Storm Water Data Report (SWDR) Workshop

Spring 2011
Introductions
## Agenda

<table>
<thead>
<tr>
<th>Topic</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction and Pre-Exam</td>
<td>25 minutes</td>
</tr>
<tr>
<td>The EDF</td>
<td>10 minutes</td>
</tr>
<tr>
<td>SWDR – Long Form – Cover and Sec. 1</td>
<td>15 minutes</td>
</tr>
<tr>
<td>SWDR – Long Form – Sec. 2 to 4</td>
<td>55 minutes</td>
</tr>
<tr>
<td>SWDR – Long Form – Sec. 5 to 7</td>
<td>50 minutes</td>
</tr>
<tr>
<td>SWDR – Long Form Attachments</td>
<td>15 minutes</td>
</tr>
<tr>
<td>SWDR - Short Form</td>
<td>15 minutes</td>
</tr>
<tr>
<td>SWDR - Short Form Attachments</td>
<td>5 minutes</td>
</tr>
<tr>
<td>Finale and Post Exam</td>
<td>20 minutes</td>
</tr>
</tbody>
</table>
What’s New?

1. July 2010 PPDG changes for developing SWDRs.
   - Streamline SWDR Process (Short Form)
   - New Construction General Permit (CGP)
   - New T-1 checklist and process
   - Sustainable BMPs (LID)
What’s New?

2. 2009/10 Evaluation Report, SWDRs findings:
   - Narrative Descriptions
   - Cost information
   - TDC approach
   - Construction BMP strategies
3. Consistency in SWDR development.
   - Get to the point – don’t repeat and be concise!
   - Justify decisions – complete the story!
   - Understand the expected level of detail per project phase.
Workshop Objectives

1. Clarify what is expected in the preparation of a SWDR.

2. Continue to achieve statewide consistency in SWDR preparation.

3. Review recent revisions to the PPDG that affect SWDRs.
NPDES Permit Relationship

- Construction General Permit
- Department Statewide Permit
- Statewide Storm Water Management Plan

Enforceable Regulatory Documents

Internal Department Documents

Policies
Manuals
Guidelines
References and Sources

- **Caltrans Storm Water Quality Handbooks**
  - Project Planning and Design Guide, *July 2010*
  - Storm Water Pollution Prevention Plan (SWPPP) and Water Pollution Control Program (WPCP) Preparation Manual, *March 2011*
What is a SWDR?

- Documents storm water decisions, key project information, and BMP selections/strategies.

- Serves as technical report and feasibility analysis for permit compliance.
SWDR Types

Short Form

Long Form

What conditions dictate either form?
Short vs. Long Form and Useful Websites

HANDOUT #1
Streamlining
• Short form encouraged, if appropriate

Anything in Common?
• Routine maintenance
• Minimal DSA
• No or limited new impervious
• 401/404 Permits not needed
• Treatment not required

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In general, a Storm Water Data Report (SWDR) shall be prepared for every project. Depending upon the extent of soil disturbance and degree of stormwater impacts, a “Long Form” or “Short Form” SWDR shall be required. Projects that do not have the potential to create stormwater impacts, and have little or no soil disturbance may utilize the “Short Form” SWDR. A Short Form SWDR may be appropriate for (but not limited to) the following types of projects:

- Signing and striping projects;
- Weight-in-motion projects;
- Traffic monitoring projects (closed-circuit camera installation, etc.);
- Construction of ADA ramps;
- Bridge rail projects;
- Chip seal and/or fog seal projects;
- Pavement marker projects (raised or depressed);
- Metal Beam Guardrail Projects;
- Loop detector installations;
- Median Barrier Projects;
- Extended plant establishment projects and other planting projects;
- Emergency projects\* using informal bids (as defined per PDPM);
- Building remodeling or refurbishment such as painting, tile, or plumbing repair;
- Small Maintenance Projects (CEQA exempt);
- Approach Slab Replacement;
- Paint Striping;
- Overlay existing and shoulder backing;
- Utility trenches;
- Cold Plane and Resurfacing;
- Micro surfacing;
- Culvert Lining (without CWA 404/401); and
- Culvert Replacement (without CWA 404/401);

\* Note that an Emergency Project done under Force Account does not require a SWDR.
Disturbed Soil Area (DSA)

Do you know: DSA?

Disturbed Soil Area
- Areas of exposed, erodible soil that is to be disturbed
- Within construction limits
- Resulting from construction activities
Routine Maintenance

What is a:

Routine Maintenance Project?

Per EPA definition, it’s a project that:

• Maintains original line/grade, hydraulic capacity, and original purpose
• Provides preventative maintenance to existing facilities

Note: Exempt from CGP requirements, but a WPCP is still required.
DSA is needed for determining EC costs
Use Long Form, if:

- Treatment is required.
- DSA is \( \geq 5 \) Acres.
- DSA \( > 1 \) acre and no Erosivity Waiver

Additional info:
- Design Coord. determines if Short Form is used.
- Project shelf guidance is available.

Please note that all the aforementioned project types may still be required to utilize a “Long Form” Storm Water Data Report if meeting the following conditions:

1. The Project is required to consider Treatment BMPs.
2. The project disturbs 5 or more acres of soil.
3. The project disturbs more than 1 acre of soil and does not qualify for the erosivity waiver.
4. The project potentially creates permanent water quality impacts.
5. The project requires a notification of ADL rouse.

Any exceptions must be under the direction of the District/Regional Design Storm Water Coordinator.

Licensed Landscape Architect) determines whether a project qualifies and may utilize a Short Form SWDR based upon the previously identified criteria. During the Project Initiation phase, the Design District/Regional Storm Water Coordinator shall confirm that the project may appropriately utilize the Short Form SWDR. The applicability of the Short Form will be reviewed and changed (if necessary) during the Project Approval and PS&E phases.

Off the shelf projects should follow the project shelf guidance at http://onramp.dot.ca.gov/bg/design/memos/Project_Shelf_Guidance.pdf and the project delivery memo dated 08/11/2006.
Handout #1 – Websites

Additional Storm Water Web Sites

<table>
<thead>
<tr>
<th>Storm Water Related Web Sites</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010 PPDG</td>
<td></td>
</tr>
<tr>
<td>SWDR Templates</td>
<td></td>
</tr>
<tr>
<td>Example SWDRs</td>
<td></td>
</tr>
<tr>
<td>Erosivity Waiver Guide and Form</td>
<td></td>
</tr>
<tr>
<td>Estimating Guidance</td>
<td></td>
</tr>
<tr>
<td>Const. BMP Specs. and Details</td>
<td></td>
</tr>
<tr>
<td>T-1 checklist Tool and Guide</td>
<td></td>
</tr>
<tr>
<td>EPP and RUSLE2</td>
<td></td>
</tr>
<tr>
<td>TBMP Specs. and Details</td>
<td></td>
</tr>
</tbody>
</table>

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Storm Water Management

The Office of Storm Water Management — Design (OSWMD) has the following duties:

Coordination: In coordination with the Water Quality Program, the OSWMD provides general guidance to the District quality management practices. This is accomplished by conducting regular Project Design — Storm Water Advisory teaching guidance material such as the Project Planning and Design Guide (PPDG).

Program Evaluation: The OSWMD monitors and assesses District incorporation of storm water quality BMPs into the Design Compliance Monitoring Program that is currently under development. The main element of Design Con Data Report (SWDR).

Download SWDR Workshop Powerpoint presentation
Initial Treatment Evaluation
Question No. 1 – Treatment?

1. Is the project required to consider incorporating Treatment BMPs?  
   - Yes □  No □

2. Does the project disturb 5 or more acres of soil?  
   - Yes □  No □

3. Does the project disturb more than 1 acre of soil and not qualify for the Rainfall Erosivity Waiver?  
   - Yes □  No □

4. Does the project potentially create permanent water quality impacts?  
   - Yes □  No □

5. Does the project require a notification of ADL reuse?  
   - Yes □  No □

How do we answer?

Use the EDF.
## APPENDIX E

### Evaluation Documentation Form

<table>
<thead>
<tr>
<th>NO.</th>
<th>CRITERIA</th>
<th>YES</th>
<th>NO</th>
<th>SUPPLEMENTAL INFORMATION FOR EVALUATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Deign Project Evaluation regarding requirement for consideration of Treatment BMPs</td>
<td>✓</td>
<td></td>
<td>See Figure 4-1, Project Evaluation Process for Consideration of Permanent Treatment BMPs, Go to 2</td>
</tr>
<tr>
<td>2</td>
<td>Is this an emergency project?</td>
<td>Yes</td>
<td></td>
<td>If Yes, go to 10; If No, continue to 3.</td>
</tr>
<tr>
<td>3</td>
<td>Have TMDLs or other Pollution Control Requirements been established for surface waters within the project limits? Information provided in the water quality assessment or equivalent document.</td>
<td>Yes</td>
<td></td>
<td>If Yes, contact the District/Regional WQCO Coordinator to discuss the Department’s obligations under the TMDL, if applicable, or Pollution Control Requirements, go to 5 or 4. If No, continue to 4.</td>
</tr>
<tr>
<td>4</td>
<td>Is the project located within an area of a local MSA Permittee?</td>
<td>Yes</td>
<td></td>
<td>If Yes, continue to 6. If No, go to 20.</td>
</tr>
<tr>
<td>5</td>
<td>Is the project directly or indirectly discharging to surface waters?</td>
<td>Yes</td>
<td></td>
<td>If Yes, continue to 6. If No, go to 10.</td>
</tr>
<tr>
<td>6</td>
<td>Is the project or major reconstruction?</td>
<td>Yes</td>
<td></td>
<td>If Yes, continue to 6. If No, go to 7.</td>
</tr>
<tr>
<td>7</td>
<td>Will there be a change in land use, land cover, or water bodies or adjacent properties?</td>
<td>Yes</td>
<td></td>
<td>If Yes, continue to 6. If No, go to 20.</td>
</tr>
<tr>
<td>8</td>
<td>Does the project result in a net increase of one acre or results of new impervious surface?</td>
<td>Yes</td>
<td></td>
<td>If Yes, continue to 9. If No, go to 10.</td>
</tr>
</tbody>
</table>

See Figure 4-1, Project Evaluation Process for Consideration of Permanent Treatment BMPs

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### SECTION FOUR

#### Permanent Treatment Consideration

- [ ] Is a SWMP with a Plan to Complete Permanent Treatment BMPs included in the Project?
- [ ] Does the Project Plan to Complete Permanent Treatment BMPs within 3 years of Project Initiation?
- [ ] Does the Project Plan to Complete Permanent Treatment BMPs within 1 year of Project Initiation?
- [ ] Does the Project Plan to Complete Permanent Treatment BMPs within 6 months of Project Initiation?
- [ ] Does the Project Plan to Complete Permanent Treatment BMPs within 1 month of Project Initiation?
- [ ] Does the Project Plan to Complete Permanent Treatment BMPs immediately?

See Section 4.4 and either Section 5.6 or 6.9 for SWMP Evaluation and Selection Process. Complete checklist F.1 in this Appendix.

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Document for Project Files by completing this form and attaching it to the SWMP.
The EDF – Steps 1 and 2

<table>
<thead>
<tr>
<th>NO.</th>
<th>CRITERIA</th>
<th>YES</th>
<th>NO</th>
<th>SUPPLEMENTAL INFORMATION FOR EVALUATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Begin Project Evaluation regarding requirement for consideration of Treatment BMPs</td>
<td>✓</td>
<td></td>
<td>See Figure 4-1, Project Evaluation Process for Consideration of Permanent Treatment BMPs. Go to 2</td>
</tr>
<tr>
<td>2.</td>
<td>Is this an emergency project?</td>
<td></td>
<td></td>
<td>If Yes, go to 10. If No, continue to 3.</td>
</tr>
</tbody>
</table>

Emergency projects under a Director’s Order restore public health, safety, and property.

Emergency projects done under force account do not require a SWDR!!!!!!
Hey there!
Do I have any pollution control requirements?

I’m glad you asked. Let’s check the ED.

---

### The EDF – Step 3

<table>
<thead>
<tr>
<th>NO.</th>
<th>CRITERIA</th>
<th>YES ✓</th>
<th>NO ✓</th>
<th>SUPPLEMENTAL INFORMATION FOR EVALUATION</th>
</tr>
</thead>
</table>
| 3.  | Have TMDLs or other Pollution Control Requirements been established for surface waters within the project limits? Information provided in the water quality assessment or equivalent document. |       |      | If Yes, contact the District/Regional NPDES Coordinator to discuss the Department’s obligations under the TMDL (if Applicable) or Pollution Control Requirements, go to 9 or 4.  
      |                             |       |      | (Dist./Reg. SW Coordinator initials)    |

If No, continue to 4.
### The EDF – Steps 4 and 5

<table>
<thead>
<tr>
<th>NO.</th>
<th>CRITERIA</th>
<th>YES ✓</th>
<th>NO ✓</th>
<th>SUPPLEMENTAL INFORMATION FOR EVALUATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.</td>
<td>Is the project located within an area of a local MS4 Permittee?</td>
<td></td>
<td></td>
<td>If <strong>Yes.</strong> <em>(write the MS4 Area here)</em>, go to 5. If <strong>No</strong>, document in SWDR go to 5.</td>
</tr>
<tr>
<td>5.</td>
<td>Is the project directly or indirectly discharging to surface waters?</td>
<td></td>
<td></td>
<td>If <strong>Yes</strong>, continue to 6. If <strong>No</strong>, go to 10.</td>
</tr>
</tbody>
</table>

**What is an “MS4 Permitee”?**

MS4 – Municipal Separate Storm Sewer System - a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains): (i) owned or operated by a state, city, town, borough, or county.

Where do I find this info.? NPDES Coordinator, SWRCB website, ….
What is the difference between “direct” and “indirect” discharge?

Direct - a discharge of surface runoff directly to the surface water body without first flowing through an MS4.

Indirect - a discharge of surface runoff to the surface water body through an MS4, unlisted tributary to the surface water, or a stormwater discharge that otherwise reaches the water body.

<table>
<thead>
<tr>
<th>NO.</th>
<th>CRITERIA</th>
<th>YES ✓</th>
<th>NO ✓</th>
<th>SUPPLEMENTAL INFORMATION FOR EVALUATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.</td>
<td>Is the project located within an area of a local MS4 Permittee?</td>
<td></td>
<td></td>
<td>If <strong>Yes</strong>. <em>(write the MS4 Area here)</em>, go to 5.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>If <strong>No</strong>, document in SWDR go to 5.</td>
</tr>
<tr>
<td>5.</td>
<td>Is the project directly or indirectly discharging to surface waters?</td>
<td></td>
<td></td>
<td>If <strong>Yes</strong>, continue to 6.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>If <strong>No</strong>, go to 10.</td>
</tr>
</tbody>
</table>
New Facility and Major Reconstruction- the development of new routes, route alignments, and route upgrades. New construction activity **does not include routine maintenance** to maintain original line and grade, hydraulic capacity, or original purpose of the facility, nor does it include emergency construction activities required to protect public health and safety.

