

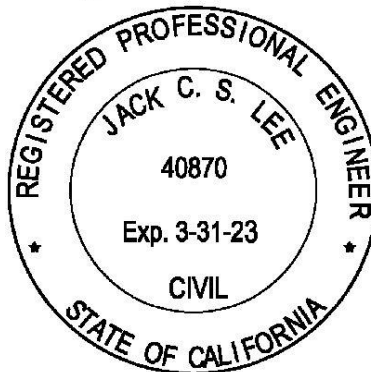
PRELIMINARY LOW IMPACT DEVELOPMENT

for

11640-11730 VALLEY BLVD.,
EL MONTE, CA 91732

Prepared for:

NEW SWS SOUTHLAND REAL ESTATE LLC
CONTACT: AGNES SO
11730 VALLEY BLVD.,
EL MONTE, CA 91732



Preparation Date

July 29, 2021

I. PROJECT DESCRIPTION

A. Project Information

- Name of Project Owner: New SWS Southland Real Estate LLC / Contact: Agnes So
- Add. of Project Owner: 11730 Valley Blvd., El Monte, CA 91732
- Telephone for Project Owner: (626) - 292 - 6868
- New SWS Southland Real Estate LLC / Contact: Agnes So owns all of the land on which the project site is located and New SWS Southland Real Estate LLC / Contact: Agnes So will be responsible for maintaining the building and grounds of the site.
- Project Site Address: 11640-11730 Valley Blvd., El Monte, CA 91732

B. Project Description

The project site is approximately 122,137.38 ft² (2.804 acres) and 121,472.38 ft² (2.788 acres) after dedication. The proposed development of the site is to construct Apartment on Lot 1 (41,364.07 ft² / 0.949 acre) and Condominium on Lot 2 (80,108.31 ft² / 1.839 acres).

Detailed development characteristics are as follows:

LOT 1

- Approximate 26,733.37 square feet of the Building
- Approximate 11,899.86 square feet of the Driveway and walkway
- Approximate 2,730.84 square feet of the landscape

LOT 2

- Approximate 31,248.36 square feet of the Building
- Approximate 35,793.10 square feet of the Driveway and walkway
- Approximate 13,066.85 square feet of the landscape

C. Site Description

The project site is located at the south west Intersection of Valley Blvd. and La Madera Avenue, City of El Monte, County of Los Angeles, State of California.

Existing Office Building, Carports and parking lot is located on site.

The proposed project is to consolidate the 6 existing lots into two proposed lots and proposed Apartment on Lot 1 and Condominium on Lot 2. All of the storm water will go through the Proposed Bio-filtration System before it goes to the street.

II. DESIGNATED PROJECT REQUIREMENTS

This section describes the stormwater management requirements for Designated Projects, which are identified as meeting one or more of the following:

- ☒ All development projects equal to one acre or greater of disturbed area and adding more than 10,000 square feet of impervious surface area;
- ☐ Industrial parks with 10,000 square feet or more of surface area;
- ☐ Commercial malls with 10,000 square feet or more of surface area;
- ☐ Retail gasoline outlets with 5,000 square feet or more of surface area;
- ☐ Restaurants (Standard Industrial Classification [SIC] Code 5812) with 5,000 square feet or more of surface area;
- ☒ Parking lots with 5,000 square feet or more of impervious surface area, or with 25 or more parking spaces;
- ☐ Automotive service facilities (SIC Codes: 5013, 5014, 5511, 5541, 7532-7534, or 7536-7539) with 5,000 square feet or more of surface area;
- ☐ Projects located in or directly adjacent to, or discharging directly to a Significant Ecological Area (SEA), where the development will:
 - o Discharge stormwater runoff that is likely to impact a sensitive biological species or habitat; and
 - o Create 2,500 square feet or more of impervious surface area.
- ☒ Redevelopment projects, which are developments that result in creation or addition or replacement of either: (1) 5,000 square feet or more of impervious surface on a site that was previously developed as described in the above bullets; or (2) 10,000 square feet or more of impervious surface area on a site that was previously developed as a single family home.
 - o Where 50 percent or more of the impervious surface of a previously developed site is proposed to be altered and the previous development project was not subject to post-construction stormwater quality control measures, the entire development site (e.g., both the existing development and the proposed alteration) must meet the requirements of the LID Standards Manual.

Cal Land Engineering, Inc. dba Quartech Consultants

Geotechnical, Environmental, and Civil Engineering

- o Where less than 50 percent of the impervious surface of a previously developed site is proposed to be altered and the previous development project was not subject to post-construction stormwater quality control measures, only the proposed alteration must meet the requirements of the LID Standards Manual.
- o Redevelopment does not include routine maintenance activities that are conducted to maintain original line and grade, hydraulic capacity, original Low Impact Development Standards Manual County of Los Angeles 2-2 February 2014 purpose of facility or emergency redevelopment activity required to protect public health and safety. Impervious surface replacement, such as the reconstruction of parking lots and roadways, which does not disturb additional area and maintains the original grade and alignment, is considered routine maintenance activity. Redevelopment does not include repaving of existing roads to maintain original line and grade.

III. NON-DESIGNATED PROJECT REQUIREMENTS

The County defines any project that is not a Designated Projects (Section 2) as a Non- Designated Project. Non-Designated Projects fall into the following categories:

- ☐ Small-Scale Non-Designated Residential Projects-residential development and redevelopment of four units or less; and
- ☐ Large-Scale Non-Designated Projects – all residential development and redevelopment of five units or greater and all non-residential development or redevelopment.
 - o Where 50 percent or more of the impervious surface of a previously developed site is proposed to be altered and the previous development project was not subject to post-construction stormwater quality control measures, the entire development site (e.g., both the existing development and the proposed alteration) must meet the requirements of the LID Standards Manual.
 - o Where less than 50 percent of the impervious surface of a previously developed site is proposed to be altered and the previous development project was not subject to post-construction stormwater quality control measures, only the proposed alteration must meet the requirements of the LID Standards Manual.

IV. SITE ASSESSMENT AND DESIGN CONSIDERATIONS

- Project size: 121,472.38 ft² (2.788 acres) after dedication.
- Drainage flows to gutter on Valley Boulevard and La Madera Avenue to a local storm drain catch basin at the north east intersection of Peck Road and Meeker Avenue that discharge to Rio Hondo Channel.

Geotechnical Conditions

Topography

The project has an existing drainage pattern going north west direction toward the street and existing catch basin. Existing street drainage flow drains to west direction from east and south direction from North. There is no off-site drainage. The proposed development will follow the existing drainage pattern. Most of the storm water will go through a proposed catch basin and then thru the curb or parkway drain before it goes to the street. Drainage flows to gutter on Valley Boulevard and La Madera Avenue to a local storm drain catch basin at the north east intersection of Peck Road and Meeker Avenue that discharge to Rio Hondo Channel.

