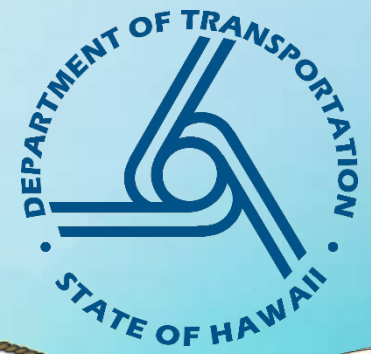


Rain or Shine; It's Inspection Time: Independent Inspections

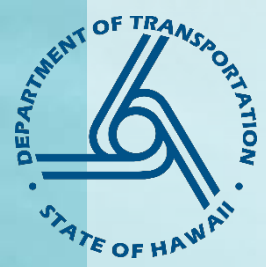


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Speaker

Claudia Akroyd, CHST, CISEC
BOWERS + KUBOTA CONSULTING

Project Inspector

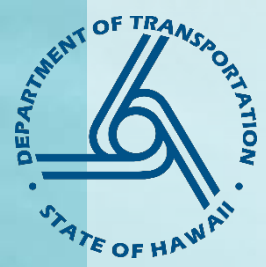
Responsible for conducting independent inspections of DOT-HWYS Contract Construction projects in accordance with DOT-HWYS National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Permit on Oahu



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Frequency of Inspections

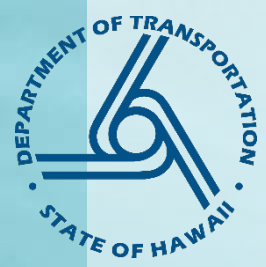
- Inspect construction projects at least monthly
- Criteria for reduced frequency of inspections
- Some projects may not be considered for reduced frequency due to size and/or complexity



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Reduced Frequency of Inspections

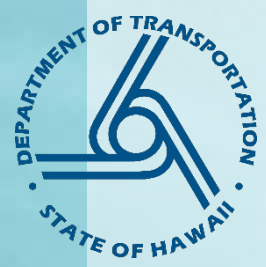
- Three (3) successive monthly inspections with:
 - Zero (0) critical or major deficiencies;
 - Less than six (6) minor deficiencies; and
 - Less than three (3) minor deficiencies in one (1) month
- If all of the above is satisfied, inspections reduced to quarterly.
- Immediately returns to monthly inspections if:
 - At least one (1) critical or major deficiency OR
 - or a total of three (3) or more minor deficiencies
- May be inspected prior to quarterly if:
 - A significant new element of work is started OR
 - A new site is opened for construction



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Types of Deficiencies

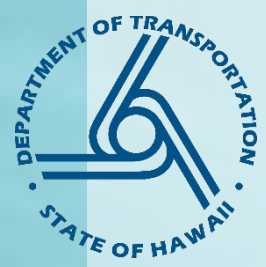
- **Critical Deficiency** – Shall be corrected or addressed **before the close of business** on the day of the inspection in which the deficiency is identified.
- **Major Deficiency** – Shall be corrected or addressed **as soon as possible**, but in no event later than five (5) **calendar** days after the inspection in which the deficiency is identified or **before the next forecasted rain**.
- **Minor Deficiency** - Shall be corrected or addressed as soon as possible, but in no event later than five (5) calendar days after the inspection in which the deficiency is identified or before the next forecasted rain



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BMP General Facts

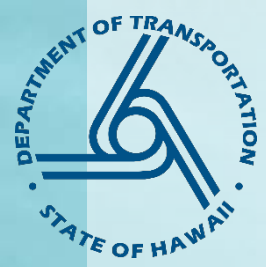
- BMPs must be installed per SWPPP prior to any element of construction
 - Included such elements of grubbing, installation of water lines, etc.
- Ground disturbance is limited to that which is needed only for the installation of the BMP
- Installation must be inspected by DOT and prior to any element of construction begins – Pre-Construction Verification Inspection
- If BMP installation is phased it must be outlined in the SWPPP
- BMPs must be installed per Manufacturer's specification- **Send instructions to field with BMP**
- Can use commercially available BMPs provided they are appropriate for the situation and installed per Manufacturer's specifications
- Provide for layered effect – Inlet protection last line of defense not only



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Addition/Removal of BMPs

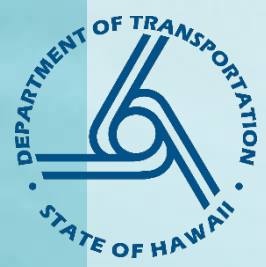
- Need to add something to maintain compliance? Add and amend the SWPPP. **NOTE:** Only type of amendment that can be executed while amendment is in approval process.
- Want to make an elective change of a BMP to other type? Get an approved amendment then make the switch if not already covered by the SWPPP.
- Want to remove a BMP? Get an approved amendment prior to removal unless already covered in the SWPPP. Removal must be approved by DOT personnel prior to removal.
- Build in flexibility in the SWPPP for the choices of BMPs to allow the BMP to fit the situation.
- SWPPP must reflect what is on the ground.



