Erosion & Sediment Control (ESC) Best Management Practices and Drawing Submittal Guidelines

City of Port Moody Stream and Drainage Bylaw 2023, No.3426

Storm drains are 'entrances' to the City's drainage system and connect directly to the receiving environment through ditches and underground pipes. Any prohibited materials that enter the drainage system (such as soil, paint, or concrete) can have significant environmental impacts to fish and wildlife and may cause infrastructure damage. Effective Erosion & Sediment Control (ESC) measures are the best way to protect the City's drainage system and receiving environment during construction projects. Being proactive and diligent about maintaining good ESC practices also reduces the likelihood of preventable disruptions to construction schedules (such as Stop Work Orders), as well as preventable costs (such as bylaw fines or reactive ESC measures).

ESC Facilities During Stages of Construction

Best Management Practices (BMPs) should be applied throughout the construction process and should evolve depending on the stage of construction and site conditions. Key ESC considerations should include:

- 1. Thoughtful project PLANNING (e.g., avoid unnecessary clearing/soil disturbance to reduce ESC costs)
- 2. Areas **AROUND** the site (e.g., storm drain protection, perimeter control, sweeping of roads/sidewalks)
- 3. Equipment getting **ONTO** the site (e.g., rock access pads, wheel-wash stations, staging areas)
- 4. Soils stabilized ACROSS the site (e.g., covering stockpiles/excavation sidewalls, revegetation)
- 5. Water conveyed THROUGH the site (e.g., swales, hoses, culverts, sediment traps, settling ponds)
- 6. Compliant discharge **OUT** of the site (e.g., water treatment systems/chemicals, energy dissipation)

Table 1 outlines the BMPs that should be followed when implementing an ESC Plan of any scale. It's the ESC Permit Holder's responsibility to implement BMPs that are necessary to ensure Bylaw compliance:

Stages of Construction		Best Management Practices
1. Site Clearing & Grubbing		
1.1 Site Clearing		A, B, D, G, I, J
1.2 Site Grubbing		A, B, C, D, G, I, J
2. Installation of Services		
2.1. Installation of Services On-Site		A, B, C, D, E, F, G, H, I, J
3. Building Construction		
3.1 Excavation, Shoring, Foundation		A, B, C, D, E, F, G, H, I, J
3.2 Construction		A, B, C, D, E, F, G, I, J
4. Final Grading and Landscaping		
4.1 Final Grading		A, B, D, E, I, J
4.2 Landscaping On-Site		A, B, D, E, I, J
Abbreviations		Examples
Α	Perimeter Protection	Silt fencing, straw wattles, vegetation, gravel berm
В	Access Control	Rock access pad, paved driveway, wheel wash
С	Stormwater Management / Drainage Control	Swales, dewatering pump/hose, sump, sediment trap
D	Storm Drain Inlet Protection	Silt sacks, silt socks
E	Road Sweeping	Manual or mechanical sweeping
F	Laydown Area	Rock pad, concrete pad
G	Exposed Soil Management	Polyethylene sheeting, straw, vegetation
Н	Concrete Washout Facilities	Bucket, container, pit
I	Water Treatment (if required)	Flocculant system, CO ² tanks
	Monitoring (if required)	Regular site inspections, real-time monitoring system

Table 1. Erosion & Sediment Control Best Management Practices During Different Stages of Construction

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ESC Plan Drawing Submittal Guidelines

A detailed Erosion & Sediment Control (ESC) Plan is required to obtain an **ESC Permit*** and should be prepared in accordance with guidelines included in this section.

*Single-family and two-family projects can utilize the Simplified ESC Plan per Schedule F of the Stream and Drainage Bylaw.

A multi-stage ESC Plan must show the ESC measures to be implemented during different stages of construction, such as: clearing and grubbing, excavation, installation of services, building construction, and landscaping. **The ESC Plan must include**:

- 1. Anticipated soil type in all areas to be disturbed and at all depths to be excavated;
- 2. Property line(s) and other legal designations of the subject property or properties;
- 3. Locations of any existing underground services, and any proposed connections to existing services;
- 4. Location(s) of any existing drainage infrastructure and the proposed measures to protect it;
- 5. Location(s) of any existing and proposed watercourses, ditches, swales, or any other body of water within 30 m of the site boundaries, along with the proposed protection measures. Include top-of-bank and any applicable streamside setbacks as determined by the City and/or *Qualified Professional*;
- 6. Location(s) of any existing and/or proposed building footprints;
- 7. Existing and proposed contours and relevant spot elevations;
- 8. Site-specific run-off and flow rate calculations;
- 9. Monitoring inspection program details (inspection/reporting frequency, sample collection location);
- 10. Operation and maintenance program with schedule, methodology, the name and address of the ESC Supervisor and an emergency contact phone number;
- 11. For each stage of construction, the ESC Plan should include specifications or details on the following:
 - a. Proposed source controls;
 - b. Proposed perimeter protection measures;
 - c. Proposed access control facilities/measures to be installed at entry/exit points;
 - d. Storm-drain inlet protection measures at or within existing catch/lawn basins;
 - e. Road maintenance and sweeping schedule (e.g., flushing roadways is prohibited);
 - f. Laydown area location and dimensions;
 - g. Stockpile material and exposed soil/slope management;
 - h. Onsite stormwater control facilities complete with velocity control measures;
 - i. Stormwater treatment facilities (including real-time monitoring, if required)
- 12. Water-quality criteria;
- 13. Spill response and spill containment measures;
- 14. Point of discharge;
- 15. Reference to the City's Stream and Drainage Bylaw, and relevant senior regulations;
- 16. Water treatment system design calculations, diagram, and process description (e.g., chemical types);
- 17. Independent third-party real-time monitoring system, if required; and
- 18. Proposed methods to restore disturbed areas.

Removal of Reduction of ESC Facilities should be as follows:

ESC BMPs that have been installed and maintained under an ESC Plan accepted by the City will need to be removed during various phases of construction. The criteria to remove the following ESC BMPs shall be based on defensible and comprehensive data corroborating the fact that a BMP is no longer required.

- 1. Mechanical wheel wash shall be removed when the onsite works have progressed to a point where the wheel wash is no longer required, such as onsite paving and installation of driveways.
- 2. The following BMPs may be removed at the discretion of the ESC Supervisor, subject to meeting the following minimum criteria:
 - a. Perimeter protection works not to be removed until the area is ready for landscaping.
 - b. Access control not to be removed until the driveways and internal roads are paved.
 - c. Stormwater management facilities to remain in place until end of building construction.
 - d. Storm-drain inlet protection measures maintained until landscaping is 100% complete.
- 3. Road sweeping to occur until 100% completion of landscaping.

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Figure 1: Treatment System Configuration, Example 1



Figure 2: Treatment System Configuration, Example 2



Figure 3: Treatment System Configuration, Example 3

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ESC Plan Drawing Sample Notes

The following sample notes shall act as a guide for City requirements on ESC Plan drawing submittals. The information provided is general and may need to be amended as needed or as identified by others.

REFERENCE

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- 1. ESC DRAWINGS MUST SHOW TOPO/GRADE/SLOPE AND FLOW ARROWS ACROSS SITE.
 - THE FOLLOWING NOTES MUST BE SHOWN ON ALL DRAWINGS WITH EROSION & SEDIMENT CONTROL MEASURES.
 - a. ALL ESC DRAWING SUBMISSIONS TO BE SIGNED AND SEALED BY A QUALIFIED PROFESSIONAL.
 - b. THE SIGNATURE BLOCK MUST BE PLACED ON THE LOWER RIGHT-HAND CORNER OF THE ESC DRAWING. THE CONSTRUCTION NOTES MUST BE PLACED ON THE ESC DRAWING AT A SUITABLE LOCATION.
 - c. THE SIGNATURE BLOCK SHOULD ACT AS A REMINDER TO THE OWNER TO PROVIDE THE NECESSARY ESC REPORTS TO THE CITY OF PORT MOODY DURING THE COURSE OF CONSTRUCTION.
 - d. ESC SUPERVISORS MUST SIGN AND DATE THE SIGNATURE BLOCK ON THE ISSUED FOR CONSTRUCTION ESC DRAWING TO ACKNOWLEDGE THAT THEY WILL PROVIDE MONITORING REPORTS TO THE CITY AS REQUIRED.
 - e. THE ESC DESIGNER IS REQUIRED TO INCLUDE A COPY OF THE SIGNATURE BLOCK ON THE AS-BUILT DRAWING SUBMISSION TO THE CITY.

