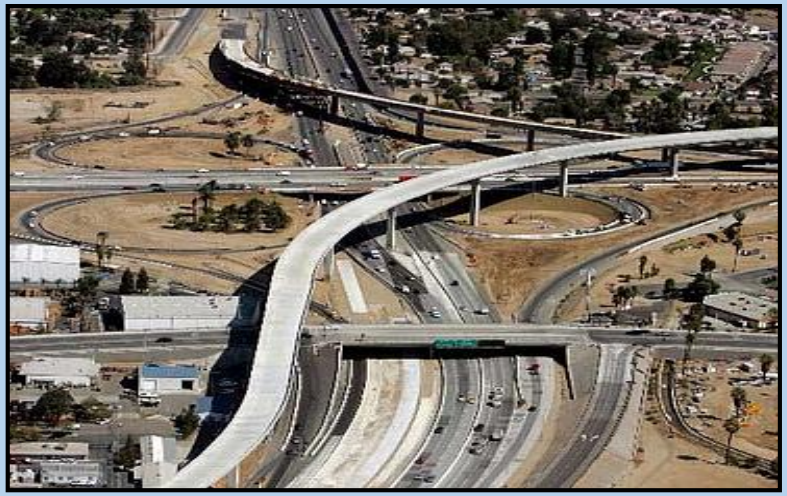
Construction Site NPDES Compliance - The Perspective of a Construction Manager

Ali Pirouzian, PE - San Diego County Public Works

Dave Sluga, PE - TRC Companies



Thoughts for the Construction Manager from Folks that Specialize in NPDES Compliance at Construction Sites

This Morning's Thoughts

- Quick Review of BMP Implementation & Monitoring for Each Risk Level
- New Draft Construction General Permit – What's New?
- Planning and BMPs for County of San Diego CIP Projects
- Enforcement Actions – San Diego RWQCB
- Storm Drain Inlet Protection
- Soil Cover on Active Disturbed Soil Areas (DSAs)
- The Annual Report and Monitoring Documentation
- Constructability / Budgeting Review

Dave Sluga

Construction Manager Caltrans (1992)

Assisted with Caltrans Storm Water Program (1997)

Assisted Others with NPDES, Smaller Projects (2004)

Construction Manager Consultant (2009)

Stormwater IQA Manager Caltrans & S.D. County (2014)

BMP Implementation Requirements

- Risk Level 1

B. Good Site Management "Housekeeping"

C. Non-Storm Water Management

D. Erosion Control – Wind, Cover Inactive DSAs, Limit Use of Plastic

E. Sediment Controls – Effective Perimeter Controls, Stabilized Entrances

F. Run-on and Run-off (-through) Controls

BMP Implementation Requirements

- Risk Levels 2 and 3

  A. **Effluent Standards – Sediment and pH**
  B. Good Site Management "Housekeeping"
  C. Non-Storm Water Management
  D. Erosion Control – Wind, Cover Inactive DSAs, Limit Use of Plastic
  E. Sediment Controls – Effective Perimeter Controls, Stabilized Entrances, **Cover Active DSAs, Face of Slope Interrupters, More Tracking Controls, Maintain various BMPs including DI Protection**
  F. Run-on and Run-off (-through) Controls

Monitoring Requirements

- Risk Level 1

1. Weekly Inspections plus Observations and Sampling & Analysis

I. Risk Level 1 Monitoring and Reporting Requirements

Table 1- Summary of Monitoring Requirements

Risk Level	Visual Inspections					Sample Collection	
	Quarterly Non-storm Water Discharge	Pre-storm Event		Daily Storm BMP	Post Storm	Storm Water Discharge	Receiving Water
		Baseline	REAP				
1	X	X		X	X		

QRE

* Non-Visible Pollutant Sample Collection

Monitoring Requirements

- Risk Level 2 as a RL 1 plus;

1. Weekly Inspections plus Observations and Sampling & Analysis

I. Risk Level 2 Monitoring and Reporting Requirements

Table 2- Summary of Monitoring Requirements

Risk Level	Visual Inspections					Sample Collection	
	Quarterly Non-storm Water Discharge	Pre-storm Event		Daily Storm BMP	Post Storm	Storm Water Discharge	Receiving Water
		Baseline	REAP				
2	X	X	X	X	X	X	

QRE

POP

* Non-Visible Pollutant Sample Collection

Monitoring Requirements

- Risk Level 3 same as a RL2 plus:

1. Weekly Inspections plus Observations and Sampling & Analysis

I. Risk Level 3 Monitoring and Reporting Requirements

Table 2- Summary of Monitoring Requirements

Risk Level	Visual Inspections					Sample Collection	
	Quarterly Non-storm Water Discharge	Pre-storm Event		Daily Storm BMP	Post Storm	Storm Water Discharge	Receiving Water
		Baseline	REAP				
3	X	X	X	X	X	X	X[4]

QRE

POP

When Triggered

* Non-Visible Pollutant Sample Collection

Draft Construction General Permit

- Generally

  Removed:

  Bioassessment Requirements

  Post-Construction Calculations

3. Los Peñasquitos Lagoon Sediment TMDL

   a. All Responsible Dischargers for the Los Peñasquitos Lagoon Sediment TMDL shall provide an estimate of the representative flow rate from their construction site for one precipitation event, each reporting year in addition to complying with this General Permit.

   b. The Responsible Discharger shall submit the representative flow estimate as a PDF attachment to the Annual Report (due in SMARTS no later than September 1 of each year).

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
GENERAL PERMIT FOR STORMWATER DISCHARGES
ASSOCIATED WITH CONSTRUCTION AND LAND DISTURBANCE
ACTIVITIES

ORDER 20XX-XXXX-DWQ

NPDES NO. **CAS000002**

This Order was adopted by the State Water Resources Control Board on:	XXXX XX, 20XX
This Order shall become effective on:	July 1, 2021
This Order shall expire on:	June 30, 2026

IT IS HEREBY ORDERED, that this Order supersedes Order 2009-0009-DWQ as amended by Order 2010-0014-DWQ and 2012-0006-DWQ except for: (1) the requirement to submit annual reports by September 1, 20XX, and (2) enforcement purposes. The Discharger shall comply with the requirements in this Order to meet the provisions contained in Division 7 of the California Water Code (commencing with Section 13000) and regulations adopted thereunder, and the provisions of the federal Clean Water Act and regulations and guidelines adopted thereunder.

I, Jeanine Townsend, Clerk to the Board, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the State Water Resources Control Board, on XXXX XX, XXXX.

AYE:
NAY:
ABSENT: None
ABSTAIN: None

Draft Construction General Permit

- Generally Added:

Passive Treatment System (e.g. floc logs, spray tackifiers)

Requirements

TMDL Requirements

Widens the Authorized Construction Dewatering Discharges

Tightens up Requirements for Construction Site Debris and Trash

No Averaging – NALs pH between 6.5-8.5 and Turbidity ≤ 250 NTUs

NELs only apply to ATS

Better Defines the Roles of the LRP, QSD (Wider Role), and QSP (Oversight)

More Complicated SWPPP

Draft Construction General Permit

- Risk Level 1
  - A. Effluent Standards **- NALs for Dewatering Discharges**
  - B. Good Site Management “Housekeeping” - **Minor Additions**
  - C. Non-Storm Water Management
  - **D. Preserve Native Topsoil**
  - E. Erosion Control **– Run-on and Run-off Controls, Downstream Erosion**
  - F. Sediment Controls
  - **G. Surface water Buffer**
  - **H. Pesticides Application**
  - **I. Demolition of Existing Structure**

Draft Construction General Permit

- Risk Levels 2 and 3
  A. Effluent Standards **– NALs & NELs for Discharges Subject to TMDLs**
  B. Good Site Management “Housekeeping”
  C. Non-Storm Water Management
  D. Preserve Native Topsoil
  E. Erosion Control
  F. Sediment Controls **– RUSLE2 Calculations. Proving BMPs (Sediment Loss versus Natural Conditions)**
  G. Surface water Buffer
  H. Pesticides Application
  I. Demolition of Existing Structure

Draft Monitoring Requirements

- Risk Level 1

1. Weekly Inspections plus Observations and Sampling & Analysis

Discharge

POP

K. Risk Level 1 Monitoring and Reporting Requirements

Table 1 - Summary of Monitoring Requirements

Risk Level	Visual Inspections				Sample Collection		
	Weekly	Pre-Precipitation Event	Daily Extended Precipitation Event BMP	Post Precipitation Event	Stormwater Discharge	Receiving Water	Non-Visible (when applicable)
1	X	X	X	X			X

Photos of Issues

No more Qualified Rain Event – All Precipitation that Causes Runoff

No Quarterly NSW Discharges to be included in all Inspections

Draft Monitoring Requirements

- Risk Level 2 same as RL1 plus:

1. Weekly Inspections plus Observations and Sampling & Analysis

Discharge

POP

M. Risk Level 2 Monitoring and Reporting Requirements

Table 2 - Summary of Monitoring Requirements

	Visual Inspections				Sample Collection		
Risk Level	Weekly	Pre-Precipitation Event	Daily Extended Precipitation Event BMP	Post Precipitation Event	Stormwater Discharge	Receiving Water	Non-Visible (when applicable)
2	**X**	**X**	**X**	**X**	**X**		**X**

Photos of Issues

No more Qualified Rain Event – All Precipitation that Causes Runoff

No Quarterly NSW Discharges to be included in all Inspections

No more REAPs - REAP Information in Pre-Precipitation Event Inspections

Draft Monitoring Requirements

- Risk Level 3 same as RL2 plus:

1. Weekly Inspections plus Observations and Sampling & Analysis

Discharge

POP

M. Risk Level 3 Monitoring and Reporting Requirements

Table 2 - Summary of Monitoring Requirements

Risk Level	Visual Inspections				Sample Collection		
	Weekly	Pre-Precipitation Event	Daily Extended Precipitation Event BMP	Post Precipitation Event	Stormwater Discharge	Receiving Water (when applicable)	Non-Visible (when applicable)
3	X	X	X	X	X	X	X

Photos of Issues

No more Qualified Rain Event – All Precipitation that Causes Runoff

No Quarterly NSW Discharges to be included in all Inspections

No more REAPs - REAP Information in Pre-Precipitation Event Inspections

Draft Monitoring Requirements

- Risk Levels 2 and 3

1. Minimum 3 Samples per Day of the Precipitation Event
2. First Sample within the first 2 hours of discharge (Business Hours)
3. Minimum 2 hours Interval for subsequent samples (Business Hours)

Table 4 - Risk Level 2 Test Methods, Detection Limits, Reporting Units for Applicable NALs and NELs

Parameter	Test Method / Protocol	Discharge Type	Method Detection Limit	Reporting Units	Numeric Action Level (NAL)	Numeric Effluent Limitation (NEL)
pH	Field test with calibrated portable instrument	Risk Level 2 Discharges other than ATS	0.2	pH units	lower NAL = 6.5 upper NAL = 8.5	N/A
		For ATS discharges	0.2	pH units	N/A	lower NEL = 6.0 upper NEL = 9.0
Turbidity	EPA 0180.1 and/or field test with calibrated portable instrument	Risk Level 2 Discharges other than ATS	1	NTU	250 NTU	N/A
		For ATS discharges	1	NTU	N/A	10 NTU for Daily Weighted Average & 20 NTU for Any Single Sample

San Diego County Public Works – Construction Engineering Planning and BMPs for CIP Projects

- Ali Pirouzian, PE, PEng, CPESC, QSD/QSP - San Diego County Public Works

Experience

- Senior Civil Engineer - San Diego County Public Works Construction Engineering (13 years)
- Private Sector (14 years)
  - Vertical
  - Horizontal
- Stormwater Permit Coordinator – Construction Engineering

San Diego County Public Works Projects

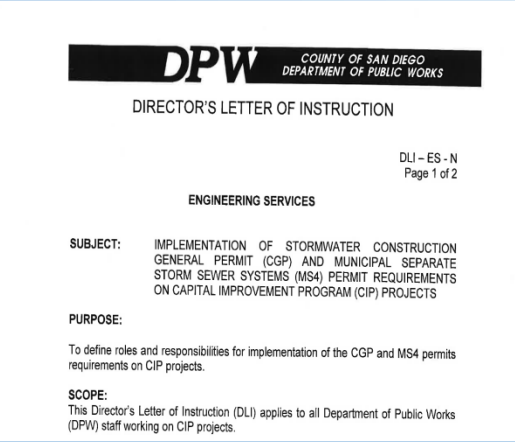
- Average 3 to 4 SWPPP (>1 acre) projects per year with ranging from between $1M to $25M (2 projects last FY)

- Average 30 WPCP (<1 acre) projects per year with ranging $15K to $5M (38 projects last FY)
- We own the projects.

