

EROSION AND SEDIMENTATION CONTROL PLAN NOTES

SEDIMENTATION AND EROSION FOR THIS PROJECT IS BASED UPON SOUND CONSERVATION PRACTICES, AND ADDRESSES TO THE STANDARDS DETAILED IN MAINE EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMP) BY THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION, DATED OCTOBER 2016. THE CONTRACTOR SHALL MAKE HIMSELF FAMILIAR WITH THE AFORESAID PUBLICATION AND COMPLY WITH THE PRACTICES PRESENTED THEREIN.

A PERSON WHO CONDUCTS, OR CAUSES TO BE CONDUCTED, AN ACTIVITY THAT INVOLVES FILLING, DISPLACING OR EXPOSING SOIL OR OTHER EARTHEN MATERIALS SHALL TAKE MEASURES TO PREVENT UNREASONABLE EROSION OF SOIL OR SEDIMENT BEYOND THE PROJECT SITE OR INTO A PROTECTED NATURAL RESOURCE AS DEFINED IN M.R.S. §480-B. EROSION CONTROL MEASURES MUST BE IN PLACE BEFORE THE ACTIVITY BEGINS. MEASURES MUST REMAIN IN PLACE AND FUNCTIONAL UNTIL THE SITE IS PERMANENTLY STABILIZED. ADEQUATE AND TIMELY TEMPORARY AND PERMANENT STABILIZATION MEASURES MUST BE TAKEN.

1 EROSION AND SEDIMENTATION CONTROL

1.1 POLLUTION PREVENTION. MINIMIZE DISTURBED AREAS AND PROTECT NATURAL DOWNGRADIENT BUFFER AREAS TO THE EXTENT PRACTICABLE. CONTROL STORMWATER VOLUME AND VELOCITY WITHIN THE SITE TO MINIMIZE SOIL EROSION. MINIMIZE THE DISTURBANCE OF STEEP SLOPES. CONTROL STORMWATER DISCHARGES, INCLUDING BOTH PEAK FLOW RATES AND VOLUME TO MINIMIZE EROSION AT OUTLETS. THE DISCHARGE MAY NOT RESULT IN EROSION OF ANY OPEN DRAINAGE CHANNELS, SWALES, STREAM CHANNELS OR STREAM BANKS, UPLAND, OR COASTAL OR FRESHWATER WETLANDS OFF THE PROJECT SITE. WHENEVER PRACTICABLE, NO DISTURBANCE ACTIVITIES SHOULD TAKE PLACE WITHIN 50 FEET OF ANY PROTECTED NATURAL RESOURCE. IF DISTURBANCE ACTIVITIES TAKE PLACE BETWEEN 30 FEET AND 50 FEET OF ANY PROTECTED NATURAL RESOURCE, AND STORMWATER DISCHARGES THROUGH THE DISTURBED AREAS TOWARD THE PROTECTED NATURAL RESOURCE, EROSION CONTROL MEASURES MUST BE DOUBLED. IF DISTURBANCE ACTIVITIES TAKE PLACE LESS THAN 30 FEET FROM ANY PROTECTED NATURAL RESOURCE, AND STORMWATER DISCHARGES THROUGH THE DISTURBED AREAS TOWARD THE PROTECTED NATURAL RESOURCE, PERIMETER EROSION CONTROLS MUST BE DOUBLED AND DISTURBED AREAS MUST BE TEMPORARILY OR PERMANENTLY STABILIZED WITHIN 7 DAYS.

1.2 SEDIMENT BARRIERS. PRIOR TO CONSTRUCTION, PROPERLY INSTALL SEDIMENT BARRIERS AT THE DOWNGRADIENT EDGE OF ANY AREA TO BE DISTURBED AND ADJACENT TO ANY CHANNELS WITHIN THE DISTURBED AREA. SEDIMENT BARRIERS SHOULD BE INSTALLED DOWNGRADIENT OF SOIL OR SEDIMENT STOCKPILES AND STORMWATER PREVENTED FROM RUNNING ONTO THE STOCKPILE. MAINTAIN THE SEDIMENT BARRIERS BY REMOVING ACCUMULATED SEDIMENT, REMOVING AND REPLACING THE BARRIER, UNTIL THE DISTURBED AREA IS PERMANENTLY STABILIZED. WHERE A DISCHARGE TO A STORM DRAIN INLET OCCURS, IF THE STORM DRAIN CARRIES WATER DIRECTLY TO A SURFACE WATER AND YOU HAVE AUTHORITY TO ACCESS THE STORM DRAIN INLET, YOU MUST INSTALL AND MAINTAIN PROTECTION MEASURES THAT REMOVE SEDIMENT FROM THE DISCHARGE.

1.3 STABILIZED CONSTRUCTION ENTRANCE. PRIOR TO CONSTRUCTION, PROPERLY INSTALL A STABILIZED CONSTRUCTION ENTRANCE (SCE) AT ALL POINTS OF EGRESS FROM THE SITE. THE SCE IS A STABILIZED PAD OF AGGREGATE, UNDERLAIN BY A GEOTEXTILE FILTER FABRIC, USED TO PREVENT TRACKING OF TRACKING MATERIAL AWAY FROM THE SITE ONTO PUBLIC ROWS. MAINTAIN THE SCE UNTIL ALL DISTURBED AREAS ARE STABILIZED.

1.4 TEMPORARY STABILIZATION. WITHIN 7 DAYS OF THE CESSATION OF CONSTRUCTION ACTIVITIES IN AN AREA THAT WILL NOT BE WORKED FOR MORE THAN 7 DAYS, STABILIZE ANY EXPOSED SOIL WITH MULCH OR OTHER NON-ERODIBLE COVER. STABILIZE AREAS WITHIN 75 FEET OF A WETLAND OR WATERBODY WITHIN 48 HOURS OF THE INITIAL DISTURBANCE OF THE SOIL OR PRIOR TO ANY STORM EVENT, WHICHEVER OCCURS FIRST.

1.5 REMOVAL OF TEMPORARY MEASURES. REMOVE ANY TEMPORARY CONTROL MEASURES, SUCH AS SILT FENCE, WITHIN 30 DAYS AFTER PERMANENT STABILIZATION IS ATTAINED. REMOVE ANY ACCUMULATED SEDIMENTS AND STABILIZE.

1.6 PERMANENT STABILIZATION. IF THE AREA WILL NOT BE WORKED FOR MORE THAN ONE YEAR HAS BEEN BROUGHT TO FINAL GRADE, PERMANENTLY STABILIZE THE AREA WITHIN 7 DAYS BY PLANTING VEGETATION, SEEDING, SOD, OR THROUGH THE USE OF PERMANENT MULCH, OR RIPRAP, OR ROAD SUB-BASE. IF USING VEGETATION AS STABILIZATION, SELECT PROPER SPECIES FOR THE LIGHT, MOISTURE, AND SOIL CONDITIONS; AMEND AREAS OF DISTURBED SUBSOILS WITH TOPSOIL, COMPOST, OR FERTILIZERS; PROTECT SEEDS AREAS WITH MULCH OR, IF REPLACEMENT AND LOCATION MEASURES AND SCHEDULE SOODING, PLANTING, AND SEEDING SO TO AVOID DIE-OFF FROM SUMMER DROUGHT AND FALL FROSTS. NEWLY SEEDS OR SODDED AREAS MUST BE PROTECTED FROM VEHICLE TRAFFIC, EXCESSIVE PEDESTRIAN TRAFFIC, AND CONCENTRATED RUNOFF UNTIL THE VEGETATION IS WELL-ESTABLISHED WITH 90% COVER BY HEALTHY VEGETATION. IF NECESSARY, AREAS MUST BE REWORKED AND RE-STABILIZED IF GERMINATION IS SPOTTY OR UNIFORM, OR TOPSOIL EROSION IS EVIDENT, ONE OR MORE OF THE FOLLOWING MAY APPLY TO A PARTICULAR SITE.