Soil Type and Geology

The onsite near surface soils consist predominantly of silty sand (SM). In general, these soils exist in medium dense and moist condition. Underlying the surface soils, medium grained silty sand (SM), sand (SP), sandy silt (ML) and sand/silty sand mixtures (SP-SM) were disclosed in the borings to the depths explored (51.5 feet). These soils exist in medium dense to dense, and slightly moist conditions. The soils become denser as depth increases.

Groundwater

No groundwater was encountered in the borings to the depths explored (51.5 feet). Based on our review of the "Historically Highest Ground Water Contours and Borehole Log Data Locations, El Monte Quadrangle", by CGS (previously CDMG), it is estimated that the highest historical ground water level is approximately 10 feet below the existing grade. It should be noted that the CDMG ground water map is obtained by evaluating technical publications, geotechnical borehole data, water-well logs dating back to the "turn-of-the-century". This report also indicated that ground water levels in the areas from 1960-1997 data are generally 5 to 50 feet deeper than the earlier measured data. No specific date was provided pertaining to the high ground water level.

LACDPW Manual require the bottom of infiltration system to be 10' above seasonal Ground Water. Since, the Highest historical ground water level is

approximately 10 feet below existing grade. Will proposed a Bio-filtration system instead.

Other Geotechnical Issues

Not Applicable

Collapsible Soil

Very low.

Expansive Soil

Very Low.

Slopes

No groundwater was encountered in the test borings to the depths explored (51.5 feet). Groundwater is not expected during the proposed construction.

Liquefaction

Based on our field investigation and laboratory testing, it is our opinion that the factor of safety is less than 1.30 for the onsite soils at the depth of 23 to 27 feet.

Setbacks

Not Applicable.

V. SOURCE CONTROL MEASURES

Low Impact Development Standards Manual

Table 5-1. Source Control Measures Selection Matrix

Project Type	Source Control Measure										
	Storm Drain Message and Signage (S-1)	Outdoor Material Storage Area (S-2)	Outdoor Trash Storage/ Waste Handling Area (S-3)	Outdoor Loading/Unloading Dock Area (S-4)	Outdoor Vehicle/Equipment Repair/Maintenance Area (S-5)	Outdoor Vehicle/ Equipment/ Accessory Wash Area (S-6)	Fuel & Maintenance Area (S-7)	Landscape Irrigation Practices (S-8)	Building Materials (S-9)	Animal Care and Handling Facilities (S-10)	Outdoor Horticulture Areas (S-11)
Designated Projects – New Development											
Development ≥1 acre and ≥10,000 ft ² new impervious area	R	R ¹	R ¹	R ¹	R ¹	R ¹	R ¹	R	R	R ¹	R ¹
Industrial parks (≥10,000 ft ²)	R	R ¹	R ¹	R ¹	R ¹	R ¹	R ¹	R	R	–	–
Commercial malls (≥10,000 ft ²)	R	R ¹	R ¹	R ¹	R ¹	R ¹	–	R	R	R ¹	R ¹
Retail gasoline outlets (≥5,000 ft ²)	R	R ¹	R ¹	R ¹	R ¹	R ¹	R ¹	R	R	–	–
Restaurants (≥5,000 ft ²)	R	R ¹	R ¹	R ¹	–	–	–	R	R	–	–
Parking lots (≥5,000 ft ² or ≥25 parking spaces)	R	R ¹	R ¹	R ¹	–	–	–	R	R	R ¹	R ¹
Automotive service facilities (5,000 ft ²)	R	R ¹	R ¹	R ¹	R ¹	R ¹	R ¹	R	R	–	–
Projects in/around Significant Ecologic Areas	R	R ¹	R ¹	R ¹	R ¹	R ¹	R ¹	R	R	R ¹	R ¹
Projects potentially impacting sensitive biological species or habitats	R	R ¹	R ¹	R ¹	R ¹	R ¹	R ¹	R	R	R ¹	R ¹
Projects adding ≥2,500 ft ² of impervious area	R	R ¹	R ¹	R ¹	R ¹	R ¹	R ¹	R	R	R ¹	R ¹

R = required; R¹ = required if outdoor activity area is included in project; R² = required for multi-family dwellings

The Source Control Measure selected is to be implemented to reduce runoff and minimize pollutants in the project.

Source Control Measure	Description	Maintenance Responsibility	Funding Source For O & M	Maintenance Schedule	Start Up Date
Storm Drain Message and Signage (S-1)	Storm drain stencils are placed directly adjacent to storm drain inlets and contain either a graphical icon and/or a brief statement "NO DUMPING-DRAINS TO OCEAN" that warns against dumping wastes into the municipal storm drain system.	Owners	Owners	During Original Installation and yearly	During construction
Outdoor Trash Storage and Waste Handling Area (S-3)	Wastes from Commercial sites are typically hauled away for disposal by either public or commercial carriers that may have design or access requirements for waste storage areas. Design specifications for waste handling areas are regulated by local building and fire codes and by current County ordinances and zoning requirements. The design specifications, listed in Table D-3 of LID manual, are recommendations and are not intended to conflict with requirements established by the waste hauler. The design specifications are intended to enhance	Owners	Owners	During Original Installation and yearly	During construction

Cal Land Engineering, Inc.
dba Quartech Consultants

Geotechnical, Environmental, and Civil Engineering

	local codes and ordinances while addressing stormwater runoff concerns. The waste hauler should be contacted prior to the design of trash storage and collection areas to determine established and accepted guidelines for designing trash collection areas. All hazardous waste must be handled in accordance with the legal requirements established in Title 22 of the California Code of Regulations. Conflicts or issues should be discussed with LACDPW staff.				
Landscape Irrigation Practices (S-8)	Project must be designed such that the timing and application methods of irrigation water minimizes runoff into the storm drain system.	Owners	Owners	During Original Installation and yearly	During construction
Building Materials (S-9)	Project must use alternative building materials to reduce pollutant sources in stormwater runoff by eliminating compounds that can leach into stormwater runoff. Alternative building materials may also reduce the need to perform maintenance activities (i.e. painting) that involve pollutants of concern, and may reduce the volume of stormwater runoff. Alternative material are available to replace lumber and	Owners	Owners	During Original Installation and yearly	During construction

Cal Land Engineering, Inc. dba Quartech Consultants

Geotechnical, Environmental, and Civil Engineering

	paving. Lumber Decks and other house components constructed using pressure-treated wood may be replaced with cement-fiber or vinyl. Roofs, Fencing and Metals Roofing and gutter, using a copper and galvanized materials may be replaced with coated metal products. Vinyl-coated fencing is an alternative to traditional galvanized chain-link fences.				
--	--	--	--	--	--

1. Owner will be responsible for initial BMP operation and maintenance. As the property is sold, new property owner shall be responsible for operation and maintenance of each BMP's on his/her respective lot.

