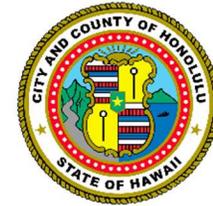
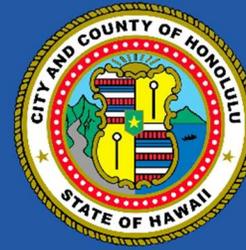


How to Develop an Erosion and Sediment Control Plan FOR SMALL PROJECTS (Category 1A, 1B and 2)





Introduction

- Jessica Chiam, PE
- John Mathews, PE

AECOM

www.surveymonkey.com/r/escp-survey2018

Presentation Outline

- ❑ Review of small project definitions
- ❑ Updates to project applicability and the small project templates
- ❑ Best Management Practices
- ❑ How to develop your small project ESCP
- ❑ ESCP review tips
- ❑ Common errors

- ❑ Hands-on exercises later this afternoon

- ❑ www.surveymonkey.com/r/escp-survey2018

Audience Poll #1

Help us to understand our audience.

I am a:

1. Architect
2. Contractor
3. Drafter
4. Engineer
5. Homeowner
6. Mason
7. Permit Expediter
8. Other

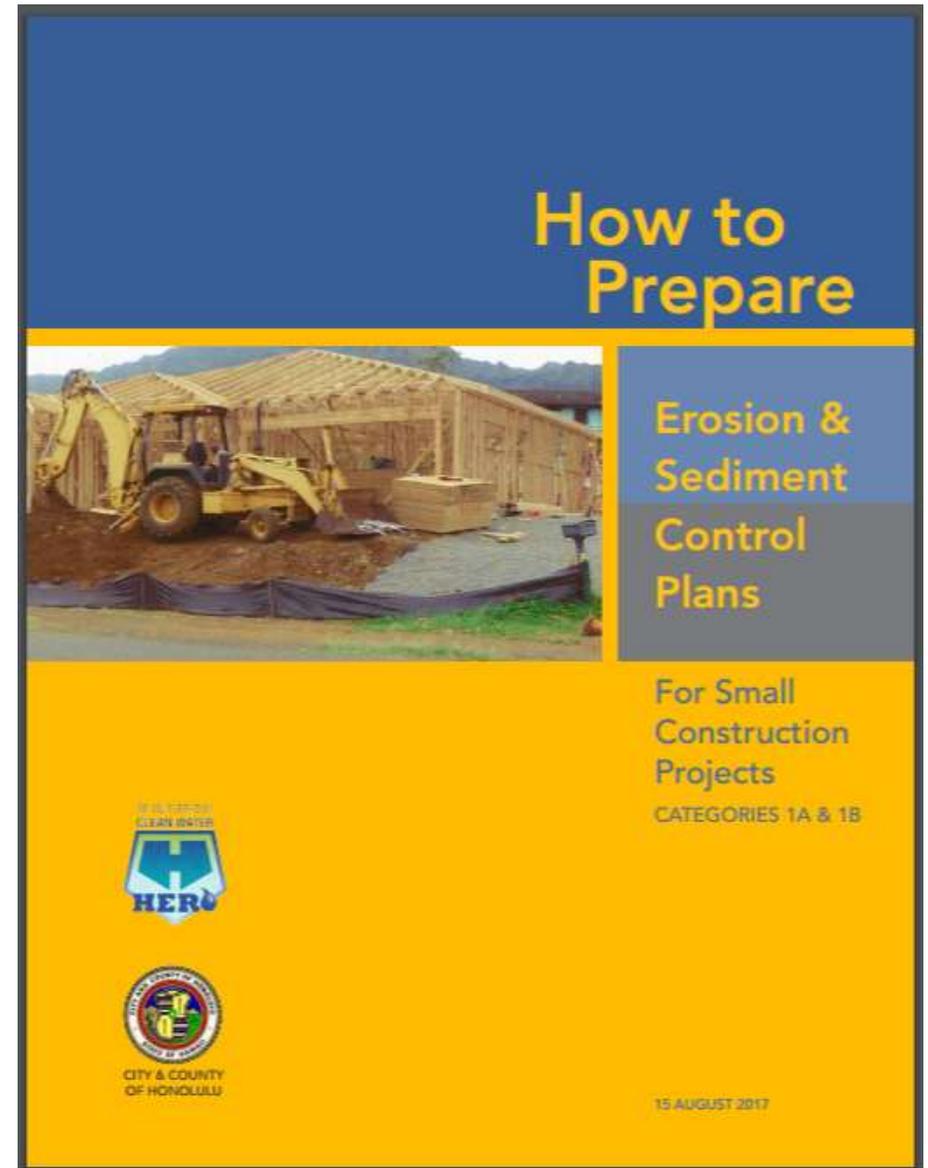
Audience Poll #2

Have you prepared an Erosion and Sediment Control Plan Template before this workshop?

