

THIS STORMWATER POLLUTION PREVENTION PLAN (SWPPP) HAS BEEN COMPLETED TO FULFILL THE PERMIT REQUIREMENTS OF THE NPDES STORMWATER PERMIT. THE CITY OF MINNETRISTA AND THE MINNEHAHA CREEK WATERSHED DISTRICT HAVE JURISDICTIONAL AUTHORITY FOR EROSION AND SOIL CONTROL AT THIS SITE. ADDITIONAL INFORMATION AND GENERAL CONTRACTOR REQUIREMENTS ARE CONTAINED IN THE SPECIFICATIONS THAT IS NOT INCLUDED ON THIS SHEET. THE GENERAL CONTRACTOR SHALL FOLLOW PERMIT REQUIREMENTS AT ALL TIMES; NOTHING IN THE SWPPP OR SPECIFICATIONS SUPERCEDES THE GENERAL CONTRACTORS RESPONSIBILITIES UNDER THE PERMIT.

THIS SWPPP MUST BE KEPT ONSITE AND UPDATED AS NECESSARY TO REFLECT CHANGES TO SITE CONDITIONS, PLACEMENT OF CONTROL MEASURES AND ELEMENTS ONSITE. THIS DOCUMENT IS REQUIRED TO REFLECT CURRENT CONDITIONS BASED ON SITE INSPECTIONS AND ACTIONS.

1. PROJECT DESCRIPTION/LOCATION

SEE STORMWATER MANAGEMENT CALCULATIONS AND REPORT AND SPECIFICATIONS FOR THIS SITE AND INCORPORATE INFORMATION INTO CONSTRUCTION PROCEDURES.

| | |
|---|---|
| PROJECT NAME: | BLAKELEY RESIDENCE |
| PROJECT NUMBER: | 25-036 |
| PROJECT LOCATION: | 5910 & 5920 HARDCRABBLE CIRCLE, MINNETRISTA, MN |
| TOTAL DISTURBED AREA: | 82,000 SQ. FT. (1.0 ACRES) |
| PRE-CONSTRUCTION IMPERVIOUS SURFACE ACRES: | 0.00 SQ. FT. (0.00 ACRES) |
| POST-CONSTRUCTION IMPERVIOUS SURFACE ACRES: | 23,863 SQ. FT. (0.55 ACRES) |
| NEW/DISTURBED IMPERVIOUS SURFACE ACRES: | 23,863 SQ. FT. (0.55 ACRES) |
| WORK IN/NEAR WATER/CONVEYANCE?: | YES |
| ECOLOGICALLY SENSITIVE AREAS IN PROJECT SCOPE?: | NO |
| TEMPORARY BASIN IN PROJECT SCOPE?: | NO |
| TYPE AND DESIGN CRITERIA OF PERMANENT BMPS IN PROJECT SCOPE?: | RAIN GARDEN |

*LONG TERM MAINTENANCE OF PROJECT BMPS WILL BE CONDUCTED BY OWNER. DESIGN CALCULATIONS AND DETAILS ARE MAINTAINED WITH PROJECT DOCUMENTATION AND BY OWNER'S REPRESENTATIVE.

THE PLANNED SCOPE OF THE PROJECT INCLUDES:

- GRADING AND CONSTRUCTION OF NEW SINGLE FAMILY HOME, GARAGE, DRIVEWAY, POOL, PATIOS, AND LANDSCAPE IMPROVEMENTS

2. SPECIAL AND IMPAIRED WATERS

- a. SPECIAL AND IMPAIRED WATERS: THESE WETLANDS, PENS, TROUT STREAMS, ORVWS AND IMPAIRED WATERS ARE LOCATED WITHIN ONE MILE (AERIAL RADIUS) OF THE PROJECT LIMITS.

| WATER BODY NAME | IMPAIRMENTS | APPLICABLE? |
|-------------------------|------------------------|-------------|
| MINNETONKA - UPPER LAKE | MERCURY IN FISH TISSUE | Y |

3. ECOLOGICAL AND OTHER SENSITIVE AREAS

IN ADDITION TO ANY ADDITIONAL PROVISIONS DICTATED IN THE RESPECTIVE PART BELOW, THE GENERAL CONTRACTOR SHALL PROVIDE SPECIAL CARE AND ATTENTION TO ECOLOGICALLY SENSITIVE AREAS IDENTIFIED IN THIS SECTION TO PREVENT TRAFFIC AND DISTURBANCE, AND TO PRESERVE VEGETATIVE COVER IN IDENTIFIED AREAS. IDENTIFIED AREAS AND APPROPRIATE SETBACKS SHALL BE MARKED IN THE FIELD BY THE GENERAL CONTRACTOR, AS SPECIFIED IN SUBSEQUENT PAGE DETAILS, IF APPLICABLE.

- a. PLACEMENT OF FILL IN WATERS OF THE STATE: THERE IS NO WORK IN WATERS OF THE STATE ASSOCIATED WITH THIS PROJECT. NO ADDITIONAL PROVISIONS APPLY TO THIS PROJECT.
- b. DRINKING WATER SUPPLY MANAGEMENT AREA: THIS PROJECT IS NOT WITHIN A WELLHEAD PROTECTION AREA, DRINKING WATER SUPPLY MANAGEMENT AREA (DWSMA), OR WITHIN A KNOWN KARST AREA. NO ADDITIONAL PROVISIONS APPLY TO THIS PROJECT.
- c. ENVIRONMENTAL REVIEW: THIS PROJECT IS NOT SUBJECT TO FINDINGS OF AN ENVIRONMENTAL, OR ARCHEOLOGICAL AND HISTORIC PLACES REVIEW. NO ADDITIONAL PROVISIONS APPLY TO THIS PROJECT.
- d. ENDANGERED OR THREATENED SPECIES: THERE ARE NO ENDANGERED OR THREATENED SPECIES AFFECTED BY THIS PROJECT. NO ADDITIONAL PROVISIONS APPLY TO THIS PROJECT.
- e. AQUATIC INVASIVE SPECIES, INFESTED WATERS AND WORK IN WATERS RESTRICTIONS: PROJECT SCOPE INCLUDES WORK NEAR PUBLIC WATERS. MINNETONKA LAKE (ID #: 27-0133) IS DESIGNATED BY THE MINNESOTA DEPARTMENT OF NATURAL RESOURCES DEPARTMENT OF WATER (DOW) AS INFESTED WITH ZEBRA MUSSEL, EURASIAN WATERMILFOIL, AND FLOWERING RUSH.
- f. SOIL TYPES TYPICALLY FOUND ON THIS PROJECT SITE ARE: SURFICIAL TOPSOIL WITH UNDERLYING CLAYS WITH VARYING AMOUNTS OF ORGANICS AND DEBRIS. SOILS WILL BE CORRECTED AND/OR AMENDED DURING THE PROJECT TO ACCOMMODATE PROPOSED STRUCTURES, STORMWATER MANAGEMENT SYSTEM, UTILITIES AND PAVEMENTS.

4. PROJECT PERSONNEL AND SWPPP IMPLEMENTATION RESPONSIBILITIES

| SITE OWNER/OPERATOR | TOPO, LLC |
|---------------------|----------------------------|
| CONTACT | NAME PHONE |
| ENGINEERING FIRM | PIERCE PINI & ASSOCIATES |
| CONTACT | KEVIN GARDNER 763-537-1311 |
| GENERAL CONTRACTOR | BUSINESS |
| CONTACT | NAME NUMBER |

MPCA DUTY OFFICER 24-HOUR EMERGENCY SPILL NOTIFICATION: 651-649-5451 OR 800-422-0798

- a. THE GENERAL CONTRACTOR SHALL DEVELOP A CHAIN OF COMMAND WITH ALL OPERATORS ON THE SITE TO ENSURE THAT THE SWPPP IS IMPLEMENTED AND MAINTAINED UNTIL THE PROJECT IS COMPLETE, THE ENTIRE SITE HAS UNDERGONE FINAL STABILIZATION, AND OWNER HAS COMPLETED THE FINAL INSPECTION.
- b. THE PROJECT ARCHITECT/ENGINEER OF RECORD IS RESPONSIBLE FOR THE DESIGN OF THE SWPPP. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTATION OF THE SWPPP AND THE INSTALLATION, INSPECTION AND MAINTENANCE OF THE EROSION PREVENTION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMPS) DESCRIBED BY THE SWPPP AT ALL STAGES OF CONSTRUCTION UNTIL THE OWNER HAS COMPLETED THE FINAL INSPECTION.
- c. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ON-SITE IMPLEMENTATION OF THE SWPPP INCLUDING THE ACTIVITIES OF ALL OF SUBCONTRACTORS DURING CONSTRUCTION.
- d. GENERAL CONTRACTOR SHALL PROVIDE AT LEAST ONE CERTIFIED INSTALLER FOR EACH SUBCONTRACTOR TO OVERSEE ALL INSTALLATION AND MAINTENANCE OF BMPS AND IMPLEMENTATION OF THE SWPPP. CERTIFICATION IS THROUGH THE UNIVERSITY OF MINNESOTA EROSION AND STORMWATER MANAGEMENT CERTIFICATION PROGRAM (<http://www.erosion.umn.edu/>) OR APPROVED EQUIVALENT.
- e. GENERAL CONTRACTOR SHALL PROVIDE AT LEAST ONE CERTIFIED INDIVIDUAL TO CONDUCT INSPECTION AND MAINTENANCE OF ALL EROSION PREVENTION AND SEDIMENT CONTROL BMPS IN ACCORDANCE WITH THE REQUIREMENTS OF THE PERMIT AND CITY OF MINNETRISTA POLICY. GENERAL CONTRACTOR SHALL PROVIDE EVIDENCE OF CERTIFICATION FOR EACH INDIVIDUAL AT THE PRE-CONSTRUCTION MEETING AND IS MAINTAINED BY GENERAL CONTRACTOR WITH PROJECT DOCUMENTATION.
- f. THIS SWPPP HAS BEEN PREPARED BY INDIVIDUAL(S) TRAINED IN ACCORDANCE WITH THE PERMIT'S TRAINING REQUIREMENTS FOR PREPARATION OF SWPPPS.

| PREPARED BY: | TRAINING/CERTIFICATION: |
|----------------------------|--|
| KEVIN GARDNER, P.E. | DATE OF TRAINING/CERTIFICATION: 2023 |
| PIERCE PINI AND ASSOCIATES | INSTRUCTOR(S): JOHN CHAPMAN |
| KEVIN@PIERCEPINI.COM | CERTIFICATION EXPIRATION: MAY 31, 2026 |
| 763-537-1311 | |

5. SEQUENCE OF CONSTRUCTION

THE FOLLOWING DESCRIBES, IN GENERAL, THE SEQUENCE OF WORK PERFORMED ON THE SITE:

- a. GENERAL CONTRACTOR SHALL VERIFY THAT ALL PERMITS HAVE BEEN OBTAINED AND/OR OBTAIN THE NECESSARY PERMITS.
- b. GENERAL CONTRACTOR SHALL INSTALL ALL PERIMETER AND DOWN-GRADIENT EROSION CONTROL AND SEDIMENT CONTROL BMPS, INCLUDING CONSTRUCTION ENTRANCES AND INLET PROTECTION DEVICES PRIOR TO SITE GRADING, EXCAVATION, STOCKPILING OR DISTURBING EXISTING VEGETATIVE COVER. GENERAL CONTRACTOR SHALL INSTALL ALL DOWN-GRADIENT PERIMETER CONTROLS BEFORE ANY UP-GRADIENT DISTURBANCE BEGINS.
- c. THE GENERAL CONTRACTOR SHALL ATTEMPT TO PHASE ALL WORK TO MINIMIZE EROSION AND MAINTAIN VEGETATIVE COVER TO THE EXTENT POSSIBLE. PRESERVE ALL NATURAL BUFFERS SHOWN ON PLAN.
- d. GENERAL CONTRACTOR SHALL MARK OR OTHERWISE DELINEATE AREAS ON THE SITE NOT TO BE DISTURBED, INCLUDING ECOLOGICALLY SENSITIVE AREAS, BEFORE CONSTRUCTION BEGINS.
- e. GENERAL CONTRACTOR SHALL ESTABLISH SITE LOCATION AND COMPLETE INSTALLATION OF ANY PORTABLE TOILET, FUELING AREA, SPILL KIT LOCATION, CONCRETE WASHOUT AREA, HAZARDOUS MATERIAL HANDLING AND STORAGE AREA, LITTER CONTROL DEVICE AREA, STAGING AREA, STOCK PILING AREA, AND OTHER SWPPP DESIGNATED AREAS. UPDATE ONSITE-COPY OF SWPPP TO REFLECT LOCATION OF THESE ITEMS.
- f. GENERAL CONTRACTOR SHALL ESTABLISH AND ENFORCE PROTOCOL REGARDING CLEANING OF ALL EQUIPMENT THAT HAS BEEN USED IN INFESTED WATERS OR WATERS WITH INVASIVE SPECIES TO PREVENT THE SPREAD OF BOTH AQUATIC AND TERRESTRIAL INVASIVES. GENERAL CONTRACTOR SHALL OBTAIN VERIFICATIONS FROM ALL SUBCONTRACTORS THAT EQUIPMENT IS CLEAN, OR NEW, AND WILL NOT SPREAD INVASIVES.
- g. GENERAL CONTRACTOR IS RESPONSIBLE FOR MEANS AND METHODS OF SITE DEWATERING. DEWATERING SHALL FOLLOW MPCA AND CITY OF MINNETRISTA STANDARDS AND REQUIREMENTS. SUBMIT PLAN OF ACTION FOR REVIEW PRIOR TO CONSTRUCTION.
- h. GENERAL CONTRACTOR SHALL ESTABLISH AND ENFORCE TRAFFIC FLOW AND PATTERNS, INCLUDING HAUL ROADS, AT PROJECT SITE TO MINIMIZE SOIL DISTURBANCE, TRACKING AND COMPACTION, AND TO PRESERVE NATIVE AND EXISTING VEGETATION. UPDATE ONSITE-COPY OF SWPPP TO REFLECT HAUL ROADS AND OTHER SITE TRAFFIC PATTERNS.
- i. GENERAL CONTRACTOR SHALL PERFORM SITE GRADING, EXCAVATION, STOCKPILING WORK IN ACCORDANCE WITH THE SWPPP.
 - A. STOCKPILES SHALL BE PROTECTED AROUND THE ENTIRE PERIMETER WHEN NOT ACTIVELY BEING WORKED; STOCKPILES ACTIVELY BEING WORKED SHALL BE STABILIZED AT THE END OF EACH WORK DAY. PRESERVED TOPSOIL STOCKPILES SHALL ADDITIONALLY BE COVERED. PLACE BMP A MINIMUM OF 5 FEET FROM THE TOE OF THE SLOPE WHERE FEASIBLE. STABILIZE ALL ERODIBLE STOCKPILES.
 - B. DO NOT PLACE STOCKPILES IN NATURAL BUFFER AREAS, SURFACE WATERS OR STORMWATER CONVEYANCES INCLUDING GUTTERS OR SWALES.
 - C. MINIMIZE SOIL COMPACTION AND PRESERVE TOPSOIL, UNLESS INFEASIBLE. MINIMIZING SOIL COMPACTION