Owner: New SWS Southland Real Estate LLC / Contact: Agnes So
Address: 11730 Valley Blvd., El Monte, CA 91732
Phone No.: (626) - 292 - 6868

VI. STORMWATER QUALITY DESIGN VOLUME CALCULATION

BIOFILTRATION CALCULATION (LOT 1):

$$\text{SWQDv} = 2,739.28 \text{ CF}$$

$$\begin{aligned} V_B &= 1.5 \times (\text{SWQDv} - V_R) \\ &= \mathbf{4,108.92 \text{ cf}} \end{aligned}$$

Proposed Modular Wetland System:

Model no. MWS-L-4-8

Treatment Capacity @ 48-hr. Drain Down = **5,036 cf**

BIOFILTRATION CALCULATION (LOT 2):

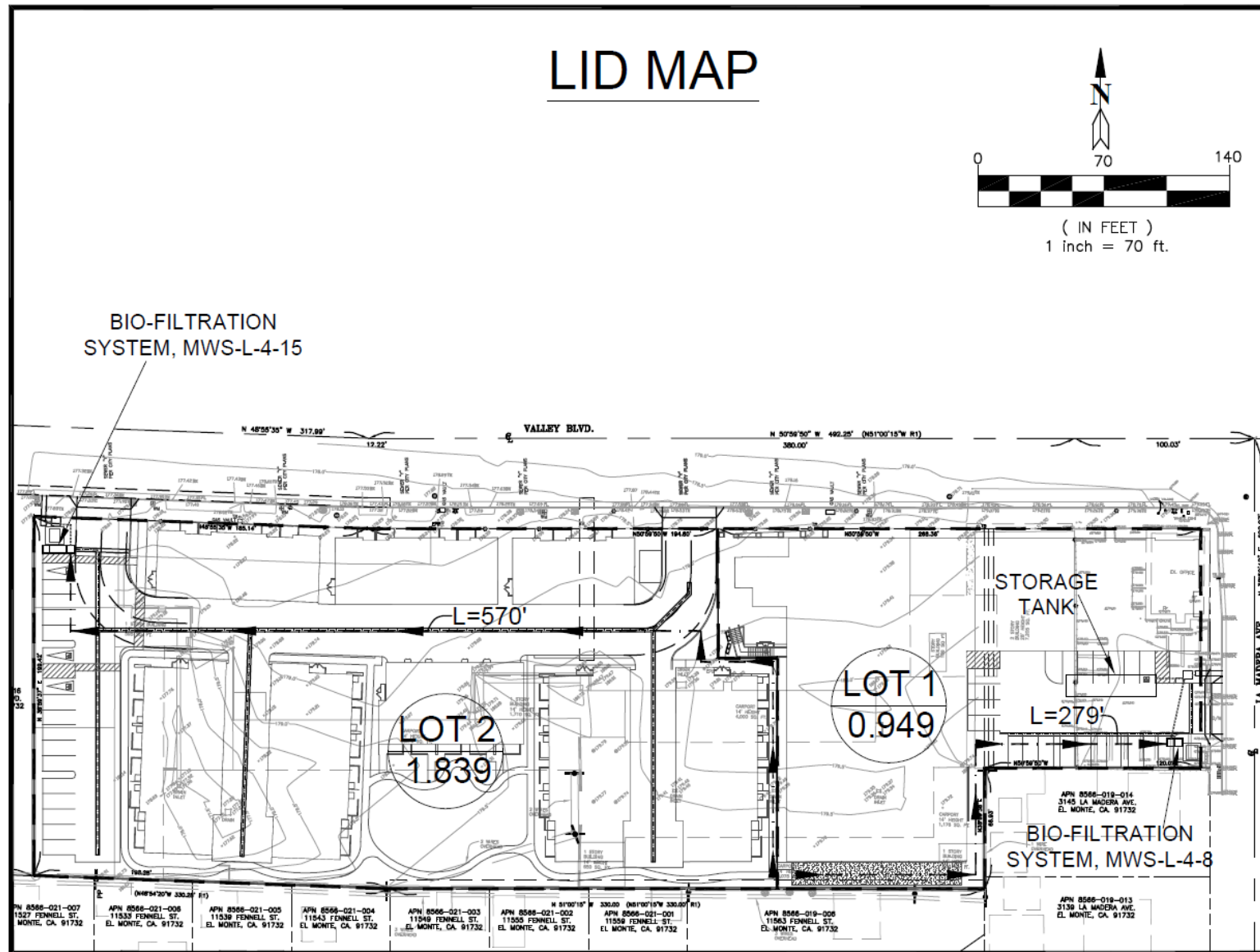
$$\text{SWQDv} = 4,855.47 \text{ CF}$$

$$\begin{aligned} V_B &= 1.5 \times (\text{SWQDv} - V_R) \\ &= \mathbf{7,283.21 \text{ cf}} \end{aligned}$$

Proposed Modular Wetland System:

Model no. MWS-L-4-15

Treatment Capacity @ 48-hr. Drain Down = **7,623 cf**



Peak Flow Hydrologic Analysis

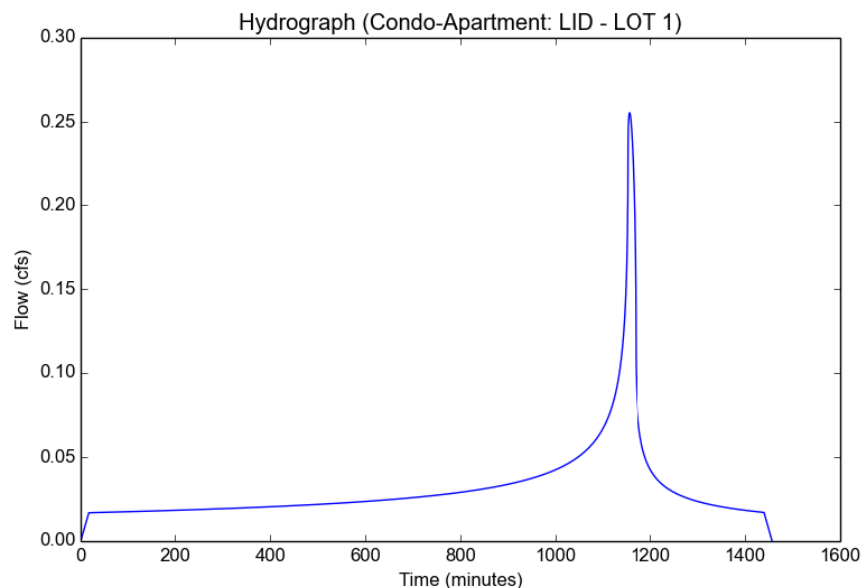
File location: C:/Users/peter/Desktop/Condo-Apartment - LID - LOT 1.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Condo-Apartment
Subarea ID	LID - LOT 1
Area (ac)	0.949
Flow Path Length (ft)	279.0
Flow Path Slope (vft/hft)	0.01
85th Percentile Rainfall Depth (in)	0.95
Percent Impervious	0.93
Soil Type	6
Design Storm Frequency	85th percentile storm
Fire Factor	0
LID	True

