How to Develop an ESCP for Large Projects
How to Develop an ESCP for Large Projects

Yvonne Turro
Introduction

• Title - Not just for NPDES projects.
• Lessons learned on ESCPs.
• Revision to Rules.
Learning Objectives

- ESCP Categories
- Requirements for “Large” Projects
- ESCPs – Part of NPDES requirements
- Helpful hints – Using Kahoot.it
References

The ESCP must contain information that is sufficient to allow the Director to evaluate the environmental characteristics and impacts of the Project on the MS4 and Receiving Waters, and include, at a minimum:

1. A location map showing the name, coordinate, and classification (e.g., Class 1, 2, Class A, Class AA waters) of Receiving Waters, as identified through the DOH State Water Quality Map, available at the DOH Clean Water Branch website;

2. A vicinity map showing the location of streams, channels, and drainage Structures located within 100 feet of the Project Site;

3. The location of the 100-year flood plain as shown on the FEMA Map Service Center website;

4. The location of drainage Structures located within 100 feet of the Project Site;

5. Topographic maps showing the existing and finished contours of the Site;

6. Existing and final drainage patterns and Discharge points;

7. Proposed Structures, impervious areas, existing vegetation, final landscaping conditions, and appurtenant improvements;

8. Erosion Control construction notes including non-structural BMPs that cannot be shown on a Site plan;

9. A BMP Site Plan, drawn to scale, which depicts the outline of buildings and Structures, provides a clear delineation of Disturbed Areas, and the approximate location of proposed BMPs;

10. BMP design details and notes clearly identifying temporary BMPs, permanent BMPs, a schedule for BMP implementation; and BMP maintenance activities;

11. A list or table of preconstruction, during construction, and post-construction BMPs; and

12. A statement that the contractor, developer, and/or owner shall obtain written approval from the Director at each stage of Development before proceeding to the next step in Development described in the ESCP; and

13. Any additional information required by the Director.

(c) ESCPs shall include, at a minimum, BMPs to address and achieve:

1. Erosion Control which shall include the following BMPs:

   (i) Project Planning and Design;

   (ii) Project Scheduling;

   (iii) Slope Management and Protection;

   (iv) Temporary Stabilization;

   (v) Permanent Stabilization;

   (vi) Diversion BMPs to divert runoff from upstream areas around Disturbed Areas of the Site;

   (vii) Velocity Dissipation Devices;

   (viii) Preserver Existing Vegetation; and

   (ix) Minimize Soil Compaction;

2. Sediment Control to prevent release of sediment laden waters to the MS4 and Receiving Waters, which shall include the following BMPs:

   (i) Storm Drain Inlet Protection;
References

#1 - Rules Relating to Water Quality

#2 - CCH Construction BMP Manual (Draft Aug. 2017)
**Typical Slope Soil Stabilization**

![Typical Slope Soil Stabilization Diagram]

**Notes:**

1. Begin at the top of the slope and anchor the blanket in a 6-inch deep by 6-inch wide trench. Backfill trench and tamp earth firmly.
2. Unroll blanket down slope in the direction of water flow.
3. Overlap the edges of adjacent parallel rolls 2 to 3 inches and staple every 3 feet.
4. When blankets should be spliced, place blankets end over end (shingle style) with 6-inch overlap. Staple through overlapped area, approximately 12 inches apart.
5. Lay blankets loosely and maintain direct contact with the soil. Do not stretch.
6. Staple blankets sufficiently to anchor blanket and maintain contact with the soil. Staples should be placed down the center and staggered with the staples placed along the edges.
7. Steep slopes, 1:1 (H:V) to 2:1 (H:V), require a minimum of 2 staples per square yard. Moderate slopes, 2:1 (H:V) to 3:1 (H:V), require a minimum of 1½ staples per square yard.
8. Install per manufacturer’s recommendations.
ESCP Categories

1. Need grading permit?
2. Size of Site?
3. Disturbed Area? Height? Slope?
## ESCP Categories

**If No Grading, Grubbing or Stockpiling Permit**

<table>
<thead>
<tr>
<th>Category</th>
<th>Residential</th>
<th>Commercial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trenching</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>1A</td>
<td>$DA &lt; 1,000, sf &amp; \ s &lt; 15%$</td>
<td>$s &lt; 15%$</td>
</tr>
<tr>
<td>1B</td>
<td>$1,000, sf &lt; DA &lt; 1, ac.$; $DA &lt; 1,000, sf &amp; \ s &gt; 15%$</td>
<td>$DA &lt; 1, ac$</td>
</tr>
<tr>
<td>1C</td>
<td>$DA &gt; 1, ac.$ (NPDES)</td>
<td>$DA &gt; 1, ac.$ (NPDES)</td>
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</table>
# ESCP Categories