IS NOT REQUIRED WHERE THE FUNCTION OF A SPECIFIC AREA OF THE SITE DICTATES THAT IT BE COMPACTED.

- j. GENERAL CONTRACTOR SHALL PROVIDE GRADING AND BMP INSTALLATION TO LIMIT SOIL EXPOSURE ON ALL SLOPES OF 3H:1V OR STEEPER TO AN UNBROKEN LENGTH OF 75 FEET OR LESS.
- k. GENERAL CONTRACTOR SHALL STABILIZE ALL EXPOSED SOILS NO LATER THAN 7 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED.
 - A. GENERAL CONTRACTOR SHALL MAINTAIN 70% VEGETATIVE COVER ON COMPLETED AREAS OF THE PROJECT SITE.
 - B. STABILIZE ALL AREAS OF THE SITE PRIOR TO THE ONSET OF WINTER.
 - C. STABILIZE WETTED PERIMETER OF DITCH (I.E. WHERE THE DITCH GETS WET).
- l. WHEN PERMANENT BMPS OR PORTIONS THEREOF ARE INSTALLED, GENERAL CONTRACTOR SHALL STAKE OR MARK THESE AREAS, AND INSTALL SEDIMENT PROTECTION UPGRADEMENT OF COMPLETED AREAS TO AVOID COMPACTION AND FOULING OF SYSTEM ELEMENTS. PERMANENT BMPS SHALL BE CONSTRUCTED AND STABILIZED TO THE EXTENT PRACTICABLE PRIOR TO BEING PLACED INTO SERVICE. IN THE EVENT THAT PERMANENT STABILIZATION CANNOT BE ACHIEVED BEFORE BEING PLACED INTO SERVICE, TEMPORARY MEASURES TO PREVENT FOULING SHALL BE IN PLACE.
- m. GENERAL CONTRACTOR SHALL PERFORM SITE RESTORATION ACTIVITIES FOR PERMANENT VEGETATIVE ESTABLISHMENT. TEMPORARY BMPS SUCH AS MULCH AND HYDROSEED DO NOT CONSTITUTE PERMANENT VEGETATIVE COVER; SOD INSTALLATION MAY CONSTITUTE PERMANENT VEGETATIVE COVER.
- n. THE GENERAL CONTRACTOR SHALL ENSURE FINAL STABILIZATION:
 - A. ALL SOIL DISTURBING ACTIVITIES ARE COMPLETE AND A UNIFORM PERENNIAL VEGETATIVE COVER WITH A DESTINY OF 70% OVER THE ENTIRE PERVIOUS SURFACE HAS BEEN ACHIEVED, INCLUDING STABILIZATION OF ALL DITCHES AND SWALES.
 - B. GENERAL CONTRACTOR SHALL ENSURE THAT ALL PERMANENT STORMWATER TREATMENT SYSTEMS ARE CONSTRUCTED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS IF INCLUDED WITHIN THE SCOPE OF THE PROJECT.
 - C. GENERAL CONTRACTOR SHALL REMOVE ALL TEMPORARY SYNTHETIC AND STRUCTURAL BMPS, EXCEPT AS SPECIFICALLY AUTHORIZED/REQUIRED BY CITY OF ORONO AND THE MINNEHAHA CREEK WATERSHED DISTRICT.
 - D. GENERAL CONTRACTOR SHALL REMOVE ALL SEDIMENTS FROM STORMWATER CONVEYANCES AND PERMANENT WATER QUALITY BASINS.
 - E. GENERAL CONTRACTOR SHALL REQUEST A FINAL INSPECTION FROM THE MINNEHAHA CREEK WATERSHED DISTRICT PRIOR TO INITIATING PERMIT TERMINATION.

6. SITE INSPECTION AND MAINTENANCE

- o. INSPECT THE ENTIRE CONSTRUCTION SITE AND DOWNGRADIENT ADJACENT SITES/AREAS, INCLUDING THE FOLLOWING:
 - A. INSPECT SURFACE WATER, INCLUDING DRAINAGE DITCHES, AND OFF-SITE PROPERTIES FOR SIGNS OF EROSION AND SEDIMENT DEPOSITION.
 - B. INSPECT CONSTRUCTION SITE VEHICLE EXIT LOCATIONS FOR EVIDENCE OF TRACKING ONTO PAVED SURFACES.
 - C. INSPECT INFILTRATION AREAS FOR SIGNS OF SEDIMENT DEPOSITION AND COMPACTION, AND TO ENSURE EQUIPMENT IS NOT BEING DRIVEN INTO THE AREA.
 - D. INSPECT, MONITOR AND MAINTAIN ALL WATER QUALITY MANAGEMENT, EROSION PREVENTION AND SEDIMENT CONTROL BMPS.
 - E. INSPECT, MONITOR AND MAINTAIN POLLUTION PREVENTION BMPS.
- b. INSPECTION FREQUENCY: GENERAL CONTRACTOR SHALL CONDUCT A SITE STORMWATER INSPECTION A MINIMUM OF ONCE PER WEEK DURING ACTIVE CONSTRUCTION AND WITHIN 24 HOURS AFTER A RAINFALL EVENT GREATER THAN 0.5 INCHES IN 24 HOURS. INSPECTIONS MAY BE SUSPENDED DUE TO FROZEN GROUND CONDITIONS UNTIL FIRST RUNOFF OCCURS OR CONSTRUCTION ACTIVITIES RESUME, WHICHEVER COMES FIRST. GENERAL CONTRACTOR SHALL NOTE EXACT DATE OF LAST INSPECTION PRIOR TO WINTER SUSPENSION AND FIRST DATE WHEN CONSTRUCTION RESUMES. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR INSPECTIONS UNTIL THE SITE HAS UNDERGONE FINAL STABILIZATION.
- c. RECORD ALL INSPECTIONS, MAINTENANCE AND CORRECTIVE ACTIONS CONDUCTED DURING CONSTRUCTION ON A PROVIDED INSPECTION FORM WITHIN 24 HOURS OF THE ACTION. DATE AND INITIAL THE ON-SITE SWPPP WITH ANY CHANGES TO REFLECT ON-SITE CONDITIONS. COPIES OF ALL SHALL BE SUBMITTED TO THE CIVIL ENGINEER.
- d. ALL EROSION CONTROL MEASURES MUST BE INSTALLED AND MAINTAINED BY GENERAL CONTRACTOR ACCORDING TO THE DETAILS INCLUDED IN THE CONSTRUCTION DOCUMENTS AND IN ACCORDANCE WITH THE PRODUCT MANUFACTURER'S RECOMMENDATIONS. BMPS MUST BE OPERATIONALLY FUNCTIONAL AND ADEQUATE. ALL NONFUNCTIONAL BMPS MUST BE REPAIRED OR REPLACED WITHIN 24 HOURS OF DISCOVERY OR THEREAFTER AS SOON AS FIELD CONDITIONS ALLOW.
- e. THE GENERAL CONTRACTOR SHALL RESPOND TO CHANGING SITE CONDITIONS AND IMPLEMENT/SUPPLEMENT EROSION PREVENTION AND SEDIMENT CONTROL MEASURES UTILIZED TO PROVIDE ADEQUATE PROTECTION OF DISTURBED SOILS AND ADEQUATE PREVENTION OF SEDIMENT TRANSPORT OFF-SITE. UPDATE SWPPP DOCUMENTS WHEN CHANGES ARE MADE.
- f. WHEN AN INSPECTION FINDS EROSION PREVENTION AND SEDIMENT CONTROL BMPS THAT ARE NONFUNCTIONAL OR INADEQUATE, ANY NONFUNCTIONAL BMPS MUST BE REPAIRED, REPLACED, OR SUPPLEMENTED WITH FUNCTIONAL BMPS WITHIN 24 HOURS AFTER DISCOVERY OR THEREAFTER AS SOON AS FIELD CONDITIONS ALLOW. THE GENERAL CONTRACTOR SHALL ALSO PLACE ANY ADDITIONAL EROSION CONTROL MEASURES DEEMED NECESSARY BY THE CITY OF ORONO, THE MINNEHAHA CREEK WATERSHED DISTRICT, OR THE PROJECT ENGINEER WITHIN 24 HOURS OF NOTICE.
 - A. IF DOWN GRADIENT SEDIMENT CONTROLS ARE OVERLOADED, THE GENERAL CONTRACTOR MUST INSTALL ADDITIONAL UPGRADIENT SEDIMENT CONTROL PRACTICES OR REDUNDANT BMPS TO ELIMINATE OVERLOADING. THE SWPPP MUST BE AMENDED TO IDENTIFY THESE ADDITIONAL PRACTICES.
- g. REPAIR OR REPLACE INLET PROTECTION DEVICES WHEN THEY BECOME NONFUNCTIONAL OR SEDIMENT REACHES ONE-HALF THE DEPTH OF THE DEVICE. SITE INLETS REMOVED IN RESPONSE TO A PUBLIC SAFETY CONCERN MUST BE RETURNED TO SERVICE AS SOON AS THE THREAT (EG. FLOODING) HAS RECEDED.
- h. REPAIR, REPLACE OR SUPPLEMENT PERIMETER CONTROL DEVICES WHEN THEY BECOME NON-FUNCTIONAL OR THE SEDIMENT REACHES ONE-HALF THE HEIGHT OF THE DEVICE. GENERAL CONTRACTOR SHALL REPAIR OR REPLACE DEVICE THAT IS NONFUNCTIONAL BY THE END OF THE NEXT BUSINESS DAY AFTER DISCOVERY OR THEREAFTER AS SOON AS FIELD CONDITIONS ALLOW. PERIMETER CONTROL DEVICES REMOVED IN RESPONSE TO A PUBLIC SAFETY CONCERN MUST BE RETURNED TO SERVICE AS SOON AS THE THREAT HAS RECEDED.
- i. TEMPORARY AND PERMANENT SEDIMENT BASINS MUST BE DRAINED AND SEDIMENT REMOVED BY GENERAL CONTRACTOR ONCE THE SEDIMENT COLLECTED REACHES ONE-HALF THE STORAGE VOLUME WITHIN 72 HOURS OF DISCOVERY, OR AS SOON AS FIELD CONDITIONS ALLOW.
- j. ALL SEDIMENT DEPOSITS WITHIN SURFACE WATERS OR STORMWATER CONVEYANCES MUST BE REMOVED AND RESTABILIZED BY GENERAL CONTRACTOR WITHIN 7 DAYS OF DISCOVERY, INCLUDING DELTAS AND STORM SEWER SEDIMENT DEPOSITS. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED, IF NECESSARY, FOR SUCH SEDIMENT REMOVAL. CONTACT CITY FOR PERMITTING GUIDANCE PRIOR TO WORKING IN SURFACE WATERS.
- k. MAINTAIN EXISTING PAVED SURFACES CLEAN OF SEDIMENT. CONSTRUCTION ENTRANCES AND PUBLIC AND PRIVATE ROADS LEADING TO AND FROM THE CONSTRUCTION ENTRANCE SHALL BE CHECKED DAILY BY GENERAL CONTRACTOR. IF THE ENTRANCE BECOMES INUNDATED WITH SEDIMENT, THE GENERAL CONTRACTOR SHALL CLEAN OR REPLACE AS APPROPRIATE. PUBLIC AND PRIVATE ROADS LEADING TO AND FROM THE CONSTRUCTION ENTRANCE SWEEP OR OTHERWISE CLEANED DAILY. GENERAL CONTRACTOR SHALL EXTEND SWEEPING TO THE EXTREMITY OF ANY SEDIMENT TRACKING THAT OCCURS OFF-SITE. USE MECHANICAL METHODS TO REMOVE SOLIDS FIRST, FOLLOWED BY WET METHODS, ONLY AS NEEDED. SWEEPING IS NOT A SUBSTITUTE FOR PROPER MAINTENANCE OF CONSTRUCTION ENTRANCES.
- l. GENERAL CONTRACTOR SHALL REMOVE ANY OFF-SITE SEDIMENT ACCUMULATIONS IN A MANNER AND AT A FREQUENCY SUFFICIENT TO MINIMIZE OFF-SITE IMPACTS. STREET SWEEPING MAY HAVE TO OCCUR MORE FREQUENTLY THAN DESCRIBED ABOVE TO MINIMIZE OFF-SITE IMPACTS. THERE ARE DOWNSTREAM WATERWAYS THAT WOULD BE ADVERSELY AFFECTED BY VEHICULAR TRACKED SOILS. STREET SWEEPING IS IMPERATIVE TO MAKE SURE THIS DOES NOT OCCUR.
- m. ALL INFILTRATION/FILTRATION AREAS MUST BE INSPECTED BY GENERAL CONTRACTOR TO ENSURE THAT NO SEDIMENT FROM ONGOING CONSTRUCTION IS ACCUMULATING OVER THE INFILTRATION/FILTRATION AREA. SEDIMENT ACCUMULATED OVER INFILTRATION/FILTRATION MUST BE REMOVED BY GENERAL CONTRACTOR.

