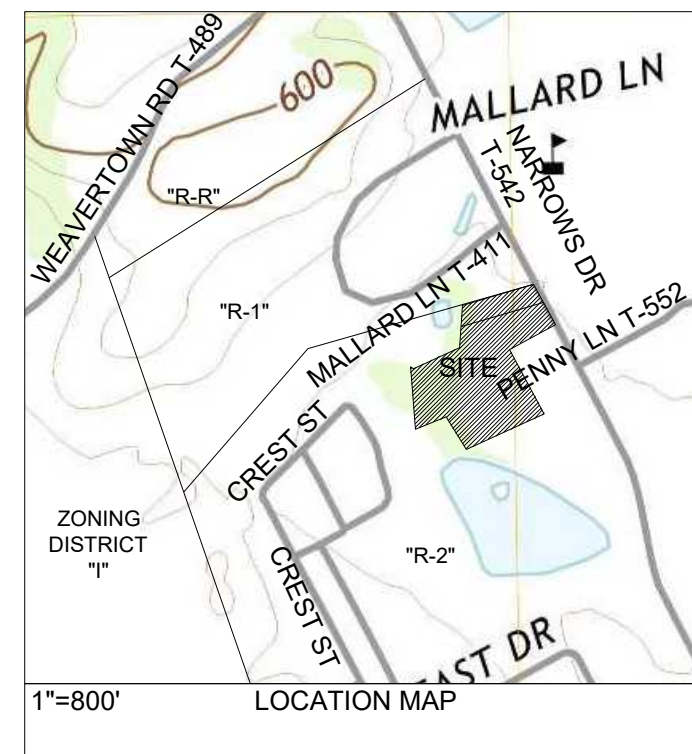


# REVISED MINOR SUBDIVISION PLAN

## FOR 275 NARROWS DRIVE - TOWNHOUSES

### N. LEBANON TOWNSHIP, LEBANON COUNTY, PA

#### DECEMBER 29, 2025 REVISED:



**OWNER DATA**  
STANLEY MARTIN  
2370 S 5TH AVE  
LEBANON, PA 17042  
EMAIL: stan1986@gmail.com  
PH: (717) 507-3650

**SITE DATA**  
ADDRESS: 275 NARROWS DRIVE  
LEBANON, PA 17046

**DEED BOOK/PAGE:** 02152-5655  
**PARCEL NO.:** 27-2350955-37688-0003  
**SITE AREA:** 5.33 ACRES (GROSS)

**WATER:** PUBLIC  
**SEWER:** PUBLIC

**PURPOSE OF PLAN NOTE**  
THE PURPOSE OF THIS REVISED MINOR SUBDIVISION PLAN IS TO REVISE THE PREVIOUSLY APPROVED PLAN FOR A SINGLE-FAMILY DWELLING TO SUBDIVIDE AND CONSTRUCT THREE TOWNHOUSES, DRIVEWAYS AND ASSOCIATED STORMWATER MANAGEMENT FACILITIES. THIS REVISED MINOR SUBDIVISION PLAN SUPERSEDES THE ORIGINALLY APPROVED MINOR SUBDIVISION PLAN FOR STANLEY A. MARTIN, WHICH WAS RECORDED ON DECEMBER 18, 2024, AND RECORDED IN PLAN BOOK 109 ON PAGE 110-118.

**ZONING DATA**  
NORTH LEBANON TOWNSHIP  
ZONING DISTRICT: HIGH DENSITY RESIDENTIAL (R2)

**ZONING REQUIREMENTS:**

- TOWNHOUSES, PROVIDED THAT THE FOLLOWING REQUIREMENTS ARE MET:**
- MINIMUM LOT AREA OF 3,000 SQUARE FEET PER DWELLING UNIT.
  - MAXIMUM DEVELOPMENT DENSITY SHALL NOT EXCEED SIX DWELLING UNITS PER GROSS ACRE. IN DETERMINING A "GROSS ACRE," WETLANDS, EASEMENTS, STORMWATER DETENTION FACILITIES, R-O-W AND UNUSABLE LAND SHALL BE EXCLUDED. IN INTERPRETING THIS PROVISION WHERE THERE IS LESS THAN ONE ACRE FOR THE DWELLING UNITS, 1/6 OF AN ACRE SHALL BE REQUIRED FOR EACH DWELLING UNIT.
  - MINIMUM LOT WIDTH OF 20 FEET.
  - A MINIMUM FRONT AND REAR YARD OF 30 FEET EACH, AS MEASURED FROM THE PROPERTY LINE OR ANY PAVED PARKING AREA, SHALL BE PROVIDED FOR EACH TOWNHOUSE UNIT.
  - SIDE YARD MINIMUMS OF 15 FEET SHALL BE PROVIDED FROM THE UNATTACHED SIDES OF BUILDINGS; HOWEVER, A MINIMUM SIDE YARD OF 25 FEET SHALL BE PROVIDED FROM ANY PAVED PARKING AREAS. A MINIMUM DISTANCE OF 50 FEET SHALL ALSO SEPARATE EACH GROUP OF TOWNHOUSES.
  - NO GROUP OF SPIN-HOURLY SHALL CONSIST OF MORE THAN SIX ATTACHED UNITS, WITH NO MORE THAN TWO CONTIGUOUS DWELLINGS HAVING A MAXIMUM FRONTAGE OF 44 FEET OR A MINIMUM FRONT FOOTAGE OF 20 FEET WITH THE SAME FRONT AND REAR SETBACK, EACH VARIATION OF THE SETBACK BEING AT LEAST FOUR FEET. DEVELOPERS ARE ENCOURAGED TO USE VARIETY IN DESIGN AND CONSTRUCTION TO ENHANCE APPEARANCE. THE MINIMUM FLOOR AREA OF ANY DWELLING UNIT ATTACHED OR DETACHED SHALL BE 1,200 SQUARE FEET, INCLUDING ANY GARAGES, SCREENED PORCHES OR PORCHES.
  - NO DETACHED ACCESSORY BUILDINGS OR STRUCTURES SHALL BE PERMITTED ON INDIVIDUAL LOTS. STORAGE AREAS, GARAGES AND OTHER NORMAL ACCESSORY STRUCTURES MAY BE ATTACHED TO THE PRINCIPAL STRUCTURE ON EACH INDIVIDUAL LOT, PROVIDED THAT ALL OTHER REQUIREMENTS OF THIS CHAPTER ARE MET. DETACHED ACCESSORY BUILDINGS AND STRUCTURES FOR COMMON USE BY THE ENTIRE DEVELOPMENT SHALL BE PERMITTED ON COMMON AREAS AS PER PART 12 OF THIS CHAPTER.
  - TOWNHOUSE DEVELOPMENT SHALL BE IN COMPLIANCE WITH § 27-604 (SUPPLEMENTAL TOWNHOUSE AND GARDEN APARTMENT STANDARDS) OF THIS CHAPTER.
  - THE SITE SHALL BE SERVED BY PUBLIC WATER AND SEWER FACILITIES, WITH DESIGN FOR INDIVIDUAL UNIT SERVICE.
  - OFF-STREET PARKING, AS REQUIRED BY PART 14 (OFF-STREET PARKING REQUIREMENTS) OF THIS CHAPTER, SHALL BE LOCATED ON THE LOT OR WITHIN 100 FEET OF THE DWELLING UNIT TO BE SERVED.
  - TOWNHOUSE DEVELOPMENT REQUIRES THE SUBMISSION OF A SUBDIVISION PLAN AND COMPLIANCE WITH THE NORTH LEBANON (LEBANON COUNTY) SUBDIVISION AND LAND DEVELOPMENT ORDINANCE.

**§ 27-604. SUPPLEMENTAL TOWNHOUSE AND GARDEN APARTMENT STANDARDS. [ORD. 6-4-84, 6/4/1984, § 9.04; AS AMENDED BY ORD. 2-2001, 1/226/2001, § 10]**

- THE FOLLOWING DESIGN CRITERIA SHALL APPLY AS ADDITIONAL REQUIREMENTS FOR TOWNHOUSE AND GARDEN APARTMENT DEVELOPMENT:
  - THE DEVELOPER SHOULD VARY ARCHITECTURAL TREATMENTS WITHIN APARTMENT PROJECTS, INDIVIDUAL APARTMENTS AND BETWEEN DWELLING UNITS IN A TOWNHOUSE DEVELOPMENT. VARIATIONS MAY INCLUDE THOSE OF EXTERIOR ELEVATION, BUILDING SETBACKS, PROVISIONS OF BALCONIES, ARCHITECTURAL DETAILS, PITCH OF ROOF, EXTERIOR MATERIALS OR USE OF COLOR.
  - VARIETY AND FLEXIBILITY IN DESIGN LAYOUT AND ARRANGEMENT OF BUILDINGS, PARKING AREAS, SERVICES, RECREATION AREAS, COMMON OPEN SPACE AND PLANTINGS THAT FULLY CONSIDER THE PARTICULAR PHYSICAL CHARACTERISTICS OF SITE AND NATURAL AMENITIES IS HIGHLY DESIRED.
  - DENSE SCREEN PLANTINGS SHALL BE PROVIDED WHERE MULTIPLE DWELLING UNIT LAND DEVELOPMENTS ABOUT ANY NONRESIDENTIAL USE OR WHERE SUCH DEVELOPMENTS ABOUT ANY SINGLE-FAMILY RESIDENTIAL OR OTHER ZONING DISTRICT. SCREEN PLANTINGS SHALL BE PROVIDED WITHIN THE COMMON AREAS OF THE DEVELOPMENT WITH THE REQUIREMENTS OF PART 12 OF THIS CHAPTER.
  - ALL UTILITY LINES WITHIN A TOWNHOUSE OR GARDEN APARTMENT DEVELOPMENT SHALL BE PLACED UNDERGROUND.
  - ALL OPEN SPACE, GREEN AREAS, PATIOS, COURTS AND BUFFER YARDS SHALL BE LANDSCAPED AND MAINTAINED TO INSURE THE SAFETY, PRIVACY AND COMFORT OF TOWNHOUSE AND GARDEN APARTMENT RESIDENTS.
  - EXTERIOR STORAGE AREAS FOR TRASH AND RUBBISH SHALL BE ON A CONCRETE PAD AND SCREENED WITH A FOUR SIDED, GATED FENCE. THE CONTAINER SHALL BE COVERED AND VERMIN-PROOFED.

STRUCTURE OR USE	PARKING SPACES REQUIRED	PARKING SPACES PROVIDED
RESIDENTIAL MULTIFAMILY RESIDENCE (INCLUDING TOWNHOUSES AND GARDEN APARTMENTS)	3 SPACES PER DWELLING UNIT	3 SPACES PER DWELLING UNIT

E&SPC PLAN	EXPECTED PROJECT SCHEDULE
THE EROSION AND SEDIMENT POLLUTION CONTROL PLAN WAS APPROVED BY THE LEBANON COUNTY CONSERVATION DISTRICT VIA A LETTER DATED _____ / _____ / _____ THE LCCD FILE NUMBER FOR THIS PROJECT IS _____	START OF CONSTRUCTION - SPRING 2026 END OF CONSTRUCTION - SPRING 2027

**IMPERVIOUS NOTE**  
THE BELOW IMPERVIOUS AREAS ARE LOCATED ON EACH LOT, EXCLUSIVE OF THE RIGHT-OF-WAY EXISTING PROPOSED (LOT 1) PROPOSED (LOT 2) PROPOSED (LOT 3) PROPOSED (RESIDUAL LOT):

BUILDING: 2,731 SF	DRIVEWAY: 1,742 SF	SIDEWALK: 129 SF	TOTAL: 4,602 SF
BUILDING: 1,140 SF <td>PAVEMENT: 1,116 SF <td>SIDEWALK: 106 SF <td>TOTAL: 2,362 SF</td> </td></td>	PAVEMENT: 1,116 SF <td>SIDEWALK: 106 SF <td>TOTAL: 2,362 SF</td> </td>	SIDEWALK: 106 SF <td>TOTAL: 2,362 SF</td>	TOTAL: 2,362 SF
BUILDING: 1,140 SF <td>PAVEMENT: 1,200 SF <td>SIDEWALK: 106 SF <td>TOTAL: 2,446 SF</td> </td></td>	PAVEMENT: 1,200 SF <td>SIDEWALK: 106 SF <td>TOTAL: 2,446 SF</td> </td>	SIDEWALK: 106 SF <td>TOTAL: 2,446 SF</td>	TOTAL: 2,446 SF
BUILDING: 0 SF <td>PAVEMENT: 0 SF <td>SIDEWALK: 0 SF <td>TOTAL: 0 SF</td> </td></td>	PAVEMENT: 0 SF <td>SIDEWALK: 0 SF <td>TOTAL: 0 SF</td> </td>	SIDEWALK: 0 SF <td>TOTAL: 0 SF</td>	TOTAL: 0 SF

**BMP FACILITY LOCATION**  
FACILITY NAME: RAIN GARDEN A  
LATITUDE: 40°21'34.34" N  
LONGITUDE: 76°22'14.36" W

**SEWAGE DISPOSAL NOTE:**  
1. SEWAGE DISPOSAL FOR THE PROPOSED LOTS SHALL BE PROVIDED BY EXTENSION OF THE PUBLIC SEWAGE DISPOSAL SYSTEM. EXTENSION OF THE EXISTING SEWAGE DISPOSAL SYSTEM SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER/SUBDIVIDER/DEVELOPER, AS SHOWN HEREON. CONNECTION TO THE PUBLIC SEWAGE DISPOSAL SYSTEM IS REQUIRED.  
2. THE CONNECTION TO THE EXISTING SEWER SHALL BE COMPLETED IN ACCORDANCE WITH THE RULES AND REGULATIONS OF THE NORTH LEBANON TOWNSHIP MUNICIPAL AUTHORITY.

**WATER SUPPLY NOTE:**  
WATER SERVICE SHALL BE PROVIDED VIA EXTENSION OF THE EXISTING PUBLIC WATER SYSTEM. CONNECTION TO THE EXISTING WATER SYSTEM IS REQUIRED.

**BUILDING CODE NOTE:**  
ALL RESIDENTIAL STRUCTURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PENNSYLVANIA UNIFORM CONSTRUCTION CODE (UCC).

NORTH LEBANON TOWNSHIP  
16 S MONTGOMERY AVE  
LEBANON, PA 17046  
CONTACT - LORI BOOKS  
717-273-7132

VERIZON PENNSYLVANIA LLC  
2311 RIDGEVIEW ROAD  
PITTSBURGH, PA 15212  
CONTACT - OFFICE  
PERSONNEL  
877-502-2876

COLUMBIA GAS TRANSMISSION, LLC  
P.O. BOX 2318  
COLUMBUS, OH 43216  
CONTACT - OFFICE PERSONNEL  
1-800-460-4332

CITY OF LEBANON AUTHORITY  
2311 RIDGEVIEW ROAD  
LEBANON, PA 17042  
CONTACT - BOB SENTZ  
bsentz@lebanonauthority.org  
717-273-1811

COMCAST CABLE LEBANON  
C/O CLS LOCATING SERVICES INC  
9545 RIVER ROAD, STE 300  
INDIANAPOLIS, IN 46240  
CONTACT - CLS PERSONNEL  
317-575-7800

FIRSTSERVICE CORP  
78 S MAIN ST  
AKRON, OH 44308-1890  
CONTACT - OFFICE PERSONNEL  
800-633-4766

UGI UTILITIES INC  
1301 AIF DR  
MIDDLETOWN, PA 17057-5807  
CONTACT - JOANNE ARCHFIELD  
jarchfield@ugi.com  
717-255-1453

CHRISLAND ENGINEERING, INC. HEREBY STATES THAT, PURSUANT TO THE PROVISIONS OF ACT NO. 287 OF 1974 AS AMENDED BY ACT 121 OF 2008 OF THE PENNSYLVANIA GENERAL ASSEMBLY, IT HAS PERFORMED THE FOLLOWING IN PREPARING THESE DRAWINGS REQUIRING EXCAVATION OR DEMOLITION WORK AT SITES WITHIN THE POLITICAL SUBDIVISION(S) SHOWN ON THE DRAWINGS:

- PURSUANT TO SECTION 4, CLAUSE (2) OF SAID ACT, CHRISLAND ENGINEERING, INC. REQUESTED THE LINE AND FACILITY INFORMATION PRESCRIBED BY SECTION 2, CLAUSE (4) FROM A ONE CALL SYSTEM NOT LESS THAN TEN NOR MORE THAN NINETY WORKING DAYS BEFORE FINAL DESIGN IS TO BE COMPLETED.
- PURSUANT TO SECTION 4, CLAUSE (3) OF SAID ACT, CHRISLAND ENGINEERING, INC. SHOWN UPON THE DRAWING(S) THE POSITION AND TYPE OF EACH FACILITY OWNERS LINE, DERIVED PURSUANT TO THE REQUEST MADE AS REQUIRED BY SECTION 4, CLAUSE (2), AND THE NAME OF THE FACILITY OWNER, AND THE FACILITY OWNERS DESIGNATED OFFICE ADDRESS AND THE TELEPHONE NUMBER AS SHOWN ON THE LIST REFERRED TO IN SECTION 3.
- PURSUANT TO SECTION 4, CLAUSE (4) OF SAID ACT, CHRISLAND ENGINEERING, INC. MADE A REASONABLE EFFORT TO PREPARE THE CONSTRUCTION DRAWING(S) TO AVOID DAMAGE TO AND MINIMIZE INTERFERENCE WITH A FACILITY OWNERS FACILITIES IN THE CONSTRUCTION AREA BY MAINTAINING AN EIGHTEEN-INCH CLEARANCE OF THE FACILITY OWNERS FACILITIES WHERE POSSIBLE.
- PURSUANT TO SECTION 4, CLAUSE (5) OF SAID ACT, CHRISLAND ENGINEERING, INC. SHALL BE DEEMED TO HAVE MET THE OBLIGATIONS OF CLAUSE (2) BY CALLING A ONE CALL SYSTEM AND SHOWING AS PROOF THE SERIAL NUMBER OF THE ONE CALL NOTICE ON THE DRAWING(S).

AND CHRISLAND ENGINEERING, INC. DOES NOT MAKE ANY REPRESENTATION, WARRANTY, ASSURANCE OR GUARANTEE THAT THE INFORMATION RECEIVED PURSUANT TO SAID REQUEST AND AS REFLECTED ON THESE DRAWINGS IS CORRECT OR ACCURATE, BUT CHRISLAND ENGINEERING, INC. IS REFLECTING SAID INFORMATION ON THESE DRAWINGS ONLY DUE TO THE REQUIREMENTS OF THE SAID ACT 187, DECEMBER 19, 1996.

- EASEMENT NOTES:**
- A STORMWATER MANAGEMENT CONVEYANCE EASEMENT SHALL BE LOCATED AROUND EACH CONVEYANCE FACILITY (I.E. SWALES, PIPES, ETC.) AND SHALL BE TWENTY (20) FEET IN WIDTH. THE EASEMENT SHALL EXTEND TEN (10) FEET FROM THE CENTERLINE OF THE CONVEYANCE FACILITY.
  - A STORMWATER MANAGEMENT EASEMENTS SHALL BE LOCATED AROUND EACH STORMWATER MANAGEMENT FACILITY (I.E. DETENTION BASINS, INFILTRATION TRENCHES, RAIN GARDENS, ETC.) AND SHALL ENCOMPASS ALL COMPONENTS OF THE FACILITY.
  - ALL PONDS AND WETLANDS SHALL BE SURROUNDED BY A RIPARIAN BUFFER STRIP OF A MINIMUM TWENTY-FIVE (25) FEET IN WIDTH. STREAMS SHALL BE BORDERED BY A RIPARIAN BUFFER STRIP, A MINIMUM OF TWENTY-FIVE (25) FEET OR THE WIDTH OF THE FLOOD PLAN, WHICHEVER IS GREATER.
  - THE GRANTOR, FOR ITSELF, ITS SUCCESSORS, AND ASSIGNS, AUTHORIZES THE TOWNSHIP AND ITS AUTHORIZED REPRESENTATIVES TO ENTER UPON THE PREMISES TO INSPECT THE FACILITIES SHOWN ON THESE DRAWINGS.
  - ALL FACILITIES LOCATED WITHIN THE ABOVE MENTIONED EASEMENTS SHALL BE SUBJECT TO THE PROVISIONS OF THE STORMWATER MAINTENANCE AND OWNERSHIP PROGRAM.

**WETLANDS NOTES**  
1. WETLANDS ARE LOCATED ON THE PROJECT SITE. WETLANDS ARE STATE AND/OR FEDERALLY-REGULATED WATER RESOURCES. ENCROACHMENT INTO WETLANDS REQUIRES STATE AND/OR FEDERAL AUTHORIZATION. UNAUTHORIZED ENCROACHMENT INTO WETLANDS MAY RESULT IN ENFORCEMENT ACTION BY THE PA DEP AND/OR THE ARMY CORPS OF ENGINEERS.

**REQUIRED INSPECTIONS DURING SITE CONSTRUCTION**  
THE NORTH LEBANON TOWNSHIP ENGINEER SHALL INSPECT THE IMPROVEMENTS DURING CONSTRUCTION. THE DEVELOPERS OR SITE WORK CONTRACTOR SHALL PROVIDE AT LEAST 2 WORKING DAYS NOTICE PRIOR TO THE START OF ANY IMPROVEMENTS WHICH REQUIRE INSPECTION BY CALLING THE NORTH LEBANON TOWNSHIP ENGINEER AT 717-272-7110.

ALL INSPECTIONS OF COMPLETED ITEMS SHALL BE REQUESTED IN WRITING AT LEAST 48 HOURS IN ADVANCE OF THE FINAL INSPECTION DATE & TIME.

- INSPECTIONS ARE REQUIRED FOR THE FOLLOWING ACTIVITIES:**
- UPON COMPLETION OF PRELIMINARY SITE PREPARATION INCLUDING STRIPING OF VEGETATION, STOCKPILING OF TOPSOIL AND TEMPORARY EROSION AND SEDIMENTATION CONTROL DEVICES.
  - UPON COMPLETION OF ROUGH GRADING, BUT PRIOR TO PLACING TOPSOIL, PERMANENT DRAINAGE OR OTHER SITE IMPROVEMENTS AND GROUND COVERS.
  - DURING THE CONSTRUCTION OF PERMANENT STORM WATER MANAGEMENT AND BMP FACILITIES. ALL STORM SEWERS, CULVERTS, ETC. PRIOR TO BACKFILL.
  - DURING INSTALLATION OF AMENDED SOILS TO THE BOTTOM OF THE RAIN GARDEN.
  - UPON FINAL COMPLETION OF PERMANENT STORM WATER MANAGEMENT AND BMP FACILITIES AND THE ESTABLISHMENT OF GROUND COVERS AND PLANTINGS.
  - AFTER REVIEW OF THE AS-BUILT DRAWINGS BUT PRIOR TO THE RELEASE OF THE FINAL FINANCIAL GUARANTEE FOR COMPLETION OF FINAL GRADING, VEGETATIVE CONTROLS REQUIRED BY THE BMP STANDARDS OR OTHER SITE RESTORATION.
  - FINANCIAL SECURITY FOR THE IMPROVEMENTS WILL NOT BE CONSIDERED FOR RELEASE UNLESS THE TOWNSHIP ENGINEER IS PROPERLY NOTIFIED AND THE SUBSURFACE IMPROVEMENTS ARE INSPECTED PRIOR TO BACKFILLING.

- WATER NOTES - CITY OF LEBANON AUTHORITY**
- CONTACT INFORMATION FOR THE CITY OF LEBANON AUTHORITY  
CITY OF LEBANON AUTHORITY, 2311 RIDGEVIEW ROAD, LEBANON, PA 17042  
BOB SENTZ, BSENTZ@LEBANONAUTHORITY.ORG, 717-272-2861
  - WATER SYSTEMS SHALL BE CONSTRUCTED AND TESTED IN ACCORDANCE WITH THE CURRENT CITY OF LEBANON AUTHORITY GENERAL SPECIFICATIONS FOR WATER SYSTEM CONSTRUCTION."
  - THE CONSTRUCTION OF WATER MAINS REQUIRES A WATER MAIN EXTENSION AGREEMENT BETWEEN THE DEVELOPER AND THE AUTHORITY.
  - EXISTING WATER MAINS ARE SHOWN AT AN APPROXIMATE LOCATION. THE CONTRACTOR SHALL EXCAVATE TEST PITS TO DETERMINE ACTUAL LOCATIONS AND VERIFY WATER MAIN SIZES AND DEPTHS AT UTILITY CROSSINGS, EXCAVATED AREAS, AND TIE-IN LOCATIONS.
  - WATER SERVICE CONNECTION REQUIRES AN APPLICATION AND PAYMENT OF REQUIRED FEES WITH THE AUTHORITY PRIOR TO MAKING THE WATER TAPS.
  - FIRE SERVICE CONNECTION REQUIRES AN APPLICATION AND PAYMENT OF REQUIRED FEES WITH THE AUTHORITY PRIOR TO MAKING THE FIRE LINE TAP. FIRE LINE AGREEMENT ALSO REQUIRED.
  - ANY WORK WITHIN PENNDOT RIGHT-OF-WAY REQUIRES A PENNDOT HIGHWAY OCCUPANCY PERMIT (HOP). THE PERMIT TYPICALLY IS REQUIRED TO BE IN THE AUTHORITY'S NAME AND THE AUTHORITY MAY REQUIRE THE CONTRACTOR TO PROVIDE A FINANCIAL GUARANTEE UNTIL PENNDOT SIGNS OFF ON THE PERMIT AFTER CONSTRUCTION IS COMPLETE.
  - ANY WORK WITHIN MUNICIPAL RIGHT-OF-WAYS MIGHT REQUIRE A MUNICIPAL PERMIT. THE PERMIT SHALL BE ACQUIRED IN THE CONTRACTOR'S NAME.
  - THE AUTHORITY SHALL APPROVE ALL MATERIALS PRIOR TO CONSTRUCTION.
  - A MANDATORY PRE-CONSTRUCTION MEETING SHALL BE HELD BETWEEN THE AUTHORITY AND WATERLINE CONSTRUCTION CONTRACTOR.
  - THE CITY OF LEBANON AUTHORITY WILL INSPECT THE WATER MAIN INSTALLATION AND ASSIST IN COORDINATING TESTINGS. THERE ARE FEES CHARGED TO THE DEVELOPER/ CONTRACTOR FOR INSPECTION AND TESTINGS. WATER MAIN CONSTRUCTION AND FEES SHALL BE COORDINATED WITH THE AUTHORITY.
  - THE PROPERTY OWNER / DEVELOPER SHALL INSTALL THE WATER TAP AND SERVICE LINE TO THE CURB STOP UNDER THE INSPECTION OF THE CITY OF LEBANON AUTHORITY. THE PROPERTY OWNER IS RESPONSIBLE FOR THE WATER SERVICE AFTER THE CURB STOP. THE CITY OF LEBANON AUTHORITY WILL INSTALL THE WATER METER WITHIN THE BUILDING OR AN APPROVED METER PIT AS INSTRUCTED. CONTACT THE CITY OF LEBANON AUTHORITY METER DEPARTMENT FOR METER INSTALLATION, 2200 WEST CHESTNUT STREET, 717-273-2506.
  - METER PIT INSTALLATIONS ARE MANDATORY. ANY EXCEPTION TO METER PIT INSTALLATION IS AT THE DISCRETION OF THE CITY OF LEBANON AUTHORITY. METER PIT IS TO BE INSTALLED WITHIN 10-FEET OF THE CURB STOP. METER PITS SHALL BE APPROVED BY THE METER DEPARTMENT PRIOR TO INSTALLATION.
  - SEWER AND WATER MAINS SHALL HAVE A MINIMUM OF AN 18-INCH SEPARATION, OR THE SEWER MAIN SHALL BE CONCRETE ENCASED IN THE AREA WHERE THE 18-INCH SEPARATION CANNOT BE MAINTAINED.
  - WATER MAINS AND LATERALS THAT ARE LESS THAN 18-INCHES FROM A STORM SEWER OR CULVERT SHALL BE INSULATED WITH A FOAM WRAP.
  - AT THE CONCLUSION OF THE INSTALLATION OF THE WATER SYSTEM AND SERVICE LINES, AND SUCCESSFUL TESTING THEREOF, THE WATER SYSTEM WILL BE OFFERED FOR DEDICATION TO THE CITY OF LEBANON AUTHORITY.
  - ALL EXISTING WATER SERVICE TERMINATIONS SHALL BE AT THE WATER MAIN BY TURNING OFF THE CORPORATION STOP AT THE MAIN AND THE SERVICE LINES OUT AND CRIMPED WITHIN ONE FOOT OF THE CORPORATION STOP. ALL WORK, INCLUDING SAW CUTTING, EXCAVATION, LATERAL TERMINATION, BACKFILL, AND PAVING, SHALL BE DONE BY THE CONTRACTOR AND INSPECTED BY THE CITY OF LEBANON AUTHORITY.

