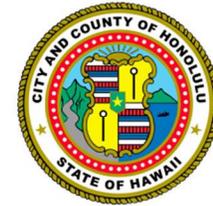
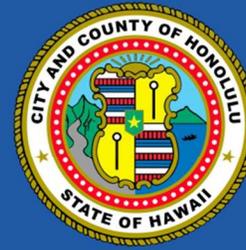


# July Construction Stormwater Quality Workshop

July 16–19, 2018

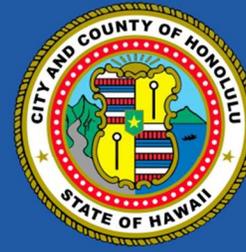




# How to Perform a BMP Inspection at Small Construction Projects (Category 1A, 1B, and 2)

Ariana Chong **JACOBS**

3rd Party Construction Inspector



# Introduction

- Welcome
- Introduction

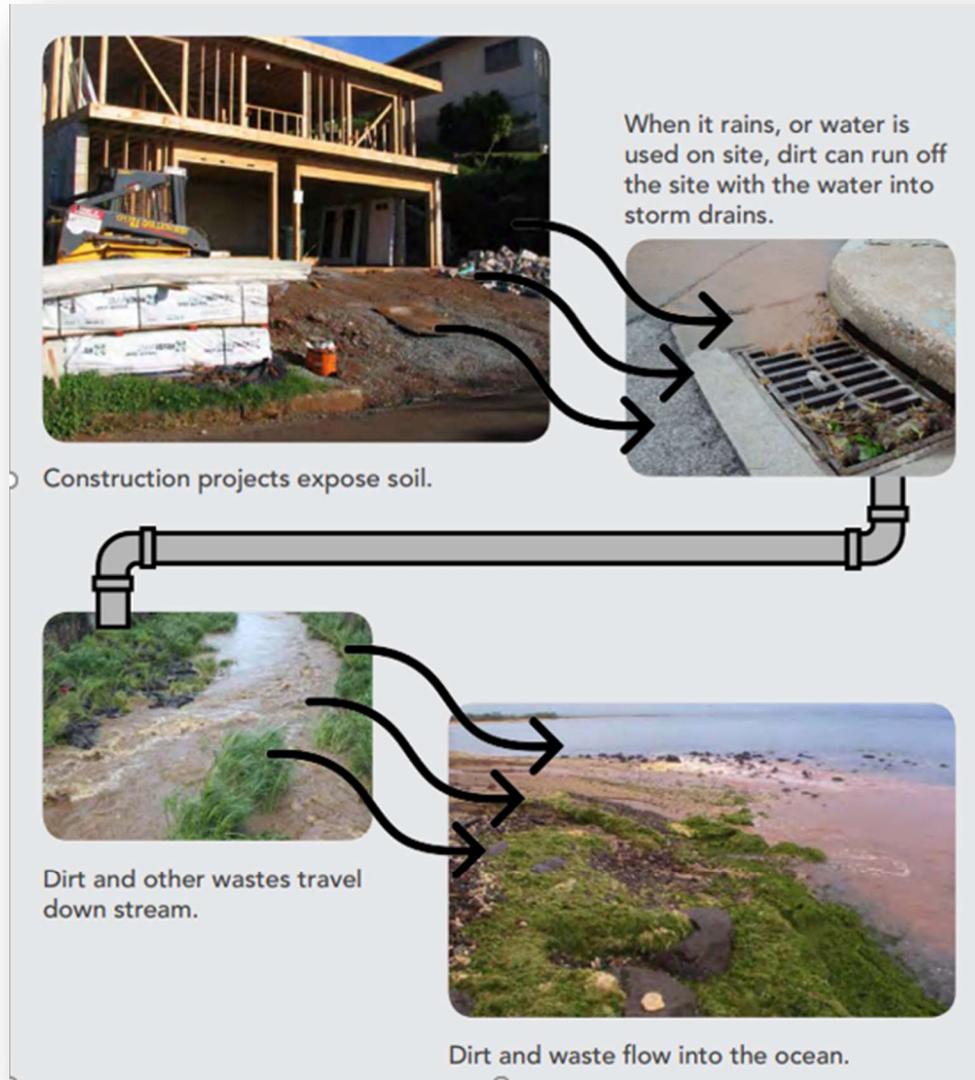
## Learning Objectives

- ❑ Understand the role of the ESCP Coordinator
  - ❑ Understand the requirements for self-inspection
  - ❑ How to document inspections to show compliance
  - ❑ How to conduct a construction BMP inspection
- ❖ Mock Inspection Exercise

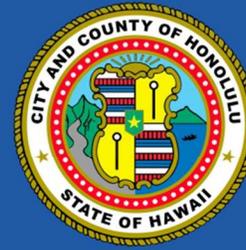
## Why conduct inspections during the construction process?

- ✓ Ensure that **protective actions/BMPs** are in place, installed properly, and working as intended
- ✓ Improve the quality of runoff into the City's storm drain system
  - **reduce pollutants into our streams and ocean**
- ✓ Comply with City's water quality rules requirements
- ✓ Avoid notices of violations and fines

# Construction projects can cause dirt and other pollutants to flow into our streams and ocean



Use Best  
Management  
Pactices (BMPs)  
to protect our  
streams and  
ocean



# Role of the Erosion and Sediment Control Plan Coordinator

## ESCP Coordinator

“ESCP Coordinator” means the designee responsible for the implementation of an ESCP who has a current ESCP coordinator certificate from DPP.

- Requires a training, test, and certification from DPP
- It can be the homeowner if the homeowner has taken the online training and obtained the certification
- No professional credentials required
- Responsible for implementation of BMPs and required inspections
- Submits the inspection reports to the City’s DPP at the end of the project



# ESCP Coordinator Training

☐ <http://www.honolulu.gov/dfmswq/rules-relating-to-water-quality.html>

### Web-Based training certification

- **Erosion and Sediment Control Plan** or “**ESCP**” **Coordinator**: Designee responsible for the implementation, inspection and oversight of an approved Erosion and Sediment Control Plan (ESCP) during construction who has a current ESCP coordinator certificate from the City’s Department of Planning and Permitting. This person can be a homeowner, contractor or authorized representative approved by the property owner
- **Certified Water Pollution Plan Preparer** or “**CWPPP**”: Architect, Engineer, Land Surveyor, or Landscape Architect licensed in the State of Hawaii who has a current Water Pollution Plan Preparer Certificate from the City’s Department of Planning and Permitting. This licensed professional is responsible for developing any post-construction Best Management Practices (BMP) plans that are approved by the department that addresses any source, treatment and Low Impact Development (LID) design requirements in accordance to the Rules Relating to Water Quality. CWPPPs are also responsible for conducting site observation(s) to attest that post construction BMPs and source control BMPs appear to have been installed in general conformance according to the approved construction plans and certifying as part of the Certificate of Completion prior to closing of any applicable building or grading permits.



