STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

STAFF SUMMARY REPORT (Brian Wines)
MEETING DATE: July 12, 2017

ITEM: **5D**

SUBJECT: **Eden Shores Associates I, LLC, Eden Shores Commercial Retail Project, Hayward, Alameda County** – Adoption of Waste Discharge Requirements

CHRONOLOGY: The Board has not considered this item before.

DISCUSSION: The Revised Tentative Order (Appendix A) would issue waste discharge requirements (WDRs) to Eden Shores Associates (the Discharger) to construct the Eden Shores Commercial Retail Project in Hayward (Project). The Project will be a commercial retail development on 5.43 acres of semi-developed vacant land located in the southwestern portion of Hayward, immediately west of Hesperian Boulevard. Project construction will fill 0.48 acres of seasonal wetlands.

The Project's discharges would ordinarily be authorized via issuance of a Clean Water Act section 401 water quality certification or coverage under a statewide order for fill of waters of the State. In this case, the U.S. Army Corps determined it would not regulate the Project's wetland fill impacts, and the area of fill is too large to qualify for statewide order coverage. As a result, we are proposing to authorize the Project's discharges to waters of the State, and its associated impacts to beneficial uses, via project-specific WDRs in the Revised Tentative Order.

To provide mitigation for the Project's impacts to 0.48 acres of waters of the State, the Revised Tentative Order requires the Discharger to purchase 0.48 acres of seasonal wetland creation mitigation credits from the San Francisco Bay Wetland Mitigation Bank.

A draft tentative order was circulated on May 17, 2017, and the comment period ended on June 17, 2017. Staff did not receive any comments during the comment period.

Subsequent to the comment period, the Alameda County Water District informed staff that the groundwater basin under the site was incorrectly identified as the East Bay Plain Groundwater Basin. The Revised Tentative Order correctly states that the Project is above the Niles Cone Groundwater Basin. In addition, staff made a staff-initiated change that would require the Discharger to submit a final stormwater plan prior to construction. That change, correcting an inadvertent omission, was reviewed by and is acceptable to the Discharger. We expect this item to remain uncontested.

RECOMMEN-DATION:	Adoption of the Tentative Order
CIWQS Place Number:	809729
APPENDIX A:	Revised Tentative Order

Appendix A
Revised Tentative Order

Eden Shores Associates I, LLC, Eden Shores Commercial Retail Project, Hayward, Alameda County –

Adoption of Waste Discharge Requirements

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CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

REVISED TENTATIVE ORDER No. R2-2017-00XX

WASTE DISCHARGE REQUIREMENTS for:

EDEN SHORES ASSOCIATES I, LLC
EDEN SHORES COMMERCIAL RETAIL PROJECT
HAYWARD, ALAMEDA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter the Regional Water Board), finds that:

1. This Order serves as Waste Discharge Requirements (WDRs) for construction of the Eden Shores Commercial Retail Project (Project) on 5.43 acres of semi-developed vacant land located in the southwestern portion of the City of Hayward, immediately west of Hesperian Boulevard (Latitude: 37.612827; Longitude: -122.087405; APNs 456-0101-009-04, 456-0101-009-05, and 456-0101-009-06) (Site). The Site consists of three connected parcels (APNs 456-0101-009-04, 456-0101-009-05, and 456-0101-009-06) and is zoned for Neighborhood Commercial.
2. The Project proponent, Eden Shores Associates I, LLC, a Delaware Limited Liability Company, has submitted a Report of Waste Discharge to the Regional Water Board for authorization to construct the Project and is hereafter referred to as the Discharger.
3. The Project encompasses the construction of an approximately 5.43-acre commercial retail complex, including internal roads, utilities, and parking lots. The Project, once completed, will provide commercial retail services within the larger Eden Shores project, which includes residential, commercial, light industrial, and open space development.
4. The majority of the Site consists of uplands, with vegetation dominated by soft chess (*Bromus hordeaceus*), ripgut brome (*B. diandrus*), Italian rye grass (*Festuca perennis*), Mediterranean barley (*Hordeum marinum* ssp. *gussoneanum*, mouse barley (*H. murinum*), slender oat (*Avena barbata*), and prickly lettuce (*Lactuca serriola*).
5. The Site contains 0.48 acres of seasonal wetlands, which are dominated by non-native hydrophytic herbs, such as Mediterranean barley (*Hordeum marinum*), common rabbit's-foot grass (*Polypogon monspeliensis*), cut-leaf plantain (*Plantago coronopifolia*), bird's-foot trefoil (*Lotus corniculatus*), and perennial pepperweed (*Lepidium latifolium*).

Project Impacts, and Mitigation

6. The 0.48 acres of seasonal wetlands within the central and northwestern portions of the Site will be permanently impacted through direct filling with clean fill as part of the construction of the commercial retail area. Ground elevations across the Site will be raised on average by about 1 foot.
7. Avoidance and minimization of the wetland impacts is not practicable because of their location. It would not be possible to avoid filling wetlands and their contributing drainage watersheds without eliminating essential Project elements, such as building structures, parking lots, primary

and internal access roads, and important utility infrastructure. The elimination of these development elements would make the Project impracticable.

8. To compensate for permanent impacts to 0.48 acres of seasonal wetlands, the Discharger will provide offsite mitigation through the purchase of 0.48 acres of seasonal wetland creation mitigation credits at the San Francisco Bay Wetland Mitigation Bank (Bank) (Corps File No. 2008 00046S).

9. The purchase of mitigation credits from the Bank will accomplish the goal of the California Wetlands Conservation Policy ("No Net Loss Policy;" Executive Order W-59-93) to "ensure no overall net loss and achieve a long-term net gain in the quantity, quality, and permanence of wetlands acreage and values in California in a manner that fosters creativity, stewardship, and respect for private property."

10. This Order requires submittal of documentation of the purchase of 0.48 acres of wetland mitigation credit to the Regional Water Board's Executive Officer prior to impacting waters of the State.

11. Regional, State, and national studies have determined that tracking of mitigation/restoration projects must be improved to assess the performance of these projects. In addition, to effectively carry out the "No Net Loss Policy," the State needs to track both wetland losses and mitigation/restoration project success closely. Therefore, this Order requires the Discharger to submit the California Wetlands Form to provide project information related to impacts and mitigation measures. An electronic copy of the form and instructions can be downloaded at: http://www.waterboards.ca.gov/sanfranciscobay/certs.shtml. Project information concerning impacts and mitigation/restoration will be made available at the web link: http://www.ecoatlas.org/regions/ecoregion/bay-delta/projects.

Post-Construction Stormwater Management

12. Stormwater discharges from urban and developing areas in the San Francisco Bay Region are significant sources of certain pollutants that cause or may be causing or threatening to cause or contribute to water quality impairment in waters of the Region. Furthermore, as delineated in the Clean Water Act (CWA) section 303(d) list, the Regional Water Board has found that there is a reasonable potential that municipal stormwater discharges cause or may cause or contribute to an excursion above water quality standards for the following pollutants: mercury, PCBs, furans, dieldrin, chlordane, DDT, trash, and selenium in San Francisco Bay segments. Runoff from impervious surfaces at the developed Site may contribute to water quality impairment in the Region.

13. This Order requires the Discharger to implement stormwater treatment best management practices (BMPs) for post-construction stormwater runoff from the Project's impervious surfaces, consistent with its plan *Stormwater Quality Management Plan for Eden Shores Retail Site, City of Hayward, Alameda County* (RSC Engineers, August 15, 2016) (Attachment 2 to this Order). Stormwater treatment controls must be constructed concurrently with each phase of the Project, so that treatment is provided for each completed phase. The Order requires a final version of the plan in Attachment 2 to this Order, including measures to appropriately control trash, to be submitted to the Executive Officer for review and approval at least 90 days before construction starts on the phase of the Project that will be treated by the plan.

Regional Water Board Jurisdiction

14. The Regional Water Board has authority to regulate the proposed discharge of fill materials into waters of the State by issuance of WDRs pursuant to section 13263 of the California Water Code (Water Code) and section 3857 of title 23 of the California Code of Regulations (23 CCR). The Regional Water Board considers WDRs necessary to adequately address impacts and mitigation to beneficial uses of waters of the State from the Project, to meet the objectives of the California Wetlands Conservation Policy (Executive Order W-59-93), and to accommodate and require changes to the Project as described and allowed herein.

15. The Discharger is required to pay annual fees pursuant to Water Code section 13260, 23 CCR (Cal. Code Regs., tit. 23, § 2200 et seq.), and in accordance with Provision D.8.

Regulatory Framework

16. The *Water Quality Control Plan for the San Francisco Bay Basin* (Basin Plan) is the Regional Water Board's master water quality control planning document. It designates beneficial uses and water quality objectives for waters of the State, including surface waters and groundwater. It also includes implementation plans to achieve water quality objectives. The Basin Plan was duly adopted by the Regional Water Board and approved by the State Water Resources Control Board (State Water Board), Office of Administrative Law, and U.S. EPA, where required.

17. The Basin Plan lists the following existing and potential beneficial uses for groundwater within the Niles Cone sub-basin of the Santa Clara Valley Basin (Basin Number 2-9.01), which underlies the Project site:

    a. Municipal and Domestic Water Supply (MUN)

    b. Industrial Process Supply (PROC)

    c. Industrial Water Supply (IND)

    d. Agricultural Water Supply (AGR)

18. The Basin Plan lists the following existing and potential beneficial uses for seasonal palustrine wetlands:

    a. Agricultural Water Supply (AGR)

    b. Cold Freshwater Habitat (COLD)

    c. Freshwater replenishment (FRESH)

    d. Groundwater Recharge (GWR)

    e. Water Contact Recreation (REC1)

    f. Non-contract Water Recreation (REC2)

    g. Warm Freshwater Habitat (WARM)

    h. Wildlife Habitat (WILD)

    i. Preservation of Rare and Endangered Species (RARE)

19. Project implementation would permanently impact the beneficial uses of the seasonal palustrine wetlands at the Project site.

