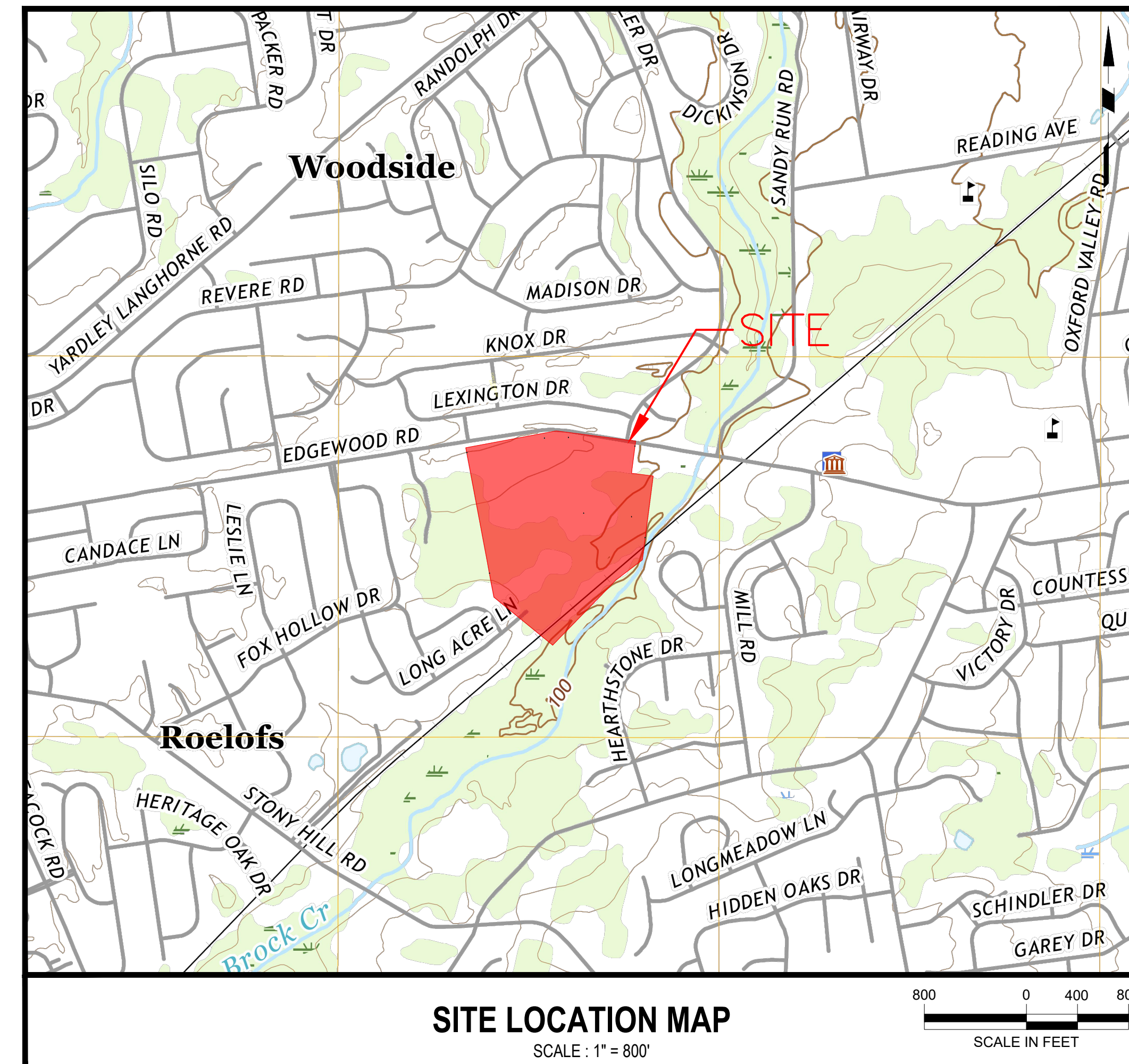


FIELDSTONE HARRIS TRACT SUBDIVISION

PRELIMINARY SUBDIVISION AND LAND DEVELOPMENT PLANS


T.M.P. 20-016-073 & 20-016-073-002

LOWER MAKEFIELD TOWNSHIP, BUCKS COUNTY, PENNSYLVANIA



| Drawing Index | | | |
|---------------|-------------|---|--------------|
| Drawing No. | Drawing No. | Drawing Title | Last Revised |
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| 2 | EX-100 | Existing Resources and Site Analysis Map | 2/9/2024 |
| 3 | DM-100 | Demolition Plan | 2/9/2024 |
| 4 | CS-100 | Master Site Plan | 2/9/2024 |
| 5 | CS-101 | Site Plan | 2/9/2024 |
| 6 | CS-102 | Site Plan | 2/9/2024 |
| 7 | CS-200 | Subdivision (Record) Plan | 2/9/2024 |
| 8 | EA-100 | Easement (Record) Plan | 2/9/2024 |
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| 10 | CG-100 | Master Grading Plan | 2/9/2024 |
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| 13 | CG-110 | Master Drainage Plan | 2/9/2024 |
| 14 | CG-111 | Drainage Plan | 2/9/2024 |
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| 16 | CG-200 | Master Post-Construction Stormwater Management Plan | 2/9/2024 |
| 17 | CG-201 | Post-Construction Stormwater Management Plan | 2/9/2024 |
| 18 | CG-202 | Post-Construction Stormwater Management Plan | 2/9/2024 |
| 19 | CG-501 | Post-Construction Stormwater Management Details | 2/9/2024 |
| 20 | CG-502 | Post-Construction Stormwater Management Details | 2/9/2024 |
| 21 | CE-100 | Master Soil Erosion & Sediment Control Plan | 2/9/2024 |
| 22 | CE-101 | Soil Erosion & Sediment Control Plan | 2/9/2024 |
| 23 | CE-102 | Soil Erosion & Sediment Control Plan | 2/9/2024 |
| 24 | CE-501 | Soil Erosion & Sediment Control Notes & Details | 2/9/2024 |
| 25 | CE-502 | Soil Erosion & Sediment Control Notes & Details | 2/9/2024 |
| 26 | CU-100 | Master Utility Plan | 2/9/2024 |
| 27 | CU-101 | Utility Plan | 2/9/2024 |
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| 29 | CU-301 | Roadway and Utility Profiles | 2/9/2024 |
| 30 | CU-302 | Roadway and Utility Profiles | 2/9/2024 |
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| 34 | LP-100 | Master Landscape Plan | 2/9/2024 |
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| 36 | LP-102 | Landscape Plan | 2/9/2024 |
| 37 | LP-501 | Landscape Plan Details | 2/9/2024 |

| CONTACT LIST | |
|--|--|
| LOWER MAKEFIELD TOWNSHIP ADMINISTRATION OFFICE Mr. DAVID W. KRATZER JR., TOWNSHIP MANAGER 1100 EDGEWOOD ROAD YARDLEY, PA 19067 267-274-1100 | SEWER AQUA PA 762 WEST LANCASTER AVENUE BRYN MAWR, PA 19010 877-987-2782 |
| FIRE SERVICE Mr. TIM CHAMBERLAIN-FIRE SERVICES DIRECTOR 1100 EDGEWOOD ROAD YARDLEY, PA 19067 267-274-1127 | ELECTRIC PECCO 400 PARK AVENUE WARMINSTER, PA 18974 800-454-4100 |
| POLICE SERVICE LOWER MAKEFIELD TOWNSHIP POLICE DEPARTMENT Mr. KENNETH COLUZZI - CHIEF OF POLICE 1100 EDGEWOOD ROAD YARDLEY, PA 19067 215-493-4055 | TELEPHONE & CABLE VERIZON 204 N SYCAMORE ST. NEWTOWN, PA 18940 215-968-1500 |
| WATER PENNSYLVANIA AMERICAN WATER 1145 EDGEWOOD ROAD YARDLEY, PA 19067-1604 | COMCAST 502 N OXFORD VALLEY ROAD, SUITE 100 LANGHORNE, PA 19047 |
| BUCKS COUNTY CONSERVATION DISTRICT GRETHEN SHATSCHNEIDER, DISTRICT MANAGER 1456 FERRY ROAD SUITE 704 DOYLESTOWN, PA 18901 215-345-7577 | |

CIVIL ENGINEER:
 arna Engineering Inc.
 1456 Ferry Road, Suite 603
 Doylestown, PA 18901
 Phone: 215.766.8280
 Fax: 215.434.5280
 ATTN: Chirag V. Thakkar, P.E.

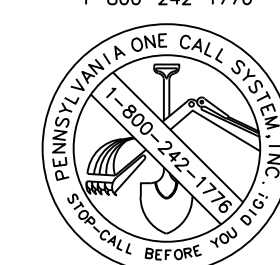
OWNER:
 Quaker Group Bucks
 Associates, INC.
 1103 Laurel Oak Road
 Voorhees, NJ 08043

APPLICANT:
 JPO-Fieldstone, LP
 1 Fayette Street, Suite 175
 Conshohocken, PA 19429
 Attn: Lawrence J. Dugan

SURVEYOR:
 ASH Associates, Inc.
 765 Tennis Avenue
 Ambler, PA 19002
 Phone: 215.367.5261

ACT 187
 UTILITY LOCATIONS AS SHOWN ON THIS PLAN ARE APPROXIMATE AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR, PER PA ACT 187 TO CONTACT THE UTILITY COMPANIES FOR MORE ACCURATE LOCATION PRIOR TO ANY EXCAVATION.
 TO OBTAIN ADDITIONAL UTILITY INFORMATION OR TO ARRANGE FOR FIELD LOCATION OF EXISTING UTILITIES BEFORE EXCAVATION, CALL THE PENNSYLVANIA ONE CALL SYSTEM AT 1-800-242-1776. THE UTILITY COMPANIES SHOWN MAY OR MAY NOT HAVE UTILITY LINES IN THE AREA.

CALL BEFORE YOU DIG !!
 PENNSYLVANIA LAW REQUIRES:
 (1) WARNING DATE NOISE FOR
 (10) WORKING HOURS IN ADVANCE
 -- STOP & CALL --
 Pennsylvania One Call System, Inc.
 1-800-242-1776



PRELIMINARY DESIGN SERIAL NUMBER: 20232091626

1. February 9, 2024

Drawing Title

GI-001

Sheet 1 OF 37

PROJECT: 230015101 FIELDSTONE HARRIS TRACT SUBDIVISION

GENERAL INFORMATION

TAX MAP PARCEL NUMBERS: 20-016-073 & 20-016-073-002
 SITE ADDRESS: 1269 EDGEWOOD ROAD, YARDLEY, PA 19067
 OWNER: QUAKER GROUP BUCKS ASSOCIATES, INC.
 1103 LAUREL OAK ROAD
 SUITE 103
 VORHEES, NJ 08043
 LAND RECORD BOOK 2785 PAGE 1620
 APPLICANT: JPO-FIELDSTONE, L.P.
 1 FAYETTE STREET
 SUITE 175
 CONSHOHOCKEN, PA 19428
 TOTAL GROSS SITE AREA: = 39.209 ACRES
 AREA WITHIN EXISTING ULTIMATE
 R.O.W. OF EDGEWOOD ROAD = 1.242 ACRES
 EXISTING LOT 1 = 21.878 ACRES (NET), 23.120 (GROSS)
 EXISTING LOT 2 = 16.089 ACRES (NET), 16.089 (GROSS)

EXISTING CONDITIONS NOTES

- EXISTING FEATURES SHOWN ARE BASED ON FIELD SURVEY BY ASH ASSOCIATES, INC. PERFORMED FEBRUARY 3 - APRIL 13, 2015 AND IS LIMITED TO FEATURES OF INTEREST.
- PROPERTY BOUNDARY AND RIGHT OF WAY INFORMATION SHOWN IS BASED ON PLAN TITLED "FINAL MINOR SUBDIVISION PLAN, 1269 EDGEWOOD ROAD", PREPARED BY TAM, LAST REVISED 10-17-16.
- VERTICAL DATUM IS NAVD83 BASED ON GPS OBSERVATIONS REFERENCED TO THE NGS CORS NETWORK. VERTICAL BENCHMARKS PROVIDED AS FOLLOWS:
 BM #54 - ELEVATION = 102.50. MAG NAIL SET IN ASPHALT NEAR THE CENTER OF THE CUL-DE-SAC ON SALEM COURT.
 BM #52 - ELEVATION = 106.36. MAG NAIL SET IN ASPHALT AT THE CORNER OF A PAINTED WHITE LINE FOR THE CROSSWALK AT THE NORTHWESTERLY SIDE OF THE INTERSECTION OF EDGEWOOD ROAD AND SCHUYLER DRIVE.
 BM #50 - ELEVATION = 118.78. MAG NAIL SET IN ASPHALT NEAR THE FACE OF CURB ALONG THE NORTHERLY SIDE OF EDGEWOOD ROAD 25.5+ FEET EAST OF AN INLET LOCATED ALONG THE CURB LINE.
 BM #3 - ELEVATION = 109.19. MAG NAIL SET IN ASPHALT DRIVEWAY BY CONCRETE STEM WALL REMAINS.
- HORIZONTAL DATUM IS NAD 83. STATE PLANE COORDINATES OF PENNSYLVANIA (PA SOUTH) ESTABLISHED BY GPS OBSERVATIONS REFERENCED TO THE NGS CORS NETWORK.
- WETLANDS INFORMATION IS BASED ON DELINEATION FROM PRINCETON HYDRO, LLC IN 2003.
- UTILITIES SHOWN PER FIELD LOCATIONS FROM ABOVE GROUND INSPECTION OF THE SITE AND PLANS PROVIDED BY UTILITY COMPANIES. PA ONE-CALL SERIAL NUMBERS: 2015047023, 2015047019 (DESIGN) & 2015047016, 2015047014 (EXCAVATION). SEE PA ONE-CALL RESPONSES.
- SANITARY SEWER INVERT INFORMATION WAS NOT FIELD VERIFIED AS INDICATED BY INDICATED BY "MANHOLES HAD SECONDARY LIDS THAT WERE OBSERVED DURING THE FIELD SURVEY AND INVERT DEPTHS WERE UNATTAINABLE. INVERT OUT DEPTH INFORMATION FOR THESE MANHOLES WAS OBTAINED FROM "UTILITY PLAN" PREPARED FOR CANTERBURY ESTATES (FORMERLY COVERED BRIDGE) PREPARED BY WILLIAM G. MAJOR ASSOCIATES. SHEET 4 OF 10. PLAN DATED MAY 21, 1976, LAST REVISED 11/07/77.
- THE PROPERTY IS LOCATED WITHIN A FEMA FLOOD ZONE X AND AE AS INDICATED ON NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAP NUMBER 42017C0451J FOR BUCKS COUNTY. MAP REVISED MARCH 16, 2015. AREAS LOCATED IN FLOOD ZONE X ARE DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD. BASE FLOOD ELEVATIONS DETERMINED ELEVATIONS RANGE FROM ELEVATION 95.5 FT TO 96.0 FT REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988.

TMP # 20-016-073 & TMP # 20-016-073-002

SITE CAPACITY CALCULATION (with minimum Steep Slopes in Flood of Site Removed)

A. BASE SITE AREA

| | | |
|---|---|---------------------|
| (1) GROSS SITE AREA BY ACTUAL ON-SITE SURVEY | = | 39.209 ACRES |
| (2) SUBTRACT THE FOLLOWING: | | |
| (a) LAND WITHIN EXISTING ROADS AND THEIR ULTIMATE RIGHTS-OF-WAY AND UTILITY TRANSMISSION RIGHTS-OF-WAY | = | 1.242 ACRES |
| (b) LAND WITHOUT DEVELOPMENT OPPORTUNITIES DUE TO RESTRICTIONS SUCH AS RESTRICTIVE COVENANTS AND CONSERVATION EASEMENTS | = | 0.0000 ACRES |
| EQUALS BASE SITE AREA | = | 37.967 ACRES |

B. NATURAL RESOURCES LAND TO BE PROTECTED AND PERCENT OF BASE SITE AREA IN RESOURCE-PROTECTED LAND

| NATURAL RESOURCE | PERCENT OF RESOURCE TO BE PROTECTED | TOTAL NATURAL RESOURCE LAND (A X B) | RESOURCE PROTECTED LAND (B X B) | ALLOWED DISTURBANCE (A - B) |
|--|-------------------------------------|-------------------------------------|---------------------------------|-----------------------------|
| HYDROLOGIC SURFACE FEATURES: | | | | |
| FLOOD PLAINS | 100% | 1,208.8 a | 1,208.8 | 0.0000 |
| FLOOD PLAIN SOILS (DELAWARE RIVER): | 50% | 0.0000 a | 0.0000 | 0.0000 |
| LAKES AND PONDS: | 100% | 0.0000 a | 0.0000 | 0.0000 |
| WETLANDS: | 100% | 3,249.1 e | 3,249.1 | 0.0000 |
| LAKE AND POND SHORELINE: | 100% | 0.0000 a | 0.0000 | 0.0000 |
| WETLAND WATERCOURSE BUFFERS: | 100% | 3,906.6 d | 3,906.6 | 0.0000 |
| SLOPES: | | | | |
| CLASS I STEEP SLOPES (8-15%) | 50% | 0.240 a h | 0.120 | 0.120 |
| CLASS II STEEP SLOPES (15-25%) | 75% | 0.9017 e h | 0.6763 | 0.2254 |
| CLASS III STEEP SLOPES (25% OR MORE) | 70% | 0.2014 e h | 0.1410 | 0.0604 |
| WOODLANDS: | 75% | 5.9031 g | 4.4273 | 1.4758 |
| LAND WITH RESOURCE RESTRICTIONS = | | 12.8064 | | |

- a - NATURAL RESOURCE DOES NOT EXIST ON SITE.
- b - THIS AREA IS THE TOTAL AREA OF FLOOD PLAINS ON SITE.
- c - THIS AREA EXCLUDES THE AREA WITHIN THE FLOODPLAIN WHICH HAS THE SAME RESTRICTIVE PROTECTION OF 100%.
- d - THIS AREA EXCLUDES THE AREAS WITHIN THE FLOODPLAIN & WETLANDS WHICH HAS THE SAME RESTRICTIVE PROTECTION RATIO OF 100%.
- e - THIS AREA EXCLUDES THE AREAS WITHIN RESTRICTIVE PROTECTION RATIO GREATER THAN 70%.
- f - THIS AREA EXCLUDES AREAS WITHIN RESTRICTIVE PROTECTION RATIO GREATER THAN 75%.
- g - THIS AREA EXCLUDES AREAS WITHIN RESTRICTIVE PROTECTION RATIO EQUAL TO OR GREATER THAN 75%.
- h - THE MANMADE STEEP SLOPES AT THE FRONT OF THE SITE HAVE BEEN REMOVED FROM THE NATURAL RESOURCE CALCULATIONS.

NOTE: LANDS WITHIN LOT 1 (TMP # 20-016-073-002) ARE BEING DEDUCTED FROM NET BUILDABLE SITE AREA AND DENSITY CALCULATIONS.
 LAND WITH RESOURCE RESTRICTIONS (SITE) = 12.8064
 MAXIMUM LAND WITH RESOURCE RESTRICTIONS (LOT 2) = 8.7638
 LAND WITH RESOURCE RESTRICTIONS = 4.1446

C. NET BUILDABLE SITE AREA (LOT 1)

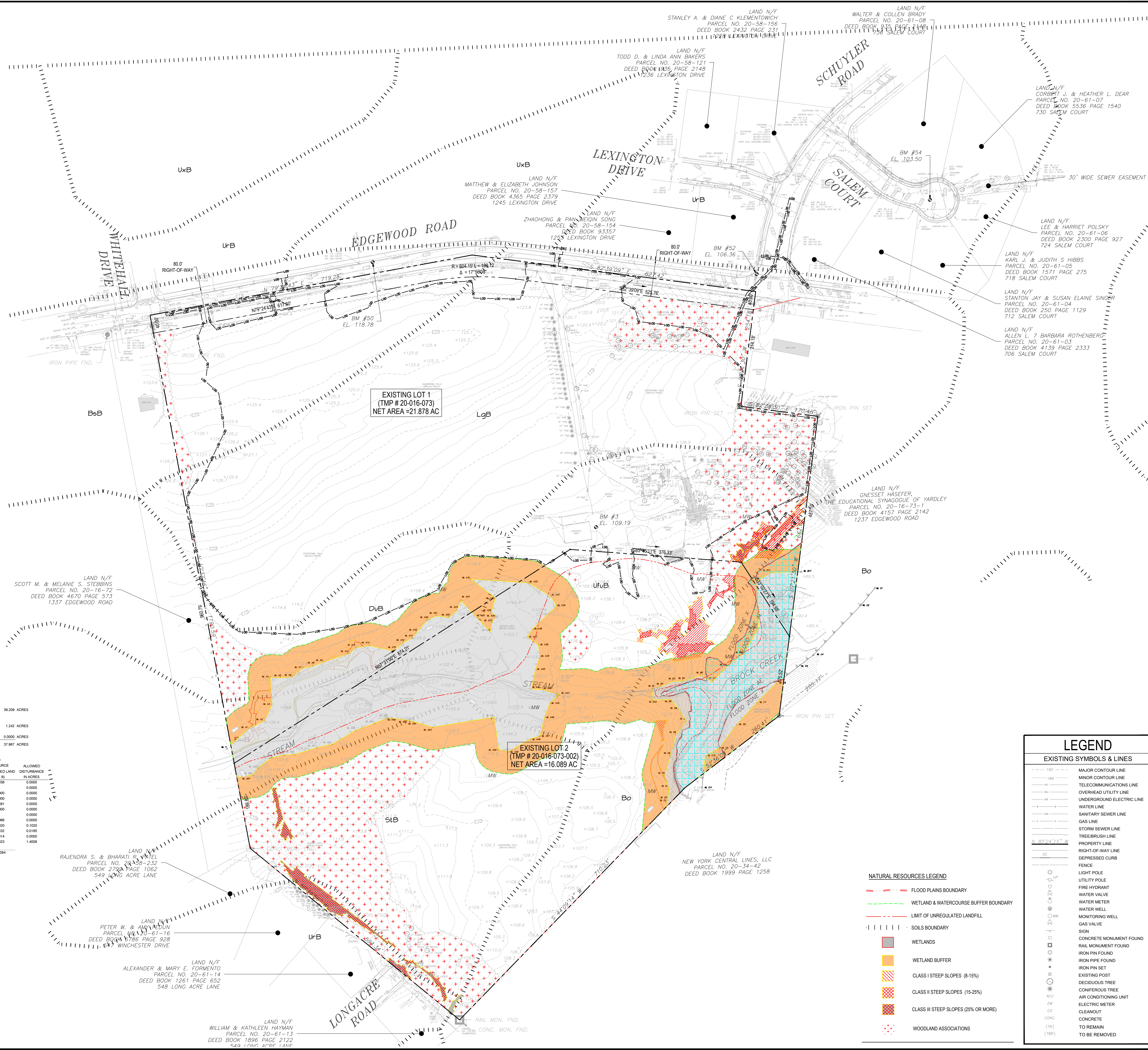
| | | |
|--|---|-------------------|
| BASE SITE AREA (A) | = | 21.870 AC |
| SUBTRACT TOTAL RESOURCE PROTECTED LAND | = | 4.1446 AC |
| EQUALS NET BUILDABLE SITE AREA | = | 17.7254 AC |

D. SITE CAPACITY (WITH RECREATION LAND)

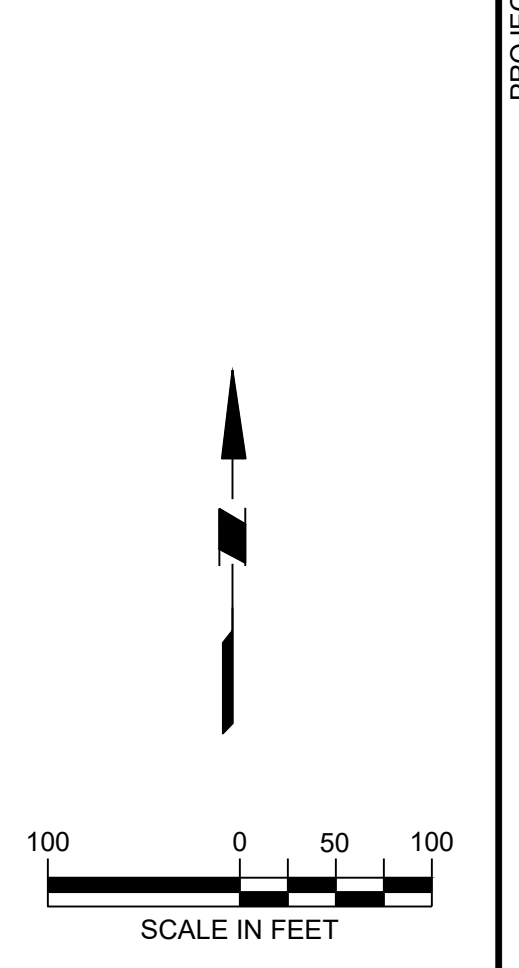
| | | |
|---|---|-----------------|
| NET BUILDABLE SITE AREA (C) | = | 17.7254 AC |
| DIVIDED BY (1-DENSITY (0.5) + 0.05) SITE AREA* | = | 0.3357 |
| EQUALS TOTAL NUMBER OF DWELLINGS PERMITTED UNITS | = | 53 UNITS |

E. WITH FREE IN LIEU OF RECREATION LAND:
 NET BUILDABLE SITE AREA (C) = 17.7254 AC
 MAXIMUM DENSITY ON NET BUILDABLE SITE AREA UNITS PERMITTED = 62 UNITS

*BASE UPON OPEN SPACE CLUSTER DEVELOPMENT PERFORMANCE STANDARDS
 PERCENT OF BASE SITE AREA AS RESOURCE PROTECTION LAND = (RESOURCE PROTECTED + OPEN SPACE)/BASE SITE AREA = (19.743/37.967)*100= 52%
 = 35 UNITS PER ACRE

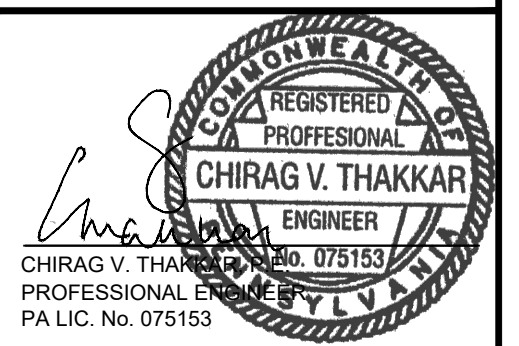


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 1456 Ferry Road, Suite 603
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Project
FIELDSTONE HARRIS TRACT SUBDIVISION
 TMP # 20-016-073
 LOWER MAKEFIELD TOWNSHIP
 BUCKS COUNTY PENNSYLVANIA

Drawing Title
EXISTING RESOURCES AND SITE ANALYSIS MAP



| DATE | COMMENTS | NO. |
|-----------|----------|-----|
| REVISIONS | | |
| | | |
| | | |
| | | |
| | | |

| | |
|-------------|------------|
| Project No. | 230015101 |
| Date | 02-09-2024 |
| Scale | 1" = 100' |
| Drawn By | KGP |
| Checked By | CT |
| Drawing No. | EX-100 |
| Sheet | 2 of 37 |

LEGEND

EXISTING SYMBOLS & LINES

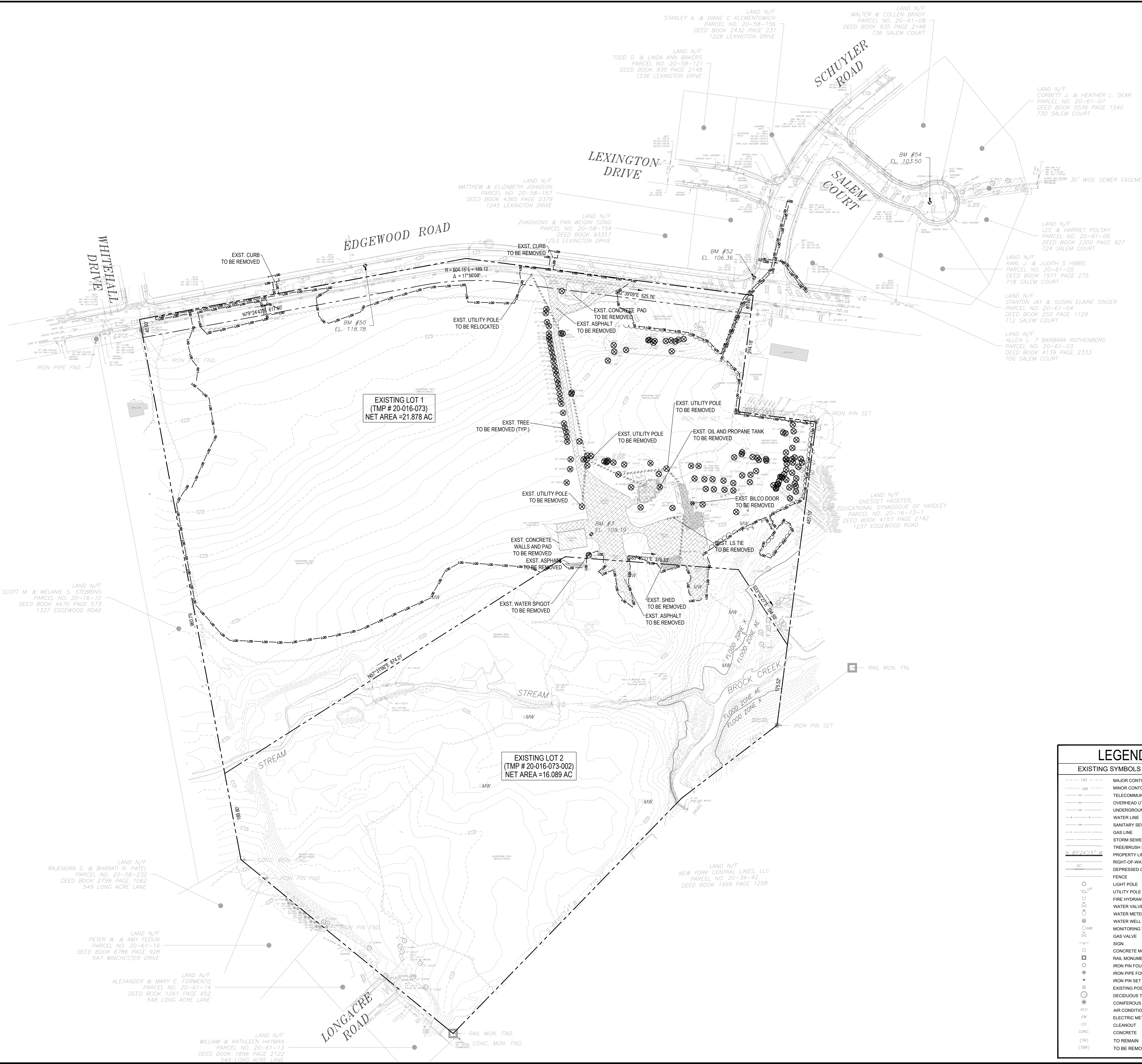
- 150 --- MAJOR CONTOUR LINE
- 100 --- MINOR CONTOUR LINE
- TELECOMMUNICATIONS LINE
- OVERHEAD UTILITY LINE
- UNDERGROUND ELECTRIC LINE
- WATER LINE
- SANITARY SEWER LINE
- GAS LINE
- STORM SEWER LINE
- TREE/BRUSH LINE
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- DEPRESSED CURB
- FENCE
- LIGHT POLE
- UTILITY POLE
- FIRE HYDRANT
- WATER VALVE
- WATER METER
- WATER WELL
- MONITORING WELL
- GAS VALVE
- SIGN
- CONCRETE MONUMENT FOUND
- RAIL MONUMENT FOUND
- IRON PIN FOUND
- IRON PIPE FOUND
- IRON PIN SET
- EXISTING POST
- DECIDUOUS TREE
- CONIFEROUS TREE
- AIR CONDITIONING UNIT
- ELECTRIC METER
- CLEANOUT
- CONCRETE
- TO REMAIN
- TO BE REMOVED

