREAS, the Covenantor owns real property ("Property") in the County of Riverside,
State of California, more specifically described in Exhibit "A" and depicted in Exhibit "B",
each of these exhibits is attached, and incorporated herein by this reference;

WHEREAS, the County is the owner of interests in that certain real property within the
unincorporated area of the County of Riverside, State of California, containing storm drains,
pipelines, and related appurtenances constituting the County's municipal separate storm
sewer system (the County's "MS4");

WHEREAS, Covenantor intends to develop, improve, and/or use the Property in such a way that approval by the County for such development, improvement, and/or use is required pursuant to applicable laws;

WHEREAS, As a condition for said approval by the County, County required Covenantor, and Covenantor desires to, restrict the use of the Property according to the conditions, covenants, equitable servitudes, and restrictions contained herein for the express benefit of the County's MS4, which include requirements that the Property incorporate post construction on-site stormwater quality control measures;

WHEREAS, the Covenantor/Owner has chosen to install one or more _____

hereinafter referred to as "Device", as the on-site control measure to minimize pollutants in urban runoff;

WHEREAS, said Device has been installed in accordance with plans and specifications accepted by the County;

WHEREAS, said Device, with installation on private property is a private facility with all maintenance or replacement, therefore, the sole responsibility of the Covenantor/Owner in accordance with the terms of this Agreement;

WHEREAS, the Covenantor/Owner is aware that periodic and continuous maintenance, including, but not necessarily limited to, filter material replacement and sediment removal, is required to assure peak performance of Device and that, furthermore, such maintenance activity will require compliance with all Local, State, or Federal laws and regulations, including those pertaining; to confined space and waste disposal methods, in effect at the time such maintenance occurs;

NOW THEREFORE, incorporating the foregoing Recitals and in consideration of the covenants and conditions contained herein, and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, and expressly for the benefit of, and to bind, their successors in interest, the Parties hereto agree as follows:

1. Covenantor/Owner hereby provides the County or County's designee complete access to the Device and its immediate vicinity and such access onto the property to permit access to the device at any time, upon twenty-four (24) hour advance notice in writing, of any duration for the purpose of inspection, sampling and testing of the Device. County shall make every effort at all times to minimize or avoid interference with Owner's use of the Property.
2. Covenantor/Owner shall use its best efforts diligently to maintain the Device in a manner assuring peak performance at all times. All reasonable precautions shall be exercised by Owner and Owner's representative or contractor in the removal and extraction of material(s) from the Device and the ultimate disposal of the material(s) in a manner consistent with all relevant laws and regulations in effect at the time. As may be requested

from time to time by the County / Regional Water Quality Control Board (RWQCB), the Owner shall provide the RWQCB with documentation identifying the material(s) removed, the quantity, and disposal destination.

3. In the event Covenantor/Owner, or its successors or assigns, fails to accomplish the necessary maintenance contemplated by this Agreement, within five (5) days of being given written notice by the County, the County is hereby authorized to cause any maintenance necessary to be done and charge the entire cost and expense to the Owner or Owner's successors or assigns, including administrative costs and interest thereon at the maximum rate authorized by the Civil Code from the date of notice of expense until paid in full.

4. The County may require the Covenantor/Owner to post security in a form and for a time period satisfactory to the County to guarantee the performance of the obligations stated herein. Should the Owner fail to perform the obligations under this Agreement, the County may, in the case of a cash deposit, certificate of deposit or letter of credit, act for the Owner using the proceeds from it, or in the case of a surety bond, require the sureties to perform the obligations of the Agreement.

5. The County may, but shall not be obligated to, enforce this Agreement by a proceeding at law or in equity against any person or persons violating or attempting to violate any condition, covenant, equitable servitude, or restriction provided for herein, either to restrain such violation or to recover damages.

6. This Agreement constitutes the entire agreement and understanding between the Parties with respect to the subject matter of this Agreement and supersedes all prior or contemporaneous agreements and understandings with respect to the subject matter hereof, whether oral or written.

7. If any part of this Agreement is declared by a final decision of a court of competent jurisdiction to be invalid for any reason, such shall not affect the validity of the rest of the Agreement. The other parts of this Agreement shall remain in effect as if this Agreement had been executed without the invalid parts(s). The Parties declare that they intend and desire that the remaining parts of this Agreement continue to be effective without any part(s) that have been declared invalid.

8. This Agreement may be executed in counterparts, each of which so executed shall, irrespective of the date of its execution and delivery, be deemed an original, and all such counterparts together shall constitute one and the same instrument.

