

LONGITUDINAL SWALE MIN. 9" DEEP, TO INTERCEPT SURFACE DRAINAGE FROM FLOWING INTO ROADWAY SUB-SECTION, DIRECTED TO BACKSIDE OF BASINS. TEMPORARY BASIN UNDERDRAINS SHALL BE INSTALLED BY EXTENDING U.D. FOUR FEET (4') AND BACKFILLING ZONE WITH No. 8 AGGREGATE TO SURFACE. (SEE MAINTENANCE OF POSITIVE DRAINAGE NOTE "4."), THIS SHEET)

**TYPICAL EXCAVATION SECTION**

HORZ. SCALE: 1"=10'  
VERT. SCALE: 1"=5'

- LEGEND**
- ① GRADE TO 4" (±1") ABOVE SUBGRADE FOR PAVER'S FINAL GRADING
  - ② 4" LOW FOR SPOIL MATERIAL FROM PAVEMENT SUBGRADE PREPARATION
  - ③ 8" LOW FROM BACK OF CURB TO BUILDING LINE FOR LINEAR GRADING AFTER PAVING, PLACING TOPSOIL, AND FINAL GRADING UPON HOUSE CONSTRUCTION
  - ④ AFTER PAVEMENT IS CONSTRUCTED, GRADE 0" TO 8" WEDGE OF MATERIAL BEHIND THE CURB AS PART OF "LINEAR GRADING FROM BACK OF CURB TO EASEMENT LINE AFTER PAVING"

**GENERAL NOTES**

- 1) NOTICE OF INTENT (NO) MUST BE SUBMITTED TO OHIO EPA FOR NPDES PERMIT 21 DAYS PRIOR TO THE START OF CLEARING AND/OR GRADING.
- 2) CONTRACTOR MUST COMPLY WITH ALL LOCAL EROSION, SEDIMENT CONTROL, WASTE DISPOSAL, SANITARY, AND HEALTH REGULATIONS (E.G. PROVISION OF PORTABLE SANITARY FACILITIES, TEMPORARY FUEL TANK REGULATIONS, ETC.)
- 3) THE CONTRACTOR MUST IMPLEMENT ALL NECESSARY PRACTICES TO PREVENT THE DISCHARGE OF NON-SEDIMENT POLLUTANTS INTO STORM WATER RUNOFF. UNDER NO CIRCUMSTANCES SHALL CONCRETE TRUCKS WASH OUT DIRECTLY INTO A DRAINAGE CHANNEL, STORM SEWER OR SURFACE WATERS OF THE STATE. NO EXPOSURE OF STORM WATER TO WASTE MATERIALS IS RECOMMENDED.
- 4) OFF-SITE TRACKING OF SEDIMENTS AND DUST GENERATION SHALL BE MINIMIZED.
- 5) THERE SHALL BE NO TURBID DISCHARGES RESULTING FROM DEWATERING ACTIVITIES. IF TRENCH OR GROUND WATER CONTAINS SEDIMENT, IT MUST PASS THROUGH A SEDIMENT SETTLING POND PRIOR TO BEING DISCHARGED FROM THE CONSTRUCTION SITE. AS AN ALTERNATE, THE CONTRACTOR MAY IMPLEMENT AN EQUALLY EFFECTIVE SEDIMENT CONTROL DEVICE, (E.G. SUMP PIT, FILTER BAG OR COMPARABLE PRACTICE) ONLY AS APPROVED BY THE ENGINEER.
- 6) ALL FUEL TANKS AND DRUMS SHALL BE STORED IN MARKED STORAGE AREA. A DIKE SHALL BE CONSTRUCTED AROUND THIS STORAGE AREA WITH A MINIMUM CAPACITY EQUAL TO 110% OF THE VOLUME OF THE LARGEST CONTAINER IN THE STORAGE AREA. ALL ADDITIONAL REQUIREMENTS OF THE LOCAL FIRE AUTHORITY MUST BE FOLLOWED. IF THE FUEL TANKS HAVE A SELF-CONTAINED DIKE, THE PLUG WILL BE KEPT IN THE "DIKE" TANK AT ALL TIMES. A MOBILE FUELING SPILL PREVENTION AND RESPONSE PLAN MUST BE PREPARED AND FOLLOWED BY ALL SITE PERSONNEL.

**GENERAL PERMIT DOCUMENT INCLUSION REQUIREMENTS**

THIS PROJECT SWP3 INCORPORATES A COPY OF OHIO EPA CONSTRUCTION GENERAL PERMIT NO. OH000004. THE PART V.H. CERTIFICATION SHALL BE ATTACHED AND SIGNED PER THE SIGNATORY REQUIREMENTS OF PART V.G. OF THE PERMIT.

THE ACKNOWLEDGMENT DOCUMENT REQUIRED BY PERMIT PART III.E. SHALL BE SIGNED BY THE CONTRACTORS AND SUBCONTRACTORS INVOLVED IN THE IMPLEMENTATION OF THE SWP3. THE SIGNED DOCUMENT SHALL BE INCORPORATED INTO THIS SWP3.

A LOG DOCUMENTING GRADING AND STABILIZATION ACTIVITIES AS WELL AS ANY AMENDMENTS TO THE SWP3 WHICH OCCUR AFTER CONSTRUCTION ACTIVITIES COMMENCE, SHALL BE MAINTAINED BY QUALIFIED PERSONNEL UNDER THE DIRECTION OF THE EARTHWORK/SEWER CONTRACTOR OR OTHER AUTHORIZED REPRESENTATIVE OF THE PERMITTEE. THESE RECORDS SHALL BE INCORPORATED INTO THIS SWP3.

**SOIL EROSION AND SEDIMENT CONTROL**

**GENERAL**

THIS WORK SHALL CONSIST OF TEMPORARY AND PERMANENT CONTROL MEASURES AS SHOWN ON THE STORM WATER POLLUTION PREVENTION PLAN AND AS DIRECTED BY THE ENGINEER AND OWNER TO CONTROL SOIL EROSION AND SEDIMENTATION THROUGH THE USE OF SEDIMENT TRAPS, SEDIMENT BASINS, SILT FENCES, EARTH DIVERSION DIKES, CHECK DAMS, STORM DRAIN INLET PROTECTION, GRASSES AND MULCHES, CONSTRUCTED IN ACCORDANCE WITH THESE PLANS, AND THE OHIO RAINWATER AND LAND DEVELOPMENT MANUAL, CURRENT EDITION. THE IMPLEMENTATION OF SOIL EROSION AND SEDIMENT CONTROL SHALL ALSO CONFORM TO THE REQUIREMENTS OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) UNDER THE NPDES PERMIT PROGRAM FOR THE DISCHARGE OF STORM WATER FROM CONSTRUCTION AND THE EROSION AND SEDIMENT CONTROL PRACTICES AND RECOMMENDATIONS OF THE SUMMIT COUNTY SOIL AND WATER CONSERVATION DISTRICT. IF CONFLICTS EXIST REGARDING THE SOIL EROSION AND SEDIMENT CONTROL PRACTICES, THE MORE RESTRICTIVE SHALL APPLY.