1.6.1 SEEDS AREAS. FOR SEEDS AREAS, PERMANENT STABILIZATION MEANS A SOFT COVER OF THE DISTURBED AREA WITH MATURE, HEALTHY PLANTS WITH NO EVIDENCE OF WASHING OR RILLING OF THE TOPSOIL.

1.6.2 SODDED AREAS. FOR SODDED AREAS, PERMANENT STABILIZATION MEANS THE COMPLETE BINDING OF THE SOD ROOTS INTO THE UNDERLYING SOIL WITH NO SLUMPING OF THE SOD OR DIE-OFF.

1.6.3 PERMANENT MULCH. FOR MULCHED AREAS, PERMANENT MULCHING MEANS TOTAL COVERAGE OF THE EXPOSED AREA WITH AN APPROVED MULCH MATERIAL. EROSION CONTROL MEASURES SUCH AS MULCH FOR PERMANENT STABILIZATION ACCORDING TO THE APPROVED APPLICATION RATES AND LIMITATIONS.

1.6.4 RIPRAP. FOR AREAS STABILIZED WITH RIPRAP, PERMANENT STABILIZATION MEANS THAT SLOPES STABILIZED WITH RIPRAP HAVE AN APPROPRIATE BACKING OF A WELL-GRADED GRAVEL OR APPROVED GEOTEXTILE TO PREVENT SOIL MOVEMENT FROM BEHIND THE RIPRAP. STONE MUST BE SIZED APPROPRIATELY. IT IS RECOMMENDED THAT ANGULAR STONE BE USED.

1.6.5 AGRICULTURAL USE. FOR CONSTRUCTION PROJECTS ON LAND USED FOR AGRICULTURAL PURPOSES (E.G., PIPELINES ACROSS CROP LAND), PERMANENT STABILIZATION MAY BE ACCOMPLISHED BY RETURNING THE DISTURBED LAND TO AGRICULTURAL USE.

1.6.6 PAVED AREAS. FOR PAVED AREAS, PERMANENT STABILIZATION MEANS THE PLACEMENT OF THE COMPACTED GRAVEL SUBBASE IS COMPLETED. PROVIDED IT IS FREE OF FINE MATERIALS THAT MAY RUNOFF WITH A RAIN EVENT.

1.6.7 DITCHES, CHANNELS, AND SWALES. FOR OPEN CHANNELS, PERMANENT STABILIZATION MEANS THE CHANNEL IS STABILIZED WITH A 90% COVER OF HEALTHY VEGETATION WITH A WELL-GRADED RIPRAP BANKS AND OTHER REINFORCEMENT MAT, OR WITH ANOTHER NON-EROSIVE LINING SUCH AS CONCRETE OR ASPHALT PAVEMENT. THERE MUST BE NO EVIDENCE OF SLUMPING OF THE CHANNEL LINING, UNDERCUTTING OF THE CHANNEL, BANKS, OR DOWN-CUTTING OF THE CHANNEL.

1.7 WINTER CONSTRUCTION. "WINTER CONSTRUCTION" IS CONSTRUCTION ACTIVITY PERFORMED DURING THE PERIOD FROM NOVEMBER 1 THROUGH APRIL 15. IF DISTURBED AREAS ARE NOT STABILIZED WITH PERMANENT MEASURES BY NOVEMBER 1 OR NEW SOIL DISTURBANCE OCCURS AFTER NOVEMBER 1, BUT BEFORE APRIL 15, THEN THESE AREAS MUST BE PROTECTED AND RUNOFF FROM THEM MUST BE CONTROLLED BY ADDITIONAL MEASURES AND RESTRICTIONS.

1.7.1 SITE STABILIZATION. FOR WINTER STABILIZATION, HAY MULCH IS APPLIED AT TWICE THE STANDARD TEMPORARY STABILIZATION RATE. AT THE END OF EACH CONSTRUCTION DAY, AREAS THAT HAVE BEEN BROUGHT TO FINAL GRADE MUST BE STABILIZED. MULCH MAY NOT BE SPREAD ON TOP OF SNOW.

1.7.2 SEDIMENT BARRIERS. ALL AREAS WITHIN 75 FEET OF A PROTECTED NATURAL RESOURCE (E. STREAM THROUGH, ETC.) MUST BE PROTECTED WITH A DOUBLE ROW OF SEDIMENT BARRIERS.

1.7.3 DITCH. ALL VEGETATED DITCH LINES THAT HAVE NOT BEEN STABILIZED BY NOVEMBER 1, OR WILL BE WORKED DURING THE WINTER CONSTRUCTION PERIOD, MUST BE STABILIZED WITH AN APPROPRIATE STONE LINING BACKED BY AN APPROPRIATE GRAVEL BED OR GEOTEXTILE UNLESS SPECIFICALLY RELEASED FROM THIS STANDARD BY THE DEPARTMENT.

1.7.4 SLOPES. MULCH NETTING MUST BE USED TO ANCHOR MULCH ON ALL SLOPES GREATER THAN 8% UNLESS EROSION CONTROL BLANKETS OR EROSION CONTROL MIX IS BEING USED ON THESE SLOPES.

1.8 STORMWATER CHANNELS, DITCHES, SWALES, AND OTHER OPEN STORMWATER CHANNELS MUST BE DESIGNED, CONSTRUCTED, AND STABILIZED USING MEASURES THAT ACHIEVE LONG-TERM EROSION CONTROL. SWALES AND OTHER OPEN STORMWATER CHANNELS MUST BE SIZED TO HANDLE, AT A MINIMUM, THE EXPECTED VOLUME RUN-OFF. EACH CHANNEL SHOULD BE CONSTRUCTED IN SECTIONS SO THAT THE SECTION'S GRADING, SHAPING, AND INSTALLATION OF THE PERMANENT LINING CAN BE COMPLETED THE SAME DAY. IF A CHANNEL'S FINAL GRADING OR LINING INSTALLATION MUST BE DELAYED, THEN OVERSIZING BERMS MUST BE USED TO DIVERT STORMWATER AWAY FROM THE CHANNEL. PROPERLY-SPACED CHECK DAMS MUST BE INSTALLED IN THE CHANNEL TO SLOW THE WATER VELOCITY, AND A TEMPORARY LINING INSTALLED ALONG THE CHANNEL TO PREVENT SCOURING. PERMANENT STABILIZATION FOR CHANNELS IS ADDRESSED UNDER SECTION 1.6.7 ABOVE.

1.8.1 THE CHANNEL SHOULD RECEIVE ADEQUATE ROUTINE MAINTENANCE TO MAINTAIN CAPACITY AND PREVENT OR CORRECT ANY EROSION OF THE CHANNEL'S BOTTOM OR SIDE SLOPES.

