

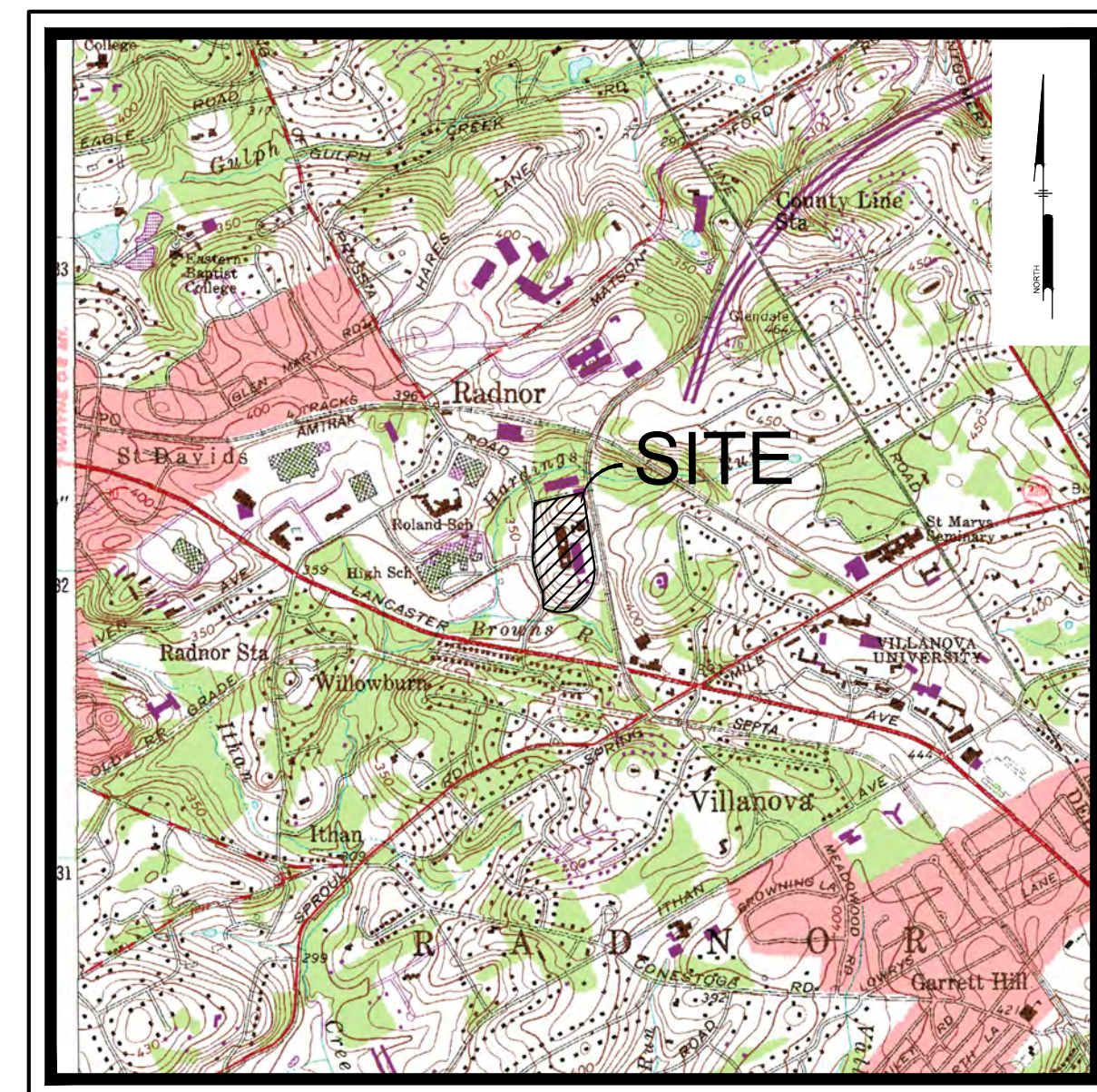
PENN MEDICINE AT RADNOR PRELIMINARY LAND DEVELOPMENT PLAN

DELAWARE COUNTY, PENNSYLVANIA
SEPTEMBER 29, 2017
REVISED: FEBRUARY 5, 2018

PREPARED FOR:
OWNER/DEVELOPER
THE TRUSTEES OF THE UNIVERSITY OF PENNSYLVANIA HEALTH SYSTEMS
3400 CIVIC CENTER BOULEVARD
PHILADELPHIA, PA 19355
(610) 889-3600

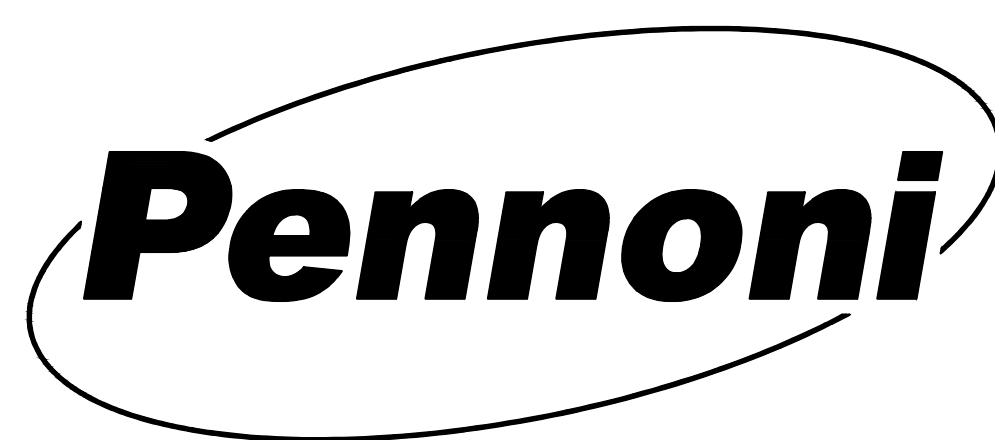


LOCATION MAP
Scale: 1" = 1000'



USGS MAP
Scale: 1" = 2000'

PREPARED BY:
PENNONI ASSOCIATES INC.



One South Church Street, 2nd Floor
West Chester, PA 19382
T 610.429.8907
F 610.429.8918

KEYPLAN:

SEAL:



CONDITION OF USE

THIS DOCUMENT IS ISSUED BY THE ENGINEER IN COMPLIANCE WITH THE PROFESSIONAL ENGINEERING ACT OF 1948. THE ENGINEER'S LIABILITY IS LIMITED TO THE SCOPE OF THE AGREEMENT BETWEEN THE ENGINEER AND THE CLIENT. THE ENGINEER DOES NOT WARRANT THE ACCURACY OF THE INFORMATION CONTAINED HEREIN. THE CLIENT IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE ENGINEER'S LIABILITY IS LIMITED TO THE SCOPE OF THE AGREEMENT BETWEEN THE ENGINEER AND THE CLIENT. THE ENGINEER DOES NOT WARRANT THE ACCURACY OF THE INFORMATION CONTAINED HEREIN. THE CLIENT IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.

02 - REVISED PLANS - 02/05/18
01 - REVISED PER TOWNSHIP - 01/16/18
DRAWING ISSUE

PROJECT: UPHS1504
SCALE:
ARCHITECTURE
TITLE:

COVER SHEET

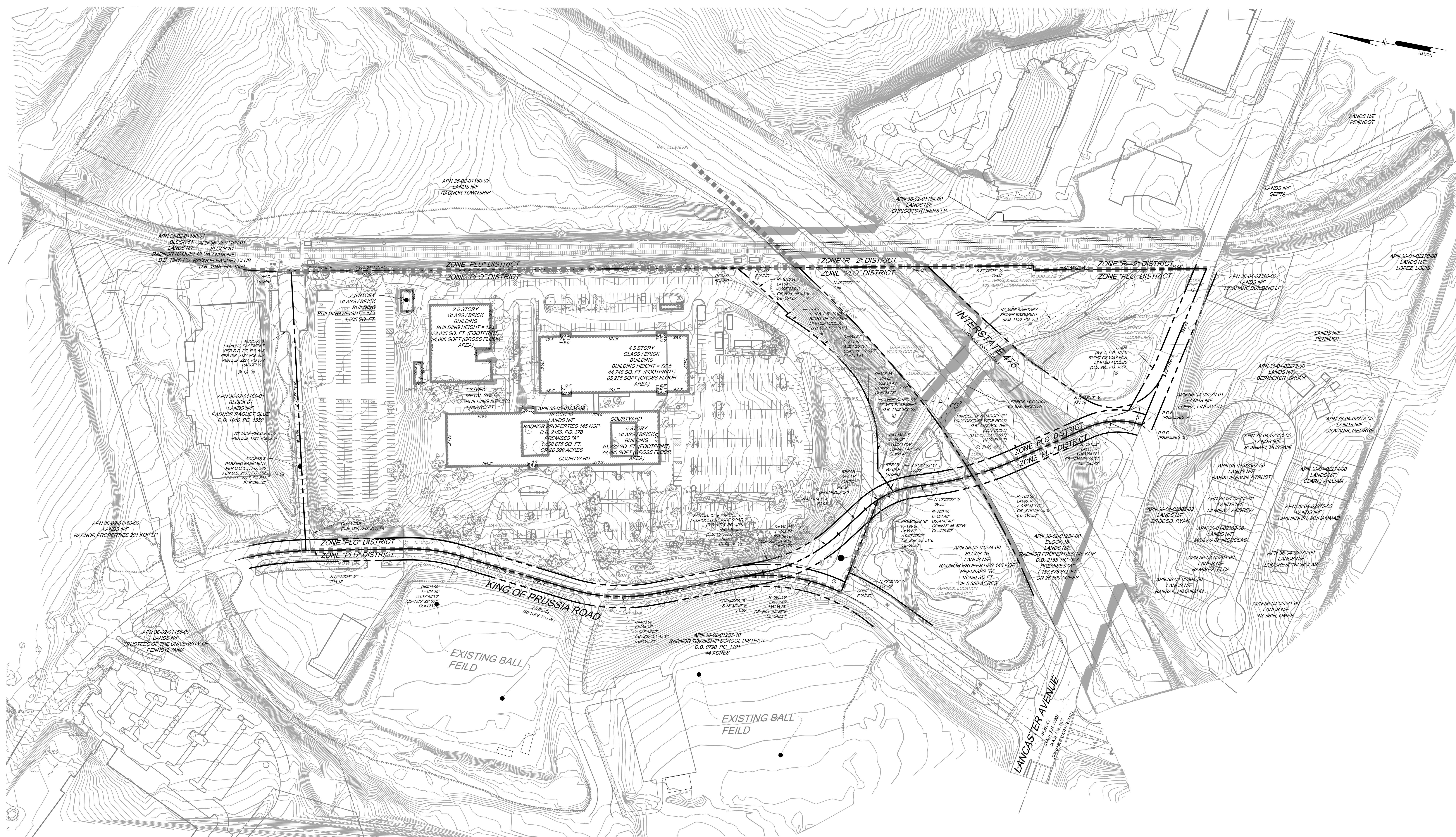
SHEET: 01 OF 27
NUMBER:



CALL BEFORE YOU DIG
BEFORE YOU DIG ANYWHERE IN PENNSYLVANIA
CALL 1-800-242-1776
PA ACT 287 OF 1974 REQUIRES THREE WORKING DAYS NOTICE TO UTILITIES BEFORE YOU EXCAVATE, DRILL, OR BLAST PENNSYLVANIA
ONE-CALL SYSTEM, INC.
SERIAL NUMBER: 2015285949-000

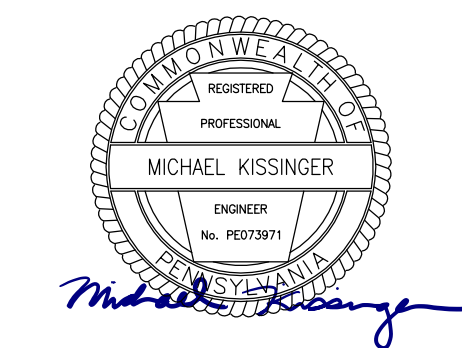
NOT FOR CONSTRUCTION

CS0001



KEY PLAN:

SEAL:

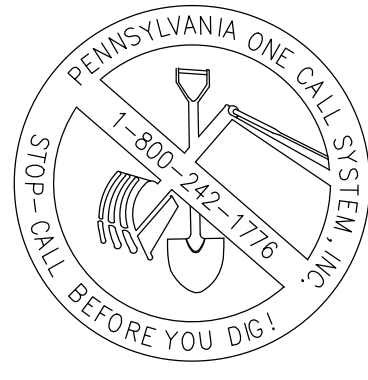


CONDITION OF USE

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LEGEND:

---	PROPERTY LINE
---	LEGAL RIGHT-OF-WAY
○	EX PROPERTY CORNER FOUND
---	ADJOINING PROPERTY LINE
---	EX EASEMENT
---	EX BUILDING
---	EX CURB
---	EX EDGE OF PAVEMENT
---	EX EDGE OF DRIVEWAY
---	EX RAIL
---	FLOOD ZONE
---	WATERWAY
---	EX STREAM FLOW
---	BUILDING SETBACK LINE
---	PROPOSED PROPERTY LINE
---	PROPOSED RIGHT-OF-WAY
○	PROPOSED IRON PIN
□	PROPOSED CONCRETE MONUMENT
---	PROPOSED EASEMENT
---	PROPOSED BUILDING
---	PROPOSED CURB
---	PROPOSED SIDEWALK
---	PROPOSED WALL
---	PROPOSED FENCE
---	PROPOSED PERMEABLE PAVERS
---	PROPOSED PERMEABLE ASPHALT
---	PROPOSED STORMWATER BASIN
---	PROPOSED SIGN
---	PROPOSED ULTIMATE RIGHT-OF-WAY

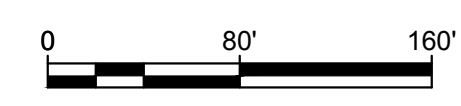


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PA ACT 287 OF 1974 REQUIRES THREE WORKING DAYS NOTICE TO UTILITIES BEFORE YOU EXCAVATE, DRILL, OR BURN IN PENNSYLVANIA.
ONE-CALL SYSTEM, INC.
SERIAL NUMBER: 2015285945-000

PROJECT: UPHS1504
SCALE: 1"=80'
ARCHITECTURE

AERIAL PLAN

SHEET: 03 OF 27
NUMBER:



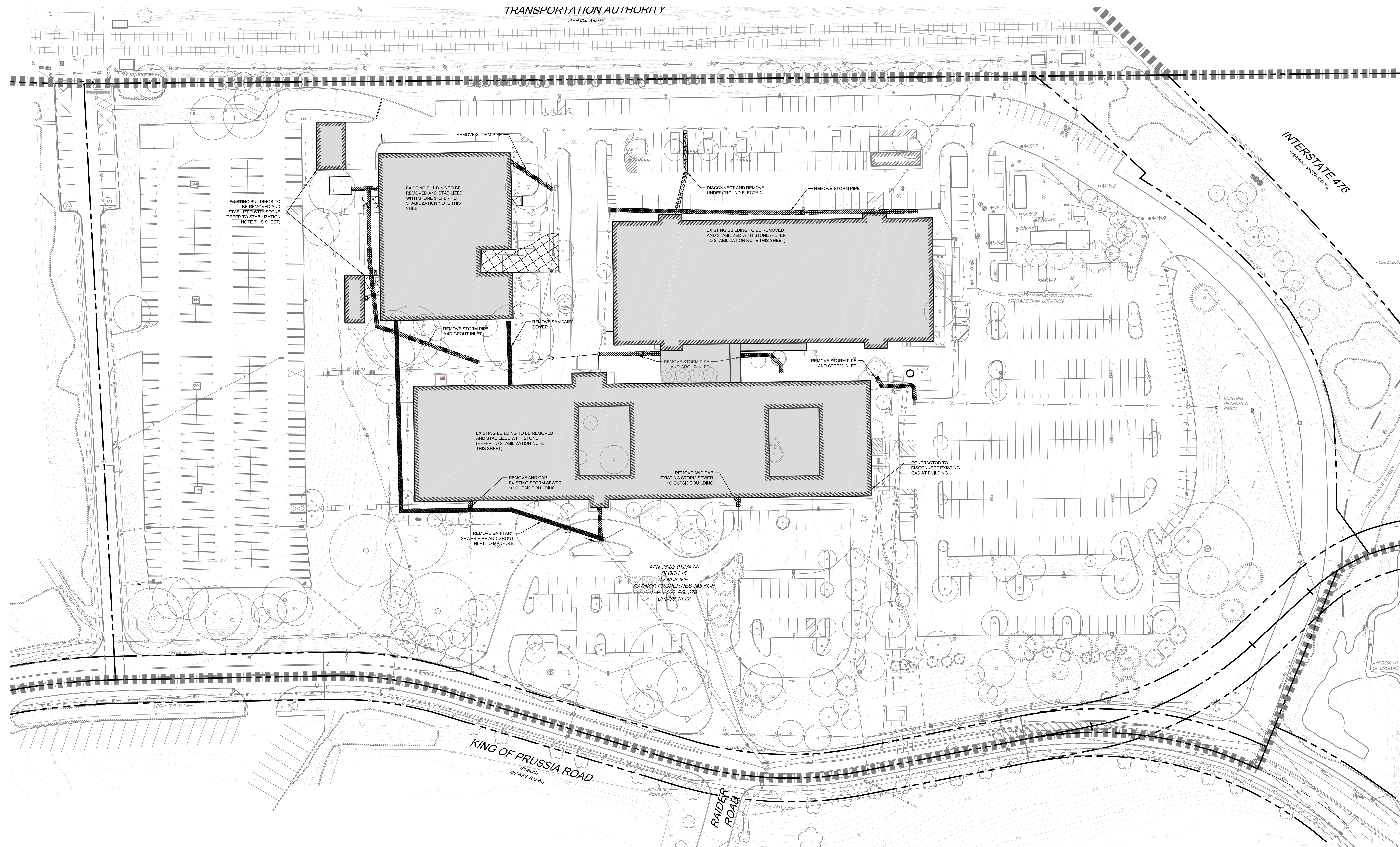
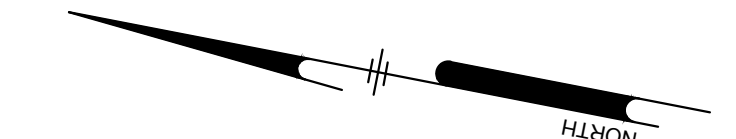
NOT FOR CONSTRUCTION

CS0200

PHOTO: 3/5/2015 12:14 PM BY: James Janda

PHOTO: 3/5/2015 12:14 PM BY: James Janda

PHOTO: 3/5/2015 12:14 PM BY: James Janda



- DEMOLITION NOTES:**
1. CONTRACTOR TO FAMILIARIZE HIMSELF/HERSELF WITH THE DEMOLITION NOTES ON CS002.
 2. UNLESS OTHERWISE NOTED, SITE FEATURES WITHIN PROPERTY LIMITS ARE TO BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH PLANS AND SPECIFICATIONS.
 3. UNLESS OTHERWISE NOTED, ON-SITE UTILITIES ARE TO BE REMOVED.
 4. CONTRACTOR TO PROTECT ALL UTILITIES TO REMAIN.
 5. CONTRACTOR TO REFER TO LANDSCAPING PLANS FOR TREES TO BE REMOVED. ALL TREES TO REMAIN SHALL BE PROTECTED IN ACCORDANCE WITH PLANS AND DETAILS.

DEMOLITION LEGEND

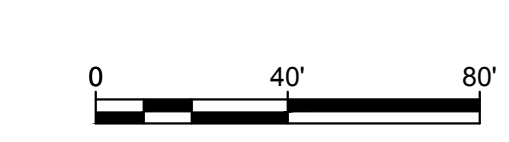
[Hatched Box]	BUILDING TO BE DEMOLISHED
[Hatched Box]	SANITARY SEWER TO BE DEMOLISHED
[Hatched Box]	UNDERGROUND ELECTRIC TO BE DEMOLISHED
[Hatched Box]	STORM SEWER TO BE DEMOLISHED
[X]	TREE TO BE DEMOLISHED
[Hatched Box]	SIDEWALK TO BE DEMOLISHED

STABILIZATION NOTE
ALL BUILDINGS TO BE REMOVED SHALL BE CRUSHED ON SITE TO A STONE SIZE OF 4" OR LESS AND USED AS BACKFILL FOR THE BASEMENTS. AS AN ALTERNATE, THE STONE MAY BE CRUSHED IN ACCORDANCE WITH PA DOT 2A MATERIAL STANDARDS.

**REFER TO
DEMOLITION NOTES
ON SHEET CS002**



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ONE-CALL SYSTEM, INC.
SERIAL NUMBER: 2015285945-000



NOT FOR CONSTRUCTION

KEYPLAN:



SEAL:

CONDITION OF USE
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01 - REVISED PER TOWNSHIP - 01/16/18
DRAWING ISSUE

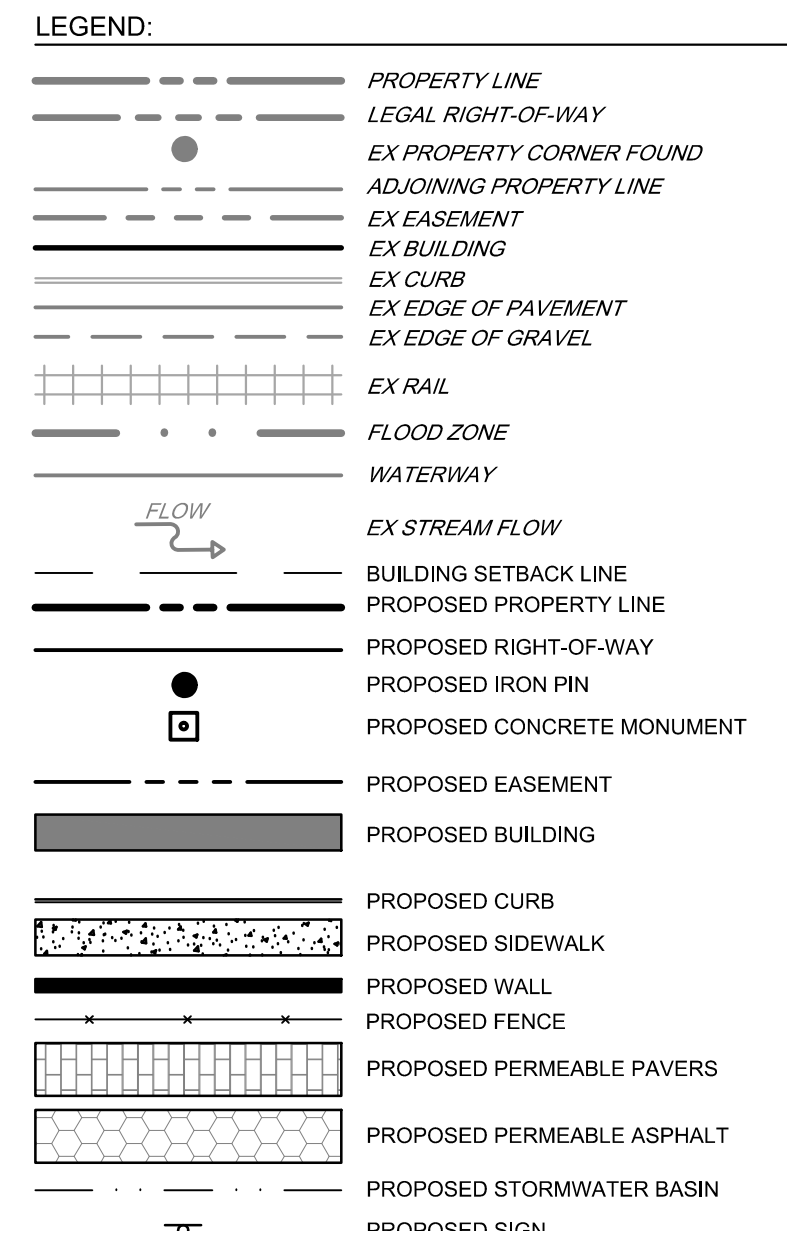
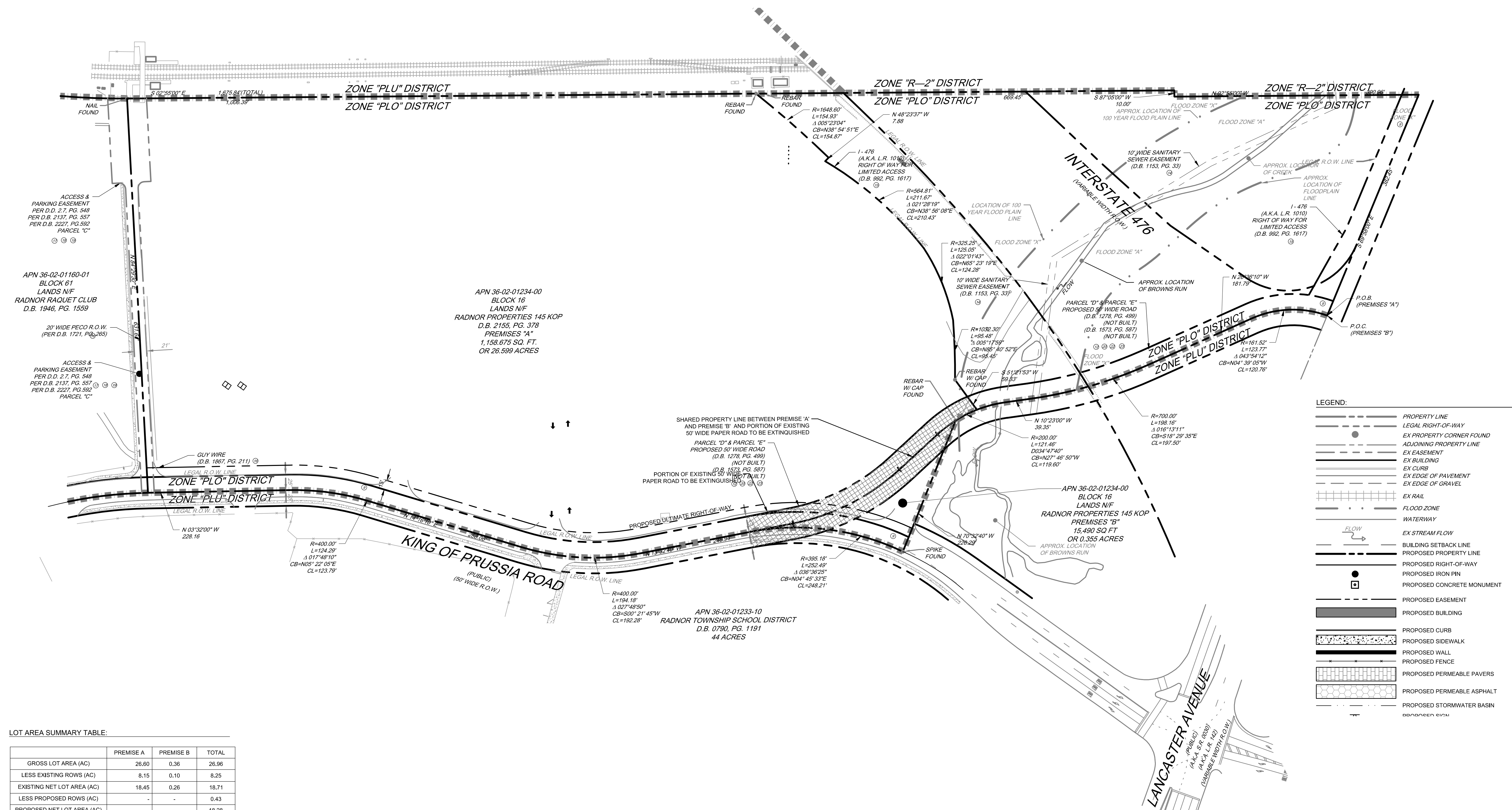
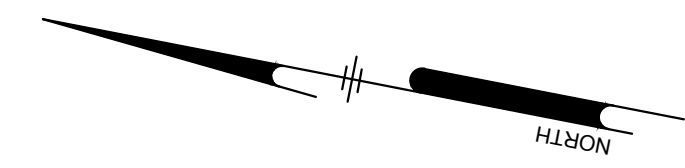
PROJECT: UPHS1504
SCALE: 1"=40'
ARCHITECTURE
TITLE:

DEMOLITION PLAN -
PHASE 1B

SHEET: 05 OF 27
NUMBER:

CS0501

PH: 215-448-0900 FAX: 215-448-0999 www.ballinger.com



LOT AREA SUMMARY TABLE

	PREMISE A	PREMISE B	TOTAL
GROSS LOT AREA (AC)	26.60	0.36	26.96
LESS EXISTING ROWS (AC)	8.15	0.10	8.25
EXISTING NET LOT AREA (AC)	18.46	0.26	18.71
LESS PROPOSED ROWS (AC)	-	-	0.43
PROPOSED NET LOT AREA (AC)	-	-	18.28

TITLE EXCEPTIONS:

LAND SERVICES, INC.
FILE NO. PA81-151800D
EFFECTIVE DATE 4/10/2015

- 1. DEFECTS, LIENS, ENCUMBRANCES, ADVERSE CLAIMS OR OTHER MATTERS, IF ANY CREATED, FIRST APPEARING IN THE PUBLIC RECORDS OR ATTACHING SUBSEQUENT TO THE EFFECTIVE DATE HEREOF BUT PRIOR TO THE DATE THE PROPOSED INSURED ACQUIRES FOR VALUE OF RECORD THE ESTATE OR INTEREST OR MORTGAGE THEREON COVERED BY THIS COMMITMENT.
- 2. DISCREPANCIES OR CONFLICTS IN BOUNDARY LINES, EASEMENTS, OR AREA CONTENT WHICH A SATISFACTORY SURVEY WOULD CLOSE.
- 3. ANY LIEN OR RIGHT TO A LIEN FOR SERVICES, LABOR OR MATERIALS HERETOFORE OR HEREAFTER FURNISHED, IMPOSED BY LAW AND NOT SHOWN BY PUBLIC RECORDS.
- 4. RIGHTS OR CLAIMS OF PARTIES IN POSSESSION OR UNDER AGREEMENTS OF SALE NOT SHOWN BY PUBLIC RECORDS.
- 5. TAXES OR SPECIAL ASSESSMENTS WHICH ARE NOT SHOWN ON THE PUBLIC RECORD.
- 6. POSSIBLE ADDITIONAL TAX ASSESSMENTS FOR NEW CONSTRUCTION AND OR MAJOR IMPROVEMENTS, NOT YET DUE AND PAYABLE.
- 7. ANY RESERVATION, RESTRICTION, LIMITATIONS, CONDITIONS OR AGREEMENTS SET FORTH IN THE INSTRUMENT BY WHICH TITLE IS VESTED IN THE INSURED.
- 8. SUBJECT TO ALL COAL AND MINING RIGHTS AND ALL RIGHTS RELATING THERETO: THIS DOCUMENT DOES NOT INCLUDE OR INURE THE TITLE TO THE COAL AND THE RIGHT OF SUPPORT UNDERNEATH THE SURFACE OF THE LAND DESCRIBED OR RESERVED TO HEREIN AND THE OWNER OR OWNERS OF SUCH COAL MAY HAVE THE COMPLETE AND LEGAL RIGHT TO REMOVE ALL SUCH COAL AND, IN THAT CONNECTION, DAMAGE MAY RESULT TO THE SURFACE OF THE LAND AND ANY HOUSE, BUILDING OR OTHER STRUCTURE ON OR IN SUCH LAND. THE INCLUSION OF THIS NOTICE DOES NOT ENLARGE, RESTRICT OR MODIFY ANY LEGAL RIGHTS OR ESTATES OTHERWISE CREATED, TRANSFERRED, EXCEPTED OR RESERVED BY THIS INSTRUMENT. POLICY DOES NOT INSURE AGAINST SUBSIDENCE.
- 9. EXCEPTING AND RESERVING THAT PORTION OF THE PREMISES LYING IN AND ALONG THE ROADBEDS; SUBJECT TO PUBLIC AND PRIVATE RIGHTS THEREON.

- 10. COMPANY ASSUMES NO LIABILITY FOR THE POSSIBLE DESIGNATION OF THE PREMISES INSURED HEREUNDER AS A WETLANDS AREA BY ANY GOVERNMENT AGENCY.
- 11. SUBJECT TO ANY LINE RIGHT OF WAYS INCLUDING ELECTRIC LINE, TELEPHONE LINE, CABLE LINES, WATER AND SEWER LINE RIGHT OF WAYS IN USE AND EXISTING IN, ON, OR UNDER THE GROUND AND ALL RIGHTS IN RELATION THERETO.
- 12. EASEMENT OF 22 FEET WIDE SEWER ROAD AND 50 FEET WIDE ROAD.
- 13. RESERVATIONS AND EASEMENTS AS IN DEED BOOK 1864 PAGE 613.
- 14. RESERVATION OF WAY AGREEMENT AS IN DEED BOOK 1153 PAGE 33.
- 15. QUIT CLAIM DEED BY COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF TRANSPORTATION TO WYETH LABORATORIES, INC., AS RECORDED IN VOLUME 962 PAGE 1617 (VACATED RIGHT OF WAY FOR BRIDGEWAY RELOCATION).
- 16. RIGHT OF WAY GRANTED TO PHILADELPHIA ELECTRIC COMPANY AS IN DEED BOOK 1721 PAGE 280 AND DEED BOOK 1867 PAGE 611.
- 17. AGREEMENT AS IN DEED BOOK 2137 PAGE 541.
- 18. AGREEMENT AS IN DEED BOOK 2137 PAGE 552.
- 19. DEED EXTINGUISHING EASEMENT AS IN DEED BOOK 1864 PAGE 484.
- 20. PENNSYLVANIA PUBLIC UTILITY COMMISSION APPLICATION COCKET NO. 84888 AS IN DEED BOOK 208 PAGE 411.
- 21. EASEMENT OF ROADWAY AND USE OF SAME AS IN DEED BOOK 1278 PAGE 496.
- 22. RESERVATIONS AND EASEMENTS AS IN DEED BOOK 1573 PAGE 487.
- 23. NOTES, CONDITIONS, SETBACK LINES, EASEMENTS, RESERVATIONS AND RESTRICTIONS RECORDED IN MAP PLAN BOOK NO. 28 PAGE 447.

GENERAL NOTES:

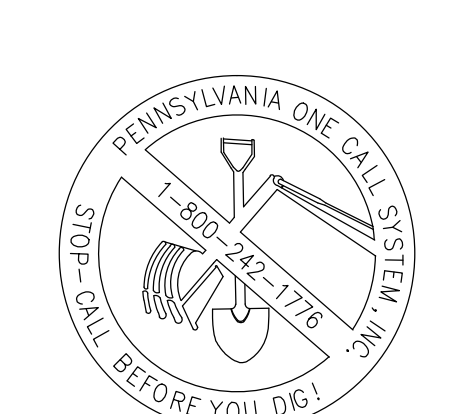
- 1. SITE ADDRESS: 145 KING OF PRUSSIA ROAD RADNOR, PA 19087
- OWNER: THE TRUSTEES OF THE UNIVERSITY OF PENNSYLVANIA PUBLIC UTILITY SYSTEMS 3400 SPRUCE STREET PHILADELPHIA, PA 19104
- APPLICANT: THE TRUSTEES OF THE UNIVERSITY OF PENNSYLVANIA HEALTH SYSTEMS 3400 SPRUCE STREET PHILADELPHIA, PA 19104
- 2. THE PURPOSE OF THIS PLAN IS TO DEFECT THE DEMOLITION OF 5 EXISTING BUILDINGS AND RELATED FEATURES IN ORDER TO CONSTRUCT 3 NEW BUILDINGS, 2 NEW PARKING GARAGES, AND ASSOCIATED SITE IMPROVEMENTS.
- 3. THIS SITE IS CURRENTLY ZONED R-1. PLANNED LABORATORY OFFICES DISTRICT BY THE RADNOR TOWNSHIP ZONING MAP. FOR COMPLETE ZONING INFORMATION PLEASE REFER TO THE ZONING CODE OF THE RADNOR TOWNSHIP.
- 4. BENCHMARK: THE BENCHMARK FOR THE SITE IS A SANITARY MANHOLE IN KING OF PRUSSIA ROAD TO THE WEST OF THE PROPERTY NEAR THE INTERSECTION WITH RADNOR ROAD WITH A RM ELEVATION OF 30.08.
- 5. A FIELD SURVEY ON THE SITE WAS PERFORMED BY PENNINO ASSOCIATES, INC., ON MAY 13, 2015. TOPOGRAPHIC FEATURES ARE SHOWN BASED ON A SURVEY PERFORMED BY WAVE SURVEY, INC. ON MAY 1, 2007. THE ELEVATIONS SHOWN HEREIN ARE BASED UPON PA STATE PLANE COORDINATE (N. SOUTH INVDARS).
- 6. BY GRAPHIC PLOTTING ONLY, SUBJECT PARCEL AREA IS LOCATED IN ZONE X (AREAS DETERMINED TO BE OUTSIDE THE 100-YEAR FLOODPLAIN OF THE FLOOD INSURANCE RATE MAP, PANEL NO. 36 OF 350, COMMUNITY MAP NO. 424400000F WHICH BEARS AN EFFECTIVE DATE OF NOVEMBER 18, 2009, NO FLOOD INSURANCE WAS PERFORMED TO DETERMINE THIS ZONE AND AN ELEVATION CERTIFICATE MAY BE NEEDED TO VERIFY THIS DETERMINATION OR APPLY FOR A VARIANCE FROM THE FEDERAL EMERGENCY MANAGEMENT AGENCY.
- 7. UNLESS SPECIFICALLY STATED OR SHOWN HEREON TO THE CONTRARY, THIS SURVEY IS MADE SUBJECT TO AND DOES NOT LOCATE OR DELINEATE:
A. RIGHTS OR INTERESTS OF THE UNITED STATES OF AMERICA OR COMMONWEALTH OF PENNSYLVANIA OVER LANDS NOW OR FORMERLY FLOODED BY TIDEWATER, BUT NO LONGER VISIBLE OR PHYSICALLY EVIDENT, OR LANDS CONTAINING ANY ANIMAL, MARINE, OR BOTANICAL SPECIES REGULATED BY OR UNDER THE JURISDICTION OF ANY FEDERAL, STATE, OR LOCAL AGENCY.
- B. BUILDING SETBACK LINES, ZONING REGULATIONS OR LINES ESTABLISHED BY ANY FEDERAL, STATE OR LOCAL AGENCY WHICH MAY AFFECT THE BUILDING OR DEVELOPMENT POTENTIAL OF THE SUBJECT PROPERTY.
- C. ANY SUBSURFACE OR SUBTERRANEAN CONDITION, EASEMENTS OR RIGHTS, INCLUDING BUT NOT LIMITED TO GENERAL OR MINING RIGHTS, OR THE LOCATION OF OR RIGHTS TO ANY SUBSURFACE STRUCTURES, CONTAINERS OR FACILITIES OR ANY OTHER NATURAL OR MAN-MADE SUBSURFACE CONDITION WHICH MAY OR MAY NOT AFFECT THE USE OR DEVELOPMENT POTENTIAL OF THE SUBJECT PROPERTY.
- 8. THE LOCATION OF THE EXISTING UNDERGROUND UTILITIES SHOWN ON THIS PLAN HAVE BEEN TAKEN FROM EXISTING UTILITY RECORDS AVAILABLE AT THE TIME THESE PLANS WERE PREPARED AND FROM SURFACE OBSERVATION OF THE SITE.
- 9. COMPLETENESS OR ACCURACY OF LOCATION AND DEPTH OF UNDERGROUND UTILITIES AND STRUCTURES IS NOT GUARANTEED.
- 10. THE CONTRACTOR SHALL VERIFY LOCATIONS AND DEPTHS OF ALL UNDERGROUND UTILITIES AND STRUCTURES BEFORE THE START OF WORK.
- 11. REFERENCE IS MADE TO PENNSYLVANIA ONE-CALL SYSTEM ASSIGNED SERIAL NUMBER 2015020808 IN ACCORDANCE WITH PA ACT 287 OF 1974 AS AMENDED BY PA ACT 121 OF 2009 ENTITLED "UNDERGROUND UTILITY LINE PROTECTION LAW" (800-242-1778).
- 12. IN ACCORDANCE WITH PA ACT 287 OF 1974 AS AMENDED BY PA ACT 121 OF 1996, THE CONTRACTOR SHALL NOTIFY ALL UTILITIES WITHIN THE WORK AREA VIA THE PENNSYLVANIA ONE-CALL SYSTEM, INC. (800-242-1778), A MINIMUM OF 7 WORKING DAYS BEFORE THE START OF EXCAVATION.
- 13. THE SITE IS TO BE SERVED BY PUBLIC SEWER AND WATER SERVICE.
- 14. THE ENTIRE TRACT IS LOCATED WITHIN THE BROWNS RUN WATERSHED, WHICH IS CLASSIFIED AS COLD WATER FISHES, MIGRATORY FISHES (CWP-MF) BY TITLE 25, CHAPTER 93 OF THE PENNSYLVANIA CODE.
- 15. ALL STEEP SLOPES WITHIN THE PROPERTY LIMITS ARE MAXI-MAX AND EXCLUDE PER RADNOR ZONING ORDINANCE 280-112.1.