CONSTRUCTION NOTES – TO BE PLACED ON DRAWING SUBMISSIONS

GENERAL NOTES

- 1. ALL EROSION AND SEDIMENT CONTROL MEASURES TO BE CONSTRUCTED TO THE REQUIREMENTS OF THE CITY OF PORT MOODY STREAM AND DRAINAGE BYLAW 2023, NO.3426 (THE BYLAW), OTHER APPLICABLE CITY BYLAWS, AND RELEVANT PROVINCIAL AND FEDERAL REGULATIONS.
- 2. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH THE DETAILS ON THIS DRAWING PRIOR TO, OR CONCURRENT WITH, THE COMMENCEMENT OF ANY CONSTRUCTION WORKS.
- 3. EVERY CONSTRUCTION SITE WHERE ESC MEASURES ARE IN EFFECT MUST HAVE A SIGN POSTED IN A CLEARLY VISIBLE LOCATION FOR THE DURATION OF CONSTRUCTION. THE SIGN MUST CLEARLY STATE THE NAME AND CONTACT INFORMATION OF THE OWNER OR CONTRACTOR'S ESC PLAN DESIGNER AND THE ESC SUPERVISOR. THE SIGN MUST ALSO INCLUDE THESE CONTACTS AT THE CITY OF PORT MOODY:
 - a. City of Port Moody, Environment Division: 604-469-4574
 - b. City of Port Moody, Engineering Division: 604-469-4619
- 4. THE OWNER/PERSONS RESPONSIBLE SHALL ENSURE THAT BEST MANAGEMENT PRACTICES ARE IMPLEMENTED TO PREVENT THE RUN-OFF OF WATER THAT VIOLATES THE BYLAW REQUIREMENTS FROM ENTERING DOWNSTREAM DRAINAGE INFRASTRUCTURE AND THE RECEIVING ENVIRONMENT.
- 5. THE CONTRACTOR SHALL STOCKPILE, ON-SITE AT VARIOUS STRATEGIC LOCATIONS, ADEQUATE SUPPLIES OF ALL MATERIALS REQUIRED TO PROTECT DRAINAGE INFRASTRUCTURE AND THE RECEIVING ENVIRONMENT FROM DISCHARGE OF PROHIBITED MATERIAL(S).
- 6. THE OWNER TO RETAIN SERVICES OF AN ESC SUPERVISOR PRIOR TO THE COMMENCEMENT OF CLEARING WORKS UNTIL 100% OF CONSTRUCTION IS COMPLETE. THE ESC SUPERVISOR OR THEIR DESIGNATES TO CONDUCT MONITORING AND REPORT TO THE OWNER, CONTRACTOR(S), AND THE CITY ON PERFORMANCE OF EROSION AND SEDIMENT CONTROL FACILITIES IN ACCORDANCE WITH CITY BYLAWS AND POLICIES.
- 7. THE OWNER/PERSONS RESPONSIBLE MUST COMPLY WITH THE ESC PLAN AND IMMEDIATELY RECTIFY DEFICIENCIES THAT RESULT IN NON-CONFORMANCE WITH THE BYLAW OR ACCEPTED ESC PLAN. FAILURE TO DO SO MAY RESULT IN THE ISSUANCE OF A STOP WORK ORDER AND FINES.
- 8. ALL SITE AND/OR LOT ACCESS FROM DISTURBED AREAS TO PAVED SURFACES IS TO BE RESTRICTED TO SPECIFIC ACCESS FACILITIES TO LIMIT THE TRANSPORT OF SEDIMENT ONTO ROADWAYS.
- 9. SITE SHOULD BE PREPARED FOR WET-WEATHER SHUTDOWN. CONSTRUCTION ACTIVITIES MUST BE STOPPED AND MAINTENANCE UNDERTAKEN IF WEATHER OR OTHER CONDITIONS LEAD TO EXCESSIVE SEDIMENTATION.
- 10. IF APPLICABLE, ALL ONSITE WATER FLOWS TO BE DIRECTED TO A WATER TREATMENT SYSTEM FOLLOWED BY A THIRD-PARTY REAL-TIME MONITORING SYSTEM TO ENSURE INDEPENDENT PERFORMANCE VERIFICATION OF DISCHARGE WATER QUALITY BEFORE IT ENTERS THE CITY'S DRAINAGE SYSTEM. IF A THIRD-PARTY REAL-TIME MONITORING SYSTEM IS REQUIRED, NO WATER CAN BE DISCHARGED INTO THE DRAINAGE SYSTEM THAT BYPASSES THE REAL-TIME MONITORING SYSTEM.
- 11. WATER TREATMENT SYSTEM TO BE SIZED USING THE MODIFIED RATIONAL METHOD AT A MINIMUM TO A 5-YEAR RAINFALL. IDF CURVES TO BE USED ARE FROM THE CITY OF PORT MOODY. SITE-SPECIFIC VALUES ARE SUBJECT TO VERIFICATION BY THE ESC DESIGNER AND ACCEPTANCE BY THE CITY.
- 12. OTHER ESC MEASURES TO BE SIZED FOLLOWING MANUFACTURER'S SPECIFICATIONS.
- 13. DUST CONTROL MEASURES MUST BE IMPLEMENTED IN THE PERIOD OF DRY WEATHER.
- 14. DURING 'EXTREME' FIRE DANGER RATING, HIGHLY FLAMMABLE MATERIALS (E.G. STRAW) TO BE AVOIDED.
- 15. ONLY WILDLIFE-FRIENDLY BIODEGRADABLE EROSION-CONTROL MATERIALS TO BE APPLIED. SYNTHETIC AND PHOTODEGRADABLE NETTING MUST NOT BE USED.
- 16. SILT FENCING AND POLYETHYLENE SHEETING IS TO BE INSTALLED AT THE DISCRETION OF THE ESC INSPECTOR. EXCESS PLASTIC MATERIALS ARE TO BE AVOIDED WHERE POSSIBLE OR IF EQUALLY EFFECTIVE ALTERNATIVES (I.E. NATURE-BASED SOLUTIONS) CAN BE INSTALLED TO REDUCE PLASTIC CONSTRUCTION WASTE.