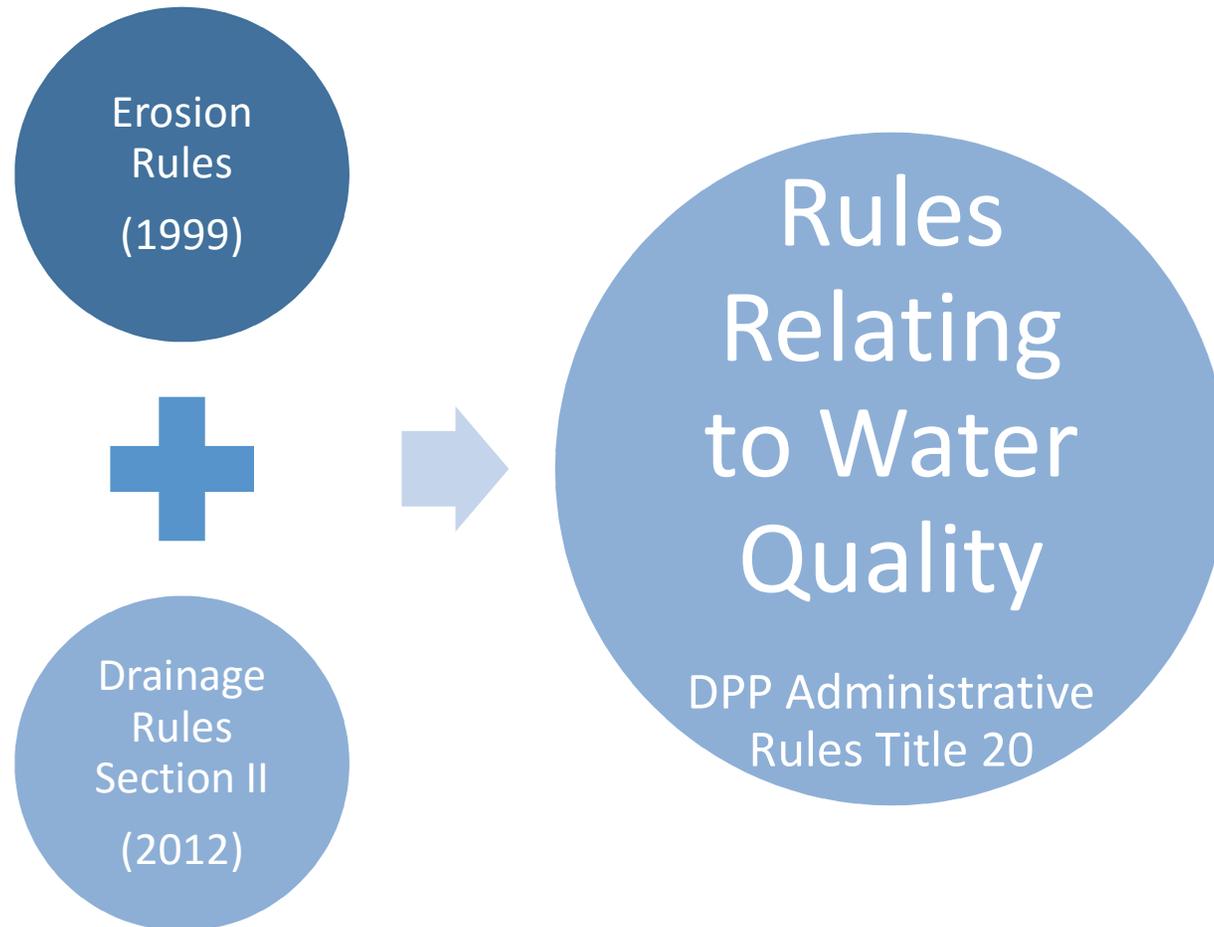
1. Many times
2. Once or twice
3. Not yet

Help and references are available!