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Inspection Steps

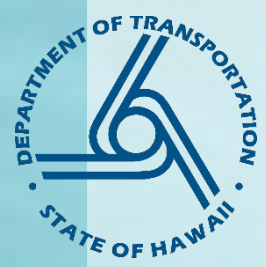
- Read the SWPPP and any/all Permits and Amendments
- Meet with DOT Project Staff for project briefing/clarification
- Check on site documents – First visit I will check the Pre-Construction Verification Inspection Report
- Meet with Contractor should the DOT Project Staff desire
- Walk the site looking at BMP placement and topography (with DOT/Project staff if available)
- Take pictures of both good and bad
- Out brief Project Staff (and contractor if available) This is the date of notification and starts the correction clock, not when the report is received.
- Write up and transmit inspection report



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Areas Requiring Inspection

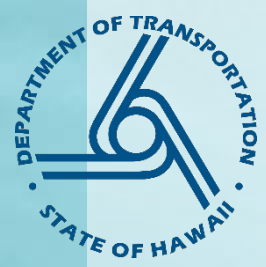
- Areas that have been cleared, graded, or excavated (Disturbed Areas)
- Storm water controls, installed and maintained on site to comply with permit
- Areas where sediment and other pollutants may have accumulated or deposited
- Areas where storm water typically flows
- Points of discharge from the site – even if not raining
- Locations where stabilization measures have been initiated
- **Best time to inspect is when it is raining**



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Disturbed Areas per HAR 11-55, App C, Para 1.4.

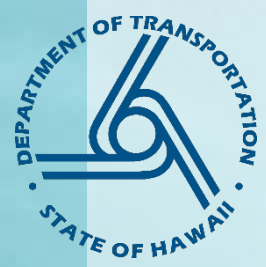
- Penetration, turning, or moving of soil
- Resurfacing or pavement exposing base course, bare soil or ground surface
- Land surface for construction roads
- Baseyards
- Staging Areas
- Demolition
- Headquarters
- Parking Areas
- Grubbing



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Inspection Strategy

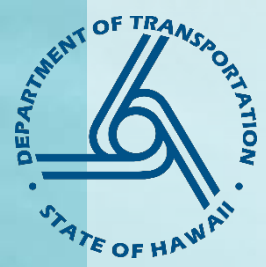
- Be upbeat
- Be prepared for an inspection everyday
- Have an inspection strategy
- Document the inspection – take pictures and notes
- Don't argue with DOH
- Problems – talk to inspector – they may have ideas or examples from other projects
- Be up front and honest
- Don't make excuses



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Inspection Strategy - Continued

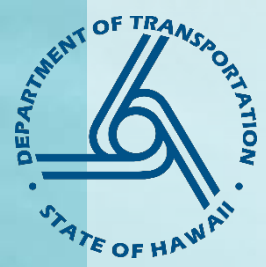
- Correct as soon as possible
- Document corrections - Take pictures of correction
- Don't tell the inspector what you think they want to hear
- **DON'T WAIT FOR THE INSPECTOR TO COME AND TELL YOU SOMETHING IS WRONG. FIX IT. OWN THE PROBLEM AND THE SOLUTION.**



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References Used For Inspections

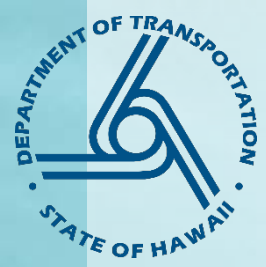
- “Construction Best Management Practices Field Manual”
- DOT Specifications and/or Special Provisions
- HAR 11-55, Appendix C – NPDES General Permit Authorizing Discharges of Storm Water Associated with Construction Activities
- HAR 11-55, Appendix F – NPDES General Permit Authorizing Discharges of Hydrotesting Waters
- HAR 11-55, Appendix G – NPDES General Permit Authorizing Discharges Associated with Construction Activity Dewatering
- Corps of Engineers, 404 Permits
- SWPPP and Amendments
- Various including manufacturer’s specifications



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Inspection Items

- Perimeter
- Stock/spoil Piles
- Slopes – Covered in another presentation
- Inlet/Drains/Swale Protection – Covered in another presentation
- Concrete/Asphalt Waste Management
- Hazardous Material
- Track-out Control



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Perimeter Control

- Sediment cannot leave the site
- Responsible for area down slope of area – Check especially for inlets
- Not everything makes good perimeter control
- What ever used; install per manufacturer's specifications



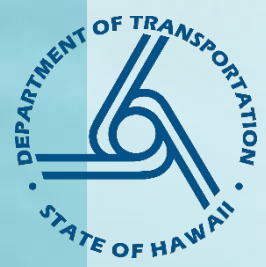
Looks like a compost filter sock but it's not



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Stock/Spoil Piles

- Not to be confused with perimeter control
- Not just for rain but also for wind
- Nearly all piles are coverable
- Cover with perimeter protection (separate from the site perimeter)
- Way to big – hydro mulch with tackifier