<table>
<thead>
<tr>
<th>NO.</th>
<th>CRITERIA</th>
<th>YES</th>
<th>NO</th>
<th>SUPPLEMENTAL INFORMATION FOR EVALUATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.</td>
<td>Is it a new facility or major reconstruction?</td>
<td>✓</td>
<td>✓</td>
<td>If Yes, continue to 8.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>If No, go to 7.</td>
</tr>
</tbody>
</table>
The following changes would be considered a change in line, grade or hydraulic capacity:

- A change in the time of concentration, peak flow, volume or velocity of stormwater discharges;
- Creating new drainage ditches, swales, culverts, or storm drain facilities; or
- Changing historic drainage patterns.

<table>
<thead>
<tr>
<th>NO.</th>
<th>CRITERIA</th>
<th>YES ✓</th>
<th>NO ✓</th>
<th>SUPPLEMENTAL INFORMATION FOR EVALUATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.</td>
<td>Will there be a change in line/grade or hydraulic capacity?</td>
<td></td>
<td></td>
<td>If Yes, continue to 8.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>If No, go to 10.</td>
</tr>
</tbody>
</table>
Is there a potential change(*) in line, grade, or hydraulic capacity?

<table>
<thead>
<tr>
<th>Description</th>
<th>Change</th>
<th>No Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Placement of a culvert lining</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Change of pipe diameter size from 12” to 36”</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>Re-grade ditch to remove accumulated sediment</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Overlay of a roadway surface</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Placement of 4 maintenance vehicle pullouts.</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>Median paving</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Install traffic signals, control box, and loop detectors</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

(*) Note: Documented in the drainage report.
### The EDF – Steps 8, 9, and 10

<table>
<thead>
<tr>
<th>NO.</th>
<th>CRITERIA</th>
<th>YES</th>
<th>NO</th>
<th>SUPPLEMENTAL INFORMATION FOR EVALUATION</th>
</tr>
</thead>
</table>
| 8.  | Does the project result in a net increase of one acre or more of new impervious surface? | ✓   | ✓  | If Yes, continue to 9.  
If No, go to 10.  

\[ Z_0 A_c \] (Net Increase New Impervious Surface) |
| 9.  | Project is required to consider approved Treatment BMPs.                 |     | X  | See Sections 2.4 and either Section 5.5 or 6.5 for BMP Evaluation and Selection Process.  
Complete Checklist T-1 in this Appendix E. |
| 10. | Project is not required to consider Treatment BMPs.                     |     |    | Document for Project File by completing this form,  
and attaching it to the SWDR. |

_______(Dist./Reg. Design SW Coord. Initials)  
_______(Project Engineer Initials)  
_______(Date)  

Q8. – Yes – Go to Step 9 - Prepare Long Form SWDR and T-1 checklist.
### The EDF – Steps 8, 9, and 10

<table>
<thead>
<tr>
<th>NO.</th>
<th>CRITERIA</th>
<th>YES</th>
<th>NO</th>
<th>SUPPLEMENTAL INFORMATION FOR EVALUATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.</td>
<td>Does the project result in a net increase of one acre or more of new impervious surface?</td>
<td>✓</td>
<td>✓</td>
<td>If Yes, continue to 9. If No, go to 10. (Net Increase New Impervious Surface)</td>
</tr>
<tr>
<td>9.</td>
<td>Project is required to consider approved Treatment BMPs.</td>
<td></td>
<td></td>
<td>See Sections 2.4 and either Section 5.5 or 6.5 for BMP Evaluation and Selection Process. Complete Checklist T-1 in this Appendix E.</td>
</tr>
<tr>
<td>10.</td>
<td>Project is not required to consider Treatment BMPs.</td>
<td>X</td>
<td></td>
<td>Document for Project File by completing this form, and attaching it to the SWDR.</td>
</tr>
</tbody>
</table>

**Q8. – No – Go to Step 10 - Document in SWDR and attach EDF**
Long Form SWDR

Cover Sheet
MAIN IDEAS FOR THIS SECTION

WHAT’S NEW:

• Technical Data Report 30 days prior to RTL
• CGP Risk Level Determination
• Rainfall Erosivity Waiver, if applicable

WHAT CAN BE IMPROVED:

• Include signatures and stamp at PS&E
• Dates of NOC (NOI)
• Dates of Notification of ADL reuse
## APPENDIX E

**Long Form - Storm Water Data Report**

### Project Info

- **District/County Route:**
- **Post Mile Limits:**
- **Project Type:**
- **Project ID for EA:**
- **Program Identification:**
  - PID
  - PA/ED
  - PSE

### Regional Water Quality Control Board(s):

<table>
<thead>
<tr>
<th>Is the Project required to consider Treatment DMPS?</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>If yes, can Treatment DMPS be incorporated into the project?</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

If No, a Technical Data Report must be submitted to the RWQCB at least 30 days prior to the project RTL date.

- **Last RTL Date:**

### Total Distributed Soil Area: __________

### Risk Level: __________

### Estimated Construction Start Date: __________

### Construction Completion Date: __________

### Notification of Construction (NOC) Date to be submitted: __________

### Exclusion Waiver

- **Yes**
- **Date:** __________
- **No**

### Notification of ADL issue (if Yes, provide date)

- **Yes**
- **Date:** __________
- **No**

### Dependent Demanding Permit (if yes, permit number)

- **Yes**
- **Permit #:** __________
- **No**

### This Report has been prepared under the direction of the following Licensed Person. The Licensed Person attests to the technical information contained herein and the date upon which recommendations, conclusions, and decisions are based. Professional Engineer or Landscape Architect stamp required at RWQCB.

- **[Name], Registered Project Engineer/Landscape Architect**
- **Date**

### I hereby certify that the stormwater quality design review and this report is complete, current and accurate.

- **[Name], Project Manager**
- **Date**

- **[Name], Designated Maintenance Representative**
- **Date**

- **[Name], Designated Landscape Architect Representative**
- **Date**

### (Stamp Required for PSE only)

- **[Name], District/Regional Design SVY Coordinator or Designee**
- **Date**

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*Caltrans Storm Water Quality Handbooks*  
*Project Planning and Design Guide*  
*July 2010*

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May 6, 2011 – Slide 33
Long Form Cover Sheet

Is the Project required to consider Treatment BMPs?  
Yes [x]  No [ ]
If yes, can Treatment BMPs be incorporated into the project?  
Yes [ ]  No [x]
If No, a Technical Data Report must be submitted to the RWQCB at least 30 days prior to the project’s RTL date.

List RTL Date: 01/22/11

What is a TECHNICAL DATA REPORT?

Includes:

• Explanation of why TBMPs were not incorporated
• Cover letter
• Relevant technical info from Drainage Report & SWDR without cost data

Coordinated with:

• PE
• SW Coordinator
• NPDES Coordinator

Submitted to RWQCB:

• 30 days before Ready to List (RTL) date
• NPDES discretion
### Long Form Cover Sheet

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is the Project required to consider Treatment BMPs?</td>
<td>☒</td>
<td></td>
</tr>
<tr>
<td>If yes, can Treatment BMPs be incorporated into the project?</td>
<td>☒</td>
<td></td>
</tr>
<tr>
<td>If No, a Technical Data Report must be submitted to the RWQCB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>at least 30 days prior to the projects RTL date.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

List RTL Date: ________________

<table>
<thead>
<tr>
<th>Total Distributed Soil Area:</th>
<th>20 ac</th>
<th>Risk Level:</th>
<th>1</th>
</tr>
</thead>
</table>

Estimated: Construction Start Date: 3/1/12
Construction Completion Date: 3/1/13
Notification of Construction (NOC) Date to be submitted: 2/1/2012 (usually 1 mo. prior to start)
Long Form Cover Sheet

<table>
<thead>
<tr>
<th>Erosivity Waiver</th>
<th>Yes □</th>
<th>No ☒</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notification of ADL reuse (if Yes, provide date)</td>
<td>Yes □</td>
<td>Date: <em>TBD</em> (unless PS&amp;E) No □</td>
</tr>
<tr>
<td>Separate Dewatering Permit (if yes, permit number)</td>
<td>Yes □</td>
<td>Permit #<em>TBD</em> (unless PS&amp;E) No □</td>
</tr>
</tbody>
</table>

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CGP Risk Level Determination

- New Construction General Permit
- Risk Levels 1 – 3

Risk Level = Requirements

- Risk Level is calculated in two Parts:
  1) Project Sediment Risk
  2) Receiving Water Risk
Small Construction Rainfall Erosivity Waiver

- Small projects can be exempt from CGP coverage
  - 1 - 5 acres
  - Rainfall erosivity factor (R) ≤ 5
- “R” calculated in RUSLE

Erosivity Waiver Guide and Form:
http://www.dot.ca.gov/hq/oppd/stormwtr/

EPA R-factor calculator:
http://cfpub.epa.gov/npdes/stormwater/LEW/lewCalculator.cfm
WHO IS SIGNING? AND WHY?

1. Registered PE or LA
2. Project Manager
3. Maintenance
4. Landscape Architect
5. SW Coordinator
Maintenance

PE should include Maintenance early in the design of TBMPs:

• Coordinate early with the Maintenance supervisor and other personnel
• Maintenance access
• Safety issues
• Slopes steeper than 2:1

Earthen AVSF with Maintenance Access
PE should include LA early in design to:

- Identify steep/erosive slopes;
- Assist with erosion control strategy; and…. 
- Approve erosion control plans for slopes steeper than 4:1
District/Region
Storm Water Coordinator

PE should work with SW Coordinator on:

• Permitting
• Non-standard BMP designs
• Other water quality issues
Section 1. Project Description
MAIN IDEAS FOR THIS SECTION

WHAT’S NEW:
• Nothing new in this section!

WHAT CAN BE IMPROVED:
• Don’t forget to include existing and proposed impervious area
• Clearly describe if portions of the project are considered “routine maintenance”
SECTION 1: PROJECT DESCRIPTION

1. Type of project and major engineering features
2. Total DSA and how it was calculated
3. Existing and proposed impervious surface
4. Urban MS4 areas in project limits
Acceptable SWDRs (Project Descriptions)?

HANDOUT #2
1. Project Description

Interstate 100 is a four-lane divided freeway traversing relatively flat terrain between State Route 2 (SR-2) to Marble Avenue in the City of San Marcos/County of San Marcos. The existing facility consists of two 3.6-meter-wide Portland cement concrete (PCC) paved lanes in both directions with 3.0-meter-wide asphalt concrete (AC) paved outside shoulders, 0.5-meter-wide AC paved inside shoulders, and a varying width unpaved median. As part of the State Route 2, Segment 11 project (EA#123456), two mixed flow lanes and one auxiliary lane will be constructed in both directions. The proposed SR-2 Segment 11 project is scheduled to be completed prior to construction beginning on this project.

This project includes widening of the existing Interstate 100 mainline between 580 meters north of Smith Street to SR-2 in both directions; replacement of the existing overcrossing bridges at Marble Avenue and Highland Avenue; modifications of existing interchange ramps at Highland Avenue and Marble Avenue; and a new traffic signal at Marble Avenue and ramp terminus. A High Occupancy Vehicle (HOV) lane as well as an additional mixed flow lane will be added in both the northbound and southbound directions. The existing northbound exit ramp to Peters Avenue will also be reconfigured.

The total construction cost for this project is estimated to be approximately $40.3 million. Construction is expected to begin in early 2011.

The project is completely within an urbanized built up area and is in an MS4 permit area.
1. Project Description

The California Department of Transportation (Caltrans), in cooperation with the Santa Clara Valley Transportation Authority (VTA), proposes to construct improvements to a 7.6-mile segment of United States Highway 101 (US 101) that is located in southern Santa Clara County/northern San Benito County. The primary improvements consist of the following:

- Widen and upgrade US 101 to a six-lane freeway between the Monterey Road interchange in Gilroy and the SR 129 interchange in northern San Benito County.
- Reconstruct the US 101/SR 25 interchange.
- Construct an auxiliary lane in each direction on US 101 between the Monterey Road and SR 25 interchanges.
- Extend Santa Teresa Boulevard approximately 0.5 miles from Castro Valley Road to the new US 101/SR 25 interchange.
- Construct improvements at the southbound US 101 off-ramp to SR 129.
- Construct frontage roads, as needed, to replace existing access to US 101 from adjacent properties.
- Grade-separate the Union Pacific Railroad crossing on SR 25 west of Bloom Avenue.
- Construct bicycle facilities, as needed, to replace access that is lost when US 101 is upgraded to a freeway and to improve bicycle access in the project area.

The proposed project includes the reconstruction of the existing US 101/SR 25 interchange. There are two design options under consideration for this component of the project:

Design Option A will reconstruct the US 101/SR 25 interchange at a location approximately 0.2 miles north of the existing interchange. The interchange will include a new bridge to convey SR 25 over US 101. It will also include ramps to allow all traffic movements between US 101 and SR 25. The proposed work at the reconstructed US 101/SR 25 interchange will include the realignment of SR 25 to a location just east of the UPRR crossing, at which point it will either transition to the existing SR 25 or tie into an upgraded four-lane SR 25.

Design Option B will reconstruct the US 101/SR 25 interchange the existing interchange’s location. The interchange will include a new bridge to convey SR 25 over US 101. It will also include ramps to allow all traffic movements between US 101 and SR 25. The proposed work at the reconstructed US 101/SR 25 interchange will include a minor realignment of SR 25 to a location just east of the UPRR crossing, at which point it will either transition to the existing SR 25 or will into an upgraded four-lane SR 25.
Disturbed Soil Area and Net Additional Impervious Area

The existing impervious area for this project is estimated to be 84.9 acres. Table 1 and Table 2 show the disturbed soil area (DSA) and net added impervious area (AIA) for the project by design option and county.

Table 1. Project DSA

<table>
<thead>
<tr>
<th>Design Option</th>
<th>Santa Clara (ac)</th>
<th>San Benito (ac)</th>
<th>Total (ac)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>325.6</td>
<td>106.2</td>
<td>431.8</td>
</tr>
<tr>
<td>B</td>
<td>305.5</td>
<td></td>
<td>411.7</td>
</tr>
</tbody>
</table>

Table 2. Project AIA

<table>
<thead>
<tr>
<th>Design Option</th>
<th>Santa Clara (ac)</th>
<th>San Benito (ac)</th>
<th>Total (ac)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>62.5</td>
<td>13.0</td>
<td>75.5</td>
</tr>
<tr>
<td>B</td>
<td>60.6</td>
<td></td>
<td>73.6</td>
</tr>
</tbody>
</table>

The DSA was calculated by subtracting the overlay impervious area from the proposed total construction area, including staging areas. This includes any soil that will be exposed; including soil beneath the existing pavement - also to be removed.

There is approximately 60 acres of existing impervious area. The net additional impervious area was calculated by subtracting the total existing impervious area intended to be removed from the total new impervious area.

From post mile (PM) 3.7 to PM 5.0 along US 101 in Santa Clara County, the project is within the combined City of Gilroy, City of Morgan Hill and County of Santa Clara Phase II Municipal Separate Storm Sewer System (MS4). All other areas within the project are not within an MS4.