IN ORDER TO CONTAIN SEDIMENT ON SITE, DIVERSION DITCHES, DIKES, AND SEDIMENTATION TRAPS ARE REQUIRED FOR TRAPPING SEDIMENT. SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN GRADING CONSTRUCTION AND SHALL BE MADE FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE TAKES PLACE. AS CONSTRUCTION PROGRESSES, TEMPORARY SEDIMENT BARRIERS, DITCH CHECKS, AND SILT FENCES SHALL BE USED TO INTERCEPT AND DETAIN SEDIMENT, TO DECREASE FLOW VELOCITIES, AND TO LIMIT THE FLOW FROM LARGE DISTURBED AREAS. EFFORTS TO PREVENT THE SITUATION OF THE STORM SEWER SYSTEM AND WATERWAYS SHALL INCLUDE THE PROTECTION OF INLET BASINS, CATCH BASINS, AND OTHER STORM INLETS (SEE INLET PROTECTION DETAIL), AS AREAS OF EARTHWORK CONSTRUCTION ARE COMPLETED, THE CONTRACTOR IS TO PROTECT AND STABILIZE THE AREAS WITH SEEDING AND MULCHING.

**MUD AND DUST CONTROL**

THE CONTRACTOR SHALL SUPPLY ALL LABOR, MATERIAL, AND EQUIPMENT NECESSARY, SUCH AS CALCIUM CHLORIDE, WATER, OR A MOTORIZED DUST-FREE STREET SWEEPING DEVICE, AS DIRECTED BY THE ENGINEER, TO MAINTAIN ASPHALT BEING USED FOR ACCESS TO THE CONSTRUCTION SITE. PAYMENT FOR ALL MUD AND DUST CONTROL MEASURES SHALL BE INCLUDED IN THE UNIT PRICE BID FOR OTHER VARIOUS ITEMS.

**LIMITS OF CONSTRUCTION**

AREAS OF EXISTING VEGETATION BEYOND THE LIMITS OF CONSTRUCTION ARE TO REMAIN UNDISTURBED.

ALL EARTHWORK METHODS, STAGING AND IMPLEMENTATION SHALL BE AS APPROVED BY THE OWNER PRIOR TO COMMENCING WORK. ALL AREAS UTILIZED FOR STOCKPILING OF EMBANKMENT SHALL BE STRIPPED OF TOPSOIL PRIOR TO THE PLACEMENT OF MATERIAL. FOR ANY AREAS OF DISTURBANCE BEYOND THE PLAN LIMITS OF CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING ALL APPROPRIATE TEMPORARY EROSION AND SEDIMENT CONTROL BMP'S AND VEGETATIVE STABILIZATION PER PLAN NOTES AND SPECIFICATIONS. NECESSARY UPDATES TO THE SWP3, AND ANY ADDITIONAL MEASURES AS DIRECTED BY THE OWNER OR ENGINEER, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH SUCH WORK AND SUCH COSTS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE VARIOUS EARTHWORK ITEMS.

**STORM INLET CASTING INSIGNIA**

INLET CASTINGS WITH "DUMP NO WASTE - DRAINS TO WATERWAYS" NOTATION AND FISH INSIGNIA SHALL BE USED WHERE POSSIBLE.

**EROSION CONTROL PROCEDURES**

- 1) **TIMING OF SEDIMENT TRAPPING PRACTICES.** SEDIMENT CONTROL PRACTICES SHALL BE FUNCTIONAL THROUGHOUT EARTH DISTURBING ACTIVITY. SETTLING FACILITIES, PERIMETER CONTROLS AND OTHER PRACTICES INTENDED TO TRAP SEDIMENT SHALL BE IMPLEMENTED AS THE FIRST STEP OF GRADING AND SEVEN DAYS FROM THE START OF GRADING. THESE SHALL CONTINUE TO FUNCTION UNTIL THE UPSLOPE DEVELOPMENT AREA IS REESTABLISHED. OTHER EROSION CONTROL ITEMS MAY BE NECESSARY DUE TO ENVIRONMENTAL CONDITIONS.
- 2) **STABILIZATION OF DISTURBED AREAS.** DISTURBED AREAS SHALL HAVE SOIL STABILIZATION APPLIED WITHIN SEVEN (7) DAYS IF THEY ARE TO REMAIN DORMANT (UNDISTURBED) FOR MORE THAN FOURTEEN (14) DAYS. FOR AREAS WITHIN FIFTY (50) FEET OF ANY LIVE STREAM, SOIL STABILIZATION PRACTICES SHALL BE INITIATED WITHIN TWO (2) DAYS ON ALL INACTIVE, DISTURBED AREAS. TEMPORARY OR PERMANENT SOIL STABILIZATION SHALL BE APPLIED TO DISTURBED AREAS WITHIN SEVEN (7) DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. FOR STOCKPILES OF TOPSOIL IN WINDROWS, THESE TIME LIMITS FOR INITIATION OF STABILIZATION OF ANY GIVEN PORTION OF THE WINDROW SHALL BE BASED ON THE DAY THAT PORTION WENT INTO PLACE. WHEN SEASONAL CONDITIONS PROHIBIT THE APPLICATION OF TEMPORARY OR PERMANENT SEEDING, NON-VEGETATIVE SOIL STABILIZATION PRACTICES SUCH AS MULCHING AND MATTING SHALL BE USED.

WINTERIZATION—ANY DISTURBED AREA THAT IS NOT GOING TO BE WORKED FOR 14 DAYS OR MORE MUST BE SEED AND MULCHED BY NOVEMBER 1 OR MUST HAVE A DORMANT SEEDING OR MULCH COVER APPLIED BETWEEN NOVEMBER 1 AND MARCH 1.