9. This Agreement shall be recorded in the Office of the Recorder of Riverside County, California and shall constitute notice to all successors and assigns of the title to said Property of the obligation herein set forth.

10. In the event of legal action occasioned by any default or action of the Covenantor/Owner, or its successors or assigns, then the Covenantor/Owner and its

successors or assigns agree(s) to pay all costs incurred by the County in enforcing the terms of this Agreement, including reasonable attorney's fees and costs, and that the same shall become a part of the lien against said Property.

11. Covenantor/Owner agrees to indemnify, defend, and hold harmless the County, its elected officers, employees, agents, and contractors from and against any and all liability, expense, including costs and reasonable legal fees, and claims of damage of any nature whatsoever including, but not limited to, death, bodily injury, personal injury, or property damage arising from or connected with the County inspection of the Property except where such liability, expense, or claim for damage results from the sole negligence or willful misconduct of the County.

12. It is the intent of the Parties hereto that burdens and benefits herein undertaken shall constitute covenants that run with said Property and constitute a lien thereon against.

13. The obligations herein undertaken shall be binding upon the heirs, successors, executors, administrators and assigns of the Parties hereto and any other present or future interest holders or estate holders in the property. The term "Owner" shall include not only the present Owner, but also its heirs, successors in interest and in title to the property, executors, administrators, and assigns. Owner shall notify any successor to title of all or part of the Property about the existence of this Agreement. Owner shall provide such notice prior to such successor obtaining an interest in all or part of the Property. Owner shall provide a copy of such notice to the County at the same time such notice is provided to the successor. Notwithstanding the foregoing, and subject to Section 12, subsequent to any sale of the Property, the prior owner of the property shall be released of any liability thereafter accruing for the breach of the agreement.

14. Time is of the essence in the performance of this Agreement.

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15. Any notice to a Party required or called for in this Agreement shall be served in person, or by deposit in the U.S. Mail, first class postage prepaid, to the address set forth below. Notice(s) shall be deemed effective upon receipt, or seventy-two (72) hours after deposit in the U.S. Mail, whichever is earlier. A Party may change a notice address only by providing written notice thereof to the other Party.

COVENANTOR/OWNER:

COUNTY:

Riverside County Department of Transportation
Attn: Transportation Director
4080 Lemon Street, 8th Floor
Riverside, CA

**COUNTY OF RIVERSIDE
TRANSPORTATION DEPARTMENT**

COVENANTOR/OWNER

Director of Transportation

Date

(Attest)

Date

(Print Name)

(Print Title)

Signature

Company/Corporation/Partnership

(Print Name)

(Print Title)

Attach Notary

Appendix 10: Educational Materials

BMP Fact Sheets, Maintenance Guidelines and Other End-User BMP Information

For the Final WQMP, examples of material to provide in Appendix 10 may include but are not limited to the following:

- BMP Fact Sheets for proposed BMPs form Exhibit C: LID BMP Design Handbook of the SMR WQMP,
- Source control information and training material for site owners and operators,
- O&M training material,
- Other educational/training material related to site drainage and BMPs.



Design Objectives

- ☒ Maximize Infiltration
- ☒ Provide Retention
- ☒ Slow Runoff
- Minimize Impervious Land Coverage
- Prohibit Dumping of Improper Materials
- Contain Pollutants
- Collect and Convey

Description

Irrigation water provided to landscaped areas may result in excess irrigation water being conveyed into stormwater drainage systems.

Approach

Project plan designs for development and redevelopment should include application methods of irrigation water that minimize runoff of excess irrigation water into the stormwater conveyance system.

Suitable Applications

Appropriate applications include residential, commercial and industrial areas planned for development or redevelopment. (Detached residential single-family homes are typically excluded from this requirement.)

Design Considerations

Designing New Installations

The following methods to reduce excessive irrigation runoff should be considered, and incorporated and implemented where determined applicable and feasible by the Permittee:

- Employ rain-triggered shutoff devices to prevent irrigation after precipitation.
- Design irrigation systems to each landscape area's specific water requirements.
- Include design featuring flow reducers or shutoff valves triggered by a pressure drop to control water loss in the event of broken sprinkler heads or lines.
- Implement landscape plans consistent with County or City water conservation resolutions, which may include provision of water sensors, programmable irrigation times (for short cycles), etc.



