

GENERAL NOTES

1. APPROVAL OF THESE PLANS BY THE CITY ENGINEER DOES NOT AUTHORIZE ANY WORK TO BE PERFORMED UNTIL A PERMIT HAS BEEN ISSUED.
2. THE APPROVAL OF THIS PLAN OR ISSUANCE OF A PERMIT BY THE CITY OF SAN DIEGO DOES NOT AUTHORIZE THE SUBDIVIDER AND OWNER TO VIOLATE ANY FEDERAL, STATE OR CITY LAWS, ORDINANCES, REGULATIONS, OR POLICIES, INCLUDING, BUT NOT LIMITED TO, THE FEDERAL ENDANGERED SPECIES ACT OF 1973 AND AMENDMENTS THERETO (16 USC SECTION 1531 ET. SEQ.)
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SURVEY MONUMENTS AND/OR VERTICAL CONTROL BENCHMARKS WHICH ARE DISTURBED OR DESTROYED BY CONSTRUCTION. A LAND SURVEYOR MUST FIELD LOCATE, REFERENCE, AND/OR PRESERVE ALL HISTORICAL OR CONTROLLING MONUMENTS. IF DESTROYED, SUCH MONUMENTS SHALL BE REPLACED WITH APPROPRIATE MONUMENTS BY A LAND SURVEYOR. A CORNER RECORD OR RECORD OF SURVEY, AS APPROPRIATE SHALL BE FILED AS REQUIRED BY THE PROFESSIONAL LAND SURVEYORS ACT. IF ANY VERTICAL CONTROL IS TO BE DISTURBED OR DESTROYED, THE CITY OF SAN DIEGO FIELD SURVEY SECTION MUST BE NOTIFIED, IN WRITING, AT LEAST 3 DAYS PRIOR TO THE CONSTRUCTION. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE COST OF REPLACING ANY VERTICAL CONTROL BENCHMARKS DESTROYED BY THE CONSTRUCTION.
4. IMPORTANT NOTICE: SECTION 4216 OF THE GOVERNMENT CODE REQUIRES A DIG ALERT IDENTIFICATION NUMBER BE ISSUED BEFORE A "PERMIT TO EXCAVATE" WILL BE VALID. FOR YOUR DIG ALERT I.D. NUMBER, CALL UNDERGROUND SERVICE ALERT, TOLL FREE 1-800-422-4133, TWO DAYS BEFORE YOU DIG.
5. CONTRACTOR SHALL IMPLEMENT AN EROSION AND SEDIMENT CONTROL PROGRAM DURING THE PROJECT GRADING AND/OR CONSTRUCTION ACTIVITIES. THE PROGRAM SHALL MEET ALL APPLICABLE REQUIREMENTS OF THE STATE WATER RESOURCE CONTROL BOARD AND THE CITY OF SAN DIEGO MUNICIPAL CODE AND STORM WATER STANDARDS MANUAL.
6. "PUBLIC IMPROVEMENT SUBJECT TO DESUETUDE OR DAMAGE" IF REPAIR OR REPLACEMENT OF SUCH PUBLIC IMPROVEMENTS IS REQUIRED, THE OWNER SHALL OBTAIN THE REQUIRED PERMITS FOR WORK IN THE PUBLIC RIGHT-OF-WAY, SATISFACTORY TO THE PERMIT- ISSUING AUTHORITY.
7. ALL EXISTING AND/OR PROPOSED PUBLIC UTILITY SYSTEM AND SERVICE FACILITIES SHALL BE INSTALLED UNDERGROUND IN ACCORDANCE WITH SECTION 144.0240 OF THE MUNICIPAL CODE.
8. PRIOR TO ANY DISTURBANCE TO THE SITE, EXCLUDING UTILITY MARK-OUTS AND SURVEYING, THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR A PRE-CONSTRUCTION MEETING WITH THE CITY OF SAN DIEGO FIELD ENGINEERING DIVISION (858) 627-3200.
9. DEVIATIONS FROM THESE SIGNED PLANS WILL NOT BE ALLOWED UNLESS A CONSTRUCTION CHANGE IS APPROVED BY THE CITY ENGINEER OR THE CHANGE IS REQUIRED BY THE CITY INSPECTOR.
10. AS-BUILT DRAWINGS MUST BE SUBMITTED TO THE RESIDENT ENGINEER PRIOR TO ACCEPTANCE OF THIS PROJECT BY THE CITY OF SAN DIEGO.
11. THE AREA WHICH IS DEFINED AS A NON GRADING AREA AND WHICH IS NOT TO BE DISTURBED SHALL BE STAKED PRIOR TO START OF THE WORK. THE PERMIT APPLICANT AND ALL OF THEIR REPRESENTATIVES OR CONTRACTORS SHALL COMPLY WITH THE REQUIREMENTS FOR PROTECTION OF THIS AREA AS REQUIRED BY ANY APPLICABLE AGENCY. ISSUANCE OF THE CITY'S GRADING PERMIT SHALL NOT RELIEVE THE APPLICANT OR ANY OF THEIR REPRESENTATIVES OR CONTRACTORS FROM COMPLYING WITH ANY STATE OR FEDERAL REQUIREMENTS BY AGENCIES INCLUDING BUT NOT LIMITED TO CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, CALIFORNIA DEPARTMENT OF FISH AND GAME. COMPLIANCE MAY INCLUDE OBTAINING PERMITS, OTHER AUTHORIZATIONS, OR COMPLIANCE WITH MANDATES BY ANY APPLICABLE STATE OR FEDERAL AGENCY.

GROUND WATER DISCHARGE

1. ALL GROUND WATER EXTRACTION AND SIMILAR WASTE DISCHARGES TO SURFACE WATER NOT TRIBUTARY TO THE SAN DIEGO BAY ARE PROHIBITED UNTIL IT CAN BE DEMONSTRATED THAT THE OWNER HAS APPLIED AND OBTAINED AUTHORIZATION FROM THE STATE OF CALIFORNIA VIA AN OFFICIAL "ENROLLMENT LETTER" FROM THE REGIONAL WATER QUALITY CONTROL BOARD IN ACCORDANCE WITH THE TERMS, PROVISIONS AND CONDITIONS OF STATE ORDER NO R9-2009-0002 NPDES CA6919002.
2. THE ESTIMATED MAXIMUM DISCHARGE RATES MUST NOT EXCEED THE LIMITS SET IN THE OFFICIAL "ENROLLMENT LETTER" FROM THE REGIONAL BOARD UNLESS PRIOR NOTIFICATION AND SUBSEQUENT AUTHORIZATION HAS BEEN OBTAINED, AND DISCHARGE OPERATIONS MODIFIED TO ACCOMMODATE THE INCREASED RATES.
3. ALL GROUND WATER EXTRACTIONS AND SIMILAR WASTE DISCHARGES TO SURFACE WATERS NOT TRIBUTARY TO THE SAN DIEGO BAY ARE PROHIBITED UNTIL IT CAN BE DEMONSTRATED THAT THE OWNER HAS APPLIED AND OBTAINED AUTHORIZATION FROM THE STATE OF CALIFORNIA VIA OFFICIAL "ENROLLMENT LETTER" FROM THE REGIONAL WATER QUALITY CONTROL BOARD IN ACCORDANCE WITH THE TERMS, PROVISIONS AND CONDITIONS OF STATE ORDER NO R9-2007-0034 NPDES NO. CA6919001.

SHEET INDEX

| | |
|--|------------|
| TITLE SHEET | SHEET 1 |
| PACIFIC BEACH DRIVE/ OLNEY STREET CHANNEL | SHEET 2 |
| MISSION BAY HIGH SCHOOL CHANNEL | SHEET 3 |
| STORM WATER MANAGEMENT BMPs DETAILS | SHEETS 4-5 |
| MAINTENANCE BMPs NOTES | SHEETS 5-8 |

TOPOGRAPHY SOURCE

CITY OF SAN DIEGO SANGIS 1999 2 FOOT CONTOURS, NAVD29

BENCHMARK

INTERSECTION OF GRAND AVENUE AND OLNEY STREET
ELEV. 32.424 BASED ON NVGD 29 AS SHOWN IN THE
CITY OF SAN DIEGO BENCH BOOK

REFERENCE DRAWINGS

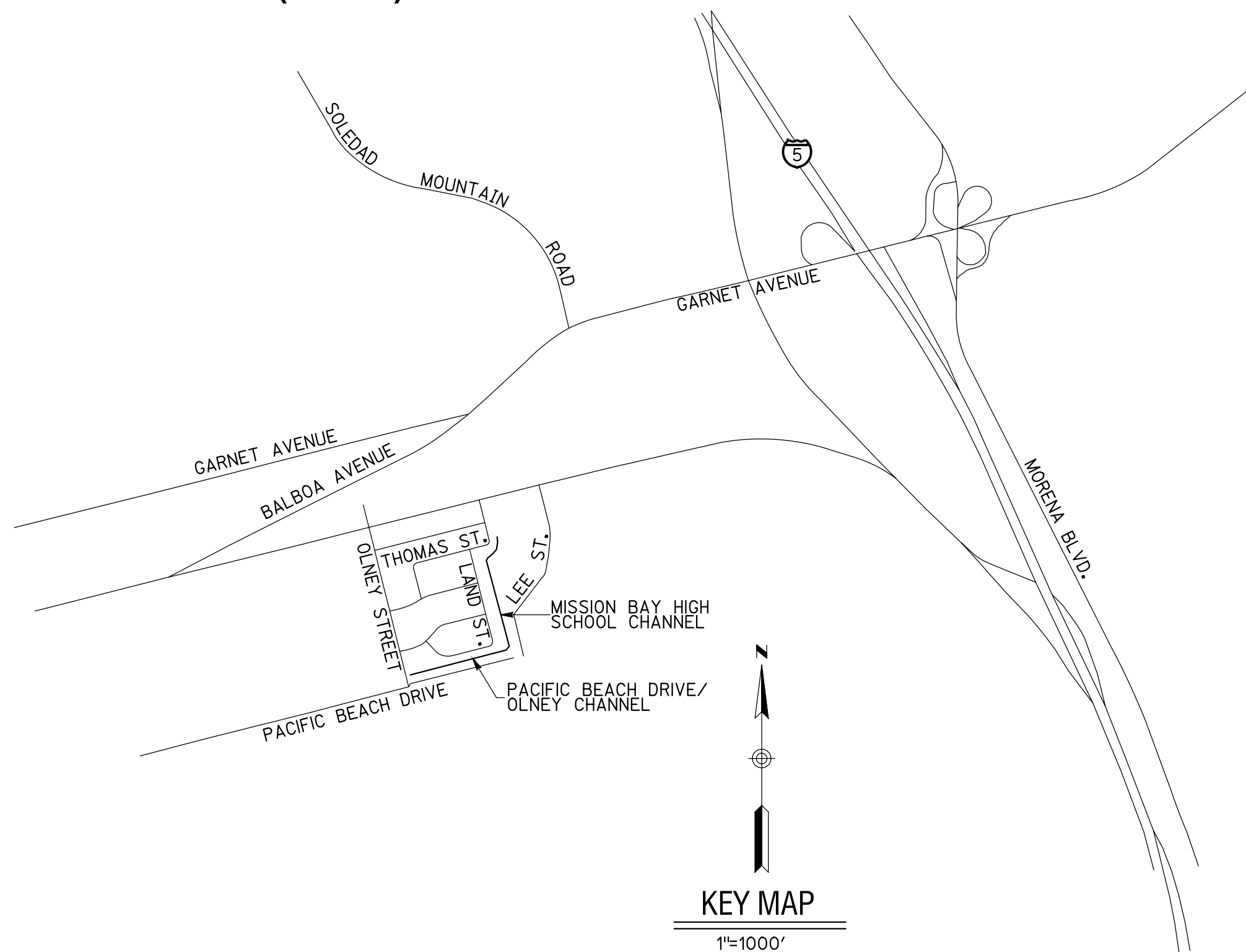
- CONSTRUCTION OF DRAINAGE FACILITIES IN GRAND AVENUE.....CITY OF SAN DIEGO DWG. NO. 11223-D
- PLANS FOR THE IMPROVEMENT OF PACIFIC BEACH DRIVE AND OLNEY STREET.....CITY OF SAN DIEGO DWG. NO. 13195-D

STORM WATER PROTECTION NOTES

1. THIS PROJECT IS SUBJECT TO MUNICIPAL STORM WATER PERMIT ORDER NO. R920070001; AND RISK LEVELS CHECK ONE BELOW.
 - WPCP
 - CGP RISK LEVEL 1
 - CGP RISK LEVEL 2
 - CGP RISK LEVEL 3
 - CGP LUP TYPE 1
 - CGP LUP TYPE 2
 - CGP LUP TYPE 3
2. CHECK ONE:
 - THIS PROJECT WILL EXCEED THE MAXIMUM DISTURBED AREA LIMIT, THEREFORE A WEATHER TRIGGERED ACTION PLAN (WTAP) IS REQUIRED.
 - THIS PROJECT WILL FOLLOW PHASED GRADING NOT TO EXCEED FIVE (5) ACRES PER PHASE.
 - NOT APPLICABLE
3. THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE WPCP OR SWPPP AS APPLICABLE.

MAINTENANCE PLANS FOR:

**MISSION BAY HIGH SCHOOL(MBHS) & PACIFIC BEACH DRIVE/
OLNEY STREET (PBO) CHANNELS MMP MAP # 36 & 37**



WORK TO BE DONE

THE IMPROVEMENTS CONSIST OF THE FOLLOWING WORK TO BE DONE ACCORDING TO THESE PLANS AND THE SPECIFICATIONS AND STANDARD DRAWINGS OF THE CITY OF SAN DIEGO.