NATURAL RESOURCES LEGEND

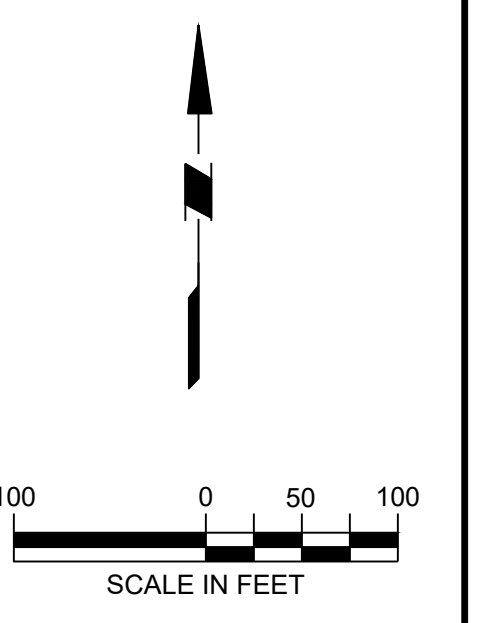
- FLOOD PLAINS BOUNDARY
- WETLAND & WATERCOURSE BUFFER BOUNDARY
- LIMIT OF UNREGULATED LANDFILL
- SOILS BOUNDARY
- WETLANDS
- WETLAND BUFFER
- CLASS I STEEP SLOPES (8-15%)
- CLASS II STEEP SLOPES (15-25%)
- CLASS III STEEP SLOPES (25% OR MORE)
- WOODLAND ASSOCIATIONS

DEMOLITION PLAN NOTES:

- THIS PLAN IS NOT VALID UNLESS EMBOSSED WITH THE SEAL OF THE UNDERSIGNED PROFESSIONAL(S).
- THIS DRAWING REFERENCE SURVEY INFORMATION BASED ON A PLAN FROM ASH ASSOCIATES, INC. ENTITLED "LATAKRAM LAND TITLE SURVEY PREPARED FOR 1268 EDGEWOOD ROAD, YARDLEY, PA 19067, DATED 04/14/2015.
- PROPERTY BOUNDARY AND RIGHT OF WAY INFORMATION SHOWN IS BASED ON PLAN TITLED "FINAL MINOR SUBDIVISION PLAN, 1269 EDGEWOOD ROAD", PREPARED BY T.M. LAST REVISED 10-17-16.
- THIS PLAN IS PROVIDED FOR ILLUSTRATIVE PURPOSES ONLY TO IDENTIFY THE LIMITS OF DEMOLITION AND SHALL NOT BE CONSIDERED ALL INCLUSIVE. ADDITIONAL ITEMS MAY BE FOUND THAT SHALL BE DEMOLISHED. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ACTUAL LIMITS & EXTENTS OF DEMOLITION.
- THE CONTRACTOR SHALL REVIEW AND COMPLY WITH ALL PROVISIONS OF LOWER MAKEFIELD TOWNSHIP AND OTHER JURISDICTIONAL AGENCIES DEMOLITION AND REMOVAL SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS AS WELL AS THE EROSION CONTROL PLANS, SPECIFICALLY THE CONSTRUCTION STAGING.
- THE CONTRACTOR MUST INSTALL EROSION AND SEDIMENTATION CONTROL MEASURES PER THE APPROVED PLAN PRIOR TO THE START OF EARTH DISTURBING ACTIVITIES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY CONSTRUCTION PERMITS INCLUDING, BUT NOT LIMITED TO SIDEWALK/STREET CLOSING, DEMOLITION, DISPOSAL AND ASBESTOS ABATEMENT.
- CONTRACTOR SHALL MAINTAIN ALL EXISTING PARKING, SIDEWALK DRIVES, ETC. CLEAR AND FREE FROM ANY CONSTRUCTION ACTIVITY AND/OR MATERIAL TO ENSURE EASY AND SAFE PEDESTRIAN AND VEHICULAR TRAFFIC TO AND FROM THE SITE. CONTRACTOR MUST PROTECT THE PUBLIC AT ALL TIMES WITH FENCING, BARRICADES, ENCLOSURES, ETC. (AND OTHER APPROPRIATE BEST MANAGEMENT PRACTICES) AS APPROVED BY CONSTRUCTION MANAGER. CONTINUOUS ACCESS SHALL BE MAINTAINED FOR THE SURROUNDING PROPERTIES AT ALL TIMES DURING DEMOLITION OF THE EXISTING FACILITIES. CONTRACTOR SHALL COORDINATE/PHASE ALL CONSTRUCTION ACTIVITY AND EXISTING FACILITIES. CONTRACTOR SHALL COORDINATE/PHASE ALL CONSTRUCTION ACTIVITY AND UTILITY INTERRUPTIONS WITH THE OWNER TO MINIMIZE DISTURBANCE.
- THE CONTRACTOR SHALL MAINTAIN AND PROTECT ALL OFFSITE PROPERTIES AND STRUCTURES FROM ANY AND ALL DAMAGE DURING THE DEMOLITION OPERATION. THE CONTRACTOR SHALL USE ANY NECESSARY TEMPORARY FENCING, PLATFORMS, BRACING, UNDERPINNING, ETC. TO PROTECT OFFSITE PROPERTY. ANY DAMAGE CAUSED BY THE CONTRACTOR OR HIS/HER AGENTS SHALL BE IMMEDIATELY REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR IS RESPONSIBLE FOR THE COST AND INSTALLATION OF DEMOLITION / CONSTRUCTION FENCE. THE LIMITS OF FENCE ON THIS PLAN ARE SHOWN FOR GRAPHICAL PURPOSES ONLY. THE CONTRACTOR IS RESPONSIBLE FOR ACTUAL LIMITS AND THE AMOUNT OF FENCE REQUIRED IN ADDITION TO THE SECURITY OF THE WORK AREA.
- THE CONTRACTOR SHALL INSPECT THE SITE THOROUGHLY AND FIELD VERIFY THE LOCATION AND DEPTH OF ALL UTILITIES AND LATERALS. THE LOCATION OF ALL EXISTING UTILITIES SHOWN ON THIS PLAN HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE AND ARE PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES ARE SHOWN ON THESE PLANS IS BASED ON THE SURVEY PREPARED BY OTHERS. THE INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. ADDITIONAL UTILITIES MAY ALSO EXIST. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLAN.
- ALL EXISTING UTILITIES SHOWN MUST NOT BE INTERPRETED AS OF THE EXACT SIZE, DEPTH, MATERIAL, LOCATION, OR AS THE ONLY OBSTACLES THAT MAY OCCUR ON THE SITE. CONTRACTOR MUST THOROUGHLY VERIFY EXISTING CONDITIONS, AND PROCEED WITH CAUTION AROUND ANY ANTICIPATED FEATURES. GIVE NOTICE TO THE ALL UTILITY COMPANIES REGARDING DEMOLITION AND REMOVAL OF ALL SERVICE LINES AND CAP ALL LINES BEFORE PROCEEDING WITH THE WORK. UTILITIES DETERMINED TO BE ABANDONED AND LEFT IN PLACE SHALL BE ROUTED IF UNDER BUILDING.
- ALL EXISTING UTILITIES TO BE REMOVED ARE TO BE DISCONNECTED PRIOR TO THE START OF DEMOLITION, ELECTRICAL, TELEPHONE, CABLE, WATER, FIBER OPTIC CABLE AND/OR GAS LINES NEEDING TO BE REMOVED OR RELOCATED SHALL BE COORDINATED WITH THE AFFECTED UTILITY COMPANY. CONTRACTOR MUST PROVIDE ADEQUATE TIME FOR RELOCATION AND COORDINATION WITH THE UTILITY COMPANIES TO PROVIDE A SMOOTH TRANSITION IN UTILITY SERVICE. CONTRACTOR SHALL PAY CLOSE ATTENTION TO EXISTING UTILITIES WITHIN THE ROAD RIGHT-OF-WAY DURING CONSTRUCTION.
- THE CONTRACTOR SHALL COORDINATE THE RESPECTIVE UTILITY COMPANIES PRIOR TO THE REMOVAL AND/OR RELOCATION OF UTILITIES. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANY CONCERNING PORTIONS OF WORK WHICH MAY BE PERFORMED BY THE UTILITY COMPANY'S FORCES AND ANY FEES WHICH ARE TO BE PAID TO THE UTILITY COMPANY FOR THEIR SERVICES. THE CONTRACTOR IS RESPONSIBLE FOR PAYING ALL FEES AND CHARGES.
- THE CONTRACTOR SHALL COORDINATE WATER MAIN WORK WITH THE FIRE DEPARTMENT AND THE UTILITY DEPARTMENT TO PLAN PROPOSED IMPROVEMENTS. CONTRACTOR WILL BE RESPONSIBLE FOR ARRANGING PROVIDING ANY REQUIRED WATER MAIN SHUTOFFS DURING CONSTRUCTION. ANY COSTS ASSOCIATED WITH WATER MAIN SHUTOFFS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AND NO EXTRA COMPENSATION WILL BE PROVIDED.
- THE DEMOLITION CONTRACTOR SHALL COORDINATE DECOMMISSIONING AND REMOVAL OF UTILITY LINES WITH THE UTILITY CONTRACTOR AS TO LOCATION AND CONDITION OF CAPPING. THE ACCESS SHALL REMAIN OPEN AND OPERATION AT ALL TIMES.
- THE CONTRACTOR SHALL MAINTAIN UNINTERRUPTED UTILITY SERVICE TO THE SURROUNDING PROPERTIES AT ALL TIMES.
- ALL EXISTING UTILITIES THAT ARE NOT TO BE MAINTAINED IN SERVICE SHOULD EITHER BE REMOVED AND REPLACED WITH APPROVED COMPACTED FILL, OR BE ABANDONED IN PLACE BY FILLING WITH GROUT AND CAPPING, PROVIDED THAT THEY DO NOT INTERFERE WITH ANY OF THE PROPOSED CONSTRUCTION.
- ALL EXISTING BITUMINOUS AND CONCRETE PAVEMENT MUST BE REMOVED COMPLETELY THROUGHOUT THE SITE TO PERMIT PROPER GRADING AND FILL PLACEMENT AS WELL AS FACILITATE BUILDING CONSTRUCTION AND UTILITY INSTALLATIONS. THE REUSE OF EXISTING PAVEMENTS/LAS MATERIALS AFTER PROCESSING SHOULD BE IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS AND ENVIRONMENTAL STATUTES AND AT THE DIRECTION OF THE OWNER AND GEOTECHNICAL ENGINEER.
- CONTRACTOR MAY LIMIT SAW-CUT & PAVEMENT REMOVAL TO ONLY THOSE AREAS WHERE IT IS REQUIRED AS SHOWN ON THE CONSTRUCTION PLANS BUT IF ANY DAMAGE IS INCURRED ON ANY OF THE SURROUNDING PAVEMENT, ETC. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ITS REMOVAL AND REPAIR.
- THE CONTRACTOR IS RESPONSIBLE FOR THE DEMOLITION, REMOVAL AND DISPOSAL (IN A LOCATION APPROVED BY ALL GOVERNING AUTHORITIES) OF ALL STRUCTURES, PADS, WALLS, FLUMES, FOUNDATIONS, PARKING DRIVES, DRAINAGE STRUCTURES, UTILITIES, ETC. SUCH THAT THE IMPROVEMENTS SHOWN ON THE REMAINING PLANS CAN BE CONSTRUCTED. ALL FACILITIES TO BE REMOVED SHALL BE UNDERCUT TO SUITABLE MATERIALS AND BROUGHT TO GRADE WITH SUITABLE COMPACTED FILL MATERIAL PER THE SPECIFICATION.
- THE CONTRACTOR SHALL PREPARE AND IMPLEMENT A WASTE MANAGEMENT PLAN IN ACCORDANCE WITH THE STATE, FEDERAL & LOCAL REGULATION IF CONTAMINATED MATERIAL IS ENCOUNTERED DURING DEMOLITION AND/OR CONSTRUCTION.
- LANDSCAPING TO REMAIN IS TO BE PROTECTED DURING ALL SITE WORK. REFER TO THE LANDSCAPE PLAN.
- SHOULD REMOVAL AND/OR RELOCATION ACTIVITIES DAMAGE FENCING, LIGHTING AND/OR STORM INLET STRUCTURES, THE CONTRACTOR SHALL PROVIDE NEW MATERIALS / STRUCTURES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. DAMAGE TO ALL EXISTING CONDITIONS TO REMAIN WILL BE REPLACED AT CONTRACTOR'S EXPENSE. EXCEPT FOR MATERIAL DESIGNED TO BE RELOCATED ON THIS PLAN, ALL OTHER CONSTRUCTION MATERIALS SHALL BE NEW.
- ALL TRASH AND DEBRIS ARE TO BE CONTAINED IN RECEPTACLES.

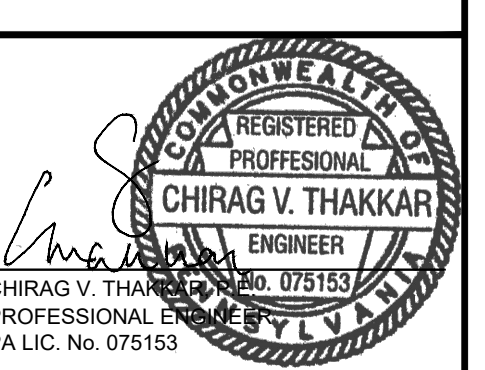


arn Engineering Inc.
 1456 Ferry Road, Suite 603
 Doylestown, PA 18901
 T: 215.766.8280
 F: 215.434.5280



Project
FIELDSTONE HARRIS TRACT SUBDIVISION
 TMP # 20-016-073
 LOWER MAKEFIELD TOWNSHIP
 BUCKS COUNTY PENNSYLVANIA

Drawing Title
DEMOLITION PLAN



| DATE | COMMENTS | NO. |
|------|----------|-----|
| | | |
| | | |
| | | |
| | | |

REVISIONS

| | |
|-------------|------------|
| Project No. | 230015101 |
| Date | 02-09-2024 |
| Scale | 1" = 100' |
| Drawn By | JEM/KGP |
| Checked By | CT |

Drawing No.
DM-100

| LEGEND | |
|--------------------------|---------------------------|
| EXISTING SYMBOLS & LINES | |
| --- | MAJOR CONTOUR LINE |
| - - - - - | MINOR CONTOUR LINE |
| --- | TELECOMMUNICATIONS LINE |
| --- | OVERHEAD UTILITY LINE |
| --- | UNDERGROUND ELECTRIC LINE |
| --- | WATER LINE |
| --- | SANITARY SEWER LINE |
| --- | GAS LINE |
| --- | STORM SEWER LINE |
| --- | TREE/BRUSH LINE |
| --- | PROPERTY LINE |
| --- | RIGHT-OF-WAY LINE |
| --- | DEPRESSED CURB |
| --- | FENCE |
| ○ | LIGHT POLE |
| ○ | UTILITY POLE |
| ○ | FIRE HYDRANT |
| ○ | WATER VALVE |
| ○ | WATER METER |
| ○ | WATER WELL |
| ○ | MONITORING WELL |
| ○ | GAS VALVE |
| ○ | SIGN |
| □ | CONCRETE MONUMENT FOUND |
| □ | RAIL MONUMENT FOUND |
| ○ | IRON PIN FOUND |
| ○ | IRON PIPE FOUND |
| ● | IRON PIN SET |
| ○ | EXISTING POST |
| ○ | DECIDUOUS TREE |
| ○ | CONIFEROUS TREE |
| ○ | AIR CONDITIONING UNIT |
| ○ | ELECTRIC METER |
| ○ | CLEANOUT |
| ○ | CONCRETE TO REMAIN |
| ○ | TO BE REMOVED |

GENERAL INFORMATION

TAX MAP PARCEL NUMBERS: 20-016-073 & 20-016-073-002

MAP ADDRESS: 1269 EDGEWOOD RD, YARDLEY, PA 19067

OWNER: QUAKER GROUP BUCKS ASSOCIATES, INC. 1103 LAUREL OAK ROAD SUITE 103 VORLES, NJ 08043 LAND RECORD BOOK 2785 PAGE 1620

APPLICANT: IPO-FIELDSTONE, L.P. 1 FAYETTE STREET SUITE 175 CONSHOHOCKEN, PA 19428

TOTAL GROSS SITE AREA: 39.209 ACRES

AREA WITHIN EXISTING ULTIMATE ROW OF EDGEWOOD ROAD: 1.242 ACRES

EXISTING LOT 1: + 21.878 ACRES (NET), 23.120 (GROSS)

EXISTING LOT 2: + 16.089 ACRES (NET), 16.089 (GROSS)

GENERAL SITE PLAN NOTES:

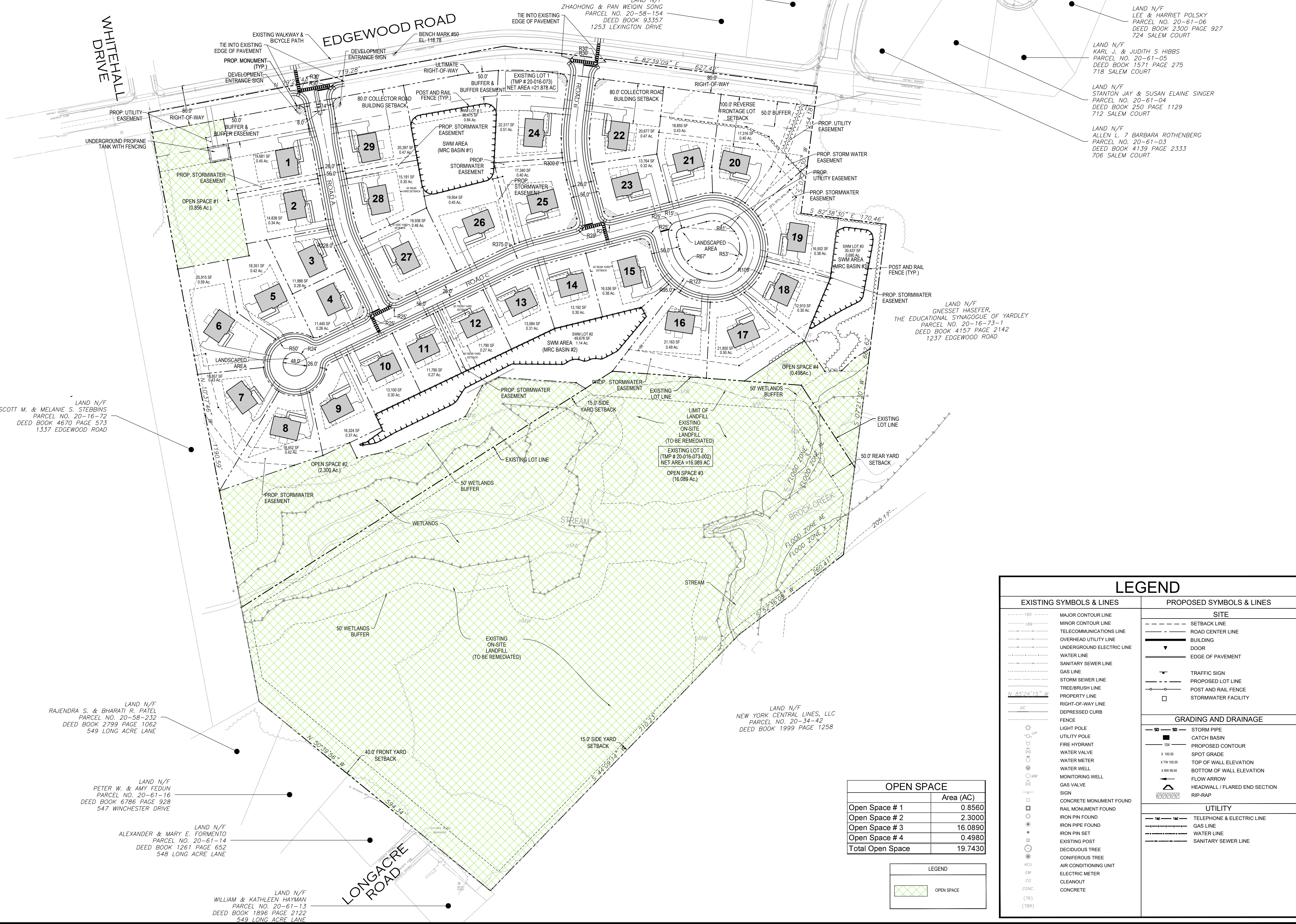
- 1. THIS PLAN IS NOT VALID UNLESS EMBOSSED WITH THE SEAL OF THE UNDERSIGNED PROFESSIONAL(S).
2. THE PROJECT SITE CONSIST OF PARCELS T.M.P. #20-016-073 LOT 1 AND T.M.P. #20-016-073-002 (LOT 2) AND IS LOCATED IN THE RESIDENTIAL ZONING DISTRICT OF LOWER MAKEFIELD TOWNSHIP.
3. THIS DRAWING REFERENCE SURVEY INFORMATION BASED ON PLAN FOR BUCKS ASSOCIATES, INC. ENTITLED 'ALTAZOOM LAND TITLE SURVEY', PREPARED FOR 1269 EDGEWOOD ROAD, YARDLEY, PA 19067, DATED 04/14/2015.
4. PROPERTY BOUNDARY AND RIGHT OF WAY INFORMATION SHOWN IS BASED ON THE 'SUBDIVISION PLAN' MINOR SUBDIVISION PLAN, 1269 EDGEWOOD ROAD, PREPARED BY TAM, LAST REVISED 10-17-16.
5. NO CERTIFICATION IS MADE BY THE UNDERSIGNED AS TO THE ACTUAL UNDERGROUND POSITION OF ANY UTILITIES OF TO THE COMPLETENESS AND / OR ACCURACY OF UTILITY INFORMATION PROVIDED BY OTHERS.
6. ELEVATIONS BASED ON NAVD 1988.
7. ALL CONCRETE STRUCTURES TO HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI UNLESS OTHERWISE NOTED.
8. REFER TO ARCHITECTURAL PLANS FOR DETAILS OF PROPOSED BUILDINGS. ALSO REFER TO ARCHITECTURAL PLANS FOR UTILITY LOCATIONS.
9. CONTRACTOR SHALL PROVIDE WRITTEN REQUESTS FOR INFORMATION TO THE OWNER AND OWNER'S ENGINEER PRIOR TO THE CONSTRUCTION OF ANY SPECIFIC SITEWORK ITEM IF ANY SPECIFIC SITEWORK ITEM IS DEPICTED ON THE PLANS. ADDITIONAL INFORMATION REQUIRED FOR CONSTRUCTION AND ITEM RELATED TO MEANS AND METHODS OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SPECIFIC SITEWORK ITEMS INSTALLED DIFFERENTLY THAN INTENDED AS DEPICTED ON THE PLANS. IN THE ABSENCE OF SUBMITTING AND ADDRESSING WRITTEN REQUESTS FOR INFORMATION.
10. ALL CONTRACTORS WORKING ON THIS PROJECT SHALL VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES PRIOR TO THE START OF WORK AND SHALL COMPLY WITH THE REQUIREMENTS OF 11. P.S. § 103.28 DECEMBER 10, 1974 AS LAST AMENDED ON OCTOBER 9, 2008, PENNSYLVANIA ACT 121.

LIST OF REQUESTED WAIVERS:

- 1. SECTION 1778-41 B(2): THIS SECTION REQUIRES TO HAVE A MINIMUM HORIZONTAL CURVE CENTER LINE RADIUS OF 150 FEET FOR LOCAL STREETS. THE APPLICANT IS REQUESTING A WAIVER FOR A MINIMUM RADIUS OF 81 FEET FOR THE LOOP ON ROAD C.
2. SECTION 1778-43 D: THIS SECTION REQUIRES LOCAL STREETS SHALL NOT INTERSECT ON THE SAME SIDE OF A COLLECTOR STREET AT INTERVALS OF MORE THAN 80 FEET. THE APPLICANT IS REQUESTING A WAIVER FROM THIS REQUIREMENT TO HAVE TWO STREETS INTERSECTING AT AN INTERVAL OF 540 FT.
3. SECTION 1778-56 A & 1778-93 F (3)(d): THIS SECTION REQUIRES EASEMENTS WITH A MINIMUM WIDTH OF 30 FT FOR SANITARY SEWER AND STORM DRAINAGE. THE APPLICANT IS REQUESTING A WAIVER FROM THIS REQUIREMENT TO PROVIDE A MINIMUM WIDTH OF 20 FT.
4. SECTION 1778-56 C: THIS SECTION REQUIRES THAT NOTHING OTHER THAN GRASS SHALL BE PLACED, PLANTED, SET OR PUT WITHIN THE AREA OF AN EASEMENT. THE APPLICANT IS REQUESTING A WAIVER FROM THIS REQUIREMENT TO PROVIDE PORTIONS OF PROPOSED DRIVEWAY TO BE PLACED WITHIN THE PROPOSED EASEMENTS.
5. SECTION 1778-80: THIS SECTION REQUIRES THE LANDSCAPE PLAN TO BE SIGNED AND SEALED BY THE DEVELOPER'S RLA OR PCH. THE APPLICANT IS REQUESTING A WAIVER FROM THIS REQUIREMENT TO PROVIDE A LANDSCAPE PLAN PREPARED BY ARNA ENGINEERING.
6. SECTION 1778-81 H (4): THIS SECTION REQUIRES TREES OF 10 INCHES CALIPER OR MORE WHICH ARE PROPOSED TO BE REMOVED DURING ANY STAGE OF DEVELOPMENT, GRADING AND/OR CONSTRUCTION WITHIN A SUBDIVISION OR LAND DEVELOPMENT SHALL BE REPLACED WITH AN APPROVED TREE OR TREES OF THE TYPE PROVIDED FOR IN THIS CHAPTER. THE APPLICANT IS REQUESTING A WAIVER FROM THIS REQUIREMENT TO PROVIDE 225 REPLACEMENT TREES OF THE 429 REPLACEMENT TREES REQUIRED.
7. SECTION 1778-93 F (3)(d): THIS SECTION REQUIRES THE TOP OF STORM DRAINAGE PIPES BENEATH CARTWAYS TO BE AT LEAST SIX INCHES BELOW SUB-GRADE ELEVATION AND OUTSIDE OF CARTWAYS. ALL PIPES TO HAVE A MINIMUM COVER OF TWO FEET. THE APPLICANT IS REQUESTING A WAIVER FROM THIS REQUIREMENT TO PROVIDE ONE FOOT OF COVER FOR PIPES OUTSIDE OF CARTWAYS.
8. SECTION 1778-95 D (1): THIS SECTION REQUIRES A MINIMUM DROP OF TWO INCHES TO BE PROVIDED IN THE INLET BETWEEN THE LOWEST INLET PIPE INVERT ELEVATION AND THE OUTLET PIPE INVERT ELEVATION. THE APPLICANT IS REQUESTING A WAIVER FROM THIS REQUIREMENT TO NOT PROVIDE A DROP BETWEEN INLET PIPE INVERT ELEVATION AND THE OUTLET PIPE INVERT ELEVATION.
9. SECTION 1778-95 D (1): NO EXCAVATION OR FILL SHALL BE MADE WITH A FACE OR SURFACE SLOPE STEEPER THAN FOUR HORIZONTAL TO ONE VERTICAL UNLESS A RETAINING WALL, CONSTRUCTED IN ACCORDANCE WITH APPROVED STANDARDS, IS PROVIDED TO SUPPORT THE FACE OR SURFACE SLOPE OF SAID EXCAVATION OR FILL. THE APPLICANT IS REQUESTING A WAIVER FROM THIS REQUIREMENT TO PROVIDE THREE HORIZONTAL TO ONE VERTICAL SLOPES.

LOT AREA AND IMPERVIOUS SURFACE RATIO SUMMARY TABLE. Columns: Lot, Net Lot Area (GSI), Net Lot Area (Ac), Bldg (SqF), Other Imp (SqF), Imp. Cover (SF), Permitted by Developer, Imp. Ratio (Ac), Meets Requirements.

Impervious Surface Ratios Permitted by Developer. Columns: Lot Size, Min, Max.