Output Results

Modeled (85th percentile storm) Rainfall Depth (in)	0.95
Peak Intensity (in/hr)	0.3189
Undeveloped Runoff Coefficient (Cu)	0.1
Developed Runoff Coefficient (Cd)	0.844
Time of Concentration (min)	17.0
Clear Peak Flow Rate (cfs)	0.2554
Burned Peak Flow Rate (cfs)	0.2554
24-Hr Clear Runoff Volume (ac-ft)	0.0629
24-Hr Clear Runoff Volume (cu-ft)	2739.2795



Peak Flow Hydrologic Analysis

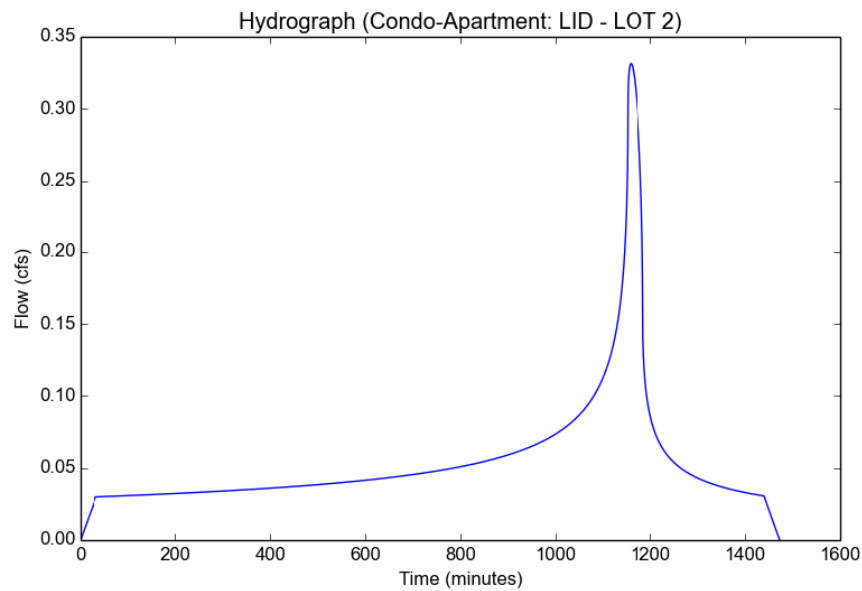
File location: C:/Users/peter/Desktop/Condo-Apartment - LID - LOT 2.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Condo-Apartment
Subarea ID	LID - LOT 2
Area (ac)	1.839
Flow Path Length (ft)	570.0
Flow Path Slope (vft/hft)	0.005
85th Percentile Rainfall Depth (in)	0.95
Percent Impervious	0.84
Soil Type	6
Design Storm Frequency	85th percentile storm
Fire Factor	0
LID	True