20. The California Environmental Quality Act (CEQA) requires all discretionary projects approved by public agencies to be reviewed in compliance with requirements of CEQA. The Site is part of the larger Eden Shores Business Park Site that was assessed as part of the South of Route 92 Specific Plan, which was adopted by the City of Hayward in 1988. The Specific Plan provided for a mixed-use development consisting of a business park, single-family housing, light manufacturing, open space, and active recreation on about 333.5 acres, which at the time was used mostly for agriculture. In 1998, the City of Hayward, acting as the CEQA lead agency, certified the *Environmental Impact Report for the South of Route 92 General Plan Amendment and Specific Plan for the Oliver Estate/Weber Properties* (EIR) (State Clearinghouse Number 95103079). Some of the development anticipated in the Specific Plan and analyzed in the 1998 EIR has been completed, including a sports park, a large retail development, and residential subdivisions.

    In 2007, an Initial Study / Mitigated Negative Declaration (IS/MND) was prepared for an amendment to the 1998 Specific Plan. This IS/MND specifically addressed development of the 5.43-acre Site. Impacts to waters of the State associated with the current Project are consistent with the impacts identified in the 2007 IS/MND.

21. The Regional Water Board, as a responsible agency under CEQA, has independently considered the EIR and IS/MND and finds that significant environmental impacts of the proposed Project to waters of the State have been identified and mitigated to less than significant levels by the mitigation requirements adopted in this Order (See Cal. Code Regs., tit. 14, § 15096, subd. (g).).

22. The State of California recognizes that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes (Wat. Code § 106.3; State Water Board Reso. 2016-10.). This Order promotes that policy by requiring discharges to meet discharge levels designed to protect human health and ensure that water is safe for domestic use.

23. The Regional Water Board provided public notice of the application pursuant to 23 CCR section 3858 on May 17, 2017, and posted information describing the Project on the Regional Water Board's website. The Regional Water Board has notified the Discharger and interested parties of its intent to issue WDRs for the Project.

24. The Regional Water Board, in a public meeting, heard and considered all comments pertaining to this Order.

25. In a letter from the San Francisco District of the U.S. Army Corps of Engineers (Corps), dated January 6, 2016 (Corps File Number SPN-1999-241560S), the Corps notified the Discharger that the wetlands at the Site would not be regulated as waters of the U.S. Therefore, fill of the seasonal wetland at the Site does not require authorization pursuant to a CWA section 404 permit. This discharge of fill to waters of the State at the Site is regulated under Water Code section 13263 and 23 CCR.

26. Pursuant to 23 CCR section 3857, the Regional Water Board is issuing WDRs for the Project.

IT IS HEREBY ORDERED that the Discharger, in order to meet the provisions contained in Division 7 of the Water Code and regulations adopted thereunder, shall comply with the following, pursuant to authority under Water Code sections 13263 and 13267:

A. Discharge Prohibitions

1. The direct or indirect discharge of wastes, as defined in Water Code section 13050(d), within or outside of the Site, to surface waters or surface water drainage courses is prohibited, except as authorized in this Order.
2. The Discharger shall not cause degradation of any municipal water supply.
3. The wetland fill activities subject to this Order shall not cause a nuisance as defined in Water Code §13050(m).
4. The discharge of materials other than stormwater, which are not otherwise regulated by a separate NPDES permit or allowed by this Order, to waters of the State is prohibited.
5. The groundwater in the vicinity of the Project shall not be degraded as a result of the placement of fill for the Project.
6. No debris, soil, silt, sand, cement, concrete, or washings thereof, or other construction related materials or wastes, oil or petroleum products or other organic or earthen material shall be allowed to enter into or be placed where they may be washed by rainfall or runoff into waters of the State. When operations are completed, any excess material shall be removed from the work area and any adjacent areas where such materials could be washed into waters of the State.

B. Discharge Specifications

1. In accordance with Water Code section 13260, the Discharger shall file with the Regional Water Board a report of any material change in the character, location, or quantity of this waste discharge that is beyond the scope of this Order. Any proposed material change in the discharge requires approval by the Regional Water Board.
2. The Discharger shall notify the Regional Water Board promptly by telephone or email, and in no case more than 24 hours after, if an adverse condition occurs as a result of a discharge. An adverse condition includes, but is not limited to, a violation of the conditions of this Order, spill of petroleum products or toxic chemicals, or damage to control facilities that could affect compliance. A written notification of the adverse condition shall be submitted to the Regional Water Board within five days of occurrence. The written notification shall identify the adverse condition, describe the actions taken or planned to remedy the condition, and specify a timetable, subject to approval by the Executive Officer, for the remedial actions that follow any initial response to the adverse condition.

C. Receiving Water Limitations

1. With the exception of the fill of waters of the State authorized by this Order, the discharge shall not cause the following conditions to exist in waters of the State at any place:
    a. Waters shall not contain floating material, including solids, liquids, foams, and scum in concentrations that cause nuisance or adversely affect beneficial uses.

b. Waters shall not contain oils, greases, waxes, or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or otherwise adversely affect beneficial uses.

c. Waters shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growth causes nuisance or adversely affects beneficial uses.

d. Waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life.

e. The natural receiving water temperature of inland surface waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses. The temperature of any cold or warm freshwater habitat shall not be increased by more than 5°F (2.8°C) above natural receiving water temperature.

2. The discharge shall not cause nuisance, or adversely affect the beneficial uses of the receiving water.

3. With the exception of the fill of waters of the State authorized by this Order, the discharge shall not cause the following limits to be exceeded in waters of the State at any point:

a. Dissolved Oxygen:	5.0 (WARM) or 7.0 (COLD) mg/l minimum. When natural factors cause lesser concentrations, then this discharge shall not cause further reduction in the concentration of dissolved oxygen.
b. pH:	A variation of natural ambient pH by more than 0.5 pH units.
c. Turbidity	Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses. Increases from normal background light penetration or turbidity relatable to waste discharge shall not be greater than 10 percent in areas where ambient turbidity is greater than 50 NTU. Where ambient turbidity is less than 50 NTU, activities authorized by this Order shall not increase turbidity by more than 5 NTU.
d. Toxicity	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.
e. Salinity	The Project shall not increase total dissolved solids or salinity to a degree that the increase adversely affects beneficial uses or water quality.
f. Chlorine	The Project shall not discharge water to waters of the State with residual chlorine levels (free chlorine plus chloramines) that exceed the instantaneous limit of 0 mg/L in Table 4-2 of the Basin Plan. Chlorine residual levels that are non-detect at a reporting limit of 0.08 mg/L will be considered to be incompliance with the instantaneous limit in Table 4-2 in the Basin Plan.

D. Provisions

1. The Project shall be constructed as described in the application materials submitted by the Discharger on March 14, 2017. Any changes to the Project design shall be submitted, acceptable to the Executive Officer, and accepted in writing prior to being implemented.

Compensatory Mitigation

2. To provide mitigation for the Project's impacts to waters of the State, the Discharger shall purchase 0.48 acres of seasonal wetland creation mitigation credits from the Bank as described in Finding 8.

Monitoring and Reporting

3. California Wetlands Portal: The Discharger shall complete the standard California Wetlands Form for the Project. The Discharger shall electronically submit the completed standard form and map showing the location of the Site to habitatdata@waterboards.ca.gov.

Notice of Mitigation Completion

4. Mitigation for impacts to wetlands will be satisfied through purchase of 0.48 acres of wetland mitigation credits from the Bank; proof of such purchase shall be submitted to the Executive Officer prior to impacting wetlands at the Site, and no later than September 1, 2017.

Project Site Stormwater Management

5. The Discharger shall comply with the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit, Order No. 2009-0009-DWQ; NPDES Permit No. CAS000002). The Discharger shall prepare and implement a site-specific Stormwater Pollution Prevention Plan (SWPPP) for the construction of each phase of the Project, in accordance with the requirements, provisions, limitations, and prohibitions of the Construction General Permit.

6. The Discharger, or its successors, shall ensure that the post-construction stormwater treatment best management practices (BMPs), including bioretention areas, in the *Stormwater Quality Management Plan for Eden Shores Retail Site, City of Hayward, Alameda County* (RSC Engineers, August 15, 2016) (Attachment 2) are constructed and appropriately maintained for the life of the Project. Stormwater treatment controls shall be constructed concurrently with each phase of the Project, so that treatment is provided for each completed new area of impervious surfaces in the same year that new impervious surfaces are created.

   The Discharger shall submit a final version of the plan in Attachment 2 to this Order to the Executive Officer for review and approval at least 90 days before construction starts on the phase of the Project that will be treated by the plan. The final version of the plan shall provide final construction details, including measures sufficient to achieve full trash capture consistent with the requirements of Order No. R2-2015-0049 (NPDES Permit No. CAS612008), Provision C.10. Construction of that phase of the Project shall not commence until the Executive Officer has approved the altered BMP proposal (Construction consists of any disturbance of the site surface that results in the creation of

new impervious surfaces). Any transfer of responsibility for this Provision's requirements from the Discharger to another party must be approved by the Executive Officer before the responsibility may be transferred. To propose such a transfer, the Discharger shall submit the terms of such a transfer of responsibility to the Executive Officer for review and approval. Upon approval of any such transfer of responsibility, the Discharger may request this Order be amended to reflect the transfer.

7. As-built plans for the post-construction stormwater treatment measures for each phase of the Project shall be prepared and submitted to the Regional Water Board within six weeks of the completion of construction and planting of each post-construction stormwater treatment feature. As-built plans shall be accompanied by an as-built report that describes any changes to the approved plans that were necessary during construction of the stormwater treatment feature, as well as a technical justification for any design changes that were necessary in the field. The technical justification must demonstrate that the constructed treatment measures are consistent with the requirements of Order No. R2-2015-0049 (NPDES Permit No. CAS612008).

Fees

8. The fee amount for these WDRs shall be in accordance with the current fee schedule, per 23 CCR, section 2200, subdivision (a), based on the quantity of waters of the State impacted by discharges authorized by this Order. The Project will permanently impact 0.48 of waters of the State. The application fee for these impacts is $4,899, which was paid in full on May 18, 2017. An annual discharge fee shall also be paid to the Regional Water Board in each year in which impacts to waters of the State that are authorized by this Order are implemented (note: the Annual Active Discharge Fee may be changed by the State Water Board; at the time that this Order was adopted, it was $720 per year). After the initial year, the Annual Active Discharge portion of the fee shall be billed annually to the Discharger. Fee payments shall indicate the Order number, CIWQS Place ID Number in the header for this Order, and the applicable year.

Records Provisions

9. The Discharger shall retain records of all reports required by this Order for a period of at least five years from the date of the report. This period may be extended by request of the Executive Officer at any time. The Discharger shall submit electronic versions of any submitted reports or documents.