- 3) **SETTLING FACILITIES.** CONCENTRATED STORMWATER RUNOFF FROM DISTURBED AREAS SHALL PASS THROUGH A SEDIMENT SETTLING FACILITY. SEDIMENT BASINS AND TRAPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE OHIO RAINWATER AND LAND DEVELOPMENT MANUAL, AND PLAN DETAILS. THE TEMPORARY SEDIMENT BASIN SHALL HAVE VOLUME CAPACITIES PER THE FOLLOWING CALCULATIONS AND THE CONTRACTOR SHALL MAINTAIN CLEANOUT SEDIMENT WHEN CAPACITIES HAVE BEEN REDUCED BY 40% OF ORIGINAL. THE SEDIMENT SETTLING FACILITY SHALL REMAIN IN PLACE AND FUNCTIONAL UNTIL FINAL STABILIZATION OF THE SITE. AT THAT TIME, THE CONTRACTOR SHALL REMOVE THE SETTLING FACILITY AND RESTORE THE AREA WITH SEEDING & MULCHING, UNLESS OTHERWISE DIRECTED BY THE OWNER OR ENGINEER TO LEAVE THE FACILITY IN PLACE. ALL WORK NECESSARY TO REMOVE THE SEDIMENT TRAP SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR "MAINTENANCE OF EROSION CONTROL ITEMS".

- 4) **SEDIMENT BARRIERS.** SHEET FLOW RUNOFF FROM DISTURBED AREAS SHALL BE INTERCEPTED BY WATER AND SEDIMENT BARRIERS, SUCH AS SILT FENCES, OR DIVERSIONS DIRECTING RUNOFF TO SETTLING FACILITIES, SHALL PROTECT ADJACENT PROPERTIES AND WATER RESOURCES FROM SEDIMENT TRANSPORTED BY SHEET FLOW.

- 5) **STREAM PROTECTION.** STREAMS, INCLUDING BEDS AND BANKS, SHALL BE RESTABILIZED IMMEDIATELY AFTER IN-CHANNEL WORK IS COMPLETED, INTERRUPTED OR STOPPED. WHERE IN-CHANNEL WORK IS NECESSARY, PRECAUTIONS SHALL BE TAKEN TO STABILIZED THE WORK AREA DURING CONSTRUCTION TO MINIMIZE EROSION. ALL DITCHES WITH GRADES OVER 1.5% GRADE SHOULD HAVE DITCH PROTECTION APPLIED, INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. (TYPE TO BE SHOWN ON S.M.P.P. PLAN).

- 6) **INSPECTION AND MAINTENANCE.** ALL TEMPORARY AND PERMANENT PRACTICES DESCRIBED IN THESE PLANS ARE TO BE INSPECTED AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN 0.5 INCHES OF RAIN PER 24 HOUR PERIOD. THE OWNER DESIGNATES THE EARTHWORK/SEWER CONTRACTOR WHO SHALL ASSIGN QUALIFIED PERSONNEL TO INSPECT THE PRACTICES AND PERFORM MAINTENANCE AND REPAIRS TO ASSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. THE CONTRACTOR SHALL MAINTAIN INSPECTION RECORDS OF THE CONDITION OF AS WELL AS THEIR EFFECTIVENESS AND ANY NECESSARY CORRECTIVE ACTIONS. COPIES OF THESE REPORTS SHALL BE FORWARDED TO THE OWNER TO BE KEPT ON FILE FOR A PERIOD OF NO LESS THAN THREE (3) YEARS AFTER THE NOTICE OF TERMINATION OF THE PROJECT. THESE RECORDS SHALL BE MAINTAINED BY THE CONTRACTOR UNTIL FINAL ACCEPTANCE OF THE SITE EROSION CONTROL ITEMS BY THE OWNER. THE OWNER SHALL THEN CONTINUE THESE RECORDS UNTIL THE NOTICE OF TERMINATION (NOT) IS FILED.

- 7) **EXTENDED DEVELOPMENT.** THE SOIL EROSION AND SEDIMENT CONTROL PRACTICES DESCRIBED IN THESE PLANS ARE RELEVANT FOR ONLY THESE CONSTRUCTION PLANS. SOIL EROSION AND SEDIMENT CONTROL PRACTICES FOR ANY SUBSEQUENT WORK BEING DONE ON THIS SITE OR INDIVIDUAL LOTS SHALL BE THE RESPONSIBILITY OF THE BUILDER, WHO MUST FILE AN INDIVIDUAL LOT NOTICE OF INTENT (NOI) WITH THE OHIO EPA.

**INSPECTION SCHEDULE**

- 1) ALL EROSION AND SEDIMENT CONTROL PRACTICES ARE TO BE INSPECTED AT 7 DAY INTERVALS AND AFTER ANY STORM EVENT GREATER THAN 0.5 INCHES OF RAIN PER 24 HOUR PERIOD. (SEE "MAINTENANCE AND INSPECTION" NOTE).
- 2) SEDIMENT SETTLING FACILITIES TO BE CHECKED AFTER EACH MAJOR PHASE OF DISTURBANCE.
- 3) VEGETATIVE PLANTINGS - PLANTINGS TO BE CHECKED DURING SPRING, SUMMER, AND EARLY FALL.
- 4) REPAIRS - ANY EROSION CONTROL MEASURES, STRUCTURAL PRACTICES, OR OTHER ITEMS WHICH ARE IN NEED OF REPAIR OR MAINTENANCE MUST BE REPAIRED OR MAINTAINED WITHIN 3 DAYS OF THE OCCURRENCE, WITH THE EXCEPTION OF SEDIMENT SETTLING PONDS, WHICH MUST BE REPAIRED OR MAINTAINED WITHIN 10 DAYS.
- 5) MOWING - GRASSED AREAS ARE TO BE MOWED REGULARLY.
- 6) FERTILIZATION - SEEDING AREAS WHERE THE SEED HAS NOT PRODUCED AT LEAST A UNIFORM VEGETATIVE COVER WITH A DENSITY OF AT LEAST 70% COVER FOR THE AREA, WILL BE INSPECTED, RESEED, AND FERTILIZED AS NECESSARY.