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Separate Perimeter Controls



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Cover or Hydro Mulch



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Inlet, Swale and Gutter Protection

- Last – not only line of defense
- Opening inlet protection during storm is not a pass to discharge
- Provide layered approach before the inlet, swale and gutter
- Inlets, gutters and swales part of MS4 system – require protection



Insufficient protection up slope disturbed area and in gutter/swale

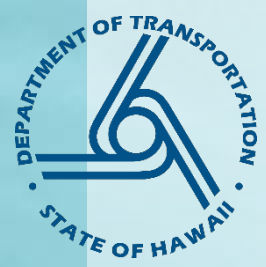
Protection added upslope



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Concrete/Asphalt Waste Management



- “Concrete” as used for this presentation includes **all** products containing cement
- “Asphalt” as used for this presentation includes petroleum-based products to including cold patch
- Never on bare ground



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Concrete Washouts

COMMERCIAL



CONTRACTOR CONSTRUCTED



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ASSUME ALL WASHOUTS LEAK



Watch
surroundings –
inlet down slope



Leak contained



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Waste Concrete on Ground



From concrete washout- Drying
but still wet



Covering doesn't make it right



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Waste Asphalt/Cold Patch – Not on bare ground

Asphalt



Cold patch



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Proper storage of waste asphalt/cold patch



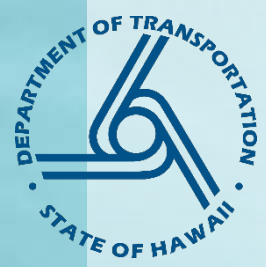
- On impervious material such as plastic or steel plate
- Covered
- Perimeter control
- Purpose is to not come in contact with rainwater – petroleum product



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Hazardous Material

- Includes containers and various building materials such as galvanized steel, rebar, and creosote poles.
- All containers required to be labeled as to contents.
- Recycle containers – Relabel
- Containment
- Cover - metal containers are required to be covered



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Building Materials

- Per Appendix C, prevent contact with rainwater – recommend cover with plastic or temporary roof
- Similar protection needed for creosote poles and galvanized steel
- Racking off the ground prevents contact from rain under the cover

Temporary roof



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Secondary Containment



No pooling effect with plastic under biosocks



OK but water is collecting in bottom- best to cover



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Labeled as to Contents



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Track-out Control

- Required when ever transitioning to asphalt road
- Various methods

Traditional Rock Entrance



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Alternative Methods

GeoTerra Grid



Grid laid over fabric



Not effective when soil
clogs the grid



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Alternative Methods Track Out Plates/Grids

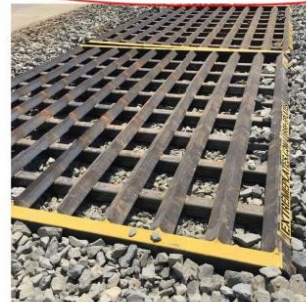


Soil clogging plate



Tubular Track Out Grate, Bottomless (TOG)

Innovative Design | Heavy-Duty Contractor Grade | SWPPP Solutions



Description:

- Number one selling design of steel grate for construction job sites.
- Also, referred to as: shaker plates / rumble plates / rattle grates.
- Open bottom that allows debris to fall through. Innovative design allows for minimal maintenance; saving you time and money.

Specifications:

- Track Out Grates -- Tubular Steel
- 8' x 10' ONLY 1,350lbs!
- Great for Stabilized Entries on aggregate (base rock or dirt).
- Open bottom that allows debris to fall through. Innovative design allows for minimal maintenance; saving you time and money.
- Able to link together with an innovative simple design without "male / female" parts.
- Most efficient, reliable and cost-effective track out system you're going to find.

Superior Products



We use the highest strength wire **Duel Shield** and it is applied at 280-300 amps. Compare to commonly used "Flux Core", which is very low strength ... which equals an inferior product.

Steel Plate Based Track Out Plate (TOP)

Traditional Design | Asphalt Placement | Center Nut for Lifting Ring



Description:

- 8' x 10'
- Often referred to as "Shaker plates"
- Specifications:
- 2-1/2"x1/4" angle iron (our competitors use only 2"x3/16")
- 45 degree angles so NO RIPPED SIDEWALLS ON TIRES.
- 3,300 lbs each.
- Steel Plate based units, closed bottom best for asphalt surfaces.

Professional Heavy-Duty Curb Ramps (CR)

Custom yellow paint design for added safety



Description:

- Base Support for superior STRENGTH.
- Contractor Grade.
- Specifications:
- 12'x31" standard build each. 750lbs each.
- Engineered for Standard Curb Height. Does NOT block flow of water on curb, water flows under the curb ramp
- Angled Top to connect effortlessly to the curb

ATCSA



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The background of the slide is a serene landscape photograph. It features a calm body of water in the foreground, reflecting the surrounding environment. In the middle ground, there are dark, forested hills or mountains. The background is dominated by large, jagged mountain peaks that are shrouded in a thick, white mist or fog. The entire image has a monochromatic teal or cyan color cast, giving it a dreamy and ethereal quality.

Questions?