w/Grading, Grubbing or Stockpiling Permit

<table>
<thead>
<tr>
<th>Category</th>
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<th>Commercial</th>
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<tbody>
<tr>
<td>2</td>
<td>Site &lt; 15,000 sf</td>
<td>Site &lt; 7,500 sf</td>
</tr>
<tr>
<td>3</td>
<td>Site &gt; 15,000 sf</td>
<td>Site &gt; 7,500 sf</td>
</tr>
<tr>
<td>4</td>
<td>Total DA &gt; 15,000 sf</td>
<td>Total DA &gt; 7,500 sf</td>
</tr>
<tr>
<td></td>
<td>or Ht &gt; 15 ft</td>
<td>or Ht &gt; 7.5 ft</td>
</tr>
<tr>
<td>5</td>
<td>DA &gt; 1 ac. (NPDES)</td>
<td>DA &gt; 1 ac. (NPDES)</td>
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### Who Can Prepare an ESCP?

<table>
<thead>
<tr>
<th>Categories</th>
<th>ESCP Prepared By</th>
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</thead>
<tbody>
<tr>
<td>1A, 1B, 2 (Small)</td>
<td>Owner/ESCP Coordinator</td>
</tr>
<tr>
<td>1C, 3, 4, 5 (Large)</td>
<td>Professional Engineer (HI) (Not CWPPP*)</td>
</tr>
</tbody>
</table>

*CWPPP is required for PCBMPs; not ESCPs.*

**Revision Alert!!** “ESCP Preparer”
Preparing an ESCP for Large Projects
Sheet Title

EROSION AND SEDIMENT CONTROL PLAN
SCALE: 1”=20’
(CATEGORY 5)

• “ESCP” only; nothing else.
• Add CATEGORY.
(1) Location Map of Receiving Waters

- Name of State Water
- Coordinates
- Classification
Also refer to HAR 11-54 Appendices for specific location names.
(2) Vicinity Map of Streams, Channels & Drains
Notes = Specific BMP instructions
List of table of Required BMPs (Pre-, During and Post-Construction)

**LIST OF REQUIRED BMPs**

**PRE-CONSTRUCTION STRUCTURAL BMPs**
- DUST FENCE
- CONSTRUCTION ENTRANCE
- PRESERVATION OF EXISTING VEGETATION AT BUFFER STRIP
- SEDIMENT BARRIERS (FILTER SOCK)
- INLET PROTECTION FOR EXIST. CATCH BASIN
- CULVERT PROTECTION
- SEDIMENT TRAP

**DURING CONSTRUCTION STRUCTURAL BMPs**
- BMPs FOR STOCKPILES, STAGING AREA, AND MATERIAL STORAGE
- FILTERS FOR NEW DRAIN INLETS
- TEMPORARY GRASSING

**POST-CONSTRUCTION STRUCTURAL BMPs**
- PERMANENT STABILIZATION BMPs
- INFILTRATION CHAMBERS
- MINIMIZE SOIL COMPACITION
- GRASS PAVERS
- SEE POST-CONSTRUCTION BMP PLAN ON DWG. C601.

**GOOD HOUSEKEEPING BMPs**
- SEE NOTES ON DWG. C102.
Sediment Trap Sizing Chart

<table>
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<tr>
<th>TABLE: SEDIMENT TRAP DATA</th>
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<tbody>
<tr>
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<tr>
<td>(1) APPLICABLE PHASE(S)</td>
</tr>
<tr>
<td>(2) CONTRIBUTING DISTURBED AREA (AC)</td>
</tr>
<tr>
<td>(3) VOL. REQUIRED (CF)</td>
</tr>
<tr>
<td>(4) VOL. PROVIDED (CF)</td>
</tr>
<tr>
<td>ADEQUACY (3) &gt; (4)</td>
</tr>
</tbody>
</table>

NOTE: (3) = (2) * 3,600 CF/AC.
Erosion Prevention/Sediment Control Notes:

1. The contractor shall ensure that all erosion control systems are properly installed and maintained.

2. Measurements of erosion and other pollutants shall be made in place before any construction is initiated.

3. Stormwater protection is required on areas with slopes greater than 15% and on areas of moderate slopes that may extend to erosion control areas. Any areas with erosion control systems in place must be maintained.

4. Temporary sediment basins shall be placed at the base of erosion control systems.

5. Permanent sediment basins shall be installed and maintained in accordance with erosion control systems.

6. Stormwater quality work shall be performed in accordance with the following:

   - Clear spoil and control the site in accordance with the plan.
   - Install and maintain erosion control systems.
   - Provide temporary sediment basins.