General Provisions

10. The Discharger shall comply with all the Prohibitions, Effluent and Receiving Water Limitations, and Provisions of this Order immediately upon adoption of this Order or as provided in this Order.

11. All reports pursuant to these Provisions shall be prepared by professionals registered in the State of California.

12. The Discharger shall immediately notify the Regional Water Board by telephone and e-mail whenever an adverse condition occurs as a result of this discharge. Such a condition includes, but is not limited to, a violation of the conditions of this Order, a significant spill of petroleum products or toxic chemicals, or damage to control facilities that would cause

noncompliance. Pursuant to Water Code §13267(b), a written notification of the adverse condition shall be submitted to the Regional Water Board within two weeks of occurrence. The written notification shall identify the adverse condition, describe the actions necessary to remedy the condition, and specify a timetable, subject to the modifications of the Regional Water Board, for the remedial actions.

13. The Discharger shall notify the Regional Water Board in writing at least 30 days prior to the actual start date of impacts to waters of the State associated with the Project.

14. All work performed within waters of the State shall be completed in a manner that minimizes impacts to beneficial uses and habitat. Measures shall be employed to minimize disturbances that will adversely impact the water quality of waters of the State. Disturbance or removal of vegetation shall not exceed the minimum necessary to complete Project implementation.

15. The Discharger is considered to have full responsibility for correcting any and all problems that arise in the event of a failure that results in an unauthorized release of waste or wastewater.

16. The discharge of any hazardous, designated, or non-hazardous waste as defined in Title 23, Division 3, Chapter 15 of the California Administrative Code, shall be disposed of in accordance with applicable state and federal regulations.

17. These WDRs are subject to modification or revocation upon administrative or judicial review, including review and/or reconsideration pursuant to Water Code sections 13320 and 13330 and 23 CCR, section 3867.

18. These WDRs are not intended and shall not be construed to apply to any discharge from any activity involving a hydroelectric facility requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license unless the pertinent certification application was filed pursuant to 23 CCR, section 3855, subdivision (b) and the application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.

19. The Discharger shall maintain a copy of this Order and all relevant plans and BMPs at the Site, so as to be available at all times to site operating personnel.

20. The Discharger shall permit the Regional Water Board staff or its authorized representative, upon presentation of credentials:

    a. Entry on to the premises on which maintenance activities are planned or underway, wastes are located, or in which records are kept;

    b. Access to copy any records required to be kept under the terms and conditions of this Order;

    c. Access to inspect any treatment equipment, monitoring equipment, or monitoring method required by this Order; and

    d. Access to sample any discharge or surface water covered by this Order.

21. In the event of any violation or threatened violation of the conditions of this Order, the violation or threatened violation shall be subject to any remedies, penalties, process, or sanctions as provided for under applicable State policies, codes, and regulations. In response to a suspected violation of any condition of this Order, the Regional Water Board

may require the Discharger to furnish, under penalty of perjury, any technical or monitoring reports the Regional Water Board deems appropriate, provided that the burden, including costs, of the reports shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports. In response to any violation of the conditions of this Order, the Regional Water Board may add to or modify the conditions of this Order as appropriate to ensure compliance.

22. In accordance with Water Code §13260, the Discharger shall file with the Regional Water Board a report of any proposed change in ownership or any material change in the character, location, or quantity of this waste discharge. Any proposed material change in the discharge requires approval by the Regional Water Board after a hearing under Water Code §13263. Material change includes, but is not be limited to, all significant new soil disturbances, all proposed expansion of development, or any change in drainage characteristics at the Site. For the purpose of this Order, this includes any proposed change in the boundaries of the area of wetland/waters of the State to be filled and mitigated.
23. This Order is not transferable.
24. This Order does not authorize commission of any act causing injury to the property of another or of the public; does not convey any property rights; does not remove liability under federal, State, or local laws, regulations or rules of other programs and agencies, nor does this Order authorize the discharge of wastes without appropriate permits from other agencies or organizations.
25. The Regional Water Board will consider rescission of this Order upon Project completion and the Executive Officer's acceptance of notices of completion of mitigation for all mitigation, creation, and enhancement projects required or otherwise permitted now or subsequently under this Order.

I, Bruce H. Wolfe, Executive Officer, do hereby certify that the foregoing is a full, complete and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region on July 12, 2017.

_____
Bruce H. Wolfe
Executive Officer

Attachment A: Site Maps and Figures
Attachment B: *Stormwater Quality Management Plan for Eden Shores Retail Site, City of Hayward, Alameda County* (RSC Engineers, August 15, 2016)

Attachment A

California Regional Water Quality Control Board
San Francisco Bay Region

Waste Discharge Requirements for

Eden Shores Associates I's Eden Shores Commercial Retail Project In The City Of Hayward

Alameda County

Site Maps and Figures

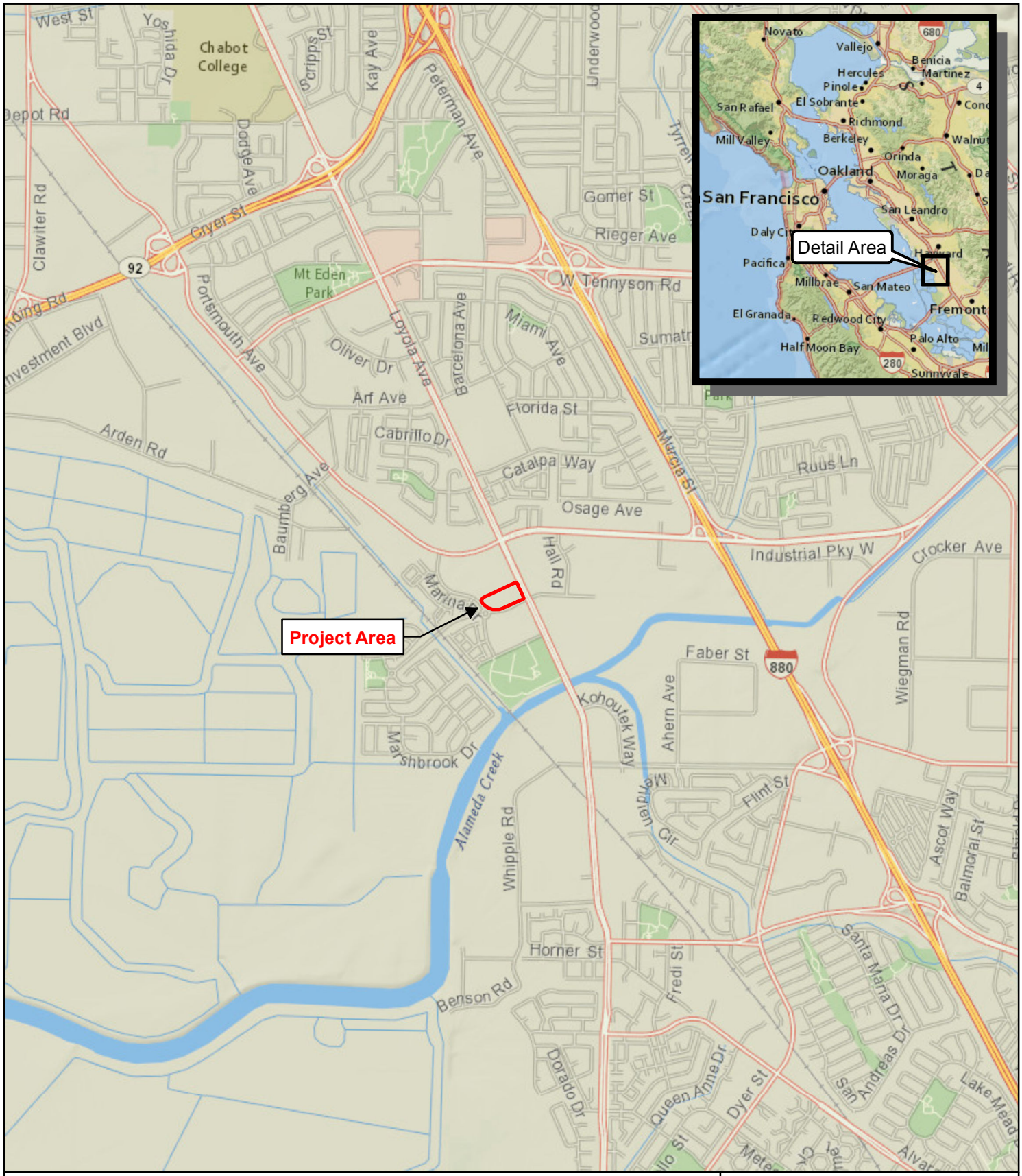

Figure 1. Project Area Location Map

Eden Shores
Commercial Retail Project
Alameda County, California

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Map Date: September 2014
Map By: DC
Base Source: ESRI/National Geographic

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Figure 2. Eden Shores Business Park Site Containing Eden Shores Commercial Retail Project

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Eden Shores Commercial Retail Project
Alameda County, California

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ENVIRONMENTAL CONSULTANTS

Date: September 2014
Map By: DC
Base Source: ESRI Streaming Imagery

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ENVIRONMENTAL CONSULTANTS

Eden Shores Commercial Retail Project

Alameda County, California

Figure 3.

Preliminary Corps Section 404 Jurisdiction Map

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Map Date: September 2014
Map By: DC
Base Source: ESRI Streaming Imagery

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ENVIRONMENTAL CONSULTANTS

Eden Shores Commercial Retail Project

Alameda County, California

Figure 4.

Eden Shores Commercial Retail Impacts to Section 404 Jurisdiction

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Map Date: September 2014
Map By: DC
Base Source: ESRI Streaming Imagery

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Attachment B

California Regional Water Quality Control Board
San Francisco Bay Region

Waste Discharge Requirements for

Eden Shores Associates I's Eden Shores Commercial Retail Project In The City Of Hayward

Alameda County

***Stormwater Quality Management Plan for Eden Shores Retail Site, City of Hayward, Alameda County* (RSC Engineers, August 15, 2016)**

STORM WATER MANAGEMENT PLAN

for

EDEN SHORES RETAIL SITE

City of Hayward, Alameda County, California

August 15, 2016

Prepared for:
Steelwave
4000 East Third Avenue, Suite 600
Foster City, CA 94404
(925) 980-9595
michaelolson51@gmail.com
Contact: Michael Olson

Prepared by:
RSC Engineering
2250 Douglas Blvd. Suite 150
Roseville, CA 95661
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J.Singh@rsc-engr.com
Contact: Jai Singh

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APPENDIX

I. INTRODUCTION

Urban storm water runoff is a significant source of pollution to the nation's water. In 1987, congress began to address this issue by requiring municipal storm water programs to obtain National Pollutant Discharge Elimination System (NPDES) permits. This resulted in local requirements for storm runoff from development projects. In 2003, Regional Water Quality Control Board added provision C.3 to the municipalities Storm water NPDES permit to provide guidance to local agencies for implementation of the storm water requirements.