- ❑ DPP website:
<http://www.honolulu-dpp.org/ApplicationsForms/StormWaterQuality.aspx>
- ❑ DFM Storm Water Quality Branch website:
www.Cleanwaterhonolulu.com
- ❑ For questions after this workshop:
 - Honolulu Building Permits SW line: 768-8230 or 768-8225
 - Kapolei Building Permits SW line: 768-3141
 - Civil Engineering Branch (Grading Permits): 768-8216 or 768-8217



One DPP Rule for Water Quality



Effective August 16, 2017: ESCP requirements which used to apply only to Grading Permits now also applies to Building Permits with land disturbing activities

Small Project Categories

Examples

1A	<p>Must meet ALL of the following criteria:</p> <ol style="list-style-type: none"> 1. Residential <u>single-family or two-family</u> detached Development; 2. The total Disturbed Area for the Project is less than <u>1,000 square feet</u>; and 3. Land Disturbing activities will not occur on slopes equal to or greater than <u>15 percent</u> at the Site. 	<ul style="list-style-type: none"> • New addition • New fence wall
1B	<p>Building permits less than one acre and does not meet the Category 1A Project criteria OR Work which requires <u>both a grading permit and a building permit</u> where the zoning lot or portion thereof is less than 15,000 square feet for single-family or two-family dwelling uses and less than 7,500 square feet for other uses.</p>	<ul style="list-style-type: none"> • Construction on a commercial property. • Demo of a home • New home • Projects on a slope • Retaining wall
2	<p>Same as 1B, but requires a grading permit only (no building permit)</p>	<p>Site work which does not require a building permit (not a retaining wall)</p>

Small Projects do not require an engineer to prepare the ESCP

Proposed updates to project applicability

- ❑ New Category defined as “Minor Development”
 - Work with no Land Disturbing Activities (such as: work on existing slab, demo which leaves existing slab, a second story addition, etc.)
 - The installation of temporary BMPs;
 - Land Disturbing Activity that takes place completely under a roof or other enclosure and where existing Site conditions preclude storm water run-on to the Disturbed Area;
 - The construction of individual bus shelters;
 - The installation of footings or posts for the construction of fences, decks, roof coverings, and trellises for single-family or two-family dwelling use;
 - Trenching for laterals serving one property (City ROW);
 - Trenching no greater than 50 linear feet in length (private property);
 - The installation or replacement of grease traps with less than 120 square feet of surface disturbance;
 - Borings; and
 - Work not listed above that disturbs no greater than 120 square feet of land, except for fence wall, retaining wall, and driveway apron projects.

- ❑ The use of BMPs to prevent pollution from these construction activities are still required. However, an ESCP and inspection reports do not need to be submitted to DPP.

- ❑ Remember that any pollutant discharges from these activities are enforceable by the City and other agencies.

ESCP Components for Small Projects

- Template
 - Project information
 - BMP descriptions
 - Owner Signature
 - Site Diagram(s)
- Project Schedule
- ESCP Coordinator Designation Form

Category 1C, 3, 4, and 5 project ESCPs cannot be submitted using a template



City and County of Honolulu

Appendix A

Erosion and Sediment Control Plan
Category 1A Template

Construction Site Project Name: _____

Physical Site Address: _____

Building Permit Number: _____

Instructions:

This completed template is to be used as the Erosion and Sediment Control Plan (ESCP) for projects which fall under the City and County of Honolulu, Department of Planning and Permitting (DPP) Category 1A: Single-family or Two-family detached residential building projects that disturb less than 1,000 square feet of land and where there will not be land disturbing activities on slopes greater than 15%.

This ESCP must be submitted as part of the Building Permit application and made available on the job site at all times. This ESCP may be prepared by the owner of the project or an authorized representative designated by the owner, and must be signed by the owner below. A certified ESCP coordinator for the project must be designated at least 2 weeks prior to starting work by sending written notice to the DPP.

Read through the instructions for each of the three (3) sections on the next pages, **I. Erosion Prevention, II. Sediment Control, and III. Good Housekeeping**. Any best management practices (BMP) boxes that are checked are mandatory during construction. For more information on each type of BMP, this template lists applicable fact sheet numbers from the City's Construction BMP Manual that may help you decide on which BMP type to use and how to use them. The manual is available on the DPP website (www.honolulu.dpp.org). For any conflicting information between the Rules Relating to Water Quality and the Construction BMP Manual, the requirements of the Rules shall be followed. If other BMPs not listed are used to achieve the same or similar results, attach additional documentation.