Key Ingredients

- Storm water pollution control during construction “Starts at the top” and trickles down to the field level
  - Director of Public Works (LRP) through Director’s Letter of Instruction (DLI)
  - Construction Program Manager, Construction Engineering (Approved Signatory) through weekly QA reports
  - CIP Construction Stormwater Permit Coordinator (SME) through Independent QA reports from third-party and weekly QA reports from Resident Engineers (REs) - This position created 8 years ago.
  - REs (QSP and/or QSD) through joint field inspections with project QSP and reporting

- One of major priorities for County DPW Director is: Stormwater Pollution Prevention (CGP and MS4 Compliance).


DPW COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS

DIRECTOR'S LETTER OF INSTRUCTION

DLI – ES - N
Page 1 of 2

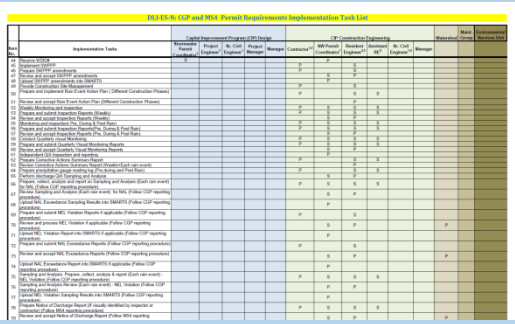
ENGINEERING SERVICES

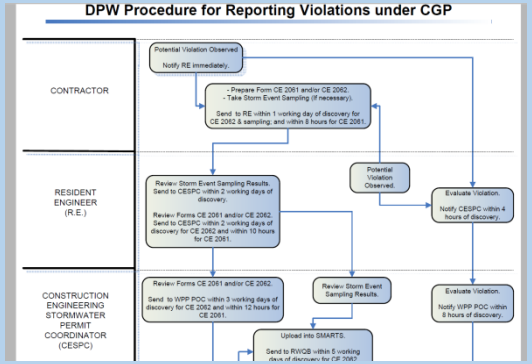
SUBJECT: IMPLEMENTATION OF STORMWATER CONSTRUCTION GENERAL PERMIT (CGP) AND MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4) PERMIT REQUIREMENTS ON CAPITAL IMPROVEMENT PROGRAM (CIP) PROJECTS

PURPOSE:

To define roles and responsibilities for implementation of the CGP and MS4 permits requirements on CIP projects.

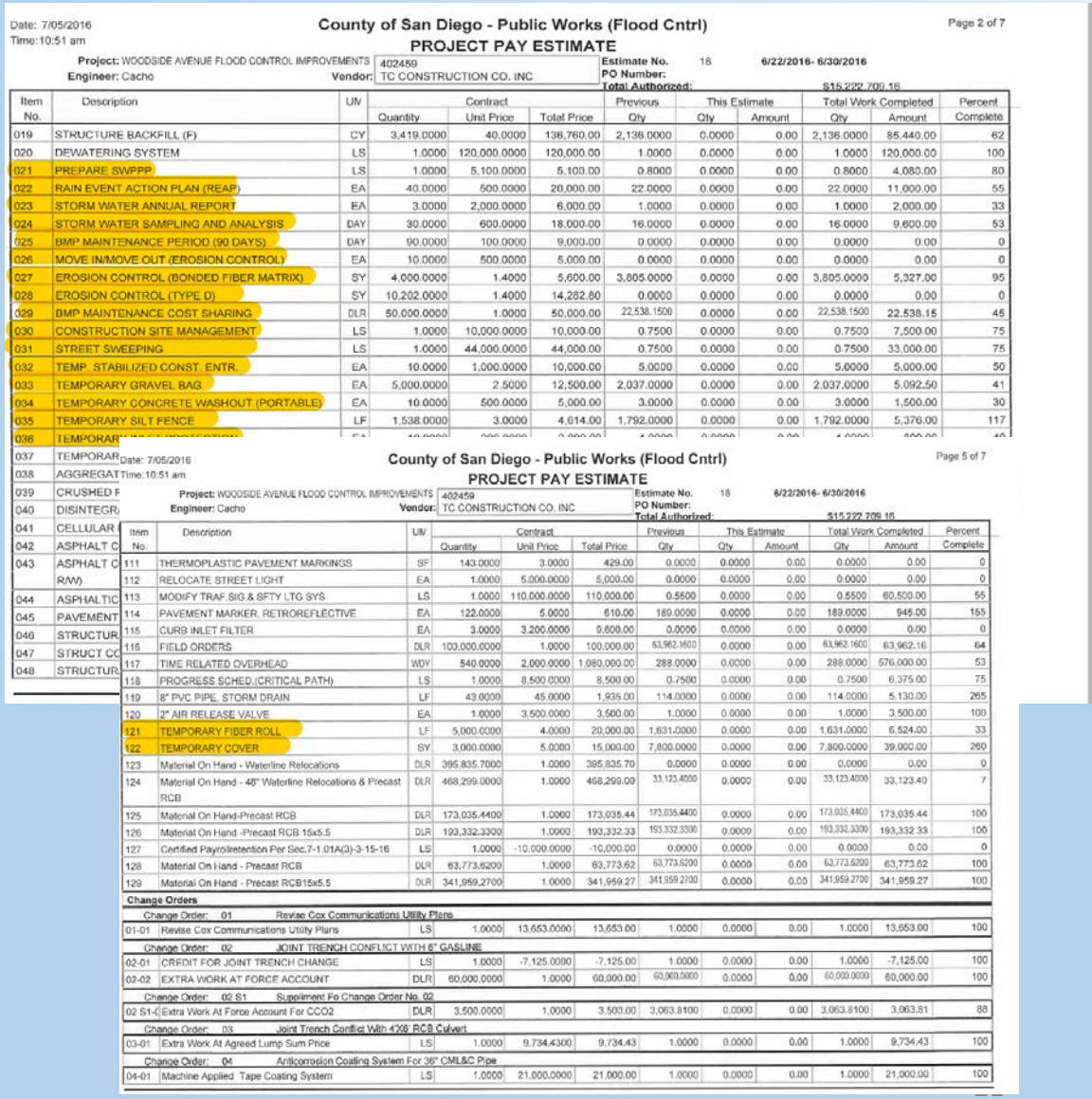
SCOPE:
This Director's Letter of Instruction (DLI) applies to all Department of Public Works (DPW) staff working on CIP projects.


DLI-ES-N: CGP and MS4 Permit Requirements Implementation Task List



Key Ingredients

- Each project is given the tools for proper implementation water pollution controls
  - Detailed specifications within the contract documents.
  - SWPPP Templates for different Risk Levels and LUPs
  - Identify the work and provide method of payment. All BMPs are paid by item unit price ensuring the contractor gets paid for work done right.
  - Standard Plans for BMPs to ensure correct installations.
  - Contract allows to add bid items and pay contractors by writing a change order if any BMPs is missed or something else would work better.



Date: 7/05/2016
Time: 10:51 am

County of San Diego - Public Works (Flood Cntrl)

PROJECT PAY ESTIMATE

Page 2 of 7

Project: WOODSIDE AVENUE FLOOD CONTROL IMPROVEMENTS 402459
Engineer: Cacho Vendor: TC CONSTRUCTION CO, INC
Estimate No. 18 6/22/2016- 6/30/2016
PO Number:
Total Authorized: $15,222,705.16

Item No.	Description	UN	Contract Quantity	Contract Unit Price	Contract Total Price	Previous Qty	This Estimate Qty	This Estimate Amount	Total Work Completed Qty	Total Work Completed Amount	Percent Complete
019	STRUCTURE BACKFILL (F)	CY	3,419.0000	40.0000	136,760.00	2,136.0000	0.0000	0.00	2,136.0000	85,440.00	62
020	DEWATERING SYSTEM	LS	1.0000	120,000.0000	120,000.00	1.0000	0.0000	0.00	1.0000	120,000.00	100
021	PREPARE SWPPP	LS	1.0000	5,100.0000	5,100.00	0.8000	0.0000	0.00	0.8000	4,080.00	80
022	RAIN EVENT ACTION PLAN (REAP)	EA	40.0000	500.0000	20,000.00	22.0000	0.0000	0.00	22.0000	11,000.00	55
023	STORM WATER ANNUAL REPORT	EA	3.0000	2,000.0000	6,000.00	1.0000	0.0000	0.00	1.0000	2,000.00	33
024	STORM WATER SAMPLING AND ANALYSIS	DAY	30.0000	600.0000	18,000.00	16.0000	0.0000	0.00	16.0000	9,600.00	53
025	BMP MAINTENANCE PERIOD (90 DAYS)	DAY	90.0000	100.0000	9,000.00	0.0000	0.0000	0.00	0.0000	0.00	0
026	MOVE IN/MOVE OUT (EROSION CONTROL)	EA	10.0000	500.0000	5,000.00	0.0000	0.0000	0.00	0.0000	0.00	0
027	EROSION CONTROL (BONDED FIBER MATRIX)	SY	4,000.0000	1.4000	5,600.00	3,805.0000	0.0000	0.00	3,805.0000	5,327.00	95
028	EROSION CONTROL (TYPE D)	SY	10,202.0000	1.4000	14,282.80	0.0000	0.0000	0.00	0.0000	0.00	0
029	BMP MAINTENANCE COST SHARING	DLR	50,000.0000	1.0000	50,000.00	22,538.1500	0.0000	0.00	22,538.1500	22,538.15	45
030	CONSTRUCTION SITE MANAGEMENT	LS	1.0000	10,000.0000	10,000.00	0.7500	0.0000	0.00	0.7500	7,500.00	75
031	STREET SWEEPING	LS	1.0000	44,000.0000	44,000.00	0.7500	0.0000	0.00	0.7500	33,000.00	75
032	TEMP. STABILIZED CONST. ENTR.	EA	10.0000	1,000.0000	10,000.00	5.0000	0.0000	0.00	5.0000	5,000.00	50
033	TEMPORARY GRAVEL BAG	EA	5,000.0000	2.5000	12,500.00	2,037.0000	0.0000	0.00	2,037.0000	5,092.50	41
034	TEMPORARY CONCRETE WASHOUT (PORTABLE)	EA	10.0000	500.0000	5,000.00	3.0000	0.0000	0.00	3.0000	1,500.00	30
035	TEMPORARY SILT FENCE	LF	1,538.0000	3.0000	4,614.00	1,792.0000	0.0000	0.00	1,792.0000	5,376.00	117
036	TEMPORAR										
037	TEMPORAR										
038	AGGREGAT										
039	CRUSHED F										
040	DISINTEGR										
041	CELLULAR										
042	ASPHALT C										
043	ASPHALT C R/W)										
044	ASPHALTIC										
045	PAVEMENT										
046	STRUCTUR										
047	STRUCT CO										
048	STRUCTUR										