1.8.2 WHEN THE WATERSHED DRAINING TO A DITCH OR SWALE IS LESS THAN 1 ACRE OF TOTAL DRAINAGE AND LESS THAN 1/4 ACRE OF IMPERVIOUS AREA, DIVERSION OF RUNOFF TO ADJACENT WOODED OR OTHERWISE VEGETATED BUFFER AREAS IS ENCOURAGED WHERE THE OPPORTUNITY EXISTS.

1.9 SEDIMENT BASINS, SEDIMENT BASINS MUST BE DESIGNED TO ACCUMULATE EITHER THE CALCULATED RUNOFF FROM A 2-YEAR, 24-HOUR STORM OR OUTLET FOR 3,600 CUBIC FEET OF CAPACITY PER ACRE DRAINING TO THE BASIN. OUTLET STRUCTURES MUST DISCHARGE WATER FROM THE SURFACE OF THE BASIN. WHENEVER POSSIBLE, EROSION CONTROLS AND VELOCITY DISSIPATION DEVICES MUST BE USED IF THE DISCHARGING WATERS ARE LIKELY TO GREATLY ERODE. ACCUMULATED SEDIMENT MUST BE REMOVED AS NEEDED FROM THE BASIN TO MAINTAIN AT LEAST 1/2 OF THE DESIGN CAPACITY OF THE BASIN. THE USE OF CATIONIC TREATMENT CHEMICALS, SUCH AS POLYMERS, COAGULANTS, OR OTHER CHEMICALS THAT CONTAIN AN OVERALL POSITIVE CHARGE DESIGNED TO REDUCE TURBIDITY IN STORMWATER MUST RECEIVE PRIOR APPROVAL FROM THE DEPARTMENT. WHEN REQUESTING APPROVAL TO USE CATIONIC TREATMENT CHEMICALS, YOU MUST DESCRIBE APPROPRIATE CONTROLS AND IMPLEMENTATION PROCEDURES TO ENSURE THE USE WILL NOT LEAD TO A VIOLATION OF WATER QUALITY STANDARDS. IN ADDITION, YOU MUST SPECIFY THE TYPE(S) OF SOIL LIKELY TO BE TREATED ON THE SITE, CHEMICALS TO BE USED AND HOW THEY ARE TO BE APPLIED AND IN WHAT QUANTITY, ANY MANUFACTURER'S RECOMMENDATIONS, AND ANY TRAINING HAD BY PERSONNEL WHO WILL HANDLE AND APPLY THE CHEMICALS.

1.10 ROADS, GRAVEL AND PAVED ROADS MUST BE DESIGNED AND CONSTRUCTED WITH CROWNS OR OTHER MEASURES, SUCH AS WATER BARS, TO ENSURE THAT STORMWATER IS DELIVERED IMMEDIATELY TO ADJACENT STABLE DITCHES, VEGETATED BUFFER AREAS, CATCH BASIN INLETS, OR STREET GUTTERS.

1.11 CULVERTS. CULVERTS MUST BE SIZED TO AVOID UNINTENDED FLOODING OF UPSTREAM AREAS OR FREQUENT CROPPING OF ROADWAYS. CULVERT INLETS MUST BE PROTECTED WITH APPROPRIATE MATERIALS FOR THE EXPECTED ENTRANCE VELOCITY, AND PROTECTION MUST EXTEND AT LEAST AS HIGH AS THE EXPECTED MAXIMUM ELEVATION OF STORAGE BEHIND THE CULVERT. CULVERT DESIGN MUST INCORPORATE MEASURES, SUCH AS APRONS, TO PREVENT SCOUR OF THE STREAM CHANNEL. OUTLET PROTECTION MEASURES MUST BE DESIGNED TO STAY WITHIN THE CHANNEL LIMITS. THE DESIGN MUST TAKE ACCOUNT OF TAILWATER DEPTH.

1.12 PARKING AREAS. PARKING AREAS MUST BE CONSTRUCTED TO ENSURE RUNOFF IS DELIVERED TO ADJACENT SWALES, CATCH BASINS, CURB GUTTERS, OR BUFFER AREAS WITHOUT ERODING AREAS DOWNSLOPE. THE PARKING AREA'S SUBBASE COMPACTON AND GRADING MUST BE DONE TO ENSURE RUNOFF IS EVENLY DISTRIBUTED TO ADJACENT BUFFERS OR SIDE SLOPES. CATCH BASINS MUST BE LOCATED AND SET TO PROVIDE ENOUGH STORAGE DEPTH AT THE INLET TO ALLOW INFLOW OF PEAK RUNOFF RATES WITHOUT BY-PASS OF RUNOFF TO OTHER AREAS.

2 INSPECTION AND MAINTENANCE

2.1 DURING CONSTRUCTION, THE FOLLOWING STANDARDS MUST BE MET DURING CONSTRUCTION.

2.1.1 INSPECTION AND CORRECTIVE ACTION. INSPECT DISTURBED AND IMPERVIOUS AREAS, EROSION CONTROL MEASURES, MATERIALS STORAGE AREAS THAT ARE EXPOSED TO PRECIPITATION, AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE. INSPECT THESE AREAS AT LEAST ONCE A WEEK AS WELL AS BEFORE AND WITHIN 24 HOURS AFTER A STORM EVENT (RAINFALL), AND PRIOR TO COMPLETING PERMANENT STABILIZATION MEASURES. A PERSON WITH KNOWLEDGE OF EROSION AND STORMWATER CONTROL, INCLUDING THE STANDARDS AND CONDITIONS IN THE PERMIT, SHALL CONDUCT THE INSPECTIONS.

2.1.2 MAINTENANCE. IF BEST MANAGEMENT PRACTICES (BMPs) NEED TO BE REPAIRED, THE REPAIR WORK SHOULD BE INITIATED UPON DISCOVERY OF THE PROBLEM BUT NO LATER THAN THE END OF THE NEXT WORKDAY. IF ADDITIONAL BMPs OR SIGNIFICANT REPAIR OF BMPs ARE NECESSARY, IMPLEMENTATION MUST BE COMPLETED WITHIN 7 CALENDAR DAYS AND PRIOR TO ANY STORM EVENT (RAINFALL). ALL MEASURES MUST BE MAINTAINED IN EFFECTIVE OPERATING CONDITION UNTIL AREAS ARE PERMANENTLY STABILIZED.

2.1.3 DOCUMENTATION. KEEP A LOG (REPORT) SUMMARIZING THE INSPECTIONS AND ANY CORRECTIVE ACTION TAKEN. THE LOG MUST INCLUDE THE NAME(S) AND QUALIFICATIONS OF THE PERSON MAKING THE INSPECTIONS, THE DATE(S) OF THE INSPECTIONS, AND MAJOR OBSERVATIONS ABOUT THE OPERATION AND MAINTENANCE OF EROSION AND SEDIMENTATION CONTROL MEASURES. STORAGE AREAS, AND VEHICLES ACCESS POINTS TO THE PARCEL. MAJOR OBSERVATIONS MUST INCLUDE BMPs THAT NEED MAINTENANCE, BMPs THAT FAILED TO OPERATE AS DESIGNED OR PROVED INADEQUATE FOR PARTICULAR LOCATION, AND LOCATION(S) WHERE ADDITIONAL BMPs ARE NEEDED. FOR EACH BMP REQUIRING MAINTENANCE, BMP NEEDING REPLACEMENT, AND LOCATION NEEDING REPAIR, THE LOG MUST INCLUDE THE CORRECTIVE ACTION TAKEN AND WHEN IT WAS TAKEN. THE LOG MUST BE MADE ACCESSIBLE TO DEPARTMENT STAFF AND A COPY MUST BE PROVIDED UPON REQUEST. THE PERMITTEE SHALL RETAIN A COPY OF THE LOG FOR A PERIOD OF AT LEAST THREE YEARS FROM THE COMPLETION OF PERMANENT STABILIZATION.