- Design timing and application methods of irrigation water to minimize the runoff of excess irrigation water into the storm water drainage system.
- Group plants with similar water requirements in order to reduce excess irrigation runoff and promote surface filtration. Choose plants with low irrigation requirements (for example, native or drought tolerant species). Consider design features such as:
 - Using mulches (such as wood chips or bar) in planter areas without ground cover to minimize sediment in runoff
 - Installing appropriate plant materials for the location, in accordance with amount of sunlight and climate, and use native plant materials where possible and/or as recommended by the landscape architect
 - Leaving a vegetative barrier along the property boundary and interior watercourses, to act as a pollutant filter, where appropriate and feasible
 - Choosing plants that minimize or eliminate the use of fertilizer or pesticides to sustain growth
- Employ other comparable, equally effective methods to reduce irrigation water runoff.

Redeveloping Existing Installations

Various jurisdictional stormwater management and mitigation plans (SUSMP, WQMP, etc.) define “redevelopment” in terms of amounts of additional impervious area, increases in gross floor area and/or exterior construction, and land disturbing activities with structural or impervious surfaces. The definition of “redevelopment” must be consulted to determine whether or not the requirements for new development apply to areas intended for redevelopment. If the definition applies, the steps outlined under “designing new installations” above should be followed.

Other Resources

A Manual for the Standard Urban Stormwater Mitigation Plan (SUSMP), Los Angeles County Department of Public Works, May 2002.

Model Standard Urban Storm Water Mitigation Plan (SUSMP) for San Diego County, Port of San Diego, and Cities in San Diego County, February 14, 2002.

Model Water Quality Management Plan (WQMP) for County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County, Draft February 2003.

Ventura Countywide Technical Guidance Manual for Stormwater Quality Control Measures, July 2002.



Design Objectives

- Maximize Infiltration
- Provide Retention
- Slow Runoff
- Minimize Impervious Land Coverage
- ☒ Prohibit Dumping of Improper Materials
- Contain Pollutants
- Collect and Convey

Description

Waste materials dumped into storm drain inlets can have severe impacts on receiving and ground waters. Posting notices regarding discharge prohibitions at storm drain inlets can prevent waste dumping. Storm drain signs and stencils are highly visible source controls that are typically placed directly adjacent to storm drain inlets.

Approach

The stencil or affixed sign contains a brief statement that prohibits dumping of improper materials into the urban runoff conveyance system. Storm drain messages have become a popular method of alerting the public about the effects of and the prohibitions against waste disposal.

Suitable Applications

Stencils and signs alert the public to the destination of pollutants discharged to the storm drain. Signs are appropriate in residential, commercial, and industrial areas, as well as any other area where contributions or dumping to storm drains is likely.

Design Considerations

Storm drain message markers or placards are recommended at all storm drain inlets within the boundary of a development project. The marker should be placed in clear sight facing toward anyone approaching the inlet from either side. All storm drain inlet locations should be identified on the development site map.

Designing New Installations

The following methods should be considered for inclusion in the project design and show on project plans:

- Provide stenciling or labeling of all storm drain inlets and catch basins, constructed or modified, within the project area with prohibitive language. Examples include “NO DUMPING



– DRAINS TO OCEAN” and/or other graphical icons to discourage illegal dumping.

- Post signs with prohibitive language and/or graphical icons, which prohibit illegal dumping at public access points along channels and creeks within the project area.

Note - Some local agencies have approved specific signage and/or storm drain message placards for use. Consult local agency stormwater staff to determine specific requirements for placard types and methods of application.

Redeveloping Existing Installations

Various jurisdictional stormwater management and mitigation plans (SUSMP, WQMP, etc.) define “redevelopment” in terms of amounts of additional impervious area, increases in gross floor area and/or exterior construction, and land disturbing activities with structural or impervious surfaces. If the project meets the definition of “redevelopment”, then the requirements stated under “designing new installations” above should be included in all project design plans.

Additional Information

Maintenance Considerations

- Legibility of markers and signs should be maintained. If required by the agency with jurisdiction over the project, the owner/operator or homeowner’s association should enter into a maintenance agreement with the agency or record a deed restriction upon the property title to maintain the legibility of placards or signs.

Placement

- Signage on top of curbs tends to weather and fade.
- Signage on face of curbs tends to be worn by contact with vehicle tires and sweeper brooms.

Supplemental Information

Examples

- Most MS4 programs have storm drain signage programs. Some MS4 programs will provide stencils, or arrange for volunteers to stencil storm drains as part of their outreach program.

Other Resources

A Manual for the Standard Urban Stormwater Mitigation Plan (SUSMP), Los Angeles County Department of Public Works, May 2002.

Model Standard Urban Storm Water Mitigation Plan (SUSMP) for San Diego County, Port of San Diego, and Cities in San Diego County, February 14, 2002.

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