[ESCP and CWPPP Annual Web-Training INSTRUCTIONS](#)

*WARNING: Do not use the "Certificate" function at the end of the CWPPP training course. Please follow the instructions to print your certificate*

*Some functions do not work with Internet Explorer, recommend using a different browser*

*If you experience difficulties with the online training, call 440-0207*

*For questions about ePlans visit Department of Planning and Permitting's [website](#)*

## Required Construction Inspections

- Inspections must be performed by the ESCP Coordinator
- Pre-construction inspection** required for all projects
- Regular Inspections:**

Project Category	Frequency of Inspection	WQR Checklist
Category 1A, 1B, & 2	Once every 30 days*	Appendix C
Category 3, 4, & Trenching	Once every 7 days	Appendix C

\* if the Project will be completed in less than 30 days, inspection shall occur midway through the Project

- Final Inspection** at the conclusion of the project

## Role of the ESCP Coordinator - Before, During, & After Construction

<b>Before Construction</b>	<ul style="list-style-type: none"> <li>• Read and understand ESCP and discuss with Contractor</li> <li>• Install BMPs as specified in ESCP</li> <li>• Conduct a <b>Pre-Construction Inspection</b> prior to start of work</li> </ul>
<b>During Active Construction</b>	<ul style="list-style-type: none"> <li>• Conduct <b>regular inspections</b></li> <li>• Monitor and Maintain BMPs</li> <li>• Modify BMPs as needed, note changes in ESCP</li> </ul>
<b>After Construction</b>	<ul style="list-style-type: none"> <li>• Conduct a <b>Final Inspection</b> and confirm that all Disturbed Areas have been stabilized and all temporary BMPs have been removed</li> <li>• Submit the <u>Final Project Log</u>* and <u>ESCP Letter of Compliance</u> to DPP for project closeout</li> </ul>

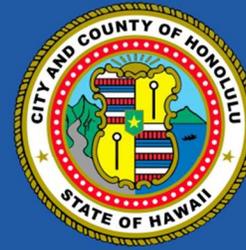
\* The **Final Project Log** is the file of all completed ESCP inspection reports and photographs. Keep it on Site or electronically accessible from the Site at all times and in a complete condition.

All communication is submitted through DPP and ultimately run through the assigned Inspector in order to close out the permit.

# Recordkeeping

- ❑ Project Log
  - Completed inspection reports
  - Photos
  
- ❑ Kept at the Site at all times





# How to Conduct a BMP Inspection

## ESSENTIALS FOR INSPECTIONS

- ✓ SET AN INSPECTION SCHEDULE – for example, 1<sup>st</sup> of the month or every Friday
- ✓ YOUR ESCP – Keep a copy available onsite at all times.
- ✓ INSPECTION REPORT – Use **Appendix C Checklist** of the WQR
- ✓ CAMERA – phone camera, digital camera, or Ipad.

# Have your approved ESCP on hand

**Appendix B**

City and County of Honolulu  
 DEPT. OF PLANNING AND PERMITTING  
 STORMWATER QUALITY  
 ESCP REVIEW  
 DATE: 1/23/19 Erosion and Sediment Control Plan  
 Category 1B Template

Construction Site Project Name: Mr. Smith's New Single Family Dwelling  
 Physical Site Address: 1234 O'ahu Street  
 Erosion and Sediment Control Coordinator: Jane Doe Phone Number: 808-2222  
 Building Permit Number: 2017-00-0000

**Instructions:**  
 This completed template is to be used as the Erosion and Sediment Control Plan (ESCP) for small projects which fall under the City and County of Honolulu, Department of Planning and Permitting (DPP) Category 1B: Single-family or Two-family detached residential projects that disturb between 1,000 square feet and less than 1 acre, commercial projects that disturb less than one acre of land, or smaller residential projects with land disturbing activities less than 1,000 square feet on a slope of 15%.

This ESCP must be submitted as part of the Building Permit application and made available on the project site at all times. This ESCP may be prepared by the owner of the project or an authorized representative designated by the owner. Both individuals must certify this plan below.

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. All best management practices (BMP) are mandatory during construction, unless it is not applicable. 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.honoluluapp.org](http://www.honoluluapp.org)). For any conflicting information between the Rules Relating to Water Quality and the Construction BMP manual, the requirements of the Rules relating to Water Quality shall be used. If other BMPs not listed are used to achieve the same or similar results, attach additional documentation.

**I. EROSION PREVENTION** Factsheet: EC-1

Notify 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.

**2. Slope Management and Protection** Factsheet: EC-3, EC-4, EC-7, and EC-14  
 Areas disturbed on a slope greater than 15% must be protected when work is inactive for seven (7) days or more.  
 To find the percentage, divide the vertical height of your slope by the horizontal length of your slope and multiply by 100. For example, if your slope measures 3 feet vertically, and 10 feet horizontally, your slope would be  $3 / 10 \times 100 = 30\%$

Applicable (please specify):  
 1. Hydraulic mulch or hydrossed   
 2. Geotextile fabrics   
 3. Planting and/or vegetation providing at least 70% surface cover   
 4. Other: (please specify)

Not Applicable

**3. Temporary Stabilization** Factsheet: EC-3, EC-4, EC-5, EC-7 and EC-14  
 Use one or more of the following to protect disturbed areas that will not be worked on within 14 days:  
 Applicable (please specify):  
 1. Rolled Erosion Control Products   
 2. Hydraulic mulch or hydrossed   
 3. Hydraulic or Bonded Fiber Matrix   
 4. Planting and/or vegetation providing at least 70% surface cover   
 5. Other: (please specify)

Not Applicable

**4. Permanent Stabilization** Factsheet: Not Available  
 Prior to final approval and closing of the permits for work on the project site, permanent stabilization  Applicable

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**Appendix B**

must be in place.  Not Applicable

**II. SEDIMENT CONTROL BMPs** Factsheet: SE-1, SE-5, SE-6, SE-8, and SE-16

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 your project site, and around the base of all material stockpiles.  Applicable  Not Applicable

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.  Applicable  Not Applicable