In Alameda County, development projects must comply with NPDES permit issued to the County wide Clean Water Program by the Regional Water Quality Control Board in October 14, 2009. Development projects must implement best management practices (BMPs) and post construction storm water treatment measures to minimize long term water quality impacts using site design and source control measures to keep pollutants out of storm water runoff. Furthermore, changes to the permit requires (starting December 1, 2011) storm water treatment measures will have to be met using low impact development (LID) such as evapotranspiration and/or rain water harvesting and reuse. Where this is infeasible, landscape based treatment such as bio-retention, flow thru planters or rain garden shall be used to meet the permit requirements.

The purpose of this plan is to provide selection, preliminary design and guidance for the operation and maintenance of post construction storm water treatment measures to meet the C.3 provision and permit requirements to the maximum extent practicable for the storm runoff generated from the impervious surfaces for the proposed project.

II. PROJECT INFORMATION

A. Size and Location

The project site is approximately 5.8 +/- acres and is located at the northwest corner of Hesperian Boulevard and Eden Shores Boulevard in the city of Hayward, Alameda County. A vicinity map (Exhibit A) is included in Appendix for reference.

B. Existing Condition

The project site is vacant currently and is bordered to the east and southwest by public streets. An existing "big box" retail establishment (Costco) is to the north. The topography is currently flat with a very gentle slope towards Eden Shores Boulevard.

C. Project Description

The proposed project is a retail/commercial development and consists of approximately $35{,}500^{+}/_{-}$ sf of retail space with four (4) stand-alone buildings and a parking lot with approximately 277 parking spaces. Proposed open space/landscape areas are introduced in the parking lot and adjacent to the proposed buildings.

D. Pollutants of Concern

Pollutants of concern include oil, grease, sediments, pesticides, fertilizer, and trash. The post construction storm water treatment measures should be designed to remove these pollutants prior to entering into the underground storm drains.

E. Site Design of Water Quality

1. Site Design Measures

Site design measures are site planning techniques to help reduce storm water pollutants and reduce impervious surfaces of development sites. The following site design measures could be implemented:

- reduce impervious surfaces
- use landscaping as a drainage feature
- minimize storm water runoff by directing roof runoff to LID treatment areas
- direct runoff from impervious surfaces to LID treatment areas

2. Source Controls

Source controls prevent potential pollutant sources from contacting rainfall and storm water. Source control measures consist of structural or operational "good housekeeping" practices. The following source control measures could be implemented:

- Roofed trash enclosure and grease interceptor.
- Pest resistant landscaping.
- Select planting materials to site specific characteristics such as soil type, climate, prevailing wind, sunlight, or rainfall to ensure successful establishment.
- Regular sweeping of the parking lot, sidewalk, or paved areas to minimize accumulation of litter or debris.
- Routine inspection and cleaning of storm water inlet
- Storm drain inlets clearly marked "no dumping – drains to bay".
- Proper maintenance of landscaping with minimal pesticide and fertilizer use.
- Project CC&R's or education materials to inform tenants and/or building owners that no person shall dispose of, or permit the disposal, directly or indirectly of vehicle fluids, hazardous materials or rinsed water from tools, equipment, or trash cans into storm drains.
- Regularly mow grass in bio-retention areas and remove clippings from the site.
- Adopt Maintenance and Operations Agreement, Deed Covenant, or similar legally binding instrument that provides for long-term adequacy and operation of any structural storm water treatment measures. The instrument shall, at a minimum, prohibit specific activities and include facility operating and maintenance procedures and practices.

3. **Storm Water Treatment Measures**
   Storm water treatment measures are landscape based engineered treatment system to remove pollutants from storm water using natural process such as infiltration, ponding, flow-thru, or sedimentation. Storm water treatment measures must be sized to comply with provision C.3 and the Alameda County C.3 Storm Water Technical Guidance. The proposed project will generate impervious surfaces that would be required to be treated using landscaped base C.3 treatment measures. Selection, preliminary design and calculations of the proposed C.3 storm water treatment measures are outlined in more details in Sections III and IV below.

4. **Hydromodification Management Measures**
   Hydromodification Management (HM) measures include site design and source control measures that promote infiltration or minimize change in the rate and flow of runoff, when compared to pre-development condition, and to minimize downstream channel sediment and erosion. Based on the Alameda County wide Clean Water Program HMP susceptibility map, the project site is exempt from HM due because the site is tidally influenced. As a result, HM is not included as a part of this project. A copy of the HM susceptibility map is included in the Appendix (Exhibit D) for reference.

III. C.3 STORM WATER TREATMENT EVALUATION

A. Site Constraints and Opportunities

1. The low permeability and high clay content of the site soil combined with potentially high ground water table make it undesirable to promote infiltration.
2. The proposed project is a small in-fill site with physical constraints and existing improvements limiting use of sediment basins.
3. Due to nature of this development, a large portion of the site will be occupied by impervious surfaces generated by the proposed buildings, parking lots and sidewalk. The new impervious surfaces will need to be treated prior to discharging into the underground storm drains.
4. Open space and landscaped areas between buildings and in parking lots could be utilized for treatment areas to meet the C.3 requirements.

B. C.3 Storm Water Treatment Measures Selection

Given the constraints and opportunities of the proposed site and the goal of LID to reduce storm water runoff and mimic a site's pre-development hydrology, bio-retention in open space (landscaped areas) is selected to treat and reduce storm water pollutants from entering into the underground storm drains.

1. Bio-retention

Bio-retention functions as soil and plant based filtration that removes pollutants through a variety of physical, biological, and chemical process. These facilities consist of a layer of cobble stone (mulch is not recommend), planted landscape (grass, shrub or trees), sandy loam soil (with a minimum percolation rate of 5 inches/hour and a maximum percolation rate of 10 inches/hour), drain rock and under drains. The storm water runoff from impervious surface is directed and passed through the bio-retention areas and distributed evenly along a ponding area. Storm water runoff will percolate through the sandy loam treatment soil and eventually captured by the under drains and discharged into the underground storm drains. A detail of the bio-retention is on the preliminary storm water plan included in the Appendix (Exhibit B).

IV. C.3 STORM WATER TREATMENT MEASURES DESIGN AND CALCULATIONS

The storm water treatment measures should be sized to treat storm water runoff from relatively small impervious surfaces. The project site is divided into a number of Drainage Management Areas (DMA's) based on site topography and drainage patterns. Individual DMA's are defined and shown on the Preliminary Storm Water Management Plan (Exhibit B) included in the Appendix for reference. Runoff from each DMA is captured and conveyed to the individual treatment area by "sheet flow" across the impervious surface/ finished open space areas. For instance, runoff generated predominantly from the parking lot, DMA #3, will generally sheet flow across the asphalt pavement and drain into the bio-retention area and thru the bio-treatment soil mix. During a peak flow storm event when the runoff volume exceeds the treatment capacity, storm runoff will be "bypassed" to the overflow pipes/inlets and discharged into the underground storm drains. The remaining DMA's function similarly to DMA #3 where storm runoff is generally captured and treated with the bio-retention areas.

Runoff from the proposed building generally flows into the bio-retention treatment areas adjacent to the building. For instance, DMA #7 for "Shop B" building is captured and conveyed to the treatment area north of the building. Similarly, peak flow runoff will "overflow" into the overflow inlet within the bio-retention.

The C.3 provision of the Municipal Regional Storm Water Permit (MRP) specifies three alternatives for hydrology sizing: Flow Based, Volume Based, or Combination Flow and Volume Based. For the purposes of sizing the bio-retention area for this project, the combination flow and volume based (4% method) is used, in which the surface area of the treatment measure is designed to be 4% of the "effective impervious surface." If areas of landscaping or pervious paving contribute runoff to the treatment measure, the area of these pervious surfaces is multiplied by a factor of 0.1 and added to the "impervious area" to obtain the amount of "effective impervious area."

Based on the criteria noted above and the MRP C.3 provision requirements, surface area of the treatment measure for each DMA is calculated and tabulated on Table 1 as shown on the Preliminary Storm Water Plan, (Exhibit B – 1 of 2).