2.2 POST-CONSTRUCTION. THE FOLLOWING STANDARDS MUST BE MET AFTER CONSTRUCTION.

2.2.1 PLAN. CARRY OUT AN APPROVED INSPECTION AND MAINTENANCE PLAN THAT IS CONSISTENT WITH THE MINIMUM STANDARDS. THE PLAN MUST ADDRESS INSPECTION AND MAINTENANCE OF THE PROJECT'S PERMANENT EROSION CONTROL MEASURES AND STORMWATER MANAGEMENT SYSTEM.

2.2.2 INSPECTION AND MAINTENANCE. ALL MEASURES MUST BE MAINTAINED IN EFFECTIVE OPERATING CONDITION. A PERSON WITH KNOWLEDGE OF EROSION AND STORMWATER CONTROL, INCLUDING THE STANDARDS AND CONDITIONS IN THE PERMIT, SHALL CONDUCT THE INSPECTIONS. THE FOLLOWING AREAS, FACILITIES, AND MEASURES MUST BE INSPECTED AND IDENTIFIED DEFECTS MUST BE CORRECTED. AREAS, FACILITIES, AND MEASURES OTHER THAN THOSE LISTED BELOW MAY ALSO REQUIRE INSPECTION ON A SPECIFIC SITE. INSPECTION OR MAINTENANCE TASKS NOT LISTED BELOW ARE NOT REQUIRED TO BE INCLUDED IN THE MAINTENANCE PLAN DEVELOPED FOR A SPECIFIC SITE.

2.2.2.1 INSPECT VEGETATED AREAS, PARTICULARLY SLOPES AND EMBANKMENTS, EARLY IN THE GROWING SEASON OR AFTER HEAVY RAINS TO IDENTIFY ACTIVE OR POTENTIAL EROSION PROBLEMS. REPAIR PLANT BANKS AND AREAS WITH SPARSE GROWTH, WHERE RILL EROSION IS EVIDENT, ARMOR THE AREA WITH AN APPROPRIATE LINING OR REPAIR WITH MULCH. FLOWS TO ON-SITE AREAS HAVE TO WITHSTAND THE CONCENTRATED FLOWS TO PERMANENT STABILIZATION STANDARDS IN SECTION 1.6.

2.2.2.2 INSPECT DITCHES, SWALES AND OTHER OPEN STORMWATER CHANNELS IN THE SPRING, IN LATE FALL, AND AFTER HEAVY RAINS TO REMOVE ANY OBSTRUCTIONS TO FLOW, REMOVE ACCUMULATED SEDIMENTS AND DEBRIS AT THE INLET, AT THE OUTLET, AND WITHIN THE CHANNEL; AND TO REPAIR ANY EROSION DAMAGE TO THE CULVERT'S INLET AND OUTLET.

2.2.2.3 INSPECT CULVERTS IN THE SPRING, IN LATE FALL, AND AFTER HEAVY RAINS TO REMOVE ANY OBSTRUCTIONS TO FLOW; REMOVE ACCUMULATED SEDIMENTS AND DEBRIS AT THE INLET, AT THE OUTLET, AND WITHIN THE CHANNEL; AND TO REPAIR ANY EROSION DAMAGE TO THE CULVERT'S INLET AND OUTLET.

2.2.2.4 INSPECT AND CLEAN OUT CATCH BASINS. CLEAN-OUT MUST INCLUDE THE REMOVAL AND LEGAL DISPOSAL OF ANY ACCUMULATED SEDIMENTS AND DEBRIS AT THE BOTTOM OF THE BASIN, AT ANY INLET GRATES, AT ANY INFLOW CHANNELS TO THE BASIN, AND AT ANY OVERFLOW SPILLWAYS BETWEEN BASINS. IF THE BASIN OUTLET IS DESIGNED TO TRAP FLOTTING MATERIALS (USING OIL-ABSORBENT PADS).

2.2.2.5 INSPECT RESOURCE AND TREATMENT BUFFERS ONCE A YEAR FOR EVIDENCE OF EROSION, CONCENTRATING FLOW, AND ENCRUSTMENT BY DEVELOPMENT. IF FLOWS ARE CONCENTRATING WITHIN A BUFFER, SITE GRADING, LEVEL SPREADERS, OR DITCH TURN-OUTS MUST BE USED TO ENSURE A MORE EVEN DISTRIBUTION OF FLOW INTO A BUFFER. CLEAN-OUT ANY ACCUMULATION OF SEDIMENT WITHIN THE SPREADER BAYS OR TURN-OUT POOLS.

2.2.2.6 INSPECT AT LEAST ONCE PER YEAR, EACH STORMWATER MANAGEMENT POND OR BASIN, INCLUDING THE POND'S EMBANKMENTS, OUTLET STRUCTURE, AND EMERGENCY SPILLWAY. REMOVE AND DISPOSE OF ACCUMULATED SEDIMENTS IN THE POND. CONTROL WOODY VEGETATION ON THE POND'S EMBANKMENTS.

2.2.2.7 INSPECT AT LEAST ONCE PER YEAR, EACH UNDERDRAINED FILTER, INCLUDING THE FILTER EMBANKMENTS, VEGETATION, UNDERDRAIN PIPING, AND OVERFLOW SPILLWAY. REMOVE AND DISPOSE OF ACCUMULATED SEDIMENTS IN THE FILTER. IF NEEDED, REHABILITATE ANY CLOGGED SURFACE LININGS, AND FLUSH UNDERDRAIN PIPING.

2.2.2.8 INSPECT EACH MANUFACTURED SYSTEM INSTALLED ON THE SITE, INCLUDING THE SYSTEM'S INLET, TREATMENT CHAMBER(S), AND OUTLET AT LEAST ONCE PER YEAR, OR IN ACCORDANCE WITH THE MAINTENANCE GUIDELINES RECOMMENDED BY THE MANUFACTURER BASED ON THE ESTIMATED RUNOFF AND POLLUTANT LOAD EXPECTED TO THE SYSTEM FROM THE PROJECT. REMOVE AND DISPOSE OF ACCUMULATED SEDIMENTS, DEBRIS, AND CONTAMINATED WATERS FROM THE SYSTEM AND, IF APPLICABLE, REMOVE AND REPLACE ANY CLOGGED OR SPENT FILTER MEDIA.