**MAINTENANCE OF POSITIVE DRAINAGE (MPD)**

THE CONTRACTOR IS REQUIRED TO MAINTAIN POSITIVE DRAINAGE THROUGH ALL PHASES OF SITE CONSTRUCTION. IT IS ANTICIPATED THAT POSITIVE DRAINAGE SHALL BE MAINTAINED BY USE OF ANY COMBINATION OF THE FOLLOWING:

- 1) DIVERT WATER FROM LOW AREAS BY CUTTING TEMPORARY SWALES OR DITCHES TO AN AREA WHERE POSITIVE DRAINAGE CAN BE OBTAINED.
- 2) LEAVE LOW AREAS UNEXCAVATED TO AID WITH POSITIVE DRAINAGE UNTIL SUCH TIME THAT PERMANENT DRAINAGE SYSTEMS ARE INSTALLED.
- 3) CONSTRUCT STORM SEWER AS NECESSARY TO REACH THE LOW AREAS AND INSTALL A DROP PIPE STRUCTURE ON A STORM CONNECTION, A STORM STRUCTURE, OR THE STORM SEWER.
- 4) INSTALL STORM BASINS WITH TEMPORARY BASIN UNDERDRAINS. IF THE TEMPORARY UNDERDRAINS ARE NOT CONNECTED TO THE BASINS IMMEDIATELY, THE CONTRACTOR SHALL INSTALL INLET PROTECTION, WHICH SHALL CONSIST OF FILTER FABRIC PLACED TO COVER THE HOLES IN THE BACKSIDE OF THE BASINS, TO PREVENT SEDIMENT FROM ENTERING THE STORM SEWER SYSTEM.

ALL COSTS INVOLVED WITH MAINTAINING POSITIVE DRAINAGE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR "EXCAVATION INCLUDING EMBANKMENT CONSTRUCTION."

**TEMPORARY CONSTRUCTION FENCING (TCF)**

THE CONTRACTOR SHALL INSTALL HIGH VISIBILITY ORANGE POLYETHYLENE SAFETY FENCE AT THE LOCATIONS DEPICTED ON THE SWP3 IN ORDER TO PROTECT SENSITIVE AREAS AND ADJACENT PROPERTIES FROM DISTURBANCE BY CONSTRUCTION. IF IT BECOMES NECESSARY TO EXTEND THE CONTRACTOR'S AREAS OF DISTURBANCE BEYOND THE PLAN INDICATED CONSTRUCTION LIMITS TO THE PROXIMITY OF ANY DELINEATED WETLANDS OR RIPARIAN SETBACK AREAS, THE CONTRACTOR SHALL INSTALL ADJACENT TEMPORARY CONSTRUCTION FENCING TO DEMARCATATE THE ADJACENT PROTECTED AREAS.

**EROSION CONTROL MATTING (FOR EMERGENCY SPILLWAY) (ES)**

UPON COMPLETION OF THE EMERGENCY SPILLWAY (PAVED GUTTER W/CUTOFF WALL), THE CONTRACTOR SHALL INSTALL EROSION CONTROL MATTING ON THE DOWNSTREAM SLOPE AS PLAN INDICATED, UTILIZING LANDLOK 450 TURF REINFORCEMENT MATTING BY PROPEX GEOSOLUTIONS, OR APPROVED EQUAL, INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

**SEEDING AND MULCHING OF DISTURBED AREAS**

THIS ITEM SHALL INCLUDE THE FURNISHING OF ALL SEED, COMMERCIAL MULCH, MULCH, AND WATER AND PLACING ALL MATERIALS ON A PREPARED BED PER ODOT ITEM 659.

THE CONTRACTOR SHALL RESTORE BY SEEDING ALL AREAS ABOVE THE CHANNEL BEDS AND POND NORMAL WATER ELEVATIONS THAT HAVE BEEN DISTURBED BY CONSTRUCTION.

**SEED MIX NO. 1 (PS M)**

AREAS SHALL BE SEED WITH CLASS 2 - ROADSIDE MIXTURE PER ODOT ITEM 659.09.

**SEED MIX NO. 2 (TS M)**

AREAS SHALL BE SEED WITH THE FOLLOWING MIXTURE:

SPECIES	LB./1,000 SQ. FT.
PERENNIAL RYEGRASS	1
TALL FESCUE	1
ANNUAL RYEGRASS	1

THE CONTRACTOR IS REQUIRED TO ESTABLISH A UNIFORM VEGETATIVE COVER WITH A DENSITY OF AT LEAST 70% COVER OF UNIFORM COLOR AND DENSITY OVER ALL DISTURBED AREAS TO THE SATISFACTION OF THE ENGINEER. IF AT THE TIME THE CONTRACT HAS BEEN OTHERWISE COMPLETED IT IS NOT POSSIBLE TO MAKE AN ADEQUATE DETERMINATION OF THE COLOR, DENSITY AND UNIFORMITY OF SUCH STAND OF GRASS, PAYMENT FOR THE UNACCEPTED PORTION OF THE SEEDING AREA WILL BE WITHHELD UNTIL SUCH TIME AS THESE REQUIREMENTS HAVE BEEN MET.

**MAINTENANCE OF EROSION CONTROL ITEMS**

AFTER INSTALLATION, ALL EROSION CONTROL ITEMS SHALL BE MAINTAINED BY THE CONTRACTOR IN ACCORDANCE WITH THE PLAN NOTES AND AS DIRECTED BY THE ENGINEER AND OWNER. UPON COMPLETION OF THE SITE CONTRACT WORK, THE OWNER WILL REVIEW ALL EROSION CONTROL ITEMS WITH THE CONTRACTOR TO DETERMINE WHICH ITEMS NEED FINAL BMP MAINTENANCE OR REMOVAL.

1) REMOVE AND DISPOSE OF ALL UNSTABLE SEDIMENT MATERIALS ACCUMULATED WITHIN THE FACILITIES PRIOR TO PLACEMENT OF COMPACTED SOIL.

2) COMPLETE EARTHWORK IN THE SEDIMENT FACILITY AREA, INCLUDING COMPACTED EMBANKMENT AS APPLICABLE.

3) STABILIZE ALL DISTURBED AREAS PER PLAN NOTES AND SPECIFICATIONS.

**REPAIR OF EROSION CONTROL ITEMS**

THE UNIT PRICES BID FOR REPAIR OF THE VARIOUS EROSION CONTROL ITEMS SHALL INCLUDE ALL WORK NECESSARY TO REPAIR OR REPLACE EROSION CONTROL ITEMS WHICH ARE DAMAGED, AND WHICH SHALL REMAIN IN PLACE, UPON FINAL ACCEPTANCE BY THE OWNER, THE OWNER SHALL THEN ASSUME MAINTENANCE OF ALL ITEMS THAT ARE TO REMAIN IN PLACE. ALL SUCH WORK BY THE CONTRACTOR IS TO BE INCLUDED IN THE LUMP SUM PRICE BID FOR "MAINTENANCE OF EROSION CONTROL ITEMS".