**III. GOOD HOUSEKEEPING BMPs** Factsheet: Not Available

1. **BMP and Site Maintenance** Regularly inspect and maintain required BMPs to ensure continued performance.  Applicable  Not Applicable

2. **Dust Control** Use one of the following to control dust:  
 Applicable (please specify):  
 1. Mulching to a depth of one inch or more   
 2. Sprinkling exposed soils with water to maintain moisture   
 3. Vertical dust barriers   
 4. Spray-on Chemical Soil Treatments (palliatives)   
 5. Other: (please specify)

Not Applicable

3. **Material Delivery, Storage and Control** Minimize the storage of hazardous materials onsite, store materials in a designated area, and install secondary containment. Do not store materials in buffer areas, near areas of concentrated flow, or areas abutting the MSA Receiving Waters, or drainage improvements that discharge off-site.  Applicable  Not Applicable

4. **Stockpile Management** Locate stockpiles away from drainage ways or other areas of concentrated flows. Use a barrier around stockpiles and cover if they will not be actively used within seven (7) days.  Applicable  Not Applicable

5. **Spill Prevention and Control** Keep ample supply of cleanup materials onsite. Clean up spills immediately, using dry clean-up methods where possible, and dispose of used materials properly.  Applicable  Not Applicable

6. **Solid Waste Management** Provide designated waste collection areas for solid waste or construction and demolition waste, collect trash daily, and dispose at authorized disposal areas.  Applicable  Not Applicable

7. **Hazardous Waste Management** Prevent or reduce the discharge of pollutants to storm water from hazardous waste through proper material use and waste disposal.  Applicable  Not Applicable

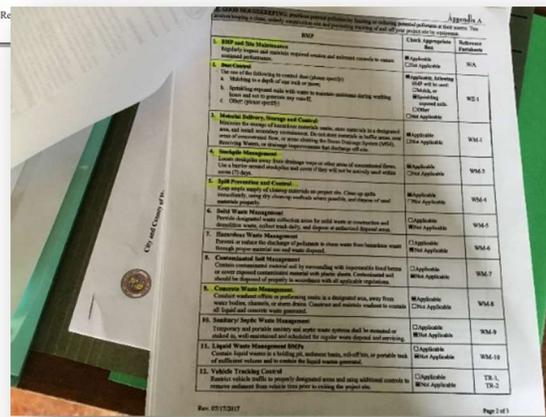
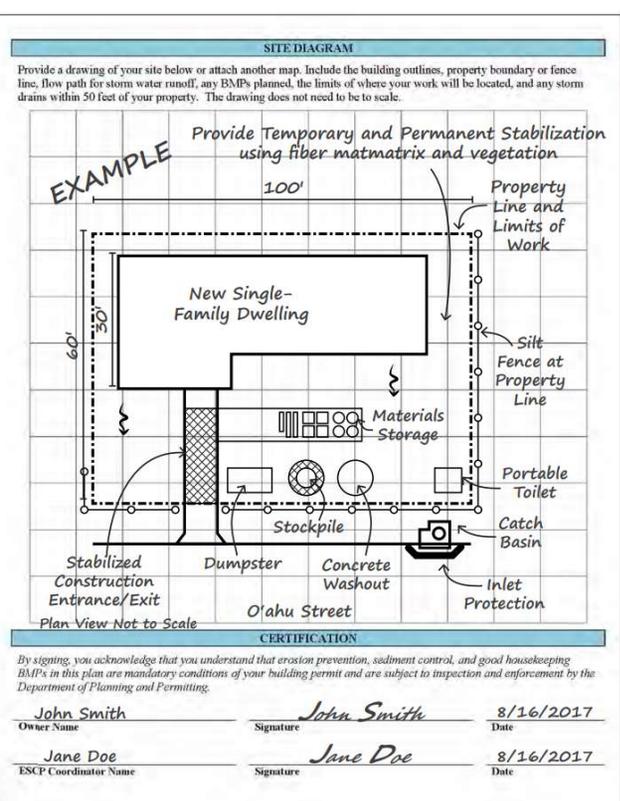
8. **Contaminated Soil Management** Contain contaminated material soil by surrounding with impermeable lined berms or cover exposed contaminated material with plastic sheets. Contaminated soil should be disposed of properly in accordance with all applicable regulations.  Applicable  Not Applicable

9. **Concrete Waste Management** Conduct washout offsite or performing onsite in a designated area, away from water bodies, channels, or storm drains. Construct and maintain washout to contain all liquid and concrete waste generated.  Applicable  Not Applicable

10. **Sanitary/Septic Waste Management** Temporary and portable sanitary and septic waste systems shall be mounted or staked in, well-maintained and scheduled for regular waste disposal and servicing.  Applicable  Not Applicable

11. **Liquid Waste Management BMPs** Contain liquid waste in a holding pit, sediment basin, roll-off bin, or portable tank of sufficient volume and to contain the liquid wastes generated.  Applicable  Not Applicable

