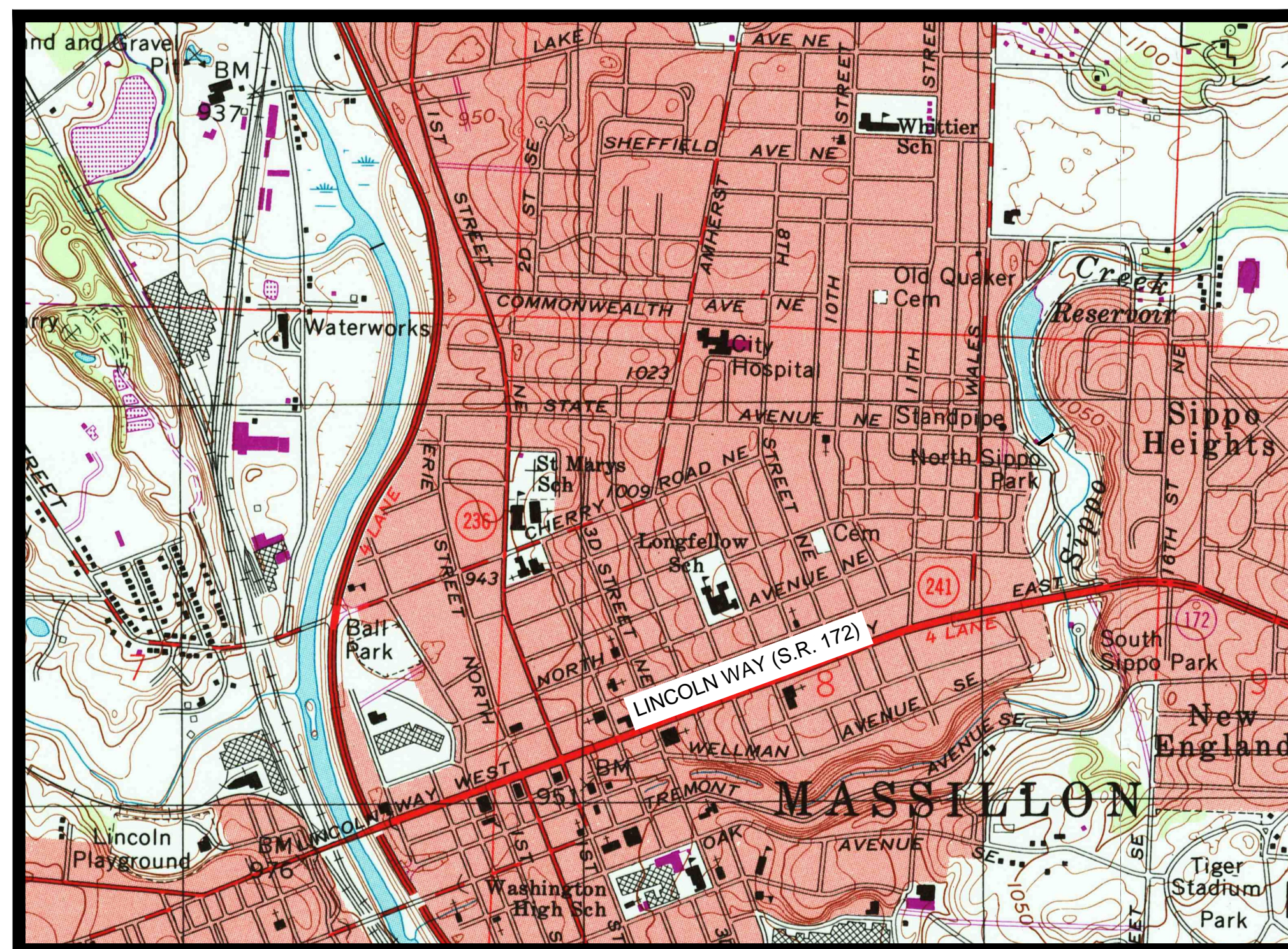


# SIPPO CREEK RESERVOIR DAM LOWERING DESIGN DRAWINGS CITY OF MASSILLON STARK COUNTY, OHIO ODNR FILE # 0614-012 - (CLASS I)

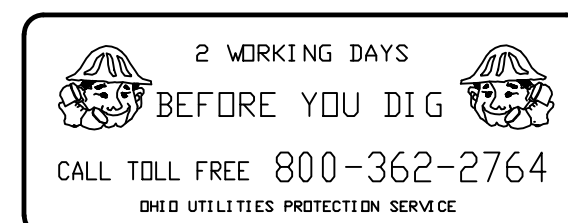
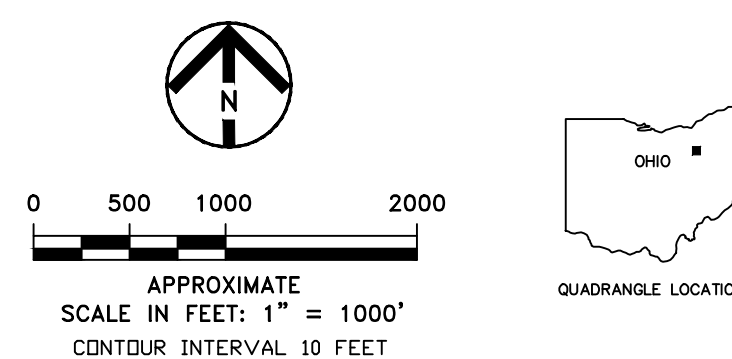
1244 RODMAN AVE. NE  
MASSILLON, OHIO 44646

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## VICINITY MAP



AECOM  
564 WHITE POND DRIVE  
AKRON, OH 44614  
TEL: (330) 836.9111  
CONTACT: STEVE WALKER, P.E.

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SCALE: AS SHOWN

SIPPO CREEK RESERVOIR  
DAM LOWERING  
DESIGN DRAWINGS  
MASSILLON, STARK COUNTY, OH  
ODNR# 0614-012

TITLE SHEET



SHEET 01

BAR IS ONE-INCH ON ORIGINAL DRAWING  
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**GENERAL LEGEND**

- PROPOSED 5-FEET CONTOUR
- PROPOSED 1-FEET CONTOUR
- - - - - EXISTING 5-FEET CONTOUR
- - - - - EXISTING 1-FEET CONTOUR
- - - - - EASEMENT LINE
- - - - - PROPERTY LINE
- □ — □ — FENCE LINE
- · · · — EDGE OF WATER
- LOD — LOD — LIMITS OF DISTURBANCE
- SITE ACCESS ROUTE
- ▽ STATIC WATER LEVEL
- ⊙ AECOM BORING LOCATION (2015)

**UTILITIES**

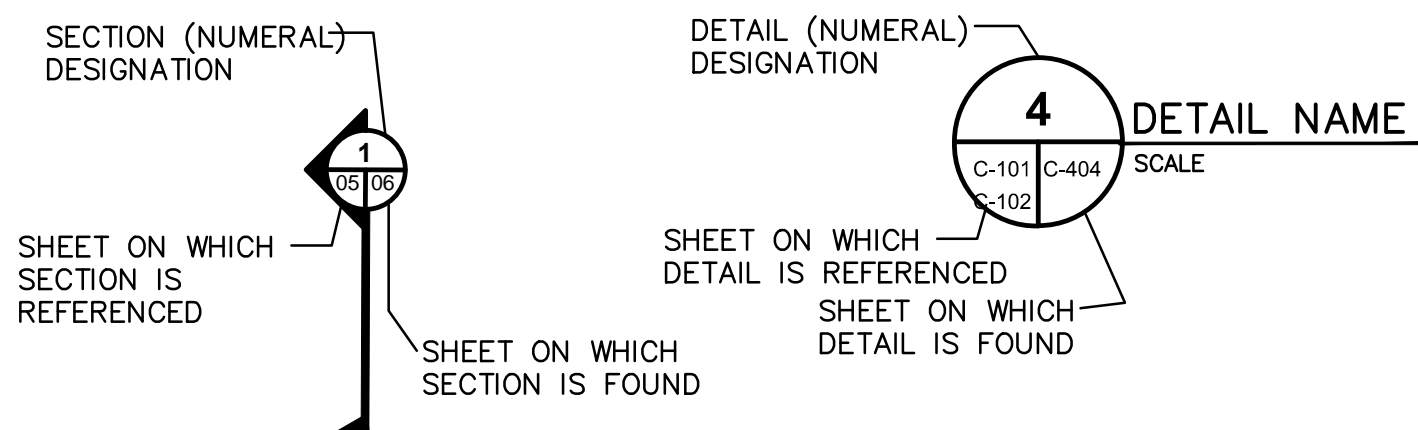
- T — UNDERGROUND TELEPHONE LINE
- W — W — UNDERGROUND WATER LINE
- E — E — UNDERGROUND ELECTRIC LINE
- STM — STORM SEWER
- SAN — SANITARY SEWER
- - - - - UNDERGROUND CABLE LINE
- ⊗ MANHOLE
- CATCH BASIN
- Ⓜ BENCHMARK/MONUMENT BOX
- ⊕ TELEPHONE POLE
- Ⓜ IP IRON PIN SET
- Ⓜ PP POWER POLE
- Ⓜ FH FIRE HYDRANT
- Ⓜ WATER VALVE
- CONCRETE

**ABBREVIATIONS**

- APPROX APPROXIMATELY
- BLDG BUILDING
- CB CATCH BASIN
- CB CAST IRON PIPE
- CIP CORRUGATED METAL PIPE
- CMP CORRUGATED METAL PIPE
- DI DUCTILE IRON
- EL ELEVATION
- EX EXISTING
- FT FEET
- GW GROUNDWATER
- HDPE HIGH DENSITY POLYETHYLENE
- LB POUND
- LF LINEAR FEET
- MAX MAXIMUM
- MFR MANUFACTURER
- MH MANHOLE
- MIN MINIMUM
- MISC MISCELLANEOUS
- N NORTH
- N/A NOT APPLICABLE
- NIC NOT IN CONTRACT
- NTS NOT TO SCALE
- PVC POLY VINYL CHLORIDE
- RCP REINFORCED CONCRETE PIPE
- S SOUTH
- SHT SHEET
- STD STANDARD
- STD TOP OF BANK
- T/B TYPICAL
- TYP UNLESS OTHERWISE NOTED
- UON WEST
- W WEST
- WP WORKPOINT
- WSE WATER SURFACE ELEVATION

**SECTION DESIGNATION**

**DETAIL DESIGNATION**



**GENERAL NOTES**

1. THIS PROJECT SHALL BE GOVERNED BY THE OHIO DEPARTMENT OF TRANSPORTATION'S CONSTRUCTION AND MATERIAL SPECIFICATIONS, LATEST EDITION, UNLESS OTHERWISE SPECIFIED HEREIN.
2. THE CONTRACTOR SHALL ADHERE TO ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS, AT ALL TIMES. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY MISCELLANEOUS PERMITS, INCLUDING BUILDING PERMITS, HAULING AND ROAD PERMITS, RIGHT-OF WAY PERMIT, ETC. CONTRACTOR IS RESPONSIBLE FOR OBTAINING APPLICABLE PERMITS FROM THE CITY OF MASSILLON, STARK COUNTY, AS REQUIRED, AND COORDINATING WITH STARK COUNTY AND THE CITY OF MASSILLON BUILDING INSPECTOR OR REPRESENTATIVE TO BE INVOLVED.
3. THE LOCATIONS OF UNDERGROUND UTILITIES AS SHOWN HEREIN ARE BASED ON THE BEST AVAILABLE INFORMATION. LOCATIONS OF UNDERGROUND UTILITIES/STRUCTURES MAY VARY FROM LOCATIONS SHOWN HEREIN. CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING LOCATIONS OF ALL UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION.
4. THE CONTRACTOR SHALL CONTACT THE OHIO UTILITIES PROTECTION SERVICE (OUPS) (1.800.362.2764) OR (811) PRIOR TO BEGINNING CONSTRUCTION. IN ADDITION, THE CONTRACTOR SHALL CONTACT ANY KNOWN UTILITY OWNERS THAT ARE NOT AFFILIATED WITH OUPS, TO HAVE THEIR UTILITIES MARKED PRIOR TO CONSTRUCTION. CONTRACTOR SHALL MAINTAIN UTILITY MARKINGS DURING CONSTRUCTION.
5. UPON AWARD OF THE CONTRACT, THE SELECTED CONTRACTOR SHALL SUBMIT HIS FINALIZED CONSTRUCTION PLAN, FOR REVIEW AND APPROVAL BY THE CITY OF MASSILLON AND THE ENGINEER. THE FINAL PLAN SHALL INCLUDE PROPOSED CONSTRUCTION SEQUENCING, ACCESS AND STAGING PLANS, SCHEDULE, AND EQUIPMENT, LABOR AND MATERIAL ALLOCATIONS. THE FINAL PLAN SHALL ALSO INCLUDE DETAILED DESIGN OF THE CONTRACTOR'S PROPOSED DEWATERING SYSTEM, EROSION CONTROL, AND FLOOD CONTROL PLAN.
6. PRIOR TO STARTING WORK, THE CONTRACTOR SHALL SUBMIT TO THE OWNER A COPY OF A PROJECT SPECIFIC HEALTH AND SAFETY PLAN (HASP) ADDRESSING PERSONAL PROTECTIVE EQUIPMENT. ITEMS TO BE ADDRESSED CONCERNING PERSONAL PROTECTIVE EQUIPMENT INCLUDE, BUT ARE NOT LIMITED TO: EYE AND FACE (E.G. PROTECTIVE GLASSES WITH SIDE SHIELDS); HANDS AND ARM (E.G. LOWER ARM-LENGTH PROTECTIVE COVERS AND GLOVES); AND FEET AND LEGS (E.G. RUBBER OVERBOOTS OVER STEEL-TOED BOOTS); HEAD (E.G. HARD-HAT). THE HEALTH AND SAFETY PLAN MUST BE APPROVED BY THE OWNER/ENGINEER PRIOR TO COMMENCEMENT OF WORK.
7. PRIOR TO THE START OF ANY WORK, CONTRACTOR SHALL DOCUMENT EXISTING SITE CONDITIONS AND SHALL BE RESPONSIBLE FOR ANY DAMAGE CAUSED BY THEIR CONSTRUCTION ACTIVITIES AT NO COST TO THE OWNER.
8. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO MINIMIZE DISTURBANCE TO EXISTING STRUCTURES, LANDSCAPING, UTILITIES, AND THE RIVERINE ENVIRONMENT DURING THE EXECUTION OF THEIR WORK.
9. THE CONTRACTOR SHALL COMPLY WITH THE APPLICABLE PROVISIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION REGULATIONS, INCLUDING BUT NOT LIMITED TO 29 CFR PART 1926.
10. THE CONTRACTOR SHALL FURNISH HIGH QUALITY MATERIALS AND WORK MEETING THE REQUIREMENTS OF THE SPECIFICATIONS AND CURRENT INDUSTRY STANDARDS.

**ACCESS, STAGING AND TRAFFIC NOTES**

1. ALL CONTRACTOR EQUIPMENT, PERSONNEL, AND MATERIALS SHALL STAY WITHIN THE FINAL STAGING AND ACCESS AREAS, AND THE LIMITS OF WORK AREA, AS SHOWN ON THESE DRAWINGS, UNLESS OTHERWISE APPROVED BY THE CITY AND THE ENGINEER. ACTIVITIES ON ADJACENT AREAS WILL NOT BE ALLOWED.
2. ALL DISTURBED AREAS (INCLUDING STAGING, ACCESS AND WORK AREAS) SHALL BE RETURNED TO THEIR PRE-CONSTRUCTION CONDITION BY THE CONTRACTOR TO THE SATISFACTION OF THE OWNER AND ENGINEER.
3. EXISTING AREAS OUTSIDE OF PROJECT LIMITS DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE, TO THE SATISFACTION OF THE OWNER.
4. ANY PAVEMENT USED FOR ACCESS AND DISPOSAL OF EXCAVATED MATERIALS SHALL BE CONTINUALLY KEPT FREE OF DEBRIS BY THE CONTRACTOR. THIS REMOVAL SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
5. TRAFFIC MAY BE DISRUPTED DURING CONSTRUCTION. CONTRACTOR SHALL DEVELOP A TRAFFIC CONTROL PLAN IF ANY OF THE CONSTRUCTION ACTIVITIES WILL RESULT IN A DISRUPTION TO NORMAL TRAFFIC FLOW. PRIOR TO IMPLEMENTATION, THE TRAFFIC CONTROL PLAN SHALL BE REVIEWED AND APPROVED BY THE CITY, INCLUDING LOCAL SCHOOLS, POLICE, EMS, AND FIRE.
6. FLAGGERS SHALL BE USED AS NECESSARY FOR DELIVERIES, EQUIPMENT MOVEMENT, OR OTHER SITUATIONS WHERE A MINOR DISRUPTION TO TRAFFIC MAY OCCUR ADJACENT TO THE PROJECT SITE.

**SURVEY AND GEOLOGY NOTES**

1. THE HORIZONTAL DATUM IS BASED ON THE OHIO STATE PLANE COORDINATE SYSTEM OF 1983, NORTH ZONE (FEET) (NAD83).
2. THE VERTICAL DATUM IS BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
3. CONTOUR INTERVAL IS ONE (1) FOOT UNLESS OTHERWISE NOTED.
4. CONTRACTOR SHALL VERIFY ALL BENCHMARKS AND CONTROL POINTS PRIOR TO USE.
5. CONTRACTOR SHALL MAINTAIN CORRECT SURVEY CONTROL THROUGHOUT THE PROJECT.
6. THE DEPTH OF BORINGS WERE TAKEN FROM TOP OF THE EXISTING GRADE.
7. ALL BORINGS WERE SURVEYED BY AECOM.
8. TOPOGRAPHY AROUND DAM WAS DEVELOPED FROM A GROUND SURVEY PERFORMED BY AECOM IN SEPTEMBER 2015.