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MAINTENANCE - ALL STAGES

- 1. ALL ESC FACILITIES TO BE INSPECTED AND MAINTAINED DAILY UNTIL CONSTRUCTION IS 100% COMPLETE, WITH THE EXCEPTION OF THE FOLLOWING:
 - a. MAINTENANCE OF ESC FACILITIES SUCH AS WATER TREATMENT SYSTEM, INDEPENDENT THIRD-PARTY REAL-TIME MONITORING SYSTEM, AND WHEEL WASH TO OCCUR WITH THE APPROPRIATE FREQUENCY REQUIRED TO ENSURE CONTINUOUS SITE COMPLIANCE WITH THE BYLAW.
- 2. THE OWNER/PERSONS RESPONSIBLE SHALL CORRECT ANY DEFICIENCIES IN ESC WORKS IMMEDIATELY. IF THE OWNER/PERSONS RESPONSIBLE FAIL TO CORRECT THE DEFICIENCIES, THEY MUST BE CORRECTED BY THE OWNER, OR THE CITY WILL CORRECT THE DEFICIENCIES AT THE OWNER'S EXPENSE. ESC SUPERVISOR TO REVIEW AND APPROVE THE REPAIR/MODIFICATION OF THE ESC DEFICIENCIES.
- 3. SEDIMENT FENCES/BARRIERS AND STORM DRAIN INLET PROTECTION MEASURES TO BE INSPECTED AND REPAIRED DAILY, PRIOR TO EXPECTED RAIN EVENTS AND FOLLOWING ALL SIGNIFICANT RAINFALL EVENTS OR PERIODS OF EXTENDED RAIN.
- 4. ACCUMULATED SEDIMENTS GREATER THAN 30% OF THE ESC BMP'S CAPACITY MUST BE PROMPTLY REMOVED AND DISPOSED OFF ACCORDINGLY.
- 5. ROADWAYS AND ASPHALT OR CONCRETE SURFACES MUST BE KEPT CLEAN AND FREE OF SEDIMENTS AT THE END OF EACH DAY OR AS REQUIRED. NO SOIL, SAND OR OTHER MATERIAL WITH A HIGH SEDIMENT CONTENT SHALL BE DEPOSITED OR PILED OUTSIDE OF THE PROPERTY BOUNDARIES, PARTICULARLY ON PAVED ROAD SURFACES. FLUSHING OF ROADWAYS IS NOT PERMITTED.
- 6. THE PERSONS RESPONSIBLE SHALL COVER ANY SOIL STOCKPILES AND EXPOSED EARTH FILL SLOPES WITH 6 mm POLYETHYLENE. SILT FENCING TO BE PLACED AROUND SOIL STOCKPILES AT THE TOE OF EARTH FILL SLOPES. NO SOIL TO BE STOCKPILED WITHIN TREE RETENTION AREAS.
- 7. WITHIN 24 HOURS OF SIGNIFICANT RAINFALL, THE PERSONS RESPONSIBLE SHALL CLEAN OUT ALL ESC WORKS, AND ANY VISIBLE DAMAGE TO THE WORKS FROM RAINFALL MUST BE REPAIRED IMMEDIATELY. WHEN REMOVING SEDIMENT FROM ESC WORKS, SEDIMENT MUST BE PLACED WHERE IT WILL NOT ENTER A STORM DRAIN OR WATERCOURSE, AND WHERE IT WILL NOT RE-ENTER THE ESC WORKS.
- 8. UPON COMPLETION OF CONSTRUCTION, THE PERSONS RESPONSIBLE SHALL REMOVE ALL SEDIMENT FROM THE ONSITE STORM MAINS AND ESC WORKS, ESPECIALLY SEDIMENT FENCING, AND VACUUM OFF-SITE CATCH BASINS TO THE SATISFACTION OF THE ESC SUPERVISOR AND THE CITY. CCTV INSPECTION AND FLUSHING IS REQUIRED IF APPLICABLE.