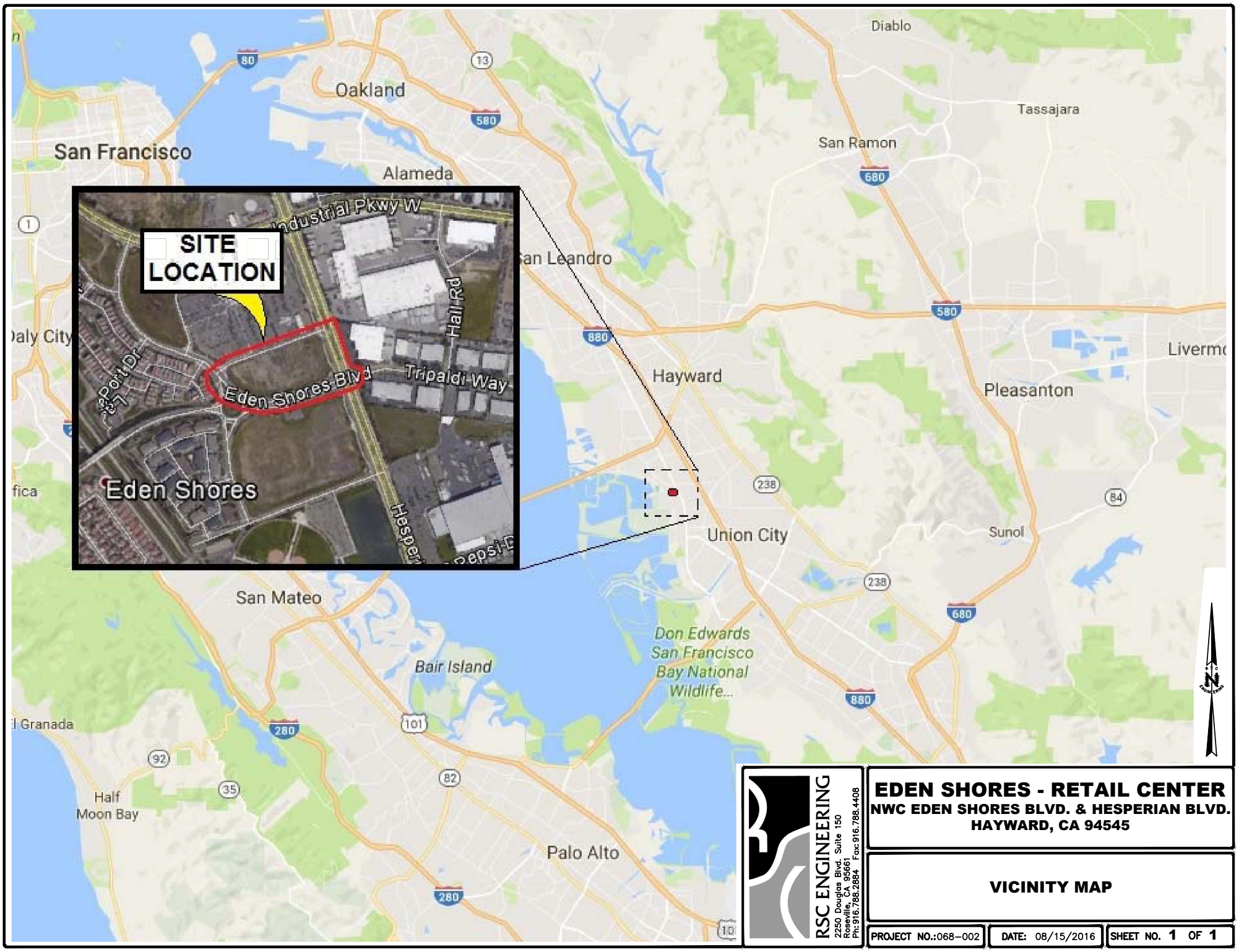
As shown in Table 1 (Exhibit B – 1 of 2), bio-retention areas provide sufficient treatment area for runoff generated from the proposed effective impervious areas. In addition, each bio-retention is designed to provide a minimum of 6" ponding before the runoff infiltrates the treatment soil as recommended by the C.3 guidebook.

V. OPERATION AND MAINTENANCE

Maintenance is essential for assuring the storm water treatment measures function effectively and do not cause flooding, provide habitat for mosquitos or otherwise become a nuisance. The owner of the proposed retail center will be responsible for providing adequate funding to maintain these post-construction storm water treatment measures. An Operation and Maintenance (O&M) Agreement will be executed by the owner with the City at project approval stage accepting responsibility for maintenance as well as ensuring access to the City, Water Board, Alameda County Mosquito Abatement District or Vector Control District for routine inspection. A Deed Covenant, which provides for long-term adequacy of any stormwater control, is included in the Appendix (Exhibit C) for reference.

Maintenance plans outlining routine activities and frequency of the maintenance are included in the Appendix for reference.

EXHIBIT A
VICINITY MAP



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EDEN SHORES - RETAIL CENTER

NWC EDEN SHORES BLVD. & HESPERIAN BLVD.
HAYWARD, CA 94545

VICINITY MAP

PROJECT NO.: 068-002	DATE: 08/15/2016	SHEET NO. 1 OF 1

EXHIBIT B
PRELIMINARY STORM WATER PLAN

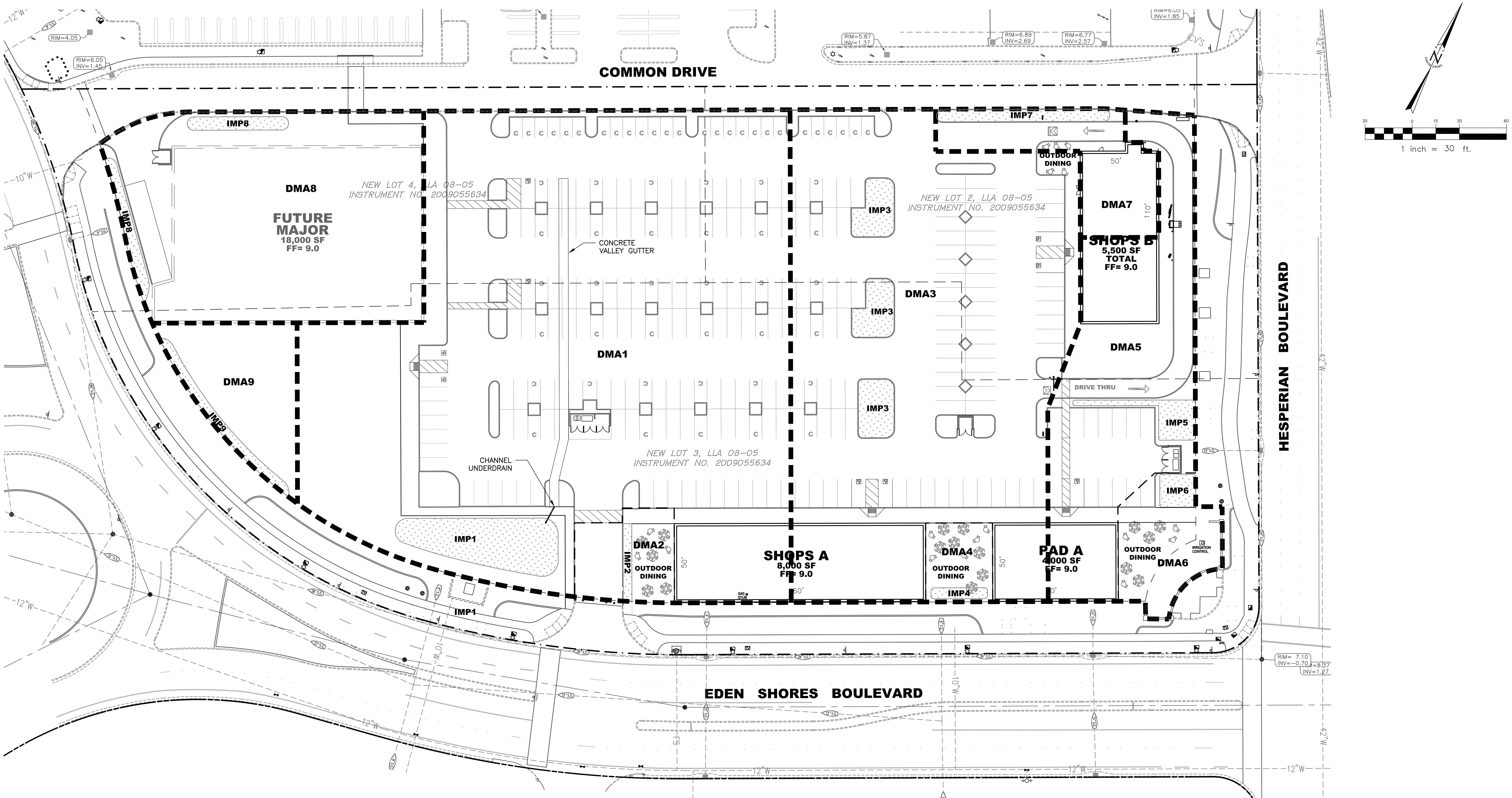


TABLE 1

DMA	IMPERVIOUS AREA (SF)	PERVIOUS AREA (SF)	TOTAL AREA (SF)	EFFECTIVE IMPERVIOUS AREA (SF)	BIO-RETENTION AREA REQUIRED (SF)	BIO-RETENTION AREA PROVIDED (SF)
1	69,788	9,725	79,513	70,761	2,830	2,851
2	3,190	271	3,461	3,217	129	271
3	45,332	4,013	49,346	45,734	1,829	2,431
4	1,893	249	2,142	1,918	77	249
5	13,346	5,164	18,510	13,863	555	787
6	3,980	550	4,530	4,035	161	479
7	5,004	1,064	6,068	5,111	204	818
8	21,635	3,917	25,552	22,027	881	1,147
9	5,537	753	6,290	5,612	224	753

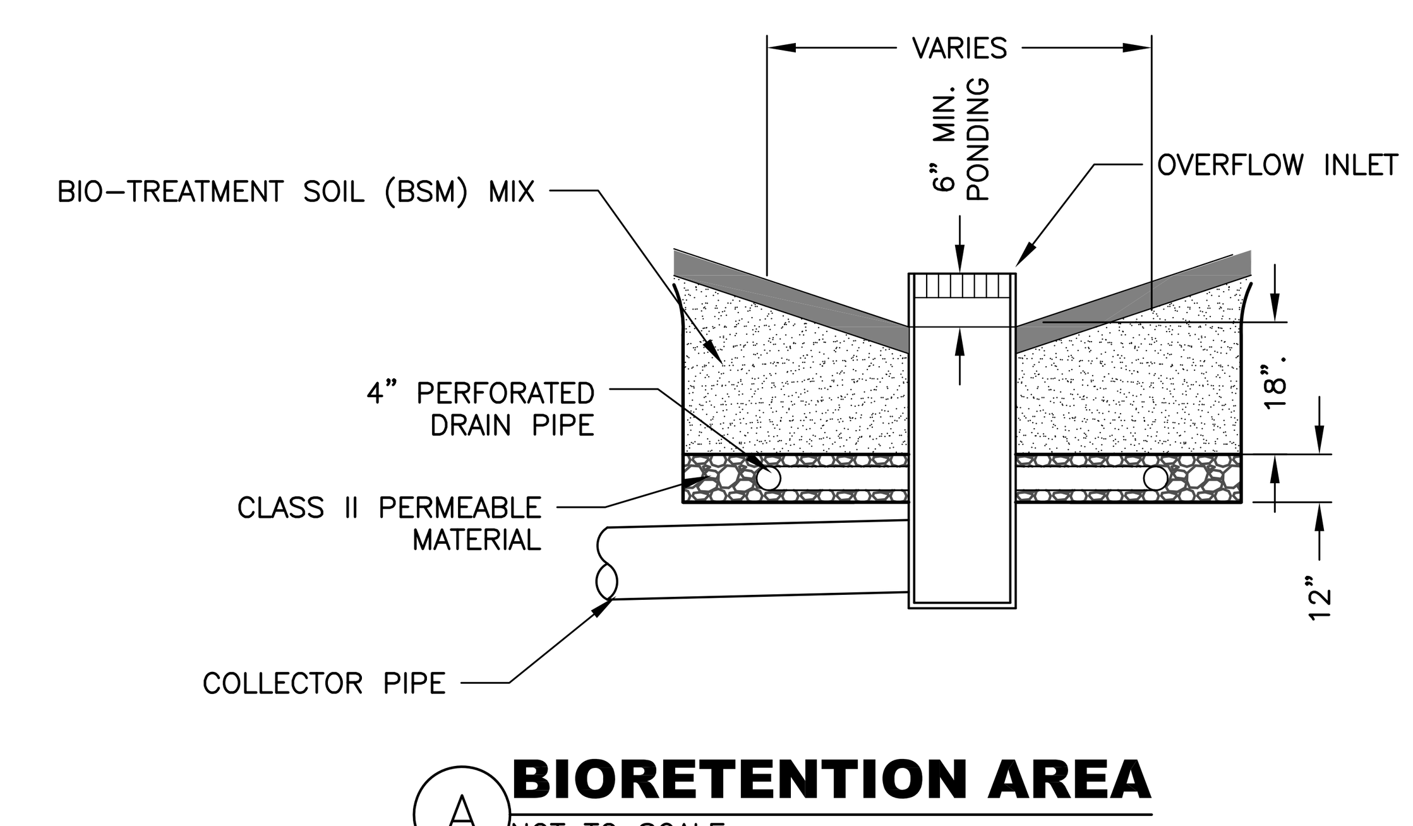
NOTES:

THE CALCULATIONS ARE BASED ON THE ALAMEDA COUNTYWIDE CLEAN WATER PROGRAM, C.3 STORMWATER TECHNICAL GUIDANCE, DATED APRIL 11, 2016, AND THE FOLLOWING CRITERIA:

a. 0.2 INCHES/HOUR RAINFALL INTENSITY ON 100% IMPERVIOUS AREA
b. SOIL FOR TREATMENT MEDIUM WITH A 5 INCHES/HOUR INFILTRATION RATE
c. A TREATMENT MEDIUM OF 0.04 SIZING FACTOR FOR BIORENTENTION AREAS

SIZING FACTOR OF 0.04 NOTED ABOVE IS CALCULATED BASED ON THE FOLLOWING CRITERIA:

a. SIZING FACTOR = (0.2 IN/HR)/(5 IN/HR) = 0.04
b. PERVIOUS AREAS DRAINING TO THE TREATMENT MEASURE ARE MULTIPLIED A FACTOR OF 0.1 TO OBTAIN THE AMOUNT OF "EFFECTIVE IMPERVIOUS AREA."



(A) **BIORETENTION AREA**
NOT TO SCALE

LEGEND

(hatched area)	PROPOSED BIO-RETENTION LOCATION
(heavy dashed line)	DRAINAGE SHED LINE
DMA1	DRAINAGE SHED NUMBER
IMP1	CORRESPONDING WATER QUALITY UNIT (BIO-RETENTION)

BLAKE GRIGGS PROPERTIES

REV NO.	DATE	DESCRIPTION	ENG INT.	BY CITY APPROVED	DATE

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PROJECT NO: 068-002
DRAWN BY: RSC Eng
CHECKED BY: RSC Eng
DESIGNED BY: RSC Eng

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HAYWARD, CA 94545

SHEET TITLE
PRELIMINARY STORMWATER PLAN

SHEET NO.
EXHIBIT B
1 OF 2

DATE: AUGUST 15, 2016

Specification of soils for Biotreatment or Bioretention Facilities

Soils for biotreatment or bioretention areas shall meet two objectives:

- Be sufficiently permeable to infiltrate runoff at a minimum rate of 5" per hour during the life of the facility, and
- Have sufficient moisture retention to support healthy vegetation.

Achieving both objectives with an engineered soil mix requires careful specification of soil gradations and a substantial component of organic material (typically compost).

Local soil products suppliers have expressed interest in developing 'brand-name' mixes that meet these specifications. At their sole discretion, municipal construction inspectors may choose to accept test results and certification for a 'brand-name' mix from a soil supplier.

Tests must be conducted within 120 days prior to the delivery date of the bioretention soil to the project site.

Batch-specific test results and certification shall be required for projects installing more than 100 cubic yards of bioretention soil.

SOIL SPECIFICATIONS

Bioretention soils shall meet the following criteria. "Applicant" refers to the entity proposing the soil mixture for approval by a Permittee.

1. General Requirements – Bioretention soil shall:
   a. Achieve a long-term, in-place infiltration rate of at least 5 inches per hour.
   b. Support vigorous plant growth.
   c. Consist of the following mixture of fine sand and compost, measured on a volume basis:
      60%-70% Sand
      30%-40% Compost
2. Submittal Requirements – The applicant shall submit to the Permittee for approval:
   a. A minimum one-gallon size sample of mixed bioretention soil.
   b. Certification from the soil supplier or an accredited laboratory that the Bioretention Soil meets the requirements of this guideline specification.
   c. Grain size analysis results of the fine sand component performed in accordance with ASTM D 422, Standard Test Method for Particle Size Analysis of Soils or Caltrans Test Method (CTM) C202.
   d. Quality analysis results for compost performed in accordance with Seal of Testing Assurance (STA) standards, as specified in 4.
   e. Organic content test results of mixed Bioretention Soil. Organic content test shall be performed in accordance with by Testing Methods for the Examination of Compost and Composting (TMECC) 05.07A, "Loss-On-Ignition Organic Matter Method".
   f. Grain size analysis results of compost component performed in accordance with ASTM D 422, Standard Test Method for Particle Size Analysis of Soils.
   g. A description of the equipment and methods used to mix the sand and compost to produce Bioretention Soil.

   a. Compost Quality Analysis by Laboratory – Before delivery of the soil, the supplier shall submit a copy of lab analysis performed by a laboratory that is enrolled in the US Composting Council's Compost Analysis Proficiency (CAP) program and using approved Test Methods for the Examination of Composting and Compost (TMECC). The lab report shall verify:
      (1) Organic Matter Content: 35% - 75% by dry wt.
      (2) Carbon and Nitrogen Ratio: C:N < 25:1 and C:N >15:1
      (3) Maturity/Stability: Any one of the following is required to indicate stability:
         (i) Oxygen Test < 1.3 O2 /unit TS /hr
         (ii) Specific oxy. Test < 1.5 O2 / unit BVS /hr
         (iii) Respiration test < 8 mg CO_2-C /g OM / day
         (iv) Dewar test < 20 Temp. rise (°C) e.
         (v) Solvita® > 5 Index value
      (4) Toxicity: Any one of the following measures is sufficient to indicate non-toxicity.
         (i) $NH_4^+ : NO_3^-$-N < 3
         (ii) Ammonium < 500 ppm, dry basis
         (iii) Seed Germination > 80 % of control
         (iv) Plant Trials > 80% of control
         (v) Solvita® = 5 Index value
      (5) Nutrient Content: provide analysis detailing nutrient content including N-P-K, Ca, Na, Mg, S, and B.
         (i) Total Nitrogen content 0.9% or above preferred.
         (ii) Boron: Total shall be <80 ppm;
      (6) Salinity: Must be reported; < 6.0 mmhos/cm
      (7) pH shall be between 6.2 and 8.2 May vary with plant species.
   b. Compost Quality Analysis by Compost Supplier – Before delivery of the compost to the soil supplier the Compost Supplier shall verify the following:
      (1) Feedstock materials shall be specified and include one or more of the following: landscaping/yard trimmings, grass clippings, food scraps, and agricultural crop residues.
      (2) Maturity/Stability: shall have a dark brown color and a soil-like odor. Compost exhibiting a sour or putrid smell or containing recognizable grass or leaves, or is hot (120F) upon delivery or rewetting is not acceptable.
      (3) Weed seed/pathogen destruction: provide proof of process to further reduce pathogens (PFRP). For example, turned windrows must reach min. 55C for 15 days with at least 5 turnings during that period.

   c. Compost for Bioretention Soil Texture – Compost for bioretention soils shall be analyzed by an accredited lab using #200, 1/4 inch, 1/2 inch, and 1 inch sieves (ASTM D 422 or as approved by municipality), and meet the following gradation:

Sieve Size	Percent Passing (by weight)	
	Min	*Max*

      (3) Certification from an accredited geotechnical testing laboratory that the Bioretention Soil has an infiltration rate between 5 and 12 inches per hour as tested according to Section 1.b.(2)(ii).
      (4) Organic content test results of mixed Bioretention Soil. Organic content test shall be performed in accordance with by Testing Methods for the Examination of Compost and Composting (TMECC) 05.07A, "Loss-On-Ignition Organic Matter Method".
      (5) Grain size analysis results of mixed bioretention soil performed in accordance with ASTM D 422, Standard Test Method for Particle Size Analysis of Soils.
      (6) A description of the equipment and methods used to mix the sand and compost to produce Bioretention Soil.
      (7) The name of the testing laboratory(s) and the following information:
         (i) Contact person(s)
         (ii) Address(s)
         (iii) Phone contact(s)
         (iv) E-mail address(s)
         (v) Qualifications of laboratory(s), and personnel including date of current certification by STA, ASTM, or approved equal.
   b. Bioretention Soil
      (1) Bioretention Soil Texture: Bioretention Soils shall be analyzed by an accredited lab using #200, and 1/2" inch sieves (ASTM D 422 or as approved by municipality), and meet the following gradation:

Sieve Size	Percent Passing (by weight)	
	Min	*Max*
1/2 inch	97	100
No. 200	2	5

      (2) Bioretention Soil Permeability testing: Bioretention Soils shall be analyzed by an accredited geotechnical lab for the following tests:
         (i) Moisture – density relationships (compaction tests) shall be conducted on bioretention soil. Bioretention soil for the permeability test shall be compacted to 85 to 90 percent of the maximum dry density (ASTM D1557).
         (ii) Constant head permeability testing in accordance with ASTM D2434 shall be conducted on a minimum of two samples with a 6-inch mold and vacuum saturation.