APN 36-02-01160-01
BLOCK 61
LANDS N/F
RADNOR GOLF CLUB
D.B. 1946, PG. 1559

APN 36-02-01234-00
BLOCK 16
LANDS N/F
RADNOR PROPERTIES 145 KOP
D.B. 2155, PG. 378
PREMISES 'A'
1,158,675 SQ. FT.
OR 26,589 ACRES

APN 36-02-01234-00
BLOCK 16
LANDS N/F
RADNOR PROPERTIES 145 KOP
PREMISES 'B'
154,802 SQ. FT.
OR 3.55 ACRES

APN 36-02-01233-10
RADNOR TOWNSHIP SCHOOL DISTRICT
D.B. 0790, PG. 1191
44 ACRES



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SERIAL NUMBER: 2015020808-000

NOT FOR CONSTRUCTION

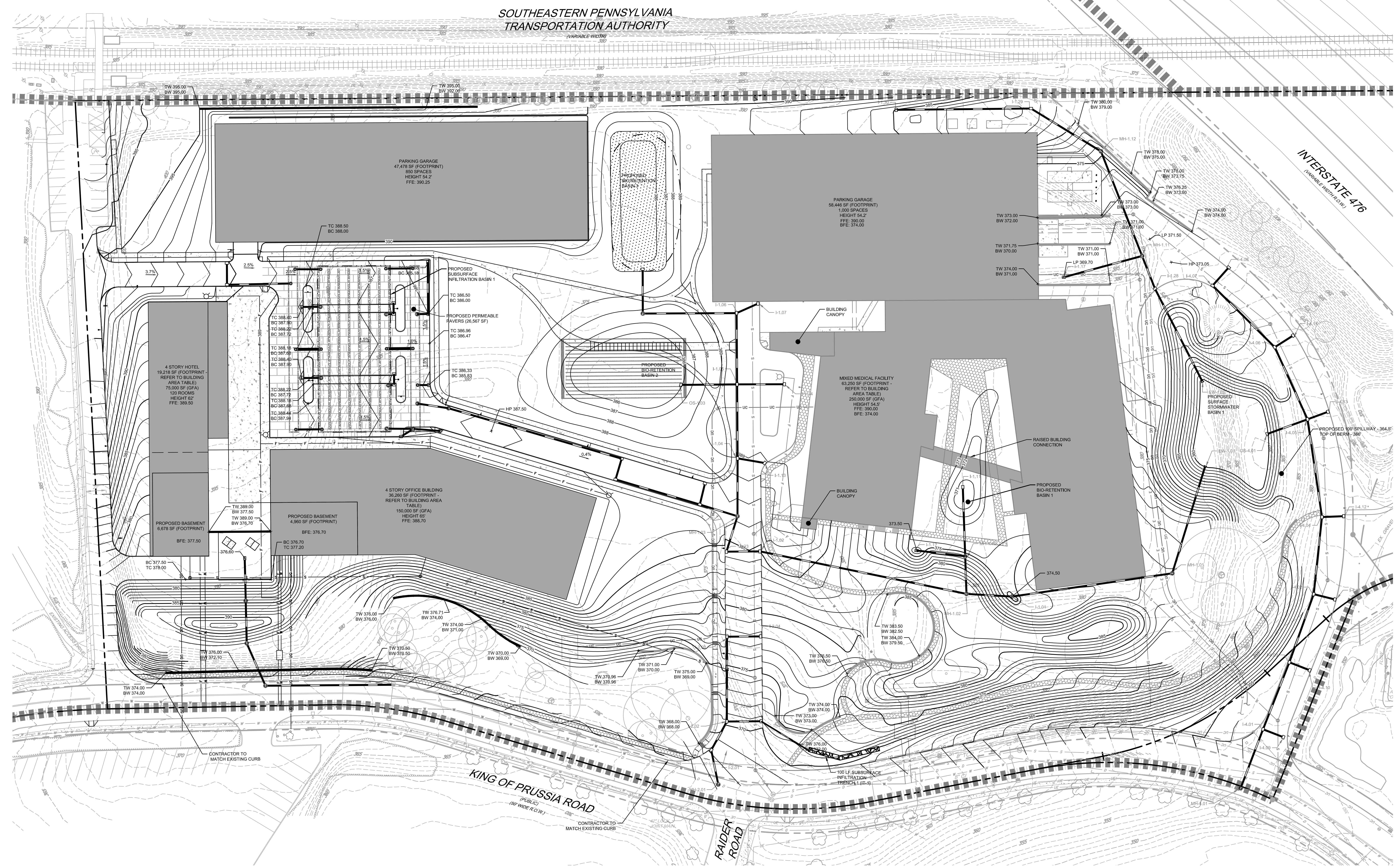
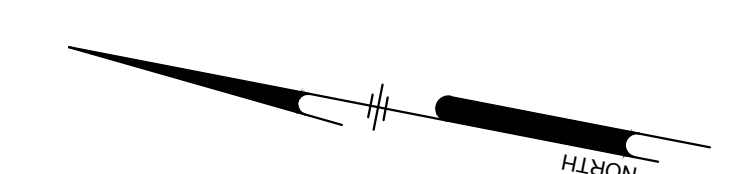
BOUNDARY PLAN

PROJECT: UPHS1504
SCALE: 1"=80'
ARCHITECTURE
TITLE:

01-REVISED PER TOWNSHIP-01/16/18
DRAWING ISSUE

SHEET: 08 OF 27
NUMBER:

CS0901



SOUTHEASTERN PENNSYLVANIA
TRANSPORTATION AUTHORITY
(VARIABLE WIDTH)

INTERSTATE 476
(VARIABLE WIDTH)

KING OF PRUSSIA ROAD
(VARIABLE WIDTH)

RAIDER ROAD
(VARIABLE WIDTH)

KEY PLAN:

SEAL:



CONDITION OF USE

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02 - REVISED PLANS - 02/05/18
01 - REVISED PER TOWNSHIP - 01/16/18
DRAWING ISSUE

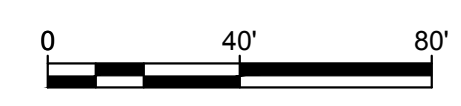
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SCALE: 1"=40'
ARCHITECTURE
TITLE:

GRADING PLAN

SHEET: 10 OF 27
NUMBER:



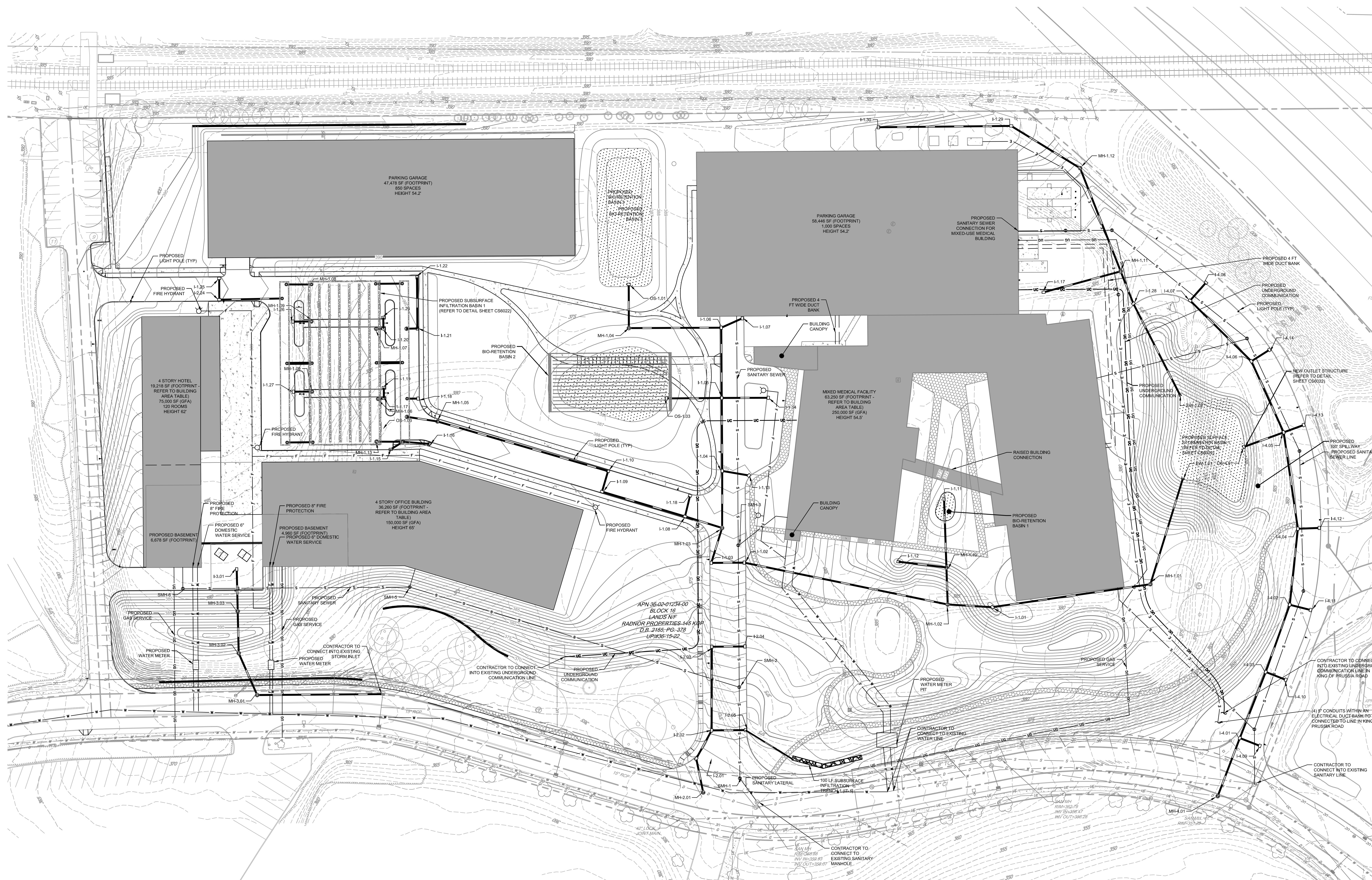
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ONE-CALL SYSTEM, INC.
SERIAL NUMBER: 2015285948-000



NOT FOR CONSTRUCTION

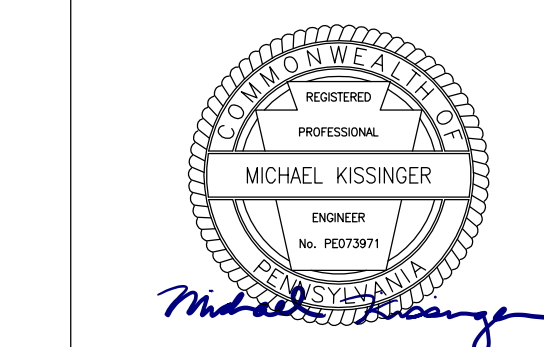
CS1501

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KEYPLAN:

SEAL:



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02 - REVISED PLANS - 02/05/18
01 - REVISED PER TOWNSHIP - 01/16/18
DRAWING ISSUE

PROJECT: UPHS1504
SCALE: 1"=50'
ARCHITECTURE
TITLE:

UTILITY PLAN

SHEET: 11 OF 27
NUMBER:



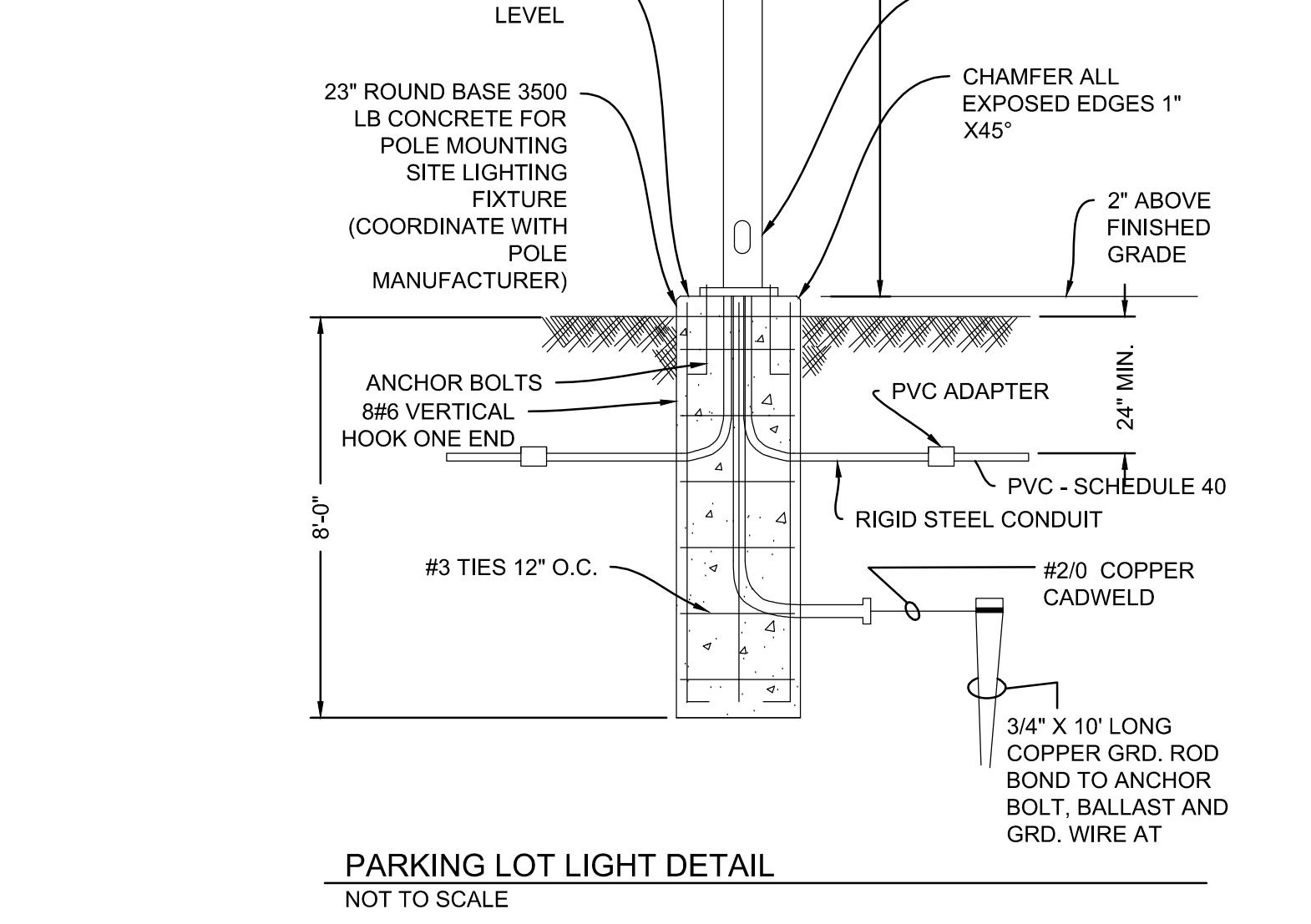
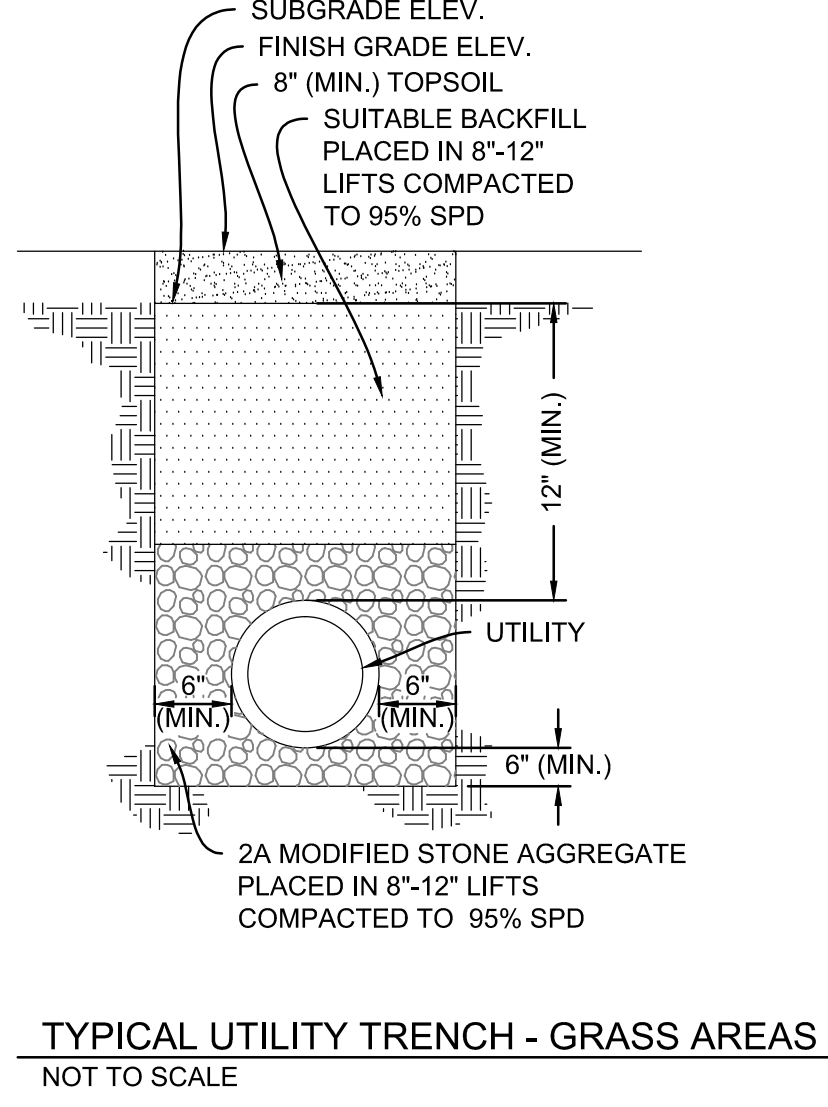
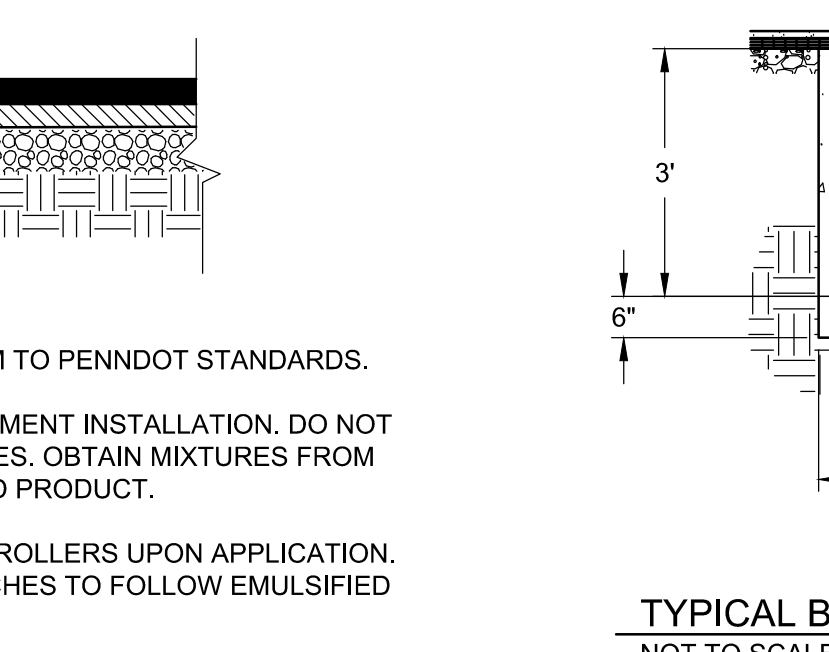
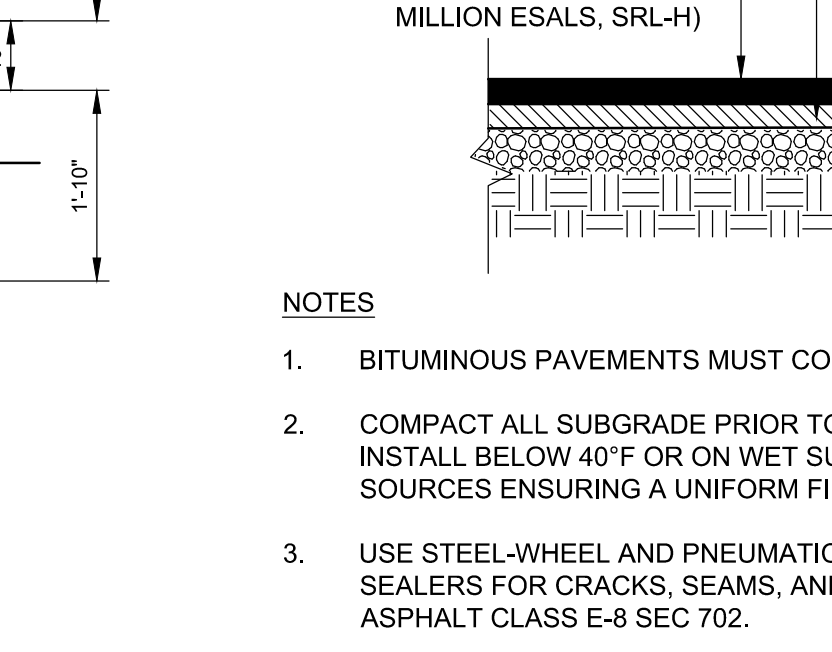
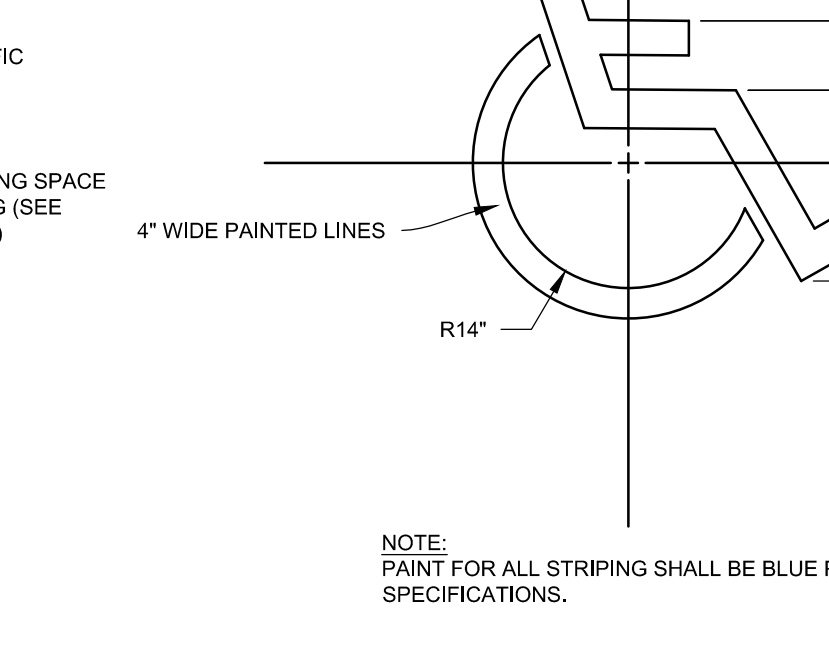
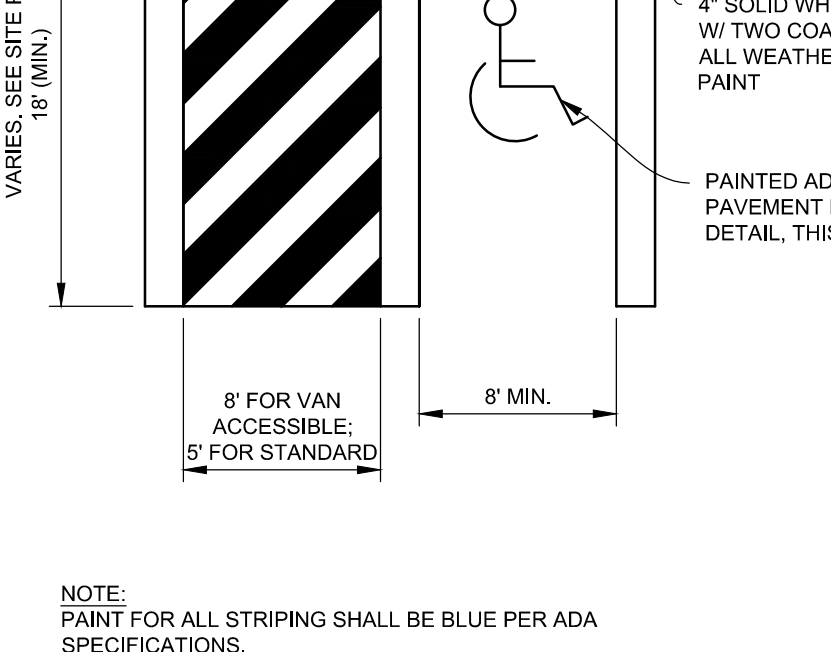
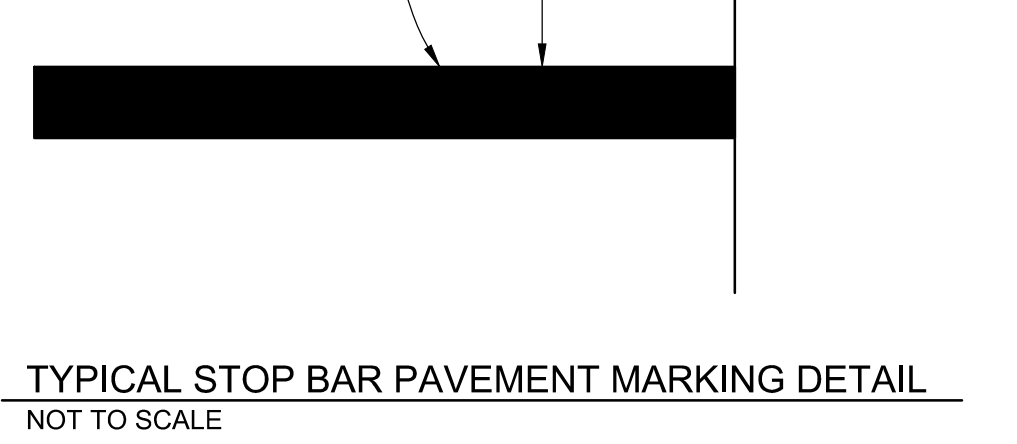
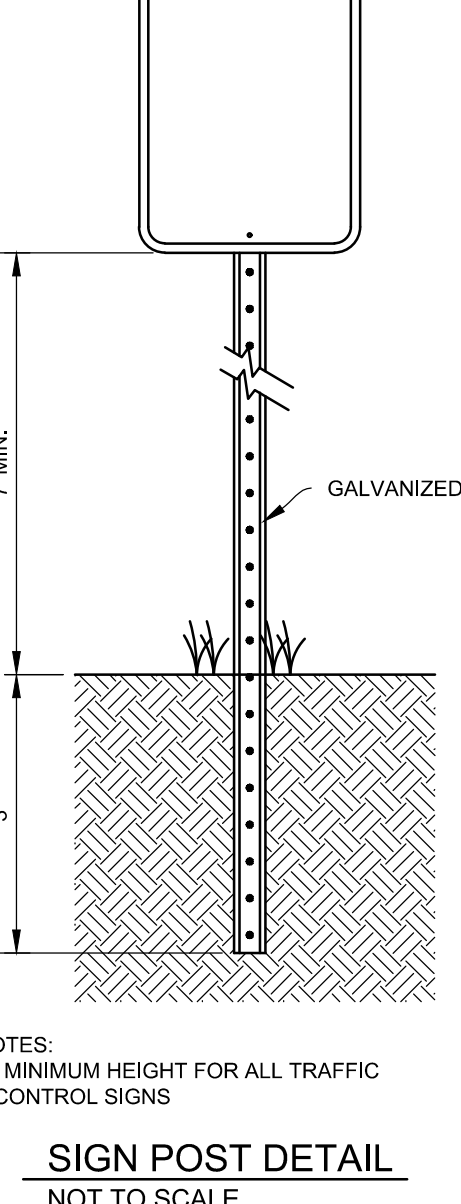
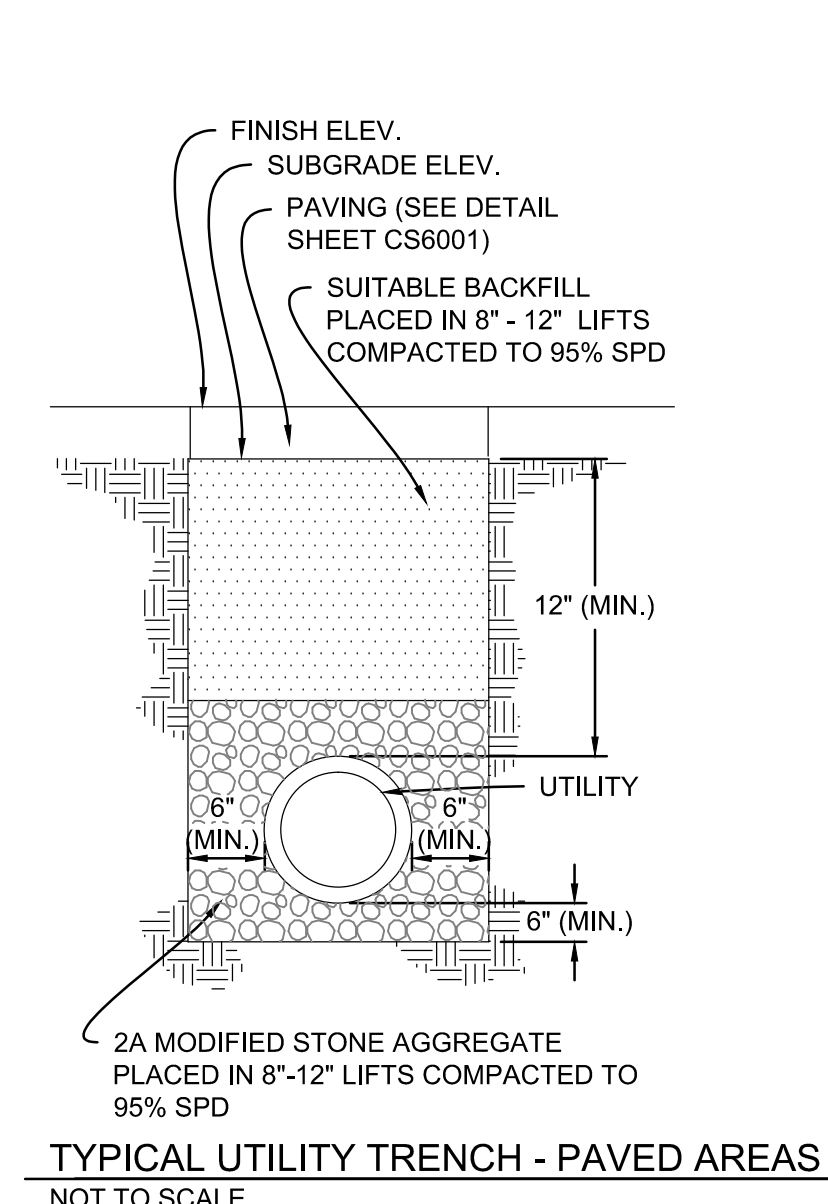
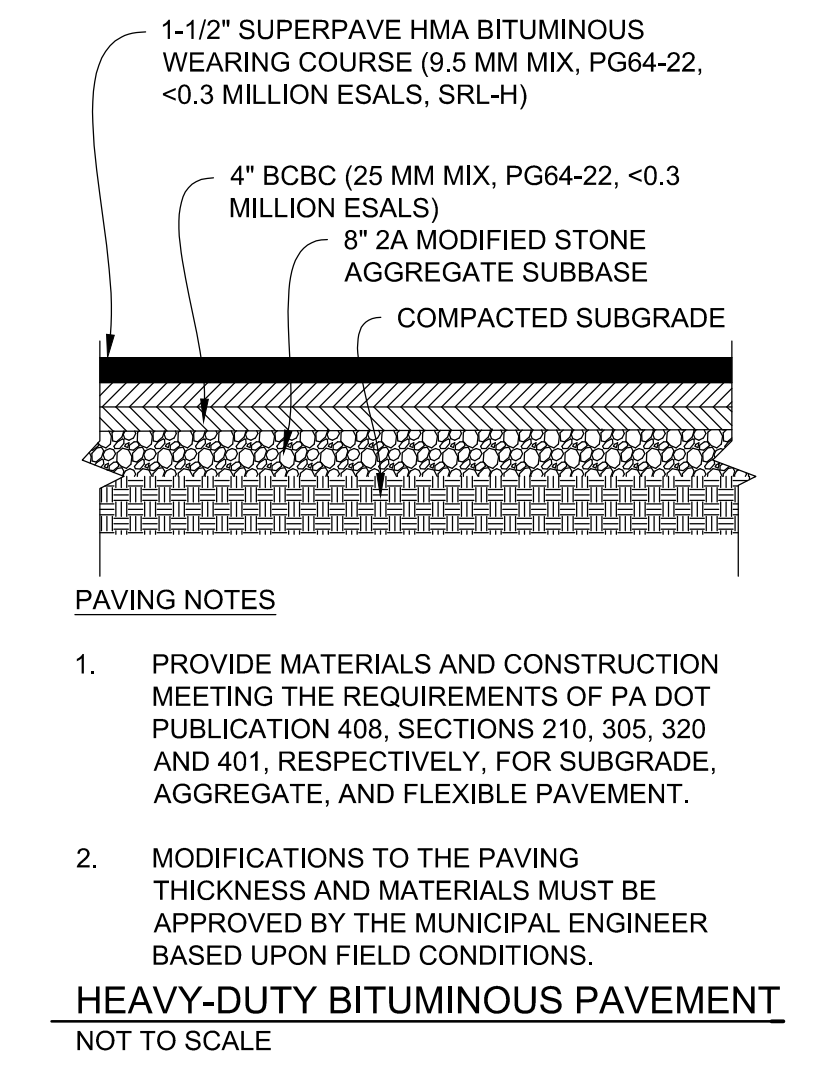
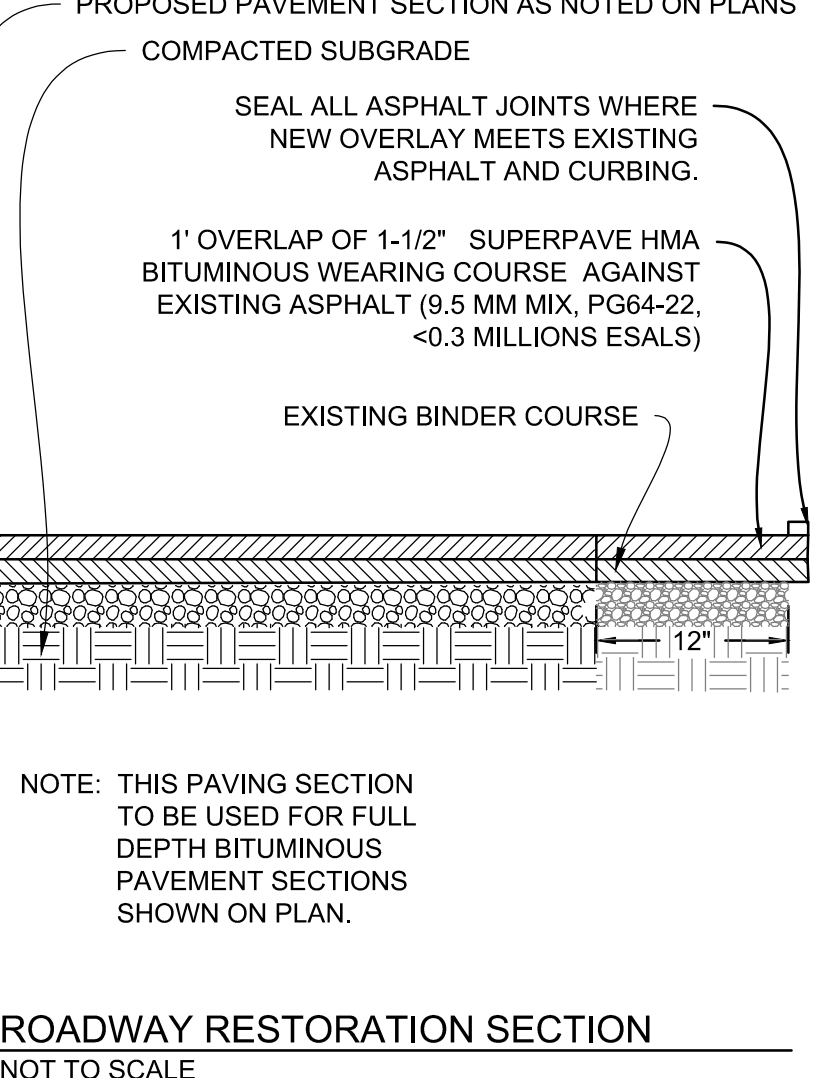
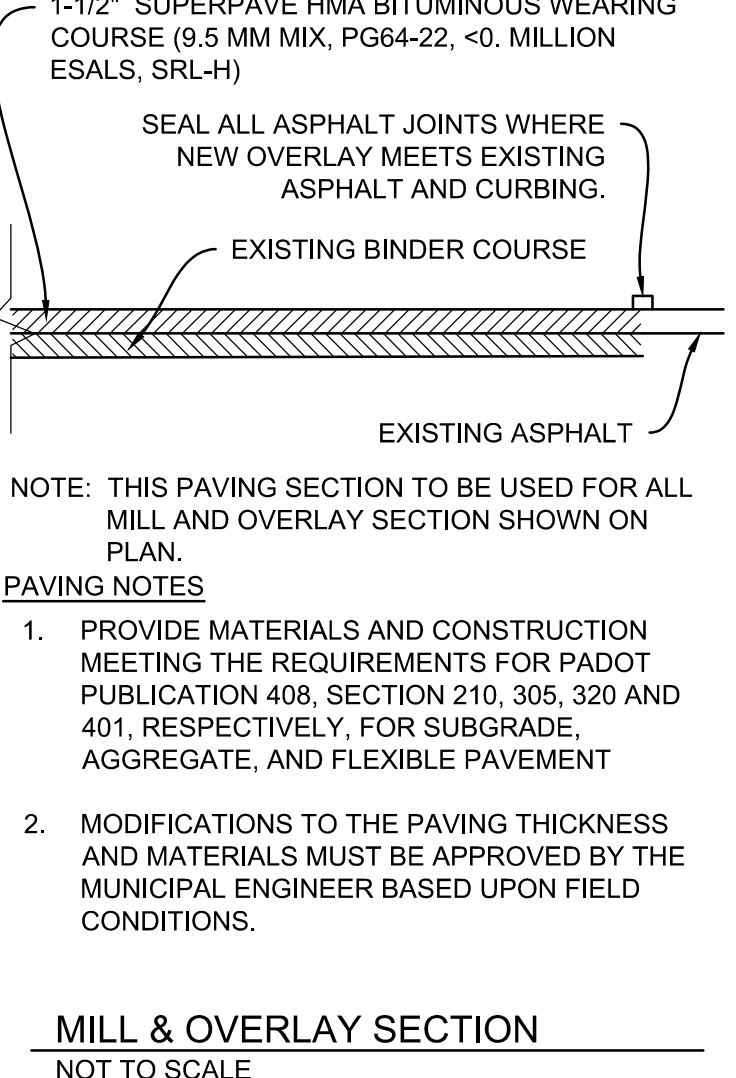
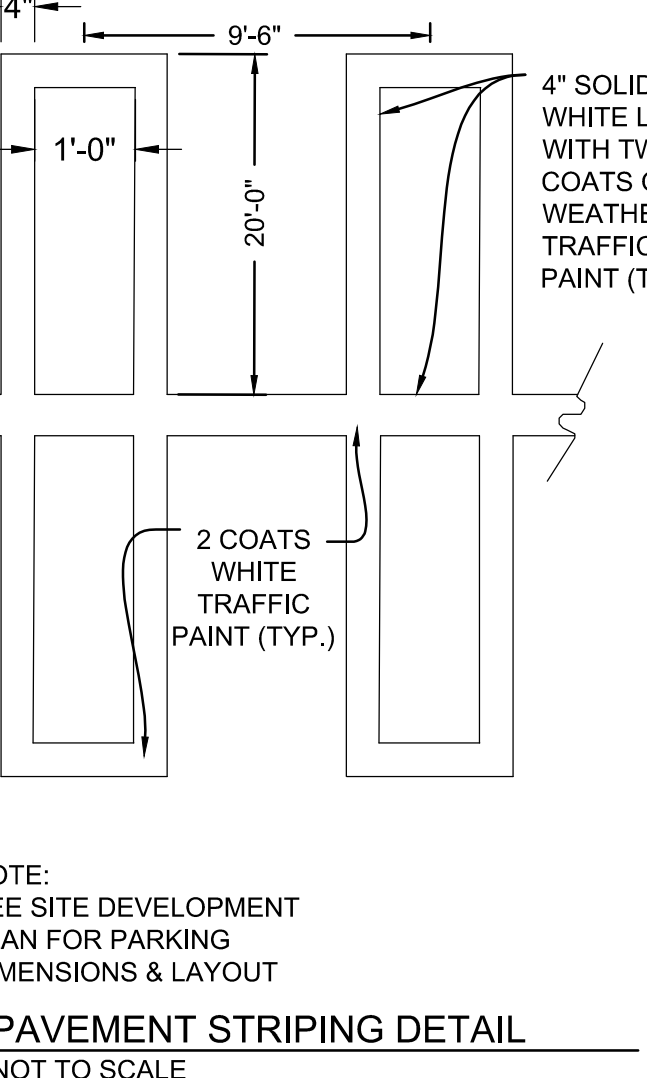
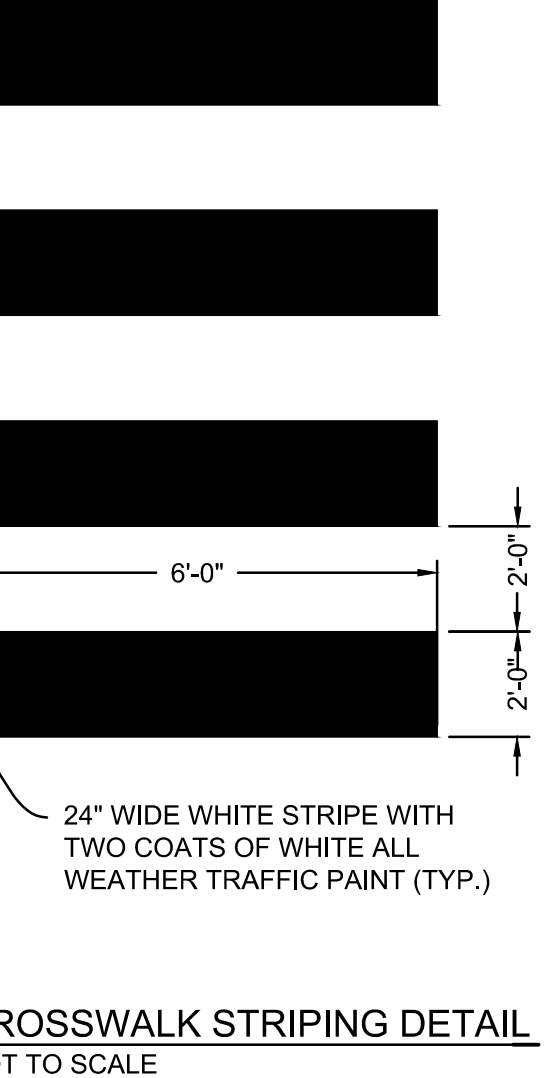
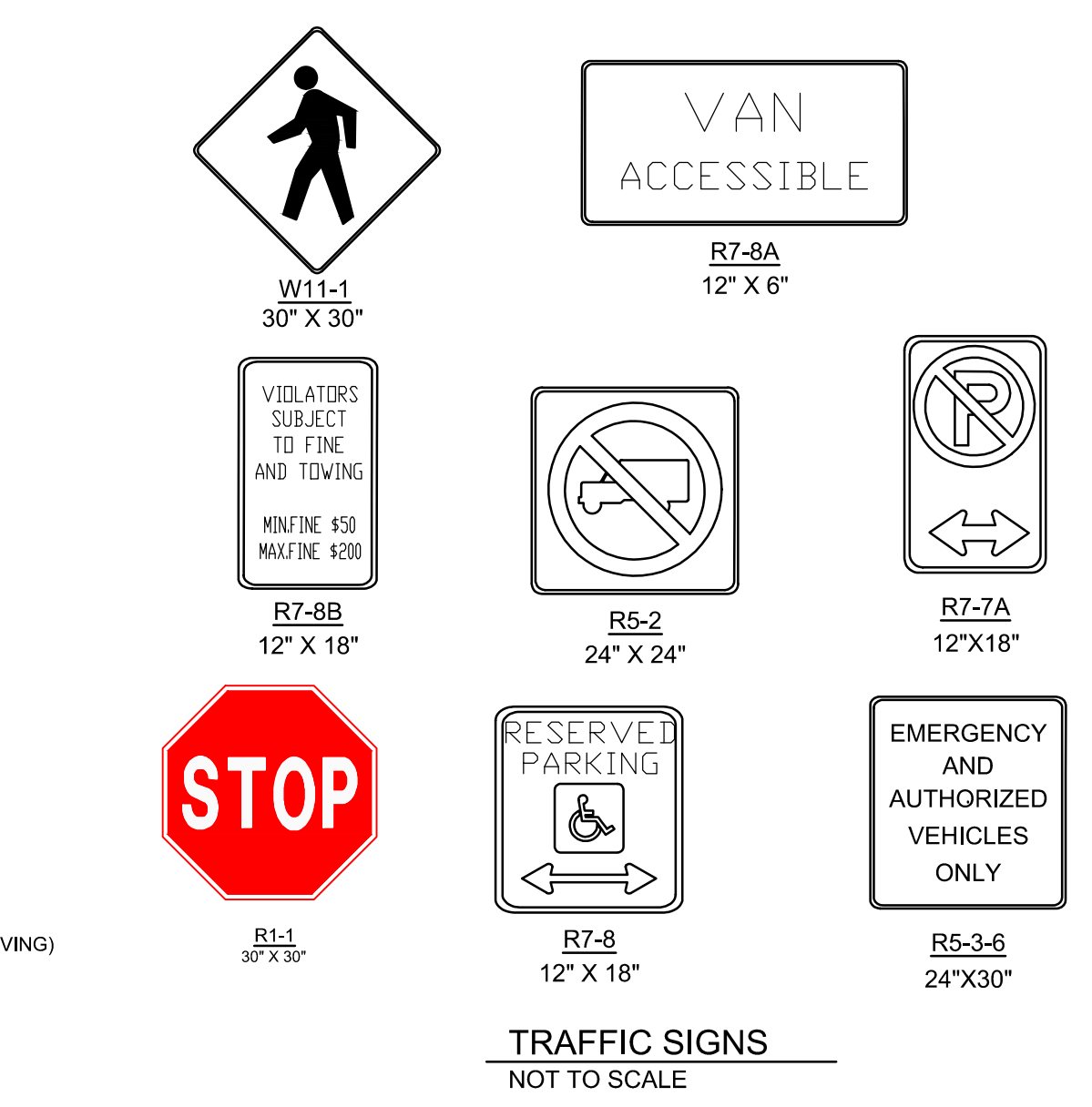
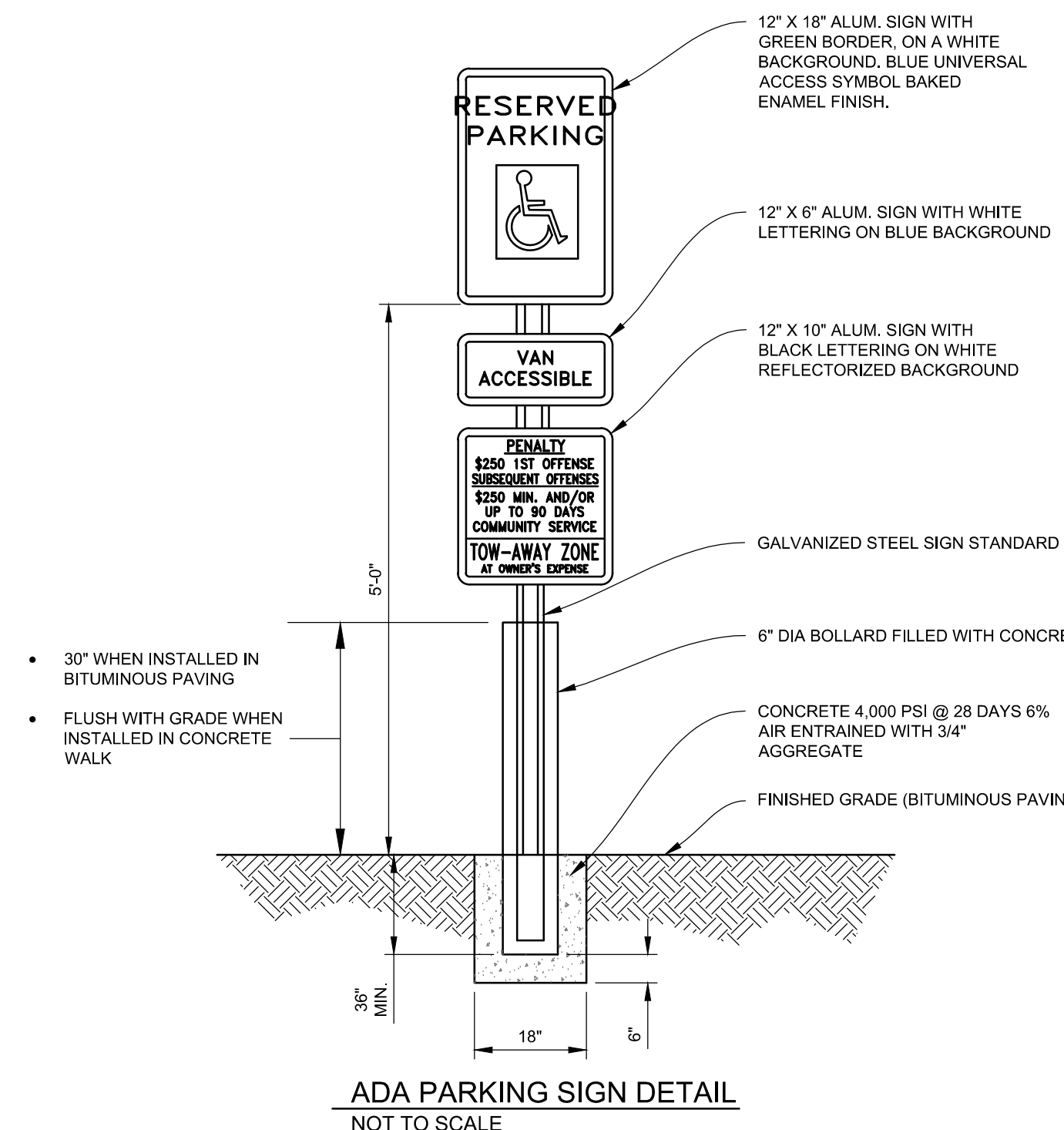
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ONE-CALL SYSTEM, INC.
SERIAL NUMBER: 2015285948-000