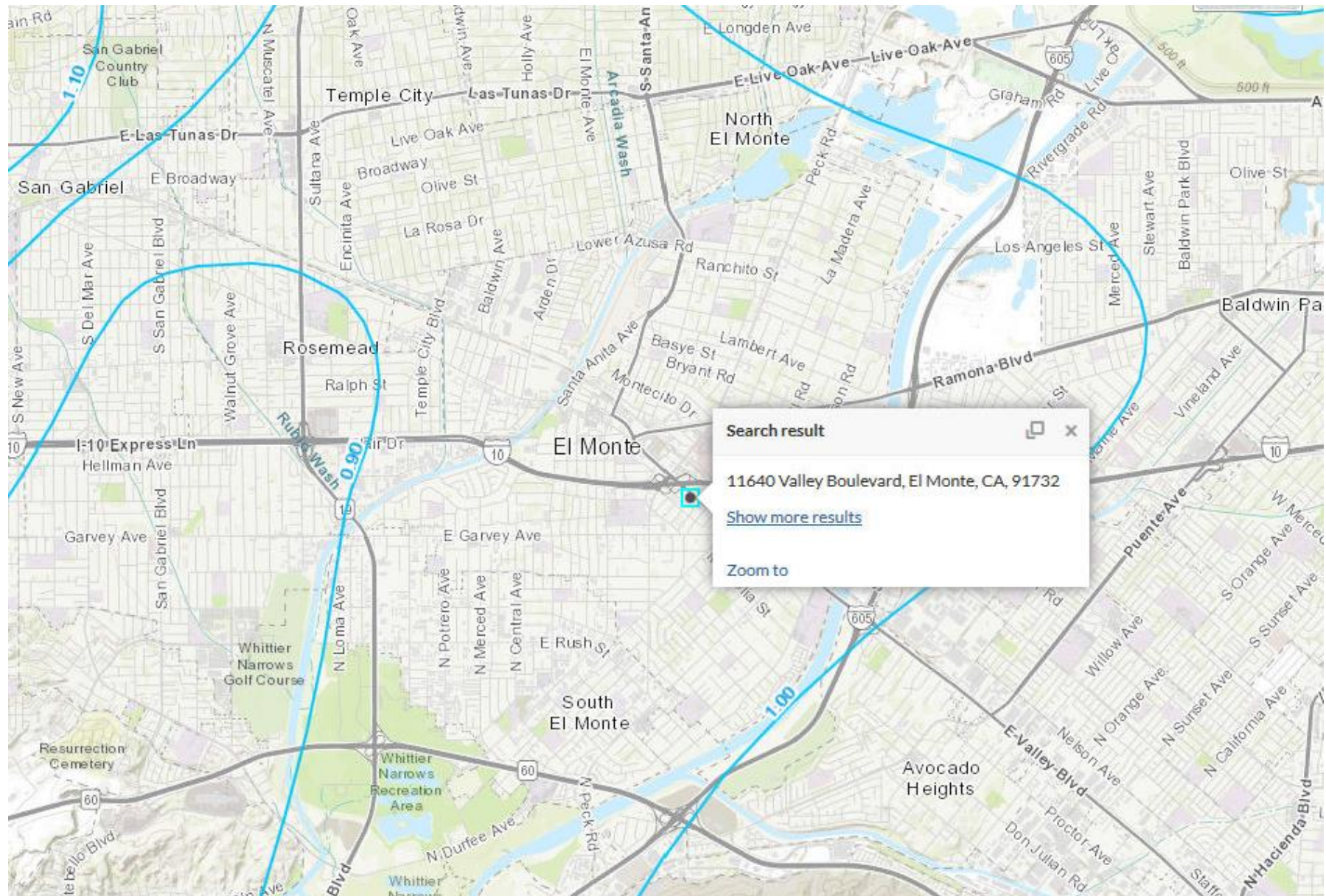
Output Results

Modeled (85th percentile storm) Rainfall Depth (in)	0.95
Peak Intensity (in/hr)	0.2335
Undeveloped Runoff Coefficient (Cu)	0.1
Developed Runoff Coefficient (Cd)	0.772
Time of Concentration (min)	33.0
Clear Peak Flow Rate (cfs)	0.3315
Burned Peak Flow Rate (cfs)	0.3315
24-Hr Clear Runoff Volume (ac-ft)	0.1115
24-Hr Clear Runoff Volume (cu-ft)	4855.4689



Cal Land Engineering, Inc. dba Quartech Consultants

Geotechnical, Environmental, and Civil Engineering



Flow Based Sizing

The MWS Linear can be used in stand alone applications to meet treatment flow requirements. Since the MWS Linear is the only biofiltration system that can accept inflow pipes several feet below the surface it can be used not only in decentralized design applications but also as a large central end-of-the-line application for maximum feasibility.



Treatment Flow Sizing Table

Model #	Dimensions	Wetland Media Surface Area	Treatment Flow Rate (cfs)
MWS-L-4-4	4' x 4'	23 ft ²	0.052
MWS-L-4-6	4' x 6'	32 ft ²	0.073
MWS-L-4-8	4' x 8'	50 ft ²	0.115
MWS-L-4-13	4' x 13'	63 ft ²	0.144
MWS-L-4-15	4' x 15'	76 ft ²	0.175
MWS-L-4-17	4' x 17'	90 ft ²	0.206
MWS-L-4-19	4' x 19'	103 ft ²	0.237
MWS-L-4-21	4' x 21'	117 ft ²	0.268
MWS-L-8-8	8' x 8'	100 ft ²	0.230
MWS-L-8-12	8' x 12'	151 ft ²	0.346
MWS-L-8-16	8' x 16'	201 ft ²	0.462

Volume Based Sizing

Many states require treatment of a water quality volume and do not offer the option of flow based design. The MWS Linear and its unique horizontal flow makes it the only biofilter that can be used in volume based design installed downstream of ponds, detention basins, and underground storage systems.