MONITORING & REPORTING - ALL STAGES

- 1. ALL MONITORING INSPECTIONS TO BE CARRIED OUT BY ESC SUPERVISOR OR THEIR DESIGNATES UP TO THE WEEKLY AND WITHIN 24 HOURS OF EACH SIGNIFICANT RAINFALL EVENT (SRE). FOR MORE THAN TWO SRE RECORDED IN ONE WEEK (MONDAY THROUGH SUNDAY), TWO SITE INSPECTIONS PER WEEK WILL BE DEEMED ACCEPTABLE, EXCEPT FOR WHEN A DEFICIENCY IS IDENTIFIED DURING AN INSPECTION.
 - a. BETWEEN MAY 1 AND SEPTEMBER 30, INSPECTION FREQUENCY MAY BE REDUCED TO BI-WEEKLY AND WITHIN 24 HOURS OF EACH SRE BY SUBMITTING A WRITTEN REQUEST TO THE CITY FROM THE ESC SUPERVISOR, SUBJECT TO CONTINUED SITE COMPLIANCE AND APPROVAL BY THE CITY.
- 2. CITY TO BE PROVIDED ENVIRONMENTAL MONITORING REPORTS USING THE CITY'S TEMPLATE WITHIN 7 DAYS OF THE SITE INSPECTION DATE. ANY PERMIT VIOLATIONS TO BE REPORTED TO THE CITY IMMEDIATELY.
- 3. GRAB SAMPLES FOR COMPLIANCE MONITORING TO BE COLLECTED BY THE QUALIFIED PROFESSIONAL OR ESC INSPECTOR FROM A CLEARLY IDENTIFIED SAMPLE PORT LOCATED AT THE POINT OF DISCHARGE OF THE WATER TREATMENT SYSTEM AND BE ANALYZED FOR TURBIDITY, PH, TEMPERATURE, AND RESIDUAL FLOCCULANT IF APPLICABLE, USING CALIBRATED FIELD MEASUREMENT DEVICES. CITY MAY REQUIRE TSS SAMPLE COLLECTION.
- 4. IF APPLICABLE, PERFORMANCE OF THE WATER TREATMENT SYSTEM TO BE MONITORED IN REAL-TIME BY A THIRD-PARTY THAT IS INDEPENDENT FROM THE WATER TREATMENT SYSTEM PROVIDER AND ESC SUPERVISOR. IF A THIRD-PARTY REAL-TIME MONITORING SYSTEM IS REQUIRED, NO WATER TREATMENT SYSTEM DISCHARGE RELEASED INTO THE DRAINAGE SYSTEM IS TO BYPASS THE THIRD-PARTY REAL-TIME MONITORING SYSTEM.
- 5. IF APPLICABLE, CITY TO BE PROVIDED ACCESS TO THE REAL-TIME DISCHARGE WATER QUALITY AND FLOW DATA INCLUDING NOTIFICATIONS WITHIN 48 HOURS OF INSTALLATION OF THE THIRD-PARTY REAL-TIME MONITORING SYSTEM AND NO LATER THAN THE DATE OF THE FIRST SITE DISCHARGE TO THE CITY'S DRAINAGE SYSTEM.
- 6. IF APPLICABLE, INDEPENDENT THIRD-PARTY REAL-TIME MONITORING TO REMAIN IN PLACE UNTIL WATER TREATMENT SYSTEM IS REMOVED.