2.2.3 REGULAR MAINTENANCE

2.2.3.1 CLEAR ACCUMULATIONS OF WINTER SAND IN PARKING LOTS AND ALONG ROADWAYS AT LEAST ONCE A YEAR, PREFERABLY IN THE SPRING. ACCUMULATIONS ON PAVEMENT MAY BE REMOVED BY PAVEMENT SWEEPING. ACCUMULATIONS OF SAND ALONG ROAD SHOULDERS MAY BE REMOVED BY GRADING EXCESS SAND TO THE PAVEMENT EDGE AND REMOVING IT MANUALLY OR BY A FRONT-END LOADER. GRADING OF GRAVEL ROADS, OR GRADING OF THE GRAVEL SHOULDERS OF GRAVEL OR PAVED ROADS, MUST BE ROUTINELY PERFORMED TO ENSURE THAT STORMWATER DRAINS IMMEDIATELY OFF THE ROAD SURFACE TO ADJACENT BUFFER AREAS OR STABLE DITCHES. GRADING OF GRAVEL OR PAVED ROADS MUST BE PERFORMED TO ENSURE THAT STORMWATER DRAINS IMMEDIATELY OFF THE ROAD SURFACE TO ADJACENT BUFFER AREAS OR STABLE DITCHES. MATERIAL ON THE ROAD SHOULDER OR BY ADJUNCTION OF FALSE DITCHES IN THE SHOULDER. IF WATER BARS OR OPEN-TOP CULVERTS ARE USED TO DIVERT RUNOFF FROM ROAD SURFACES, CLEAN-OUT ANY SEDIMENTS WITHIN OR AT THE OUTLET OF THESE STRUCTURES TO RESTORE THEIR FUNCTION.

2.2.3.2 MANAGE EACH BUFFER'S VEGETATION CONSISTENTLY WITH THE REQUIREMENTS IN ANY DEED RESTRICTIONS FOR THE BUFFER. WOODED BUFFERS MUST REMAIN FULLY WOODED AND HAVE NO DISTURBANCE TO THE DUFF LAYER. VEGETATION IN NON-WOODED BUFFERS MAY NOT BE CUT MORE THAN THREE TIMES PER YEAR, AND MAY NOT BE CUT SHORTER THAN SIX INCHES.

2.2.4 DOCUMENTATION. KEEP A LOG (REPORT) SUMMARIZING INSPECTIONS, MAINTENANCE, AND ANY CORRECTIVE ACTIONS TAKEN. THE LOG MUST INCLUDE THE DATE OF EACH INSPECTION OR MAINTENANCE TASK WAS PERFORMED, A DESCRIPTION OF THE INSPECTION FINDINGS AND MAINTENANCE COMPLETED, AND THE NAME OF THE INSPECTOR OR MAINTENANCE PERSONNEL PERFORMING THE TASK. IF A MAINTENANCE TASK REQUIRES THE CLEAN-OUT OF ANY SEDIMENTS OR DEBRIS, INDICATE WHERE THE SEDIMENT AND DEBRIS WAS DISPOSED AFTER THE TASK. THE LOG MUST BE MADE ACCESSIBLE TO DEPARTMENT STAFF AND A COPY PROVIDED TO THE DEPARTMENT UPON REQUEST. THE PERMITTEE SHALL RETAIN A COPY OF THE LOG FOR A PERIOD OF AT LEAST FIVE YEARS FROM THE COMPLETION OF PERMANENT STABILIZATION.

2.3 RE-CERTIFICATION. SUBMIT A CERTIFICATION OF THE FOLLOWING TO THE DEPARTMENT WITHIN THREE MONTHS OF THE EXPIRATION OF EACH FIVE-YEAR INTERVAL FROM THE DATE OF ISSUANCE OF THE PERMIT.

2.3.1 IDENTIFICATION AND REPAIR OF EROSION PROBLEMS. ALL AREAS OF THE PROJECT SITE HAVE BEEN INSPECTED FOR AREAS OF EROSION, AND APPROPRIATE STEPS HAVE BEEN TAKEN TO PERMANENTLY STABILIZE THESE AREAS.

2.3.2 INSPECTION AND REPAIR OF STORMWATER CONTROL SYSTEM. ALL ASPECTS OF THE STORMWATER CONTROL SYSTEM HAVE BEEN INSPECTED FOR DAMAGE, WEAR, AND DEFICIENCIES. APPROPRIATE STEPS HAVE BEEN TAKEN TO REPAIR OR REPLACE THE SYSTEM, OR PORTIONS OF THE SYSTEM.

2.3.3 MAINTENANCE. THE EROSION AND STORMWATER MAINTENANCE PLAN FOR THE SITE IS BEING MAINTAINED AS WRITTEN, OR MODIFICATIONS TO THE PLAN HAVE BEEN SUBMITTED TO AND APPROVED BY THE DEPARTMENT, AND THE MAINTENANCE LOG IS BEING MAINTAINED.

2.3.4 MUNICIPALITIES WITH SEPARATE STORM SEWER SYSTEMS REGULATED UNDER THE MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM (MPDES) PROGRAM MAY REPORT ON ALL REGULATED SYSTEMS UNDER THEIR CONTROL AS PART OF THEIR REQUIRED ANNUAL REPORTING IN LIEU OF SEPARATE CERTIFICATION OF EACH SYSTEM. MUNICIPALITIES NOT REGULATED BY THE MPDES PROGRAM, BUT THAT ARE RESPONSIBLE FOR MAINTENANCE OF PERMITTED STORMWATER SYSTEMS, MAY REPORT ON MULTIPLE STORMWATER SYSTEMS IN ONE REPORT.

2.4 DURATION OF MAINTENANCE. PERMANENT MAINTENANCE AS DESCRIBED AND REQUIRED IN THE PERMIT MUST BE MAINTAINED FOR THE LIFE OF THE SYSTEM AS ACCEPTED BY THE MUNICIPALITY OR QUASI-MUNICIPAL DISTRICT, OR IS PLACED UNDER THE JURISDICTION OF A LEGALLY CREATED ASSOCIATION THAT WILL BE RESPONSIBLE FOR THE MAINTENANCE OF THE SYSTEM. MUNICIPALITY OR QUASI-MUNICIPAL DISTRICT CHOOSES TO ACCEPT A STORMWATER MANAGEMENT SYSTEM, OR A COMPONENT OF A STORMWATER SYSTEM, MUST TAKE A LETTER TO THE DEPARTMENT STATING THAT IT ASSUMES RESPONSIBILITY FOR THE SYSTEM. THE LETTER MUST SPECIFY THE COMPONENTS OF THE SYSTEM FOR WHICH THE MUNICIPALITY OR DISTRICT WILL ASSUME RESPONSIBILITY, AND THAT THE MUNICIPALITY OR DISTRICT AGREES TO MAINTAIN THOSE COMPONENTS OF THE SYSTEM IN COMPLIANCE WITH DEPARTMENT STANDARDS. UPON SUCH ASSUMPTION OF RESPONSIBILITY, AND APPROVAL BY THE DEPARTMENT, THE MUNICIPALITY OR DISTRICT SHALL BE RESPONSIBLE FOR THE SYSTEM'S CO-OPERATION FOR THIS PURPOSE ONLY AND MUST COMPLY WITH ALL TERMS AND CONDITIONS OF THE PERMIT.