**SITE AND EARTHWORK NOTES**

1. LOWERING OF THE WATER SURFACE ADJACENT TO THE SPILLWAY AND LAKE OUTLET STRUCTURE MAY BE REQUIRED DURING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN, INSTALLATION, AND MAINTENANCE OF AN APPROPRIATE BYPASS PUMPING SYSTEM TO LOWER AND MAINTAIN A LOWER LAKE LEVEL DURING CONSTRUCTION, AS NECESSARY. BYPASS PUMPING SYSTEM IS SUBJECT TO APPROVAL BY THE CITY AND ENGINEER. ADDITIONALLY, THE LAKE DRAIN SHALL BE KEPT OPEN DURING CONSTRUCTION TO ASSIST IN MAINTAINING A LOWER LAKE LEVEL.
2. RELEASE OF CONCRETE, SEDIMENT, OR OTHER CONSTRUCTION MATERIALS INTO SIPPO CREEK IS NOT PERMITTED. THIS REQUIREMENT WILL BE STRICTLY ENFORCED. THE CONTRACTOR SHALL DESIGN, INSTALL AND MAINTAIN AN EROSION AND CONCRETE CONTROL SYSTEM, TO MEET THE PROJECT REQUIREMENTS.
3. REMOVAL OR MODIFICATION OF SITE FEATURES NOT SPECIFICALLY CALLED OUT IN THE CONTRACT DOCUMENTS MUST BE APPROVED BY THE CITY AND ENGINEER.

4. THE CONTRACTOR SHALL COORDINATE WORK WITH THE CITY AND ALL APPROPRIATE UTILITY OWNERS REGARDING STAGING, ACCESS AND CONSTRUCTION AROUND EXISTING STRUCTURES AND UTILITIES.
5. CONTRACTOR SHALL DEWATER SPOILS ON-SITE AND DISPOSE OF THESE MATERIALS OFF SITE, UNLESS OTHERWISE DIRECTED BY THE CITY AND/OR ENGINEER. RE-USE OF SPOILS ON SITE WILL BE PERMITTED, TO THE EXTENT THAT SPOIL MATERIALS MEET PROJECT REQUIREMENTS, AND AS OTHERWISE APPROVED BY THE ENGINEER AND THE CITY. ALL MATERIAL REMOVED FROM THE SITE SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL APPLICABLE CODES, ORDINANCES, REGULATIONS AND LAWS.
6. ANY IMPORTED FILL MATERIALS SHALL BE STOCKPILED SEPARATELY FROM EXCAVATION SPOILS, AND SHALL BE APPROPRIATELY PROTECTED FROM THE WEATHER.
7. CONTRACTOR TO ASSESS AND REPAIR STONE BLOCKS, INCLUDING BACKFILLING AND TUCK POINTING ON THE LEFT AND RIGHT ABUTMENT TO THE SATISFACTION OF THE CITY AND ENGINEER.
8. STONE REMOVED FROM THE SPILLWAY ARE TO BE USED ON SITE, AS APPROPRIATE, TO THE SATISFACTION OF THE CITY AND THE ENGINEER.
9. ALL EXCAVATED MATERIALS FROM THE EMBANKMENTS ARE TO BE GRADED OUT ON OR DOWNSTREAM OF THE EMBANKMENTS AT A MAXIMUM SLOPE OF 3:1 (H:V). ALL FILL AREAS ARE TO BE SEEDED WITH AN APPROVED GRASS MIX AND VEGETATION FULLY ESTABLISHED PRIOR TO PROJECT COMPLETION.

**TRM NOTES**

1. CONTRACTOR TO INSTALL GREEN PROPEX GEOSOLUTIONS PYRAMAT 75 HIGH PERFORMANCE TURF REINFORCED MATTING (TRM), OR APPROVED EQUAL, IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.
2. TRM TO BE APPROVED BY THE CITY AND THE ENGINEER, PRIOR TO INSTALLATION.
3. TRM TO BE INSTALLED IN THE LOCATIONS ACCORDING TO THESE DRAWINGS.
4. PRIOR TO SUBGRADE PREPARATION, CONTRACTOR TO TEST THE TOPSOIL TO DETERMINE ANY ADDITIVES THAT MAY BE NEEDED, SUCH AS LIME AND FERTILIZER. TOPSOIL TEST TO BE SUBMITTED TO THE CITY FOR REVIEW. ANY ADDITIVES REQUIRED SHALL BE APPROVED BY THE CITY AND ENGINEER.
5. PREPARE SUBGRADE PRIOR TO INSTALLATION OF TRM. CONTRACTOR TO LOOSEN THE TOP 3 INCHES OF SOIL OR PLACE SUITABLE GROWING MEDIUM/TOPSOIL. ADDITIVES TO BE ADDED AS REQUIRED TO TOPSOIL.
6. REMOVE ALL ROCKS, CLODS, VEGETATION OR OTHER OBJECTS SO THE INSTALLED MAT WILL HAVE DIRECT CONTACT WITH SOIL SURFACE. SUBGRADE SHALL BE UNIFORM AND SMOOTH.
7. DO NOT MULCH AREAS WHERE MAT IS TO BE PLACED.
8. SOIL TO BE SEEDED WITH A GRASS MIXTURE AND APPLICATION RATE APPROVED BY THE CITY PRIOR TO INSTALLATION OF TRM.
9. AFTER PLACING TRM ON SEEDED SOIL, CONTRACTOR TO SPREAD AND LIGHTLY RAKE 1/2" TO 3/4" OF FINE SITE SOIL OR TOPSOIL OVER THE ENTIRE TRM MAT. VOIDS ARE TO BE FILLED COMPLETELY USING THE BACKSIDE OF A RAKE OR OTHER FLAT TOOL. SOIL-FILL SHALL BE SMOOTHED TO JUST EXPOSE THE TOP NETTING OF THE MATRIX. DO NOT PLACE EXCESS SOIL ABOVE THE MAT.
10. IF EQUIPMENT MUST OPERATE ON THE MAT, IT MUST HAVE RUBBER TIRES. NO TRACKED EQUIPMENT OR SHARP TURNS ARE ALLOWED ON THE MAT. AVOID ANY TRAFFIC OVER THE MAT IF LOOSE OR WET SOIL CONDITIONS EXIST.
11. TRM PLACEMENT SHALL BE APPROVED BY THE CITY, THE ENGINEER, AND THE MANUFACTURER OF THE TRM.
12. GROUND ANCHORS TO BE APPLIED TO SECURE THE MAT TO THE SOIL USING 18-INCH LONG ANCHOR PINS IN THE PATTERN AS RECOMMENDED BY THE MANUFACTURER AND AS SHOWN ON THESE DRAWINGS.
13. ANCHOR PIN PATTERN TO BE A MINIMUM OF 3 ANCHORS PER SQUARE YARD OF TRM PLACED.
14. PERCUSSION DRIVEN 5-FEET LONG DUCK BILLED ANCHORS TO BE PLACED AT A MINIMUM SPACING OF 0.5 PER SQUARE YARD OF TRM PLACED IN THE PATTERN AS RECOMMENDED BY THE MANUFACTURER AND AS SHOWN ON THESE DRAWINGS.
15. CONTRACTOR TO PROTECT AREAS THAT ARE UNFINISHED BEING INSTALLED AT THE END OF EACH WORKING DAY. REPAIRS TO THE TRM PRIOR FINAL INSTALLATION ARE THE RESPONSIBILITY OF THE CONTRACTOR AT NO ADDITIONAL COST TO THE CITY.
16. THE MANUFACTURER, ENGINEER, AND THE CITY TO APPROVE THE FINAL INSTALLATION OF THE TRM.
17. CONTRACTOR TO WATER AS NEEDED UNTIL VEGETATION IS THOROUGHLY ESTABLISHED.
18. CONTRACTOR TO MAINTAIN THE TRM THROUGH ONE (1) GROWING SEASON, OR UNTIL A FULL GRASS COVER EXISTS. THE CITY TO APPROVE THE RELEASE OF THE CONTRACTOR'S RESPONSIBILITY.

**SUBMITTAL REQUIREMENTS**

1. CONTRACTOR TO SUBMIT A PLAN TO INSTALL A HIGH PERFORMANCE TURF REINFORCED MATTING FOR APPROVAL BY THE CITY AND THE ENGINEER.
2. CONTRACTOR TO SUBMIT A BYPASS PUMPING PLAN FOR APPROVAL BY THE CITY AND THE ENGINEER, PRIOR TO ANY CONSTRUCTION.
3. CONTRACTOR TO SUBMIT A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) FOR APPROVAL BY THE CITY, THE ENGINEER, AND STARK SOIL AND WATER PRIOR TO ANY CONSTRUCTION.
4. CONTRACTOR TO SUBMIT A LIST OF EQUIPMENT TO BE USED ON THE PROJECT, AND IDENTIFY ANY SUBCONTRACTORS TO BE USED FOR THE PROJECT.
5. CONTRACTOR TO SUBMIT A FINAL DESIGN PLAN, IF THERE ARE ANY VARIANCES FROM THOSE SHOWN ON THESE PLANS. ANY VARIANCE FROM THESE PLANS WILL BE NOTED AND APPROVED BY THE CITY AND THE ENGINEER.
6. CONTRACTOR TO OBTAIN BUILDING PERMITS FROM THE CITY, AND ANY OTHER LOCAL PERMITS REQUIRED FOR THE COMPLETION OF THE PROJECT.
7. CONTRACTOR TO SUBMIT ALL MATERIALS TO BE USED FOR CONSTRUCTION FOR REVIEW AND APPROVAL, INCLUDING STONE, RIPRAP, CONCRETE MIXES, AQUABLOK (OR APPROVED EQUAL), SEEDING AND MULCHING, PIPING, AND TRM.
8. THE CITY WILL OBTAIN AN APPROVED OHIO DEPARTMENT OF NATURAL RESOURCES DAM PERMIT. THE CITY WILL OBTAIN AN APPROVED BEST MANAGEMENT PLAN FROM SUMMIT COUNTY. THE CITY WILL OBTAIN AN UNITED STATES ARMY CORPS PERMIT. COORDINATION WITH THE OHIO HISTORICAL PRESERVATION OFFICE WILL BE HANDLED BY THE CITY.
9. CONTRACTOR TO PROVIDE ALL PROPOSED MATERIALS SPECIFICATIONS TO THE CITY AND THE ENGINEER FOR APPROVAL.

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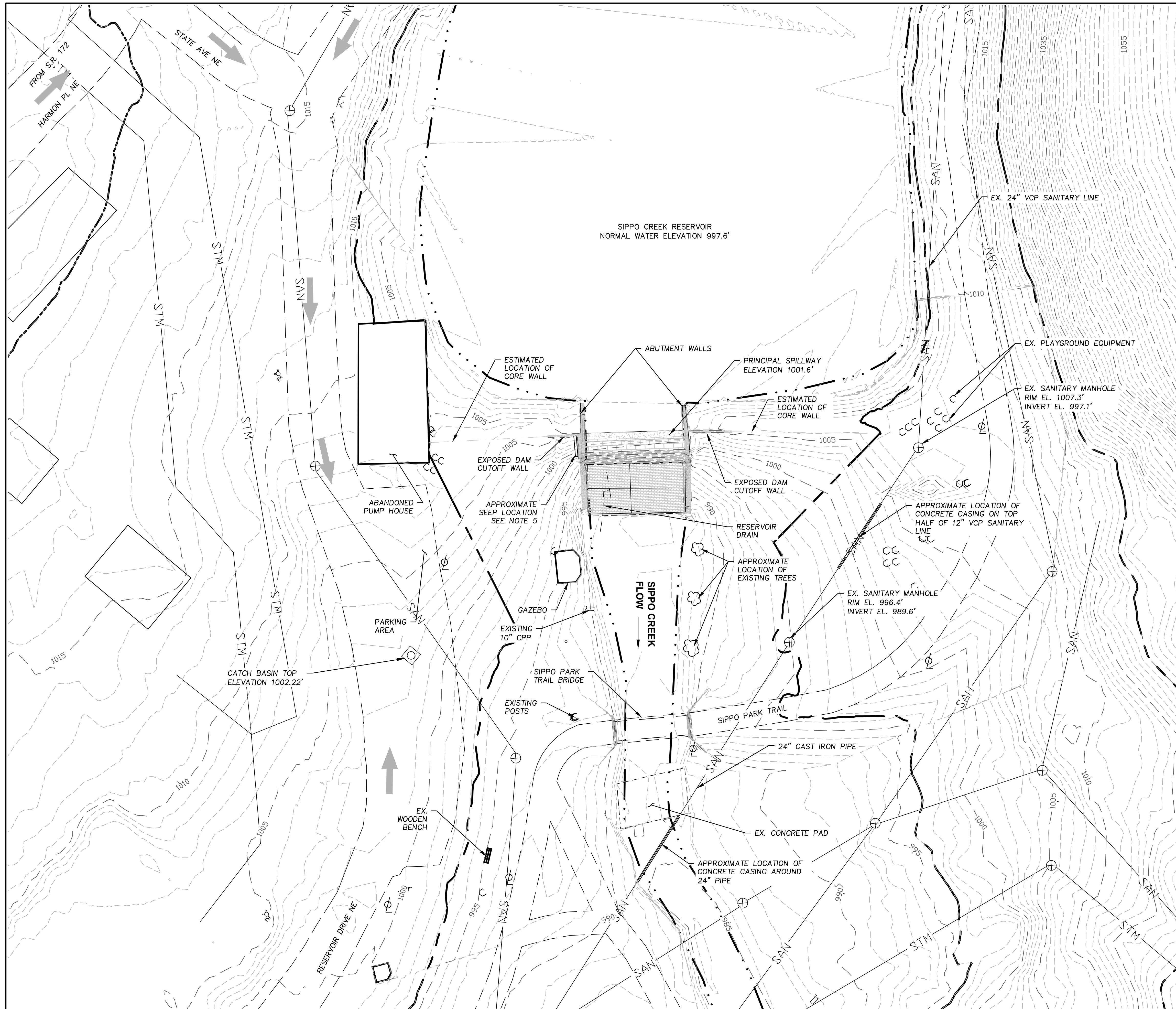
SIPPO CREEK RESERVOIR  
DAM LOWERING  
DESIGN DRAWINGS  
MASSILLON, STARK COUNTY, OH  
ODNR# 0614-012

GENERAL NOTES,  
LEGEND,  
AND ABBREVIATIONS

AECOM

SHEET 02



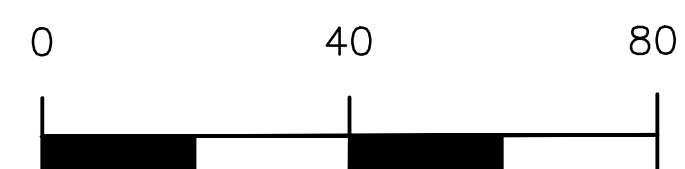
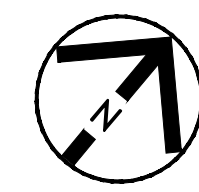


**GENERAL NOTES:**

- EXISTING TOPOGRAPHY WAS PROVIDED BY THE OHIO GEOGRAPHICALLY REFERENCED INFORMATION PROGRAM (OGRIP). THIS MAP WAS COMPILED USING A DIGITAL ELEVATION MODEL CREATED BY POINTS DEVELOPED FROM LIDAR (LIGHT DETECTION AND RANGING) METHODS, DATED 2007. HORIZONTAL CONTROL BASED ON OHIO STATE PLANE COORDINATE SYSTEM NAD 1983, NORTH ZONE, U.S. FOOT. VERTICAL DATUM BASED ON NAVD 1988.
- THE TOPOGRAPHY FROM OGRIP WAS SUPPLEMENTED WITH DATA FROM A GROUND SURVEY DONE BY AECOM DATED 09/15.
- MAP FEATURES WERE COMPILED FROM THE AFOREMENTIONED GROUND SURVEY AND FROM AERIAL PHOTOGRAPHY FROM OGRIP.
- UTILITY LOCATIONS WERE COMPILED FROM INFORMATION FROM THE CITY OF MASSILLON, DOMINION EAST OHIO, OHIO EDISON, AND AQUA OHIO.
- THE EXISTING SEEP ON THE RIGHT ABUTMENT IS TO BE EXCAVATED AND TO COMPETENT CLAY AND BACKFILLED WITH ENGINEERED CLAY FILL. AREA OF EXCAVATION TO HAVE TRM PLACED OVER IT AND THE TRM TO BE ANCHORED TO THE ADJACENT ABUTMENT AND CUTOFF WALL.