- DSA and net added impervious area by alternative
- Existing Impervious
- MS4 areas
1. Project Description

The California Department of Transportation (Caltrans), in cooperation with the Santa Clara Valley Transportation Authority (VTA), proposes to construct improvements to a 7.6-mile segment of United States Highway 101 (US 101) that is located in southern Santa Clara County/northern San Benito County. The primary improvements consist of the following:

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- Construct frontage roads, as needed, to replace existing access to US 101 from adjacent properties.
- Grade-separate the Union Pacific Railroad crossing on SR 25 west of Bloom Avenue.
- Construct bicycle facilities, as needed, to replace access that is lost when US 101 is upgraded to a freeway and to improve bicycle access in the project area.

The project reconstructs the US 101/SR 25 interchange at approximately the same location as the existing interchange. The interchange includes a new bridge to convey SR 25 over US 101. It also includes ramps to allow all traffic movements between US 101 and SR 25. The proposed work at the reconstructed US 101/SR 25 interchange includes a minor realignment of SR 25 to a location just east of the UPRR crossing, at which point it either transitions to the existing SR 25 or ties into an upgraded four-lane SR 25.

Disturbed Soil Area and Net Additional Impervious Area

The total disturbed soil area (DSA) is 411.7 acres, with 305.5 acres within Santa Clara and 106.2 within San Benito County. The DSA was calculated by subtracting the overlay impervious area from the proposed total construction area, including staging areas. This includes any soil that is exposed through the removal of pavement. There is approximately 60 acres of existing impervious area. The net additional impervious area (AIA) is 73.6 acres, with 60.6 within Santa Clara County and 13.0 within San Benito County. The AIA was calculated by subtracting the total existing impervious area intended to be removed from the total new impervious area.

From post mile (PM) 3.7 to PM 5.0 along US 101 in Santa Clara County, the project is within the combined City of Gilroy, City of Morgan Hill and County of Santa Clara Phase II Municipal Separate Storm Sewer System (MS4). All other areas within the project are not within an MS4.
Long Form SWDR

Section 2. Site Data and Storm Water Quality Design Issues
MAIN IDEAS FOR THIS SECTION

WHAT’S NEW:
• Nothing new in this section!

WHAT CAN BE IMPROVED:
• Don’t forget to include if 401 Certification Required
• Develop drainage concepts early
• Receiving water body information
• Measures for reducing or avoiding SW impacts
• Drinking water/recharge facilities
• Depths to groundwater
• Soil types/classifications
Section 2: Based on Checklists SW-1, SW-2, and SW-3

- Checklists started in PID phase
- Updated with more info in later phases

Who should you coordinate with to identify SW Issues?

- SW Coordinator
- Landscape Architecture
- Maintenance
- Hydraulics
- Construction
- Environmental
Required Information

- Receiving Water Bodies
  - HU, HA, and HSA for each
  - Distance from project outfalls
  - 303(d) listing
  - TMDLs

- 401 certification (as applicable)
- Drinking water reservoirs
- Recharge facilities
- Measures for avoiding/reducing potential SW impacts
Project Design Considerations

• Climate
• Soils
• Topography
• Local agency
• Problem slopes
• RWQCB concerns
• Right-of-way requirements
• Right-of-way costs
• Existing Treatment BMPs
• Groundwater info
• ADL reuse
2. Site Data and Storm Water Quality Design Issues (refer to Checklists SW-1, SW-2, and SW-3)

*Project Engineer (PE) should confer with District/Regional Storm Water Coordinator, Landscape Architecture, Maintenance, Hydraulics, Construction and Environmental Units to define design issues. Provide a narrative that contains pertinent information from source documents identified on SW-1 (e.g. Preliminary Geotechnical Report [PGR]) and a summary of the answers to the questions in SW-2 and SW-3. Use the bullets listed below as examples of information that should be described in the narrative. Note, not all of the information listed is available at each phase of a project (document status of availability, as appropriate). Information to be included will depend on the nature of the project and the site conditions.*

- Identify Receiving Water Bodies (including the Hydrologic Area or sub-area [name and/or number]) and distance from the project’s outfalls
- Identify if any of the Receiving Water Bodies are on the 303(d) list / describe Pollutants of Concern
- Identify if 401 certification is required
- Identify any Drinking Water Reservoirs and/or Recharge Facilities within project limit
### Site Data Sources

- Topographic
- Hydraulic
- Soils
- Climatic
- Water Quality
- Other Data Categories
<table>
<thead>
<tr>
<th>DATA CATEGORY/SOURCES</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topographic</td>
<td></td>
</tr>
<tr>
<td>• USGS. Topographic maps.</td>
<td>1980</td>
</tr>
<tr>
<td>Soils</td>
<td></td>
</tr>
<tr>
<td>Climatic</td>
<td></td>
</tr>
<tr>
<td>• Federal Emergency Management Agency (FEMA). <em>Sonoma County Flood Insurance Study</em></td>
<td>1997</td>
</tr>
<tr>
<td>Water Quality</td>
<td></td>
</tr>
<tr>
<td>• San Francisco Bay Regional Water Quality Control Board. <em>Basin Plan</em>.</td>
<td>2006</td>
</tr>
</tbody>
</table>
PID, PA/ED and PS&E

Source Documents

• Technical Studies (or drafts) available, such as:
  - Drainage Report or Concept
  - Preliminary Environmental Assessment Report (PEAR)
  - Geotechnical Report
  - Water Quality Report
  - Preliminary Site Investigation
  - Draft EIR/EIS
Storm Water Quality Issues

- Existing background info
- Existing stormwater quality issues
- Future requirements
- Potential sources of pollution

Where do we find this information?
1. RECEIVING WATERS

2. 303(d) LISTINGS and TMDLs

CSU Water Quality Planning Tool

Search by Post Mile to find:
- HU, HA, and HSA
- TMDLs
- 303d listings

http://www.water-programs.com/wqpt.htm
3. DRINKING WATER FACILITIES

4. RWQCB REQUIREMENTS

5. OTHER REGULATORY REQUIREMENTS

- District Work Plans
- Ask SW Coordinator
- Environmental Document
6. 401 CERTIFICATION

- See environmental document and environmental coordinator
- Environmental group responsible for obtaining 401 Cert from RWQCB
9. SOIL DATA:
   Permeability, Erodibility, and Depth to Groundwater

PID & PA/ED:
- Use Web Soil Survey, USDA, GIS, District 8 website, or more accurate data if available

PS&E:
- Use Geotech Report/Information

<table>
<thead>
<tr>
<th>Hydrologic Soil Groups (HSGs):</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Group A</strong></td>
<td>High infiltration rate, low runoff potential. Deep, well-drained sands.</td>
</tr>
<tr>
<td><strong>Group B</strong></td>
<td>Moderate infiltration rate.</td>
</tr>
<tr>
<td><strong>Group C</strong></td>
<td>Slow infiltration rate. Moderately fine texture.</td>
</tr>
<tr>
<td><strong>Group D</strong></td>
<td>Very slow infiltration rate, high runoff potential. Clay soils, high water table, or shallow soils over nearly impervious material.</td>
</tr>
</tbody>
</table>
How can you as a PE design a project to avoid SW impacts?

- Relocate or realign project
- Relocate or redesign facilities
- Design slopes to reduce erosion
- BMP maintenance
- Scheduling construction work to avoid rain events and install BMPs early

The PE must confer with other functional units, such as Landscape Architecture, Hydraulics, Environmental, Materials, Construction and Maintenance, as needed to assess these issues. Summarize pertinent responses in Section 2 of the SWDR.
Long Form SWDR

Section 3. Regional Water Quality Control Board Agreements
MAIN IDEAS FOR THIS SECTION

WHAT’S NEW:
• Nothing new in this section!

WHAT CAN BE IMPROVED:
• Describe only special permit conditions or non-standard features
SECTION 3: RWQCB AGREEMENTS

1. Negotiated understandings and special conditions:
   - 401 Certification
   - NPDES non-standard conditions
   - Waste discharge requirements (WDRs)
   - Rainfall erosivity waivers
   - Other permits/certifications (404, 1602, CCC, ASBS)

2. Meeting dates and participants

3. Consult with SW Coord. throughout project delivery

4. District/Regional NPDES Coord. to provide information and language.
At PS&E…

• Document permit process compliance
  ➢ List all key negotiated understandings or agreements, meetings, correspondences, submittals to RWQCB

• 401 Certification requirements

• Watershed treatment approaches

• Notification of ADL Reuse – 30 days prior to advertisement
Acceptable?

3. **Regional Water Quality Control Board Agreements**
   - This project conforms to NPDES Permits No. CAS 000002 and No. CAS 000003. The Notification of Construction (NOC) will be submitted to LARWQCB 30 days before the beginning of the construction. 

   **Poor.**

3. **Regional Water Quality Control Board Agreements**
   
   A meeting was held by District NPDES Stormwater Coordinator, Nathanael Greene, on 9/1/10 with the Los Angeles RWQCB. There are no negotiated understandings or agreements between Caltrans and the RWQCB for this project.

   The Notification of Construction (NOC) will be submitted to the Los Angeles RWQCB 30-days prior to the start of construction.

   **Good!**
3. Regional Water Quality Control Board Agreements

- 404, 401 and 1601 permits are required since the bridges will be widened. NPDES and 404 coordination will also be required. 404, 401, and 1601 permit requirements are unknown at this time.

3. Regional Water Quality Control Board Agreements

The North Coast RWQCB requires all projects that increase impervious surface area to evaluate the feasibility of post construction Treatment BMPs as a condition of the 401 Water Quality Certification process. It has been determined that bioswales are feasible and will be incorporated into the project to meet the Board requirement.

A meeting was held by District NPDES Stormwater Coordinator, Nathanael Greene on 8/31/10 with the North Coast RWQCB. The project requires the following permits: Section 404 Permit from U.S. Army Corps of Engineers (Clean Water Act), 1602 Streambed Alteration Agreement from California Department of Fish and Game, and Water Quality Certification, Section 401 from the RWQCB. The required permit applications have been submitted.
Long Form SWDR

Permanent BMPs
Permanent BMP Strategy

2 Types of Permanent BMPs:

- **Design Pollution Prevention (DPP) BMPs**
  Permanent soil stabilization and concentrated flow controls

- **Treatment BMPs**
  Permanent treatment devices and facilities

This bioswale is a treatment BMP.

It is also a DPP BMP since it has a check dam to address downstream effects.
Long Form SWDR

Section 4. Design Pollution Prevention BMPs
MAIN IDEAS FOR THIS SECTION

WHAT’S NEW:
• Take credit for QUALITATIVE benefits of Low Impact Development (LID) measures
• Provide QUANTITATIVE evidence of downstream effects
• Greater emphasis on infiltration

WHAT CAN BE IMPROVED:
• Describe how new paved areas are negligible
• Describe how existing vegetation will be preserved
• Summarize likely BMPs at PID and PA/ED
• Specify quantities, types, and general locations for all BMPs and storm drain systems
Design Pollution Prevention (DPP) BMPs:

1. Permanent BMPs
2. Pollution source control fixtures
3. Design goals
   - Prevent erosion, stabilize streams, and encourage LID

Many of these are LID features!
Low-Impact Development (LID) is:

1. A stormwater management strategy aimed at maintaining or restoring the natural hydrologic functions of a site.

2. A subset of sustainable infrastructure, which emphasizes resource conservation to reduce impacts on the environment.

3. Integrated system of decentralized, small-scale control measures.
   - Encourages infiltration, filtration, storage, evaporation, and detention,
   - Reduces volume and rate of stormwater while reducing pollutants in discharges.

Caltrans bioswale – Implementation of LID since the beginning.
What changed in Sect. 4?

New Emphasis on Qualitative Benefits:

- Credit for LID measures that mimic natural drainage and reduce pollutants
- Special emphasis on infiltration even where treatment is not required

Old approach: End-of-pipe treatment, often relying on hardened infrastructure for conveyance (pipes, concrete ditches, curbs, etc.)

New approach (LID): Decentralized, small-scale measures controlling storm water where it falls, using on-site infiltration, detention, etc.

What are some other examples of LID for transportation projects?
Matching Pre- and Post-Construction Flows: DPP Methods

Minimize Impervious Surfaces
To reduce the volume of runoff

Manage Volume and Flow Rates
To avoid downstream erosion

Stabilize Disturbed Soil Areas
To prevent erosion

Maximize Vegetated Surfaces
To prevent erosion, promote infiltration, and remove SW pollutants

CALTRANS ENCOURAGES INFILTRATION
Negligible Downstream Effects

Projects with negligible downstream effects are exempt from additional flow and volume control BMPs.

Determination can be based on:

1. Added impervious area is very small compared to watershed area of receiving water body
2. Discharge to a lined channel
3. Drainage report, if available
SECTION 4: Summarize Checklist DPP-1, Parts 1-5

Part 1: Consideration of the 4 types of DPP
Part 2: Downstream effects of increased flow
  Existing vs. post-construction conditions
Part 3: Slope/surface protection
  Cut-fill requirements
  Slope conditions
Part 4: Concentrated flow conveyance systems
Part 5: Preservation of Existing Vegetation
  Areas of clearing and for preservation
### Downstream Effects:

Will the Project…

1. Increase velocity/volume of flow?
2. Discharge to unlined channels?
3. Increase potential sediment load?
4. Cause hydraulic changes to a stream that may affect downstream stability?

... if YES to ANY, use Checklist DPP-1, Part 2
Reducing Downstream Effects

**PROBLEM:** Incised channel

**Soil modification:** To improve infiltration

**Increase pervious areas:** To reduce runoff

**Check dam:** Lengthen time of concentration
Slope/Surface Protection:

Will the Project...

1. Create new slopes or modify existing slopes?

... if YES, use Checklist DPP-1, Part 3
Slope Surface Protection Systems

Soil Stabilization: Mix of plant seed, fertilizer, fiber, and stabilizer. Sprayed on to quickly protect exposed soil.

Rounded slopes (bottom): Blend with natural terrain, prevent gullyling, help retain existing site hydrology.

See Caltrans EC Tool Box: http://www.dot.ca.gov/hq/LandArch/ec/index.htm
Concentrated Flow Conveyance Systems:

Will the Project...

1. Create or modify ditches, dikes, berms, or swales?

2. Create new slopes or modify existing ones?

3. Need to direct or intercept runoff?

4. Modify cross drains?

... if YES to ANY, use Checklist DPP-1, Part 4
Concentrated Flow Conveyance Systems

Lined Ditch: Prevents erosion but also increases hydraulic efficiency (faster-moving water) and doesn’t provide any treatment.

Preservation of Existing Vegetation:

The goal of the Storm Water Program is to maximize the protection of desirable existing vegetation to provide erosion/sediment control.

Use Checklist DPP-1, Part 5
Preservation of Existing Vegetation

Protect and preserve trees, shrubs, and groundcover
• If existing vegetation will be preserved…
  describe how (specify ESA fence and show on all plans).

• At early phases (PID, PA&ED)…
  indicate likely BMPs and summarize what you’re going to do
  (Just saying “to be considered at PS&E phase” isn’t enough)
• If downstream effects due to new paved areas are negligible… provide quantitative information to support.

• For all BMPs and storm drain systems… specify quantities, types, and general locations.

• Maximize Sustainable Measures – Low Impact Development
Long Form Section 4 Narrative – DPP BMPs

HANDOUT #3
4. Proposed Design Pollution Prevention BMPs to be used on the Project.