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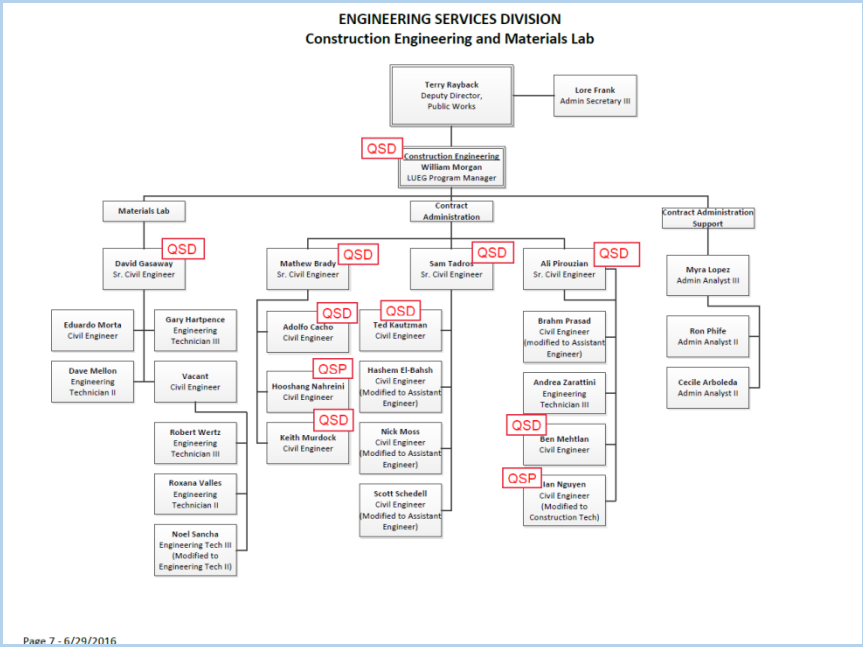
Item No.	Description	UN	Contract Quantity	Contract Unit Price	Contract Total Price	Previous Qty	This Estimate Qty	This Estimate Amount	Total Work Completed Qty	Total Work Completed Amount	Percent Complete
111	THERMOPLASTIC PAVEMENT MARKINGS	SF	143.0000	3.0000	429.00	0.0000	0.0000	0.00	0.0000	0.00	0
112	RELOCATE STREET LIGHT	EA	1.0000	5,000.0000	5,000.00	0.0000	0.0000	0.00	0.0000	0.00	0
113	MODIFY TRAF.SIG.& SFTY LTG SYS	LS	1.0000	110,000.0000	110,000.00	0.5500	0.0000	0.00	0.5500	60,500.00	55
114	PAVEMENT MARKER, RETROREFLECTIVE	EA	122.0000	5.0000	610.00	189.0000	0.0000	0.00	189.0000	945.00	155
115	CURB INLET FILTER	EA	3.0000	3,200.0000	9,600.00	0.0000	0.0000	0.00	0.0000	0.00	0
116	FIELD ORDERS	DLR	100,000.0000	1.0000	100,000.00	63,962.1600	0.0000	0.00	63,962.1600	63,962.16	64
117	TIME RELATED OVERHEAD	WDY	540.0000	2,000.0000	1,080,000.00	288.0000	0.0000	0.00	288.0000	576,000.00	53
118	PROGRESS SCHED.(CRITICAL PATH)	LS	1.0000	8,500.0000	8,500.00	0.7500	0.0000	0.00	0.7500	6,375.00	75
119	8" PVC PIPE, STORM DRAIN	LF	43.0000	45.0000	1,935.00	114.0000	0.0000	0.00	114.0000	5,130.00	265
120	2" AIR RELEASE VALVE	EA	1.0000	3,500.0000	3,500.00	1.0000	0.0000	0.00	1.0000	3,500.00	100
121	TEMPORARY FIBER ROLL	LF	5,000.0000	4.0000	20,000.00	1,631.0000	0.0000	0.00	1,631.0000	6,524.00	33
122	TEMPORARY COVER	SY	3,000.0000	5.0000	15,000.00	7,800.0000	0.0000	0.00	7,800.0000	39,000.00	260
123	Material On Hand - Waterline Relocations	DLR	395,835.7000	1.0000	395,835.70	0.0000	0.0000	0.00	0.0000	0.00	0
124	Material On Hand - 48" Waterline Relocations & Precast RCB	DLR	468,299.0000	1.0000	468,299.00	33,123.4000	0.0000	0.00	33,123.4000	33,123.40	7
125	Material On Hand-Precast RCB	DLR	173,035.4400	1.0000	173,035.44	173,035.4400	0.0000	0.00	173,035.4400	173,035.44	100
126	Material On Hand -Precast RCB 15x5.5	DLR	193,332.3300	1.0000	193,332.33	193,332.3300	0.0000	0.00	193,332.3300	193,332.33	100
127	Certified Payroll retention Per Sec.7-1.01A(3)-3-15-16	LS	1.0000	-10,000.0000	-10,000.00	0.0000	0.0000	0.00	0.0000	0.00	0
128	Material On Hand - Precast RCB	DLR	63,773.6200	1.0000	63,773.62	63,773.6200	0.0000	0.00	63,773.6200	63,773.62	100
129	Material On Hand - Precast RCB15x5.5	DLR	341,959.2700	1.0000	341,959.27	341,959.2700	0.0000	0.00	341,959.2700	341,959.27	100
Change Orders											
Change Order: 01	Revise Cox Communications Utility Plans										
01-01	Revise Cox Communications Utility Plans	LS	1.0000	13,653.0000	13,653.00	1.0000	0.0000	0.00	1.0000	13,653.00	100
Change Order: 02	JOINT TRENCH CONFLICT WITH 6" GASLINE										
02-01	CREDIT FOR JOINT TRENCH CHANGE	LS	1.0000	-7,125.0000	-7,125.00	1.0000	0.0000	0.00	1.0000	-7,125.00	100
02-02	EXTRA WORK AT FORCE ACCOUNT	DLR	60,000.0000	1.0000	60,000.00	60,000.0000	0.0000	0.00	60,000.0000	60,000.00	100
Change Order: 02 S1	Supplimen Fo Change Order No. 02										
02 S1-(	Extra Work At Force Account For CCO2	DLR	3,500.0000	1.0000	3,500.00	3,063.8100	0.0000	0.00	3,063.8100	3,063.81	88
Change Order: 03	Joint Trench Conflict With 4'X6' RCB Culvert										
03-01	Extra Work At Agreed Lump Sum Price	LS	1.0000	9,734.4300	9,734.43	1.0000	0.0000	0.00	1.0000	9,734.43	100
Change Order: 04	Anticorrosion Coating System For 36" CML&C Pipe										
04-01	Machine Applied Tape Coating System	LS	1.0000	21,000.0000	21,000.00	1.0000	0.0000	0.00	1.0000	21,000.00	100

Key Ingredients

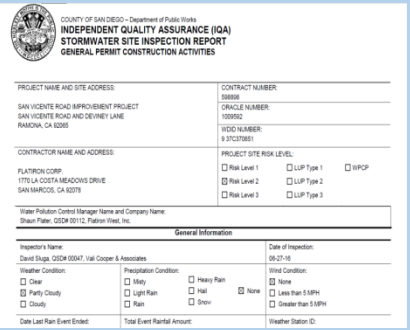
- Knowledgeable and Trained Staff representing San Diego County



- You'll get to hear from a knowledgeable field person in a few minutes.
- Importance of QSD and/or QSP in the field. All RE's (Civil Engineer and Sr. Civil Engineers) of the County are either QSD or QSP.
- Understands the importance of CGP Compliance and S.D. County attitude.
- Understands the job is to construct a quality facility.
- Combine CGP Compliance with construction activities planning to ensure one seamless operation
- Works with the contractor to achieve CGP compliance during construction (goodwill)
- Teamwork

Dashes of This and Pinches of That

- Independent Quality Assurance (IQA) Reviewer
- IQA Review Reports
- Personal site visits
- Sampling & Analysis follow-ups
- Work with San Diego County Watershed Department
- Interaction with Contractors / AGC, Agencies and Consultant
- Other



COUNTY OF SAN DIEGO – Department of Public Works

INDEPENDENT QUALITY ASSURANCE (IQA)
STORMWATER SITE INSPECTION REPORT
GENERAL PERMIT CONSTRUCTION ACTIVITIES

PROJECT NAME AND SITE ADDRESS:	CONTRACT NUMBER:
SAN VICENTE ROAD IMPROVEMENT PROJECT SAN VICENTE ROAD AND DEVINEY LANE RAMONA, CA 92065	596896 ORACLE NUMBER: 1009092 WDID NUMBER: 9 37C370651
CONTRACTOR NAME AND ADDRESS:	PROJECT SITE RISK LEVEL:
FLATIRON CORP. 1770 LA COSTA MEADOWS DRIVE SAN MARCOS, CA 92078	☐ Risk Level 1 ☐ LUP Type 1 ☐ WPCP ☒ Risk Level 2 ☐ LUP Type 2 ☐ Risk Level 3 ☐ LUP Type 3

Water Pollution Control Manager Name and Company Name:
Shaun Flater, QSD# 00112, Flatiron West, Inc.

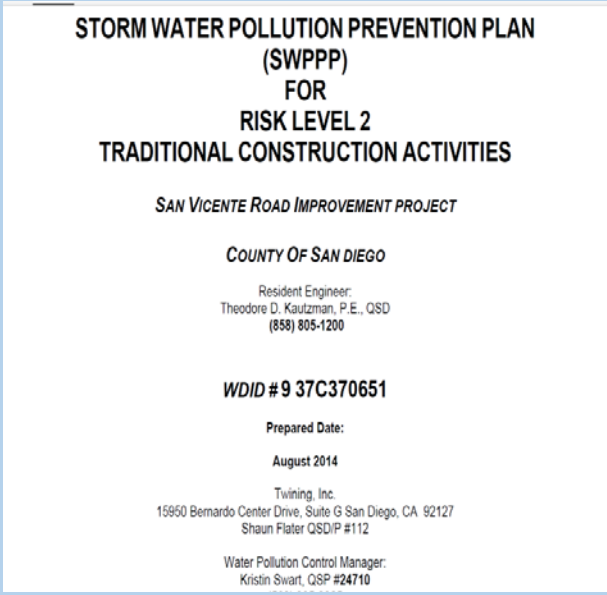
General Information

Inspector's Name:		Date of Inspection:
David Skuja, QSD# 00047, Vali Cooper & Associates		06-27-16
Weather Condition: ☐ Clear ☒ Partly Cloudy ☐ Cloudy	Precipitation Condition: ☐ Misty ☐ Heavy Rain ☐ Light Rain ☐ Hail ☒ None ☐ Rain ☐ Snow	Wind Condition: ☒ None ☐ Less than 5 MPH ☐ Greater than 5 MPH
Date Last Rain Event Ended:	Total Event Rainfall Amount:	Weather Station ID:

Money Gives CGP Compliance Its Taste
Payments to Contractors to Date

- SWPPP projects (1 acre<) have range between 70K to 825K (1.4% to 10% of the total contract cost)

- WPCP projects have range between 6K to 100K (1% to 14% of the total contract cost)



STORM WATER POLLUTION PREVENTION PLAN
(SWPPP)
FOR
RISK LEVEL 2
TRADITIONAL CONSTRUCTION ACTIVITIES

SAN VICENTE ROAD IMPROVEMENT PROJECT

COUNTY OF SAN DIEGO

Resident Engineer:
Theodore D. Kautzman, P.E., QSD
(858) 805-1200

WDID # 9 37C370651

Prepared Date:

August 2014

Twining, Inc.
15950 Bernardo Center Drive, Suite G San Diego, CA 92127
Shaun Flater QSD/P #112

Water Pollution Control Manager:
Kristin Swart, QSP #24710

Recent Enforcements

- **R9-2018-0065: Rail Projects Within the Lossan and Mid Coast Corridor - 2018 ($36,371)**
- Description of Alleged Violations:

1. SANDAG violated Water Code section 13376; General Permit Discharge Prohibitions Ill. A and 111.8 , Section V.A.2 and Attachment D section A.1.b; Basin Plan Waste Discharge Prohibition No. 8; and Federal Water Pollution Control Act (Clean Water Act) (22 U.S.C.§ 1251 et seq.) section 301 (33 U.S.C. § 1311) by pumping sediment laden storm water from the project to Waters of the United States on January 9, 2018.

Rail Projects Within the Lossan and Mid Coast Corridor (SANDAG) - 2018

2. SANDAG violated section B.1.b of Attachment D to the General Permit by failing to berm stockpiled material on site on January 9, 2018.

3. SANDAG violated section E.1 of Attachment D to the General Permit by failing to maintain effective perimeter control at the site and failing to stabilize the construction entrance/exit in a manner that would control sediment discharges from the site on January 9, 2018.

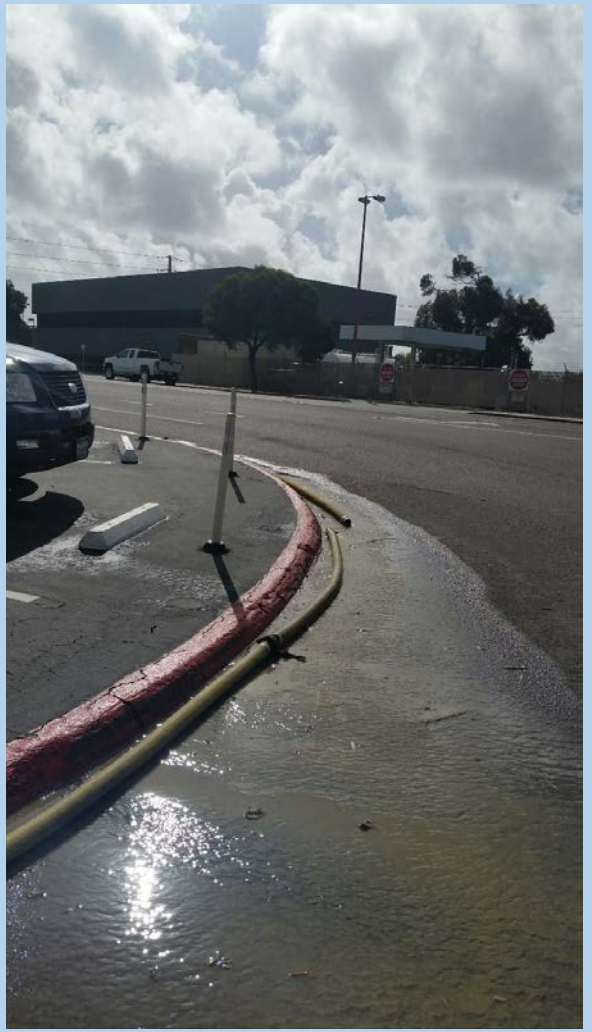
4. SANDAG violated section F of Attachment D to the General Permit by failing to effectively manage all run-on and run-off from the site on January 9, 2018.