   Any areas that show evidence of erosion or sedimentation shall be addressed immediately.

7. Stormwater quality work shall be performed in accordance with the following:

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PHASES III & IV CONSTRUCTION ENTRANCE DETAIL

SECTION

NOTE: AGGREGATE LAYER SHALL BE REMOVED IMMEDIATELY PRIOR TO INSTALLATION OF ROADWAY BASE COURSE.

PHASES I & II CONSTRUCTION INGRESS/EGRESS DETAIL

SECTION

OVERLAP

FILTER SOCK DETAIL

NOTE: NOT TO SCALE

SEDIMENT FILTER FOR DRAIN INLETS

NOTE: NOT TO SCALE

SEDIMENT FILTER FOR CATCH BASINS

NOTE: NOT TO SCALE

CULVERT PROTECTION DETAIL

NOTE: NOT TO SCALE
### TABLE A GEOTEXTILE REQUIREMENTS

<table>
<thead>
<tr>
<th>Physical Property</th>
<th>Requirements</th>
</tr>
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<tbody>
<tr>
<td>Grab Tensile Strength</td>
<td>220 LB (ASTM D1682)</td>
</tr>
<tr>
<td>Elongation Failure</td>
<td>60% (ASTM D1682)</td>
</tr>
<tr>
<td>Mullen Burst Strength</td>
<td>430 LB (ASTM D3768)</td>
</tr>
<tr>
<td>Puncture Strength</td>
<td>125 LB (ASTM D731, MODIFIED)</td>
</tr>
<tr>
<td>Equivalent Opening</td>
<td>SIZE 40-80 (U.S. STD SEVE, CW-02215)</td>
</tr>
</tbody>
</table>

### CONSTRUCTION INGRESS/EGRESS DETAILS

![Diagram of road structure with notes and specifications]

**NOTE:**
8" Coarse Aggregate Layer shall be removed immediately prior to installation of roadway base course.

**EXIST. ROADWAY**

**LOCATION AS SHOWN ON PLAN**

**EXISTING BASE COURSE**

**EXISTING AC PAVT**

**SECTION**

**GEOTEXTILE FILTER FABRIC**

See Table A below

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**CONSTRUCTION INGRESS/EGRESS DETAILS**

Not to Scale
Sample of Variance to BMP
Justification for Omitted/Variance to BMPs

March 30, 2018

Mr. Steven Young
Department of Planning and Permitting, CEB
City and County of Honolulu
650 South King Street, 8th Floor
Honolulu, HI 96813

Re: Erosion and Sediment Control Plan Variance Request
Waianae High School – Connection of Buildings SP and T
TMKs: 8-5-002:018 and 8-5-015:001
DPP-CEB Log No. 2018/CP-009

Dear Steven,

We request your consideration to allow the use of a 10-foot wide Construction Entrance (CE) in our Erosion and Sediment Control Plan (ESCP) in lieu of the standard 30-foot wide CE as delineated in the Rules Relating to Water Quality §20-3-4-4(b) for a Category 5 Project. We believe that the narrower construction entrance is sufficient to provide positive tracking control for the following reasons:

1. The non-conforming CE is anticipated to be used during the summer months for less than 1-month.
   A construction phasing plan has been incorporated into the ESCP which minimizes the amount of time a non-conforming CE is scheduled to be used. The majority of the construction work will occur during Phases I, II, and III when a standard-sized CE will be maintained in the corresponding construction areas.
   The non-conforming CE will only be installed during the final phase, Phase IV. The work involved in Phase IV is limited to the installation of two narrow areas (approximately 300 ft. total) of grass pavers along the driveway entrance at Farrington Highway. We anticipate that Phase IV will take no longer than one (1) month to complete and is scheduled to occur in the summer of 2019.

2. Existing physical constraints and need for shared use.
   The width of the existing driveway is restricted by existing physical constraints including chain link fence, gate posts, guard rails, a utility pole and guy wires as shown in the following Google Street View image. The Department of Education (DOE) has stipulated that this driveway must remain open to other traffic during regular business hours since it is the only vehicular access to the buildings and parking area in this portion of the school campus.
   Due to the driveway’s surrounding physical constraints and DOE’s requirement for regular vehicles to share the use of this driveway, the width of the CE is limited to 10-feet in this area.

Yours sincerely,

Yvonne M. Tumai, P.E.
Project Manager
ytumai@hnlawes.com

Attachment: Waianae High School Connection of Buildings SP and T - Erosion and Sediment Control Plan, Drawing C101
ESCP and NDPES

1. Site Maps = ESCP
2. Sequence of Construction Activities
3. Buffer Documentation, etc.
It’s time to...

- Go to www.Kahoot.it or use their app.
- Please kokua w/data.