NOT FOR CONSTRUCTION

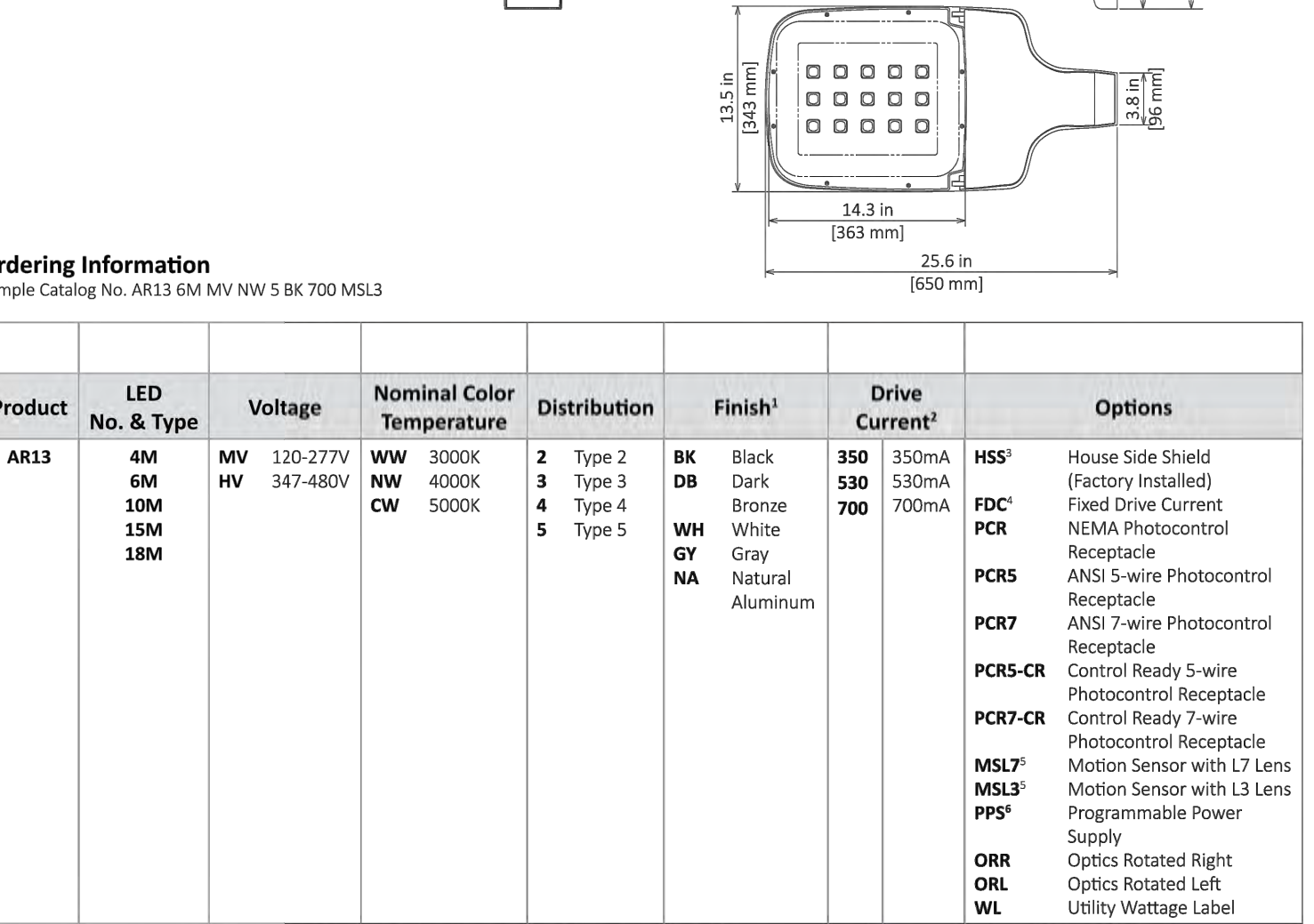
CS1701

PHOTO: 3/20/13 12:34 PM BY: James Janku
PLOTFILE: PennMed1602.dwg
PLOTDATE: 3/20/13 12:34 PM BY: James Janku



ARIETA™13 LED Area Luminaire AR13

Luminaire Data
 Weight 15.4 lbs (7 kg)
 EPA 0.47 ft²



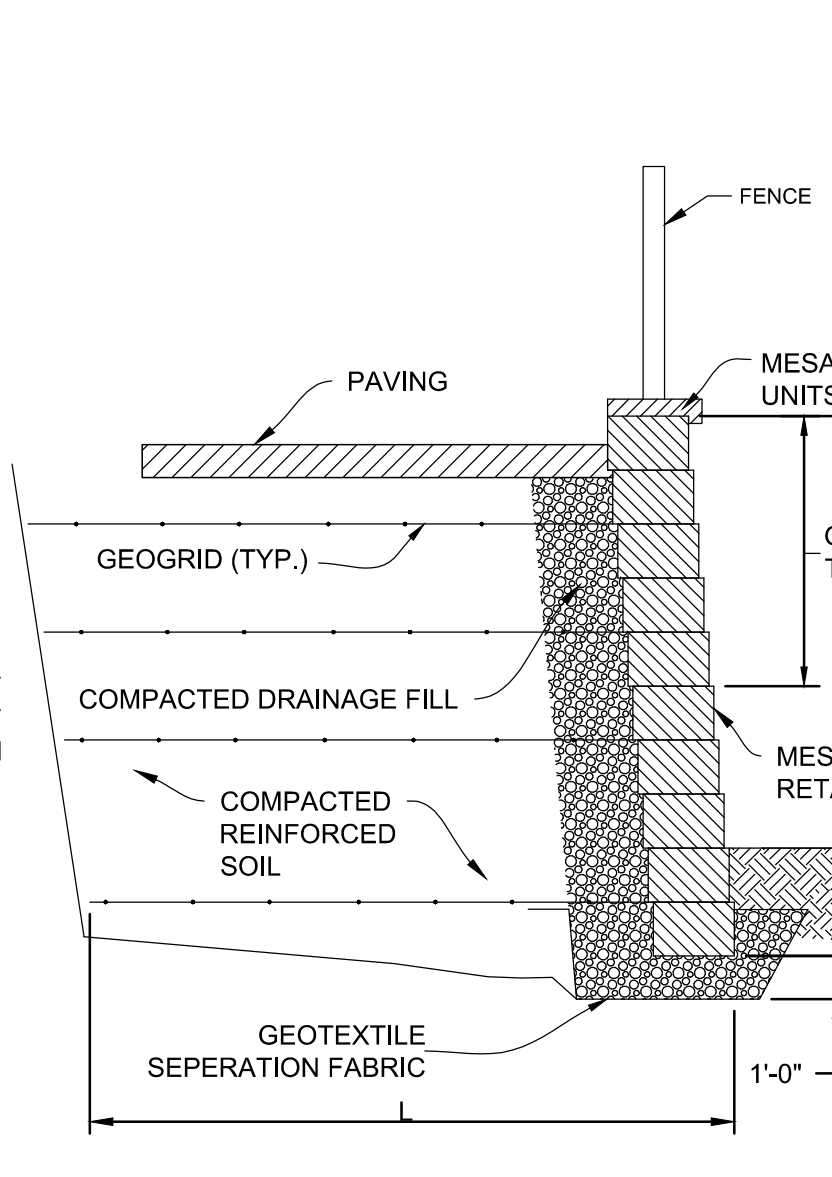
Notes:

1. Black, Dark Bronze, White, or Gray standard, consult factory for Natural Aluminum or other finishes.
2. Factory set drive current, field adjustable standard. Refer to performance data on page 3. Consult factory if wattage limits require a special drive current.
3. High mounted shield fixtures installed also available for field installation. House Side Shield cuts light off at 1/2 mounting height behind luminaire.
4. Non-field adjustable drive current. Specify 200mA, 500mA or 700mA setting.
5. Motion Sensor available with MV only. Motion Sensor default setting dims luminaire to 50% when no motion detected for 5 minutes. Field adjustable using 0-100% for alternate settings. See L1 or L3 lens coverage details on page 1. Consult factory for MS specified with AAS 5-wire or 7-wire Photocoupled Receptacle. Luminaire warranty is limited to 5 years with a Motion Sensor. PCB option is required for On/Off control using light detection.
6. Consult factory for programming.
7. Specify Color (DR, BK, WH, NA).
8. Specify Lens (L1, L2, L3, L4, L5, L6, L7, L8, L9, L10, L11, L12, L13, L14, L15, L16, L17, L18, L19, L20, L21, L22, L23, L24, L25, L26, L27, L28, L29, L30, L31, L32, L33, L34, L35, L36, L37, L38, L39, L40, L41, L42, L43, L44, L45, L46, L47, L48, L49, L50, L51, L52, L53, L54, L55, L56, L57, L58, L59, L60, L61, L62, L63, L64, L65, L66, L67, L68, L69, L70, L71, L72, L73, L74, L75, L76, L77, L78, L79, L80, L81, L82, L83, L84, L85, L86, L87, L88, L89, L90, L91, L92, L93, L94, L95, L96, L97, L98, L99, L100).

¹Accessories are ordered separately and not to be included in the listing number.

LIGHT FIXTURE DETAIL
 NOT TO SCALE

TYPICAL RETAINING WALL DETAIL
 NOT TO SCALE



ASPHALT PAVEMENT SECTION
 NOT TO SCALE

GEGRID WALL REINFORCEMENT SPECIFICATIONS

GENERAL

1. DESCRIPTION OF WORK INCLUDES FURNISHING & INSTALLING WALL UNITS. GEGRID REINFORCEMENT, WALL FILL AND BACKFILL TO THE LINES AND GRADES DESIGNATED ON THE CONSTRUCTION DRAWINGS. ALSO INCLUDED IS THE FURNISHING AND INSTALLING ALL APPURTENANT MATERIALS REQUIRED FOR CONSTRUCTION OF THE GEGRID REINFORCED SOIL RETAINING WALL AS SHOWN ON THE CONSTRUCTION DRAWINGS.
2. FOR LOCATIONS OF MESA STANDARD (OR EQUAL) RETAINING WALLS, REFER TO DRAWINGS.
3. SEE SPECIFIED GEGRID MANUFACTURERS REFERENCE STANDARDS.
4. CONTRACTOR SHALL CHECK THE GEGRID UPON DELIVERY TO ASSURE THAT THE PROPER MATERIALS HAS BEEN RECEIVED.
5. GEGRIDS SHALL BE STORED ABOVE +20' F.
6. CONTRACTOR SHALL PREVENT EXCESSIVE MUD, WET CEMENT, EPOXY AND LIKE MATERIALS WHICH MAY AFFIX THEMSELVES TO THE GEORGRID, FROM COMING IN CONTACT WITH THE GEORGRID MATERIAL.
7. ROLLED GEORGRID MATERIAL MAYBE LAID FLAT OR STOOD ON END FOR STORAGE.

DEFINITIONS

1. GEORGRID PRODUCTS SHALL BE OF HIGH DENSITY POLYETHYLENE OR POLYESTER FIBER SPECIFICALLY FABRICATED FOR USE AS A SOIL REINFORCEMENT MATERIAL.
2. CONCRETE RETAINING WALL UNITS ARE AS DETAILED OR NOTED ON THE DRAWINGS.
3. WALL FILL IS A FREE DRAINING GRANULAR MATERIAL USED WITHIN THE CONCRETE UNITS.
4. BACKFILL IS THE SOIL WHICH IS USED AS FILL FOR THE REINFORCED SOIL MASS.
5. FOUNDATION SOIL IS THE INSITU SOIL.

PRODUCTS

1. GEORGRID SHALL BE TENSAR STRUCTURAL GEORGRID, MANUFACTURED BY TENSAR EARTH TECHNOLOGIES, INC. OR APPROVED SUBSTITUTE HAVING THE PROPERTY REQUIREMENTS AS DESCRIBED WITHIN THE MANUFACTURERS SPECIFICATIONS.

FOUNDATION & SOIL PREPARATION

1. ALL PHASES OF THE FOUNDATION EXCAVATION AND PREPARATION, GEORGRID PLACEMENT AND BACKFILLING ARE TO BE REVIEWED AND APPROVED BY A QUALIFIED GEOTECHNICAL ENGINEER, LICENSED IN THE COMMONWEALTH OF PENNSYLVANIA.
2. FOUNDATION SOIL SHALL BE EXCAVATED TO THE LINES AND GRADES AS SHOWN ON THE CONSTRUCTION DRAWINGS OR AS DIRECTED BY THE GEOTECHNICAL ENGINEER.
3. FOUNDATION SOIL SHALL BE EXAMINED BY THE GEOTECHNICAL ENGINEER TO ASSURE THAT THE ACTUAL FOUNDATION SOIL MEETS OR EXCEEDS ASSUMED DESIGN STRENGTH.
4. OVER-EXCAVATED AREAS SHALL BE FILLED WITH APPROVED COMPACTED BACKFILL MATERIAL.
5. FOUNDATION SOIL SHALL BE PROOF ROLLED PRIOR TO FILL AND GEORGRID PLACEMENT.

WALL ERECTION

1. WALL ERECTION SHALL BE AS SPECIFIED WITH MESA WALL MANUFACTURES SPECIFICATIONS AND AS NOTED ON THE DRAWINGS.

FOUNDATION & SOIL PREPARATION

WALL ERECTION

1. WALL ERECTION SHALL BE AS SPECIFIED WITH MESA WALL MANUFACTURES SPECIFICATIONS AND AS NOTED ON THE DRAWINGS.

KEY PLAN



SEAL:

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 DRAWING ISSUE

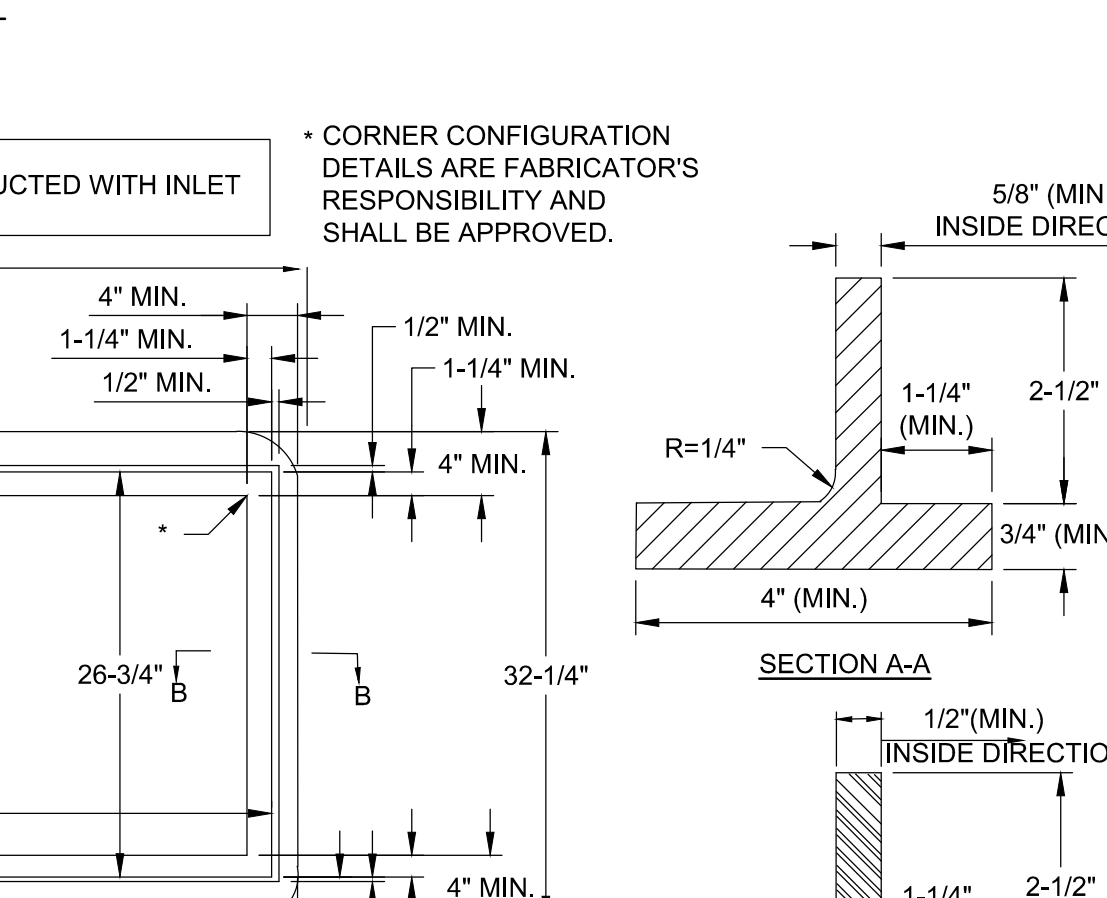
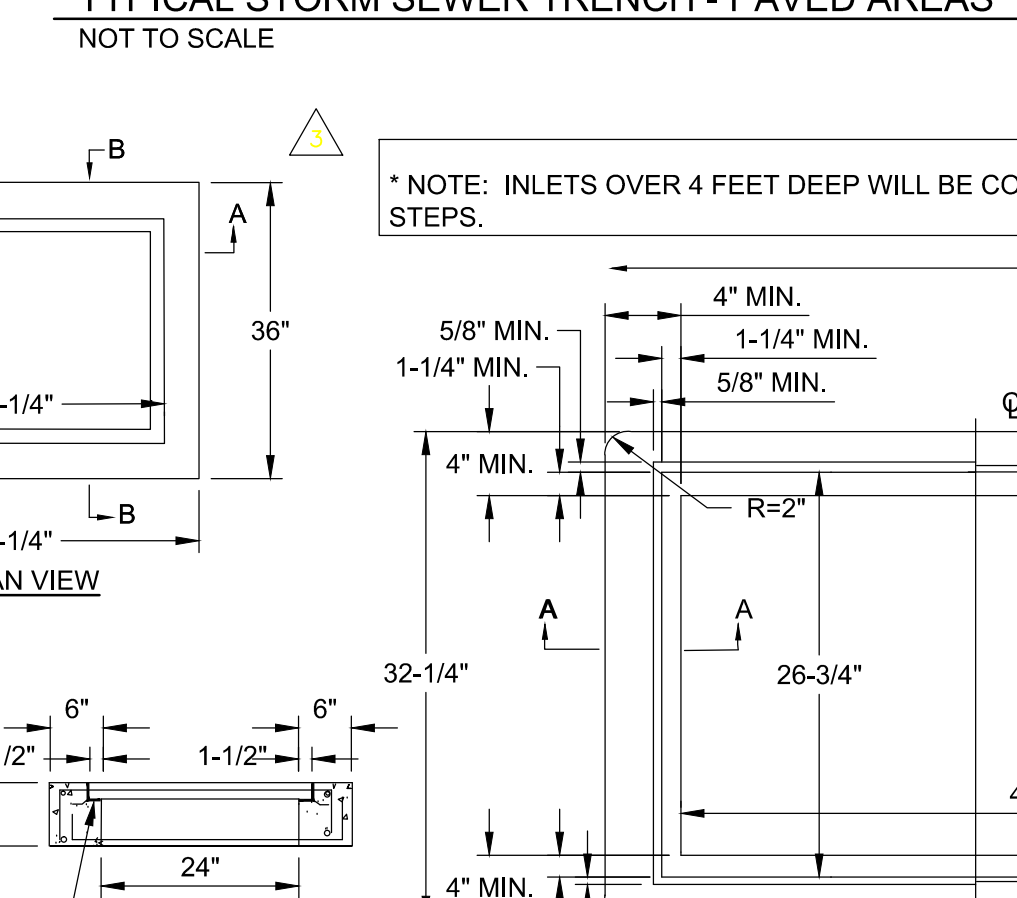
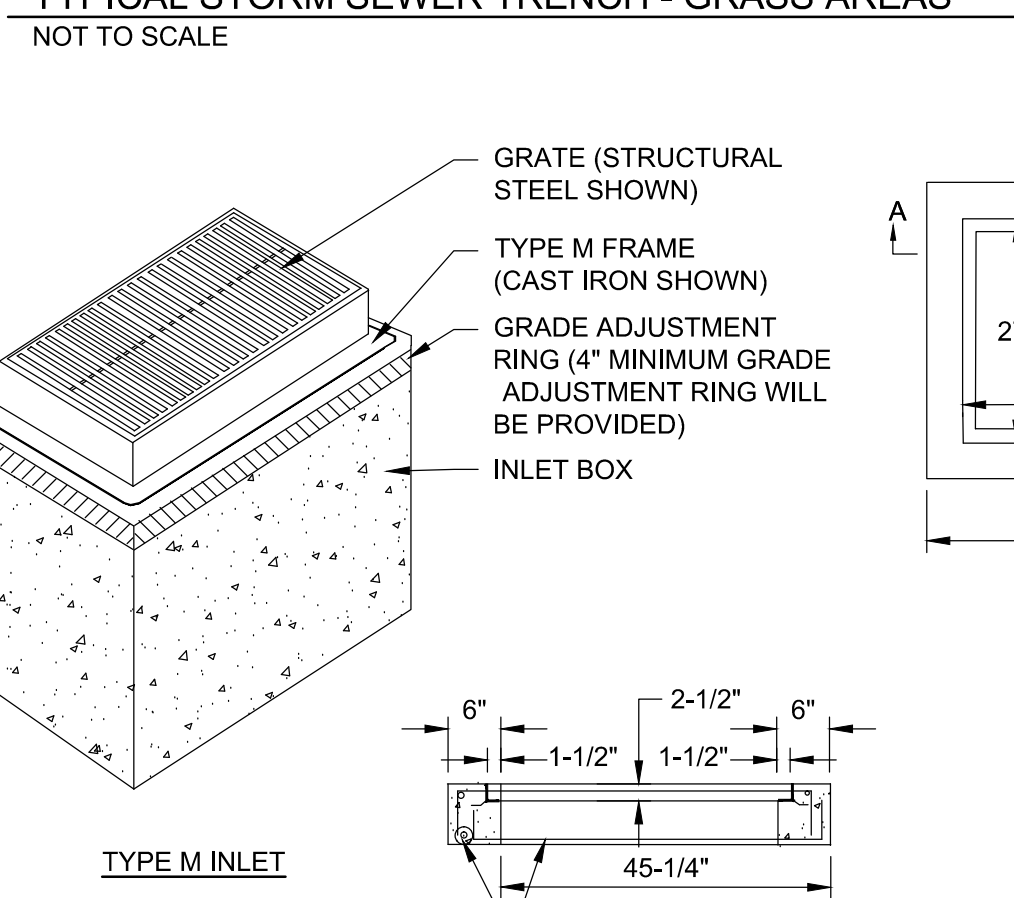
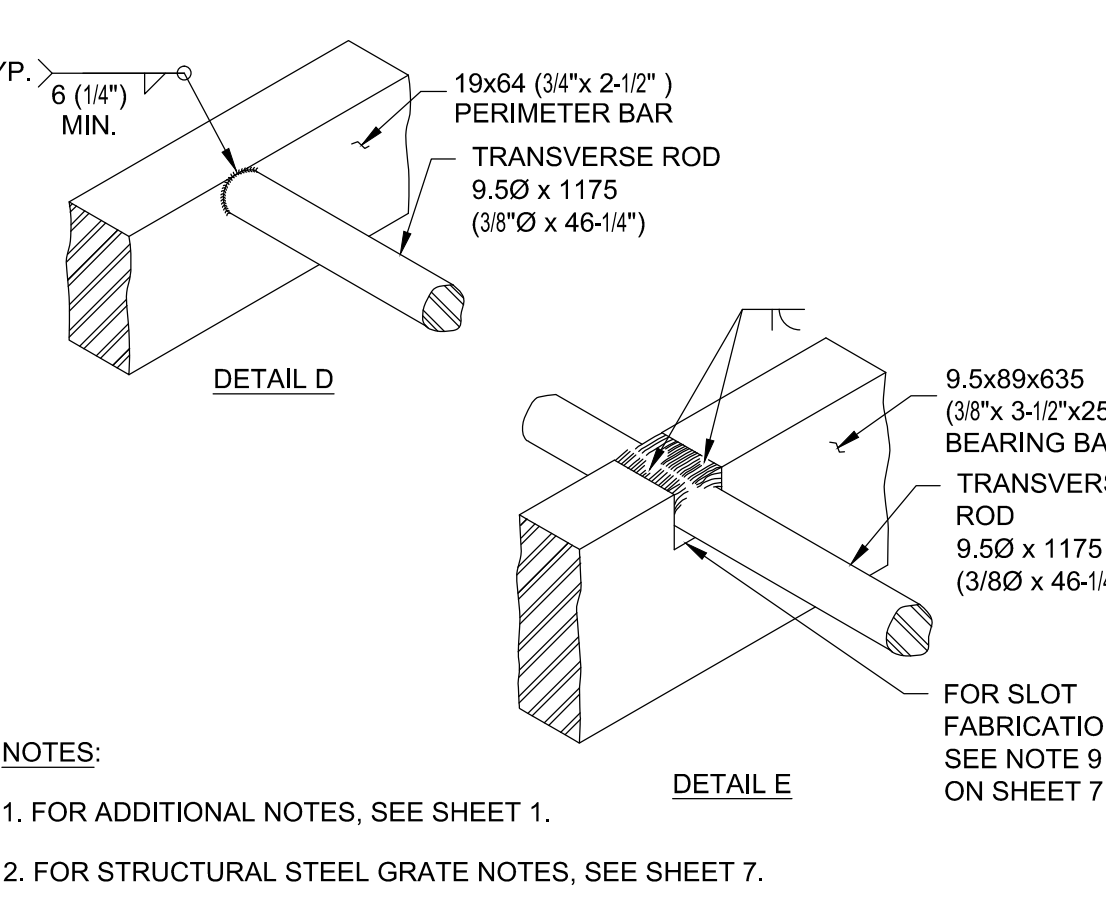
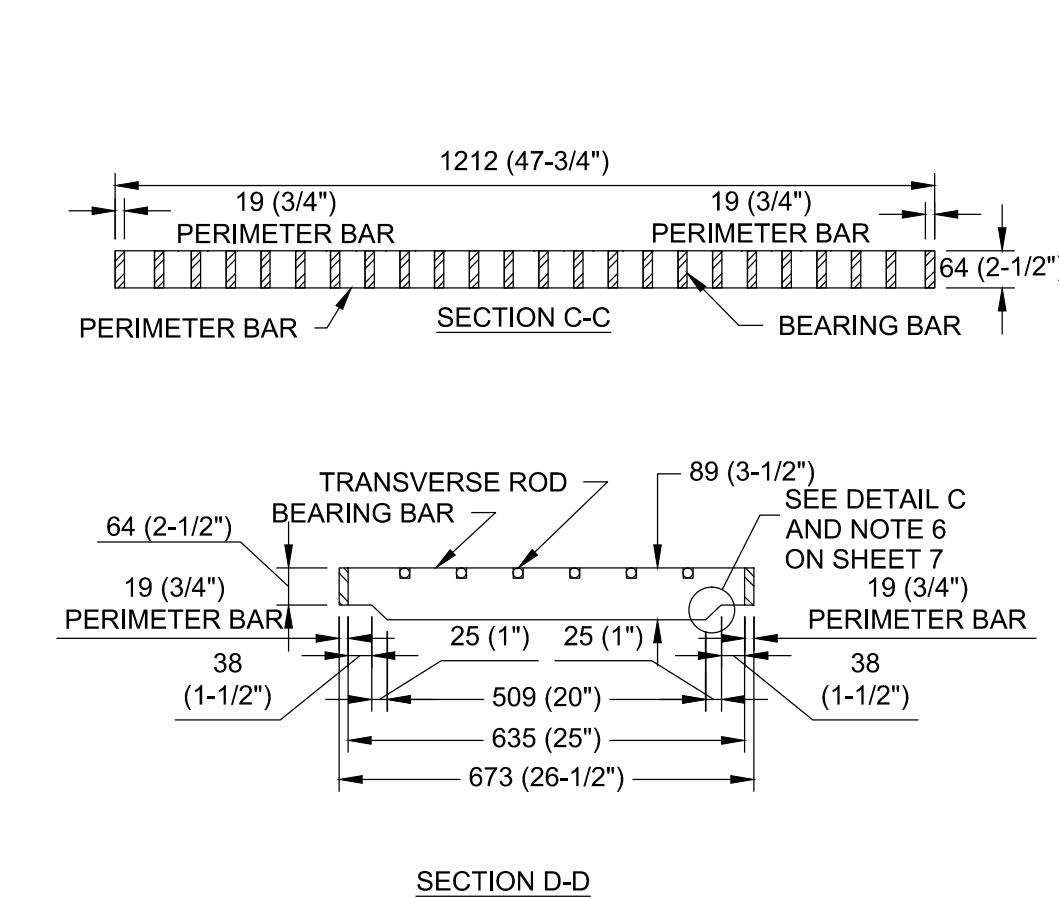
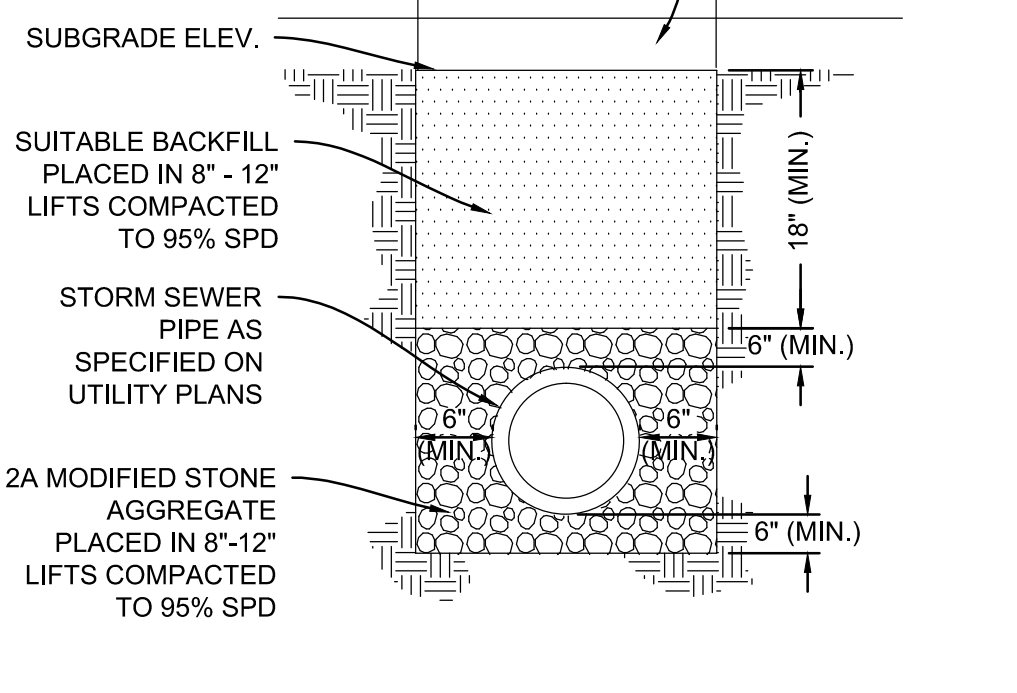
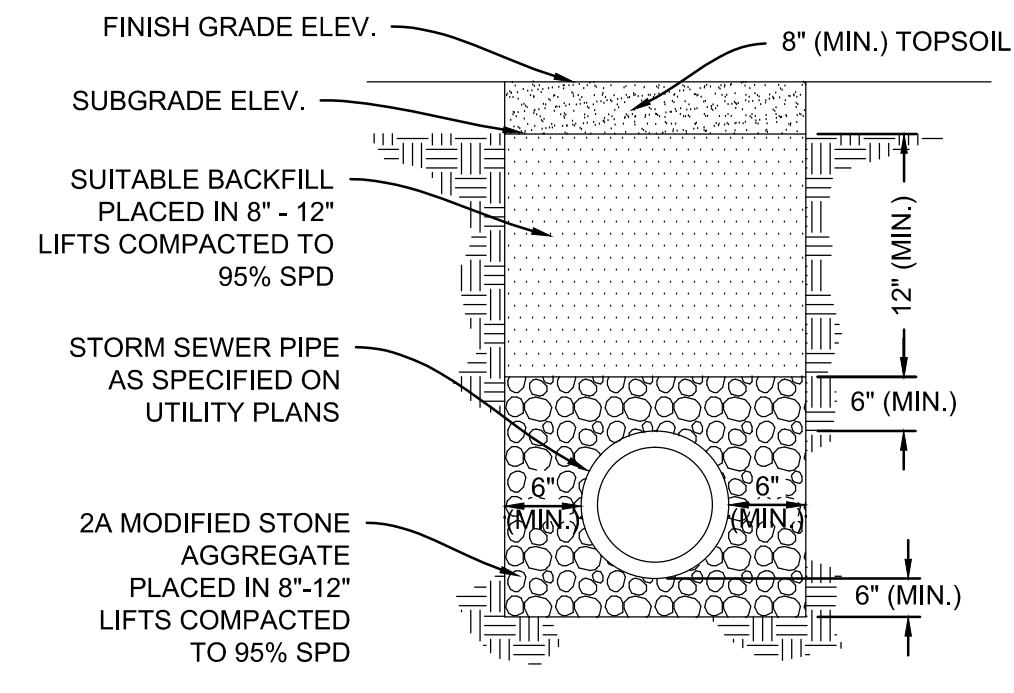
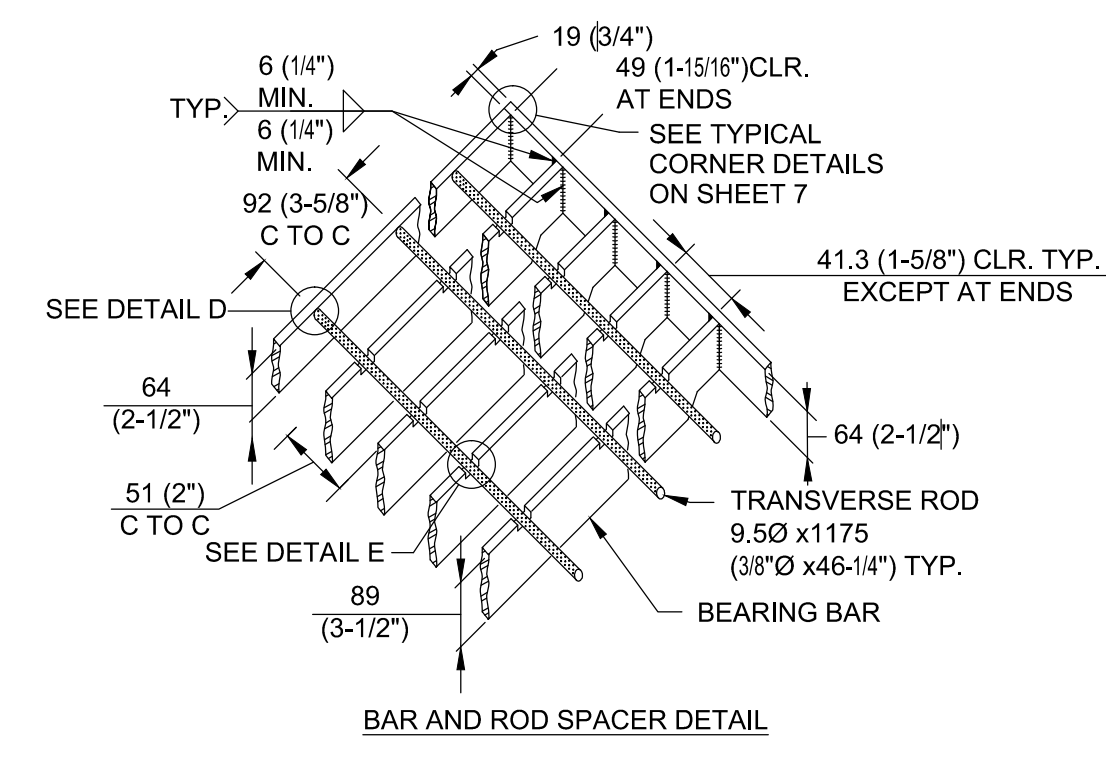
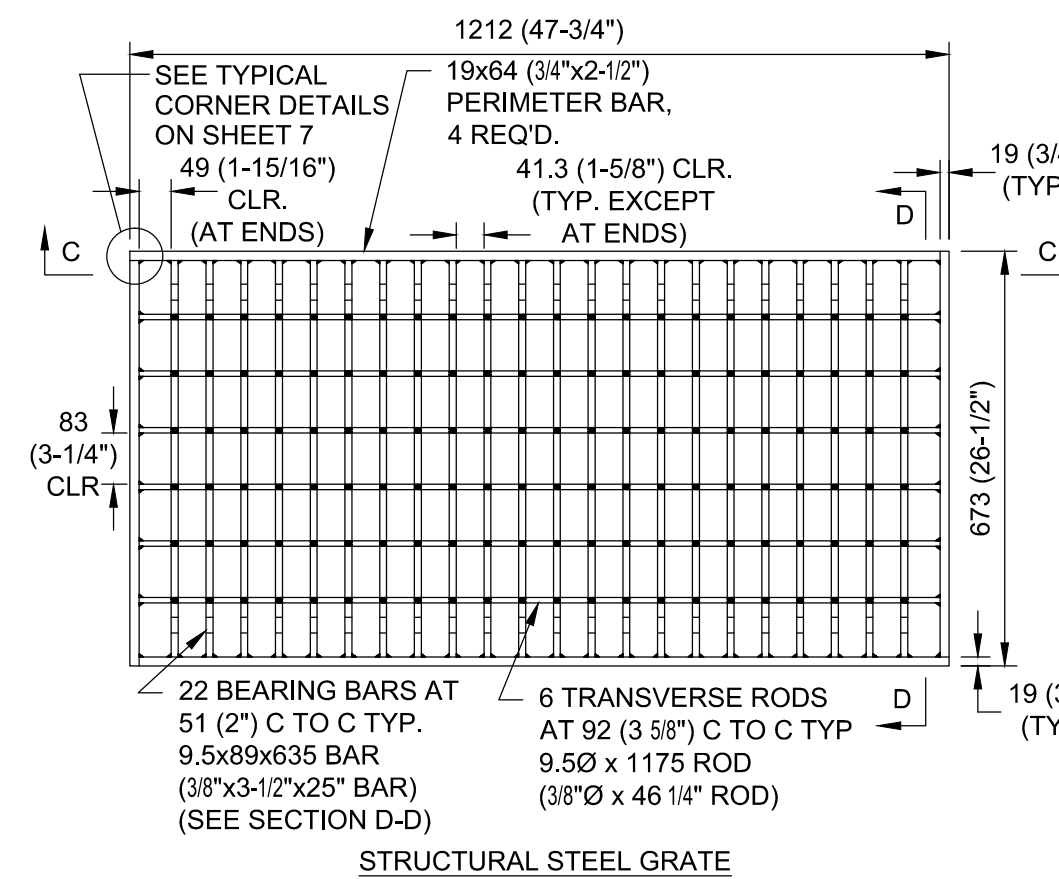
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 SCALE: AS SHOWN
 ARCHITECTURE
 TITLE:

SITE DETAILS
 SHEET: 13 OF 27
 NUMBER:



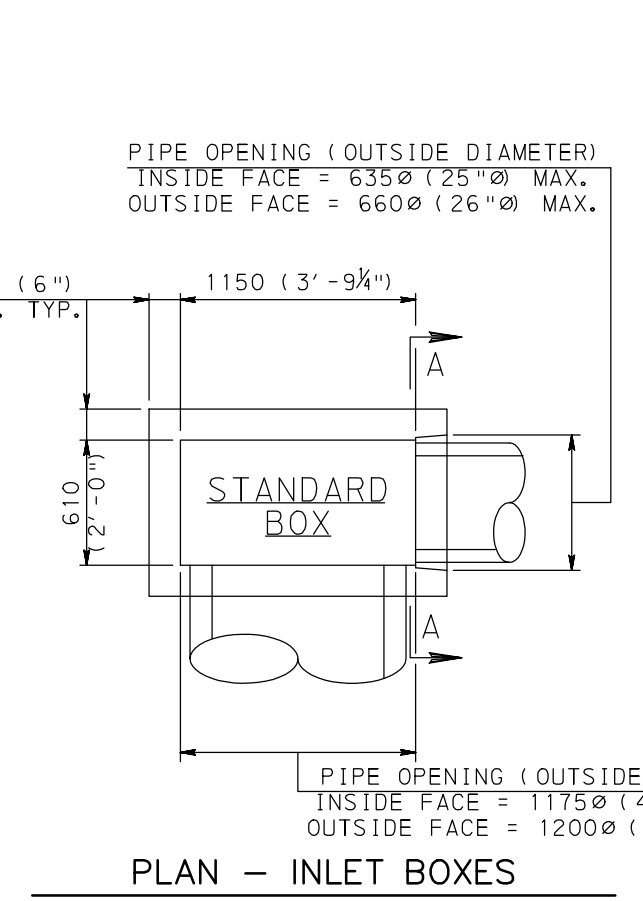
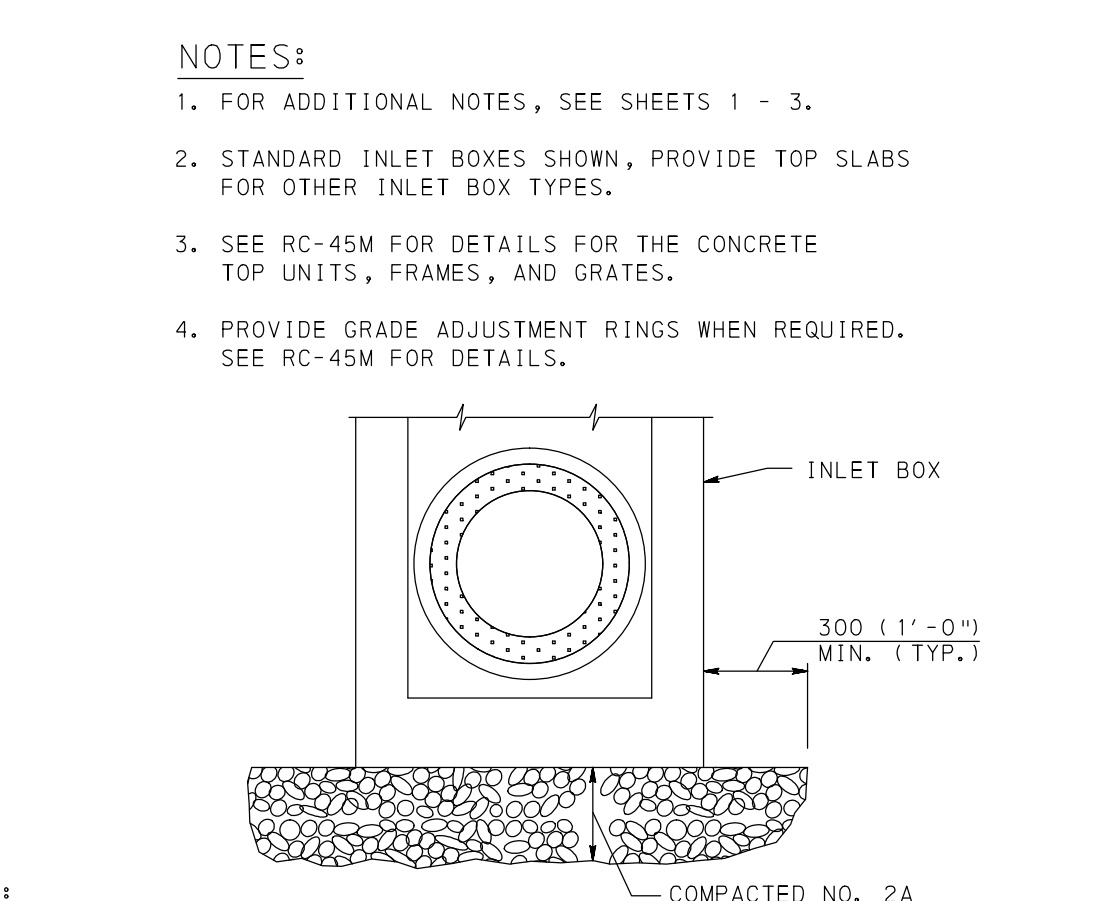
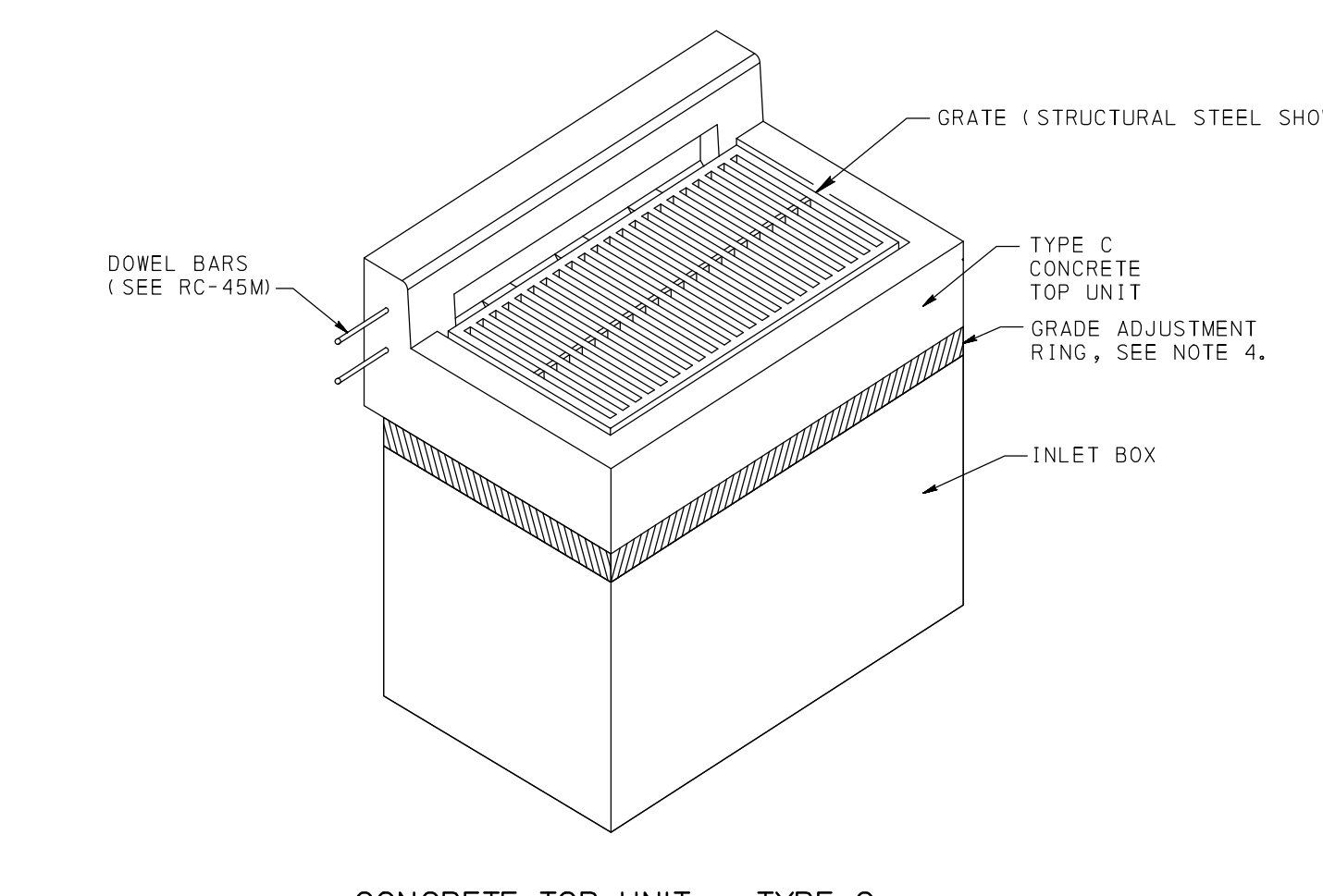
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 ONE-CALL SYSTEM, INC.
 SERIAL NUMBER: 2015285945-000

NOT FOR CONSTRUCTION CS6001



STRUCTURAL STEEL GRATE - BICYCLE SAFE (PENNDOT STANDARD RC-45)
NOT TO SCALE

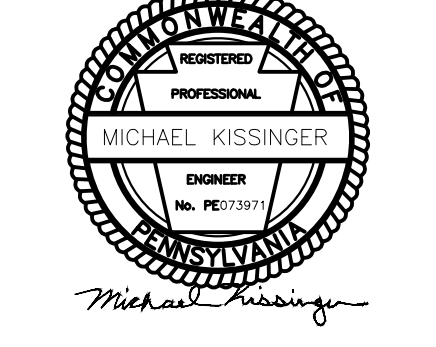
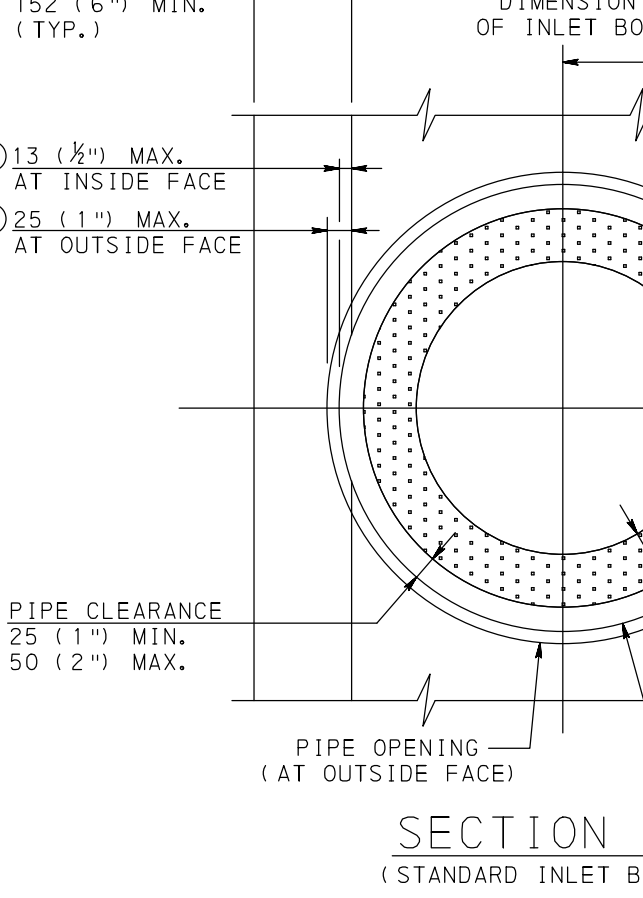
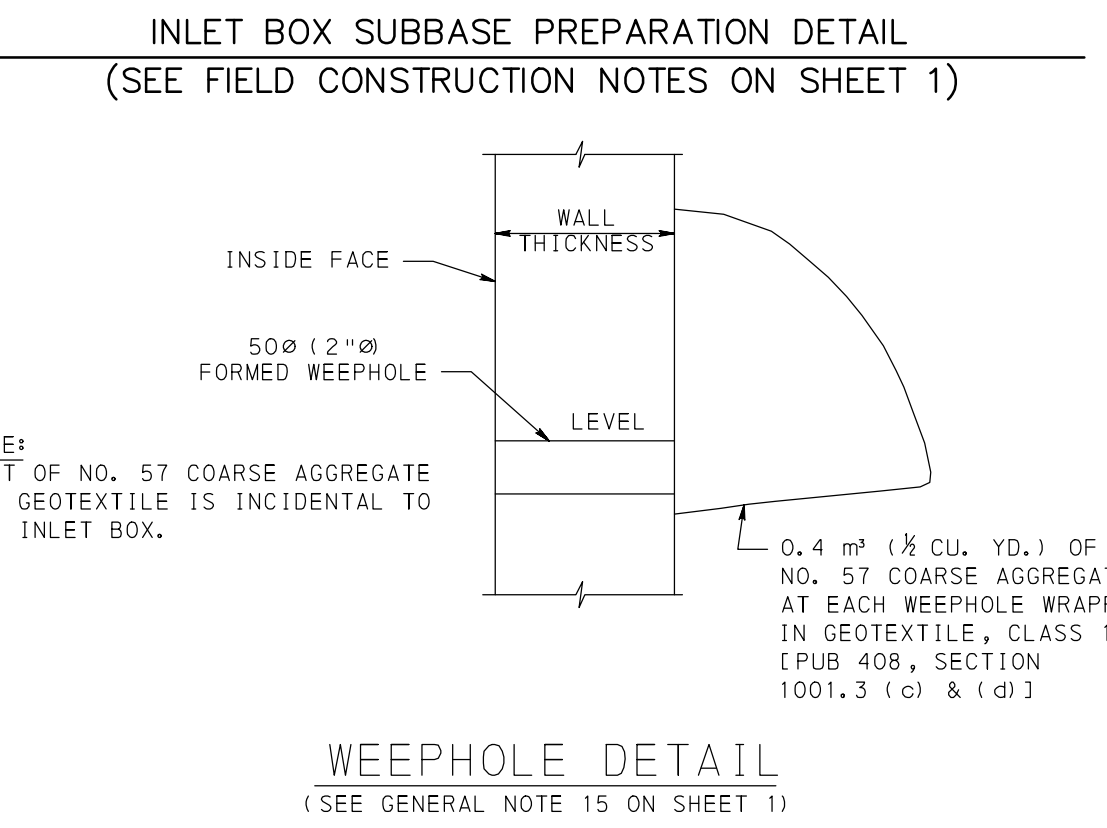
TYPE M INLET - PENNDOT STANDARD RC-34
NOT TO SCALE



PRECAST CONCRETE INLET BOX NOTES:

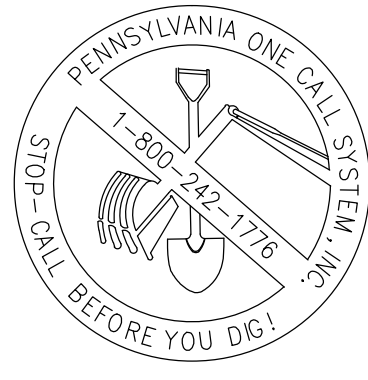
- 1. CONSTRUCT INLET BOXES IN ACCORDANCE WITH THE REQUIREMENTS OF PUBLICATION 408, SECTION 114.
- 2. PROVIDE PRECAST CONCRETE INLET BOXES SUPPLIED BY A MANUFACTURER LISTED IN BULLETIN 15.
- 3. PROVIDE A TOP SLAB TO SUPPORT THE INLET TOP UNITS M, S, C AND C ALTERNATE WHEN A STANDARD INLET BOX IS NOT SPECIFIED. PROVIDE OPENING TO ACCOMMODATE THE STANDARD TOP COMPONENTS. PROVIDE A TOP SLAB WITH A ROUND OPENING FOR MANHOLE COVER WHEN SPECIFIED ON THE CONTRACT DRAWINGS.
- 4. PROVIDE A TRANSITION SLAB BETWEEN TWO SEPARATE INLET BOX SIZES, WHEN TWO SEPARATE INLET BOX SIZES ARE USED. (SEE TRANSITION SLAB NOTES.)
- 5. CLEAR COVER FOR STEEL:
WALLS: 38 mm (1 1/2")
FOOTINGS (BOTTOM SLAB):
TOP COVER: 50 mm (2")
BOTTOM COVER: 38 mm (1 1/2")
SIDE COVER: 38 mm (1 1/2")
TOP AND TRANSITION SLABS (TOP AND BOTTOM): 38 mm (1 1/2")
- 6. MINIMUM SLAB AND WALL THICKNESS:
MINIMUM TOP SLAB THICKNESS: 203 mm (8")
MINIMUM WALL THICKNESS: 152 mm (6")
MINIMUM BOTTOM SLAB THICKNESS: 178 mm (7")
- 7. THICKNESS OF WALL IS PERMITTED TO VARY FROM SECTION TO SECTION. INSIDE FACE OF WALLS MUST ALIGN BETWEEN SECTIONS.
- 8. FABRICATOR IS RESPONSIBLE FOR LIFTING, HANDLING AND TRANSPORTATION STRESSES.
- 9. LIFTING DEVICES:
PROVIDE GALVANIZED STEEL OR PLASTIC LIFTING DEVICES FOR HANDLING AND INSTALLATION.
FILL LIFTING DEVICES WITH NON-SHRINK GROUT AFTER INSTALLATION.
PROVIDE LIFTING DEVICES WITH A MINIMUM CAPACITY OF AT LEAST FOUR TIMES THE CALCULATED LOAD ON THE DEVICES.
- 10. TAPERS MAY BE PROVIDED ON THE INSIDE AND/OR OUTSIDE VERTICAL FACES OF THE INLET BOXES TO FACILITATE FORM STRIPPING. TAPERS MAY RESULT IN INTERNAL BOTTOM DIMENSIONS THAT VARY 20 mm (3/4") PER SIDE TO A MAXIMUM OF 25 mm (1") PER SIDE.
- 11. KEVED JOINTS MAY BE CONSTRUCTED UPWARDS OR DOWNWARDS. CLEAN JOINTS AND KEYS THOROUGHLY BEFORE PLACING NEXT SEGMENT. PLACE MORTAR OR CAULKING COMPOUND BETWEEN JOINTS IN ACCORDANCE WITH THIS STANDARD.
- 12. PROVIDE EITHER A SHIPLAP OR KEVED JOINT BETWEEN THE BOTTOM OF THE TOP SLAB AND THE TOP OF THE BOX.
- 13. PROVIDE EITHER A SHIPLAP OR KEVED JOINT BETWEEN THE TRANSITION SLAB AND THE ADJACENT TOP AND BOTTOM SECTIONS.
- 14. PROVIDE EITHER A SHIPLAP OR KEVED JOINT BETWEEN PRECAST SECTIONS.
- 15. SEGMENT HEIGHTS:
MINIMUM HEIGHT:
RISE SECTIONS = 305 mm (1'-0")
BASE SECTIONS = 610 mm (2'-0")
MAXIMUM HEIGHT = 2438 mm (8'-0")

PRE CAST INLET BOXES (PENNDOT STANDARD RC-46)
NOT TO SCALE



CONDITION OF USE

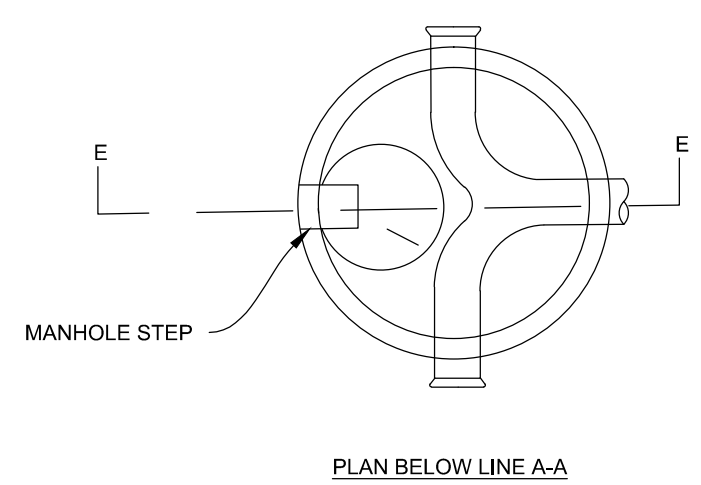
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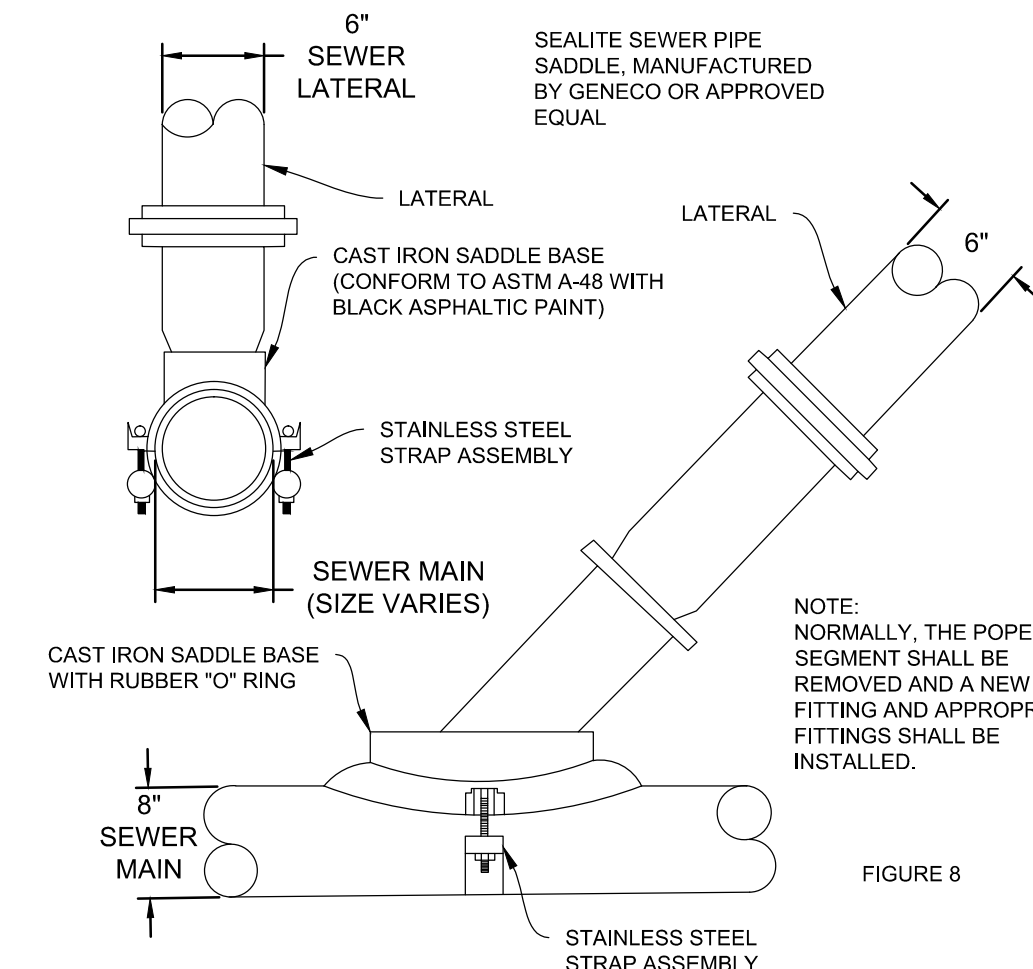
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ONE-CALL SYSTEM, INC.
SERIAL NUMBER: 2015280945-000

REFER TO DETAIL SHEETS
CS9501 TO CS9504 FOR ALL
STORMWATER BASIN DETAILS

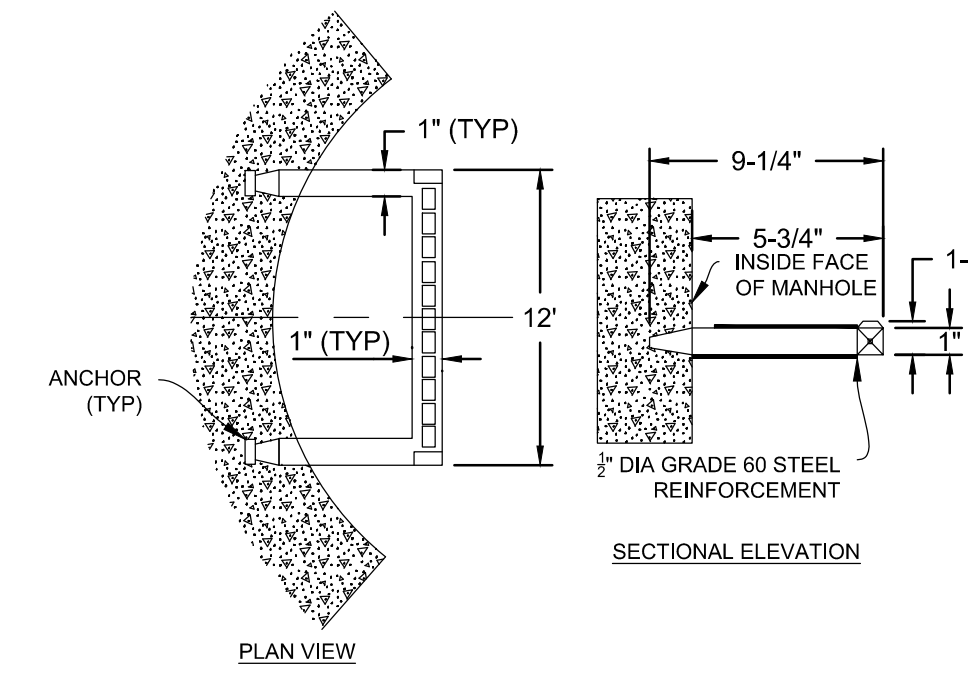
NOT FOR CONSTRUCTION



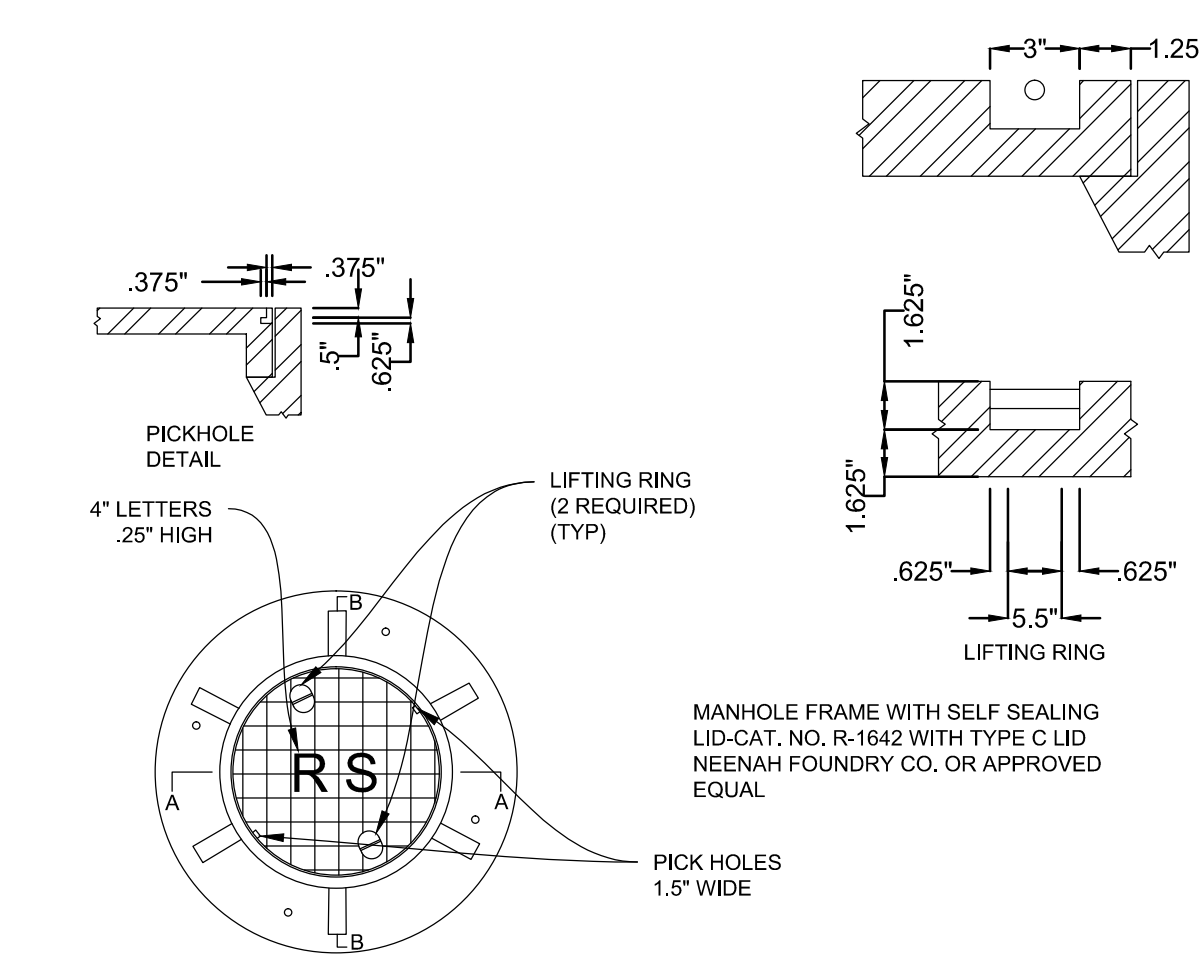
1. THE DEPTH OF THE INVERT CHANNEL SHALL BE EQUAL TO 1/2 OF THE DIAMETER OF THE SEWER.
 2. THE SHELVE SHALL SLOPE TOWARD THE INVERT CHANNEL AT A RATE OF 1" PER FOOT.
 3. FOR MANHOLES HAVING 3" DIA. AND 6" DIA. BASE REDUCTION IN DIAMETER TO 4" SHALL START AT THE FIRST JOINT ABOVE THE UPPERMOST PIPE CONNECTION TO WALL DEPTH IS SUFFICIENT.
 4. ALL MANHOLE FRAMES SHALL BE BOLTED TO THE CONE SECTION OR CONCRETE SLAB WITH 2-3/4" DIA. BOLTS WITH WASHERS AND NUTS WHEN REQUIRED BY ENGINEER.
- WATERTIGHT COVER SHALL HAVE 4-3/4" BOLTS AT 90° ON THE BOLT CIRCLE. ALL BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED.
5. ALL CONCRETE SHALL BE CLASS 4000 P.S.I. MIN AT 28 DAYS.
 6. ENTIRE OUTSIDE SURFACE OF MANHOLE SHALL RECEIVE THREE COATS OF BITUMINOUS COATING, WORKERS 300M OR EQUAL MIN. 2 MIL THICK.
 7. INSTALL PLASTIC PRE-FORMED JOINT SEALANT BETWEEN ALL SECTIONS AND UNDER FRAME.
 8. MANHOLE CONSTRUCTION SHALL BE ACCORDANCE WITH ASTM C413 (SEE FIGURE 4).
 9. STEPS TO BE ALUMINUM ALLOY WITH DEEP TREAD OR REINFORCED PLASTIC.
 10. ALL JOINT GASKETS PER ASTM C443 WITH 10° OMNIDIRECTIONAL DEFLECTION.



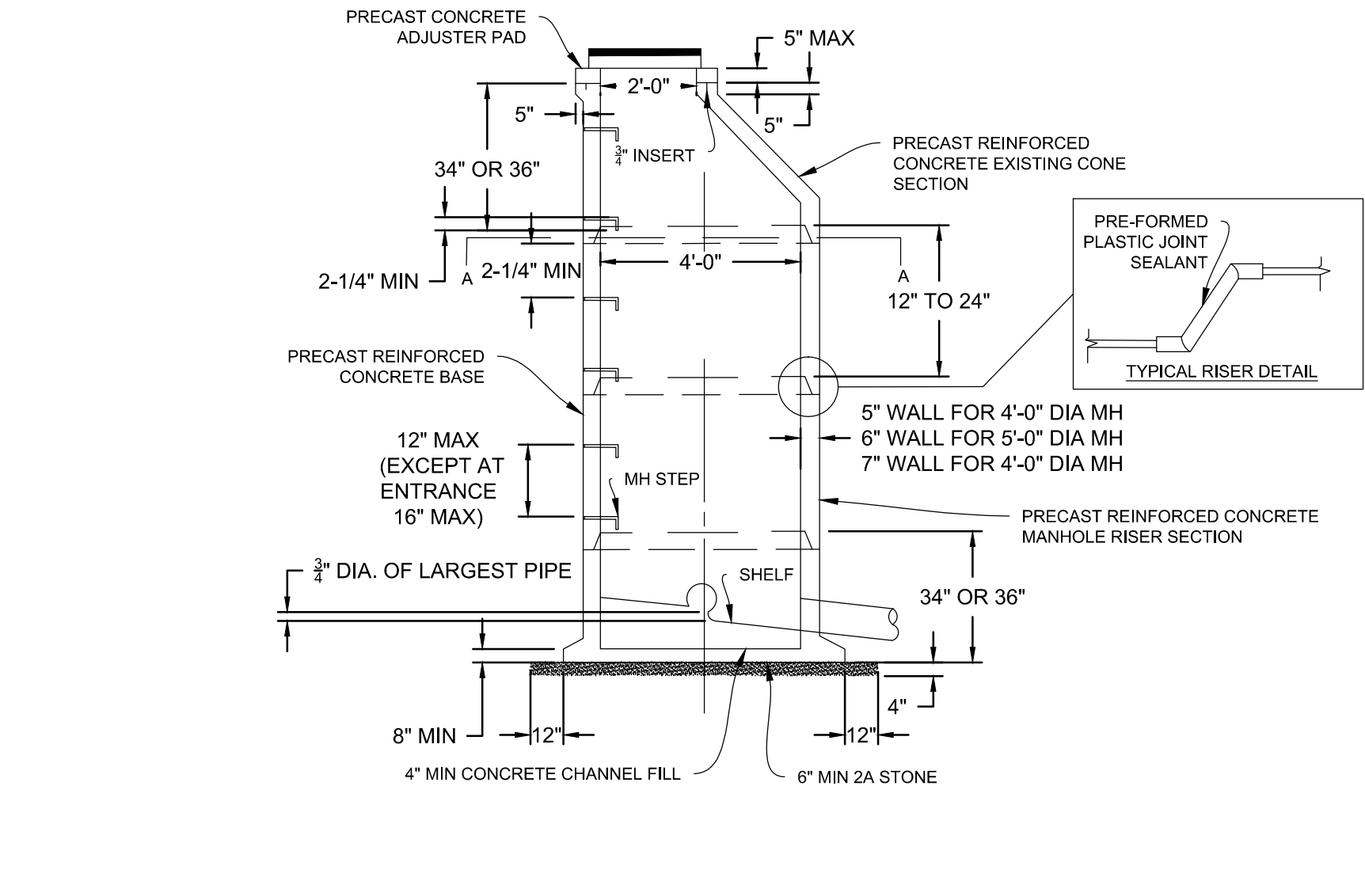
TYPICAL SADDLE CONNECTION
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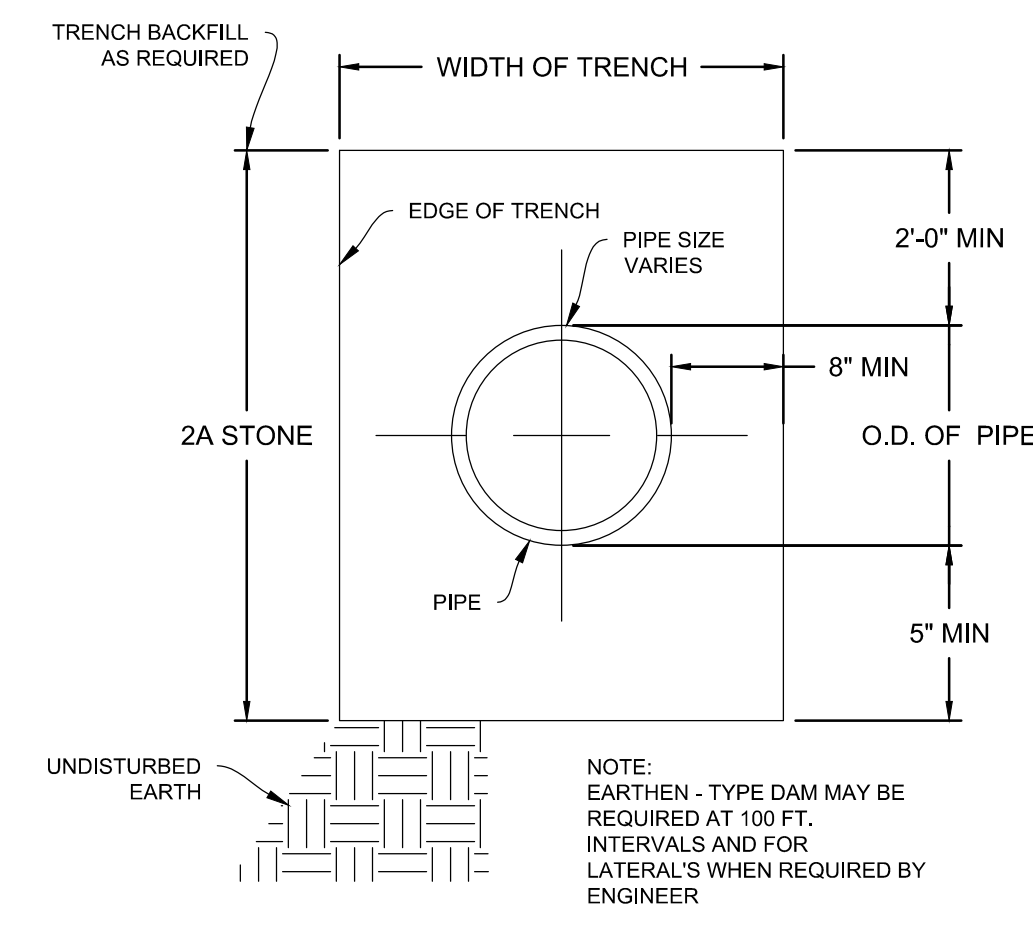
REINFORCED PLASTIC
NOT TO SCALE