I. EROSION PREVENTION: practices that prevent erosion from occurring.		
BMP	Check Appropriate Box	Reference Factsheets
1. Project Scheduling Notify the DPP two (2) weeks prior to starting work. Attach a Project Schedule to this ESCP including dates when BMPs will be installed, when land disturbing activities will begin and end, and dates when BMPs will be removed.	<input type="checkbox"/> Applicable <input type="checkbox"/> Not Applicable	EC-1
2. Permanent Stabilization Prior to final approval and closing of the permits for work on the project site, permanent stabilization must be in place.	<input type="checkbox"/> Applicable <input type="checkbox"/> Not Applicable	N/A

II. SEDIMENT CONTROL: practices to prevent soil and sediment from leaving the project site and entering storm drains during rain events.		
BMP	Check Appropriate Box	Reference Factsheets
1. Perimeter Controls Sediment fences or barriers shall be used at the perimeter of all disturbed areas if there is the potential for runoff to flow off the project site, and around the base of all material stockpiles. These may include gravel bags, sand bags, fiber rolls, silt fences, or compost socks that intercept runoff.	<input type="checkbox"/> Applicable <input type="checkbox"/> Not Applicable	SE-1, SE-5, SE-6, SE-8, SE-16
2. Storm Drain Inlet Protection Inlet protection is required over storm drains within 50 feet of your project site unless those inlets drain to a sediment basin or trap.	<input type="checkbox"/> Applicable <input type="checkbox"/> Not Applicable	SE-10

Rev. 07/17/2017

Page 1 of 3

Proposed updates to the small project templates (Categories 1A, 1B and 2)

- ❑ Revisions designed to reduce common errors and improve approval rate
 - One template for all small projects (Cat 1A, 1B, and 2)
 - Schedule template is provided with a rain response plan
 - Requires a brief explanation for BMPs not used
 - Gives the owner the option of providing the ESCP coordinator information on the template
 - Requires the disturbed area

Category 1A versus Category 1B & 2 requirements- What is the difference?

- Category 1B and 2 must consider
 - **SLOPE PROTECTION** (on slopes >15%) and
 - **TEMPORARY STABILIZATION** (if work is not planned for 14 days or more).

ESCP Coordinator

“ESCP Coordinator” means the designee **responsible for the implementation of an ESCP who has a current ESCP coordinator certificate from the Department.** The designation of an ESCP Coordinator does not relieve the property owner or other responsible parties from compliance with these Rules or liability for violations of the same.

- Requires a training, test, and certification from DPP:

<http://escp.cleanwaterhonolulutraining.com/>

- No professional credentials required.
- Responsible for implementation of BMPs and inspections.
- Required BEFORE a permit is issued





Best Management Practices (BMPs)



Erosion Prevention BMPs

Erosion control practices prevent erosion from occurring. This category may include ground covers such as vegetation, mulch, blankets or plastic sheeting that **absorb the energy of a raindrop's impact and reduce the amount of erosion.** Also included are BMPs that **divert water around the site to prevent contact.**



Temporary Stabilization (Category 1B and 2)

Suitable Applications:

- When active work is not scheduled for 14 days or more on disturbed soil

How to comply:

- Initiate stabilization as soon as you know work will not occur for 14 days or more.
- Includes implementing one of the following:
 - Rolled Erosion Control Products
 - Plastic Covers,
 - Geotextiles, and
 - Erosion Control Blankets/Mats
 - Hydraulic Mulch or Hydroseeding
 - Hydraulic or Bonded Fiber Matrix
 - Planting and/or vegetation providing at least 70% surface cover for temporary BMPs



Slope Management and Protection (Category 1B and 2)



Suitable Applications:

- Slopes with a grade of 15 percent or greater must be stabilized at all times unless the slope is actively being worked.

How to Comply:

- Stabilize if no active work is scheduled and based on weather.
- Use one or more of the following:
 - Rolled Erosion Control Products:
 - Plastic Covers,
 - Geotextiles, and
 - Erosion Control Blankets/Mats.
 - Hydraulic mulch or hydroseeding,
 - Hydraulic or Bonded Fiber Matrix, or
 - Planting and/or vegetation providing at least:
 - 70% surface cover for temporary BMPs.
 - 90% surface cover for permanent BMPs.