7. POLLUTION PREVENTION AND SPILL RESPONSE

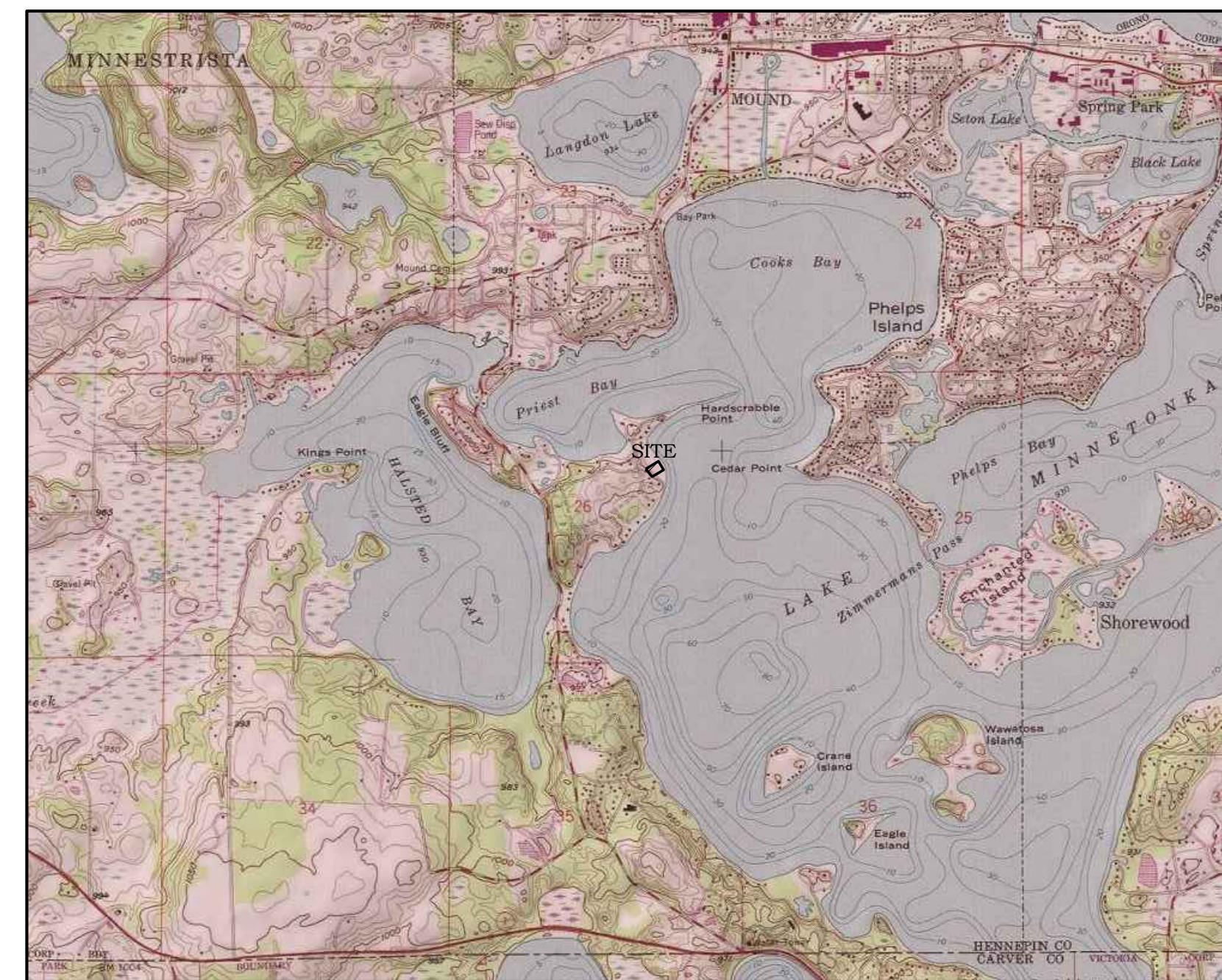
GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING POLLUTION PREVENTION MEASURES AT THE SITE, AS DESCRIBED IN THIS SWPPP AND IN THE EROSION PREVENTION AND SEDIMENTATION CONTROL DRAWINGS.

IN GENERAL, THE FOLLOWING MEASURES ARE REQUIRED AT PROJECT SITES.

- a. BUILDING MATERIALS AND WASTES WITH THE POTENTIAL TO CONTAMINATE STORMWATER SHALL BE STORED INSIDE OR UNDER COVER IN A DESIGNATED AREA, AND SHALL BE INDICATED BY THE GENERAL CONTRACTOR ON THE SWPPP SITE MAP.
- b. LITTER AND SOLID WASTE SHALL BE PLACED INTO COVERED CONTAINERS AT A DESIGNATED AREA AT THE SITE AND SHALL BE INDICATED BY THE GENERAL CONTRACTOR ON THE SWPPP SITE MAP.
- c. ON-SITE FUELING SHALL BE CONDUCTED IN DESIGNATED AREAS ONLY AND SHALL BE INDICATED BY THE GENERAL CONTRACTOR ON THE SWPPP SITE MAP.
- d. A SPILL RESPONSE KIT AT EACH LOCATION SPECIFIC TO THE MATERIALS USED AT THE PROJECT SITE AND SHALL BE INDICATED BY THE GENERAL CONTRACTOR ON THE SWPPP SITE MAP.
- e. PORTABLE TOILETS SHALL BE SECURED IN PLACE TO PREVENT BEING TIPPED OR KNOCKED OVER AND SHALL BE INDICATED BY THE GENERAL CONTRACTOR ON THE SWPPP SITE MAP.
- f. VEHICLE AND EQUIPMENT WASHING IS PROHIBITED AT PROJECT SITES.
- g. CONCRETE WASH OUT WASTE, INCLUDING WASTE CURED CONCRETE, SHALL BE MANAGED OFF-SITE OR MANAGED ON-SITE IN A DESIGNATED CONCRETE WASHOUT AREA AND SHALL BE INDICATED BY THE GENERAL CONTRACTOR ON THE SWPPP SITE MAP. ON-SITE BATCH PLANTS AND MORTAR MIX AREAS ARE CONCRETE PRODUCTS AND SHALL FOLLOW ALL STORMWATER MANAGEMENT CONTROLS AS NOTED HEREIN AND WITHIN NPDES PERMIT.
- h. THE GENERAL CONTRACTOR SHALL USE OR ENSURE USE OF METHODS AND OPERATIONS WHICH PREVENT DUST, PARTICLES, PIECES AND SLURRY FROM DEPOSITING IN VEGETATED OR FUTURE VEGETATED AREAS OR FROM LEAVING THE PROJECT SITE AND ENTERING A STORMWATER CONVEYANCE SYSTEM, INCLUDING A DITCH OR CULVERT.
- i. IN THE EVENT OF A SPILL AT THE PROJECT SITE WITH A RELEASE OR POTENTIAL RELEASE TO THE ENVIRONMENT, THE GENERAL CONTRACTOR SHALL CONTACT THE STATE DUTY OFFICER.
- 8. PROJECT CLOSOUT
 - a. THE GENERAL CONTRACTOR SHALL SUBMIT AN AS-BUILT SURVEY OF THE COMPLETED SITE PREPARED AND SIGNED BY A LICENSED SURVEYOR TO THE CIVIL ENGINEER AT THE END OF THE PROJECT. AS-BUILT SURVEY SHALL INCLUDE ENOUGH INFORMATION TO VERIFY THE CONSTRUCTED TOPOGRAPHY, UTILITY AND SITE ELEMENTS. COORDINATE WITH OWNER AND CIVIL ENGINEER FOR SCHEDULE FOR WHEN THIS SHALL BE COMPLETED. A COPY OF THE CADD FILE AND CERTIFIED PDF FILE SHALL BE PROVIDED TO CIVIL ENGINEER.



SITE LOCATION MAP



USGS VICINITY MAP

I hereby certify that this plan or drawing was prepared by me or under my direct supervision and that I am a duly licensed Professional Engineer under the laws of the State of Minnesota.

Company: PIERCE PINI & ASSOCIATES

Signed: _____

Name: Kevin Gardner

Date: _____ Reg. No: _____

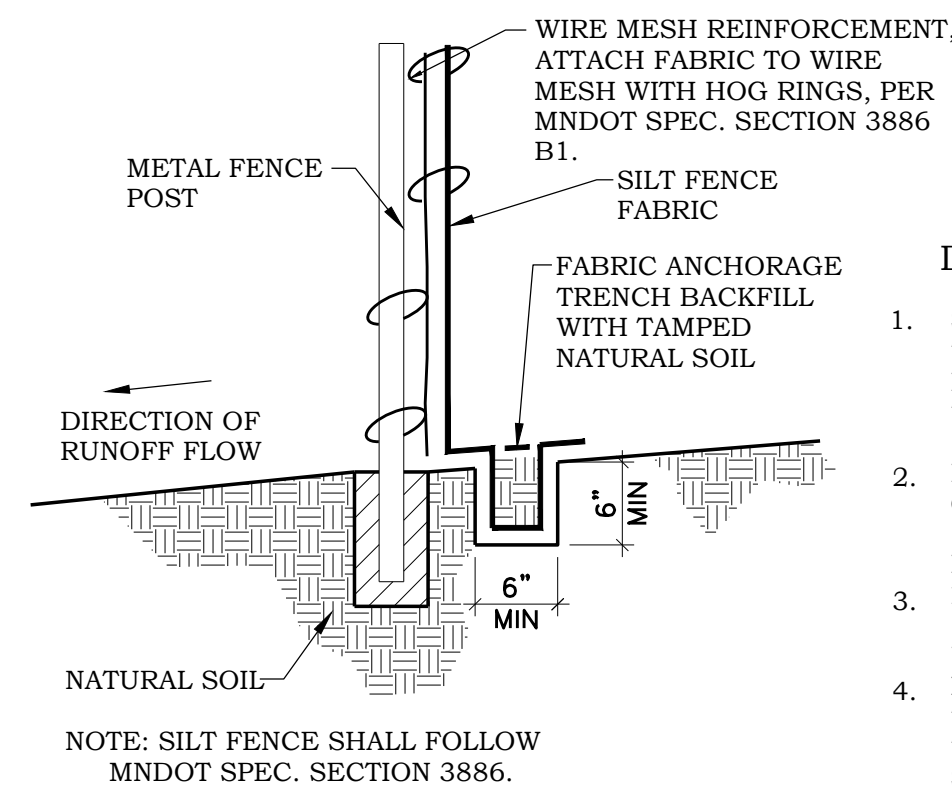
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Permit Set

Drawing Title

STORMWATER
POLLUTION
PREVENTION NOTES

C200



DESIGN RECOMMENDATIONS

- SILT FENCES SHOULD BE INSTALLED ON THE CONTOUR (AS OPPOSED TO UP AND DOWN A HILL) AND CONSTRUCTED SO THAT FLOW CANNOT BYPASS THE ENDS.
- ENSURE THAT THE DRAINAGE AREA IS NO GREATER THAN 1/4 ACRE PER 100 FT OF FENCE.
- MAKE THE FENCE STABLE FOR THE 10-YEAR PEAK STORM RUNOFF.
- WHERE ALL RUNOFF IS TO BE STORED BEHIND THE SILT FENCE, ENSURE THAT THE MAXIMUM SLOPE LENGTH BEHIND THE FENCE DOES NOT EXCEED THE SPECIFICATIONS SHOWN IN TABLE 1.