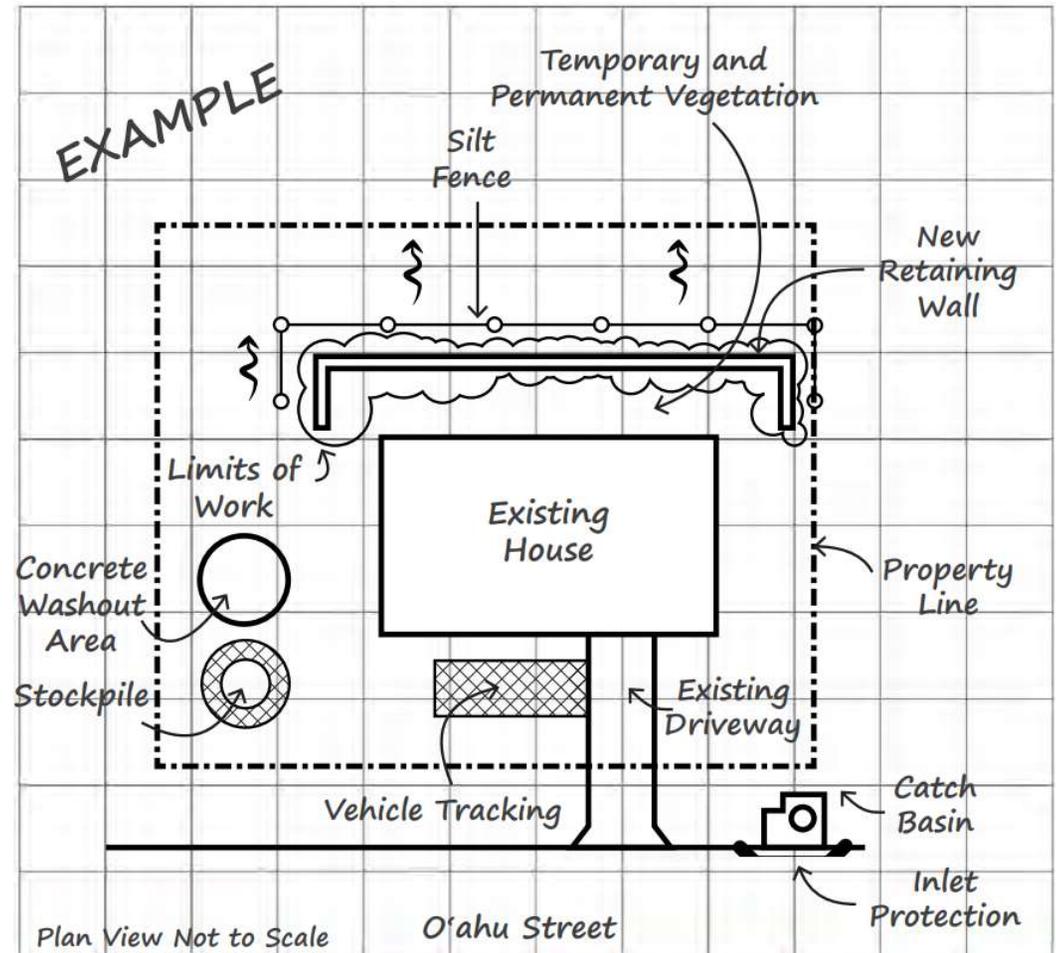
12. **Vehicle Tracking Control** Restrict vehicle traffic to properly designated areas and using additional controls to remove sediment from vehicle tires prior to exiting the project site.  Applicable  Not Applicable



**Tip: Highlight the Applicable BMPs**

# During Inspections

- ❑ Do a walk through of all project areas
  - ✓ Material storage areas
  - ✓ Concrete Washout area
  - ✓ Equipment parking area
  - ✓ Sidewalk and roadway
  - ✓ Nearby catch basins
  - ✓ Housekeeping practices

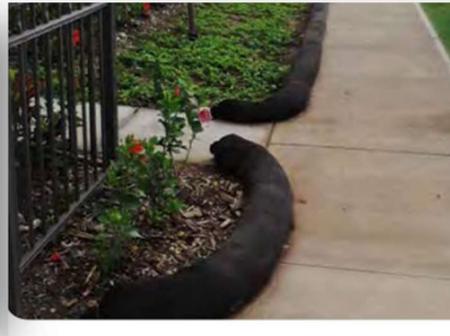


# During Inspections

- Check that **protective actions/BMPs** are correctly installed



Silt fence



Biosocks



Stockpiles



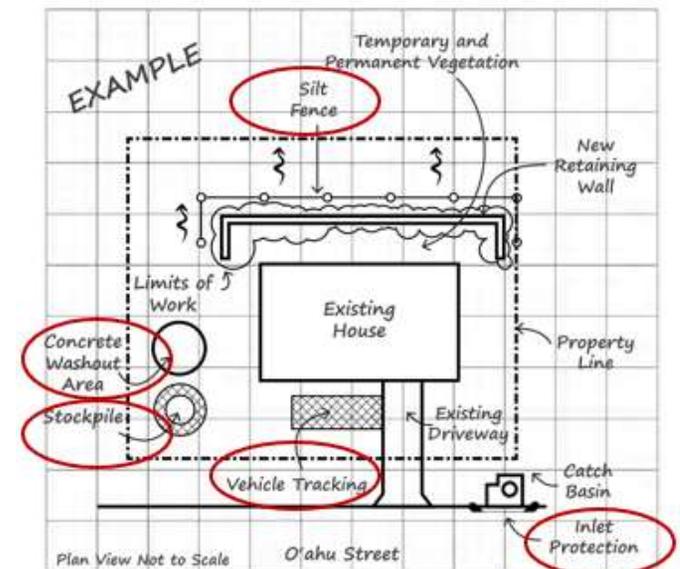
Inlet Protection



Concrete Washout



Material Storage



# During Inspections

- ❑ Ask questions like:
  - Is it the right BMP for the application?
  - Is the BMP installed correctly?
  - Is the BMP maintained?
  
- ❑ If answer is “NO”, make necessary BMP adjustments
  - BMP not working as desired
  - Improper installation
  - Damaged BMP
  - Make prompt fixes and repairs
  
- ❑ Note any BMP changes/modifications in your ESCP



# During Inspections

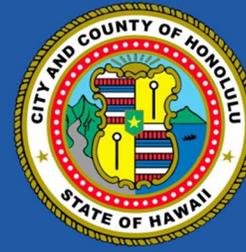
- Fill checklist as you go
  - Recommend to use a pen to fill out
- Note deficiencies observed



- Take photos



- Anticipate what activity will happen next and prepare for it
- Communicate findings with other Site workers
  - Goal: to improve work practices



## WQR Appendix C Checklist

- Hands on tutorial on how to fill out an inspection report
- A hardcopy of Appendix C Checklist is provided

# WQR Appendix C Checklist

Appendix C



City and County of Honolulu

## Construction Site BMPs Inspection Checklist For CCH Category 1A, 1B, 2, 3, and 4 and Trenching Projects

General Information			
Project Name: <u>Mr. Smith's New Single Family Residence</u>		Date: <u>08/16/2017</u>	
Location: <u>1234 O'ahu Street</u>		TMK: <u>1 - 2 - 0 3 4 : 0 5 6</u>	
Project Manager: <u>Mr. John Doe</u>		Phone #: <u>888-1234</u>	Email: <u>John.doe@honolulu.gov</u>
Contractor: <u>BMP Specialist, Inc.</u>			
Authorized Representative: <u>Ms. Jane Doe</u>		Title: <u>General Contractor</u>	
Phone #: <u>818-1234</u>		Email: <u>Jane.doe@honolulu.gov</u>	
1. City Permit <input checked="" type="checkbox"/> Building #: <u>A2017-01-0123</u> Exp. Date: <u>08/16/2018</u> <input type="checkbox"/> Grading #: _____ Exp. Date: _____ (check all that apply) <input type="checkbox"/> Grubbing #: _____ Exp. Date: _____ <input type="checkbox"/> Stockpiling #: _____ Exp. Date: _____ <input type="checkbox"/> Trenching #: _____ Exp. Date: _____			
2. Other Permits (list all): _____			
Inspection Type			
<input checked="" type="checkbox"/> Regular Weekly Inspection		<input type="checkbox"/> Re-Inspection	
Project Phase (check all that apply)			
<input type="checkbox"/> Mobilization / Demolition	<input type="checkbox"/> Grubbing / Clearing	<input type="checkbox"/> Rough Grading	<input checked="" type="checkbox"/> Infrastructure / Utilities
<input checked="" type="checkbox"/> Building Construction	<input type="checkbox"/> Final Grading	<input type="checkbox"/> Final Stabilization	
Records Review (If "No" is checked for any of the following columns, complete Deficiencies / Corrective Action Report on page 3.)			
	<u>Available at Site</u>	<u>Complete, Signed, and Current</u>	
Pre-Construction Inspection	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Weekly or Monthly Construction Inspections	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Erosion and Sediment Control Plan (ESCP)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