SITE CLEARING & GRUBBING

- 1. THE OWNER TO NOTIFY THE ESC SUPERVISOR, AND THE CITY OF PORT MOODY THAT CLEARING AND GRUBBING HAS COMMENCED.
- 2. THE OWNER TO PROVIDE THE CONTRACTOR(S) WITH A COPY OF THE ACCEPTED ESC PLAN.
- 3. CONTRACTOR TO CONFIRM ESC SIGNAGE PRESENT AT SITE ENTRANCE AND ESC PLAN AVAILABLE ON-SITE.
- 4. PERIMETER PROTECTION MEASURES TO BE INSTALLED PRIOR TO INITIATING ONSITE CLEARING.
- ACCESS CONTROL FACILITIES/MEASURES TO BE INSTALLED AT ENTRY/EXIT POINTS PRIOR TO INITIATING ONSITE CLEARING OR AT THE INITIAL STAGE OF CLEARING. ALL VEHICLE MOVEMENT TO AND FROM THE SITE TO BE RESTRICTED TO CONTROLLED ENTRY/EXIT POINTS.

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- 6. STORM DRAIN INLET PROTECTION MEASURES AT OR WITHIN EXISTING CATCH/LAWN BASINS TO BE INSTALLED PRIOR TO INITIATING ONSITE CLEARING.
- 7. THE OWNER TO ENSURE THAT ALL EXISTING ROADS ARE REVIEWED DAILY AND SWEPT REGULARLY. FLUSHING OF ROADWAYS IS PROHIBITED.
- 8. LAYDOWN AREA TO BE INSTALLED PRIOR TO INITIATING ONSITE GRUBBING.
- 9. ANY STOCKPILED MATERIAL TO BE COVERED AND ENCIRCLED BY SEDIMENT FENCE AS SPECIFIED.
- 10. ONSITE STORMWATER CONTROL FACILITIES COMPLETE WITH VELOCITY CONTROL MEASURES TO BE INSTALLED AS APPLICABLE.
- 11. ALL DISTURBED AREAS ARE TO BE PROTECTED AS PER THE ESC PLAN.
- 12. WHEEL WASH TO BE INSTALLED AS APPLICABLE.
- 13. WATER TREATMENT SYSTEM TO BE INSTALLED AS APPLICABLE.
- 14. WATER TREATMENT CHEMICALS TO BE REVIEWED AND APPROVED BY THE CITY PRIOR TO USE ON-SITE.
- 15. IF APPLICABLE, THIRD-PARTY INDEPENDENT REAL-TIME MONITORING SYSTEM TO BE INSTALLED AND OPERATIONAL PRIOR TO COMMENCING ON-SITE WATER TREATMENT.
- 16. UPON THE COMMENCEMENT OF CLEARING WORKS, ESC SUPERVISOR TO CONDUCT MONITORING AS PER THE CITY'S MONITORING AND REPORTING REQUIREMENTS.

INSTALLATION OF SERVICES

- 1. THE OWNER TO PROVIDE THE CONTRACTOR(S) WITH A COPY OF THE ESC PLAN.
- 2. PERIMETER PROTECTION, ACCESS CONTROL, STORM DRAIN INLET PROTECTION, AND ONSITE STORMWATER CONTROL FACILITIES TO REMAIN FULLY OPERATIONAL
- 3. THE OWNER TO ENSURE THAT ALL EXISTING ROADS ARE REVIEWED DAILY AND SWEPT REGULARLY. FLUSHING OF ROADWAYS IS PROHIBITED.
- 4. ANY STOCKPILED MATERIAL TO BE COVERED AND ENCIRCLED BY SEDIMENT FENCE AS SPECIFIED.
- 5. ALL DISTURBED AREAS ARE TO BE PROTECTED AS PER THE ESC PLAN.
- 6. NEWLY CONSTRUCTED CATCH/LAWN BASINS TO BE PROTECTED AS SOON AS INSTALLED.
- 7. IF APPLICABLE, WATER TREATMENT SYSTEM, THIRD-PARTY INDEPENDENT REAL-TIME MONITORING SYSTEM AND WHEEL WASH TO BE MAINTAINED AND FULLY OPERATIONAL.
- 8. ADDITIONAL ESC FACILITIES TO BE INSTALLED AS PER THE DIRECTION OF THE ESC SUPERVISOR, IF REQUIRED.