**WAIVERS/MODIFICATIONS:**  
NORTH LEBANON TOWNSHIP, LEBANON COUNTY  
STORMWATER MANAGEMENT ORDINANCE

- ORDINANCE 6-2022 - SECTION 309.C.13 - ENDWALLS OR END SECTIONS CONFORMING TO PENNDOT PUBLICATION #72M (STANDARDS FOR ROADWAY CONSTRUCTION), AS AMENDED, ARE REQUIRED WHERE STORMWATER FLOWS ENTER OR LEAVE DRAINAGE PIPES AND CULVERTS.
- ALTERNATIVE: ALLOW FOR A CONCRETE COLLAR AT THE 6" PVC PIPE AS DETAILED ON THE PLAN.
- JUSTIFICATION: ENDWALLS OR END SECTIONS CONFORMING TO PENNDOT PUBLICATION #72M ARE DESIGNED FOR PIPE SIZES MUCH LARGER THAN THE PROPOSED 6" PVC PIPE.

APPROVED \_\_\_\_\_ NOT APPROVED \_\_\_\_\_ DATED \_\_\_\_\_

**SHEET INDEX**

SHEET 1 of 8	COVERSHEET
SHEET 2 of 8	EXISTING CONDITIONS PLAN
SHEET 3 of 8	SUBDIVISION & LAYOUT PLAN
SHEET 4 of 8	GRADINGS & UTILITY PLAN
SHEET 5 of 8	EASEMENT PLAN
SHEET 6 of 8	PRE & POST DEVELOPMENT DRAINAGE PLAN
SHEET ES1 of 8	EROSION AND SEDIMENT POLLUTION CONTROL PLAN (E&SPC)
SHEET ES2 of 8	E&SPC NOTES & DETAILS
*TO BE RECORDED	

- GENERAL NOTES:**  
BENCHMARK/SANITARY SEWER MANHOLE LOCATED NORTHEAST OF THE PROPERTY ON NARROWS DRIVE.
- ELEVATION: 539.85  
VERTICAL DATUM: NAVD 88  
HORIZONTAL DATUM: NAD83 - COR 96
  - MATTHEW & HOCKLEY ASSOCIATES PERFORMED THE SURVEY ON MARCH 20, 2023.
  - UNDERGROUND UTILITIES ARE SHOWN ACCORDING TO INFORMATION PROVIDED BY OTHERS AND MUST BE FIELD VERIFIED PRIOR TO CONSTRUCTION. EXCAVATION OR BLASTING, THE ACTUAL LOCATIONS OF THESE UTILITIES HAVE NOT BEEN FIELD VERIFIED AND THE LOCATIONS ARE APPROXIMATE. CHRISLAND ENGINEERING DOES NOT MAKE ANY REPRESENTATION, WARRANTY, ASSURANCE, OR GUARANTEE THAT THE UNDERGROUND UTILITY LOCATION PROVIDED BY OTHERS AND REFLECTED ON THESE DRAWINGS ARE CORRECT AND ACCURATE. CHRISLAND ENGINEERING ASSUMES NO RESPONSIBILITY FOR ANY DAMAGES INCURRED AS A RESULT OF UTILITIES OMITTED OR INACCURATELY SHOWN. THE FLOODPLAIN SHOWN HEREON IS SHOWN IN ACCORDANCE WITH THE FLOOD INSURANCE RATE MAP FOR LEBANON COUNTY, PENNSYLVANIA (ALL JURISDICTIONS), PANEL 258 OF 380, MAP NUMBER 42075C0257E, EFFECTIVE DATE JULY 8, 2020.
  - THE WETLAND BOUNDARY AS SHOWN WAS DETERMINED BY A WETLAND STUDY CONDUCTED BY VORTEX ENVIRONMENTAL.
  - ANY REVISION TO THESE LANS AFTER THE DATE OF PLAN PREPARATION OR LATEST REVISION DATE SHALL NOT BE THE RESPONSIBILITY OF CHRISLAND ENGINEERING.
  - NO ONE SHALL SCALE FROM THESE PLANS FOR CONSTRUCTION PURPOSES.
  - THE INFORMATION SHOWN ON THIS DRAWING MAY HAVE ALSO BEEN PROVIDED BY DIGITAL FILE. AFTER A DIGITAL FILE IS RELEASED FROM CHRISLAND ENGINEERING THE VIEWER IS THEREFORE CAUTIONED TO COMPARE ANY SUBSEQUENT REPRODUCTIONS OF THIS DATA WITH THE ORIGINAL HARD COPY SEALED PLAN.
  - ALL SITE DEVELOPMENT SHALL BE DONE IN ACCORDANCE WITH FEDERAL, STATE, COUNTY, AND TOWNSHIP STANDARDS AND REQUIREMENTS.
  - CHRISLAND ENGINEERING HAS NOT PERFORMED ANY SUBSURFACE INVESTIGATIONS, GEOLOGICAL STUDIES, SOUNDINGS OR EVALUATIONS OF THE SUBSURFACE CONDITIONS PRESENT THROUGHOUT THE SITE. NUMEROUS UNKNOWN GEOLOGICAL SITE CONDITIONS AND THE UTILIZATION OF NUMEROUS CONSTRUCTION PRACTICES MEAN THAT CHRISLAND ENGINEERING CANNOT CONSIDER EVERY POTENTIAL GEOLOGICAL IMPACT CAUSED BY CONSTRUCTION ON ANY PORTION OF THE SITE WHICH IS THE SUBJECT OF THIS PLAN.
  - IT IS THE RESPONSIBILITY OF THE LANDOWNER, LAND PURCHASER, OR PROSPECTIVE BUYER OF ANY PORTION OF THE SITE DEPICTED ON THIS PLAN TO PERFORM THEIR OWN INDIVIDUAL EVALUATION OF THE GEOLOGY OF THIS SITE TO ASCERTAIN THE GEOLOGICAL FORMATION(S) WHICH UNDERLAY IT, AND THE IMPACT WHICH THOSE FORMATIONS(S) MAY HAVE UPON THEIR LAND OR ANY CONSTRUCTION PROPOSED THEREON, INCLUDING THE ABILITY TO CONSTRUCT THE REQUIRED STORM WATER MANAGEMENT FACILITIES AND OTHER SITE WORK IN ACCORDANCE WITH THE APPROVED SUBDIVISION PLAN.
  - CHRISLAND ENGINEERING SHALL NOT BE RESPONSIBLE FOR THE COST OF ANY ROCK REMOVAL, SINKHOLES, SOLUTION CHANNELS OR ROCK FRACTURES, OR FOR THE CONSTRUCTION, ENGINEERING, PERMITTING AND INSPECTION COST IMPACT WHICH ANY OF THESE GEOLOGICAL FEATURES MAY HAVE UPON THE LAND OWNER.
  - MATERIALS AND DETAILS SPECIFIED ON THE APPROVED PLAN SHALL NOT BE ALTERED DURING CONSTRUCTION WITHOUT WRITTEN APPROVAL BY THE LEBANON COUNTY PLANNING DEPARTMENT.
  - THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS ON SITE PRIOR TO THE START OF CONSTRUCTION. UNDERGROUND UTILITIES HAVE BEEN SHOWN ACCORDING TO INFORMATION PROVIDED BY OTHERS AND MUST BE FIELD VERIFIED PRIOR TO CONSTRUCTION. EXCAVATION OR BLASTING, THE ACTUAL LOCATIONS OF THESE UTILITIES HAVE NOT BEEN FIELD VERIFIED AND THE LOCATIONS ARE APPROXIMATE. CHRISLAND ENGINEERING DOES NOT MAKE ANY REPRESENTATION, WARRANTY, ASSURANCE OR GUARANTEE THAT THE UNDERGROUND UTILITY LOCATION INFORMATION PROVIDED BY OTHERS AND REFLECTED ON THESE DRAWINGS IS CORRECT AND ACCURATE. CHRISLAND ENGINEERING ASSUMES NO LIABILITY FOR ANY DAMAGE INCURRED AS A RESULT OF UNDERGROUND UTILITIES OMITTED OR INACCURATELY SHOWN.
  - THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. DAMAGE TO ANY UTILITY SHALL BE REPAIRED TO THE SATISFACTION OF THE OWNER, UTILITY COMPANY OR AUTHORITY, AT THE CONTRACTOR'S EXPENSE.
  - THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY PERMITS FROM THE MUNICIPALITY, COUNTY, STATE OR AUTHORITY RELATIVE TO CONSTRUCTION SHOWN ON THIS PLAN.
  - THE CONTRACTOR IS RESPONSIBLE FOR ALL TESTING AND RECORD DRAWINGS AS MAY BE REQUIRED BY THE MUNICIPALITY AND/OR THE VARIOUS AUTHORITIES RELATIVE TO THE CONSTRUCTION SHOWN ON THESE PLANS.
  - ALL PROPOSED SIGNS SHALL BE IN ACCORDANCE WITH THE NORTH LEBANON TOWNSHIP ZONING ORDINANCE.
  - THE PROPOSED SITE IS LOCATED WITHIN THE "TULPEHOOKEN A" STORMWATER MANAGEMENT DISTRICT.
  - APPLICABLE CORNER MARKERS SHALL BE SET UPON APPROVAL OF THE FINAL SUBDIVISION PLAN. RESETTING OF CORNER MARKERS AFTER CONSTRUCTION OF THE DWELLINGS AND BUILDINGS SHOWN HEREON SHALL BE THE RESPONSIBILITY OF THE DEVELOPER OR LOT OWNER.
  - ALL PROPOSED UTILITIES SHALL BE UNDERGROUND.
  - CLEAR SIGHT TRIANGLES SHALL BE KEPT CLEAR OF ANY OBSTRUCTIONS WITH A HEIGHT GREATER THAN 30 INCHES.
  - ALL PLAN SHEETS, INCLUDING THE APPROVED POST-CONSTRUCTION STORMWATER MANAGEMENT REPORT AND EROSION AND SEDIMENT POLLUTION CONTROL REPORT ARE PART OF THIS PLAN AND ARE ENFORCEABLE AS IF THEY APPEARED IN TOTAL HEREIN.
  - THE DEVELOPER SHALL BE FINANCIALLY RESPONSIBLE FOR ANY ATTORNEY FEES WHEN THE ATTORNEY IS ENGAGED ON BEHALF OF THE TOWNSHIP/AUTHORITY RELATING TO THE REVIEW OF THE SUBDIVISION PLANS OR LAND DEVELOPMENT PLANS THAT ARE SUBMITTED TO THE TOWNSHIP/AUTHORITY. PAYMENT OF ALL INVOICES IS DUE AND PAYABLE WITHIN 30 DAYS OF RECEIPT BUT IN ALL CASES PRIOR TO PLAN APPROVAL BY THE BOARD OF SUPERVISORS. ANY QUESTIONS ON INVOICES MUST BE REPORTED TO THE TOWNSHIP/AUTHORITY IN WRITING WITHIN 10 DAYS OF RECEIPT OF THE BILL.
  - DRIVEWAY PERMIT WILL BE REQUIRED FROM THE TOWNSHIP.
  - A STREET CUT PERMIT WILL BE REQUIRED FROM THE TOWNSHIP.

**STORMWATER MANAGEMENT NOTES:**

- ALL STORMWATER IN PUBLIC STREET RIGHTS-OF-WAY SHALL BE DEDICATED TO THE MUNICIPALITY WITH JURISDICTION OVER THE RIGHT-OF-WAY. SPECIFICALLY, NORTH LEBANON TOWNSHIP WILL OWN AND MAINTAIN STORM WATER FACILITIES WITHIN THEIR RESPECTIVE STREET RIGHTS-OF-WAY.
- MAINTENANCE OF ALL STORMWATER MANAGEMENT FACILITIES AND EASEMENTS NOT LOCATED WITHIN PUBLIC RIGHTS-OF-WAY, INCLUDING THE STORMWATER MANAGEMENT FACILITIES, SHALL BE THE RESPONSIBILITY OF THE CURRENT PROPERTY OWNER. OWNERSHIP AND MAINTENANCE RESPONSIBILITIES WILL TRANSFER TO SUBSEQUENT OWNERS WITH THE TRANSFER OF PROPERTY OWNERSHIP.
- DETENTION BASIN, SWALES AND OTHER STORMWATER MANAGEMENT FACILITIES SHALL BE MAINTAINED BY THE PROPERTY OWNER IN ACCORDANCE WITH THE DESIGN AND KEPT FREE OF FILL AND OBSTRUCTIONS.
- ALL YARD INLETS SHALL BE SUMPED AT LEAST SIX (6) INCHES BELOW SURROUNDING GRADE TO CAPTURE TRIBUTARY RUNOFF AND PREVENT BYPASS FLOWS.
- NO ALTERATION TO ANY STORMWATER MANAGEMENT FACILITIES SHALL BE PERMITTED WITHIN EASEMENTS.
- NOTHING SHALL BE PLACED, PUT, PURCH OR ANY EASEMENT WHICH COULD ADVERSELY AFFECT THE FUNCTION OF THE EASEMENT. NORTH LEBANON TOWNSHIP SHALL HAVE THE RIGHT TO:
  - ACCESS THE SITE TO INSPECT STORM WATER FACILITIES AT ANY TIME.
  - REQUIRE THE CURRENT LAND OWNER TAKE CORRECTIVE MEASURES AND ASSIGN THE LAND OWNER A REASONABLE PERIOD TO TAKE CORRECTIVE ACTION.
  - AUTHORIZE MAINTENANCE TO BE DONE AND LIEN ALL COSTS OF WORK AGAINST THE PROPERTIES OF THE PRIVATE ENTITY RESPONSIBLE FOR MAINTENANCE.
- THE MAINTENANCE OF ALL STORMWATER CONVEYANCE AND MANAGEMENT FACILITIES SHALL BE BY THE PROPERTY OWNER. MAINTENANCE SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING:
  - REMOVAL OF SILT AND DEBRIS FROM ALL STORM WATER MANAGEMENT STRUCTURES.
  - PERIODIC REPLACEMENT OF FENCES OR OTHER SIMILAR MEASURES.
  - ESTABLISHMENT OR RE-ESTABLISHMENT OF VEGETATION BY SEEDING AND MULCHING OR SODDING OF SCOURED AREAS OR AREAS WHERE VEGETATION HAS NOT BEEN SUCCESSFULLY ESTABLISHED.
  - INSTALLATION OF NECESSARY CONTROLS TO CORRECT UNFORESEEN PROBLEMS CAUSED BY STORM EVENTS.
  - REMOVAL OF ALL TEMPORARY STORMWATER MANAGEMENT CONTROL FACILITIES UPON THE INSTALLATION OF PERMANENT STORMWATER FACILITIES AT THE COMPLETION OF THE DEVELOPMENT.
  - REPAIR OF STRUCTURAL DAMAGE OR DETERIORATION OF ANY KIND, INCLUDING THAT CAUSED BY SINKHOLES OR OTHER EVENTS.
  - MOWING AND/OR TRIMMING OF VEGETATION SHOULD BE PERFORMED AS NECESSARY TO SUSTAIN THE SYSTEM, BUT ALL DETRITUS MUST BE REMOVED FROM THE BASIN.
  - VEGETATED AREAS SHOULD BE INSPECTED ANNUALLY FOR UNWANTED GROWTH OF EXOTIC/INVASIVE SPECIES.
- ACCESS TO ALL STORMWATER MANAGEMENT FACILITIES, INCLUDING INLETS, MANHOLES, STORM PIPES, ENDWALLS, HEADWALLS, SWALES, AND BASINS SHALL BE PROVIDED VIA EASEMENTS TO REPRESENTATIVES OF NORTH LEBANON TOWNSHIP.
- STORMWATER MANAGEMENT FACILITIES (DETENTION FACILITIES, STORM DRAINAGE PIPES, INLETS AND ENDWALLS) SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF NORTH LEBANON TOWNSHIP, LEBANON COUNTY CONSERVATION DISTRICT, LEBANON COUNTY, AND PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION.
- ALL STORM SEWER JOINTS SHALL BE WATER TIGHT.
- ALL STORM SEWERS SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH PENNDOT PUB. 408 SPECIFICATIONS, PENNDOT PUB. 72, AND AS SHOWN ON THESE DRAWINGS.
- RUNOFF FROM THE PROPOSED IMPROVEMENTS SHALL BE DIRECTED TO THE STORM WATER MANAGEMENT FACILITIES.
- TOWNSHIP AND COUNTY OFFICIALS, AND THEIR AGENTS OR EMPLOYEES, HAVE THE RIGHT OF ACCESS FOR INSPECTION AND, IN CASES OF CONSTRUCTION DEFAULT, CONSTRUCTION OF THE STORM WATER MANAGEMENT FACILITIES. THE DEVELOPER/OWNER GRANTS THE TOWNSHIP THE RIGHT TO ACCESS TO ALL STORMWATER MANAGEMENT EASEMENTS ON THE SUBJECT TRACT VIA THE ACCESS DRIVES, DRIVEWAYS, PARKING AREAS, AND SIMILAR FEATURES WITHIN THE SITE.
- ACCESSORY BUILDINGS, STRUCTURES, FENCES, WALLS, HEDGES, AND POOLS SHALL NOT BE LOCATED WITHIN OR OBSTRUCT ANY STORMWATER MANAGEMENT FACILITY AND ASSOCIATED CONVEYANCE SYSTEMS.
- ALL DRAINAGE PIPES SHALL BE LAID TO A MINIMUM DEPTH OF EIGHTEEN (18) INCHES FROM FINISHED SUBGRADE TO THE CROWN OF THE PIPE IN PAVED OR STONE AREAS AND TWELVE (12) INCHES FROM FINISHED GRADE TO THE CROWN OF THE PIPE IN GRASSED AREAS.
- NO PERSON SHALL MODIFY, REMOVE, FILL, LANDSCAPE, OR ALTER STORMWATER MANAGEMENT FACILITIES WHICH MAY WERE INSTALLED ON THE PROPERTY UNLESS A STORMWATER MANAGEMENT SITE PLAN HAS BEEN APPROVED BY NORTH LEBANON TOWNSHIP WHICH ALLOWS SUCH MODIFICATION, REMOVAL, FILL, LANDSCAPING OR ALTERATION. NO PERSON SHALL PLACE ANY STRUCTURE, FILL, LANDSCAPING OR VEGETATION INTO A STORMWATER MANAGEMENT FACILITY OR WITHIN A DRAINAGE EASEMENT WHICH COULD LIMIT OR ALTER THE FUNCTIONING OF THE FACILITY OR EASEMENT IN ANY MANNER.
- AS PER NORTH LEBANON TOWNSHIP STORMWATER MANAGEMENT ORDINANCE, THE PROJECT DEPICTED HEREIN IS LOCATED WITHIN THE "TULPEHOOKEN A" STORMWATER MANAGEMENT DISTRICT.
- THE NORTH LEBANON TOWNSHIP, TOWNSHIP ENGINEER AND DESIGN ENGINEER SHALL BE CONTACTED REGARDING INSPECTION OF THE STORMWATER MANAGEMENT FACILITIES. INSPECTIONS SHALL BE REQUIRED DURING CONSTRUCTION AND AT COMPLETION OF THE FACILITIES. NO OCCUPANCY PERMIT SHALL BE ISSUED UNTIL THE STORMWATER MANAGEMENT FACILITIES HAVE BEEN INSTALLED AND APPROVED THROUGH INSPECTION BY THE TOWNSHIP.

**ADDITIONAL STORMWATER MANAGEMENT REQUIREMENTS:**

- CONTRACTORS AND PROPERTY OWNERS SHALL NOT STORE CONSTRUCTION MATERIALS OR LOCATE TRASH RECEPTACLES (I.E. DUMPSTERS) ON THE PAVED CARTWAY STREETS.
- ALL MUD FROM CONSTRUCTION ACTIVITIES THAT IS TRACKED ONTO STREETS SHALL BE CLEANED BY THE RESPONSIBLE CONTRACTOR OR PROPERTY OWNER AT THE END OF EACH WORKDAY.
- STORMWATER INLETS OR DRAINAGE PIPES WHICH BECAME FILLED WITH MUD OR DEBRIS FROM CONSTRUCTION ACTIVITIES SHALL BE CLEANED BY THE RESPONSIBLE CONTRACTOR OR PROPERTY OWNER.

**NORTH LEBANON TOWNSHIP ENGINEER REVIEW CERTIFICATE**  
Reviewed by the North Lebanon Township Engineer this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

Signature of the North Lebanon Township Engineer \_\_\_\_\_

LEBANON COUNTY PLANNING DEPARTMENT  
Reviewed \_\_\_\_\_ 20\_\_\_\_

**NORTH LEBANON TOWNSHIP PLANNING COMMISSION REVIEW CERTIFICATE**  
Reviewed \_\_\_\_\_

**NORTH LEBANON TOWNSHIP SUPERVISORS**  
The North Lebanon Township Board of Supervisors has approved this plan as submitted or as revised to the date of signatures affixed hereto. No other plan or plans shall be recognized. Approval includes all documentation including the comments or requirements of official reviewing individuals or agencies, acceptance is based on compliance with applicable ordinances, rules and regulations, and shall not be construed as a guarantee to any person or organization that the design of any part of the plan will function as anticipated under any or all conditions or situations. Additionally, that by approval of the plan, the Township expressly declines the assumption of liability for errors, omissions or mistakes in judgment in the design, engineering, construction, or expected function of the matters approved.

Approved \_\_\_\_\_

Approved \_\_\_\_\_

Approved \_\_\_\_\_

**PLAN CERTIFICATE (SURVEY)**  
I hereby certify that the plan shown and described hereon as well as all drawings bearing my seal are true and correct as to accuracy as required by the Lebanon County and North Lebanon Township Ordinances.

\_\_\_\_\_, 20\_\_\_\_  
Joshua T. Weaber, P.E.

**PLAN CERTIFICATE (PLAN)**  
I hereby certify that, to the best of my knowledge, the plan shown and described hereon is true and correct to the accuracy required by the Lebanon County and North Lebanon Township Ordinances.

\_\_\_\_\_, 20\_\_\_\_  
Joshua T. Weaber, P.E.

**CARBONATE GEOLOGY CERTIFICATION**  
I, Joshua T. Weaber, P.E., to the best of my knowledge, certify that the proposed stormwater management facilities (circle one) are/are not underlain by carbonate geology.

\_\_\_\_\_, 20\_\_\_\_  
Joshua T. Weaber, P.E.

**CERTIFICATE OF OWNERSHIP, ACKNOWLEDGEMENT OF PLAN AND OFFER OF DEDICATION**

COMMONWEALTH OF PENNSYLVANIA  
COUNTY OF LEBANON

On this, \_\_\_\_\_ day of \_\_\_\_\_, 2024, before me, the undersigned officer, personally appeared Stanley A. Martin, who being duly sworn according to law, deposes and says that he is the owner of the property shown on this plan, that the plan thereof was made at their direction, that he acknowledges the same to be his act and plan, that he desires the same to be recorded, and that all streets and other property identified as proposed public property (excepting those areas labeled "NOT FOR DEDICATION") are hereby dedicated to the public use. He also hereby acknowledges that this proposed Subdivision and Development may be subject to the requirements of additional Township, State and Federal regulations.