3 HOUSEKEEPING

3.1 SPILL PREVENTION. CONTROLS MUST BE USED TO PREVENT POLLUTANTS FROM CONSTRUCTION AND WASTE MATERIALS STORED ON SITE TO ENTER STORMWATER, WHICH INCLUDES STORAGE PRACTICES TO MINIMIZE EXPOSURE OF THE MATERIALS TO STORMWATER. SPILL PREVENTION MEASURES, INCLUDING SPILL PREVENTION AS NECESSARY, APPROPRIATE SPILL PREVENTION, CONTAINMENT, AND RESPONSE PLANNING MEASURES.

3.2 GROUNDWATER PROTECTION. DURING CONSTRUCTION, LIQUID PETROLEUM PRODUCTS AND OTHER HAZARDOUS MATERIALS WITH THE POTENTIAL TO CONTAMINATE GROUNDWATER MUST NOT BE STORED OR HANDLED IN AREAS OF THE SITE DRAINING TO AN INFILTRATION AREA. AN "INFILTRATION AREA" IS ANY AREA OF THE SITE THAT BY DESIGN OR AS A RESULT OF SOILS, TOPOGRAPHY AND OTHER RELEVANT FACTORS ACCUMULATES RUNOFF THAT INFILTRATES INTO THE SOIL. DIKES, BERMS, SUMPS, AND OTHER FORMS OF SECONDARY CONTAINMENT THAT PREVENT DISCHARGE TO GROUNDWATER MAY BE USED TO ISOLATE INFILTRATION AREAS FROM THE PURPOSES OF STORAGE AND HANDLING OF THESE MATERIALS. ANY PROJECT PROPOSING INFILTRATION OF STORMWATER MUST PROVIDE ADEQUATE PRE-TREATMENT OF STORMWATER PRIOR TO INFILTRATION INTO AN INFILTRATION AREA, OR PROVIDE FOR TREATMENT WITHIN THE INFILTRATION AREA, IN ORDER TO PREVENT THE ACCUMULATION OF FINES, REDUCTION IN INFILTRATION RATE, AND CONSEQUENT FLOODING AND DESTABILIZATION.

3.3 FUGITIVE SEDIMENT AND DUST. ACTIONS MUST BE TAKEN TO ENSURE THAT ACTIVITIES DO NOT RESULT IN NOTICEABLE EMISSIONS OF SOILS OR FUGITIVE DUST EMISSIONS DURING OR AFTER CONSTRUCTION. OIL MAY NOT BE USED FOR DUST CONTROL, BUT OTHER WATER ADDITIVES MAY BE CONSIDERED AS NEEDED. A STABILIZED CONSTRUCTION ENTRANCE (SCE) SHOULD BE INSTALLED TO MINIMIZE TRACKING OF MUD AND SEDIMENT. IF OFF-SITE TRACKING OCCURS, PUBLIC ROADS SHOULD BE SWEEP IMMEDIATELY AND NO LESS THAN ONCE A WEEK AND PRIOR TO SIGNIFICANT STORM EVENTS. OPERATIONS DURING DRY MONTHS, THAT EXPERIENCE FUGITIVE DUST PROBLEMS, SHOULD WET DOWN UNPAVED ACCESS ROADS ONCE A WEEK OR MORE FREQUENTLY AS NEEDED WITH A WATER ADDITIVE TO SUPPRESS FUGITIVE SEDIMENT AND DUST.

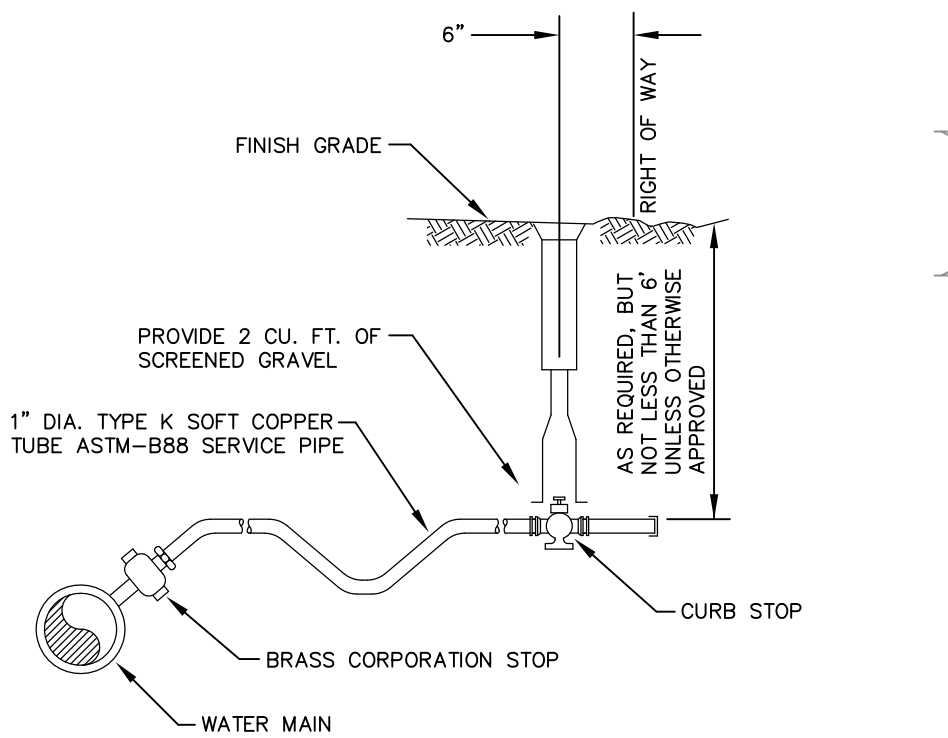
3.4 DEBRIS AND OTHER MATERIALS. MINIMIZE THE EXPOSURE OF CONSTRUCTION DEBRIS, BUILDING AND LANDSCAPING MATERIALS, TRASH, FERTILIZERS, PESTICIDES, HERBICIDES, DETERGENTS, SANITARY WASTE AND OTHER MATERIALS TO PRECIPITATION AND STORMWATER. THESE MATERIALS MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE.

3.5 EXCAVATION DE-WATERING. EXCAVATION DE-WATERING IS THE REMOVAL OF WATER FROM TRENCHES, FOUNDATIONS, COFFER DAMS, PONDS, AND OTHER AREAS WITHIN THE CONSTRUCTION AREA THAT RETAIN WATER AFTER EXCAVATION. IN MOST CASES THE COLLECTED WATER IS HEAVILY SİLTED AND HINDERS CORRECT AND SAFE CONSTRUCTION PRACTICES. THE COLLECTED WATER REMOVED FROM THE PONDING AREA EITHER THROUGH GRAVITY OR PUMPING, MUST BE SPREAD THROUGH NATURAL WOODED BUFFERS OR REMOVE TO A STABLE DITCH OR OTHER APPROPRIATELY SITED COLLECTION MAXIMUM AMOUNT OF SEDIMENT POSSIBLE, LIKE A COFFERDAM SEDIMENTATION BASIN. AVOID ALLOWING THE WATER TO FLOW OVER DISTURBED AREAS OF THE SITE. EQUIVALENT MEASURES MAY BE TAKEN IF APPROVED BY THE DEPARTMENT.