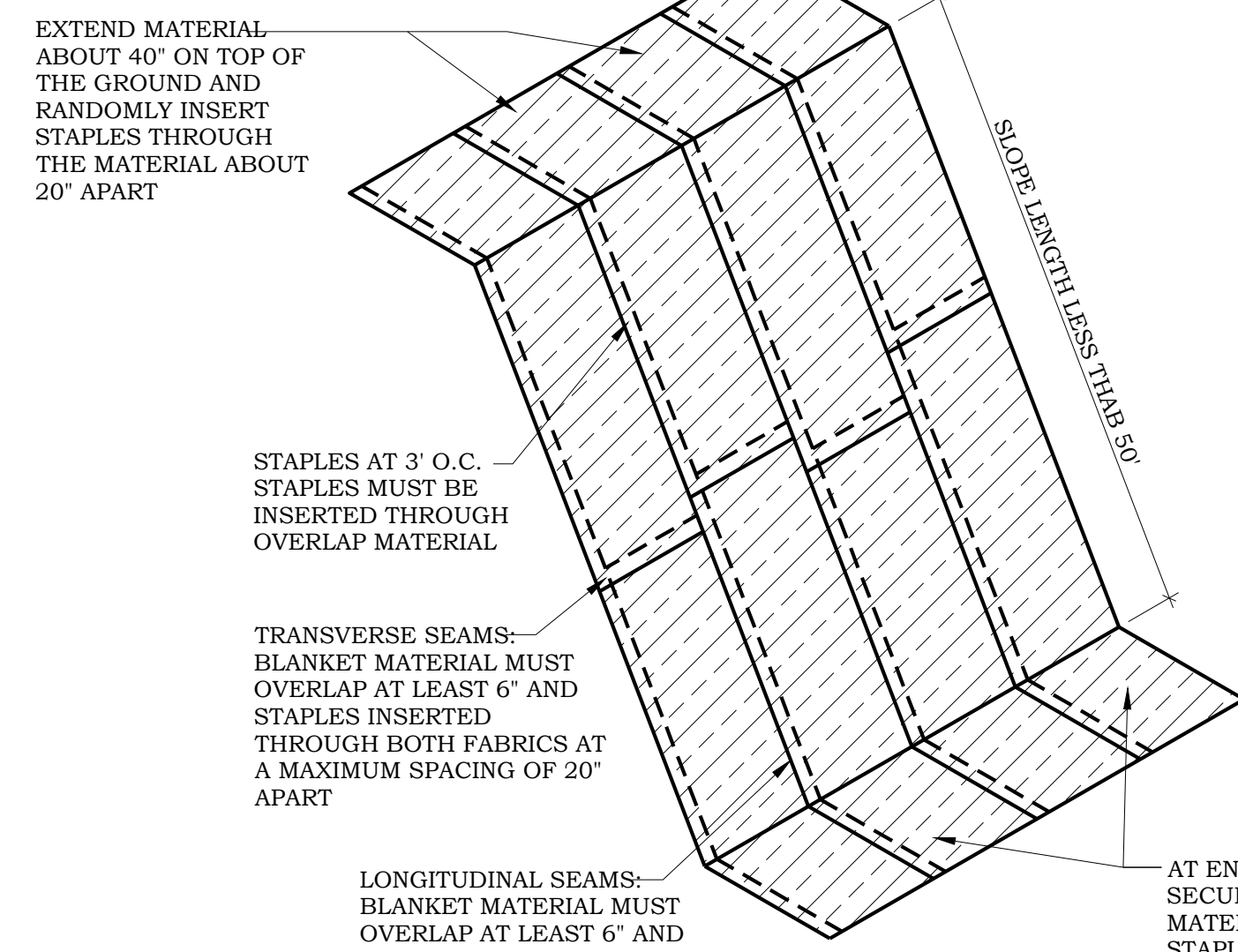
FIGURE 1 TYPICAL INSTALLATION FOR SILT FENCE

TABLE 1 MAXIMUM SLOPE LENGTH AND SLOPE FOR WHICH SILT FENCE IS APPLICABLE

| SLOPE H:V | PERCENT | BY CALCULATION | | BY ACCEPTED DESIGN PRACTICES |
|-----------|---------|---|--|------------------------------|
| | | SILT FENCE STORAGE EQUALS 2 FT FOR A 100-YEAR EVENT | SILT FENCE STORAGE EQUALS 2 FT FOR A 2-YEAR EVENT OR 3 FT FOR A 100-YEAR EVENT | MAXIMUM SLOPE LENGTH |
| 100:1 | 1% | 400 FT | 900 FT | 100 FT |
| 50:1 | 2% | 200 FT | 450 FT | 75 FT |
| 25:1 | 4% | 100 FT | 225 FT | 75 FT |
| 20:1 | 5% | 80 FT | 180 FT | 75-50 FT |
| 17:1 | 6% | 67 FT | 150 FT | 50 FT |
| 12.5:1 | 8% | 50 FT | 112 FT | 50 FT |
| 10:1 | 10% | 40 FT | 90 FT | 50-25 FT |
| 5:1 | 20% | 20 FT | 45 FT | 25-15 FT |
| 4:1 | 25% | 16 FT | 36 FT | 15 FT |
| 3:1 | 33% | 12 FT | 27 FT | 15 FT |
| 2:1 | 50% | 8 FT | 18 FT | 15 FT |

1 HEAVY DUTY SILT FENCE

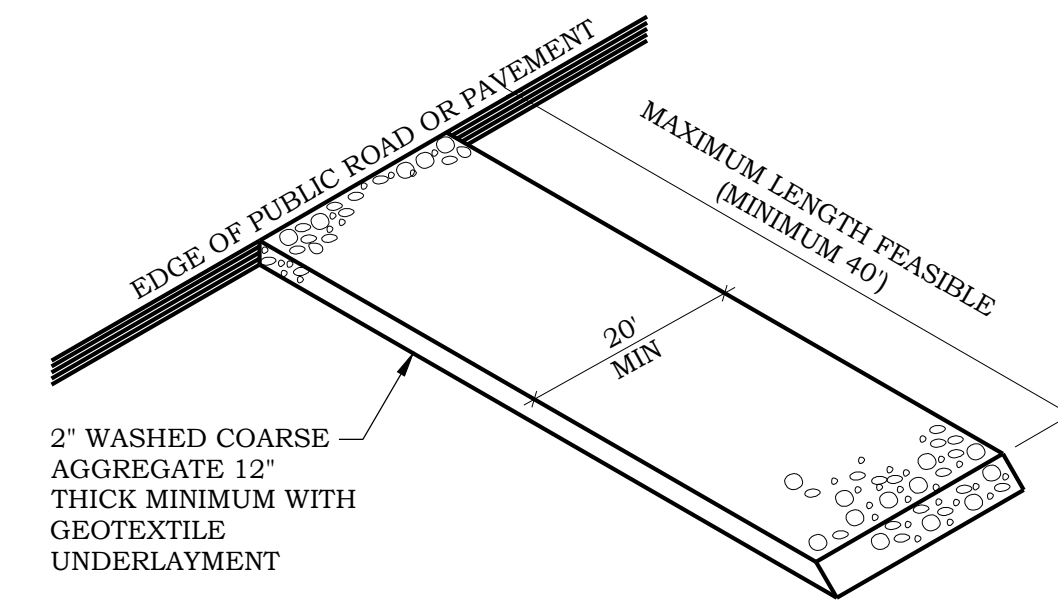
NO SCALE



- NOTES:
- EROSION CONTROL BLANKET TO BE CATEGORY 4-COCOON 2S FOR SLOPES GREATER THAN 5:1 AND SIDES AND BOTTOM OF ALL DRAINAGE SWALES AND PONDING AREAS AND CATEGORY 2-STRAW 2S FOR ALL SLOPES LESS THAN 5:1 PER MNDOT SPEC. SECTION 3885.
 - INSTALL PER MNDOT SPEC. SECTION 2575

2 EROSION CONTROL BLANKET

NO SCALE



3 GRAVEL CONSTRUCTION ENTRANCE

NO SCALE

- 1"x2"x24" WOOD STAKES AT 3' MAX SPACING. STAKES SHALL BE DRIVEN OVER LOG AT A 45° ANGLE WITH TOP OF STAKE POINTING UPSTREAM. PROVIDE 8"-10" OF STAKE EMBEDMENT.
- 8"-12" DIA LOG WITH ENDS LAPPED 6". FOR INSTALLATION ON BARE SOIL PLACE LOG IN A SMOOTH, ROUNDED TRENCH WITH A DEPTH EQUAL TO 1/4 THE LOG DIA.

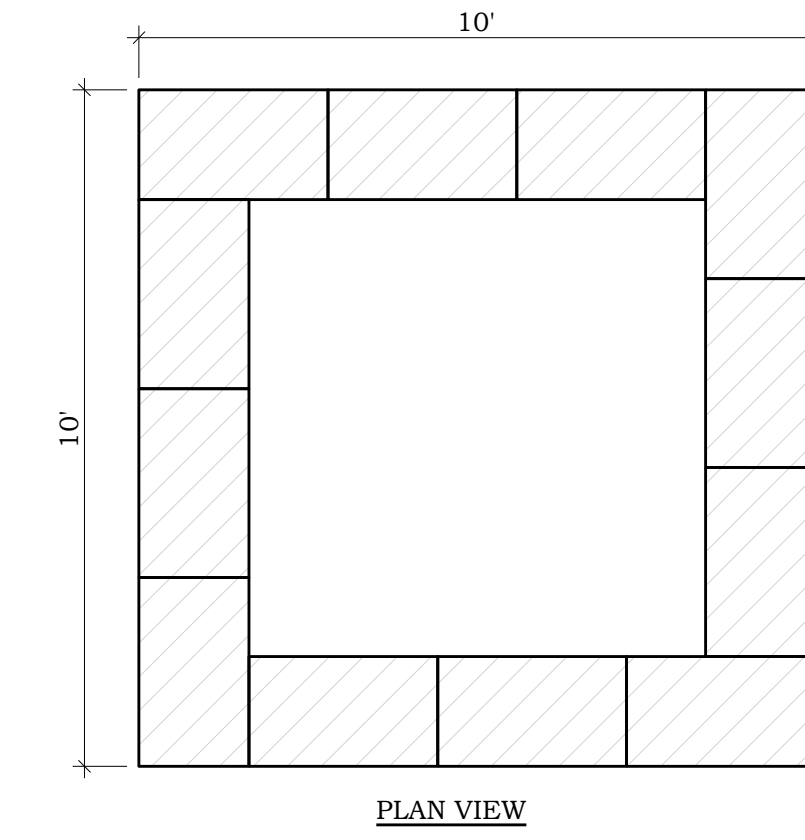
FIELD INSTALLATION USING MULCH OR COMPOST

- 1"x2"x24" WOOD STAKES AT 3' MAX SPACING. STAKES SHALL BE DRIVEN THROUGH BACK HALF OF LOG AT A 45° ANGLE WITH TOP OF STAKE POINTING UPSTREAM. PROVIDE 8"-10" OF STAKE EMBEDMENT.
- 8"-12" DIA LOG WITH ENDS LAPPED 6". FOR INSTALLATION ON BARE SOIL PLACE LOG IN A SMOOTH, ROUNDED TRENCH WITH A DEPTH EQUAL TO 1/4 THE LOG DIA.

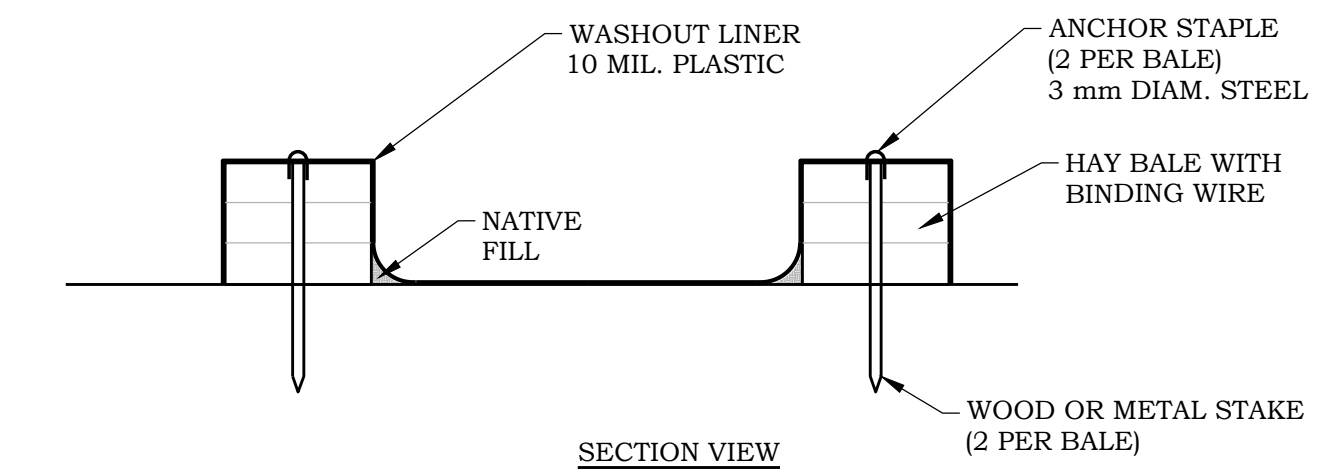
FIELD INSTALLATION USING STRAW OR WOOD FIBER