**Downstream Effects Related to Potentially Increased Flow, Checklist DPP-1, Parts 1 and 2**

The project will result in an increase in impervious surface in the project area. The net additional impervious area for the project is 73.6 acres. Additional impervious areas proposed for the project may increase the volume and velocity of the stormwater discharge. This Project will incorporate low impact design (LID) efforts to maintain or restore pre-project hydrology, as well as provide overall water quality improvement of discharges. These LID efforts will be incorporated in the development and placement of permanent best management practices (BMPs) to the maximum extent practicable. LID measures that will be considered for this Project to improve water quality include:

- Constructing permanent vegetated drainage ditches to decrease the velocity of discharge, plus decreasing the volume of discharge by promoting infiltration and allowing for pollutant removal,
- Grading slopes to blend with the natural terrain and decreasing the need for dikes, promoting sheet flow to vegetated areas that can provide water quality benefits and promote infiltration,
- Designing permanent drainage facilities that mimic the existing drainage pattern of the area through the use of permanent check dams for attenuation of flow and disconnected drainage facilities, and
- Maintaining existing vegetated areas

To examine the effectiveness of these LID efforts, the pre and post project hydrology will be compared during the design phase; these calculations include determining changes in the runoff coefficient, time of concentration and discharge to downstream water bodies.

• Qualitative benefits to LID

• LID Measures
4. Proposed Design Pollution Prevention BMPs to be used on the Project.

Downstream Effects Related to Potentially Increased Flow, Checklist DPP-1, Parts 1 and 2

The Project results in an increase in impervious surface in the project area. The net additional impervious area for the project is 73.6 acres. Additional impervious areas proposed for the project may increase the volume and velocity of the stormwater discharge. This Project utilizes low impact design (LID) efforts to maintain or restore pre-project hydrology, as well as provide overall water quality improvement of discharges. These LID efforts are incorporated in the development and placement of permanent best management practices (BMPs) to the maximum extent practicable. LID measures incorporated into this Project that improve water quality include:

- Vegetated drainage ditches (see Drainage Plans for specific locations) to decrease the velocity of discharge plus decrease the volume of discharge by promoting infiltration and allowing for pollutant removal,
- Graded slopes to blend with the natural terrain at 4:1 (H:V) slopes and decreasing quantities of dikes for sheet flow to vegetated areas which provide water quality benefits and promote infiltration,
- Check dams within drainage ditches and swales (see Drainage Details) to increase time of concentrations and designing disconnected drainage facilities to mimic the existing drainage pattern of the area,
- Maintaining existing vegetated areas with ESA fencing

To examine the effectiveness of these LID efforts, the pre and post project hydrology was compared; these calculations include determining changes in the runoff coefficient, time of concentration and discharge to downstream water bodies.

Table 1 examines the flow control calculations for the proposed vegetated ditches and swales. The establishment of vegetation in these systems increases the roughness coefficient to 0.24 from 0.05 in the existing condition. Thus, the time of concentration increases and the rainfall intensity decreases. The intensity from a 2-year, 24-hour storm from WinIDF was used to compare the pre-project and post-project flows; a 5 minute duration was used for pre-project and a 6 minute duration was used for post-project analysis. Due to the length of the project multiple IDF curves were developed based on area being analyzed.

Due to the addition of these LID features and based on the comparison of the pre-construction flows versus the post-construction flows, negligible changes or effects to existing downstream flows is anticipated.
Long Form SWDR

Section 5 and the T-1 Checklist
MAIN IDEAS FOR THIS SECTION

WHAT’S NEW:
- T-1 Checklist
- T-1 Tool
- Greater emphasis on infiltration and biofiltration

WHAT CAN BE IMPROVED:
- Don’t skip steps
- Justify decisions in the narrative.
- Use tables to summarize information, esp. drainage areas or treatments
The T-1 Contains:

- Infiltration Rules!
- Biofiltration encouraged
- TDCs simply 4 Matrices
- Supported by an Easy-to-Use Tool
T-1 Checklist – The Start

- Use to support narrative of Section 5.
- Complete for all sub-watersheds (drainages).
- Question 1 - Prescriptive TMDL requirements

1. Is the project in a watershed with prescriptive TMDL treatment BMP requirements in an adopted TMDL implementation plan?

   If Yes, consult the District/Regional Storm Water Coordinator to determine whether the T-1 checklist should be used to propose alternative BMPs because the prescribed BMPs may not be feasible or other BMPs may be more cost-effective. Special documentation and regulatory response may be necessary.
T-1 Checklist – Specific BMPs

- Question 3 – GSRDs.
- Question 4 – Traction Sand Traps.
Maximizing biofiltration

- Approach on maximizing infiltration
  - Maximize use of biofiltration
  - How much infiltration does biofiltration get?
  - Can amendments augment infiltration?
T-1 Checklist – Infiltration Rules!

- **Question 5 – Maximize Biofiltration.**
  - Can you achieve 90% or greater infiltration? Yes, then 13.

- **Question 6 – Biofiltration in Rural Areas.**
  - Outside of an MS4? Yes, then 13.

- **Question 7 – Targeted Infiltration**
  - Can overall 90% Infiltration be achieved? Yes, then 13.
Using tools to answer infiltration

- Infiltration Tools: See Handout #1 for website.
Question 7 – Infiltration

- Can overall 90% Infiltration be achieved? If “No”, then how much?

(24 hr WQV)

___ < 20% (do not consider this BMP combination)
___ 20% - 50%
___ 50% - 90%
___ > 90%
Question 8

What are the TDCs?

(a) Does the project discharge to a water body that has been placed on the 303-d list or has had a TMDL adopted? If “No,” use Matrix A to select BMPs, consider designing to treat 100% of the WQV, then skip to question 12. If Yes, is the identified pollutant(s) considered a Targeted Design Constituent (TDC) (check all that apply below)?

- sediments
- phosphorus
- nitrogen
- copper (dissolved or total)
- lead (dissolved or total)
- zinc (dissolved or total)
- general metals (dissolved or total)

(b) Treating Sediment. Is sediment a TDC? If Yes, use Matrix A to select BMPs, then skip to question 12. Otherwise, proceed to question 9.
## Question 8 – TDCs

- Selection of TDCs will dictate what Matrix to use.

<table>
<thead>
<tr>
<th>Matrix</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
</tr>
<tr>
<td>B</td>
</tr>
<tr>
<td>C</td>
</tr>
<tr>
<td>D</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Constituent Mix</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Purpose Pollutant Removal – Sediment or No TMDL</td>
</tr>
<tr>
<td>Any Metal, but not Nitrogen or Phosphorous</td>
</tr>
<tr>
<td>Phosphorous and/or Nitrogen, but not Metals</td>
</tr>
<tr>
<td>Any Metal, plus Phosphorous and/or Nitrogen</td>
</tr>
</tbody>
</table>
Oh Yeah! I can find the solution by using this nifty tool from HQ.
Construction Site BMP Strategy

CS-1 Checklists
and
Short Form Section 2
or
Long Form Section 6

May 6, 2011
Construction Site BMP Strategy

MAIN IDEAS FOR THIS SECTION

WHAT’S NEW:
• CGP Risk Level Determination, if SWPPP
• Monitoring and Rain Event Action Plan (REAP), as applicable
• Rainfall Erosivity Waiver, if applicable

WHAT CAN BE IMPROVED:
• Obtain Construction concurrence (name and date)
• Narrative to describe strategy – complex or simple
• Narrative needs to convey magnitude of BMPs
• Don’t include costs
Construction Site BMPs

What are the Construction Site BMP Categories?

<table>
<thead>
<tr>
<th>Table 2-6. Approved Temporary Construction Site BMP Categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temporary Soil Stabilization</td>
</tr>
<tr>
<td>Temporary Sediment Control</td>
</tr>
<tr>
<td>Wind Erosion Control</td>
</tr>
<tr>
<td>Tracking Control</td>
</tr>
<tr>
<td>Non-Stormwater Management</td>
</tr>
<tr>
<td>Waste Management and Materials Pollution Control</td>
</tr>
</tbody>
</table>

The strategy used for implementing Construction Site BMPs depends on specific project conditions and anticipated construction operations. The level of detail and coordination in support of the estimate is different at each phase of the project.
## Construction Site BMP Consideration Form

### APPENDIX E

**Construction Site BMP Consideration Form**

<table>
<thead>
<tr>
<th>NO.</th>
<th>CRITERIA</th>
<th>YES</th>
<th>NO</th>
<th>SUPPLEMENTAL INFORMATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Will construction of the project result in areas of disturbed soils, as defined by the Project Planning and Design Guide (PPDG)?</td>
<td>If Yes, Construction Site BMPs for Soil Stabilization (SS) will be required. Complete CS-1, Part 1. Continue to 2. If No, Continue to 3.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Is there a potential for disturbed soil areas within the project to discharge to storm drain inlets, drainage ditches, areas outside the right-of-way, etc.?</td>
<td>If Yes, Construction Site BMPs for Sediment Control (SC) will be required. Complete CS-1, Part 2. Continue to 3.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Is there a potential for sediment or construction debris to be transported off-site and deposited on private or public paved roads by construction vehicles and equipment?</td>
<td>If Yes, Construction Site BMPs for Tracking Control (TC) will be required. Complete CS-1, Part 3. Continue to 4.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Is there a potential for wind to transport soil and dust offsite during the period of construction?</td>
<td>If Yes, Construction Site BMPs for Wind Erosion Control (WEC) will be required. Complete CS-1, Part 4. Continue to 5.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Is sediment anticipated or will construction activities occur within or adjacent to a wetland or a stream?</td>
<td>If Yes, Construction Site BMPs for Non-Storm Water Management (WSM) will be required. Complete CS-1, Part 5. Continue to 6.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Will construction include site-clearing, grading, cutting, concrete or mortar mixing, hydro-decompression, siltation, sandblasting, painting, paving, or other activities that produce residues?</td>
<td>If Yes, Construction Site BMPs for Waste Management and Materials Pollution Control (WMC) will be required. Complete CS-1, Part 6. Continue to 7.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Are3 the use of soil, construction related materials, and/or wastes anticipated?</td>
<td>If Yes, Construction Site BMPs for Waste Management and Materials Pollution Control (WMC) will be required. Complete CS-1, Part 7. Continue to 8.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>Is there a potential for construction related materials and wastes to have direct contact with precipitation, stormwater runoff, or stormwater runoff be dispersed by wind or be dumped and/or spilled into storm drain systems?</td>
<td>If Yes, Construction Site BMPs for Waste Management and Materials Pollution Control (WMC) will be required. Complete CS-1, Part 8. Continue to 9.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>End of checklist.</td>
<td>Document for Project Files by completing this form, and attaching into the SWMFI.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**AE to initialize after concurrence with Construction (PS&E only) | Date**

---

**Safe Storm Water Quality Handbooks for Project Improving and Design Guide July 2010**

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**May 6, 2011 – Slide 111**

**CS BMPs**

- **Required at PS&E**
- **Identifies what parts of CS-1 “should” be completed:**
## Construction Site BMP Consideration Form

<table>
<thead>
<tr>
<th>NO.</th>
<th>CRITERIA</th>
<th>YES</th>
<th>NO</th>
<th>SUPPLEMENTAL INFORMATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Will construction of the project result in areas of disturbed soil as defined by the Project Planning and Design Guide (PPDG)?</td>
<td><img src="true" alt="Yes" /></td>
<td><img src="true" alt="Yes" /></td>
<td>If Yes, Construction Site BMPs for Soil Stabilization (SS) will be required. Complete CS-1, Part 1. Continue to 2. If No, Continue to 3.</td>
</tr>
<tr>
<td>2.</td>
<td>Is there a potential for disturbed soil areas within the project to discharge to storm drain inlets, drainage ditches, areas outside the right-of-way, etc?</td>
<td><img src="true" alt="Yes" /></td>
<td><img src="true" alt="Yes" /></td>
<td>If Yes, Construction Site BMPs for Sediment Control (SC) will be required. Complete CS-1, Part 2. Continue to 3.</td>
</tr>
<tr>
<td>3.</td>
<td>Is there a potential for sediment or construction related materials and wastes to be tracked offsite and deposited on private or public paved roads by construction vehicles and equipment?</td>
<td><img src="true" alt="Yes" /></td>
<td><img src="true" alt="Yes" /></td>
<td>If Yes, Construction Site BMPs for Tracking Control (TC) will be required. Complete CS-1, Part 3. Continue to 4.</td>
</tr>
<tr>
<td>4.</td>
<td>Is there a potential for wind to transport soil and dust offsite during the period of construction?</td>
<td><img src="true" alt="Yes" /></td>
<td><img src="true" alt="Yes" /></td>
<td>If Yes, Construction Site BMPs for Wind Erosion Control (WE) will be required. Complete CS-1, Part 4. Continue to 5.</td>
</tr>
</tbody>
</table>

First 4 Questions Define the Erosion and Sediment Control Strategy
Erosion and Sediment Control Strategy - Quick Exercise

Would the erosion and sediment control strategy be complex, thus necessitating CS-1 parts?

<table>
<thead>
<tr>
<th>Description</th>
<th>Complex</th>
<th>Simple</th>
</tr>
</thead>
<tbody>
<tr>
<td>New bridge span</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>New auxiliary lane, 1 mile.</td>
<td>?</td>
<td>X</td>
</tr>
<tr>
<td>Expand culvert and re-grade ditch, summer construction</td>
<td>?</td>
<td>X</td>
</tr>
<tr>
<td>Overlay of a roadway surface</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Placement of 4 maintenance vehicle pullouts.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Landscape planting of interchange</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>Install traffic signals, control box, and loop detectors</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Note: Be sure to coordinate with Construction.
Construction Site BMP Consideration Form

1. Diversion
2. Protection
3. Elimination
### CS BMPs

**Title:** CS-1, Part 1 – Soil Stabilization

**Date:** May 6, 2011

---

#### APPENDIX E

**Checklist CS-1, Part 1**

<table>
<thead>
<tr>
<th>PM: __________________________</th>
<th>Project ID (or EA): __________________________</th>
</tr>
</thead>
</table>

**Construction Site BMPs**

**Checklist CS-1, Part 1**

**Prepared by:**

**Date:**

**District Go-Route:**

#### Soil Stabilization

**General Parameters:**

1. How many rainy seasons are anticipated between begin and end of construction?

2. What is the total disturbed soil area for the project? (ac)

   - How much of the project DSA consists of slopes 4:1 (h:v) or flatter? (ac)
   - How much of the project DSA consists of 4:1 (h:v) = slopes = 2:1 (h:v)? (ac)
   - How much of the project DSA consists of slopes 2:1 (h:v) and steeper? (ac)
   - How much of the project DSA consists of slopes with slope lengths longer than 20 FT (ac)

3. What rainfall area does the project lie within? (Refer to Table 2-1 of the Construction Site Best Management Practices Manual)

4. Review the required combination of temporary soil stabilization and temporary sediment controls and barriers for area, slope inclinations, rainy and non-rainy season, and active and non-active disturbed soil areas. (Refer to Tables 2-2, and 2-3 of the Construction Site Best Management Practices Manual for Rainfall Area requirements)

