DEWATERING SYSTEM REQUIREMENTS AND COMMON PRACTICES FOR MATERIAL MANAGEMENT

1. DESCRIPTION

DEWATERING MAY BE USED IN A VARIETY OF CONSTRUCTION OPERATIONS SUCH AS TO REMOVE WATER FROM STRUCTURE FOUNDATION EXCAVATIONS, DRAINAGE STRUCTURE INSTALLATIONS, OR FROM FILL AREAS PRIOR TO PLACEMENT OF THE BORROW MATERIALS. PROPER OUTFLOW OF THE DEWATERING ACTIVITY SHOULD BE REVIEWED AND PLANNED FOR IN THE DESIGN OF THE SYSTEM. THE COMPONENTS OF THE DEWATERING PROCESS SHOULD INCLUDE THE USE OF WATER FILTERING AND STABILIZED OUTLETS. THE FILTERING OPERATION HELPS TO SIGNIFICANTLY REDUCE SEDIMENT TRANSPORTATION THAT IS ASSOCIATED WITH THE DEWATERING OPERATION.

2. REQUIREMENTS FOR DEWATERING SYSTEM

FILTER BAGS MUST BE PLACED ON A FLAT SURFACE AWAY FROM ENVIRONMENTALLY SENSITIVE AREAS, INCLUDING BUT NOT LIMITED TO, STORMWATER INFRASTRUCTURE, OPEN DITCHES, WATERBODIES, AND WETLANDS. FILTER BAGS SHOULD NOT BE PLACED IN WATERWAYS TO AVOID RISK OF ILLICIT DISCHARGE IF THE SYSTEM IS DAMAGED. FILTER BAGS MUST BE PLACED WITHIN THE PROJECT LIMITS.

3. INSTALLATION NOTES

- LOCATE THE DESIRED OUTFLOW LOCATION FOR THE DEWATERING SYSTEM AND COORDINATE THE FILTER AND STABILIZATION METHOD TO BE USED WITH THE INSTALLER.
- DISCUSS THE PUMP CAPACITY AND PIPING COMPONENTS TO BE USED WITH THE INSTALLER. REVIEW THE LAYOUT OF THE SYSTEM PRIOR TO PLACEMENT AND HAVE ANY DEFICIENCIES CORRECTED PRIOR TO OPERATION ACTIVATION.
- WHEN NEAR A WATERWAY OR ENVIRONMENTALLY SENSITIVE AREAS, CONSTRUCT A SECONDARY CONTAINMENT BMP SUCH AS A ROCK FILTER BERM OR SEDIMENT TRAP FOR ADDITIONAL FILTRATION. PLACE FILTER BAG ON A FLAT, STABLE SURFACE OUTSIDE OF THE WATERWAY OR ENVIRONMENTALLY SENSITIVE AREA BEHIND THE SECONDARY CONTAINMENT.
- SELECT DEWATERING BAGS OR OPERATION TYPE TO REMOVE SEDIMENT FROM DISCHARGE BASED ON PROJECT SITE SOIL TYPES. DISCUSS WITH INSTALLER FOR BEST FILTRATION RESULTS.
- PLACE FILTER BAG IN A LOCATION WHERE IT CAN BE REMOVED EFFICIENTLY WITHOUT CAUSING DAMAGE OR LOSING SEDIMENT.

4. INSPECTION NOTES

- INSPECT DAILY DURING DEWATERING OPERATIONS.
- INSPECT THE FILTER LOCATION AND CONDITION FOR NECESSARY REPAIR.
- REVIEW THE PIPING SYSTEM FOR LEAKAGE, KINKS, AND CONDITIONS FOR NEEDED REPAIR.
- INSPECT THE FILTER BAG FOR TEARS AND CAPACITY FOR SEDIMENT AND WATER.
- LOOK FOR EROSION BETWEEN THE FILTER BAG AND WATERWAY AND/OR DISCHARGE AREA.
- IF TREATED DISCHARGE APPEARS SEDIMENT-LADEN AFTER FILTRATION, CONSIDER A FINER GRADE FILTER SYSTEM OR SECONDARY CONTAINMENT TO EXTEND SETTLEMENT TIME.