4 EROSION FILTER LOG

NO SCALE



PLAN VIEW



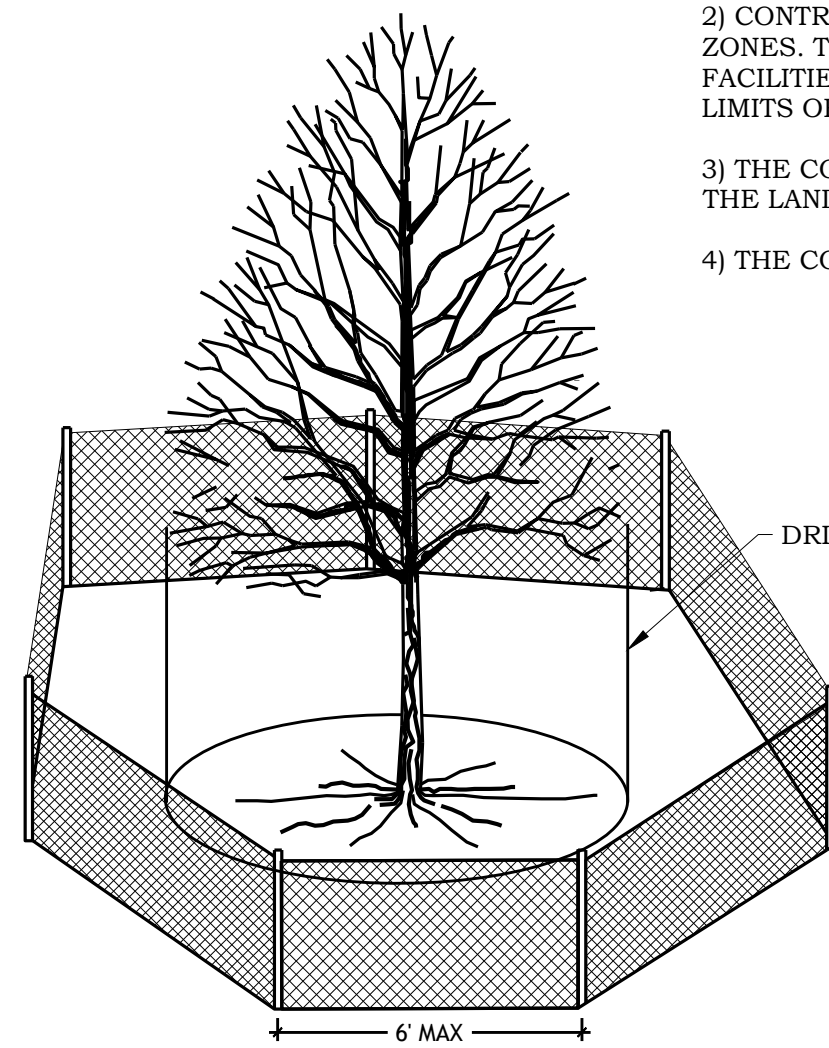
SECTION VIEW

5 CONCRETE WASHOUT AREA

NO SCALE

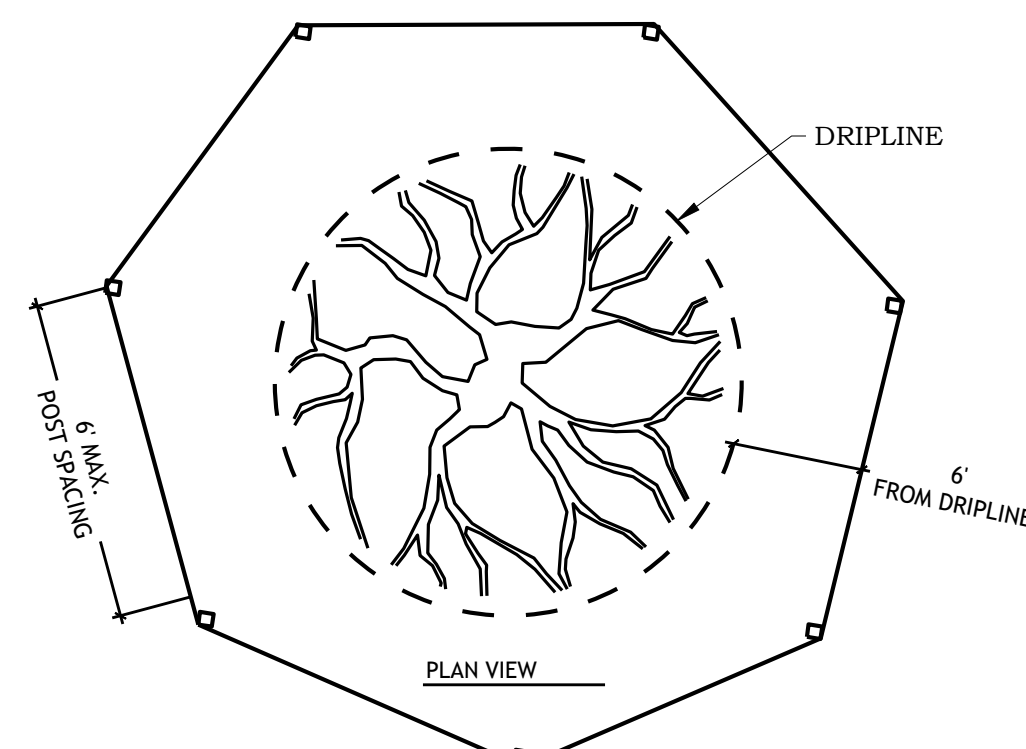
NOTES:

- ALL TREE PROTECTION FENCING AND EROSION CONTROL FENCING SHALL BE INSTALLED ACCORDING TO THE PLANS PRIOR TO ANY DEMOLITION, AFTER DEMOLITION OR AS NECESSARY. TREE PROTECTION FENCING MAY BE RELOCATED WITH APPROVAL FROM THE LANDSCAPE ARCHITECT. ALL TREE PROTECTION FENCING AND EROSION CONTROL DEVICES SHALL BE MAINTAINED FOR THE DURATION OF THE CONSTRUCTION PERIOD.
- CONTRACTOR SHALL NOT STORE ANY MATERIALS OR PARK ANY VEHICLES IN TREE PROTECTION ZONES. THE FENCE SHALL PREVENT TRAFFIC MOVEMENT AND THE PLACEMENT OF TEMPORARY FACILITIES, EQUIPMENT, STOCKPILES AND SUPPLIES FROM HARMING VEGETATION WITHIN THE LIMITS OF PROTECTION.
- THE CONTRACTOR SHALL CLEANLY CUT ALL ROOTS EXPOSED BY GRADING AS DIRECTED BY THE LANDSCAPE ARCHITECT.
- THE CONTRACTOR SHALL USE DESIGNATED CONSTRUCTION ENTRANCES AND STAGING AREAS.

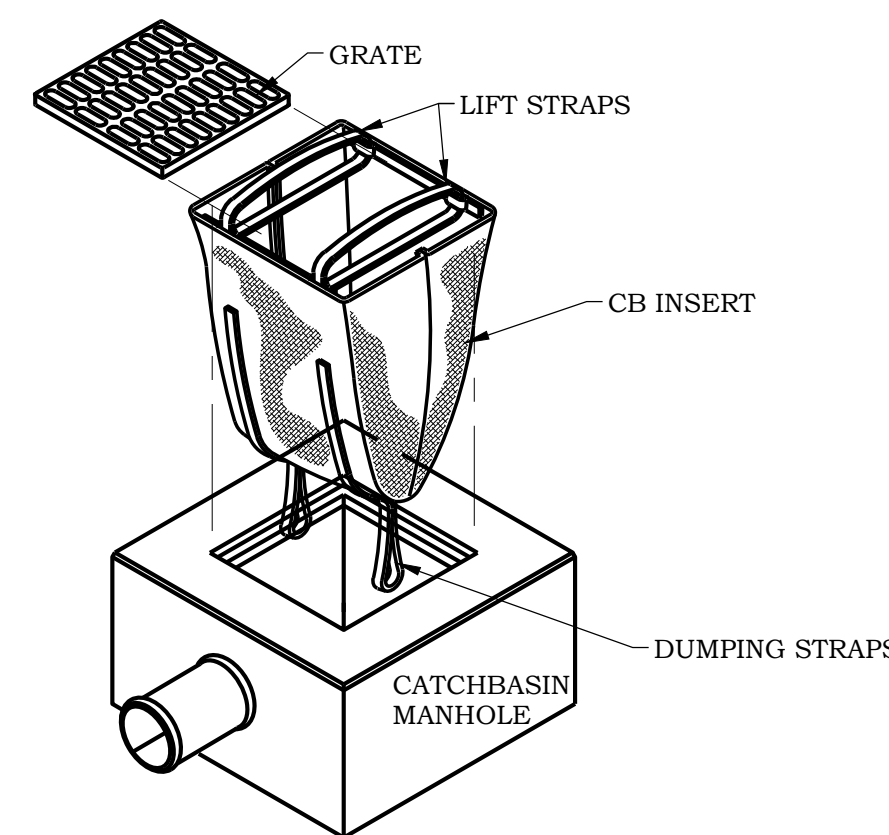


6 TREE PROTECTION FENCING

NO SCALE



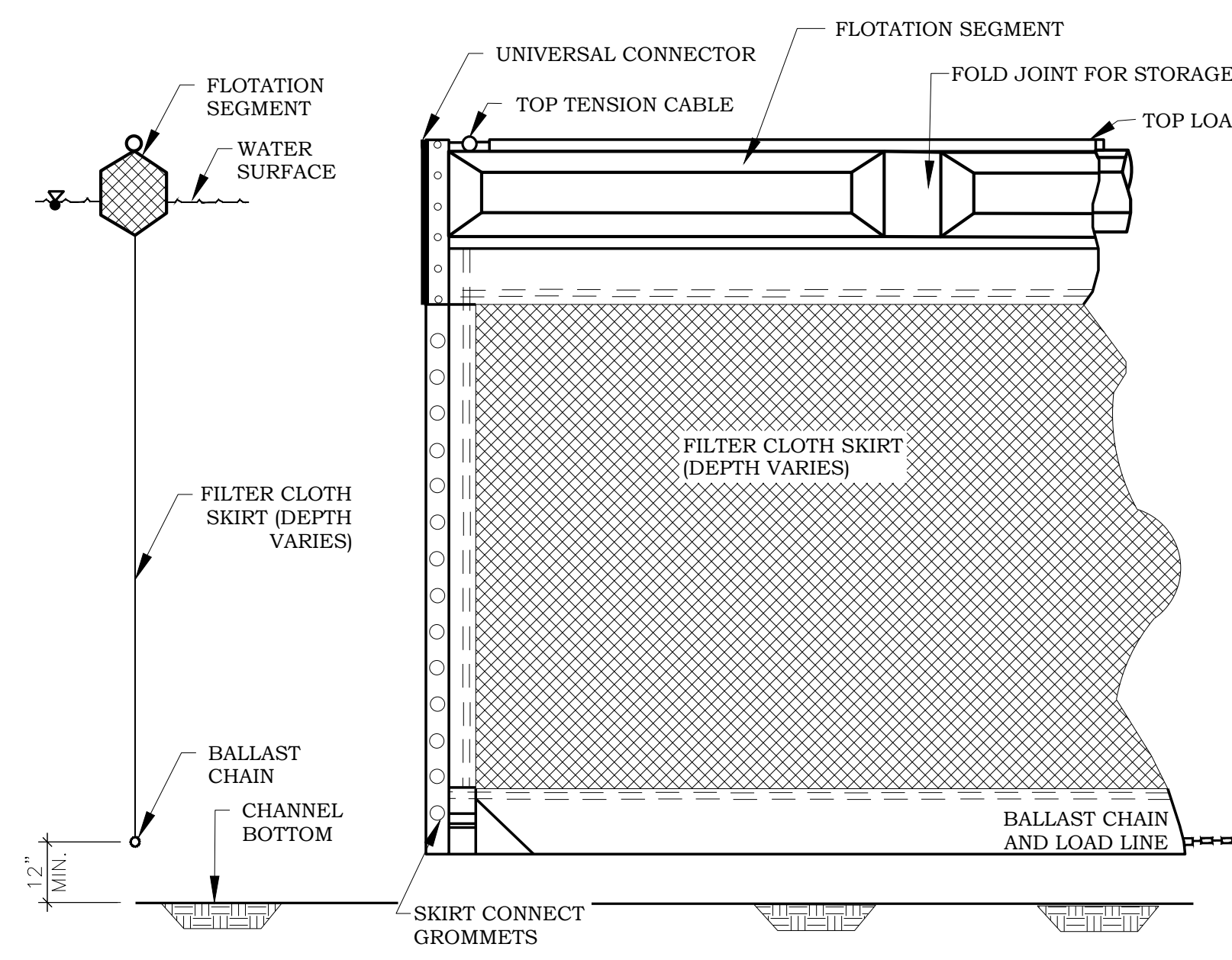
PLAN VIEW



- USE DANDYBAG II AS MANUFACTURED BY DANDYBAG PRODUCTS, INC.
- AN EQUIVALENT CATCHBASIN EROSION CONTROL INSERT METHOD OR PRODUCT MAY BE USED WITH PRIOR APPROVAL FROM ENGINEER.