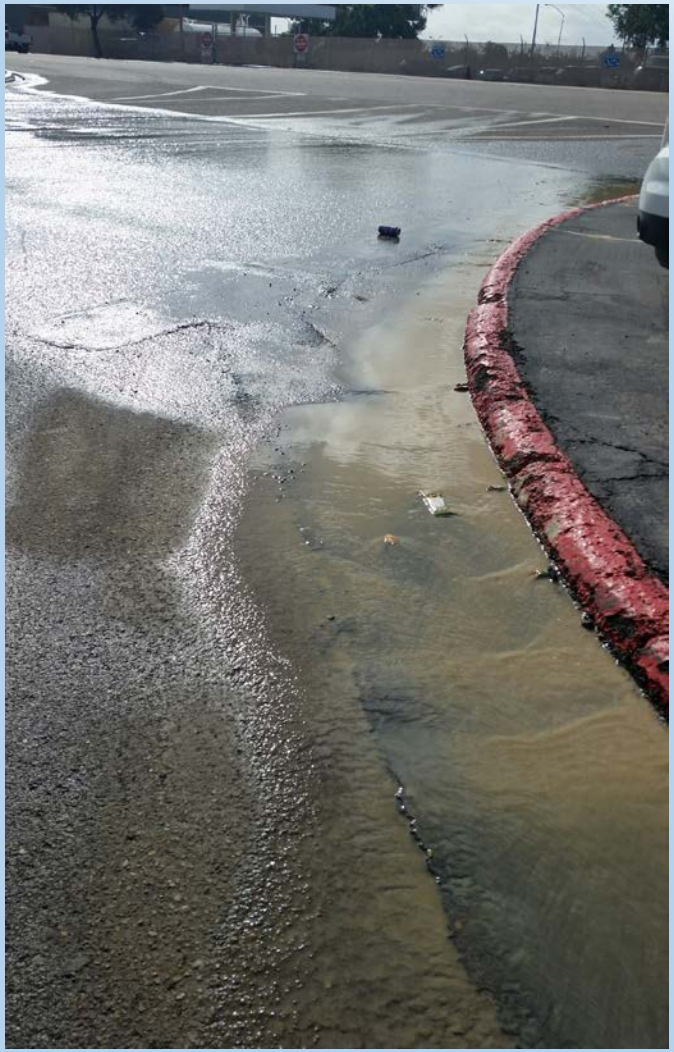
Rail Projects Within the Lossan and Mid Coast Corridor (SANDAG)

Photo shows the blue highline from the pump in the impounded sediment laden storm water up the site embankment, and onto Pacific Coast Highway. This photo also shows a lack of perimeter sediment controls, stockpile BMPs, erosion controls or tracking controls at the entrance/exit to the site. Photo shows the impounded storm water on the construction site with the pump in center.

Rail Projects Within the Lossan and Mid Coast Corridor (SANDAG) - 2018

Photos show the sediment laden storm water discharged from the site at Anna Avenue and Pacific Coast Highway.





Older Enforcement Actions

DEVELOPER SAN ALTOS-LEMON GROVE ISSUED $595,367 PENALTY FOR WATER QUALITY VIOLATIONS

Share / Save

August 2016 Articles

San Diego Regional Water Quality Control Board San Altos-Lemon Grove LLC

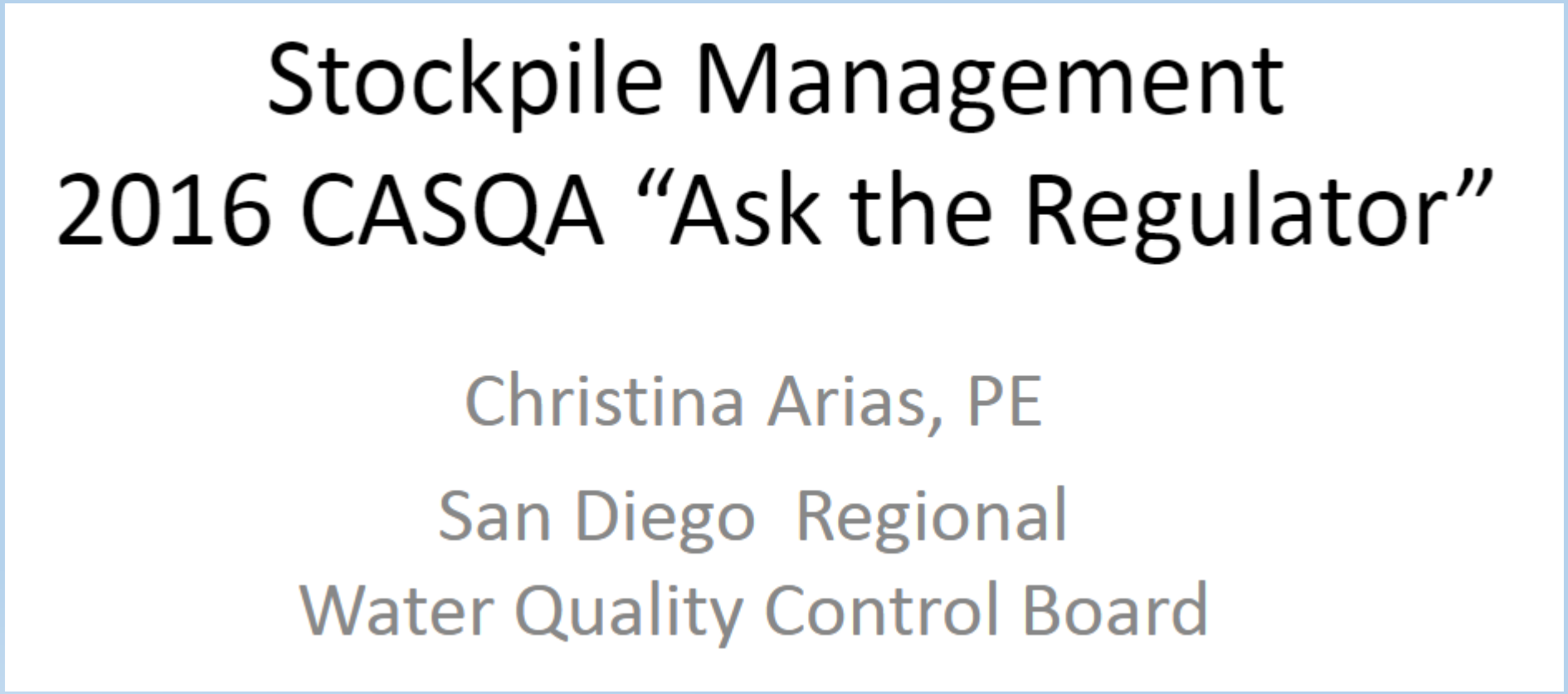
Source: San Diego Regional Water Quality Control Board

August 30, 2016 (Lemon Grove) -- The San Diego Regional Water Quality Control Board has im
quality violations related to construction activities at its 18-acre Valencia Hills residential develop

Violations at the Valencia Hills site were brought to the San Diego Water Board's attention by Lemon Grove after its multiple warnings and enforcement efforts directed at the developer were met with minimal response.

Older Enforcement Actions

https://app.box.com/s/uupy9ckj6ngwul4m4im94lidzyj0hd8g



Older Enforcement Actions

Water Board Compliance Interpretation

1. Does plastic sheeting meet **B**est **C**onventional **T**echnology (BCT) standard for stockpiles?
2. When is a stockpile not *actively being used*?

Older Enforcement Actions

CGP Requirement-Erosion Control

- Provision D.3. of Attachment C [or D or E]:

  "...dischargers shall **limit the use of plastic materials** when more sustainable, environmentally friendly alternatives exist. Where plastic materials are deemed necessary, the discharger shall consider the use of plastic materials resistant to solar degradation."

Older Enforcement Actions

July 23, 2015

July 13, 2016

Older Enforcement Actions

Plastic sheeting does not meet BCT standard
in the long term!

Older Enforcement Actions

CGP Requirement-Stockpiles

- Provision B.1.b of Attachment C [or D or E]:

  "…dischargers shall implement good site management (i.e., "housekeeping") measures for construction materials that could potentially be a threat to water quality if discharged…dischargers shall**….[C]over and berm loose stockpiled construction materials that are not actively being used….**"

Older Enforcement Actions

San Diego Water Board Conclusions

- **Unless materials are being moved onto or off of a stockpile, it should be covered and bermed.**

Older Enforcement Actions

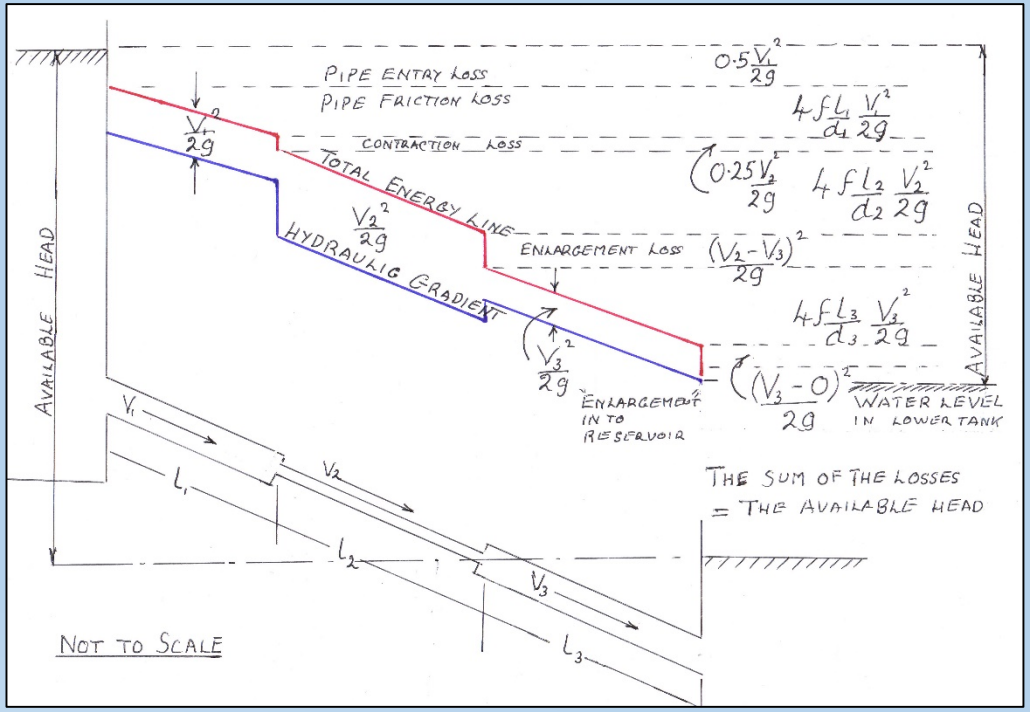
What about *actively being used*?

San Diego Water Board Conclusions

- Permit language trumps BMP guidance
- City photos/inspections admissible evidence
- Can infer ongoing violation based on totality of evidence

Storm Drain Inlet Protection

- Storm Drain Inlet is the Beginning of a Separate Conveyance System Designed to a Specific Standard



Fluid - Pipes

Runoff Coefficient

Drainage Area

Nodes

Rainfall Intensity

Rational Equation

Rainfall Duration

Bernoulli Equation

Time of Concentration

Storm Drain Inlet Protection

- Caltrans Hydraulics Manual

Table 831.3

Desirable Roadway Drainage Guidelines

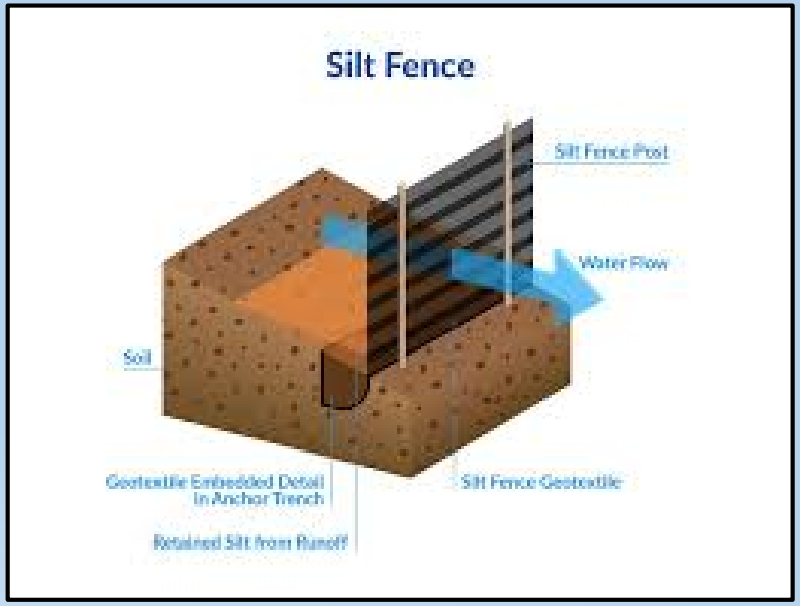
HIGHWAY Type/Category/Feature	DESIGN STORM 4% (25 yrs)	DESIGN STORM 10% (10 yrs)	DESIGN WATER SPREAD Shldr or Parking Lane	DESIGN WATER SPREAD 1/2 Outer Lane	DESIGN WATER SPREAD Local Standard
FREEWAYS					
Through traffic lanes, branch connections, and other major ramp connections.	X	--	X	--	--
Minor ramps.	--	X	X	--	--
Frontage roads.	--	X	--	--	X
CONVENTIONAL HIGHWAYS					
High volume, multilane Speeds over 45 mph.	X	--	X	--	--
High volume, multilane Speeds 45 mph and under.	--	X	--	X	--
Low volume, rural Speeds over 45 mph.	X	--	X	--	--
Urban Speeds 45 mph and under.	--	X	--	--	X
ALL STATE HIGHWAYS					
Depressed Sections That Require Pumping:					

Use a 2% (50 yrs) design storm for freeways and conventionalState highways. Design water spread at depressed sections should not exceed that of adjacent roadway sections. A 4% (25 yr) design storm may be used on local streets or road undercrossings that require pumping.