Stanley A. Martin (Owner) \_\_\_\_\_

Notary \_\_\_\_\_

My Commission Expires \_\_\_\_\_ 20\_\_\_\_

REVISION

DATE

BY

DECEMBER 29, 2025

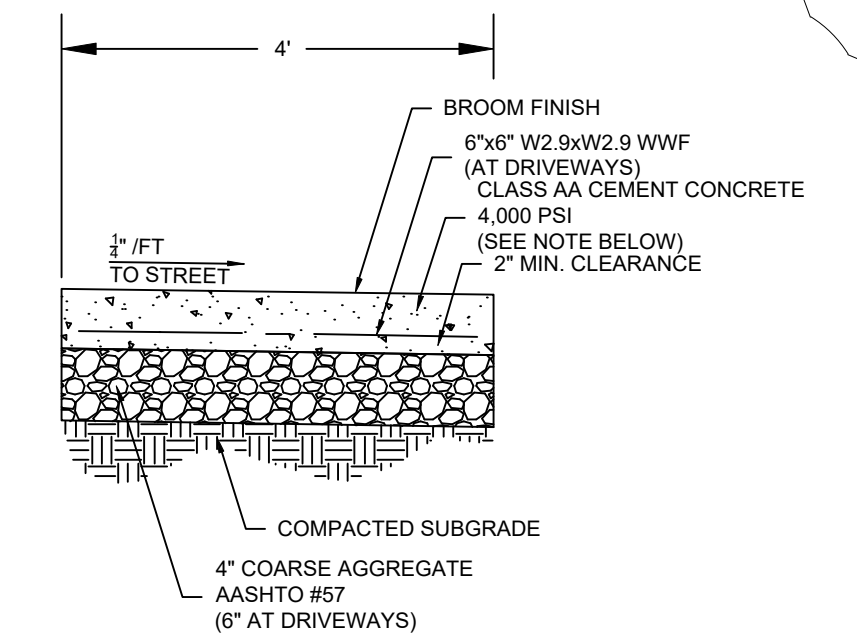
1 OF 8

COVER SHEET

www.chrislandengineering.com

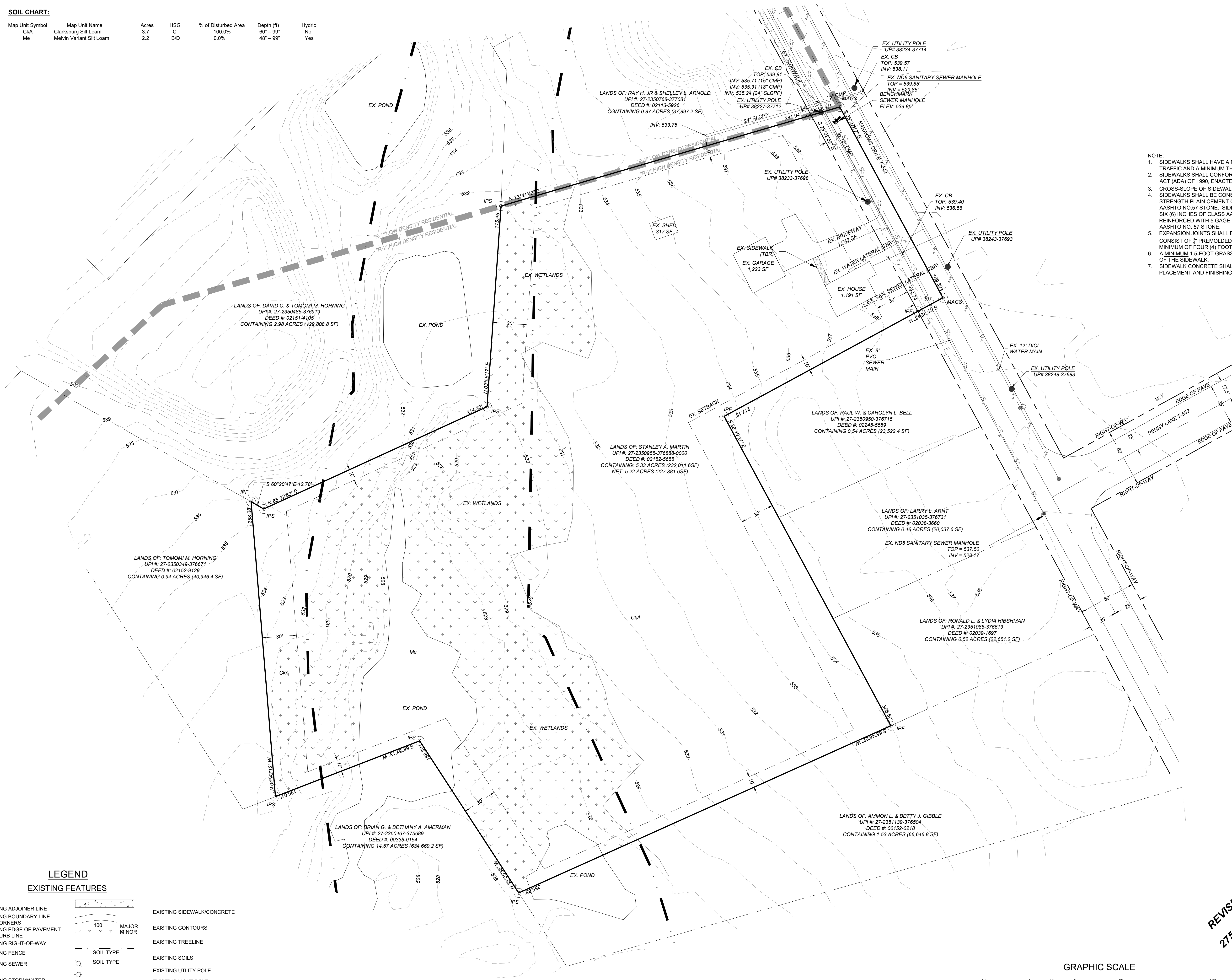
**SOIL CHART:**

Map Unit Symbol	Map Unit Name	Acres	HSG	% of Disturbed Area	Depth (ft)	Hydric
CKA	Clarksburg Silt Loam	3.7	C	100.0%	60" - 99"	No
Me	Melvin Variant Silt Loam	2.2	B/D	0.0%	48" - 99"	Yes



- NOTE:
- SIDEWALKS SHALL HAVE A MINIMUM THICKNESS OF 4" WHERE USED SOLELY FOR PEDESTRIAN TRAFFIC AND A MINIMUM THICKNESS OF 6" AT ALL DRIVEWAYS.
  - SIDEWALKS SHALL CONFORM TO THE GUIDELINES OF THE FEDERAL AMERICANS WITH DISABILITIES ACT (ADA) OF 1990, ENACTED JANUARY 26, 2002.
  - CROSS-SLOPE OF SIDEWALKS SHALL BE 1/4" PER FOOT, SLOPED TOWARDS THE CURB AND STREET.
  - SIDEWALKS SHALL BE CONSTRUCTED OF FOUR (4) INCHES OF CLASS AA CEMENT - 4000-PSI 28-DAY STRENGTH PLAIN CEMENT CONCRETE, PLACED ON A BASE OF FOUR (4) INCH DEPTH SUBBASE OF AASHTO NO. 57 STONE. SIDEWALKS WITHIN THE WIDTH OF DRIVEWAYS SHALL BE CONSTRUCTED OF SIX (6) INCHES OF CLASS AA CEMENT CONCRETE - 4000-PSI 28-DAY STRENGTH CONCRETE REINFORCED WITH 5 GAGE - 6 INCH X 6 INCH WIRE MESH WITH A SIX (6) INCH DEEP SUBBASE OF AASHTO NO. 57 STONE.
  - EXPANSION JOINTS SHALL BE PROVIDED AT A MINIMUM OF TWENTY(20) FOOT INTERVALS AND SHALL CONSIST OF 1/2" PREMOULDED EXPANSION MATERIAL. CONTRACTION JOINTS SHALL BE PROVIDED AT A MINIMUM OF FOUR (4) FOOT INTERVALS.
  - A MINIMUM 1.5-FOOT GRASS STRIP SHALL BE PROVIDED BETWEEN THE BACK OF CURB AND THE EDGE OF THE SIDEWALK.
  - SIDEWALK CONCRETE SHALL BE COATED WITH A CURE & SEAL COMPOUND IMMEDIATELY AFTER PLACEMENT AND FINISHING IS COMPLETED.

**CONCRETE SIDEWALK DETAIL**  
NOT TO SCALE

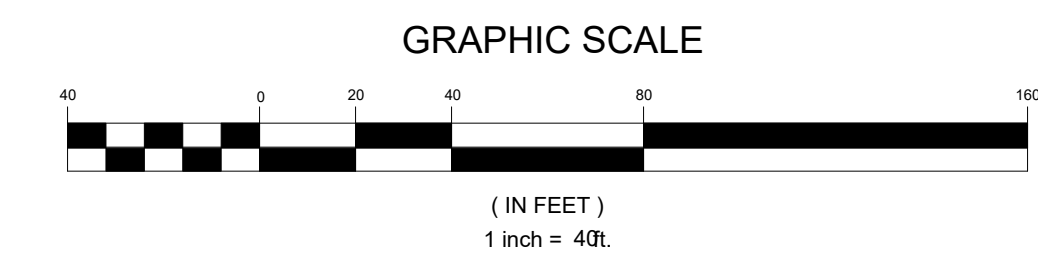


**EXISTING CONDITIONS PLAN**  
1" = 40'

**LEGEND**

**EXISTING FEATURES**

	EXISTING ADJOINER LINE		EXISTING SIDEWALK/CONCRETE
	EXISTING BOUNDARY LINE AND CORNERS		EXISTING CONTOURS
	EXISTING EDGE OF PAVEMENT AND CURB LINE		EXISTING TREELINE
	EXISTING RIGHT-OF-WAY		EXISTING SOILS
	EXISTING FENCE		EXISTING UTILITY POLE
	EXISTING SEWER		EXISTING LIGHT POLE
	EXISTING STORMWATER		EXISTING OVERHEAD ELECTRIC
	EXISTING WATERLINE		EXISTING WETLANDS
	EXISTING GASLINE		IRON PIN TO BE SET
	ZONING BOUNDARY		MAG NAIL TO BE SET



**REVISED MINOR SUBDIVISION PLAN**  
FOR  
**275 NARROWS DRIVE - TOWNHOUSES**  
NORTH LEBANON TOWNSHIP, LEBANON COUNTY, PA

DECEMBER 29, 2025

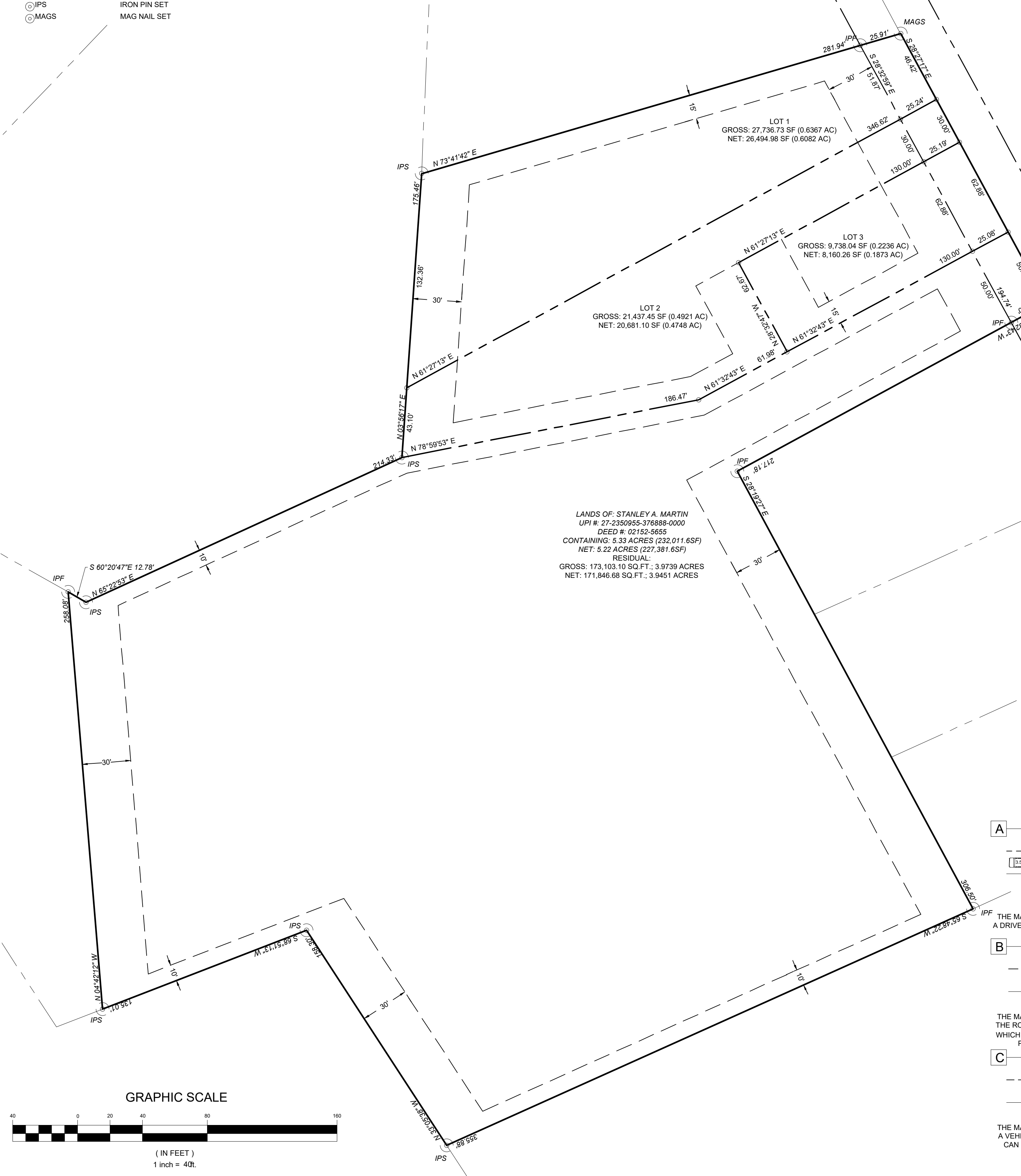
MA10.28-1  
Existing Conditions  
2 OF 8

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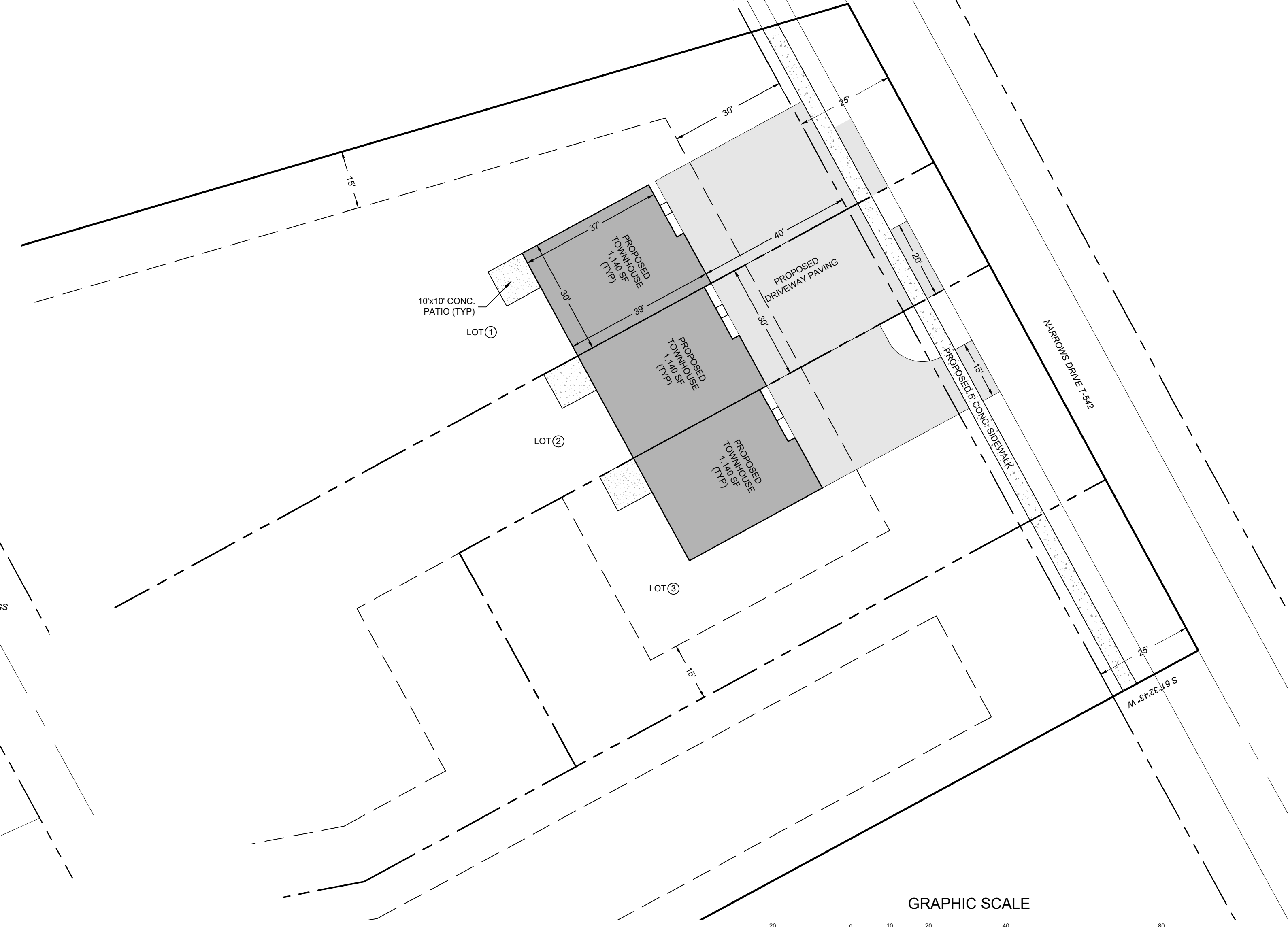
REVISION BY DATE

**LEGEND**

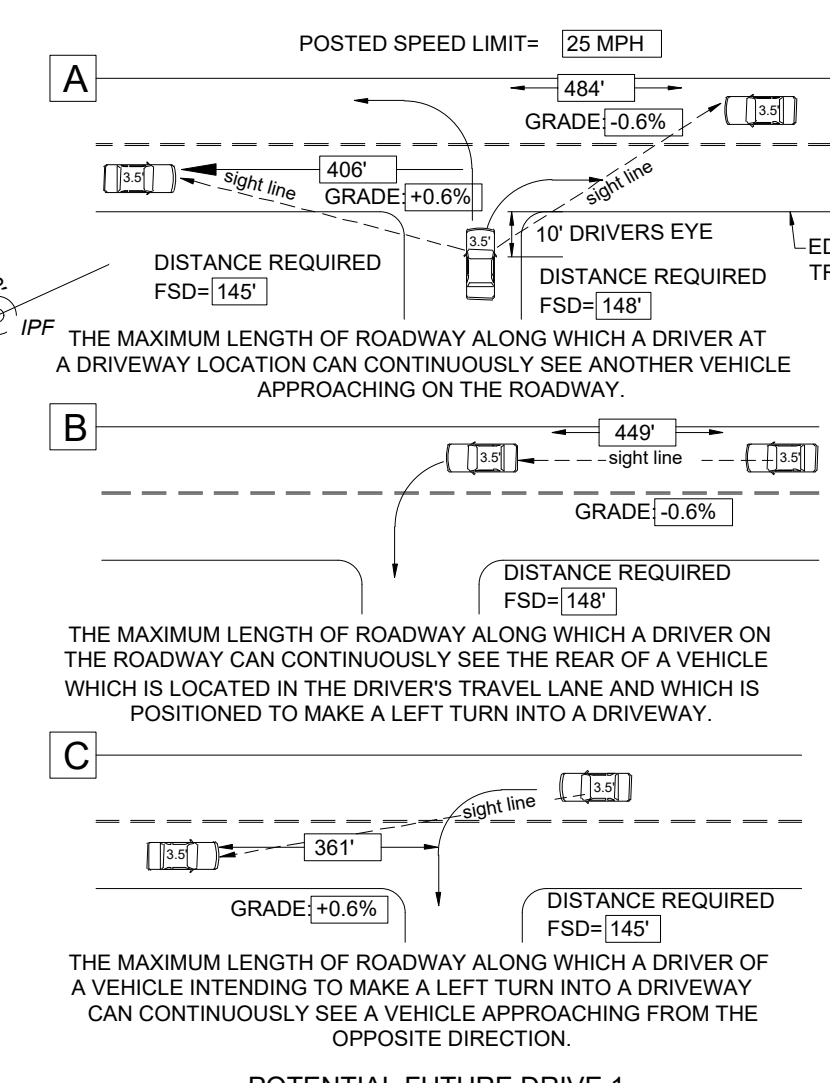
EXISTING FEATURES		PROPOSED FEATURES	
	EXISTING ADJOINER LINE		PROPOSED BUILDING SETBACK
	EXISTING BOUNDARY LINE AND CORNERS		PROPOSED BOUNDARY LINE AND CORNERS
	EXISTING EDGE OF PAVEMENT AND CURB LINE		PROPOSED EDGE OF PAVEMENT AND CURB LINE
	EXISTING RIGHT-OF-WAY		PROPOSED RIGHT-OF-WAY
	CLEAN OUT		PROPOSED FENCE
	MANHOLE		PROPOSED SEWER
	RIP-RAP		PROPOSED STORMWATER
	HEADWALL		IRON PIN TO BE SET
	GATE VALVE		MAG NAIL TO BE SET
	FIRE HYDRANT		
	GAS VALVE		
	IRON PIN FOUND		
	IRON PIN SET		
	MAG NAIL SET		
	EXISTING SIDEWALK/CONCRETE		PROPOSED DOMESTIC WATERLINE
	EXISTING CONTOURS		PROPOSED GASLINE
	EXISTING TREELINE		PROPOSED CONCRETE/SIDEWALK
	EXISTING SOILS		PROPOSED CONTOURS
	EXISTING UTILITY POLE		PROPOSED TREELINE
	EXISTING LIGHT POLE		PROPOSED UTILITY POLE
	EXISTING OVERHEAD ELECTRIC		PROPOSED LIGHT POLE
	MAJOR SOIL TYPE		PROPOSED STANDARD PAVING
	MINOR SOIL TYPE		



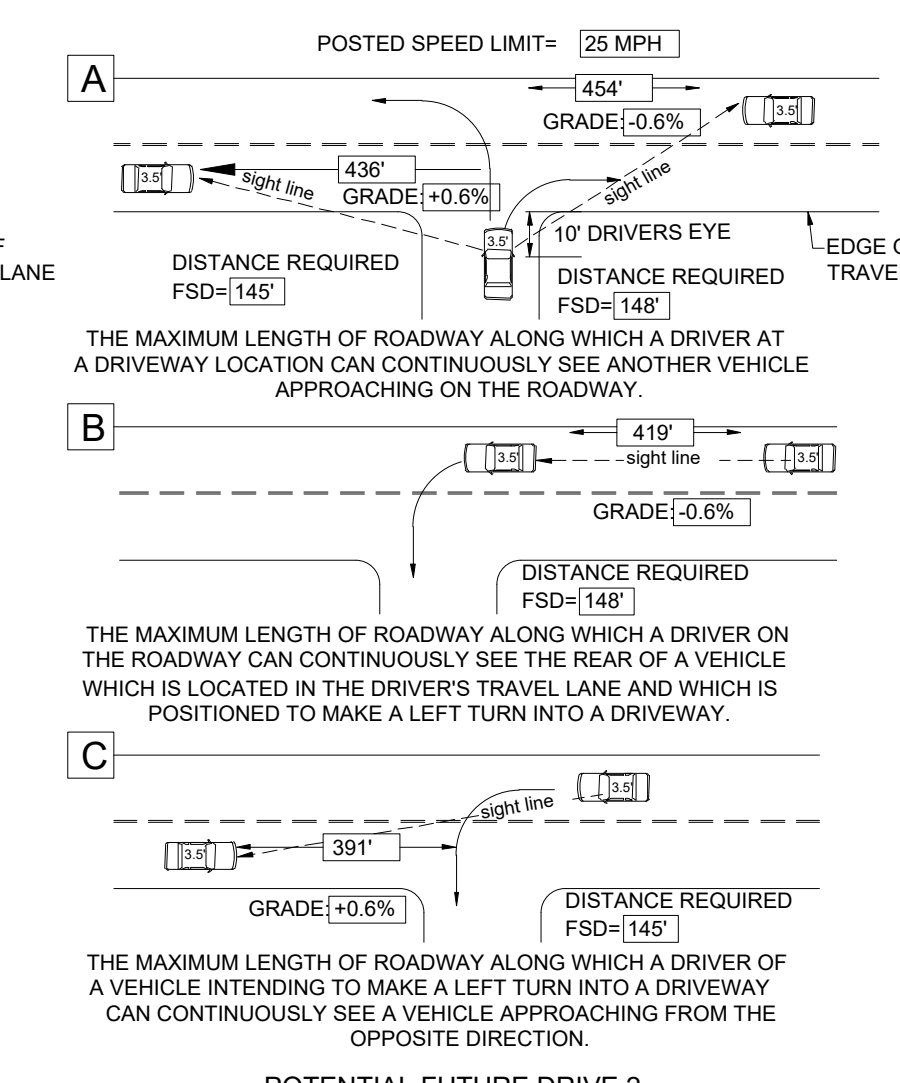
**OVERALL SUBDIVISION PLAN**  
 1" = 40'



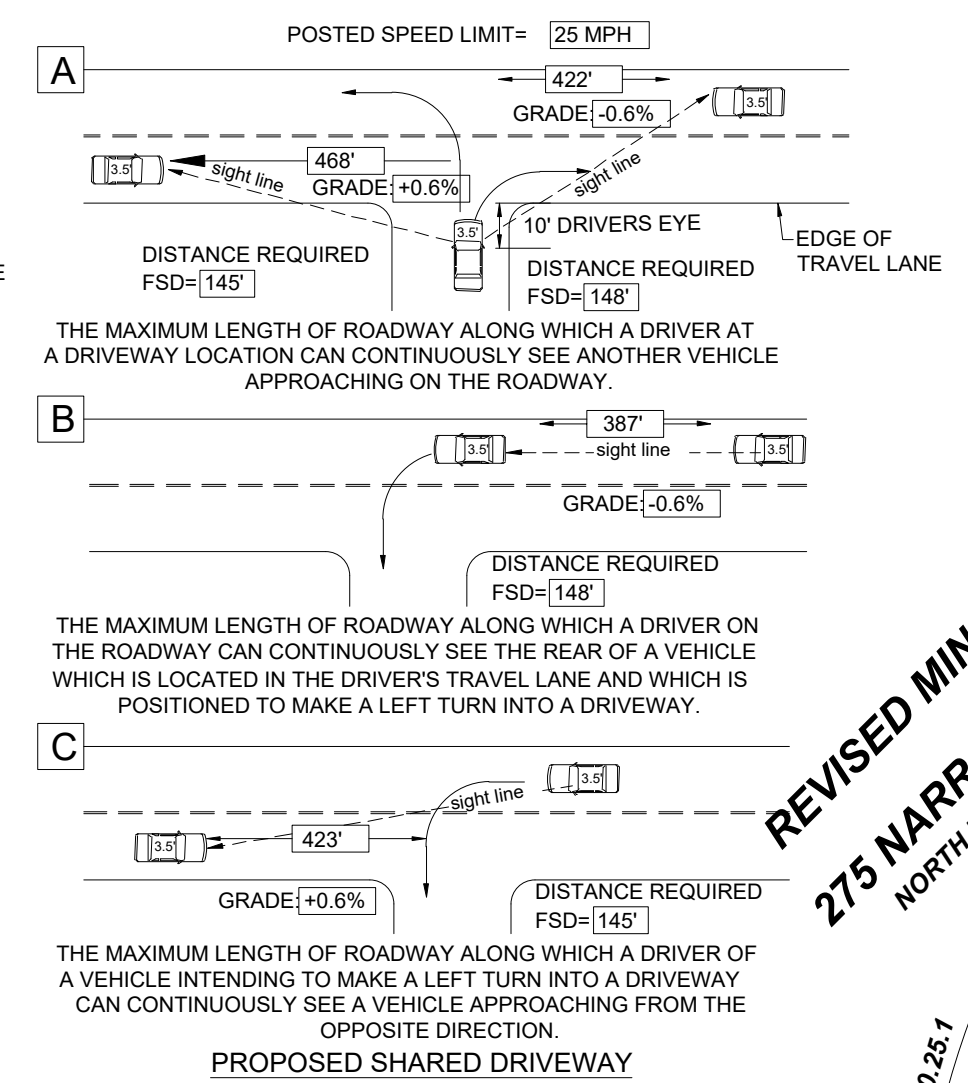
**LAYOUT PLAN**  
 1" = 20'



**SIGHT DISTANCE NOTE**  
 VEGETATION MAY NEED TO BE REMOVED AND/OR MAINTAINED ON THE PROPOSED LOT TO MAINTAIN ADEQUATE SIGHT DISTANCE. ALL VEGETATION SHALL BE REMOVED/MAINTAINED ON A REGULAR BASIS AND NOT LESS FREQUENT THAN TWICE PER YEAR.