MAINTENANCE OF CONCRETE CHANNELS TO REMOVE ACCUMULATED SEDIMENT AND OTHER DEBRIS

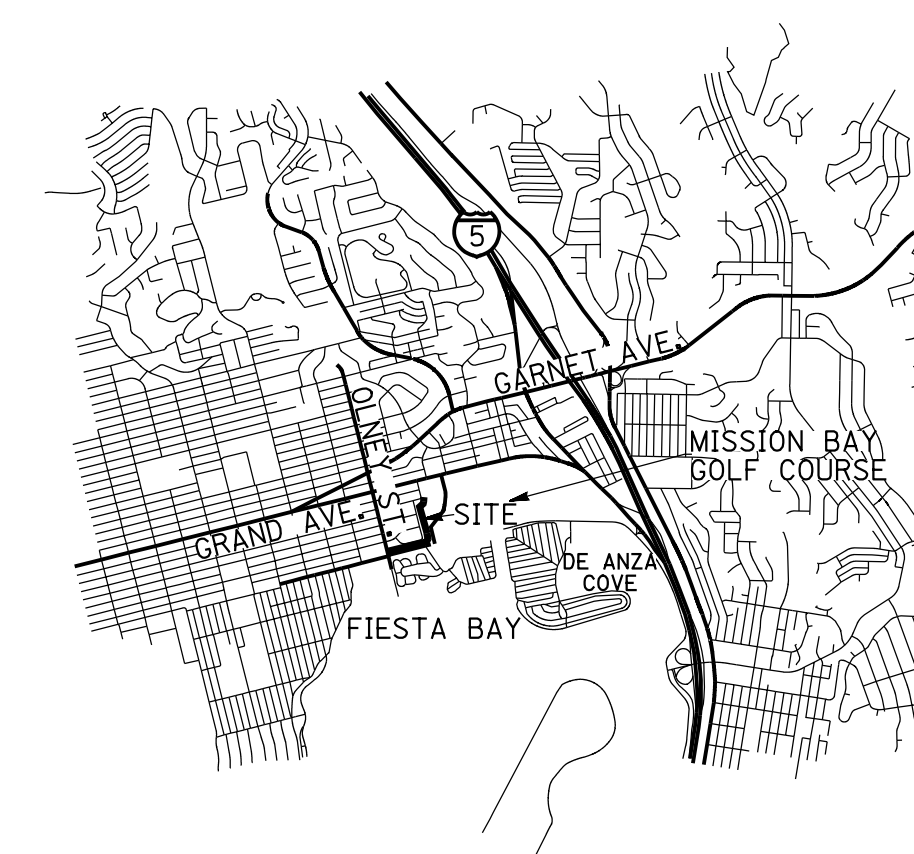
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|---|---|
| PITS070112-02 | CITY OF SAN DIEGO STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (WHITEBOOK), 2012 EDITION |
| PITS070112-04 | CALIFORNIA DEPARTMENT OF TRANSPORTATION MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, 2012 EDITION |
| PITS070112-06 | CALIFORNIA DEPARTMENT OF TRANSPORTATION U.S. CUSTOMARY STANDARD SPECIFICATIONS, 2010 EDITION |
| STANDARD DRAWINGS DOCUMENT NO. PITS070112-03 | DESCRIPTION CITY OF SAN DIEGO STANDARD DRAWINGS FOR PUBLIC WORKS CONSTRUCTION, 2012 EDITION |
| PITS070112-05 | CALIFORNIA DEPARTMENT OF TRANSPORTION U.S. CUSTOMARY STANDARD PLANS, 2010 EDITION |

LEGEND

| EXISTING IMPROVEMENTS ITEM | SYMBOL |
|------------------------------------|-----------|
| EXIST. CONTOURS | --- |
| EXIST. LOT LINE | --- |
| MULTI-HABITAT PLANNING AREA (MHPA) | --- |
| EXIST. CURB INLET | □ |
| EXIST. STORM DRAIN MAIN | SD |
| EXIST. SEWER MAIN | S |
| EXIST. WATER MAIN | W |
| CHANNEL MAINTENANCE AREA | [Pattern] |
| ACCESS & LOADING AREA | [Pattern] |
| LOADING AREA | [Pattern] |

STORM WATER MANAGEMENT BMPs

| ITEM | SYMBOL |
|-------------------------------------|--------|
| STREET SWEEPING AND VACUUMING DAILY | SE-7 |
| SANDBAG BARRIER | SE-8 |
| STORM DRAIN INLET PROTECTION | SE-10 |



VICINITY MAP
NO SCALE

DECLARATION OF RESPONSIBLE CHARGE

I HEREBY DECLARE THAT I AM THE ENGINEER OF WORK FOR THIS PROJECT, THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIGN OF THE PROJECT AS DEFINED IN SECTION 6103 OF THE BUSINESS AND PROFESSIONS CODE, AND THAT THE DESIGN IS CONSISTENT WITH CURRENT STANDARDS.

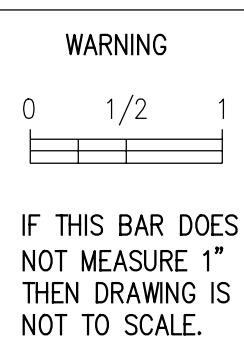
I UNDERSTAND THAT THE CHECK OF PROJECT DRAWINGS AND SPECIFICATIONS BY THE CITY OF SAN DIEGO IS CONFINED TO A REVIEW ONLY AND DOES NOT RELIEVE ME, AS ENGINEER OF WORK, OF MY RESPONSIBILITIES FOR PROJECT DESIGN.



RICK ENGINEERING COMPANY
5620 FRIARS ROAD
SAN DIEGO, CA 92110
619.291.0707
FAX:619.291.4165

JOHN D. GODDARD JR. R.C.E. NO. 33037 EXP. 06-30-16 DATE

| CONSTRUCTION CHANGE TABLE | | | |
|---------------------------|------|---------------------------------|--------------|
| CHANGE | DATE | EFFECTED OR ADDED SHEET NUMBERS | APPROVAL NO. |
| | | | |
| | | | |
| | | | |



CITY OF SAN DIEGO
DEVELOPMENT SERVICES DEPARTMENT



| STREET DATA TABLE | | | | |
|-------------------|----------------|-------------|----------------|----------|
| STREET NAME | CLASSIFICATION | SPEED (MPH) | ADT (VEHICLES) | R/W (FT) |
| | | | | |
| | | | | |
| | | | | |

| | | | | | |
|---|-----|----------|------|---------------------|-----------|
| CONSTRUCTION SITE STORM WATER PRIORITY: | | | | I.O. NO. 21002863 | |
| MAINTENANCE PLANS FOR: MISSION BAY HIGH SCHOOL(MBHS) & PACIFIC BEACH DRIVE/ OLNEY STREET (PBO)CHANNELS MMP MAP #36 & 37 | | | | P.T.S NO. 389568 | |
| CITY OF SAN DIEGO, CALIFORNIA DEVELOPMENT SERVICES DEPARTMENT SHEET 1 OF 8 SHEETS | | | | V.T.M. | |
| FOR CITY ENGINEER | | DATE | | | |
| DESCRIPTION | BY | APPROVED | DATE | FILMED | |
| ORIGINAL | REC | | | | XXXX-XXXX |
| AS-BUILTS | | | | NAD83 COORDINATES | |
| CONTRACTOR | | | | XXX-XXXX | |
| INSPECTOR | | | | LAMBERT COORDINATES | |
| DATE STARTED | | | | 38339-1-D | |
| DATE COMPLETED | | | | | |

SEE SHEET 3



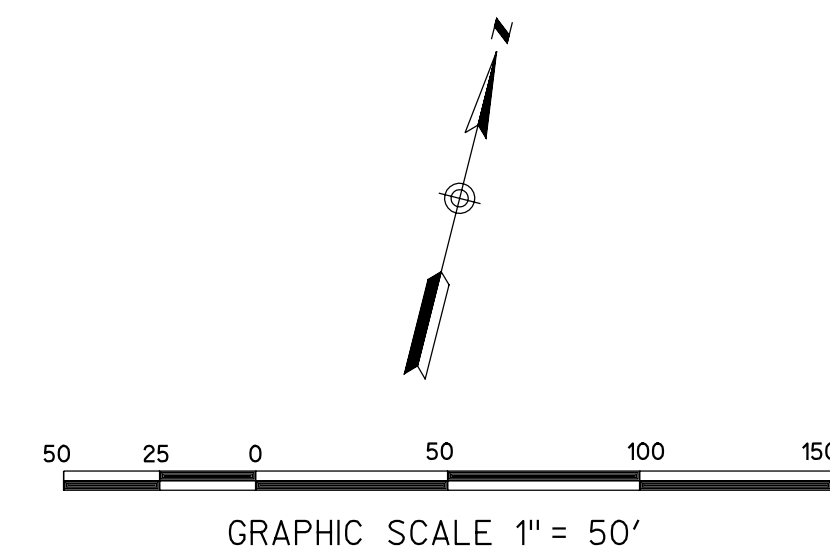
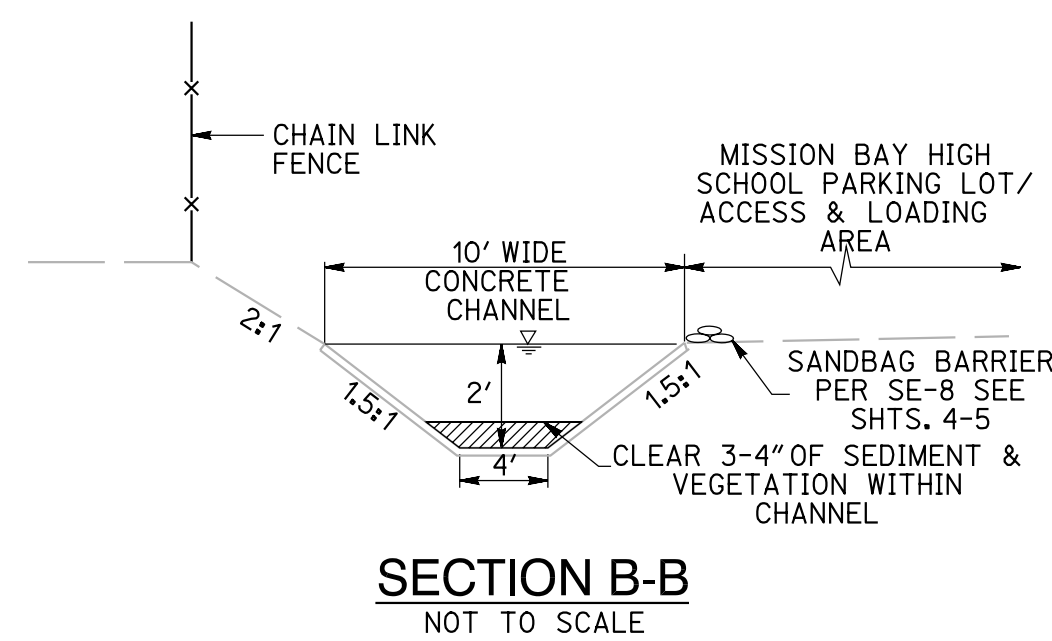
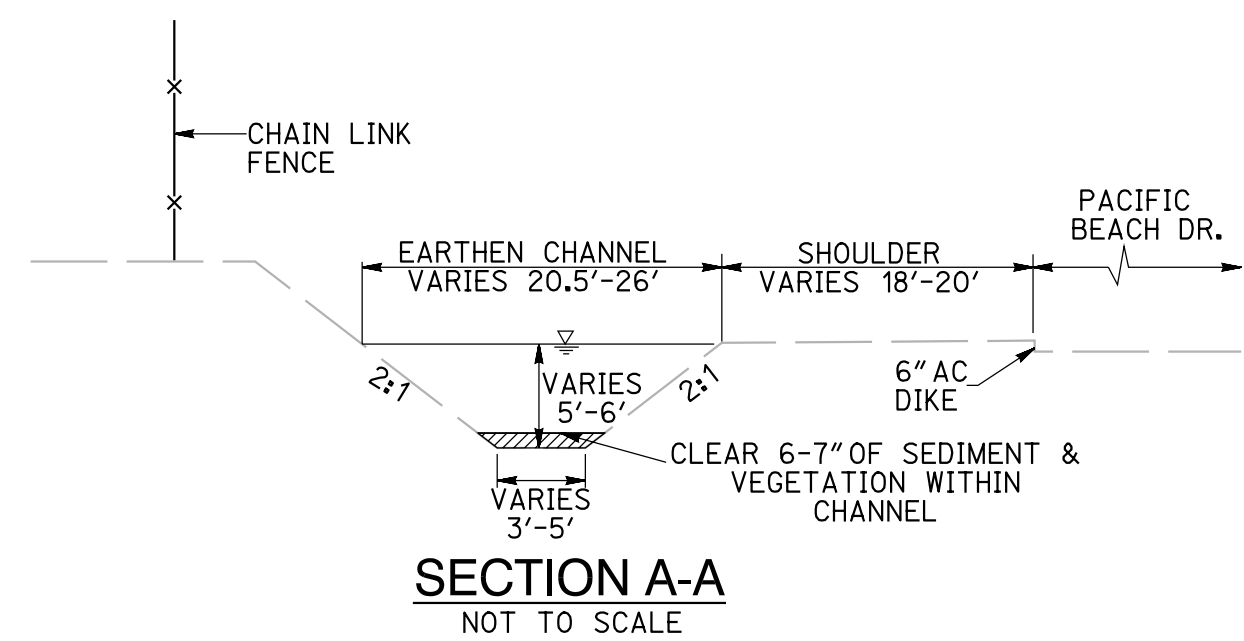
ENGINEER OF WORK



JOHN D. GODDARD, JR. R.C.E. 33037 DATE

**MAINTENANCE PLANS FOR:
MISSION BAY HIGH SCHOOL (MBHS) &
PACIFIC BEACH DRIVE/
OLNEY STREET (PBO) CHANNELS
MMP MAP #36 & 37**

| | | |
|---|----------------|---|
| CITY OF SAN DIEGO, CALIFORNIA DEVELOPMENT SERVICES DEPARTMENT SHEET 2 OF 8 SHEETS | | I.O. NO. 21002863 P.T.S. NO. 389568 |
| FOR CITY ENGINEER _____ DATE _____ | | V.T.M. _____ |
| DESCRIPTION | BY | APPROVED |
| ORIGINAL | REC | |
| AS-BUILTS | | |
| CONTRACTOR | DATE STARTED | |
| INSPECTOR | DATE COMPLETED | |
| | | XXXX-XXXX NAD83 COORDINATES XX-XXXX LAMBERT COORDINATES 38339-2-D |



SECTION A-A
NOT TO SCALE

SECTION B-B
NOT TO SCALE

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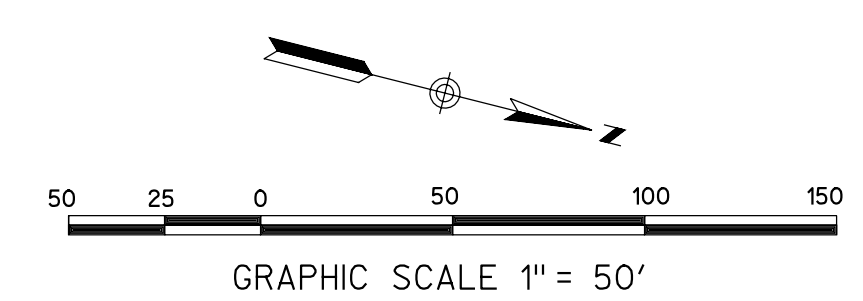
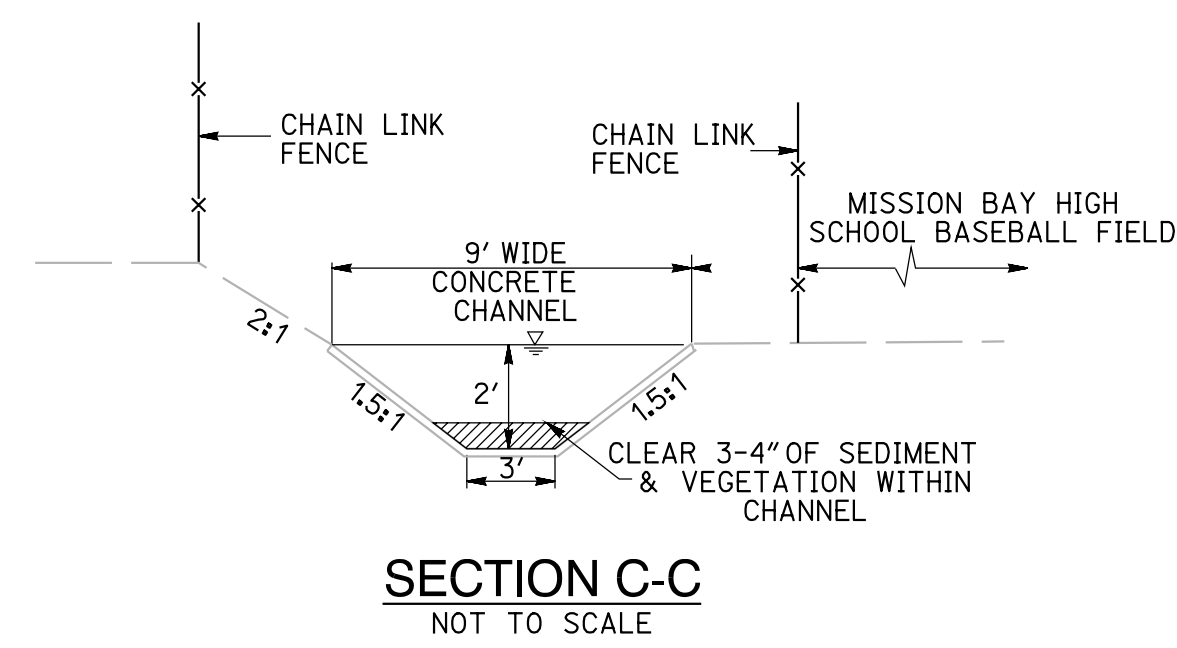
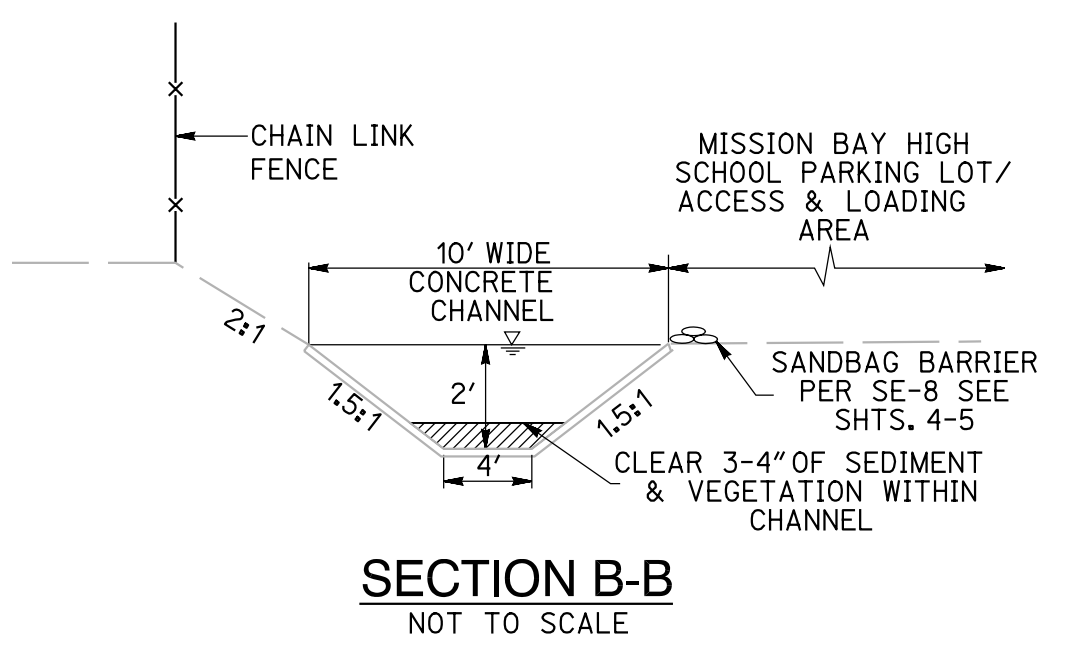
SEE SHEET 2