Storm Drain Inlet Protection

Sediment Control

- Dam - Detain Stormwater and Precipitate Sediment
- Filter – Remove Sediment from Stormwater as it Passes Through



Storm Drain Inlet Protection

CGP and Sediment Control

- All Risk Levels

E. Sediment Controls

1. Risk Level 2 dischargers shall establish and maintain effective perimeter controls and stabilize all construction entrances and exits to sufficiently control erosion and sediment discharges from the site.

Area Drain

Storm Drain Inlet Protection

CGP and Sediment Control

- Risk Levels 2 and 3 only

E. Sediment Controls

6. **Additional Risk Level 2 Requirement:** Risk Level 2 dischargers shall ensure that all storm drain inlets and perimeter controls, runoff control BMPs, and pollutant controls at entrances and exits (e.g. tire washoff locations) are maintained and protected from activities that reduce their effectiveness.

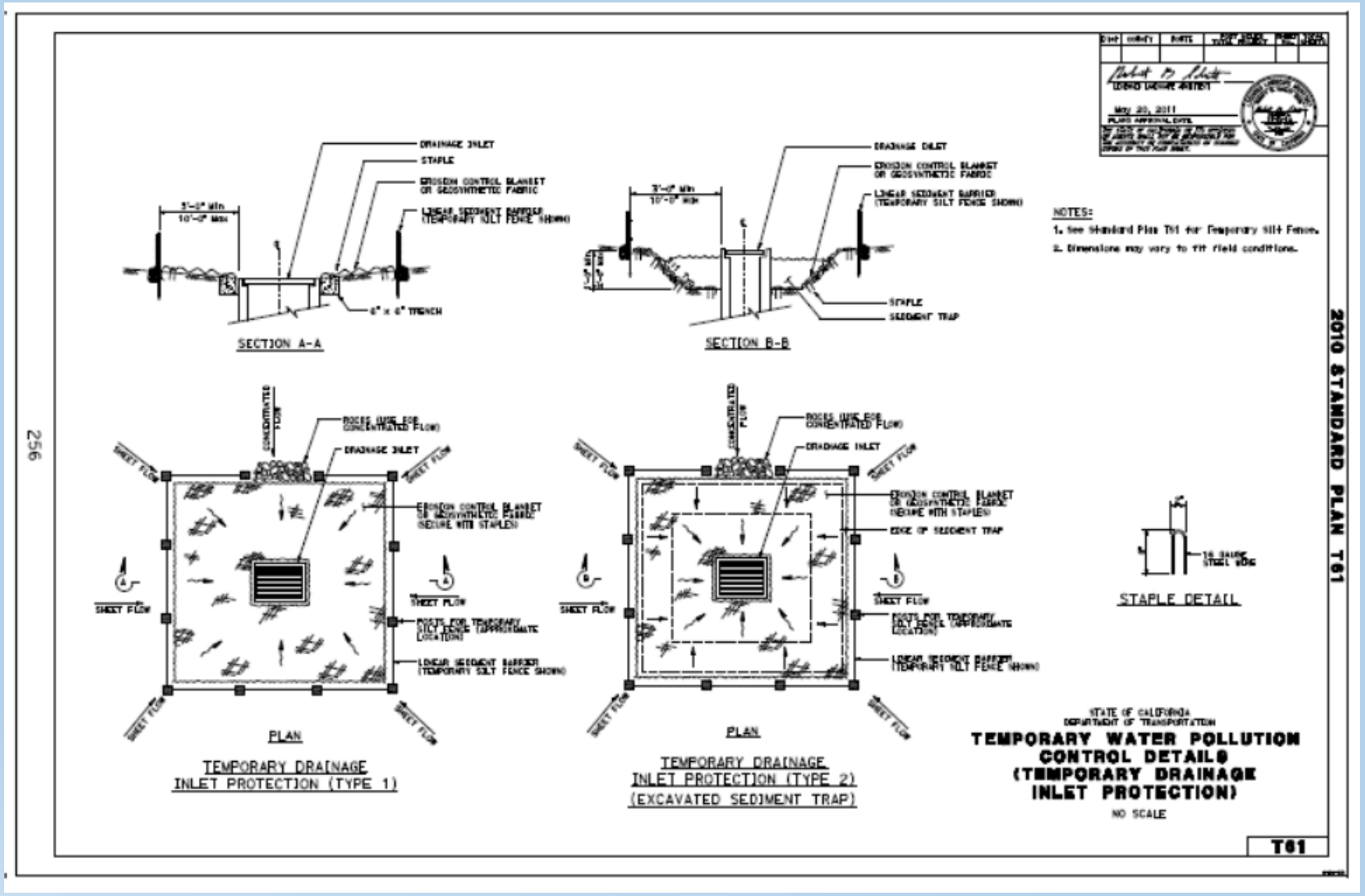
Storm Drain Inlet Protection

Caltrans Construction Site BMPs Manual = SC-10

Definition and Purpose	Devices used at storm drain inlets that are subject to runoff from construction activities to detain and/or to filter sediment-laden runoff to allow sediment to settle and/or to filter sediment prior to discharge into storm drainage systems or watercourses.
Appropriate Applications	■ Where ponding will not encroach into highway traffic. ■ Where sediment laden surface runoff may enter an inlet. ■ Where disturbed drainage areas have not yet been permanently stabilized. ■ Where the drainage area is 0.4 ha (1 ac) or less. ■ Appropriate during wet and snow-melt seasons.
Limitations	■ Requires an adequate area for water to pond without encroaching upon traveled way and should not present itself to be an obstacle to oncoming traffic.