**SEQUENCE OF MAJOR CONSTRUCTION OPERATIONS**

(I.e. GRUBBING, EXCAVATION, CLEARING, UTILITIES, & INFRASTRUCTURE)

- 1) INITIAL SEDIMENT CONTROL, GRUBBING & GRUBBING
- a) INSTALL CONSTRUCTION STAGING/ROAD STABILIZATION AS INDICATED ON THE SWPP PLAN.
- b) CLEAR ALL DESIGNATED AREAS WITHIN THE CONSTRUCTION LIMITS AS DESIGNATED ON THE SWPP PLAN.
- c) INSTALL ALL TEMPORARY CONSTRUCTION FENCING AND SILT FENCING AS DESIGNATED ON THE SWPP PLAN.
- d) INSTALL SEDIMENT SETTLING FACILITIES AS DESIGNATED ON THE SWPP PLAN. INITIAL EXCAVATION OF THE FACILITIES SHALL CREATE A SETTLING VOLUME EQUAL TO OR GREATER THAN THE "STORAGE VOLUME NEEDED" LISTED IN THE PLAN SEDIMENT FACILITY DATA. STABILIZE THE SEDIMENT FACILITIES WITH SEEDING AND MULCHING.
- e) INSTALL ALL DIVERSION SWALES, SILTATION CHECK DAMS, AND TEMPORARY STORM CONDUIT CONSTRUCTION ROUTING AS DESIGNATED ON THE SWPP PLAN. STABILIZE DIVERSION SWALES WITH SEEDING AND MULCHING.
- f) GRUB ALL STUMPS AND ROOTS WITHIN THE CONSTRUCTION LIMITS AS DESIGNATED ON THE SWPP PLAN.
- g) STABILIZE PER PLAN NOTES AND SPECIFICATIONS ALL SITE AREAS WHICH ARE TO REMAIN DORMANT.

- 2) EXCAVATION & GRADING
- a) STRIP TOPSOIL FROM ALL EXCAVATION & EMBANKMENT AREAS, PLACING ALL TOPSOIL DIRECTLY INTO THE DESIGNATED ULTIMATE LOCATIONS OR INTO TEMPORARY STOCKPILES.
- b) STABILIZE PER PLAN NOTES AND SPECIFICATIONS ALL TOPSOIL STOCKPILES WHICH ARE TO REMAIN DORMANT.
- c) COMPLETE ALL EXCAVATION INCLUDING EMBANKMENT CONSTRUCTION AND BORROW AS SPECIFIED ON THE EARTHWORK PLAN.
- d) SEED AND MULCH PER PLAN NOTES ALL AREAS OF THE SITE WHICH ARE TO REMAIN DORMANT.

- 3) UTILITY INSTALLATION
- a) INSTALL THE SANITARY SEWER AND APPURTENANCES.
- b) INSTALL THE STORM SEWERS AND APPURTENANCES. INSTALL INLET AND OUTLET PROTECTION.
- c) INSTALL THE WATERMAIN AND APPURTENANCES.
- d) RESTORE DISTURBED AREAS WITH SEEDING & MULCHING.

- 4) INFRASTRUCTURE INSTALLATION
- a) TRIM PAVEMENT SUBGRADE, CASTING SPOILS TO THE SIDE OF THE PAVEMENT.
- b) INSTALL PAVEMENT SECTION AND UNDER-DRAINS.
- c) INSTALL INLET PROTECTION ON ALL BASIN GRATES WITHIN PAVEMENT SECTION.
- d) ADJUST ALL CASTINGS WITHIN THE ROADWAY AREAS.
- e) RE-GRADE THE ROADWAY AREAS AND BACKFILL CURBS.
- f) STABILIZE PER PLAN NOTES AND SPECIFICATIONS ALL SITE AREAS WHICH ARE TO REMAIN DORMANT.

- 5) PRIVATE UTILITY INSTALLATION
- a) INSTALL GAS MAIN, ELECTRIC LINES, PHONE LINES, CABLE LINES AND ALL APPURTENANCES.
- b) RE-GRADE ROADWAY AREA DISTURBED BY INSTALLATION OF PRIVATE UTILITIES.
- c) STABILIZE ALL DISTURBED AREAS PER PLAN NOTES AND SPECIFICATIONS.

- 6) DISPOSITION OF SEDIMENT SETTLING FACILITIES
- a) PRIOR TO REMOVING THE SITE SETTLING FACILITIES, PUMP ALL STANDING WATER FROM WITHIN THE FACILITIES TO AN APPROVED FILTERING SYSTEM IN A WELL-VEGETATED AREA.
- b) REMOVE AND DISPOSE OF ALL UNSTABLE SEDIMENT MATERIALS ACCUMULATED WITHIN THE FACILITIES PRIOR TO PLACEMENT OF COMPACTED SOIL.
- c) REMOVE THE SEDIMENT SETTLING FACILITIES' ROCK OUTLETS / SPILLWAYS AND DEWATERING RISER PIPES.
- d) COMPLETE EARTHWORK IN THE SEDIMENT FACILITY AREA, INCLUDING COMPACTED EMBANKMENT AS APPLICABLE.
- e) STABILIZE ALL DISTURBED AREAS PER PLAN NOTES AND SPECIFICATIONS.

- 7) FINAL SITE STABILIZATION AND DISPOSITION OF BMP'S
- a) REMOVE TEMPORARY BMP'S WHEN NO LONGER NEEDED (I.E. AFTER TRIBUTARY AREAS ARE STABILIZED).
- b) INSPECT SITE UPON COMPLETION OF THE SITE CONTRACT WORK PER "MAINTENANCE OF EROSION CONTROL ITEMS" NOTE.
- c) FOLLOW DIRECTIVES OF THE OWNER AND VILLAGE REGARDING FINAL BMP MAINTENANCE OR REMOVAL.
- d) STABILIZE PER PLAN NOTES ALL AREAS DISTURBED BY FINAL BMP REMOVAL.
- 8) POST-CONSTRUCTION STORM WATER MANAGEMENT (STORM WATER QUALITY FUND)
- a) OVERALL PROJECT INCORPORATES EXTENDED DETENTION IN THE STORM WATER MANAGEMENT POND.
- b) HOMEOWNERS ASSOCIATION TO MAINTAIN PROJECT STORM WATER QUALITY FUND PER MAINTENANCE SCHEDULE.