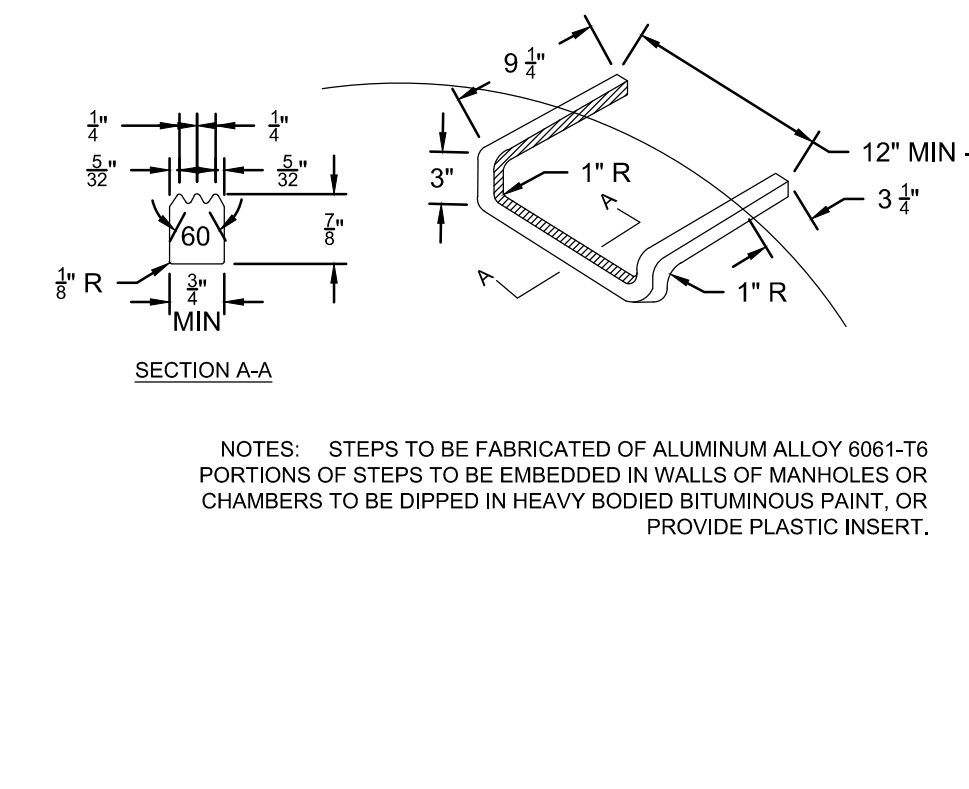
TYPICAL MANHOLE FRAME AND COVER
NOT TO SCALE



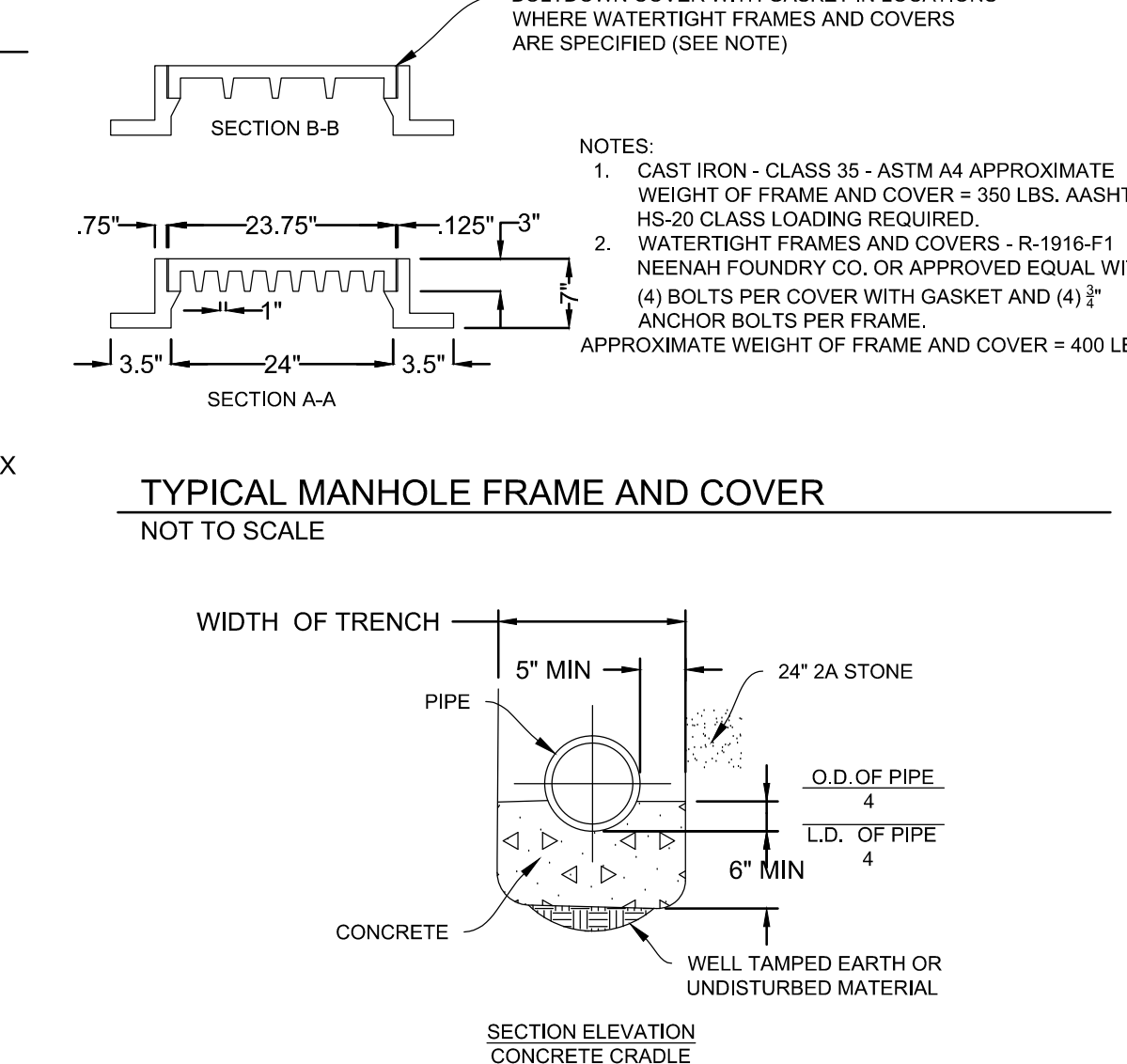
TYPICAL STANDARD MANHOLE
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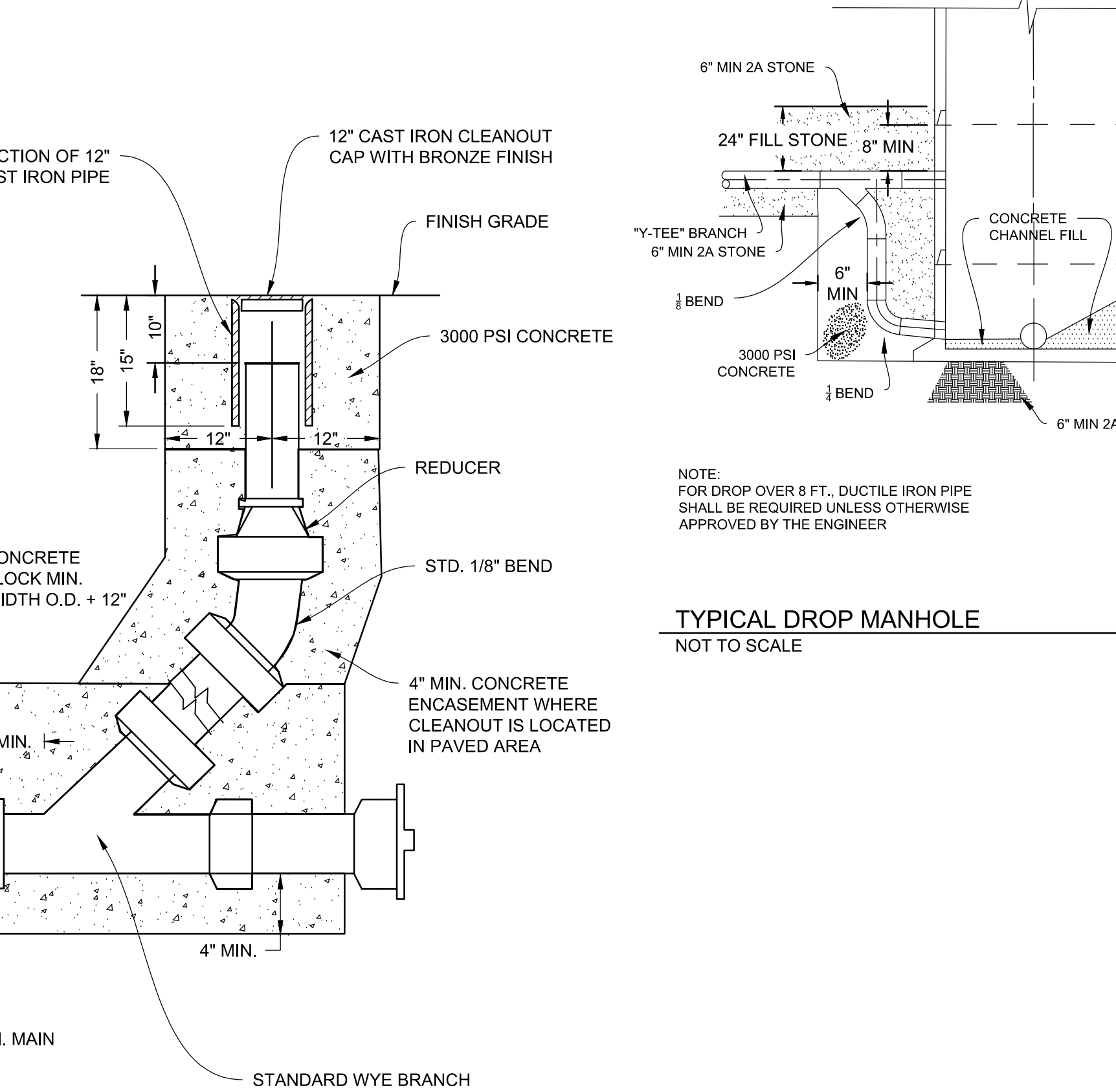
TYPICAL PIPE BEDDING
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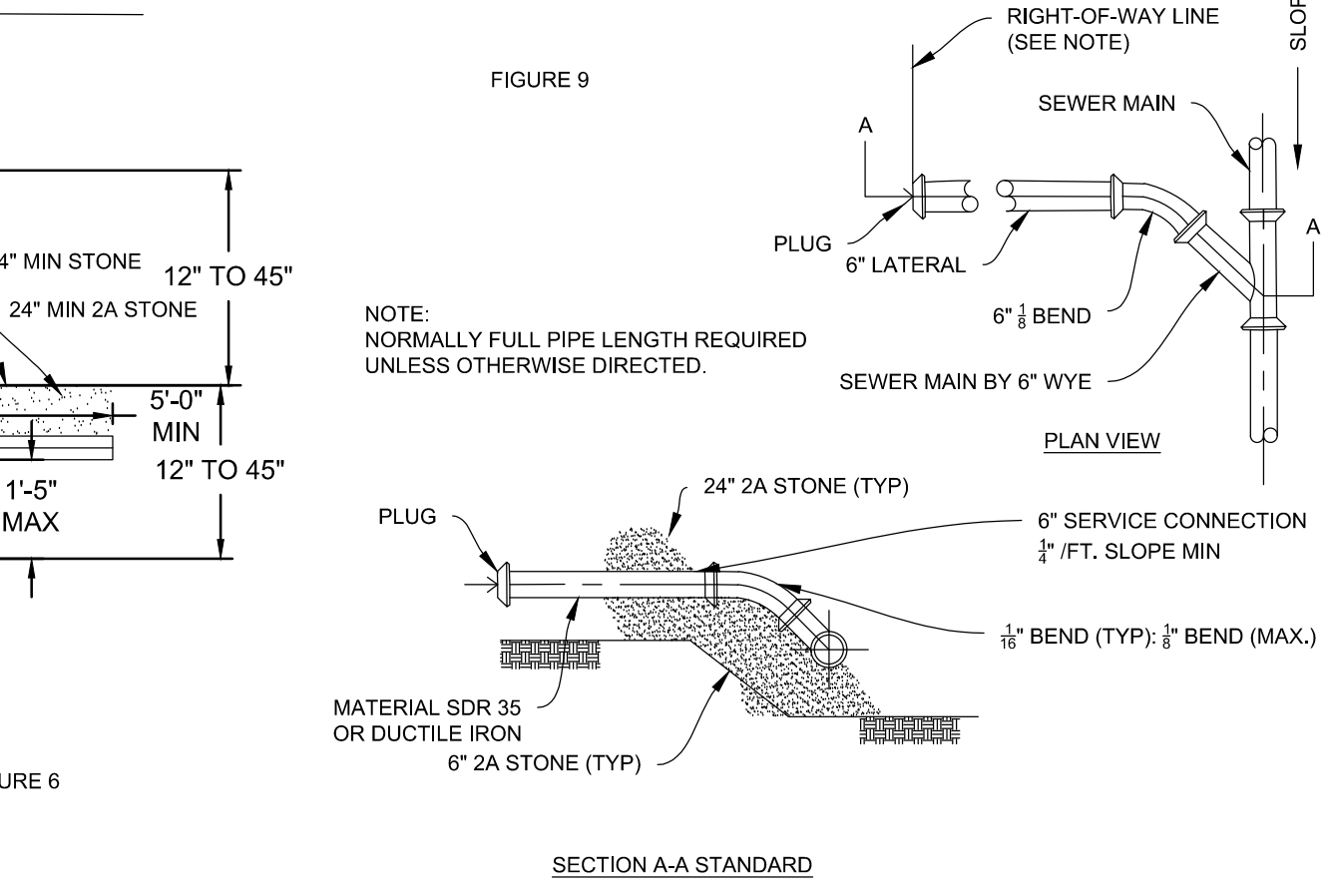
TYPICAL ALUMINUM MANHOLE STEPS
NOT TO SCALE



TYPICAL CONCRETE PIPE CRADLE
NOT TO SCALE



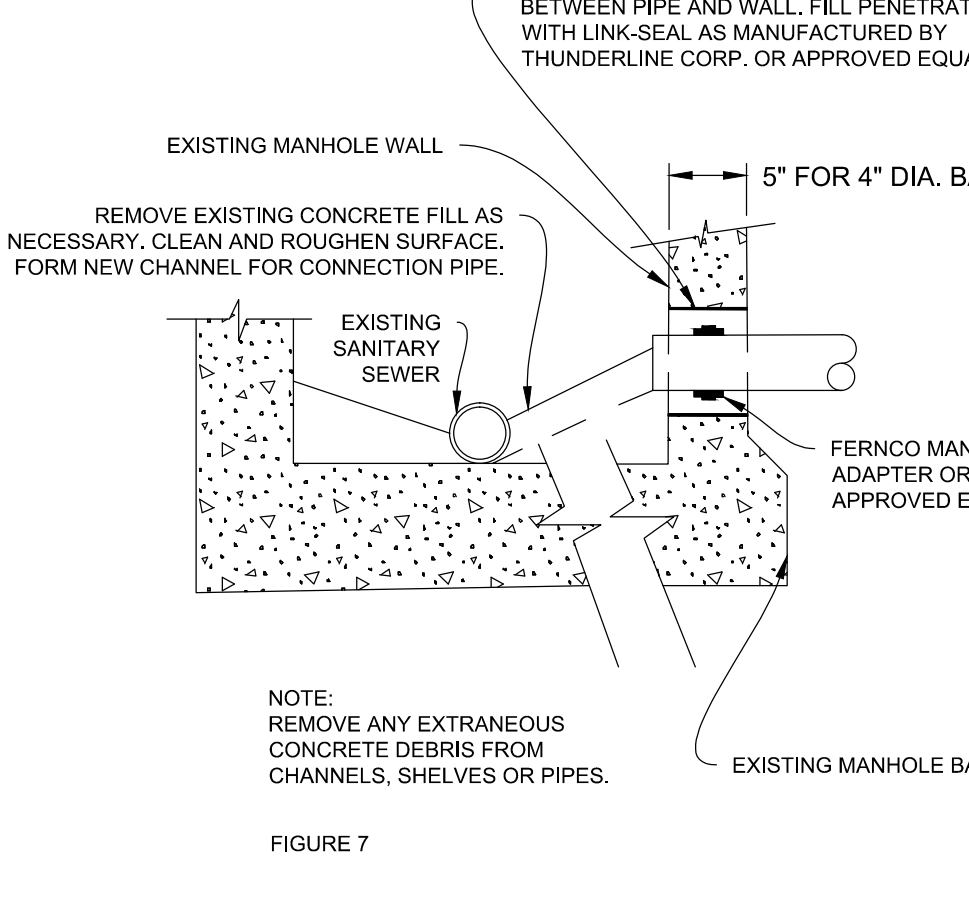
CLEANOUT DETAIL
NOT TO SCALE



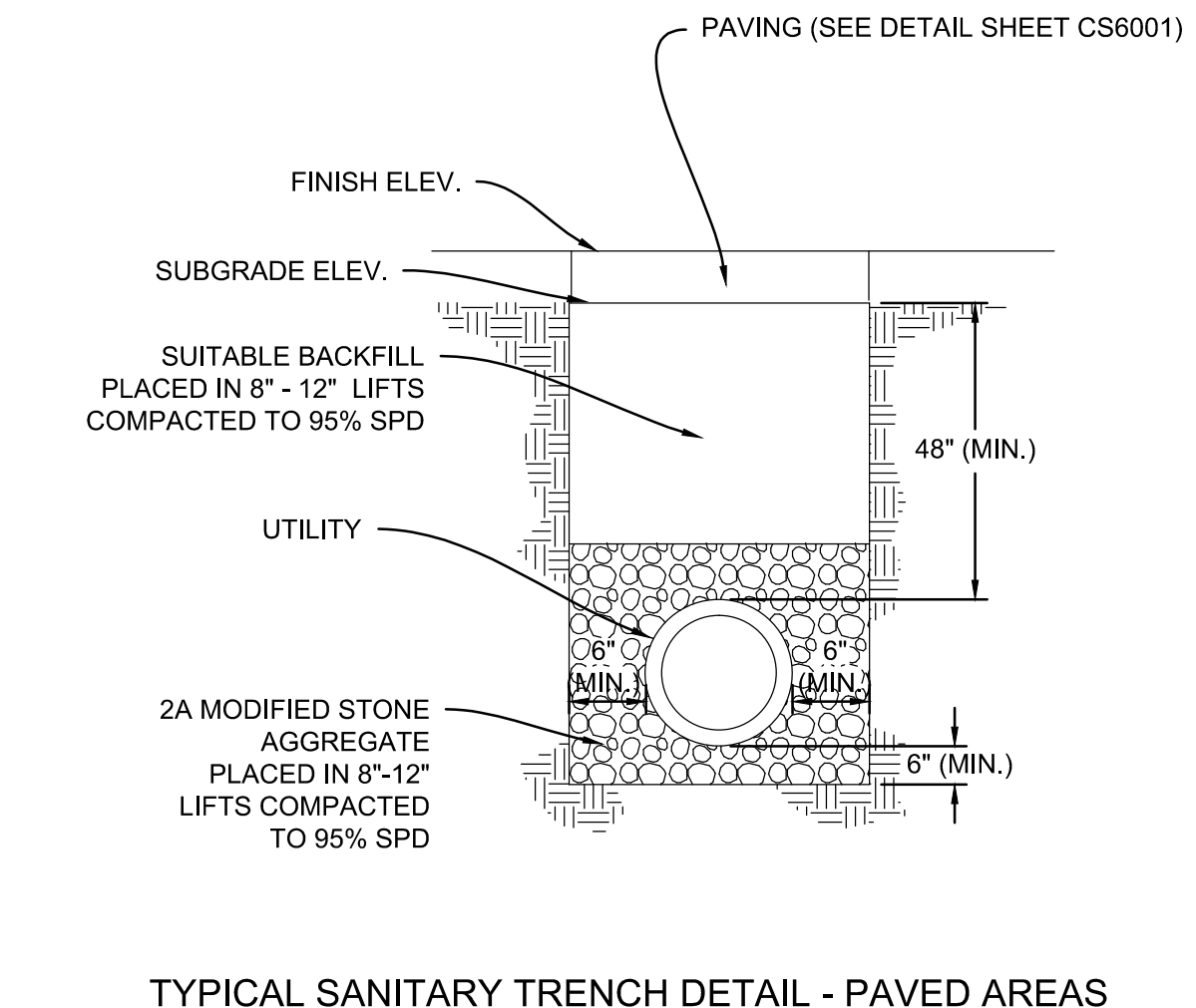
TYPICAL DROP MANHOLE
NOT TO SCALE



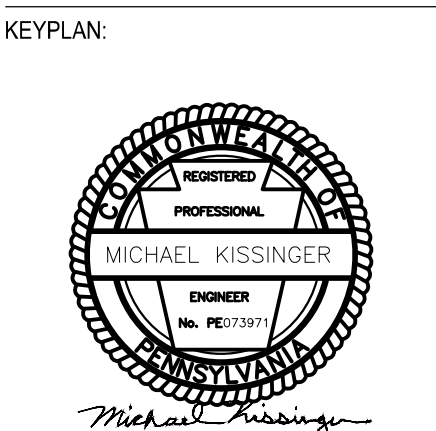
TYPICAL LATERAL SECTION
NOT TO SCALE



TYPICAL CONNECTION TO EXISTING MANHOLE
NOT TO SCALE



TYPICAL SANITARY TRENCH DETAIL - PAVED AREAS
NOT TO SCALE



SEAL:

CONDITION OF USE
WHEN THIS DOCUMENT IS REFERRED TO IN ANY CONTRACT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.

01 - REVISED PER TOWNSHIP - 01/16/18
DRAWING ISSUE

PROJECT: UPHS1504
SCALE: AS SHOWN
ARCHITECTURE
TITLE:

SANITARY SEWER
DETAILS

SHEET: 17 OF 27
NUMBER:



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PA, ACT 287 OF 1974 REQUIRES THREE WORKING DAYS NOTICE TO UTILITIES BEFORE YOU EXCAVATE, DRILL, OR BLAST IN PENNSYLVANIA.
ONE-CALL SYSTEM, INC.
SERIAL NUMBER: 2015285945-000

NOT FOR CONSTRUCTION CS6051

PROJECT: UPHS1504 - 01/16/18
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BALLINGER

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CIVIL ENGINEER:
JONATHAN ALDRON
LANDSCAPE ARCHITECTS INC.
19102 601
WAYNE, PA 19087

MECHANICAL, ELECTRICAL, PLUMBING &
FIRE PROTECTION ENGINEER:
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SUITE 1000
PHILADELPHIA, PA 19106
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STANDARD E&S CONTROL PLAN NOTES

OWNER/ OPERATOR WILL BE RESPONSIBLE FOR THE PROPER CONSTRUCTION, STABILIZATION, AND MAINTENANCE OF ALL EROSION AND SEDIMENTATION CONTROLS AND RELATED ITEMS INCLUDED WITHIN THESE PLANS

- 1. EROSION AND SEDIMENTATION CONTROLS MUST BE CONSTRUCTED, STABILIZED AND FUNCTIONAL BEFORE GENERAL SITE DISTURBANCE WITHIN THE TRIBUTARY AREA OF THOSE CONTROLS BEGINS.
2. THE OPERATOR/CONTRACTOR IS ADVISED TO BECOME THOROUGHLY FAMILIAR WITH THE PROVISIONS OF THE PENNSYLVANIA EROSION CONTROL RULES AND REGULATIONS...
3. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES...
4. THE OPERATOR SHALL ASSURE THAT THE APPROVED EROSION & SEDIMENT CONTROL PLAN IS PROPERLY AND COMPLETELY IMPLEMENTED.
5. AT LEAST 7 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES...
6. THE E&S CONTROL PLAN MAPPING MUST DISPLAY A PA ONE CALL SYSTEM INCORPORATED SYMBOL...
7. SHOULD ANY MEASURES CONTAINED WITHIN THIS PLAN PROVE TO BE INCAPABLE OF ADEQUATELY REMOVING SEDIMENT...
8. THE LIMITS OF WORK SHOWN ON THIS PLAN ARE THE REAL EXTENT REQUIRED FOR CONSTRUCTION...
9. IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND SEDIMENT POLLUTION...
10. BEFORE INITIATING ANY REVISIONS TO THE APPROVED EROSION AND SEDIMENT CONTROL PLAN...
11. PERSON TAKEN FROM CONSTRUCTION AREAS SHALL BE SEEDED WITH A VEGETATIVE COVER...
12. ALL PLACING OF SEDIMENT LADEN WATER OR POTENTIALLY SEDIMENT LADEN WATER SHALL BE THROUGH A SEDIMENT CONTROL BMP...
13. ONLY LIMITED DISTURBANCE WILL BE PERMITTED TO PROVIDE ACCESS TO THE SEDIMENT TRAP...
14. ANY DISTURBED AREA ON WHICH ACTIVITY HAS CEASED FOR AN EXTENDED AMOUNT OF TIME...
15. DISTURBED AREAS WHICH ARE NOT AT FINISH GRADE...
16. FILLS GREATER THAN 3:1 SLOPE AND CUTS GREATER THAN 2:1:2 SHALL BE SEEDED AND MULCHED...
17. CHANNELS, SEDIMENTATION BASINS, SEDIMENTATION TRAPS AND STOCKPILES MUST BE SEEDED AND MULCHED IMMEDIATELY.
18. THERE IS TO BE NO EARTH DISTURBANCE OR VEGETATIVE CLEARING AREAS OF STAKED OR FENCED WETLANDS...
19. DUST CONTROL SHALL BE PROVIDED BY THE CONTRACTOR AT ALL TIMES DURING CONSTRUCTION.
20. CONSTRUCTION VEHICLES LEAVING THE SITE SHALL NOT DEPOSIT ANY MATERIAL OUTSIDE OF THE PROJECT SITE BOUNDARIES...
21. ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE OF CONSTRUCTION...
22. AN AREA SHALL BE CONSIDERED TO HAVE ACHIEVED FINAL STABILIZATION WHEN IT HAS A MINIMUM UNIFORM TOP PERMANENT VEGETATIVE COVER...
23. UNTIL THE SITE ACHIEVES FINAL STABILIZATION...
24. AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED...
25. AT STREAM CROSSINGS, A 50' BUFFER AREA SHOULD BE MAINTAINED...
26. SEDIMENT TRACKED ONTO ANY ROADWAY OR SIDEWALK...
27. BEFORE OR SPRINGS ENCOUNTERED DURING CONSTRUCTION...
28. SHOULD ANY AREAS OF EROSION BE FOUND TO CONTAIN CONTAMINANTS...

MAINTENANCE NOTES:

- GENERAL:
1. THE OPERATOR SHALL ASSURE THAT THE APPROVED EROSION AND SEDIMENT CONTROL PLAN IS PROPERLY AND COMPLETELY IMPLEMENTED...
WHERE BMP'S ARE FOUND TO FAIL TO ALLEVIATE EROSION OR SEDIMENT POLLUTION...
2. SEEDED AREAS THAT HAVE WASHED AWAY SHALL BE RE-SEED AND GRASSED...
3. UNTIL THE SITE IS STABILIZED...
4. SEEDING DISPOSED ON PAVED ROADWAYS...
ROCK CONSTRUCTION ENTRANCE WITH WASH RACK:
1. SEDIMENT DEPOSITED ON PAVED ROADWAYS...
2. ROCK CONSTRUCTION ENTRANCE THICKNESS...
3. INSPECT AFTER EACH STORM EVENT...

ROCK CONSTRUCTION ENTRANCE WITH WASH RACK:

- 1. SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE...
2. ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK...
3. INSPECT AFTER EACH STORM EVENT AND ON A WEEKLY BASIS...

FILTER SOCKS

- 1. INSPECT AFTER EACH STORM EVENT AND ON A WEEKLY BASIS...
2. COMPOST FILTER SOCKS ARE TO BE MAINTAINED AND REPLACED IF NECESSARY...
3. CONSTRUCT COMPOST FILTER SOCKS ALONG THE DOWNSTREAM SIDE...
4. THE CONTRACTOR SHALL REMOVE ACCUMULATED SILT...

EROSION CONTROL BLANKETS (CURLX MAT):

- 1. CURLX MAT SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS...
2. INSPECT AFTER EACH STORM EVENT AND ON A WEEKLY BASIS...

INLET PROTECTION:

- 1. EARTHEN BERM TO BE MAINTAINED UNTIL ROADWAY IS STONED...
2. INSPECT AFTER EACH STORM EVENT AND ON A WEEKLY BASIS...
3. SEDIMENT MUST BE REMOVED FROM STORM WATER INLET PROTECTION...

OTHER BMP(S):

- 1. AT STREAM CROSSINGS, 30' BUFFER AREAS SHOULD BE MAINTAINED...
2. SEDIMENT TRACKED ONTO ANY ROADWAY OR SIDEWALK...

CLEAN FILL & ENVIRONMENTAL DUE DILIGENCE

- 1. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ANY MATERIAL BROUGHT ON SITE IS CLEAN FILL...
2. CLEAN FILL IS DEFINED AS UNCONTAMINATED, NON-WATER SOLUBLE...
3. CLEAN FILL AFFECTED BY A SPILL OR RELEASE...
4. ANY PERSON PLACING CLEAN FILL THAT HAS BEEN AFFECTED BY A SPILL...
5. ENVIRONMENTAL DUE DILIGENCE...
6. FILL MATERIAL THAT DOES NOT QUALIFY AS CLEAN FILL IS REGULATED FILL...

MONITORING, INSPECTION, AND REPORTING REQUIREMENTS:

- VISUAL INSPECTIONS:
THE PERMITTEE AND CO PERMITTEES MUST ENSURE THAT VISUAL SITE INSPECTIONS ARE CONDUCTED...
1. A SUMMARY OF SITE CONDITIONS...
2. THE DATE, TIME, NAME AND SIGNATURE...
NONCOMPLIANCE REPORTING:
WHERE E&S, P&CM OR P&C BMP'S ARE FOUND TO BE INOPERATIVE...
1. ANY CONDITION ON THE PROJECT SITE WHICH MAY ENDANGER...
2. THE PERIOD OF NONCOMPLIANCE...
3. STEPS BEING TAKEN TO REDUCE, ELIMINATE, AND PREVENT...
4. THE DATE OR SCHEDULE OF DATES...

REDUCTION, LOSS, OR FAILURE OF THE BMP'S

UPON REDUCTION, LOSS, OR FAILURE OF THE BMP'S, THE PERMITTEE AND CO PERMITTEE SHALL TAKE IMMEDIATE ACTION TO RESTORE THE BMP'S...
TREATMENT, SUCH AS RESTORED BMP'S OR ALTERNATIVE TREATMENT...

TERMINATION OF COVERAGE

UPON PERMANENT STABILIZATION OF EARTH DISTURBANCE ACTIVITIES ASSOCIATED WITH CONSTRUCTION ACTIVITY...
SECTION 11.2 OF THE PA DEP EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL...
IDENTIFICATION AND LOCATION OF THE PERMITS...
THE PERMITTEE HAS RECEIVED WRITTEN ACKNOWLEDGEMENT...

COMPLETION CERTIFICATE AND FINAL PLANS

WITHIN 30 DAYS AFTER THE COMPLETION OF EARTH DISTURBANCE ACTIVITIES AUTHORIZED BY THIS PERMIT...
INSTALLATION OF P&CM BMP'S IN ACCORDANCE WITH THE APPROVED P&CM PLAN...

UTILITY TRENCH NOTES:

- 1. LIMIT ADVANCED CLEARING AND GRUBBING OPERATIONS TO A DISTANCE EQUAL TO TWO TIMES THE LENGTH OF PIPE INSTALLATION...
2. WORK CREWS AND EQUIPMENT FOR TRENCHING...
3. ALL SOIL EXCAVATED FROM THE TRENCH...
4. LIMIT DAILY TRENCH EXCAVATION TO THE LENGTH OF PIPE PLACEMENT...
5. WATER WHICH ACCUMULATES IN THE OPEN TRENCH...
6. ON THE DAY FOLLOWING PIPE PLACEMENT AND TRENCH BACKFILLING...

TEMPORARY STABILIZATION & PERMANENT STABILIZATION:

- 1. AREAS WHICH ARE TO BE TOP-SOILED SHALL BE SCRIPPED TO A MINIMUM DEPTH...
2. MULCH WITH MULCH CONTROL NETTING OR EROSION CONTROL BLANKETS...
3. STRAW MULCH SHALL BE APPLIED IN LONG STRANDS...
4. GRADED AREAS ARE TO BE TEMPORARILY SEEDED AND MULCHED...
5. PRIOR TO CONSTRUCTION SOIL TESTING...
6. PRIOR TO CONSTRUCTION SOIL TESTING...
7. ESTABLISH PERMANENT SEEDING AS SOON AS POSSIBLE...
8. PERMANENTLY SEEDDED AREAS SHALL HAVE HAY OR STRAW...
9. ANY AREAS WHERE HYDROSEED IS USED...

MULCH ANCHORING GUIDE:

Table with 4 columns: Anchoring Method or Material, Kind of Mulch to be Anchored, How to Apply, Manufacturer. Includes entries for Manual and Mulch Netting.

TEMPORARY SEEDINGS FOR CRITICAL AREAS:

Table with columns: SPECIES OR MIXTURE, PERCENT BY WEIGHT, PERCENT PURE LIVE SEED, PERCENT GERMINATION, SEEDING RATE, RECOMMENDED SEEDING DATES, ADAPTION TO SOIL-SITE CONDITIONS.

PERMANENT SEEDINGS FOR CRITICAL AREAS:

Table with columns: SPECIES OR MIXTURE, PERCENT BY WEIGHT, PERCENT PURE LIVE SEED, PERCENT GERMINATION, SEEDING RATE, RECOMMENDED SEEDING DATES, ADAPTION TO SOIL-SITE CONDITIONS.

KEY PLAN:



SEAL:

CONDITION OF USE

THIS IS A PRELIMINARY DRAWING... THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS... THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS...

01 - REVISED PER TOWNSHIP - 01/16/18
DRAWING ISSUE



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SERIAL NUMBER: 20152265845-000

PROJECT: UPHS1504

SCALE: AS SHOWN

ARCHITECTURE

TITLE:

EROSION AND SEDIMENT CONTROL NOTES

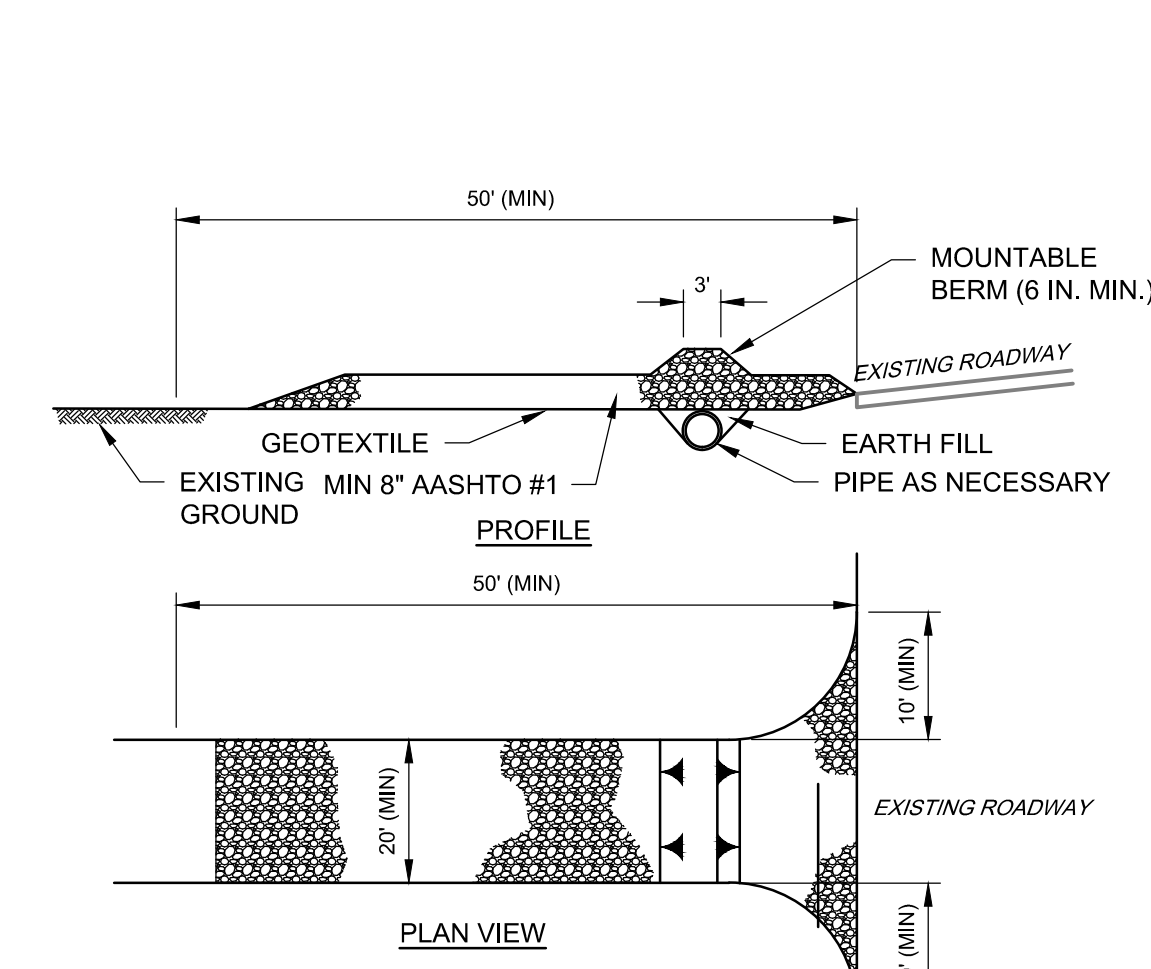
19 OF 27

SHEET: 19 OF 27

NUMBER:

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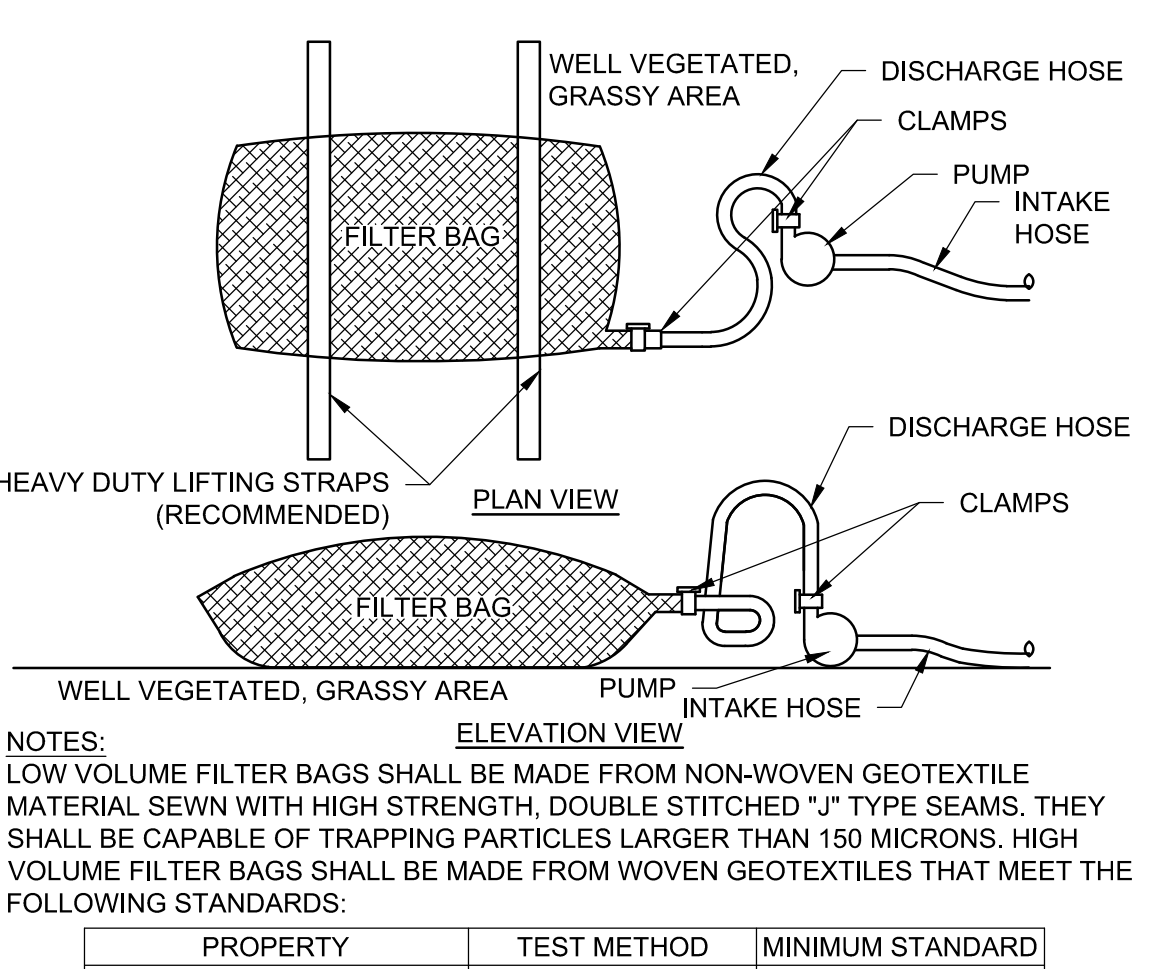
CS8501



NOTES:
REMOVE TOPSOIL PRIOR TO INSTALLATION OF ROCK CONSTRUCTION ENTRANCE. EXTEND ROCK OVER FULL WIDTH OF ENTRANCE.
RUNOFF SHALL BE DIVERTED FROM ROADWAY TO A SUITABLE SEDIMENT REMOVAL BMP PRIOR TO ENTERING ROCK CONSTRUCTION ENTRANCE.
MOUNTABLE BERM SHALL BE INSTALLED WHEREVER OPTIONAL CULVERT PIPE IS USED AND PROPER PIPE COVER AS SPECIFIED BY MANUFACTURER IS NOT OTHERWISE PROVIDED. PIPE SHALL BE SIZED APPROPRIATELY FOR SIZE OF DITCH BEING CROSSED.
MAINTENANCE ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE SHALL BE MAINTAINED ON SITE FOR THIS PURPOSE. ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE IMMEDIATELY. IF EXCESSIVE AMOUNTS OF SEDIMENT ARE BEING DEPOSITED ON ROADWAY, EXCEEDING LENGTH OF ROCK CONSTRUCTION ENTRANCE BY 50 FOOT INCREMENTS UNTIL CONDITION IS ALLEVIATED OR INSTALL WASH TRUCK WASHING THE ROADWAY OR OVERSPRING THE DEPOSITS INTO ROADWAY DITCHES, SEWERS, CULVERTS, OR OTHER DRAINAGE COURSES NOT ACCEPTABLE.