3.6 AUTHORIZED NON-STORMWATER DISCHARGES. IDENTIFY AND PREVENT CONTAMINATION BY NON-STORMWATER DISCHARGES. WHERE ALLOWED NON-STORMWATER DISCHARGES EXIST, THEY MUST BE IDENTIFIED AND STEPS SHOULD BE TAKEN TO ENSURE THE IMPLEMENTATION OF APPROPRIATE POLLUTION PREVENTION MEASURES FOR THE NON-STORMWATER COMPONENT(S) OF THE DISCHARGE. AUTHORIZED NON-STORMWATER DISCHARGES ARE:

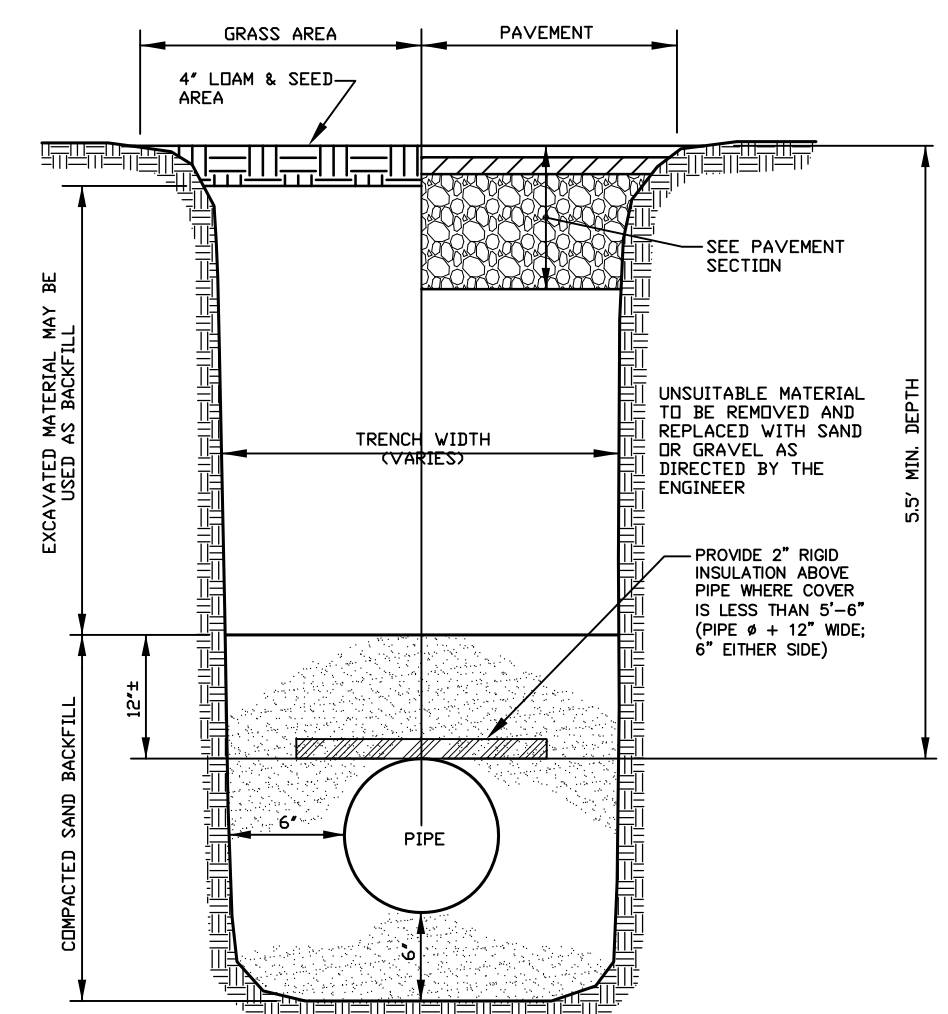
- 3.6.1 DISCHARGES FROM FIREFIGHTING ACTIVITY;
- 3.6.2 FIRE HYDRANT FLUSHINGS;
- 3.6.3 VEHICLE WASHES. WASHES ARE NOT USED AND WASHING IS LIMITED TO THE EXTERIOR OF VEHICLES (ENGINE, UNDERCARRIAGE AND TRANSMISSION WASHING IS PROHIBITED);
- 3.6.4 DUST CONTROL RUNOFF IN ACCORDANCE WITH PERMIT CONDITIONS AND APPENDIX (C)(5);
- 3.6.5 ROUTINE EXTERNAL BUILDING WASHOUT, NOT INCLUDING SURFACE PAINT REMOVAL, THAT DOES NOT INVOLVE DETERGENTS;
- 3.6.6 PAVEMENT WASHWATER (WHERE SPILLS/LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE NOT OCCURRED, UNLESS ALL SPILLED MATERIAL HAD BEEN REMOVED) IF DETERGENTS ARE NOT USED;
- 3.6.7 UNCONTAMINATED AIR CONDITIONER OR COMPRESSOR CONDENSATE;
- 3.6.8 UNCONTAMINATED GROUNDWATER OR SPRING WATER;
- 3.6.9 FOUNDATION OR FOOTER DRAIN-WATER WHERE FLOWS ARE NOT CONTAMINATED;
- 3.6.10 UNCONTAMINATED EXCAVATION DEWATERING (SEE REQUIREMENTS IN APPENDIX (C)(5));
- 3.6.11 POTABLE WATER SOURCES INCLUDING WETLINE FLUSHINGS; AND LANDSCAPE IRRIGATION.
- 3.6.12 UNAUTHORIZED NON-STORMWATER DISCHARGES - THE DEPARTMENT'S APPROVAL UNDER THIS CHAPTER DOES NOT AUTHORIZE A DISCHARGE IF MIXED WITH A SOURCE OF NON-STORMWATER, OTHER THAN THOSE DISCHARGES IN COMPLIANCE WITH APPENDIX (C) (6). SPECIFICALLY, THE DEPARTMENT'S APPROVAL DOES NOT AUTHORIZE DISCHARGES OF THE FOLLOWING:

- 3.7.1 WASTEWATER FROM THE WASHOUT OR CLEANOUT OF CONCRETE, STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS OR OTHER CONSTRUCTION MATERIALS;
- 3.7.2 FUELS, OILS OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE;
- 3.7.3 SOAPS, SOLVENTS, OR DETERGENTS USED IN VEHICLE AND EQUIPMENT WASHING; AND
- 3.7.4 TOXIC OR HAZARDOUS SUBSTANCES FROM A SPILL OR OTHER RELEASE.