7 CATCH BASIN INSERT

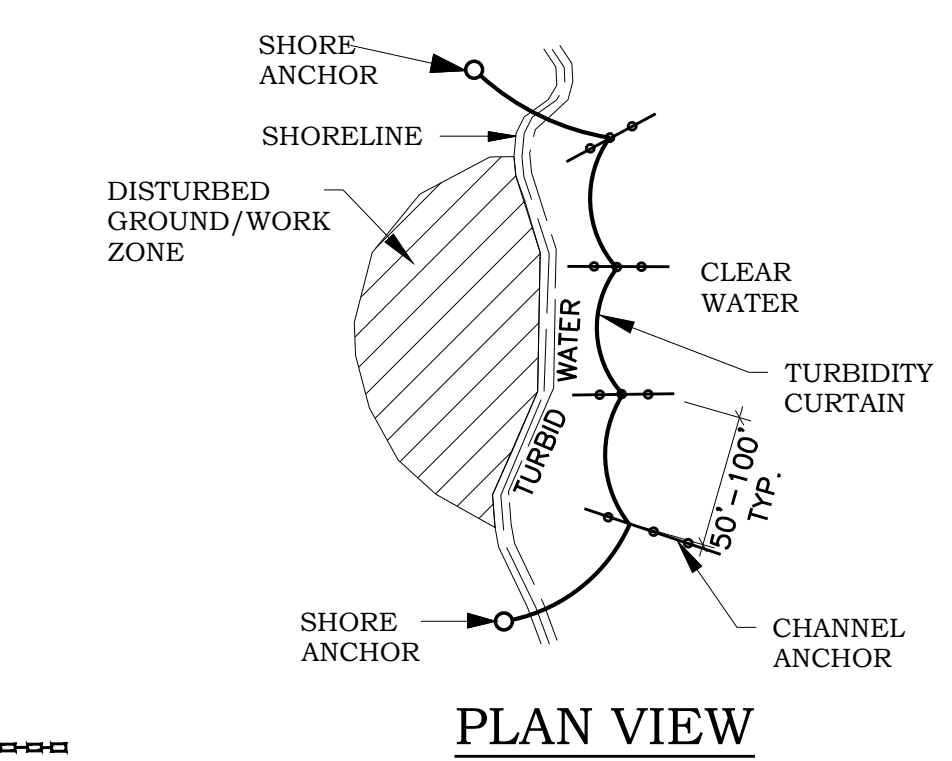
NO SCALE



8 FLOATING SILT CURTAIN

NO SCALE

SHORELINE ANCHORING



PLAN VIEW

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Company: PIERCE PINI & ASSOCIATES

Signed: _____

Name: Kevin Gardner

Date: _____ Reg. No: _____

Issued for: _____ Date: _____

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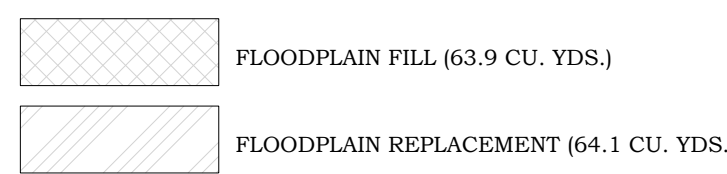
Permit Set

Drawing Title
STORMWATER
POLLUTION
PREVENTION DETAILS

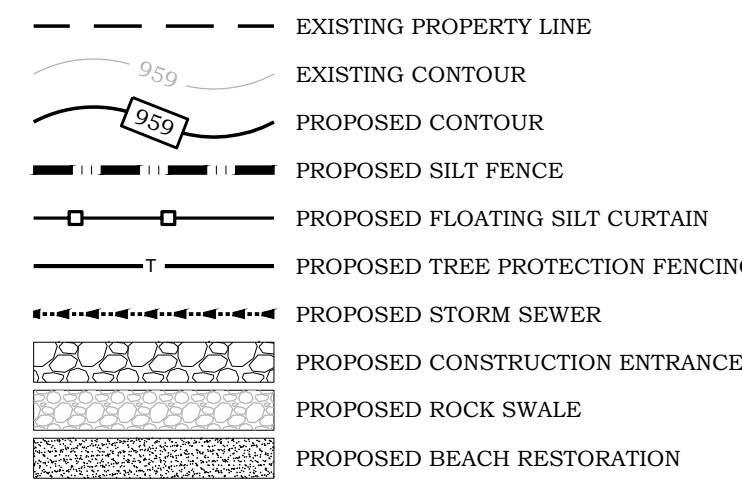
IMPERVIOUS AREA ANALYSIS

HOUSE (10,941 SF)
 DETACHED GARAGE (1,691 SF)
 NORTH AUTO COURT AND DRIVE (6,648 SF)
 SOUTH AUTO COURT AND DRIVE (6,648 SF)
 POOL DECK AND STAIRS (3,282 SF)
 ADDITIONAL STAIRS AND PAVING (861 SF)
 RETAINING WALLS (EXCLUDED)
 PROPOSED IMPERVIOUS = 27,064 SQ. FT.
 PERMEABLE PAVEMENT CREDIT (50% @ 8,648) = -2,324 SQ. FT.
 RAIN GARDEN CREDIT (FOR POOL AREA) = -211,920 FT.
 NET IMPERVIOUS = 23,863 SQ. FT.
 TOTAL LOT AREA = 97,412 SQ. FT.
 IMPERVIOUS COVERAGE = 24.50%

FLOODPLAIN MITIGATION



DRAWING LEGEND



ACREAGE SUMMARY

| | |
|--------------------------|------------------------|
| TOTAL LOT AREA | 97,412 SF (2.24 ACRES) |
| EXISTING IMPERVIOUS AREA | 0 SF (0.00 ACRES) |
| PROPOSED IMPERVIOUS AREA | 23,863 SF (0.55 ACRES) |
| DISTURBED AREA | 82,000 SF (1.88 ACRES) |

ESTIMATED BMP QUANTITIES

| | |
|----------------------------|----------|
| SILT FENCE | 1,050 LF |
| ROCK CONSTRUCTION ENTRANCE | 1 EACH |
| CONCRETE WASHOUT AREA | 1 EACH |
| EROSION CONTROL BLANKET | 4,200 SY |
| FLOATING SILT CURTAIN | 360 LF |

PIERCE PINI & ASSOCIATES, INC.
 Consulting Civil Engineers

9298 CENTRAL AVENUE NE
 SUITE 312
 BLAINE, MN 55434
 TEL 763-537-1311

BLAKELEY RESIDENCE

5910/5920 HARDCRABBLE CIRCLE
 MINNETRISTA, MN 55331

EROSION CONTROL NOTES

- BEFORE BEGINNING CONSTRUCTION, INSTALL A TEMPORARY ROCK CONSTRUCTION ENTRANCE AT EACH POINT WHERE VEHICLES EXIT THE CONSTRUCTION SITE. USE 2 INCH OR GREATER DIAMETER ROCK IN A LAYER AT LEAST 12 INCHES THICK ACROSS THE ENTIRE WIDTH OF THE ENTRANCE. EXTEND THE ROCK ENTRANCE AT LEAST 50 FEET INTO THE CONSTRUCTION ZONE USING A GEOTEXTILE FABRIC BENEATH THE AGGREGATE TO PREVENT MIGRATION OF SOIL INTO THE ROCK FROM BELOW.
- REMOVE ALL SOILS AND SEDIMENTS TRACKED OR OTHERWISE DEPOSITED ONTO PUBLIC AND PRIVATE PAVEMENT AREAS. REMOVAL SHALL BE ON A DAILY BASIS WHEN TRACKING OCCURS AND MAY BE ORDERED BY CITY INSPECTORS AT ANY TIME IF CONDITIONS WARRANT. SWEEPING SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE CONSTRUCTION AND DONE IN A MANNER TO PREVENT DUST BEING BLOWN TO ADJACENT PROPERTIES.
- CATCH BASIN INSERTS OR OTHER APPROVED PRODUCTS ARE REQUIRED IN UNDISTURBED AREAS THAT MAY RECEIVE RUNOFF FROM THE PROJECT AREA. HAY BALES OR FILTER FABRIC WRAPPED GRATES ARE NOT ALLOWED FOR INLET PROTECTION.
- LOCATE SOIL OR DIRT STOCKPILES NO LESS THAN 25 FEET FROM ANY PUBLIC OR PRIVATE ROADWAY OR DRAINAGE CHANNEL. TEMPORARY STOCKPILES LOCATED ON PAVED SURFACES MUST BE NO LESS THAN TWO FEET FROM THE DRAINAGE/GUTTER LINE AND SHALL BE COVERED IF LEFT MORE THAN 24 HOURS.
- MAINTAIN ALL TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES IN PLACE UNTIL THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED. INSPECT TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES ON DAILY BASIS AND REPLACE DETERIORATED, DAMAGED, OR ROTTED EROSION CONTROL DEVICES IMMEDIATELY.
- DISTURBED SOIL STABILIZATION SHALL USE SEED AND MULCH, EROSION CONTROL MATTING, AND/OR SODDING AND STAKING IN GREEN SPACE AREAS. SEED WITH ANNUAL RYE SEED AT 60 LBS PER ACRE AND WOOD MULCH FIBER AT 45 LBS PER 1,000 SF. AN EARLY APPLICATION OF GRAVEL BASE ON AREAS TO BE PAVED IS RECOMMENDED TO MINIMIZE EROSION POTENTIAL.
- READY MIXED CONCRETE AND CONCRETE BATCH PLANTS ARE PROHIBITED WITHIN THE PUBLIC RIGHT OF WAY. ALL CONCRETE RELATED PRODUCTION, CLEANING AND MIXING ACTIVITIES SHALL BE DONE IN THE DESIGNATED CONCRETE MIXING/WASHOUT LOCATIONS.
- CHANGES TO EROSION CONTROL PLAN MUST BE APPROVED BY THE EROSION CONTROL INSPECTOR PRIOR TO IMPLEMENTATION. CONTRACTOR TO PROVIDE INSTALLATION AND DETAILS FOR ALL PROPOSED ALTERNATE TYPE DEVICES.
- ALL EROSION CONTROL ELEMENTS ARE TEMPORARY. CONTRACTOR TO INSTALL EROSION CONTROL ELEMENTS PRIOR TO START OF LAND DISTURBING ACTIVITIES, MAINTAIN IN GOOD CONDITION DURING CONSTRUCTION AND REMOVE FROM THE SITE UPON COMPLETION OF FINAL PAVING AND TREE ESTABLISHMENT.

GRADING, DRAINAGE AND EROSION CONTROL PLAN



1" = 10' (30" x 42")
 1" = 20' (15" x 21")

I hereby certify that this plan or drawing was prepared by me or under my direct supervision and that I am a duly licensed Professional Engineer under the laws of the State of Minnesota.

Company: **PIERCE PINI & ASSOCIATES**

Signed: _____

Name: Kevin Gardner

Date: _____ Reg. No: _____

Issued for: _____ Date: _____

Permit Set

Drawing Title
GRADING, DRAINAGE & EROSION CONTROL PLAN

C400

Comm. No. 25-036

Drawn RD

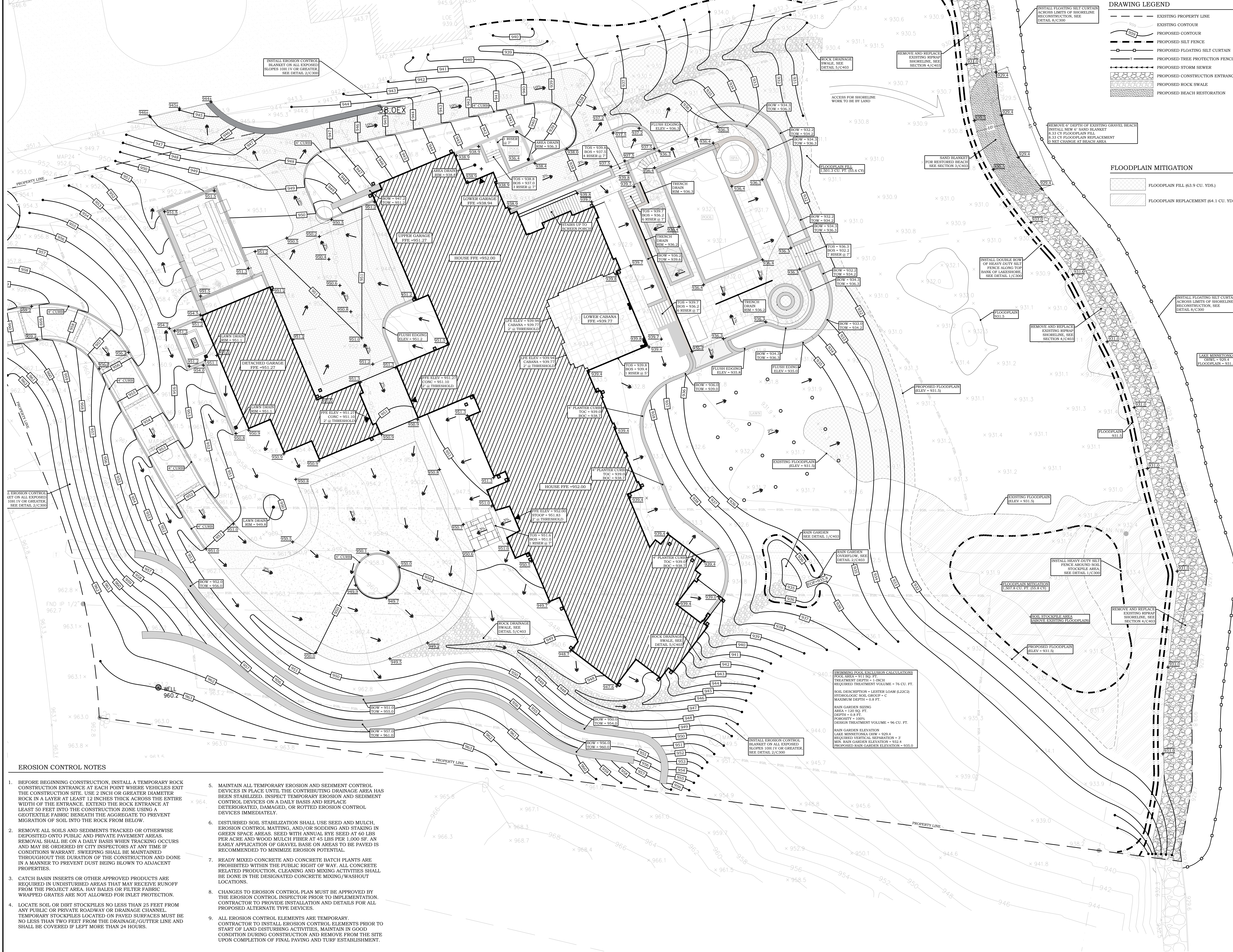
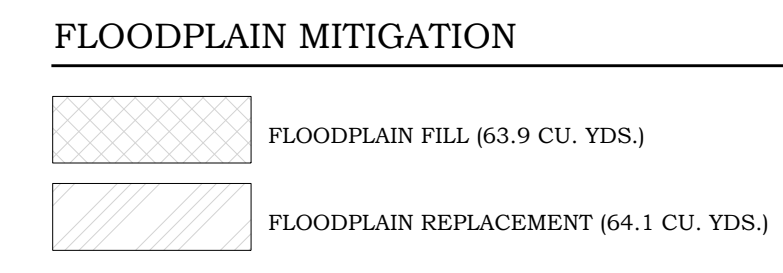
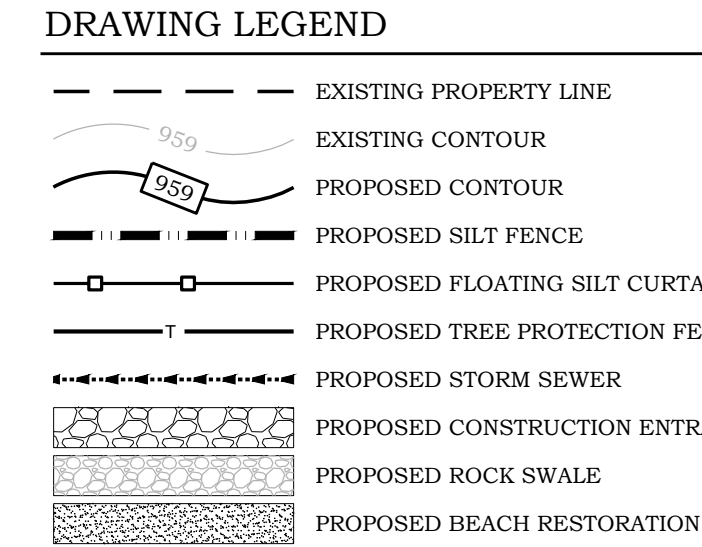
Checked KG