MULCH FOR BIORETENTION FACILITIES

Three inches of mulch is recommended for the purpose of retaining moisture, preventing erosion and minimizing weed growth. Projects subject to the State's Model Water Efficiency Landscaping Ordinance (or comparable local ordinance) will be required to provide at least three inches of mulch. Aged mulch, also called compost mulch, reduces the ability of weeds to establish, keeps soil moist, and replenishes soil nutrients. Aged mulch can be obtained through soil suppliers or directly from commercial recycling yards. It is recommended to apply 1" to 2" of composted mulch, once a year, preferably in June following weeding.

   h. Provide the name of the testing laboratory(s) and the following information:
      (1) Contact person(s)
      (2) Address(s)
      (3) Phone contact(s)
      (4) E-mail address(s)
      (5) Qualifications of laboratory(s), and personnel including date of current certification by USCC, ASTM, Caltrans, or approved equal
3. Sand for Bioretention Soil
   a. Sand shall be free of wood, waste, coating such as clay, stone dust, carbonate, etc., or any other deleterious material. All aggregate passing the No. 200 sieve size shall be nonplastic.
   b. Sand for Bioretention Soils shall be analyzed by an accredited lab using #200, #100, #40 or #50, #30, #16. #8, #4, and 3/8 inch sieves (ASTM D 422, CTM 202 or as approved by municipality), and meet the following gradation:

Sieve Size	Percent Passing (by weight)	
	Min	*Max*
3/8 inch	100	100
No. 4	90	100
No. 8	70	100
No. 16	40	95
No. 30	15	70
No. 40 or No.50	5	55
No. 100	0	15
No. 200	0	5

Note: all sands complying with ASTM C33 for fine aggregate comply with the above gradation requirements.

4. Composted Material

   Compost shall be a well decomposed, stable, weed free organic matter source derived from waste materials including yard debris, wood wastes or other organic materials not including manure or biosolids meeting the standards developed by the US Composting Council (USCC). The product shall be certified through the USCC Seal of Testing Assurance (STA) Program (a compost testing and information disclosure program).

1 inch	99	100
1/2 inch	90	100
1/4 inch	40	90
No. 200	1	10

   d. Bulk density shall be between 500 and 1100 dry lbs/cubic yard
   e. Moisture content shall be between 30% - 55% of dry solids.
   f. Inerts – compost shall be relatively free of inert ingredients, including glass, plastic and paper, < 1 % by weight or volume.

   g. Select Pathogens – Salmonella <3 MPN/4grams of TS, or Coliform Bacteria <10000 MPN/gram.
   h. Trace Contaminants Metals (Lead, Mercury, Etc.) – Product must meet US EPA, 40 CFR 503 regulations.
   i. Compost Testing – The compost supplier will test all compost products within 120 calendar days prior to application. Samples will be taken using the STA sample collection protocol. (The sample collection protocol can be obtained from the U.S. Composting Council, 4250 Veterans Memorial Highway, Suite 275, Holbrook, NY 11741 Phone: 631-737-4931, www.compostingcouncil.org). The sample shall be sent to an independent STA Program approved lab. The compost supplier will pay for the test.

VERIFICATION OF ALTERNATIVE BIORETENTION SOIL MIXES

Bioretention soils not meeting the above criteria shall be evaluated on a case by case basis. Alternative bioretention soil shall meet the following specification: "Soils for bioretention facilities shall be sufficiently permeable to infiltrate runoff at a minimum rate of 5 inches per hour during the life of the facility, and provide sufficient retention of moisture and nutrients to support healthy vegetation."

The following steps shall be followed by municipalities to verify that alternative soil mixes meet the specification:

1. General Requirements – Bioretention soil shall achieve a long-term, in-place infiltration rate of at least 5 inches per hour. Bioretention soil shall also support vigorous plant growth. The applicant refers to the entity proposing the soil mixture for approval.
   a. Submittals – The applicant must submit to the municipality for approval:
      (1) A minimum one-gallon size sample of mixed bioretention soil.
      (2) Certification from the soil supplier or an accredited laboratory that the Bioretention Soil meets the requirements of this guideline specification.

BLAKE GRIGGS PROPERTIES

REV NO	DATE	DESCRIPTION	ENG BY	CHK BY	DATE APPROVED
1					
2					
3					
4					
5					

RSC ENGINEERING
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PROJECT NO: 068-002
DRAWN BY: RSC Eng
CHECKED BY: RSC Eng
DESIGNED BY: RSC Eng

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HAYWARD, CA 94545

SHEET TITLE
PRELIMINARY STORMWATER PLAN

SHEET NO.
EXHIBIT B
2 OF 2

DATE: AUGUST 15, 2016

EXHIBIT C

MAINTENANCE PLANS

&

DEED COVENANT

Maintenance Plan

Routine Maintenance Activities

The maintenance objectives for the landscaped storm water treatment include keeping up the pollutant removal efficiency of the channel by maintaining a dense, healthy vegetated cover. Routine maintenance activities, and the frequency at which they will be conducted, are shown in the table below.

Routine Maintenance Activities for Landscape Based Treatment Areas		
No.	**Maintenance Task**	**Frequency of Task**
1	Remove obstructions, debris and trash from the treatment measure and dispose of properly.	Minimum 3 times/year.[1]
2	Inspect the treatment measure to ensure that it drains between storms and within five days after rainfall.	Minimum 3 times/year.[1]
3	Inspect downspouts, curb cuts, overflow pipes, inflow pipes, outflow pipes, and/or bubble ups to ensure flow to the treatment measure is unimpeded. Remove debris and repair damaged pipes. Check splash blocks or rocks and repair, replace and replenish as necessary.	Minimum 3 times/year.[1]
4	Inspect inlets for channeling, ruts and holes, soil exposure or other evidence of erosion.	Minimum 3 times/year.[1]
5	Clear obstructions and remove sediment accumulating near inlets when it builds up to 2 inches at any spot, or if it covers vegetation. Dispose of sediment properly.	Minimum 3 times/year.[1]
6	Inspect concrete lined measures to ensure that box is structurally sound (no cracks or leaks). Repair as necessary.	Annually
7	Evaluate health of vegetation. Remove and replace all dead and diseased vegetation. Replace with vegetation with similar growth requirements. List the plants to be used in the treatment area here, or attach a separate sheet:	Monthly
8	Maintain vegetation and the irrigation system. Irrigate vegetation when necessary. Mow, prune and/or weed to keep the treatment measure neat and orderly in appearance. Remove any invasive vegetation and/or weeds. Treat vegetation using preventative and low-toxic methods (Integrated Pest Management).	Monthly

Routine Maintenance Activities for Landscape Based Treatment Areas		
No.	**Maintenance Task**	**Frequency of Task**
9	Check that mulch, cobble, and/or treatment soil[2] are at the appropriate depth/s (per design specifications) and replenish when necessary.	Minimum 3 times/year.[1]
10	Inspect the treatment measure using the inspection checklist provided in Exhibit D.	Minimum 3 times/year.[1]

Check the appropriate landscaped based measures that are located at this site:

☐ Bioretention Area ☐ Flow-Through Planter

☐ Tree Well Filter ☐ Vegetated Swale

Inspections: The Landscaped Based Inspection and Maintenance Checklist provided shall be used to conduct inspections, identify needed maintenance, and record maintenance that is conducted.

Mosquito Abatement: Standing water shall not remain in the treatment measures for more than five days, to prevent mosquito generation. Should any mosquito issues arise, contact the Alameda County Mosquito Abatement District (ACMAD), as needed for assistance. Mosquito larvicides shall be applied only when absolutely necessary, as indicated by the ACMAD and then only by a licensed professional or contractor. Contact information for ACMAD follows: Alameda County Mosquito Abatement District,

23187 Connecticut St., Hayward, CA 94545, Phone: (510) 783-7747.

[1] The 3 minimum times/year are as follows: 1) before wet season, 2) after rain events >1" or greater, and 3) after the wet season.

[2] Soil used shall meet the specifications included in the most recent version of Alameda Countywide Clean Water Program's C.3 Storm Water Technical Guidance Manual (accessible at http://fremont.gov/stormwaterdevelopment). Provide a laboratory analysis, from an approved testing laboratory, to the City to confirm that the soils provided meet the above requirement.

Landscape Based Inspection and Maintenance Checklist

Property Address: _____ Property Owner: _____

Treatment Measure No.: ____ Date of Inspection: _____ Inspector(s): _____

Type of Inspection: ☐ Monthly ☐ Pre-Wet Season ☐ After heavy runoff (1" or greater)
☐ End of Wet Season ☐ Other: _____

Type of Treatment Measure: ☐ Bioretention Area ☐ Flow-Through Planter Tree Well Filter ☐ Vegetated Swale

Defect	Conditions When Maintenance Is Needed	Maintenance Needed (Y/N)	Comments*	Results Expected When Maintenance is Performed
1. Trash and Debris Accumulation	Trash and debris accumulated in the treatment measure.			Treatment measure is free of trash and debris.
2. Standing Water	When water stands in the treatment measure between storms and does not drain within 5 days after rainfall. Conditions within treatment measure provide mosquito breeding habitat.			No standing water after 5 days of rain event.
3. Storm water Intermediaries	Downspouts, curb cuts, overflow pipes, inflow pipes, outflow pipes, and/or bubble ups are damaged and/or clogged with sediment and/or debris. Splash blocks or rocks are damaged or missing.			All storm water intermediaries are cleaned and repaired. Treatment measure flows as intended per design specifications.
4. Erosion	Treatment measure has channels, ruts or holes, and/or soil exposure due to erosion.			There is no evidence of channeling, ruts and holes, soil exposure or other evidence of erosion.

Landscaped Base Inspection and Maintenance Checklist

Date of Inspection _____

Property Address: _____

Treatment Measure No.: _____

Defect	Conditions When Maintenance Is Needed	Maintenance Needed (Y/N)	Comments*	Results Expected When Maintenance is Performed
5. Sediment Accumulation on Vegetation	Sediment accumulating near and/or in inlets is built up to 2 inches at any spot, or it covers vegetation.			When finished, treatment measure should be level from side to side and drain freely toward outlet. There should be no areas of standing water once inflow has ceased and sediment is disposed of properly.
6. Structural integrity	Concrete lined measure has cracks and/or leaks.			Cracks and leaks are repaired and the treatment measure is structurally sound.
7. Vegetation Health	Vegetation is either dead or diseased. Growth of planted vegetation is poor because sunlight does not reach the treatment measure.			Vegetation is healthy and receives proper amount of sunlight. Dying or diseased vegetation have been properly removed and replaced with vegetation having similar growth requirements.
8. Vegetation Maintenance	Vegetation isn't being properly irrigated. When the planted vegetation becomes excessively tall; when invasive vegetation and/or weeds start to take over.			Vegetation is irrigated & mowed/trimmed when necessary. There is no sign of invasive vegetation and/or weeds.
9. Mulch, cobble, and/or treatment soil	Mulch, cobble, and/or treatment soil is missing or patchy in appearance.			Mulch, cobble, and/or treatment soil meet design specifications.
10. Miscellaneous	Any condition not covered above that needs attention in order for the treatment measure to function as designed.			Treatment measure operates per the design specifications.