ENGINEER OF WORK



JOHN D. GODDARD, JR. R.C.E. 33037 DATE

| | | | | |
|--|----------------|----------|------|---|
| MAINTENANCE PLANS FOR: MISSION BAY HIGH SCHOOL (MBHS) & PACIFIC BEACH DRIVE/ OLNEY STREET (PBO) CHANNELS MMP MAP #36 & 37 | | | | I.O. NO. 21002863 P.T.S. NO. 389568 |
| CITY OF SAN DIEGO, CALIFORNIA DEVELOPMENT SERVICES DEPARTMENT SHEET 3 OF 8 SHEETS | | | | V.T.M. |
| FOR CITY ENGINEER | DATE | | | |
| DESCRIPTION | BY | APPROVED | DATE | FILMED |
| ORIGINAL | REC | | | |
| AS-BUILTS | | | | |
| CONTRACTOR | DATE STARTED | | | XXXX-XXXX NAD83 COORDINATES XXX-XXXX LAMBERT COORDINATES 38339-3-D |
| INSPECTOR | DATE COMPLETED | | | |



Street Sweeping and Vacuuming SE-7



| Categories | |
|-------------------------------------|--|
| EC | Erosion Control |
| SE | Sediment Control |
| TC | Tracking Control |
| WE | Wind Erosion Control |
| NS | Non-Stormwater Management Control |
| WM | Waste Management and Materials Pollution Control |
| Legend: | |
| <input checked="" type="checkbox"/> | Primary Objective |
| <input checked="" type="checkbox"/> | Secondary Objective |

| Targeted Constituents | |
|-----------------------|-------------------------------------|
| Sediment | <input checked="" type="checkbox"/> |
| Nutrients | <input type="checkbox"/> |
| Trash | <input checked="" type="checkbox"/> |
| Metals | <input type="checkbox"/> |
| Bacteria | <input type="checkbox"/> |
| Oil and Grease | <input checked="" type="checkbox"/> |
| Organics | <input type="checkbox"/> |

| Potential Alternatives | |
|------------------------|--------------------------|
| None | <input type="checkbox"/> |

Description and Purpose

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

Suitable Applications

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

Limitations

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

Implementation

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



Street Sweeping and Vacuuming SE-7

- If not mixed with debris or trash, consider incorporating the removed sediment back into the project

Costs

Rental rates for self-propelled sweepers vary depending on hopper size and duration of rental. Expect rental rates from \$58/hour (3 yd³ hopper) to \$88/hour (9 yd³ hopper), plus operator costs. Hourly production rates vary with the amount of area to be swept and amount of sediment. Match the hopper size to the area and expect sediment load to minimize time spent dumping.

Inspection and Maintenance

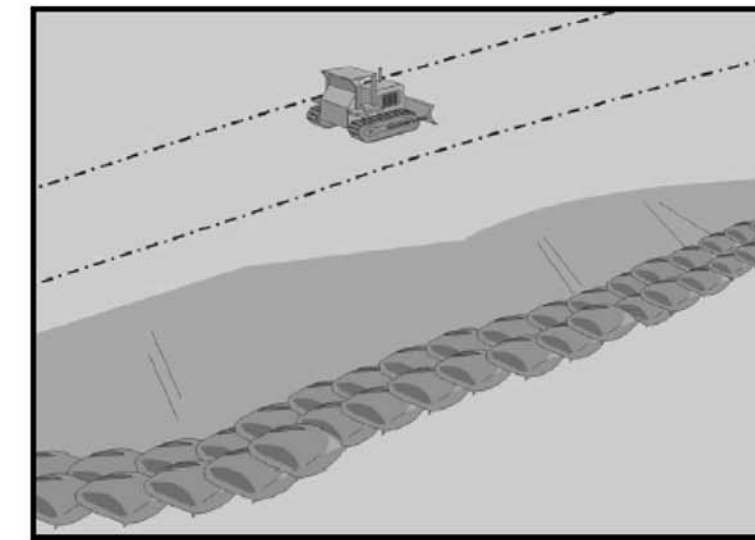
- Inspect BMPs prior to forecast rain, daily during extended rain events, after rain events, weekly during the rainy season, and at two-week intervals during the non-rainy season.
- When actively in use, points of ingress and egress must be inspected daily.
- When tracked or spilled sediment is observed outside the construction limits, it must be removed at least daily. More frequent removal, even continuous removal, may be required in some jurisdictions.
- Be careful not to sweep up any unknown substance or any object that may be potentially hazardous.
- Adjust brooms frequently; maximize efficiency of sweeping operations.
- After sweeping is finished, properly dispose of sweeper wastes at an approved dumpsite.

References

Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), November 2000.

Labor Surcharge and Equipment Rental Rates, State of California Department of Transportation (Caltrans), April 1, 2002 – March 31, 2003.

Sandbag Barrier SE-8



| Categories | |
|-------------------------------------|--|
| EC | Erosion Control |
| SE | Sediment Control |
| TC | Tracking Control |
| WE | Wind Erosion Control |
| NS | Non-Stormwater Management Control |
| WM | Waste Management and Materials Pollution Control |
| Legend: | |
| <input checked="" type="checkbox"/> | Primary Category |
| <input checked="" type="checkbox"/> | Secondary Category |

| Targeted Constituents | |
|-----------------------|-------------------------------------|
| Sediment | <input checked="" type="checkbox"/> |
| Nutrients | <input type="checkbox"/> |
| Trash | <input type="checkbox"/> |
| Metals | <input type="checkbox"/> |
| Bacteria | <input type="checkbox"/> |
| Oil and Grease | <input type="checkbox"/> |
| Organics | <input type="checkbox"/> |

| Potential Alternatives | |
|------------------------|--------------------------|
| SE-1 Silt Fence | <input type="checkbox"/> |
| SE-5 Fiber Rolls | <input type="checkbox"/> |
| SE-6 Gravel Bag Berm | <input type="checkbox"/> |
| SE-14 Biofilter Bags | <input type="checkbox"/> |



Description and Purpose

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

Suitable Applications

Sandbag barriers may be suitable:

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

Sandbag Barrier SE-8

- Turn the ends of the sandbag barrier up slope to prevent runoff from going around the barrier.
- Allow sufficient space up slope from the barrier to allow ponding, and to provide room for sediment storage.
- For installation near the toe of the slope, sand bag barriers should be set back from the slope toe to facilitate cleaning. Where specific site conditions do not allow for a set-back, the sand bag barrier may be constructed on the toe of the slope. To prevent flows behind the barrier, bags can be placed perpendicular to a berm to serve as cross barriers.
- Drainage area should not exceed 5 acres.
- Stack sandbags at least three bags high.
- Butt ends of bags tightly.
- Overlap butt joints of row beneath with each successive row.
- Use a pyramid approach when stacking bags.
- In non-traffic areas:
 - Height = 18 in. maximum
 - Top width = 24 in. minimum for three or more layer construction
 - Side slope = 2:1 (H:V) or flatter
- In construction traffic areas:
 - Height = 12 in. maximum
 - Top width = 24 in. minimum for three or more layer construction.
 - Side slopes = 2:1 (H:V) or flatter.
- See typical sandbag barrier installation details at the end of this fact sheet.

Materials

Sandbag Material: Sandbag should be woven polypropylene, polyethylene or polyamide fabric, minimum unit weight of 4 ounces/yd², Mullen burst strength exceeding 300 lb/in² in conformance with the requirements in ASTM designation D3786, and ultraviolet stability exceeding 70% in conformance with the requirements in ASTM designation D4355. Use of burlap is not an acceptable substitute, as sand can more easily mobilize out of burlap.

Sandbag Size: Each sand-filled bag should have a length of 18 in., width of 12 in., thickness of 3 in., and mass of approximately 33 lbs. Bag dimensions are nominal, and may vary based on locally available materials.

Sandbag Barrier SE-8

Fill Material: All sandbag fill material should be non-cohesive, Class 3 (Caltrans Standard Specification, Section 25) permeable material free from clay and deleterious material, such as recycled concrete or asphalt.

Costs

Empty sandbags cost \$0.25 - \$0.75. Average cost of fill material is \$8 per yd³. Additional labor is required to fill the bags. Pre-filled sandbags are more expensive at \$1.50 - \$2.00 per bag. These costs are based upon vendor research.

Inspection and Maintenance

- BMPs must be inspected in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.
- Sandbags exposed to sunlight will need to be replaced every two to three months due to degradation of the bags.
- Reshape or replace sandbags as needed.
- Repair washouts or other damage as needed.
- Sediment that accumulates behind the BMP should be periodically removed in order to maintain BMP effectiveness. Sediment should be removed when the sediment accumulation reaches one-third of the barrier height.
- Remove sandbags when no longer needed and recycle sand fill whenever possible and properly dispose of bag material. Remove sediment accumulation, and clean, re-grade, and stabilize the area.

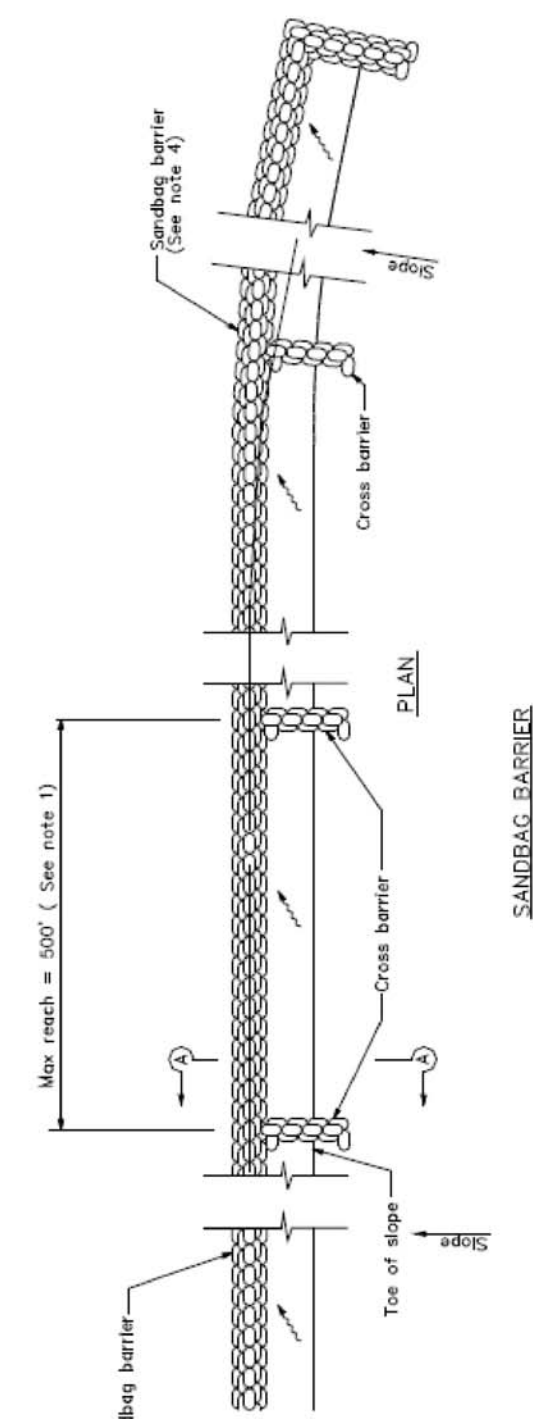
References

Standard Specifications for Construction of Local Streets and Roads, California Department of Transportation (Caltrans), July 2002.

Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), March 2003.

Erosion and Sediment Control Manual, Oregon Department of Environmental Quality, February 2005.

Sandbag Barrier SE-8



- NOTES:
- Construct the length of each reach so that the change in base elevation between reaches does not exceed 500'. If the linear barrier is to be used, the reach length should not exceed 500'.
 - Place sandbags tightly.
 - Dimension may vary to fit field condition.
 - Sandbag barrier shall be a minimum of 3 bags high.
 - The end of the barrier shall be turned up slope.
 - Cross barriers shall be a min. of 1/2' and a max. of 2/3' the height of the barrier.
 - Sandbag cross and layers shall be staggered to eliminate gaps.

Sandbag Barrier SE-8

- At the top of slopes to divert runoff away from disturbed slopes.
- As check dams across mildly sloped construction roads.

Limitations

- It is necessary to limit the drainage area upstream of the barrier to 5 acres.
- Sandbags are not intended to be used as filtration devices.
- Easily damaged by construction equipment.
- Degraded sandbags may rupture when removed, spilling sand.
- Sand is easily transported by runoff if bag is damaged or ruptured.
- Installation can be labor intensive.
- Durability of sandbags is somewhat limited and bags may need to be replaced when installation is required for longer than 6 months. When used to detain concentrated flows, maintenance requirements increase.
- Burlap should not be used for sandbags.

Implementation

General

A sandbag barrier consists of a row of sand-filled bags placed on a level contour. When appropriately placed, a sandbag barrier intercepts and slows sheet flow runoff, causing temporary ponding. The temporary ponding allows sediment to settle. Sand-filled bags have limited porosity, which is further limited as the fine sand tends to quickly plug with sediment, limiting or completely blocking the rate of flow through the barrier. If a porous barrier is desired, consider SE-1, Silt Fence, SE-5, Fiber Rolls, SE-6, Gravel Bag Berms or SE-14, Biofilter Bags. Sandbag barriers also interrupt the slope length and thereby reduce erosion by reducing the tendency of sheet flows to concentrate into rivulets which erode rills, and ultimately gullies, into disturbed, sloped soils. Sandbag barriers are similar to gravel bag berms, but less porous. Generally, sandbag barriers should be used in conjunction with temporary soil stabilization controls up slope to provide effective erosion and sediment control.