**SIGHT DISTANCE NOTE**  
 VEGETATION MAY NEED TO BE REMOVED AND/OR MAINTAINED ON THE PROPOSED LOT TO MAINTAIN ADEQUATE SIGHT DISTANCE. ALL VEGETATION SHALL BE REMOVED/MAINTAINED ON A REGULAR BASIS AND NOT LESS FREQUENT THAN TWICE PER YEAR.



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 VEGETATION MAY NEED TO BE REMOVED AND/OR MAINTAINED ON THE PROPOSED LOT TO MAINTAIN ADEQUATE SIGHT DISTANCE. ALL VEGETATION SHALL BE REMOVED/MAINTAINED ON A REGULAR BASIS AND NOT LESS FREQUENT THAN TWICE PER YEAR.

**REVISED MINOR SUBDIVISION PLAN**  
 FOR  
**275 NARROWS DRIVE - TOWNHOUSES**  
 NORTH LEBANON TOWNSHIP, LEBANON COUNTY, PA



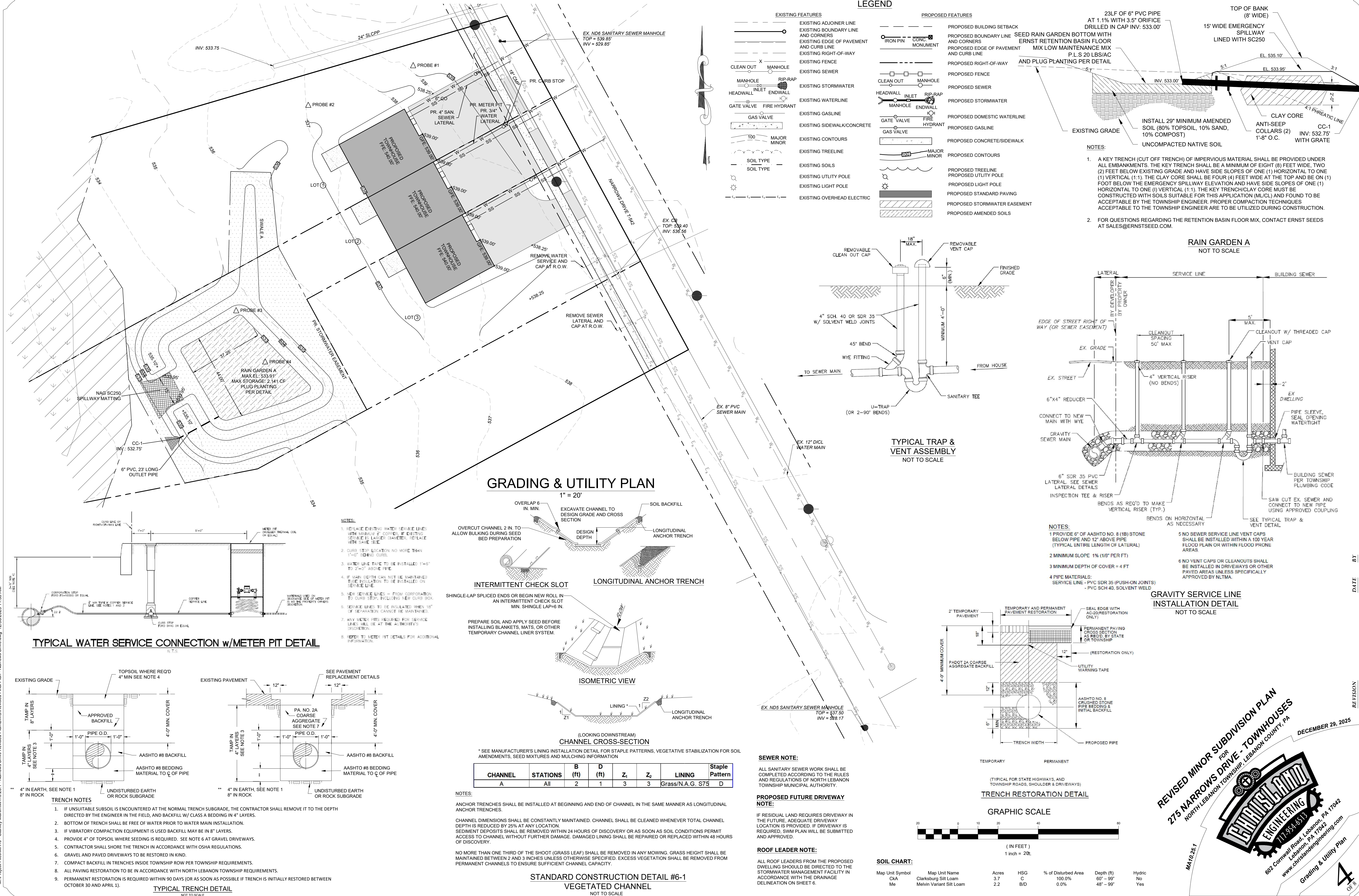
DECEMBER 29, 2025

Subdivision & Layout Plan  
 3 OF 5

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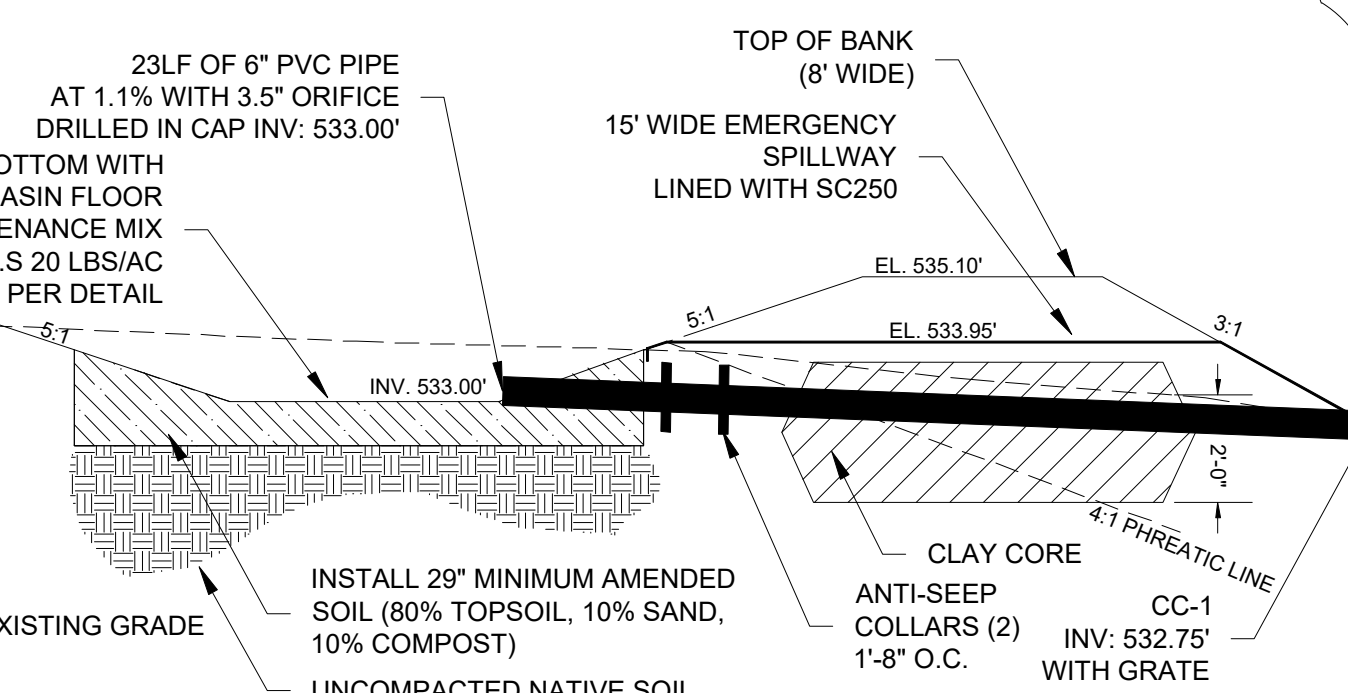
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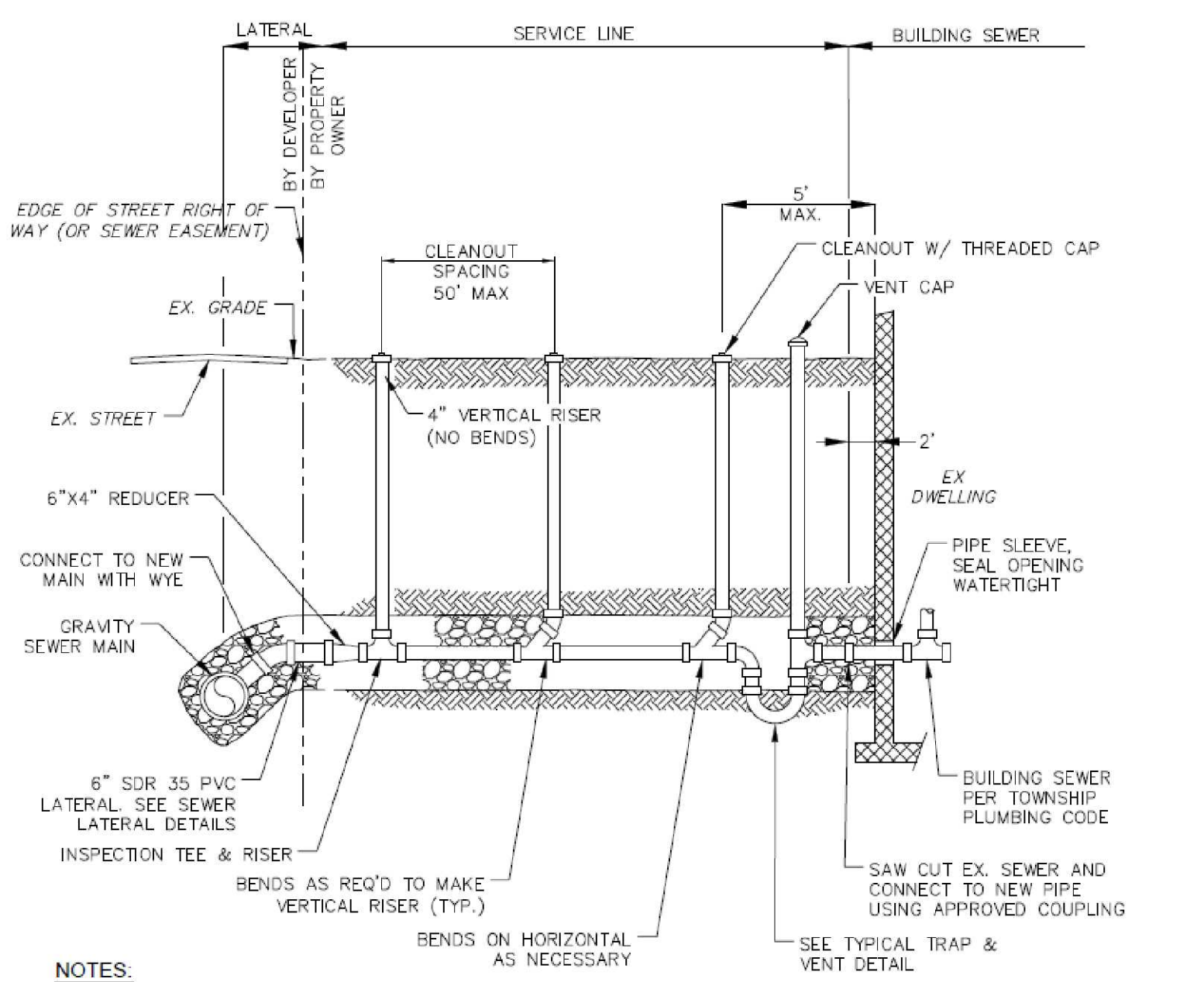
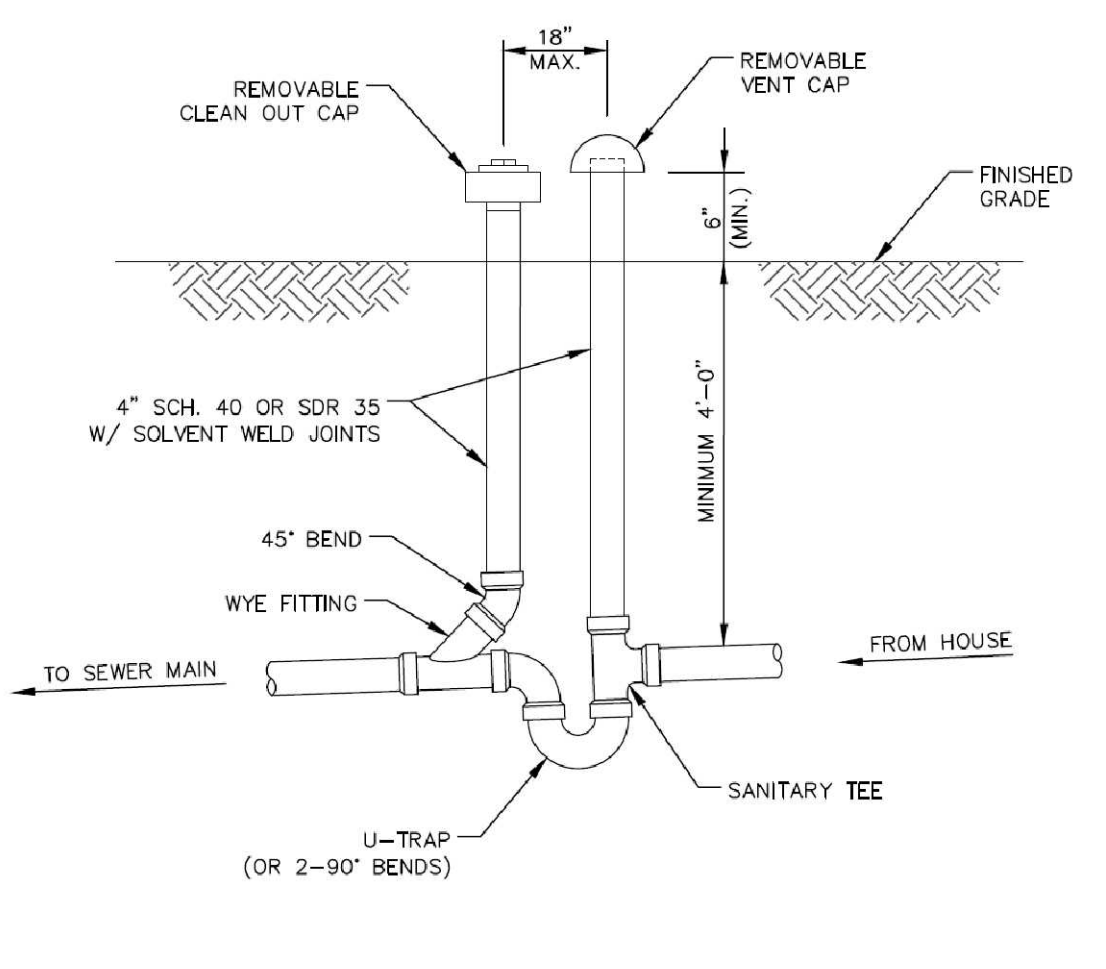


**LEGEND**

EXISTING FEATURES	PROPOSED FEATURES
EXISTING ADJOINER LINE	PROPOSED BUILDING SETBACK
EXISTING BOUNDARY LINE AND CORNERS	PROPOSED BOUNDARY LINE AND CORNERS
EXISTING EDGE OF PAVEMENT AND CURB LINE	PROPOSED EDGE OF PAVEMENT AND CURB LINE
EXISTING RIGHT-OF-WAY	PROPOSED RIGHT-OF-WAY
EXISTING FENCE	PROPOSED FENCE
EXISTING SEWER	PROPOSED SEWER
EXISTING STORMWATER	PROPOSED STORMWATER
EXISTING WATERLINE	PROPOSED DOMESTIC WATERLINE
EXISTING GASLINE	PROPOSED GASLINE
EXISTING SIDEWALK/CONCRETE	PROPOSED CONCRETE/SIDEWALK
EXISTING CONTOURS	PROPOSED CONTOURS
EXISTING TREELINE	PROPOSED TREELINE
EXISTING SOILS	PROPOSED UTILITY POLE
EXISTING UTILITY POLE	PROPOSED LIGHT POLE
EXISTING LIGHT POLE	PROPOSED STANDARD PAVING
EXISTING OVERHEAD ELECTRIC	PROPOSED STORMWATER EASEMENT
	PROPOSED AMENDED SOILS

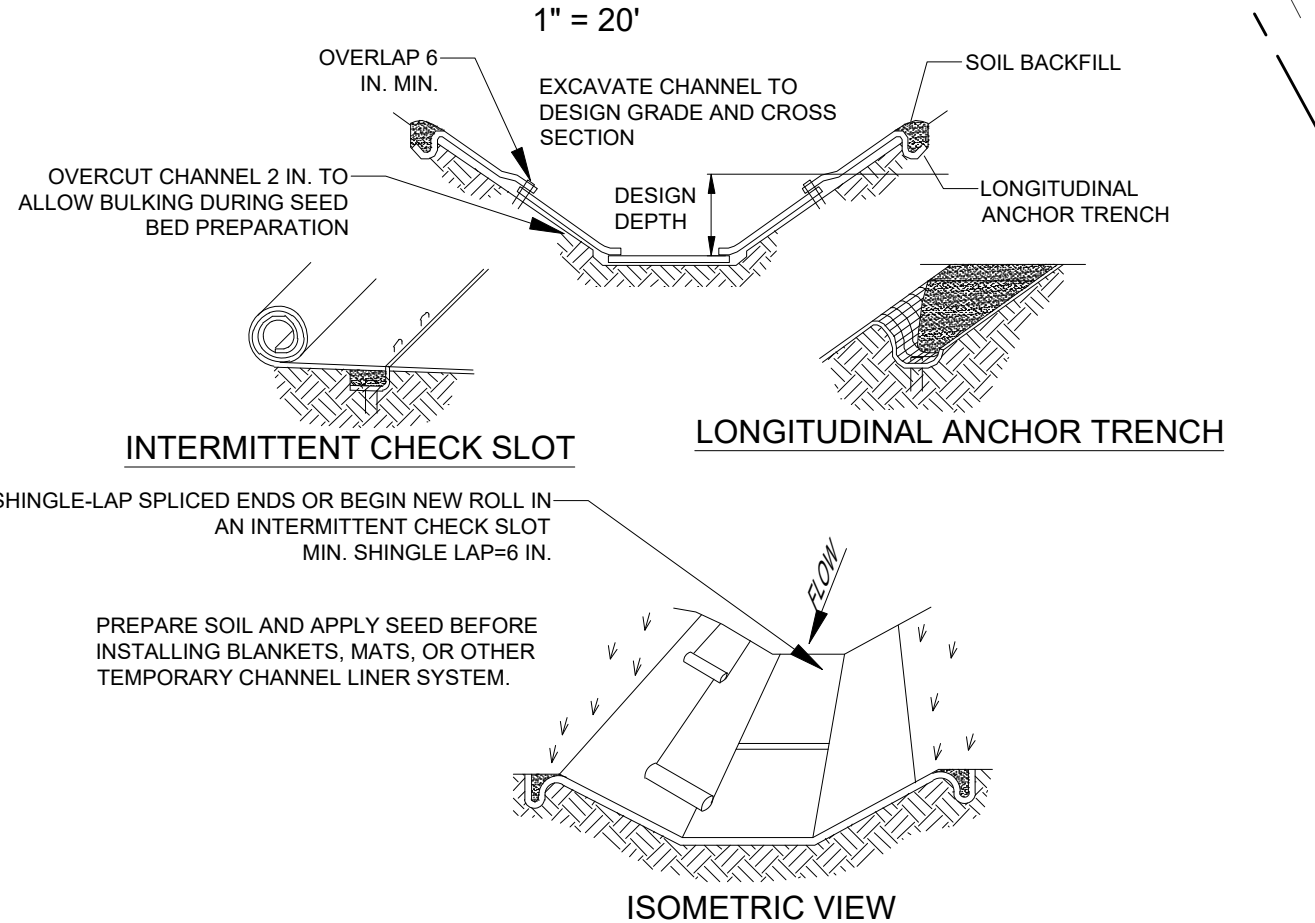


- NOTES:**
- A KEY TRENCH (CUT OFF TRENCH) OF IMPERVIOUS MATERIAL SHALL BE PROVIDED UNDER ALL EMBANKMENTS. THE KEY TRENCH SHALL BE A MINIMUM OF EIGHT (8) FEET WIDE, TWO (2) FEET BELOW EXISTING GRADE AND HAVE SIDE SLOPES OF ONE (1) HORIZONTAL TO ONE (1) VERTICAL (1:1). THE CLAY CORE SHALL BE FOUR (4) FEET WIDE AT THE TOP AND BE ON (1) FOOT BELOW THE EMERGENCY SPILLWAY ELEVATION AND HAVE SIDE SLOPES OF ONE (1) HORIZONTAL TO ONE (1) VERTICAL (1:1). THE KEY TRENCH/CLAY CORE MUST BE CONSTRUCTED WITH SOILS SUITABLE FOR THIS APPLICATION (M/LCL) AND FOUND TO BE ACCEPTABLE BY THE TOWNSHIP ENGINEER. PROPER COMPACTION TECHNIQUES ACCEPTABLE TO THE TOWNSHIP ENGINEER ARE TO BE UTILIZED DURING CONSTRUCTION.
  - FOR QUESTIONS REGARDING THE RETENTION BASIN FLOOR MIX, CONTACT ERNST SEEDS AT SALES@ERNSTSEED.COM.



- NOTES:**
- PROVIDE 6" OF AASHTO NO. 8 (1B) STONE BELOW PIPE AND 12" ABOVE PIPE (TYPICAL ENTIRE LENGTH OF LATERAL)
  - MINIMUM SLOPE 1% (1/8" PER FT)
  - MINIMUM DEPTH OF COVER = 4 FT
  - PIPE MATERIALS: SERVICE LINE - PVC SDR 35 (PUSH-ON JOINTS) - PVC SCH 40, SOLVENT WELD
  - NO SEWER SERVICE LINE VENT CAPS SHALL BE INSTALLED WITHIN A 100 YEAR FLOOD PLAIN OR WITHIN FLOOD PRONE AREAS
  - NO VENT CAPS OR CLEANOUTS SHALL BE INSTALLED IN DRIVEWAYS OR OTHER PAVED AREAS UNLESS SPECIFICALLY APPROVED BY N.L.T.M.A.