LAND N/F SCOTT M. & MELANIE S. STEBBINS PARCEL NO. 20-16-72 DEED BOOK 4670 PAGE 573 1337 EDGEWOOD ROAD

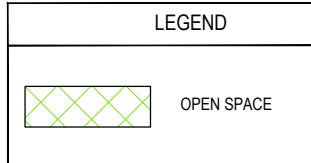
LAND N/F RAJENDRA S. & BHARATI R. PATEL PARCEL NO. 20-58-232 DEED BOOK 2799 PAGE 1062 549 LONG ACRE LANE

LAND N/F PETER W. & AMY FEDUN PARCEL NO. 20-61-16 DEED BOOK 6786 PAGE 928 547 WINCHESTER DRIVE

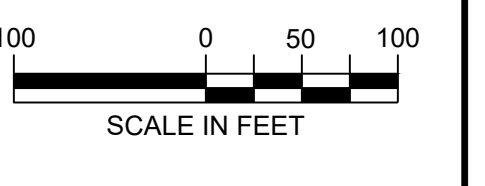
LAND N/F ALEXANDER & MARY E. FORMENTO PARCEL NO. 20-61-14 DEED BOOK 1261 PAGE 652 548 LONG ACRE LANE

LAND N/F WILLIAM & KATHLEEN HAYMAN PARCEL NO. 20-61-13 DEED BOOK 1896 PAGE 2122 549 LONG ACRE LANE

OPEN SPACE table with columns: Open Space #, Area (AC), Total Open Space.

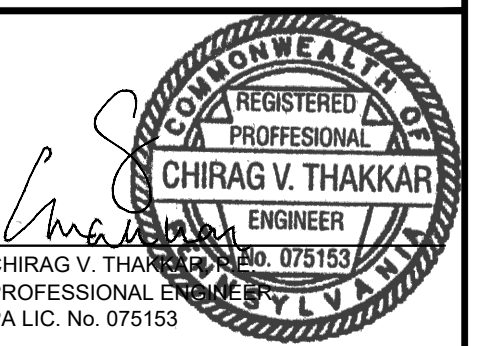


1111a Engineering Inc. 1456 Ferry Road, Suite 603 Doylestown, PA 18901 T: 215.766.8280 F: 215.434.5280



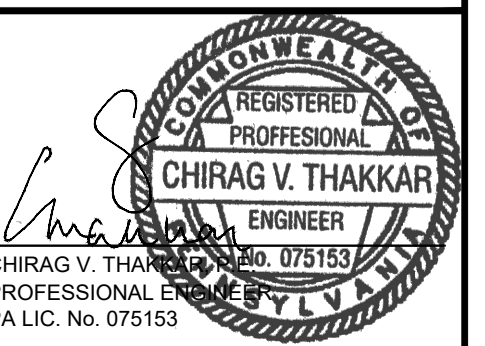
Project FIELDSTONE HARRIS TRACT SUBDIVISION TMP # 20-016-073 LOWER MAKEFIELD TOWNSHIP BUCKS COUNTY PENNSYLVANIA

MASTER SITE PLAN

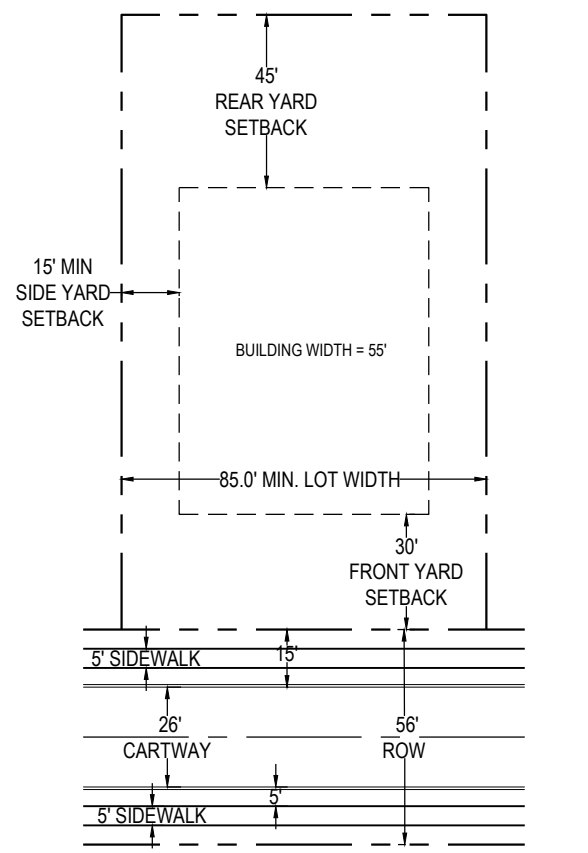
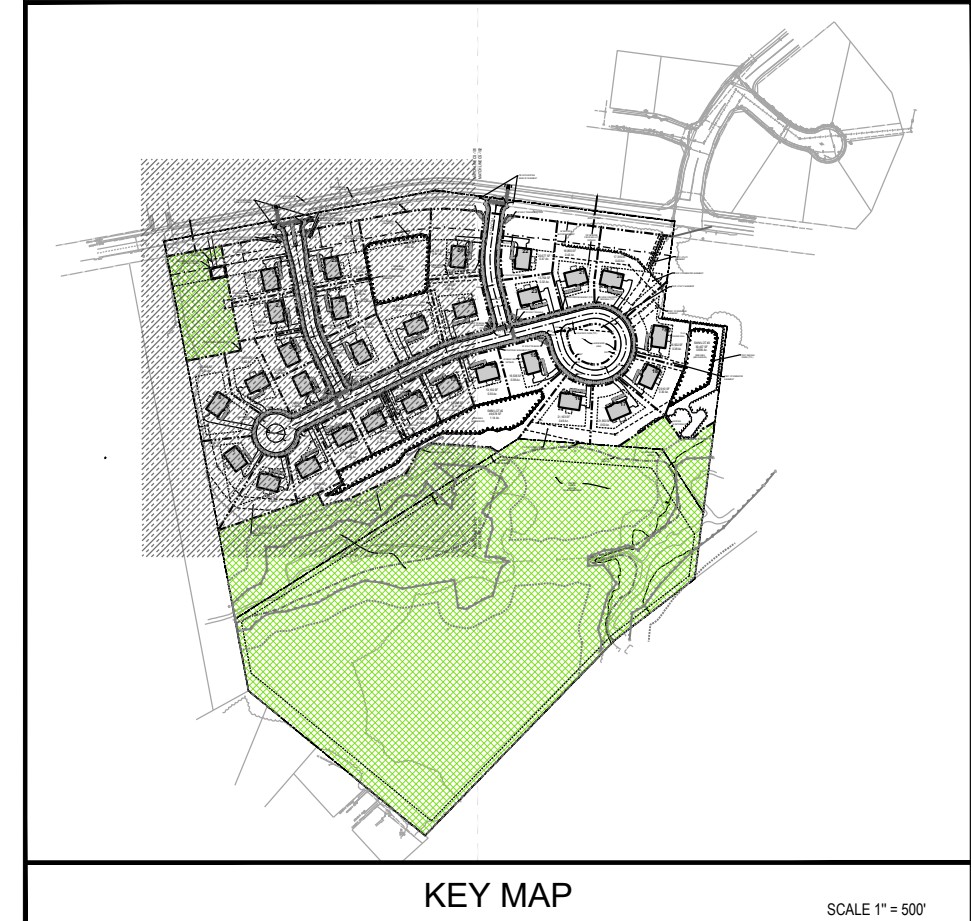


LEGEND table with columns: EXISTING SYMBOLS & LINES, PROPOSED SYMBOLS & LINES. Categories: SITE, GRADING AND DRAINAGE, UTILITY.

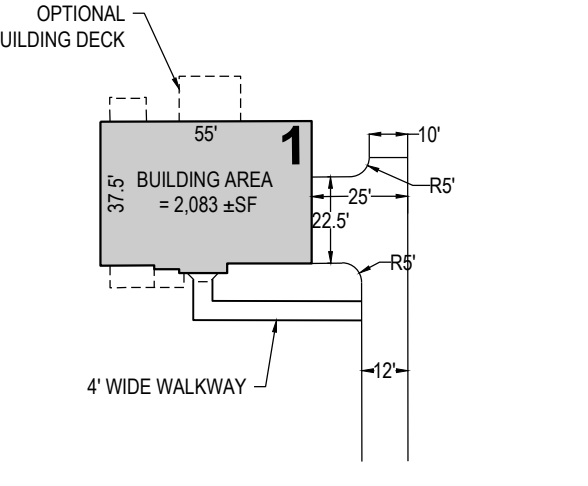
REVISIONS table with columns: DATE, COMMENTS, NO. and Drawing No. CS-100



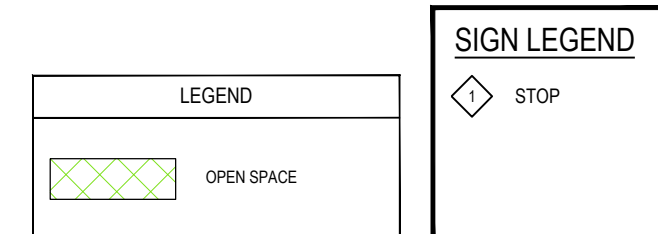
| DATE | COMMENTS | NO. |
|-------------|---------------|-----|
| REVISIONS | | |
| Project No. | 230015101 | |
| Date | 02-09-2024 | |
| Scale | 1" = 50' | |
| Drawn By | KGP | |
| Checked By | CT | |
| Drawing No. | CS-101 | |



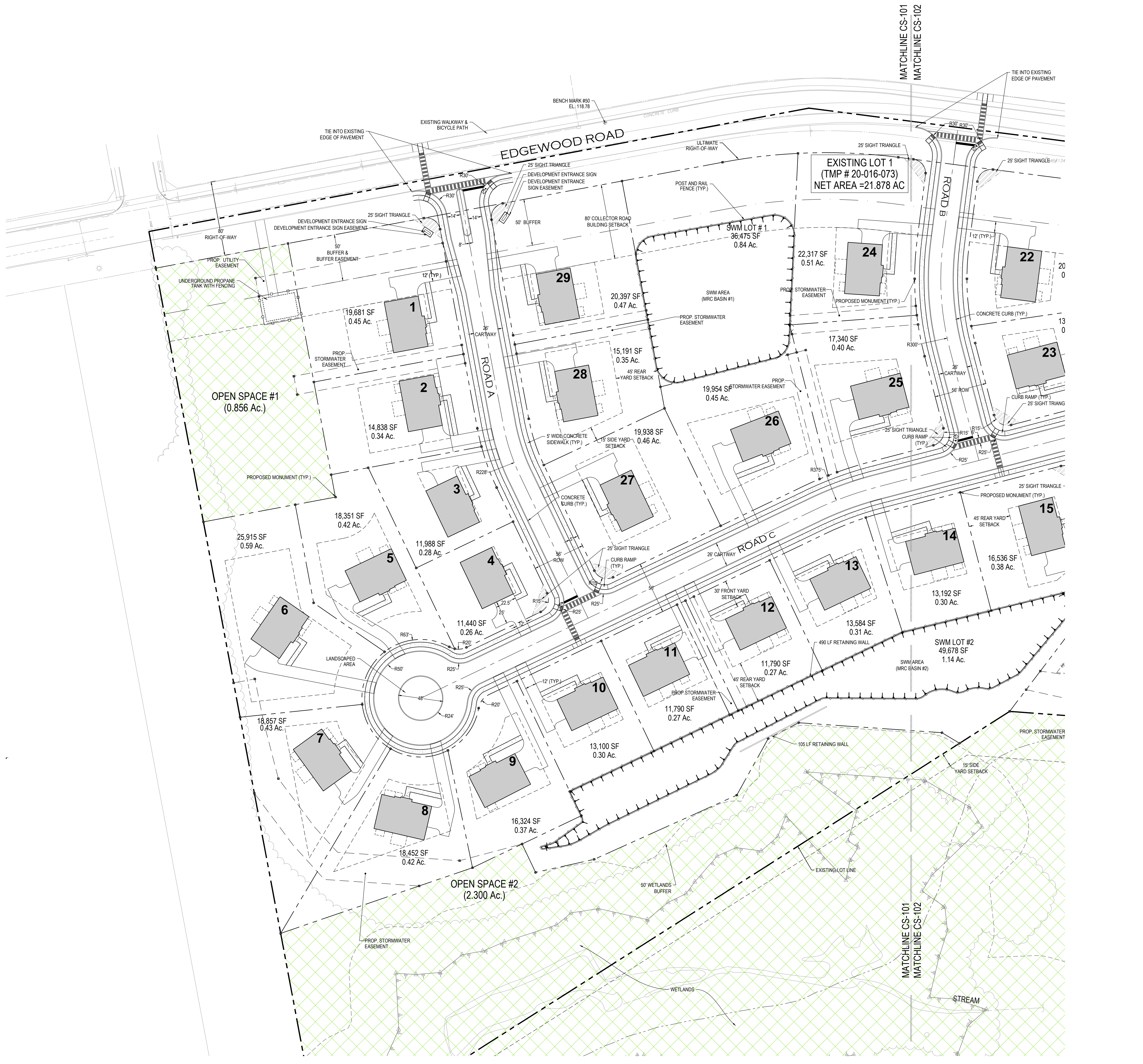
TYPICAL LOT SETBACK DETAIL
SCALE: 1"=50'



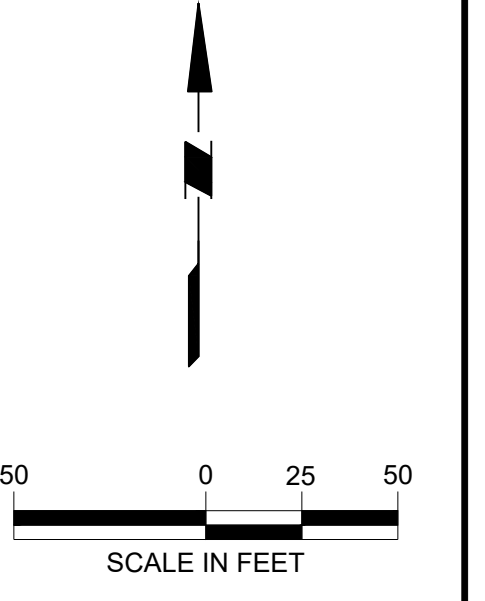
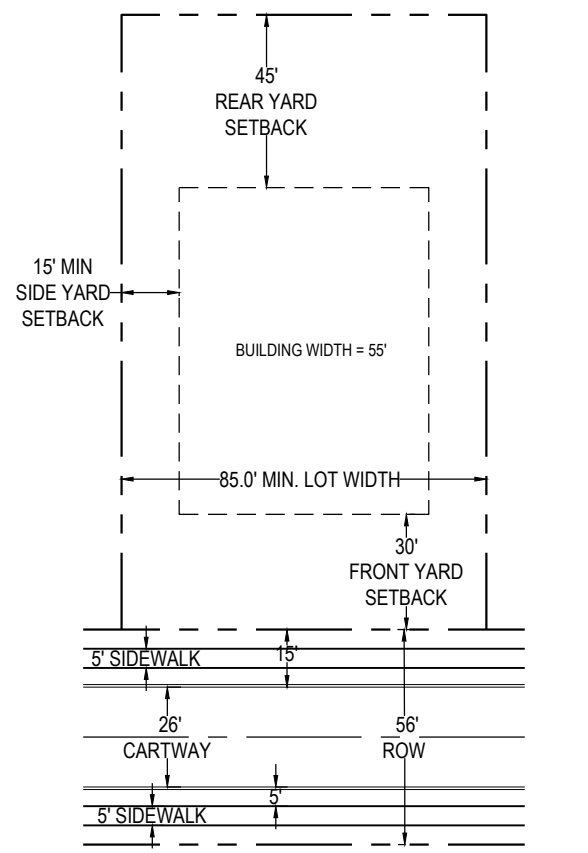
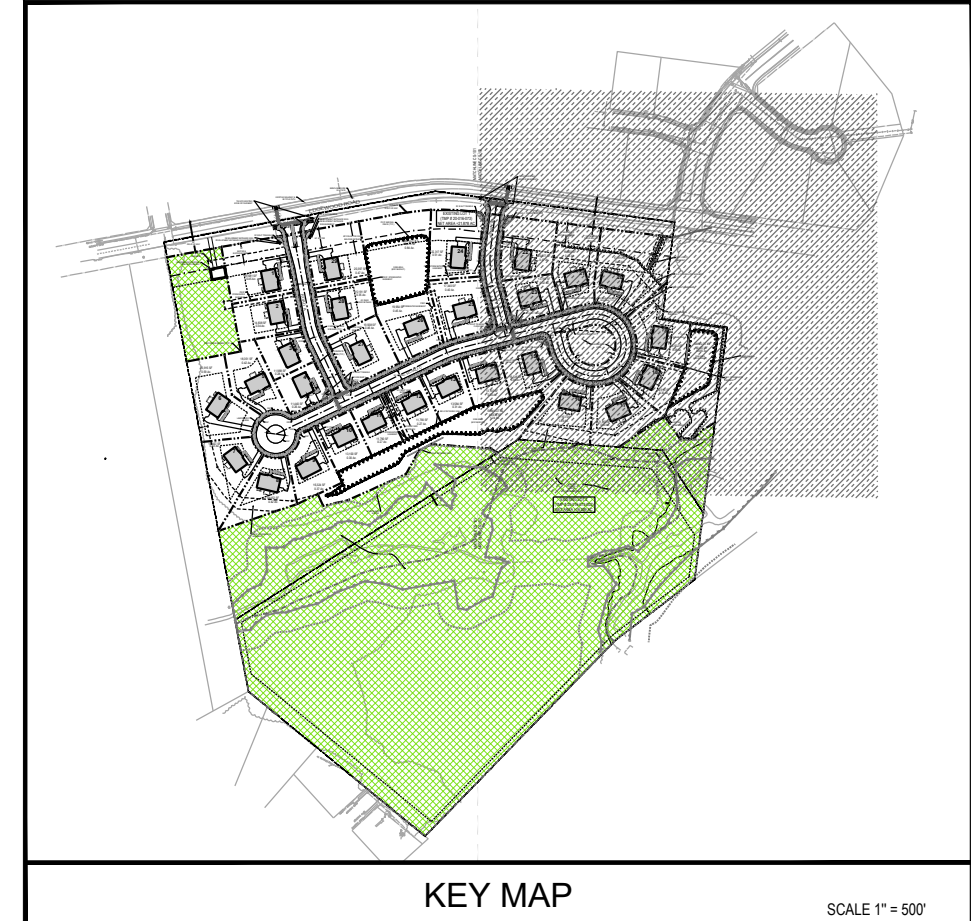
TYPICAL LOT DETAIL
SCALE: 1"=50'



| LEGEND | |
|--|---|
| EXISTING SYMBOLS & LINES | PROPOSED SYMBOLS & LINES |
| <ul style="list-style-type: none"> 190 --- MAJOR CONTOUR LINE 180 --- MINOR CONTOUR LINE --- TELECOMMUNICATIONS LINE --- OVERHEAD UTILITY LINE --- UNDERGROUND ELECTRIC LINE --- WATER LINE --- SANITARY SEWER LINE --- GAS LINE --- STORM SEWER LINE --- TREE/BRUSH LINE --- PROPERTY LINE --- RIGHT-OF-WAY LINE --- DEPRESSED CURB --- FENCE ○ LIGHT POLE ○ UTILITY POLE ○ FIRE HYDRANT ○ WATER VALVE ○ WATER METER ○ WATER WELL ○ MONITORING WELL ○ GAS VALVE ○ SIGN ○ CONCRETE MONUMENT FOUND ○ RAIL MONUMENT FOUND ○ IRON PIN FOUND ○ IRON PIPE FOUND ○ IRON PIN SET ○ EXISTING POST ○ DECIDUOUS TREE ○ CONIFEROUS TREE ○ AIR CONDITIONING UNIT ○ ELECTRIC METER ○ CLEANOUT ○ CONCRETE | <ul style="list-style-type: none"> --- SITE --- SETBACK LINE --- ROAD CENTER LINE --- BUILDING --- DOOR --- EDGE OF PAVEMENT --- TRAFFIC SIGN --- PROPOSED LOT LINE --- POST AND RAIL FENCE --- STORMWATER FACILITY |
| GRADING AND DRAINAGE | |
| <ul style="list-style-type: none"> --- STORM PIPE --- CATCH BASIN --- PROPOSED CONTOUR ○ SPOT GRADE ○ TOP OF WALL ELEVATION ○ BOTTOM OF WALL ELEVATION ○ FLOW ARROW ○ HEADWALL / FLARED END SECTION ○ RIP-RAP | |
| UTILITY | |
| <ul style="list-style-type: none"> --- TELEPHONE & ELECTRIC LINE --- GAS LINE --- WATER LINE --- SANITARY SEWER LINE | |

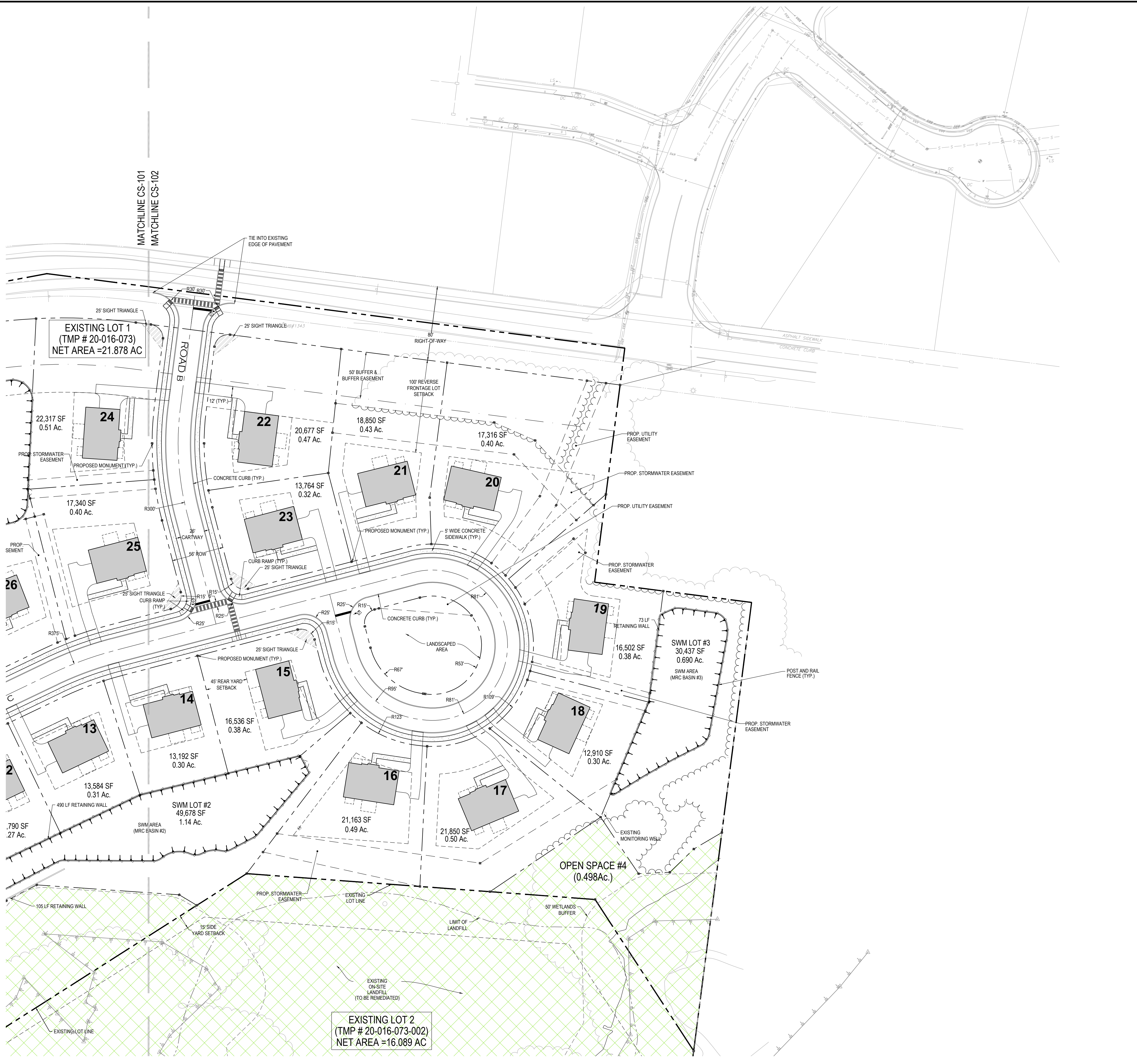
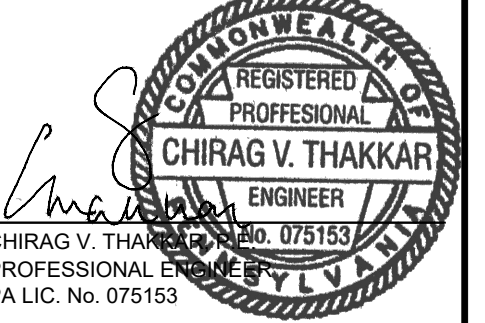


PROJECT: 230015101 - FIELDSTONE HARRIS TRACT SUBDIVISION

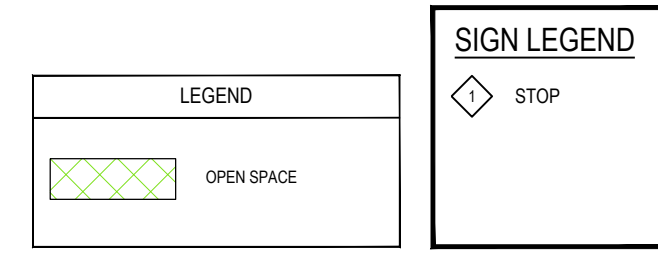
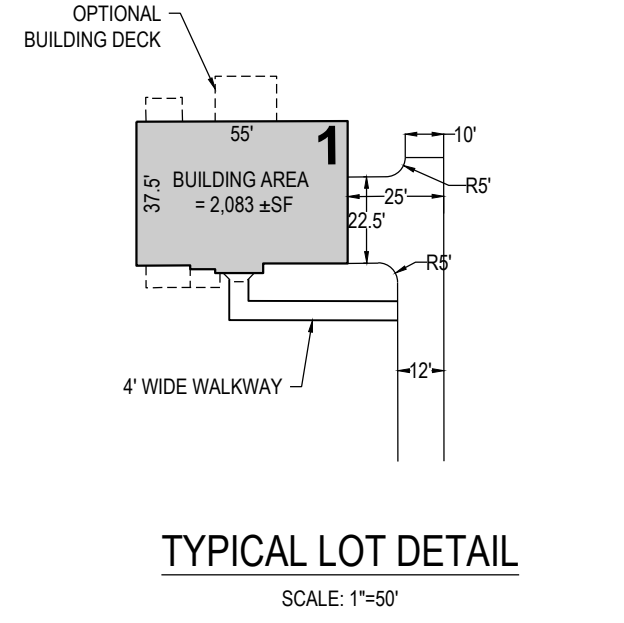


Project
FIELDSTONE HARRIS TRACT SUBDIVISION
TMP # 20-016-073
LOWER MAKEFIELD TOWNSHIP
BUCKS COUNTY PENNSYLVANIA

Drawing Title
SITE PLAN



TYPICAL LOT SETBACK DETAIL
SCALE: 1"=50'



| LEGEND | |
|---|---|
| EXISTING SYMBOLS & LINES | PROPOSED SYMBOLS & LINES |
| <ul style="list-style-type: none"> 190 --- MAJOR CONTOUR LINE 180 --- MINOR CONTOUR LINE --- TELECOMMUNICATIONS LINE --- OVERHEAD UTILITY LINE --- UNDERGROUND ELECTRIC LINE --- WATER LINE --- SANITARY SEWER LINE --- GAS LINE --- STORM SEWER LINE --- TREE/BRUSH LINE --- PROPERTY LINE --- RIGHT-OF-WAY LINE --- DEPRESSED CURB --- FENCE ○ LIGHT POLE ○ UTILITY POLE ○ FIRE HYDRANT ○ WATER VALVE ○ WATER METER ○ WATER WELL ○ MONITORING WELL ○ GAS VALVE ○ SIGN □ CONCRETE MONUMENT FOUND □ RAIL MONUMENT FOUND ○ IRON PIN FOUND ○ IRON PIPE FOUND ○ IRON PIN SET ○ EXISTING POST ○ DECIDUOUS TREE ○ CONIFEROUS TREE ACU AIR CONDITIONING UNIT EM ELECTRIC METER CO CLEANOUT CONC. CONCRETE (TR) (TBR) | <ul style="list-style-type: none"> --- SITE --- SETBACK LINE --- ROAD CENTER LINE --- BUILDING ▽ DOOR --- EDGE OF PAVEMENT --- TRAFFIC SIGN --- PROPOSED LOT LINE --- POST AND RAIL FENCE --- STORMWATER FACILITY |
| GRADING AND DRAINAGE | |
| <ul style="list-style-type: none"> --- STORM PIPE ■ CATCH BASIN --- PROPOSED CONTOUR x 100.00 SPOT GRADE x 100.00 TOP OF WALL ELEVATION x 89.90.00 BOTTOM OF WALL ELEVATION --- FLOW ARROW --- HEADWALL / FLARED END SECTION --- RIP-RAP | |
| UTILITY | |
| <ul style="list-style-type: none"> --- TELEPHONE & ELECTRIC LINE --- GAS LINE --- WATER LINE --- SANITARY SEWER LINE | |

| DATE | COMMENTS | NO. |
|-----------|----------|-----|
| REVISIONS | | |

| | |
|-------------|------------|
| Project No. | 230015101 |
| Date | 02-09-2024 |
| Scale | 1" = 50' |
| Drawn By | KGP |
| Checked By | CT |