# WQR Appendix C Checklist

## ESCP contains all applicable BMPs

**Appendix B**  
**Erosion and Sediment Control Plan**  
 Category: IB Template

City and County of Honolulu

Construction Site Project Name: Mr. Smith's New Single Family Dwelling  
 Physical Site Address: 1234 O'ahu Street  
 Erosion and Sediment Control Coordinator: Jane Doe Phone Number: 808-2222  
 Building Permit Number: 2017-00-0000

**Introduction:**  
 This completed template is to be used as the Erosion and Sediment Control Plan (ESCP) for small projects which fall under the City and County of Honolulu, Department of Planning and Permitting (DPP) Category 1B, Single-Family or Two-Family detached residential projects that disturb between 1,000 square feet and less than 1 acre, commercial projects that disturb less than one acre of land, or smaller residential projects with less than 1,000 square feet on a slope of 15%.

This ESCP must be submitted as part of the Building Permit application and made available on the project site at all times. This ESCP may be prepared by the owner of the project or an authorized representative designated by the owner. Both individuals must certify this plan below.

Read through the instructions for each of the three (3) sections on the next page: **I. Erosion Prevention, II. Sediment Control, and III. Good Housekeeping.** All best management practices (BMP) are mandatory during construction, unless it is not applicable. 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.gov](http://www.honolulu.gov)) for any conflicting information between the Rules Relating to Water Quality and the Construction BMP manual, the requirements of the Rules relating to Water Quality shall be used. If other BMPs not listed are used to achieve the same or similar results, attach additional documentation.

**I. EROSION PREVENTION** **FactSheet: EC-1**

1. **Project Scheduling** **FactSheet: EC-1**  
 Notify 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.

2. **Slope Management and Protection** **FactSheet: EC-3, EC-4, EC-7, and EC-14**  
 Areas disturbed on a slope greater than 15% must be protected when work is inactive for over (7) days or more.  
 To find the percent, divide the vertical height of your slope by the horizontal length of your slope and multiply by 100. For example, if your slope measures 3 feet vertically, and 10 feet horizontally, your slope would be 3 / 10 X 100 = 30%.

Applicable (please specify):  
  
  
  
 1. Hydraulic mulch or hydroseed  
 2. Geotextile fabric  
 3. Planting and/or vegetation providing at least 70% surface cover  
 4. Other: (please specify)  
 Not Applicable

3. **Temporary Stabilization** **FactSheet: EC-3, EC-4, EC-5, EC-7, and EC-14**  
 Use one or more of the following to protect disturbed areas that will not be worked on within 14 days:  
 1. Rolled Erosion Control Products  
 2. Hydraulic mulch or hydroseed  
 3. Hydraulic or Bonded Fiber Mats  
 4. Planting and/or vegetation providing at least 70% surface cover  
 5. Other: (please specify)  
 Not Applicable

4. **Permanent Stabilization** **FactSheet: Not Available**  
 Prior to final approval and closing of the permits for work on the project site, permanent stabilization  Applicable

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**Appendix B**  
 must be in place.

**II. SEDIMENT CONTROL BMPs** **FactSheet: SE-1, SE-5, SE-6, SE-8, and SE-16**

1. **Perimeter Controls** **FactSheet: SE-1, SE-5, SE-6, SE-8, and SE-16**  
 Sediment fences or barriers shall be used at the perimeter of all disturbed areas if there is the potential for runoff to flow off your project site, and around the base of all material stockpiles.  Applicable  Not Applicable

2. **Storm Drain Inlet Protection** **FactSheet: SE-16**  
 Inlet protection is required over storm drains within 50 feet of your project site unless those inlets drain to a sediment basin or trap.  Applicable  Not Applicable

**III. GOOD HOUSEKEEPING BMPs**

1. **BMP and Site Maintenance** **FactSheet: Not Available**  
 Regularly inspect and maintain required BMPs to ensure continued performance.  Applicable  Not Applicable

2. **Dust Control** **FactSheet: WE-1**  
 Use one of the following to control dust:  Applicable (please specify):  
 1. Misting to a depth of one inch or more  
 2. Sprinkling exposed soils with water to maintain moisture  
 3. Vertical dust barriers  
 4. Spray-on Chemical Soil Treatments (polymers)  
 5. Other: (please specify)  
 Not Applicable

3. **Material Delivery, Storage and Control** **FactSheet: WM-1**  
 Minimize the storage of hazardous materials onsite, store materials in a designated area, and install necessary containment. Do not store materials in buffer areas, near areas of concentrated flow, or near existing MS4, Recycled Water, or drainage improvements that discharge offsite.  Applicable  Not Applicable

4. **Stockpile Management** **FactSheet: WM-3**  
 Level stockpiles away from drainage ways or other areas of concentrated flows. Use a barrier around stockpiles and cover if they will not be actively used within seven (7) days.  Applicable  Not Applicable

5. **Spill Prevention and Control** **FactSheet: WM-4**  
 Keep ample supply of cleanup materials onsite. Clean up spills immediately, using dry cleanup methods where possible, and dispose of used materials properly.  Applicable  Not Applicable

6. **Solid Waste Management** **FactSheet: WM-5**  
 Provide designated waste collection areas for solid waste or construction and demolition waste, collect trash daily, and dispose at authorized disposal areas.  Applicable  Not Applicable

7. **Hazardous Waste Management** **FactSheet: WM-6**  
 Prevent or reduce the discharge of pollutants to storm water from hazardous waste through proper control and spill prevention.  Applicable  Not Applicable

8. **Contaminated Soil Management** **FactSheet: WM-7**  
 Contain contaminated material and by surrounding with impermeable lined berms or cover exposed contaminated material with plastic sheet. Contaminated soil should be disposed of properly in accordance with all applicable regulations.  Applicable  Not Applicable