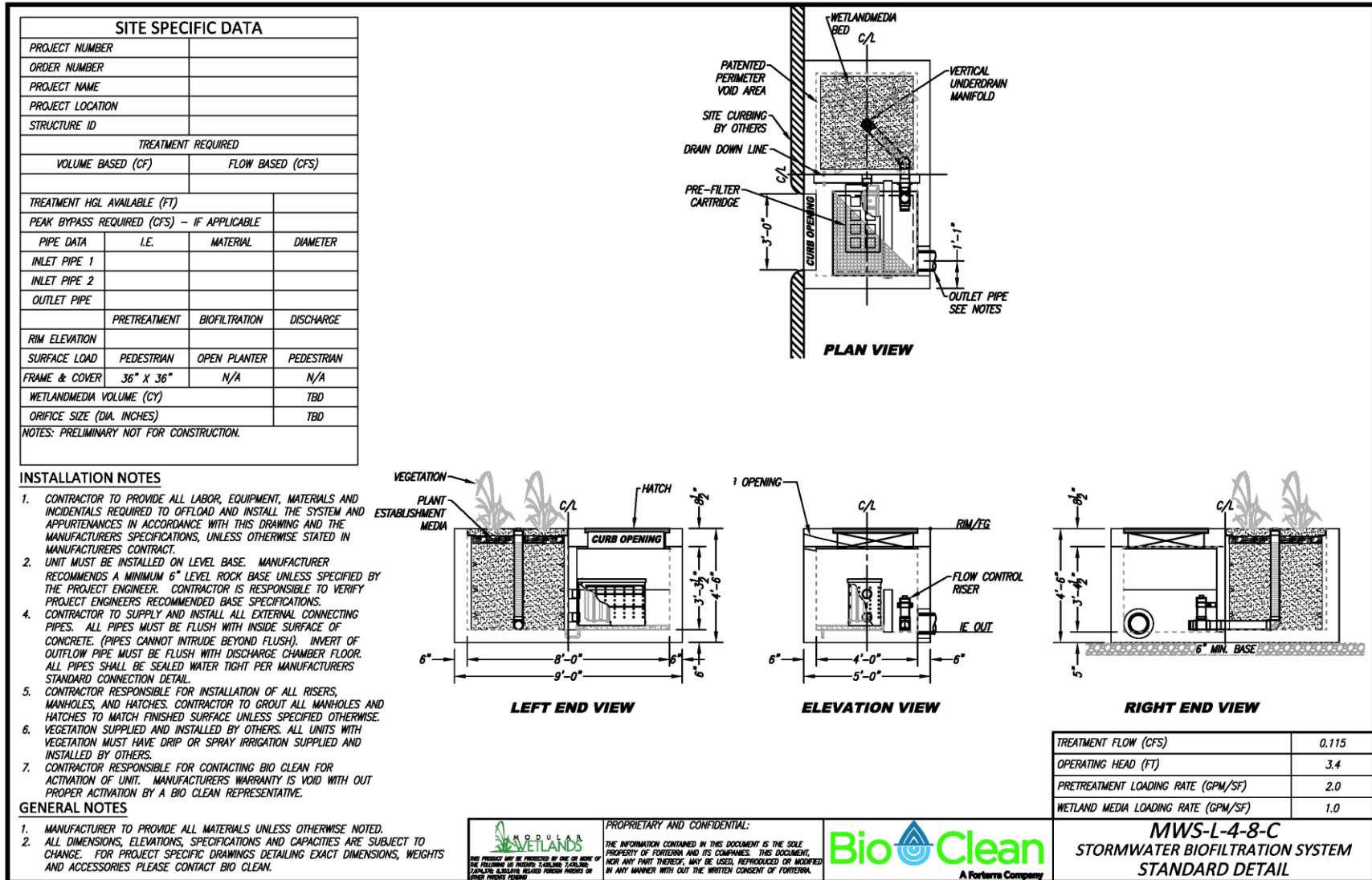


Treatment Volume Sizing Table

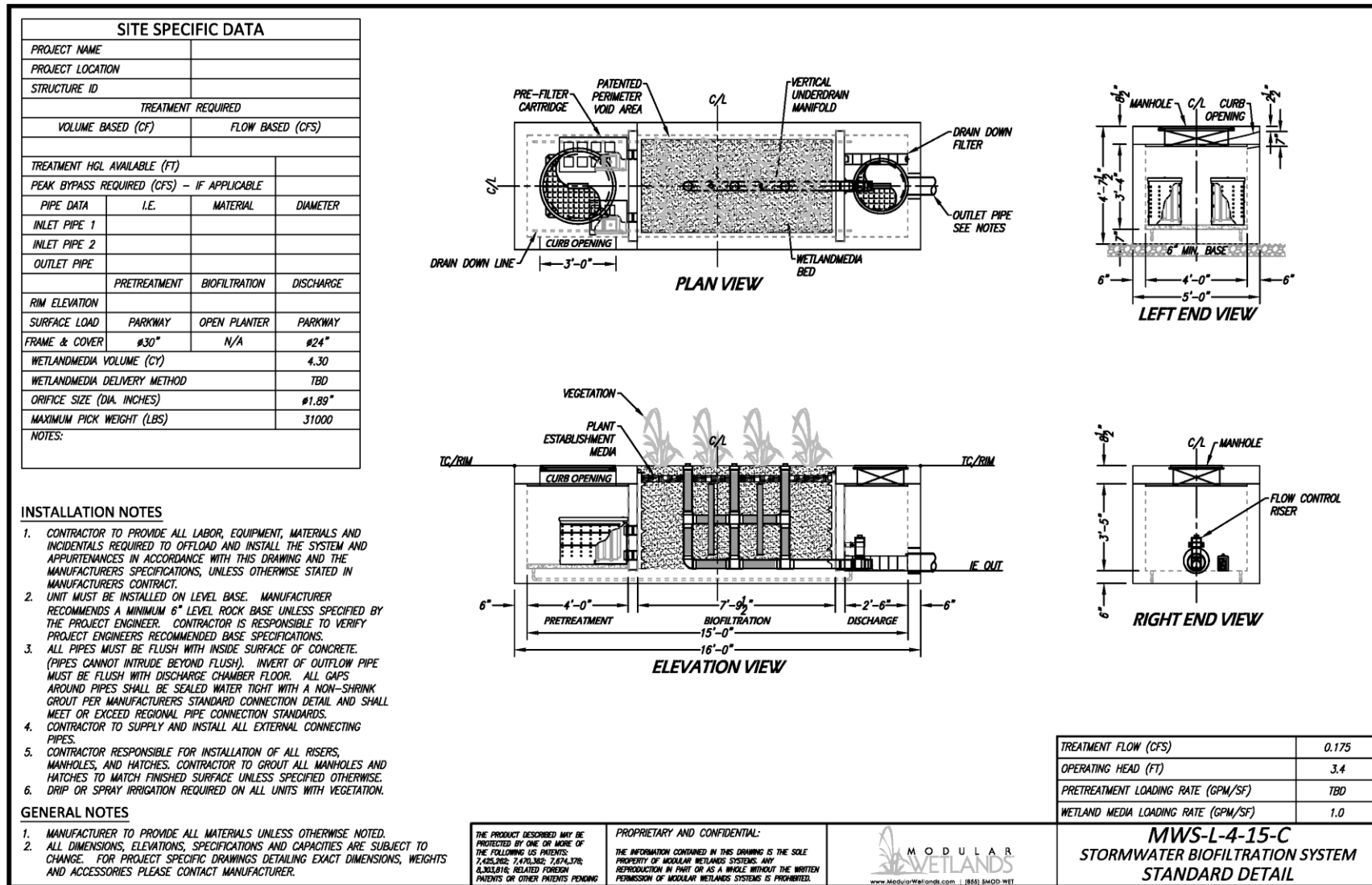
Model #	Treatment Capacity (cu. ft.) @ 24-Hour Drain Down	Treatment Capacity (cu. ft.) @ 48-Hour Drain Down
MWS-L-4-4	1140	2280
MWS-L-4-6	1600	3200
MWS-L-4-8	2318	5036
MWS-L-4-13	3131	6261
MWS-L-4-15	3811	7623
MWS-L-4-17	4492	8984
MWS-L-4-19	5172	10345
MWS-L-4-21	5853	11706
MWS-L-8-8	5036	10072
MWS-L-8-12	7554	15109
MWS-L-8-16	10073	20145

Cal Land Engineering, Inc. dba Quartech Consultants

Geotechnical, Environmental, and Civil Engineering



Cal Land Engineering, Inc.
dba Quartech Consultants
Geotechnical, Environmental, and Civil Engineering



VII. STORMWATER QUALITY CONTROL MEASURES

The Stormwater quality control measures in the LID Standards manual are categorized into the following types:

- Retention-based stormwater quality control measures.
- Biofiltration
 - We proposed **Stormwater Biofiltration system**. This would act as a treatment device for the storm water.
- Vegetation-based stormwater quality control measures.
- Treatment-based stormwater quality control measures.

Site Description

The site drains to Los Angeles River Watershed. Rio Hondo Reach 3 (Above spreading Grounds), Rio Hondo Reach 2 (At Spreading Grounds), Rio Hondo Reach 1 (Confl. LA River to Santa Ana Fwy), Los Angeles River Reach 2 (Carson to Figueroa St.), Los Angeles River Reach 1 (Estuary to Carson Street) and Los Angeles River Estuary (Queensway bay) is currently listed in the Clean Water Act 303 (d) list due to impairment of Indicator Bacteria, Iron Oxygen Dissolved, Coliform Bacteria, Cyanide, Copper, Lead, pH, Toxicity, Trash, Zinc, Ammonia, Nutrients (Algae), Oil, Cadmium, copper dissolved, and zinc dissolved. Biofiltration system be installed on site to mitigate storm water before leaving the project site.