Design and Layout

- Locate sandbag barriers on a level contour.
- When used for slope interruption, the following slope/sheet flow length combinations apply:
 - Slope inclination of 4:1 (H:V) or flatter: Sandbags should be placed at a maximum interval of 20 ft, with the first row near the slope toe.
 - Slope inclination between 4:1 and 2:1 (H:V): Sandbags should be placed at a maximum interval of 15 ft. (a closer spacing is more effective), with the first row near the slope toe.
 - Slope inclination 2:1 (H:V) or greater: Sandbags should be placed at a maximum interval of 10 ft. (a closer spacing is more effective), with the first row near the slope toe.

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J-17204A

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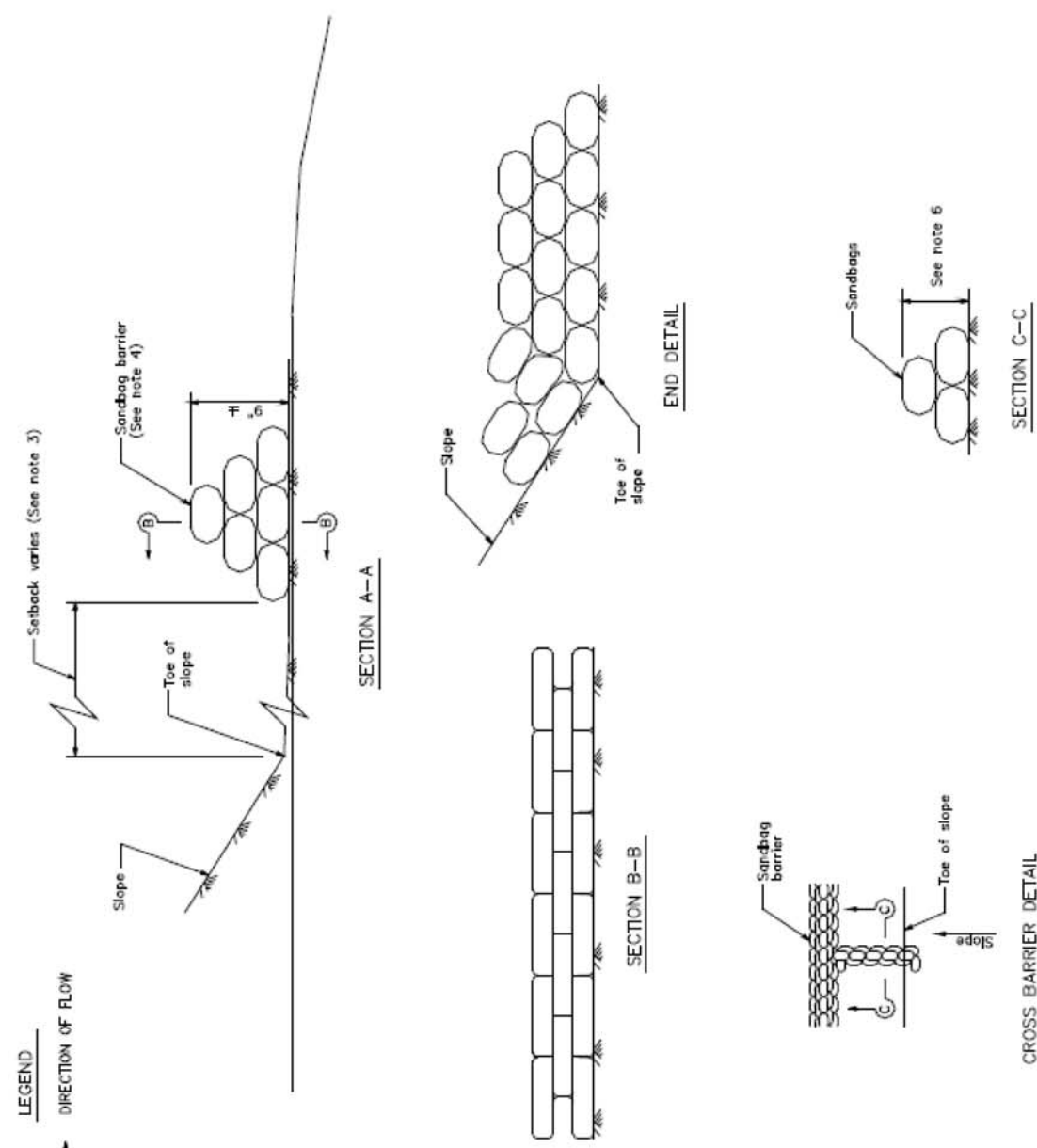
ENGINEER OF WORK

JOHN D. GODDARD, JR. R.C.E. 33037 DATE _____

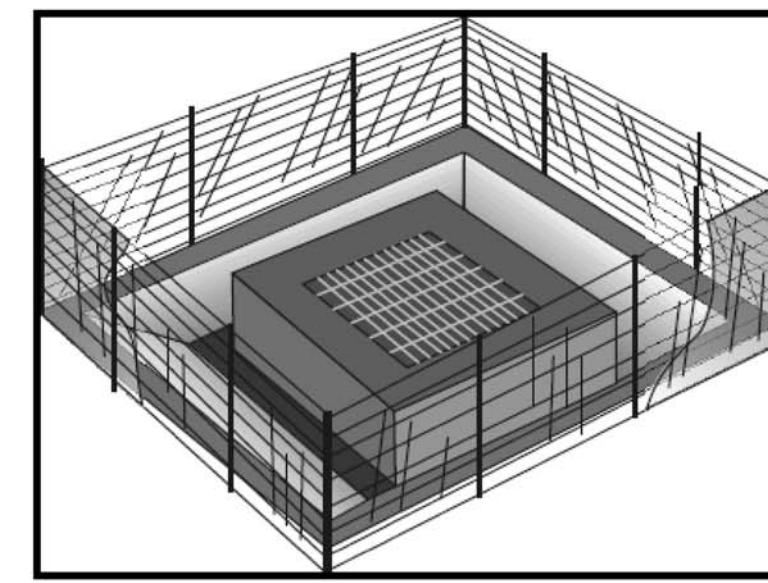


| MAINTENANCE PLANS FOR: | | | | |
|---|-----|----------|--|--------|
| MISSION BAY HIGH SCHOOL (MBHS) & PACIFIC BEACH DRIVE/OLNEY STREET (PBO) CHANNELS MMP MAP #36 & 37 | | | | |
| CITY OF SAN DIEGO, CALIFORNIA DEVELOPMENT SERVICES DEPARTMENT SHEET 4 OF 8 SHEETS | | | I.O. NO. 21002863 P.T.S. NO. 389568 | |
| FOR CITY ENGINEER _____ DATE _____ | | | V.T.M. _____ | |
| DESCRIPTION | BY | APPROVED | DATE | FILMED |
| ORIGINAL | REC | | | |
| AS-BUILTS | | | XXXX-XXXX NAD83 COORDINATES | |
| CONTRACTOR _____ DATE STARTED _____ | | | XXXX-XXXX LAMBERT COORDINATES | |
| INSPECTOR _____ DATE COMPLETED _____ | | | 38339-4-D | |

Sandbag Barrier SE-8



Storm Drain Inlet Protection SE-10



Categories

| | | |
|----|--|-------------------------------------|
| EC | Erosion Control | |
| SE | Sediment Control | <input checked="" type="checkbox"/> |
| TC | Tracking Control | |
| WE | Wind Erosion Control | |
| NS | Non-Stormwater Management Control | |
| WM | Waste Management and Materials Pollution Control | |

Legend:
 Primary Category
 Secondary Category

Targeted Constituents

| | |
|----------------|-------------------------------------|
| Sediment | <input checked="" type="checkbox"/> |
| Nutrients | |
| Trash | <input checked="" type="checkbox"/> |
| Metals | |
| Bacteria | |
| Oil and Grease | |
| Organics | |

Potential Alternatives

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

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

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

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



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- Sediment removal may be inadequate to prevent sediment discharges in high flow conditions or if runoff is heavily sediment laden. If high flow conditions are expected, use other onsite sediment trapping techniques in conjunction with inlet protection.
- Frequent maintenance is required.
- Limit drainage area to 1 acre maximum. For drainage areas larger than 1 acre, runoff should be routed to a sediment-trapping device designed for larger flows. See BMPs SE-2, Sediment Basin, and SE-3, Sediment Traps.
- Excavated drop inlet sediment traps are appropriate where relatively heavy flows are expected, and overflow capability is needed.

Implementation General
 Inlet control measures presented in this handbook should not be used for inlets draining more than one acre. Runoff from larger disturbed areas should be first routed through SE-2, Sediment Basin or SE-3, Sediment Trap and/or used in conjunction with other drainage control, erosion control, and sediment control BMPs to protect the site. Different types of inlet protection are appropriate for different applications depending on site conditions and the type of inlet. Alternative methods are available in addition to the methods described/shown herein such as prefabricated inlet insert devices, or gutter protection devices.

- Design and Layout**
 Identify existing and planned storm drain inlets that have the potential to receive sediment-laden surface runoff. Determine if storm drain inlet protection is needed and which method to use.
- The key to successful and safe use of storm drain inlet protection devices is to know where runoff that is directed toward the inlet to be protected will pond or be diverted as a result of installing the protection device.
 - Determine the acceptable location and extent of ponding in the vicinity of the drain inlet. The acceptable location and extent of ponding will influence the type and design of the storm drain inlet protection device.
 - Determine the extent of potential runoff diversion caused by the storm drain inlet protection device. Runoff ponded by inlet protection devices may flow around the device and towards the next downstream inlet. In some cases, this is acceptable; in other cases, serious erosion or downstream property damage can be caused by these diversions. The possibility of runoff diversions will influence whether or not storm drain inlet protection is suitable; and, if suitable, the type and design of the device.
 - The location and extent of ponding, and the extent of diversion, can usually be controlled through appropriate placement of the inlet protection device. In some cases, moving the inlet protection device a short distance upstream of the actual inlet can provide more efficient sediment control, limit ponding to desired areas, and prevent or control diversions.

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- Six types of inlet protection are presented below. However, it is recognized that other effective methods and proprietary devices exist and may be selected.
 - Silt Fence: Appropriate for drainage basins with less than a 5% slope, sheet flows, and flows under 0.5 cfs.
 - Excavated Drop Inlet Sediment Trap: An excavated area around the inlet to trap sediment (SE-3).
 - Gravel bag barrier: Used to create a small sediment trap upstream of inlets on sloped, paved streets. Appropriate for sheet flow or when concentrated flow may exceed 0.5 cfs, and where overtopping is required to prevent flooding.
 - Block and Gravel Filter: Appropriate for flows greater than 0.5 cfs.
 - Temporary Geotextile Storm drain Inserts: Different products provide different features. Refer to manufacturer details for targeted pollutants and additional features.
 - Biofilter Bag Barrier: Used to create a small retention area upstream of inlets and can be located on pavement or soil. Biofilter bags slowly filter runoff allowing sediment to settle out. Appropriate for flows under 0.5 cfs.

- Select the appropriate type of inlet protection and design as referred to or as described in this fact sheet.
- Provide area around the inlet for water to pond without flooding structures and property.
- Grates and spaces around all inlets should be sealed to prevent seepage of sediment-laden water.
- Excavate sediment sumps (where needed) 1 to 2 ft with 2:1 side slopes around the inlet.

- Installation**
- DI Protection Type 1 - Silt Fence** - Similar to constructing a silt fence; see BMP SE-1, Silt Fence. Do not place fabric underneath the inlet grate since the collected sediment may fall into the drain inlet when the fabric is removed or replaced and water flow through the grate will be blocked resulting in flooding. See typical Type 1 installation details at the end of this fact sheet.
 - Excavate a trench approximately 6 in. wide and 6 in. deep along the line of the silt fence inlet protection device.
 - Place 2 in. by 2 in. wooden stakes around the perimeter of the inlet a maximum of 3 ft apart and drive them at least 18 in. into the ground or 12 in. below the bottom of the trench. The stakes should be at least 48 in.
 - Lay fabric along bottom of trench, up side of trench, and then up stakes. See SE-1, Silt Fence, for details. The maximum silt fence height around the inlet is 2.4 in.
 - Staple the filter fabric (for materials and specifications, see SE-1, Silt Fence) to wooden stakes. Use heavy-duty wire staples at least 1 in. in length.

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- Backfill the trench with gravel or compacted earth all the way around.
- DI Protection Type 2 - Excavated Drop Inlet Sediment Trap** - Install filter fabric fence in accordance with DI Protection Type 1. Size excavated trap to provide a minimum storage capacity calculated at the rate 67 yd³/acre of drainage area. See typical Type 2 installation details at the end of this fact sheet.
 - DI Protection Type 3 - Gravel bag** - Flow from a severe storm should not overtop the curb. In areas of high clay and silts, use filter fabric and gravel as additional filter media. Construct gravel bags in accordance with SE-6, Gravel Bag Berm. Gravel bags should be used due to their high permeability. See typical Type 3 installation details at the end of this fact sheet.
 - Construct on gently sloping street.
 - Leave room upstream of barrier for water to pond and sediment to settle.
 - Place several layers of gravel bags - overlapping the bags and packing them tightly together.
 - Leave gap of one bag on the top row to serve as a spillway. Flow from a severe storm (e.g., 10 year storm) should not overtop the curb.
 - DI Protection Type 4 - Block and Gravel Filter** - Block and gravel filters are suitable for curb inlets commonly used in residential, commercial, and industrial construction. See typical Type 4 installation details at the end of this fact sheet.
 - Place hardware cloth or comparable wire mesh with 0.5 in. openings over the drop inlet so that the wire extends a minimum of 1 ft beyond each side of the inlet structure. If more than one strip is necessary, overlap the strips. Place woven geotextile over the wire mesh.
 - Place concrete blocks lengthwise on their sides in a single row around the perimeter of the inlet, so that the open ends face outward, not upward. The ends of adjacent blocks should abut. The height of the barrier can be varied, depending on design needs, by stacking combinations of blocks that are 4 in., 8 in., and 12 in. wide. The row of blocks should be at least 12 in. but no greater than 2.4 in. high.
 - Place wire mesh over the outside vertical face (open end) of the concrete blocks to prevent stone from being washed through the blocks. Use hardware cloth or comparable wire mesh with 0.5 in. opening.
 - Pile washed stone against the wire mesh to the top of the blocks. Use 0.75 to 3 in.
 - DI Protection Type 5 - Temporary Geotextile Insert (proprietary)** - Many types of temporary inserts are available. Most inserts fit underneath the grate of a drop inlet or inside of a curb inlet and are fastened to the outside of the grate or curb. These inserts are removable and many can be cleaned and reused. Installation of these inserts differs between manufacturers. Please refer to manufacturer instruction for installation of proprietary devices.