Permanent Stabilization

Suitable Applications:

ALWAYS REQUIRED. Must be in place prior to final approval and closing permits.

How to Comply:

- All disturbed area must be stabilized with:
 - Grass/ vegetation,
 - Gravel,
 - Pavers/ pavement, or
 - Other equivalent methods.
- Rain gutters, down spouts, and channelized flow must be installed and functioning as designed.
- In seeded areas, must cover at least 90% of the disturbed soil.
 - Until 90% is reached, use mulch, jute netting, etc.
- Temporary fences must be removed.
- Ditches and areas of concentrated flow must be lined with rock, geosynthetics, or similar materials to prevent scouring.
- All paved areas must be clean.
- Storm drain inlet filters must be removed after all cleanup activities have been completed.



Sediment Control BMPs

Sediment control practices that **attempt to prevent soil particles that are already dislodge from the ground surface and being carried in storm water from leaving the site and entering storm drains and receiving waters.** This category may include silt fences, vegetated buffer zones, compost filter socks, fiber rolls, sand bags, gravel bags, inlet protection and vegetated swales.



Perimeter Controls

Purpose: To prevent polluted runoff from leaving the site.
Works through filtration or ponding.

Suitable Applications:

- **Along perimeters that receive runoff from earth disturbing activities.**
- If your project is within 50 feet of State waters.
- If the applicant or DPP deems they are necessary based on project conditions, weather, and location.
- Around stockpiles
- While vegetation is being established.



Consists of:

- Sediment barriers (gravel bags, sand bags, biofilter socks, etc.),
- Silt fences,
- Vegetated buffers (used as an extra control, not the only control), and
- Equivalent methods that prevent polluted runoff from leaving the site.
- ***A dust fence alone is not an acceptable sediment barrier.**

How to Comply:

- Use downstream of disturbed areas and around stockpiles.
- Ensure that they are installed properly. Use stakes or sandbags to stabilize as needed, there should be no gaps between the barrier and the ground surface, edges must be overlapped according to flow direction, silt fences must be trenched in.



Storm Drain Inlet Protection

Suitable applications

- All storm drain, drop inlets and curb inlets that may receive runoff from your site **not limited** to those drains within 50 feet.

How to Comply:

- Use storm drain inlet protection for drains which may receive runoff from your site.
- If there is a large rain event forecasted, remove to prevent flooding unless designed for overflow.
- *Remember that storm drain inlet protection is the last line of protection, use additional BMPs at the site to prevent polluted runoff from leaving the site.



Good Housekeeping BMPs

Source control practices that prevent pollution by limiting or reducing potential pollutants at their source, which involve keeping a clean, orderly construction site and the proper use, storage, and disposal of materials.



Material Delivery, Storage, and Use BMPs

Purpose: To prevent rain water from coming into contact with pollutants and prevent and clean up all leaks or spills.

Suitable applications:

- When any of the following are present on site:
 - Paint,
 - Solvents,
 - Curing compounds,
 - Acids,
 - Pesticides, herbicides, and/ or fertilizers,
 - Detergents,,
 - Petroleum products such as fuel, oil, and grease
 - Asphalt and other concrete components, and/or
 - Any other materials that may be detrimental if released to the environment.



How to Comply:

- Store under a cover and in a secondary container (plastic bins, a wood box lined with plastic, etc.) and inspect for leaks.
- Do not store near: areas of concentrated flow, storm drains, waterbodies, or buffer areas.
- Have spill response supplies on site: (absorbent materials, saw dust, kitty litter, etc.).

Sanitary/Septic Waste Management BMPs (i.e. portable toilets)

Purpose: Prevent the discharge of pollutants from temporary or portable sanitary and septic waste systems.

Suitable applications:

- All construction sites that use temporary or portable sanitary and septic waste systems.

How to Comply:

- All systems are mounted, staked in, or weighed down using straps and sandbags or CMU blocks to prevent tipping.
- Regular waste disposal/servicing.
- Located away from drainage system or receiving waters.



Tracking Control

Purpose: To minimize sediment track out onto off-site streets, sidewalks, and other paved areas from vehicles exiting a construction site.

Suitable applications:

- All construction sites.

How To Comply:

- Defined parking areas and vehicle paths.
- Use paved surfaces when possible.
- Use perimeter controls to keep dirt off of vehicle paths.
- Remove dirt from tires before leaving the site.
- Daily sweeping/ vacuuming.
- Consider a stabilized (graveled) entrance/ exit if possible for your site and project.