Drawing No.
CS-102
Sheet 6 of 37

GENERAL INFORMATION

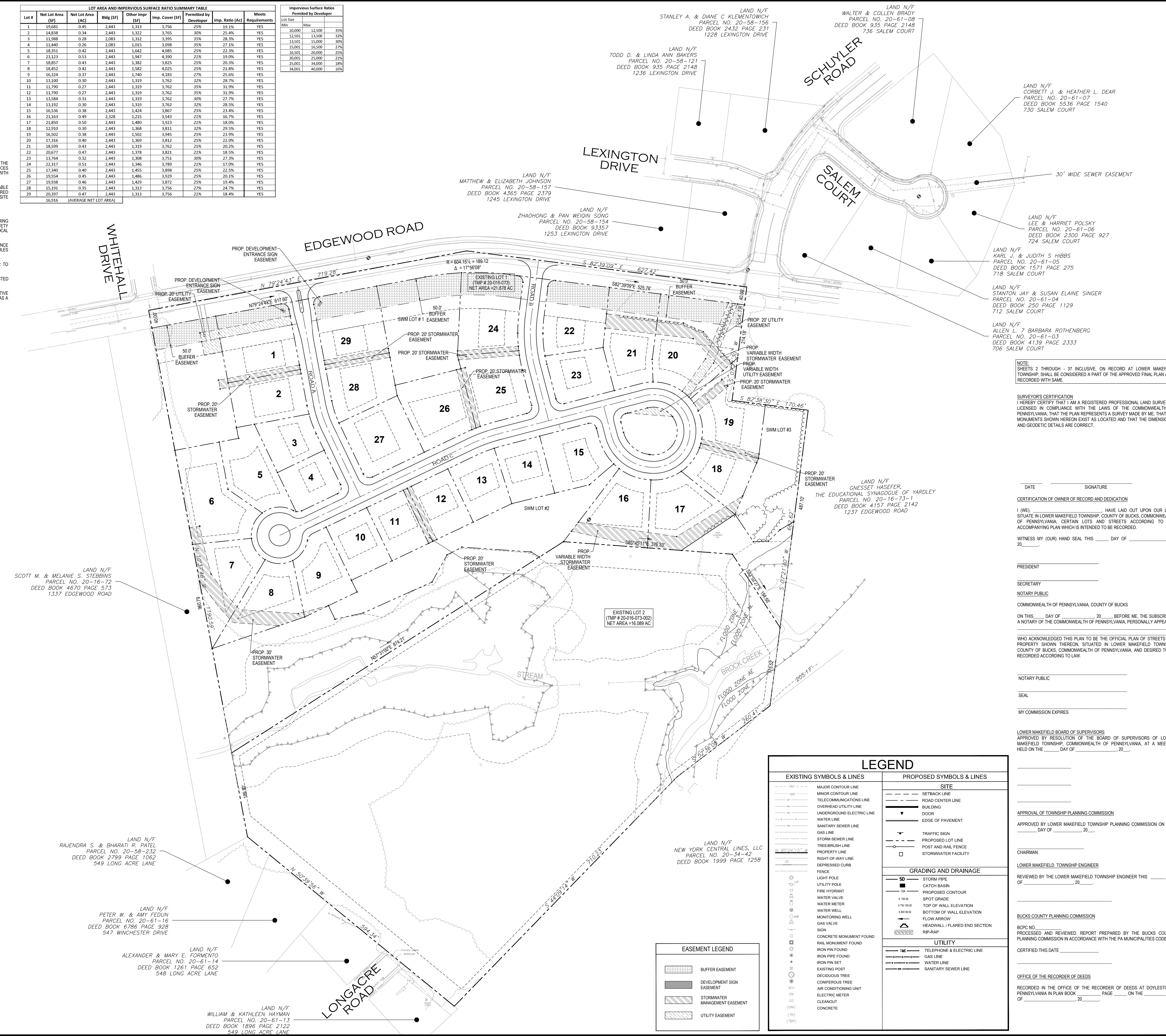
TAX MAP PARCEL NUMBERS: 20-016-073 & 20-016-073-002
 SITE ADDRESS: 1269 EDGEWOOD ROAD, YARDLEY, PA 19067
 OWNER: QUAKER GROUP BUCKS ASSOCIATES, INC.
 1103 LAUREL OAK ROAD
 SUITE 103
 VORHEES, NJ 08043
 LAND RECORD BOOK 2785 PAGE 1620
 APPLICANT: IPO-FIELDSTONE, L.P.
 1 FAYETTE STREET
 SUITE 175
 CONSHOHOCKEN, PA 19428
 TOTAL GROSS SITE AREA: = 39.209 ACRES
 AREA WITHIN EXISTING ULTIMATE ROW OF EDGEWOOD ROAD = 1.242 ACRES
 EXISTING LOT 1 = 21.878 ACRES (NET), 23.120 (GROSS)
 EXISTING LOT 2 = 16.089 ACRES (NET), 16.089 (GROSS)

GENERAL SITE PLAN NOTES:

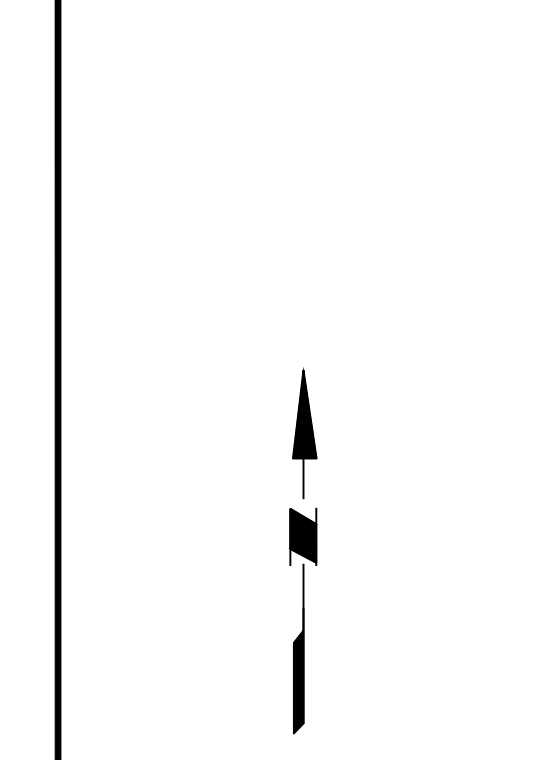
- THIS PLAN IS NOT VALID UNLESS EMBOSSED WITH THE SEAL OF THE UNDERSIGNED PROFESSIONAL(S).
- THE PROJECT SITE CONSIST OF PARCELS T.M.P. #20-016-073 (LOT 1) AND T.M.P. #20-016-073-002 (LOT 2) AND IS LOCATED IN THE RESIDENTIAL ZONING DISTRICT OF LOWER MAKEFIELD TOWNSHIP.
- THIS DRAWING REFERENCE SURVEY INFORMATION BASED ON A PLAN FROM ASH ASSOCIATES, INC. ENTITLED "ALTAACSM LAND TITLE SURVEY, PREPARED FOR 1269 EDGEWOOD ROAD, YARDLEY, PA 19067, DATED 04/14/2015.
- PROPERTY BOUNDARY AND RIGHT OF WAY INFORMATION SHOWN IS BASED ON PLAN TITLED "FINAL MINOR SUBDIVISION PLAN, 1269 EDGEWOOD ROAD", PREPARED BY TAM, LAST REVISED 10-17-16.
- NO CERTIFICATION IS MADE BY THE UNDERSIGNED AS TO THE ACTUAL UNDERGROUND POSITION OF ANY UTILITIES OF TO THE COMPLETENESS AND / OR ACCURACY OF UTILITY INFORMATION PROVIDED BY OTHERS.
- ELEVATIONS BASED ON NAVD 1988.
- ALL CONCRETE STRUCTURES TO HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI UNLESS OTHERWISE NOTED.
- REFER TO ARCHITECTURAL PLANS FOR DETAILS OF PROPOSED BUILDINGS. ALSO REFER TO ARCHITECTURAL PLANS FOR UTILITY IN LOCATIONS.
- CONTRACTOR SHALL PROVIDE WRITTEN REQUESTS FOR INFORMATION TO THE OWNER AND OWNER'S ENGINEER PRIOR TO THE CONSTRUCTION OF ANY SPECIFIC SITEWORK ITEM IF ANY SPECIFIC SITEWORK ITEM DEPICTED ON THE PLANS WARRANTS ADDITIONAL INFORMATION REQUIRED FOR CONSTRUCTION AND IS NOT RELATED TO MEANS AND METHODS OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SPECIFIC SITE WORK ITEMS INSTALLED DIFFERENTLY THAN INTENDED AS DEPICTED ON THE PLANS IN THE ABSENCE OF SUBMITTING AND ADDRESSING WRITTEN REQUESTS FOR INFORMATION.
- ALL CONTRACTORS WORKING ON THIS PROJECT SHALL VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES FACILITIES PRIOR TO THE START OF WORK AND SHALL COMPLY WITH THE REQUIREMENTS OF P.L. 82, NO. 287 DECEMBER 10, 1974 AS LAST AMENDED ON OCTOBER 9, 2008, PENNSYLVANIA ACT 121.
- ALL TRAFFIC CONTROL SIGNS SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND SHALL BE DESIGNED IN ACCORDANCE WITH THE "PENNDOT GUIDELINES" LATEST EDITION.
- THE CONTRACTOR SHALL PROVIDE ALL APPLICABLE JURISDICTIONAL AUTHORITIES / AGENCIES REQUIRED NOTICE BEFORE BEGINNING ANY ON-SITE OR OFF-SITE WORK.
- ALL TOPSOIL MUST REMAIN ON THE SITE.
- THE CONTRACTOR IS FULLY RESPONSIBLE FOR ADHERING TO ALL REGULATIONS RELATED TO HEALTH AND SAFETY AS WELL AS ALL APPLICABLE STATE, FEDERAL AND LOCAL RULES AND REGULATIONS.
- ALL DEMOLITION MUST BE PERFORMED IN COMPLIANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL RULES AND REGULATIONS.
- ALL TOWNSHIP PERMITS MUST BE OBTAINED PRIOR TO THE START OF CONSTRUCTION.
- THE PROPOSED OPEN SPACE SHALL BE DEED RESTRICTED FROM FURTHER DEVELOPMENT AND/OR SUBDIVISION.
- THE OWNER IS RESPONSIBLE FOR CORRECTIVE STORMWATER MEASURES SHOULD PROBLEMS ARISE AS A RESULT OF THE PROPOSED CONSTRUCTION.

| LOT AREA AND IMPERVIOUS SURFACE RATIO SUMMARY TABLE | | | | | | | |
|---|------------------------|-------------------|-----------|-----------------|-----------------|------------------------|--------------------|
| Lot # | Net Lot Area (SF) | Net Lot Area (Ac) | Bldg (SF) | Other Impr (SF) | Imp. Cover (SF) | Permitted by Developer | Meets Requirements |
| 1 | 15,681 | 0.45 | 2,443 | 1,313 | 3,756 | 25% | 19.1% |
| 2 | 14,838 | 0.34 | 2,443 | 1,322 | 3,765 | 30% | 25.4% |
| 3 | 11,588 | 0.28 | 2,083 | 1,312 | 3,395 | 35% | 28.3% |
| 4 | 11,440 | 0.26 | 2,083 | 1,015 | 3,098 | 35% | 27.1% |
| 5 | 18,351 | 0.42 | 2,443 | 1,642 | 4,085 | 25% | 22.3% |
| 6 | 23,123 | 0.53 | 2,443 | 1,947 | 4,390 | 21% | 19.0% |
| 7 | 18,657 | 0.43 | 2,443 | 1,392 | 3,835 | 25% | 20.3% |
| 8 | 18,452 | 0.42 | 2,443 | 1,582 | 4,025 | 25% | 21.8% |
| 9 | 16,324 | 0.37 | 2,443 | 1,740 | 4,183 | 27% | 25.6% |
| 10 | 11,100 | 0.30 | 2,443 | 1,319 | 3,762 | 32% | 28.7% |
| 11 | 11,790 | 0.27 | 2,443 | 1,319 | 3,762 | 35% | 31.9% |
| 12 | 11,790 | 0.27 | 2,443 | 1,319 | 3,762 | 35% | 31.9% |
| 13 | 13,584 | 0.31 | 2,443 | 1,319 | 3,762 | 30% | 27.7% |
| 14 | 11,192 | 0.30 | 2,443 | 1,319 | 3,762 | 32% | 28.5% |
| 15 | 16,536 | 0.38 | 2,443 | 1,424 | 3,867 | 25% | 23.4% |
| 16 | 21,163 | 0.49 | 2,328 | 1,215 | 3,543 | 21% | 16.7% |
| 17 | 21,850 | 0.50 | 2,443 | 1,480 | 3,923 | 21% | 18.0% |
| 18 | 12,910 | 0.30 | 2,443 | 1,368 | 3,811 | 25% | 29.5% |
| 19 | 16,502 | 0.38 | 2,443 | 1,502 | 3,945 | 25% | 23.9% |
| 20 | 17,316 | 0.40 | 2,443 | 1,369 | 3,812 | 25% | 22.0% |
| 21 | 18,599 | 0.43 | 2,443 | 1,319 | 3,762 | 25% | 20.2% |
| 22 | 20,677 | 0.47 | 2,443 | 1,378 | 3,821 | 21% | 18.5% |
| 23 | 13,764 | 0.32 | 2,443 | 1,308 | 3,751 | 30% | 27.3% |
| 24 | 22,317 | 0.51 | 2,443 | 1,346 | 3,789 | 21% | 17.0% |
| 25 | 13,340 | 0.40 | 2,443 | 1,455 | 3,898 | 25% | 22.0% |
| 26 | 19,554 | 0.45 | 2,443 | 1,486 | 3,929 | 25% | 20.1% |
| 27 | 19,538 | 0.46 | 2,443 | 1,429 | 3,872 | 25% | 19.4% |
| 28 | 15,191 | 0.35 | 2,443 | 1,313 | 3,756 | 27% | 24.7% |
| 29 | 20,397 | 0.47 | 2,443 | 1,313 | 3,756 | 21% | 18.4% |
| 16,916 | (AVERAGE NET LOT AREA) | | | | | | |

| Impervious Surface Ratios Permitted by Developer | | |
|--|--------|-----|
| Lot Size | Min | Max |
| 10,000 | 12,500 | 35% |
| 12,501 | 13,500 | 32% |
| 13,501 | 15,000 | 30% |
| 15,001 | 16,500 | 27% |
| 16,501 | 20,000 | 25% |
| 20,001 | 25,000 | 21% |
| 25,001 | 30,000 | 18% |
| 30,001 | 40,000 | 15% |



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 T: 215.766.8280
 F: 215.434.5280



Project: FIELDSTONE HARRIS TRACT SUBDIVISION
 TMP # 20-016-073
 LOWER MAKEFIELD TOWNSHIP, PENNSYLVANIA

Drawing Title: EASEMENT PLAN

DATE: _____ SIGNATURE: _____
 CERTIFICATION OF OWNER OF RECORD AND DEDICATION:
 I (WE), _____ HAVE LAD OUT UPON OUR LAND SITUATE IN LOWER MAKEFIELD TOWNSHIP, COUNTY OF BUCKS, COMMONWEALTH OF PENNSYLVANIA, CERTAIN LOTS AND STREETS ACCORDING TO THE ACCOMPANYING PLAN WHICH IS INTENDED TO BE RECORDED.
 WITNESS MY (OUR) HAND SEAL THIS _____ DAY OF _____, 20____.

NOTARY PUBLIC: _____
 SECRETARY: _____
 NOTARY PUBLIC: _____
 SEAL: _____
 MY COMMISSION EXPIRES: _____

APPROVAL OF TOWNSHIP PLANNING COMMISSION:
 APPROVED BY LOWER MAKEFIELD TOWNSHIP PLANNING COMMISSION ON THIS _____ DAY OF _____, 20____.

CHAIRMAN: _____
 LOWER MAKEFIELD TOWNSHIP ENGINEER: _____
 REVIEWED BY THE LOWER MAKEFIELD TOWNSHIP ENGINEER THIS _____ DAY OF _____, 20____.

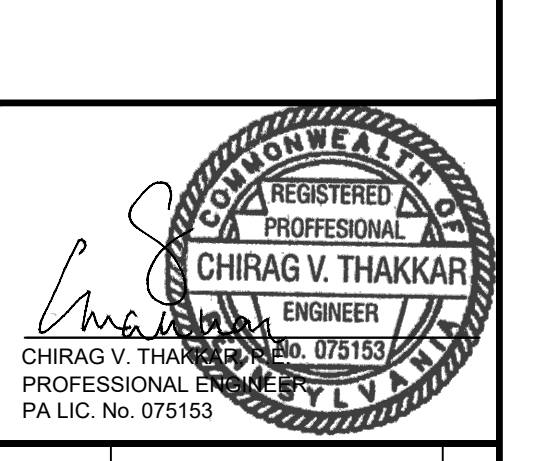
BUCKS COUNTY PLANNING COMMISSION:
 BCPC NO. _____
 PROCESSED AND REVIEWED. REPORT PREPARED BY THE BUCKS COUNTY PLANNING COMMISSION IN ACCORDANCE WITH THE PA MUNICIPALITIES CODE.
 CERTIFIED THIS DATE: _____

OFFICE OF THE RECORDER OF DEEDS:
 RECORDED IN THE OFFICE OF THE RECORDER OF DEEDS AT DOYLESTOWN, PENNSYLVANIA IN PLAN BOOK _____ PAGE _____ ON THE _____ DAY OF _____, 20____.

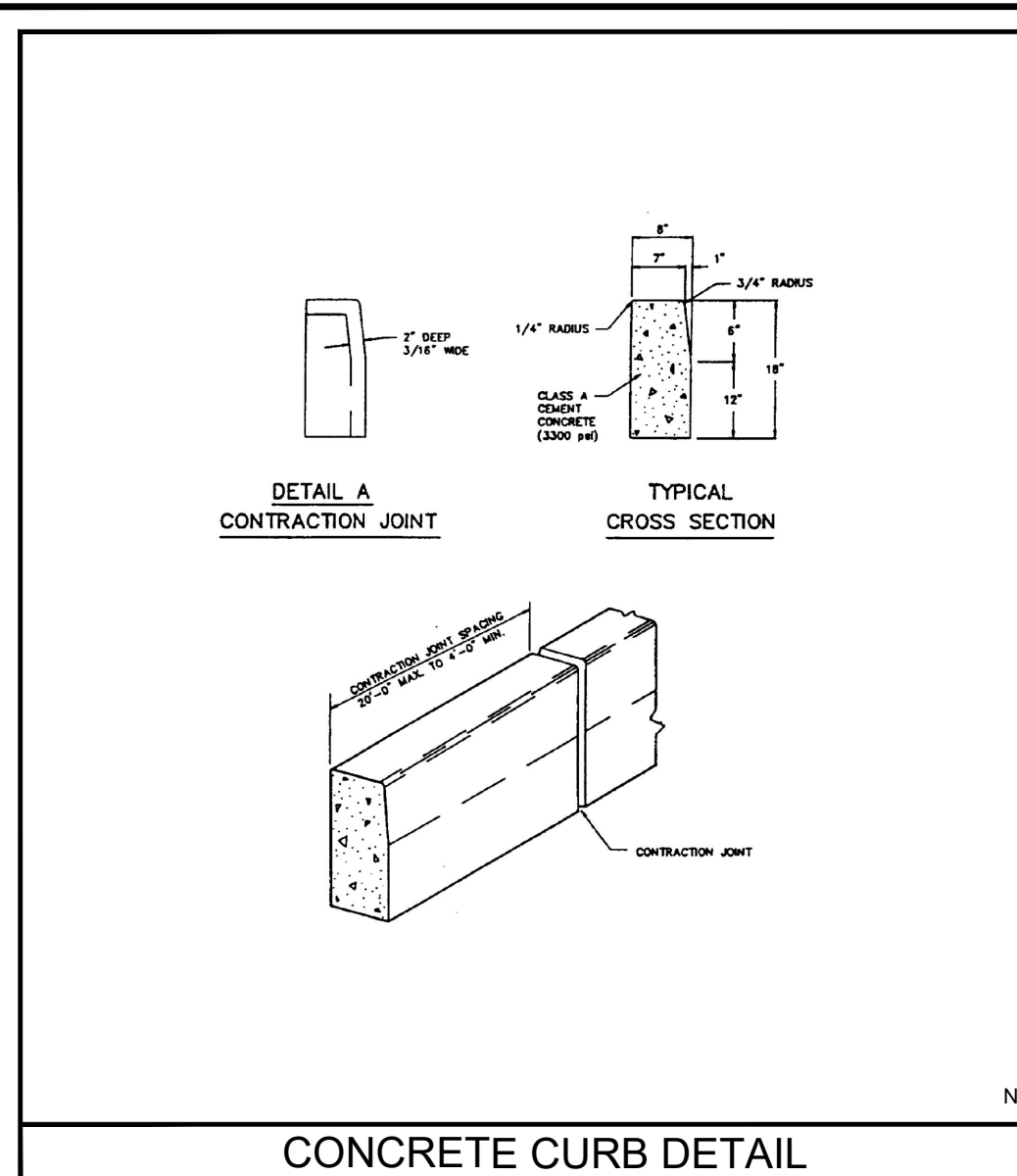
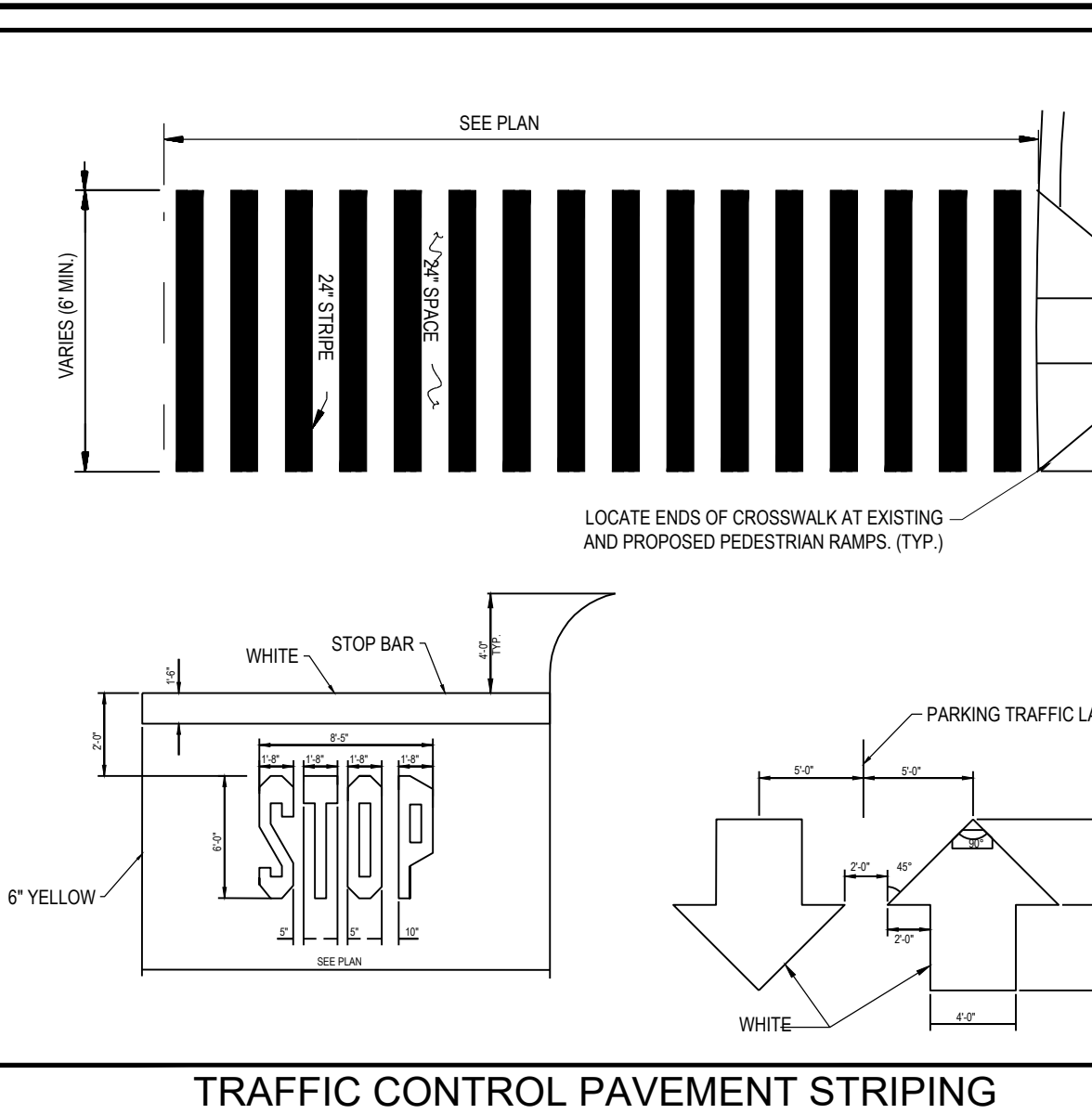
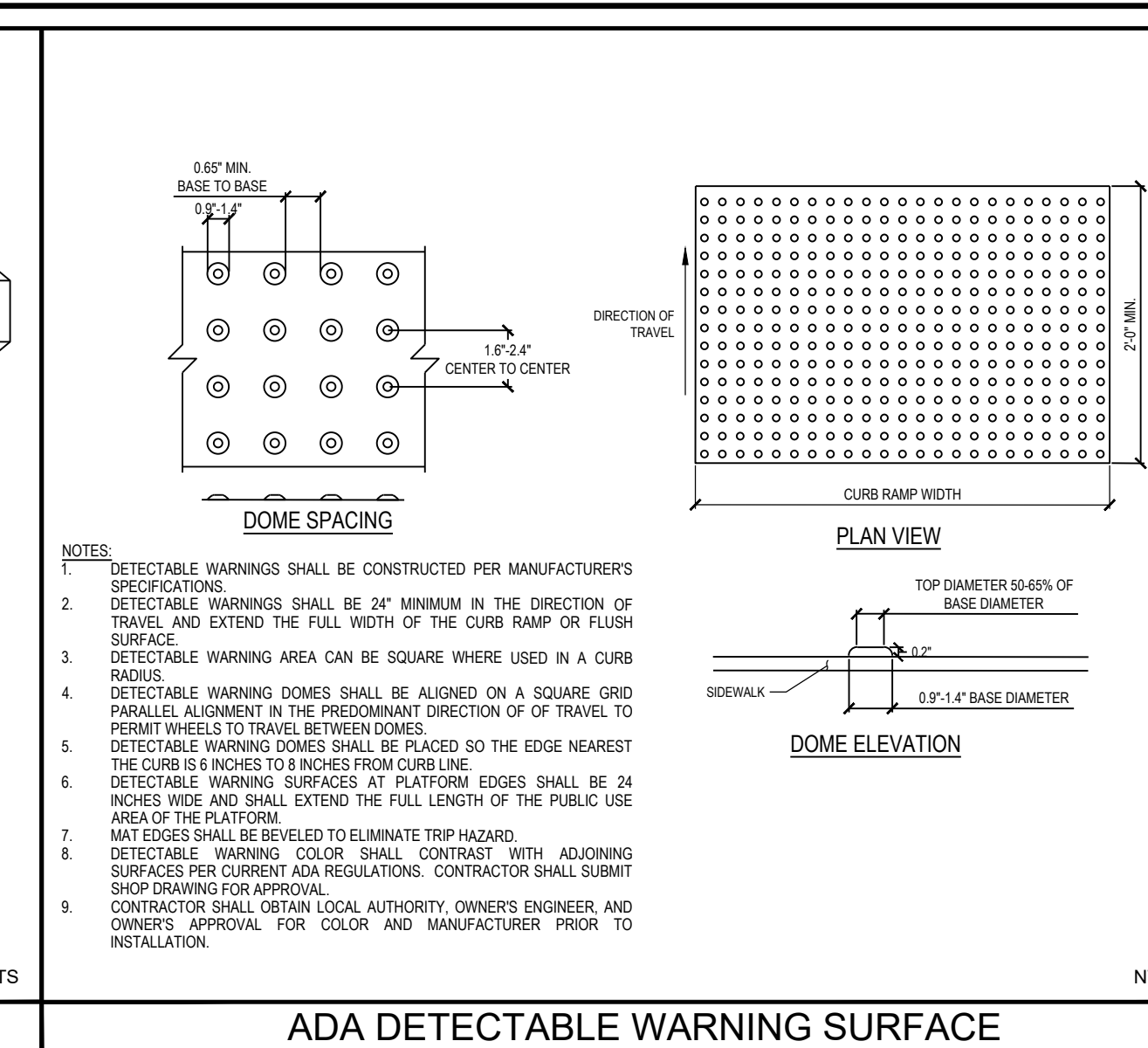
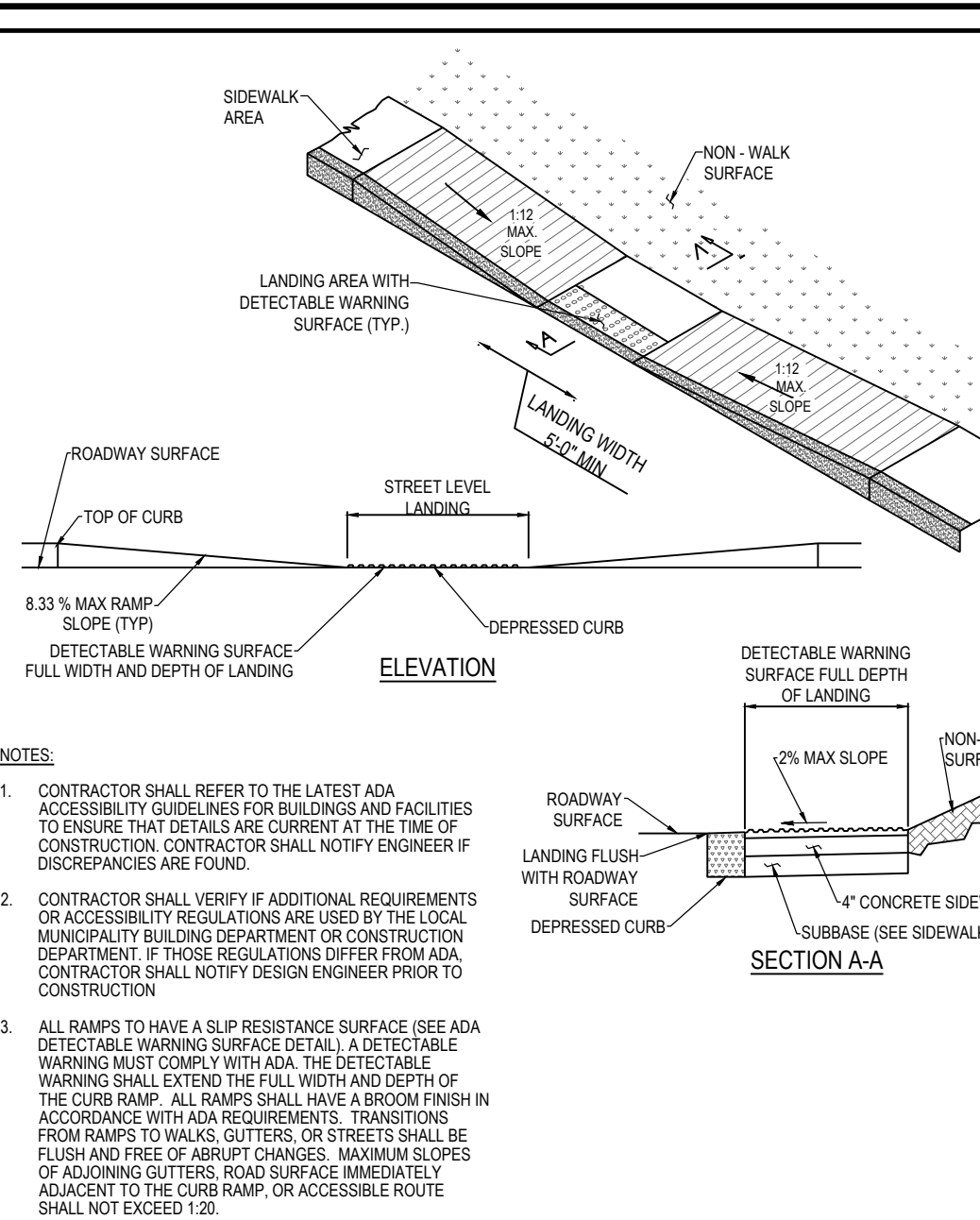
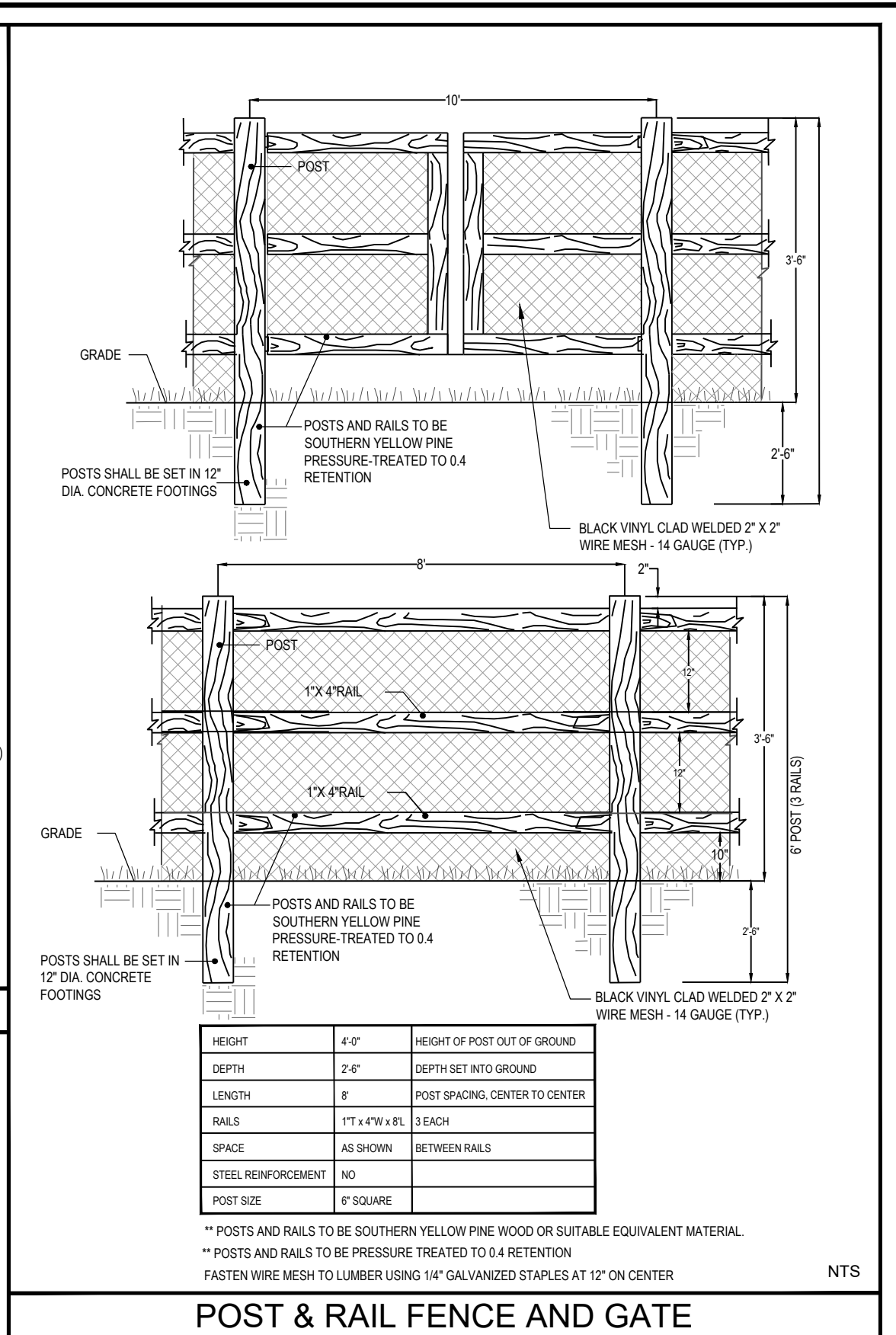
| DATE | COMMENTS | NO. |
|-------------|------------|-----|
| REVISIONS | | |
| Project No. | 230015101 | |
| Date | 02-09-2024 | |
| Scale | 1" = 100' | |
| Drawn By | KGP | |
| Checked By | CT | |
| Drawing No. | EA-100 | |
| Sheet | 8 of 37 | |