**GRADING & UTILITY PLAN**  
1" = 20'



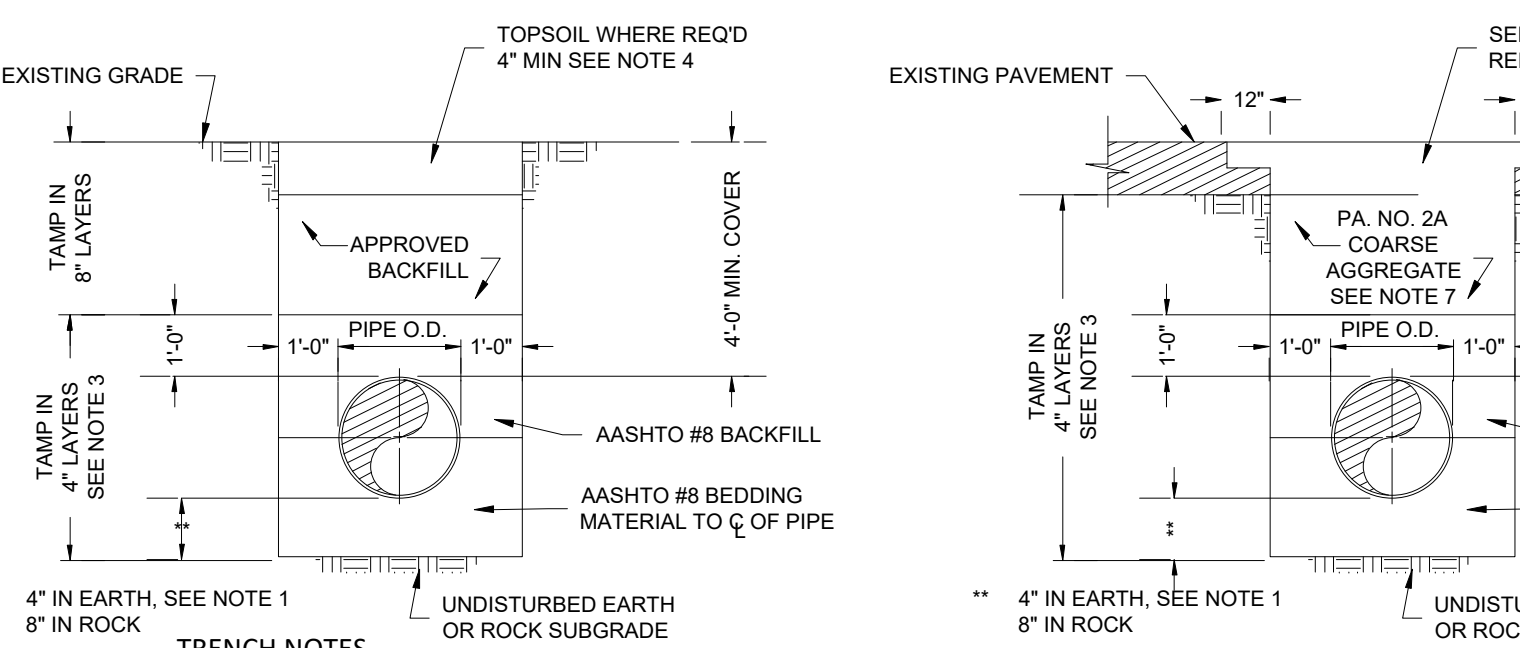
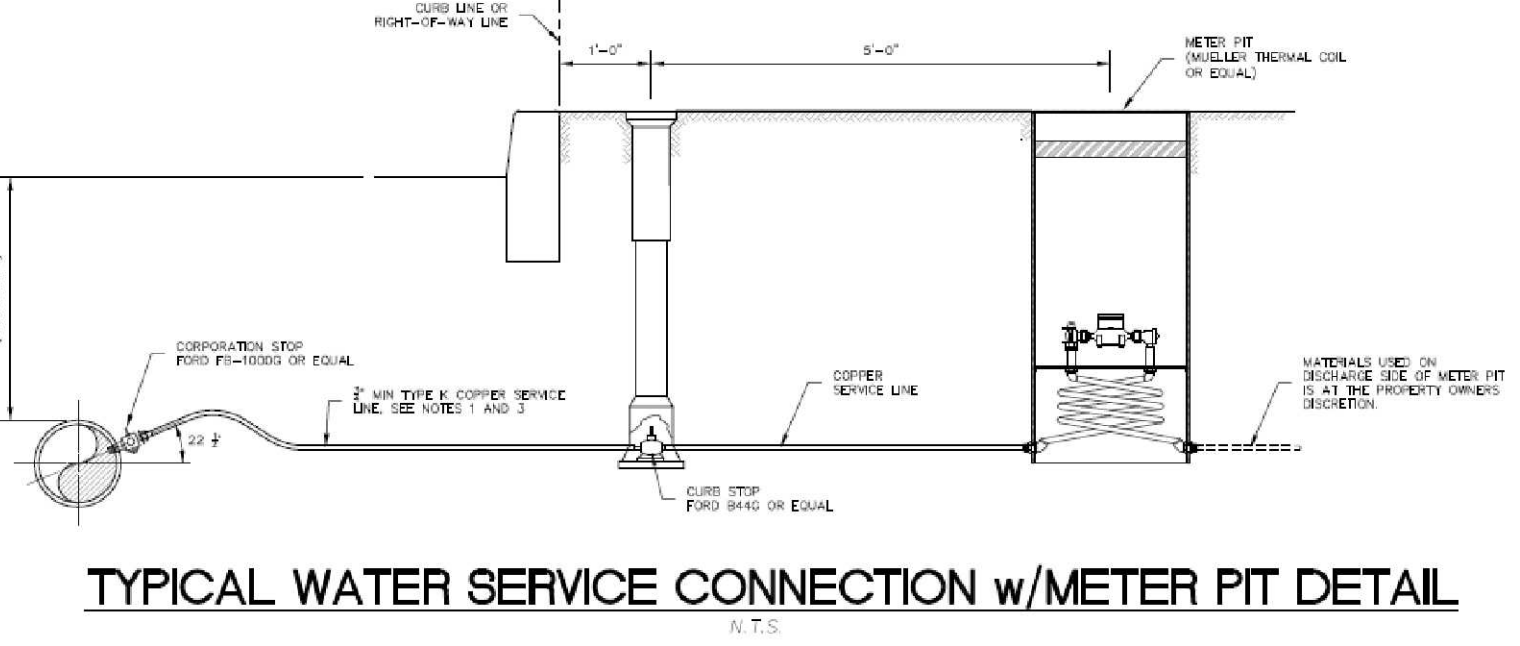
(LOOKING DOWNSTREAM)  
**CHANNEL CROSS-SECTION**

CHANNEL	STATIONS	B (ft)	D (ft)	Z <sub>1</sub>	Z <sub>2</sub>	LINING	Staple Pattern
A	All	2	1	3	3	Grass/N.A.G. S75	D

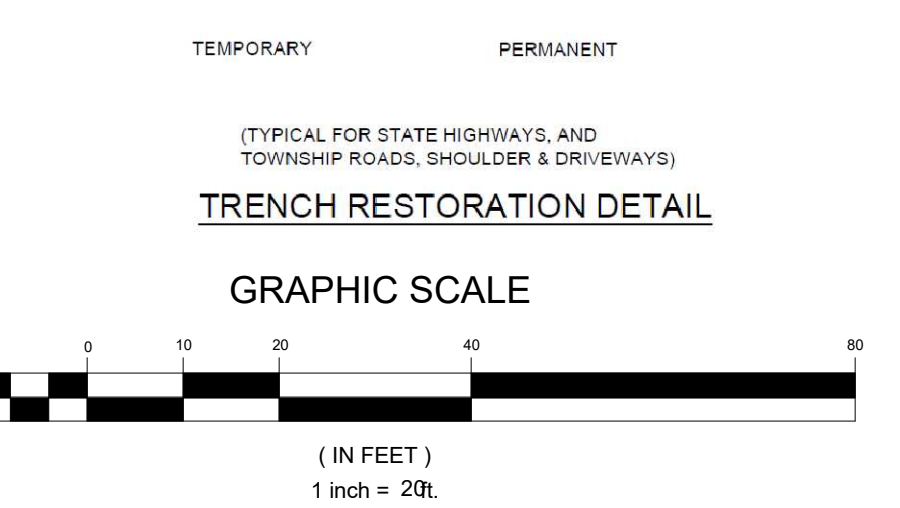
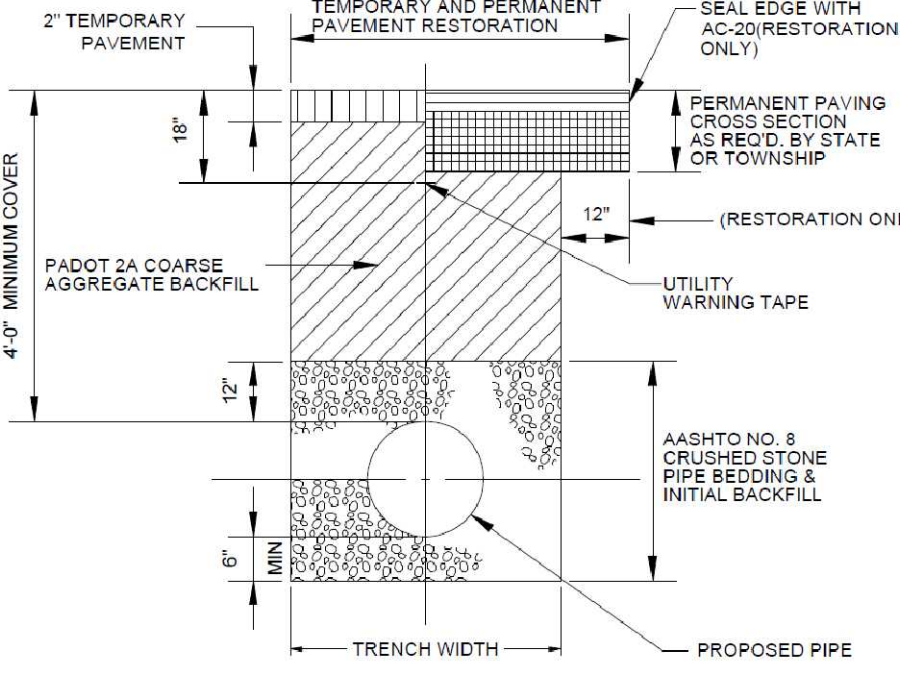
\* SEE MANUFACTURER'S LINING INSTALLATION DETAIL FOR STAPLE PATTERNS, VEGETATIVE STABILIZATION FOR SOIL AMENDMENTS, SEED MIXTURES AND MULCHING INFORMATION

- 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 25% 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 #6-1**  
**VEGETATED CHANNEL**  
NOT TO SCALE



- TRENCH NOTES**
- IF UNSUITABLE SUBSOIL IS ENCOUNTERED AT THE NORMAL TRENCH SUBGRADE, THE CONTRACTOR SHALL REMOVE IT TO THE DEPTH DIRECTED BY THE ENGINEER IN THE FIELD, AND BACKFILL W/ CLASS A BEDDING IN 4" LAYERS.
  - BOTTOM OF TRENCH SHALL BE FREE OF WATER PRIOR TO WATER MAIN INSTALLATION.
  - IF VIBRATORY COMPACTION EQUIPMENT IS USED BACKFILL MAY BE IN 8" LAYERS.
  - PROVIDE 4" OF TOPSOIL WHERE SEEDING IS REQUIRED. SEE NOTE 6 AT GRAVEL DRIVEWAYS.
  - CONTRACTOR SHALL SHORE THE TRENCH IN ACCORDANCE WITH OSHA REGULATIONS.
  - GRAVEL AND PAVED DRIVEWAYS TO BE RESTORED IN KIND.
  - COMPACT BACKFILL IN TRENCHES INSIDE TOWNSHIP ROW PER TOWNSHIP REQUIREMENTS.
  - ALL PAVING RESTORATION TO BE IN ACCORDANCE WITH NORTH LEBANON TOWNSHIP REQUIREMENTS.
  - PERMANENT RESTORATION IS REQUIRED WITHIN 90 DAYS (OR AS SOON AS POSSIBLE IF TRENCH IS INITIALLY RESTORED BETWEEN OCTOBER 30 AND APRIL 1).



**SOIL CHART:**

Map Unit Symbol	Map Unit Name	Acres	HSG	% of Disturbed Area	Depth (ft)	Hydro
CkA	Clarksburg Silt Loam	3.7	C	100.0%	60" - 99"	No
Me	Melvin Variant Silt Loam	2.2	BD	0.0%	46" - 99"	Yes

**REVISED MINOR SUBDIVISION PLAN**  
FOR  
**275 NARROWS DRIVE - TOWNHOUSES**  
NORTH LEBANON TOWNSHIP, LEBANON COUNTY, PA

DECEMBER 29, 2025

**LEBANON ENGINEERING**  
717-934-6513  
www.clarksburgenr.com

602 Cornwall Road, Lebanon, PA 17042

Grading & Utility Plan

MA 10-28-1

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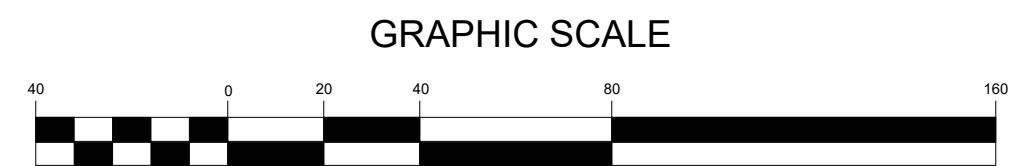
REVISION DATE

SHARED DRIVEWAY NOTES:  
 \*See the recorded "Permanent Shared Access Easement Agreement"

- GRANTOR and GRANTEE, and their heirs, executors, assigns, successors in title or interest, grantees, or transferees, shall bear in equal shares the reasonable cost of the proper maintenance of the driveway in its present condition, or any expanded or improved condition resulting from the Subdivision Plan for the Property, or in such improved condition as the parties hereto, and their heirs, executors, assigns, successors in title or interest, grantees, or transferees, may unanimously agree upon in writing, provided that the driveway shall always be maintained in a condition sufficient to permit its reasonable use for pedestrian and vehicular access.
- Either GRANTOR or GRANTEE, or their heirs, executors, assigns, successors in title or interest, grantees, or transferees, shall provide a minimum of thirty (30) days' advance written notice to the other party before commencing construction of any necessary repairs to the driveway, and the notifying party shall be entitled to reimbursement therefor from the other party or other party's share of the reasonable cost of such repairs as set forth in Section 3 of this Agreement.

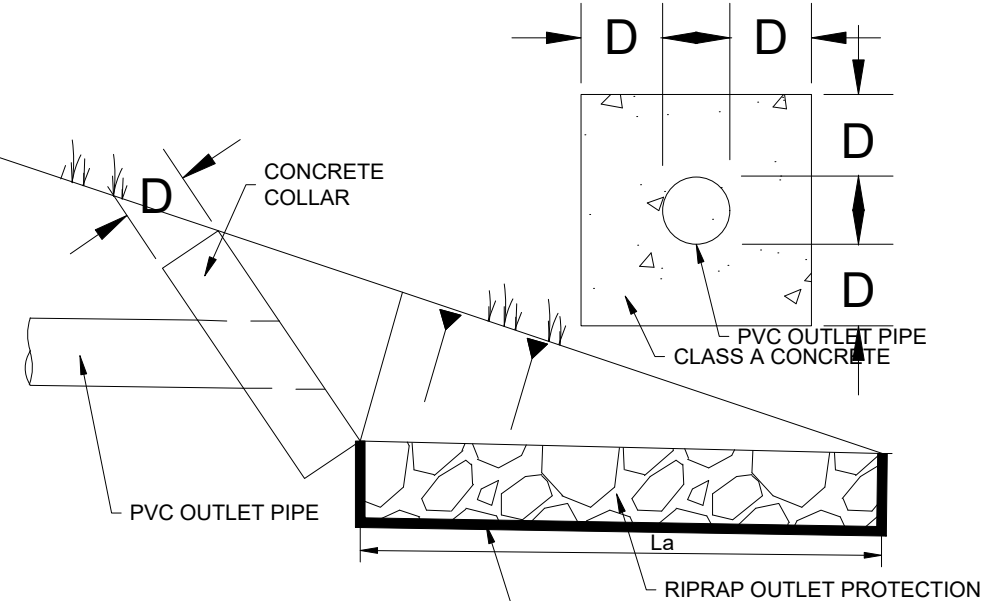


**PROPOSED STORMWATER EASEMENT PLAN**  
 1" = 40'



**LEGEND**

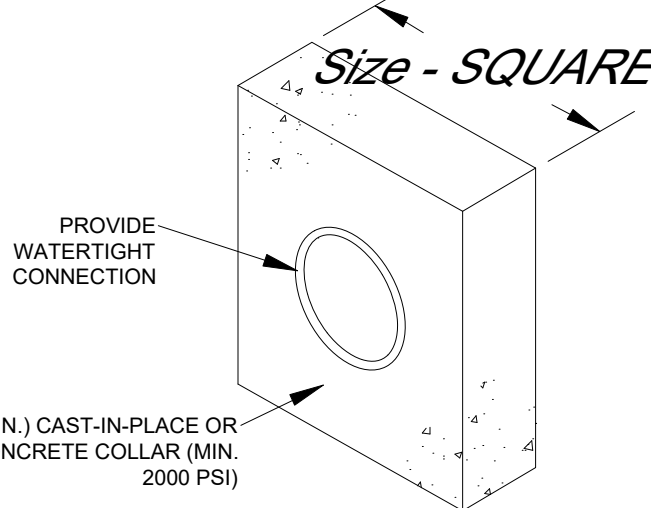
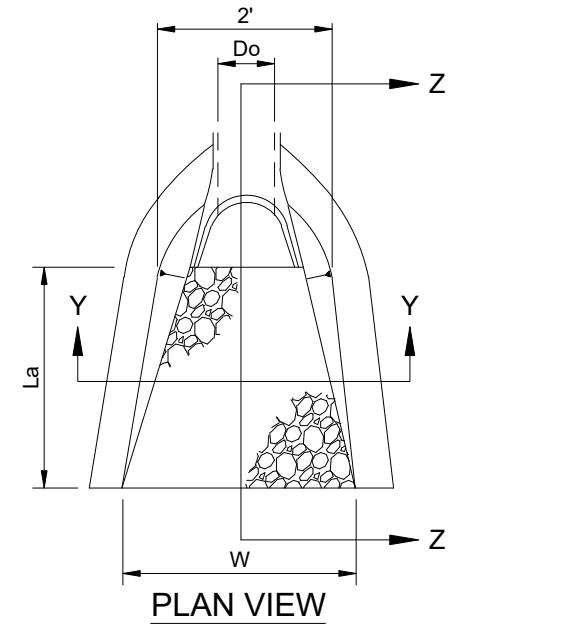
- EXISTING FEATURES
- EXISTING BOUNDARY LINE AND CORNERS
- PROPOSED FEATURES
- PROPOSED BOUNDARY LINE AND CORNERS
  - PROPOSED RIPRARIAN BUFFER EASEMENT
  - PROPOSED STORMWATER EASEMENT



OUTLET NO.	PIPE DIA. D <sub>o</sub> (in)	TAILWATER CONDITION	L <sub>s</sub> (ft)	W (ft)	Q (cfs)	RIPRAP (R-?)	DEPTH (ft)
RG A	6	Min	6	7.5	0.55	3	1

NOTE:  
 ALL APRONS SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EACH RUNOFF EVENT. DISPLACED RIPRAP WITHIN THE APRON SHALL BE REPLACED IMMEDIATELY.

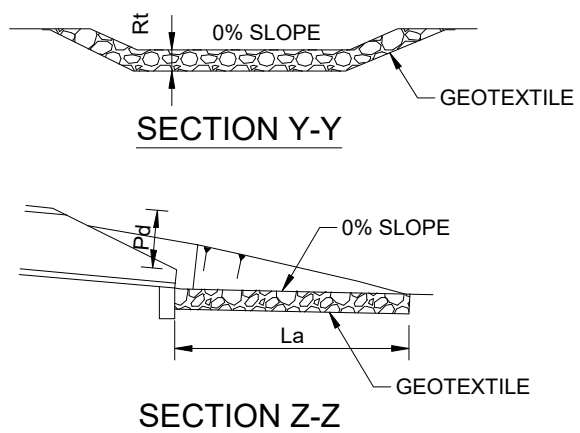
**CONCRETE COLLAR AND RIPRAP DETAIL**  
 NOT TO SCALE



Basin	y (ft)	z (ft)	S (ft/ft)	Ls (ft)	Lf (ft)
1	0.95	5.00	0.011	8.94	10.29
(6" Pipe)	Increase (ft)	Collar Projection (ft)	# of Collars	D (ft)	Size (ft)
	1.34	0.34	2	0.50	1.17

NOTES:  
 ALL COLLARS SHALL BE INSTALLED SO AS TO BE WATERTIGHT.  
 COLLAR SIZE AND SPACING SHALL BE AS INDICATED WITHIN TABLE.

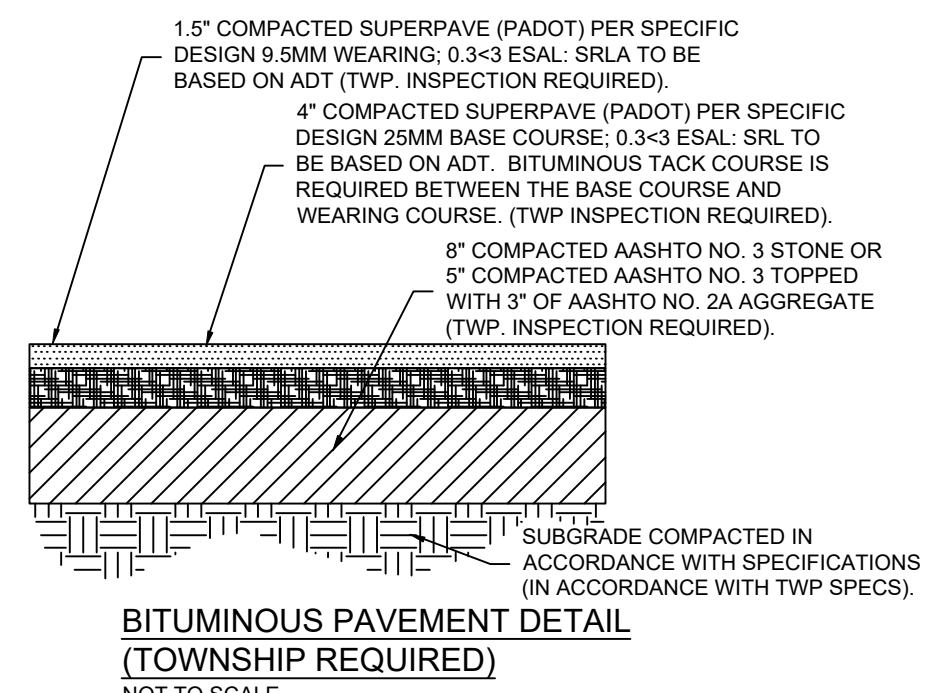
**STANDARD CONSTRUCTION DETAIL #7-1**  
 CONCRETE ANTI-SEEP COLLAR FOR PERMANENT BASINS OR TRAPS  
 NOT TO SCALE



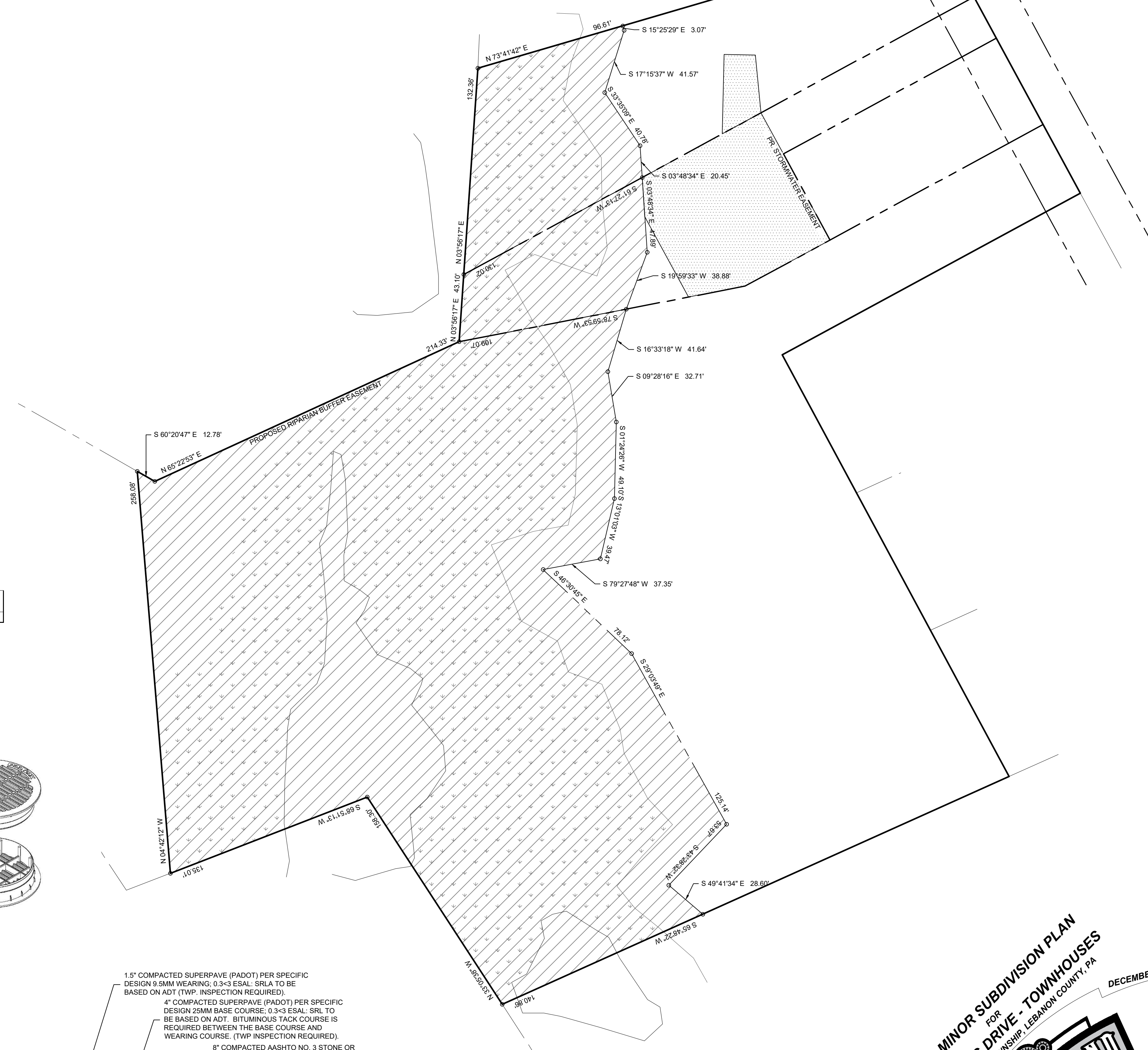
OUTLET NO.	PIPE DIA. D <sub>o</sub> (in)	TAILWATER CONDITION	L <sub>s</sub> (ft)	W (ft)	Q (cfs)	RIPRAP (R-?)	DEPTH (ft)
RG A	6	Min	6	7.5	0.55	3	1

NOTES:  
 ALL APRONS SHALL BE CONSTRUCTED TO THE DIMENSIONS SHOWN. TERMINAL WIDTHS SHALL BE ADJUSTED AS NECESSARY TO MATCH RECEIVING CHANNELS.  
 ALL APRONS SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EACH RUNOFF EVENT. DISPLACED RIPRAP WITHIN THE APRON SHALL BE REPLACED IMMEDIATELY.