Good Housekeeping BMPs

Others:

- BMP and Site Maintenance
- Dust Control
- Stockpile Management
- Spill Prevention and Control
- Solid Waste Management
- Hazardous Waste Management
- Contaminated Soil Management
- Concrete Waste Management
- Liquid Waste Management
- Vehicle and Equipment Cleaning
- Vehicle and Equipment Fueling





Developing your small project ESCP

- Site evaluation and planning
- Tips for streamlined review
- Common errors



Tools to evaluate the site:

- A site visit
- Building/ site plans and project data sheets
- Google Earth/ Street view
- TMK information
- Previous and concurrent permits and plans
- City and County of Honolulu Geographic Information System (GIS):
 - storm drainage system
 - topo may be available

Developing your ESCP: Evaluate the site and plan your BMPs

□ Consider risk factors

- Size: How much area needs to be exposed?
- Is the project site on a slope?
- Is there any grading involved?
- Where is the nearest storm drain/ stream/ ocean?
- How often does it rain?
- What will you do if/ when a storm happens?

□ Consider flow direction

- Where is the water going, and what type of material will it travel through? (grass, gravel, pavement, exposed soil?)
 - Tip: Do not store materials, stockpiles, or waste containers in concentrated flow paths.
- Does water from off site flow onto your site?
 - Tip: Consider BMPs to keep that water off of your project site.



Developing your ESCP: Evaluate the site and plan your BMPs

- ❑ Can you phase the ground disturbance? (Include on the schedule!)
- ❑ Are there existing features of the site that can help? (Protect them!)
 - Can you leave a vegetated area downstream of the work?
- ❑ Where should perimeter control be located?
- ❑ Think about redundancy and how the BMPs all work together: Project phasing + temporary stabilization + perimeter controls + vegetated buffers + inlet protection all work together to reduce risk of pollution discharge.

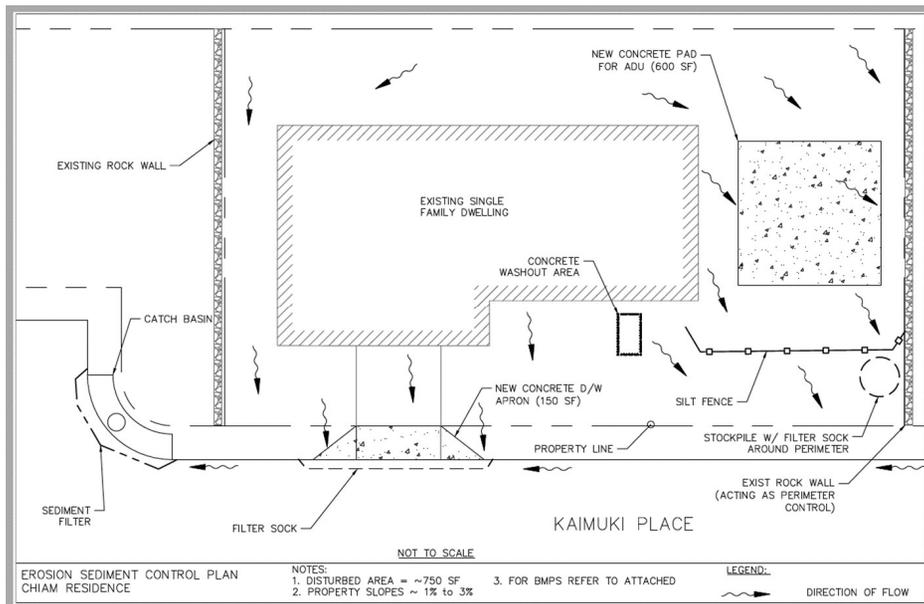


Developing your ESCP: Evaluate the site and plan your BMPs

- ❑ Consider constructability and site access.
 - Will large equipment be driving through the site?
 - Are your planned BMPs blocking the ingress/ egress?
 - ❑ Consider a stabilized construction (graveled) entrance.
 - ❑ For paved entrances, consider a moveable filter option (i.e. sandbags, filter socks).

- ❑ Consider good housekeeping BMPs
 - Where will construction waste be stored? How often will it be disposed?
 - Where and how will materials be delivered and stored? Is there a covered area that can be used?
 - Where will concrete washout occur?
 - Should you install a dust fence?
 - Will you need a portable toilet?