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- DI Protection Type 6 - Biofilter bags** - Biofilter bags may be used as a substitute for gravel bags in low-flow situations. Biofilter bags should conform to specifications detailed in SE-14, Biofilter bags.
 - Construct in a gently sloping area.
 - Biofilter bags should be placed around inlets to intercept runoff flows.
 - All bag joints should overlap by 6 in.
 - Leave room upstream for water to pond and for sediment to settle out.
 - Stake bags to the ground as described in the following detail. Stakes may be omitted if bags are placed on a paved surface.
- Costs**
- Average annual cost for installation and maintenance of DI Type 1-4 and 6 (one year useful life) is \$200 per inlet.
 - Temporary geotextile inserts are proprietary and cost varies by region. These inserts can often be reused and may have greater than 1 year of use if maintained and kept undamaged. Average cost per insert ranges from \$50-75 plus installation, but costs can exceed \$100. This cost does not include maintenance.
- Inspection and Maintenance**
- BMPs must be inspected in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.
 - Silt Fences. If the fabric becomes clogged, torn, or degrades, it should be replaced. Make sure the stakes are securely driven in the ground and are in good shape (i.e., not bent, cracked, or splintered, and are reasonably perpendicular to the ground). Replace damaged stakes. At a minimum, remove the sediment behind the fabric fence when accumulation reaches one-third the height of the fence or barrier height.
 - Gravel Filters. If the gravel becomes clogged with sediment, it should be carefully removed from the inlet and either cleaned or replaced. Since cleaning gravel at a construction site may be difficult, consider using the sediment-laden stone as fill material and put fresh stone around the inlet. Inspect bags for holes, gashes, and snags, and replace bags as needed. Check gravel bags for proper arrangement and displacement.
 - Sediment that accumulates in the BMP should be periodically removed in order to maintain BMP effectiveness. Sediment should be removed when the sediment accumulation reaches one-third of the barrier height.
 - Inspect and maintain temporary geotextile insert devices according to manufacturer's specifications.
 - Remove storm drain inlet protection once the drainage area is stabilized.

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- Clean and regrade area around the inlet and clean the inside of the storm drain inlet, as it should be free of sediment and debris at the time of final inspection.

References
 Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), March 2003.
 Stormwater Management Manual for The Puget Sound Basin, Washington State Department of Ecology, Public Review Draft, 1991.
 Erosion and Sediment Control Manual, Oregon Department of Environmental Quality, February 2005.

ENGINEER OF WORK

JOHN D. GODDARD, JR. R.C.E. 33037 DATE



MAINTENANCE PLANS FOR:
 MISSION BAY HIGH SCHOOL(MBHS) &
 PACIFIC BEACH DRIVE/
 OLNEY STREET (PBO)CHANNELS
 MMP MAP #36 &37

CITY OF SAN DIEGO, CALIFORNIA
 DEVELOPMENT SERVICES DEPARTMENT
 SHEET 5 OF 8 SHEETS

I.O. NO. 21002863
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V.T.M. _____

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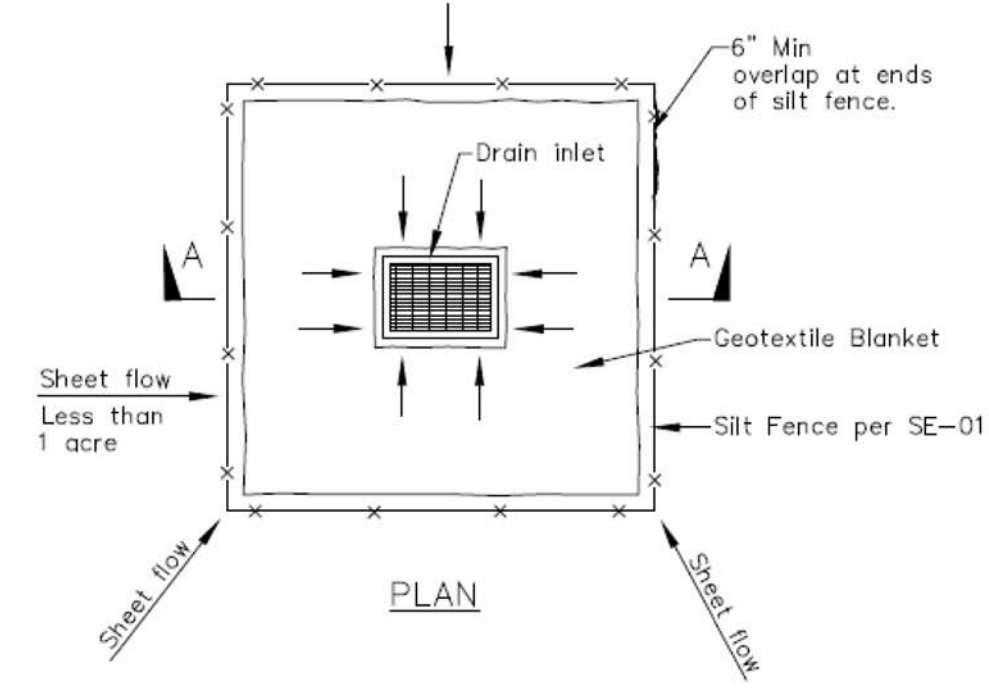
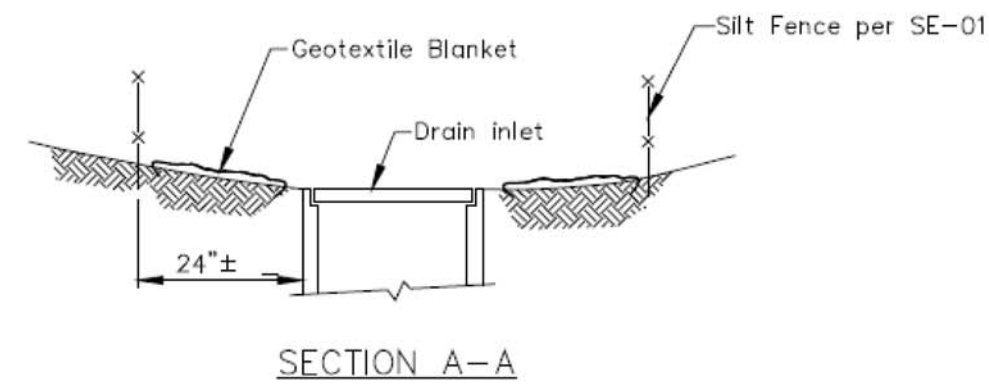
CONTRACTOR _____ DATE STARTED _____
 INSPECTOR _____ DATE COMPLETED _____

XXXX-XXXX
 NAD83 COORDINATES
 XXX-XXXX
 LAMBERT COORDINATES

38339-5-D

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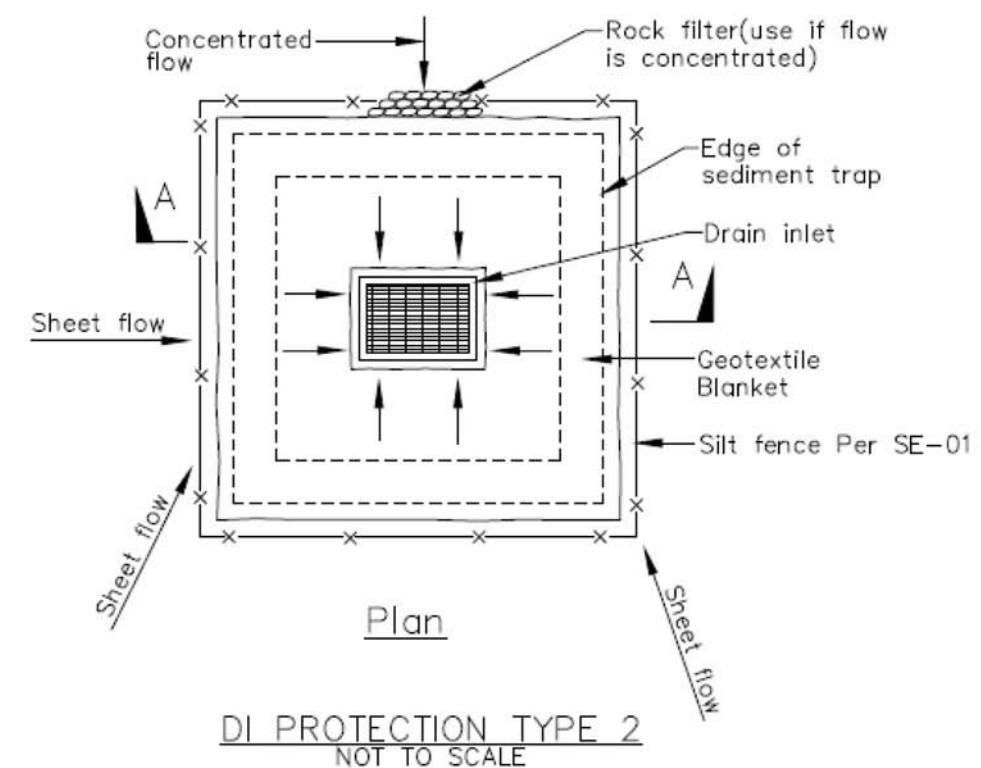
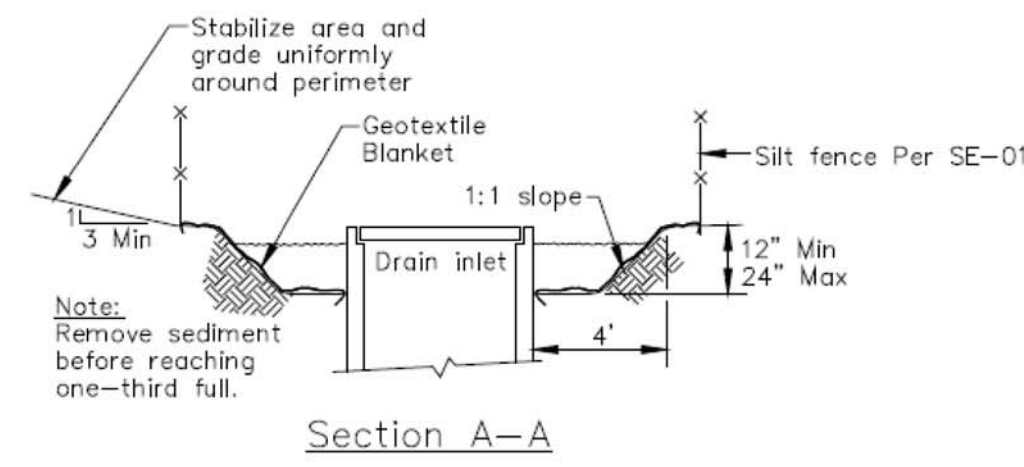
Storm Drain Inlet Protection SE-10



DI PROTECTION TYPE 1
NOT TO SCALE

- NOTES:
1. For use in areas where grading has been completed and final soil stabilization and seeding are pending.
 2. Not applicable in paved areas.
 3. Not applicable with concentrated flows.

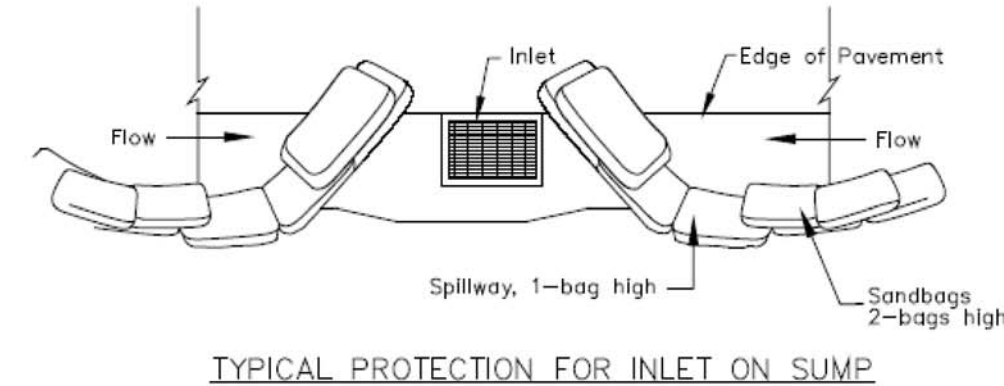
Storm Drain Inlet Protection SE-10



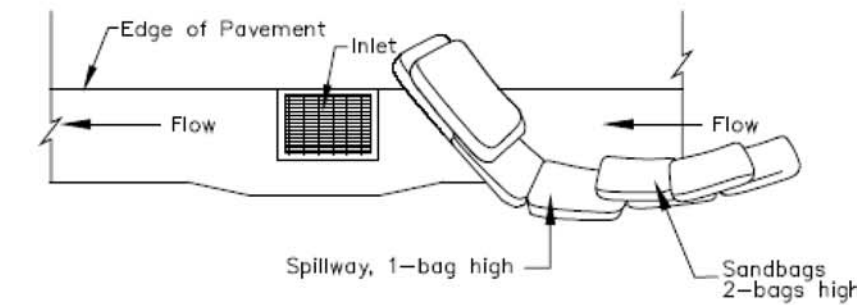
DI PROTECTION TYPE 2
NOT TO SCALE

- Notes
1. For use in cleared and grubbed and in graded areas.
 2. Shape basin so that longest inflow area faces longest length of trap.
 3. For concentrated flows, shape basin in 2:1 ratio with length oriented towards direction of flow.

Storm Drain Inlet Protection SE-10



TYPICAL PROTECTION FOR INLET ON SUMP

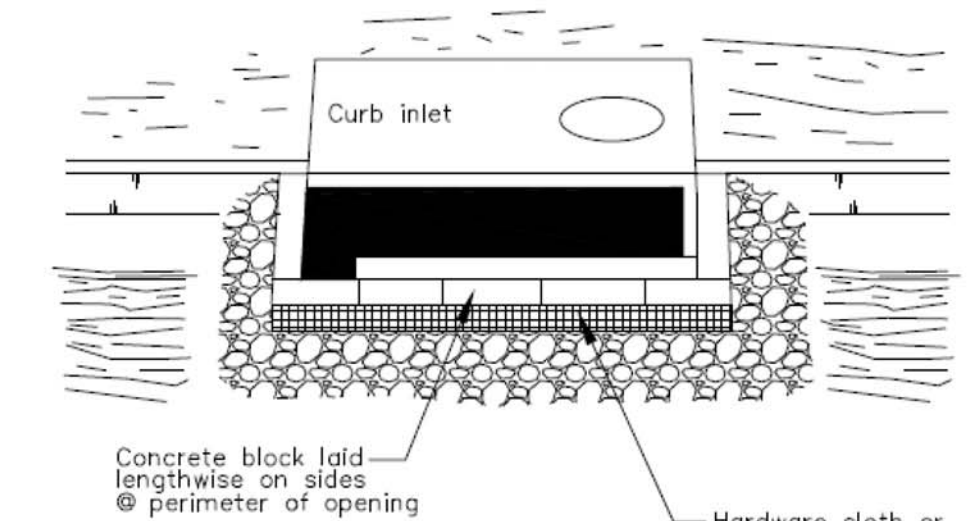


TYPICAL PROTECTION FOR INLET ON GRADE

- NOTES:
1. Intended for short-term use.
 2. Use to inhibit non-storm water flow.
 3. Allow for proper maintenance and cleanup.
 4. Bags must be removed after adjacent operation is completed.
 5. Not applicable in areas with high silts and clays without filter fabric.