   - Complete

5. Does the project have a duration of more than one rainy season and have disturbed soil areas in excess of 25 acres?

   - Yes
   - No

   - Complete

---

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**CS BMPs**
APPENDIX E

Construction Site BMPs
Checklist CS-1, Part 2

Prepared by: __________________ Date: __________ District Co-Router: __________________
Project ID (or EA): ___________ HRQCB: __________________

Sediment Control

Perimeter Controls - Run-off Control

1. Is there a potential for sediment laden soil and concentrated flows to discharge
   offsite from runon drain and disturbed areas, below cut slopes, embankment
   slopes, etc.?☐Yes ☐No
   (a) Select linear sediment barriers such as SC-1 (Bia Fences), SC-5 (Fiber Rolls),
       SC-6 (Green Bag Berm), SC-8 (Sand Bag Barrier), SC-9 (Straw Bale Barrier),
       or a combination to protect wetlands, watercourses, roads (paved and
       unpaved), construction activities, and adjacent properties. (Coordinate with
       District Construction for selection and preference of linear sediment barrier
       BMPs.) ☐Complete
   (b) Increase the quantities by 25% for each additional rainy season. (Designated
       Construction Representatives may suggest an alternate increase.) ☐Complete
   (c) Designate as a separate contract bid line item. ☐Complete

Perimeter Controls - Run-on Control

2. Do locations exist where sheet flow uplands of the project site and where
   concentrated flow upstream of the project site may contact EDA and construction
   activities? ☐Yes ☐No
   (a) Utilize linear sediment barriers such as SC-9 (Earth Diked/Drainage Swales and
       Linear Ditches), SC-5 (Fiber Rolls), SC-6 (Green Bag Berm), SC-8 (Sand Bag
       Barrier), SC-9 (Straw Bale Barrier), or other BMPs to convey flows through
       and/or around the projects sites. (Coordinate with District Construction for
       selection and preference of perimeter control BMPs.) ☐Complete
   (b) Designate as a separate contract bid line item. ☐Complete
### Appendix E

#### Construction Site BMPs Checklist CS-1, Part 3

<table>
<thead>
<tr>
<th>Preparer</th>
<th>Date</th>
<th>District Co-Route</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM</td>
<td>Project ID (or EA)</td>
<td>RWQC8</td>
</tr>
</tbody>
</table>

#### Tracking Controls

1. Are there points of entrance and exit from the project site to paved roads where mud and dirt could be transported offsite by construction equipment? (Coordinate with District Construction for selection and preference of tracking control BMPs.)
   - (a) Identify and designate those entrance/exit points as stabilized construction entrances (TC-1).
   - (b) Designate as a separate contract bid line item.

2. Are site conditions anticipated that would require additional or modified tracking controls such as entrance/exit dirt fence wash? (Coordinate with District Construction.)
   - Designate as a separate contract bid line item.

3. Are temporary access roads necessary to access remote construction activity locations or to transport materials and equipment? (In addition to controlling dust and sediment tracking, access roads limit impact to sensitive areas by limiting exposure, and provide enhanced crane capacity.) (Coordinate with District Construction.)
   - Designate those temporary access roads as stabilized construction roadways (TC-2).
   - Designate as a separate contract bid line item.

4. Is there a potential for tracked sediment or construction related residue to be transported offsite and deposited on public or private roads? (Coordinate with District Construction for preference of including street sweeping and vacuuming with tracking control BMPs.)
   - Designate as a separate contract bid line item.

---

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**Project Planning and Design Guide**  
**July 2010**  
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## Construction Site BMPs

### Checklist CS-1, Part 4

<table>
<thead>
<tr>
<th>Prepared by</th>
<th>Date</th>
<th>District-Or-Route</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Project ID (or EA)</th>
<th>RWGCB</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Wind Erosion Controls

#### Wind Erosion Control (WE-1)

1. Is the project located in an area where standard dust control practices in accordance with Standard Specifications, Section 10: Dust Control, are anticipated to be inadequate during construction to prevent the transport of dust onto the project? (Note: Just cover by water, rain or sprinkler is not for purposes the various items of work. Dust palliative, if it is included, is paid for as a separate item.)
   - Yes  ☐  No ☐
   - Complete ☐

- Select SS-3 (Hydraulic Mulch), SS-4 (Hydromulching), SS-5 (Soil Binders), SS-7 (Geotextiles, Mats, Plastic Covers, and Erosion Control Blankets), SS-8 (Wind Mulching) or a combination to cover the SSA subject to wind erosion year-round, especially when significant wind and dry conditions are anticipated during project construction. (Coordinate with District Construction for selection and preference of wind erosion control BMPs.)
   - Complete ☐

- Designate as a separate contract bid line item.
   - Complete ☐
## Construction Site BMP Consideration Form

<table>
<thead>
<tr>
<th>NO.</th>
<th>CRITERIA</th>
<th>YES</th>
<th>NO</th>
<th>SUPPLEMENTAL INFORMATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.</td>
<td>Is dewatering anticipated or will construction activities occur within or adjacent to a live channel or stream?</td>
<td></td>
<td></td>
<td>If Yes, Construction Site BMPs for Non-Storm Water Management (NS) will be required. Complete CS-1, Part 5. Continue to 6.</td>
</tr>
<tr>
<td>6.</td>
<td>Will construction include saw-cutting, grinding, drilling, concrete or mortar mixing, hydro-demolition, blasting, sandblasting, painting, paving, or other activities that produce residues?</td>
<td></td>
<td></td>
<td>If Yes, Construction Site BMPs for Non-Storm Water Management (NS) will be required. Complete CS-1, Parts 5 &amp; 6. Continue to 7.</td>
</tr>
<tr>
<td>7.</td>
<td>Are stockpiles of soil, construction related materials, and/or wastes anticipated?</td>
<td></td>
<td></td>
<td>If Yes, Construction Site BMPs for Waste Management and Materials Pollution Control (WM) will be required. Complete CS-1, Part 6. Continue to 8.</td>
</tr>
<tr>
<td>8.</td>
<td>Is there a potential for construction related materials and wastes to have direct contact with precipitation; stormwater run-on, or stormwater runoff, be dispersed by wind; be dumped and/or spilled into storm drain systems?</td>
<td></td>
<td></td>
<td>If Yes, Construction Site BMPs for Waste Management and Materials Pollution Control (WM) will be required. Complete CS-1, Part 6. Continue to 9.</td>
</tr>
</tbody>
</table>

Last 4 Questions formulate the Non-Stormwater and Waste Management Strategy
Would inclusion of WM and NS BMPs be complex, thus necessitating applicable CS-1 checklists?

<table>
<thead>
<tr>
<th>Description</th>
<th>Complex</th>
<th>Simple</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bridge retrofit, 250 ft. span</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>New clover leaf interchange</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Expand culvert and re-grade ditch, summer construction</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Overlay of a roadway surface</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Placement of 4 maintenance vehicle pullouts.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Landscape planting of interchange</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>Install traffic signals, control box, and loop detectors</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Note: Be sure to coordinate with Construction.
Non-Storm Water Management

Temporary Stream Crossing (NS-4) & Clear Water Diversion (NS-5)

1. Will construction activities occur within a waterbody or watercourse such as a lake, wetland, or stream? (Coordinate with District Construction for selection and preference for stream crossing and clear water diversion BMPs.)
   - Yes
   - No
   - Complete

(a) Select from types offered in NS-4 (Temporary Stream Crossing) to provide access through watercourses consistent with permits and agreements.¹

(b) Select from types offered in NS-5 (Clear Water Diversion) to divert watercourse consistent with permits and agreements.¹

(c) Designate as a separate contract bid line item(s).
   - Complete

¹ Coordinate with District Environmental for consistency with US Army Corps of Engineers 404 and 401 permits and Dept. of Fish and Game 1602 Streambed Alteration Agreements.
Warning!
If you pick any of these BMPs, then be sure they are accounted for in the BEES, either as a separate line item or within SSP 07-346.

(a) With the anticipated construction activity and select the corresponding BMP such as NS-1 (Water Conservation Practices), NS-2 (Dewatering Operations), NS-3 (Paving and Grinding Operations), NS-7 (Potable Water/Irrigation), NS-8 (Vehicle and Equipment Cleaning), NS-9 (Vehicle and Equipment Fueling), NS-10 (Vehicle and Equipment Maintenance), NS-11 (Pile Driving Operations), NS-12 (Concrete Curing), NS-13 (Material and Equipment Use Over Water), NS-14 (Concrete Finishing), and NS-15 (Structure Demolition/Removal Over or Adjacent to Water).

(b) Verify that costs for non-stormwater management BMPs are identified in the contract documents. Designate BMP as a separate contract bid line item if the requirements in Construction Site Management (SSP 07-346) are anticipated to be inadequate or if requested by Construction.
APPENDIX E

Checklist CS-1, Part 6

Construction Site BMPs

Prepared by: ______________________  Date: __________  District Co-Route: __________
PM: ______________________  Project ID (or EA#): __________  RWQCB: __________

Waste Management & Materials Pollution Control

Concrete Waste Management (WM-8)
1. Does the project include concrete placement or mortar mixing?
   - Yes
   - No

(a) Select from types offered in WM-8 (Concrete Waste Management) to provide
    concrete washout facilities. In addition, consider portable concrete washouts
    and vendor supplied concrete waste management services. (Coordinate with
    District Construction for selection and preference of waste management and
    materials pollution control BMPs.)

(b) Designate as a separate contract bid line item if the quantity of concrete
    waste and washout are anticipated to exceed 50 yd³ or if requested by
    Construction.

Other Waste Management and Materials Pollution Controls
2. Are construction activities anticipated that will generate wastes or residues with
   the potential to discharge pollutants?
   - Yes
   - No

(a) Identify potential pollutants associated with the anticipated construction
    activity and select the corresponding BMP, such as WM-1 (Material Delivery
    and Storage), WM-2 (Material Use), WM-4 (Soil Prevention and Control),
    WM-5 (Solid Waste Management), WM-6 (Hazardous Waste Management),
    WM-7 (Contaminated Site Management), WM-9 (Sanitary/Septic Waste
    Management), and WM-10 (Liquid Waste Management).

(b) Verify that costs for waste management and materials pollution control BMPs
    are identified in the contract documents. Designate BMP as a separate
    contract bid line item if the requirements in Construction Site Management
    (BMP 07-344) are anticipated to be inadequate or if requested by
    Construction.

Temporary Stormwater Sediment and Materials
3. Are stockpiles of soil, etc. anticipated during construction?
   - Yes
   - No

(a) Select WM-3 (Stockpile Management), SS-3 (Hydraulic Model), SS-4
    (Hydraulic Analysis), SS-5 (Soil Slopes), SS-7 (Geosynthetic Mats, Plastic
    Covers, and Erosion Control Blankets), or a combination as appropriate to cover
    temporary stockpiles of soil, etc.
Section 2.0 Short Form

Section 6.0 Long Form

1. WPCP or SWPPP?
   • Water Pollution Control Program
   • Storm Water Pollution Prevention Plan
   • Or Rainfall Erosivity Waiver (waives SWPPP)

2. Risk level and required monitoring

3. Construction site BMPs
   • Lump sum or bid line item
   • Estimating strategy
   • Concurrence from Construction group
CONSTRUCTION SITE BMP COST ESTIMATION METHODS

Table F1 and F2 of the PPDG

<table>
<thead>
<tr>
<th>Project Process</th>
<th>Option</th>
<th>Documentation</th>
</tr>
</thead>
<tbody>
<tr>
<td>PID</td>
<td>Percent of Total Project Cost or Historical Project Information</td>
<td>Storm Water Data Report (SWDR) / Project Planning Cost Estimate (PPCE)</td>
</tr>
<tr>
<td>PA/ED</td>
<td>Historical Project Information Estimated Unit Cost Sample or Actual Unit Cost</td>
<td>Updated PPCE</td>
</tr>
<tr>
<td>PS&amp;E</td>
<td>Estimated Unit Cost Sample or Actual Unit Cost</td>
<td>Preliminary Engineer’s Cost Estimate (PECE)</td>
</tr>
</tbody>
</table>
Acceptable SWDRs?

HANDOUT #5
Acceptable for Short Form SWDR – PID level?

2. Construction Site BMPs

The project requires a Storm Water Pollution Prevention Plan (SWPPP) be prepared because the total disturbed soil area is greater than 1 acre as stated in Section 3 of the Caltrans SWPPP/WPCP Preparations Manual.

Temporary Construction Site BMP’s included as bid items and agreed to by Designated Construction Representative, on 12-19-08 and 1-8-09 are:

- Prepare SWPPP ($5,000)
- Construction Site Management ($6,000)
- Supplemental Water Pollution Control ($2,000)

- Define risk level and associated monitoring.

- If BMP strategy is simple, then describe it.
- Costs should not be described.
Acceptable for Long Form SWDR – PA/ED level?

6. Describe Proposed Temporary Construction Site BMPs to be used on Project

Construction BMPs should include: planning and scheduling to ensure the majority of the construction takes place during the non-rainy season (May through July and October), implementation of erosion control such as fiber matrices and hydraulic mulch to protect graded slopes, and the usage of sediment control devices such as silt fences and fiber rolls to prevent sediment pollution. These devices should remain in place until construction is complete and there is no potential for erosion and sediment transportation.

- Construction Site BMPs that have been designated as separate Bid Line Items include: Hydraulic Mulch; Fiber Rolls; Street Sweeping; Concrete Washout Facilities; Drainage Inlet Protection; and Silt Fences.

- Preliminary quantities and unit costs for each Construction Site BMP were determined based on the project length, steepness of slopes, disturbed soil areas, concrete quantities, proposed/existing drainage facilities, and temporary impact areas. The temporary construction site BMP costs are detailed in the table below:
<table>
<thead>
<tr>
<th>Specialty Items</th>
<th>Quantity</th>
<th>Rate</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fiber Rolls</td>
<td>16,600 m</td>
<td>$15/m</td>
<td>$249,000</td>
</tr>
<tr>
<td>Prepare Storm Water Pollution Prevention Plan</td>
<td>LS</td>
<td>$10,000</td>
<td>$10,000</td>
</tr>
<tr>
<td>Construction Site Management</td>
<td>LS</td>
<td>$80,000</td>
<td>$80,000</td>
</tr>
<tr>
<td>Temporary Hydraulic Mulch (Polymer Stabilized Fiber Matrix)</td>
<td>32,400 m²</td>
<td>$1.00/m²</td>
<td>$32,400</td>
</tr>
<tr>
<td>Temporary Construction Entrance/Exit</td>
<td>10</td>
<td>$4,000/EA</td>
<td>$40,000</td>
</tr>
<tr>
<td>Temporary Concrete Washout Facility</td>
<td>11</td>
<td>$5,000/EA</td>
<td>$55,000</td>
</tr>
<tr>
<td>Temporary Drainage Inlet Protection</td>
<td>60</td>
<td>$500/EA</td>
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<tr>
<td>Temporary Fiber Roll</td>
<td>16,600 m</td>
<td>$15/m</td>
<td>$249,000</td>
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<td>Temporary Silt Fence</td>
<td>7,800 m</td>
<td>$15/m</td>
<td>$117,000</td>
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<td>Move in/Move Out (Temporary Erosion Control)</td>
<td>10</td>
<td>$500/EA</td>
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<td>Street Sweeping</td>
<td>LS</td>
<td>$50,000</td>
<td>$50,000</td>
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<td>Water Pollution Control Maintenance Sharing</td>
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<td>$30,000</td>
<td>$30,000</td>
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<tr>
<td>Additional Water Pollution Control</td>
<td>LS</td>
<td>$50,000</td>
<td>$50,000</td>
</tr>
<tr>
<td>Storm Water Sampling and Analysis</td>
<td>LS</td>
<td>$45,000</td>
<td>$45,000</td>
</tr>
</tbody>
</table>

**TOTAL COST: $1,042,400**

**TOTAL: $2,905,400**
Example SWDR CS-BMP Narratives

HANDOUT #6
2. Construction Site BMPs

This project has no disturbed soil area, and therefore will require a Water Pollution Control Program rather than a Storm Water Pollution Prevention Plan. Because there is no disturbed soil area, the project is also exempt from the Construction General Permit and associated risk assessment.