| LEGEND | |
|-------------------------------|-----------------------------------|
| EXISTING SYMBOLS & LINES | PROPOSED SYMBOLS & LINES |
| --- MAJOR CONTOUR LINE | --- SETBACK LINE |
| --- MINOR CONTOUR LINE | --- ROAD CENTER LINE |
| --- TELECOMMUNICATIONS LINE | --- BUILDING |
| --- OVERHEAD UTILITY LINE | --- DOOR |
| --- UNDERGROUND ELECTRIC LINE | --- EDGE OF PAVEMENT |
| --- WATER LINE | --- TRAFFIC SIGN |
| --- SANITARY SEWER LINE | --- PROPOSED LOT LINE |
| --- GAS LINE | --- TREE/BURSH LINE |
| --- STORM SEWER LINE | --- PROPERTY LINE |
| --- FENCE | --- RIGHT-OF-WAY LINE |
| --- LIGHT POLE | --- DEPRESSION CURB |
| --- UTILITY POLE | --- LIGHT POLE |
| --- FIRE HYDRANT | --- CATCH BASIN |
| --- WATER VALVE | --- SPOT GRADE |
| --- WATER METER | --- TOP OF WALL ELEVATION |
| --- WATER WELL | --- BOTTOM OF WALL ELEVATION |
| --- GAS VALVE | --- FLOW ARROW |
| --- MONITORING WELL | --- HEADWALL / FLARED END SECTION |
| --- SIGN | --- RIP-RAP |
| --- CONCRETE MONUMENT FOUND | --- UTILITY |
| --- RAIL MONUMENT FOUND | --- TELEPHONE & ELECTRIC LINE |
| --- IRON PIN FOUND | --- GAS LINE |
| --- IRON PIPE FOUND | --- WATER LINE |
| --- IRON PIN SET | --- SANITARY SEWER LINE |
| --- EXISTING POST | |
| --- DECIDUOUS TREE | |
| --- CONIFEROUS TREE | |
| --- AIR CONDITIONING UNIT | |
| --- ELECTRIC METER | |
| --- CLEANOUT | |
| --- CONCRETE | |

| EASEMENT LEGEND | |
|-----------------|--------------------------------|
| [Pattern] | BUFFER EASEMENT |
| [Pattern] | DEVELOPMENT SIGN EASEMENT |
| [Pattern] | STORMWATER MANAGEMENT EASEMENT |
| [Pattern] | UTILITY EASEMENT |

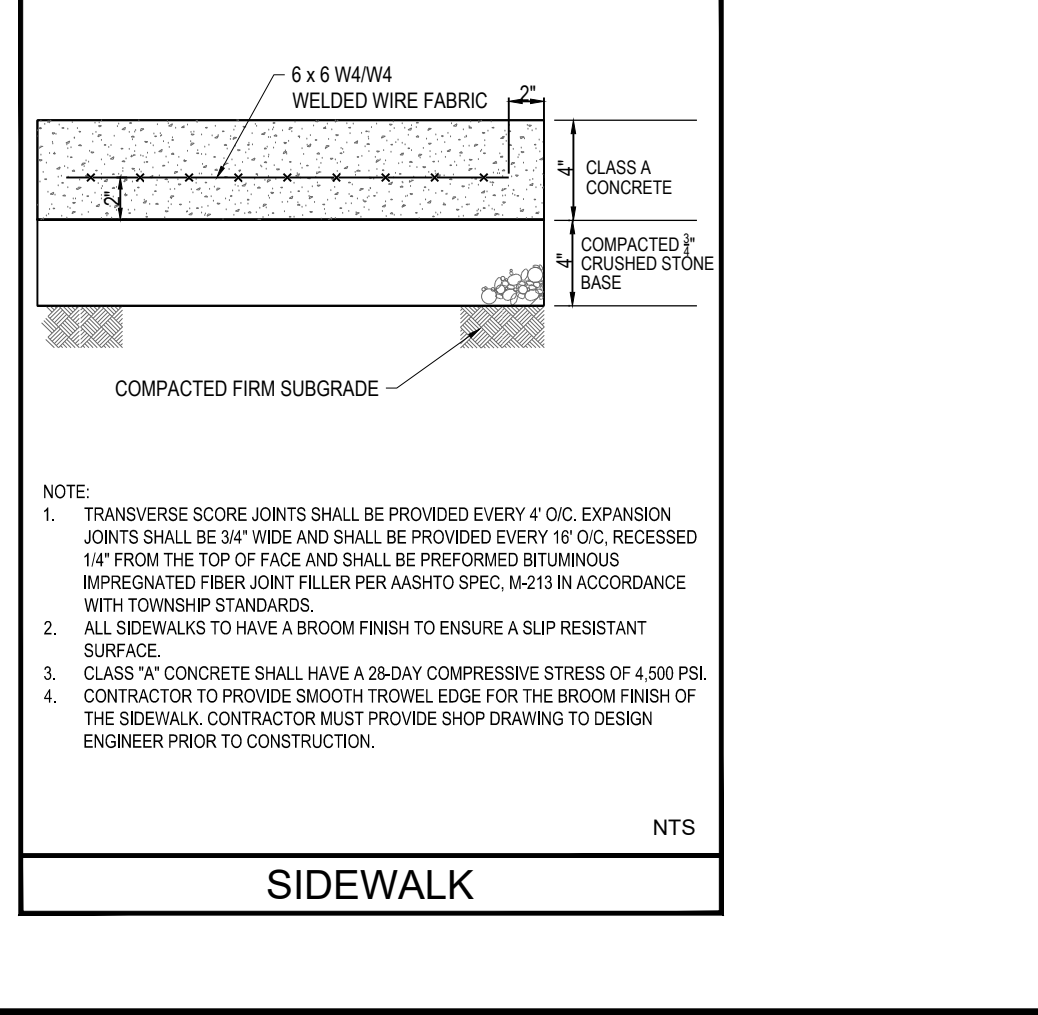
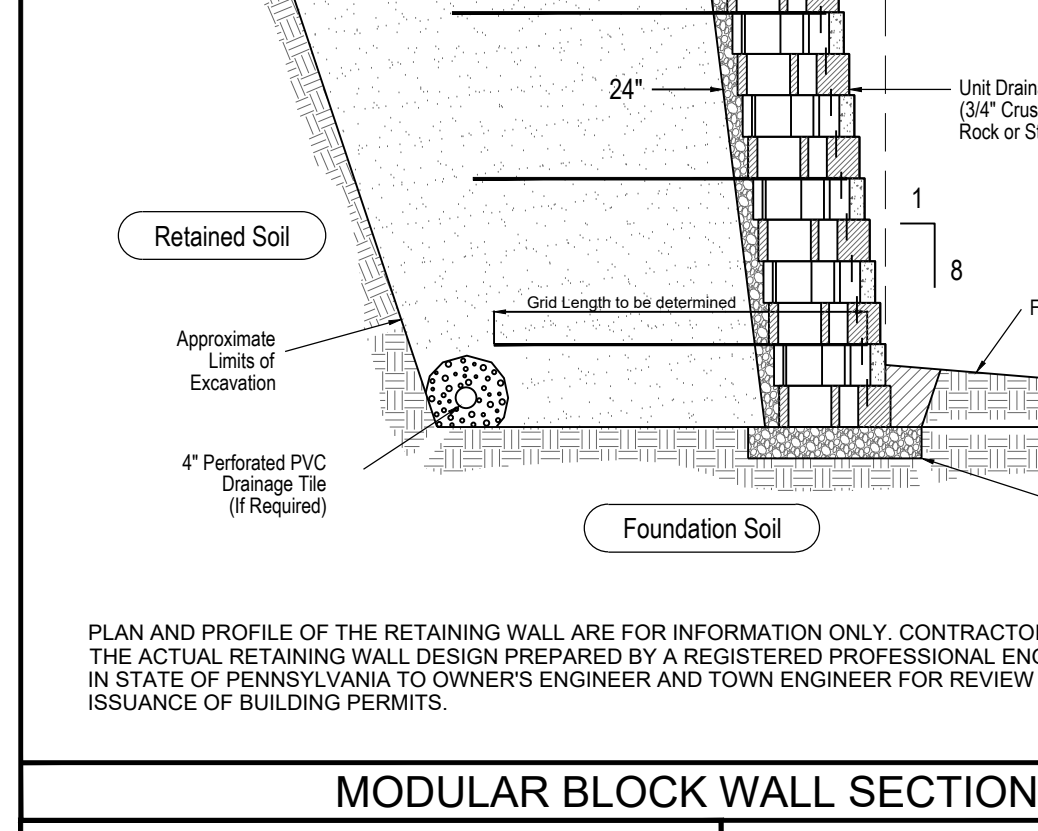
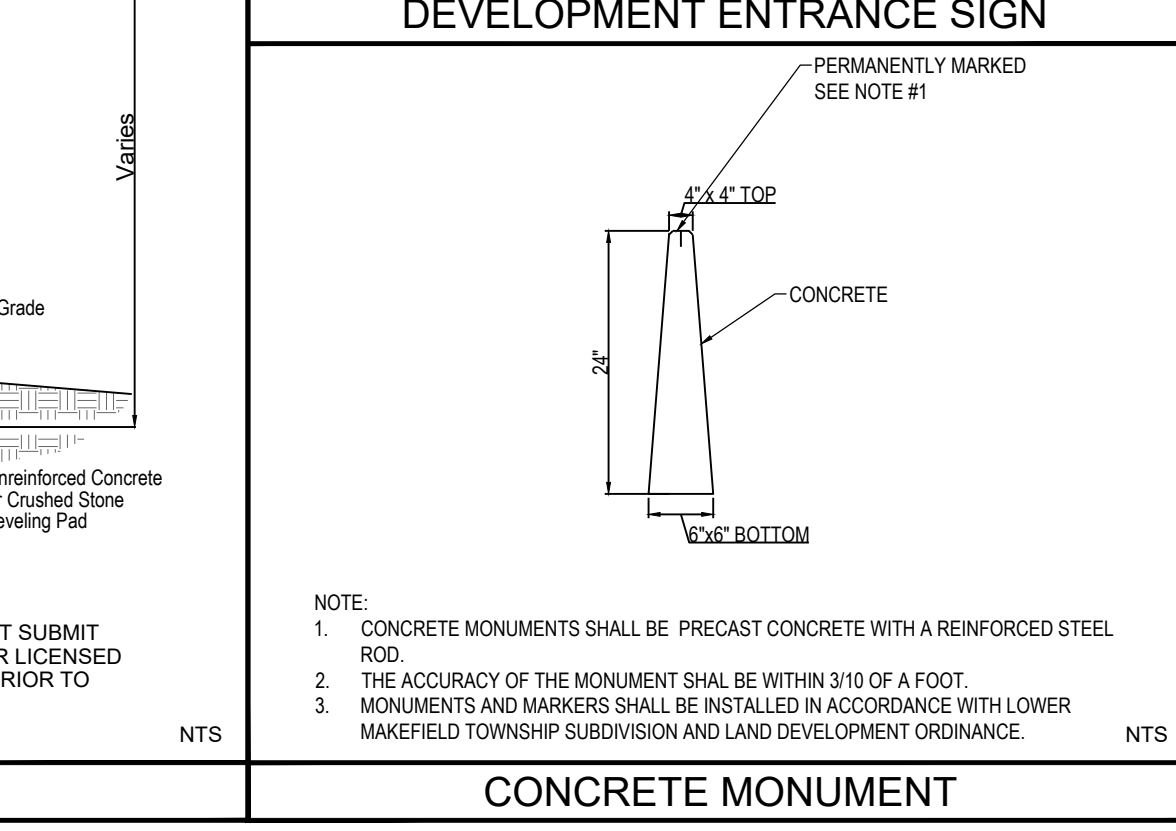
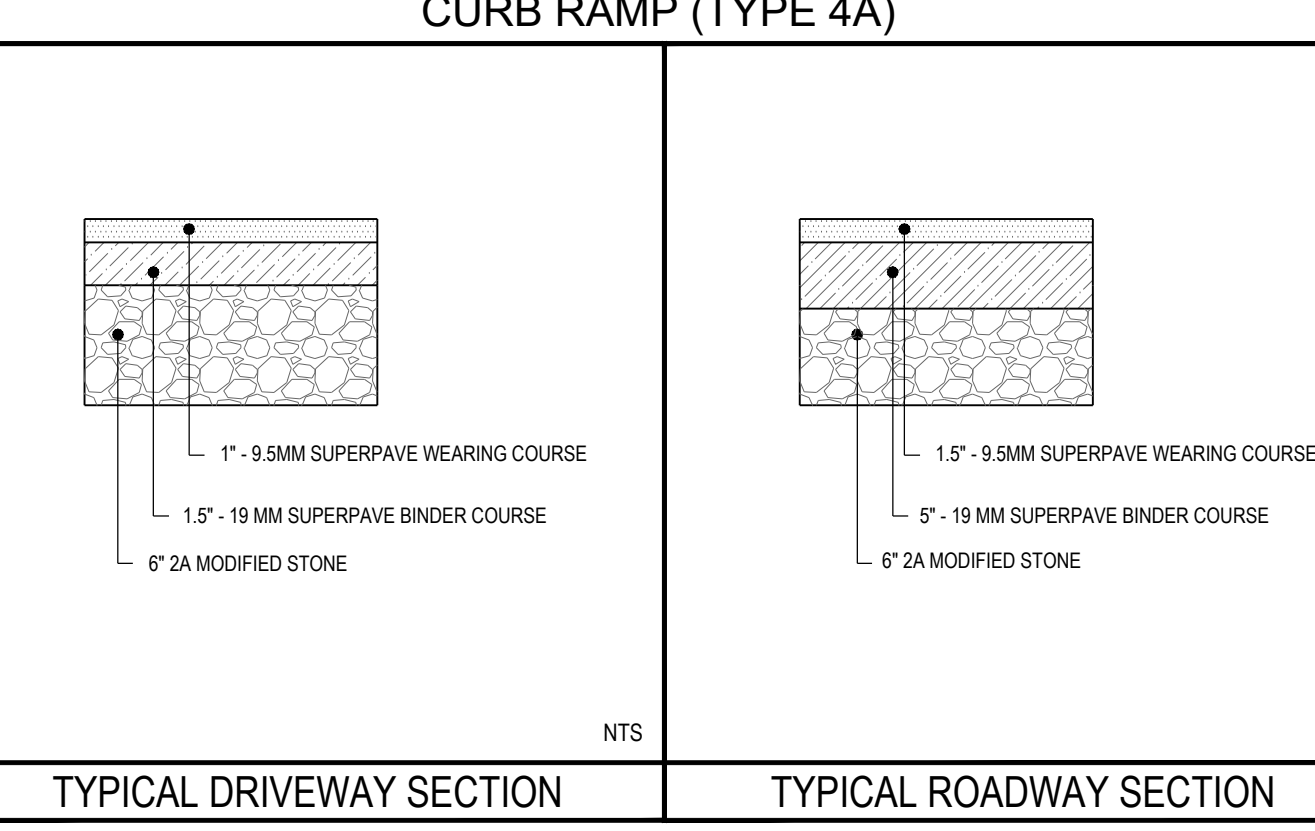
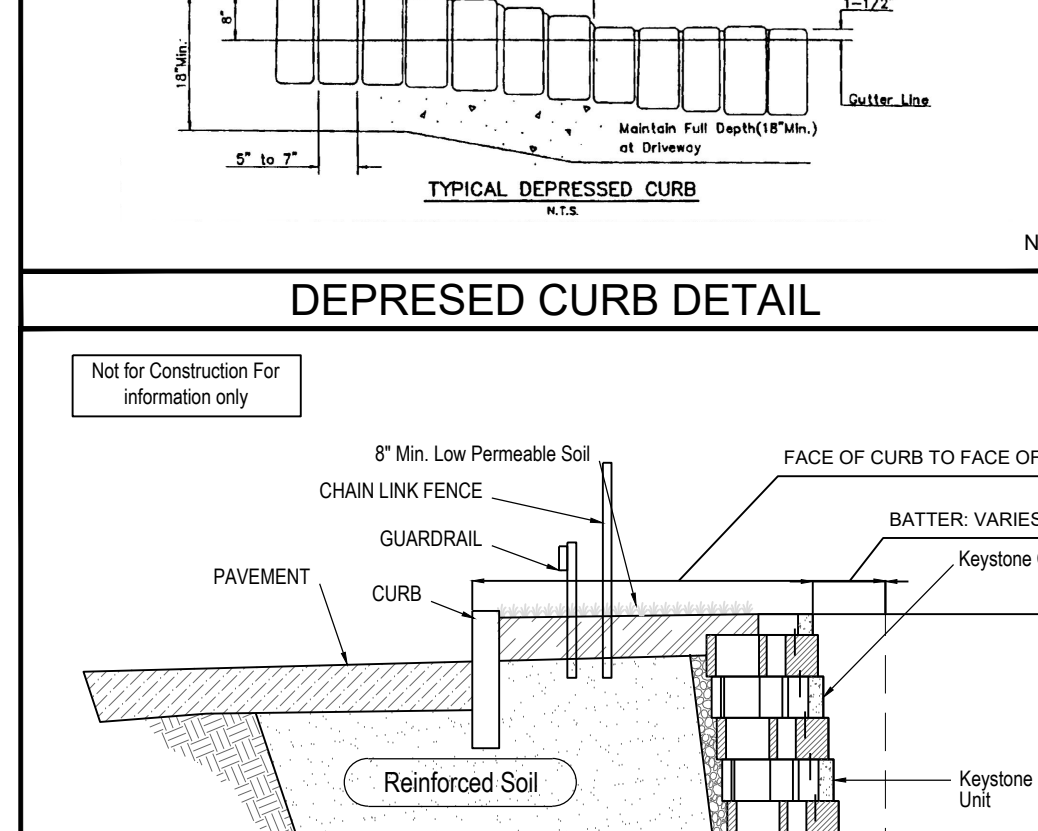
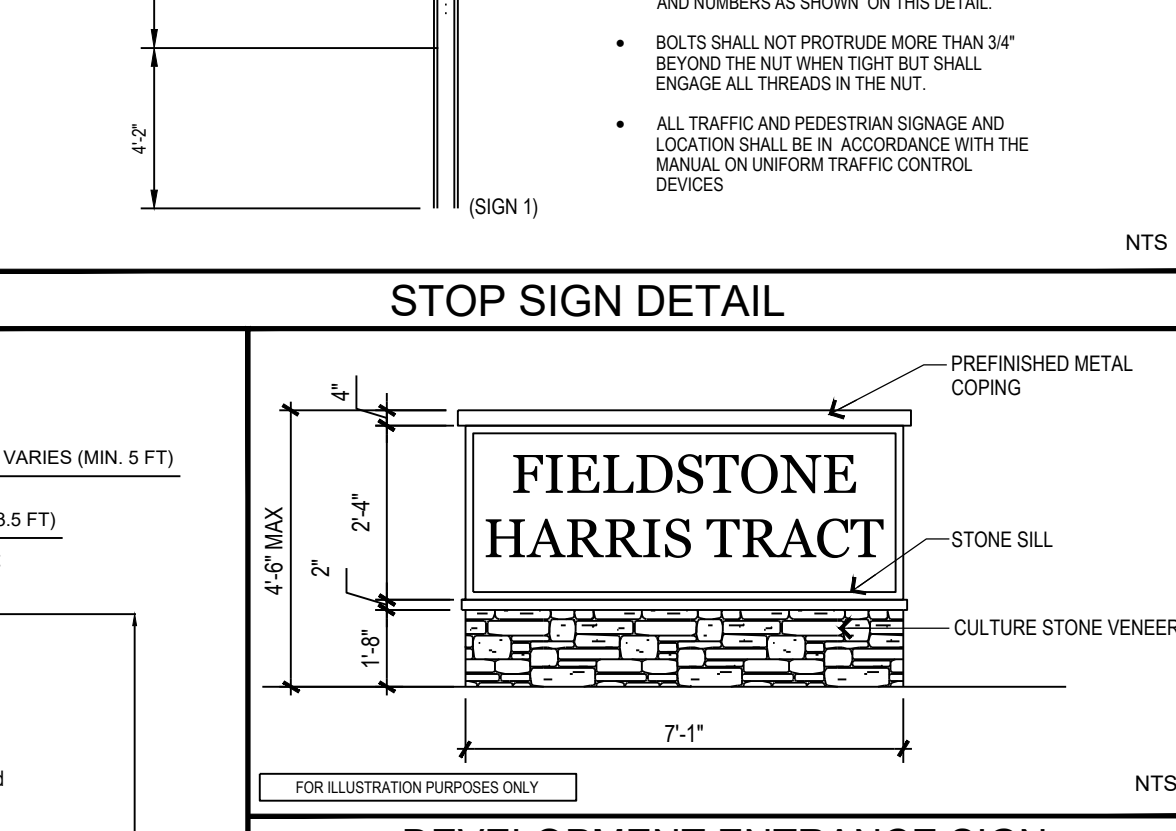
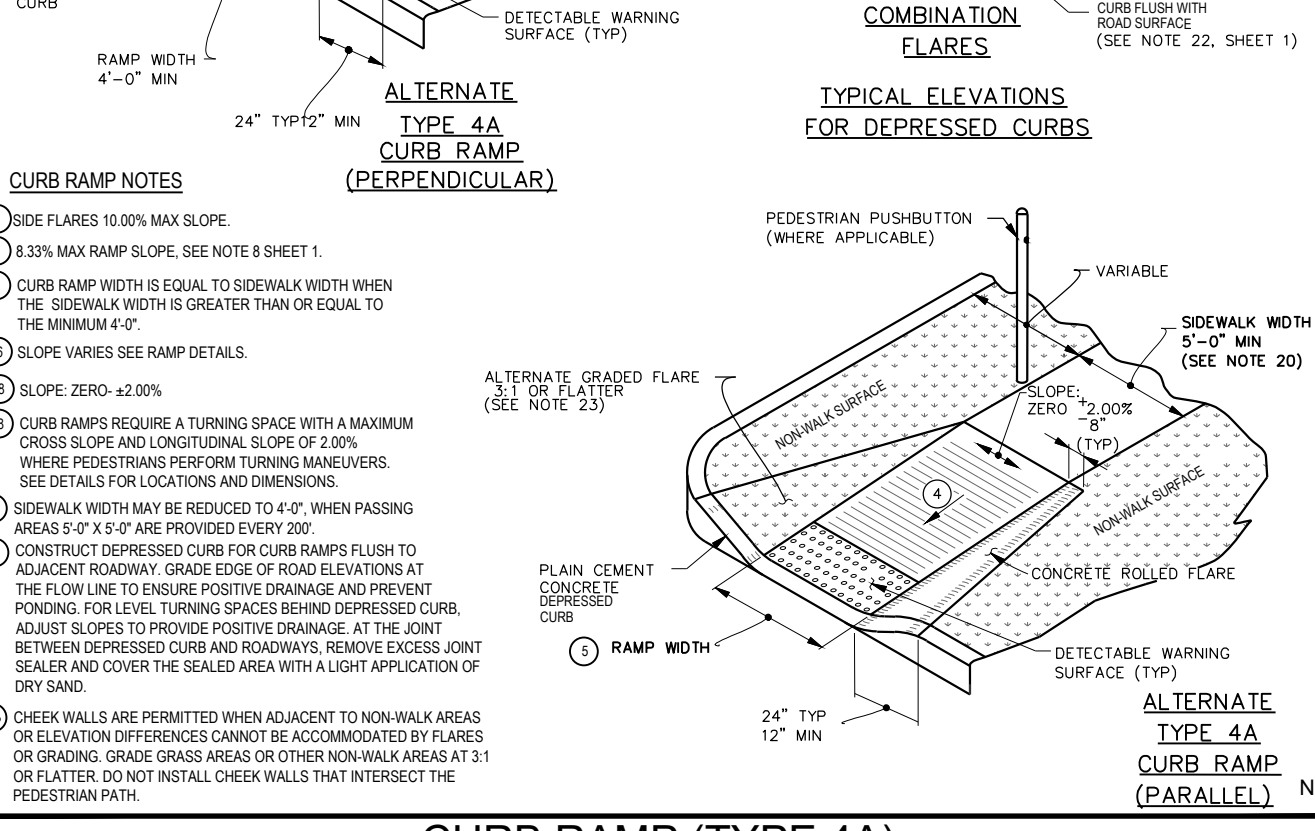
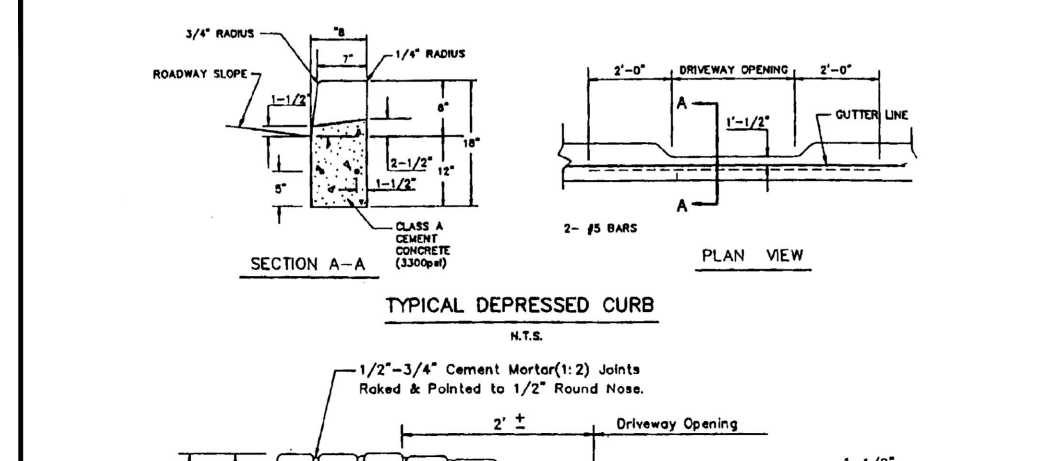
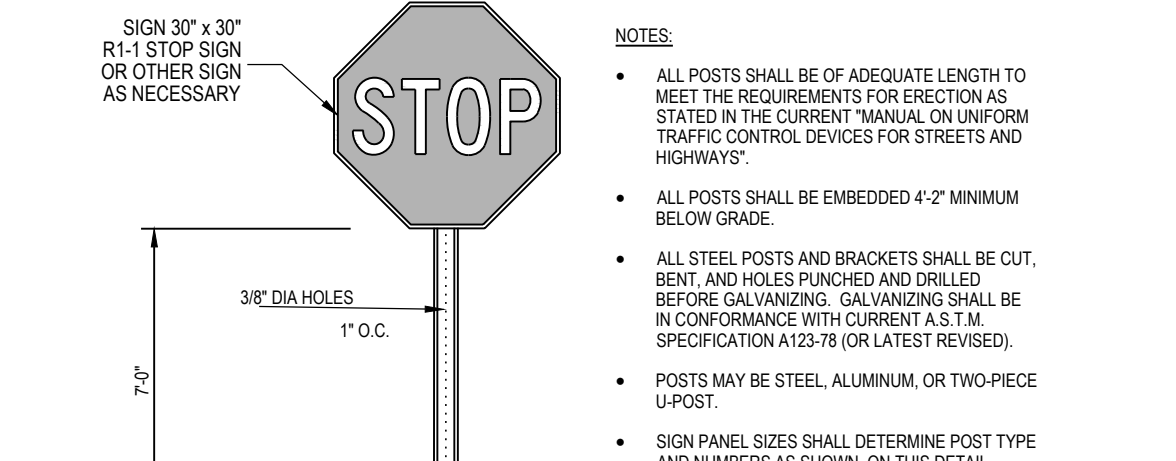
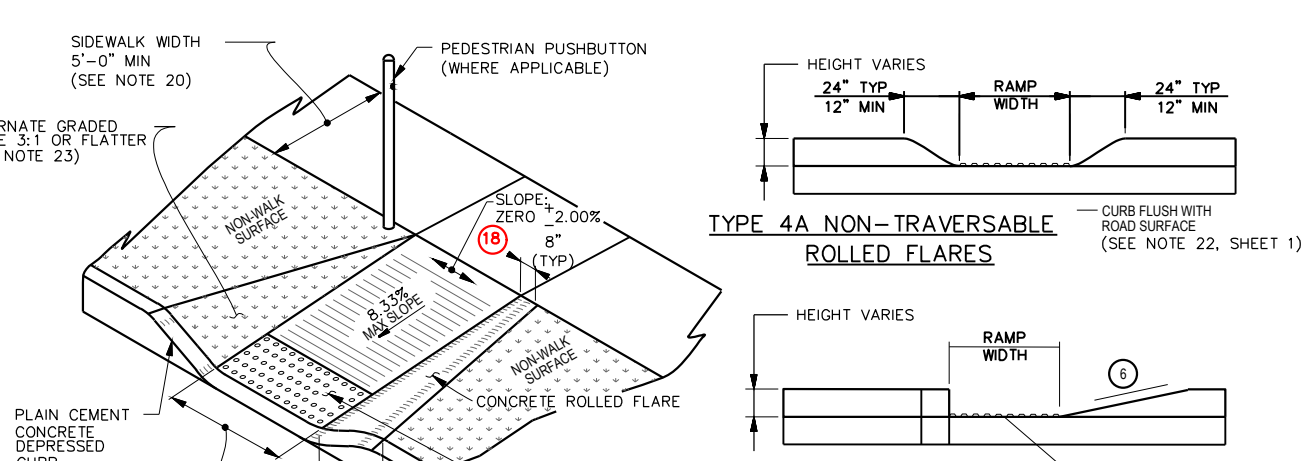
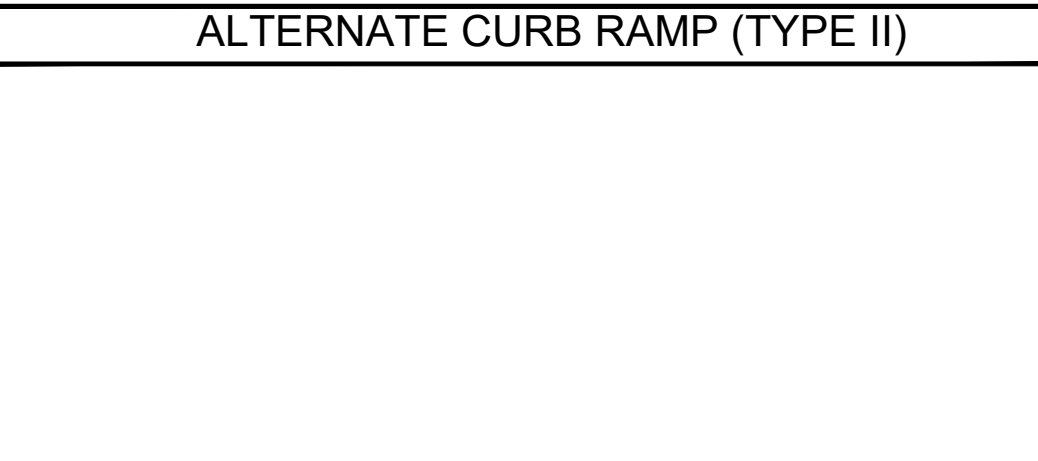