9. **Concrete Waste Management** **FactSheet: WM-8**  
 Conduct washout efforts or performing onsite in a designated area, away from water bodies, channels, or storm drains. Construct and maintain washout to contain all liquid and concrete waste generated.  Applicable  Not Applicable

10. **Sanitary/Septic Waste Management** **FactSheet: WM-9**  
 Temporary and portable sanitary and septic waste systems shall be installed or stacked in, well-maintained and scheduled for regular waste disposal and servicing.  Applicable  Not Applicable

11. **Liquid Waste Management BMPs** **FactSheet: WM-10**  
 Contain liquid waste in a holding pit, sediment basin, roll-off bin, or portable tank of sufficient volume and to contain the liquid waste generated.  Applicable  Not Applicable

12. **Vehicle Tracking Control** **FactSheet: TR-1 and TR-2**  
 Restrict vehicle traffic to properly designated areas and using additional controls to remove sediment from vehicle tires prior to exiting the project site.  Applicable  Not Applicable

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**Appendix C**

**Construction BMP Inspection Results (Mark the BMPs that are required per Plan for each column)**

Construction BMP	Installed / Maintained	Number of Deficiencies	Construction BMP	Installed / Maintained	Number of Deficiencies	Construction BMP	Installed / Maintained	Number of Deficiencies
<b>Erosion Prevention</b>			<b>Sediment Control</b>			<b>Good Housekeeping</b>		
<input checked="" type="checkbox"/> Project Planning and Design	<input type="checkbox"/> Y <input type="checkbox"/> N		<input checked="" type="checkbox"/> Inlet and Storm Drain Protection	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	2	<input checked="" type="checkbox"/> BMP and Site Maintenance	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	4
<input checked="" type="checkbox"/> Project Scheduling	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N		<input checked="" type="checkbox"/> Perimeter Control	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	1	<input type="checkbox"/> Dust Control	<input type="checkbox"/> Y <input type="checkbox"/> N	
<input checked="" type="checkbox"/> Slope Management and Protection	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	1	<input type="checkbox"/> Other: biosock	<input type="checkbox"/> Y <input type="checkbox"/> N		<input checked="" type="checkbox"/> Material Delivery, Storage, and Use BMPs	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	2
<input checked="" type="checkbox"/> Temporary Stabilization	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N					<input checked="" type="checkbox"/> Stockpiling Management	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	1
<input checked="" type="checkbox"/> Permanent Stabilization	<input type="checkbox"/> Y <input type="checkbox"/> N					<input checked="" type="checkbox"/> Spill Prevention and Control	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
<input type="checkbox"/> Diversion BMPs to divert runoff from upstream areas around disturbed areas	<input type="checkbox"/> Y <input type="checkbox"/> N					<input checked="" type="checkbox"/> Solid Waste Management	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	2
<input type="checkbox"/> Velocity Dissipation Devices	<input type="checkbox"/> Y <input type="checkbox"/> N					<input type="checkbox"/> Hazardous Waste Management	<input type="checkbox"/> Y <input type="checkbox"/> N	
<input type="checkbox"/> Other:	<input type="checkbox"/> Y <input type="checkbox"/> N					<input type="checkbox"/> Contaminated Soil Management	<input type="checkbox"/> Y <input type="checkbox"/> N	
						<input checked="" type="checkbox"/> Concrete Waste Management	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
						<input checked="" type="checkbox"/> Sanitary / Septic Waste Management	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
						<input type="checkbox"/> Liquid Waste Management	<input type="checkbox"/> Y <input type="checkbox"/> N	
						<input type="checkbox"/> Vehicle & Equipment Cleaning	<input type="checkbox"/> Y <input type="checkbox"/> N	
						<input type="checkbox"/> Vehicle & Equipment Fueling	<input type="checkbox"/> Y <input type="checkbox"/> N	
						<input type="checkbox"/> Vehicle & Equipment Maintenance	<input type="checkbox"/> Y <input type="checkbox"/> N	
						<input checked="" type="checkbox"/> Vehicle Tracking Control	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	2
						<input checked="" type="checkbox"/> Stabilized Construction Entrance and Exit	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	2
						<input type="checkbox"/> Dewatering Operations BMPs.	<input type="checkbox"/> Y <input type="checkbox"/> N	
						<input type="checkbox"/> Other:	<input type="checkbox"/> Y <input type="checkbox"/> N	

Note: Stabilization will be provided at the end of the project, after home is built

Rev. 07/01/2016

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# WQR Appendix C Checklist



## Appendix C

Deficiencies / Corrective Action Reports (attach additional pages as needed)	
Photo # 1	Photo # 2
	
Taken By: <u>Jane Doe</u> Date: <u>8/16/2017</u> Description: <u>1234 O'ahu Street</u>	Taken By: <u>Jane Doe</u> Date: <u>8/16/2017</u> Description: <u>1234 O'ahu Street</u>
Comments: <u>Sediment tracking onto roadway. Recommend sweeping road to remove any dirt tracked and installing entrance protection with gravel or other means to prevent tracking. Recommend installing perimeter and slope protection BMPs.</u>	Comments: <u>Illegal unprotected stockpile stored on sidewalk. Recommend moving stockpile onto property and protecting with perimeter control and possibly covering material.</u>
Status: <u>Completed</u> Priority: <u>High</u>	Status: <u>Completed</u> Priority: <u>High</u>
Corrected by (initials) <u>JD</u> Date: <u>8/16/2017</u> Comments: <u>Swept roadway and installed biosock along perimeter. Placed down 6" layer of gravel with blanket filter fabric lining underneath at entrance.</u>	Corrected by (initials) <u>JD</u> Date: <u>8/16/2017</u> Comments: <u>Swept roadway and moved stockpile onto property. Installed biosock around stockpile and covered with tarp.</u>