5. MAINTENANCE

- REPAIR OR REPLACE FILTERS THAT EXHIBIT LEAKAGE OR FAILURE.
- REPAIR ANY PUMPS DAMAGED OR NOT OPERATING PROPERLY.
- FILTERS MAY NEED TO BE REPLACED WHEN THEY BECOME LADEN WITH SEDIMENT.
- REPAIR OR REPLACE LEAKING OR DAMAGED PIPING.
- REPAIR AND STABILIZE ERODED AREAS.

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ITEM	REVISION	APPROVED DATE
1	2024 ORDINANCE UPDATES	UPDATE AFTER MEETING APPROAL

PORTER COUNTY, INDIANA
STANDARD DRAWINGS

DEWATERING SYSTEM REQUIREMENTS

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CONCRETE WASHOUT SYSTEM REQUIREMENTS AND COMMON PRACTICES FOR MATERIAL MANAGEMENT

1. UNDERSTANDING SUBSTANCE RISK

CONCRETE IS A MIXTURE OF CEMENT (LIMESTONE AND CLAY CONTAINING OXIDES OF CALCUIM, ALUMINUM, SILICON AND OTHER METALS), WATER, AND AGGREGATE MATERIAL. CONCRETE WASH WATER IS A SLURRY CONTAINING TOXIC METALS; IT IS CAUSTIC AND CORROSIVE WITH A PH OF 12. SAFE PH RANGES FOR AQUATIC LIFE ARE 6.5–9 FOR FRESH WATER. CAUSTIC WASH WATER CAN HARM FISH GILLS, EYES, AND INTERFERE WITH REPRODUCTION. RAINWATER POLLUTED WITH WASH WATER CAN ALTER SOIL CHEMISTRY, INHIBIT PLANT GROWTH, AND CONTAMINATE GROUND WATER.

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2. REQUIREMENTS FOR CONCRETE WASHOUT SYSTEM

CONCRETE WASHOUT SYSTEMS MUST BE ENTIRELY LEAK–PROOF. WASH WATER MUST BE DIRECTED INTO LEAK–PROOF CONTAINERS OR LEAK–PROOF CONTAINMENT AREAS WHICH ARE DESIGNED TO ELIMINATE SPILLAGE AND SIZED TO PREVENT THE DISCHARGE AND/OR OVERFLOW OF WASH WATER. ANY DAMAGE CAUSING THE SYSTEM TO FAIL THESE REQUIREMENTS MUST BE REPAIRED IMMEDIATELY OR REPLACED WITH A NEW SYSTEM.

3. APPROVED MATERIALS

CONCRETE WASHOUTS MAY BE CONSTRUCTED WITH WOOD, SAND BAGS, OR OTHER STRUCTURAL MATERIAL THAT CREATES A RIGID STRUCTURE FOR CONTAINMENT.

POLYETHYLENE 10–MIL LINER IS STANDARD AND THE MINIMUM THICKNESS FOR CONSTRUCTED WASHOUT STRUCTURES. LEAK–PROOF, PREFABRICATED CONTAINMENT IS ENCOURAGED.

4. PROHIBITED MATERIALS

CONCRETE WASHOUTS SHALL NOT BE CONSTRUCTED WITH STRAW BALES OR AS IN–GROUND PITS TO ELIMINATE THE FOLLOWING RISKS: STRAW BALES CREATE RISK OF STRUCTURAL FAILURE, CAUSING SPILL OF WASH MATERIAL. LINER FAILURES SUCH AS PUNCTURE OR TEARS ASSOCIATED WITH IN–GROUND PITS CAUSE AN INCREASED RISK OF GROUND WATER CONTAMINATION.

5. EVALUATE THE SITE

BEFORE CONCRETE POURING, A CONCRETE WASHOUT SYSTEM MUST BE INSTALLED ONSITE OR ATTACHED TO THE CONCRETE TRUCK. CHECK SITE PLAN FOR PROPOSED CONCRETE WASHOUT LOCATION (CW).