DI PROTECTION TYPE 3
NOT TO SCALE

Storm Drain Inlet Protection SE-10



DI PROTECTION - TYPE 4
NOT TO SCALE

MAINTENANCE BMPs

1. ALL BEST MANAGEMENT PRACTICES (BMPs) WILL BE IMPLEMENTED PRIOR TO OR CONCURRENT WITH CONSTRUCTION AND MAINTAINED THROUGHOUT THE PROJECT. A QUALIFIED CONTACT PERSON WILL BE RESPONSIBLE FOR IMPLEMENTING THE WATER POLLUTION CONTROL PLAN (WPCP). ALL WORK SHALL BE COMPLETED BETWEEN SEPTEMBER 15TH AND FEBRUARY 15TH UNLESS AN EXTENSION IS GRANTED IN CONFORMANCE WITH ALL APPLICABLE PERMITS.
2. CONTRACTOR WILL LIMIT ALL CONSTRUCTION RELATED ACTIVITIES TO THE PROJECT FOOTPRINT.
3. EXISTING VEGETATION TO BE PRESERVED IN PLACE SHALL BE CLEARLY MARKED WITH A BUFFER AREA FOLLOWING THE GUIDANCE OF BMP FACT SHEET EC-2.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANUP OF SILT AND MUD ON STREETS AND OTHER PAVED SURFACES DUE TO EXCAVATION ACTIVITIES. STREET SWEEPING AND VACUUMING WILL BE MANAGED FOLLOWING THE GUIDANCE OF BMP FACT SHEET SE-7.
5. WEATHER TRIGGERED ACTION PLAN SHALL BE IMPLEMENTED WHEN THERE IS A FORECASTED 50% OR GREATER CHANCE OF LIKELY PRECIPITATION OF 0.1 INCH OR GREATER BY THE NATIONAL WEATHER SERVICE FORECAST.
6. CONTRACTOR SHALL RESTORE ALL EROSION CONTROL DEVICES TO WORKING ORDER AFTER EACH RUNOFF -PRODUCING RAINFALL.
7. TEMPORARY EROSION OR SEDIMENT CONTROL MEASURES WILL BE REMOVED UPON COMPLETION OF MAINTENANCE UNLESS THEIR REMOVAL WOULD RESULT IN GREATER ENVIRONMENTAL IMPACT THAN LEAVING THEM IN PLACE.
8. HAZARDOUS MATERIALS USED DURING MAINTENANCE WILL NOT BE STORED WITHIN 50 FEET FROM STORM WATER FACILITIES. HAZARDOUS MATERIALS SHALL BE MANAGED AND STORED IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS. A REGISTERED FIRST-RESPONSE, PROFESSIONAL HAZARDOUS MATERIALS CLEAN-UP/REMEDIAL SERVICE SHALL BE LOCALLY AVAILABLE ON CALL.
9. THE TREATMENT, STORAGE, AND DISPOSAL OF WASTEWATER DURING THE LIFE OF THE PROJECT MUST BE DONE IN ACCORDANCE WITH WASTE DISCHARGE REQUIREMENTS ESTABLISHED BY THE SAN DIEGO WATER BOARD PURSUANT TO CWC 13260.
10. SPILLS SHALL BE MANAGED FOLLOWING THE GUIDANCE OF BMP FACT SHEET WM-4. SPILL CLEANUP MATERIALS SHALL BE AVAILABLE ONSITE AT ALL TIMES.
11. THE CONTRACTOR SHALL PROVIDE EQUIPMENT NECESSARY TO EXTINGUISH SMALL BRUSH FIRES (FROM SPARKING VEHICLES, ETC.) ON-SITE DURING ALL PHASES OF PROJECT ACTIVITIES, ALONG WITH TRAINED PERSONNEL FOR USE OF SUCH EQUIPMENT.
12. THE CONTRACTOR SHALL MONITOR THE 5 DAY WEATHER FORECAST. IF ANY PRECIPITATION IS FORECASTED, THE SITE SHALL BE SECURED TO PREVENT ANY CONSTRUCTION RELATED MATERIALS FROM LEAVING THE SITE AND ENTERING THE CHANNELS. NO CONSTRUCTION ACTIVITIES SHALL OCCUR DURING RAIN EVENTS.
13. SAMPLING AND ANALYSIS, MONITORING AND REPORTING, AND POST-MAINTENANCE MANAGEMENT OF THE PROJECT SHALL BE CONDUCTED AS DETERMINED NECESSARY BY THE CITY OF SAN DIEGO.
14. CHANNELS WILL BE INSPECTED WITHIN 72 HOURS OF THE FIRST 2-YEAR STORM FOLLOWING MAINTENANCE. IF SUBSTANTIAL EROSION HAS OCCURRED, EROSION CONTROL MEASURES RECOMMENDED BY THE FIELD ENGINEER WILL BE IMPLEMENTED TO REMEDIATE EROSION AREAS AND TO MINIMIZE FUTURE EROSION.
15. CONTRACTOR SHALL PROVIDE TRAINING FOR ALL PERSONNEL RESPONSIBLE FOR THE PROPER INSTALLATION, INSPECTION, AND MAINTENANCE OF ONSITE BMPs.
16. THE QUALIFIED CONTACT PERSON WILL ASSIGN A MONITOR FOR DAILY INSPECTION OF THE BMPs EACH MORNING. THE MONITOR WILL CHECK THE NATIONAL WEATHER SERVICE FORECAST, COMPLETE BMP INSPECTION CHECKLIST, PERFORM ANY NECESSARY BMP MAINTENANCE/REPAIRS, AND REPORT THE RESULTS TO THE QUALIFIED CONTACT PERSON. COMPLETED INSPECTION CHECKLIST WILL BE KEPT WITH THE WPCP.
17. PREVIOUSLY UNDISTURBED STAGING AREAS WILL BE REVEGETATED WITHIN 30 DAYS OF COMPLETION OF MAINTENANCE ACTIVITIES. THE REVEGETATED AREAS WILL BE MONITORED FOR A PERIODS OF NOT LESS THAN 25 MONTHS AFTER PLANTING.
18. FINAL LOCATION OF CHANNEL CENTERLINE WILL BE DETERMINED IN THE FIELD AND COORDINATED WITH THE NECESSARY PROJECT SPECIALIST (BIOLOGIST, HISTORICAL MONITOR, ETC.)

MAINTENANCE PROCEDURE

PRE-MAINTENANCE

1. AN ON-SITE PRE-MAINTENANCE MEETING SHALL BE CONDUCTED PRIOR TO THE START OF MAINTENANCE. AT A MINIMUM, THE FOLLOWING PERSONNEL SHALL ATTEND THE MEETING: MAINTENANCE CONTRACTOR, CITY STORM WATER DIVISION REPRESENTATIVES, CITY'S MITIGATION MONITORING COORDINATOR (MMC), A QUALIFIED WATER QUALITY SPECIALIST, AND THE PROJECT BIOLOGIST. SENSITIVE BIOLOGICAL RESOURCES TO BE AVOIDED DURING THE MAINTENANCE ACTIVITIES SHALL BE IDENTIFIED AS WELL AS ANY CONDITIONS FOR POSSIBLE NIGHT AND/OR WEEKEND WORK. THE WATER QUALITY SPECIALIST SHALL DISCUSS THE WATER POLLUTION CONTROL PLAN (WPCP), AND IDENTIFY MITIGATION MEASURES, PROTOCOLS AND BEST MANAGEMENT PRACTICES (BMPs) TO BE CARRIED OUT DURING THE MAINTENANCE. MAINTENANCE PERSONNEL RESPONSIBLE FOR IMPLEMENTING THE WPCP SHALL BE PRESENT AT THE PRE-MAINTENANCE MEETING.
2. BMPs INCLUDED IN THE WPCP SHALL BE INSTALLED PRIOR TO COMMENCING MAINTENANCE.
3. EQUIPMENT ACCESS AND LOADING AREAS SHALL BE IDENTIFIED AND DELINEATED.

MAINTENANCE SEQUENCING

1. WORK SHALL BEGIN IN THE MBHS CHANNEL. MAINTENANCE WITHIN THE MBHS CHANNEL AREA SHALL BEGIN AT STATION 20+72 AND CONTINUE TO STATION 9+97.
2. ONCE MAINTENANCE IN THE MBHS CHANNEL IS COMPLETED, MAINTENANCE WITHIN THE PBO CHANNEL SHALL COMMENCE. MAINTENANCE WITHIN THE PBO CHANNEL SHALL BE DONE IN TWO PHASES. PHASE 1 SHALL BEGIN AT STATION 9+97 AND CONTINUE TO STATION 8+58. PHASE 2 SHALL BEGIN AT STATION 8+58 AND CONTINUE TO STATION 11+00.
3. MAINTENANCE MAY OCCUR SEVEN DAYS A WEEK BETWEEN THE HOURS OF 7:00 AM AND 7:00 PM.

EQUIPMENT ACCESS AND LOADING

1. MBHS CHANNEL - ACCESS FOR THE VACTOR TRUCK SHALL TAKE PLACE FROM THE HIGH SCHOOL PARKING LOT AT ACCESS AREA MB2 AT THE NORTH END OF THE CHANNEL NEAR STATION 20+72. (SEE IMP FOR ACCESS AREA LOCATION) - ACCESS FOR MAINTENANCE EQUIPMENT (E.G. EXCAVATOR AND/OR SKID-STEER) SHALL TAKE PLACE AT THE SOUTHERLY HIGH SCHOOL PARKING LOT AT THE EAST END OF THE CHANNEL. LOADING SHALL TAKE PLACE WITHIN ACCESS AND LOADING AREA MB1 BETWEEN STATIONS 13+09 AND 10+00.
2. PBO CHANNEL - ACCESS FOR THE VACTOR TRUCK, EXCAVATOR, AND/OR SKID-STEER SHALL TAKE PLACE AT ACCESS AREA PB1 FROM PACIFIC BEACH DRIVE NEAR STATION 8+73. - LOADING FOR THE GRADALL AND DUMP TRUCK SHALL TAKE PLACE WITHIN ACCESS AND LOADING AREA PB2 BETWEEN STATIONS 8+73 AND 1+08.

STAGING AND STOCKPILING

1. NO EQUIPMENT SHALL BE STAGED ON SITE. ALL MATERIALS SHALL BE HAULED IMMEDIATELY TO A LEGAL DISPOSAL SITE.

METHODOLOGY

MBHS CHANNEL

1. VACTOR(S) TO REMOVE STANDING WATER FROM CHANNEL SHALL BE LOCATED AT STATION 20+72. ONCE STANDING WATER HAS BEEN REMOVED, VACTORS SHALL BE MOVED TO STATIONS 20+72 AND 10+04 TO CAPTURE ANY INCOMING OR CONTAINED FLOWS.
2. CREWS SHALL INSTALL TEMPORARY SANDBAG BERM ACROSS CHANNEL AT DOWNSTREAM END OF THE CHANNEL.
3. RUBBER-TRACKED SKID-STEER(S) AND/OR EXCAVATOR SHALL ENTER/EXIT CHANNEL AT ACCESS POINT MB1.
4. AN EXCAVATOR MAY BE UTILIZED IN THE CHANNEL TO MOVE VEGETATION TO GRADALL.
5. SKID-STEER(S) SHALL PUSH VEGETATION AND SEDIMENT TO GRADALL STATIONED OUTSIDE OF CHANNEL AT ACCESS POINT MB1.
6. GRADALL STATIONED AT ACCESS POINT MB1 SHALL SCOOP MATERIAL FROM CENTRAL LOCATION WITHIN CHANNEL AND LOAD MATERIAL INTO WAITING DUMP TRUCK LOCATED IN EXISTING PAVED PARKING LOT.

7. DUMP TRUCKS SHALL HAUL MATERIAL TO LEGAL DISPOSAL SITE.
8. SKID-STEER AND EXCAVATOR SHALL EXIT CHANNEL.

PBO CHANNEL (PHASE 1)

1. VACTOR SHALL BE POSITIONED AT ACCESS POINT PB1 TO REMOVE STANDING WATER FROM CHANNEL AND CAPTURE ANY INCOMING OR CONTAINED FLOWS.
2. CREWS SHALL INSTALL TEMPORARY SANDBAG BERM ACROSS PIPE INLET AT DOWNSTREAM END OF CHANNEL.
3. RUBBER TRACKED SKID-STEER SHALL ENTER/EXIT CHANNEL AT ACCESS POINT PB1.
4. RUBBER TRACKED SKID-STEER SHALL PUSH MATERIAL TO GRADALL STATIONED ALONG ACCESS AND LOADING AREA AT ACCESS POINT PB1 UNTIL IT REACHES EASTERN LIMIT OF WORK AT STATION 9+97.
5. GRADALL SHALL LOAD MATERIALS FROM CHANNEL DIRECTLY INTO DUMP TRUCKS.
6. DUMP TRUCK SHALL HAUL MATERIAL TO LEGAL DISPOSAL SITE.
7. SKID-STEER AND EXCAVATOR SHALL EXIT CHANNEL.

PBO CHANNEL (PHASE 2)

1. GRADALL SHALL BE POSITIONED ALONG LOADING AREA AT ACCESS POINT PB2 ABOVE CHANNEL BANK AND SHALL SCOOP VEGETATION AND SEDIMENT FROM CHANNEL INTO DUMP TRUCK.
2. DUMP TRUCK SHALL HAUL MATERIAL TO LEGAL DISPOSAL SITE.
3. SKID-STEER AND EXCAVATOR SHALL EXIT CHANNEL.

POST MAINTENANCE:

1. EQUIPMENT SHALL BE REMOVED FROM THE SITE.
2. TEMPORARY BMPs SHALL BE REMOVED.

OTHER NOTES:

1. SWEEPERS SHALL SWEEP ADJACENT PUBLIC RIGHTS-OF-WAY AND IMMEDIATE TRUCK LOADING SITES NIGHTLY.
2. EQUIPMENT SHALL BE FUELED OUTSIDE CHANNEL, AND LOCATED AT LEAST 150 FEET FROM WATERS OF US/STATE.



ENGINEER OF WORK

JOHN D. GODDARD, JR. R.C.E. 33037 DATE

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| DESCRIPTION | BY | APPROVED | DATE | FILMED |
| ORIGINAL | REC | | | |
| <p>AS-BUILTS</p> | | | | <p>XXXX-XXXX NAD83 COORDINATES</p> |
| <p>CONTRACTOR _____ DATE STARTED _____</p> | | | | <p>XXX-XXXX LAMBERT COORDINATES</p> |
| <p>INSPECTOR _____ DATE COMPLETED _____</p> | | | | <p>38339-6-D</p> |

ADDITIONAL MAINTENANCE REQUIREMENTS

1. THE CITY SHALL NOTIFY DFG, IN WRITING, AT LEAST FIVE DAYS PRIOR TO INITIATION OF CONSTRUCTION (PROJECT) ACTIVITIES AND AT LEAST FIVE DAYS PRIOR TO COMPLETION OF CONSTRUCTION (PROJECT) ACTIVITIES. NOTIFICATION SHALL BE SENT TO DFG'S SOUTH COAST OFFICE, ATTN: STREAMBED ALTERATION PROGRAM-SM# 1600-2011-0271-R5.
2. AVOID THE INTRODUCTION OF INVASIVE PLANT SPECIES WITH PHYSICAL EROSION CONTROL MEASURES.
3. PRIOR TO COMMENCING ANY MAINTENANCE ACTIVITY WHICH MAY IMPACT SENSITIVE BIOLOGICAL RESOURCES, THE MONITORING BIOLOGIST SHALL VERIFY THAT THE FOLLOWING ACTIONS HAVE BEEN TAKEN, AS APPROPRIATE:
 - FENCING, FLAGGING, SIGNAGE OR OTHER MEANS TO PROTECT SENSITIVE RESOURCES TO REMAIN AFTER MAINTENANCE HAS BEEN IMPLEMENTED;
 - NOISE ATTENUATION MEASURES NEEDED TO PROTECT SENSITIVE WILDLIFE ARE IN PLACE AND EFFECTIVE; AND/OR
 - NESTING RAPTORS HAVE BEEN IDENTIFIED AND NECESSARY MAINTENANCE SETBACKS HAVE BEEN ESTABLISHED IF MAINTENANCE IS TO OCCUR BETWEEN JANUARY 15 AND AUGUST 31.
4. IF ANY WILDLIFE IS ENCOUNTERED DURING THE COURSE OF MAINTENANCE, SAID WILDLIFE SHALL BE ALLOWED TO LEAVE THE MAINTENANCE AREA UNHARMED.
5. IF A VACTOR TRUCK WILL BE LOCATED WITHIN 430 FEET OF POTENTIAL CLAPPER RAIL NESTING AREA BETWEEN FEBRUARY 15 TO AUGUST 15, ONE OF THE FOLLOWING CONDITIONS MUST BE MET:
 - PROTOCOL SURVEYS FOR CLAPPER RAIL MUST BE CONDUCTED BY A USFWS-PERMITTED BIOLOGIST TO DETERMINE ACTIVE NEST LOCATIONS WITHIN 430 FEET OF THE MAINTENANCE AREA. IF NO NESTS ARE PRESENT, MAINTENANCE MAY TAKE PLACE WITHOUT RESTRICTION. IF ACTIVE NESTS ARE PRESENT WITHIN THIS DISTANCE, A QUALIFIED ACOUSTICIAN SHALL DETERMINE WHETHER MAINTENANCE EQUIPMENT WOULD CAUSE NOISE LEVELS IN POTENTIAL CLAPPER RAIL HABITAT TO EXCEED 60 dBA(Leq) DURING THE BREEDING SEASON. IF SO, MAINTENANCE EQUIPMENT MUST EITHER BE SETBACK FROM POTENTIAL NESTING HABITAT OR NOISE ATTENUATION IMPLEMENTED IN A MANNER WHICH ASSURES THAT NEARBY NESTING HABITAT FOR THE CLAPPER RAIL WOULD NOT BE EXPOSED TO NOISE LEVELS IN EXCESS OF 60 dBA(Leq) DURING THE BREEDING SEASON.
 - IF NO SURVEYS ARE COMPLETED AND NO SOUND ATTENUATION DEVICES ARE INSTALLED, IT SHALL BE ASSUMED THAT CLAPPER RAIL IS PRESENT, AND THAT VACTOR TRUCKS WOULD GENERATE GREATER THAN 60 dBA(Leq) WITHIN THE HABITAT REQUIRING PROTECTION. USE OF VACTOR TRUCKS WITHIN 430 FEET OF CLAPPER RAIL HABITAT SHALL CEASE FOR THE DURATION OF THE BREEDING SEASON AND A QUALIFIED BIOLOGIST SHALL ESTABLISH A LIMIT OF WORK.