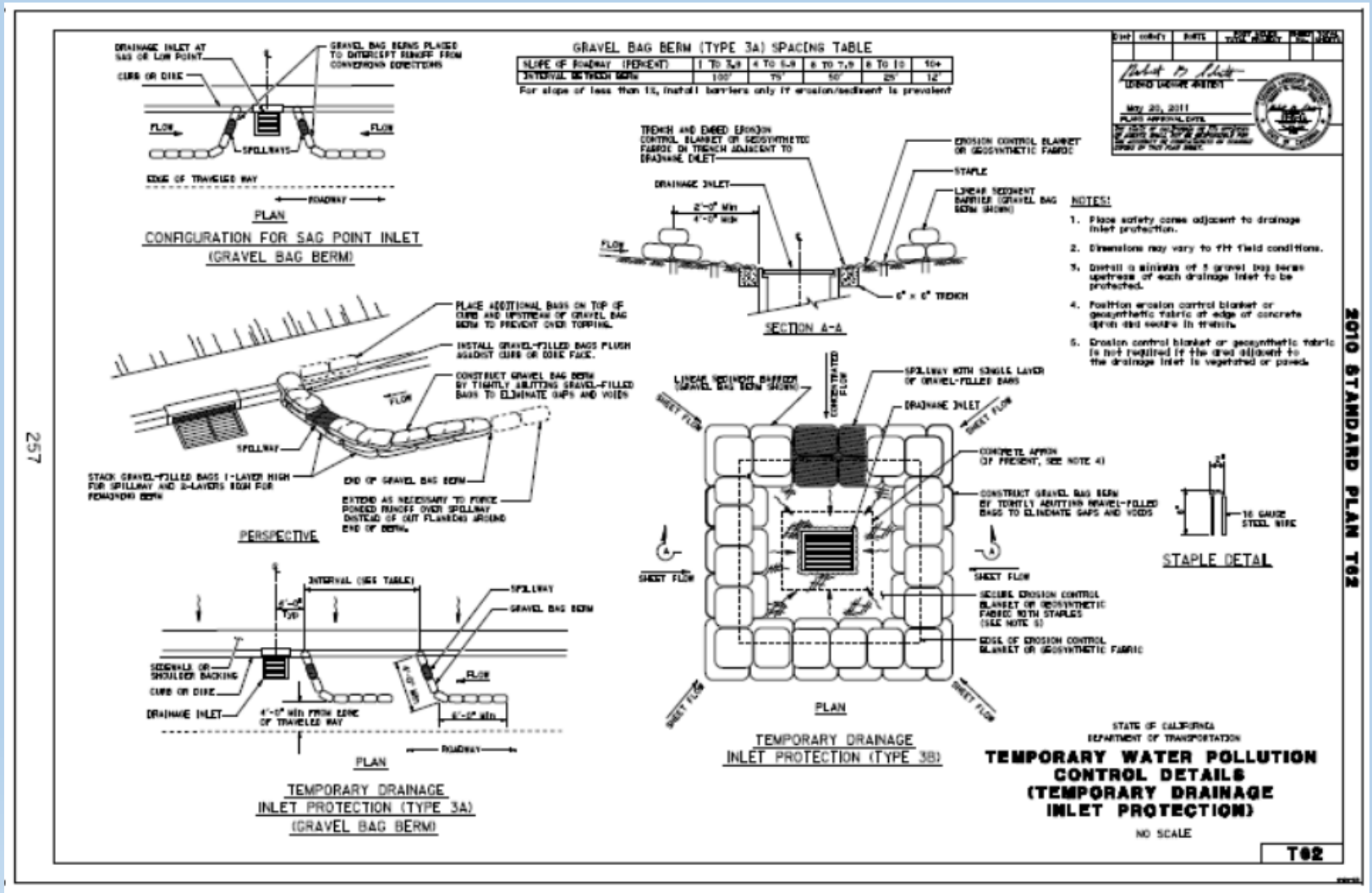
Storm Drain Inlet Protection

- Caltrans Standard Plan T- 61



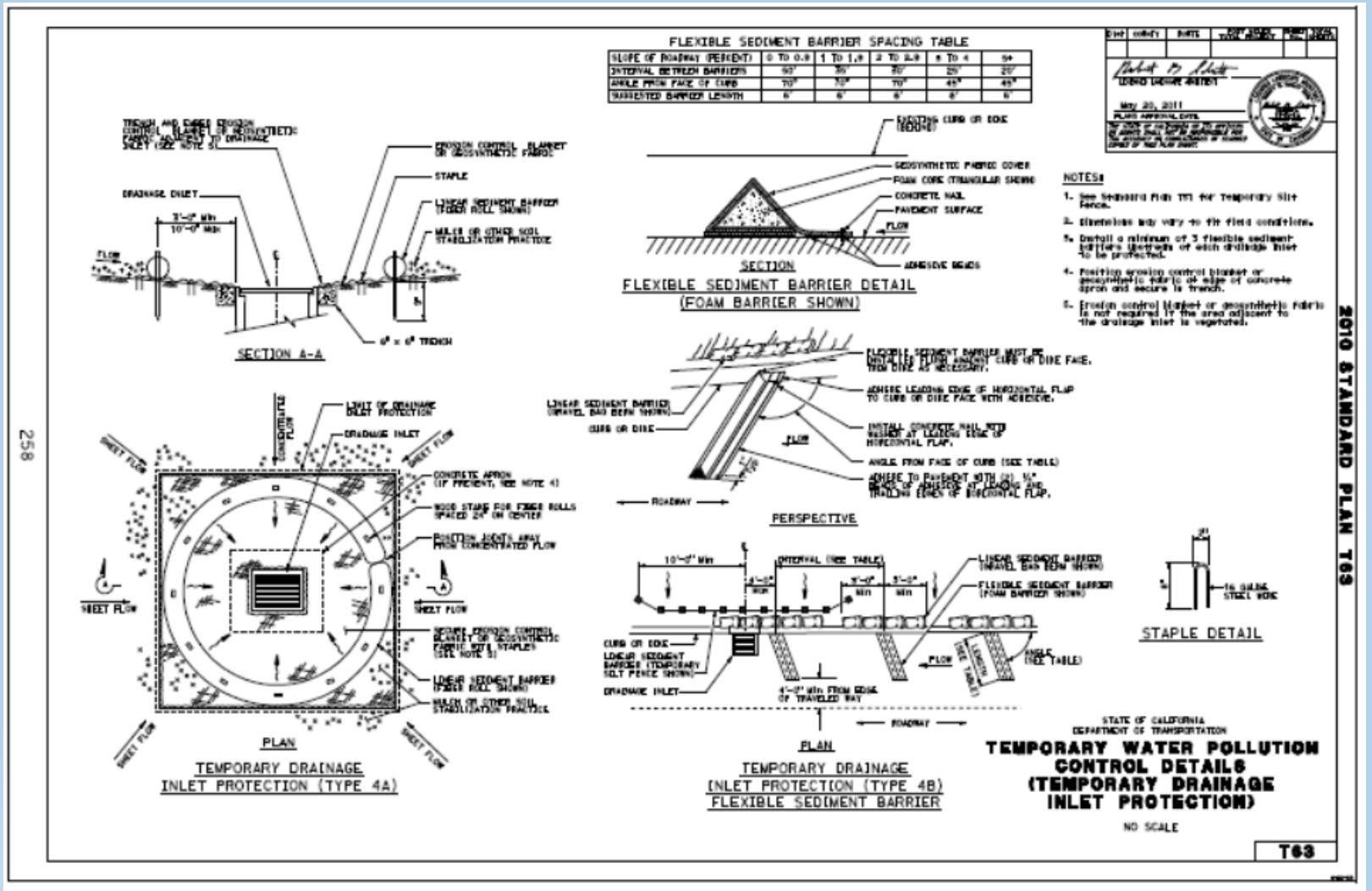
Storm Drain Inlet Protection

- Caltrans Standard Plan T- 62



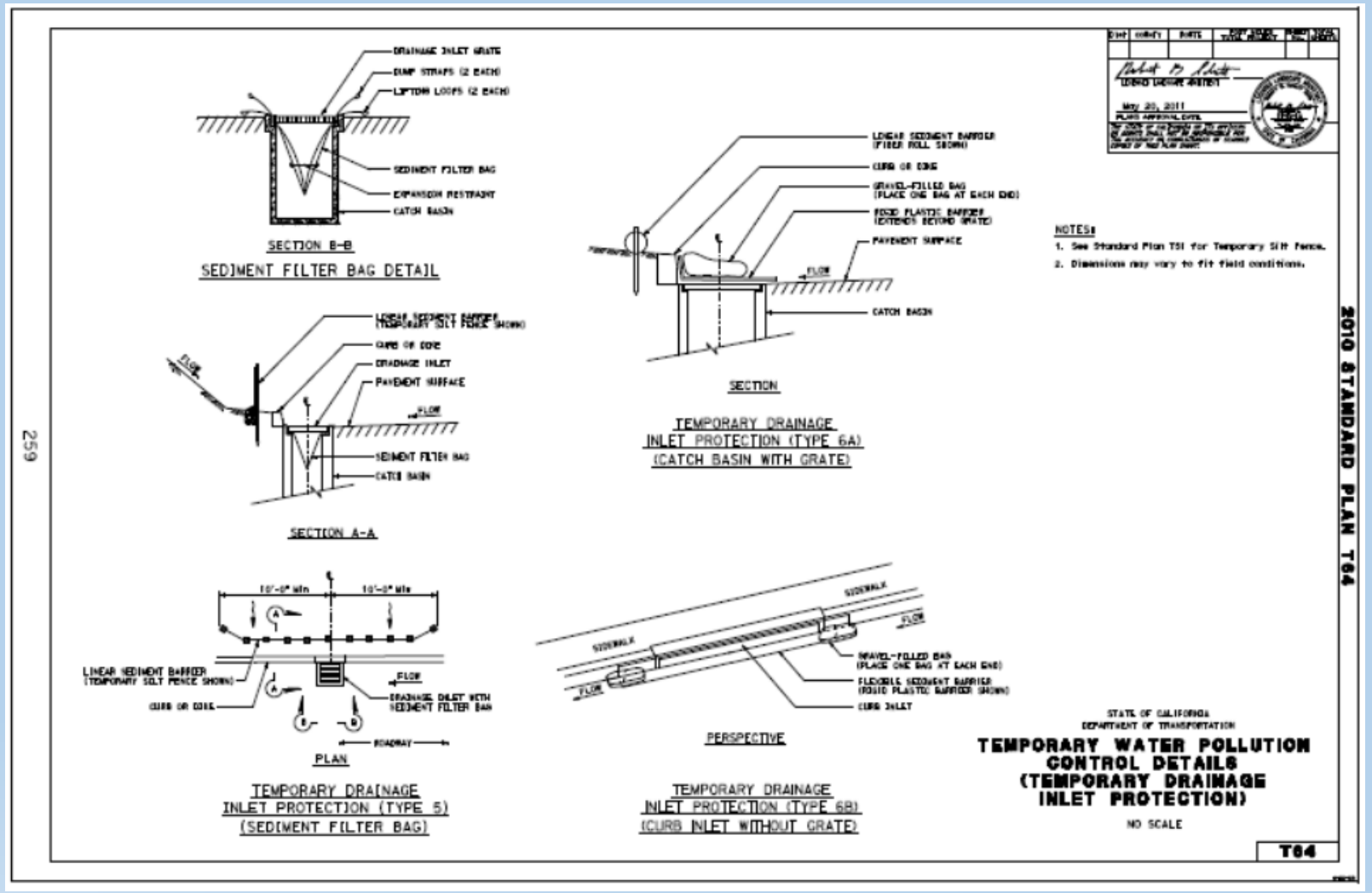
Storm Drain Inlet Protection

- Caltrans Standard Plan T- 63



Storm Drain Inlet Protection

- Caltrans Standard Plan T- 64



Storm Drain Inlet Protection

- Caltrans Standard Specifications 13-6.02B Rigid Plastic Barriers

A rigid plastic barrier must:

For an inlet with a curb opening but no grate, the rigid plastic barrier must be sized to fit the opening and have:

1. Horizontal flap of at least 6 inches with an under-seal gasket to prevent underflows
2. High-flow bypass
3. Vertical height of at least 7 inches after installation

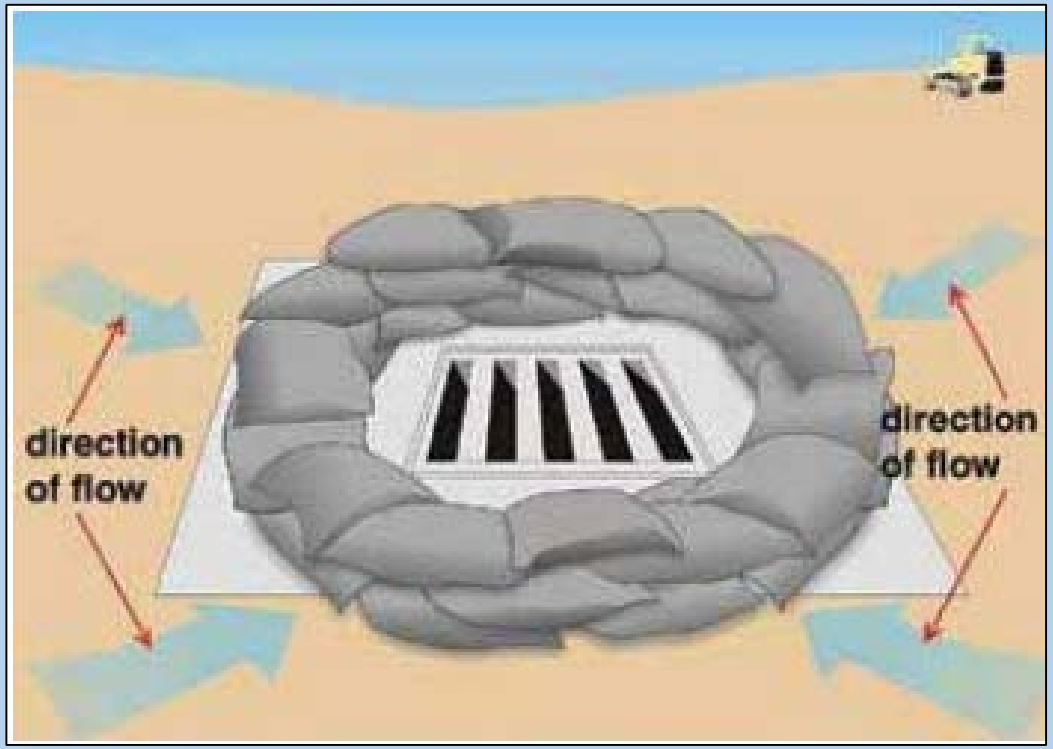
For a grated inlet without a curb opening, the rigid plastic barrier must be sized to fit the inlet and:

1. Cover the grate by at least 2 inches on each side and have an under-seal gasket to prevent underflows
2. Have a high-flow bypass
3. Have a vertical height of at least 1.5 inches after installation

For a grated inlet with a curb opening, the rigid plastic barrier must be sized to fit and have:

1. Horizontal flap that covers the grate by at least 2 inches on the 3 sides away from the curb opening and must have an under-seal gasket to prevent underflows
2. High-flow bypass
3. Section that covers at least 5 inches vertically above the flow line of the curb opening after installation

Storm Drain Inlet Protection



Planned

Actual

Storm Drain Inlet Protection

Actual

Actual

Storm Drain Inlet Protection

Actual

Actual

Storm Drain Inlet Protection

Actual

Actual

Storm Drain Inlet Protection

Actual

Actual

Storm Drain Inlet Protection

Actual

Actual

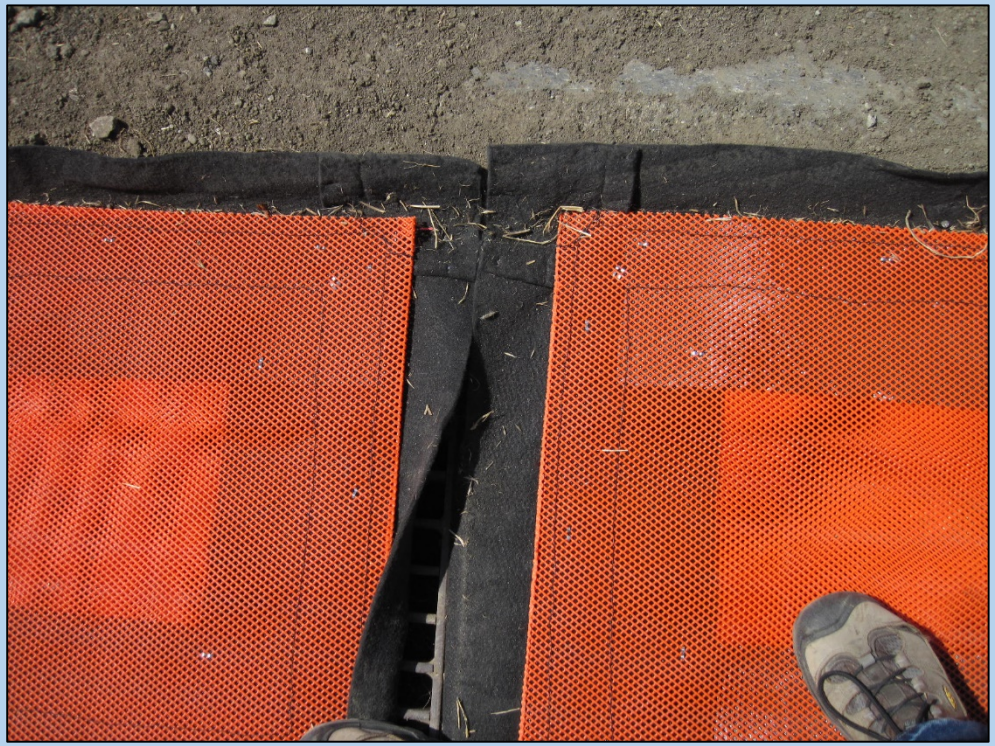
Storm Drain Inlet Protection

- **High-Flow Bypass:** Furnish low profile curb & grate inlet protection device with vertical filter height of 2 +/- 0.33 vertical inches to provide for a high-flow bi-pass. When water reaches the vertical height of the filter, the device shall allow water to flow over the filter with minimum impedance into the storm drain inlet.

Actual

Storm Drain Inlet Protection

Actual



Actual

Storm Drain Inlet Protection

Actual

Actual

Storm Drain Inlet Protection

- https://www.sandiego.gov/sites/default/files/2018_sws_part_2_public_outreach.pdf

City of San Diego

Sediment Control: Storm Drain Inlet Protection BMP

- **Dry Weather** – implement at all inlets receiving runoff from active construction areas.
- **City ROW** – remove prior to rain or during emergency water main breaks to prevent flooding. Remove prior to end of day or weekend if rain is in forecast and replace prior to restarting construction.

Storm Drain Inlet Protection

- You are Responsible for the Project
- CGP Required Sediment Controls – Perimeter and Sweeping
- Inlet Protection – Drains Erodible Area (Construction)
- Limitations – Ponding Shall Not Encroach into Traveled Way or Overtop Curb or Dike ***
  Inlet Protection Shall Not Be an Obstacle - Bicyclist Hindrance
- Often Broken Bags
- Often Removed During Storms

*** Section 16.03C Temporary Drainage Inlet Protection

Soil Cover on Active DSAs

- Current General Construction Permit

  Inactive DSAs – All Risk Levels

D. Erosion Control

2. Risk Level 2 dischargers shall provide effective soil cover for inactive[1] areas and all finished slopes, open space, utility backfill, and completed lots.

[1] Inactive areas of construction are areas of construction activity that have been disturbed and are not scheduled to be re-disturbed for at least 14 days.

Soil Cover on Active DSAs

- Current General Construction Permit

  Active DSAs – Risk Level 2 & 3

E. Sediment Controls

3. **Additional Risk Level 2 Requirement:** Risk Level 2 dischargers shall implement appropriate erosion control BMPs (runoff control and soil stabilization) in conjunction with sediment control BMPs for areas under active[2] construction.

