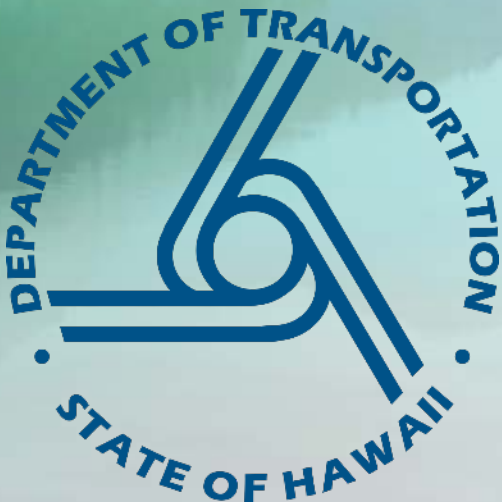


Housekeeping – Dos and Don'ts



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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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TOPICS

- Hazardous Materials
- Asphalt Concrete Waste/Cold Patch
- Spoil/Stockpiles
- Concrete Waste
- Spill Prevention
- Solid Waste



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Hazardous Materials

- CONTAINMENT
- CONTAINMENT
- CONTAINMENT



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Hazardous Material

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



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Building Materials

- Per Appendix C, HAR 11-55; prevent contact with rainwater – recommend cover with plastic or temporary roof
- Considered a point source of pollutants
- Protection needed for rebar, creosote poles and galvanized steel
- Racking off the ground and covering prevents contact from rainwater



Temporary roof



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Building Materials Cont.

Creosote Poles and Galvanized Steel



Creosote poles on ground



Creosote poles and old galvanized steel racked



Racked and covered



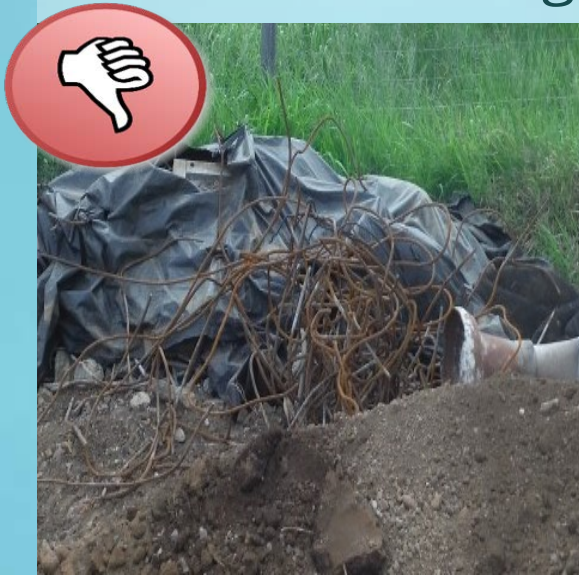
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Rebar

- Rack off the ground and cover
- Don't forget scrap rebar
- Don't forget rebar cages



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Hazardous Solid Waste

- Wrap to prevent contact with ground and rainwater
- Creosote railroad ties and transite pipes
- Lead contaminated soil



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Storage and Labeling

- Properly **labeled** containers per OSHA 1910.1200
- Provide secondary containment and appropriately sized containment
- Location of hazardous material storage area - should be located away from surface waters
- Check for metal containers - covered or stored on an angle to prevent rainwater from ponding
- Product transferred to a second container - required to be labeled
 - Exception is for immediate use by person doing the transfer