Developing your ESCP: Site Diagram



- ❑ Include:
 - Property or fence line
 - Outline of buildings and structures (existing and planned)
 - Flow path for storm water runoff
 - Disturbed areas including staging areas and site access on unpaved paths
 - BMPs:
 - Perimeter Control
 - Inlet Protection
 - Good Housekeeping
 - Drainages structures and receiving waters within 50 feet of project site
- ❑ Hand drawings are acceptable

Developing your ESCP: Project Scheduling

ESCP ATTACHMENT: SCHEDULE

Use the table below or attach a separate project schedule to this ESCP. Project schedules must establish a sequence of all planned actions and activities on the Project Site, including, but not limited to, all land disturbing activities, the implementation of the BMPs identified in the Project ESCP, scheduled inspections and maintenance of BMPs, and the removal of temporary BMPs. The project schedule shall include specific dates or project milestones i.e. install BMPs – 1 day, clear & grub - 2 days, construction – 2 weeks, stabilize disturbed areas – 1 day, remove BMPs – after vegetation is 90% established. The scheduled start date shall be submitted to DPP two weeks prior to commencing any work governed by these Rules.

SCHEDULE	
Action	Timeline or Date
Notify the Department of Planning and Permitting of Project Start Date - 768-8132	2 weeks before starting work

RAIN RESPONSE PLAN

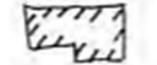
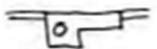
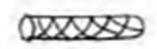
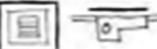
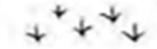
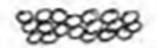
The following will be performed when severe rain is forecast:

- Temporarily suspend land disturbing activities including clearing, grubbing, grading, and trenching.
- Inspect all BMPs and maintain as needed.
- Reinstall BMPs that were removed because of active work in the area.
- If a severe storm is expected, remove inlet protection devices to prevent flooding on surrounding streets.
- Cover or relocate material stockpiles and liquid material containers to avoid contact with rainwater.
- Place spill pans or oil-only spill pads under construction vehicles to prevent runoff from contacting any spilled petroleum products. Properly dispose of any accumulated oily water after the rain event.
- Re-inspect project site after the rain event and replace or maintain BMPs as needed.

- Use the template or provide a separate project schedule + rain response plan.
- Use milestones or timelines or dates (i.e. 2 days, 1 month, daily, weekly, etc.).
- Notify DPP 2 weeks prior to starting construction.
- Install required BMPs and perform a pre-construction inspection before starting construction.
- List duration and order of land disturbing activities and other construction activities.
- Include time for vegetation to be established.
- Include when BMPs will be removed.
- Rain Response Plan lists what to do during severe rain events.
- If there are changes during construction, revise the schedule and keep the DPP inspector updated. Keep all previous copies available on site with the project log.