**LEGEND**

- - - - - EXISTING 1-FOOT CONTOUR
- - - - - EXISTING 5-FOOT CONTOUR
- · · · — NORMAL WATER SURFACE ELEVATION
- — — — 100 YEAR STORM ELEVATION
- · · · — PROBABLE MAXIMUM FLOOD ELEVATION
- ➔ SITE ACCESS ROUTE
- EDGE OF PAVEMENT
- SANITARY SEWER
- STORM SEWER
- ⊕ EXISTING LIGHT POLE
- ⊕ EXISTING FIRE HYDRANT
- ⊕ EXISTING WOODEN POST

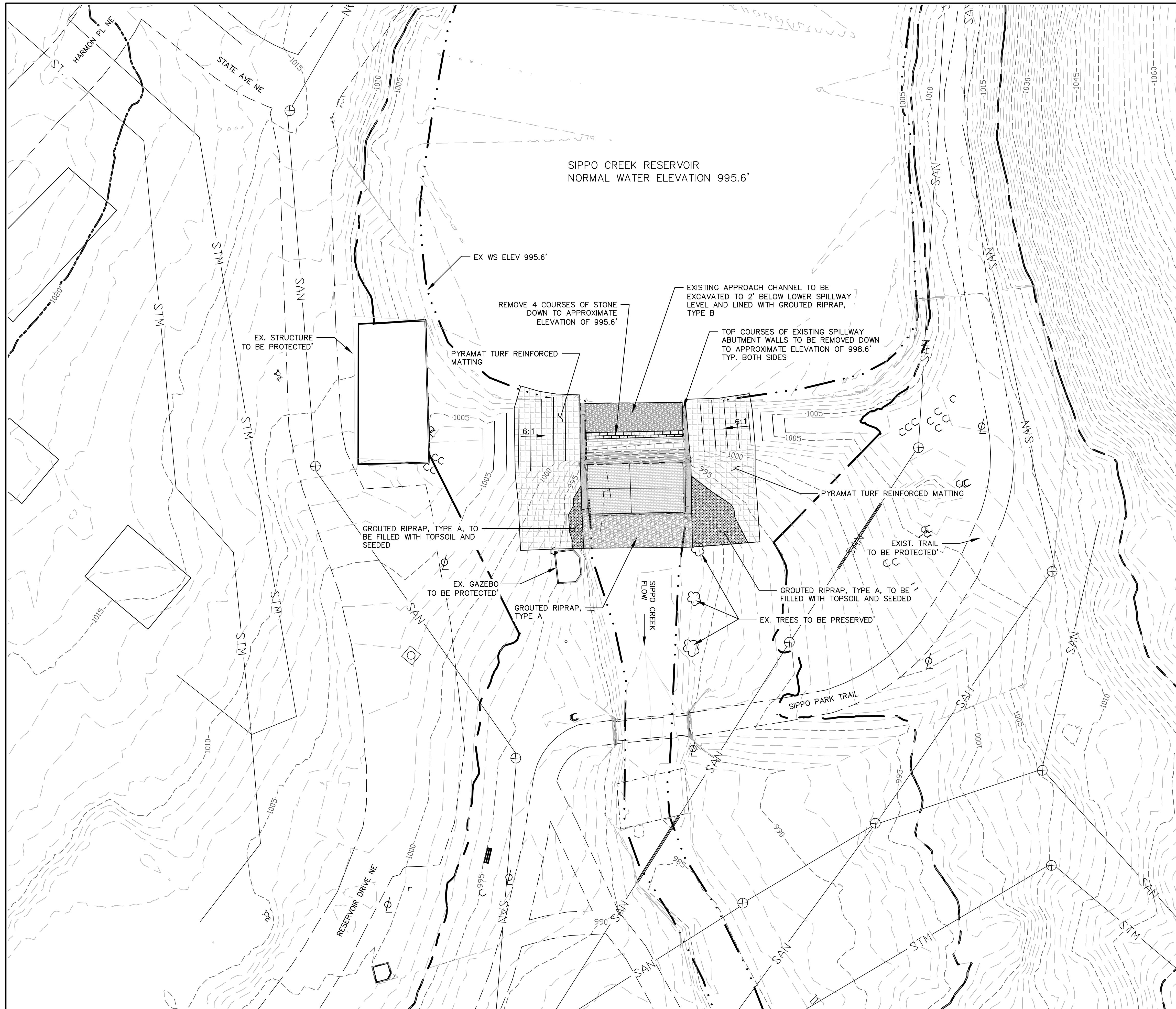


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SIPPO CREEK RESERVOIR DAM LOWERING DESIGN DRAWINGS MASSILLON, STARK COUNTY, OH ODNR# 0614-012					
<b>EXISTING CONDITIONS, UTILITIES, AND SURVEY CONTROL PLAN</b>					
<b>AECOM</b>					
<b>SHEET 03</b>					





**LEGEND**

- EXISTING 1-FOOT CONTOUR
- - - EXISTING 5-FOOT CONTOUR
- · — · — NORMAL WATER SURFACE ELEVATION
- · — · — 100 YEAR STORM ELEVATION
- · — · — PROBABLE MAXIMUM FLOOD ELEVATION
- · — · — EDGE OF PAVEMENT
- · — · — SANITARY SEWER
- · — · — STORM SEWER
- ⊕ EXISTING LIGHT POLE
- ⊕ EXISTING FIRE HYDRANT
- ⊕ EXISTING WOODEN POST

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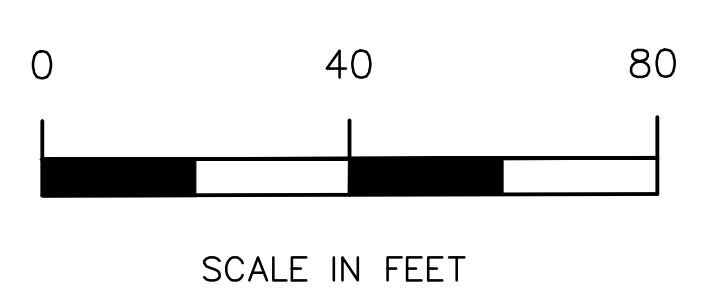
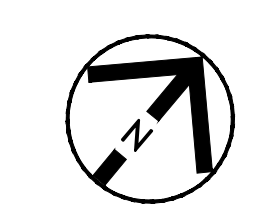
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SIPPO CREEK RESERVOIR  
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 DESIGN DRAWINGS  
 MASSILLON, STARK COUNTY, OH  
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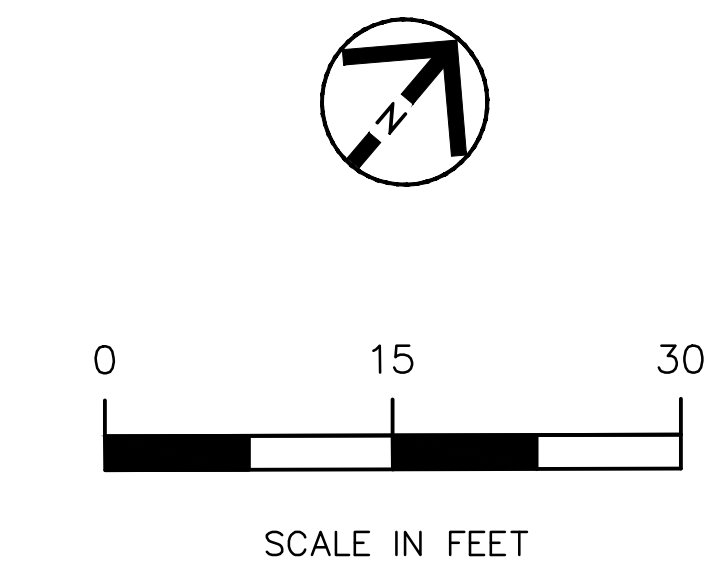
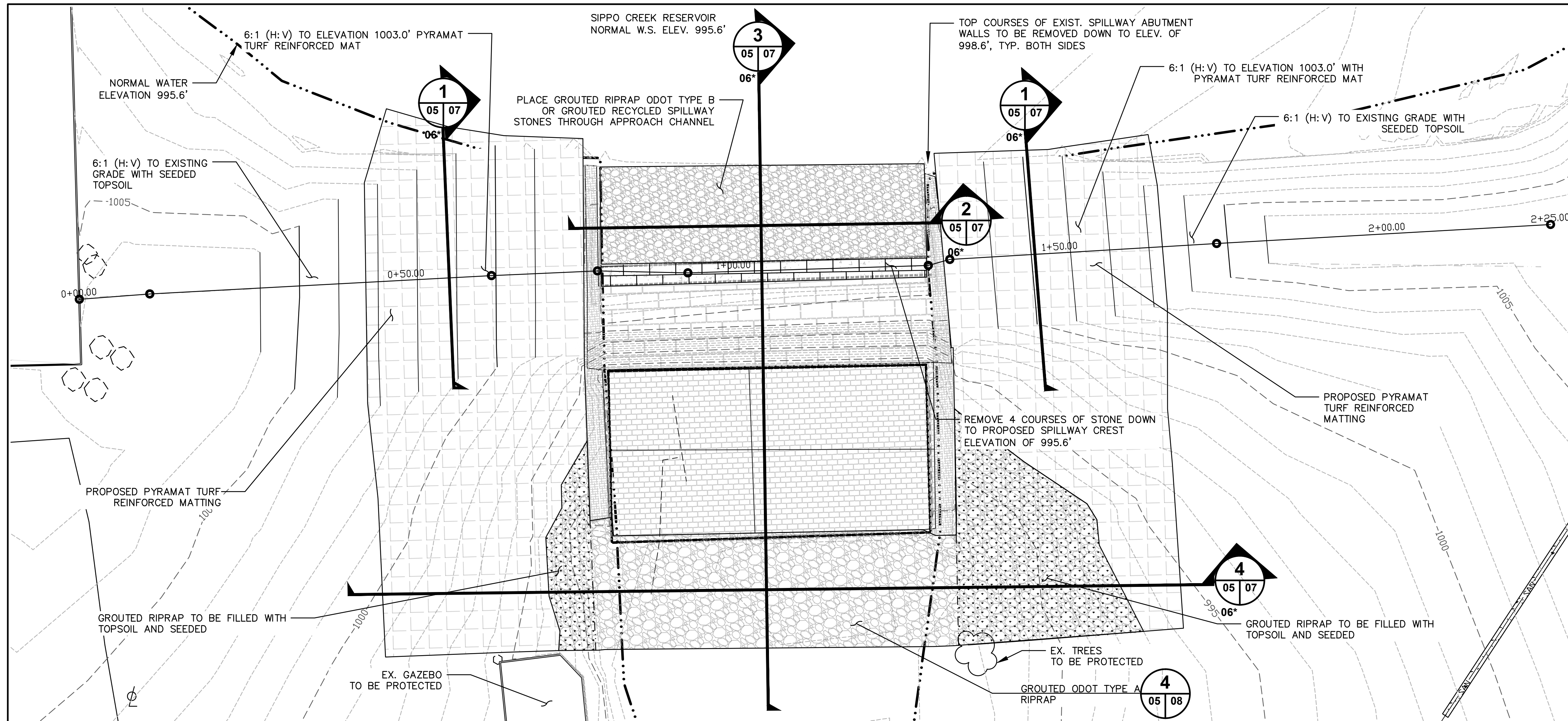
**PROPOSED  
 CONDITIONS PLAN**

**AECOM**  
 SHEET 04

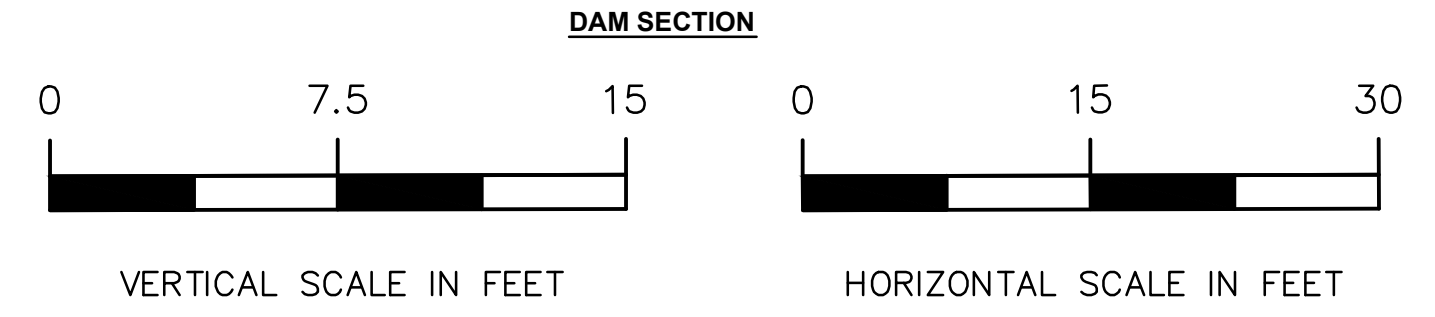
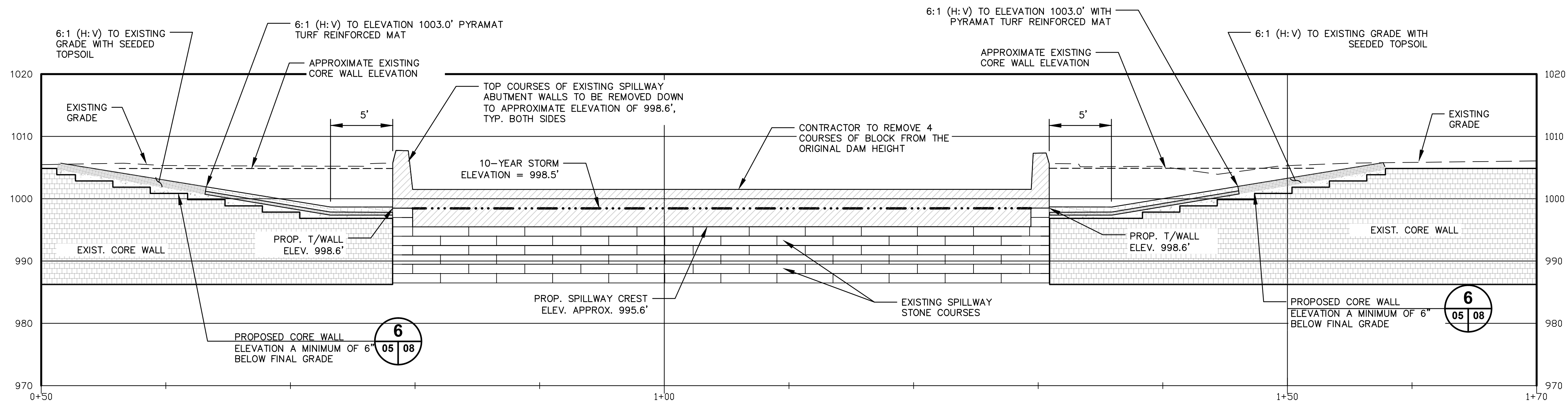


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- NOTES:**
1. EACH BLOCK IS ESTIMATED TO WEIGH APPROXIMATELY 4500 LBS.
  2. STRIP THE TOPSOIL OFF THE CREST AND STOCKPILE FOR SEEDING.
  3. USE THE REMOVED INLET STONES TO PROTECT THE PROPOSED INLET AS FEASIBLE AND PROVIDE ADDITION D50=12" RIPRAP AS NEEDED.
  4. LOWER THE LAKE TO A MAXIMUM ELEVATION OF 994.0' PRIOR TO CONSTRUCTION. LAKE MAY BE LOWERED FURTHER AS CONSTRUCTION REQUIRES.
  5. SPILLWAY ABUTMENT WALLS TO BE REMOVED AS DIRECTED AND CORE WALL TO BE REMOVED TO CONFORM TO PROPOSED GRADE.
  6. SEE SHEET 06 FOR A DETAILED LAYOUT PLAN FOR TRM INSTALLATION.