Low Impact Development Standards Manual

Table 7-3. Typical Pollutants of Concern by Land Use ⁽¹⁾

Land Use	Pollutants of Concern ⁽²⁾								
	Suspended Solids	Total Phosphorus	Total Nitrogen	Total Kjeldahl Nitrogen	Cadmium, Total	Chromium, Total	Copper, Total	Lead, Total	Zinc, Total
	X	X			(4)	(4)	X	X	X
	X				(4)	(4)	X		X
	X	X	X		(4)	(4)	X	X	X
	X	X	X	X	(4)	(4)	X	X	X
	X	X	X	X	(4)	(4)	X	X	X
	X	(4)	(4)	(4)	(4)	(4)	X	X	X
	X	X	X	X	(4)	(4)	X	X	X
	X				(4)	(4)	X		X

⁽¹⁾ Adapted from Table A-3 of the *Technical Manual for Stormwater Best Management Practices in the County of Los Angeles* (February 2004) and the Southern California Coastal Water Research Project Land Use Specific Storm Water Monitoring Data. X = exceedance of "standard" by observed median/average concentration; blank = no exceedance of "standard" by observed median/average concentration.

⁽²⁾ Derived from Table 11 of the 2012 Los Angeles County MS4 Permit (page 104).

⁽³⁾ Critical facilities include automobile dismantling (SIC 50xx), automobile repair (SIC 75xx), metal fabrication (SIC 34xx), motor freight (SIC 42xx), automobile dealerships (SIC 55xx), chemical manufacturing (SIC 28xx), and machinery manufacturing (SIC 35xx).

⁽⁴⁾ No available data to determine if these pollutants of concern originate from this land use. Pollutant is assumed to be produced by this land use unless otherwise proven by the project applicant.

VIII. HYDROMODIFICATION

Not Applicable. The storm water are going to Channel or armored with concrete.

IX. STORMWATER QUALITY CONTROL MEASURE MAINTENANCE

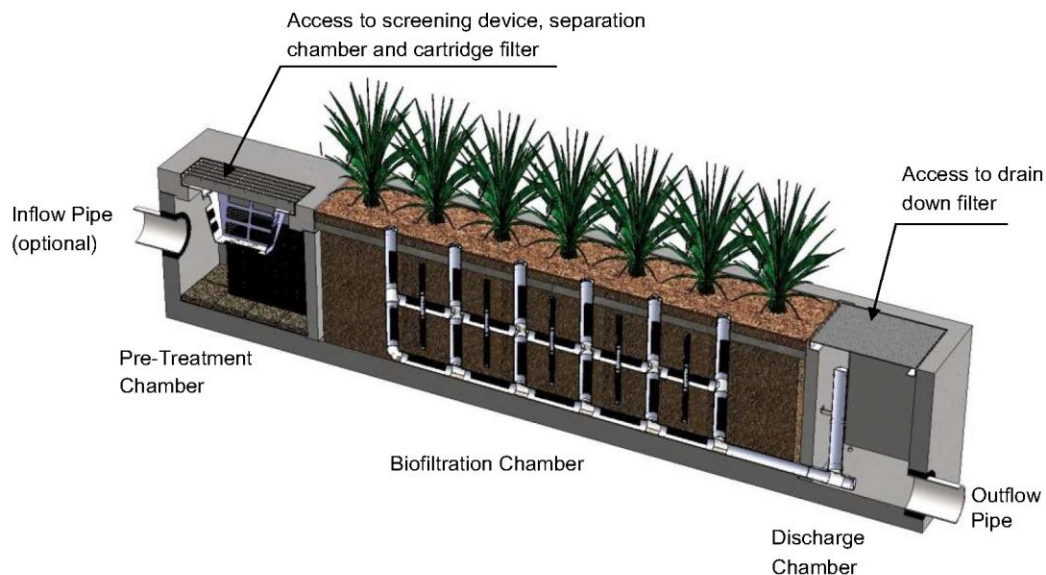


Maintenance Guidelines for Modular Wetland System - Linear

Maintenance Summary

- Remove Trash from Screening Device – average maintenance interval is 6 to 12 months.
 - *(5 minute average service time).*
- Remove Sediment from Separation Chamber – average maintenance interval is 12 to 24 months.
 - *(10 minute average service time).*
- Replace Cartridge Filter Media – average maintenance interval 12 to 24 months.
 - *(10-15 minute per cartridge average service time).*
- Replace Drain Down Filter Media – average maintenance interval is 12 to 24 months.
 - *(5 minute average service time).*
- Trim Vegetation – average maintenance interval is 6 to 12 months.
 - *(Service time varies).*

System Diagram



www.modularwetlands.com



Maintenance Procedures

Screening Device

1. Remove grate or manhole cover to gain access to the screening device in the Pre-Treatment Chamber. Vault type units do not have screening device. Maintenance can be performed without entry.
2. Remove all pollutants collected by the screening device. Removal can be done manually or with the use of a vacuum truck. The hose of the vacuum truck will not damage the screening device.
3. Screening device can easily be removed from the Pre-Treatment Chamber to gain access to separation chamber and media filters below. Replace grate or manhole cover when completed.

Separation Chamber

1. Perform maintenance procedures of screening device listed above before maintaining the separation chamber.
2. With a pressure washer spray down pollutants accumulated on walls and cartridge filters.
3. Vacuum out Separation Chamber and remove all accumulated pollutants. Replace screening device, grate or manhole cover when completed.

Cartridge Filters

1. Perform maintenance procedures on screening device and separation chamber before maintaining cartridge filters.
2. Enter separation chamber.
3. Unscrew the two bolts holding the lid on each cartridge filter and remove lid.
4. Remove each of 4 to 8 media cages holding the media in place.
5. Spray down the cartridge filter to remove any accumulated pollutants.
6. Vacuum out old media and accumulated pollutants.
7. Reinstall media cages and fill with new media from manufacturer or outside supplier. Manufacturer will provide specification of media and sources to purchase.
8. Replace the lid and tighten down bolts. Replace screening device, grate or manhole cover when completed.

Drain Down Filter

1. Remove hatch or manhole cover over discharge chamber and enter chamber.
2. Unlock and lift drain down filter housing and remove old media block. Replace with new media block. Lower drain down filter housing and lock into place.
3. Exit chamber and replace hatch or manhole cover.



Maintenance Notes

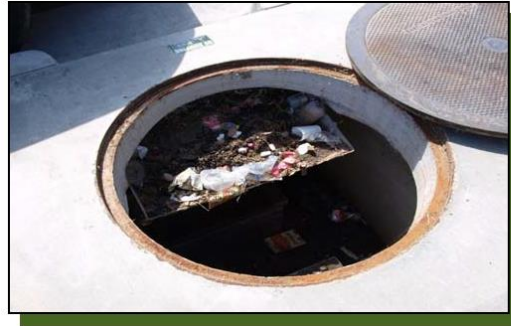
1. Following maintenance and/or inspection, it is recommended the maintenance operator prepare a maintenance/inspection record. The record should include any maintenance activities performed, amount and description of debris collected, and condition of the system and its various filter mechanisms.
2. The owner should keep maintenance/inspection record(s) for a minimum of five years from the date of maintenance. These records should be made available to the governing municipality for inspection upon request at any time.
3. Transport all debris, trash, organics and sediments to approved facility for disposal in accordance with local and state requirements.
4. Entry into chambers may require confined space training based on state and local regulations.
5. No fertilizer shall be used in the Biofiltration Chamber.
6. Irrigation should be provided as recommended by manufacturer and/or landscape architect. Amount of irrigation required is dependent on plant species. Some plants may require irrigation.