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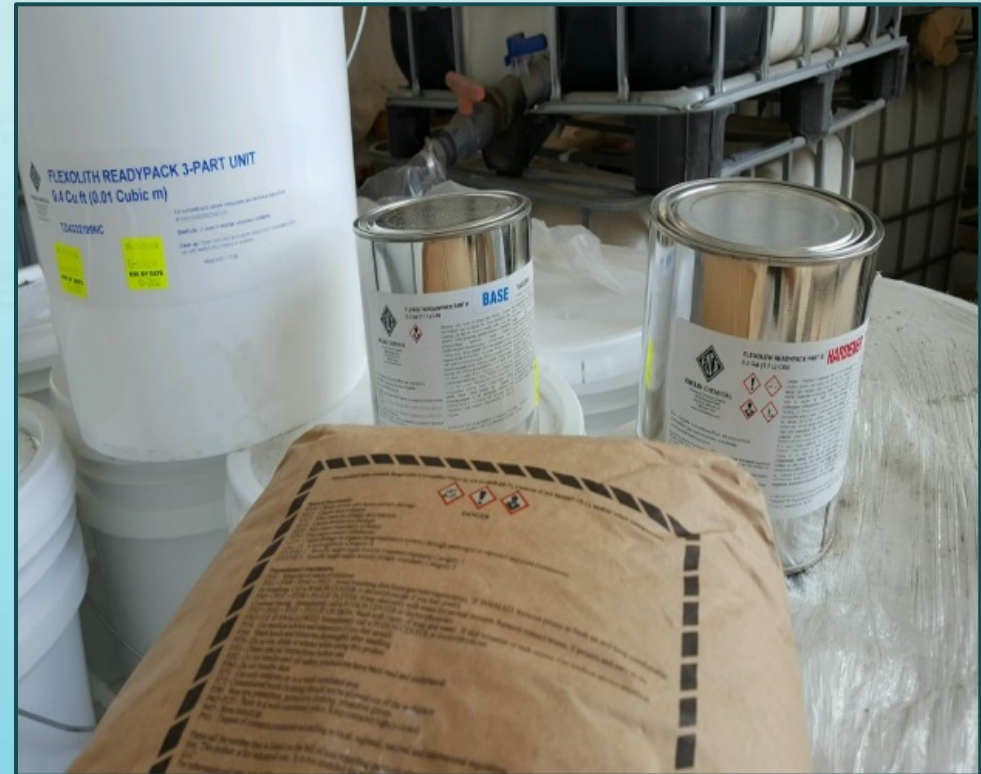
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Inadequate Labeling

Flexalith Ready Pack – 3 Part Unit – No hazardous info on container



Contents checked – all hazardous



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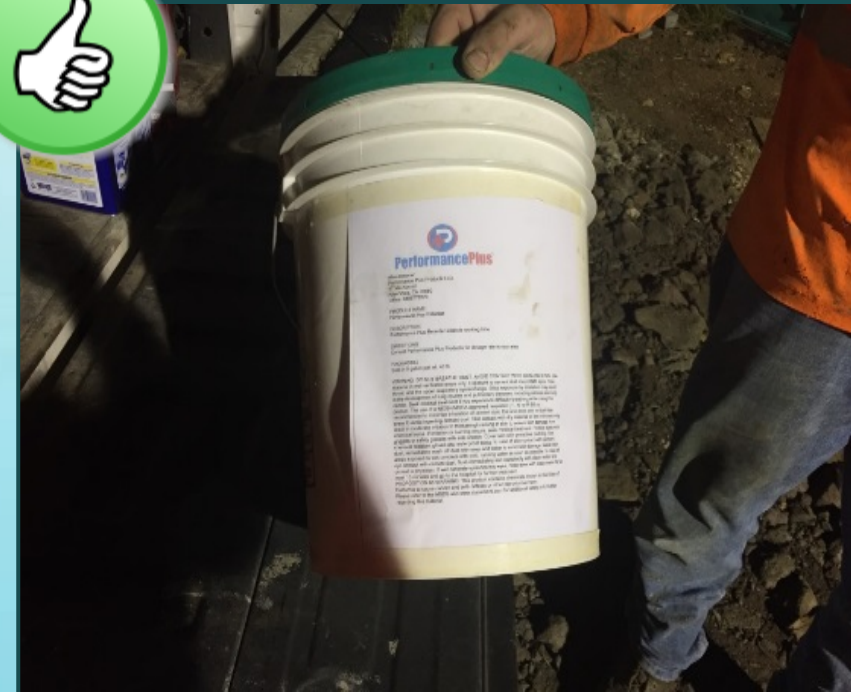
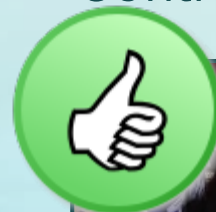
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Inadequate Labeling

Container has “Retarder” written on lid
with Sharpie pen



Contractor provided proper label



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Labeled as to Contents

Bucket says hazardous but contains water

No clue what is in bucket – hazardous?



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Containment Systems

Commercial



Contractor Constructed



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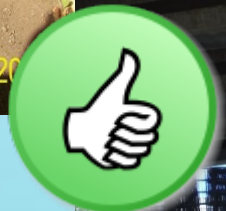
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Commercial – Use Properly



← Not fully on pallet

Sitting on self rise float →



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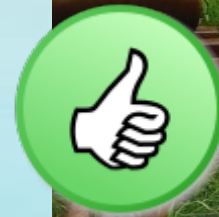
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Contractor Constructed

Plastic under biosock – no
containment



Plastic over biosock – creates pool
Best to cover to prevent water
collection



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Cover Metal Containers – Prevents rust



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Near Empty Containers

Near empty can still leak hazardous material



May still need containment – small amount of product remains



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Contain Waste or Stockpile

- Products are petroleum based
- Oils subject to runoff
- Waste or stockpile must be contained away from rainwater or runoff