Date 06/01/2026

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SWIMMING POOL EXCLUSIONS CALCULATIONS
 POOL AREA = 911 SQ. FT.
 TREATMENT DEPTH = 1 INCH
 REQUIRED TREATMENT VOLUME = 76 CU. FT.
 SOIL DESCRIPTION = LEHSTE LOAM (L22C2)
 HYDROLOGIC SOIL GROUP = C
 MAXIMUM DEPTH = 0.8 FT.
 RAIN GARDEN SIZING AREA = 129 SQ. FT.
 DEPTH = 0.8 FT.
 PRIORITY = 100%
 DESIGN TREATMENT VOLUME = 96 CU. FT.
 RAIN GARDEN ELEVATION LAKE MINNETONKA GRD = 929.4
 REQUIRED VERTICAL SEPARATION = 3"
 MIN. RAIN GARDEN ELEVATION = 932.4
 PROPOSED RAIN GARDEN ELEVATION = 935.0

BLAKELEY RESIDENCE



EROSION CONTROL NOTES

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I hereby certify that this plan or drawing was prepared by me or under my direct supervision and that I am a duly licensed Professional Engineer under the laws of the State of Minnesota.

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Signed: _____
Name: Kevin Gardner

Date: _____ Reg. No: _____

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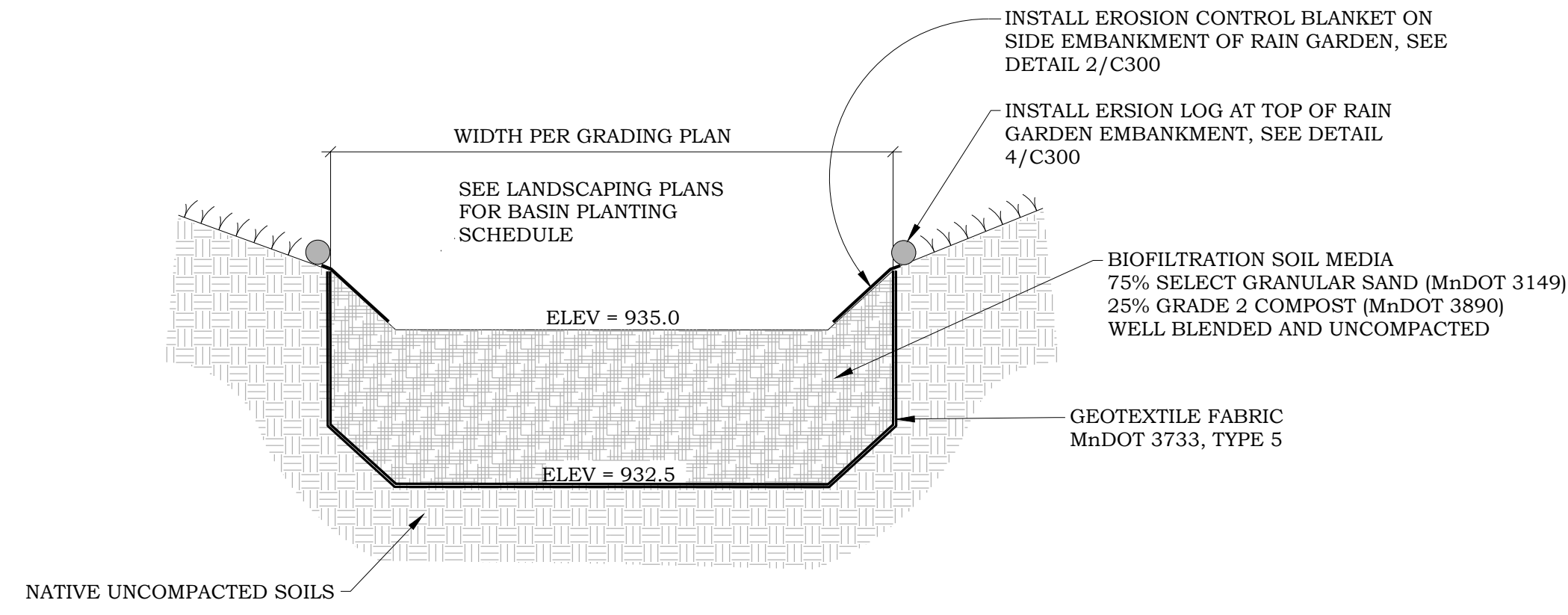
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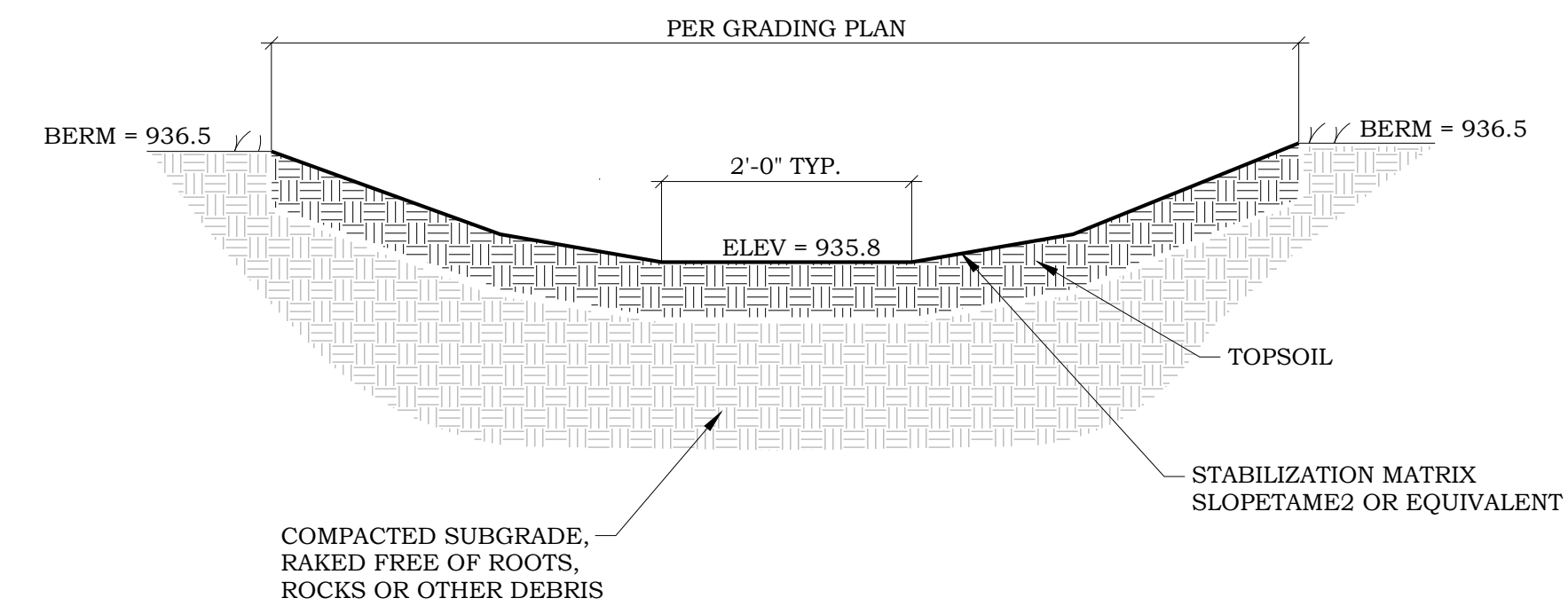
GRADING, DRAINAGE & EROSION CONTROL PLAN