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



**BITUMINOUS PAVEMENT DETAIL (TOWNSHIP REQUIRED)**  
 NOT TO SCALE



**PROPOSED RIPRARIAN BUFFER EASEMENT PLAN**  
 1" = 40'

REVISED MINOR SUBDIVISION PLAN  
 FOR  
 275 NARROWS DRIVE - TOWNHOUSES  
 NORTH LEBANON TOWNSHIP, LEBANON COUNTY, PA

DECEMBER 29, 2025

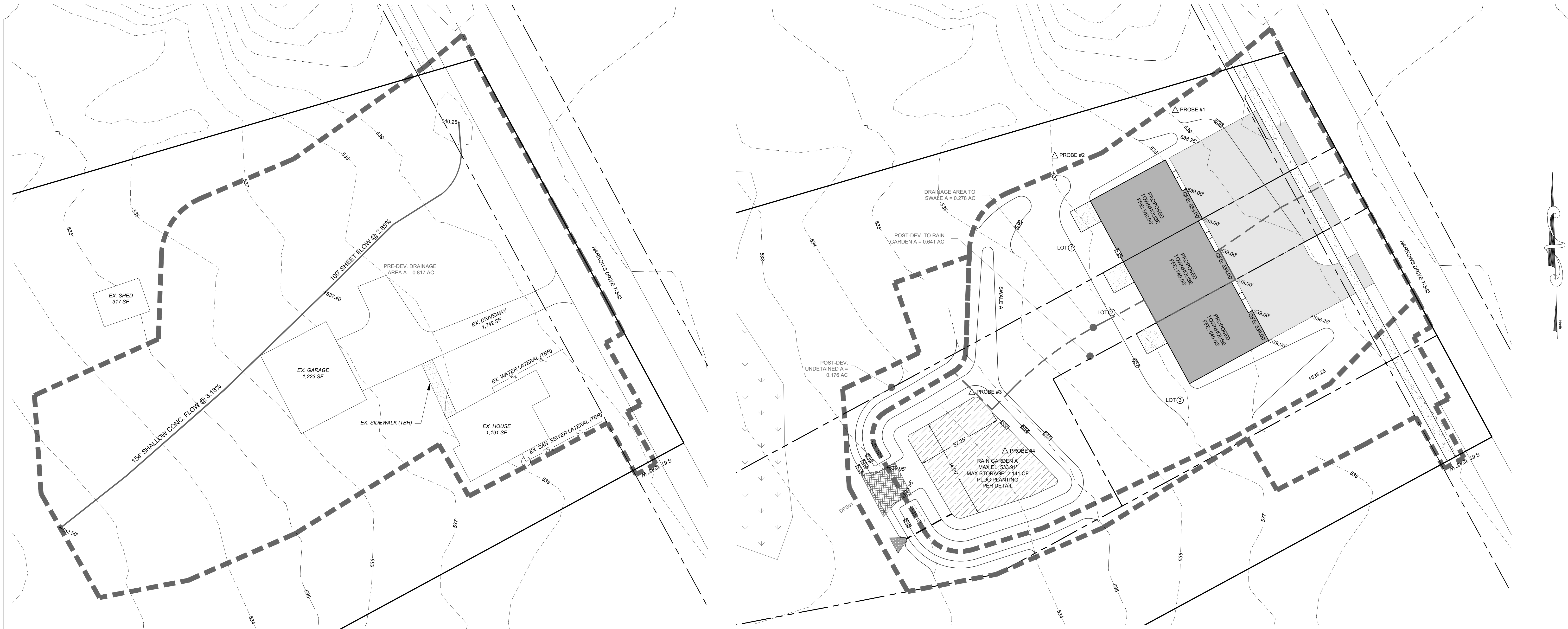
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 ENGINEERING  
 171-934-6513  
 892 Cornwall Road, Lebanon, PA 17042  
 www.cristalengineering.com

EASEMENT PLAN

5  
 OF 8

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PRE-DEVELOPMENT DRAINAGE PLAN

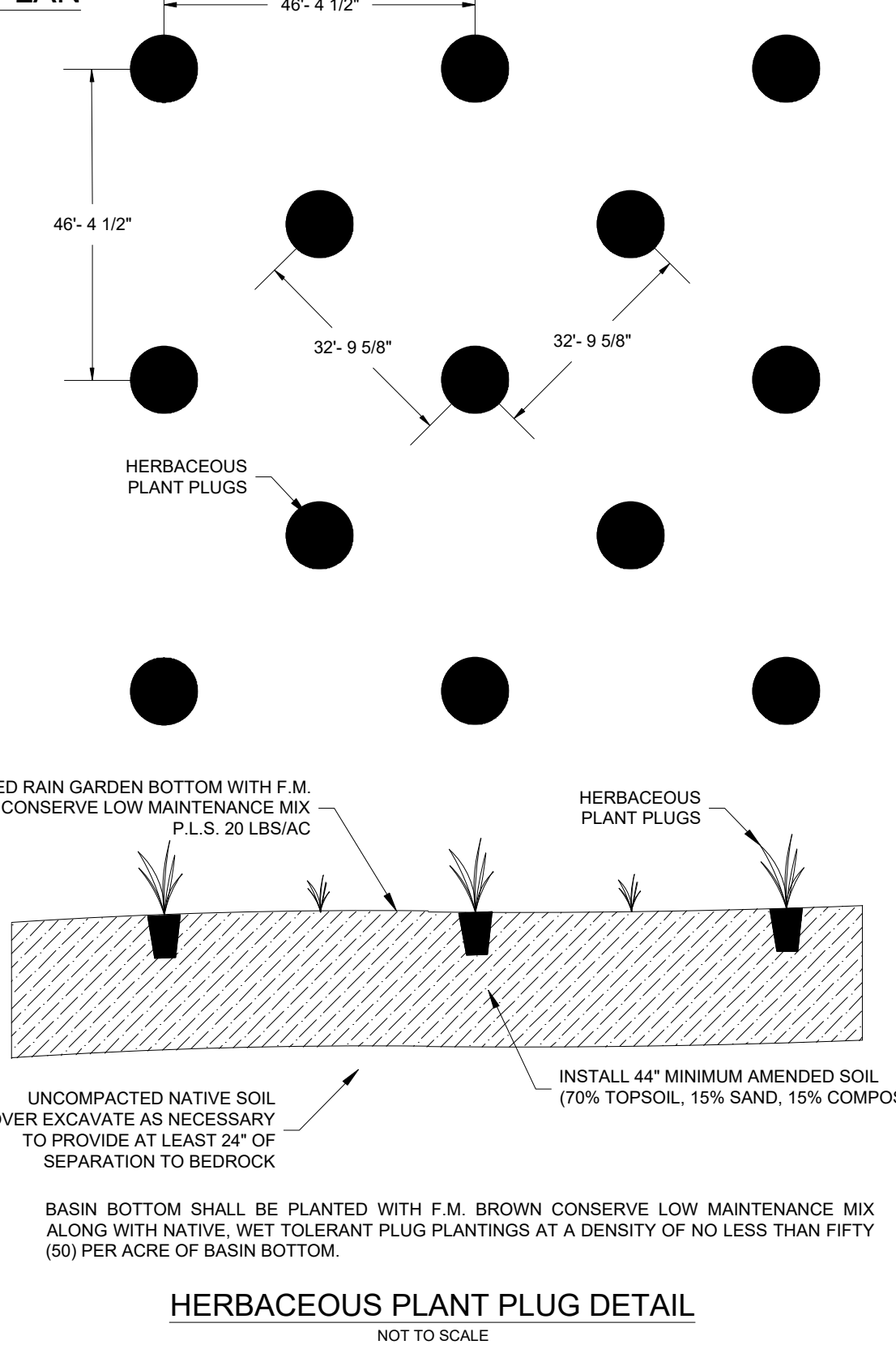
POST-DEVELOPMENT DRAINAGE PLAN



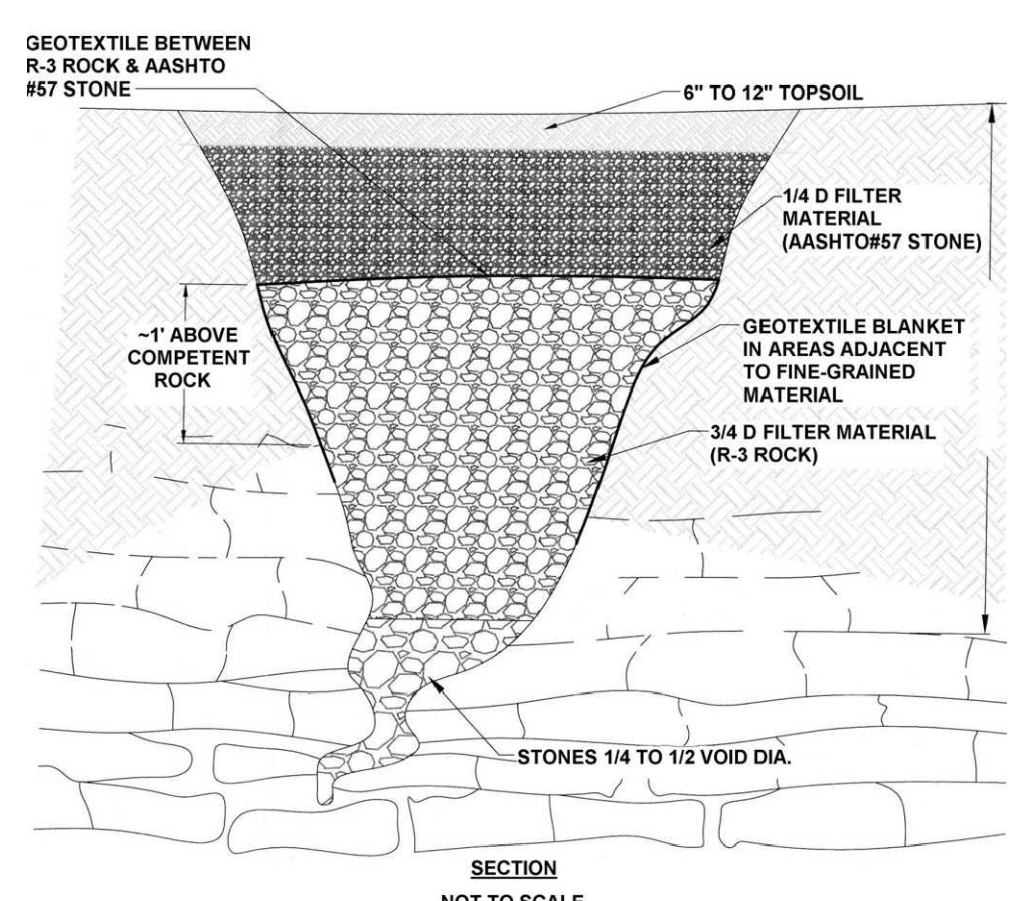
LEGEND

EXISTING FEATURES		PROPOSED FEATURES	
	EXISTING ADJOINER LINE		PROPOSED BUILDING SETBACK
	EXISTING BOUNDARY LINE AND CORNERS		PROPOSED BOUNDARY LINE AND CORNERS
	EXISTING EDGE OF PAVEMENT AND CURB LINE		PROPOSED EDGE OF PAVEMENT AND CURB LINE
	EXISTING RIGHT-OF-WAY		PROPOSED RIGHT-OF-WAY
	CLEAN OUT		PROPOSED FENCE
	MANHOLE		PROPOSED SEWER
	RIP-RAP		PROPOSED STORMWATER
	HEADWALL		PROPOSED DOMESTIC WATERLINE
	INLET		PROPOSED GASLINE
	ENDWALL		PROPOSED CONCRETE/SIDEWALK
	GATE VALVE		PROPOSED CONTOURS
	FIRE HYDRANT		PROPOSED TREELINE
	GAS VALVE		PROPOSED UTILITY POLE
			PROPOSED LIGHT POLE
			PROPOSED STANDARD PAVING
			PROPOSED AMENDED SOILS

SOIL CHART:						
Map Unit Symbol	Map Unit Name	Acres	HSG	% of Disturbed Area	Depth (ft)	Hydric
CKA	Clarksburg Silt Loam	3.7	C	100.0%	0' - 60"	No
Me	Melvin Variant Silt Loam	2.2	B/D	0.0%	48" - 99"	Yes



HERBACEOUS PLANT PLUG DETAIL  
NOT TO SCALE



SINKHOLE REPAIR DETAIL  
NOT TO SCALE

- NOTES:
- IF A SINKHOLE DEVELOPS, DUE TO THE VARIABLE NATURE OF SINKHOLES, IT SHOULD BE REPAIRED UNDER THE DIRECT OBSERVATION AND SUPERVISION OF A PROFESSIONAL GEOLOGIST OR LICENSED GEOTECHNICAL ENGINEER.
  - THE ABOVE DETAIL MAY BE MODIFIED AS DEEMED NECESSARY BY A PROFESSIONAL GEOLOGIST OR LICENSED GEOTECHNICAL ENGINEER.
  - LOOSE MATERIAL SHALL BE EXCAVATED FROM THE SINKHOLE AND EXPOSE SOLUTION VOID(S) IF POSSIBLE. ENLARGE SINKHOLE IF NECESSARY TO ALLOW FOR INSTALLATION OF FILTER MATERIALS. OSHA REGULATIONS MUST BE FOLLOWED AT ALL TIMES DURING EXCAVATION.
  - STONES USED FOR THE "BRIDGE" AND FILTERS SHALL HAVE A MODERATELY HARD ROCK STRENGTH AND BE RESISTANT TO ABRASION AND DEGRADATION. SHALE AND SIMILAR SOFT AND/OR NON-DURABLE ROCK ARE NOT ACCEPTABLE.

\*ALL SINKHOLE MITIGATION MEASURES SHALL BE APPROVED BY A QUALIFIED GEOLOGIST OR GEOTECHNICAL ENGINEER PRIOR TO THE IMPLEMENTATION OF A REPAIR\*

RAIN GARDENS

BIORETENTION IS A METHOD OF TREATING STORMWATER BY POOLING WATER ON THE SURFACE AND ALLOWING FILTERING AND SETTLING OF SUSPENDED SOLIDS AND SEDIMENT AT THE MULCH LAYER, PRIOR TO ENTERING THE PLANT/SOIL/MICROBE COMPLEX MEDIA FOR INFILTRATION AND POLLUTANT REMOVAL. BIORETENTION TECHNIQUES ARE USED TO ACCOMPLISH WATER QUALITY IMPROVEMENT AND WATER QUANTITY REDUCTION.

RAIN GARDENS ARE SHALLOW, IMPOUNDED AREAS DESIGNED TO TEMPORARILY STORE AND INFILTRATE STORMWATER RUNOFF. THE SIZE AND SHAPE CAN VARY FROM ONE LARGE BASIN TO MULTIPLE, SMALLER BASINS THROUGHOUT A SITE. IDEALLY, THE BASIN SHOULD AVOID DISTURBANCE OF EXISTING VEGETATION. IF DISTURBANCE IS UNAVOIDABLE, REPLANTING AND LANDSCAPING MAY BE NECESSARY AND SHOULD INTEGRATE THE EXISTING LANDSCAPE AS SUBTLY AS POSSIBLE AND COMPACTION OF THE SOIL MUST BE PREVENTED. INFILTRATION BASINS USE THE EXISTING SOIL MANTLE TO REDUCE THE VOLUME OF STORMWATER RUNOFF BY INFILTRATION AND EVAPOTRANSPIRATION. THE QUALITY OF THE RUNOFF IS ALSO IMPROVED BY THE NATURAL CLEANSING PROCESSES OF THE EXISTING SOIL MANTLE AND ALSO BY THE VEGETATION PLANTED IN THE BASINS.

CONSTRUCTION SEQUENCE

- PROTECT RAIN GARDEN AREA FROM COMPACTION PRIOR TO INSTALLATION.
- IF POSSIBLE, INSTALL INFILTRATION BASIN DURING LATER PHASES OF SITE CONSTRUCTION TO PREVENT SEDIMENTATION AND/OR DAMAGE FROM CONSTRUCTION ACTIVITY. AFTER INSTALLATION, PREVENT SEDIMENT LADEN WATER FROM ENTERING INLETS AND PIPES.
- INSTALL AND MAINTAIN PROPER EROSION AND SEDIMENT CONTROL MEASURES DURING CONSTRUCTION.
- IF NECESSARY, EXCAVATE RAIN GARDEN BOTTOM TO AN UNCOMPACTED SUBGRADE FREE FROM ROCKS AND DEBRIS. DO NOT COMPACT SUBGRADE.
- INSTALL OUTLET CONTROL STRUCTURES.
- SEED AND STABILIZE TOPSOIL (VEGETATE IF APPROPRIATE WITH NATIVE PLANTINGS.)
- DO NOT REMOVE INLET PROTECTION OR OTHER EROSION AND SEDIMENT CONTROL MEASURES UNTIL SITE IS FULLY STABILIZED.

MAINTENANCE ISSUES

- PROPERLY DESIGNED AND INSTALLED RETENTION AREAS REQUIRE SOME REGULAR MAINTENANCE:
- MAINTENANCE ACTIVITIES TO BE DONE ANNUALLY AND WITHIN 48 HOURS AFTER EVERY MAJOR STORM EVENT (> 1 INCH RAINFALL DEPTH):
- INSPECT AND CORRECT EROSION PROBLEMS, DAMAGE TO VEGETATION, AND SEDIMENT AND DEBRIS ACCUMULATION (ADDRESS WHEN > 3 INCHES AT ANY SPOT OR COVERING VEGETATION)
  - INSPECT VEGETATION ON SIDE SLOPES FOR EROSION AND FORMATION OF RILLS OR GULLIES, CORRECT AS NEEDED
  - MOW AND TRIM VEGETATION TO ENSURE SAFETY, AESTHETICS, PROPER RETENTION BASIN OPERATION, OR TO SUPPRESS WEEDS AND INVASIVE VEGETATION; DISPOSE OF CUTTINGS IN A LOCAL COMPOSTING FACILITY; MOW ONLY WHEN RETENTION BASIN IS DRY TO AVOID RUTTING
  - INSPECT FOR LITTER; REMOVE PRIOR TO MOWING
  - INSPECT RETENTION BASIN INLET (CURB CUTS, PIPES, ETC.) AND OUTLET FOR SIGNS OF EROSION OR BLOCKAGE, CORRECT AS NEEDED

MAINTENANCE ACTIVITIES TO BE DONE AS NEEDED:

- RE-PLANT SPECIFIED GRASS SPECIES IN THE EVENT OF UNSUCCESSFUL ESTABLISHMENT. INSTALL NAG S75 MATTING IN AREAS WHERE INITIAL GRASS ESTABLISHMENT WAS NOT SUCCESSFUL
- RESEED BARE AREAS; INSTALL APPROPRIATE EROSION CONTROL MEASURES WHEN NATIVE SOIL IS EXPOSED OR EROSION CHANNELS ARE FORMING.
- ROTOTILL AND REPLANT RAIN GARDEN/BIORETENTION IF DRAW DOWN TIME IS MORE THAN 72 HOURS.
- WATER DURING DRY PERIODS, FERTILIZE, AND APPLY PESTICIDE ONLY WHEN ABSOLUTELY NECESSARY.

REVISED MINOR SUBDIVISION PLAN  
FOR  
275 NARROWS DRIVE - TOWNHOUSES  
NORTH LEBANON TOWNSHIP, LEBANON COUNTY, PA

DECEMBER 29, 2025

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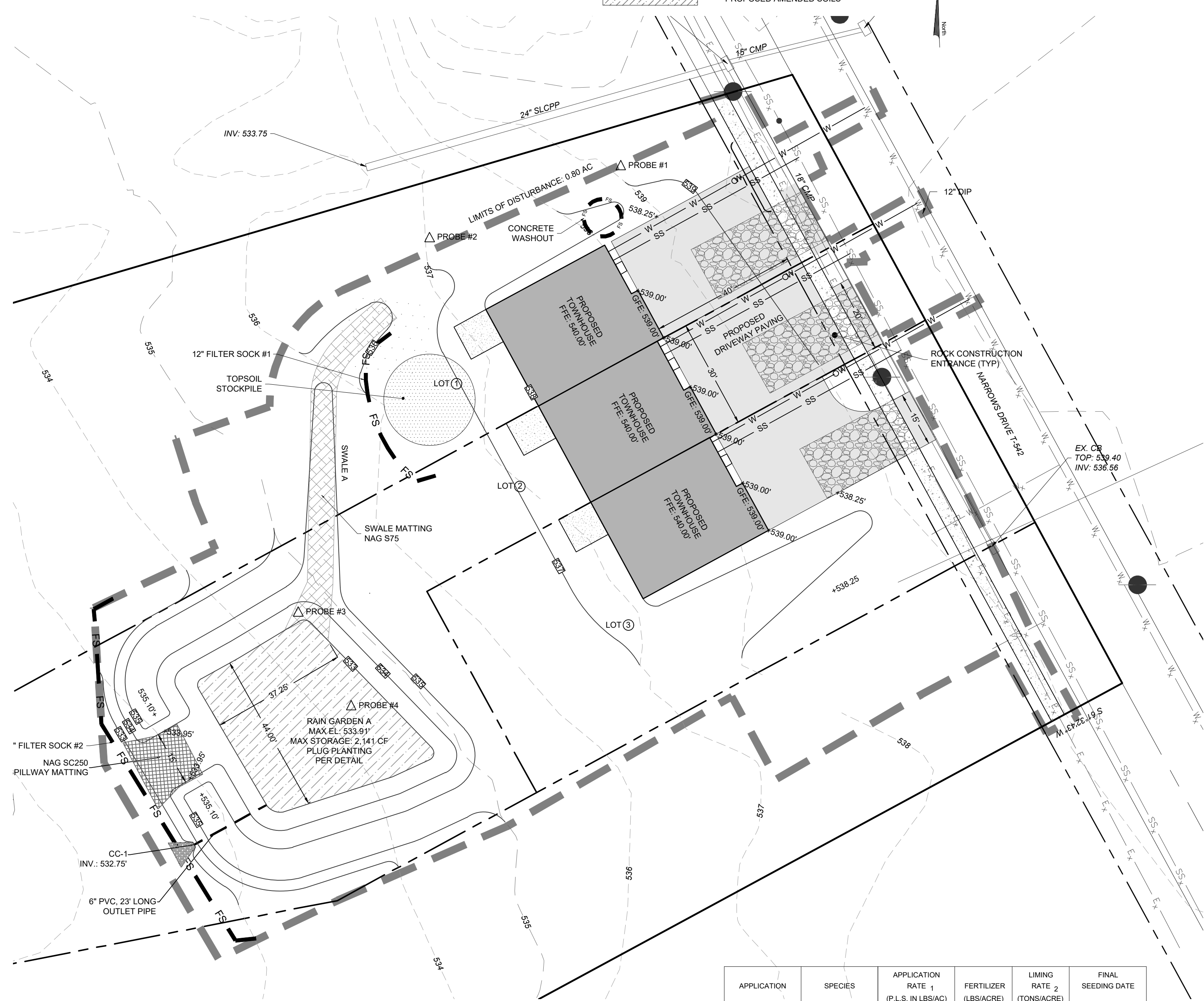
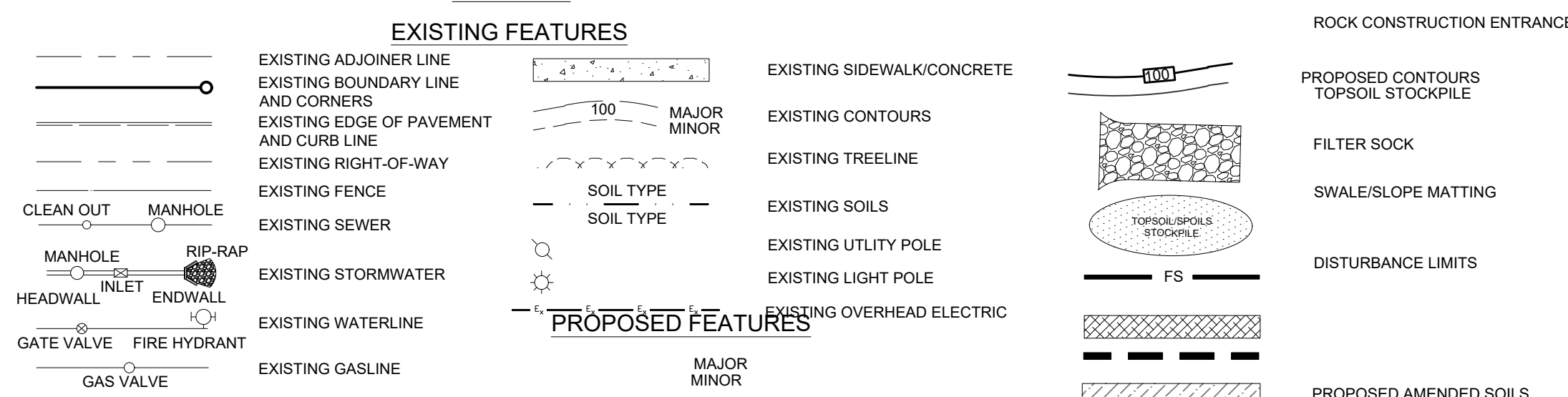
Pre & Post Development  
Drainage Plan

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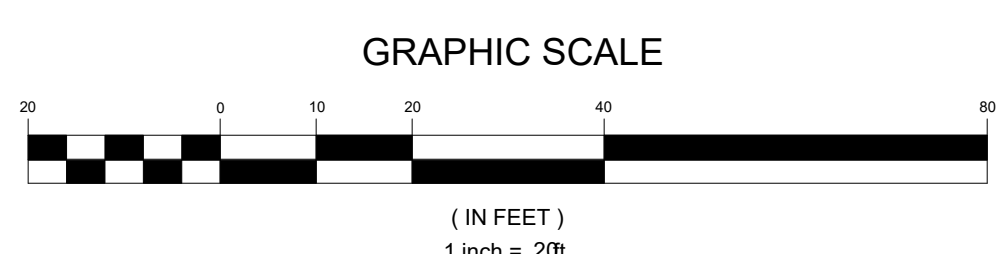
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BY DATE REVISION

**LEGEND**



**EROSION & SEDIMENT POLLUTION CONTROL PLAN**  
1" = 20'



**SOIL CHART:**

Map Unit Symbol	Map Unit Name	Acres	HSG	% of Disturbed Area	Depth (ft)	Hydric
CHA	Clarkburg Silt Loam	3.7	C	100.0%	60" - 99"	No
Me	Melvin Variant Silt Loam	2.2	B/D	0.0%	48" - 99"	Yes

APPLICATION	SPECIES	APPLICATION RATE 1 (P.L.S. IN LBS/AC)	FERTILIZER (LBS/ACRE)	LIMING RATE 2 (TONS/ACRE)	FINAL SEEDING DATE
TEMPORARY	ANNUAL RYE	174	50-50-50 N-P-K	1 AG GRADE	OCTOBER 30
PERMANENT	FINE FESCUES	60			
	KENTUCKY BLUEGRASS PERENNIAL RYEGRASS	90	100-200-200 N-P-K	6 AG GRADE	AUGUST 30 AND OCTOBER 30
ATHLETIC FIELDS	KENTUCKY BLUEGRASS PERENNIAL RYEGRASS	150	100-200-200 N-P-K	6 AG GRADE	AUGUST 30 AND OCTOBER 30
RIPARIAN BUFFER	ERNST MIX ERNMX-178	20	100-200-200 N-P-K	6 AG GRADE	AUGUST 30 AND OCTOBER 30
STEEP SLOPES					
NURSE CROP	ANNUAL RYE	64	50-50-50 N-P-K	1 TON/AC AG GRADE*	OCT. 15
PERMANENT	BIRDSFOOT TREFLOIL PLUS	10			
	CROWN VETCH PLUS PLUS TALL FESCUE	20	100-200-200 N-P-K	1 TON/AC AG GRADE*	MARCH 15 AND OCT. 15

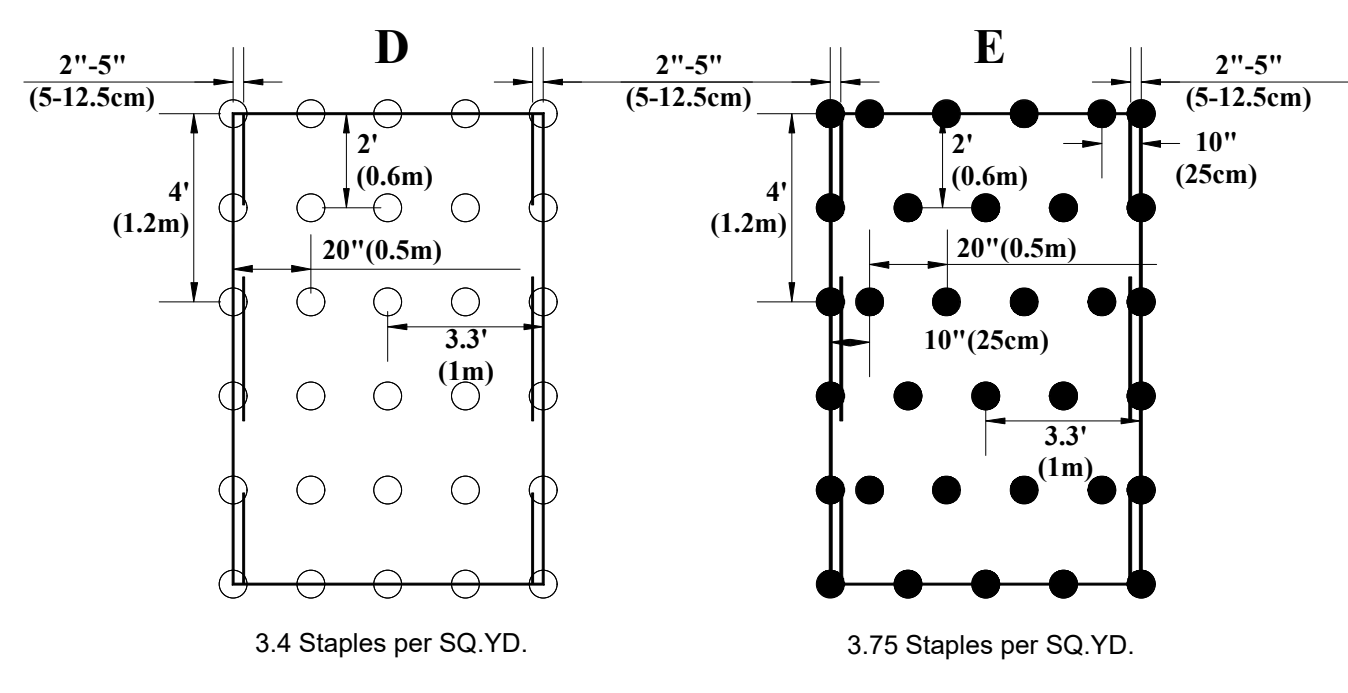
1. PLS IS PURE LIVE SEED. PLS IS THE PRODUCT OF THE PERCENTAGE OF PURE SEED TIMES PERCENTAGE GERMINATION DIVIDED BY 100. TO SECURE THE ACTUAL PLANTING RATE, DIVIDE THE POUNDS PLS BY THE PLS PERCENTAGE SHOWN ON THE SEED TAG OR AS PREVIOUSLY DISCUSSED. THUS, IF THE PLS CONTENT OF FINE FESCUES IS 50%, DIVIDE 7 PLS BY 0.50 TO OBTAIN 140 POUNDS OF SEED PER ACRE.