MASTER MAINTENANCE PLAN (MMP) PROTOCOL REQUIREMENTS:

1. BIO-1: RESTRICT VEHICLES TO ACCESS DESIGNATED IN THE MMP.
2. BIO-2: FLAG AND DELINEATE ALL SENSITIVE BIOLOGICAL RESOURCES TO REMAIN WITHIN OR ADJACENT TO MAINTENANCE AREA PRIOR TO INITIATION OF MAINTENANCE ACTIVITIES IN ACCORDANCE WITH THE SITE SPECIFIC INDIVIDUAL BIOLOGICAL ASSESSMENT (IBA), INDIVIDUAL HYDROLOGY AND HYDRAULIC ASSESSMENT (IHA), AND/OR INDIVIDUAL MAINTENANCE PLAN (IMP) PREPARED FOR THE WORK.
3. BIO-3: CONDUCT A PRE-MAINTENANCE MEETING ON SITE PRIOR TO THE START OF ANY MAINTENANCE ACTIVITY THAT OCCURS WITHIN OR ADJACENT TO SENSITIVE BIOLOGICAL RESOURCES. THE PRE-MAINTENANCE MEETING SHALL INCLUDE A QUALIFIED BIOLOGIST, FIELD ENGINEER, PLANNER, EQUIPMENT OPERATORS/SUPERINTENDENT AND OTHER KEY PERSONNEL CONDUCTING OR INVOLVED IN CHANNEL MAINTENANCE ACTIVITIES. THE QUALIFIED BIOLOGIST SHALL POINT OUT OR IDENTIFY SENSITIVE BIOLOGICAL RESOURCES TO BE AVOIDED DURING MAINTENANCE. FLAG/DELINATE SENSITIVE RESOURCES TO BE AVOIDED, REVIEW SPECIFIC MEASURES TO PROTECT SENSITIVE BIOLOGICAL RESOURCES AS NECESSARY. THE BIOLOGIST SHALL ALSO REVIEW THE PROPOSED EROSION CONTROL METHODS TO CONFIRM THEY WILL NOT POSE RISK TO WILDLIFE (E.G., NON-BIODEGRADABLE BLANKETS MAY ENTANGLE WILDLIFE).
4. BIO-4: AVOID THE INTRODUCTION OF INVASIVE PLANT SPECIES WITH PHYSICAL EROSION CONTROL MEASURES.
5. BIO-5: CONDUCT APPROPRIATE PRE-MAINTENANCE SURVEYS IF MAINTENANCE IS PROPOSED DURING THE BREEDING SEASON OF A SENSITIVE ANIMAL SPECIES (JANUARY 15 TO AUGUST 31). IF SENSITIVE ANIMAL SPECIES COVERED BY THE PROGRAM ENVIRONMENTAL IMPACT REPORT (PEIR) ARE IDENTIFIED, THEN APPLICABLE MEASURES FROM THE MITIGATION MONITORING AND REPORTING PLAN (MMRP) SHALL BE IMPLEMENTED UNDER THE DIRECTION OF A QUALIFIED BIOLOGIST TO AVOID SIGNIFICANT DIRECT AND/OR INDIRECT IMPACTS TO IDENTIFIED SENSITIVE ANIMAL SPECIES. IF SENSITIVE ANIMAL SPECIES ARE IDENTIFIED DURING PRE-MAINTENANCE SURVEYS THAT ARE NOT COVERED BY THE PEIR, SWD SHALL CONTACT THE APPROPRIATE WILDLIFE AGENCIES AND ADDITIONAL ENVIRONMENTAL REVIEW UNDER CEQA WILL BE REQUIRED.
6. BIO-7: AVOID MECHANIZED MAINTENANCE WITHIN 300 FEET OF A COOPER'S HAWK NEST, 900 FEET OF A NORTHERN HARRIER'S NEST, OR 500 FEET OF ANY OTHER RAPTOR'S NEST UNTIL ANY FLEDGLINGS HAVE LEFT THE NEST.
7. WM-1: DISPOSE AND TRANSPORT COMPOSTABLE GREEN WASTE MATERIAL TO AN APPROVED COMPOSTING FACILITY, IF AVAILABLE.
8. WM-2: RE-USE EXCAVATED MATERIAL, WHENEVER POSSIBLE, AS FILL MATERIAL, AGGREGATE SAND REPLENISHMENT, OR OTHER RAW MATERIAL USES. RE-USED MATERIAL (AGGREGATES, SOIL, SAND OR SILT) SHALL BE DOCUMENTED IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS.
9. WM-3: SEPARATE WASTE TIRES FROM EXCAVATED MATERIAL AND TRANSPORT THEM TO AN APPROPRIATE DISPOSAL FACILITY. IF MORE THAN NINE TIRES ARE IN A VEHICLE OR WASTE BIN AT ANY ONE TIME, THEY SHALL BE TRANSPORTED UNDER A COMPLETED COMPREHENSIVE TRIP LOG (CTL) TO DOCUMENT THAT THE TIRES WERE TAKEN TO AN APPROPRIATE DISPOSAL FACILITY.
10. WM-4: LOG AND TRANSPORT ANY HAZARDOUS MATERIALS ENCOUNTERED DURING MAINTENANCE TO A HAZARDOUS WASTE STORAGE, RECYCLING, TREATMENT OR DISPOSAL FACILITY. PERSONNEL HANDLING HAZARDOUS MATERIALS SHALL HAVE THE APPROPRIATE TRAINING TO HANDLE, STORE, TRANSPORT, AND/OR DISPOSE THE MATERIAL. HAZARDOUS MATERIALS (E.G., MACHINE OIL, MERCURY SWITCHES, AND REFRIGERANT GASES) SHALL BE REMOVED FROM APPLIANCES AND DISPOSED IN ACCORDANCE WITH THIS PROTOCOL.
11. WQ-2: PREVENT OFF-SITE SEDIMENT TRANSPORT DURING MAINTENANCE THROUGH THE USE OF EROSION AND SEDIMENT CONTROLS WITHIN STORM WATER FACILITIES, ALONG ACCESS ROUTES AND AROUND STOCKPILE/STAGING AREAS. INSTALL BMPs SUCH AS SILT FENCES, FIBER ROLLS, GRAVEL BAGS, TEMPORARY SEDIMENT BASINS, STABILIZED MAINTENANCE ACCESS POINTS (E.G., SHAKER PLATES), CONTAINMENT BARRIERS (E.G., SILT FENCE, FIBER ROLLS AND/OR BERMS) FOR MATERIAL STOCKPILES; AND PROPERLY FITTED COVERS FOR MATERIAL TRANSPORT VEHICLES. REMOVE TEMPORARY EROSION OR SEDIMENT CONTROL MEASURES UPON COMPLETION OF MAINTENANCE UNLESS THEIR REMOVAL WOULD RESULT IN GREATER ENVIRONMENTAL IMPACT THAN LEAVING THEM IN PLACE.
12. WQ-3: STORE BMP MATERIALS ON-SITE TO PROVIDE COMPLETE PROTECTION OF EXPOSED AREAS AND PREVENT OFF-SITE SEDIMENT TRANSPORT.
13. WQ-4: PROVIDE TRAINING FOR PERSONNEL RESPONSIBLE FOR THE PROPER INSTALLATION, INSPECTION, AND MAINTENANCE OF ON-SITE BMPs.
14. WQ-7: AVOID STORING HAZARDOUS MATERIALS USED DURING MAINTENANCE WITHIN 50 FEET FROM STORM WATER FACILITIES. HAZARDOUS MATERIALS SHALL BE MANAGED AND STORED IN ACCORDANCE WITH APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS.
15. WQ-8: STORE MAINTENANCE-RELATED TRASH IN AREAS AT LEAST 50 FEET FROM STORM WATER FACILITIES, AND REMOVE ANY TRASH RECEPTACLES REGULARLY (AT LEAST WEEKLY).
16. WQ-10: INSPECT EARTHEN-BOTTOM STORM WATER FACILITIES WITHIN 30 DAYS OF THE FIRST 2-YEAR STORM FOLLOWING MAINTENANCE. IMPLEMENT EROSION CONTROL MEASURES RECOMMENDED BY THE FIELD ENGINEER, SUCH AS FIBER BLANKETS, TO REMEDIATE SUBSTANTIAL EROSION WHICH HAS OCCURRED AND TO MINIMIZE FUTURE EROSION.

APPLICABLE PEIR MITIGATION MEASURES:

1. MITIGATION MEASURE 4.3.2: NO MAINTENANCE ACTIVITIES WITHIN A PROPOSED ANNUAL MAINTENANCE PROGRAM SHALL BE INITIATED BEFORE THE CITY'S ASSISTANT DEPUTY DIRECTOR (ADD) ENVIRONMENTAL DESIGNEE AND STATE AND FEDERAL AGENCIES WITH JURISDICTION OVER MAINTENANCE ACTIVITIES HAVE APPROVED THE IMPS AND IBAS INCLUDING PROPOSED MITIGATION FOR EACH OF THE PROPOSED ACTIVITIES. IN THEIR REVIEW, THE ADD ENVIRONMENTAL DESIGNEE AND AGENCIES SHALL CONFIRM THAT THE APPROPRIATE MAINTENANCE PROTOCOLS HAVE BEEN INCORPORATED INTO EACH IMP.
2. MITIGATION MEASURE 4.3.3: NO MAINTENANCE ACTIVITIES WITHIN A PROPOSED ANNUAL MAINTENANCE PROGRAM SHALL BE INITIATED UNTIL THE CITY'S ADD ENVIRONMENTAL DESIGNEE AND MITIGATION MONITORING COORDINATOR (MMC) HAVE APPROVED THE QUALIFICATIONS FOR BIOLOGIST(S) WHO SHALL BE RESPONSIBLE FOR MONITORING MAINTENANCE ACTIVITIES WHICH MAY IMPACT SENSITIVE BIOLOGICAL RESOURCES.
3. MITIGATION MEASURE 4.3.4: PRIOR TO UNDERTAKING ANY MAINTENANCE ACTIVITY INCLUDED IN AN ANNUAL MAINTENANCE PROGRAM, A MITIGATION ACCOUNT SHALL BE ESTABLISHED TO PROVIDE SUFFICIENT FUNDS TO IMPLEMENT ALL BIOLOGICAL MITIGATION ASSOCIATED WITH THE PROPOSED MAINTENANCE ACTIVITIES. THE FUND AMOUNT SHALL BE DETERMINED BY THE ADD ENVIRONMENTAL DESIGNEE. THE ACCOUNT SHALL BE MANAGED BY THE CITY'S SWD WITH QUARTERLY STATUS REPORTS SUBMITTED TO DSD. THE STATUS REPORTS SHALL SEPARATELY IDENTIFY UPLAND AND WETLAND ACCOUNT ACTIVITY. BASED UPON THE IMPACTS IDENTIFIED IN THE IBAS, MONEY SHALL BE DEPOSITED INTO THE ACCOUNT, AS PART OF THE PROJECT SUBMITTAL, TO ENSURE AVAILABLE FUNDS FOR MITIGATION.
4. MITIGATION MEASURE 4.3.5: PRIOR TO COMMENCING ANY ACTIVITY THAT COULD IMPACT WETLANDS, EVIDENCE OF COMPLIANCE WITH OTHER PERMITTING AUTHORITIES IS REQUIRED, IF APPLICABLE. EVIDENCE SHALL INCLUDE COPIES OF PERMITS ISSUED, LETTERS OF RESOLUTION ISSUED BY THE RESPONSIBLE AGENCY DOCUMENTING COMPLIANCE, OR OTHER EVIDENCE DOCUMENTING COMPLIANCE AND DEEMED ACCEPTABLE BY THE ADD ENVIRONMENTAL DESIGNEE.
5. MITIGATION MEASURE 4.3.6: PRIOR TO COMMENCING ANY ACTIVITY WHERE THE IBA INDICATES SIGNIFICANT IMPACTS TO BIOLOGICAL RESOURCES MAY OCCUR, A PRE-MAINTENANCE MEETING SHALL BE HELD ON SITE WITH THE FOLLOWING IN ATTENDANCE: CITY'S SWD MAINTENANCE MANAGER (MM), MMC, AND MAINTENANCE CONTRACTOR (MC). THE BIOLOGIST SELECTED TO MONITOR THE ACTIVITIES SHALL BE PRESENT AT THIS MEETING. THE MONITORING BIOLOGIST SHALL IDENTIFY AND DISCUSS THE MAINTENANCE PROTOCOLS THAT APPLY TO THE MAINTENANCE ACTIVITIES.
6. AT THE PRE-MAINTENANCE MEETING, THE MONITORING BIOLOGIST SHALL SUBMIT TO THE MMC AND MC A COPY OF THE MAINTENANCE PLAN (REDUCED TO 11"x17") THAT IDENTIFIES AREAS TO BE PROTECTED, FENCED, AND MONITORED. THIS DATA SHALL INCLUDE ALL PLANNED LOCATIONS AND DESIGN OF NOISE ATTENUATION WALLS OR OTHER DEVICES. THE MONITORING BIOLOGIST ALSO SHALL SUBMIT A MAINTENANCE SCHEDULE TO THE MMC AND MC INDICATING WHEN AND WHERE MONITORING IS TO BEGIN AND SHALL NOTIFY THE MMC OF THE START DATE FOR MONITORING.
7. MITIGATION MEASURE 4.3.9: WETLAND IMPACTS RESULTING FROM MAINTENANCE SHALL BE MITIGATED IN ONE OF THE FOLLOWING THREE TWO WAYS: (1) HABITAT CREATION, RESTORATION, AND/OR ENHANCEMENT CONCURRENT WITH MAINTENANCE, (2) HABITAT CREATION, RESTORATION, AND/OR ENHANCEMENT PRIOR TO MAINTENANCE, OR (3) MITIGATION CREDITS. THE AMOUNT OF MITIGATION WHEN MITIGATION IS PROPOSED TO BE ACCOMPLISHED THROUGH CONCURRENT CREATION, RESTORATION OR ENHANCEMENT, THE AMOUNT OF PLANTING SHALL BE IN ACCORDANCE WITH RATIOS IN TABLE 4.3-10 UNLESS DIFFERENT MITIGATION RATIOS ARE REQUIRED BY STATE OR FEDERAL AGENCIES WITH JURISDICTION OVER THE IMPACTED WETLANDS. IN THIS EVENT, THE MITIGATION RATIOS REQUIRED BY THESE AGENCIES WILL SUPERSEDE, AND NOT BE IN ADDITION TO, THE RATIOS DEFINED IN TABLE 4.3-10. WHEN PREVIOUSLY CREATED, RESTORED OR ENHANCED WETLAND HABITAT IS PROPOSED TO BE USED FOR MITIGATION, THE RATIO SHALL BE 1:1, PROVIDED THE HABITAT HAS BEEN DETERMINED TO BE SUCCESSFULLY ESTABLISHED BY THE ADD ENVIRONMENTAL DESIGNEE IN CONSULTATION WITH THE RESOURCE AGENCIES PRIOR TO COMMENCING THE MAINTENANCE ACTIVITY. MITIGATION CREDITS MAY BE USED AT A RATIO OF 1:1, PROVIDED THE MITIGATION CREDITS ARE FROM A MITIGATION BANK WHICH HAS BEEN APPROVED BY THE RESOURCE AGENCIES. NO MAINTENANCE SHALL COMMENCE UNTIL THE ADD ENVIRONMENTAL DESIGNEE HAS DETERMINED THAT MITIGATION PROPOSED FOR A SPECIFIC MAINTENANCE ACTIVITY MEETS ONE OF THESE THREE TWO OPTIONS.