Because there is no disturbed soil area, no erosion control is anticipated to be required. Only general housekeeping tasks are anticipated to be necessary. The Construction Site Management and Additional Water Pollution Control items are anticipated to cover the cost of all Construction Site Best Management Practices (BMPs). The BMP costs for this Project are estimated based on the “Percent of Total Cost Method” presented in Appendix F.6.1 of the Caltrans Project Planning and Design Guide.

A coordination meeting with the Caltrans Water Coordinator will be held during later phases of the Project.
2. Construction Site BMPs

This project has no disturbed soil area, and therefore will require a Water Pollution Control Program rather than a Storm Water Pollution Prevention Plan. Because there is no disturbed soil area, the project is exempt from the Construction General Permit and associated risk assessment.

Because there is no disturbed soil area, no erosion control is required, and the Construction Site Management and Pollution Control items are anticipated to cover the cost of all Construction Site tasks anticipated. The contractor shall be responsible for the disposal of wastes in accordance with Section 7-1.13 of the State Standard Specifications.

Presently, this project will not require any equipment/staging areas. However, if the contractor requires such areas, the Caltrans Standard Special Provisions (SSPs), Section 5.1, indicates that the contractor will be responsible for securing locations for staging and storage to be approved by the Resident Engineer.

The BMP costs for this Project are estimated based on the “Unit Costs” method presented in Appendix F.6.3 of the Caltrans Project Planning and Design Guide. Quantities are shown below, and the estimate is included in the supplemental Attachments.
Concurrence to exclusively use these items was obtained during a meeting with William Alexander, the Caltrans Construction Storm Water Coordinator, on September 15, 2010. Mr. Alexander gave verbal concurrence to the project engineer and project manager, and this is documented in the meeting minutes.
6. Proposed Temporary Construction Site BMPs to Be Used on Project

The project is scheduled to cover approximately two years. Whenever possible, the scheduling of earth-disturbing construction activities should not be made during anticipated rain events. To mitigate any potential runoff or run-on within the project area, construction site BMPs should be installed prior to the start of construction.

Disturbed soil areas (DSAs) will be protected in accordance with the project’s pollution control measures. Measures that are to be considered for this project are shown below and will be detailed during the design phase:

- Soil Stabilization Measures
- Sediment Control Measures
- Tracking Control
- Non-stormwater Management Measures
- General Construction Site Management
- Stormwater Sampling and Analysis

Soil stabilization and sediment control include placing linear sediment barriers such as silt fence at the toe of all excavation and embankment slopes. Contour grading of slopes shall include surface roughening by walking the slopes with tracked equipment. Immediately thereafter, slope interruption devices such as fiber rolls shall be installed and soil stabilizer shall be hydraulically applied. Wherever possible, early implementation of permanent erosion control seeding or landscape planting shall be performed.

There are riparian areas adjacent to creeks that will be designated as ESAs and protected with temporary high visibility fencing. Construction within the creek channels is anticipated, so temporary stream crossings and clear water diversions shall be considered to protect water quality; details for these systems will be developed during the design phase.

Concrete work is anticipated for this project and shall be managed through the use of temporary concrete washout bins.

Storm drain inlet protection shall be deployed throughout the project.
Various waste management, materials handling, and other housekeeping BMPs shall be used throughout the duration of the project. Stockpiles of various kinds are anticipated and shall be maintained with the appropriate BMPs.

The project includes work on bridges for widening, and the project team may propose upsizing or extending cross culverts. Some of these waterways are perennial and may need dewatering operations or temporary creek diversions during construction to protect water quality. A dewatering permit from the RWQCB will be needed for proposed work near these perennial waterways. Dewatering for retaining wall footings or pilings may also be needed.

The project has medium wind erosion potential. Off-site tracking of sediment shall be limited by using stabilized construction entrances and roadways in combination with regular street sweeping and vacuuming. Locations of tracking control BMPs will be considered during the design phase.

It is not anticipated that active treatment systems will be necessary for this project. Further consideration will be made during the design phase.

At this phase of the project, a general lump sum for construction site BMPs is calculated using the Percent of Total Project Cost Method per Appendix F of the PPDG.

**Storm Water Sampling and Analysis**

This project is required to perform stormwater sampling at all discharge locations. Numeric Action Levels and Numeric Effluent Limitations are applicable to this project because the project is Risk Level 3. The required specifications will be prepared during the design phase included in the project Special Provisions.

This project is required to incorporate bioassessment monitoring for impaired receiving waters. Bioassessment monitoring is required both upstream and downstream of the impacted areas, before and after the project.

**Construction BMP Strategy**

- Waste management
- Dewatering needed
- Wind erosion
- ATS not needed
- Total Project Cost Estimate Method

**SW Sampling and Analysis**

- Risk level 3 Monitoring
- Bioassessment required
6. Proposed Temporary Construction Site BMPs to Be Used on Project

As presented in Section 2 of this Report, this project is classified as Risk Level 3. This section presents the temporary construction site BMP strategy to be implemented for this project to meet both current Caltrans criteria and the requirements presented in the CGP.

The Caltrans Construction Stormwater Coordinator has reviewed and approved the BMP approach and specifications for this project on October 5, 2010.

**Storm Water Pollution Prevention Plan**

The project has a DSA of 411.7 acres. Because this project disturbs more than one acre of soil, a Storm Water Pollution Prevention Plan (SWPPP) must be submitted for this project by the Contractor prior to the start of construction. The SWPPP include a Construction Site Monitoring Program (CSMP) that presents procedures and methods related to the visual monitoring and sampling and analysis plans for non-visible pollutants, sediment and turbidity, pH, and receiving waters.

**Rain Event Action Plan**

Risk Level 3 projects are required to prepare a Rain Event Action Plan (REAP). The number of REAPs anticipated for this Project is shown in Table 3. The quantities for REAPs are based on precipitation data from a National Oceanic and Atmospheric Administration station in Gilroy. Calculations are included in the attachments of this report.

- General
- RL 3

**SWPPP Details**

- DSA
- QSP/QSD requirements
- REAP
### Temporary Construction Site BMPs

<table>
<thead>
<tr>
<th>ID</th>
<th>BEES</th>
<th>Temporary BMPs - PPDG Appendix C</th>
<th>SSD/nSSD (#, Y or N)</th>
<th>STD. Det. (Y or N)</th>
<th>Quantity</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS-1</td>
<td>074037</td>
<td>Move-In/Move-out (Temporary Erosion Control)</td>
<td>07-485</td>
<td>No</td>
<td>12</td>
<td>EA</td>
</tr>
<tr>
<td>SS-2</td>
<td>071325</td>
<td>Temporary Fence (Type ESA)</td>
<td>07-446</td>
<td>Yes</td>
<td>45,000</td>
<td>LF</td>
</tr>
<tr>
<td>SS-3</td>
<td>074040</td>
<td>Temp. Hydraulic Mulch (Bonded Fiber Matrix)</td>
<td>07-381</td>
<td>No</td>
<td>30,000</td>
<td>SQYD</td>
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<tr>
<td>SS-7</td>
<td>074034</td>
<td>Temporary Cover</td>
<td>07-395</td>
<td>Yes</td>
<td>15,000</td>
<td>SQYD</td>
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**Subtotal Soil Stabilization BMPs**

<table>
<thead>
<tr>
<th>ID</th>
<th>BEES</th>
<th>Temporary Sediment Control</th>
<th>SSD/nSSD (#, Y or N)</th>
<th>STD. Det. (Y or N)</th>
<th>Quantity</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>SC-1</td>
<td>074029</td>
<td>Temp. Silt Fence</td>
<td>07-430</td>
<td>Yes</td>
<td>67,000</td>
<td>LF</td>
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<tr>
<td>SC-5</td>
<td>074028</td>
<td>Temporary Fiber Roll</td>
<td>07-420</td>
<td>Yes</td>
<td>8,000</td>
<td>LF</td>
</tr>
<tr>
<td>SC-7</td>
<td>074041</td>
<td>Street Sweeping</td>
<td>07-360</td>
<td>No</td>
<td>1</td>
<td>LS</td>
</tr>
<tr>
<td>SC-10</td>
<td>074038</td>
<td>Temp. Drainage Inlet Protection</td>
<td>07-490</td>
<td>Yes</td>
<td>200</td>
<td>EA</td>
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**Subtotal Sediment Control BMPs**

<table>
<thead>
<tr>
<th>ID</th>
<th>BEES</th>
<th>Temporary Tracking Control</th>
<th>SSD/nSSD (#, Y or N)</th>
<th>STD. Det. (Y or N)</th>
<th>Quantity</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>TC-1</td>
<td>074033</td>
<td>Temp. Construction Entrance</td>
<td>07-480</td>
<td>Yes</td>
<td>50</td>
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**Subtotal Tracking Control BMPs**

<table>
<thead>
<tr>
<th>ID</th>
<th>BEES</th>
<th>Temporary Waste Management Control</th>
<th>SSD/nSSD (#, Y or N)</th>
<th>STD. Det. (Y or N)</th>
<th>Quantity</th>
<th>Unit</th>
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</thead>
<tbody>
<tr>
<td>WM-1</td>
<td>CSM*</td>
<td>Material Delivery and Storage</td>
<td>07-346</td>
<td>No</td>
<td>LS</td>
<td></td>
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<tr>
<td>WM-2</td>
<td>CSM*</td>
<td>Material Use</td>
<td>07-346</td>
<td>No</td>
<td>LS</td>
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<td>WM-3</td>
<td>CSM*</td>
<td>Stockpile Management</td>
<td>07-346</td>
<td>No</td>
<td>LS</td>
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<tr>
<td>WM-4</td>
<td>CSM*</td>
<td>Spill Prevention and Control</td>
<td>07-346</td>
<td>No</td>
<td>LS</td>
<td></td>
</tr>
<tr>
<td>WM-5</td>
<td>CSM*</td>
<td>Solid Waste Management</td>
<td>07-346</td>
<td>No</td>
<td>LS</td>
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<tr>
<td>WM-6</td>
<td>CSM*</td>
<td>Hazardous Waste Management</td>
<td>07-346</td>
<td>No</td>
<td>LS</td>
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<tr>
<td>WM-7</td>
<td>CSM*</td>
<td>Contaminated Soil Management</td>
<td>07-346</td>
<td>No</td>
<td>LS</td>
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<tr>
<td>WM-8</td>
<td>074043</td>
<td>Temp. Concrete Washout Bin</td>
<td>07-047</td>
<td>No</td>
<td>15</td>
<td>EA</td>
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<tr>
<td>WM-9</td>
<td>CSM*</td>
<td>Sanitary/Septic Waste Management</td>
<td>07-346</td>
<td>No</td>
<td>LS</td>
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<tr>
<td>WM-10</td>
<td>CSM*</td>
<td>Liquid Waste Management</td>
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<td>No</td>
<td>LS</td>
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</tr>
</tbody>
</table>

**Subtotal Waste Management & Materials Handling BMPs**

### Estimate Notables
- Move-in / Move-out
- Street Sweeping
- Temp. Const. Entrance

### Waste Management
- Notice Temp. Concrete Washout SSP and quantity
**Example SWDR – Long Form – PS&E**

<table>
<thead>
<tr>
<th>ID</th>
<th>BEES</th>
<th>Temporary Non-Storm Water Management</th>
<th>SSP/nSSP</th>
<th>STD. Det. (Y or N)</th>
<th>Quantity</th>
<th>Unit</th>
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<tbody>
<tr>
<td>NS-1</td>
<td>CSM*</td>
<td>Water Conservation Practices</td>
<td>07-346</td>
<td>No</td>
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<tr>
<td>NS-2</td>
<td>CSM*</td>
<td>Dewatering Operations</td>
<td>07-341</td>
<td>No</td>
<td>LS</td>
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<tr>
<td>NS-3</td>
<td>CSM*</td>
<td>Paving &amp; Grinding Operations</td>
<td>07-346</td>
<td>No</td>
<td>LS</td>
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</tr>
<tr>
<td>NS-4</td>
<td></td>
<td>Temporary Stream Crossing</td>
<td>07-495</td>
<td>No</td>
<td>LS</td>
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<tr>
<td>NS-5</td>
<td></td>
<td>Clear Water Diversion</td>
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<td>No</td>
<td>LS</td>
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<tr>
<td>NS-6</td>
<td>CSM*</td>
<td>Illicit Connection/Illegal Discharge Detection and Reporting</td>
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<td>No</td>
<td>LS</td>
<td></td>
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<tr>
<td>NS-7</td>
<td>CSM*</td>
<td>Potable Water/Irrigation</td>
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<td>No</td>
<td>LS</td>
<td></td>
</tr>
<tr>
<td>NS-8</td>
<td>CSM*</td>
<td>Vehicle and Equipment Cleaning</td>
<td>07-346</td>
<td>No</td>
<td>LS</td>
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</tr>
<tr>
<td>NS-9</td>
<td>CSM*</td>
<td>Vehicle and Equipment Fueling</td>
<td>07-346</td>
<td>No</td>
<td>LS</td>
<td></td>
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<tr>
<td>NS-10</td>
<td>CSM*</td>
<td>Vehicle and Equipment Maintenance</td>
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<tr>
<td>NS-11</td>
<td>CSM*</td>
<td>Pile Driving Operations</td>
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<td>Concrete Curing</td>
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<tr>
<td>NS-13</td>
<td>CSM*</td>
<td>Material &amp; Equipment use over water</td>
<td>07-346</td>
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<td>LS</td>
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<tr>
<td>NS-14</td>
<td>CSM*</td>
<td>Concrete Finishing</td>
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<td>LS</td>
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<tr>
<td>NS-15</td>
<td>CSM*</td>
<td>Structure Demolition/Removal Over or Adjacent to Water</td>
<td>07-346</td>
<td>No</td>
<td>LS</td>
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<td>NS-16</td>
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<td>Temporary Batch Plants</td>
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<tr>
<td>CSM*</td>
<td></td>
<td>Construction Site Management</td>
<td>07-346</td>
<td>No</td>
<td>1</td>
<td>LS</td>
</tr>
</tbody>
</table>

**Subtotal Non-Storm Water Management**

**Soil Stabilization Measures**

The following soil stabilization measures are considered for this project and are included as separate bid line items in the Basic Engineering Estimating System (BEES) of this project:

- Temporary Move-In/Move-Out (Erosion Control)
- Temporary Mulch (Bonded Fiber Matrix)
- Temporary Cover
- Temporary Fence (Type ESA)

Because construction is scheduled over approximately two years and the DSA is greater than 25 acres, Move-In/Move-Out locations are used to implement temporary erosion control and construction site measures throughout the project.