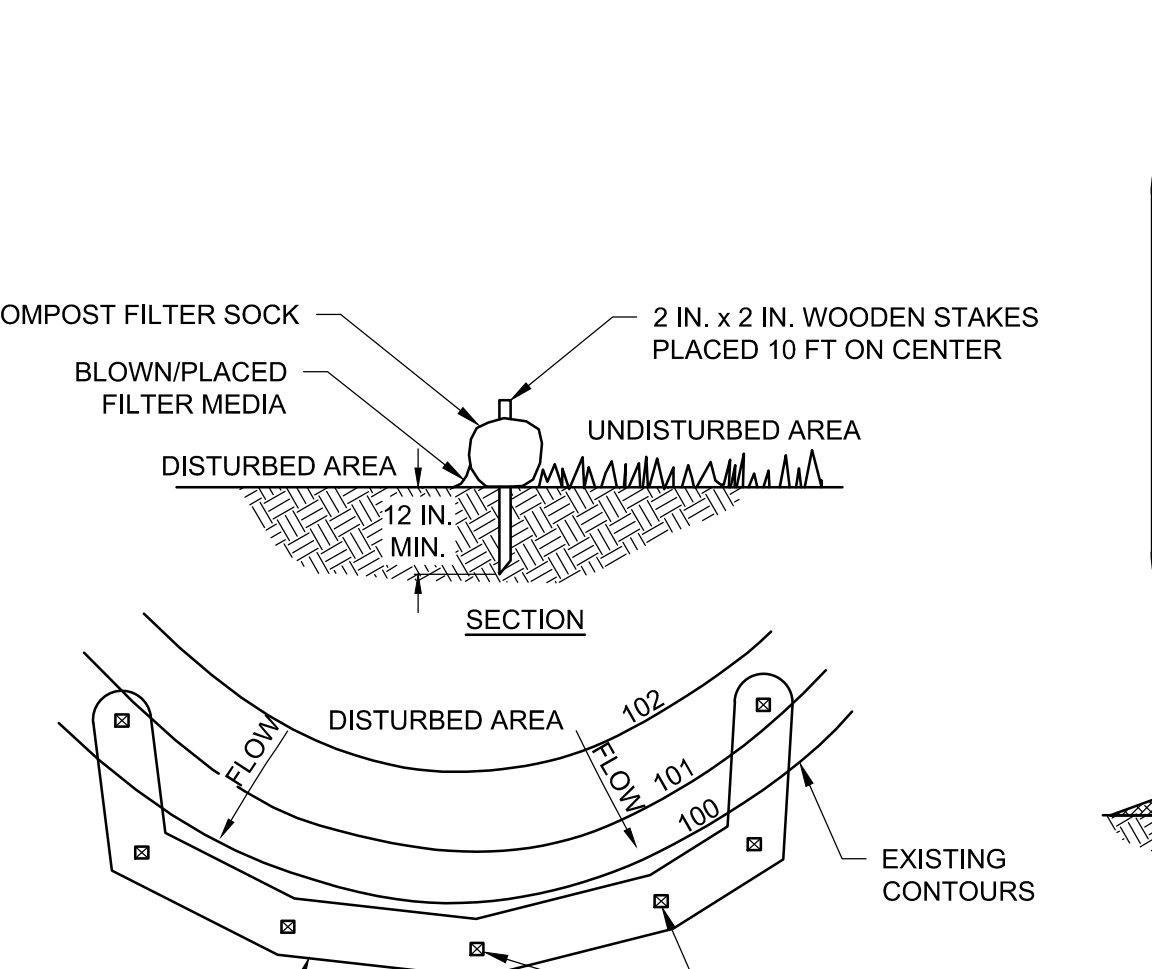
PROPERTY	TEST METHOD	MINIMUM STANDARD
AVG. WIDE WIDTH	ASTM D-4884	60 LBN
STRENGTH	ASTM D-4632	205 LB
GRAB TENSILE	ASTM D-4833	110 LB
PUNCTURE	ASTM D-4833	350 PSI
MULLEN BURST	ASTM D-3786	70%
UV RESISTANCE	ASTM D-4395	70%
ADD'S RETAINED	ASTM D-751	20 Sieve

STANDARD CONSTRUCTION DETAIL #3-1 ROCK CONSTRUCTION ENTRANCE
N.T.S



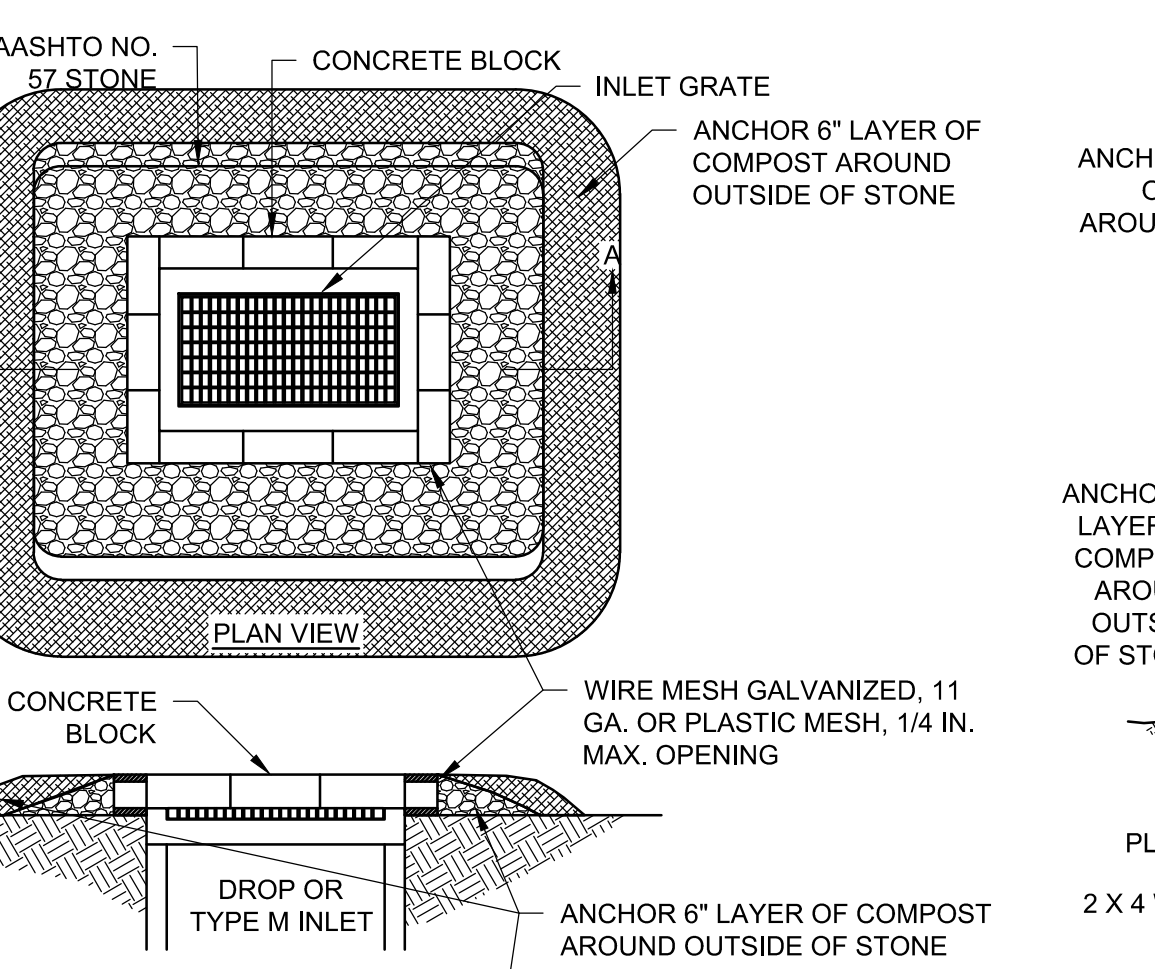
NOTES:
LOW VOLUME FILTER BAGS SHALL BE MADE FROM NON-WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH, DOUBLE STITCHED "J" TYPE SEAMS. THEY SHALL BE CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS. HIGH VOLUME FILTER BAGS SHALL BE MADE FROM WOVEN GEOTEXTILES THAT MEET THE FOLLOWING STANDARDS:
A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES SHALL BE PROVIDED. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME 1/2 FULL OF SEDIMENT. SPARE BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED. BAGS SHALL BE PLACED ON STRAPS TO FACILITATE REMOVAL UNLESS BAGS COME WITH LIFTING STRAPS ALREADY ATTACHED.
BAGS SHALL BE LOCATED IN WELL-VEGETATED (GRASSY) AREA, AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS, WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE UNDERLAYMENT AND FLOW PATH SHALL BE PROVIDED. BAGS SHALL BE PLACED ON SLOPES GREATER THAN 5%, FOR SLOPES EXCEEDING 5%, CLEAN ROCK OR OTHER NON-ERODIBLE AND NON-POLLUTING MATERIAL MAY BE PLACED UNDER THE BAG TO REDUCE SLOPE STEEPNESS.
NO DOWNSLOPE SEDIMENT BARRIER IS REQUIRED FOR MOST INSTALLATIONS. COMPOST BERM OR COMPOST FILTER SOCK SHALL BE INSTALLED BELOW BAGS LOCATED IN HQ OR EV WATERSHEDS, WITHIN 50 FEET OF ANY RECEIVING SURFACE WATER OR WHERE GRASSY AREA IS NOT AVAILABLE.
THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED. A PIECE OF PVC PIPE IS RECOMMENDED FOR THIS PURPOSE.
THE PUMPING RATE SHALL BE NO GREATER THAN 750 GPM OR 1/2 THE MAXIMUM SPECIFIED BY THE MANUFACTURER, WHICHEVER IS LESS. PUMP INTAKES SHALL BE FLOATING AND SCREENED.
FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM IS CORRECTED.

STANDARD CONSTRUCTION DETAIL #3-2 COMPOST FILTER SOCK
NOT TO SCALE



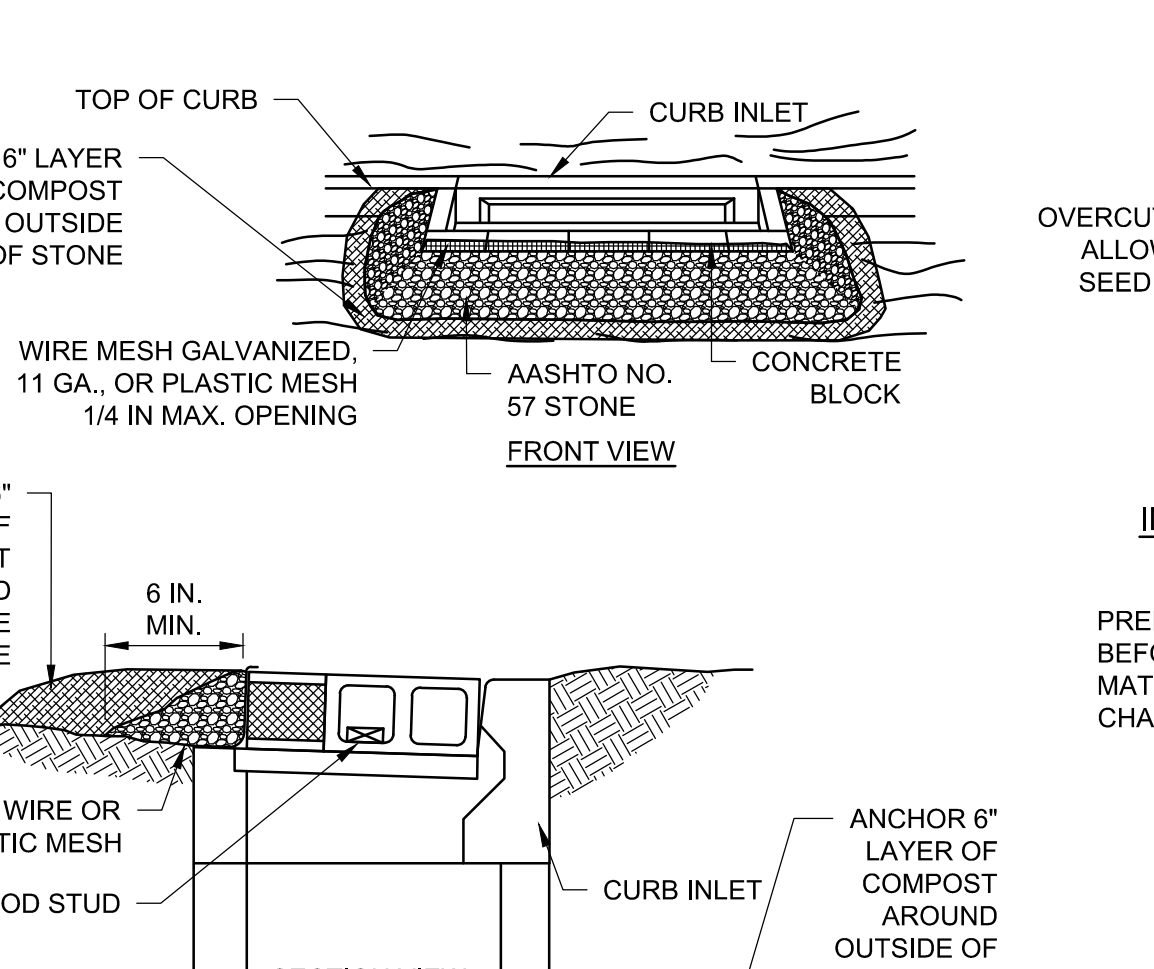
NOTES:
SOCK FABRIC SHALL MEET STANDARDS OF TABLE 4.1 OF THE PA DEP EROSION CONTROL MANUAL. COMPOST SHALL MEET THE STANDARDS OF TABLE 4.2 OF THE PA DEP EROSION CONTROL MANUAL.
COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE MAIN BARRIER ALIGNMENT, MAXIMUM SLOPE LENGTH ABOVE ANY BARRIER SHALL NOT EXCEED THAT SPECIFIED FOR THE SIZE OF THE SOCK AND THE SLOPE OF ITS TRIBUTARY AREA.
TRAFFIC SHALL NOT BE PERMITTED TO CROSS COMPOST FILTER SOCKS.
ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE ABOVE GROUND HEIGHT OF THE BARRIER AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.
COMPOST FILTER SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.
BIODEGRADABLE COMPOST FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES SHALL BE REMOVED. THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IN THE LATTER CASE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT.

STANDARD CONSTRUCTION DETAIL #4-1 COMPOST FILTER SOCK
NOT TO SCALE



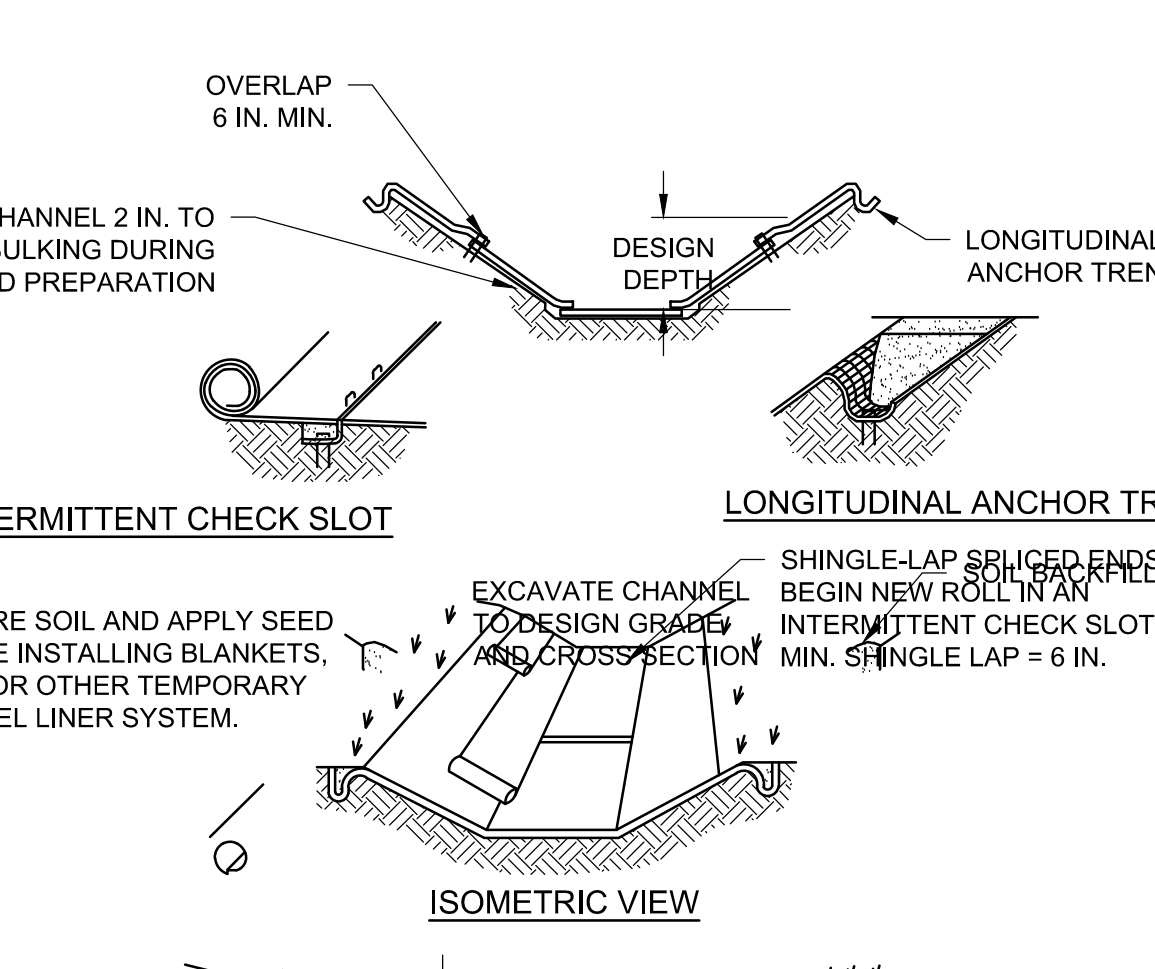
NOTES:
MAXIMUM DRAINAGE AREA = 1 ACRE.
INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS NOT LOCATED AT A LOW POINT.
ROLLED EARTHEN BERM IN ROADWAY SHALL BE PROVIDED AND MAINTAINED IMMEDIATELY DOWN GRADIENT OF THE PROTECTED INLET UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM ON ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. EARTHEN BERM IN CHANNEL SHALL BE MAINTAINED UNTIL PERMANENT STABILIZATION IS COMPLETED OR TO REMAIN PERMANENTLY.
SEDIMENT SHALL BE REMOVED WHEN IT REACHES HALF THE HEIGHT OF THE STONE. DAMAGED OR CLOGGED INSTALLATIONS SHALL BE REPAIRED OR REPLACED IMMEDIATELY.
FOR SYSTEMS DISCHARGING TO HQ OR EV SURFACE WATER, A 6 INCH THICK COMPOST LAYER SHALL BE SECURELY ANCHORED ON OUTSIDE AND OVER TOP OF STONE. COMPOST SHALL MEET THE STANDARDS IN TABLE 4.2 OF THE PA DEP EROSION CONTROL MANUAL.

STANDARD CONSTRUCTION DETAIL #4-2 STONE AND CONCRETE BLOCK INLET PROTECTION - TYPE M INLET
NOT TO SCALE



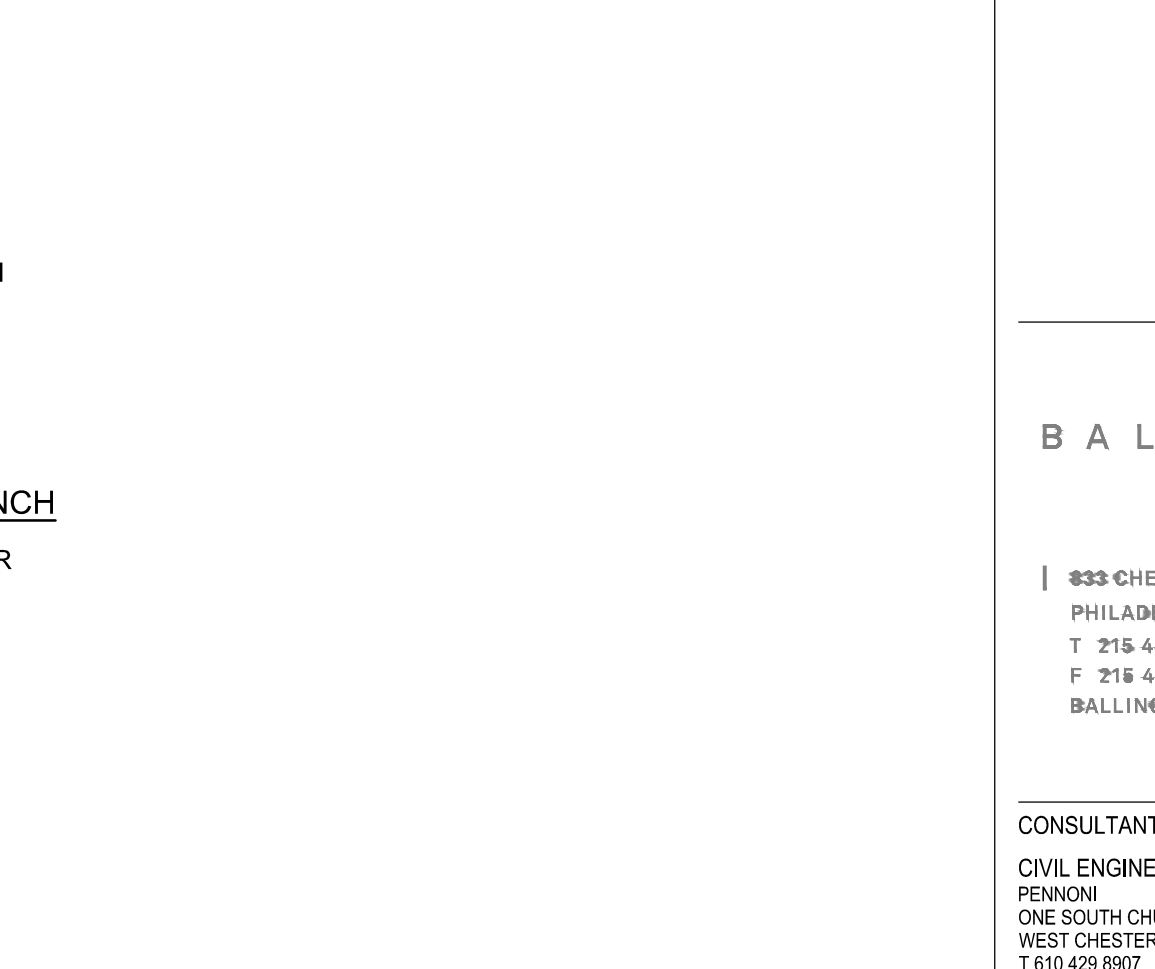
NOTES:
MAXIMUM DRAINAGE AREA = 1 ACRE.
INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS.
ROLLED EARTHEN BERM SHALL BE PROVIDED AND MAINTAINED IMMEDIATELY DOWN GRADIENT OF THE PROTECTED INLET UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. SIX INCH MINIMUM HEIGHT ASPHALT BERM SHALL BE MAINTAINED UNTIL ROADWAY SURFACE RECEIVES FINAL COAT.
SEDIMENT SHALL BE REMOVED WHEN IT REACHES HALF THE HEIGHT OF THE STONE. DAMAGED OR CLOGGED INSTALLATIONS SHALL BE REPAIRED OR REPLACED IMMEDIATELY.
FOR SYSTEMS DISCHARGING TO HQ OR EV SURFACE WATER, A 6 INCH THICK COMPOST LAYER SHALL BE SECURELY ANCHORED ON OUTSIDE AND OVER TOP OF STONE.
DO NOT USE ON MAJOR PAVED ROADWAYS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS.

STANDARD CONSTRUCTION DETAIL #4-3 STONE AND CONCRETE BLOCK INLET PROTECTION - TYPE C INLET
NOT TO SCALE



NOTES:
SEDIMENT MUST BE REMOVED WHEN ACCUMULATIONS REACH 1/2 THE HEIGHT OF THE FILTERS.
IMMEDIATELY UPON STABILIZATION OF EACH CHANNEL, REMOVE ACCUMULATED SEDIMENT, REMOVE ROCK FILTER, AND STABILIZE DISTURBED AREAS.

STANDARD CONSTRUCTION DETAIL #4-4 ROCK FILTER
NOT TO SCALE

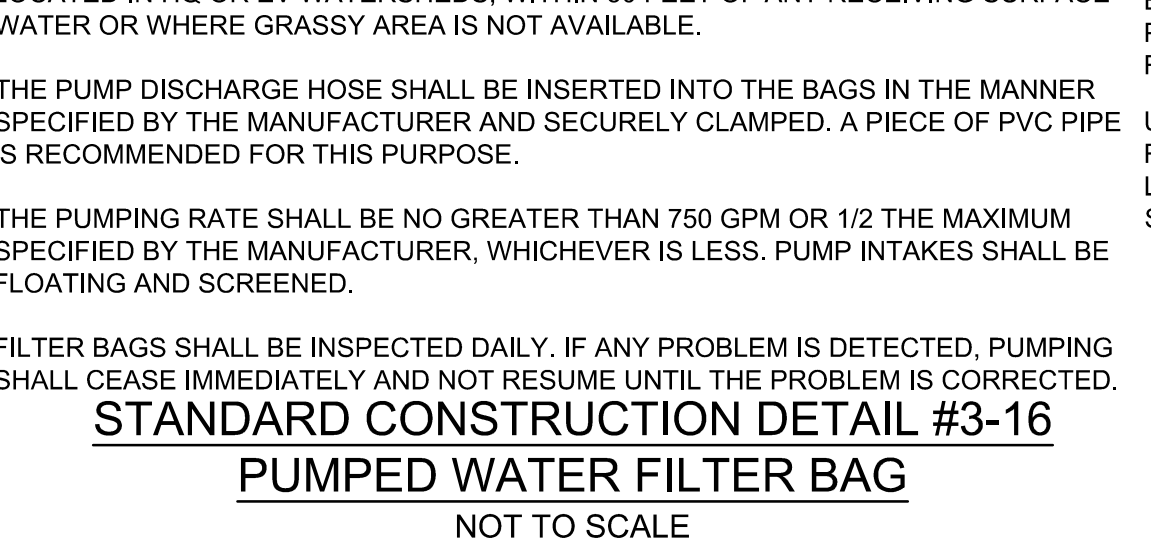


NOTES:
ANCHOR TRENCHES SHALL BE INSTALLED AT BEGINNING AND END OF CHANNEL IN THE SAME MANNER AS LONGITUDINAL ANCHOR TRENCHES.
CHANNEL DIMENSIONS SHALL BE CONSTANTLY MAINTAINED. CHANNEL SHALL BE CLEANED WHENEVER TOTAL CHANNEL DEPTH IS REDUCED BY 20% AT ANY LOCATION.
SEDIMENT DEPOSITS SHALL BE REMOVED WITHIN 24 HOURS OF DISCOVERY OR AS SOON AS SOIL CONDITIONS PERMIT ACCESS TO CHANNEL, WITHOUT FURTHER DAMAGE. DAMAGED LINING SHALL BE REPAIRED OR REPLACED WITHIN 48 HOURS OF DISCOVERY.
NO MORE THAN ONE THIRD OF THE SHOOT (GRASS LEAF) SHALL BE REMOVED IN ANY MOWING. GRASS HEIGHT SHALL BE MAINTAINED BETWEEN 2 AND 3 INCHES UNLESS OTHERWISE SPECIFIED. EXCESS VEGETATION SHALL BE REMOVED FROM PERMANENT CHANNELS TO ENSURE SUFFICIENT CHANNEL CAPACITY.

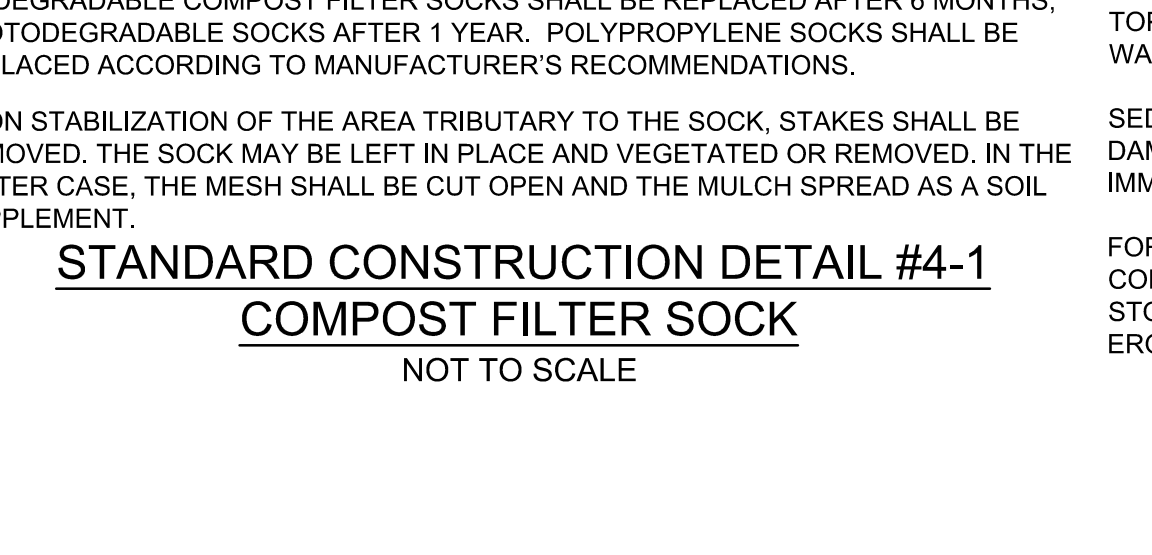
STANDARD CONSTRUCTION DETAIL #4-5 VEGETATED CHANNEL
NOT TO SCALE



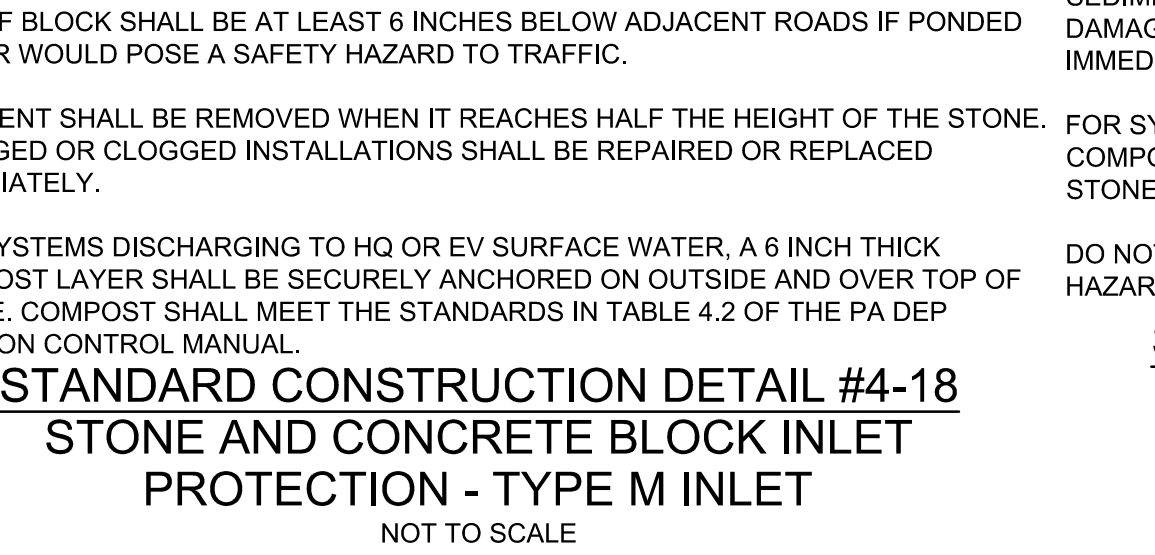
STANDARD CONSTRUCTION DETAIL #9-1 RIPRAP APRON AT PIPE OUTLET WITH FLARED END SECTION OR ENDWALL
NOT TO SCALE



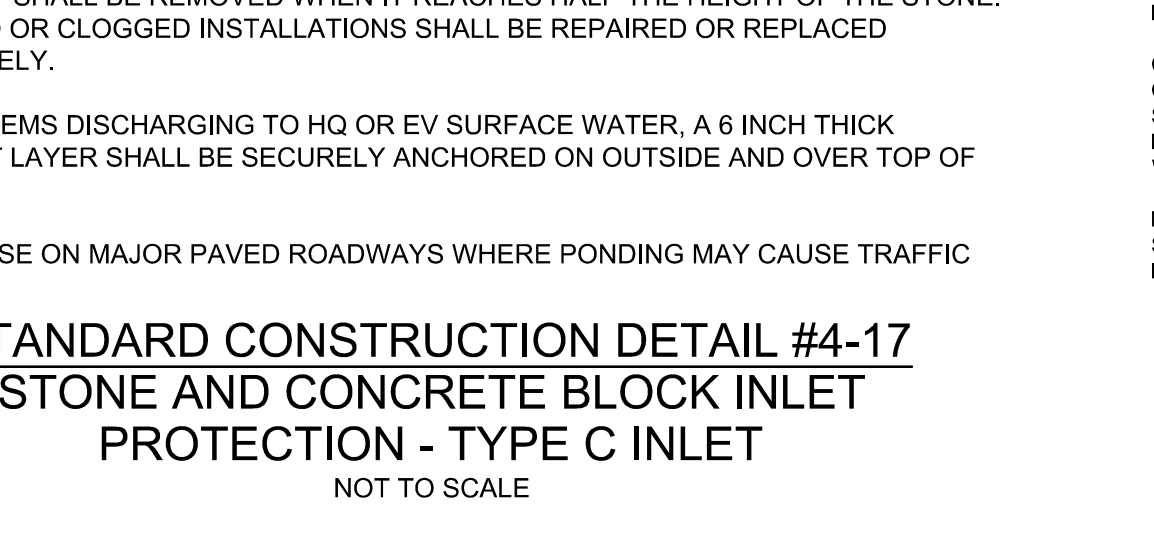
STANDARD CONSTRUCTION DETAIL #4-6 ROCK FILTER OUTLET
NOT TO SCALE



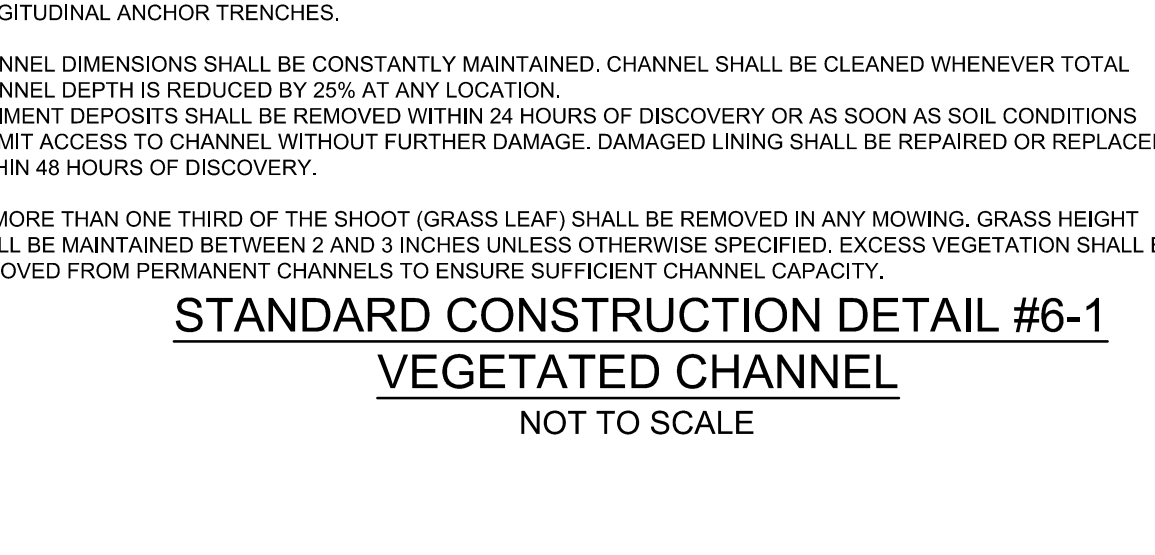
STANDARD CONSTRUCTION DETAIL #11-1 EROSION CONTROL BLANKET INSTALLATION
NOT TO SCALE