[2] Active areas of construction are areas undergoing land surface disturbance. This includes construction activity during the preliminary stage, mass grading stage, streets and utilities stage and the vertical construction stage.

Soil Cover on Active DSAs

- Current General Construction Permit

I'm no Lawyer, what does footnote 2 mean? Depends who is interpreting

My thoughts:

APPROPRIATE Erosion Control

1. Control DSA for wind erosion - Constantly
2. Control DSA for water erosion – Directly before a rain event.

One is out of CGP compliance when an event produces runoff upon uncovered DSAs.

QRE equals sampling.

Soil Cover on Active DSAs

- Current General Construction Permit

  What does footnote 2 mean to others?

  Here is what I have heard – San Diego RWQCB:

  APPROPRIATE Erosion Control

  1. Control DSA for wind erosion - Constantly
  2. Control DSA for water erosion – At the End of Each and Every Work Day, cover DSA with plastic.

  QRE equals sampling.

Soil Cover on Active DSAs

- How do we comply?

  Monitor the weather

  Rain event is coming. What now?

  1. Scheduling
  2. Hydraulic Mulch – Cure period
  3. Hydroseeding – Growth period
  4. Straw Mulch - Studded roller or tackifier.
  5. Plastic – Large area prohibitive

Must Be Removed

Time to Cure

Organics

Constant Agitation

Multi-Steps

Guar/Xanthan Gum Starch

Nope!!!

Soil Cover on Active DSAs

- Okay, what does work?
  - Synthetic (chemical) Tackifiers
  - Vinyl Copolymers
    1. Soiltac
    2. Gorilla-Snot
  - Polyacrylamides
    1. LiquiTack
    2. PM50/PM70
    3. EarthGuard

Chemical

Water Truck

24 hour Cure

One Step

Left In Place

During Rain

5 gallon versus 55 or 275 gallon Totes

Annual Report & Monitoring Documentation

XVI. ANNUAL REPORTING REQUIREMENTS

A. All dischargers shall prepare and electronically submit an Annual Report no later than September 1 of each year.

B. The discharger shall certify each Annual Report in accordance with the Special Provisions.

C. The discharger shall retain an electronic or paper copy of each Annual Report for a minimum of three years after the date the annual report is filed.

D. The discharger shall include storm water monitoring information in the Annual Report consisting of:

7. the date, place, time of facility inspections, sampling, visual observation (inspections), and/or measurements, including precipitation (rain gauge); and

8. the visual observation and sample collection exception records and reports specified in Attachments C, D, and E.

Annual Report & Monitoring Documentation

6. **Risk Level 3 – Visual Observation and Sample Collection Exemptions**

   a. Risk Level 3 dischargers shall be prepared to collect samples and conduct visual observation (inspections) until the minimum requirements of Sections I.3 and I.4 above are completed. Risk Level 3 dischargers are not required to physically collect samples or conduct visual observation (inspections) under the following conditions:

      i. During dangerous weather conditions such as flooding and electrical storms.

      ii. Outside of scheduled site business hours.

   b. If no required samples or visual observation (inspections) are collected due to these exceptions, Risk Level 3 dischargers shall include an explanation in their SWPPP and in the Annual Report documenting why the sampling or visual observation (inspections) were not conducted.

Annual Report & Monitoring Documentation

D. GOOD SITE MANAGEMENT "HOUSEKEEPING" [CGP Attachment D, Section B]

1. Were required good site management "housekeeping" measures for construction materials fully implemented on-site?

☐ **YES** ☐ **NO**

If **NO** Explain: _____

F. EROSION CONTROLS [CGP Attachment D, Section D]

1. Were required erosion controls fully implemented on your site?

☐ **YES** ☐ **NO**

If **NO** Explain: _____

G. SEDIMENT CONTROLS [CGP Attachment D, Section E]

1. Were required sediment controls fully implemented on your site?

☐ **YES** ☐ **NO**

If **NO** Explain: _____

Annual Report & Monitoring Documentation

H. RUN-ON AND RUN-OFF CONTROLS [CGP Attachment D, Section F]

1. Was all site run-on and run-off effectively managed?

☐ **YES** ☐ **NO**

If **NO**, Explain: _____

I. RAIN EVENT ACTION PLAN (REAP) [CGP Attachment D, Section H]

1. Were REAPs developed 48 hours prior to all likely precipitation events (50% or greater probability of producing precipitation)?

☐ **YES** ☐ **NO**

If **NO**, Explain: _____

J. INSPECTION, MAINTENANCE AND REPAIR [CGP Attachment D, Section G]

2. Were site inspections conducted weekly and at least once each 24-hour period during extended storm events?

☐ **YES** ☐ **NO**

If **NO**, Explain: _____

Annual Report & Monitoring Documentation

K. VISUAL MONITORING [CGP Attachment D, Section I.3]

1. Were all storm water discharges that occurred at all discharge locations observed within 2 business days (48 hours) after each qualifying rain event (producing precipitation of ½ inch or more at the time of discharge?

☐ **YES** ☐ **NO**

If **NO**, Explain: _____

3. Were the time, date, and rain gauge reading recorded for each qualifying rain event?

☐ **YES** ☐ **NO**

If **NO**, Explain: _____

4. Within 2 business days (48 hours) prior to each predicted qualifying rain event, were visual inspections conducted in compliance with **CGP Attachment D, Section I.3.e&f**?

☐ **YES** ☐ **NO**

If **NO**, Explain: _____

Annual Report & Monitoring Documentation

L. WATER QUALITY SAMPLING AND ANALYSIS [CGP Attachment D, Section I.4]

1. How many qualifying storm events (producing precipitation of ½ inch or more at the time of discharge) occurred this past reporting year? _____

2. How many qualifying storm events (producing precipitation of ½ inch or more at the time of discharge) were sampled? _____

Explain Un-sampled events: _____

2011-2012

RISK LEVEL 2 ANNUAL REPORT

FOR

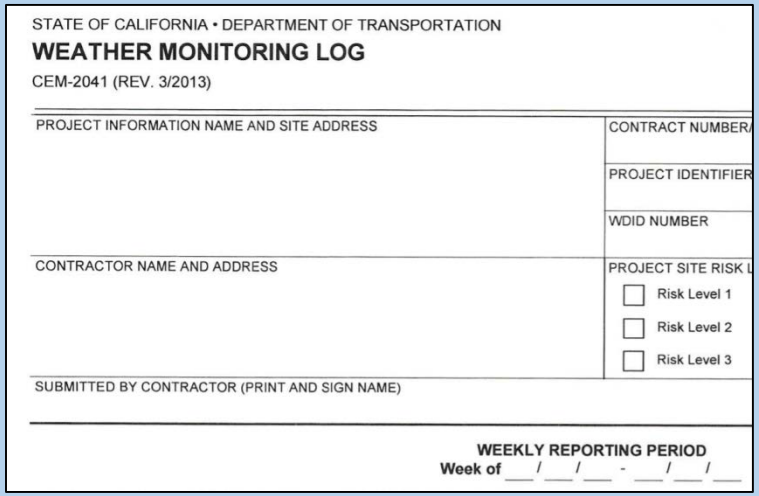
STORM WATER DISCHARGES ASSOCIATED
WITH CONSTRUCTION ACTIVITIES (RISK LEVEL 2)

Reporting Period July 1, 2011 through June 30, 2012

In compliance with the Construction General Permit (CGP) an annual report is required to be submitted electronically via SMARTS by September 1 of each year. This document must be certified and signed, under penalty of perjury, by the appropriate official of your company.

If you have any questions, please contact your Regional Board Storm Water Permit Contact. The names, telephone numbers and e-mail addresses of the Regional Board contacts, as well as the Regional Board office addresses can be found at http://www.waterboards.ca.gov/waterboards_map.shtml. To find your Regional Board information, match the first digit of your WDID number with the corresponding number that appears in parenthesis on the first line of each Regional Board office.

Annual Report & Monitoring Documentation



STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

WEATHER MONITORING LOG

CEM-2041 (REV. 3/2013)

PROJECT INFORMATION NAME AND SITE ADDRESS

CONTRACT NUMBER

PROJECT IDENTIFIER

WDID NUMBER

CONTRACTOR NAME AND ADDRESS

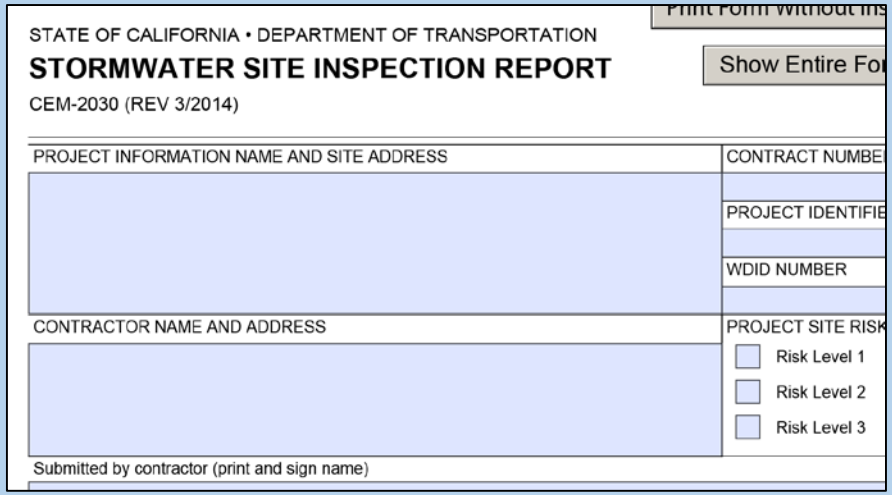
PROJECT SITE RISK L

- Risk Level 1
- Risk Level 2
- Risk Level 3

SUBMITTED BY CONTRACTOR (PRINT AND SIGN NAME)

WEEKLY REPORTING PERIOD

Week of ___/___/___ - ___/___/___



STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

STORMWATER SITE INSPECTION REPORT

CEM-2030 (REV 3/2014)

Print Form Without Ins

Show Entire For

PROJECT INFORMATION NAME AND SITE ADDRESS

CONTRACT NUMBE

PROJECT IDENTIFIE

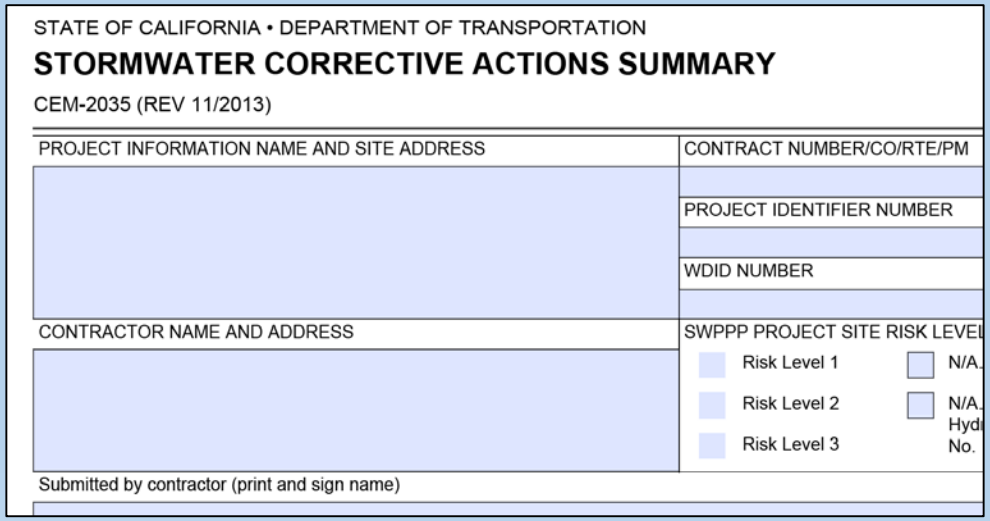
WDID NUMBER

CONTRACTOR NAME AND ADDRESS

PROJECT SITE RISK

- Risk Level 1
- Risk Level 2
- Risk Level 3

Submitted by contractor (print and sign name)



STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

STORMWATER CORRECTIVE ACTIONS SUMMARY

CEM-2035 (REV 11/2013)

PROJECT INFORMATION NAME AND SITE ADDRESS

CONTRACT NUMBER/CO/RTE/PM

PROJECT IDENTIFIER NUMBER

WDID NUMBER

CONTRACTOR NAME AND ADDRESS

SWPPP PROJECT SITE RISK LEVEL

- Risk Level 1
- Risk Level 2
- Risk Level 3
- N/A
- N/A Hydr No.