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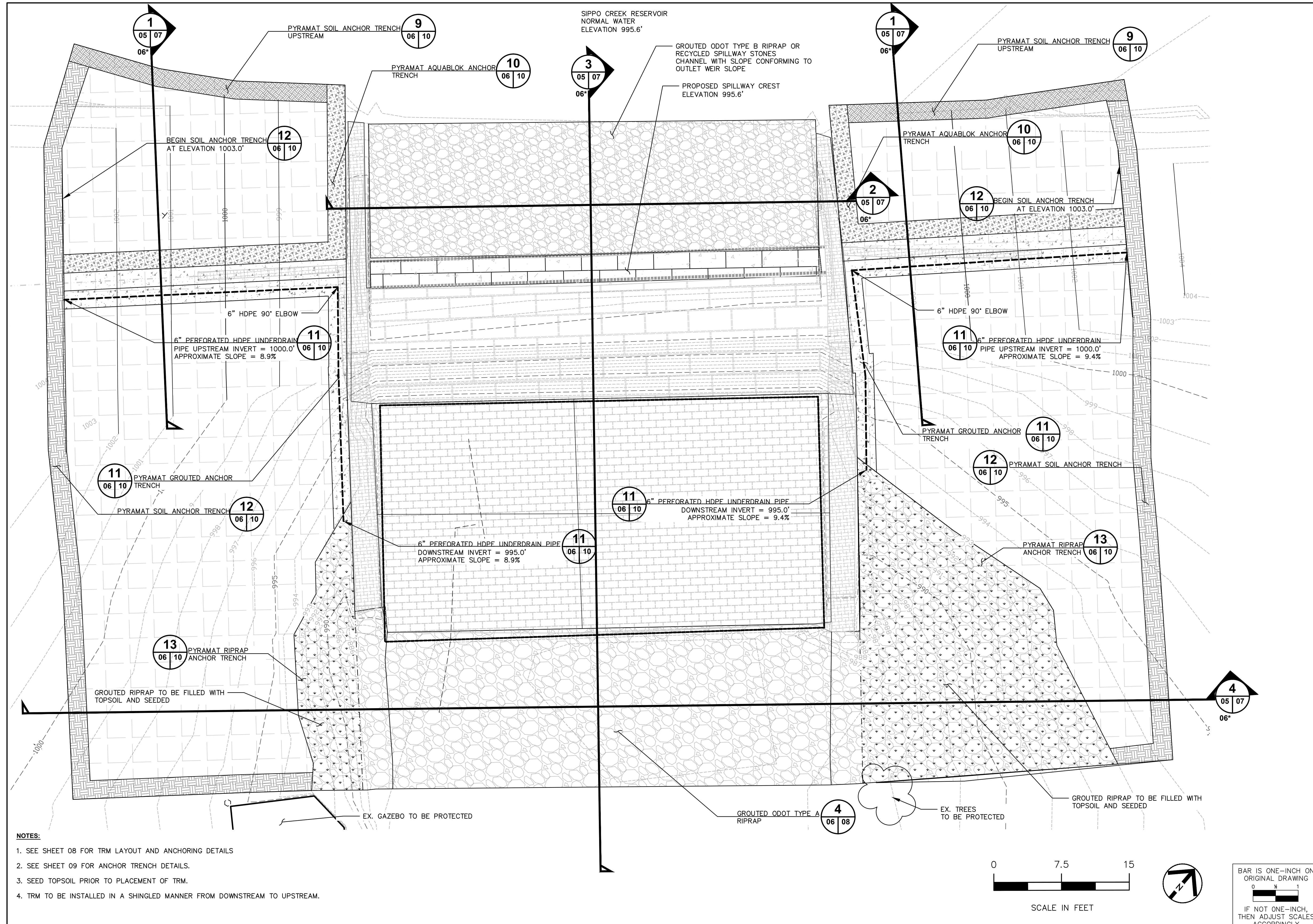
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 DESIGN DRAWINGS  
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 ODNR# 0614-012

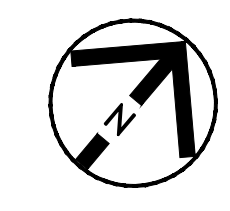
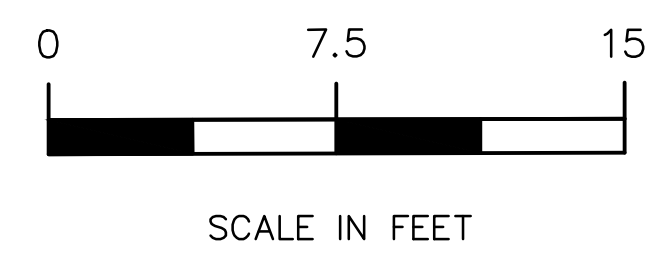
PROPOSED  
 PLAN AND DAM SECTION

**AECOM**  
 SHEET 05





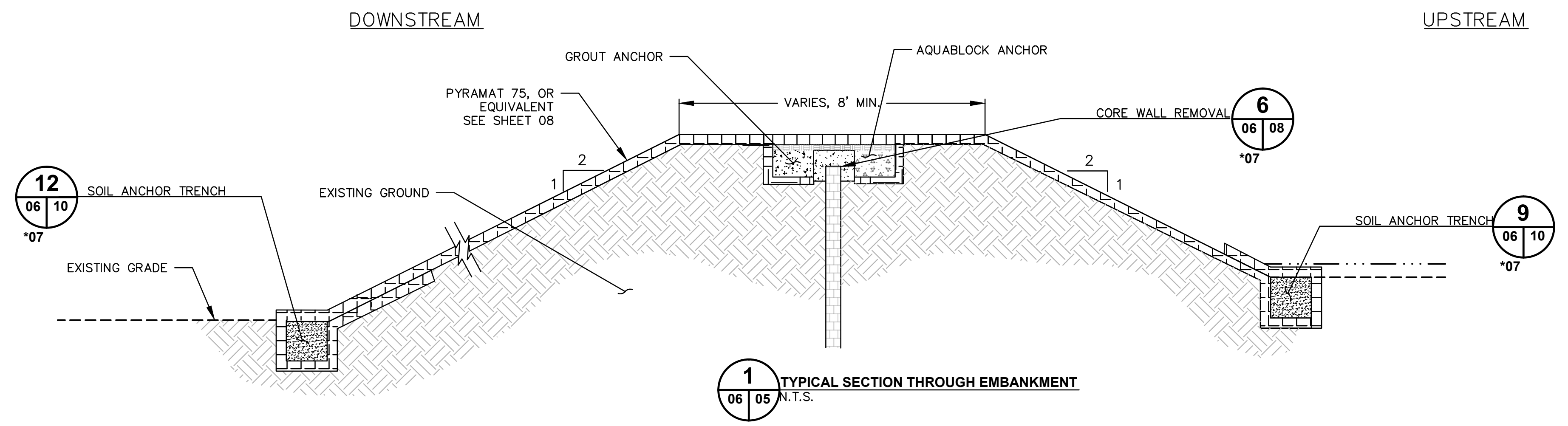
- NOTES:**
1. SEE SHEET 08 FOR TRM LAYOUT AND ANCHORING DETAILS
  2. SEE SHEET 09 FOR ANCHOR TRENCH DETAILS.
  3. SEED TOPSOIL PRIOR TO PLACEMENT OF TRM.
  4. TRM TO BE INSTALLED IN A SHINGLED MANNER FROM DOWNSTREAM TO UPSTREAM.



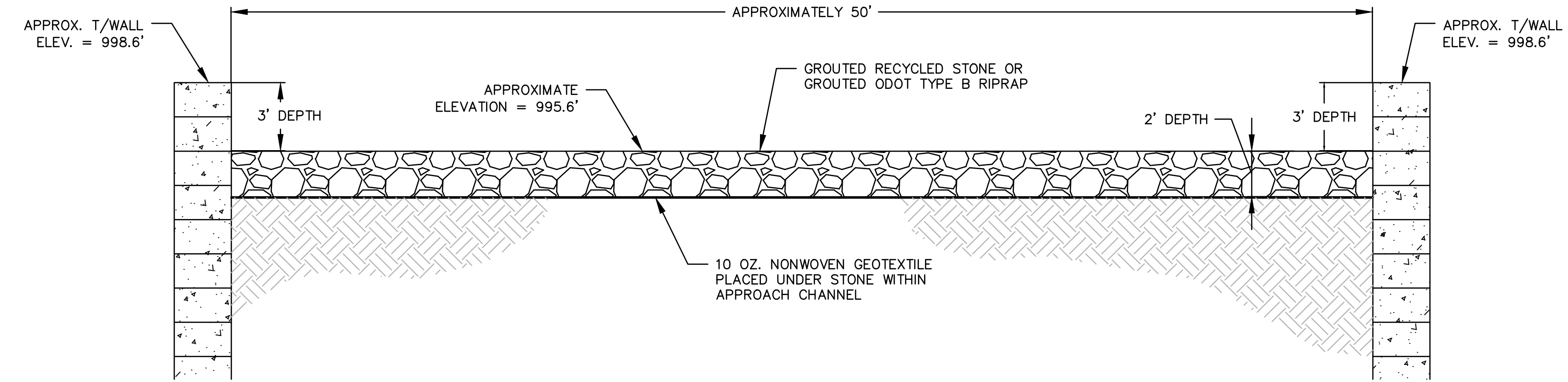
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<b>TRM INSTALLATION PLAN</b>			
<b>AECOM</b>			
<b>SHEET 06</b>			

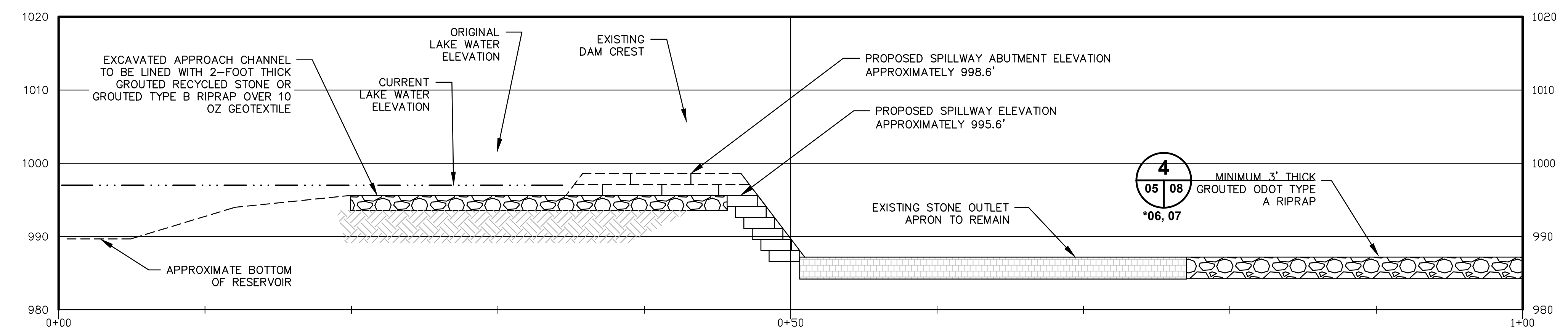




**1**  
06 | 05  
N.T.S.  
TYPICAL SECTION THROUGH EMBANKMENT



**2**  
05 | 06  
N.T.S.  
TYPICAL SECTION THROUGH SPILLWAY CHANNEL



**3**  
05 | 06  
N.T.S.  
TYPICAL SECTION ALONG SPILLWAY CHANNEL

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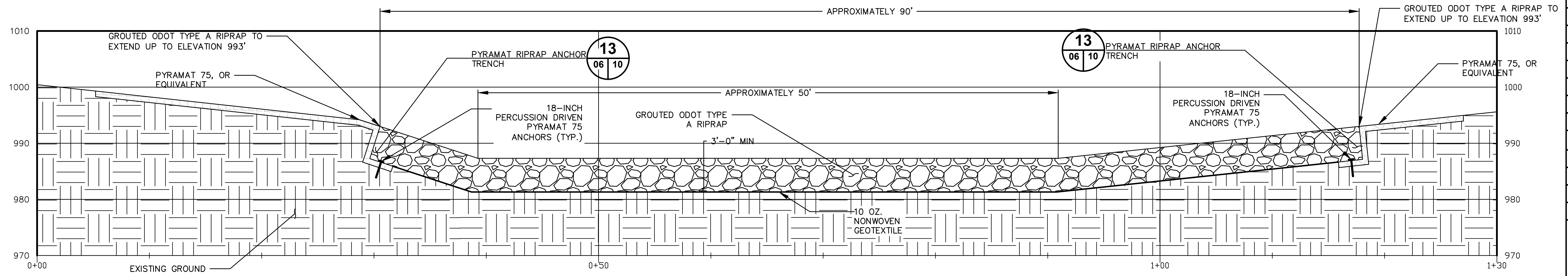
SIPPO CREEK RESERVOIR  
DAM LOWERING  
DESIGN DRAWINGS  
MASSILLON, STARK COUNTY, OH  
ODNR# 0614-012