BUILDING CONSTRUCTION

- 1. THE OWNER TO PROVIDE THE CONTRACTOR(S) WITH A COPY OF THE ESC PLAN.
- 2. PERIMETER PROTECTION, ACCESS CONTROL, STORM DRAIN INLET PROTECTION, AND ONSITE STORMWATER CONTROL FACILITIES TO REMAIN FULLY OPERATIONAL.
- 3. THE OWNER TO ENSURE THAT ALL EXISTING ROADS ARE REVIEWED DAILY AND SWEPT REGULARLY. FLUSHING OF ROADWAYS IS PROHIBITED.
- 4. ANY STOCKPILED MATERIAL TO BE COVERED AND ENCIRCLED BY SEDIMENT FENCE AS SPECIFIED.
- 5. ALL DISTURBED AREAS ARE TO BE PROTECTED AS PER THE ESC PLAN.
- 6. NEWLY CONSTRUCTED CATCH/LAWN BASINS TO BE PROTECTED AS SOON AS INSTALLED.
- 7. IF APPLICABLE, WATER TREATMENT SYSTEM, THIRD-PARTY INDEPENDENT REAL-TIME MONITORING SYSTEM AND WHEEL WASH TO BE MAINTAINED AND FULLY OPERATIONAL.
- 8. ALL CONCRETE TO BE DEPOSITED IN A LEAK-PROOF CONCRETE CONTAINMENT FACILITY AND NOT ON THE SITE GRADE OR WHERE IT CAN ERODE AND CONTAMINATE THE ONSITE STORM SYSTEM.
- 9. ALL CONCRETE PUMP TRUCKS TO INSTALL A LEAK-PROOF CONTAINMENT APRON PRIOR TO COMMENCING OPERATION.
- 10. ALL WASH WATER FROM CONCRETE WORKS INCLUDING PARKADE CLEANING TO BE COLLECTED AND DIRECTED TO THE WATER TREATMENT SYSTEM FOR PH NEUTRALIZATION BEFORE DISCHARGE TO THE CITY DRAINAGE SYSTEM.
- 11. PH NEUTRALIZATION OF CONCRETE WASHOUTS TO BE MONITORED BY THE ESC SUPERVISOR AND, IF APPLICABLE, A THIRD-PARTY INDEPENDENT REAL-TIME MONITORING SYSTEM TO ENSURE COMPLIANT DISCHARGE TO THE DRAINAGE SYSTEM.
- 12. ADDITIONAL ESC FACILITIES TO BE INSTALLED AS PER THE DIRECTION OF THE ESC SUPERVISOR, IF REQUIRED.

FINAL GRADING AND LANDSCAPING

- 1. THE OWNER TO PROVIDE THE CONTRACTOR(S) WITH A COPY OF THE ESC PLAN.
- 2. FOLLOWING RECOMMENDATIONS OF THE ESC SUPERVISOR AND SUBJECT TO CONTINUED COMPLIANCE WITH THE BYLAW, SOME ESC FACILITIES MAY BE REMOVED.
- 3. RESIDUAL ESC MEASURES MUST REMAIN FULLY OPERATIONAL UNTIL NO LONGER REQUIRED.
- 4. AFTER FINAL LOT GRADING AND LANDSCAPING IS COMPLETE, A FINAL INSPECTION WITH THE CITY AND ALL PARTIES TO OCCUR.
- 5. PRIOR TO FINAL INSPECTION, ESC SUPERVISOR TO CARRY OUT PRE-FINAL INSPECTION TO ENSURE ALL ESC FACILITIES HAVE BEEN REMOVED IN ACCORDANCE WITH APPROVED ESC PLAN.
- 6. THE OWNER TO RETAIN THE SERVICES OF THE ESC SUPERVISOR UNTIL 100% OF CONSTRUCTION INCLUDING LANDSCAPING HAS BEEN COMPLETED.

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