| DATE | COMMENTS | NO. |
|-------------|--------------|-----|
| REVISIONS | | |
| Project No. | 230015101 | |
| Date | 02-09-2024 | |
| Scale | NOT TO SCALE | |
| Drawn By | KGP | |
| Checked By | CT | |
| Drawing No. | | |



POSTS AND RAILS TO BE SOUTHERN YELLOW PINE WOOD OR SUITABLE EQUIVALENT MATERIAL.
*POSTS AND RAILS TO BE PRESSURE TREATED TO 0.4 RETENTION
*FASTEN WIRE MESH TO LUMBER USING 1/4\"/>

| HEIGHT | 4\"/> |
|---------------------|----------|
| DEPTH | 2\"/> |
| LENGTH | 8\"/> |
| RAILS | 1\"/> |
| SPACE | AS SHOWN |
| STEEL REINFORCEMENT | NO |
| POST SIZE | 4\"/> |



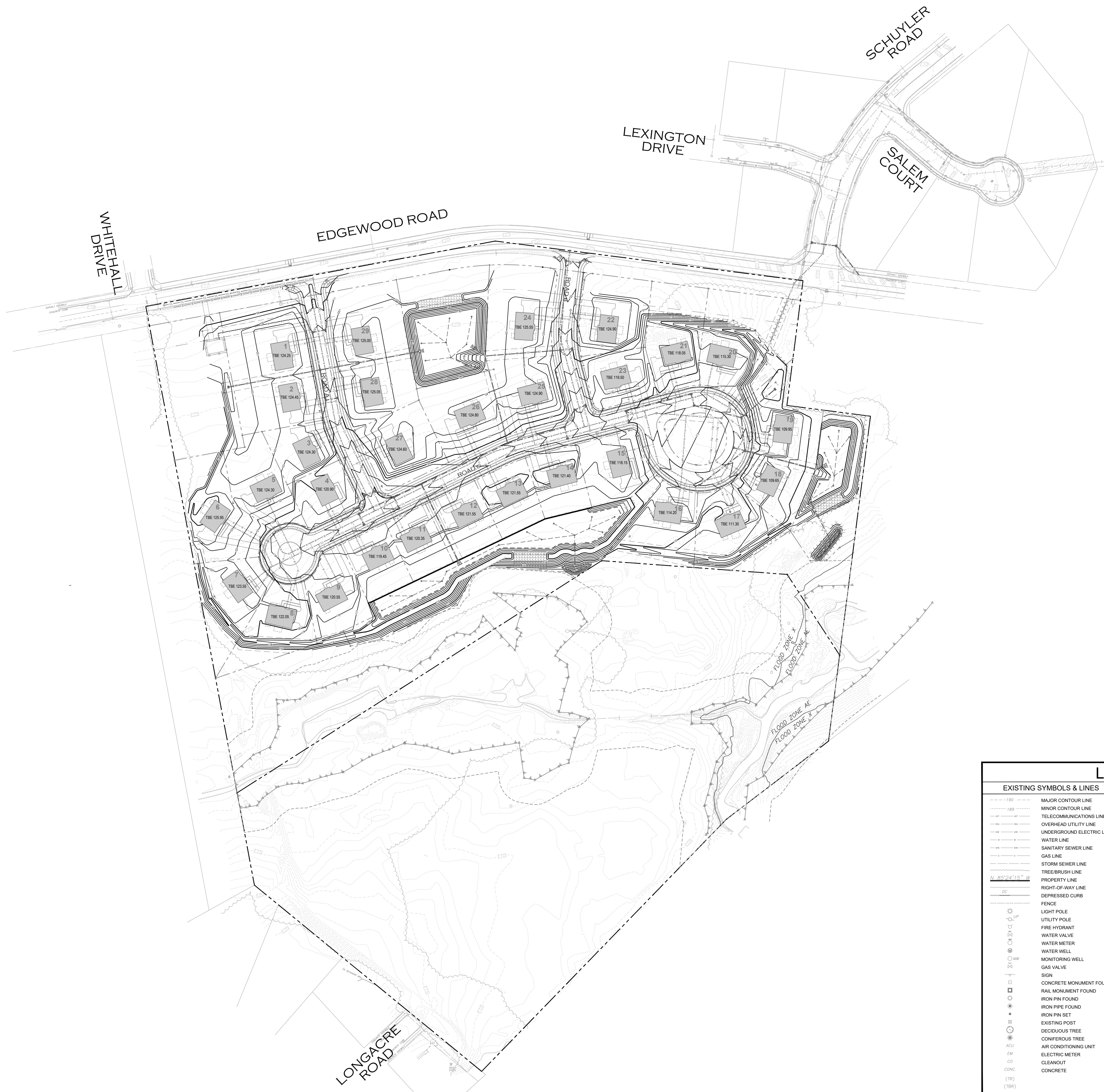
GRADING AND DRAINAGE NOTES

- EXISTING FEATURES SHOWN ARE BASED ON FIELD SURVEY BY ASH ASSOCIATES, INC. PERFORMED FEBRUARY 3 - APRIL 13, 2015 AND IS LIMITED TO FEATURES OF INTEREST.
- PROPERTY BOUNDARY INFORMATION SHOWN PER DEEDS OF RECORD AND MONUMENTATION LOCATED DURING THE FIELD SURVEY BY ASH ASSOCIATES.
- RIGHT OF WAY INFORMATION FOR EDGEWOOD ROAD, SCHUYLER ROAD AND SALEM COURT IS SHOWN PER DEEDS OF RECORD AND REFERENCE PLANS.
- VERTICAL DATUM IS NAVD83 BASED ON GPS OBSERVATIONS REFERENCED TO THE NGS CORS NETWORK.
- HORIZONTAL DATUM IS NAD 83, STATE PLANE COORDINATES OF PENNSYLVANIA (PA SOUTH) ESTABLISHED BY GPS OBSERVATIONS REFERENCED TO THE NGS CORS NETWORK.
- CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT, ACCURATE OR COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE TO FIELD LOCATE ALL UTILITIES PRIOR TO COMMENCEMENT OF ANY WORK. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT ALL EXISTING UTILITIES LOCATED WITHIN THE LIMITS OF IMPROVEMENTS DURING ENTIRE CONSTRUCTION PERIOD. IF NECESSARY, CONTRACTOR SHALL RELOCATE AND/OR MODIFY ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS IN A MANNER WHICH WILL NOT NEGATIVELY AFFECT ANY EXISTING USERS OF THESE UTILITIES.
- SITE GRADING SHALL NOT PROCEED UNTIL EROSION CONTROL MEASURES HAVE BEEN INSTALLED. THE EROSION AND SEDIMENTATION CONTROL PLAN IS AN INTEGRAL PART OF THE STORMWATER MANAGEMENT SYSTEM DURING CONSTRUCTION OF CERTAIN PHASES. THE EROSION AND SEDIMENTATION CONTROL PLAN SHALL BE REFERRED AND USED IN CONJUNCTION WITH THIS DRAWING TO COMPLETE CONSTRUCTION PHASING.
- THE SITE IS TO BE GRADED SMOOTHLY AND EVENLY IN ACCORDANCE WITH THE PROPOSED CONTOURS AND SPOT ELEVATIONS. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING A POSITIVE DRAINAGE AWAY FROM THE BUILDINGS WITHOUT CREATING ANY LOW SPOTS THAT WILL RESULT IN STANDING WATER (PONDING).
- ALL PERVIOUS AREAS DISTURBED BY GRADING OPERATION SHALL RECEIVE A MINIMUM OF TEN (10) INCHES OF TOPSOIL OR TO THE DEPTH ENCOUNTERED WITHIN THE SITE OF TOPSOIL. CONTRACTOR SHALL APPLY STABILIZATION FABRIC TO ALL SLOPES 2H:1V OR STEEPER. CONTRACTOR SHALL GRASS DISTURBED AREAS IN ACCORDANCE WITH COUNTY SPECIFICATIONS UNTIL A HEALTHY STAND OF GRASS IS OBTAINED.
- THE EARTHWORK FOR ALL BUILDING FOUNDATIONS AND SLABS SHALL BE IN ACCORDANCE WITH ARCHITECTURAL BUILDING PLANS AND SPECIFICATIONS.
- CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE GOVERNING CODES AND BE CONSTRUCTED TO THE SAME.
- CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS, UTILITY LOCATIONS AND INVERTS PRIOR TO CONSTRUCTION. ANY CONDITIONS FOUND TO DIFFER FROM THOSE SHOWN ON THE DRAWINGS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER'S ENGINEER.
- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS / SUBMITTALS TO OWNER AND OWNER'S ENGINEER FOR REVIEW AND APPROVAL PRIOR TO PROCURING ANY MATERIAL OR CONSTRUCTION OF ANY IMPROVEMENTS SHOWN HEREON.
- ALL BUILDING MATERIAL AND WASTES MUST BE REMOVED FROM THE SITE AND RECYCLED IN ACCORDANCE WITH DEP'S SOLID WASTE REGULATIONS (25 PA CODE 260.1 et seq., 271.1 et seq., and 287.1 et seq.) AND/OR ANY ADDITIONAL LOCAL, STATE OR FEDERAL REGULATIONS. NO BUILDING MATERIALS (USED OR UNUSED) OR WASTE MATERIALS SHALL BE BURNED, BURIED, DUMPED, OR DISCHARGED AT THE SITE.
- STORMWATER MANAGEMENT BMP'S WILL BE CERTIFIED UPON COMPLETION PER TOWNSHIP ORDINANCE.
- TOWNSHIP, ITS EMPLOYEES AND ITS REPRESENTATIVES HAVE THE RIGHT TO ENTER THE PROPERTY FOR BMP INSPECTIONS AS NEEDED.
- NO FENCES ARE PERMITTED TO BE CONSTRUCTED OVER STORMWATER MANAGEMENT FACILITIES.

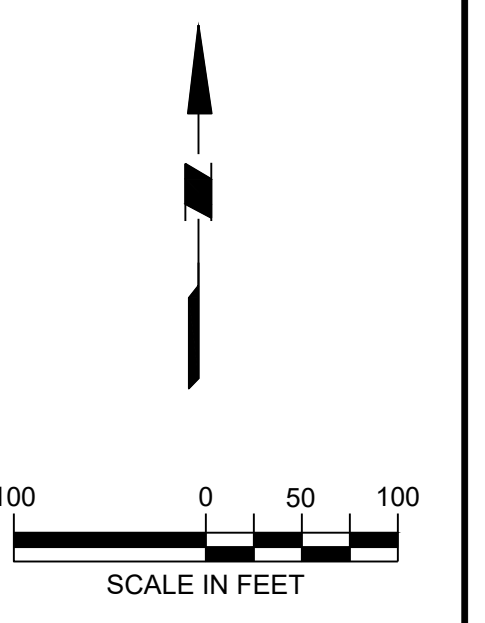
ACCESSIBLE PLAN NOTES:

- CONTRACTOR SHALL REFER TO THE LATEST ADA ACCESSIBILITY GUIDELINES AND ANSI A117.1-2003 FOR BUILDINGS AND FACILITIES (A117.1) TO ENSURE THAT ADA DETAILS ARE CURRENT AT THE TIME OF CONSTRUCTION. CONTRACTOR SHALL CONSTRUCT AREAS RESERVED FOR ACCESSIBLE ROUTES (INCLUDING CURB RAMPS, SIDEWALKS, HANDICAP PARKING STALLS, CROSSWALKS AND INLETS) BY FOLLOWING THE MOST CURRENT ADA ACCESSIBILITY GUIDELINES AND ANSI A117.1-2003.
- ALL ACCESSIBLE PARKING SPACES AREA SHALL NOT EXCEED 2% IN ALL DIRECTIONS.
- ALL ACCESSIBLE ROUTES AND RAMP CROSS SLOPES SHALL NOT EXCEED 2%.
- ALL ACCESSIBLE ROUTES SHALL HAVE A MAXIMUM RUNNING SLOPE OF 5% IF ANY PART OF THE ACCESSIBLE ROUTE HAS A RUNNING SLOPE EXCEEDING 5%, IT IS CONSIDERED A RAMP.
- RAMPS SHALL HAVE A MAXIMUM RUNNING SLOPE OF 8.33% (1:12 SLOPE) AND A MAXIMUM CROSS SLOPE OF 2%. SEE SHEET CS-602 FOR RAMP DETAILS.
- CONTRACTOR SHALL FIELD VERIFY THAT THE EXISTING LONGITUDINAL SLOPE (ALONG THE DIRECTION OF TRAVEL) DOES NOT EXCEED 5% AND CROSS SLOPE DOES NOT EXCEED 2% FOR ACCESSIBLE ROUTES (TYP). CONTRACTOR SHALL NOTIFY THE OWNER AND OWNER'S ENGINEER IF ANY ACCESSIBLE ROUTES (I.E. SIDEWALK, PAVED AREAS, ETC.) DOES NOT COMPLY WITH THE ABOVE ADA REQUIREMENTS.
- CURB RAMP TYPES SHOWN ON THE SITE PLANS ARE BASED ON PENNDOT CURB RAMP CLASSIFICATION.

| Building Elevations | | | |
|---------------------|--------------|--------------|----------------|
| Lot # | Top of Block | Garage Floor | Basement Floor |
| 1 | 124.25 | 123.65 | 116.25 |
| 2 | 124.45 | 123.85 | 116.45 |
| 3 | 124.30 | 123.70 | 116.30 |
| 4 | 120.90 | 120.30 | 112.90 |
| 5 | 124.30 | 123.70 | 116.30 |
| 6 | 125.95 | 125.35 | 117.95 |
| 7 | 123.55 | 122.95 | 115.55 |
| 8 | 122.05 | 121.45 | 114.05 |
| 9 | 120.55 | 119.95 | 112.55 |
| 10 | 119.45 | 118.85 | 111.45 |
| 11 | 120.35 | 119.75 | 112.35 |
| 12 | 120.55 | 119.95 | 112.55 |
| 13 | 121.55 | 120.95 | 113.55 |
| 14 | 121.40 | 120.80 | 113.40 |
| 15 | 118.15 | 117.55 | 110.15 |
| 16 | 114.20 | 113.60 | 106.20 |
| 17 | 111.30 | 110.70 | 103.30 |
| 18 | 109.65 | 109.05 | 101.65 |
| 19 | 109.95 | 109.35 | 101.95 |
| 20 | 115.30 | 114.70 | 107.30 |
| 21 | 118.05 | 117.45 | 110.05 |
| 22 | 124.90 | 124.30 | 116.90 |
| 23 | 119.50 | 118.90 | 111.50 |
| 24 | 125.55 | 124.95 | 117.55 |
| 25 | 124.90 | 124.30 | 116.90 |
| 26 | 124.80 | 124.20 | 116.80 |
| 27 | 124.60 | 124.00 | 116.60 |
| 28 | 125.05 | 124.45 | 117.05 |
| 29 | 125.00 | 124.40 | 117.00 |

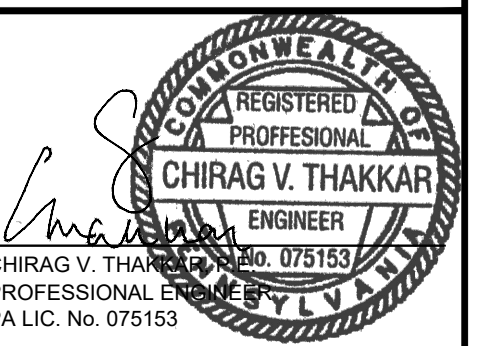


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Project
FIELDSTONE HARRIS TRACT SUBDIVISION
TMP # 20-016-073
LOWER MAKEFIELD TOWNSHIP
BUCKS COUNTY PENNSYLVANIA

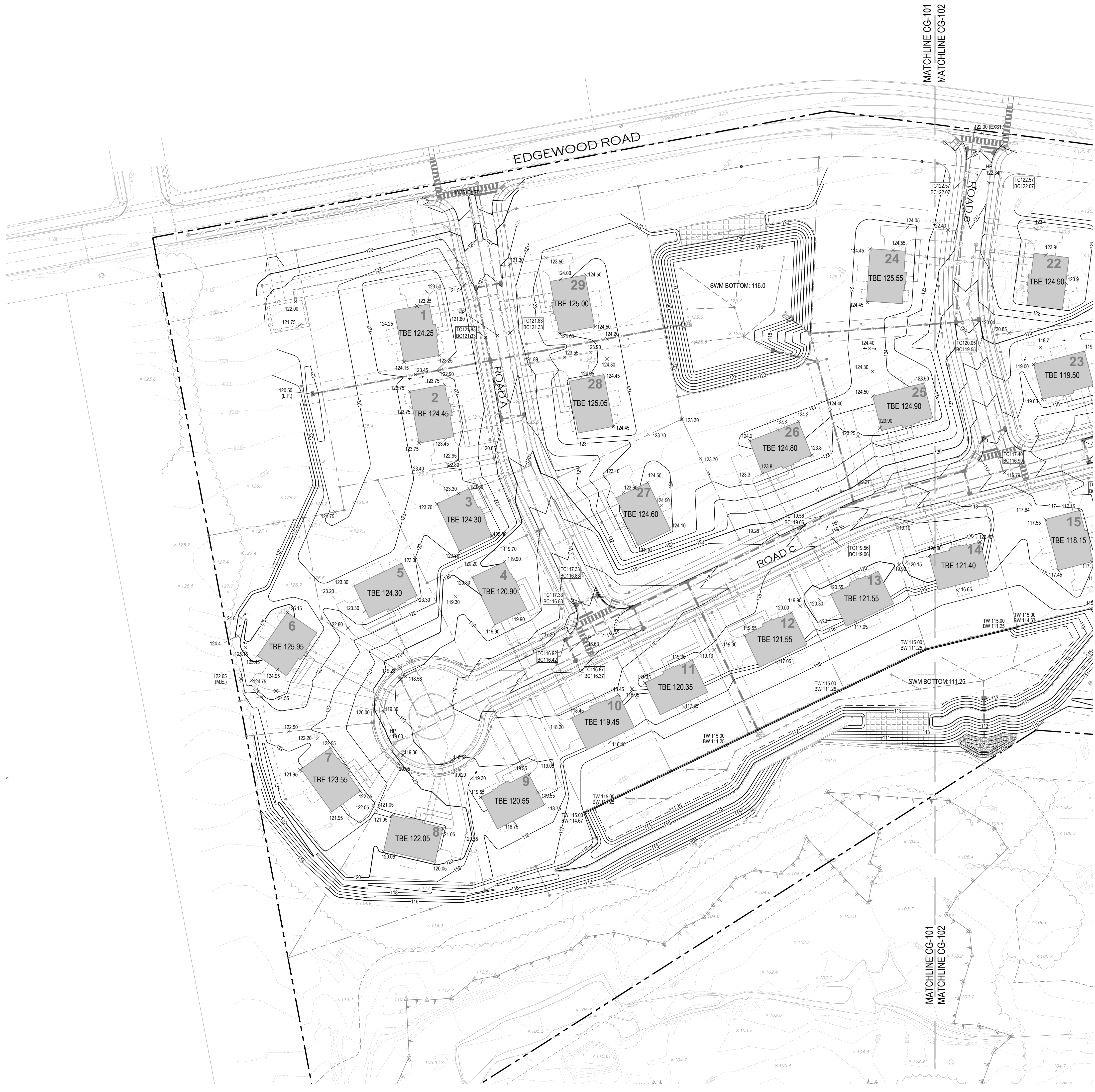
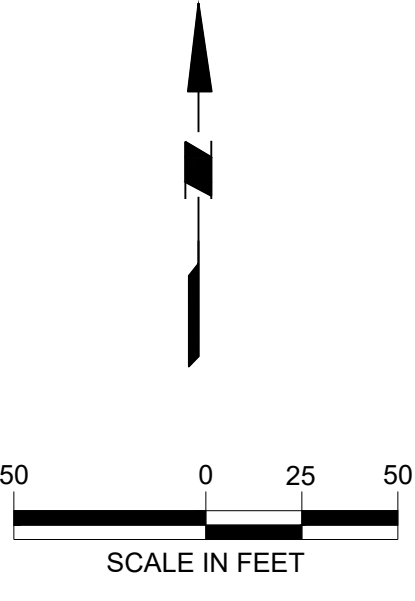
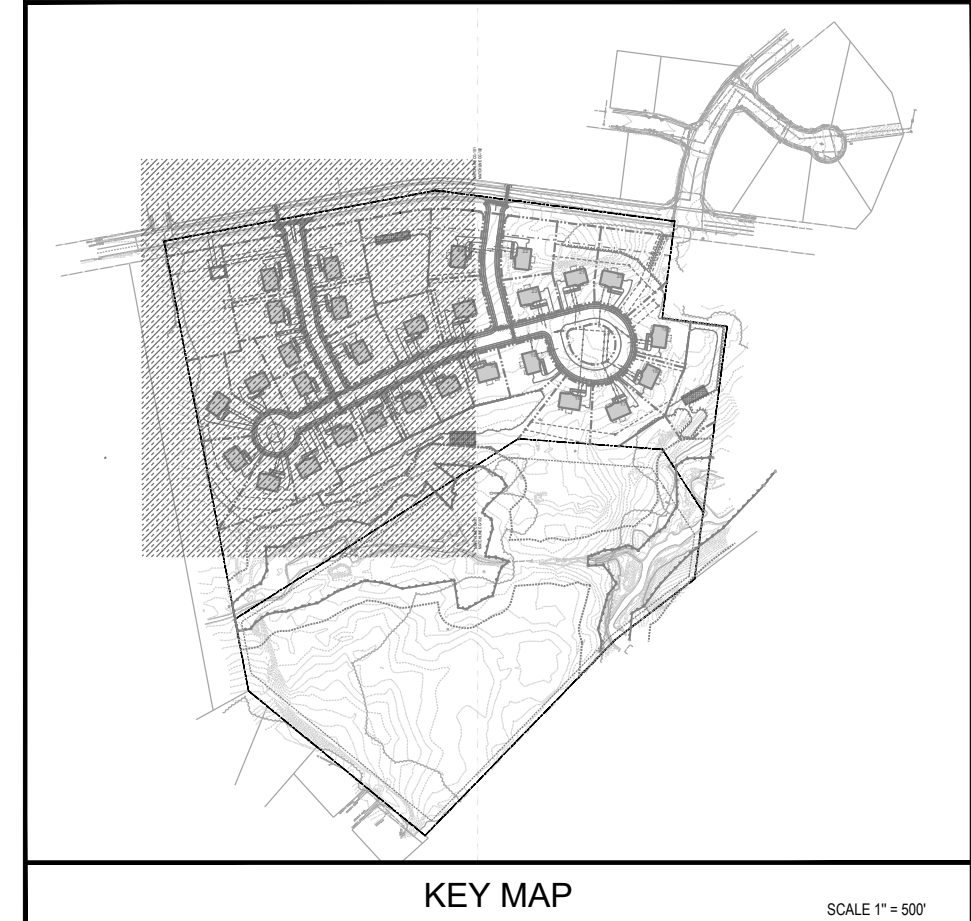
Drawing Title
MASTER GRADING PLAN



| LEGEND | |
|---|---|
| EXISTING SYMBOLS & LINES | PROPOSED SYMBOLS & LINES |
| <ul style="list-style-type: none"> --- 1.00 --- MAJOR CONTOUR LINE --- 0.50 --- MINOR CONTOUR LINE --- TELECOMMUNICATIONS LINE --- OVERHEAD UTILITY LINE --- UNDERGROUND ELECTRIC LINE --- WATER LINE --- SANITARY SEWER LINE --- GAS LINE --- STORM SEWER LINE --- TREE/BRUSH LINE --- PROPERTY LINE --- RIGHT-OF-WAY LINE --- DEPRESSED CURB --- FENCE ○ LIGHT POLE ○ UTILITY POLE ○ FIRE HYDRANT ○ WATER VALVE ○ WATER METER ○ WATER WELL ○ MONITORING WELL ○ GAS VALVE ○ SIGN ○ CONCRETE MONUMENT FOUND ○ RAIL MONUMENT FOUND ○ IRON PIN FOUND ○ IRON PIPE FOUND ○ IRON PIN SET ○ EXISTING POST ○ DECIDUOUS TREE ○ CONIFEROUS TREE ○ ACU/ AIR CONDITIONING UNIT ○ EMV/ ELECTRIC METER ○ CO/ CLEANOUT ○ CONC/ CONCRETE (TR) (TBR) | <ul style="list-style-type: none"> --- SITE --- SETBACK LINE --- ROAD CENTER LINE --- BUILDING ▽ DOOR --- EDGE OF PAVEMENT --- TRAFFIC SIGN --- PROPOSED LOT LINE ○ POST AND RAIL FENCE □ STORMWATER FACILITY |
| GRADING AND DRAINAGE | |
| <ul style="list-style-type: none"> SD --- STORM PIPE ■ CATCH BASIN --- PROPOSED CONTOUR x 100.00 SPOT GRADE x 100.00 TOP OF WALL ELEVATION x 80.00 BOTTOM OF WALL ELEVATION → FLOW ARROW △ HEADWALL / FLARED END SECTION □ RIP-RAP | |
| UTILITY | |
| <ul style="list-style-type: none"> --- TELEPHONE & ELECTRIC LINE --- GAS LINE --- WATER LINE --- SANITARY SEWER LINE | |

| DATE | COMMENTS | NO. |
|-------------|---------------|-----|
| REVISIONS | | |
| Project No. | 230015101 | |
| Date | 02-09-2024 | |
| Scale | 1" = 100' | |
| Drawn By | KGP | |
| Checked By | CT | |
| Drawing No. | CG-100 | |
| Sheet | 10 of 37 | |