ESCP Review Tips

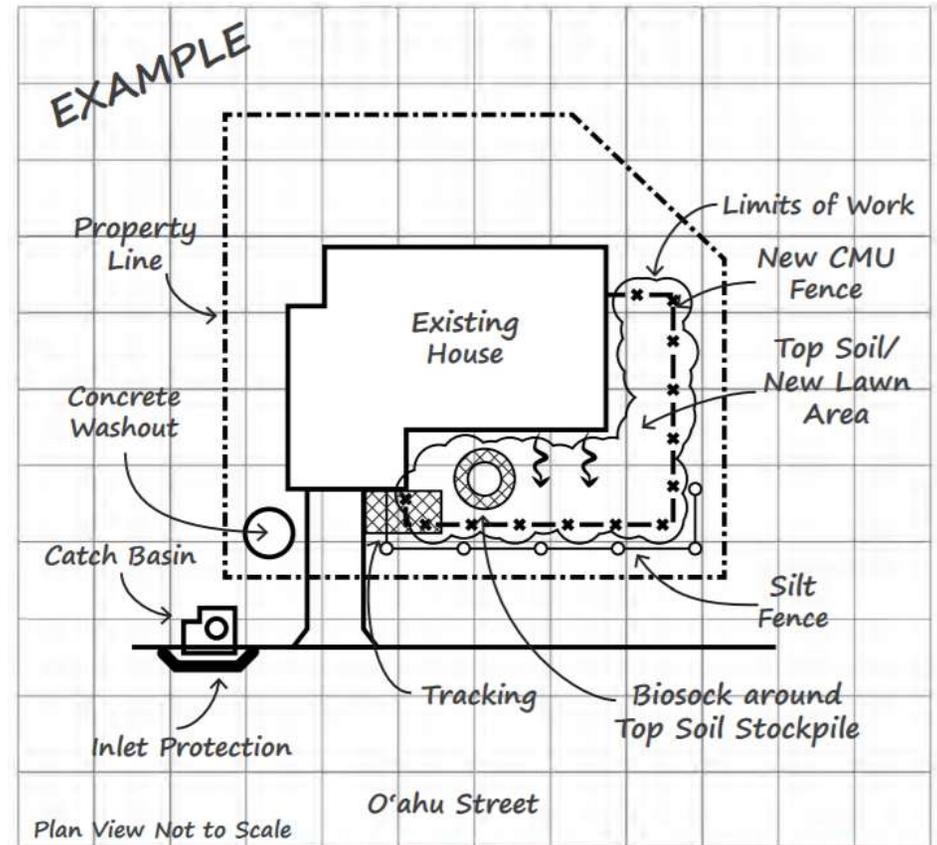
- ❑ Make sure the ESCP is complete:
 - Template is filled out.
 - Diagram is complete.
 - Project schedule is complete.
 - Owner Signature.
 - ESCP Coordinator is Designated.
 - Drawings/ attachments no larger than 11"x17" preferred.
- ❑ If hand-drawing, use a straight edge and a pen for site diagrams.
- ❑ Label clearly or provide a legend for different line types (property boundary, silt fence, dust fence, biosock, etc.).

Site Conditions	
	Property Boundary
	Existing Building(s)
	Fence
	Area of Work
	Storm Drain
	Catch Basin/Inlet
	Storm Drain Flat Inlet
	Direction of Water Flow
Protective Actions (or BMPs)	
	Silt Fence
	Biosock
	Sand/Gravel Bags
	Catch Basins/Drain Protection
	Vegetation
	Matting or Plastic Cover
	Hydraulic Mulch/ Hydroseeding
	Dust Fence
	Gravel
	Stabilized Construction Entrance/Exit

ESCP Review Tips (continued)

Don't make the reviewer guess:

- ❑ Show flow direction.
- ❑ Label slopes where work will occur.
- ❑ Show new vs. existing; paved vs. unpaved.
- ❑ Provide measurements for disturbed area (in square-feet).
- ❑ Label all features that are part of your strategy (vegetated buffers, impermeable walls).
- ❑ Provide additional notes about ESCP sequencing and methodology if needed but avoid contradictory information.



ESCP Review Tips (continued)

- ❑ Between categories 1A and 1B? Call DPP storm water for confirmation or round up.
- ❑ For multiple permits on the same site (demo + construction, alteration to existing SFD + new ADU)
 - One ESCP is acceptable.
 - It is required before construction on any of the phases starts so submit it with the permit for the work that you intend to perform first.
 - Site diagrams must clearly show all work (provide more than one drawing if needed).
 - All phases must be on the schedule.
 - Revisions to include additional phases will require an additional fee.

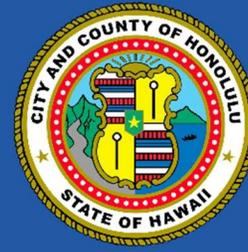
Common Errors

- Wrong template.
- Template is incomplete or blank.
- No project schedule or not enough detail.
- Site diagram is unclear, or does not provide enough detail.
 - Illegible,
 - Faded or too dark,
 - No BMPs or BMPs are not labeled, and/or
 - No flow direction.
- No certified ESCP coordinator designated.
- No owner signatures.

Common Errors (continued)

- ❑ Perimeter controls not placed in the correct locations to prevent polluted runoff from leaving the site.
- ❑ Contradictory information:
 - ESCP template check boxes do not match what is shown on the site diagram.
 - Notes are provided which are vague or contradict ESCP template and site diagram.
 - BMP Details do not match what is shown on the site plan.
 - Is it a silt fence or a dust screen?
 - Is it a stabilized construction entrance or an existing paved entrance?
- ❑ BMPs that are obviously inappropriate for the situation or location.
 - i.e. silt fence on pavement





Thank you!

Questions?

Hands-on exercises will take place later this afternoon.