2. LIMING RATE SHALL BE IN ACCORDANCE WITH SOIL TEST RESULTS. APPLY 6 TONS OF AGRICULTURAL GRADE LIMESTONE/AC OF LAND DISTURBED BY DIVERSIONS AND DAMS.

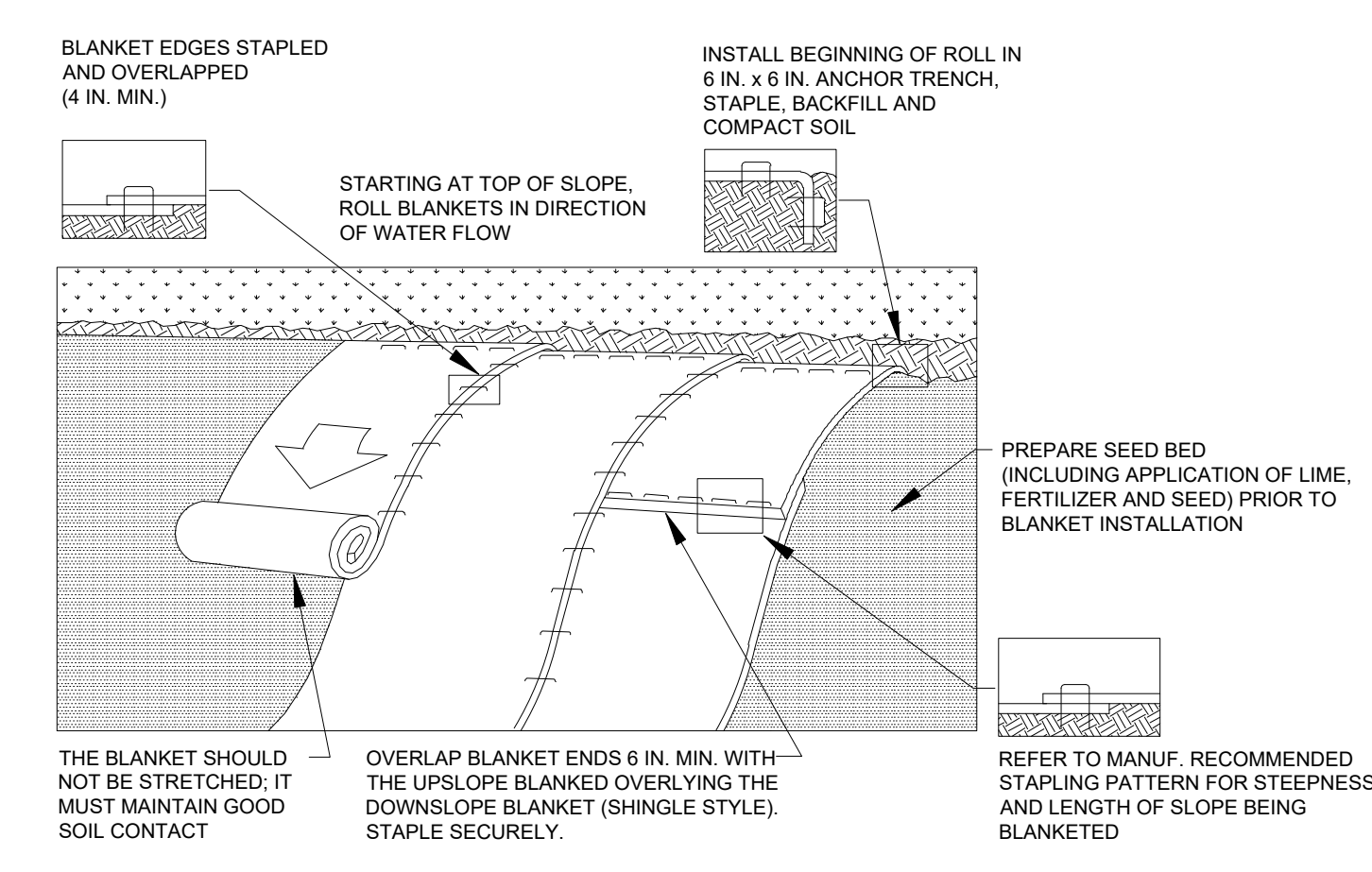
\* ALL SEEDED AREAS SHALL BE MULCHED WITH STRAW APPLIED AT A RATE OF 3 TONS/ACRE. MULCH TO BE ANCHORED WITH WOOD CELLULOSE FIBER @ 750 LBS/AC.

- ALL DIVERSIONS, CHANNELS, SED TRAPS AND STOCKPILES MUST BE STABILIZED IMMEDIATELY.

**SEEDING & FERTILIZER SPECIFICATIONS**  
NOT TO SCALE



**STAPLE PATTERN FOR TRM LINING**



**NOTES:**

SEED AND SOIL AMENDMENTS SHALL BE APPLIED ACCORDING TO THE RATES IN THE PLAN DRAWINGS PRIOR TO INSTALLING THE BLANKET.

PROVIDE ANCHOR TRENCH AT TOE OF SLOPE IN SIMILAR FASHION AS AT TOP OF SLOPE.

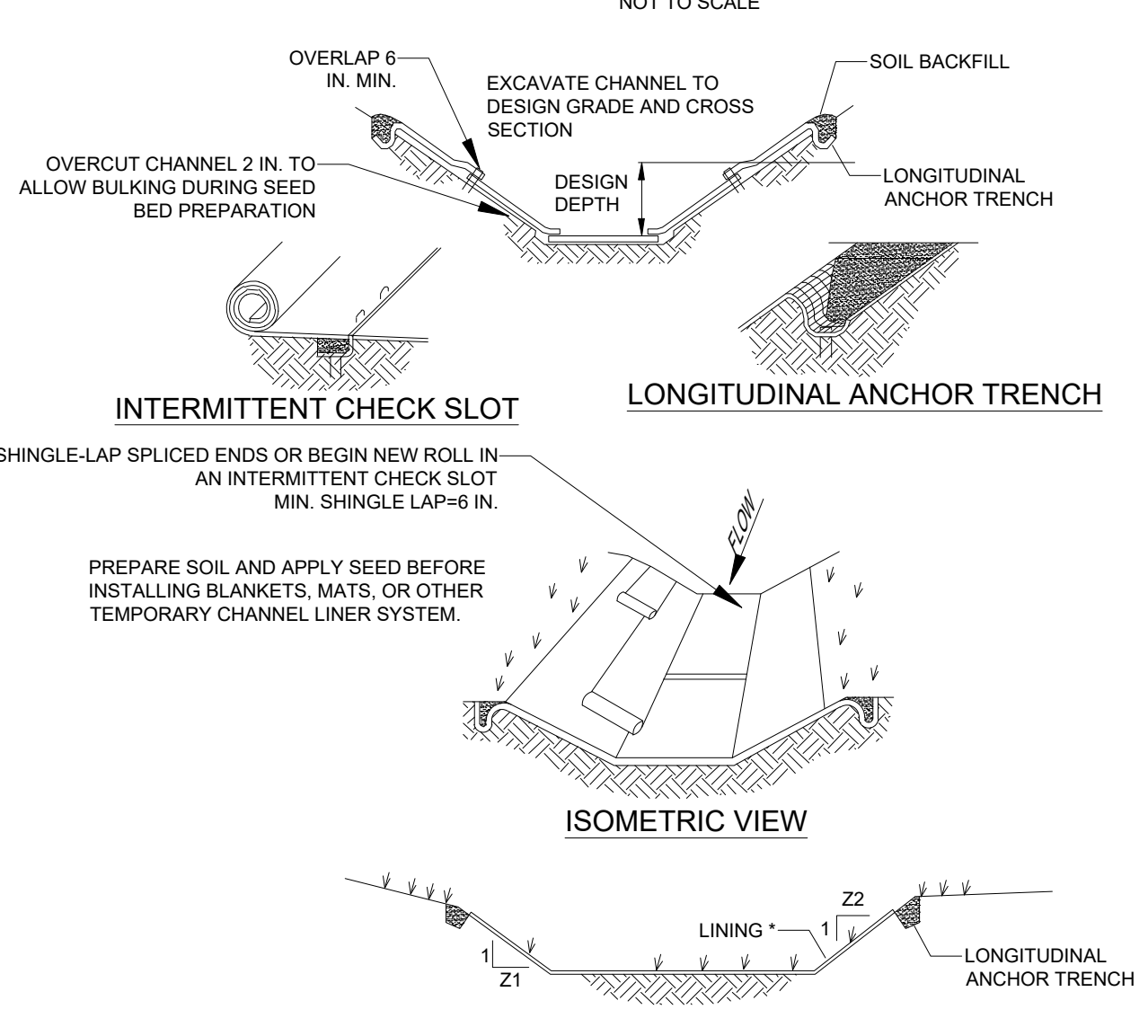
SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS, AND GRASS.

BLANKET SHALL HAVE GOOD CONTINUOUS CONTACT WITH UNDERLYING SOIL THROUGHOUT ENTIRE LENGTH. LAY BLANKET LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH SOIL. DO NOT STRETCH BLANKET.

THE BLANKET SHALL BE STAPLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

BLANKETED AREAS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT UNTIL PERENNIAL VEGETATION IS ESTABLISHED TO A MINIMUM UNIFORM 70% COVERAGE THROUGHOUT THE BLANKETED AREA. DAMAGED OR DISPLACED BLANKETS SHALL BE RESTORED OR REPLACED WITHIN 4 CALENDAR DAYS.

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



\* SEE MANUFACTURER'S LINING INSTALLATION DETAIL FOR STAPLE PATTERNS, VEGETATIVE STABILIZATION FOR SOIL AMENDMENTS, SEED MIXTURES AND MULCHING INFORMATION

CHANNEL	STATIONS	B (ft)	D (ft)	Z <sub>1</sub>	Z <sub>2</sub>	LINING	Staple Pattern
A	All	2	1	3	3	Grass/N.A.G. S75	D

**NOTES:**

ANCHOR TRENCHES SHALL BE INSTALLED AT BEGINNING AND END OF CHANNEL IN THE SAME MANNER AS LONGITUDINAL ANCHOR TRENCHES.

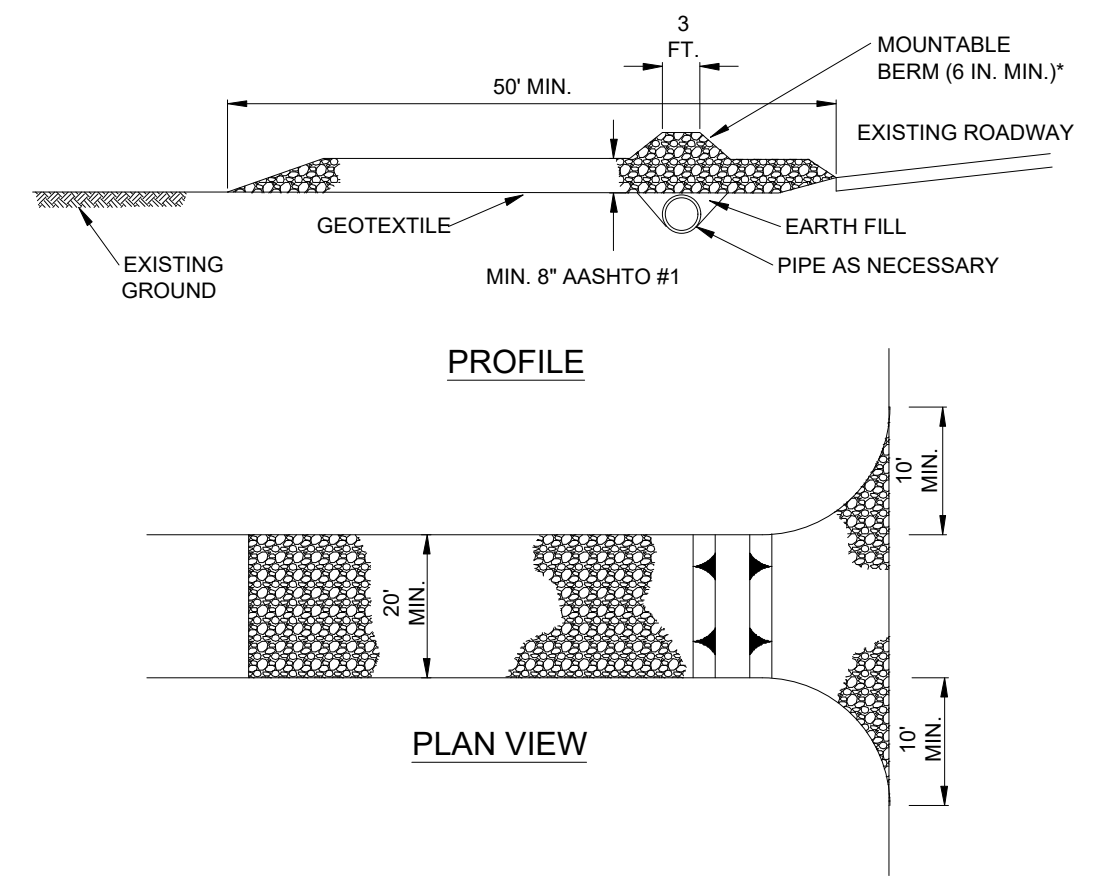
CHANNEL DIMENSIONS SHALL BE CONSTANTLY MAINTAINED. CHANNEL SHALL BE CLEANED WHENEVER TOTAL CHANNEL DEPTH IS REDUCED BY 25% AT ANY LOCATION.

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 #6-1**  
**VEGETATED CHANNEL**  
NOT TO SCALE

- STANDARD E&S PLAN NOTES**
- A LOGICAL CONSTRUCTION SEQUENCE SHALL BE DEVELOPED THAT INCLUDES THE INSTALLATION OF E&SPC FACILITIES, AND BEST MANAGEMENT PRACTICES (BMPs), BEFORE EARTHMOVING MAY COMMENCE.
  - E&SPC FACILITIES AND BMPs SHALL BE CORRECTLY INSTALLED AND MAINTAINED. MAINTENANCE INFORMATION AND CONSTRUCTION DETAILS MAY BE OBTAINED FROM THE LEBANON COUNTY CONSERVATION DISTRICT.
  - EARTH DISTURBANCE SHALL TAKE PLACE WITHIN A DEFINED LIMITS OF DISTURBANCE AND IMMEDIATELY PRIOR TO CONSTRUCTION.
  - DEVELOPMENT PLANS SHALL PRESERVE SALIENT NATURAL FEATURES, MINIMIZE LAND CUTS AND FILLS AND CONFORM TO THE GENERAL TOPOGRAPHY. PLANS SHALL BE DESIGNED AND IMPLEMENTED SO AS TO CREATE THE LEAST POTENTIAL FOR EROSION AND TO ADEQUATELY CONTAIN THE VOLUME AND REDUCE THE VELOCITY OF SURFACE WATER RUNOFF.
  - NATURAL VEGETATION SHALL BE RETAINED, PROTECTED, AND SUPPLEMENTED PRIOR TO AND DURING CONSTRUCTION.
  - TOPSOIL SHALL BE REMOVED FROM CONSTRUCTION AREAS AND STOCKPILED FOR FINAL GRADING AND SEEDBED PREPARATION. DOWNSLOPE AREAS OF ANY STOCKPILES, CONSTRUCTION OR BORROW AREAS SHALL BE PROTECTED WITH CORRECTLY INSTALLED AND MAINTAINED SILT FENCE, STRAW BALES, OR SEDIMENT TRAPS PRIOR TO ANY EARTH DISTURBANCE IN ORDER TO MINIMIZE SEDIMENT LOAD RUNOFF.
  - ALL CUTS AND FILLS SHALL BE BROUGHT TO FINAL GRADE EARLY IN THE CONSTRUCTION SEQUENCE AND STABILIZED IMMEDIATELY WITH SEED AND MULCH.
  - ONLY DRIVEWAY EXCAVATIONS THAT CAN BE STABILIZED WITH A CRUSHED STONE BASE THE SAME DAY SHALL BE COMPLETED.
  - CURRENT REGULATIONS STATE: (A) UPON COMPLETION OF AN EARTH DISTURBANCE ACTIVITY OR ANY STAGE OR PHASE OF AN ACTIVITY, THE SITE SHALL BE IMMEDIATELY SEEDED, MULCHED, OR OTHERWISE PROTECTED FROM ACCELERATED EROSION AND SEDIMENTATION. (B) EROSION AND SEDIMENT CONTROL BMPs SHALL BE IMPLEMENTED AND MAINTAINED UNTIL THE PERMANENT STABILIZATION IS COMPLETED. (C) FOR AN EARTH DISTURBANCE ACTIVITY OR ANY STAGE OR PHASE OF AN ACTIVITY TO BE CONSIDERED PERMANENTLY STABILIZED, THE DISTURBED AREAS SHALL BE COVERED WITH ONE OF THE FOLLOWING: (1) A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER, WITH A DENSITY CAPABLE OF RESISTING ACCELERATED EROSION AND SEDIMENTATION. (2) AN ACCEPTABLE BMP WHICH PERMANENTLY MINIMIZES ACCELERATED EROSION AND SEDIMENTATION.
  - THE PENN STATE EROSION CONTROL & CONSERVATION PLANTINGS ON NONCROPLAND GUIDE OR AGRONOMY GUIDE SHALL BE CONSULTED FOR PERMANENT AND TEMPORARY SEEDING AND MULCHING TYPES AND RATES. (STRAW MULCH SHALL BE APPLIED AT A RATE OF AT LEAST 3 TONS PER ACRE OR 5 BALES PER 1000 SQUARE FEET. SLOPES STEEPER THAN 3:1 SHALL BE CORRECTLY LINED WITH APPROPRIATE TURF REINFORCEMENT MATTING.) OTHER HELPFUL PUBLICATIONS INCLUDE: TURFGRASS ESTABLISHMENT (SPECIAL CIRCULAR 163), TURFGRASS SEED AND SEED MIXTURES (EXTENSION CIRCULAR 391), AND PRINCIPLES OF TURFGRASS IRRIGATION (SPECIAL CIRCULAR 168). THE PUBLICATIONS REFERENCED ARE AVAILABLE FROM THE PENN STATE EXTENSION OFFICE.
  - ALL RECYCLING AND DISPOSAL OF CONSTRUCTION WASTE SHALL BE IN ACCORDANCE WITH LOCAL AND STATE RULES AND REGULATIONS FOR WASTE MANAGEMENT. CONSTRUCTION WASTE INCLUDES BUT IS NOT LIMITED TO: EXCESS SOIL AND ROCK, BUILDING MATERIALS, CONCRETE AND CONCRETE WASH WATER, SANITARY WASTE AND ANY OTHER MATERIALS THAT COULD ADVERSELY IMPACT SURFACE OR GROUND WATER QUALITY.



\* MOUNTABLE BERM USED TO PROVIDE PROPER COVER FOR PIPE

**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. EXTEND LENGTH OF ROCK CONSTRUCTION ENTRANCE BY 50 FOOT INCREMENTS UNTIL CONDITION IS ALLEVIATED OR INSTALL WASH RACK, WASHING THE ROADWAY OR SWEEPING THE DEPOSITS INTO ROADWAY DITCHES, SEWERS, CULVERTS, OR OTHER DRAINAGE COURSES IS NOT ACCEPTABLE.

PUBLIC STREET SWEEPING WITH A VACUUM SWEEPER AND ROLLING OF DIRT AND GRAVEL ROADS TO BE COMPLETED AT THE END OF EACH WORK DAY (OR MORE FREQUENTLY AS NEEDED). TIRES SHALL BE MANUALLY CLEANED PRIOR TO SITE EGRESS.

**STANDARD CONSTRUCTION DETAIL #3-1**  
**ROCK CONSTRUCTION ENTRANCE**  
NOT TO SCALE

REVISED MINOR SUBDIVISION PLAN FOR 275 NARROW DRIVE - TOWNHOUSES NORTH LEBANON TOWNSHIP LEBANON COUNTY, PA

DECEMBER 29, 2025

MA 10.28-1

**CRISTAL ENGINEERING**  
177-934-6513  
692 Cornwall Road, Lebanon, PA 17042  
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Erosion & Sediment Pollution Control Plan

**ESI**  
OF 8

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BY DATE

REVISION

**EROSION AND SEDIMENT POLLUTION CONTROL NARRATIVE**  
Revised Minor Subdivision Plan for 275 Narrows Drive - Townhouses  
North Lebanon Township, Lebanon County, PA 17046

**A. SITE LOCATION**

The site is located on 275 Narrows Dr, Lebanon, PA 17046, North Lebanon Township, Lebanon County, PA (UPI# 27-2350955-376888) (See USGS Map).

**B. PROJECT DESCRIPTION**

The purpose of the project is to subdivide three lots, construct three single-family townhouses, driveways, utilities, and stormwater management facilities. The site is located in North Lebanon Township, Lebanon County, PA (See Site Plan). The disturbance area is 0.80 acres.

**C. EXISTING SITE CONDITIONS & DOWNSTREAM DRAINAGE PATH**

The deeded acreage for 275 Narrows Drive is 5.33 acres. The site currently contains a single family dwelling, garage, impervious driveway, and fallowed field which is zoned R-1 Low Density Residential. Residential spread started in approximately 1950 and continues to be residential currently according to research done on Pennsylvania Imagery Navigator (PASDS). The site slopes southwest toward an un-named lake within the Tulpehocken Creek Watershed. The Chapter 93 designation of the Tulpehocken Creek is Cold Water Fishes (CWF).

Non Attaining Streams Assessments  
GNIS Name: Tulpehocken Creek  
Assessed Use: Recreational  
Attain Use: Impaired  
Source Cause: Source Unknown - Pathogens  
Attained: N

Non Attaining Streams Assessments  
GNIS Name: Tulpehocken Creek  
Assessed Use: Aquatic Life  
Attain Use: Impaired  
Source Cause: Agriculture - Siltation; Urban Runoff/Storm Sewers - Siltation  
Attained: N

TMDL Streams Assessments  
TMDL Name: Quittapahilla Creek Watershed  
Status Final: Y  
Cause: Algae; Biochemical Oxygen Demand (BOD); Chlorophyll-A; Dissolved Oxygen; Eutrophication; Nutrients; Organic Enrichment; Phosphorus; Siltation; Total Suspended Solids (TSS); Turbidity

**D. SOIL LIMITATIONS AND RESOLUTIONS**

The following soils are found within or adjacent to the area disturbed by earth moving activities.

**SOIL CHART:**

Map Unit Symbol	Map Unit Name	Acres	HSG	% of Disturbed Area	Depth (ft)	Hydric
CA	Clarksburg Silt Loam	3.7	C	100.0%	60" - 99"	No
Me	Melvin Variant Silt Loam	2.2	B/D	0.0%	48" - 99"	Yes

Few soil limitations exist for the proposed project. The Web Soil Survey indicates lawns and landscaping establishment limitations classified as Somewhat limited for CIA due to dust and depth to saturated zone. Limitations classified Me as Very limited due to flooding, depth to saturated zone, low exchange capacity, dusty, and ponding. This potential limitation should not be a problem since the project site is currently open lawn.

The Web Soil Survey indicated dwellings with basements limitations classified CA as very limited due to depth to saturated zone and shrink-swell. Limitations classified Me as very limited due to flooding and depth to saturated zone and ponding.

The Soil Rutting Hazard limitation for both Me and CA is classified as severe due to low strength. Standard construction practices will be utilized to avoid excessive rutting and erosion associated with rutting will be controlled with standard erosion and sediment pollution controls.

**E. CALCULATIONS**

Temporary and permanent erosion control facilities were designed in accordance with the standards established in the Erosion and Sediment Pollution Control Manual (PA DEP Bureau of Soil and Water Conservation, March 2012).

**F. STAGING OF EARTHMOVING**

All earth disturbance activities shall proceed in accordance with the sequence provided on the plan drawings. **Deviation from that sequence must be approved by the Lebanon County Conservation District or by the Department prior to implementation. Each step of the sequence shall be completed before proceeding to the next step, except where noted.**

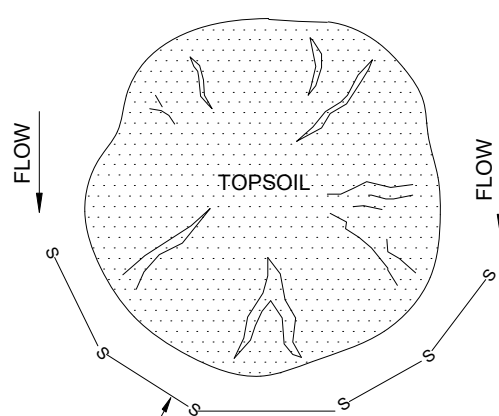
Construction of the site improvements is expected to begin late spring of 2026. Construction will proceed in a timely manner in order to limit the potential for accelerated erosion and sedimentation. If the controls shown on the plan are incapable of addressing the erosion and sediment control problems on the lot, the owner/developer shall be responsible for adapting adequate alternative measures.