C401



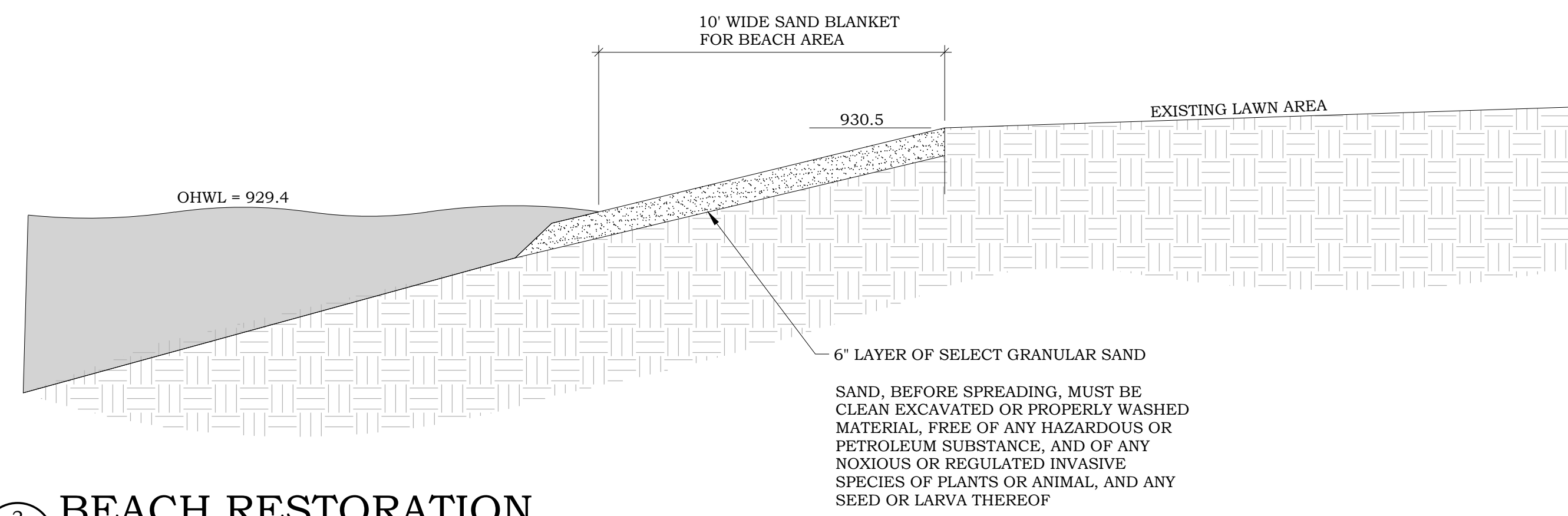
1 RAIN GARDEN SECTION
C403

NO SCALE



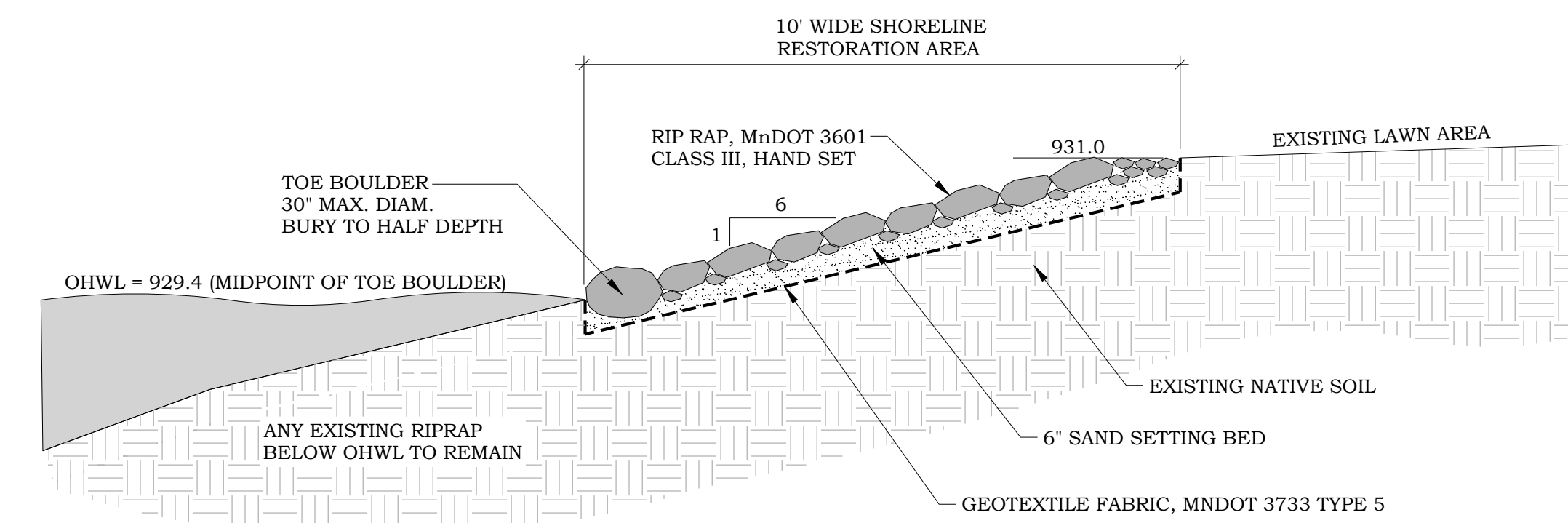
2 RAIN GARDEN OVERFLOW
C403

NO SCALE



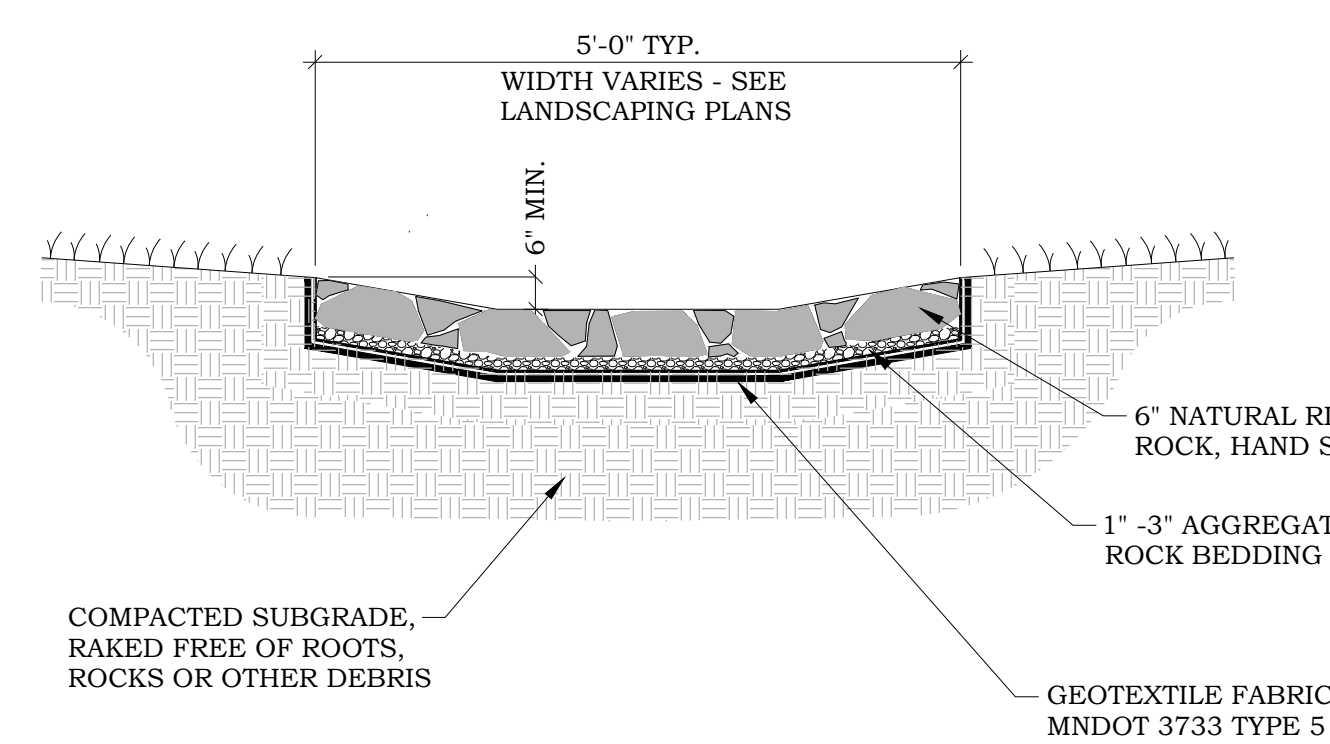
3 BEACH RESTORATION
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NO SCALE



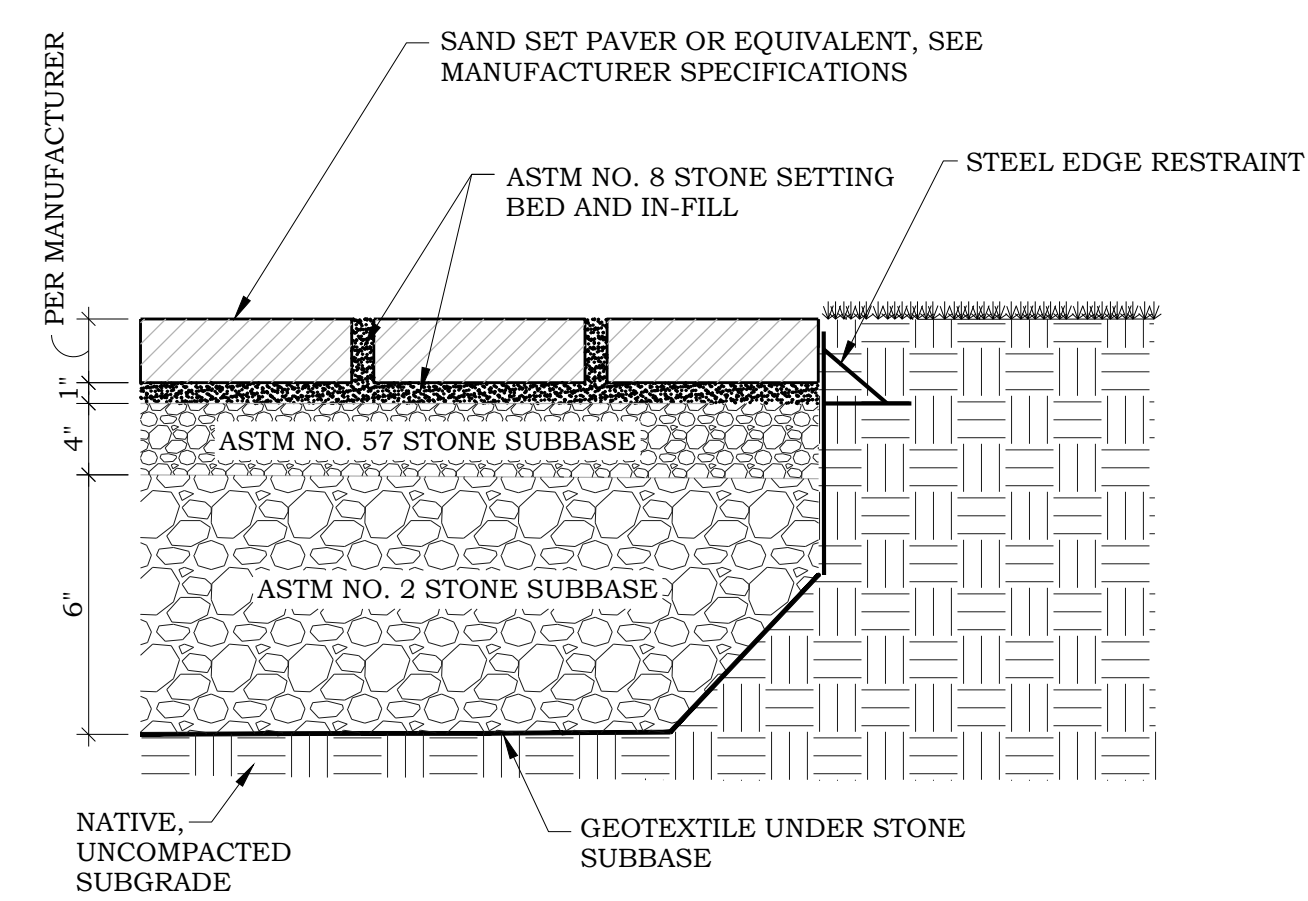
4 SHORELINE RECONSTRUCTION
C403

NO SCALE



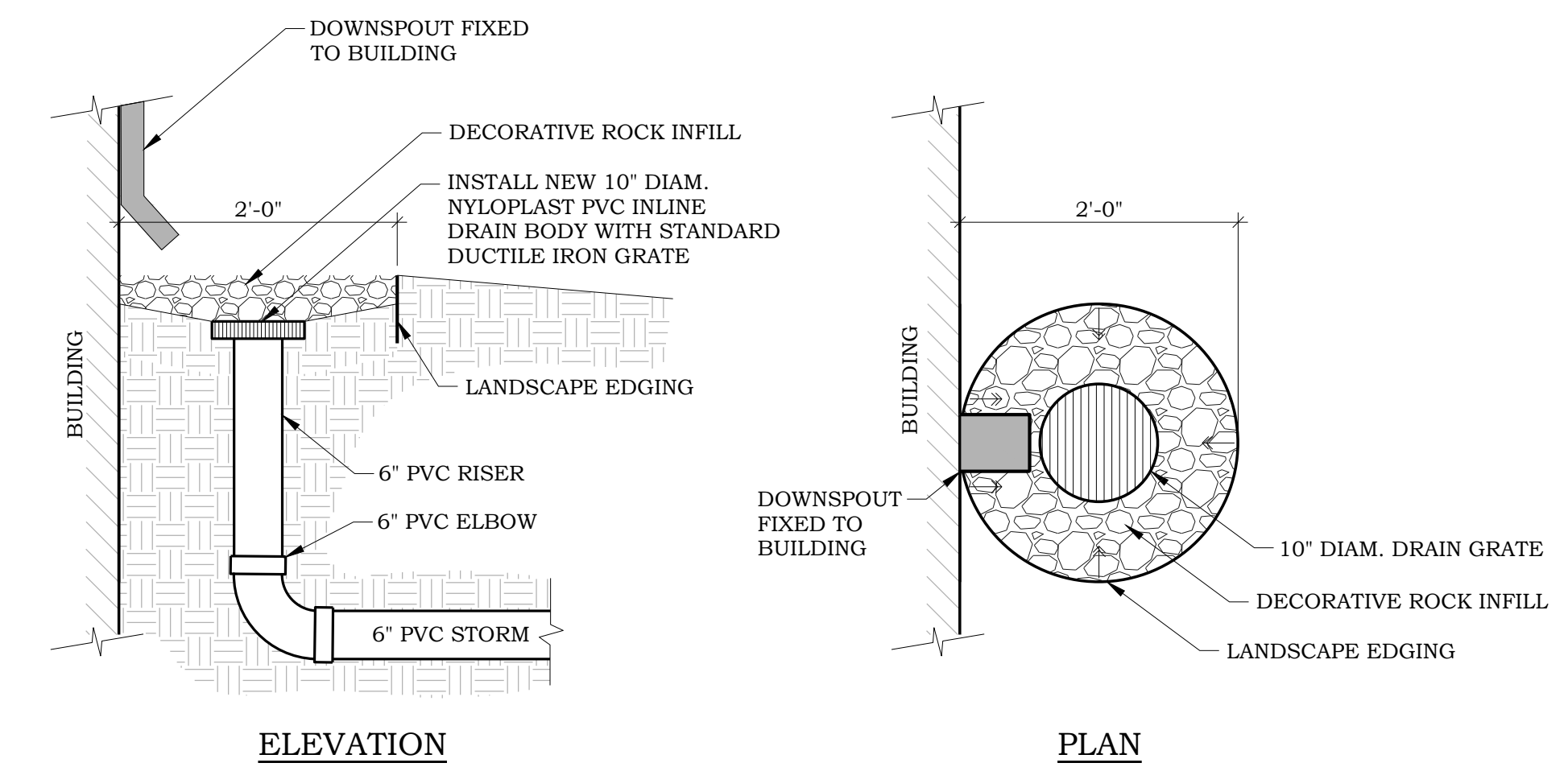
5 ROCK DRAINAGE SWALE
C403

NO SCALE



6 PERMEABLE PAVERS
C403

NO SCALE



7 DOWNSPOUT DRAIN
C403

NO SCALE

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GRADING DETAILS

C403