# WQR Appendix C Checklist



## Appendix C

Deficiencies / Corrective Action Reports (attach additional pages as needed)	
<p><b>Photo # 3</b></p> 	<p><b>Photo # 4</b></p> 
<p>Taken By: <u>Jane Doe</u> Date: <u>8/16/2017</u></p> <p>Description: <u>New single family dwelling at 1234 O'ahu Street</u></p>	<p>Taken By: <u>Jane Doe</u> Date: <u>8/16/2017</u></p> <p>Description: <u>New single family dwelling at 1234 O'ahu Street</u></p>
<p>Comments: <i>Lack of perimeter control BMPs and evidence of sediment discharge onto roadway. Recommend installing sediment control BMPs at perimeter and protecting exposed soil. Sweep and remove soil residue off road. Remove construction materials and store properly.</i></p>	<p>Comments: <i>No slope protection and lack of BMPs at perimeter, signs of sediment discharge onto sidewalk. Recommend protecting slope with matting and install sediment control BMPs at perimeter. Sweep and remove soil off sidewalk. Remove construction materials off sidewalk and store properly. Clean inlet.</i></p>
<p>Status: <u>Completed</u> Priority: <u>High</u></p>	<p>Status: <u>Completed</u> Priority: <u>High</u></p>
<p>Corrected by (initials) <u>JD</u> Date: <u>8/16/2017</u></p> <p>Comments: <i>Swept roadway and installed biosock and silt fence at perimeter. Removed construction materials and disposed properly.</i></p>	<p>Corrected by (initials) <u>JD</u> Date: <u>8/16/2017</u></p> <p>Comments: <i>Swept sidewalk and cleaned inlet of debris and sediment. Installed silt fence at bottom of slope and placed matting over slope. Removed construction materials and disposed properly.</i></p>

# BMP Deficiency Categories

## Minor Deficiencies - Do not pose a threat of discharging pollutants to the MS4 or surface waters, but are not in strict conformance with ESCP

Level of Severity	Examples include, but are not limited to:
Minor	<ul style="list-style-type: none"> <li>• ESCP does not reflect current operations and an amendment is needed</li> <li>• BMPs are not deficient, but are not consistent with the ESCP</li> <li>• <b>Site inspections by the ESCP Coordinator are not being conducted at the required frequencies</b></li> <li>• Hazardous materials or waste stored within the project area in improper locations</li> <li>• Oil, fuel, or brake or transmission fluid spills covering less than one (1) square yard</li> <li>• Evidence of active wind erosion on exposed slopes/stockpiles</li> <li>• Minor tracking on public roadway (less than 50 feet from project from defined ingress/egress locations)</li> </ul>

**Must be corrected within 7 calendar days or before the next forecasted rain event, whichever is sooner**

## Minor Deficiencies - Examples



**Must be corrected within 7 calendar days or before the next forecasted rain event, whichever is sooner**

**Major Deficiencies** - Indicate a lack of good-faith efforts to comply and could reasonably result in the discharge of pollutants to the MS4 or surface waters under rain conditions.

Level of Severity	Examples include, but are not limited to:
<b>Major</b>	<ul style="list-style-type: none"> <li>• Failure to obtain an approved ESCP before land disturbance activities</li> <li>• <b>Erosion and Sediment Control BMPs and/or Good Housekeeping BMPs that are improperly installed or which are not functional or effective</b></li> <li>• Oil, fuel, or brake or transmission fluid spills covering more than one (1) square yard</li> <li>• Sediment tracking more than 50 feet from the project ingress/egress in any direction or 25 feet from the project perimeter in any direction</li> <li>• Dust from project site visible blowing off the site</li> </ul>

**Must be corrected within 5 calendar days or before the next forecasted rain event, whichever is sooner**

## Major Deficiencies - Examples



**Must be corrected within 5 calendar days or before the next forecasted rain event, whichever is sooner**

## **Critical Deficiencies** - Result in or pose an immediate threat of pollutant discharges to the storm drain inlets or surface waters.

Level of Severity	Examples include, but are not limited to:
<b>Critical</b>	<ul style="list-style-type: none"> <li>• Any observed discharge, or evidence of discharge, of untreated storm water or non-storm water to the storm drain system or surface waters</li> <li>• Missing Erosion and Sediment Control BMPs and/or Good Housekeeping BMPs</li> <li>• Work in an active stream channel or other surface water body without proper implementation of required BMPs</li> </ul>

**Must be corrected immediately (by close of business)**

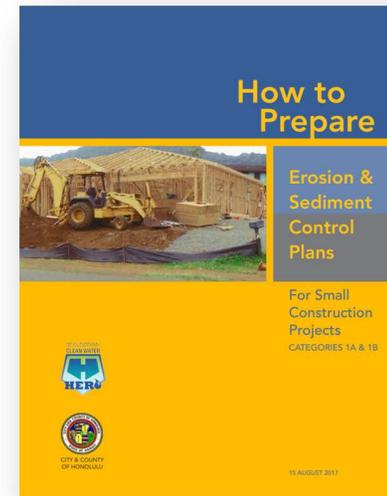
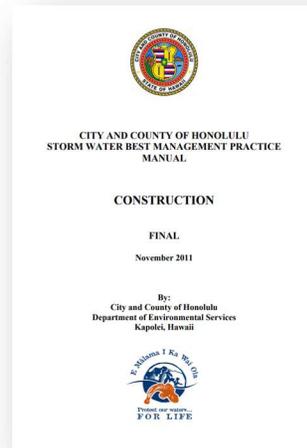
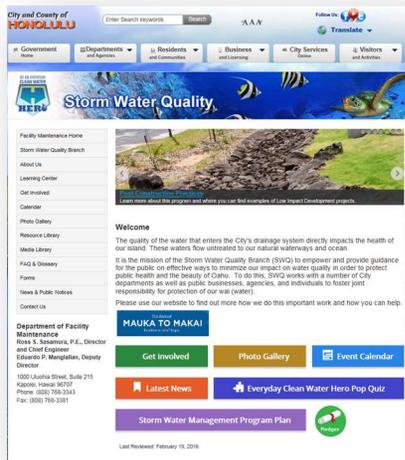
## Critical Deficiencies - Examples

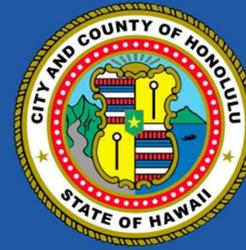


Must be corrected immediately (by close of business)

# Useful Resources:

- ❑ [www.cleanwaterhonolulu.com](http://www.cleanwaterhonolulu.com)
- ❑ [http://www.honolulu.gov/rep/site/dfmswq/library/BMP\\_manual\\_2011-11.pdf](http://www.honolulu.gov/rep/site/dfmswq/library/BMP_manual_2011-11.pdf)
- ❑ [http://www.honolulu.gov/rep/site/dfmswq/dfmswq\\_docs/Construction\\_1A-1B\\_Brochure\\_17Aug17\\_web.pdf](http://www.honolulu.gov/rep/site/dfmswq/dfmswq_docs/Construction_1A-1B_Brochure_17Aug17_web.pdf)