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Never on Bare Ground

Cold Patch



Waste Asphalt



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Spoil Piles are also off limits



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Proper Storage of Waste Asphalt and Cold Patch

- On impervious material
- Covered to prevent contact with rainwater
- Perimeter protection
- Recommendation – Storing cold patch on steel plate makes picking up with loader easier than with plastic



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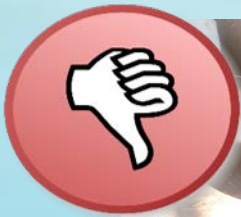
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Waste Asphalt

Improperly stored waste asphalt – not covered but on impervious plastic under fabric

Now covered with plastic with perimeter protection installed



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Cold patch

Dumped on ground



Moved on to plastic, covered and perimeter protection installed



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Stock/Spoil Piles

- Stock/spoil pile perimeter control should not 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

No separate perimeter control



Separated from the perimeter control



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Cover or Hydro Mulch



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Concrete

- “Concrete” as used for this presentation includes **all** products containing cement
 - CLSM for ductwork
 - Grout
 - Concrete Treated Base (CTB)
 - Mortar
 - Plaster
 - Stucco
- Wet concrete or concrete wash never on bare ground
- Fines from grinding or sawcutting



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Concrete Washouts

COMMERCIAL



CONTRACTOR CONSTRUCTED



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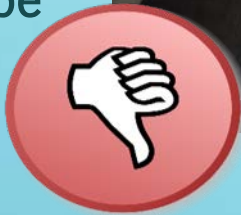
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ASSUME ALL WASHOUTS LEAK



Watch
surroundings –
inlet down slope



Leak contained



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In Ground Construction

Typical Problems With Construction

- Not using a single sheet of plastic for lining of washout
- Washwater will run to ground between sheets
- Can result in leaking through soil



Contractor Constructed Box

Most will leak



Contain any leaks



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Commercial Washouts Also Leak

No containment



Containment



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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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Capacity of Washout



- Ensure have enough capacity before the pour starts
- Recommend have spares on hand
- Per EPA – only fill to 75% capacity
- Cover to prevent overflow from rainwater



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Sawcutting Fines



- Sawcut fines are to be vacuumed
- See dust cloud from vacuum – means filter not in place
- Venting from smokestack not the answer
- Concrete fines are a safety hazard



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Controlling Dust

Use water spray for dry sawcut



Drilling attachment for Vacuum



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Disposal of Sawcut Fines

Not contained



Contained



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Requirements

- Drip protection under all idle equipment
- Appropriate pad or pan
- Pans need to be big enough to have a chance to catch leaks
- Under paving equipment especially the asphalt hopper, roller assembly and distributor truck spay arm
- Under cranes when idle or stationary while in use; essential when near water
- Spill kits must be readily available



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Pad or Pan



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“Cookie Sheet Pans”



- Commercial pan
- Not a good choice for construction sites
- Light and little capacity
- Must be completely level
- Primarily designed for warehouse or motor pool use



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Appropriate and Size

Cardboard and rag not even closed



Too Small to be effective



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Drip Pad Requirements

Impervious layer/absorbent layer/Downslope berm



On steel plate/No absorbent layer or pan/No berm - NOT CONTAINED



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Paving Equipment



- Need protection under hopper, roller assembly and distributor truck spray arm in addition to engine block
- Can produce oil slick without protection from rain
- Fabric needs to be changed when saturated



Weather was sunny and area dry



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Cranes



- When idle – requires drip protection
- Will remain in a static location for hours when working – need drip protection
- Consider the radius swing of the crane
- Drip pad vital when working near water – provides time to react if there is a leak



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Food for Thought – Other Methods

Also used to contain hazardous materials



Scroll can be made to any size and move with equipment



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Solid Waste

- Generally considered as any material that leaves your project site that is no longer useable on the project.
- Rubble such as concrete, rock, masonry, etc.
- Spoil piles of clearing and grubbing waste (soil mixed with green waste)
- Bituminous concrete
- Wet material such as concrete slurry or washouts



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Trash Bins

Not covered and over 2/3 full



Covered to prevent rainwater entering



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Other Typical Types of Solid Waste

Rubble pile contains a lot of fines



Grubbed material outside perimeter with no cover



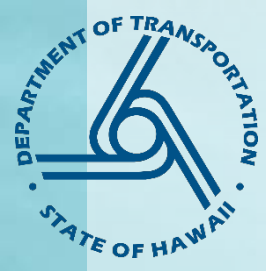
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QUESTIONS?



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