SECTION I

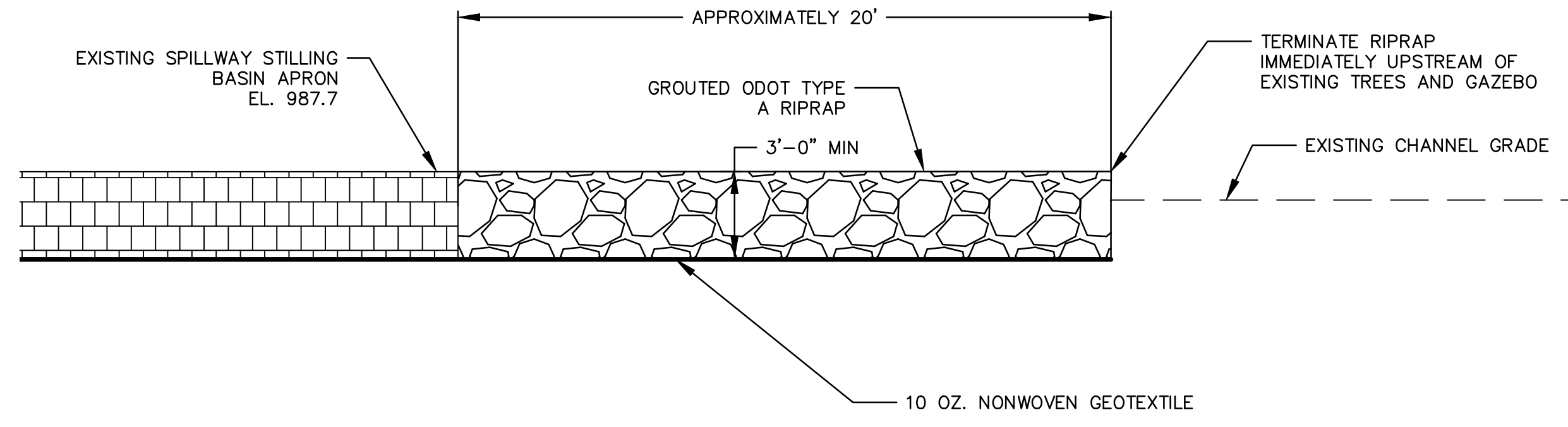
**AECOM**

SHEET 07

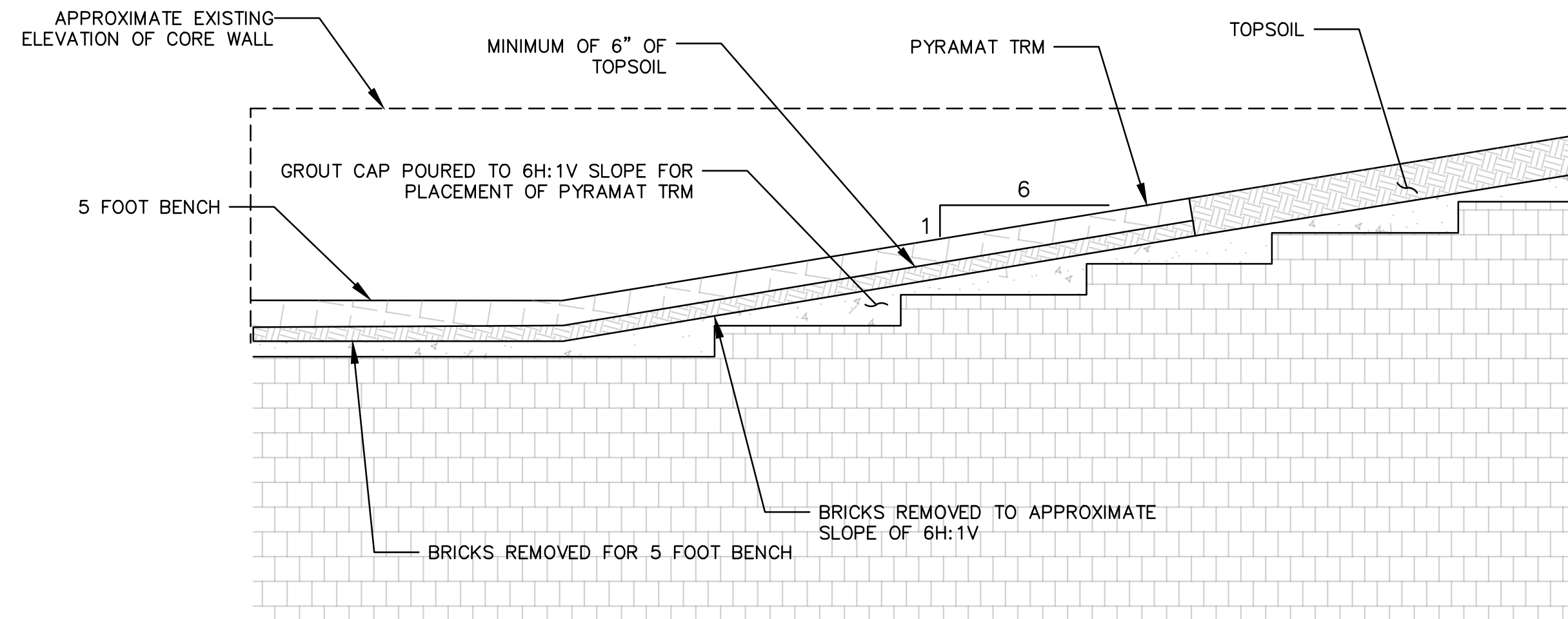




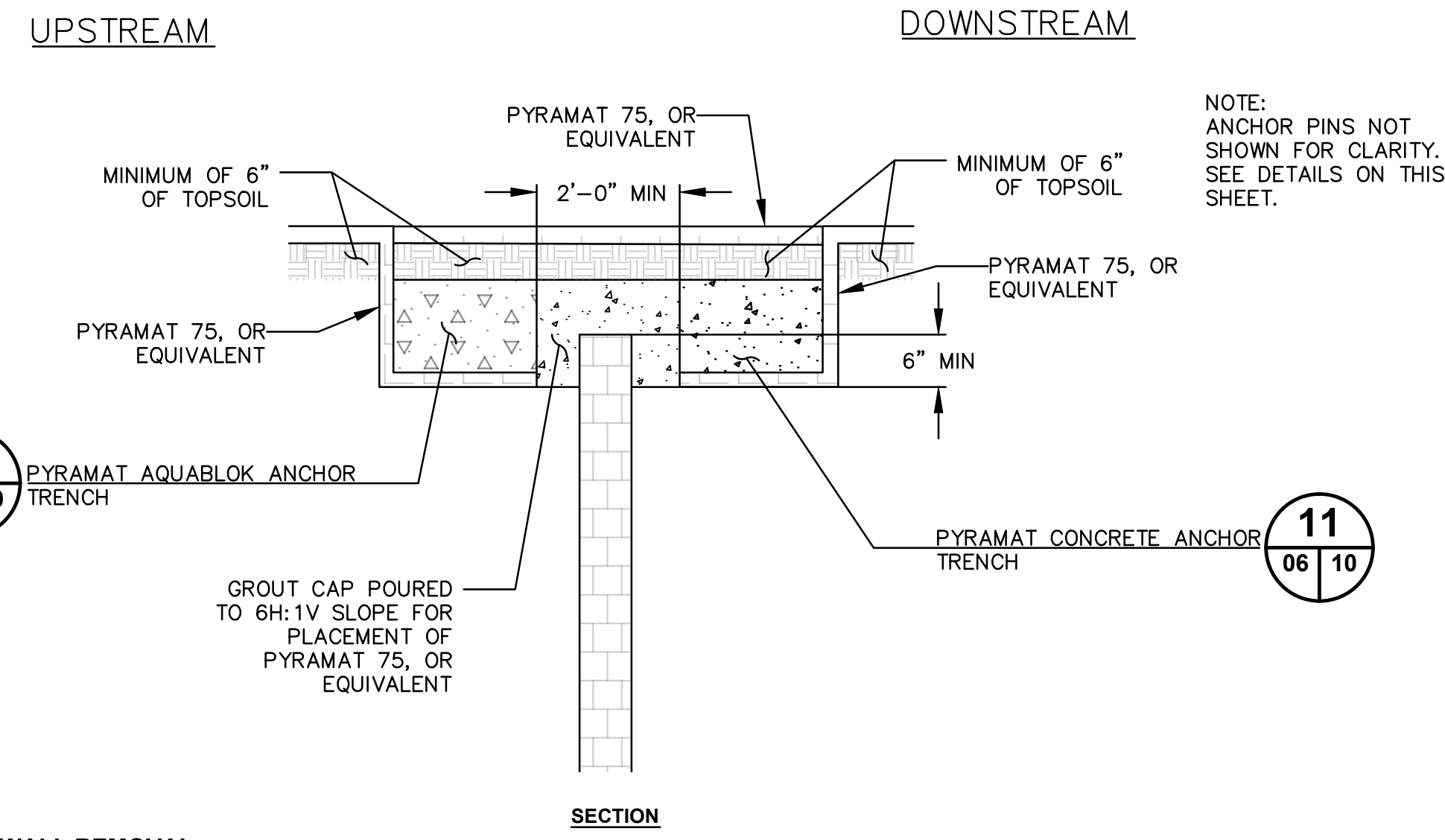
**4**  
05 | 08  
06\*  
**ODOT TYPE A RIPRAP SECTION**  
N.T.S.



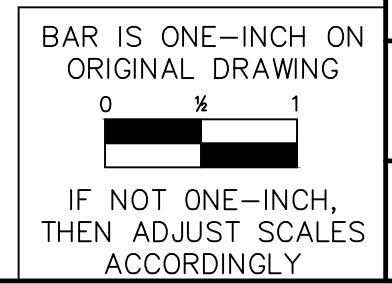
**5**  
05 | 08  
06\*  
**ODOT TYPE A RIPRAP PROFILE**  
N.T.S.



**6**  
05 | 08  
N.T.S.  
**CORE WALL REMOVAL**

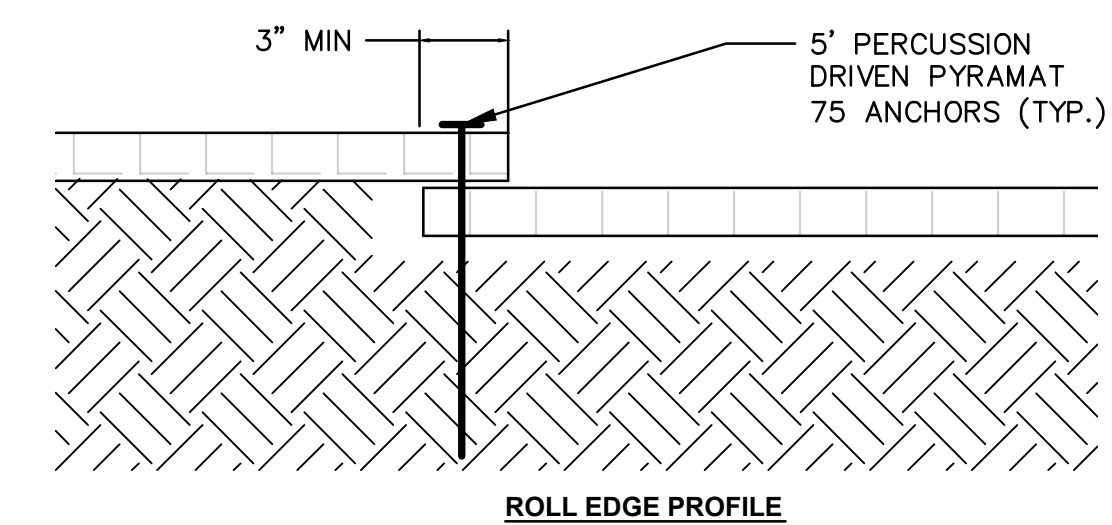
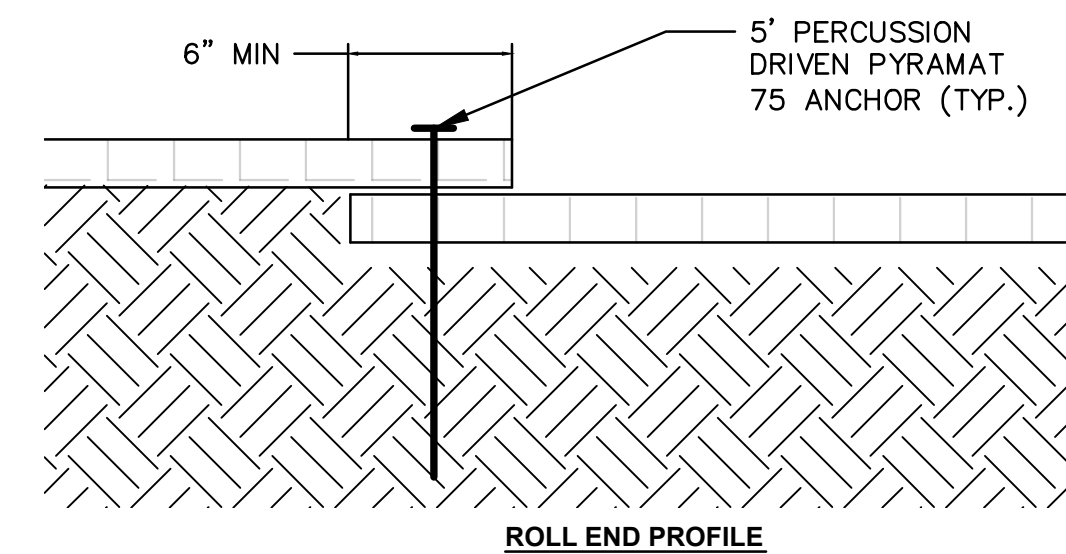
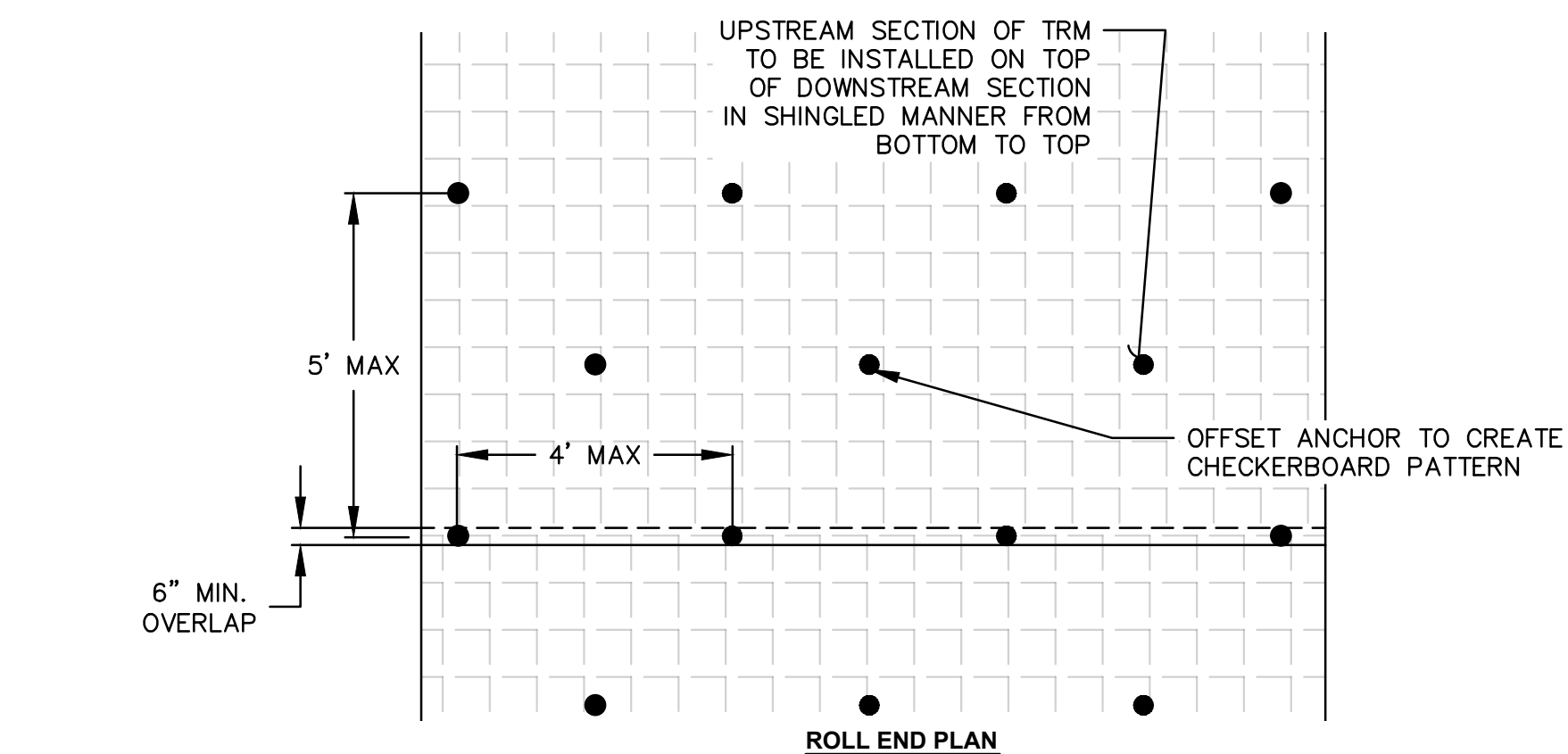
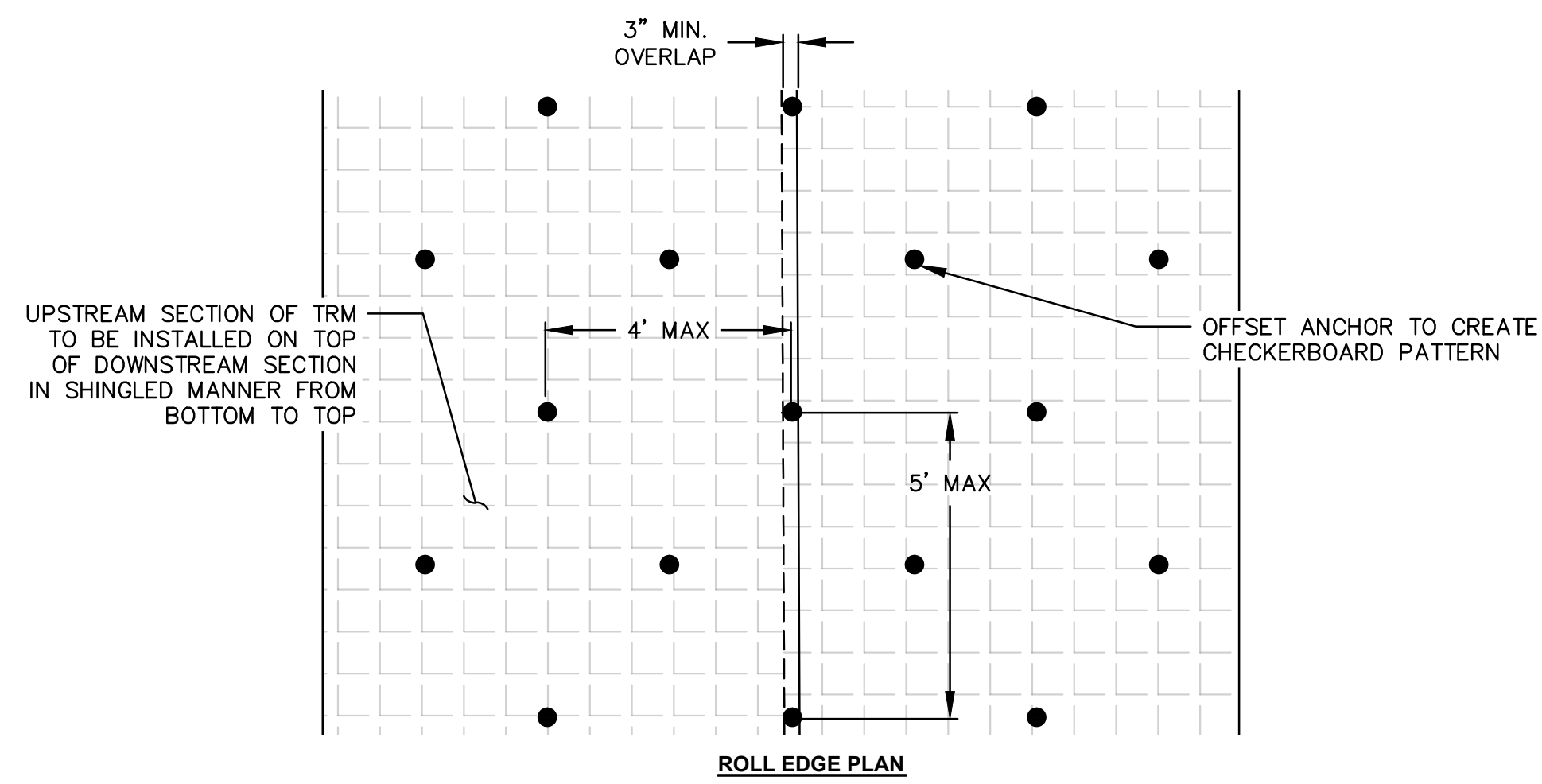


NOTE:  
ANCHOR PINS NOT SHOWN FOR CLARITY. SEE DETAILS ON THIS SHEET.

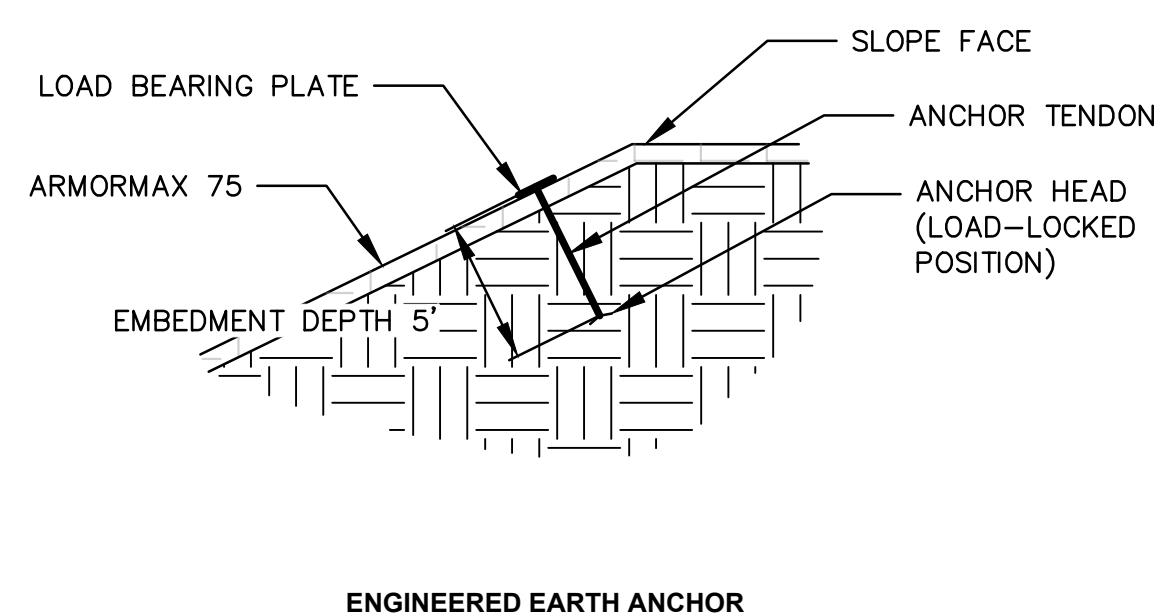
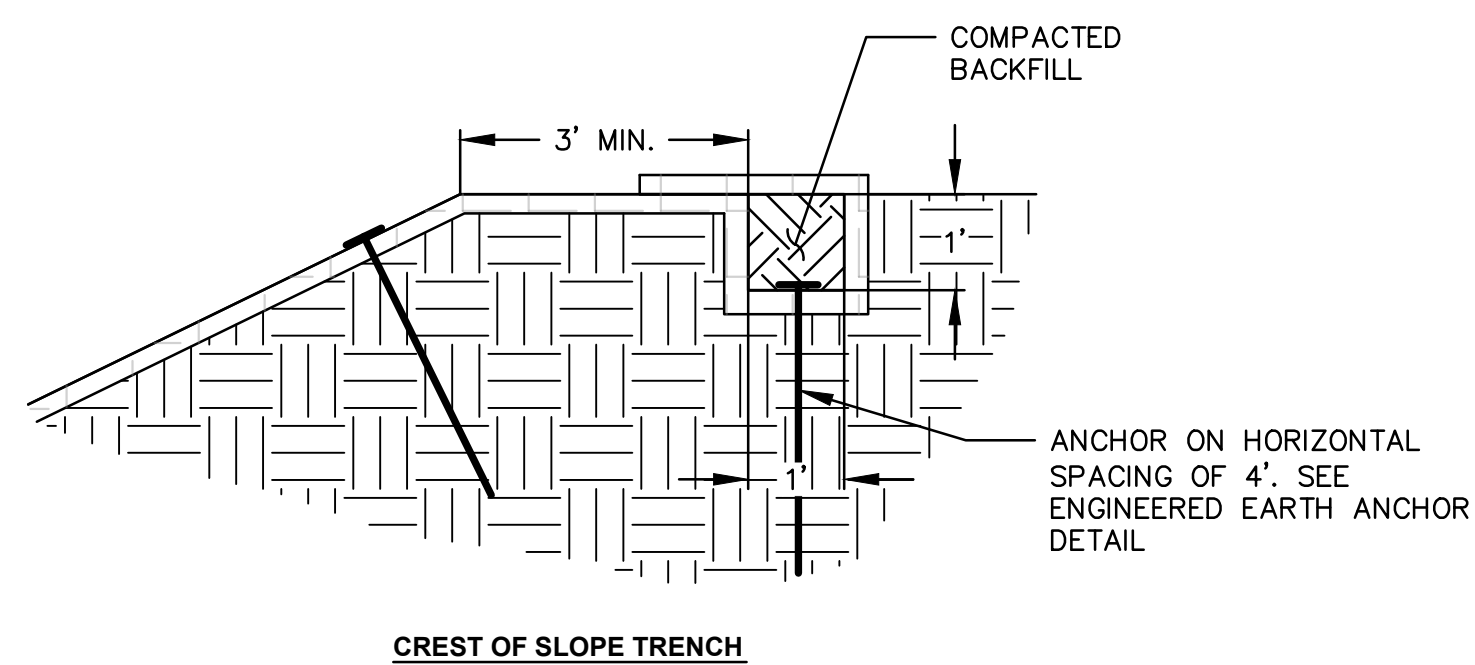