**EXCAVATION NOTES**

THE DISPOSITION AND SEQUENCING OF TOPSOIL STRIPPING, STOCKPILING, AND RESPREADING, SHALL BE AS DETERMINED BY THE OWNER AND CONTRACTOR PRIOR TO CONSTRUCTION.

ONLY AREAS OF THE SITE THAT REQUIRE EXCAVATION AND/OR CLAY EMBANKMENT SHALL BE STRIPPED OF TOPSOIL (12" APPROXIMATE DEPTH OR AS DIRECTED BY THE OWNER). IT IS ESTIMATED THAT 15,950 C.Y. OF TOPSOIL WILL BE GENERATED FROM STRIPPING THE AREAS INDICATED ON THE EARTHWORK PLAN. TOPSOIL SHALL BE TEMPORARILY STOCKPILED OR PLACED INTO ITS FINAL DESTINATION.

THE ONLY AREAS WHICH SHALL HAVE TOPSOIL RESPREAD ARE THE ROADWAY SECTIONS THROUGH THE UTILITY EASEMENTS AND POND AREAS AS INDICATED ON THE TYPICAL POND EXCAVATION SECTION, UNLESS OTHERWISE DIRECTED BY THE OWNER. TOPSOIL SHALL NOT BE PLACED ON THE ROADWAY SECTION WITHIN THE EASEMENT LINE UNTIL THE MATERIAL FROM THE PAVEMENT SUBGRADE PREPARATION HAS BEEN SPOILED TO THE SIDES AND THE PAVEMENT HAS BEEN PLACED.

TOPSOIL GENERATED FROM STRIPPING THE SITE SHALL BE USED FOR RESPREAD ON THE ROADWAY SECTION (APPROX. 1,400 C.Y.), RESPREAD 12" THICK OVER THE POND (APPROX. 1,650 C.Y. TOTAL), AND PLACED IN BORROW (APPROX. 5,300 C.Y.). EXCESS TOPSOIL ENCOUNTERED SHALL BE USED TO FILL THE OFF-SITE AREA AS PLAN INDICATED (APPROX. 3,000 C.Y.), REMOVED FROM THE SITE, OR OTHERWISE DISPOSED OF AT A LOCATION AS DIRECTED BY THE OWNER.

**EXCAVATION INCLUDING EMBANKMENT CONSTRUCTION**

THE DISPOSITION AND SEQUENCING OF EARTHWORK (EXCAVATION/EMBANKMENT) SHALL BE AS DETERMINED BY THE OWNER AND CONTRACTOR PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL EXHAUST ALL ON-SITE MATERIAL AND TRENCH MATERIAL FIRST, THEN MOVE TO THE BORROW LOCATION(S) DETERMINED BY THE CONTRACTOR AND OWNER. IT IS ESTIMATED THAT 5,300 C.Y. OF CLAY WILL NEED TO BE EXCAVATED FROM THE BORROW AREAS.

IN THE PAVEMENT AREA THE EARTHWORK PLAN INDICATES APPROXIMATE PROPOSED SUBGRADE CONTOURS. THE SITE GRADING SHALL BE TO THE GRADES INDICATED BY THE TYPICAL EXCAVATION SECTION. THE EARTHWORK CONTRACTOR SHALL GRADE THE PAVEMENT SECTION THREE (3) FEET WIDER ON EACH SIDE THAN THE WIDTH OF THE PROPOSED PAVEMENT, LEAVING GRADE FOUR (4) INCHES (±1" -2") ABOVE THE FINAL PAVEMENT SUBGRADE, THUS LEAVING MATERIAL FOR THE FINAL SUBGRADE PREPARATION BY THE PAVING CONTRACTOR. THE REMAINDER OF THE ROADWAY SECTION FROM THE PAVEMENT SECTION TO THE BUILDING LINE SHALL BE LEFT APPROXIMATELY EIGHT (8) INCHES LOW TO ALLOW FOR LINEAR GRADING AND TOPSOIL PLACEMENT AFTER PAVING. (SEE TYPICAL EXCAVATION SECTION)

THE BORROW AREA(S) SHALL BE LOCATED AS DETERMINED BY THE CONTRACTOR AND AS APPROVED BY THE OWNER. BORROW AREAS SHALL BE LOCATED SO AS TO NOT NEGATIVELY IMPACT PROPOSED UNDERGROUND UTILITIES OR HOUSE CONSTRUCTION, AS A GENERAL GUIDELINE, BORROW AREAS ON SLOTLOTS SHALL NOT EXTEND BELOW A 2:1 INFLUENCE LINE FROM 1' ABOVE THE PROPOSED BOTTOM OF FOOTER ELEVATION AT THE FURTHEST POTENTIAL EXTENT OF THE HOUSE ENVELOPE. THE EXTENT AND DEPTH OF BORROW WITHIN THE POND AREAS SHALL BE AS APPROVED BY THE CONTRACTOR'S GEOTECHNICAL ENGINEER. THE LOCATION AND EXTENT OF ALL BORROW AREAS SHALL BE AS APPROVED BY THE OWNER.

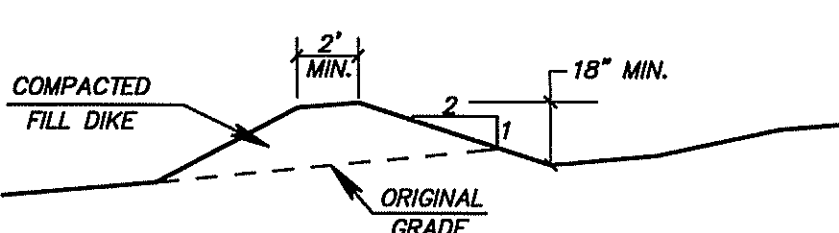
ALL AREAS USED FOR EXCAVATION/BORROW SHALL FIRST BE STRIPPED OF TOPSOIL. ALL WORK NECESSARY TO STRIP, STOCKPILE, AND RESPREAD OR OTHERWISE INCORPORATE THE REAR YARD EXCAVATION/BORROW AREA TOPSOIL INTO THE SITE EARTHWORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR "EXCAVATION INCLUDING EMBANKMENT CONSTRUCTION". ALL WORK NECESSARY TO PLACE TOPSOIL IN THE BORROW AREA(S) SHALL BE INCLUDED IN THE UNIT PRICE BID FOR "TOPSOIL PLACED IN BORROW AREAS".