Maintenance Procedure Illustration

Screening Device

The screening device is located directly under the manhole or grate over the Pre-Treatment Chamber. It's mounted directly underneath for easy access and cleaning. Device can be cleaned by hand or with a vacuum truck.



Separation Chamber

The separation chamber is located directly beneath the screening device. It can be quickly cleaned using a vacuum truck or by hand. A pressure washer is useful to assist in the cleaning process.



www.modularwetlands.com



Cartridge Filters

The cartridge filters are located in the Pre-Treatment chamber connected to the wall adjacent to the biofiltration chamber. The cartridges have removable tops to access the individual media filters. Once the cartridge is open media can be easily removed and replaced by hand or a vacuum truck.



Drain Down Filter

The drain down filter is located in the Discharge Chamber. The drain filter unlocks from the wall mount and hinges up. Remove filter block and replace with new block.





Trim Vegetation

Vegetation should be maintained in the same manner as surrounding vegetation and trimmed as needed. No fertilizer shall be used on the plants. Irrigation per the recommendation of the manufacturer and or landscape architect. Different types of vegetation requires different amounts of irrigation.



www.modularwetlands.com



Inspection Form



Modular Wetland System, Inc.

P. 760.433-7640

F. 760-433-3176

E. Info@modularwetlands.com

www.modularwetlands.com

Cal Land Engineering, Inc. dba Quartech Consultants

Geotechnical, Environmental, and Civil Engineering



Inspection Report Modular Wetlands System



Project Name _____		For Office Use Only (Reviewed By) _____ (Date) _____ Office personnel to complete section to the left
Project Address _____ (City) _____ (Zip Code) _____		
Owner / Management Company _____		
Contact _____	Phone () - _____	
Inspector Name _____		Date ____ / ____ / ____ Time ____ AM / PM
Type of Inspection ☐ Routine ☐ Follow Up ☐ Complaint ☐ Storm		Storm Event in Last 72-hours? ☐ No ☐ Yes
Weather Condition _____		Additional Notes _____

Inspection Checklist

Modular Wetland System Type (Curb, Grate or UG Vault): _____ Size (22', 14' or etc.): _____

Structural Integrity:	Yes	No	Comments
Damage to pre-treatment access cover (manhole cover/grate) or cannot be opened using normal lifting pressure?			
Damage to discharge chamber access cover (manhole cover/grate) or cannot be opened using normal lifting pressure?			
Does the MWS unit show signs of structural deterioration (cracks in the wall, damage to frame)?			
Is the inlet/outlet pipe or drain down pipe damaged or otherwise not functioning properly?			
Working Condition:			
Is there evidence of illicit discharge or excessive oil, grease, or other automobile fluids entering and clogging the unit?			
Is there standing water in inappropriate areas after a dry period?			
Is the filter insert (if applicable) at capacity and/or is there an accumulation of debris/trash on the shelf system?			
Does the depth of sediment/trash/debris suggest a blockage of the inflow pipe, bypass or cartridge filter? If yes specify which one in the comments section. Note depth of accumulation in in pre-treatment chamber.			Depth: _____
Does the cartridge filter media need replacement in pre-treatment chamber and/or discharge chamber?			Chamber: _____
Any signs of improper functioning in the discharge chamber? Note issues in comments section.			
Other Inspection Items:			
Is there an accumulation of sediment/trash/debris in the wetland media (if applicable)?			
Is it evident that the plants are alive and healthy (if applicable)? Please note Plant Information below.			
Is there a septic or foul odor coming from inside the system?			

Waste:	Yes	No
Sediment / Silt / Clay		
Trash / Bags / Bottles		
Green Waste / Leaves / Foliage		

Recommended Maintenance	
No Cleaning Needed	
Schedule Maintenance as Planned	
Needs Immediate Maintenance	

Plant Information	
Damage to Plants	
Plant Replacement	
Plant Trimming	

Additional Notes: _____



Maintenance Report



Modular Wetland System, Inc.

P. 760.433-7640

F. 760-433-3176

E. Info@modularwetlands.com

www.modularwetlands.com

Cal Land Engineering, Inc.
dba Quartech Consultants
Geotechnical, Environmental, and Civil Engineering



Cleaning and Maintenance Report
Modular Wetlands System



Project Name _____		For Office Use Only (Reviewed By) _____ (Date) _____ Office personnel to complete section to the left.
Project Address _____ (city) (Zip Code) _____		
Owner / Management Company _____		
Contact _____	Phone () - _____	
Inspector Name _____		Date ____ / ____ / ____ Time ____ AM / PM
Type of Inspection ☐ Routine ☐ Follow Up ☐ Complaint ☐ Storm Storm Event in Last 72-hours? ☐ No ☐ Yes		
Weather Condition _____		Additional Notes _____

Site Map #	GPS Coordinates of Insert	Manufacturer / Description / Sizing	Trash Accumulation	Foliage Accumulation	Sediment Accumulation	Total Debris Accumulation	Condition of Media 25/50/75/100 (will be changed @ 75%)	Operational Per Manufactures' Specifications (if not, why?)
	Lat: _____ Long: _____	MWS Catch Basins						
		MWS Sedimentation Basin						
		Media Filter Condition						
		Plant Condition						
		Drain Down Media Condition						
		Discharge Chamber Condition						
		Drain Down Pipe Condition						
		Inlet and Outlet Pipe Condition						
Comments:								

2972 San Luis Rey Road, Oceanside, CA 92058 P. 760.433.7640 F. 760.433.3176

BMP Description	Description of BMP	Maintenance Responsibility	Funding Source For O & M	Maintenance Schedule	Start Up Date
Biofiltration System	Model No. MWS-L-4-8-C & MWS-L-4-15-C	Owners	Owners	During Original Installation and yearly	Upon start of operation

1. Owner will be responsible for initial BMP operation and maintenance. As the property is sold, new property owner shall be responsible for operation and maintenance of each BMP's on his/her respective lot.

Owner: New SWS Southland Real Estate LLC / Contact: Agnes So
 Address: 11730 Valley Blvd., El Monte, CA 91732
 Phone No.: (626) - 292 - 6868