PROJECT: 230015101 FIELDSTONE HARRIS TRACT SUBDIVISION

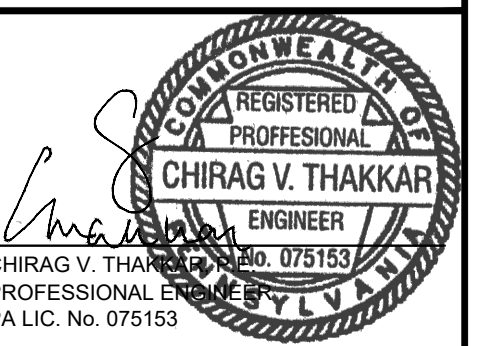


| Building Elevations | | | |
|---------------------|--------------|--------------|----------------|
| Lot # | Top of Block | Garage Floor | Basement Floor |
| 1 | 124.25 | 123.65 | 116.25 |
| 2 | 124.45 | 123.85 | 116.45 |
| 3 | 124.30 | 123.70 | 116.30 |
| 4 | 120.90 | 120.30 | 112.90 |
| 5 | 124.30 | 123.70 | 116.30 |
| 6 | 125.95 | 125.35 | 117.95 |
| 7 | 123.55 | 122.95 | 115.55 |
| 8 | 122.05 | 121.45 | 114.05 |
| 9 | 120.55 | 119.95 | 112.55 |
| 10 | 119.45 | 118.85 | 111.45 |
| 11 | 120.35 | 119.75 | 112.35 |
| 12 | 120.55 | 119.95 | 112.55 |
| 13 | 121.55 | 120.95 | 113.55 |
| 14 | 121.40 | 120.80 | 113.40 |
| 15 | 118.15 | 117.55 | 110.15 |
| 16 | 114.20 | 113.60 | 106.20 |
| 17 | 111.30 | 110.70 | 103.30 |
| 18 | 109.65 | 109.05 | 101.65 |
| 19 | 109.95 | 109.35 | 101.95 |
| 20 | 115.30 | 114.70 | 107.30 |
| 21 | 118.05 | 117.45 | 110.05 |
| 22 | 124.90 | 124.30 | 116.90 |
| 23 | 119.50 | 118.90 | 111.50 |
| 24 | 125.55 | 124.95 | 117.55 |
| 25 | 124.90 | 124.30 | 116.90 |
| 26 | 124.80 | 124.20 | 116.80 |
| 27 | 124.60 | 124.00 | 116.60 |
| 28 | 125.05 | 124.45 | 117.05 |
| 29 | 125.00 | 124.40 | 117.00 |

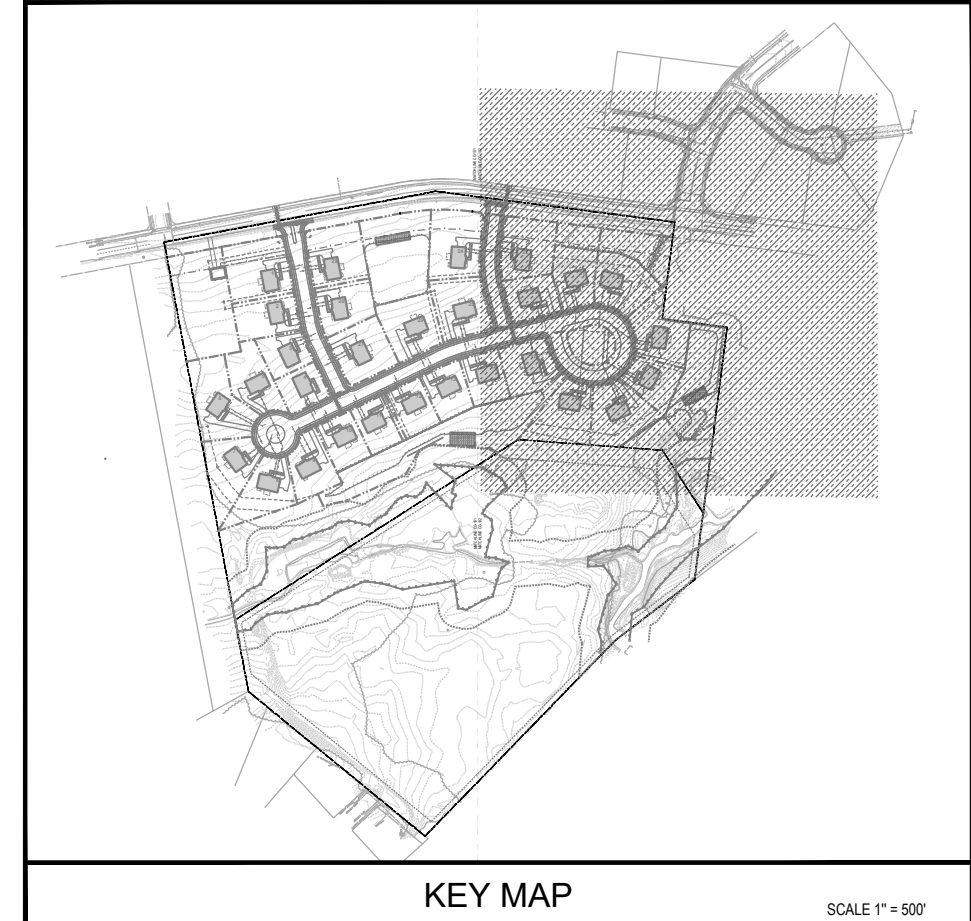
| LEGEND | |
|--|---|
| EXISTING SYMBOLS & LINES | PROPOSED SYMBOLS & LINES |
| <ul style="list-style-type: none"> 1.50 --- MAJOR CONTOUR LINE 1.00 --- MINOR CONTOUR LINE --- TELECOMMUNICATIONS LINE --- OVERHEAD UTILITY LINE --- UNDERGROUND ELECTRIC LINE --- WATER LINE --- SANITARY SEWER LINE --- GAS LINE --- STORM SEWER LINE --- TREE/BRUSH LINE --- PROPERTY LINE --- RIGHT-OF-WAY LINE --- DEPRESSED CURB --- FENCE ○ LIGHT POLE ○ UTILITY POLE ○ FIRE HYDRANT ○ WATER VALVE ○ WATER METER ○ WATER WELL ○ MONITORING WELL ○ GAS VALVE ○ SIGN ○ CONCRETE MONUMENT FOUND ○ RAIL MONUMENT FOUND ○ IRON PIN FOUND ○ IRON PIPE FOUND ○ IRON PIN SET ○ EXISTING POST ○ DECIDUOUS TREE ○ CONIFEROUS TREE ACU AIR CONDITIONING UNIT EM ELECTRIC METER CO CLEANOUT CONC. CONCRETE | <ul style="list-style-type: none"> --- SITE --- SETBACK LINE --- ROAD CENTER LINE --- BUILDING ▽ DOOR --- EDGE OF PAVEMENT --- TRAFFIC SIGN --- PROPOSED LOT LINE --- POST AND RAIL FENCE □ STORMWATER FACILITY |
| | GRADING AND DRAINAGE |
| | <ul style="list-style-type: none"> --- STORM PIPE ■ CATCH BASIN --- PROPOSED CONTOUR x 100.00 SPOT GRADE x 110.00 TOP OF WALL ELEVATION x 109.00 BOTTOM OF WALL ELEVATION --- FLOW ARROW --- HEADWALL / FLARED END SECTION --- RIP-RAP |
| | UTILITY |
| | <ul style="list-style-type: none"> --- TELEPHONE & ELECTRIC LINE --- GAS LINE --- WATER LINE --- SANITARY SEWER LINE |

Project
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GRADING PLAN

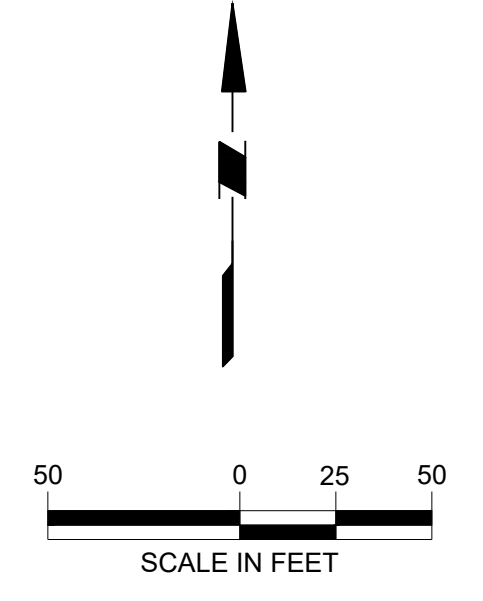


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| REVISIONS | | |
| Project No. | 230015101 | |
| Date | 02-09-2024 | |
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| Drawn By | JS | |
| Checked By | CT | |
| Drawing No. | CG-101 | |



KEY MAP

SCALE 1" = 50'



SCALE IN FEET

MATCHLINE CG-101
MATCHLINE CG-102

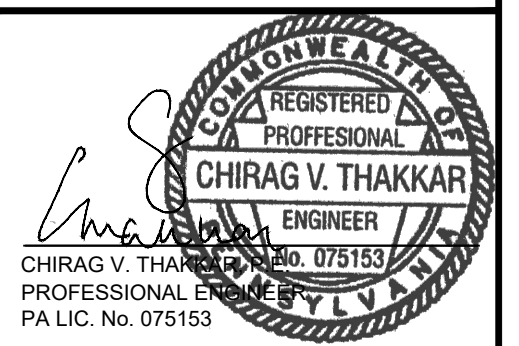


| Building Elevations | | | |
|---------------------|--------------|--------------|----------------|
| Lot # | Top of Block | Garage Floor | Basement Floor |
| 1 | 124.25 | 123.65 | 116.25 |
| 2 | 124.45 | 123.85 | 116.45 |
| 3 | 124.30 | 123.70 | 116.30 |
| 4 | 120.90 | 120.30 | 112.90 |
| 5 | 124.30 | 123.70 | 116.30 |
| 6 | 125.95 | 125.35 | 117.95 |
| 7 | 123.55 | 122.95 | 115.55 |
| 8 | 122.05 | 121.45 | 114.05 |
| 9 | 120.55 | 119.95 | 112.55 |
| 10 | 119.45 | 118.85 | 111.45 |
| 11 | 120.35 | 119.75 | 112.35 |
| 12 | 120.55 | 119.95 | 112.55 |
| 13 | 121.55 | 120.95 | 113.55 |
| 14 | 121.40 | 120.80 | 113.40 |
| 15 | 118.15 | 117.55 | 110.15 |
| 16 | 114.20 | 113.60 | 106.20 |
| 17 | 111.30 | 110.70 | 103.30 |
| 18 | 109.65 | 109.05 | 101.65 |
| 19 | 109.95 | 109.35 | 101.95 |
| 20 | 115.30 | 114.70 | 107.30 |
| 21 | 118.05 | 117.45 | 110.05 |
| 22 | 124.90 | 124.30 | 116.90 |
| 23 | 119.50 | 118.90 | 111.50 |
| 24 | 125.55 | 124.95 | 117.55 |
| 25 | 124.90 | 124.30 | 116.90 |
| 26 | 124.80 | 124.20 | 116.80 |
| 27 | 124.60 | 124.00 | 116.60 |
| 28 | 125.05 | 124.45 | 117.05 |
| 29 | 125.00 | 124.40 | 117.00 |

| LEGEND | |
|---|--|
| EXISTING SYMBOLS & LINES | PROPOSED SYMBOLS & LINES |
| <ul style="list-style-type: none"> MAJOR CONTOUR LINE MINOR CONTOUR LINE TELECOMMUNICATIONS LINE OVERHEAD UTILITY LINE UNDERGROUND ELECTRIC LINE WATER LINE SANITARY SEWER LINE GAS LINE STORM SEWER LINE TREE/BRUSH LINE PROPERTY LINE RIGHT-OF-WAY LINE DEPRESSED CURB FENCE LIGHT POLE UTILITY POLE FIRE HYDRANT WATER VALVE WATER METER MONITORING WELL GAS VALVE SIGN CONCRETE MONUMENT FOUND IRON PIN FOUND IRON PIPE FOUND IRON PIN SET EXISTING POST DECIDUOUS TREE CONIFEROUS TREE AIR CONDITIONING UNIT ELECTRIC METER CLEANOUT CONCRETE | <ul style="list-style-type: none"> SITE <ul style="list-style-type: none"> SETBACK LINE ROAD CENTER LINE BUILDING DOOR EDGE OF PAVEMENT TRAFFIC SIGN PROPOSED LOT LINE POST AND RAIL FENCE STORMWATER FACILITY GRADING AND DRAINAGE <ul style="list-style-type: none"> STORM PIPE CATCH BASIN PROPOSED CONTOUR SPOT GRADE TOP OF WALL ELEVATION BOTTOM OF WALL ELEVATION FLOW ARROW HEADWALL / FLARED END SECTION RIP-RAP UTILITY <ul style="list-style-type: none"> TELEPHONE & ELECTRIC LINE GAS LINE WATER LINE SANITARY SEWER LINE |

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Drawing Title
GRADING PLAN

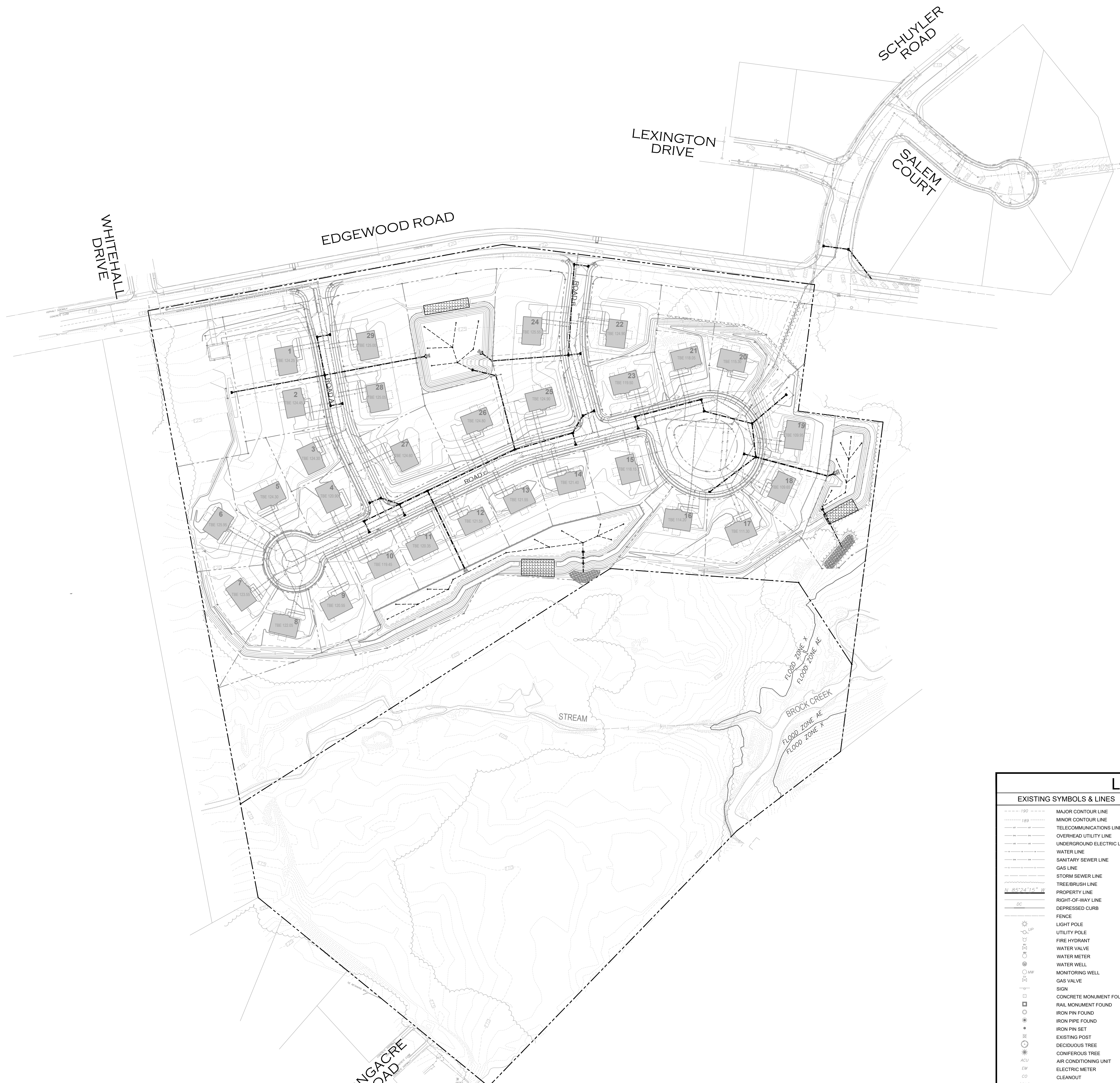


DATE COMMENTS NO.

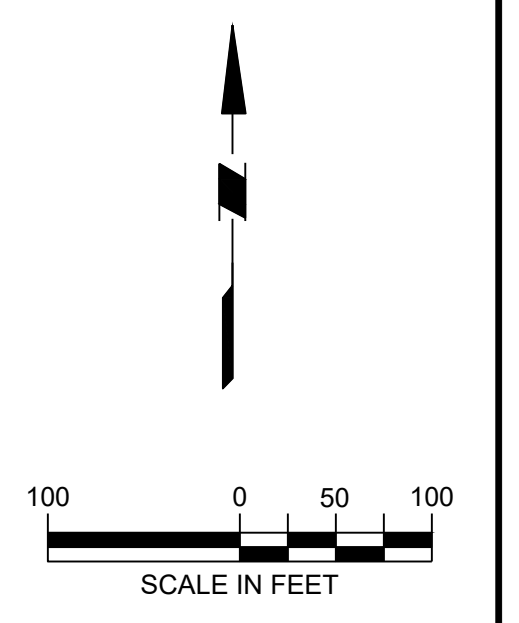
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| Project No. | 230015101 |
| Date | 02-09-2024 |
| Scale | 1" = 50' |
| Drawn By | JS |
| Checked By | CT |
| Drawing No. | CG-102 |
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GRADING AND DRAINAGE NOTES

- EXISTING FEATURES SHOWN ARE BASED ON FIELD SURVEY BY ASH ASSOCIATES, INC. PERFORMED FEBRUARY 3 - APRIL 13, 2015 AND IS LIMITED TO FEATURES OF INTEREST.
- PROPERTY BOUNDARY INFORMATION SHOWN PER DEEDS OF RECORD AND MONUMENTATION LOCATED DURING THE FIELD SURVEY BY ASH ASSOCIATES.
- RIGHT OF WAY INFORMATION FOR EDGEWOOD ROAD, SCHUYLER ROAD AND SALEM COURT IS SHOWN PER DEEDS OF RECORD AND REFERENCE PLANS.
- VERTICAL DATUM IS NAVD83 BASED ON GPS OBSERVATIONS REFERENCED TO THE NGS CORS NETWORK.
- HORIZONTAL DATUM IS NAD 83, STATE PLANE COORDINATES OF PENNSYLVANIA (PA SOUTH) ESTABLISHED BY GPS OBSERVATIONS REFERENCED TO THE NGS CORS NETWORK.
- CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT, ACCURATE OR COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE TO FIELD LOCATE ALL UTILITIES PRIOR TO COMMENCEMENT OF ANY WORK. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT ALL EXISTING UTILITIES LOCATED WITHIN THE LIMITS OF IMPROVEMENTS DURING ENTIRE CONSTRUCTION PERIOD. IF NECESSARY, CONTRACTOR SHALL RELOCATE AND/OR MODIFY ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS IN A MANNER WHICH WILL NOT NEGATIVELY AFFECT ANY EXISTING USERS OF THESE UTILITIES.
- SITE GRADING SHALL NOT PROCEED UNTIL EROSION CONTROL MEASURES HAVE BEEN INSTALLED. THE EROSION AND SEDIMENTATION CONTROL PLAN IS AN INTEGRAL PART OF THE STORMWATER MANAGEMENT SYSTEM DURING CONSTRUCTION OF CERTAIN PHASES. THE EROSION AND SEDIMENTATION CONTROL PLAN SHALL BE REFERRED AND USED IN CONJUNCTION WITH THIS DRAWING TO COMPLETE CONSTRUCTION PHASING.
- THE SITE IS TO BE GRADED SMOOTHLY AND EVENLY IN ACCORDANCE WITH THE PROPOSED CONTOURS AND SPOT ELEVATIONS. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING A POSITIVE DRAINAGE AWAY FROM THE BUILDINGS WITHOUT CREATING ANY LOW SPOTS THAT WILL RESULT IN STANDING WATER (PONDING).
- ALL PERVIOUS AREAS DISTURBED BY GRADING OPERATION SHALL RECEIVE A MINIMUM OF TEN (10) INCHES OF TOPSOIL OR TO THE DEPTH ENCOUNTERED WITHIN THE SITE OF TOPSOIL. CONTRACTOR SHALL APPLY STABILIZATION FABRIC TO ALL SLOPES 2H:1V OR STEEPER. CONTRACTOR SHALL GRASS DISTURBED AREAS IN ACCORDANCE WITH COUNTY SPECIFICATIONS UNTIL A HEALTHY STAND OF GRASS IS OBTAINED.
- THE EARTHWORK FOR ALL BUILDING FOUNDATIONS AND SLABS SHALL BE IN ACCORDANCE WITH ARCHITECTURAL BUILDING PLANS AND SPECIFICATIONS.
- CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE GOVERNING CODES AND BE CONSTRUCTED TO THE SAME.
- CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS, UTILITY LOCATIONS AND INVERTS PRIOR TO CONSTRUCTION. ANY CONDITIONS FOUND TO DIFFER FROM THOSE SHOWN ON THE DRAWINGS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER'S ENGINEER.
- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS / SUBMITTALS TO OWNER AND OWNER'S ENGINEER FOR REVIEW AND APPROVAL PRIOR TO PROCURING ANY MATERIAL OR CONSTRUCTION OF ANY IMPROVEMENTS SHOWN HEREON.
- ALL BUILDING MATERIAL AND WASTES MUST BE REMOVED FROM THE SITE AND RECYCLED IN ACCORDANCE WITH DEP'S SOLID WASTE REGULATIONS (25 PA Code 260.1 et seq., 271.1 et seq., and 287.1 et seq.) AND/OR ANY ADDITIONAL LOCAL, STATE OR FEDERAL REGULATIONS. NO BUILDING MATERIALS (USED OR UNUSED) OR WASTE MATERIALS SHALL BE BURNED, BURIED, DUMPED, OR DISCHARGED AT THE SITE.
- STORMWATER MANAGEMENT BMP'S WILL BE CERTIFIED UPON COMPLETION PER TOWNSHIP ORDINANCE.
- TOWNSHIP, ITS EMPLOYEES AND ITS REPRESENTATIVES HAVE THE RIGHT TO ENTER THE PROPERTY FOR BMP INSPECTIONS AS NEEDED.
- NO FENCES ARE PERMITTED TO BE CONSTRUCTED OVER STORMWATER MANAGEMENT FACILITIES.