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<b>SECTIONS II &amp; CIVIL DETAILS</b>			
<b>AECOM</b>			
<b>SHEET 08</b>			





**7** PYRAMAT ANCHORING  
06 | 08 N.T.S.



**8** ANCHOR DETAILS  
06 | 08 N.T.S.

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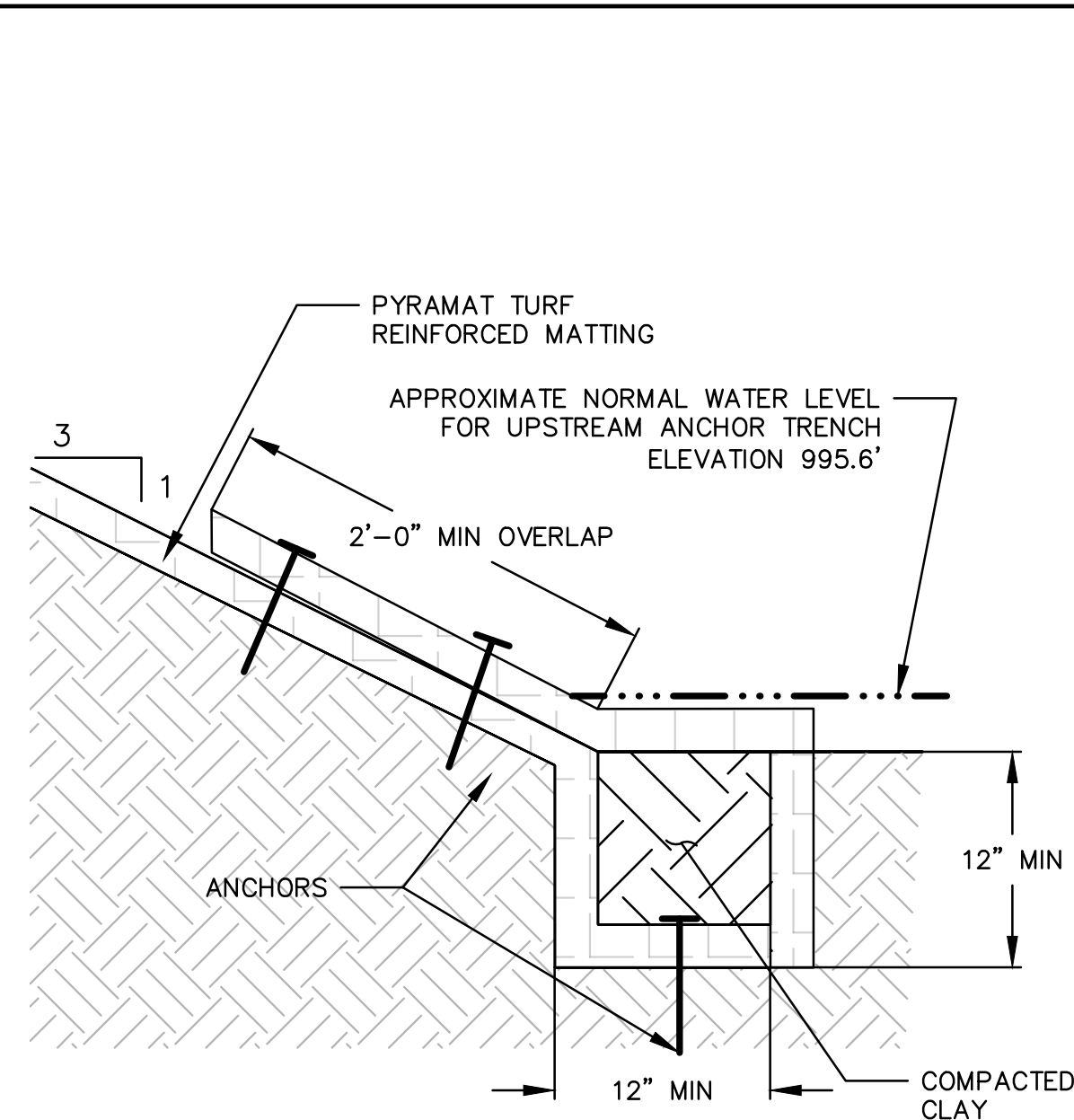
ANCHOR DETAILS I

**AECOM**

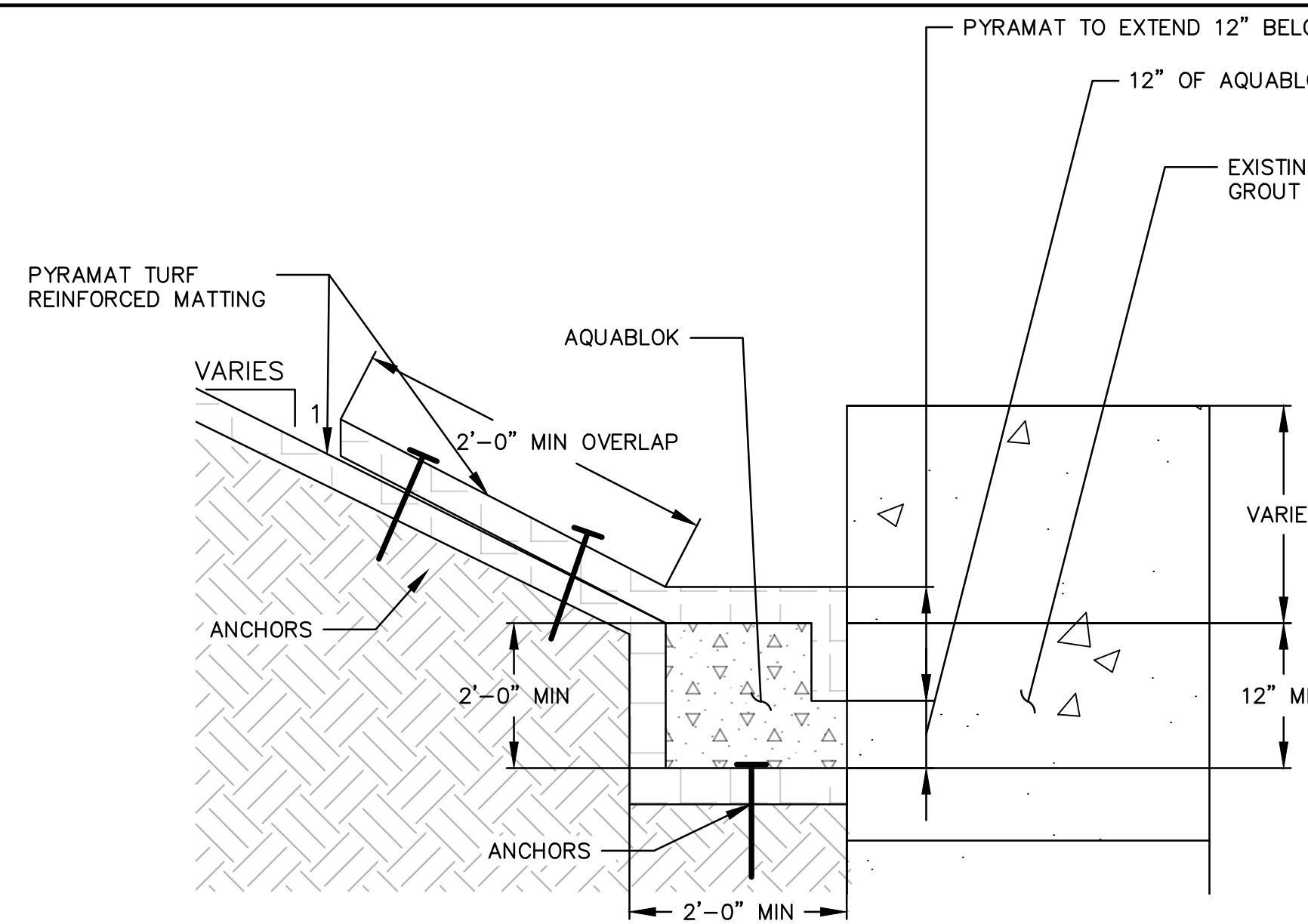
SHEET 09

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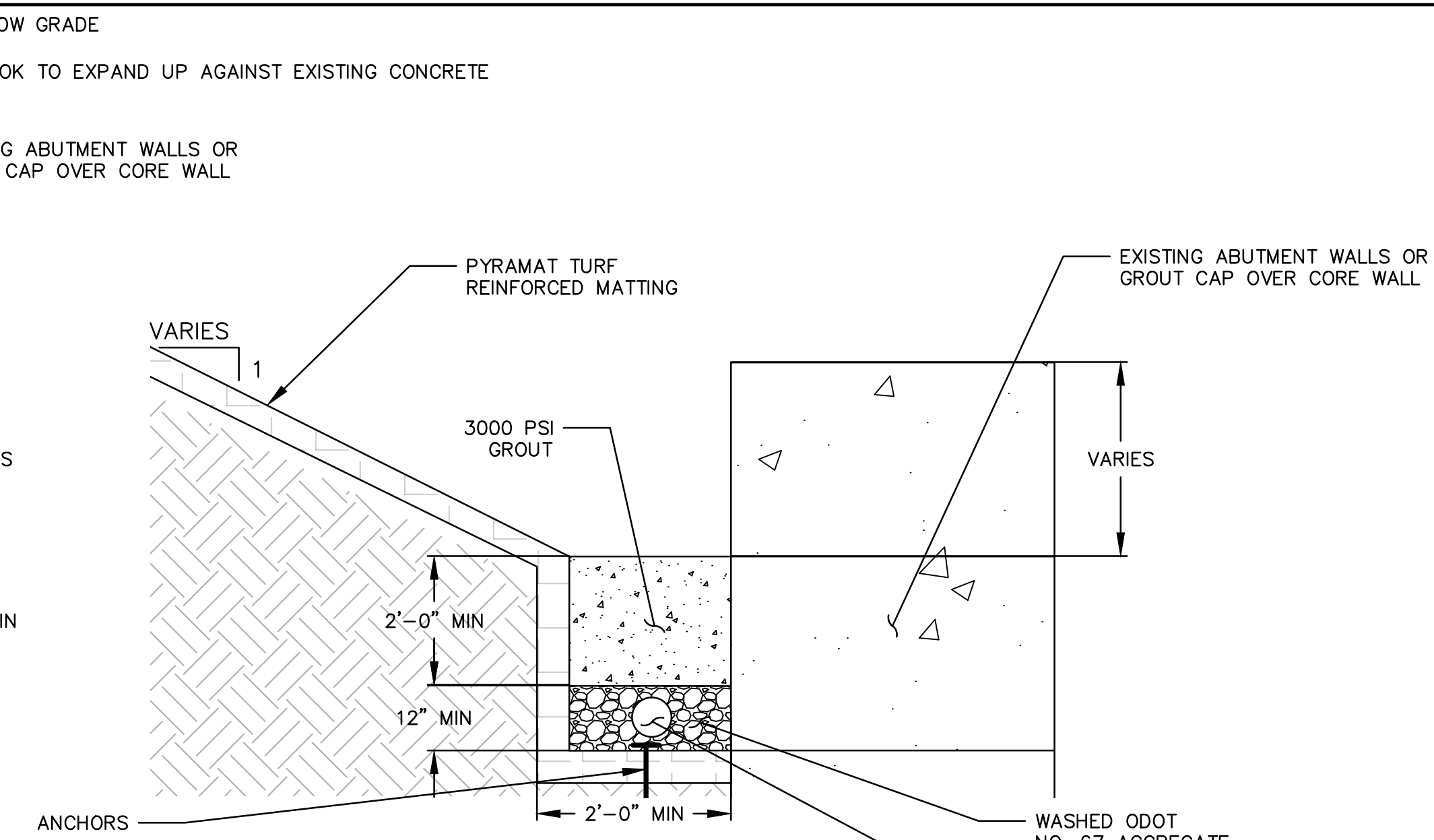




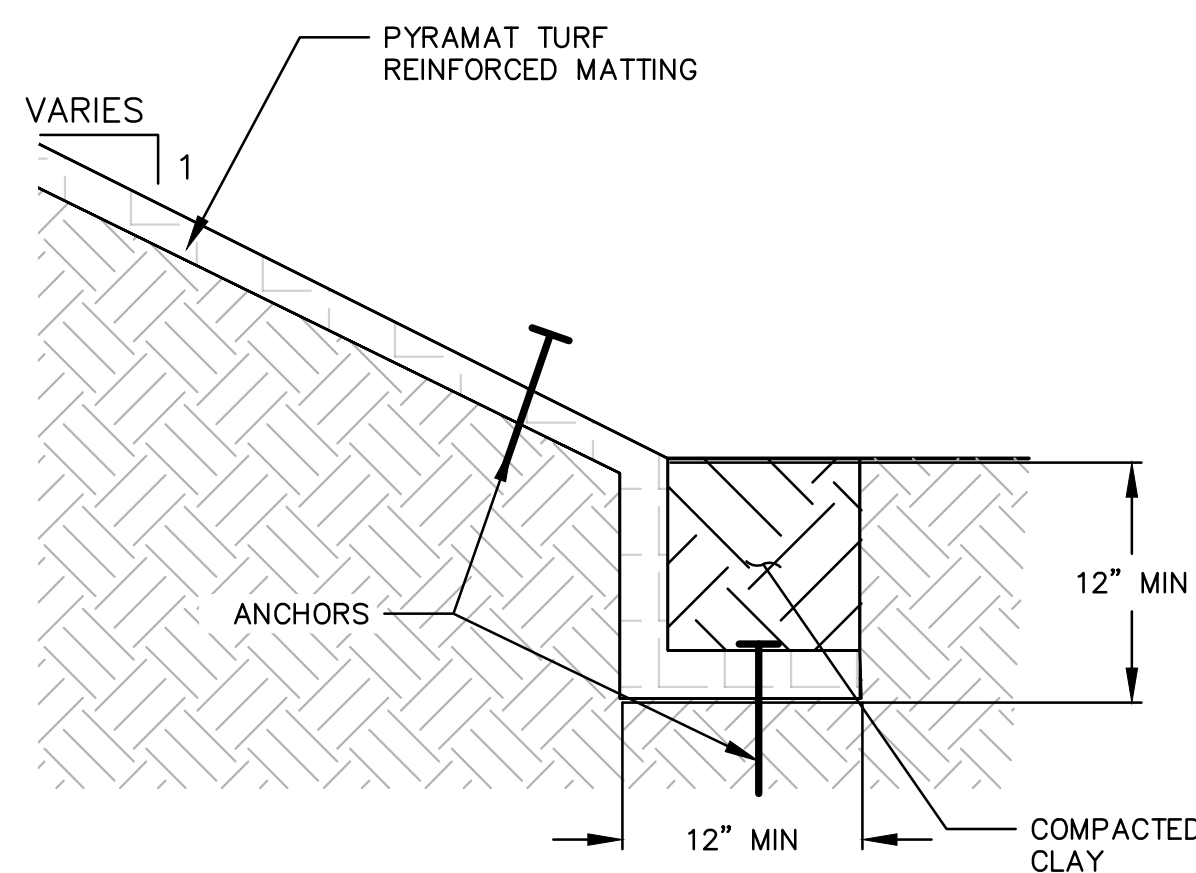
**9** PYRAMAT SOIL ANCHOR TRENCH UPSTREAM  
06 | 10 N.T.S.  
07\*