STANDARD CONSTRUCTION DETAIL #4-14 ROCK FILTER
NOT TO SCALE



STANDARD CONSTRUCTION DETAIL #4-14 ROCK FILTER
NOT TO SCALE



STANDARD CONSTRUCTION DETAIL #4-14 ROCK FILTER
NOT TO SCALE



STANDARD CONSTRUCTION DETAIL #4-14 ROCK FILTER
NOT TO SCALE



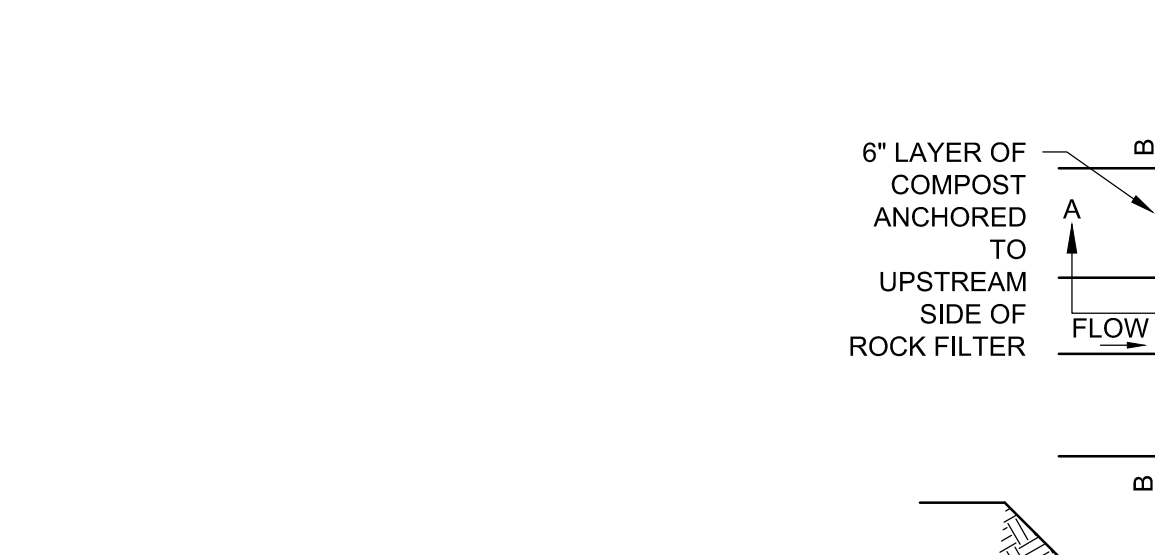
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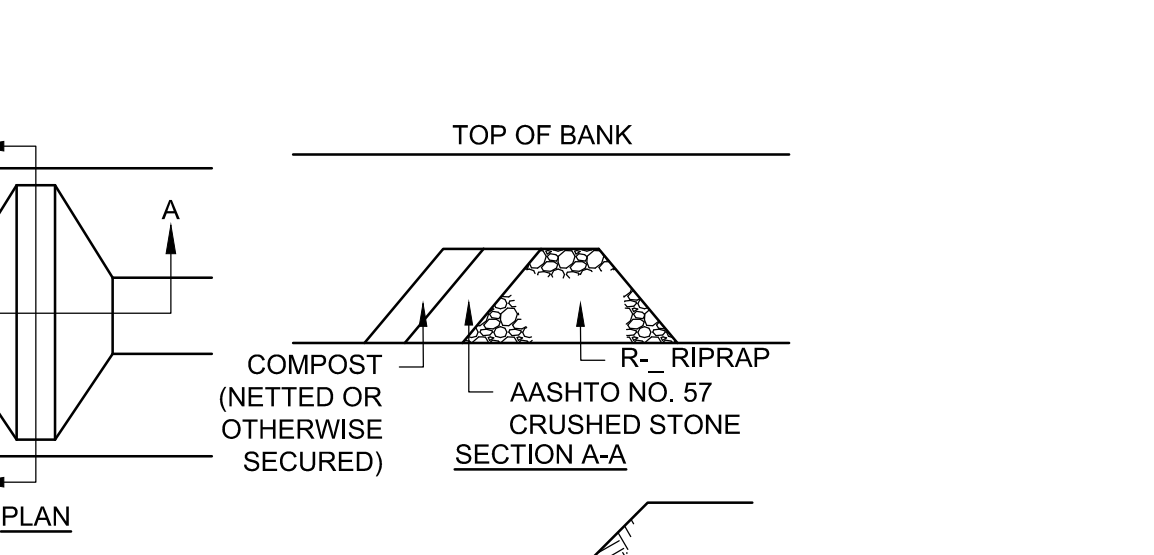
STANDARD CONSTRUCTION DETAIL #4-6 ROCK FILTER OUTLET
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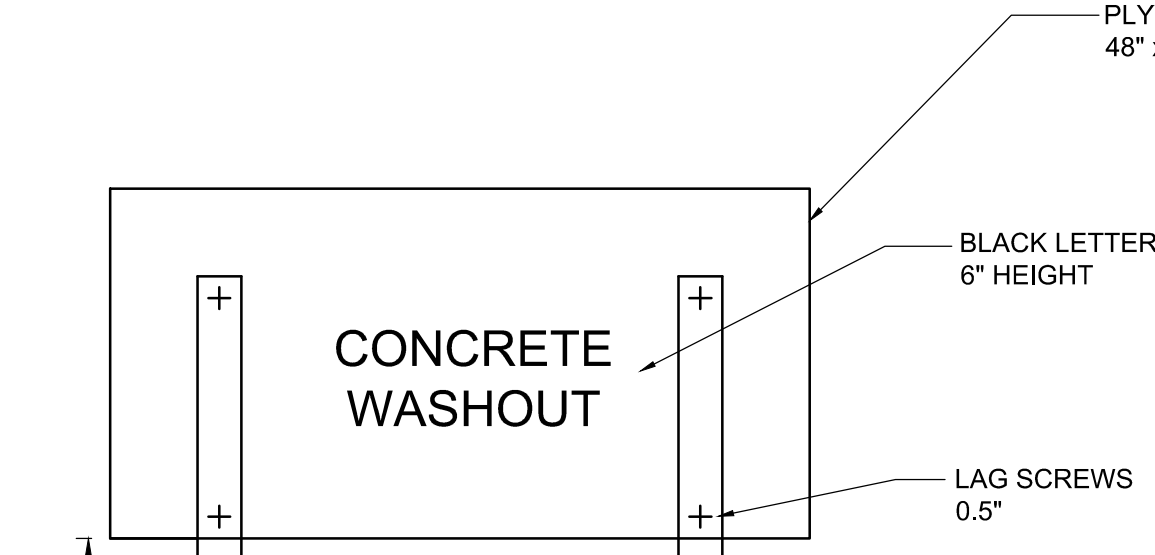
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STANDARD CONSTRUCTION DETAIL #4-14 ROCK FILTER
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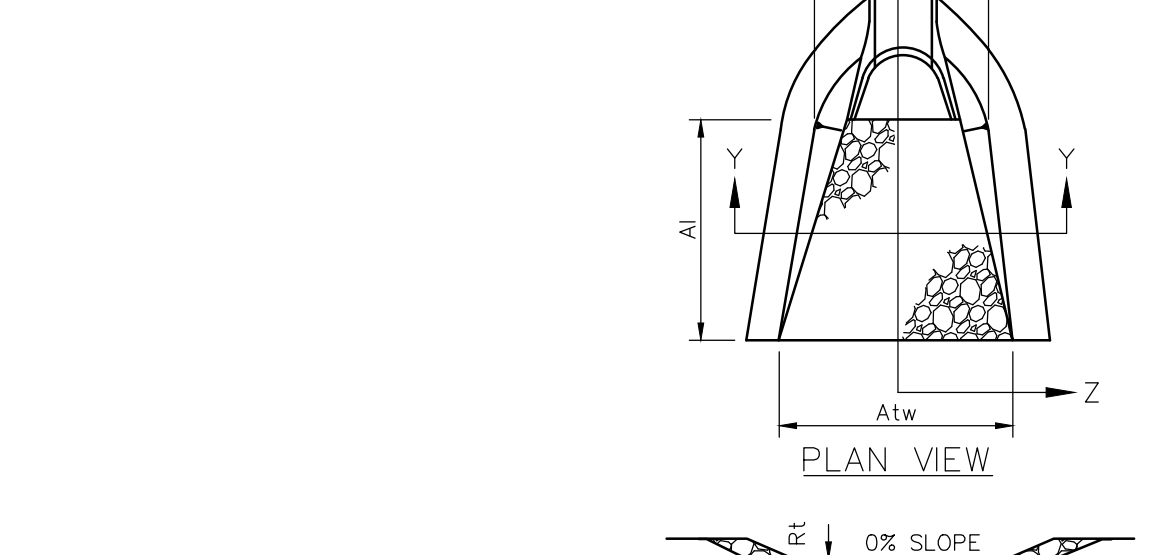
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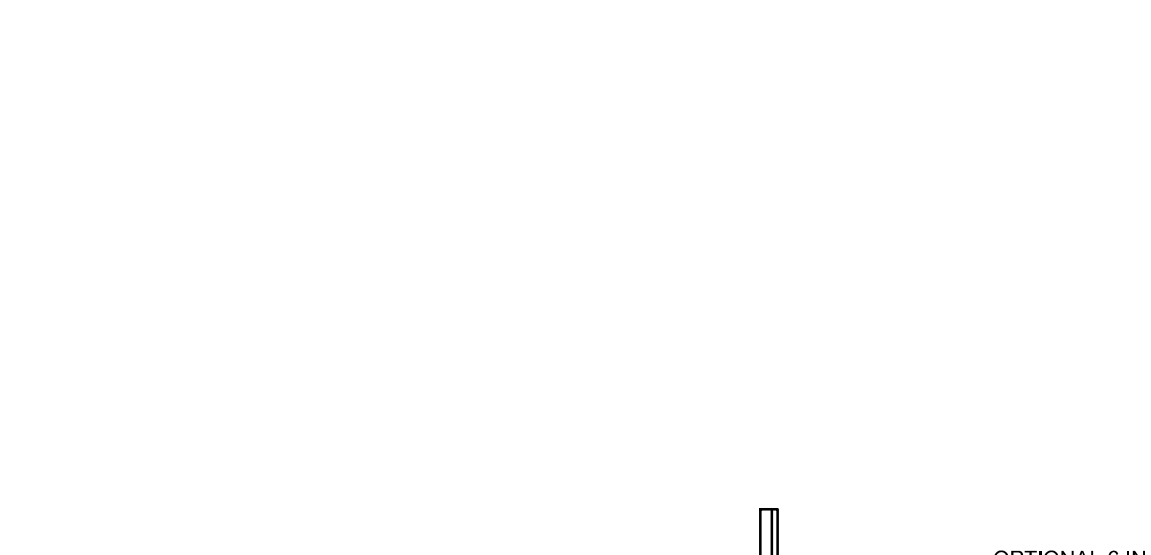
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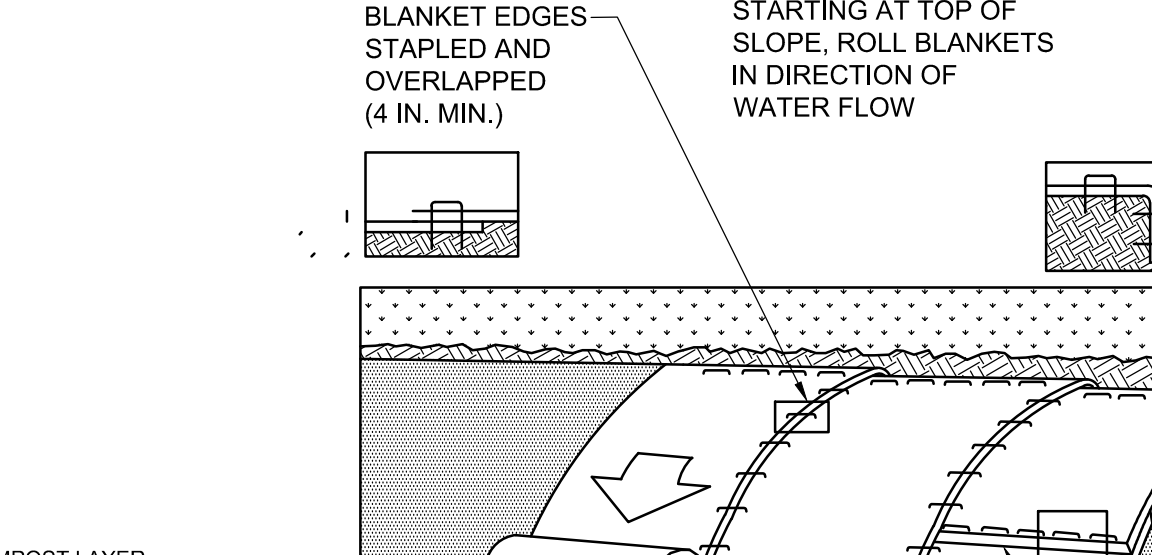
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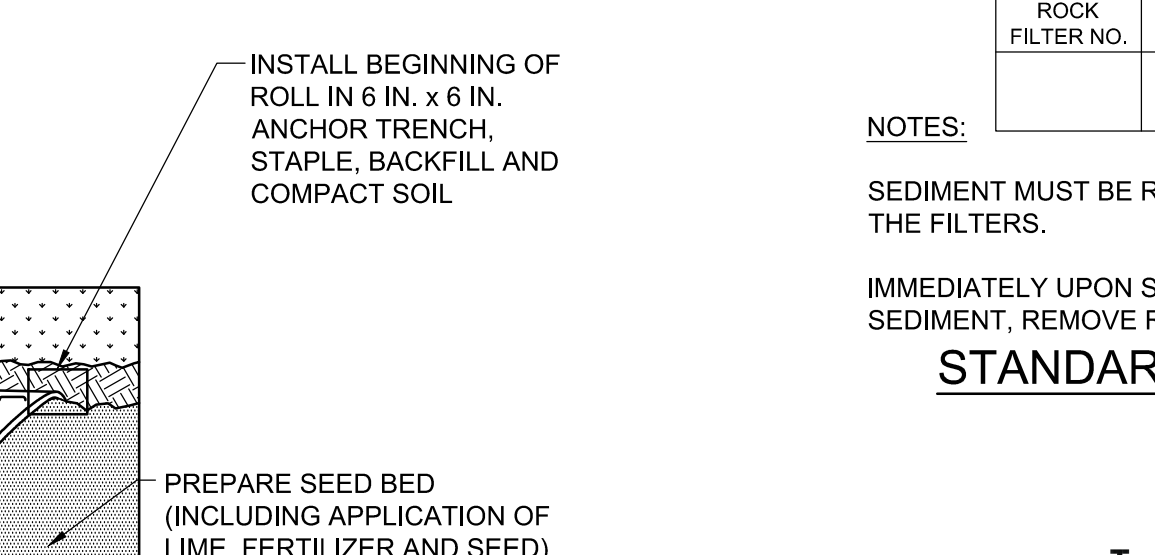
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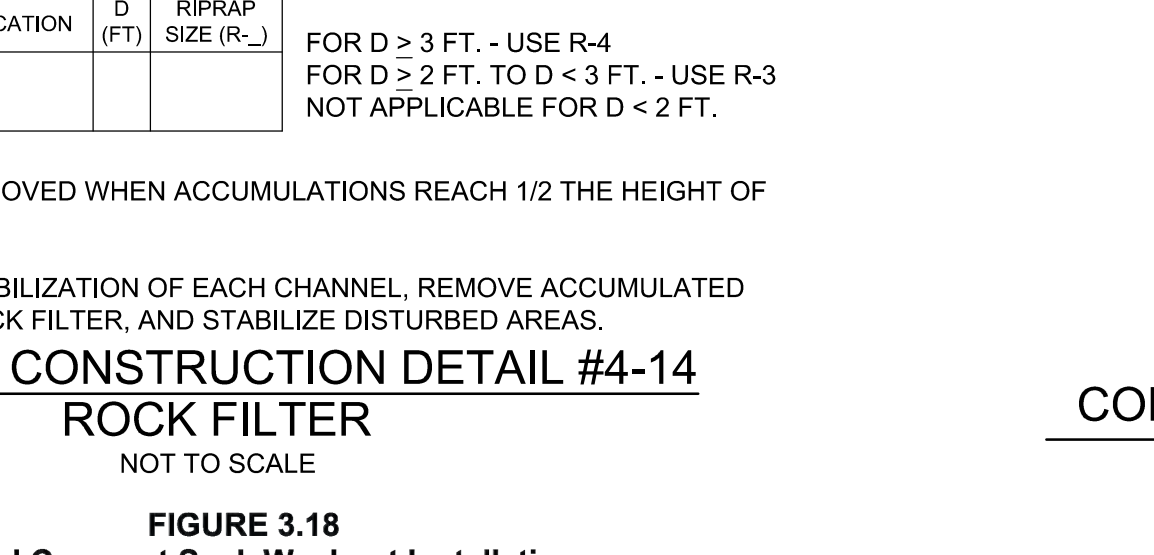
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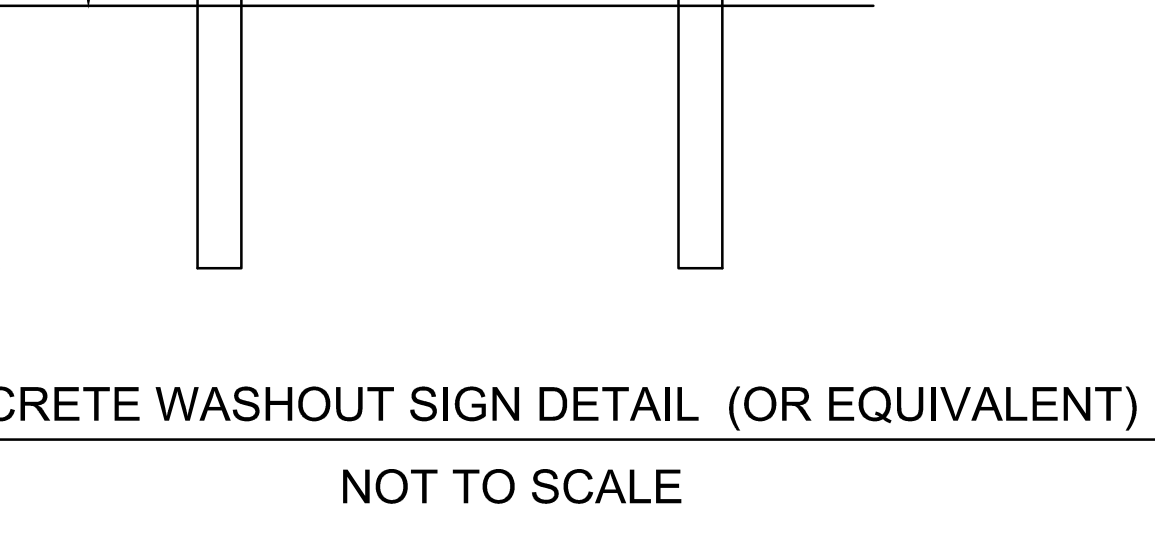
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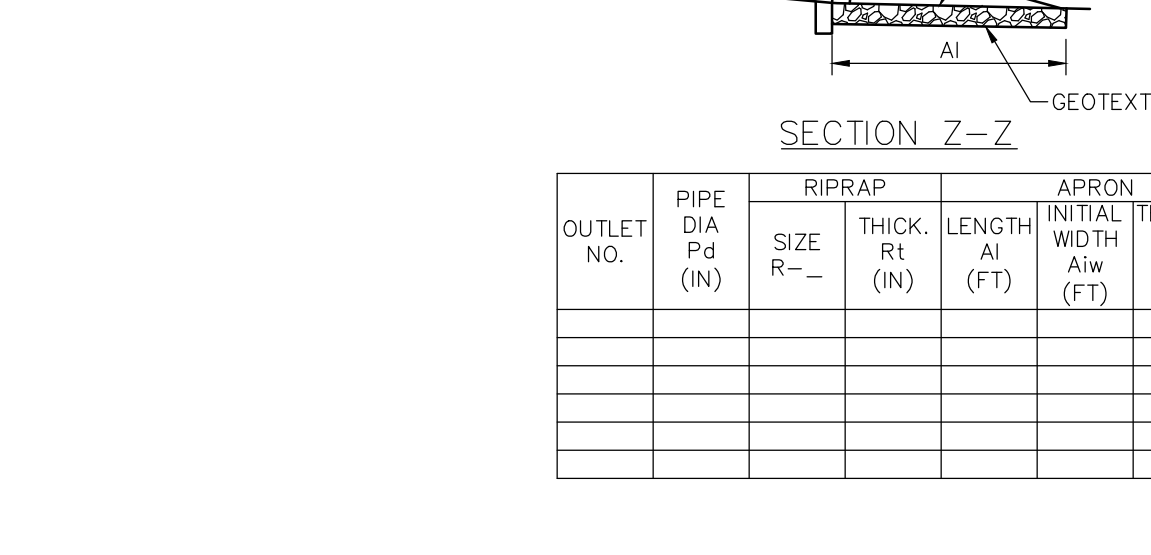
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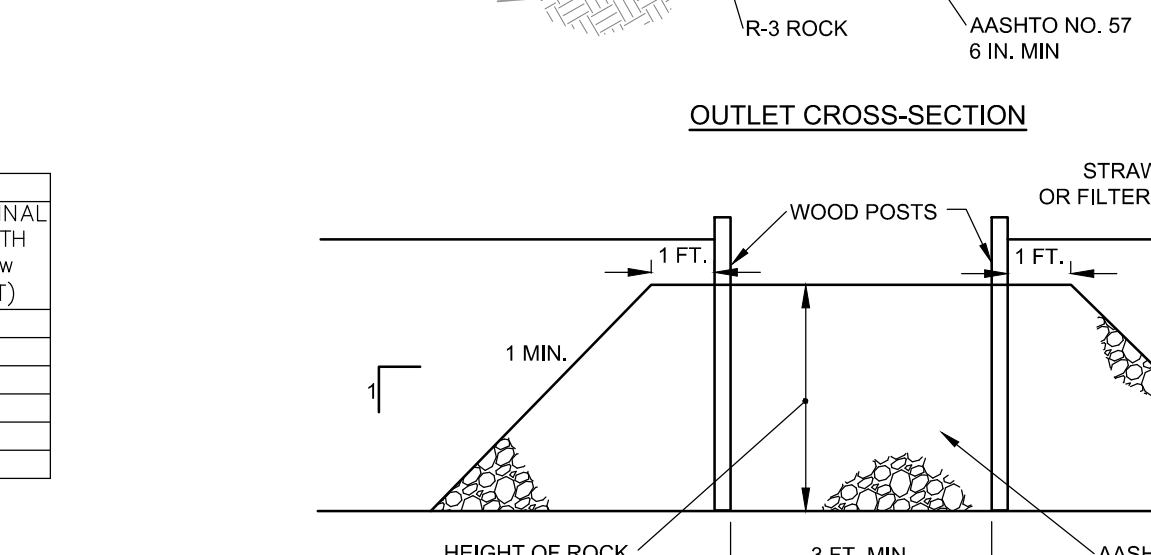
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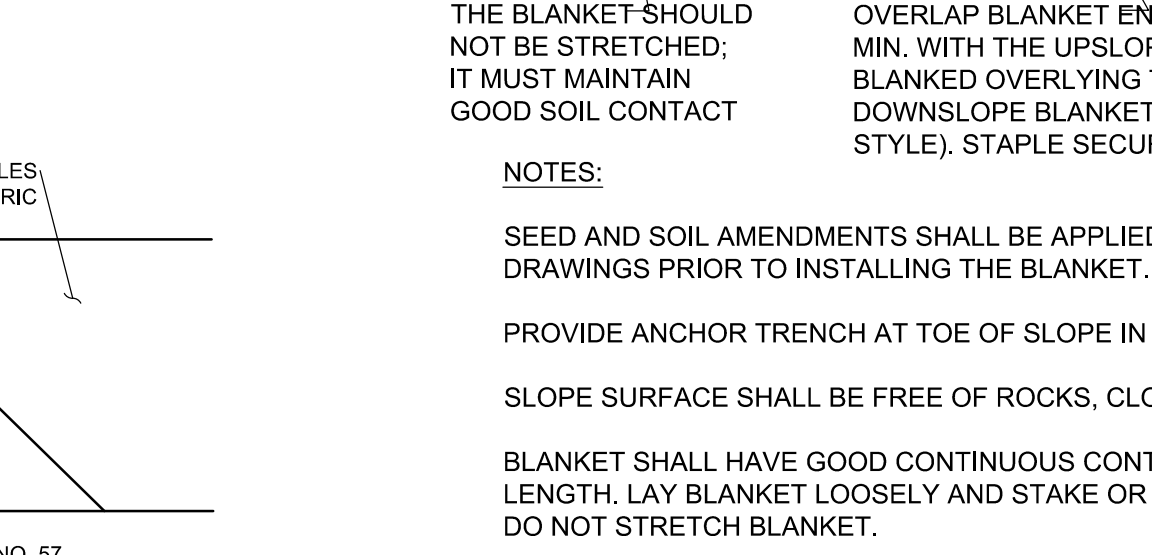
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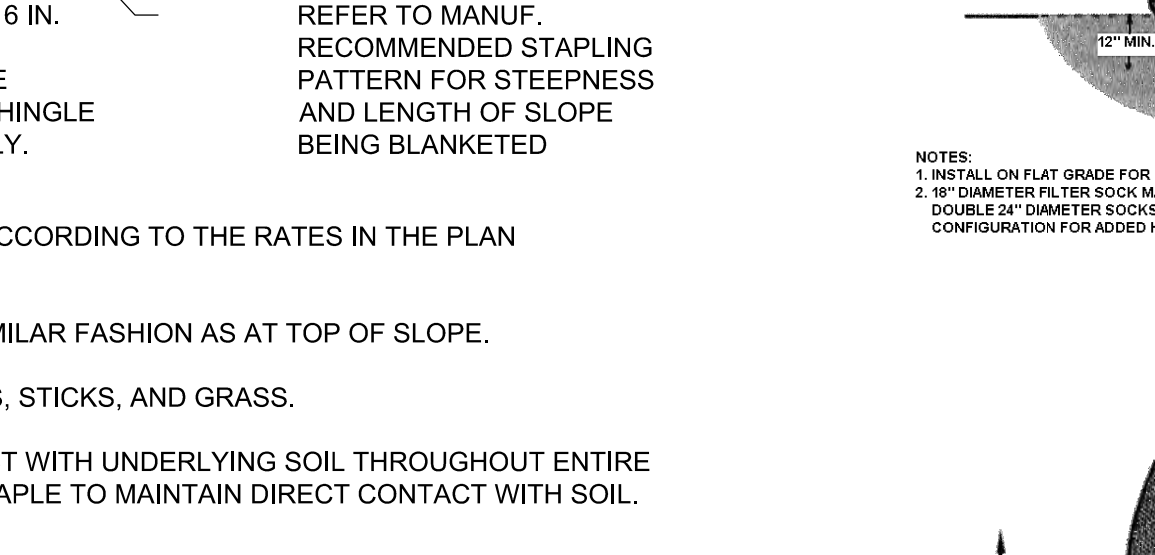
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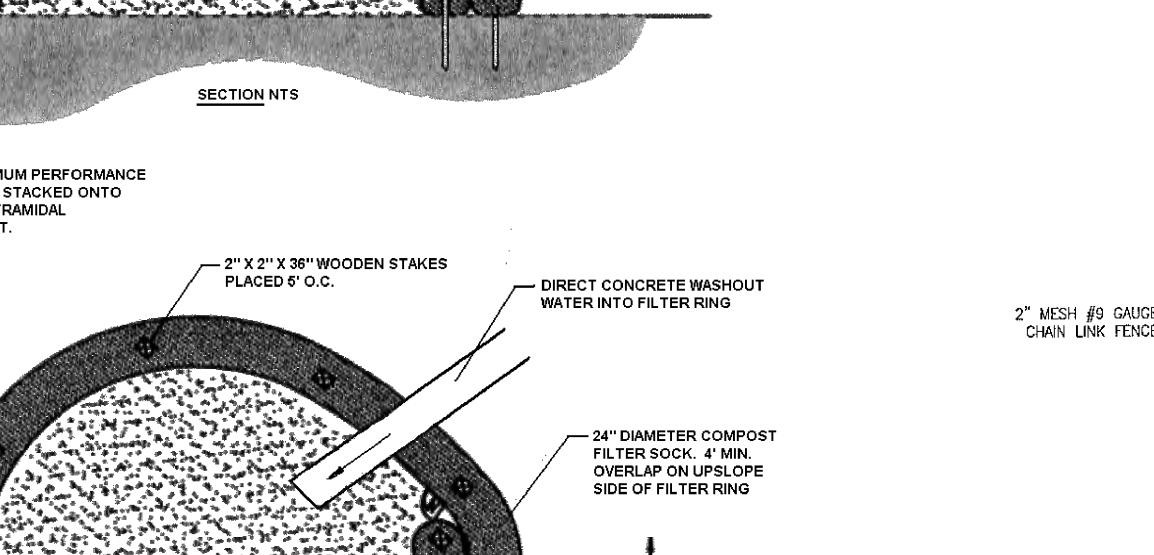
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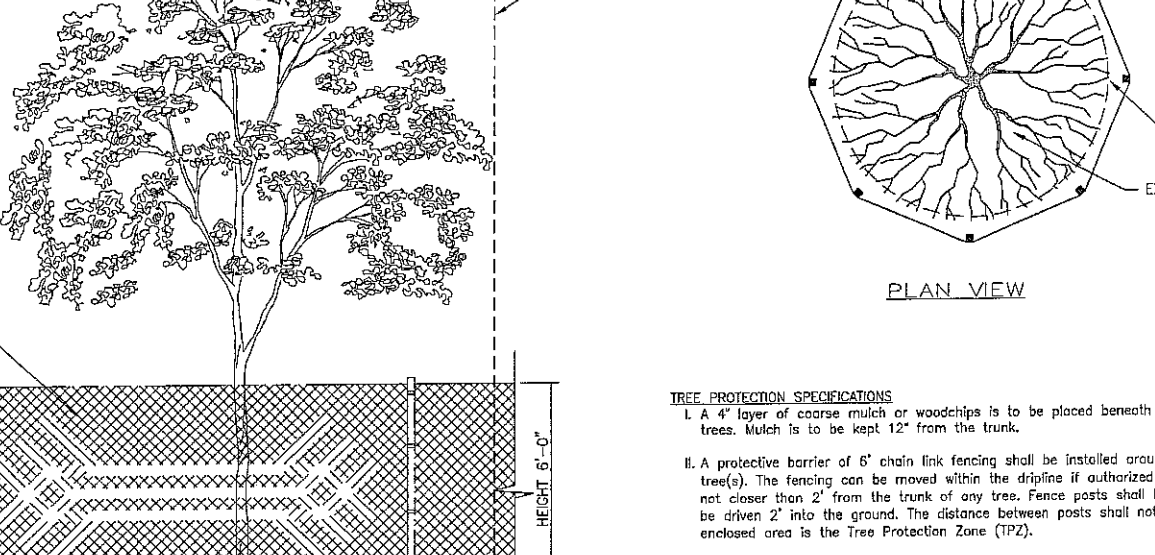
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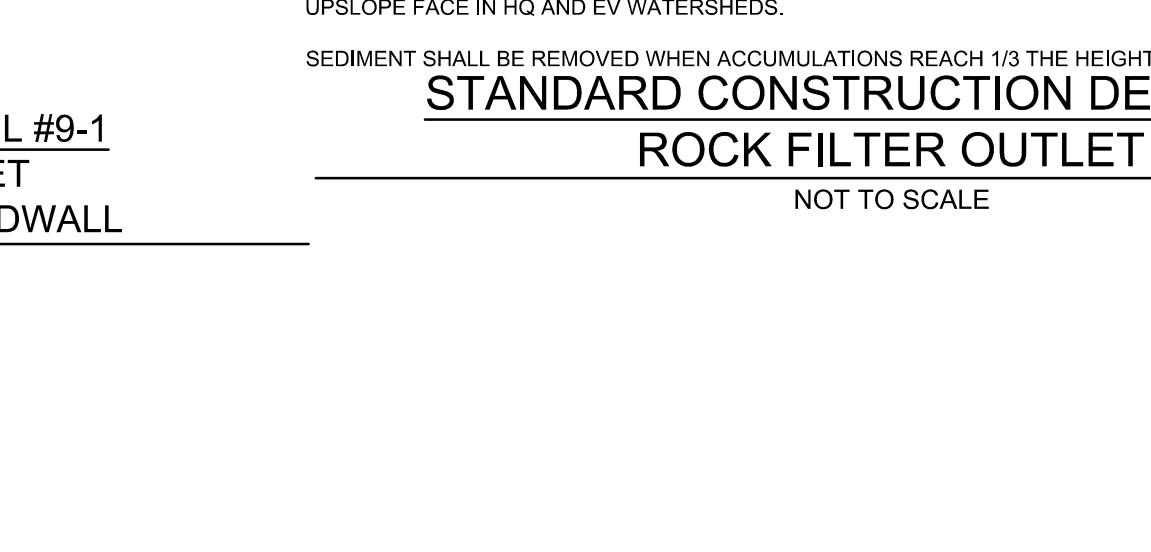
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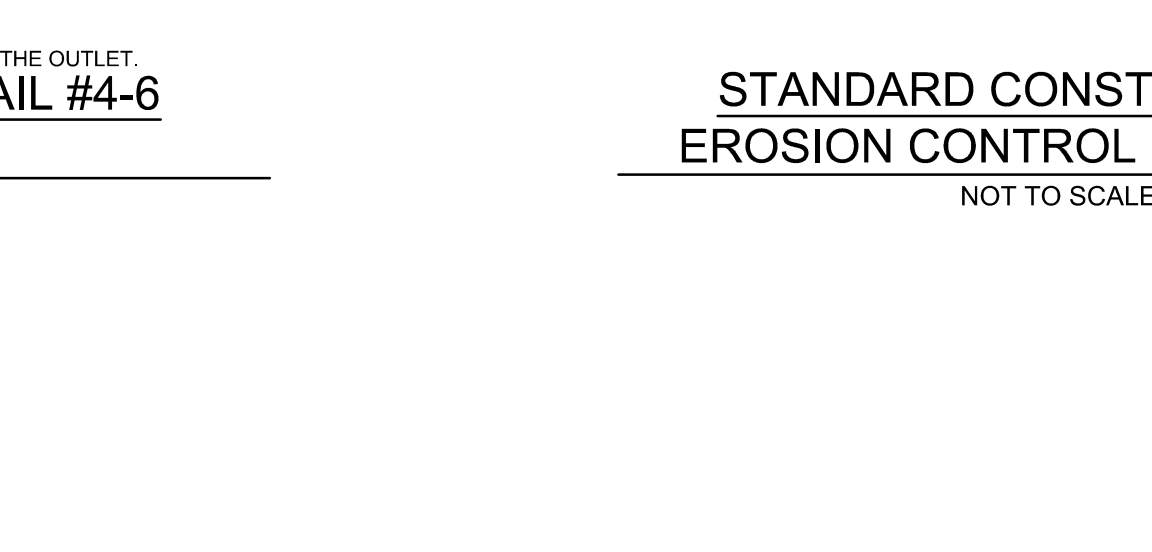
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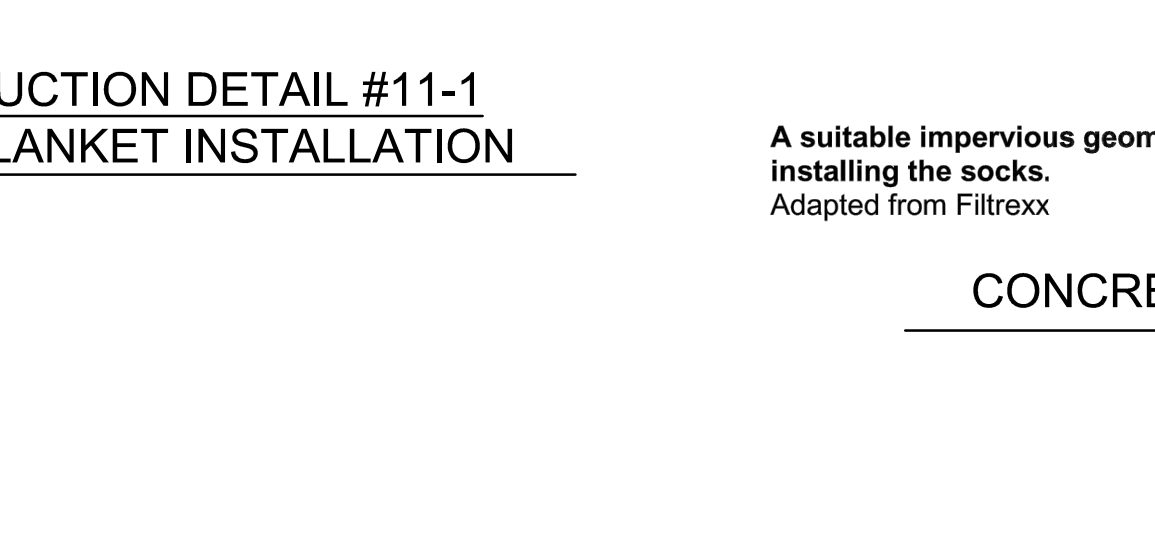
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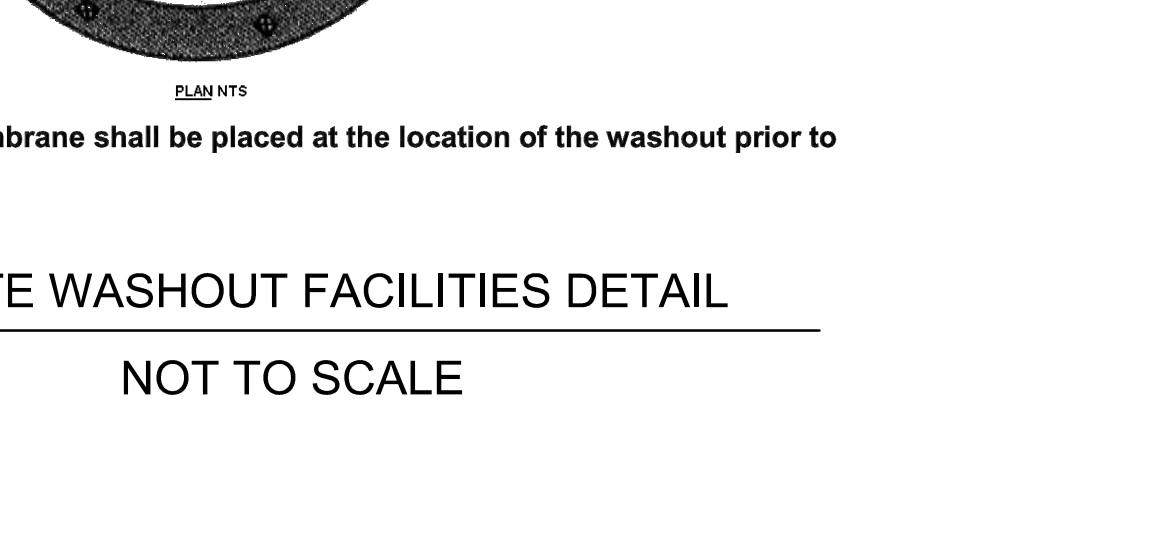
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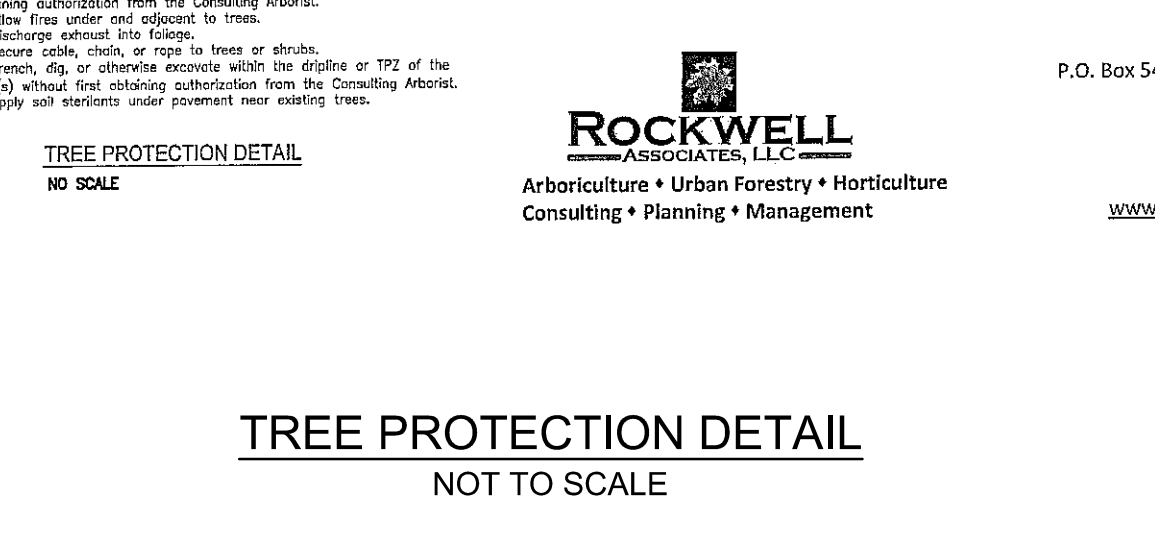
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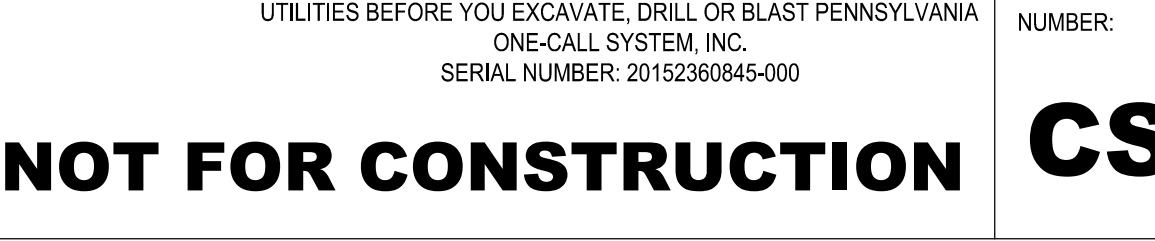
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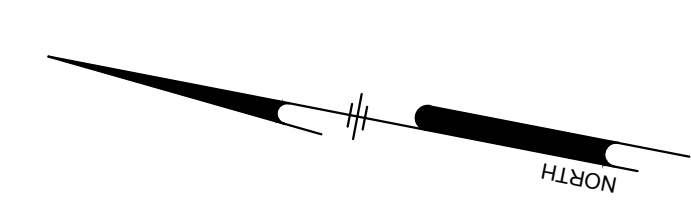
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PCSM LONGTERM OPERATION AND MAINTENANCE NOTES:

UNTIL THE PERMITTEE OR CO-PERMITTEE HAS RECEIVED WRITTEN APPROVAL OF A NOTICE OF TERMINATION, THE PERMITTEE OR CO-PERMITTEE WILL REMAIN RESPONSIBLE FOR COMPLIANCE WITH THE PERMIT TERMS AND CONDITIONS INCLUDING LONG-TERM OPERATION AND MAINTENANCE OF ALL PCSM BMPs ON THE PROJECT SITE AND BE RESPONSIBLE FOR VIOLATIONS OCCURRING ON THE PROJECT SITE. THE PERMITTEE OR CO-PERMITTEE SHALL BE RESPONSIBLE FOR LONG-TERM OPERATION AND MAINTENANCE OF PCSM BMPs UNLESS A DIFFERENT PERSON IS IDENTIFIED IN THE NOTICE OF TERMINATION AND HAS AGREED TO LONG-TERM OPERATION AND MAINTENANCE OF PCSM BMPs. FOR ANY PROPERTY CONTAINING A PCSM BMP, THE PERMITTEE OR CO-PERMITTEE SHALL RECORD AN INSTRUMENT WITH THE RECORDER OF DEEDS WHICH WILL ASSURE DISCLOSURE OF THE PCSM BMP AND THE RELATED OBLIGATIONS IN THE ORDINARY COURSE OF A TITLE SEARCH OF THE SUBJECT PROPERTY. THE RECORDED INSTRUMENT MUST IDENTIFY WITH THE PCSM BMP PROVIDE FOR NECESSARY ACCESS RELATED TO LONG-TERM OPERATION AND MAINTENANCE FOR PCSM BMPs AND PROVIDE NOTICE THAT THE RESPONSIBILITY FOR LONG-TERM OPERATION AND MAINTENANCE OF THE PCSM BMP IS A COVENANT THAT RUNS WITH THE LAND THAT IS BINDING UPON AND ENFORCEABLE BY SUBSEQUENT GRANTEES, AND PROVIDE PROOF OF FILING WITH THE NOTICE OF TERMINATION UNDER 9102.7(b)(5) (RELATING TO PERMIT TERMINATION). THE PERSON RESPONSIBLE FOR PERFORMING LONG-TERM OPERATION AND MAINTENANCE MAY ENTER INTO AN AGREEMENT WITH ANOTHER PERSON INCLUDING A CONSERVATION DISTRICT, NONPROFIT ORGANIZATION, MUNICIPALITY, AUTHORITY, PRIVATE CORPORATION, OR OTHER PERSON, TO TRANSFER THE RESPONSIBILITY FOR PCSM BMPs OR TO PERFORM LONG-TERM OPERATION AND MAINTENANCE AND PROVIDE NOTICE THEREOF TO THE DEPARTMENT.

A PERMITTEE OR CO-PERMITTEE THAT FAILS TO TRANSFER LONG-TERM OPERATION AND MAINTENANCE OF THE PCSM BMP OR OTHERWISE FAILS TO COMPLY WITH THIS REQUIREMENT SHALL REMAIN JOINTLY AND SEVERALLY RESPONSIBLE WITH THE LANDOWNER FOR LONG-TERM OPERATION AND MAINTENANCE OF THE PCSM BMPs LOCATED ON THE PROPERTY.

INSPECTIONS SHALL BE PERFORMED AS NOTED FOR EACH BMP AND ANNUALLY. A WRITTEN REPORT DOCUMENTING EACH INSPECTION AND ALL BMP REPAIR AND MAINTENANCE ACTIVITIES SHALL BE PROVIDED ANNUALLY.

STORMWATER BMP FAILURE
A STORMWATER BMP FAILURE FOR THIS SITE IS DEFINED AS:
1. THE BIO-RETENTION BASIN NOT DEWATERING WITHIN 72 HOURS, IN THE EVENT THAT THIS OCCURS, THE DESIGN ENGINEER SHOULD BE CONTACTED TO INVESTIGATE THE CAUSE OF FAILURE. IF THE BMP HAS NOT DEWATERED WITHIN 72 HOURS AND A PRECIPITATION EVENT IS FORECASTED THE FACILITY SHOULD BE SEWERED PRIOR TO THE PRECIPITATION EVENT TO ESTABLISH. IN THE EVENT THAT THIS OCCURS THE LANDSCAPE SHALL BE REPAIRED IN 90 DAYS.

NON-STRUCTURAL BMP 5.4.3 - PROTECT/UTILIZE NATURAL DRAINAGE FEATURES
THIS PROJECT HAS BEEN DESIGNED TO UTILIZE AN EXISTING DETENTION BASIN.

STRUCTURAL BMP 6.1.5.5 - BANK STABILIZATION/RETENTION
BIO-RETENTION BASINS PROVIDE TEMPORARY STORAGE BELOW THE OUTLET WITHIN THE AMENDED SOLLS AND STONE. THESE SYSTEMS PROVIDE INFILTRATION OF STORMWATER RUNOFF AS WELL AS EVAPOTRANSPIRATION THROUGH THE VEGETATION WITHIN THE BASIN.

OPERATION & MAINTENANCE:
1. THE LOT OWNER OF RECORD IS RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF THE BIO-RETENTION BASINS AND PROVIDING A WRITTEN REPORT DOCUMENTING EACH INSPECTION AND ALL BMP REPAIR AND MAINTENANCE ACTIVITIES.
2. DURING THE FIRST GROWING SEASON OR UNTIL ESTABLISHED, VEGETATION SHOULD BE INSPECTED EVERY TWO (2) TO THREE (3) WEEKS.
3. THE BIO-RETENTION FACILITY VEGETATION MAY NEED SUPPORT (WATERING, WEEDING, MULCHING, REPLANTING, ETC.) DURING THE FIRST YEAR.
4. MAINTENANCE ACTIVITIES TO BE DONE ANNUALLY AND WITHIN 48 HOURS AFTER EVERY MAJOR STORM EVENT (1-1 INCH RAINFALL DEPTH)
A. THE BIO-RETENTION FACILITY SHOULD BE INSPECTED AT LEAST TWO (2) TIMES PER YEAR, AS WELL AS AFTER EVERY STORM GREATER THAN 1 INCH. THE INSPECTION SHOULD ACCESS THE VEGETATION, EROSION, FLOW CHANNELIZATION, BANK STABILITY, CLOGGING AT INLETS AND OUTLETS, AND SEDIMENT DEBRIS ACCUMULATION.
B. MOWING AND/OR TRIMMING OF VEGETATION SHOULD BE PERFORMED AS NECESSARY TO SUSTAIN THE SYSTEM.
C. TREES AND SHRUBS SHOULD BE REMOVED EVERY YEAR. PERENNIAL PLANTINGS MAY BE CUT DOWN AT THE END OF THE GROWING SEASON.
D. VEGETATED AREAS SHOULD BE INSPECTED ANNUALLY FOR EROSION AND UNWANTED GROWTH OF EXOTIC/INVASIVE SPECIES. VEGETATION SHOULD BE MAINTAINED TO AT LEAST 85% COVER. EXCESSIVE BUILDUP OF SEDIMENT SHALL BE REMOVED. SEDIMENT REMOVAL SHOULD BE CONDUCTED WHEN THE BIO-RETENTION FACILITY IS COMPLETELY DRY. SEDIMENT SHOULD BE DISPOSED OF PROPERLY, AND ONCE SEDIMENT IS REMOVED, DISTURBED AREAS SHOULD BE IMMEDIATELY STABILIZED AND VEGETATED.
E. TREES AND SHRUBS SHOULD BE INSPECTED TWICE PER YEAR TO EVALUATE HEALTH.
5. MAINTENANCE ACTIVITIES AS NEEDED:
A. EVALUATE THE DRAIN-DOWN TIME OF THE BIO-RETENTION BASIN TO ENSURE THE MAXIMUM TIME OF 72 HOURS IS NOT BEING EXCEEDED. IF DRAIN-DOWN TIMES ARE EXCEEDING THE MAXIMUM TIME, DRAIN THE BIO-RETENTION BASIN VIA PUMPING AND CONTACT THE DESIGN ENGINEER TO DETERMINE THE PROPER REMEDIATION FOR THE SYSTEM.
B. MULCH SHOULD BE RE-SPREAD WHEN EROSION IS EVIDENT AND BE REPLENISHED AS NEEDED. ONCE EVERY TWO (2) TO THREE (3) YEARS THE ENTIRE AREA MAY REQUIRE MULCH REPLACEMENT.
C. DURING PERIODS OF EXTENDED DROUGHT, THE BIO-RETENTION AREAS MAY REQUIRE WATERING.

STORM SEWERS
A STORM SEWER SYSTEM HAS BEEN DESIGNED TO CONVEY RUNOFF FROM THE NEW CONNECTOR ROADWAY TO BIO-RETENTION BASIN #4. STORM SEWER PIPES ARE ALSO PROPOSED TO CONVEY WATER FROM THE VARIOUS BIO-RETENTION BASINS TO STABLE OUTLETS AND ALSO TO DIVERT WATER FROM OFF-SITE AROUND THE SITE.

OPERATION & MAINTENANCE:
1. THE LOT OWNER OF RECORD IS RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF THE STORM SEWER SYSTEM AND PROVIDING A WRITTEN REPORT DOCUMENTING EACH INSPECTION AND ALL BMP REPAIR AND MAINTENANCE ACTIVITIES.
2. THE STORM SEWER SYSTEM SHALL BE INSPECTED AT LEAST FOUR (4) TIMES A YEAR.
3. REMOVE SEDIMENT FROM ALL STRUCTURES AT LEAST ONCE PER YEAR.
4. DISPOSE OF SEDIMENT, DEBRIS/TRASH, AND ANY OTHER WASTE MATERIAL REMOVED FROM THE STORM SEWER SYSTEM AT A SUITABLE DISPOSAL/RECYCLING SITE AND IN COMPLIANCE WITH LOCAL, STATE, AND FEDERAL WASTE REGULATIONS.

STRUCTURAL BMP CREDIT 6.1.2 - LANDSCAPE RESTORATION
AREAS OF THE SITE HAVE BEEN DESIGNATED TO BE PLANTED WITH A MEADOW GRASS MIXTURE WHICH WILL REDUCE THE RATE AND VOLUME OF STORMWATER RUNOFF FROM THE SITE. THESE AREAS WILL ALSO PROVIDE NATURAL HABITAT FOR WILDLIFE.

OPERATION & MAINTENANCE:
1. THE LOT OWNER OF RECORD IS RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF THE MEADOW AREAS AND PROVIDING A WRITTEN REPORT DOCUMENTING EACH INSPECTION AND ALL BMP REPAIR AND MAINTENANCE ACTIVITIES.
2. MAINTENANCE ACTIVITIES AS NEEDED:
A. PLANT ALTERNATIVE GRASS SPECIES IN THE EVENT OF UNSUCCESSFUL ESTABLISHMENT.
B. RESEED BARE AREAS INSTALL APPROPRIATE EROSION CONTROL MEASURES WHEN NATIVE SOIL IS EXPOSED OR EROSION CHANNELS ARE FORMING.
C. VEGETATED AREAS SHOULD BE INSPECTED ANNUALLY FOR EROSION AND UNWANTED GROWTH OF EXOTIC/INVASIVE SPECIES. VEGETATION SHOULD BE MAINTAINED TO AT LEAST 85% COVER.
D. MOW AND TRIM VEGETATION TO ENSURE SAFETY, AESTHETICS, OR TO SUPPRESS WEEDS AND INVASIVE VEGETATION. DISPOSE OF CUTTINGS IN A LOCAL COMPOSTING FACILITY.
E. MEADOW GRASSES SHOULD BE MOVED ANNUALLY. MOWING SHOULD BE DONE DURING THE SUMMER TO ENSURE ADEQUATE RESPONSE TO VEGETATION PRIOR TO WINTER. SPECIAL CARE SHOULD BE TAKEN TO MINIMIZE DISTURBANCE ASSOCIATED WITH THE MOWING OF THE MEADOW GRASSES.

RECYCLE & DISPOSAL OF MATERIALS

1. THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE, OR DISPOSE OF ALL BUILDING MATERIALS AND WASTE IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ., 27.1 ET SEQ., AND 28.1 ET SEQ. THE CONTRACTOR SHALL NOT ILLEGALLY BURY, DUMP, OR DISCHARGE ANY BUILDING MATERIAL OR WASTE AT THE SITE.
2. AT ANY TIME DURING THE CONSTRUCTION SHOULD EVIDENCE OF A POSSIBLE SNOWHOLE BE ENCOUNTERED, THE CONTRACTOR SHALL IMMEDIATELY CONTACT THE DESIGN ENGINEER AND A LICENSED GEOTECHNICAL ENGINEER TO PERFORM A SITE VISIT AND DETERMINE THE PROPER REMEDIATION ACTIVITY.