| TABLE 4.3-10 WETLAND MITIGATION RATIOS | |
|---|------------------|
| WETLAND TYPE | MITIGATION RATIO |
| SOUTHERN RIPARIAN FOREST | 3:1 |
| SOUTHERN SYCAMORE RIPARIAN WOODLAND | 3:1 |
| RIPARIAN WOODLAND | 3:1 |
| COASTAL SALTPAN | 4:1 |
| COASTAL BRACKISH MARSH | 4:1 |
| SOUTHERN WILLOW SCRUB | 2:1 |
| TULE FAT SCRUB | 2:1 |
| RIPARIAN SCRUB | 2:1 |
| FRESHWATER MARSH | 2:1 |
| CISMONTANE ALKALI MARSH | 4:1 |
| DISTURBED WETLAND | 2:1 |
| STREAMBED/NATURAL FLOOD CHANNEL | 2:1 |

¹MITIGATION RATIO WITHIN THE COASTAL ZONE WILL BE 3:1

²MITIGATION RATIO WITHIN THE COASTAL ZONE WILL BE 4:1

MITIGATION LOCATIONS FOR WETLAND IMPACTS SHALL BE SELECTED USING THE FOLLOWING ORDER OF PREFERENCE, BASED ON THE BEST MITIGATION VALUE TO BE ACHIEVED.

- WITHIN IMPACTED WATERSHED, WITHIN CITY LIMITS.
- WITHIN IMPACTED WATERSHED, OUTSIDE CITY LIMITS ON CITY-OWNED OR OTHER PUBLICLY-OWNED LAND.
- OUTSIDE IMPACTED WATERSHED, WITHIN CITY LIMITS.
- OUTSIDE IMPACTED WATERSHED, OUTSIDE CITY LIMITS ON CITY-OWNED OR OTHER PUBLICLY-OWNED LAND.

IN ORDER TO MITIGATE FOR IMPACTS IN AN AREA OUTSIDE THE LIMITS OF THE WATERSHED WITHIN WHICH THE IMPACTS OCCUR, THE SWD MUST DEMONSTRATE TO THE SATISFACTION OF THE ADD ENVIRONMENTAL DESIGNEE, IN CONSULTATION WITH THE RESOURCE AGENCIES THAT NO SUITABLE LOCATION EXISTS WITHIN THE IMPACTED WATERSHED.

8. MITIGATION MEASURE 4.3.10: WHENEVER MAINTENANCE WILL IMPACT WETLAND VEGETATION, A WETLAND MITIGATION PLAN SHALL BE PREPARED IN ACCORDANCE WITH THE CONCEPTUAL WETLAND RESTORATION PLAN CONTAINED IN APPENDIX H OF THE BIOLOGICAL TECHNICAL REPORT, INCLUDED AS APPENDIX D.3 OF THE PEIR.
9. MITIGATION WHICH INVOLVES HABITAT ENHANCEMENT, RESTORATION OR CREATION SHALL INCLUDE A WETLAND MITIGATION PLAN CONTAINING THE FOLLOWING INFORMATION:
 - CONCEPTUAL PLANTING PLAN INCLUDING PLANTING ZONES, GRADING, AND IRRIGATION;
 - SEED MIX/PLANTING PALETTE;
 - PLANTING SPECIFICATIONS;
 - MONITORING PROGRAM INCLUDING SUCCESS CRITERIA; AND
 - LONG-TERM MAINTENANCE AND PRESERVATION PLAN.

MITIGATION WHICH INVOLVES HABITAT ACQUISITION AND PRESERVATION SHALL INCLUDE THE FOLLOWING:

- LOCATION OF PROPOSED ACQUISITION;
- DESCRIPTION OF THE BIOLOGICAL RESOURCES TO BE ACQUIRED INCLUDING SUPPORT FOR THE CONCLUSION THAT THE ACQUIRED HABITAT MITIGATES FOR THE SPECIFIC MAINTENANCE IMPACT; AND
- DOCUMENTATION THAT THE MITIGATION AREA WOULD BE ADEQUATELY PRESERVED AND MAINTAINED IN PERPETUITY.

MITIGATION WHICH INVOLVES THE USE OF MITIGATION CREDITS SHALL INCLUDE THE FOLLOWING:

- LOCATION OF THE MITIGATION BANK;
- DESCRIPTION OF THE CREDITS TO BE ACQUIRED INCLUDING SUPPORT FOR THE CONCLUSION THAT THE ACQUIRED HABITAT MITIGATES FOR THE SPECIFIC MAINTENANCE IMPACT; AND
- DOCUMENTATION THAT THE CREDITS ARE ASSOCIATED WITH A MITIGATION BANK WHICH HAS BEEN APPROVED BY THE APPROPRIATE RESOURCE AGENCIES.

10. MITIGATION MEASURE 4.3.14: WHENEVER OFF-SITE MITIGATION WOULD RESULT IN A PHYSICAL DISTURBANCE TO THE PROPOSED MITIGATION AREA, THE CITY WILL CONDUCT AN ENVIRONMENTAL REVIEW OF THE PROPOSED MITIGATION PLAN IN ACCORDANCE WITH CEQA. IF THE OFF-SITE MITIGATION WOULD HAVE A SIGNIFICANT IMPACT ON BIOLOGICAL RESOURCES ASSOCIATED WITH THE MITIGATION SITE, MITIGATION MEASURES WILL BE IDENTIFIED AND IMPLEMENTED IN ACCORDANCE WITH THE MMP RESULTING FROM THAT CEQA ANALYSIS.

11. MITIGATION MEASURE 4.3.16: MAINTENANCE ACTIVITIES SHALL NOT OCCUR WITHIN THE FOLLOWING AREAS:
 - 300 FEET FROM ANY NESTING SITE OF COOPER'S HAWK (ACCIPITER COOPERII);
 - 1,500 FEET FROM KNOWN LOCATIONS OF THE SOUTHERN POND TURTLE (CLEMMYS MARMORATA PALLIDA);
 - 900 FEET FROM ANY NESTING SITES OF NORTHERN HARRIERS (CIRCUS CYANEUS);
 - 4,000 FEET FROM ANY NESTING SITES OF GOLDEN EAGLES (AQUILA CHRYSAETOS); OR
 - 300 FEET FROM ANY OCCUPIED BURROW OR BURROWING OWLS (ATHENE CUNICULARIA).
12. MITIGATION MEASURE 4.3.17: IF EVIDENCE INDICATES THE POTENTIAL IS HIGH FOR A LISTED SPECIES TO BE PRESENT, BASED ON HISTORICAL RECORDS OR SITE CONDITIONS, THEN CLEARING, GRUBBING, OR GRADING (INSIDE AND OUTSIDE THE MHP) SHALL BE RESTRICTED DURING THE BREEDING SEASON WHERE DEVELOPMENT MAY IMPACT THE FOLLOWING SPECIES:
 - LIGHT-FOOTED CLAPPER RAIL (BETWEEN FEBRUARY 15 AND AUGUST 15);
 - WESTERN SNOWY PLOVER (BETWEEN MARCH 1 AND SEPTEMBER 15);
 - LEAST TERN (BETWEEN APRIL 1 AND SEPTEMBER 15);
 - CACTUS WREN (BETWEEN FEBRUARY 15 AND AUGUST 15); OR
 - TRICOLORED BLACK BIRD (BETWEEN MARCH 1 AND AUGUST 1.

WHEN OTHER SENSITIVE SPECIES, INCLUDING, BUT NOT LIMITED TO, THE ARROYO TOAD, BURROWING OWL, OR QUINO CHECKERSPOT BUTTERFLY ARE KNOWN OR SUSPECTED TO BE PRESENT ALL APPROPRIATE PROTOCOL SURVEYS AND MITIGATION MEASURES SHALL BE IMPLEMENTED.

13. MITIGATION MEASURE 4.3.21: IF MAINTENANCE OCCURS DURING THE RAPTOR BREEDING SEASON (JANUARY 15 TO AUGUST 31), A PRE-MAINTENANCE SURVEY FOR ACTIVE RAPTOR NESTS SHALL BE CONDUCTED IN AREAS SUPPORTING SUITABLE HABITAT. IF ACTIVE RAPTOR NESTS ARE FOUND, MAINTENANCE SHALL NOT OCCUR WITHIN 300 FEET OF A COOPER'S HAWK NEST, 900 FEET OF A NORTHERN HARRIER'S NEST, OR 500 FEET OF ANY OTHER RAPTOR'S NEST UNTIL ANY FLEDGLINGS HAVE LEFT THE NEST.

14. MITIGATION MEASURE 4.3.22: IF REMOVAL OF ANY EUCALYPTUS TREES OR OTHER TREES USED BY RAPTORS FOR NESTING WITHIN A MAINTENANCE AREA IS PROPOSED DURING THE RAPTOR BREEDING SEASON (JANUARY 15 THROUGH AUGUST 31), A QUALIFIED BIOLOGIST SHALL ENSURE THAT NO RAPTORS ARE NESTING IN SUCH TREES. IF MAINTENANCE OCCURS DURING THE RAPTOR BREEDING SEASON, A PRE-MAINTENANCE SURVEY SHALL BE CONDUCTED AND NO MAINTENANCE SHALL OCCUR WITHIN 300 FEET OF ANY NESTING SITE OF COOPER'S HAWK OR OTHER NESTING RAPTOR UNTIL THE YOUNG FLEDGE. SHOULD THE BIOLOGIST DETERMINE THAT RAPTORS ARE NESTING, THE TREES SHALL NOT BE REMOVED UNTIL AFTER THE BREEDING SEASON. IN ADDITION, IF REMOVAL OF GRASSLAND OR OTHER HABITAT APPROPRIATE FOR NESTING BY NORTHERN HARRIERS, A QUALIFIED BIOLOGIST SHALL ENSURE THAT NO HARRIERS ARE NESTING IN SUCH AREAS. IF MAINTENANCE OCCURS DURING THE RAPTOR BREEDING SEASON, A PRE-MAINTENANCE SURVEY SHALL BE CONDUCTED AND NO MAINTENANCE SHALL OCCUR WITHIN 900 FEET OF ANY NESTING SITE OF NORTHERN HARRIER UNTIL THE YOUNG FLEDGE.

15. MITIGATION MEASURE 4.3.25: IN ORDER TO AVOID IMPACTS TO NESTING AVIAN SPECIES, INCLUDING THOSE SPECIES NOT COVERED BY THE MSCP, MAINTENANCE WITHIN OR ADJACENT TO AVIAN NESTING HABITAT SHALL OCCUR OUTSIDE OF THE AVIAN BREEDING SEASON (JANUARY 15 TO AUGUST 31) UNLESS POSTPONING MAINTENANCE WOULD RESULT IN A THREAT TO HUMAN LIFE OR PROPERTY.

16. MITIGATION MEASURE 4.1.3: IF A LISTED SPECIES IS LOCATED WITHIN 500 FEET OF A PROPOSED MAINTENANCE ACTIVITY AND MAINTENANCE WOULD OCCUR DURING THE ASSOCIATED BREEDING SEASON, AN ANALYSIS OF THE NOISE GENERATED BY MAINTENANCE ACTIVITIES SHALL BE COMPLETED BY A QUALIFIED ACOUSTICIAN (POSSESSING CURRENT NOISE ENGINEER LICENSE OR REGISTRATION WITH MONITORING NOISE LEVEL EXPERIENCE WITH LISTED ANIMAL SPECIES) AND APPROVED BY THE ADD ENVIRONMENTAL DESIGNEE. THE ANALYSIS SHALL IDENTIFY THE LOCATION OF THE 60 DB (A) LEQ NOISE CONTOUR ON THE MAINTENANCE PLAN. THE REPORT SHALL ALSO IDENTIFY MEASURES TO BE UNDERTAKEN DURING MAINTENANCE TO REDUCE NOISE LEVELS.

17. MITIGATION MEASURE 4.1.4: BASED ON THE LOCATION OF THE 60 DB(A) LEQ NOISE CONTOUR AND THE RESULTS OF THE PROTOCOL SURVEYS, THE PROJECT BIOLOGIST SHALL DETERMINE IF MAINTENANCE HAS THE POTENTIAL TO IMPACT BREEDING ACTIVITIES OF LISTED SPECIES. IF ONE OR MORE OF THE FOLLOWING SPECIES ARE DETERMINED TO BE SIGNIFICANTLY IMPACTED BY MAINTENANCE, THEN MAINTENANCE (INSIDE AND OUTSIDE THE MHP) SHALL AVOID THE FOLLOWING BREEDING SEASONS UNLESS IT IS DETERMINED THAT MAINTENANCE IS NEEDED TO PROTECT LIFE OR PROPERTY.

- COASTAL CALIFORNIA GNATCATCHER (BETWEEN MARCH 1 AND AUGUST 15 INSIDE THE MHP ONLY; NO RESTRICTIONS OUTSIDE MHP);
- LEAST BELL'S VIREO (BETWEEN MARCH 15 AND SEPTEMBER 15); AND
- SOUTHWESTERN WILLOW FLYCATCHER (BETWEEN MAY 1 AND SEPTEMBER 1).



ENGINEER OF WORK

JOHN D. GODDARD, JR. R.C.E. 33037 DATE _____

| | | | |
|--|----------------------|---|----------------|
| MAINTENANCE PLANS FOR: MISSION BAY HIGH SCHOOL (MBHS) & PACIFIC BEACH DRIVE/ OLNEY STREET (PBO) CHANNELS MMP MAP #36 & 37 | | | |
| CITY OF SAN DIEGO, CALIFORNIA DEVELOPMENT SERVICES DEPARTMENT SHEET 7 OF 8 SHEETS | | I.O. NO. 21002863 P.T.S. NO. 389568 | |
| FOR CITY ENGINEER _____ DATE _____ | | V.T.M. _____ | |
| DESCRIPTION ORIGINAL | BY REC | APPROVED DATE | FILMED DATE |
| AS-BUILTS | | XXXX-XXXX NAD83 COORDINATES XXX-XXXX LAMBERT COORDINATES | |
| CONTRACTOR _____ | DATE STARTED _____ | 38339-7-D | |
| INSPECTOR _____ | DATE COMPLETED _____ | | |

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