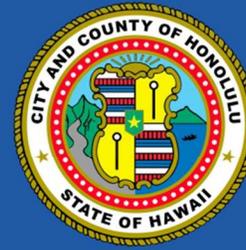




# Construction Site Inspection Exercise

## Online Participation

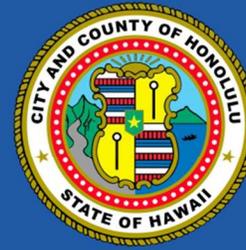
After each slide there will be a question



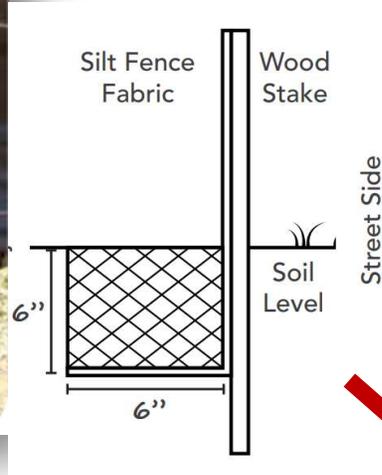
# Online Participation

Please log into the following website:

**[www.KAHOOT.IT](http://www.KAHOOT.IT)**



**We will now review the answers**



- ✓ **Answer 1: Yes**
- ✓ **Explanation:** Silt fence should be trenched at the bottom and secured to the supports. In this example, silt fence is not effective at keeping dirt inside the fence.



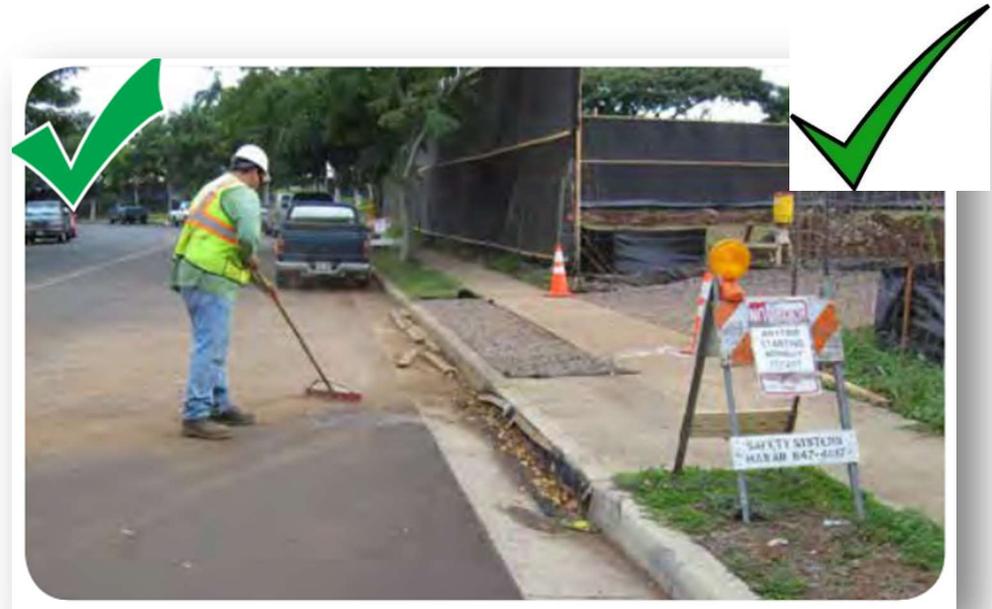
- ✓ **Answer 2: Yes**
- ✓ **Explanation:** Perimeter socks should overlap by at least 6 inches side-by-side so water cannot find its way out.
- ✓ Damaged socks should be repaired or replaced to prevent debris discharge.



- ✓ **Answer 3: Yes**
- ✓ **Explanation:** Filter sock is “falling into” the catch basin and is flattened. Replace sock and extend it well beyond edge of catch basin so water cannot sneak by.



- ✓ **Answer 4: Yes**
- ✓ **Explanation:** The gravel and fabric will keep most but not all dirt from the street. Sweeping is also needed. Dry sweeping periodically to remove surface dirt.





- ✓ **Answer 5:** As the inspector, what do you check for?
- ✓ **Explanation:** Walk over to the containers and determine if this is a solid or liquid.
- ✓ **Explanation:** Provide secondary containment if the buckets contain a liquid.



- ✓ **Answer 6: Yes**
- ✓ **Explanation:** Walk over to the gas cans and determine if they are full. The gas cans should be stored in a flammable cabinet when not filling equipment. If the gas cans are empty, remove from the site.





- ✓ **Answer 7: Yes.**
- ✓ **Explanation:** Concrete washout was dumped directly on the ground, next to a drainage pipe. Provide a leak-proof concrete washout container and place it away from drain inlets. Clean up concrete debris.



- ✓ **Answer 8: Yes.**
- ✓ **Explanation:** The portable toilet is not secured to the ground. Portable toilets should be secured to prevent overturning and spills. Locate it away from drainage ways and drain structures.



- ✓ **Answer 9:** As the inspector, what do you check for?  
**Explanation:** Visually inspect equipment before and after each use. Look for leaks or spills under and around the equipment.
- ✓ **Explanation:** Provide drip pans or absorbent materials under equipment to contain any leaks.

✓ **Answer 10: Yes**

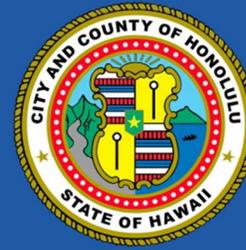
- ✓ **Explanation:** Exposed areas are prone to erosion and sediment discharge. Temporary erosion and/or sediment controls should be installed in the interim until grass is established.



**Temporary Stabilization  
(temporary cover)**



**Permanent Stabilization  
(Permanent cover)**



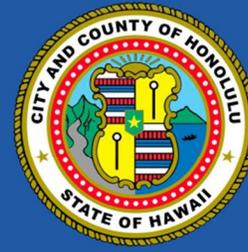
# Take Our Online Survey!

Please log into the following website:

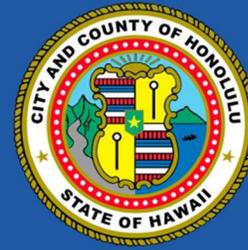
<https://www.surveymonkey.com/r/construction-inspection>

**Thank you for participating in this exercise**

**Thank you for completing the survey**



**Thank you!**



# Questions?

Ariana Chong, Jacobs

M: 808.499.5775

[ariana.chong@jacobs.com](mailto:ariana.chong@jacobs.com)