Storm water Treatment Measures Operation and Maintenance

Inspection Report to the

_____, Alameda County, California

This report and attached inspection checklists document the inspection and maintenance conducted for the identified storm water treatment measures (STMs) and flow duration controls (FDCs) subject to the Maintenance Agreement between the City and the property owner during the annual reporting period indicated below.

I. Property Information:

Property Address or APN: _____

Property Owner: _____

II. Contact Information:

Name of person to contact regarding this report: _____

Phone number of contact person: _____ Email: _____

Address to which correspondence regarding this report should be directed:

_____

_____

III. Reporting Period:

This report, with the attached completed inspection checklists, documents the inspections and maintenance of the identified treatment measures during the time period from January 1 to December 31 annually.

IV. Storm Water Treatment Measure and Flow Duration Control Information:

The following STMs and FDCs are located on the property identified above and are subject to the Maintenance Agreement:

Number of each type of STM or FDC	Type of STM or FDC	Location of STMs & FDCs on the Property

V. Sediment Removal

Total amount of accumulated sediment removed from the storm water treatment measure(s) during the reporting period: _____ cubic yards.

The sediment was removed and disposed as follows: _____

_____

VI. Inspector Information:

The inspections documented in the attached inspection checklists were conducted by the following inspector(s):

Inspector Name and Title	Inspector's Employer and Address

VII. Statement of STM and FDC Condition

Based on the inspections documented in the attached checklists, are the STMs and FDCs identified in this report present, functional and being maintained as required by the Maintenance Plan? (Check yes or no.)

____YES ____NO

If "NO", describe problem, proposed solution and schedule of correction:

VIII. Certification:

I hereby certify, under penalty of perjury, that the information presented in this report and attachments is true and complete:

_____ _____

Signature of Property Owner or Other Responsible Party Date

_____

Type or Print Name

_____

Company Name

_____

Address

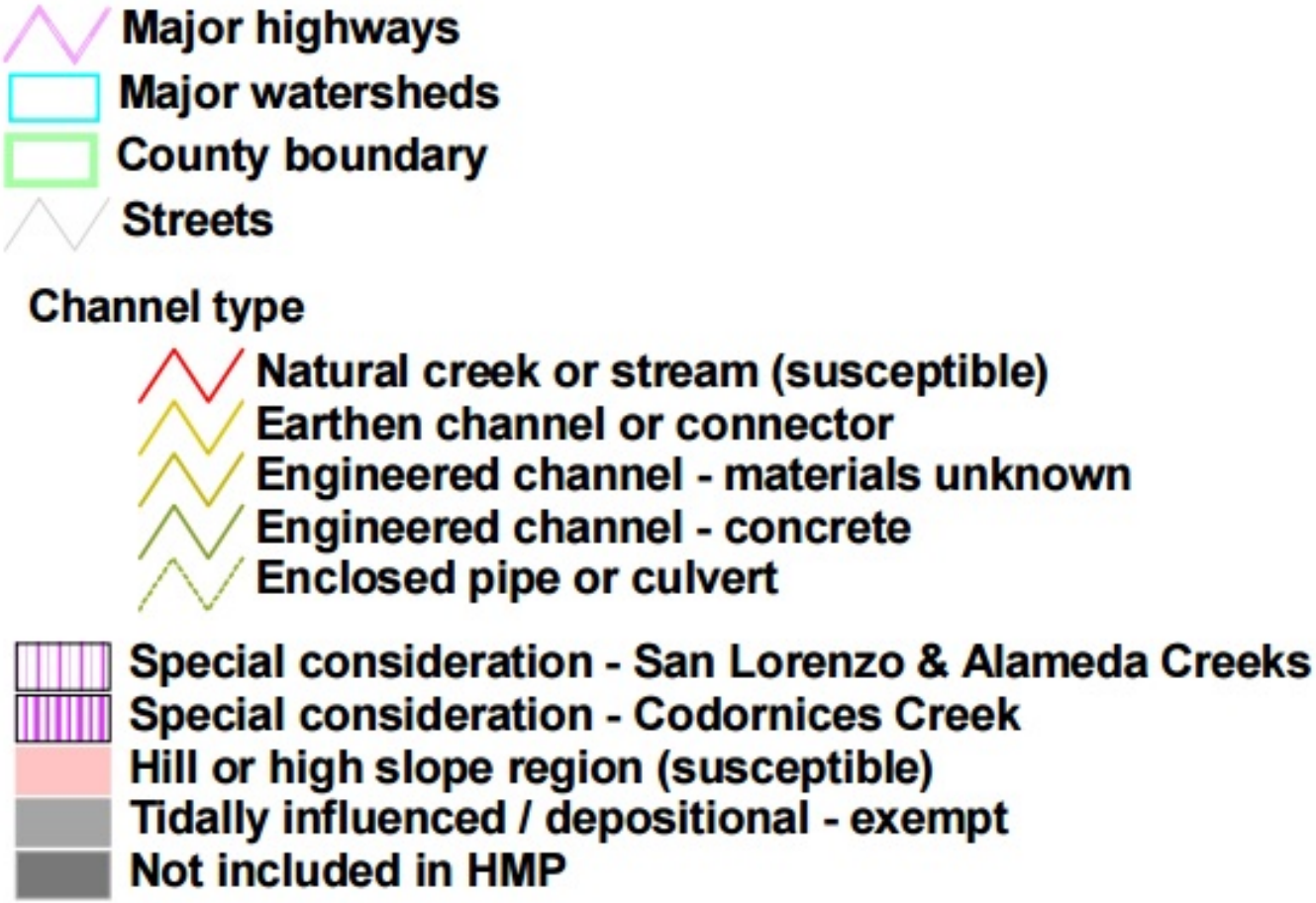
Phone number:_____ Email:_____

EXHIBIT D
HMP SUSCEPTIBILITY INDEX & MAP

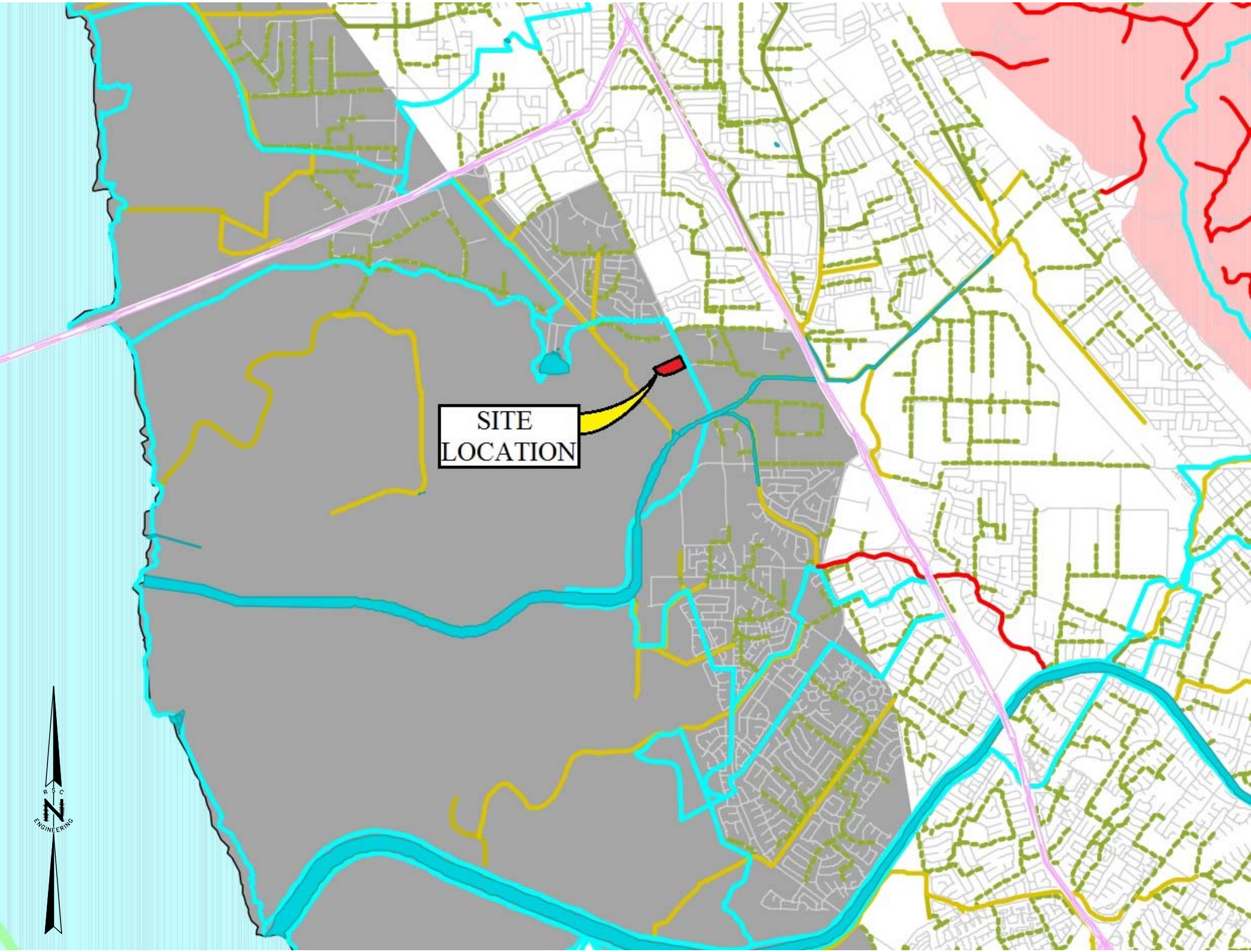
Exhibit D:
HMP susceptibility map

Alameda Countywide
Clean Water Program
November 13, 2006

LEGEND (see text also)



Data sources:
Alameda County Flood Control and Water Conservation District; ACCWP;
Zone 7 Water Agency; U.S. Census Bureau; U.S. Geological Survey;
William Lettis Associates (Oakland Museum creek and watershed mapping project);
Balance Hydrologics and EIP Associates (Proposed test of the approach for the
ACCWP HMM Preliminary Map, July 2003)


SITE
LOCATION
R S C
ENGINEERING