TYPICAL WATER SERVICE CONNECTION NOT TO SCALE

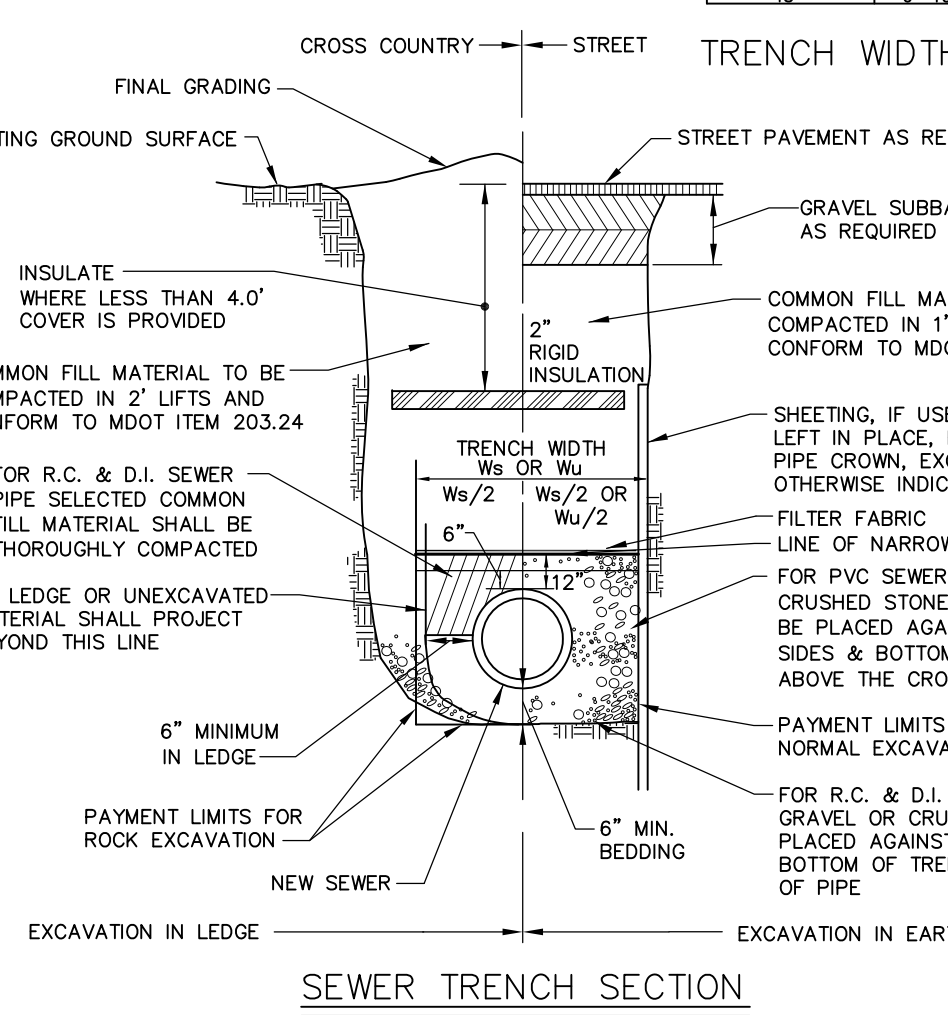
- 1) COORDINATE WITH PORTLAND WATER DISTRICT PRIOR TO CONSTRUCTION
- 2) PROVIDE 2" RIGID INSULATION OVER SERVICE WHERE COVER IS LESS THAN 4"



COMMON TRENCH DETAIL ELECTRIC/TELEPHONE/FIRE ALARM/CABLE NOT TO SCALE

TRENCH WIDTH DATA

| DEPTH    | WIDTH |
|----------|-------|
| 0-12"    | 18"   |
| 12-24"   | 24"   |
| 24-36"   | 30"   |
| 36-48"   | 36"   |
| 48-60"   | 42"   |
| 60-72"   | 48"   |
| 72-84"   | 54"   |
| 84-96"   | 60"   |
| 96-108"  | 66"   |
| 108-120" | 72"   |
| 120-132" | 78"   |
| 132-144" | 84"   |
| 144-156" | 90"   |
| 156-168" | 96"   |
| 168-180" | 102"  |
| 180-192" | 108"  |
| 192-204" | 114"  |
| 204-216" | 120"  |
| 216-228" | 126"  |
| 228-240" | 132"  |
| 240-252" | 138"  |
| 252-264" | 144"  |
| 264-276" | 150"  |
| 276-288" | 156"  |
| 288-300" | 162"  |

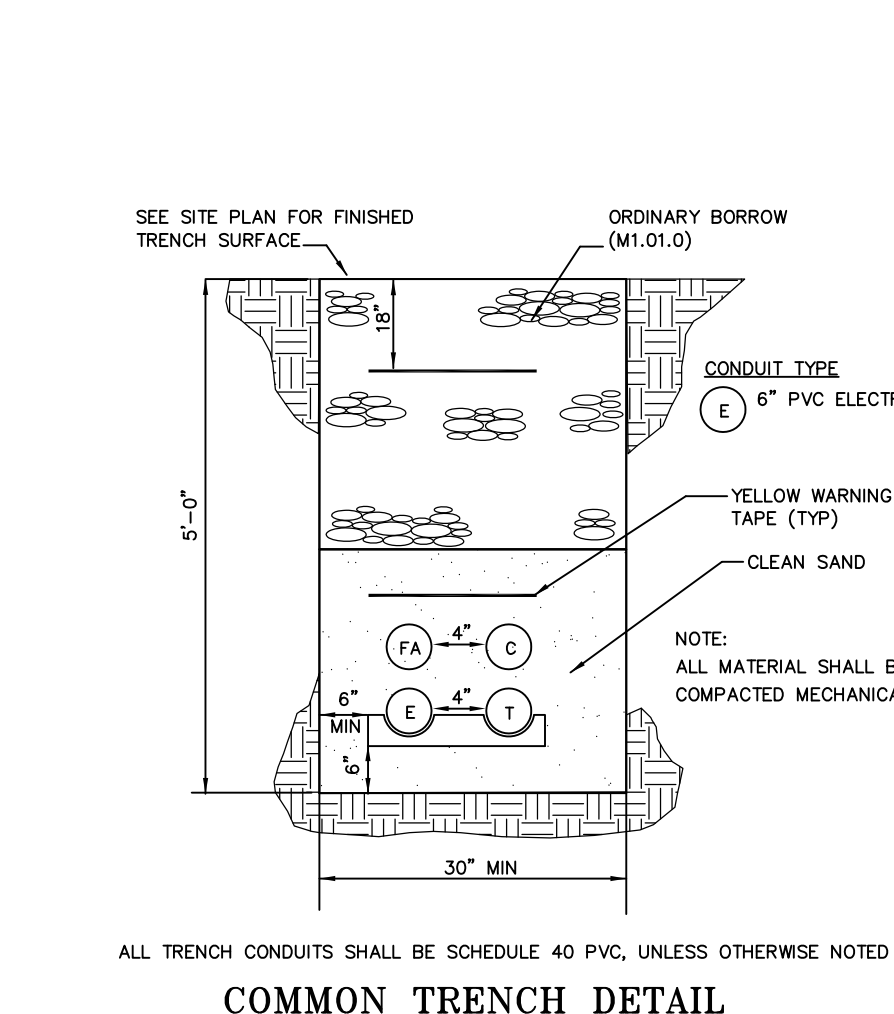


TYPICAL STORM DRAIN TRENCH SECTION NOT TO SCALE

GENERAL NOTE:  
ALL TEMPORARY EROSION AND WATER POLLUTION CONTROLS SHALL MEET MDOIT ITEM 656.

PROGRESS PRINT

- 1) COORDINATE WITH PORTLAND WATER DISTRICT PRIOR TO CONSTRUCTION
- 2) PROVIDE 2" RIGID INSULATION OVER SERVICE WHERE COVER IS LESS THAN 4"



COMMON TRENCH DETAIL ELECTRIC/TELEPHONE/FIRE ALARM/CABLE NOT TO SCALE

TRENCH WIDTH DATA

| DEPTH  | WIDTH |
|--------|-------|
| 0-12"  | 18"   |
| 12-24" | 24"   |
| 24-36" | 30"   |
| 36-48" | 36"   |
| 48-60" | 42"   |