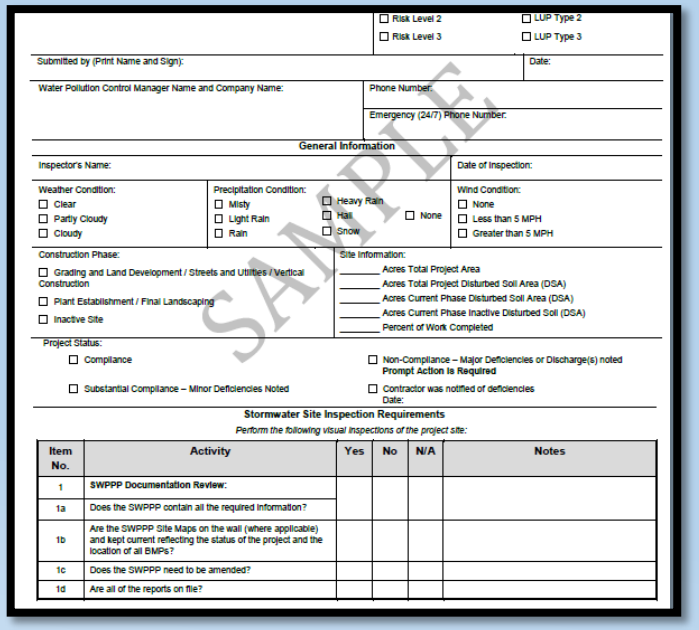
Submitted by contractor (print and sign name)

Annual Report & Monitoring Documentation

CLOUDCOMPLI

incompli

SWPPPonline
professional reports – fast and easy



☐ Risk Level 2 ☐ LUP Type 2
☐ Risk Level 3 ☐ LUP Type 3

Submitted by (Print Name and Sign): Date:

Water Pollution Control Manager Name and Company Name: Phone Number:
Emergency (24/7) Phone Number:

General Information

Inspector's Name: Date of Inspection:

Weather Condition: ☐ Clear ☐ Partly Cloudy ☐ Cloudy
Precipitation Condition: ☐ Misty ☐ Light Rain ☐ Rain ☐ Heavy Rain ☐ Hail ☐ Snow ☐ None
Wind Condition: ☐ None ☐ Less than 5 MPH ☐ Greater than 5 MPH

Construction Phase:
☐ Grading and Land Development / Streets and Utilities / Vertical Construction
☐ Plant Establishment / Final Landscaping
☐ Inactive Site

Site Information:
_____ Acres Total Project Area
_____ Acres Total Project Disturbed Soil Area (DSA)
_____ Acres Current Phase Disturbed Soil Area (DSA)
_____ Acres Current Phase Inactive Disturbed Soil (DSA)
_____ Percent of Work Completed

Project Status:
☐ Compliance
☐ Substantial Compliance – Minor Deficiencies Noted
☐ Non-Compliance – Major Deficiencies or Discharge(s) noted **Prompt Action is Required**
☐ Contractor was notified of deficiencies Date:

Stormwater Site Inspection Requirements

Perform the following visual inspections of the project site:

Item No.	Activity	Yes	No	N/A	Notes
1	**SWPPP Documentation Review:**				
1a	Does the SWPPP contain all the required information?				
1b	Are the SWPPP Site Maps on the wall (where applicable) and kept current reflecting the status of the project and the location of all BMPs?				
1c	Does the SWPPP need to be amended?				
1d	Are all of the reports on file?				

SAMPLE

- Weather Alerts
- Electronic, Fillable Forms
- Easy Distribution of Reports
- Inspections Auto-Documented

Complete Package
for
Field Compliance

Stormwater Form Tracking Sheet

Sample Project

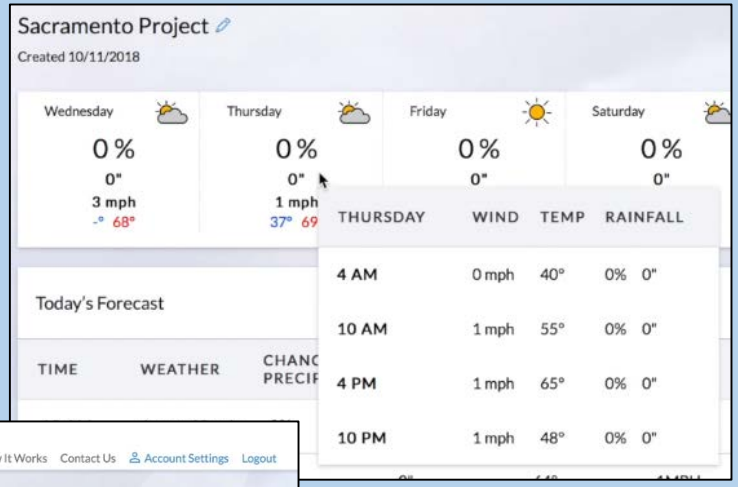
Week Of	4/11	4/18	4/25	5/2	5/9	5/16	5/23	5/30	6/6	6/13	6/20	6/27	7/4
Contractor Site Inspection Reports													
Weekly	X	X	X	X	X	X	X	X	X	X	X	X	X
Pre-Storm						X			X				
During Storm						X			X				
Post Storm						X				X			
Quarterly Inspection							X						
Corrective Action Summary	X		X	X		X	X		X	X			
Quarterly Amendments													
Training Logs	X	X	X	X	X	X	X	X	X	X	X	X	X
Weather Monitoring Logs	X	X	X	X	X	X	X	X	X	X	X	X	X
Notice of Discharge Reports													

For SWPPP Projects Only

Annual Report & Monitoring Documentation

- Weather Alerts
- Historical NOAA Weather Reports

Management Package

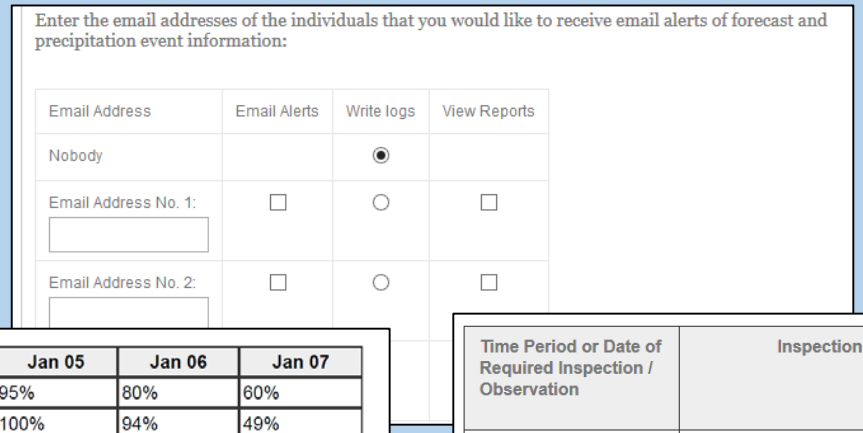


Annual Report & Monitoring Documentation

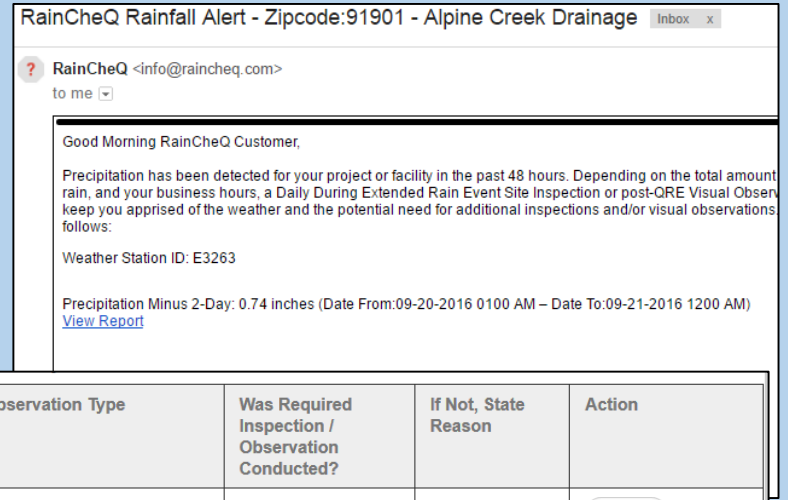
- Weather Alerts
- Project Weather – Summary Form
- Documents Required Monitoring Events with "Should Have Been Done" Logs

Management Package

For Monitoring Compliance


Enter the email addresses of the individuals that you would like to receive email alerts of forecast and precipitation event information:

Email Address	Email Alerts	Write logs	View Reports
Nobody		◉	
Email Address No. 1:	☐	○	☐
Email Address No. 2:	☐	○	☐


RainCheQ Rainfall Alert - Zipcode:91901 - Alpine Creek Drainage Inbox x

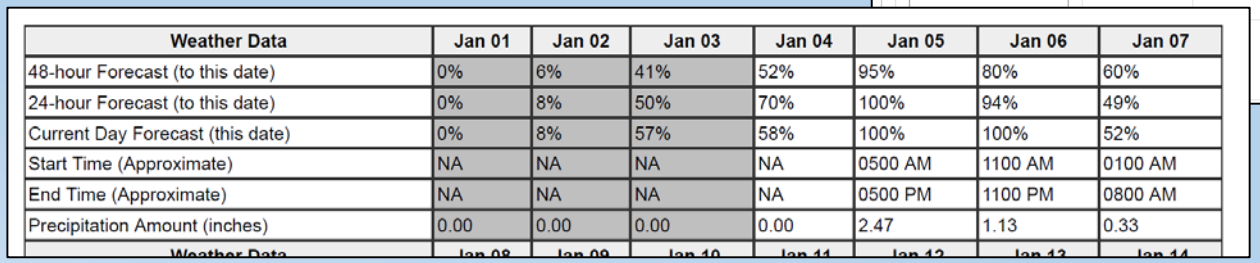
RainCheQ <info@raincheq.com>
to me

Good Morning RainCheQ Customer,

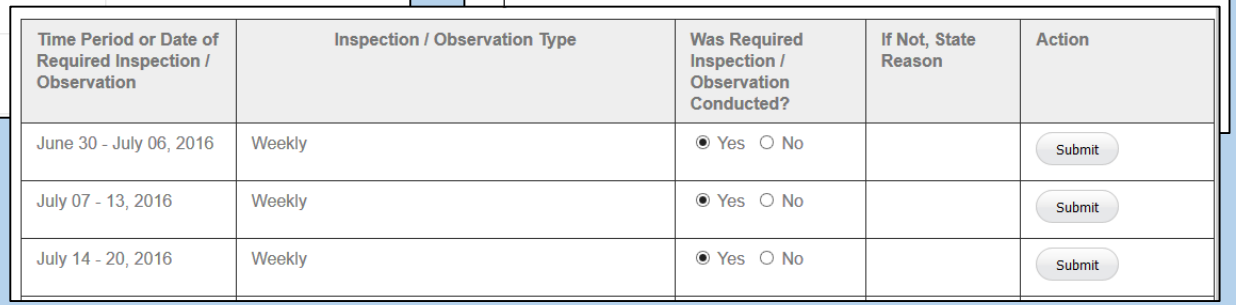
Precipitation has been detected for your project or facility in the past 48 hours. Depending on the total amount rain, and your business hours, a Daily During Extended Rain Event Site Inspection or post-QRE Visual Observ keep you apprised of the weather and the potential need for additional inspections and/or visual observations follows:

Weather Station ID: E3263

Precipitation Minus 2-Day: 0.74 inches (Date From:09-20-2016 0100 AM – Date To:09-21-2016 1200 AM)
View Report



Weather Data	Jan 01	Jan 02	Jan 03	Jan 04	Jan 05	Jan 06	Jan 07
48-hour Forecast (to this date)	0%	6%	41%	52%	95%	80%	60%
24-hour Forecast (to this date)	0%	8%	50%	70%	100%	94%	49%
Current Day Forecast (this date)	0%	8%	57%	58%	100%	100%	52%
Start Time (Approximate)	NA	NA	NA	NA	0500 AM	1100 AM	0100 AM
End Time (Approximate)	NA	NA	NA	NA	0500 PM	1100 PM	0800 AM
Precipitation Amount (inches)	0.00	0.00	0.00	0.00	2.47	1.13	0.33
Weather Data	Jan 08	Jan 09	Jan 10	Jan 11	Jan 12	Jan 13	Jan 14



Time Period or Date of Required Inspection / Observation	Inspection / Observation Type	Was Required Inspection / Observation Conducted?	If Not, State Reason	Action
June 30 - July 06, 2016	Weekly	◉ Yes ○ No		Submit
July 07 - 13, 2016	Weekly	◉ Yes ○ No		Submit
July 14 - 20, 2016	Weekly	◉ Yes ○ No		Submit

Constructability / Budget Review

- Public Works Construction - Caltrans

  - Soil Cover Quantities:
    Active and Inactive
  - Perimeter Control Quantities;
    Perimeter Control, Face of Slope Interrupters
  - Run-On/-Through Control Quantities:
    Check Dams, Other?

Don’t forget about various stages, and multiple seasons

Constructability / Budget Review

- Public Works Construction - Caltrans
  - Stabilized Construction Entrances
  - Concrete Washouts
  - Street Sweeping
  - REAPs
  - Storm Water Sampling and Analysis Day
  - Storm Water Annual Report

Don’t forget about various stages, and multiple seasons

Do Not Implement Regulatory Insurance

- Last Thought on Drainage Inlet Protection in Public Areas

Questions for the Speakers?

Ali.Pirouzian@sdcounty.ca.gov

David.Sluga@TRCcompanies.com

Up-and-Coming QSPs
Learning about Drainage
Inlet Protection

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