NOTE: DIVERSIONS SHALL BE STABILIZED WITH TEMPORARY SEEDING AND MULCHING AS SOON AS THEY ARE CONSTRUCTED AND PRIOR TO INITIATING LAND-DISTURBING ACTIVITIES WITHIN THE TRIBUTARY DRAINAGE AREA.

AS AN ALTERNATE TO LINING TEMPORARY DIVERSIONS WITH EROSION CONTROL MAT AS APPLICABLE, THE CONTRACTOR MAY IMPLEMENT CHECK DAMS (ROCK CHECK DAMS OR COMPOST SOCK CHECK DAMS PER RAINWATER MANUAL SPECIFICATIONS) TO REDUCE FLOW VELOCITIES AND CHANNEL EROSION.

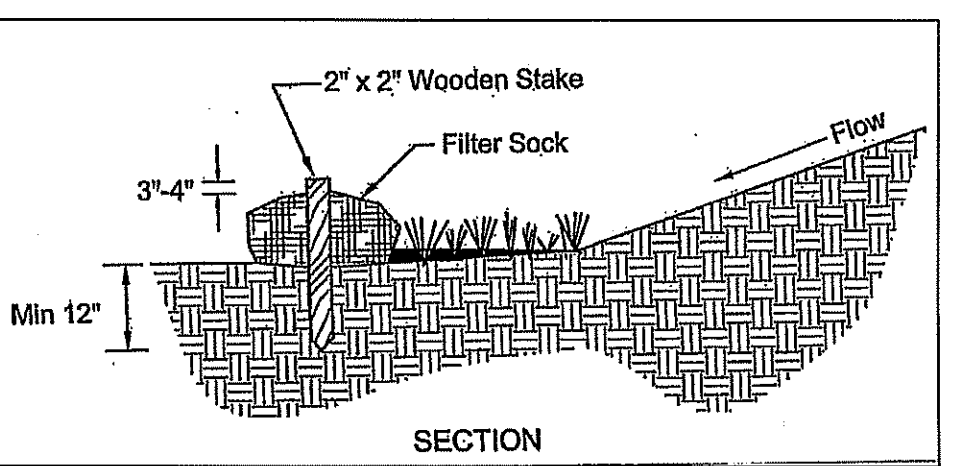
Division Slope	< 2 ac.	2-5 ac.	5-10 ac.
0-3%	Seed and Straw	Seed and Straw	Seed and Straw
3-5%	Seed and Straw	Seed and Straw	Matting
5-8%	Seed and Straw	Matting	Matting
8-20%	Seed and Straw	Matting	Engineered

Note: Diversion with sleeper slopes or greater drainage areas are beyond the scope of this standard and must be designed for stability. Seed, straw and matting used shall meet the Specifications for Temporary Seeding, Mulching and Matting.



**DIVERSION DETAIL (D)**

NO SCALE

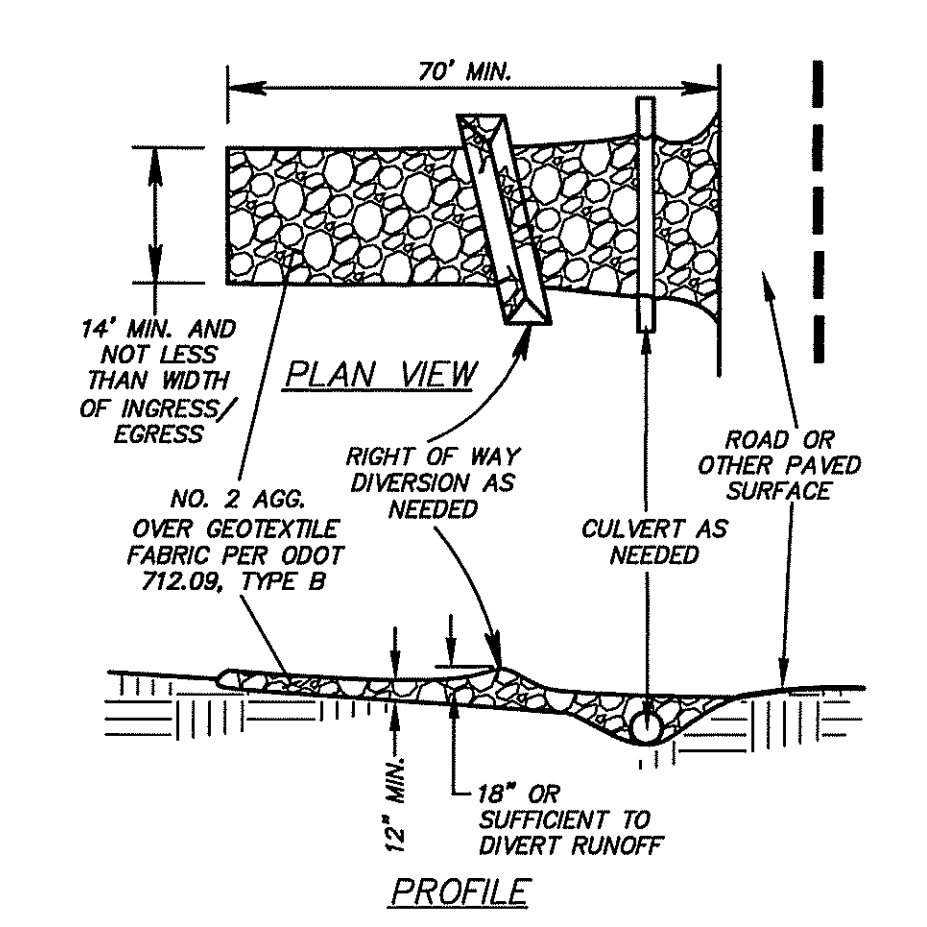


NOTE: FILTER SOCK MAY ALSO BE USED AS AN ALTERNATE TO SILT FENCE. ALL FILTER SOCK SHALL BE 12" DIAMETER.