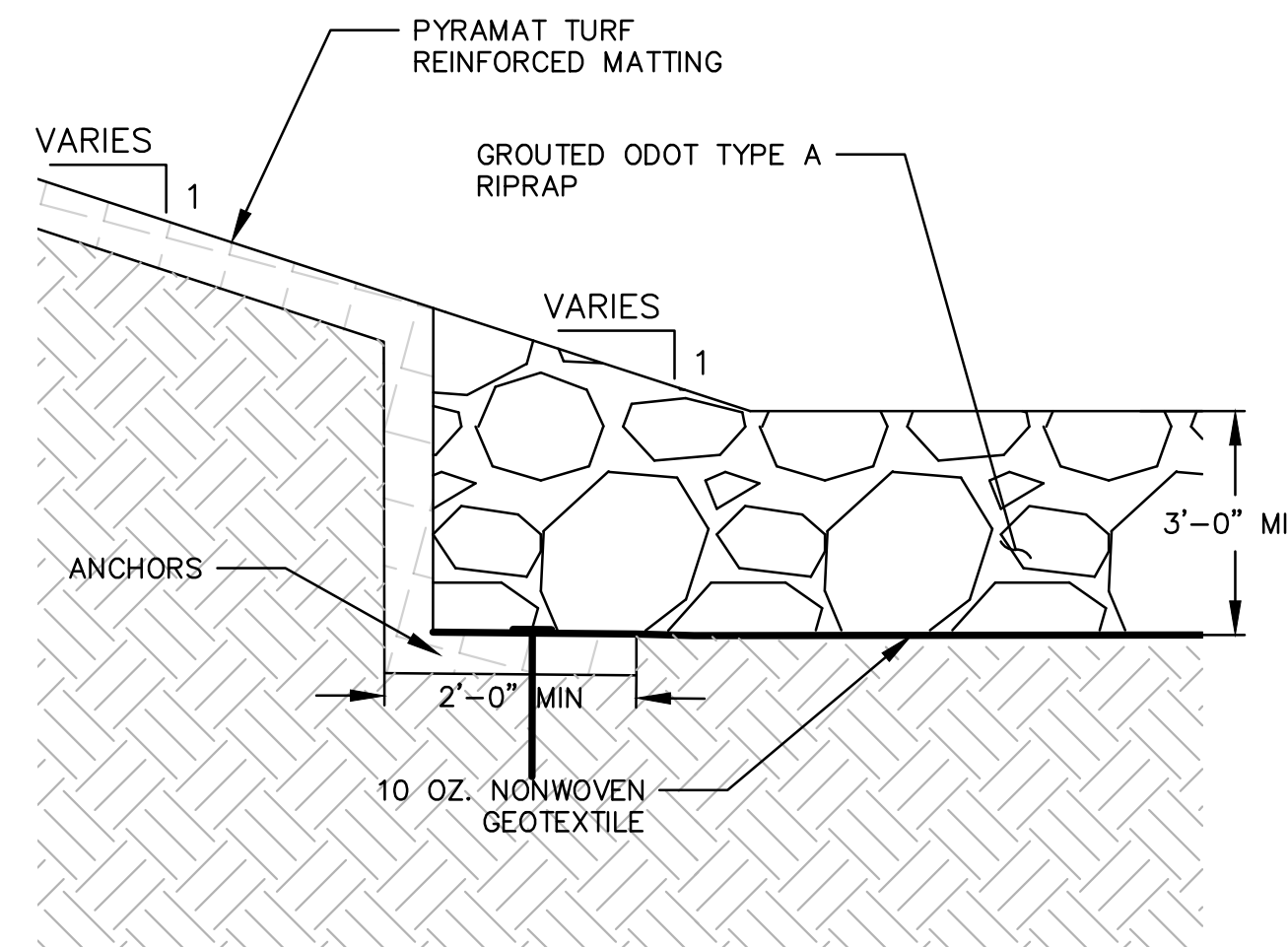
**10** PYRAMAT AQUABLOK ANCHOR TRENCH  
06 | 10 N.T.S.  
08\*



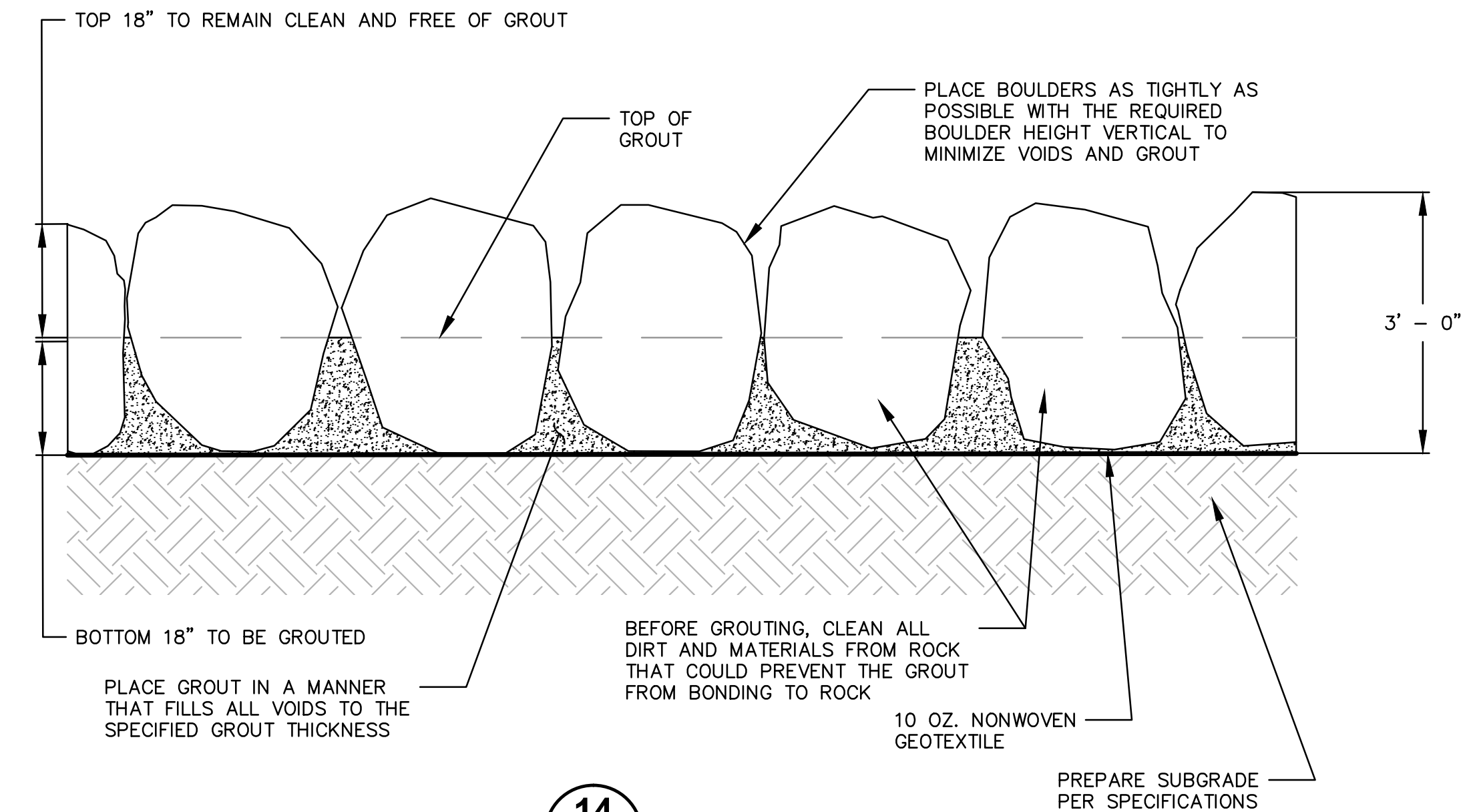
**11** PYRAMAT GROUTED ANCHOR TRENCH  
06 | 10 N.T.S.



**12** PYRAMAT SOIL ANCHOR TRENCH  
06 | 10 N.T.S.



**13** PYRAMAT RIPRAP ANCHOR TRENCH  
06 | 10 N.T.S.  
08\*



**14** RIPRAP GROUTING  
06 | 10 N.T.S.

GROUTING/MORTAR NOTES:

- CLEAN BOULDERS BY BRUSHING AND WASHING BEFORE GROUTING.
- GROUT SHALL BE DELIVERED BY MEANS OF A LOW PRESSURE (LESS THAN 10 PSI) GROUT PUMP USING A 2-INCH NOZZLE.
- FULL DEPTH PENETRATION OF THE GROUT INTO THE BOULDER VOIDS SHALL BE ACHIEVED BY INJECTING GROUT STARTING WITH THE NOZZLE NEAR THE BOTTOM AND RAISING IT AS GROUT FILLS, WHILE VIBRATING GROUT INTO PLACE WITH A PENCIL VIBRATOR.
- GROUT SHALL HAVE A SLUMP OF NO MORE THAN 6-INCHES. GROUT SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 2500 PSI WHEN TESTED IN ACCORDANCE WITH ASTM C-31 AND C-39, OR A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3200 PSI WHEN TESTED IN ACCORDANCE WITH ASTM C-31. THIS GROUT SHALL ALSO BE USED FOR CONSTRUCTION OF THE UPSTREAM ANCHOR TRENCH AND ALL GROUTED RIPRAP. AIR ENTRAINMENT SHALL BE 5.5% TO 7.5%.
- ONE CUBIC YARD OF GROUT SHALL HAVE A MINIMUM OF SIX (6) SACKS OF TYPE II PORTLAND CEMENT.
- PREMIXED MORTAR OR GROUT SHALL BE A COMPLETE PACKAGED MIXTURE TO WHICH WATER IS TO BE ADDED AT THE JOB SITE. MORTAR AND GROUT SHALL BE NON-SHRINK, NON-STRAINING. PREMIXED MORTAR OR GROUT SHALL BE STORED AND HANDLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- WATER SHALL BE ADDED TO PREMIXED MORTAR OR GROUT IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS TO PREPARE A STIFF OR PLASTIC MIX, DEPENDING ON WORKABILITY NEEDED FOR APPLICATION.
- USE FINE AGGREGATE: SAND, PER ODOT 703.03 FINE AGGREGATE FOR MORTAR OR GROUT. USE NO ADMIXTURES CONTAINING CALCIUM CHLORIDE. AGGREGATE SHALL BE COMPRISED OF 70% NATURAL SAND (FINES) AND 30% 3/8-INCH ROCK (COURSE).

- WATERPROOFING COMPOUNDS, ACCELERATORS, RETARDERS OR OTHER ADMIXTURES SHALL NOT BE USED IN MORTAR OR GROUT WITHOUT THE APPROVAL OF THE ENGINEER.
- NON-SHRINK MORTAR SHALL BE THOROUGHLY COMPACTED INTO ALL VOIDS, HOLES, HONEYCOMBS, OR OTHER DEFECTS IN THE FINISH SURFACE OF CONCRETE. THE MORTAR SHALL BE FLUSH WITH THE SURROUNDING CONCRETE AND MATCHING IN COLOR AND TEXTURE.
- FOR JOB MIXED MORTAR OR GROUT, A MIXTURE OF CEMENT, AGGREGATE, WATER AND ADMIXTURES, IF REQUIRED, SHALL BE COMBINED IN PROPORTIONS MEETING THE REQUIREMENTS OF ODOT 705.20, 705.21, AND 705.22 TO PRODUCE MORTAR OR GROUT FOR THE USE INDICATED ON THE DRAWINGS.
- THE MINIMUM MIXING TIME SHALL BE FIVE (5) MINUTES. THE CONSISTENCY OF MORTAR SHALL BE ADJUSTED TO PROVIDE THE BEST WORKABILITY. IF THE MORTAR BEGINS TO STIFFEN FROM EVAPORATION OR ABSORPTION OF A PART OF THE MIXING WATER, THE MORTAR SHALL BE RETEMPERED BY ADDING WATER AND REMIXING. THE CONSISTENCY OF THE GROUT SHALL BE SUCH THAT AT THE TIME OF PLACEMENT, IT WILL COMPLETELY FILL ALL SPACES INTENDED TO RECEIVE GROUT.
- TO CONTROL SHRINKAGE AND CRACKING, 1.5 POUNDS OF FIBERMESH, OR EQUIVALENT SHALL BE USED PER CUBIC YARD OF GROUT.
- ALL GROUT BETWEEN BOULDER SHALL BE TREATED WITH A BROOM FINISH.
- ALL FINISHED GROUT/MORTAR SURFACES SHALL BE SPRAYED WITH A CLEAR LIQUID MEMBRANE CURING COMPOUND AS SPECIFIED IN ASTM C-309.

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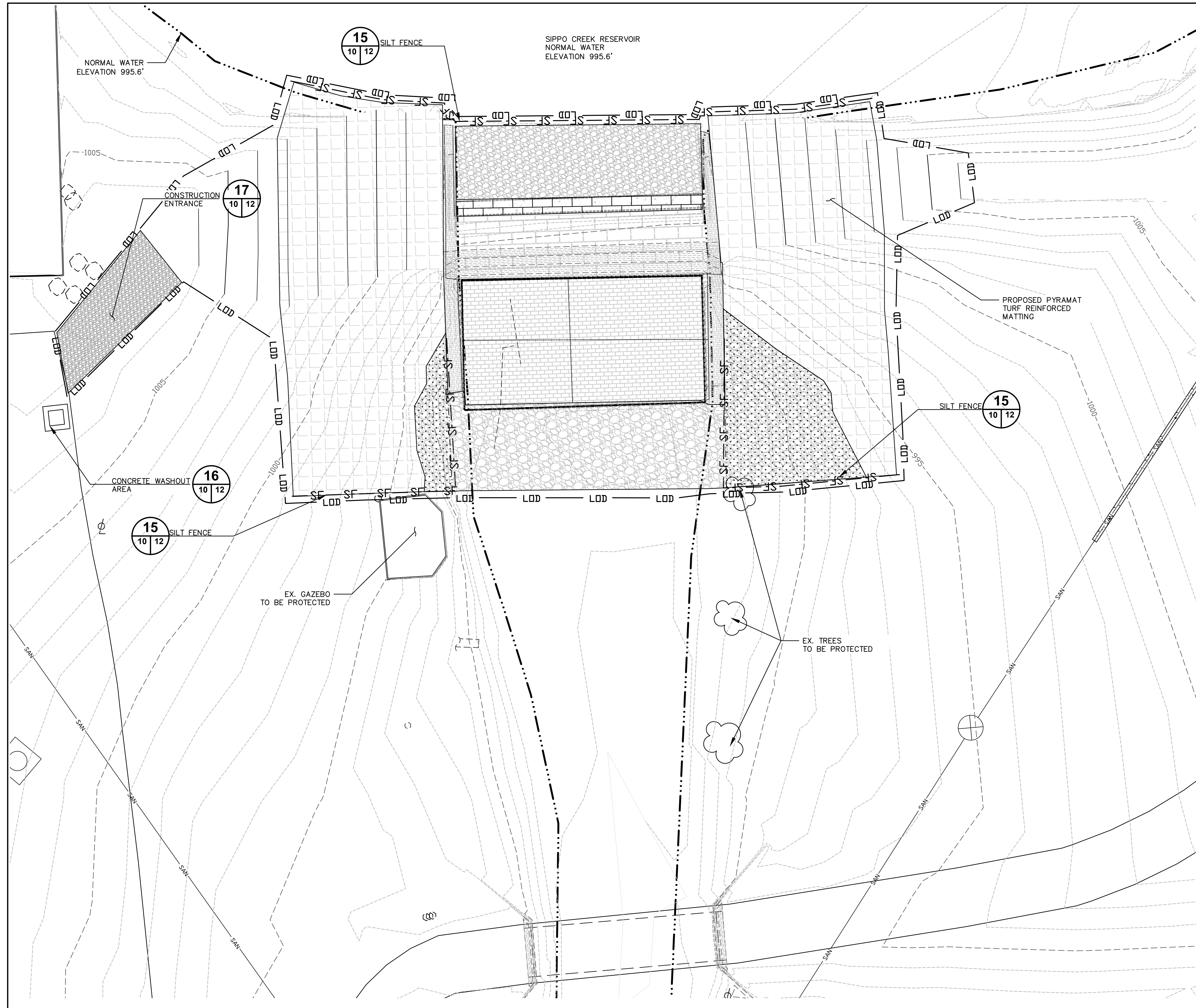
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DESIGN DRAWINGS  
MASSILLON, STARK COUNTY, OH  
ODNR# 0614-012

ANCHOR DETAILS II

AECOM

SHEET 10





**LEGEND**

- SF — SF — SILT FENCE
- LOD — LIMITS OF DISTURBANCE
- [Shaded Area] CONSTRUCTION ENTRANCE
- [Square] CONCRETE WASHOUT AREA

**NOTES:**

- LIMIT OF DISTURBANCE IS APPROXIMATELY EQUAL TO 0.2 ACRES
- SEE SHEET 11 FOR EROSION AND SEDIMENT CONTROL DETAILS.