6. PROTECT STORMWATER INFRASTRUCTURE AND SENSITIVE AREAS

CONCRETE WASHOUT CANNOT BE INSTALLED WITHIN 50 FEET OF A STORM INLET WHEN PRACTICABLE OR AN ENVIRONMENTALLY SENSITIVE AREA, INCLUDING BUT NOT LIMITED TO OPEN DITCHES, WATERBODIES, AND WETLANDS. CONCRETE WASHOUT MUST BE INSTALLED ON A FLAT GROUND SURFACE TO REDUCE RISK OF SPILLS.

7. INSTALLATION NOTES

- CONCRETE WASHOUT BASE MUST CONSTRUCTED ON A FLAT SURFACE THAT IS FREE OF ROCKS AND OTHER DEBRIS THAT MAY CAUSE TEARS/PUNCTURES IN THE POLYETHYLENE LINER.
- LINER MUST EXTEND OVER THE ENTIRE STRUCTURE, SECURED WITH PINS, STAPLES, OR OTHER FASTENERS. THE LINER MUST BE CONTINUOUS TO BE LEAK PROOF. OVERLAPPING LINERS IS NOT PERMITTED.
- INSTALL SAFETY FENCING, FLAGS, OR EQUIVALENT TO PROVIDE A BARRIER FROM CONSTRUCTION ACTIVITY.
- SIGNAGE MUST BE CONSPICUOUS AND IDENITIFY CONCRETE WASHOUT LOCATIONS TO DIRECT CONTRACTORS AND SUPPLIERS.
- WHEN APPLICABLE, PROVIDE A STABLE CONSTRUCTION STONE ACCESS PAD FOR CONCRETE WASHOUT SYSTEMS.

8. MAINTENANCE

- CONCRETE WASHOUT SYSTEM INSPECTIONS MUST BE CONDUCTED DAILY AND AFTER RAIN EVENTS.
- INSPECT THE SYSTEM FOR LEAKS, SPILLS, AND ANY DAMAGE TO THE POLYETHYLENE LINING FOR FAILURE, SUCH AS TEARS AND PUNCTURES. IF DAMAGED, REPAIR IMMEDIATELY TO AVOID AND PREVENT SPILLS.
- ONCE THE CONCRETE WASTE HARDENS, REMOVE, RECYCLE AND/OR DISPOSE OF THE MATERIAL ACCORDING TO APPLICABLE STATE AND FEDERAL REGULATIONS.
- WHEN THE WASHOUT CONTAINER IS FILLED TO/OVER 75 PERCENT OF ITS CAPACITY, THE WASH WATER MUST BE VACUUMED OUT OR ALLOWED TO EVAPORATE TO AVOID OVERFLOWS. WHEN THE REMAINING CEMENTITIOUS SOLIDS HAVE HARDENED, THEY MUST BE REMOVED AND PROPERLY DISPOSED/RECYCLED.
- LINER MAY REQUIRE REPLACEMENT AFTER CLEANING. REPAIR THE STRUCTURE AS NEEDED OR CONSTRUCT A NEW SYSTEM IF DAMAGED.
- WASHOUT SYSTEMS UTILIZE EVAPORATION TO ALLOW CONTENTS TO HARDEN BEFORE DISPOSAL. IF THE CONTENTS FAIL TO EVAPORATE IN A TIMELY MANNER, WASH WATER MUST BE DISPOSED OF OFFSITE AT A TREATMENT FACILITY OR AN EQUIVALENT STATE APPROVED DISPOSAL SITE. A SECONDARY CONTAINMENT SYSTEM MAY BE REQUIRED FOR FURTHER DEWATERING.
- INSPECT THE CONSTRUCTION SITE AND ENSURE THAT ALL SUPPLIERS, CONTRACTORS AND OTHERS ARE UTILIZING THE DESGINATED WASHOUT AREAS.

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