STRUCTURAL BMP - SUBSURFACE DETENTION BASIN

A SUBSURFACE DETENTION BASIN HAS BEEN BUILT TO TEMPORARILY STORE RUNOFF ASSOCIATED WITH THE 2-YEAR DESIGN STORM FOR A PORTION OF THE SITE. STORAGE VOLUME IS PROVIDED WITHIN THE PERFORATED PIPING AS WELL AS THE STONE VEDS FOR THE DETENTION BASIN.

OPERATION & MAINTENANCE:
1. THE LOT OWNER OF RECORD IS RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF THE SUBSURFACE DETENTION BASIN AND PROVIDING A WRITTEN REPORT DOCUMENTING EACH INSPECTION AND ALL BMP REPAIR AND MAINTENANCE ACTIVITIES.
2. MAINTENANCE ACTIVITIES TO BE DONE ANNUALLY AND WITHIN 48-HOURS AFTER EVERY MAJOR STORM EVENT (1-1 INCH RAINFALL DEPTH)
A. ALL INLETS SHOULD BE INSPECTED AND CLEANED AT LEAST ONE (1) TIMES PER YEAR.
B. THE DETENTION BASIN SHOULD BE INSPECTED ANNUALLY FOR SEDIMENT BUILDUP. EXCESSIVE SEDIMENT BUILDUP SHOULD BE REMOVED AND DISPOSED OF APPROPRIATELY.
C. THE BASIN OUTLET STRUCTURE SHOULD BE INSPECTED AT LEAST ONE (1) TIMES PER YEAR, AS WELL AS AFTER EVERY STORM GREATER THAN 1-INCH. THE INSPECTION SHOULD ACCESS CLOGGING AT INLETS AND OUTLETS, AND SEDIMENT/DEBRIS ACCUMULATION.
3. MAINTENANCE ACTIVITIES AS NEEDED:
A. EVALUATE THE DRAIN-DOWN TIME OF THE SUBSURFACE DETENTION BASIN TO ENSURE THE MAXIMUM TIME OF 72 HOURS IS NOT BEING EXCEEDED. IF DRAIN-DOWN TIMES ARE EXCEEDING THE MAXIMUM TIME, DRAIN THE SUBSURFACE DETENTION BASIN VIA UNDERDRAIN AND CONTACT THE DESIGN ENGINEER TO DETERMINE THE PROPER REMEDIATION FOR THE SYSTEM.

INSPECTION SCHEDULE:
THE SUBSURFACE DETENTION BASIN SHOULD BE INSPECTED AT LEAST TWO (2) TIMES PER YEAR, AS WELL AS AFTER EVERY STORM GREATER THAN 1-INCH. THE INSPECTION SHOULD ACCESS CLOGGING AT INLETS AND OUTLETS, AND SEDIMENT/DEBRIS ACCUMULATION.

STRUCTURAL BMP - SURFACE DETENTION BASIN
SURFACE DETENTION BASINS PROVIDE TEMPORARY STORAGE BELOW THE OUTLET WITHIN THE AMENDED SOLLS AND STONE. THESE SYSTEMS PROVIDE PEAK RUNOFF RATE CONTROL.

OPERATION & MAINTENANCE:
1. THE LOT OWNER OF RECORD IS RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF THE SURFACE DETENTION BASINS AND PROVIDING A WRITTEN REPORT DOCUMENTING EACH INSPECTION AND ALL BMP REPAIR AND MAINTENANCE ACTIVITIES.
2. DURING THE FIRST GROWING SEASON OR UNTIL ESTABLISHED, VEGETATION SHOULD BE INSPECTED EVERY TWO (2) TO THREE (3) WEEKS.
3. THE SURFACE DETENTION BASIN FACILITY VEGETATION MAY NEED SUPPORT (WATERING, WEEDING, MULCHING, REPLANTING, ETC.) DURING THE FIRST YEAR.
4. MAINTENANCE ACTIVITIES TO BE DONE ANNUALLY AND WITHIN 48 HOURS AFTER EVERY MAJOR STORM EVENT (1-1 INCH RAINFALL DEPTH)
A. THE SURFACE DETENTION BASIN SHOULD BE INSPECTED AT LEAST TWO (2) TIMES PER YEAR, AS WELL AS AFTER EVERY STORM GREATER THAN 1 INCH. THE INSPECTION SHOULD ACCESS THE VEGETATION, EROSION, FLOW CHANNELIZATION, BANK STABILITY, CLOGGING AT INLETS AND OUTLETS, AND SEDIMENT/DEBRIS ACCUMULATION.
B. MOWING AND/OR TRIMMING OF VEGETATION SHOULD BE PERFORMED AS NECESSARY TO SUSTAIN THE SYSTEM.
C. DEBRIS SHOULD BE REMOVED EVERY YEAR. PERENNIAL PLANTINGS MAY BE CUT DOWN AT THE END OF THE GROWING SEASON.
D. VEGETATED AREAS SHOULD BE INSPECTED ANNUALLY FOR EROSION AND UNWANTED GROWTH OF EXOTIC/INVASIVE SPECIES. VEGETATION SHOULD BE MAINTAINED TO AT LEAST 85% COVER. EXCESSIVE BUILDUP OF SEDIMENT SHALL BE REMOVED. SEDIMENT REMOVAL SHOULD BE CONDUCTED WHEN THE SURFACE DETENTION BASIN FACILITY IS COMPLETELY DRY. SEDIMENT SHOULD BE DISPOSED OF PROPERLY, AND ONCE SEDIMENT IS REMOVED, DISTURBED AREAS SHOULD BE IMMEDIATELY STABILIZED AND VEGETATED.
E. TREES AND SHRUBS SHOULD BE INSPECTED TWICE PER YEAR TO EVALUATE HEALTH.
5. MAINTENANCE ACTIVITIES AS NEEDED:
A. EVALUATE THE DRAIN-DOWN TIME OF THE SURFACE DETENTION BASIN TO ENSURE THE MAXIMUM TIME OF 72 HOURS IS NOT BEING EXCEEDED. IF DRAIN-DOWN TIMES ARE EXCEEDING THE MAXIMUM TIME, DRAIN THE DETENTION BASIN VIA PUMPING AND CONTACT THE DESIGN ENGINEER TO DETERMINE THE PROPER REMEDIATION FOR THE SYSTEM.
B. MULCH SHOULD BE RE-SPREAD WHEN EROSION IS EVIDENT AND BE REPLENISHED AS NEEDED. ONCE EVERY TWO (2) TO THREE (3) YEARS THE ENTIRE AREA MAY REQUIRE MULCH REPLACEMENT.
C. DURING PERIODS OF EXTENDED DROUGHT, THE SURFACE DETENTION BASIN AREAS MAY REQUIRE WATERING.

INSPECTION SCHEDULE:
1. DURING THE FIRST GROWING SEASON OR UNTIL ESTABLISHED, VEGETATION SHOULD BE INSPECTED EVERY TWO (2) TO THREE (3) WEEKS.
2. THE DETENTION BASIN FACILITY SHOULD BE INSPECTED AT LEAST TWO (2) TIMES PER YEAR, AS WELL AS AFTER EVERY STORM GREATER THAN 1-INCH. THE INSPECTION SHOULD ACCESS THE VEGETATION, EROSION, FLOW CHANNELIZATION, BANK STABILITY, CLOGGING AT INLETS AND OUTLETS, AND SEDIMENT/DEBRIS ACCUMULATION.

STRUCTURAL BMP - PERMEABLE PAVERS
PERMEABLE PAVERS PROVIDE STORMWATER MANAGEMENT CONTROL. POROUS PAVEMENT MATERIALS REDUCE RUNOFF AND IMPROVES WATER QUALITY.

OPERATION & MAINTENANCE:
1. THE LOT OWNER OF RECORD IS RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF THE PERMEABLE PAVERS AND PROVIDING A WRITTEN REPORT DOCUMENTING EACH INSPECTION AND ALL BMP REPAIR AND MAINTENANCE ACTIVITIES.
2. PERMEABLE PAVERS SHOULD BE INSPECTED EVERY TWO (2) TO THREE (3) WEEKS.
3. PLANTED AREAS ADJACENT TO PERMEABLE PAVERS SHOULD BE WELL MAINTAINED TO PREVENT SOIL WASHOUT ONTO THE PAVERS. IF WASHOUT DOES OCCUR IT SHOULD BE CLEANED OFF THE PAVERS IMMEDIATELY TO PREVENT FURTHER CLOGGING OF THE PORES AND/OR OPEN VEDS.
4. IF BARE SPOTS OR ERODED AREAS ARE OBSERVED WITHIN THE PLANTED AREAS ADJACENT TO THE PERMEABLE PAVERS, THEY SHOULD BE REPLANTED AND/OR STABILIZED.
5. ALL TRASH AND OTHER LITTER THAT IS OBSERVED DURING INSPECTION SHOULD BE REMOVED.
6. TRUCKS OR OTHER HEAVY VEHICLES SHOULD BE PREVENTED FROM TRACKING OR SPILLING GRIT ONTO THE PAVERS.
7. WINTER MAINTENANCE:
7.1. PERVIOUS PAVEMENT SYSTEMS PROVIDE SNOW MELTING WITHOUT THE USE OF CHEMICALS OR SALTS, SINCE THE UNDERLYING STONE BED TENDS TO ABSORB AND RETAIN HEAT.
7.2. ABRASIVES SUCH AS SAND OR CINDERS SHOULD BE APPLIED ON OR ADJACENT TO THE PERMEABLE PAVERS.
7.3. SALT IS AN ACCEPTABLE DEICER ON THE PERMEABLE PAVERS.

INSPECTION SCHEDULE:
1. PERMEABLE PAVERS SHOULD BE INSPECTED EVERY TWO (2) TO THREE (3) WEEKS.

STRUCTURAL BMP CREDIT 6.1.3 - SOIL AMENDMENT AND RESTORATION

AREAS OF THE SITE HAVE BEEN DESIGNATED TO BE CONVERTED FROM PAVING TO LANDSCAPED AREAS WHICH WILL REDUCE THE RATE AND VOLUME OF STORMWATER RUNOFF FROM THE SITE.

OPERATION & MAINTENANCE:
1. THE LOT OWNER OF RECORD IS RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF THE SOIL RESTORATION AREAS AND PROVIDING A WRITTEN REPORT DOCUMENTING EACH INSPECTION AND ALL BMP REPAIR AND MAINTENANCE ACTIVITIES.
2. MAINTENANCE ACTIVITIES AS NEEDED:
A. PLANT ALTERNATIVE GRASS SPECIES IN THE EVENT OF UNSUCCESSFUL ESTABLISHMENT.
B. RESEED BARE AREAS INSTALL APPROPRIATE EROSION CONTROL MEASURES UNTIL VEGETATION IS ESTABLISHED.
C. VEGETATED AREAS SHOULD BE INSPECTED ANNUALLY FOR EROSION AND UNWANTED GROWTH OF EXOTIC/INVASIVE SPECIES. VEGETATION SHOULD BE MAINTAINED TO AT LEAST 85% COVER.

INSPECTION SCHEDULE:
DURING THE FIRST GROWING SEASON OR UNTIL ESTABLISHED, VEGETATION SHOULD BE INSPECTED

SOIL RESTORATION CONSTRUCTION NOTES:

1. IN AREAS WHERE EXISTING PAVEMENT WILL BE CONVERTED TO LAWN, REMOVE PAVEMENT TO SUBGRADE. SUBGRADE SHALL BE RELIEVED OF COMPACTION AS FOLLOWS:

- 1. BEFORE THE TIME THE COMPOST IS PLACED AND PREFERABLY WHEN EXCAVATION IS COMPLETED, THE SUBSOIL SHALL BE IN A LOOSE, FRABLE CONDITION TO A DEPTH OF 20 INCHES BELOW FINAL TOPSOIL GRADE AND THERE SHALL BE NO EROSION RILLS OR HAZARDOUS IN THE SUBSOIL SURFACE EXCEEDING 3 INCHES IN DEPTH.
- 2. TO ACHIEVE THIS CONDITION, SUBSOILING, RIPPING, OR SCARIFICATION OF THE SUBSOIL WILL BE REQUIRED AS DIRECTED BY THE OWNER'S REPRESENTATIVE. WHEREVER THE SUBSOIL HAS BEEN COMPACTED BY EQUIPMENT OPERATION OR HAS BECOME GRIED OUT AND CRUSTED, AND WHERE NECESSARY TO SUBLITERATE EROSION RILLS, SUBSOILING SHALL BE REQUIRED TO REDUCE SOIL COMPACTION IN ALL AREAS WHERE PLANT ESTABLISHMENT IS PLANNED. SUBSOILING SHALL BE PERFORMED BY THE PRIME OR EXCAVATING CONTRACTOR AND SHALL OCCUR BEFORE COMPOST PLACEMENT.
- 3. SUBSOILED AREAS SHALL BE LOESED TO LESS THAN 1400 KPA (200PSI) TO A DEPTH OF 20 INCHES BELOW FINAL TOPSOIL GRADE. WHEN DIRECTED BY THE OWNER'S REPRESENTATIVE, THE CONTRACTOR SHALL VERIFY THE SUBSOILING CONFORMS TO THE SPECIFIED DEPTH.
- 4. SUBSOILING SHALL FORM A TWO-DIMENSIONAL GRID. CHANNELS SHALL BE CREATED BY A COMMERCIALLY AVAILABLE, MULTI-BANDED, PARALLEL-GROOM IMPLEMENT. THE EQUIPMENT SHALL BE CAPABLE OF EXERTING A PENETRATION FORCE NECESSARY FOR THE SITE. NO SOIL CULTIVATORS, CHISEL PLOWS, OR SPRING-DRAINED EQUIPMENT WILL NOT ALLOWED. THE GRID CHANNELS SHALL BE SPACED A MINIMUM OF 10 INCHES TO A MAXIMUM OF 30 INCHES APART. THE CHANNEL DEPTH SHALL BE A MINIMUM OF 20 INCHES OR AS SPECIFIED IN THE SOIL MANAGEMENT PLAN. IF SOILS ARE SATURATED, THE CONTRACTOR SHALL DELAY OPERATIONS UNTIL THE SOIL WILL NOT HOLD A BALL WHEN SQUEEZED. ONLY ONE PASS SHALL BE PERFORMED ON ERODIBLE SLOPES GREATER THAN 1 VERTICAL TO 3 HORIZONTAL. WHEN ONLY ONE PASS IS USED, WORK SHOULD BE AT RIGHT ANGLES TO THE DIRECTION OF SURFACE DRAINAGE, WHENEVER PRACTICAL.

5. EXCEPTIONS TO SUB-SOILING INCLUDE AREAS WITHIN THE GRIP LINE OF ANY EXISTING TREES, OVER UTILITY INSTALLATIONS WITHIN 30 INCHES OF THE SURFACE, WHERE TRENCH-DRAINAGE LINES ARE INSTALLED, WHERE COMPACTION IS BY DESIGN, AND ON INACCESSIBLE SLOPES AS APPROVED BY THE OWNER'S REPRESENTATIVE. IN CASES WHERE EXCEPTIONS OCCUR, THE CONTRACTOR SHALL OBSERVE A MINIMUM SETBACK OF 20 FEET OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE. ARCHEOLOGICAL CLEARANCES MAY BE REQUIRED IN SOME INSTANCES.

6. INSTALL A MINIMUM OF 12 INCHES OF TOP SOIL AS NEEDED TO BRING AREAS TO PROPOSED GRADE.
7. THE FINAL RESULTING SOIL AMENDMENT MUST MEET ALL OF THE MANDATORY CRITERIA IN TABLE 4.
8. CONTRACTOR TO ADD SOIL AMENDMENTS, SUCH AS COMPOST, MULCH, MANURE, SAND AND/OR MANUFACTURED MINERAL SOLATIONS IN ORDER TO ACHIEVE THE SOIL CRITERIA OUTLINED IN TABLE 4 ON THIS SHEET.

9. COMPOST SHOULD BE ADDED AT A RATE OF 2:1 (SOIL:COMPOST).
10. IF A PROPRIETARY PRODUCT IS USED, THE MANUFACTURER'S INSTRUCTIONS SHOULD BE FOLLOWED FOR MIXING AND APPLICATION RATE.

11. ON-SITE SOILS WITH ORGANIC CONTENT OF AT LEAST 5 PERCENT CAN BE PROPERLY STOCKPILED TO MAINTAIN ORGANIC CONTENT AND REUSED.
12. PROCEDURE: ROTOTILL OR RBP THE SUBGRADE, REMOVE ROCKS, DISTRIBUTE THE COMPOST, SPREAD THE NUTRIENTS, ROTOTILL AGAIN.

13. ADD 4 INCHES COMPOST / AMENDMENT AND TILL UP TO 8 INCHES FOR MINOR COMPACTION.
14. ADD 10 INCHES COMPOST / AMENDMENT AND TILL UP TO 20 INCHES FOR MAJOR COMPACTION.

KEY PLAN



SEAL:

CONDITION OF USE

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01 - REVISED PER TOWNSHIP - 01/16/18
DRAWING ISSUE

PROJECT: UPHS1504
SCALE: AS SHOWN
ARCHITECTURE

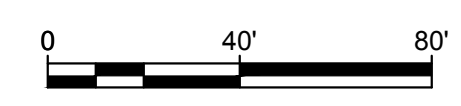
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POST CONSTRUCTION STORMWATER MANAGEMENT NOTES

SHEET: 22 OF 27
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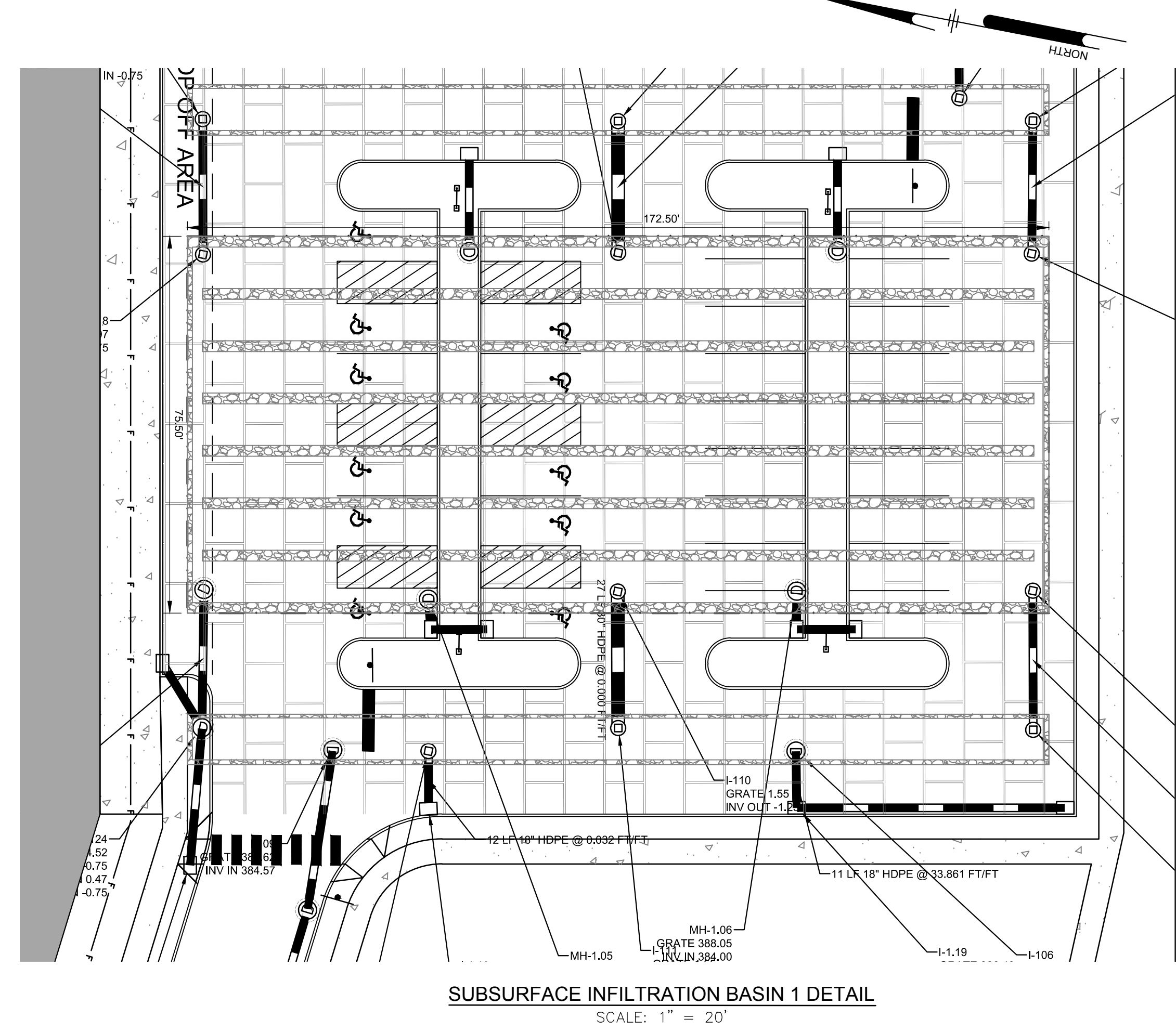
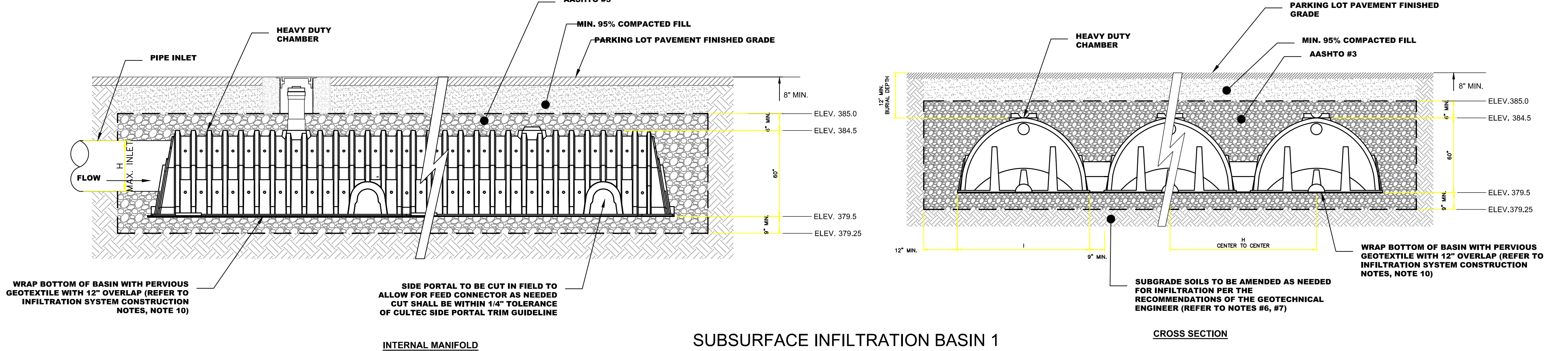
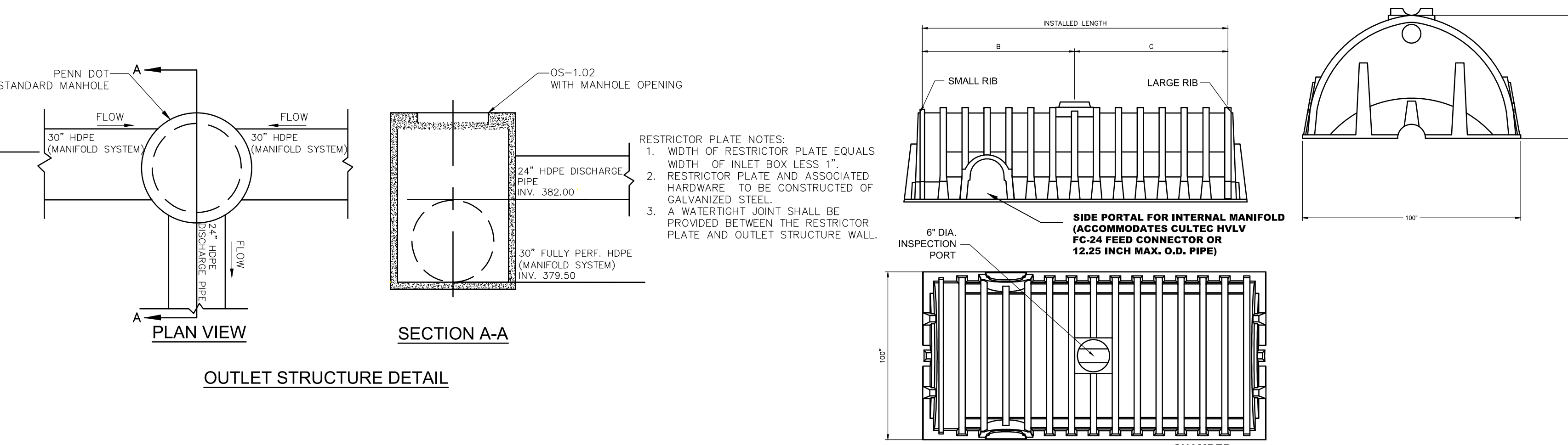
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SUBSURFACE INFILTRATION BASIN CONSTRUCTION NOTES:

1. THE INFILTRATION BASIN SHALL BE PROTECTED FROM CONSTRUCTION TO HEAVY EQUIPMENT OPERATION OR STORAGE OF FILL OR CONSTRUCTION MATERIAL.
2. INFILTRATION AREAS SHALL BE PROTECTED FROM SEDIMENTATION AT ALL TIMES DURING CONSTRUCTION. APPROPRIATE MEASURES ARE TO BE TAKEN IN THE EVENT OF SEDIMENT ENTERING AND CLOGGING THE INFILTRATION SCM.
3. SHOULD UNFAVORABLE CONDITIONS (E.G. GROUNDWATER AND/OR BEDROCK) BE ENCOUNTERED DURING THE CONSTRUCTION PROCESS OF THE INFILTRATION BASIN, THE DESIGN ENGINEER SHALL BE CONTACTED TO ADDRESS SUCH ISSUES.
4. ALL CONSTRUCTION ACTIVITIES FOR THE INFILTRATION BASIN SHOULD OCCUR WITHIN A SHORT TIME PERIOD TO ENSURE THAT SILT AND SEDIMENT DO NOT ENTER THE TRENCH.
5. IF INSPECTION INDICATES THAT SOIL OR SEDIMENT HAS ENTERED ANY OF THE INFILTRATION BASIN AREA, APPROPRIATE MEASURES (E.G. CLEARING THE SOIL SEDIMENT FROM THE FABRIC, STONE BED, ETC. AND/OR REPLACEMENT OF THE FABRIC AND STONE) SHOULD BE ADDRESSED.
6. AREAS THAT ARE ACCIDENTALLY COMPACTED OR GRADED SHALL BE REMEDIATED TO RESTORE SOIL COMPOSITION AND POROSITY. ADEQUATE DOCUMENTATION TO THE EFFECT SHALL BE SUBMITTED FOR REVIEW BY THE MUNICIPAL ENGINEER.
7. ALL AREAS DESIGNATED FOR INFILTRATION SHALL NOT RECEIVE RUNOFF UNTIL THE CONTRIBUTING DRAINAGE AREA HAS ACHIEVED FINAL STABILIZATION.
8. EXCAVATION FOR THE INFILTRATION BASIN SHALL BE PERFORMED WITH EQUIPMENT THAT WILL NOT COMPACT THE BOTTOM OF THE BASIN.
9. THE BOTTOM OF ALL INFILTRATION SCMS SHALL BE UNDISTURBED, UNCOMPACTED SUBGRADE, AND SCARIFIED.
10. THE TOP AND ALL SIDES OF THE INFILTRATION BASIN SHALL BE COVERED WITH PERVIOUS GEOTEXTILE MEETING THE SPECIFICATIONS OF PENNDOT PUBLICATION SOI, SECTION 715, CLASS 1.
11. THE FOUNDATION OF THE EMBAZEMENT SHALL BE STRIPPED AND GRUBBED TO A DEPTH OF TWO FEET PRIOR TO ANY PLACEMENT AND COMPACTED OF EARTHEN FILL.

SUBSURFACE INFILTRATION BASIN CONSTRUCTION SEQUENCE:

1. EXCAVATE SOIL TO THE DEPTH SPECIFIED FOR THE INFILTRATION BASIN BOTTOM, PLACING SOIL IN STOCKPILE. SPECIAL CARE SHOULD BE TAKEN TO ENSURE THAT THE AREA WITHIN THE BASIN IS NOT COMPACTED.
2. SCARIFY BOTTOM AND ALL SIDES OF TRENCH EXCAVATION.
3. PLACE GEOTEXTILE ON THE SIDES OF THE STONE TRENCH AS INDICATED ON THE DETAIL, ENSURING THAT NO SOIL ENTERS THE TRENCH AREA.
4. BEGIN PLACEMENT OF STONE IN A MAXIMUM LOOSE LIFT THICKNESS OF 12 INCHES, ENSURING THAT NO SEDIMENT OR SOIL ENTERS THE STONE. THE STONE AGGREGATE SHALL BE CHECKED BY THE SITE ENGINEER PRIOR TO INSTALLATION TO ENSURE THAT THE STONE IS CLEAN WASHED STONE.
5. INSTALL OUTLET STRUCTURE, PIPES AND IN-SHALL BEHINDS AT DOWNSTREAM END.
6. WRAP GEOTEXTILE AROUND TOP OF STONE AS SHOWN ON DETAIL.



PERMEABLE PAVER CONSTRUCTION NOTES:

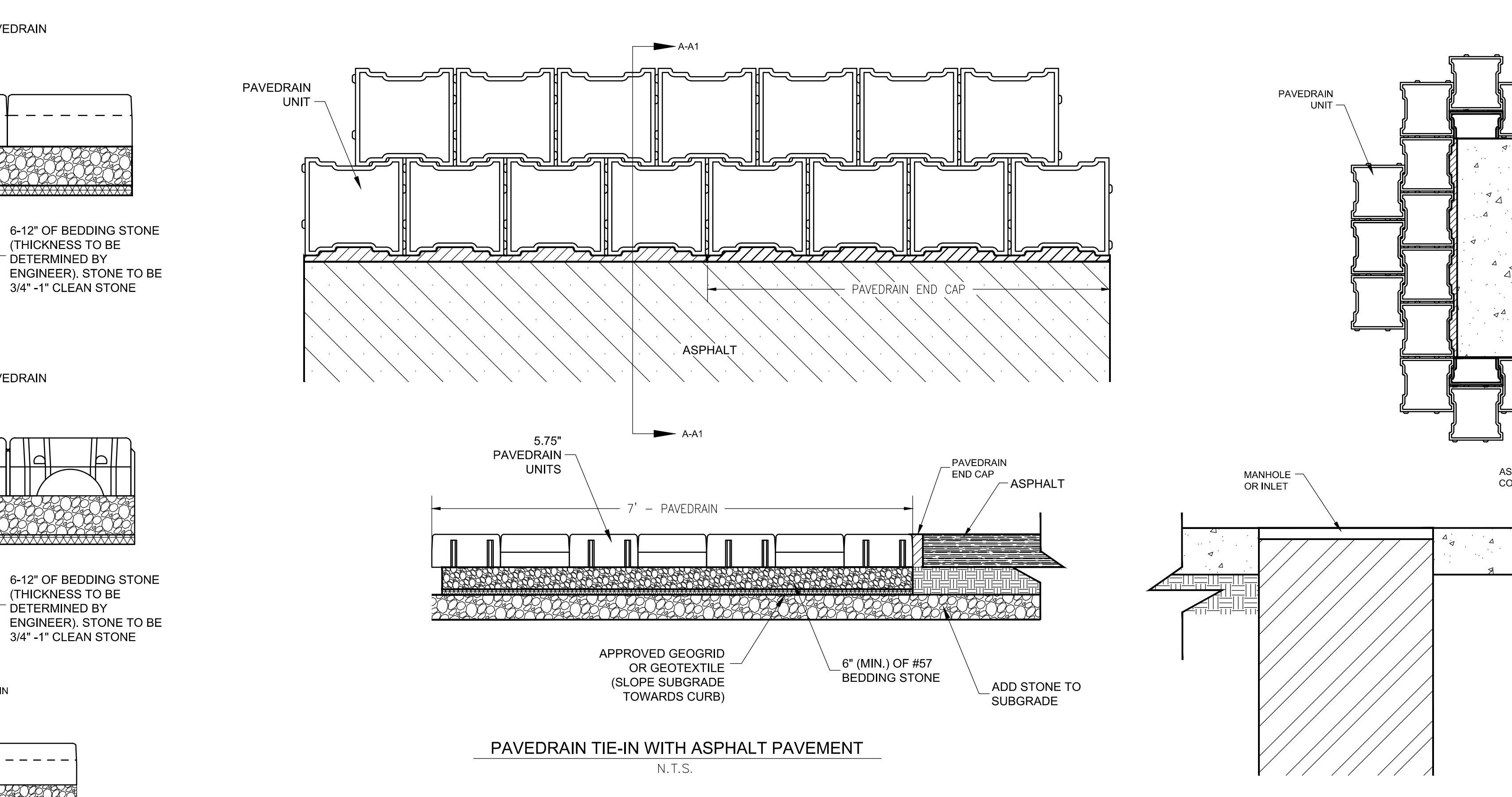
1. THE PERMEABLE PAVEMENT SHOULD BE CONSTRUCTED PER SPECIFICATIONS CONSISTENT WITH THE MANUFACTURER'S STANDARDS AS APPROVED BY THE TOWNSHIP AND DCU.
2. THE AREAS OF PERMEABLE PAVERS SHALL BE PROTECTED FROM SEDIMENTATION AT ALL TIMES DURING CONSTRUCTION. APPROPRIATE MEASURES ARE TO BE TAKEN IN THE EVENT OF SEDIMENT ENTERING AND CLOGGING THE INFILTRATION SCM.
3. AREAS THAT ARE COMPACTED OR GRADED SHALL BE REMEDIATED TO RESTORE SOIL COMPOSITION AND POROSITY.
4. EXCAVATION FOR THE PERMEABLE PAVER ROCK TRENCH SHALL BE PERFORMED WITH EQUIPMENT THAT WILL NOT COMPACT THE BOTTOM OF THE TRENCH.
5. THE BOTTOM OF ALL INFILTRATION SCMS SHALL BE UNDISTURBED, UNCOMPACTED SUBGRADE, AND SCARIFIED. IN AREAS THAT HAVE BEEN DISTURBED, THE CONTRACTOR WILL HAVE TO OVER EXCAVATE TO REACH THIS LEVEL.
6. ALL STONE FOR THE CONSTRUCTION OF THE INFILTRATION SCM SHOULD BE UNIFORMLY GRADED AND CLEAN WASHED AGGREGATE, AND SHALL BE INSPECTED BY THE DESIGN ENGINEER.
7. THE SIDES AND BOTTOM OF THE STONE TRENCH FOR THE PERMEABLE PAVER AREAS SHALL BE COVERED WITH PERVIOUS GEOTEXTILE MEETING THE SPECIFICATIONS OF PENNDOT PUBLICATION SOI, SECTION 715, CONSTRUCTION CLASS 1.

PERMEABLE PAVER CONSTRUCTION SEQUENCE:

1. DIG AREA FOR STONE TRENCH FOR PERMEABLE PAVER, PLACING SOIL IN STOCKPILE. SPECIAL CARE SHOULD BE TAKEN TO ENSURE THAT THE AREA WITHIN THE TRENCH IS NOT COMPACTED.
2. SCARIFY BOTTOM AND ALL SIDES OF EXCAVATION.
3. PLACE GEOTEXTILE ON THE BOTTOM AND SIDES OF THE TRENCH AS INDICATED ON THE DETAIL, ENSURING THAT NO SEDIMENT OR SOIL ENTERS THE TRENCH AREA.
4. BEGIN PLACEMENT OF STONE AGGREGATE IN A MAXIMUM LOOSE LIFT THICKNESS OF TWELVE INCHES (12"), ENSURING THAT NO SEDIMENT OR SOIL ENTERS THE STONE. THE STONE AGGREGATE SHOULD BE CHECKED BY THE DESIGN OR SITE ENGINEER PRIOR TO INSTALLATION INTO THE INFILTRATION SCM TO ENSURE THAT THE STONE IS CLEAN WASHED STONE.
5. ONCE THE STONE TRENCH HAS BEEN INSTALLED TO THE RECOMMENDATIONS OF THE PAVER MANUFACTURER, BEGIN INSTALLATION OF PERMEABLE PAVERS.

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PERVIOUS PAVING AGGREGATE GRADATION

SEIVE SIZE	% PASSING
10"	100
3/8"	85-95
#4	40-20
#8	12-20
#16	8-12
#30	3-8
#60	1-3

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#16	8-12
#30	3-8
#60	1-3

PERVIOUS PAVING MAINTENANCE:

1. DO NOT APPLY SAND OR CINKERS DURING SNOW REMOVAL OPERATIONS.
2. PERVIOUS PAVING AREAS SHALL BE VACUUM SWEEP SEMI-ANNUALLY.
3. DO NOT PAVE WITH CONVENTIONAL PAVEMENT OR PAVEMENT SEALANT.
4. DO NOT PRESSURE WASH PAVEDRAIN SURFACE.
5. DO NOT PLACE MULCH OR ORT ON PERVIOUS PAVEMENT.

PERVIOUS PAVING MAINTENANCE:

1. BASE MATERIAL SHALL BE WASHED AASHTO #3 STONE (OR PENNDOT 3A) FREE OF SLATE, SHALE, CLAY, SILT AND/OR VEGETATION.
2. BASE MATERIAL SHALL BE WRAPPED IN FILTER FABRIC TO MAINTAIN SEPARATION FROM SUBGRADE MATERIAL AND STONE UNDER STANDARD PAVEMENT.
3. STONE BASE SHALL BE COMPACTED WITH STATIC ROLLER ONLY. USE OF A VIBRATORY ROLLER IS NOT PERMITTED.
4. CHOKER COURSE SHALL BE ADDED BY STONE.
5. ASPHALT BINDER SHALL BE MODIFIED WITH AN ELASTOMER POLYMER TO PRODUCE A BINDER MEETING THE REQUIREMENTS OF PG 76.22. PERVIOUS PAVING SHALL CONSIST OF THE SPECIFIED AGGREGATE BINDER BY WEIGHT.
6. PERVIOUS PAVING SHALL BE PLACED IN A SINGLE LIFT OF 2 1/2" FINAL THICKNESS. PAVING MATERIAL SHALL BE COMPACTED BY NO MORE THAN 2 PASSES OF A 10-TON ROLLER.
7. AFTER COMPLETION, PERVIOUS PAVING AREAS SHALL REMAIN UNDISTURBED FOR A MINIMUM OF 48 HOURS.
8. AT NO TIME SHALL PERVIOUS PAVING AREAS BE USED BY CONSTRUCTION VEHICLES OR FOR THE STORAGE OF MATERIALS.
9. CLEAN NON-WOVEN GEOTEXTILE FILTER FABRIC SUPPLIED BY CORTECH OR APPROVED EQUAL.
10. SLOPE OF SUBGRADE SHALL MATCH SLOPE OF PAVEMENT SURFACE UNLESS OTHERWISE NOTED.

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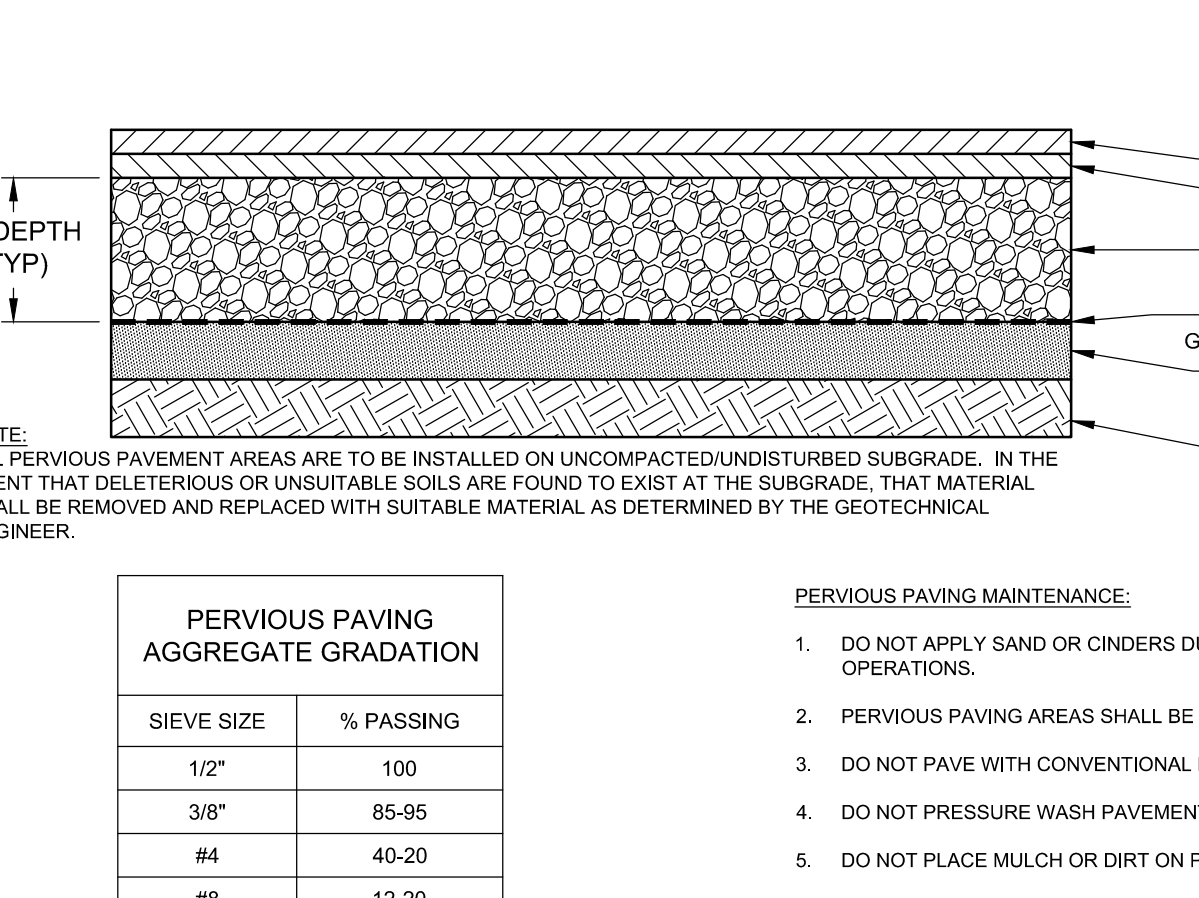
PERVIOUS ASPHALT PAVING DETAIL



PERVIOUS ASPHALT PAVING DETAIL



SUBSURFACE INFILTRATION TRENCH DETAIL



SUBSURFACE INFILTRATION TRENCH DETAIL



KEY PLAN



SEAL



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02	REVISED PLANS - 02/05/18	
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PROJECT: UPHS1504

SCALE: AS SHOWN

ARCHITECTURE

TITLE:

POST CONSTRUCTION STORMWATER MANAGEMENT DETAILS

SHEET: 26 OF 27

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