Temporary mulch (bonded fiber matrix) is placed on any exposed disturbed soils, stockpiles of soils and unprotected slopes that may be susceptible to erosion from either runoff or wind. Temporary Cover is also used to protect disturbed soil areas from erosion. This additional measure to protect disturbed soil areas is necessary, when a rain event has the potential to occur before vegetation is established. Locations of potential stockpiles were discussed with the Construction Resident Engineer on October 3, 2010.

There are identified ESAs within the project limits. Temporary fence (Type ESA) is specifically designed to designate an area as being outside the limits of work.

**Estimate Notables**

- 07-346 – Const. Site Mgmt.
- Temp. Stream Crossing

**Soil Stabilization**

- Relevant BMPs
- Duration of coverage
- Supportive calcs.

May 6, 2011– Slide 138

CS BMPs
Construction Site Management

The project Construction Site Management lump sum consists of controlling potential sources of water pollution before they enter stormwater systems or water courses. The measures covered under Construction Site Management are specified in Project Special Provisions.

Storm Water Sampling and Analysis

This project is required to perform stormwater sampling at all discharge locations. Numeric Action Levels and Numeric Effluent Limitations are applicable to this project because the project is Risk Level 3. Storm water sampling and analysis requirements are specified in the Project Special Provisions. This project is required to incorporate bioassessment monitoring for impaired receiving waters. Bioassessment monitoring is required both upstream and downstream of the impacted areas, before and after the project; these requirements are specified in the Project Special Provisions.

Const. Site Management

- Reflects items in quantity table
- Broken down between waste management and non-storm

Sampling and Analysis

- Quantifies number of anticipated storms?
SWDR – Long Form

Section 7 Maintenance BMPs
Briefly describe the use of stencils at publicly accessible drainage as follows:

- Park and Ride Lots.
- Rest Areas.
- Vista Points.
- Bike Paths.
- Maintenance Facilities
- Roads and streets of Phase 2 and Phase 1 MS4s.
Other considerations

- Sect. 2.4.4. and page 2-25

Other BMPs exist, but are installed based on public need or desires of the Maintenance Area Manager in line with the project scope and budget. These BMPs might include the installation of call boxes, anti-littering signage or measures, stabilized access points, vehicle pullouts, temporary material and waste storage locations, etc.
Acceptable for SWDR at PID, PA/ED, or PS&E?

7. Maintenance BMPs (Drain Inlet Stenciling)

Drain inlet stenciling is required

7. Maintenance BMPs (Drain Inlet Stenciling)

A meeting was held on 9/1/10 to coordinate the maintenance BMPs and concerns for this project with the District Maintenance Stormwater Coordinator (MSWC) Paul Revere. Topics discussed included protection of existing inlets, drain inlet stenciling, and the permanent erosion control strategy for the site. Drain inlet stenciling is not required as determined by the District MSWC. Final concurrence on the implementation strategy was obtained from Paul Revere via email to Betsy Ross on 9/30/10.
Long Form SWDR

Required Attachments
MAIN IDEAS FOR THIS SECTION

WHAT’S NEW:
- RUSLE2 Summary Sheet
- Risk Level Determination
- Rainfall Erosivity Waiver, if applicable
- Treatment BMP summary spreadsheets-new format

WHAT CAN BE IMPROVED:
- Vicinity maps
- Initials on EDFs (at all phases)
- Initials on Construction Site BMP Strategy Form (at PS&E phase)
Long Form – Required Attachments

• Vicinity Map
• Evaluation Documentation form (EDF)
• Risk Level Determination

REQUIRED AT PS&E ONLY

• Construction Site BMP Consideration Form
• Quantities for Construction Site BMPs
• RUSLE2 Summary Sheet (if applicable)
• Treatment BMP Summary Spreadsheet (if applicable)
• Rainfall Erosivity Waiver (if applicable)
Long Form Attachments

Vicinity Map
Key Labels:
- Begin and End Post Mile (PM)
- Major Roadways
- Stream Crossings
- Receiving Water Bodies
You may use the Title Sheet as the Vicinity Map at PS&E
### APPENDIX E

**Evaluation Documentation Form**

<table>
<thead>
<tr>
<th>NO.</th>
<th>CRITERIA</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Bag's Project Evaluation regarding requirement for consideration of Permanent Treatment BMPs.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Is this an emergency project?</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>3.</td>
<td>Have TMDLs or other Pollution Control Requirements been established for surface waters within the project limits? Information provided in the water quality assessment or equivalent document.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Is the project located within an area of a local MNP4 Permittee?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Has the project already or ordinarily discharging to surface waters?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Is a new facility or major reconstruction?</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>7.</td>
<td>Will there be a change in land use or hydrologic function?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>Does the project result in significant increase of one area or more of non-point source pollution?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>Project is subject to treatment approved Treatment BMPs.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>Project is not required to consider Permanent Treatment BMPs.</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

**Supplemental Information for Evaluation**

- If Yes, contact the District/Regional TMDL Coordinator to discuss the project's obligations under the TMDL, if applicable or initiate enforcement requirements, go to 9 or 4.
- If No, continue to 4.
- If No, continue to 9.
- If No, document in CDR.
- If No, continue to 9.
- If No, document in SWDR.
- If No, document in CDR.
- If No, document in SWDR.

---

**Don't forget:**

- Initials at each phase

EDF (covered earlier)
## Construction Site BMP Consideration Form

### APPENDIX E

**Construction Site BMP Consideration Form**

**DATE:** Dec. 2009

**Project ID (or EA):** X

### Project Evaluation Process for the Consideration of Construction Site BMPs

<table>
<thead>
<tr>
<th>No.</th>
<th>CRITERIA</th>
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<th>NO</th>
<th>SUPPLEMENTAL INFORMATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Will construction of the project result in areas of disturbed soil as defined by the Regional Planning and Design Guide (RPD)?</td>
<td>X</td>
<td></td>
<td>If Yes, Construction Site BMPs for Soil Stabilization (SS) will be required. Complete CS-1, Part 1. Continue to 2. If No, Continue to 3.</td>
</tr>
<tr>
<td>2.</td>
<td>Is there a potential for disturbed soil, within or adjacent to storm drain inlets, drainage ditches, areas outside the right-of-way, etc.?</td>
<td>X</td>
<td></td>
<td>If Yes, Construction Site BMPs for Sediment Control (SC) will be required. Complete CS-1, Part 2. Continue to 3.</td>
</tr>
<tr>
<td>3.</td>
<td>Is there a potential for sediment or construction related materials and waste to be tracked offsite and deposited on private or public paved roads by construction vehicles and equipment?</td>
<td>X</td>
<td></td>
<td>If Yes, Construction Site BMPs for Pedestrian Control (PC) will be required. Complete CS-1, Part 3. Continue to 4.</td>
</tr>
<tr>
<td>4.</td>
<td>Is there a potential for vehicles transporting soil and debris to enter existing storm drains or other areas of disturbed soil?</td>
<td>X</td>
<td></td>
<td>If Yes, Construction Site BMPs for Vehicle Containment (VC) will be required. Complete CS-1, Part 4. Continue to 5.</td>
</tr>
<tr>
<td>5.</td>
<td>Is de-watering, de-watering or will construction activities result in or affect a lake channel or stream?</td>
<td>X</td>
<td></td>
<td>If Yes, Construction Site BMPs for Non-Storm Water Management (NS) will be required. Complete CS-1, Part 5. Continue to 6.</td>
</tr>
<tr>
<td>6.</td>
<td>Will construction include saw-cutting, grinding, drilling, concrete or mortar mixing, system demolition, heating, sandblasting, painting, welding, or other activities that produce noise?</td>
<td>X</td>
<td></td>
<td>If Yes, Construction Site BMPs for Noise Management and Materials Pollution Control (NP) will be required. Complete CS-1, Part 6. Continue to 7.</td>
</tr>
<tr>
<td>7.</td>
<td>Are dredging of soil, construction related materials, and/or wastes anticipated?</td>
<td>X</td>
<td></td>
<td>If Yes, Construction Site BMPs for Noise Management and Materials Pollution Control (NP) will be required. Complete CS-1, Part 7. Continue to 8.</td>
</tr>
<tr>
<td>8.</td>
<td>Is there a potential for construction related materials and waste to have direct contact with precipitation, stormwater, or non-construction runoff or be deposited by wind?</td>
<td>X</td>
<td></td>
<td>If Yes, Construction Site BMPs for Sediment Control (SC) will be required. Complete CS-1, Part 8. Continue to 9.</td>
</tr>
<tr>
<td>9.</td>
<td>End of checklist.</td>
<td>X</td>
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<td>Document for Project File by completing this form and attaching it to the SWDR.</td>
</tr>
</tbody>
</table>

---

**Don’t forget:**

PE Initials at PS&E & date!

---

**May 6, 2011 – Slide 151**

**LF Attach.**
RUSLE2 Summary Sheet

- Screen shots, summary of assumptions, and outputs
- For pre-construction, construction, and post-construction conditions

http://www.dot.ca.gov/hq/oppd/stormwtr/rusle2.htm
Long Form Attachments

Treatment BMP Summary Spreadsheet

- Report Date
- District EA, County, Route, Beg PM, and End PM
- Description, Phase, and Type of SWDR
- Exempt, SWPPP or WPCP
- Added Impervious, % Treated
- MS4 Area, Water Bodies Affected
- Type of Treatment and quantity
- Construction Start and Construction Completion

![Spreadsheet Image]
Storm Water Management

The Office of Storm Water Management — Design (OSWMD) has the following duties:

Coordination: In coordination with the Water Quality Program, the OSWMD provides general guidance to the District Design Divisions on the implementation of Storm Water quality management practices. This is accomplished by conducting regular Project Design - Storm Water Advisory Team meetings, and by preparing, disseminating guidance material such as the Project Planning and Design Guide (PPDG).

Program Evaluation: The OSWMD monitors and assesses District incorporation of storm water quality BMPs into facility designs. This will be accomplished by the Design Compliance Monitoring Program that is currently under development. The main element of Design Compliance is the implementation of the Data Report (SWDR).

Staff

Tim Sobelman (916) 553-5747
Sean Perders (916) 553-5588

Task Orders

Treatment

Maintenance

Treatment BMP Tracking

Process Policy

BMP Pilot Projects

SWDR Tracking User Guide

External Links

Construction Site BMPs

Treatment BMPs

Poor BMP Examples
Long Form Attachments

Treatment BMP Summary

- List all TBMP locations
- Route and direction from road
- Beginning and ending Station/PM

Existing features can be considered as Treatment BMPs…

- Features must meet guidelines, regardless of design intent
- Needs SW Coordinator and Project Team concurrence

Biofiltration Strips

| County | Route Side | Station/PM | LF | LP | LF
|--------|------------|------------|----|----|----
| Son 101 | NB | 413+20 | 7.82 | 424+90 | 8.04 |
| Son 101 | NB | 425+70 | 8.06 | 432+54 | 8.19 |
| Son 101 | NB | 442+50 | 8.38 | 451+70 | 8.55 |
| Son 101 | NB | 455+00 | 8.61 | 471+49 | 8.93 |
| Son 101 | SB | 376+70 | 7.13 | 381+55 | 7.22 |
| Son 101 | SB | 381+80 | 7.23 | 386+57 | 7.32 |
| Son 101 | SB | 386+73 | 7.32 | 389+30 | 7.37 |
| Son 101 | SB | 389+30 | 7.37 | 393+05 | 7.44 |
| Son 101 | SB | 393+30 | 7.44 | 396+12 | 7.50 |
| Son 101 | SB | 425+59 | 8.06 | 432+00 | 8.18 |
Long Form SWDR

Supplemental Attachments
MAIN IDEAS FOR THIS SECTION

WHAT’S NEW:
• New CGP BEES items included in Storm Water BMP Cost Summary
  Estimating Guidance for CGP can be downloaded at http://www.dot.ca.gov/hq/oppd/stormwtr/
• Updated Checklists

WHAT CAN BE IMPROVED:
• Conceptual Drainage Map/Plan (if needed)
• BMP Deployment Plans
Supplemental Attachments (refer to E-12 & 13 for entire list)

- Storm Water BMP Cost Summary
- Plans showing BMP deployment
- Treatment BMP calculations/cross-sections
- 07-340 WPCP or 07-345 SWPPP (at PS&E, if requested by SW Coordinator)
- Drainage plans (or conceptual drainage map)

Already Covered:

- Correspondence with SW Coordinator

Already Covered in Long Form Sections:

- Relevant Checklists (updated in PPDG for 2010)
Long Form Supplemental Attachments

HANDOUT #7
# STORM WATER BMP COST SUMMARY

- **Temporary Construction Site BMP Costs**
  - Soil stabilization
  - Sediment control
  - Wind erosion control
  - Tracking control
  - Waste/materials management
  - Non-storm water management

- **Treatment BMP Costs**

- **DPP BMP Costs**

### Project Name:
- District: 04 & 05
- EA: XX-XXXXXX
- County: SCI & SBT
- Route: 101/25
- Postmile: 0.0, 4.9, 1.6
- End Postmile: 5.0, 7.5, 2.5

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<tr>
<th>Description</th>
<th>Cost</th>
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<tr>
<td>Total Design Pollution Prevention BMP Costs</td>
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<tr>
<td>Total Permanent Storm Water BMP Costs</td>
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<td>Subtotal Tracking Control BMPs</td>
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<td>Subtotal Waste Management &amp; Materials Handling BMPs</td>
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<td>Subtotal Non-Storm Water Management</td>
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### Storm Water BMP Cost Breakdown

#### Treatment & DPP BMPs

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<th>PPDG</th>
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<th>STD. Det. (Y or N)</th>
<th>Quantity</th>
<th>Unit</th>
<th>Unit Cost ($/Unit)</th>
<th>Cost ($)</th>
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<td>Biofiltration Swale</td>
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<td>204013</td>
<td>Plant (Group M)</td>
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<td>200101</td>
<td>Imported Topsoil</td>
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**Total Treatment BMP Costs**  $ 157,500

#### Design Pollution Prevention BMPs

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<th>PPDG</th>
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<th>STD. Det. (Y or N)</th>
<th>Quantity</th>
<th>Unit</th>
<th>Unit Cost ($/Unit)</th>
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<td>Downstream Effects/Increased Flow Mitigation</td>
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<td>705311</td>
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<td>721007</td>
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<td>190</td>
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<td>SQFT</td>
<td>0.25</td>
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<td>Rolled Erosion Control Product (Netting)</td>
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<td>204099</td>
<td>Plant Establishment Work</td>
<td>20-550</td>
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<td>Move-In/Move-Out Erosion Control</td>
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<td>No</td>
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<td>Concentrated Flow Conveyance</td>
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<td>Ditch Excavation</td>
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</tbody>
</table>