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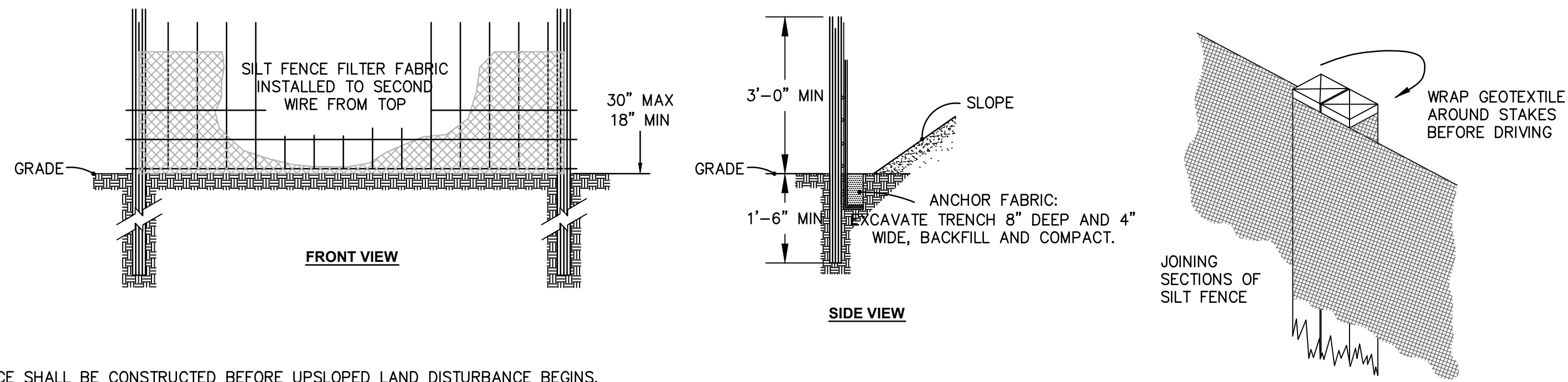
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 DAM LOWERING  
 DESIGN DRAWINGS  
 MASSILLON, STARK COUNTY, OH  
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**SEDIMENT AND EROSION  
CONTROL PLAN**



**SHEET 11**





**NOTES:**

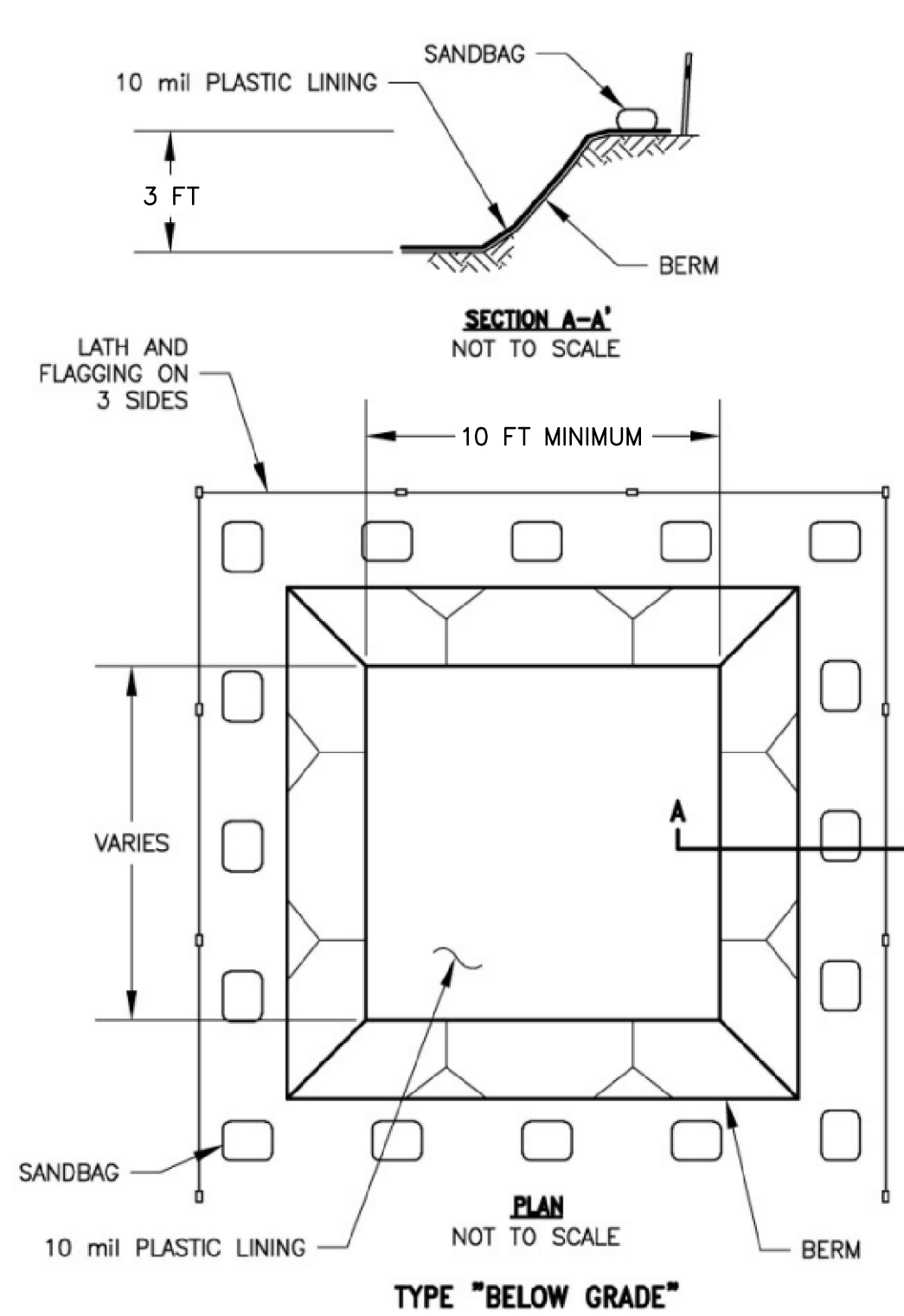
- SILT FENCE SHALL BE CONSTRUCTED BEFORE UPSLOPED LAND DISTURBANCE BEGINS.
- ALL SILT FENCE SHALL BE PLACED AS CLOSE TO THE CONTOUR AS POSSIBLE SO THAT WATER WILL NOT CONCENTRATE AT LOW POINTS IN THE FENCE AND SO THAT SMALL SWALES OR DEPRESSIONS WHICH MAY CARRY SMALL CONCENTRATED FLOWS TO THE SILT FENCE ARE DISSIPATED ALONG ITS LENGTH.
- TO PREVENT WATER PONDED BY THE SILT FENCE FROM FLOWING AROUND THE ENDS, EACH END SHALL BE CONSTRUCTED UPSLOPE SO THAT THE ENDS ARE AT A HIGHER ELEVATION.
- WHERE POSSIBLE, SILT FENCE SHALL BE PLACED ON THE FLATTEST AREA AVAILABLE. WHERE POSSIBLE, VEGETATION SHALL BE PRESERVED FOR 5 FEET (OR AS MUCH AS POSSIBLE) UPSLOPE FROM THE SILT FENCE. IF VEGETATION IS REMOVED, IT SHALL BE REESTABLISHED WITHIN 7 DAYS FROM THE INSTALLATION OF THE SILT FENCE.
- THE HEIGHT OF THE SILT FENCE SHALL BE A MINIMUM OF 16 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
- THE SILT FENCE SHALL BE PLACED IN A TRENCH CUT A MINIMUM OF 6 INCHES DEEP. THE TRENCH SHALL BE CUT WITH A TRENCHER, CABLE LAYING MACHINE, OR OTHER SUITABLE DEVICE WHICH WILL ENSURE AN ADEQUATELY UNIFORM TRENCH DEPTH.
- THE SILT FENCE SHALL BE PLACED WITH THE STAKES ON THE DOWNSLOPE SIDE OF THE GEOTEXTILE AND SO THAT 8 INCHES OF CLOTH ARE BELOW THE GROUND SURFACE. EXCESS MATERIAL SHALL LAY ON THE BOTTOM OF THE 6-INCH-DEEP TRENCH. THE TRENCH SHALL BE BACKFILLED AND COMPACTED.
- SEAMS BETWEEN SECTION OF SILT FENCE SHALL BE OVERLAPPED WITH THE END STAKES OF EACH SECTION WRAPPED TOGETHER BEFORE DRIVING INTO THE GROUND.
- MAINTENANCE – SILT FENCE SHALL ALLOW RUNOFF TO PASS ONLY AS DIFFUSE FLOW THROUGH THE GEOTEXTILE. IF RUNOFF OVERTOPS THE SILT FENCE, FLOWS UNDER OR AROUND THE ENDS, OR IN ANY OTHER WAY BECOMES A CONCENTRATED FLOW, ONE OF THE FOLLOWING SHALL BE PERFORMED, AS APPROPRIATE:
  - THE LAYOUT OF THE SILT FENCE SHALL BE CHANGED,
  - ACCUMULATED SEDIMENT SHALL BE REMOVED, OR
  - OTHER PRACTICES SHALL BE INSTALLED.
- SILT FENCE MATERIALS
  - FENCE POSTS – THE LENGTH SHALL BE A MINIMUM OF 32 INCHES LONG. WOOD POSTS WILL BE 2 X 2 INCH HARDWOOD OF SOUND QUALITY. THE MAXIMUM SPACING BETWEEN POSTS SHALL BE 10 FEET.
  - SILT FENCE FABRIC (SEE CHART).

**SILT FENCE SPECIFICATIONS:**

- THE SLOPE OF THE CONTRIBUTING DRAINAGE AREA FOR AT LEAST 30 FEET ADJACENT TO THE BARRIER SHALL NOT EXCEED 5%.
- THE BARRIER WILL BE CONSTRUCTED SO WATER CANNOT BYPASS THE BARRIER AROUND THE ENDS.
- THE BARRIER WILL BE REMOVED WHEN IT HAS SERVED ITS USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
- SILT FENCES SHALL BE INSTALLED SO THAT THE WATERSHED OF EACH 100 FEET OF FENCE IS LESS THAN 1/2 ACRE.
- ALL SILT FENCES SHALL BE INSTALLED NO MORE THAN 10 FEET AWAY FROM THE LIMIT OF DISTURBANCE.
- WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY 6" AND FOLDED.
- WOVEN WIRE FENCE SHALL BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
- FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.

FABRIC PROPERTIES	VALUES	TEST METHOD
GRAB TENSILE STRENGTH	90 LB. MINIMUM	ASTM D1682
MULLEN BURST STRENGTH	190 PSI MINIMUM	ASTM D3786
SLURRY FLOW RATE	0.3 GAL./MIN./SQ FT. MAX.	
EQUIVALENT OPENING SIZE	40-80	US STD. SIEVE CW-02215
ULTRAVIOLET RADIATION STABILITY	90% MINIMUM	ASTM G26

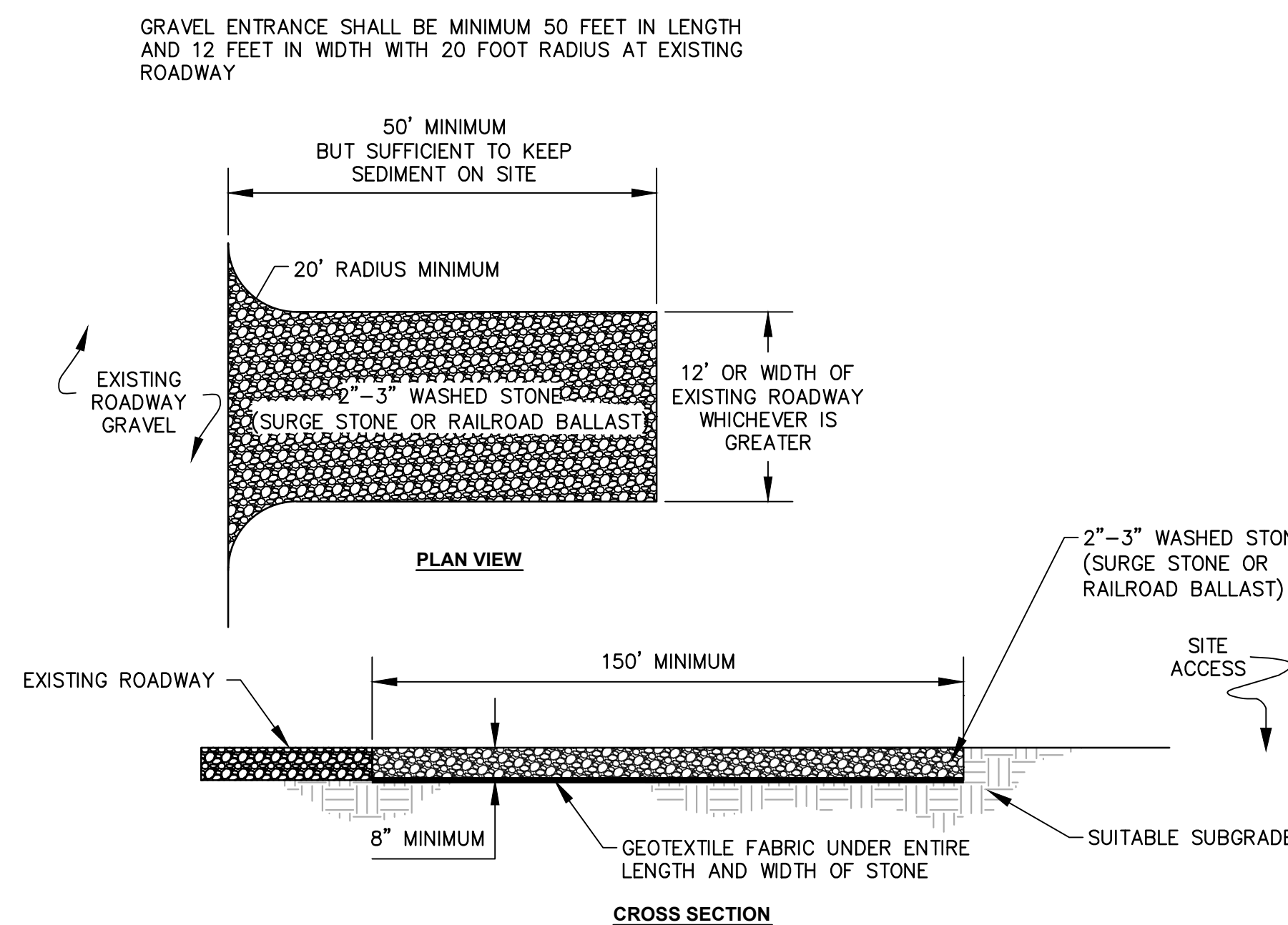
**15 STANDARD TEMPORARY SILT FENCE**  
11 | 12 N.T.S.



**16 LINED CONCRETE WASHOUT AREA**  
11 | 12 N.T.S.

**WASHOUT SPECIFICATIONS:**

- ACTUAL LAYOUT DETERMINED IN THE FIELD.
- A CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30 FT OF THE WASHOUT AREA.
- CONCRETE WASH WATER SHALL NOT BE ALLOWED TO FLOW TO STREAMS, DITCHES, STORM DRAINS, OR ANY OTHER WATER CONVEYANCE.
- PLASTIC LINING SHALL BE INSTALLED WITHIN PIT AS SHOWN IN THE DETAIL TO PREVENT DISCHARGE OF CONTAMINATED WATER. LINING SHOULD BE REPLACED AS SOON AS ITS FUNCTIONS ARE IMPEDED.



**17 STANDARD CONSTRUCTION ENTRANCE**  
11 | 12 N.T.S.

**NOTES:**

- AGGREGATE SIZE – USE 2-3 INCH WASHED STONE (SURGE STONE OR RAILROAD BALLAST).
- GRAVEL PAD THICKNESS – 8 INCHES MINIMUM.
- WIDTH – 12 FT. MINIMUM OR FULL WIDTH AT ACCESS POINTS OF THE VEHICULAR ENTRANCE AND EXIT AREA, WHICHEVER IS GREATER.
- LENGTH – 50 FT. MINIMUM.
- LOCATION – INSTALL CONSTRUCTION ENTRANCES AT LOCATIONS SHOWN ON THESE PLANS TO LIMIT SEDIMENT FROM LEAVING THE SITE AND TO PROVIDE FOR MAXIMUM UTILITY BY ALL CONSTRUCTION VEHICLES. CONTRACTOR SHALL INSTALL ADDITIONAL GRAVEL CONSTRUCTION ENTRANCES NOT INDICATED ON THE PLANS REQUIRED FOR STAGING AND/OR BORROW AREAS AND AT PUBLIC ROADS AND MAINTAIN AT NO ADDITIONAL EXPENSE TO THE OWNER. CONTRACTOR SHALL SUPPLEMENT AND MAINTAIN GRAVEL CONSTRUCTION ENTRANCES AT HIS EXPENSE UNTIL FINAL ACCEPTANCE.
- FURNISH AND INSTALL STONE AGGREGATE AND FILTER FABRIC AS SHOWN ON THESE PLANS AND AS DIRECTED BY THE ENGINEER.
- MAINTAIN GRAVEL PAD IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING THE CONSTRUCTION SITE.
- REPAIR AS NEEDED. PERIODIC TOPDRESSING WITH ADDITIONAL STONE MAY BE NEEDED.
- IMMEDIATELY REMOVE ALL OBJECTIONABLE MATERIALS SPILLED, WASHED, OR TRACKED ONTO PUBLIC ROADWAYS.

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SEDIMENT AND EROSION CONTROL DETAILS			
<b>AECOM</b>			
SHEET 12			