**FILTER SOCK DETAIL (SK)**

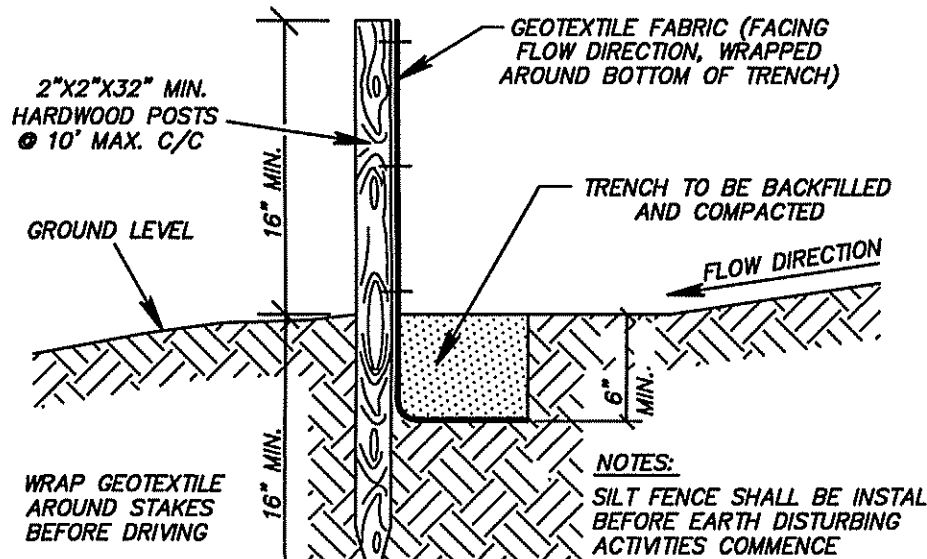
NO SCALE

1. Materials - Compost used for filter socks shall be weed, pathogen and insect free and free of any refuse, contaminants or other materials toxic to plant growth. They shall be derived from a well-decomposed source of organic matter and consist of a particles ranging from 3/8" to 2".
  2. Filter Socks shall be 3 or 5 mil continuous, tubular, HDPE 3/8" knitted mesh netting material, filled with compost passing the above specifications for compost products.
  3. Filter socks will be placed on a level line across slopes, generally parallel to the base of the slope or other affected area. On slopes approaching 2:1, additional socks shall be provided at the top and as needed mid-slope.
  4. Filter socks intended to be left as a permanent filter or part of the natural landscape, shall be seeded at the time of installation for establishment of permanent vegetation.
  5. Filter Socks are not to be used in concentrated flow situations or in runoff channels.
- MAINTENANCE:**
6. Routinely inspect filter socks after each significant rain, maintaining filter socks in a functional condition at all times.
  7. Remove sediments collected at the base of the filter socks when they reach 1/3 of the exposed height of the practice.
  8. Where the filter sock deteriorates or fails, it will be repaired or replaced with a more effective alternative.
  9. Removal - Filter socks will be dispersed on site when no longer required in such as way as to facilitate and not obstruct seedings.
- INSTALLATION:**



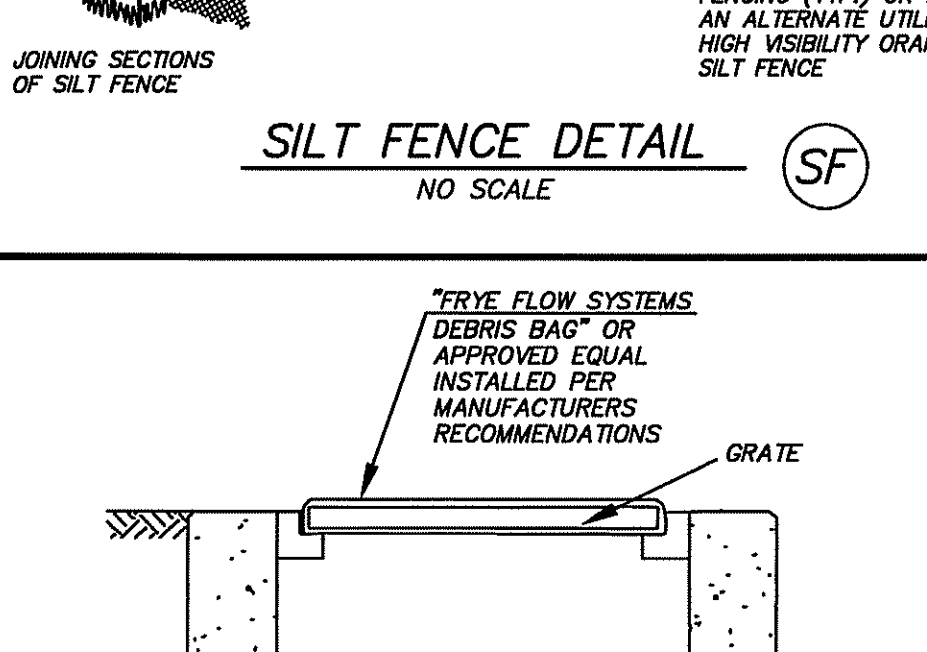
**CONSTRUCTION ROAD STABILIZATION DETAIL (CRS)**

NO SCALE



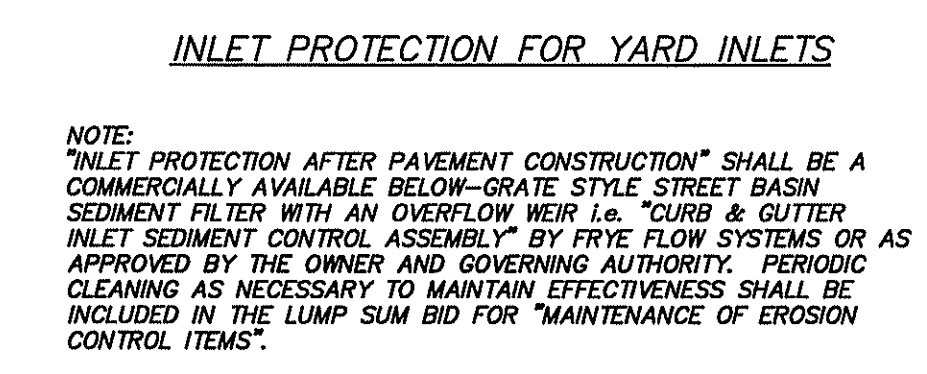
**SILT FENCE DETAIL (SF)**

NO SCALE



**INLET PROTECTION FOR STREET INLETS (IP)**

NO SCALE



**INLET PROTECTION FOR YARD INLETS**

NO SCALE

**REVISIONS**

9/18 PER S.C.E. REV.

**EARTHWORK & S.W.P.P. NOTES & DETAILS**  
MOTTL RESERVE SUBDIVISION  
PHASES 1 & 2  
SAGAMORE HILLS TOWNSHIP  
SUMMIT COUNTY, OHIO

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**DB**

HORIZ. SCALE \_\_\_\_\_  
VERT. SCALE \_\_\_\_\_

DRN. S.W. D.G.  
DATE: MAY, 2018  
ORDER NO. 3750-10

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