**Total Design Pollution Prevention BMP Costs**  $ 1,039,500

**Total Permanent Storm Water BMP Costs**  $ 1,197,000

---

**May 6, 2011 – Slide 162**
## Storm Water BMP Cost Breakdown:
### Temporary Construction Site BMP Costs

**Storm Water BMP Cost Summary**

**THIS INFORMATION IS FOR CALTRANS INTERNAL USE ONLY**

<table>
<thead>
<tr>
<th>ID</th>
<th>BEES</th>
<th>Temporary BMPs</th>
<th>SSP/nSSP (Y, Y or N)</th>
<th>STD. Det. (Y or N)</th>
<th>Quantity</th>
<th>Unit Cost ($/Unit)</th>
<th>Cost ($)</th>
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</thead>
<tbody>
<tr>
<td><strong>Total Construction Site BMPs</strong></td>
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<tr>
<td><strong>Total Soil Stabilization BMPs</strong></td>
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<td>SS-1</td>
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<td>Move-In/Move-out</td>
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<td>SS-2</td>
<td>071325</td>
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<td>07-446</td>
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<td>SS-3</td>
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<td>SS-7</td>
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<td>07-395</td>
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<td><strong>Total Sediment Control BMPs</strong></td>
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<td>Temp. Construction Entrance</td>
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<td><strong>Total Waste Management &amp; Materials Handling BMPs</strong></td>
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**Total Construction Site BMP Costs** $1,780,100

**Non-Storm Water Management**

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<th>STD. Det. (Y or N)</th>
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<td>NS-3</td>
<td>CSM*</td>
<td>Paving &amp; Grinding Operations</td>
<td>07-346</td>
<td>No</td>
<td>LS</td>
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<td>NS-4</td>
<td>CSM*</td>
<td>Temporary Stream Crossing</td>
<td>07-345</td>
<td>No</td>
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<td>NS-5</td>
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<td>07-346</td>
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<td>NS-6</td>
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<td>Illicit Connection/Illegal Discharge Detection and Reporting</td>
<td>07-346</td>
<td>No</td>
<td>LS</td>
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<td>NS-7</td>
<td>CSM*</td>
<td>Potable Water/Irrigation</td>
<td>07-346</td>
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<td>NS-8</td>
<td>CSM*</td>
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<td>07-346</td>
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<td>CSM*</td>
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<td>NS-10</td>
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<td>NS-11</td>
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<td>07-346</td>
<td>No</td>
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<td>NS-12</td>
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<td>07-346</td>
<td>No</td>
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<tr>
<td>NS-13</td>
<td>CSM*</td>
<td>Material &amp; Equipment use over water</td>
<td>07-346</td>
<td>No</td>
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<td>NS-14</td>
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<td>NS-15</td>
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<td>Structure demolition/Removal over or adjacent to water</td>
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<td>NS-16</td>
<td>LCM*</td>
<td>Construction Site Management</td>
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<td>No</td>
<td>LS</td>
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**Subtotal Non-Storm Water Management** $200,000

**Miscellaneous Items**

<table>
<thead>
<tr>
<th>ID</th>
<th>BEES</th>
<th>Miscellaneous Items</th>
<th>SSP/nSSP (Y, Y or N)</th>
<th>STD. Det. (Y or N)</th>
<th>Quantity</th>
<th>Unit Cost ($/Unit)</th>
<th>Cost ($)</th>
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<tr>
<td>074019</td>
<td>LCM*</td>
<td>Water Pollution Control (SWPPP)</td>
<td>07-345</td>
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<td>Additional Water Pollution Control</td>
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<td>074055</td>
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<td>Storm Water Annual Report</td>
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<td>EA 500</td>
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<td>EA 1800</td>
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<td>LCM*</td>
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<td>No</td>
<td>LS 5000</td>
<td>$145,200</td>
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**Subtotal Miscellaneous Items** $631,100

**Total Construction Site BMP Costs** $1,780,100
## Storm Water BMP Cost Breakdown:
### CGP Cost Estimate and Guidance

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>STORM WATER ANNUAL REPORT (BEES ITEM: 074057)</td>
<td>4</td>
</tr>
<tr>
<td>STORM WATER SAMPLING AND ANALYSIS DAY (BEES ITEM: 074058)</td>
<td>4</td>
</tr>
<tr>
<td>RECEIVING WATER BIOASSESSMENT (RL 3) (BEES ITEM: ______)</td>
<td>5</td>
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<tr>
<td>WATER POLLUTION CONTROL MAINTENANCE SHARING (BEES ITEM: 066595)</td>
<td>5</td>
</tr>
<tr>
<td>ADDITIONAL WATER POLLUTION CONTROL (BEES ITEM: 066596)</td>
<td>6</td>
</tr>
<tr>
<td>STORMWATER SAMPLING AND ANALYSIS (BEES ITEM: 066597)</td>
<td>6</td>
</tr>
<tr>
<td>ALL OTHER SEPARATE ITEM BMPS</td>
<td>7</td>
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</tbody>
</table>
Long Form Supplemental Attachments

Plans Showing BMP Deployment:
Layout Sheets or other plans

PID:
No plans needed

PA/ED:
Conceptual plans fine, if available (hand drawn, approximate)

PS&E:
Specific locations and sizes in CAD

May 6, 2011– Slide 165
Checklists: Use 2010 PPDG (see E-12 and E-13 for additional items)

- Storm Water BMP Cost Summary
- BMP Cost Information (PPCE during PID & PECE for PS&E)
- Plans showing BMP Deployment
- SW-1, Site Data Sources
- SW-2, Storm Water Quality Issues Summary
- SW-3, Measures for Avoiding or Reducing Potential Storm Water BMPs
- DPP-1, Parts 1–5 (Design Pollution Prevention BMPs)
  - only those parts that are applicable
- T-1, Parts 1–10 (Treatment BMPs)
  - only those parts that are applicable
- CS-1, Parts 1–6 (Construction Site BMPs)
  - only those parts that are applicable
Short Form SWDR

Cover Sheet

May 6, 2011
MAIN IDEAS FOR THIS SECTION

WHAT’S NEW:
• Short Form encouraged
  • Consider projects with less than 5 acres
  • Include Rainfall Erosivity Waiver if applicable

WHAT CAN BE IMPROVED:
• Don’t forget to sign and stamp at PS&E
APPENDIX E  

Short Form - Storm Water Data Report

Dist/County Route: ________________________________
Place Mile Limit: ________________________________
Project Type: ________________
Project ID or EC: __________________
Program Identification: __________________________

Phase:  
- [ ] PID  
- [ ] P5/E5  
- [ ] PS&E

Regional Water Quality Control Board(ies): ________________________________

1. Is the project required to consider incorporating Treatment BMPs?  
   [ ] Yes  
   [ ] No

2. Does the project disturb 5 or more acres of soil?  
   [ ] Yes  
   [ ] No

3. Does the project disturb more than 1 acre of soil and not qualify for the Rainfall Erosivity Waiver?  
   [ ] Yes  
   [ ] No

4. Does the project potentially create permanent water quality impacts?  
   [ ] Yes  
   [ ] No

5. Does the project require a notification of NAL route?  
   [ ] Yes  
   [ ] No

If the answer to any of the preceding questions is "Yes", prepare a Long Form - Storm Water Data Report.

Estimate Construction Start Date: __________________
Construction Completion Date: __________________
Separate Deviating Permit (if yes, permit number):  
   [ ] Yes  
   [ ] Permit #: __________________
   [ ] No

Erosivity Waiver  
   [ ] Yes  
   [ ] Date: __________________
   [ ] No

This Short Form - Storm Water Data Report has been prepared under the direction of the following Licensed Person. The Licensed Person attests to the technical information contained herein and the data upon which recommendations, conclusions, and decisions are based. Professional Engineer or Landscape Architect's stamp required at PS&E:

[Signature]
[Name], Registered Project Engineer/Landscape Architect  
[Date]

I have reviewed the stormwater quality design issues and find this report to be complete, current, and accurate:

[Signature]
[Name], District/Regional SW Coordinator or Designee  
[Date]

Delmarva Storm Water Quality Training Guide  
Project Planning & Design Guide  
July 2010
**Short Form Cover Sheet**

<table>
<thead>
<tr>
<th>Regional Water Quality Control Board(s):</th>
<th>San Francisco Bay RWQCB</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Is the project required to consider incorporating Treatment BMPs?</td>
<td>Yes ☐ No ✗</td>
</tr>
<tr>
<td>2. Does the project disturb 5 or more acres of soil?</td>
<td>Yes ☐ No ✗</td>
</tr>
<tr>
<td>3. Does the project disturb more than 1 acre of soil and not qualify for the Rainfall Erosivity Waiver?</td>
<td>Yes ☐ No ✗</td>
</tr>
<tr>
<td>4. Does the project potentially create permanent water quality impacts?</td>
<td>Yes ☐ No ✗</td>
</tr>
<tr>
<td>5. Does the project require a notification of ADL reuse</td>
<td>Yes ☐ No ✗</td>
</tr>
</tbody>
</table>

Caltrans **ENCOURAGES** use of short form! Get SW Coordinator concurrence.

But if “Yes” to any **above** questions… prepare a Long Form SWDR, unless approved by Design SW Coord. –

Be sure to document!
If the answer to any of the preceding questions is “Yes”, prepare a Long Form – Storm Water Data Report.

Estimate Construction Start Date:____________________ Construction Completion Date:____________________

Separate Dewatering Permit (if yes, permit number)  Yes ☐ Permit #____________________ No ☐

Erosivity Waiver  Yes ☐ Date:____________________ No ☐

This Short Form – Storm Water Data Report has been prepared under the direction of the following Licensed Person. The Licensed Person attests to the technical information contained herein and the data upon which recommendations, conclusions, and decisions are based. Professional Engineer or Landscape Architect stamp required at PS&E.

[Name], Registered Project Engineer/Landscape Architect  Date

I have reviewed the stormwater quality design issues and find this report to be complete, current and accurate:

[Stamp Required for PS&E only]

[Name], District/Regional SW Coordinator or Designee  Date
If the answer to any of the preceding questions is “Yes”, prepare a Long Form – Storm Water Data Report.

Estimate Construction Start Date: 05/25/10  
Construction Completion Date: 05/25/11

Separate Dewatering Permit (if yes, permit number)
Yes ☒  Permit #: 123456  No □

Erosivity Waiver
Yes □  Date: ____________________  No ☒

This Short Form – Storm Water Data Report has been prepared under the direction of the following Licensed Person. The Licensed Person attests to the technical information contained herein and the data upon which recommendations, conclusions, and decisions are based. Professional Engineer or Landscape Architect stamp required at PS&E.

______

[Stamp Required for PS&E only]

Jane Smith  03/01/10

(Name), Registered Project Engineer/Landscape Architect  Date

I have reviewed the stormwater quality design issues and find this report to be complete, current and accurate:

Tom Hill  03/01/10

(Name), District/Regional SW Coordinator or Designee  Date

Stamp only at PS&E
Section 1. Project Description
MAIN IDEAS FOR THIS SECTION

WHAT’S NEW:
- Nothing new here!

WHAT SHOULD BE IMPROVED:
- Clearly describe if project is “routine maintenance”
- For Short Forms, don’t include site information that is not relevant to the project
SECTION 1: PROJECT DESCRIPTION

1. Type of project and major engineering features
2. Why project will not cause water quality impacts
3. Total DSA and how calculated
4. Existing and proposed impervious surface
5. Other pertinent SW info., if practical
Disturbed Soil Area

- Areas of exposed, erodible soil that is to be disturbed
- Within construction limits
- Resulting from construction activities
What is a: 

Routine Maintenance Project?

Per EPA definition, it’s a project that:

• Maintains original line/grade, hydraulic capacity, and original purpose
• Provides preventative maintenance to existing facilities

Note: Exempt from CGP requirements, but a WPCP is still required.

DSA is needed for determining EC costs
1. Project Description
This project proposes to place a microsurfacing seal coat consisting of asphaltic emulsion and aggregate on the existing pavement to prolong the life of the roadway in Sierra County near Sierra City on State Route 49 (SR49) from 0.7 miles east of Gold Lake Road to the northern SR 49/89 junction. Prior to placing the microsurfacing, cracks will be sealed, and failed pavement will be replaced by grinding to a maximum depth of 3 inches and repaving with hot mix asphalt (HMA).

Per the EPA definition for the CGP, this project is considered routine maintenance because it maintains the original line and grade, hydraulic capacity, and original purpose of the facilities. This project should have minimal water quality impacts because it does not disturb soil and does not create any new impervious area. With the exception of temporary construction area sign placement and placement of shoulder backing behind HMA dikes, all work is within existing pavement limits and does not count toward the calculation of DSA. This project provides preventative maintenance to existing highway facilities and will maintain existing facility functions. Because this project is routine maintenance, it is exempt from the Construction General Permit requirements.

- Type of project
- Major engineering features
- Why project doesn’t impact water quality
- DSA and Net Added Impervious Area
Short Form SWDR

Attachments
MAIN IDEAS FOR THIS SECTION

WHAT’S NEW:

• Include a CGP Risk Level Assessment, if applicable
• Include a CGP Rainfall Erosivity Waiver, if applicable
APPENDIX E
Short Form - Storm Water Data Report

1. Project Description
   - Clearly describe the type of project and major engineering features, including a brief explanation why project phase/next phase is the potential for create water quality impacts.
   - Quantify total disturbed soil area (DSA) and describe how it was calculated. Quantity added impervious areas if any. It should be noted that projects that preserve, upkeep, and restore roadway structures do not need to include these activities within the calculation for DSA.

2. Construction Site BMPs
   - A SWIP is typically used, unless written direction from the HANEQ will require a SWIP.
   - Identify project risk level and document required monitoring.
   - Coordinate with Construction to determine the appropriate selection of Construction Site BMPs being implemented into the contract documents or separate line items.
   - Summarize these Construction Site BMPs as separate Bid Line Items.
   - Describe any pertinent details from the strategy used for estimating Construction Site BMPs.
   - Document coordination effort to get concurrence from Construction regarding the Construction Site BMP strategy and associated quantities (inside versus off site etc.

3. Required Attachments
   - Vicinity Map
   - Evaluation Documentation Form
   - Construction Site BMP Consideration Form (PS&E only)
   - Risk Level Determination (if applicable)
   - Rainfall Erosivity Waiver (if applicable, at PS&E)
Finale!

Final Points
Quick Questions to Discuss

1. Can you change the headings of the SWDR?
2. Name some streamlining methods learned today.
3. What is routine maintenance?
4. Is a drainage evaluation needed at PID?
5. What are some LID measures?
6. What is the benefit to doing a long form SWDR?
7. Who is your Design SW Coord.?
8. How do I know if I’m using the current SWDR template?
10 Important items to remember

1. Narratives - Tell the “story” and “get to the point.”
2. Use the new, example SWDRs to help define the level of detail needed.
3. Use the Short Form whenever you can. Review project types in Handout #1.
4. Describe your Construction BMP Strategy and obtain concurrence from Const. SW Coordinator.
5. Do not identify costs in the SWDR. Place costs in the supplemental attachments.
6. Document agreements and meetings with the RWQCB, include dates and names.
10 Important items to remember

7. Be sure to identify LID measures.
8. Obtain as much biofiltration and infiltration as possible using the new T-1 checklist and tool.
9. Obtain all the signatures – Reviewers only attest to their areas of relevance. PE to stamp SWDR at PS&E only.
10. When in doubt, talk to the Design Storm Water Coordinator.