The construction sequence for development of the project shall be as follows:

- At least 7 days prior to starting any earth disturbance activities (including clearing and grubbing), the owner and/or operator shall invite all contractors, the landowner, appropriate municipal officials, the E&S plan preparer, the PCSM plan preparer, and a representative from the Lebanon County Conservation District (717-277-5275) to an on-site preconstruction meeting.  
*Also, at least 3 days prior to starting any earth disturbance activities, or expanding into an area previously unmarked, the Pennsylvania One Call System Inc. shall be notified at 1-800-242-1776 for the location of existing underground utilities.*
- Install stabilized construction entrance(s). The base course shall be AASHTO #1 installed at a minimum of 15-ft wide and 50-ft long.
- Install filter sock at topsoil stockpile and other areas as indicated on the attached plan. Filter sock is to be installed along the contour at a level grade.  
Upon installation or stabilization of all perimeter sediment control BMPs, and at least 3 days prior to proceeding with the bulk earth disturbance activities, the permittee or co-permittee shall provide notification to the Department or authorized conservation district.
- Clear, grub, and strip areas as necessary to construct improvements. Excess topsoil shall be placed on the "Topsoil/Spill Stockpile" shown hereon. Immediately stabilize topsoil stockpile.
- Rough grade site for installation of driveways, dwellings, and stormwater management facilities. Take care to avoid unnecessary compaction of the rain garden bottom. Excavation shall take place from outside the limits of infiltration facilities. If compaction occurs, the rain garden bottom shall be scarified to loosen the soils.
- Backfill and bring site to necessary grade for construction of the dwellings and driveways. Place stone base for dwellings and driveway as soon as practicable. Install utilities as needed, and complete associated grading.
- Excavate for rain garden and install NAG SC250 ECM spillway matting as noted on the detail. Take care to avoid unnecessary compaction of the rain garden bottom. Excavation shall take place from outside the limits of the rain garden. If compaction occurs, the rain garden bottom shall be scarified to loosen the soils.
- Install patios, install sidewalks, and pave driveways.
- Fine grade any remaining areas as shown on the grading plan. Spread 6-in of topsoil on freshly graded areas. Final passes during fine grading shall be made at right angles to the slopes. Prepare the remainder of the disturbed area for permanent stabilization. Seedbed shall be prepared in accordance with accepted practices. Seed mixture shall be applied in accordance with the manufacturer's rates and instructions.
- Mulch all remaining disturbed areas and seeded areas with hay or straw at a minimum rate of three (3) tons per acre (or mulch as a part of hydroseeding).
- Remove all temporary erosion and sediment controls once the site is completely stabilized (defined as a minimum uniform 70% perennial vegetative cover, with a density capable of resisting accelerated erosion and sedimentation in all areas tributary to the controls). All areas disturbed during this process shall be stabilized immediately through seeding and mulching.
- The operator shall remove from the site, recycle or dispose of all building materials and wastes in accordance with the Department's Solid Waste Management Regulations at 25 PA Code 260.1 et seq., 271.1 et seq., and 287.1 et seq. The contractor shall not illegally bury, dump, or discharge any building material or wastes on or off the site.

**G. TEMPORARY CONTROL MEASURES**

- Topsoil Stockpile**
  - A stockpile shall be used to contain all stripped topsoil in a limited area in order to keep disturbance to a minimum.
  - Stockpiles shall be stabilized immediately in accordance with the temporary seeding specification contained herein.
  - Stockpiles shall be located so that all swales can function as designed.
  - Stockpile heights must not exceed 35' in height. Side slopes shall be 2:1 or flatter.
- Filter Sock**
  - Filter sock shall be used to intercept sediment-laden runoff from small watersheds.
  - Filter sock must be installed at level grade.
  - Sediment must be removed when accumulations reach 1/2 the above ground height of sock.
  - All areas of concentrated flow and at all areas where the filter sock has been undercut due to excessive flows, rock filters shall be installed (see Temporary Control Measures, Item 3.)



- NOTE: FILTER SOCK
- A STOCKPILE SHALL BE USED TO CONTAIN ALL STRIPPED TOPSOIL IN A LIMITED AREA IN ORDER TO KEEP DISTURBANCE TO A MINIMUM.
  - STOCKPILES ARE TO BE STABILIZED IMMEDIATELY.
  - STOCKPILE HEIGHTS MUST NOT EXCEED 35 FEET.
  - STOCKPILE SLOPES MUST BE 2:1 OR FLATTER.
  - STOCKPILES SHALL BE LOCATED SO THAT ALL SWALES CAN FUNCTION AS DESIGNED.

**TOPSOIL STOCKPILE**

NO SCALE

**3. Rock Filter Outlets (Filter Sock Locations)**

- A gravel berm shall be provided where shown on the plan and at all locations of concentrated flows or where failures in the silt fence occur due to excessive sedimentation or concentrated flows.
- Rock filters shall be constructed of AASHTO #67 and R-4 stone in accordance with the specified dimensions on the detail.
- Rock filters will be removed when clogged with sediment. The stone shall be washed free of all sediment or new stone shall be used to rebuild the filter.

**4. Interim Stabilization**

- Temporary seeding and mulching shall be applied where indicated to provide interim stabilization to exposed areas.
- Temporary seeding/mulching shall be as applied as specified on the Seeding Schedule contained on the E&SPC Plan.
- Any disturbed area on which activity has ceased and which will remain exposed must be stabilized immediately. During non-germinating periods, mulch must be applied at the recommended rates. Disturbed areas that are not at finished grade and will be re-disturbed within 1 year may be stabilized in accordance with the temporary seeding specification contained herein. Disturbed areas that are at finished grade or will not be re-disturbed within 1 year must be stabilized in accordance with the permanent seeding specifications contained herein.

**5. Rock Construction Entrance**

- A stabilized pad of crushed stone (AASHTO #1) shall be located where construction traffic will be entering and leaving the site. The rock construction entrance is used to eliminate the tracking of flowing of sediment onto the existing cartway.

**H. PERMANENT CONTROL MEASURES**

**1. Permanent Grass or Legume Cover**

- All disturbed areas that are not paved shall be permanently stabilized with grass to minimize erosion. All swales shall be permanently seeded as required in accordance with the seeding specification shown on the attached E&SPC Plan.
- Permanent grass cover shall be applied as specified in accordance with the Seeding Schedule and Notes contained on the attached E&SPC Plan.

**2. Mulch**

- Mulch shall be applied to all seeded areas to help establish a permanent grass cover and to prevent erosion on all areas permanently stabilized with seed.
- Mulch shall be applied at a rate of 3 tons per acre. Mulch shall be anchored with wood cellulose fiber at 750 lbs/acre.

**3. Sod**

- Sod shall be installed in areas where permanent stabilization with seed alone is difficult.
- Sod materials and installation shall meet the approval of the Lebanon County Conservation District.
- All permanent and temporary spillways are to be sodded to provide immediate erosion protection. Sod shall extend from the spillway to the top of the slope of the trap embankment.

**I. MAINTENANCE**

- The Applicant/His Designee shall be responsible for maintaining all facilities shown on this plan.
- Until the site is stabilized, all erosion and sedimentation must be maintained properly. Maintenance must include inspections of all erosion and sedimentation control after each runoff event and on a weekly basis. All preventative and remedial maintenance work, including clean-out, repair, replacement, regrading, reseeding, re-mulching, and re-netting, must be performed immediately.
- Stockpiles must be stabilized immediately.
- All sediment removed from sediment trapping devices shall be disposed within the site in a manner that will not cause erosion or sedimentation. All areas disturbed during this process will be mulched and permanently stabilized with seed.
- Any permanently seeded area that becomes eroded or disturbed shall have the topsoil replaced, the grass re-sown and mulch reapplied or, at the discretion of the owner, sod installed.
- Filter sock must be installed at level grade. Sediment must be removed when accumulations reach 1/2 the above ground height of the sock.
- Any sock section that has been undermined or topped must be immediately replaced with a rock filter outlet. See rock filter outlet detail.
- Stockpile heights must not exceed 35 feet. Stockpile slopes must be 2:1 or flatter.
- Any disturbed area on which activity has ceased and which will remain exposed must be stabilized immediately. During non-germinating periods, mulch must be applied at the recommended rates. Disturbed areas which are not at finished grade and which will be re-disturbed within one (1) year may be stabilized in accordance with temporary seeding specifications. Disturbed areas which are either at finished grade or will not be re-disturbed within one (1) year must be stabilized in accordance with permanent seeding specifications.
- After final site stabilization has been achieved (defined as a minimum uniform 70% perennial vegetative cover, with a density capable of resisting accelerated erosion and sedimentation in all areas tributary to the controls), temporary erosion and sedimentation controls must be removed. Areas disturbed during removal of the controls must be stabilized immediately.

**J. FILL MATERIALS**

If the site will need to have fill imported from an off-site location, the responsibility for performing environmental due diligence and the determination of clean fill will in most cases reside with the Operator. If the site will have excess fill that will need to be exported to an off-site location, the responsibility of clean fill determination and environmental due diligence rests on the applicant.

**K. CLEAN FILL**

Uncontaminated, non-water soluble, non-decomposable, inert, solid material. The term includes soil, rock, stone, dredged material, used asphalt, and brick, block, or concrete from construction and demolition activities that is separate from other waste and is recognizable as such. The term does not include materials placed in or on the waters of the Commonwealth unless otherwise authorized.

**L. CLEAN FILL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE**

Fill materials affected by a spill or release of a regulated substance still qualifies as a clean fill provided the testing reveals that the fill material contains concentrations of regulated substances that are below the residential limits in Tables FP-1a and FP-1b found in the Department's policy "Management of Fill."

**M. ENVIRONMENTAL DUE DILIGENCE**

Investigative techniques, including, but not limited to, visual property inspections, electronic data base searches, review of property ownership, review of property use history, Sanborn maps, environmental questionnaires, transaction screens, analytical testing, environmental assessments or audits.

**N. POTENTIAL POLLUTANT CAUSING MATERIALS**

The site consists of Melvin and Urban Land-Hagerstown Complex soils which have the potential to erode when disturbed. Standard erosion controls such as rock construction entrances, filter socks, rock filters, and temporary and final seeding will be utilized to minimize the potential for erosion.

**O. MINIMIZE THE EXTEND AND DURATION OF EARTH DISTURBANCE**

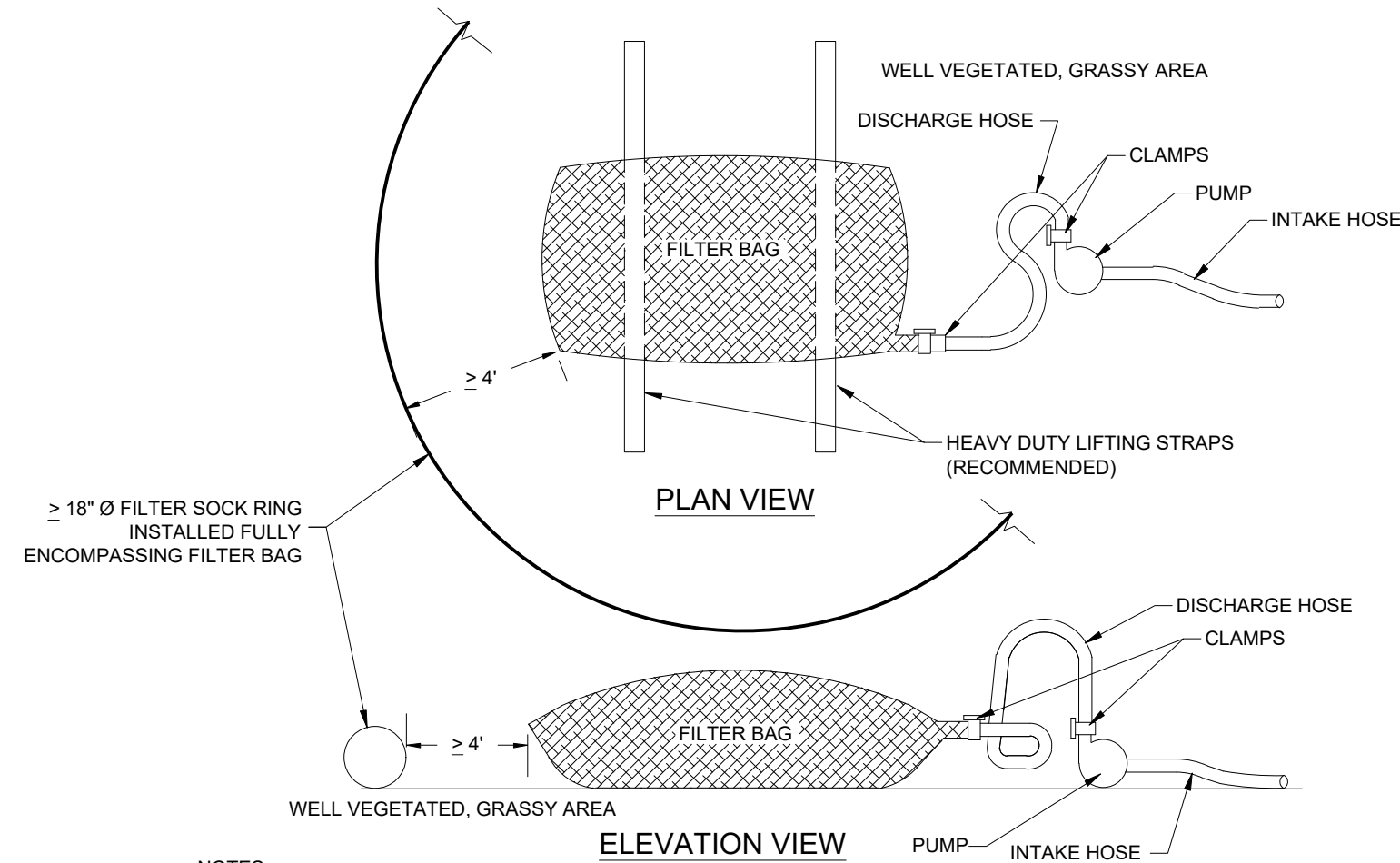
The construction sequence addresses the anticipated sequence of construction and provides provisions for interim stabilization and a periodic stabilization schedule to minimize the duration and extend of disturbance at any one time.

**P. E&S PLAN MINIMIZES SOIL COMPACTION**

The project will compact fill only as needed to provide the necessary structural stability. It is not anticipated there will be any unnecessary compaction by construction equipment since the project is limited in size and construction equipment will generally be concentrated in areas of proposed driveways immediately adjacent to the proposed structures. Topsoil will be placed in accordance with industry standards and will not be overly compacted. The topsoil placement and stabilization will be the last steps of the project with limited potential for unwarranted compaction.

**Q. E&S PLAN UTILIZES OTHER MEASURES OR CONTROLS THAT PREVENT OR MINIMIZE GENERATION OF INCREASED STORMWATER RUNOFF**

A stormwater management system is proposed to reduce peak rates of runoff and the volume of runoff. Disturbed areas will be restored to meadow/grass conditions similar to pre-development conditions.



**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:

PROPERTY	TEST METHOD	MINIMUM STANDARD
AVG. WIDE WIDTH STRENGTH	ASTM D-4884	60 LB/IN
GRAB TENSILE	ASTM D-4632	205 LB
PUNCTURE	ASTM D-4933	110 LB
MULLEN BURST	ASTM D-3786	350 PSI
UV RESISTANCE	ASTM D-4355	70%
AOS % RETAINED	ASTM D-4751	80 SIEVE

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 MAY BE PLACED ON FILTER STONE TO INCREASE DISCHARGE CAPACITY. BAGS SHALL NOT 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 HO OR EV WATERSHEDS, WITHIN 50 FEET OF ANY RECEIVING SURFACE WATER OR WHERE GRASSY AREA IS NOT AVAILABLE.

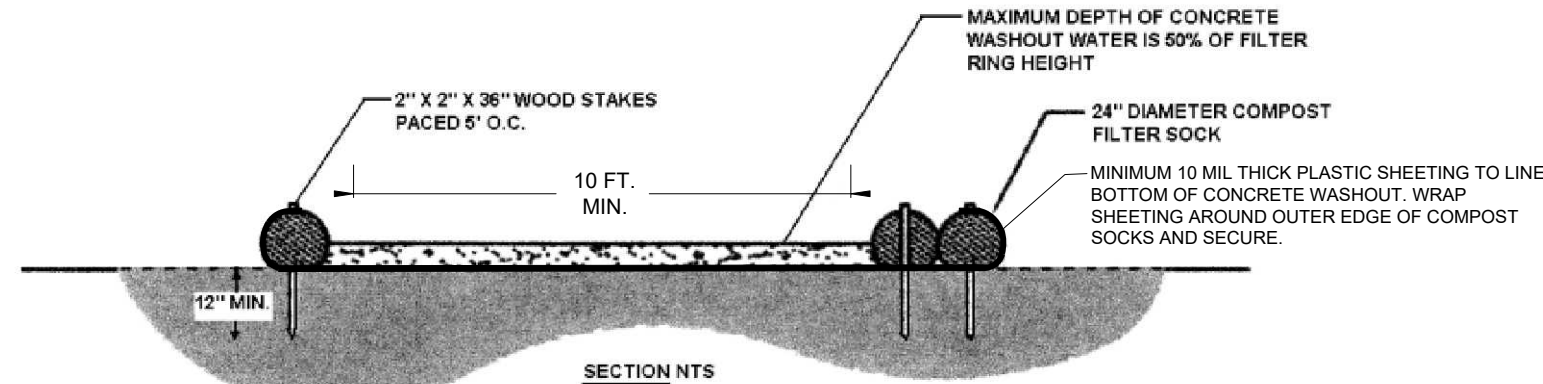
THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED. A PIECE OF PVC PIPE IS RECOMMENDED FOR THIS PURPOSE.

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.

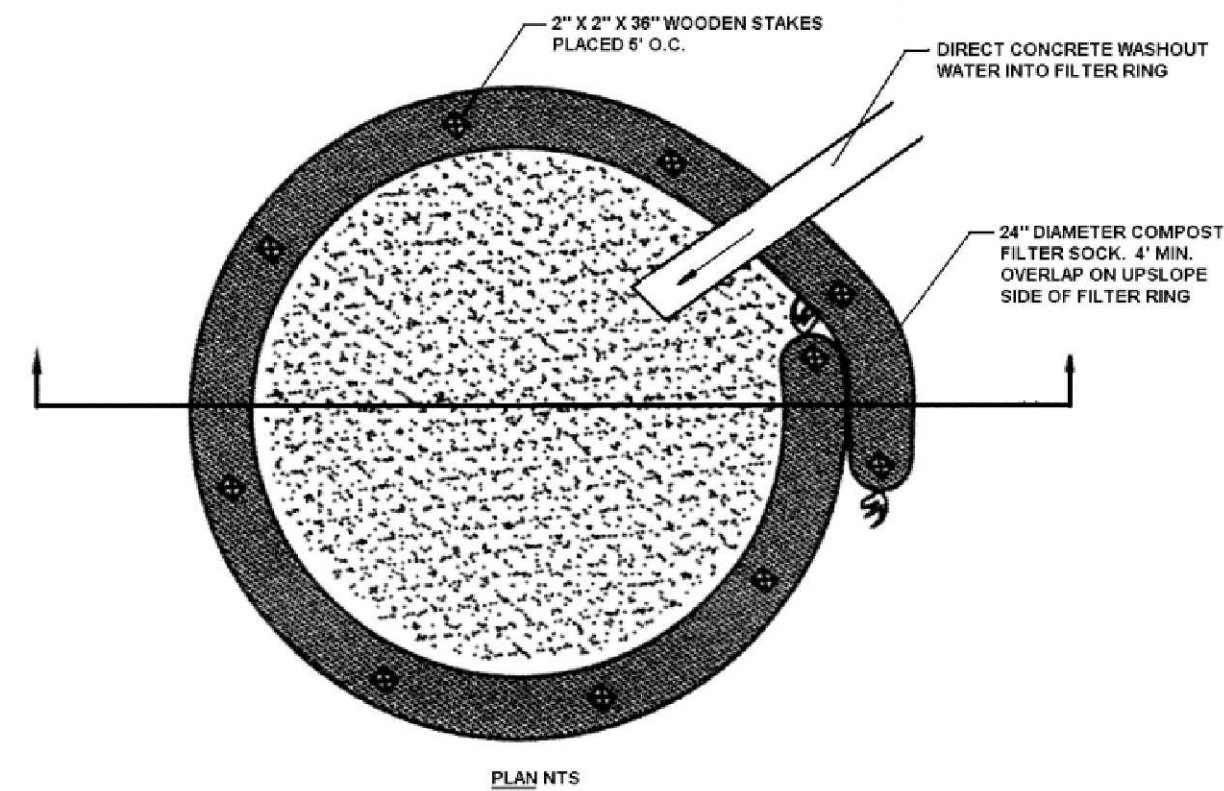
FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM IS CORRECTED.

**STANDARD CONSTRUCTION DETAIL #3-16  
PUMPED WATER FILTER BAG**

NOT TO SCALE



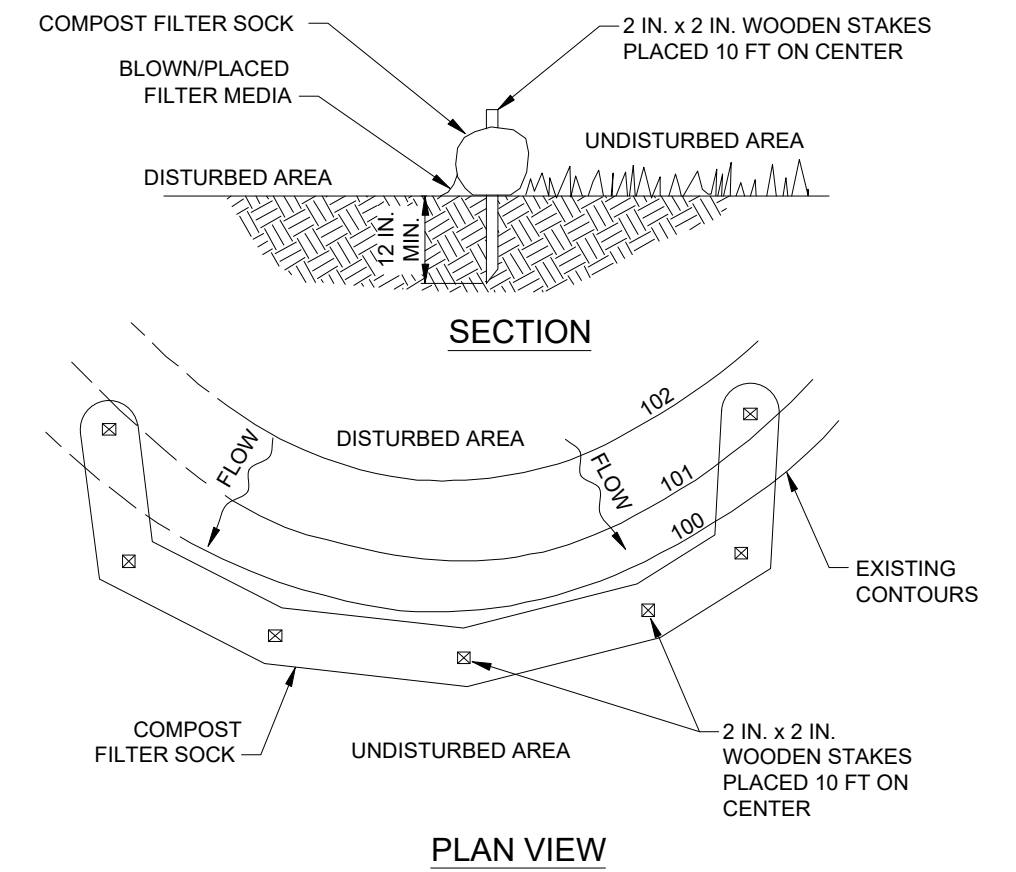
- NOTES:**
- INSTALL ON FLAT GRADE FOR OPTIMUM PERFORMANCE
  - 18" DIAMETER FILTER SOCK MAY BE STACKED ONTO DOUBLE 24" DIAMETER SOCKS IN PYRAMIDAL CONFIGURATION FOR ADDED HEIGHT.



- NOTE:**
- A SUITABLE IMPERVIOUS GEOMEMBRANE SHALL BE PLACED AT THE LOCATION OF THE WASHOUT PRIOR TO INSTALLING THE SOCKS.
  - PROVIDE 10' MINIMUM INSIDE DIAMETER.
  - PROVIDE AT LEAST ONE WASHOUT PER GROUPING OF TOWNHOUSES AND EACH APARTMENT BUILDING.

**TYPICAL COMPOST SOCK WASHOUT INSTALLATION**

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 BARRIER SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO 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.

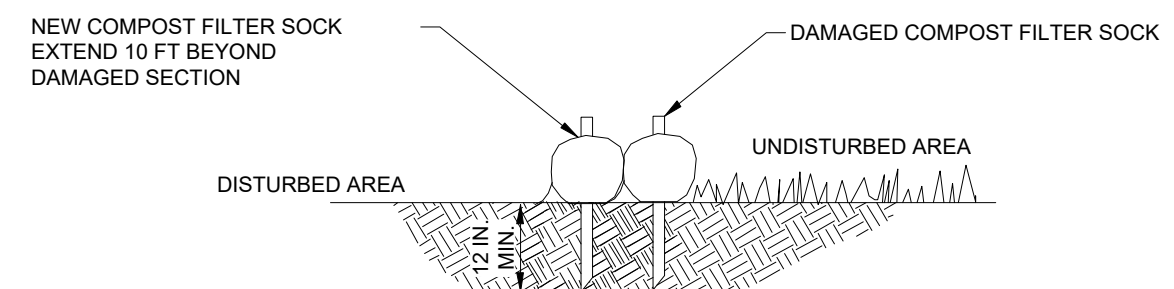
COMPOST FILTER SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.

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:**

COMPOST FILTER SOCK OF EQUAL OR GREATER DIAMETER SHALL BE INSTALLED WHERE FAILURE OF A COMPOST FILTER SOCK HAS OCCURRED DUE TO CONCENTRATED FLOW. SEDIMENT SHALL BE REMOVED WHEN ACCUMULATIONS REACH 1/2 THE ABOVE GROUND HEIGHT.

**ADDITIONAL FILTER SOCK AT DAMAGED FILTER SOCK**

NOT TO SCALE

REVISED MINOR SUBDIVISION PLAN  
FOR  
275 NARROWS DRIVE - TOWNHOUSES  
NORTH LEBANON TOWNSHIP, LEBANON COUNTY, PA

DECEMBER 29, 2025

CRISTALDAMING ENGINEERING  
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Erosion & Sediment  
Pollution Control Details

ES2  
OF 8