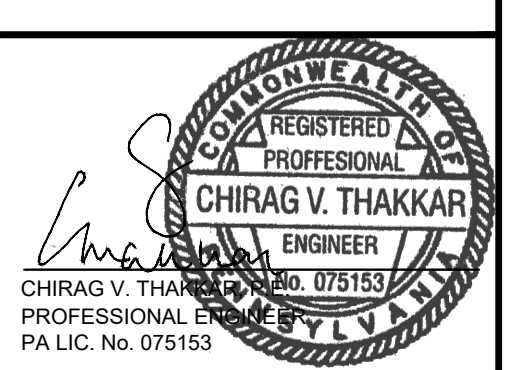


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TMP # 20-016-073
LOWER MAKEFIELD TOWNSHIP
BUCKS COUNTY PENNSYLVANIA

Drawing Title
MASTER DRAINAGE PLAN

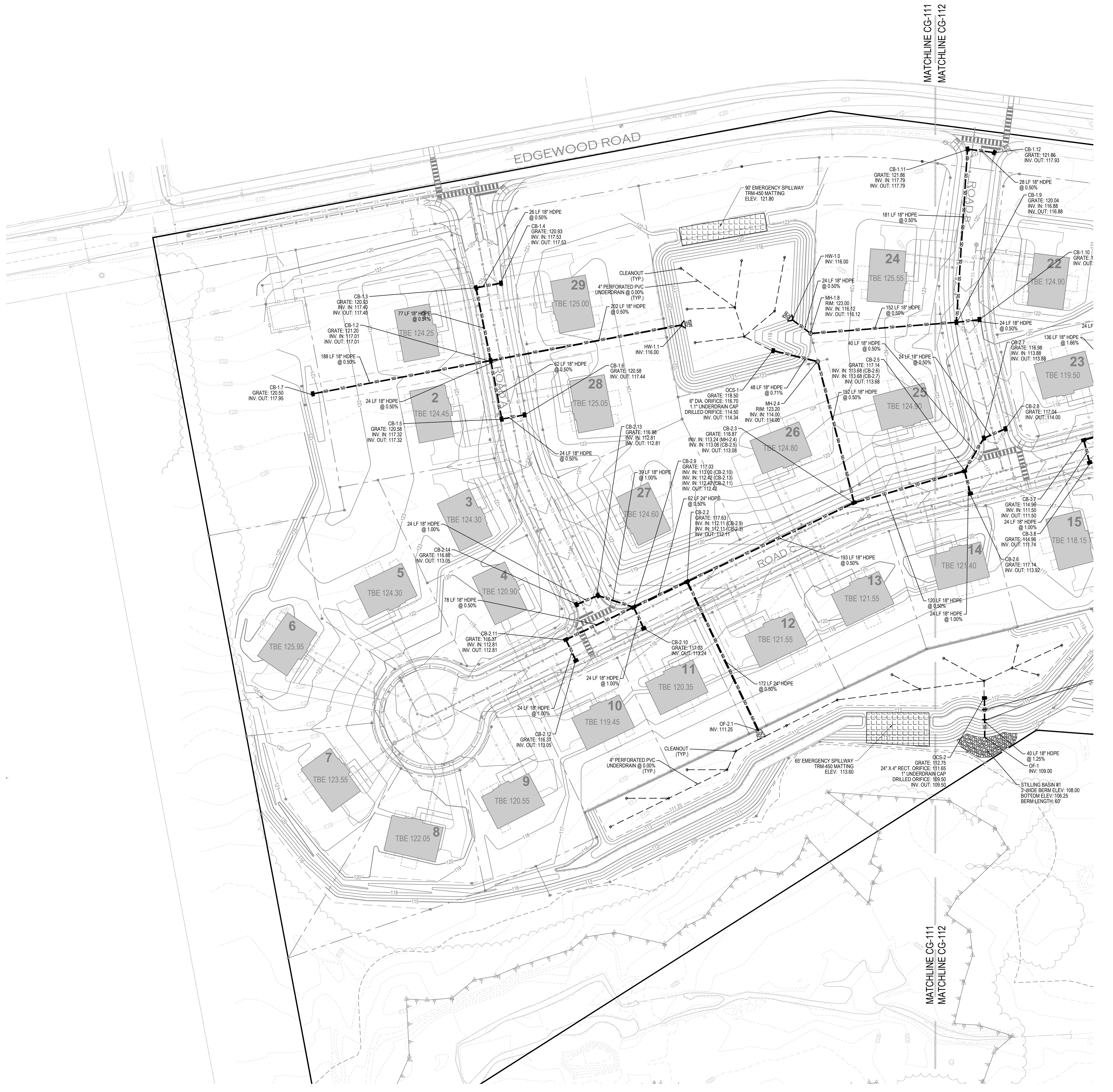
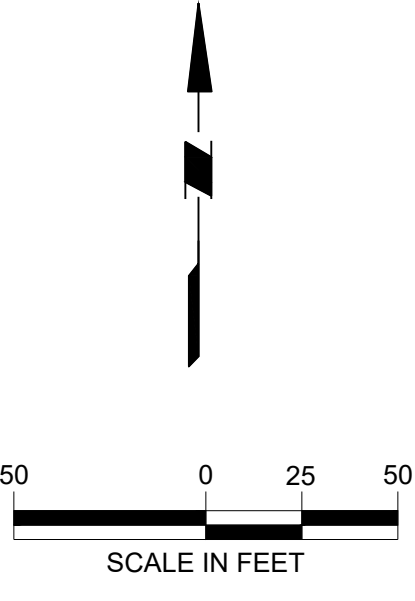
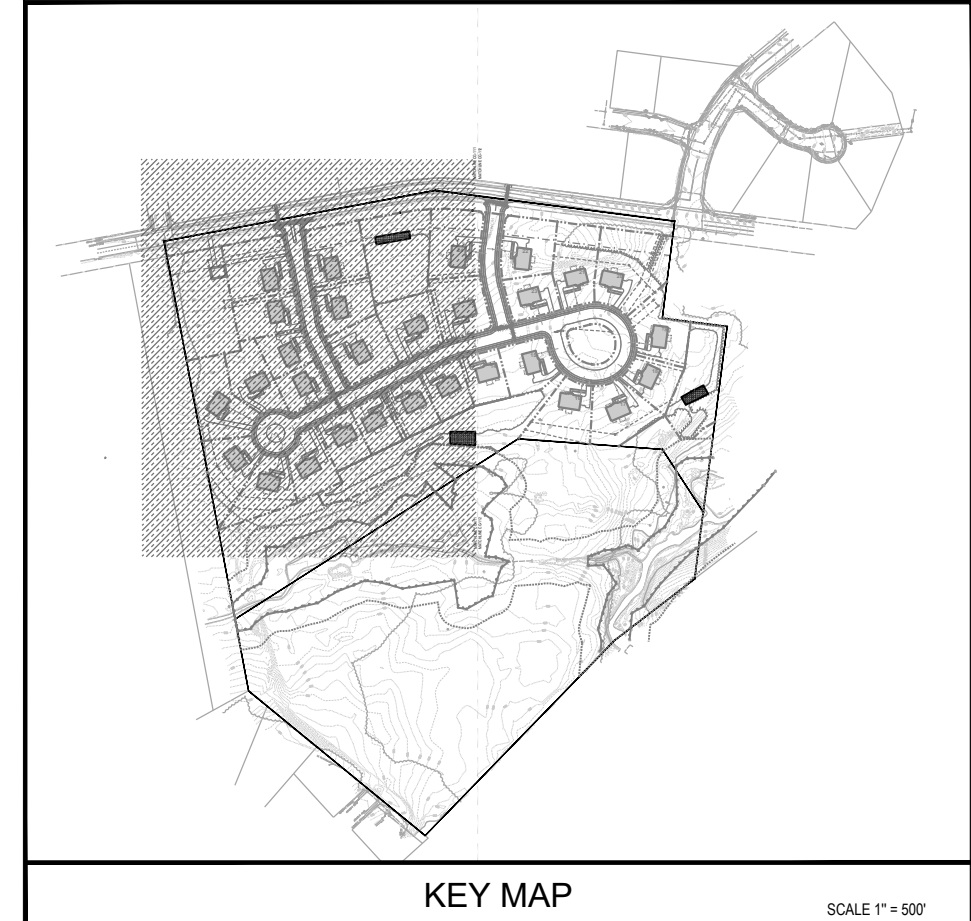


| EXISTING SYMBOLS & LINES | | PROPOSED SYMBOLS & LINES | |
|--------------------------|---------------------------|-----------------------------|-------------------------------|
| --- 190 --- | MAJOR CONTOUR LINE | SITE | |
| --- 189 --- | MINOR CONTOUR LINE | - - - - - | SETBACK LINE |
| --- | TELECOMMUNICATIONS LINE | - - - - - | ROAD CENTER LINE |
| --- | OVERHEAD UTILITY LINE | ▬ | BUILDING |
| --- | UNDERGROUND ELECTRIC LINE | ▬ | DOOR |
| --- | WATER LINE | ▬ | EDGE OF PAVEMENT |
| --- | SANITARY SEWER LINE | ▬ | TRAFFIC SIGN |
| --- | GAS LINE | ▬ | PROPOSED LOT LINE |
| --- | STORM SEWER LINE | ▬ | POST AND RAIL FENCE |
| --- | TREE/BRUSH LINE | ▬ | STORMWATER FACILITY |
| --- | PROPERTY LINE | GRADING AND DRAINAGE | |
| --- | RIGHT-OF-WAY LINE | ▬ | STORM PIPE |
| --- | DEPRESSED CURB | ▬ | CATCH BASIN |
| --- | FENCE | ▬ | PROPOSED CONTOUR |
| ○ | LIGHT POLE | x 100.00 | SPOT GRADE |
| ○ | UTILITY POLE | x 100.00 | TOP OF WALL ELEVATION |
| ○ | FIRE HYDRANT | x 100.00 | BOTTOM OF WALL ELEVATION |
| ○ | WATER VALVE | ▬ | FLOW ARROW |
| ○ | WATER METER | ▬ | HEADWALL / FLARED END SECTION |
| ○ | WATER WELL | ▬ | RIP-RAP |
| ○ | MONITORING WELL | UTILITY | |
| ○ | GAS VALVE | ▬ | TELEPHONE & ELECTRIC LINE |
| ○ | SIGN | ▬ | GAS LINE |
| ○ | CONCRETE MONUMENT FOUND | ▬ | WATER LINE |
| ○ | RAIL MONUMENT FOUND | ▬ | SANITARY SEWER LINE |
| ○ | IRON PIN FOUND | | |
| ○ | IRON PIPE FOUND | | |
| ○ | IRON PIN SET | | |
| ○ | EXISTING POST | | |
| ○ | DECIDUOUS TREE | | |
| ○ | CONIFEROUS TREE | | |
| ○ | AIR CONDITIONING UNIT | | |
| ○ | ELECTRIC METER | | |
| ○ | CLEANOUT | | |
| ○ | CONCRETE | | |

| DATE | COMMENTS | NO. |
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| REVISIONS | | |
| Project No. | 230015101 | |
| Date | 02-09-2024 | |
| Scale | 1" = 100' | |
| Drawn By | JS | |
| Checked By | CT | |
| Drawing No. | CG-110 | |

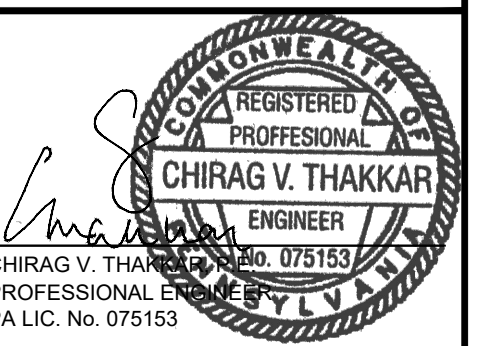
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PROJECT: 230015101 FIELDSTONE HARRIS TRACT SUBDIVISION



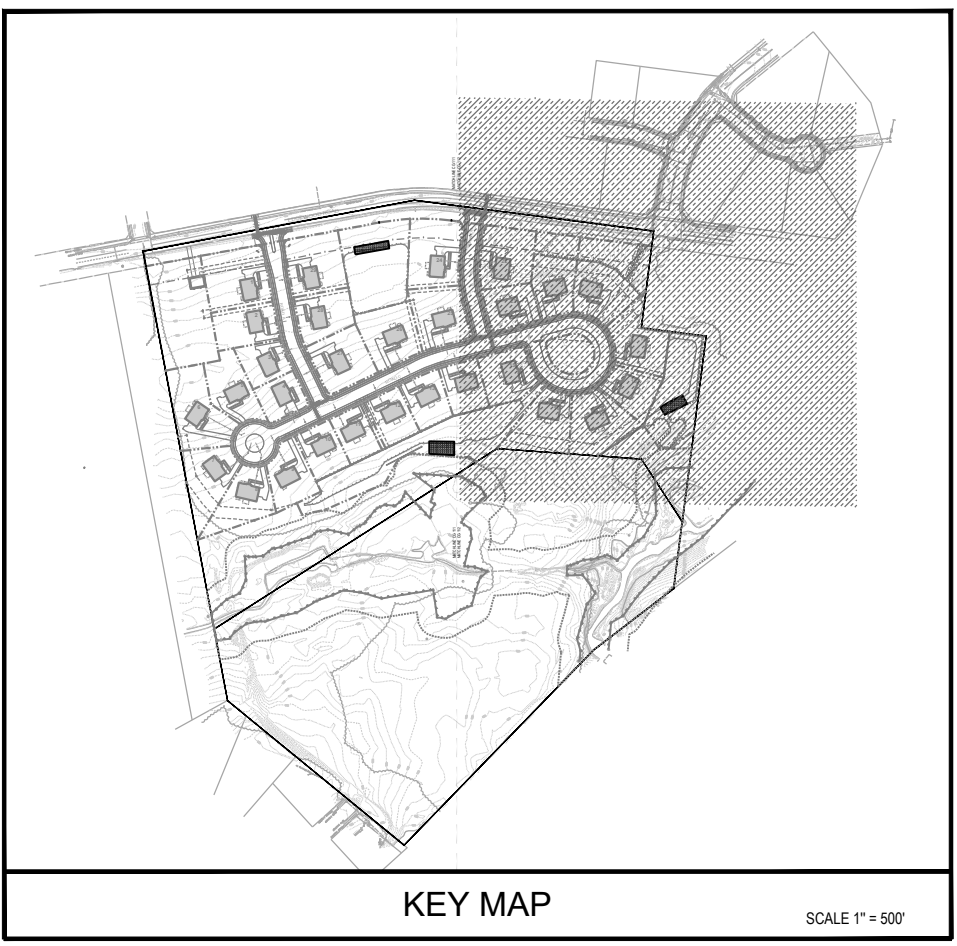
Project
FIELDSTONE HARRIS TRACT SUBDIVISION
TMP # 20-016-073
LOWER MAKEFIELD TOWNSHIP
BUCKS COUNTY PENNSYLVANIA

DRAINAGE PLAN



| DATE | COMMENTS | NO. |
|-------------|------------|-----|
| REVISIONS | | |
| Project No. | 230015101 | |
| Date | 02-09-2024 | |
| Scale | 1" = 50' | |
| Drawn By | KGP | |
| Checked By | CT | |
| Drawing No. | CG-111 | |

| EXISTING SYMBOLS & LINES | | PROPOSED SYMBOLS & LINES | |
|--------------------------|---------------------------|--------------------------|---------------------|
| | MAJOR CONTOUR LINE | | SITE |
| | MINOR CONTOUR LINE | | SETBACK LINE |
| | TELECOMMUNICATIONS LINE | | ROAD CENTER LINE |
| | OVERHEAD UTILITY LINE | | BUILDING |
| | UNDERGROUND ELECTRIC LINE | | DOOR |
| | WATER LINE | | EDGE OF PAVEMENT |
| | SANITARY SEWER LINE | | TRAFFIC SIGN |
| | GAS LINE | | PROPOSED LOT LINE |
| | STORM SEWER LINE | | POST AND RAIL FENCE |
| | TREE/BRUSH LINE | | STORMWATER FACILITY |
| | PROPERTY LINE | | |
| | RIGHT-OF-WAY LINE | | |
| | DEPRESSED CURB | | |
| | FENCE | | |
| | LIGHT POLE | | |
| | UTILITY POLE | | |
| | FIRE HYDRANT | | |
| | WATER VALVE | | |
| | WATER METER | | |
| | WATER WELL | | |
| | MONITORING WELL | | |
| | GAS VALVE | | |
| | SIGN | | |
| | CONCRETE MONUMENT FOUND | | |
| | RAIL MONUMENT FOUND | | |
| | IRON PIN FOUND | | |
| | IRON PIN SET | | |
| | EXISTING POST | | |
| | DECIDUOUS TREE | | |
| | CONIFEROUS TREE | | |
| | AIR CONDITIONING UNIT | | |
| | ELECTRIC METER | | |
| | CLEANOUT | | |
| | CONCRETE | | |
| | TELEPHONE & ELECTRIC LINE | | |
| | GAS LINE | | |
| | WATER LINE | | |
| | SANITARY SEWER LINE | | |

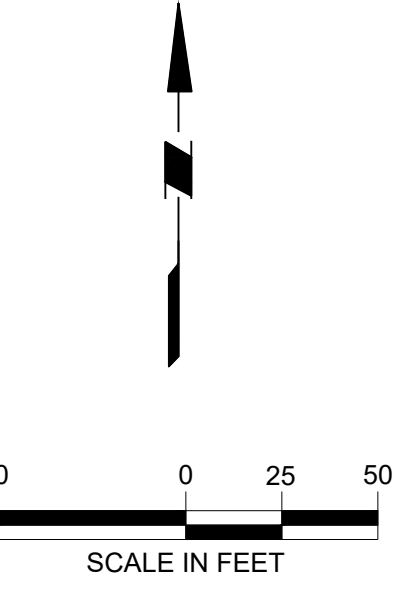


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PROJECT: 230015101 FIELDSTONE HARRIS TRACT SUBDIVISION



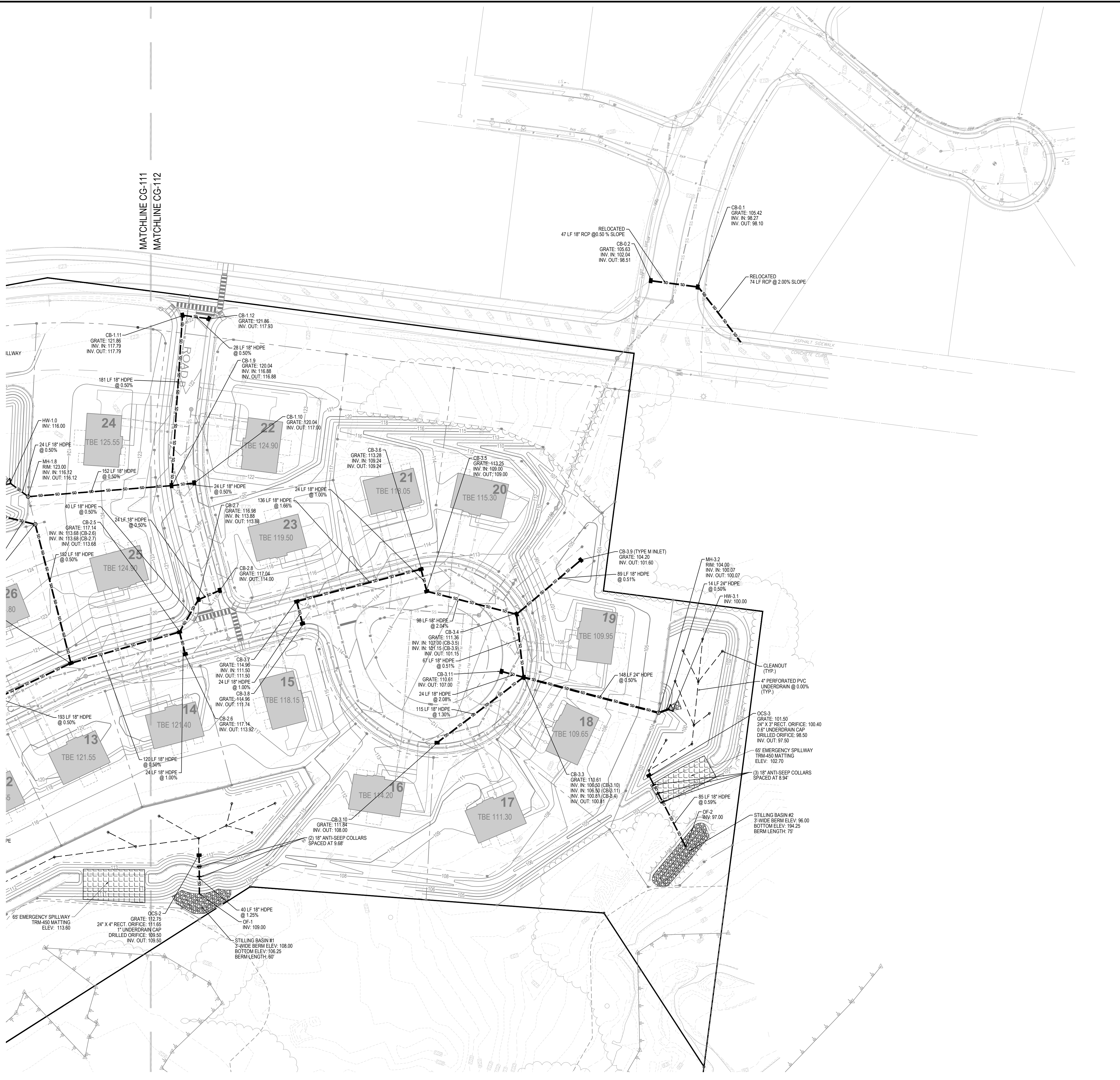
Project
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HARRIS TRACT
SUBDIVISION**
TMP # 20-016-073
LOWER MAKEFIELD TOWNSHIP
BUCKS COUNTY PENNSYLVANIA

Drawing Title

DRAINAGE PLAN



CHIRAG V. THAKKAR
PROFESSIONAL ENGINEER
PA LIC. No. 075153



| LEGEND | | | | |
|--|---|------|----------------------|---------|
| EXISTING SYMBOLS & LINES | PROPOSED SYMBOLS & LINES | | | |
| <ul style="list-style-type: none"> 190 --- MAJOR CONTOUR LINE 190 --- MINOR CONTOUR LINE TELECOMMUNICATIONS LINE OVERHEAD UTILITY LINE UNDERGROUND ELECTRIC LINE WATER LINE SANITARY SEWER LINE GAS LINE STORM SEWER LINE TREE/BRUSH LINE PROPERTY LINE RIGHT-OF-WAY LINE DEPRESSED CURB FENCE LIGHT POLE UTILITY POLE FIRE HYDRANT WATER VALVE WATER METER WATER WELL MONITORING WELL GAS VALVE SIGN CONCRETE MONUMENT FOUND RAIL MONUMENT FOUND IRON PIN FOUND IRON PIPE FOUND IRON PIN SET EXISTING POST DECIDUOUS TREE CONIFEROUS TREE ACU AIR CONDITIONING UNIT EM ELECTRIC METER CO CLEANOUT CONC. CONCRETE | <th>SITE</th> <ul style="list-style-type: none"> --- SETBACK LINE --- ROAD CENTER LINE --- BUILDING --- DOOR --- EDGE OF PAVEMENT --- TRAFFIC SIGN --- PROPOSED LOT LINE --- POST AND RAIL FENCE --- STORMWATER FACILITY <th>GRADING AND DRAINAGE</th> <ul style="list-style-type: none"> --- 18" STORM PIPE --- 24" CATCH BASIN --- PROPOSED CONTOUR X 100.00 SPOT GRADE X 100.00 TOP OF WALL ELEVATION X 100.00 BOTTOM OF WALL ELEVATION --- FLOW ARROW --- HEADWALL / FLARED END SECTION --- RIP-RAP <th>UTILITY</th> <ul style="list-style-type: none"> --- TELEPHONE & ELECTRIC LINE --- GAS LINE --- WATER LINE --- SANITARY SEWER LINE | SITE | GRADING AND DRAINAGE | UTILITY |

| DATE | COMMENTS | NO. |
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| Project No. | 230015101 | |
| Date | 02-09-2024 | |
| Scale | 1" = 50' | |
| Drawn By | KGP | |
| Checked By | CT | |
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PCSM PLAN NOTES:

- 1. PRESERVES THE INTEGRITY OF STREAM CHANNELS AND MAINTAINS AND PROTECTS THE PHYSICAL, BIOLOGICAL, AND CHEMICAL QUALITIES OF THE RECEIVING STREAM...
2. PREVENTS AN INCREASE IN THE RATE OF STORMWATER RUNOFF...
3. MINIMIZES ANY INCREASE IN STORMWATER RUNOFF VOLUME...
4. MINIMIZES IMPERVIOUS AREAS THROUGH PRESERVATION OF A LARGE PORTION OF THE SITE...
5. MAXIMIZES THE PROTECTION OF EXISTING DRAINAGE FEATURES...
6. MINIMIZES LAND CLEARING AND GRADING...
7. MINIMIZES SOIL COMPACTION...
8. UTILIZES OTHER STRUCTURAL OR NONSTRUCTURAL BMPs...
9. CONTRACTOR SHALL MINIMIZE THE EXTENT AND DURATION OF EARTH DISTURBANCE...
11. NO PERSON SHALL PLACE ANY STRUCTURE, FILL, LANDSCAPING, OR VEGETATION INTO A STORMWATER FACILITY...

CRITICAL STAGES OF IMPLEMENTATION NOTE:

- 1. CONSTRUCTION OF THE MANAGED RELEASE CONCEPT BASINS...
2. CONSTRUCTION OF THE VEGETATED SWALES...
3. INSTALLATION OF LANDSCAPING (TREES), BMP #7.

BMP CONSTRUCTION SEQUENCE:

VEGETATED SWALE - CONSTRUCTION SEQUENCE (CRITICAL STAGE) - BMP #2, BMP #4, AND BMP #5

- 1. BEGIN VEGETATED SWALE CONSTRUCTION ONLY WHEN THE URGENT/DIRTY SITE HAS BEEN SUFFICIENTLY STABILIZED...
2. ROUGH GRADE THE VEGETATED SWALE...
3. FINE GRADE THE VEGETATED SWALE...
4. SEED AND VEGETATE ACCORDING TO LANDSCAPE PLAN...
5. ONCE ALL TRIBUTARY AREAS ARE SUFFICIENTLY STABILIZED...
6. FOLLOW MAINTENANCE GUIDELINES...

VEGETATED MANAGED RELEASE CONCEPT BASINS (MRC FACILITIES) - CONSTRUCTION SEQUENCE (CRITICAL STAGE) - BMP #1, BMP #3, AND BMP #6

- 1. INSTALL THE MRC BMP DURING FINAL PHASES OF SITE CONSTRUCTION...
2. INSTALL AND MAINTAIN PROPER EAS BMPs DURING CONSTRUCTION...
3. IF NECESSARY, EXCAVATE THE MRC BMP BOTTOM...
4. INSTALL OUTLET CONTROL STRUCTURES...
5. PLACE SOIL MEDIA...
6. SEED AND STABILIZE DISTURBED AREA...
7. MAINTAIN INLET PROTECTION...

LANDSCAPING CONSTRUCTION SEQUENCE (CRITICAL STAGE) - BMP #7

- 1. THE CONTRACTOR SHALL KEEP AREA CLEAN DURING DELIVERY AND INSTALLATION OF PLANT MATERIALS...
2. LANDSCAPE CONTRACTOR TO STAKE OUT PLANTING LOCATIONS...
3. PLANT MATERIALS SHALL NOT BE PLANTED UNTIL THE FINISHED GRADING HAS BEEN COMPLETED...
4. THE CONTRACTOR SHALL HAVE TREES AND SHRUBS DELIVERED TO SITE...
5. ALL PLANT MATERIAL SHALL BE INSTALLED AS PER DETAILS...

THERMAL IMPACT ANALYSIS NOTE:

THERMAL IMPACTS WILL BE MINIMIZED AND MITIGATED IN THE POST CONSTRUCTION CONDITION BY PROPOSED TREES THAT WILL SHADE THE PROPOSED IMPERVIOUS SURFACES...

MANAGEMENT OF WASTE FOR PCSM BMPs

ALL BMPs SHALL BE INSPECTED AS DESCRIBED IN THE MAINTENANCE SCHEDULE PROVIDED IN THIS PLAN... CONTRACTOR MUST RESTORE ANY DISTURBED AREAS FOLLOWING THE WASTE REMOVAL.

Table with columns: Map Symbol, Soil, Hydrological Soil Group, Seasonal High Water Table (FT), Depth to Bedrock (IN), Soil Limitations, Hydric. Rows include Bowmanville-Knears silt loams, Brownsburg silt loam, Ducannon silt loam, Lansdale loam, Steinsburg gravelly loam, Urban land-Lansdale Complex, Urban land - Penn Complex.

MAINTENANCE FOR BEST MANAGEMENT PRACTICES NOTES:

MAINTENANCE, ROUTINE INSPECTION AND ANY REPAIRS OF THE PROPOSED STORMWATER MANAGEMENT BMPs SHALL REST WITH THE OWNER OF THE PROPERTY... THE TOWNSHIP HAS THE RIGHT, BUT NOT THE RESPONSIBILITY, TO INSPECT AND MAINTAIN ALL BMPs.

1) STORMWATER CONVEYANCE SYSTEM

- CATCH BASINS, MANHOLES AND PIPES TO BE INSPECTED FOR CLOGGING AND EXCESSIVE DEBRIS AND SEDIMENT ACCUMULATION AT LEAST ANNUALLY AS WELL AS AFTER EVERY STORM EXCEEDING 1-INCH OF RAINFALL...
ALL STRUCTURAL COMPONENTS MUST BE INSPECTED FOR CRACKING, SUBSIDENCE, BRACKING, WEARING, AND DETERIORATION AT LEAST ANNUALLY.

2) VEGETATED SWALES

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...
INSPECT VEGETATION ON SIDE SLOPES FOR EROSION AND FORMATION OF RILLS AND GULLIES...
INSPECT FOR POOLS OF STANDING WATER...
MOW AND TRIM VEGETATION TO ENSURE SAFETY, AESTHETICS, PROPER SWALE OPERATION...
RESEED BARE AREAS...
ROTILL AND REPLANT SWALE IF DRAIN DOWN TIME IS LESS THAN 48 HOURS...
WATER DURING DRY PERIODS, FERTILIZE, AND APPLY PESTICIDE ONLY WHEN ABSOLUTELY NECESSARY.

3) VEGETATED MANAGED RELEASE CONCEPT BASINS (MRC FACILITIES)

- UPGRADE/CATCH BASINS AND INLETS SHOULD BE INSPECTED AND CLEANED ANNUALLY...
THE VEGETATION FOR THE MRC BASIN AND CONTRIBUTING DRAINAGE AREA SHOULD BE MAINTAINED IN GOOD CONDITION...
CARE SHOULD BE TAKEN TO AVOID EXCESSIVE COMPACTION BY MOWERS...
MOWERS MOW ONLY AS APPROPRIATE FOR VEGETATIVE SPECIES...
USE NON-TOXIC ORGANIC DEBRIS AGENTS...
PRETREATED SALT USE SHALL NOT BE APPLIED TO VEGETATION IN SWALES.

4) LANDSCAPING MAINTENANCE

- ALL LANDSCAPE IMPROVEMENTS SHALL BE INSTALLED AND MAINTAINED BY ACCEPTED PRACTICES AS RECOMMENDED BY THE AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS...
DURING THE ESTABLISHMENT YEAR, CONTRACTOR SHALL MOW SEEDING AREAS...
MOW AT A HEIGHT OF 8"-10"...
AFTER THE FIRST GROWING SEASON, AND IF SEED MIX IS WELL ESTABLISHED, THE SEED MIX SHALL BE MOVED ONLY ONCE ANNUALLY...
MOW IN WETLAND AND WETLAND TRANSITION AREAS DURING DRIER SITE CONDITIONS...
MAINTENANCE FOR WETLAND AND WETLAND TRANSITION AREAS SHALL OCCUR DURING LATE SUMMER...
DO NOT MOW IN WETLAND OR WETLAND TRANSITION AREAS AFTER ESTABLISHMENT OF SEED MIX.

REPLACEMENT OF FAILED BMPs

IN THE EVENT THAT A COMPLETE FAILURE OF ANY ON-SITE BMP OCCURS, THE RESPONSIBLE PARTY FOR OPERATION AND MAINTENANCE SHALL HAVE THE BMP REMOVED COMPLETELY AND HAVE THE BMP RECONSTRUCTED PER THE BMP CONSTRUCTION SEQUENCE...

RECEIVING WATER AND CLASSIFICATION

RECEIVING WATER: BROCK CREEK PART OF THE DELAWARE RIVER SOUTH WATERSHED

OH 83 CLASSIFICATION: WWF, MF

IMPACT SOURCE: URBAN RUNOFF / STORM SEWERS, OTHER HABITAT ALTERATIONS, FLOW REGIME MODIFICATION

SOIL TESTING RESULTS SUMMARY:

Table with columns: TEST LOCATION, EXISTING GROUND ELEV. (FT), TEST DEPTH (FT), INFILTRATION RATE (IN/HR), LIMITING ZONE DEPTH (FT), TYPE OF LIMITING ZONE. Rows include TP-1 through TP-14.

NOTE: GEOTECHNICAL TESTING PERFORMED BY WY CONSULTANTS ON 10/27/2021 AND 11/01/2021... NOTE: DUE TO CONTAMINATION ON-SITE, PDEP HAS REQUIRED THAT THE SITE NOT BE DESIGNED WITH INFILTRATION BMPs.

GEOGRAPHIC MAPPING FEATURES:

NOTE THAT THROUGH SOIL INVESTIGATION TESTING, AS WELL AS THE PAST AND PRESENT USES OF THE LAND, THE SITE IS NOT INTENDED TO BE CONTAMINATED WITH POLLUTANTS OR HAZARDOUS MATERIALS... IN THE CASE THAT UNANTICIPATED POLLUTANTS AND/OR SINKHOLE ARISE DURING CONSTRUCTION.

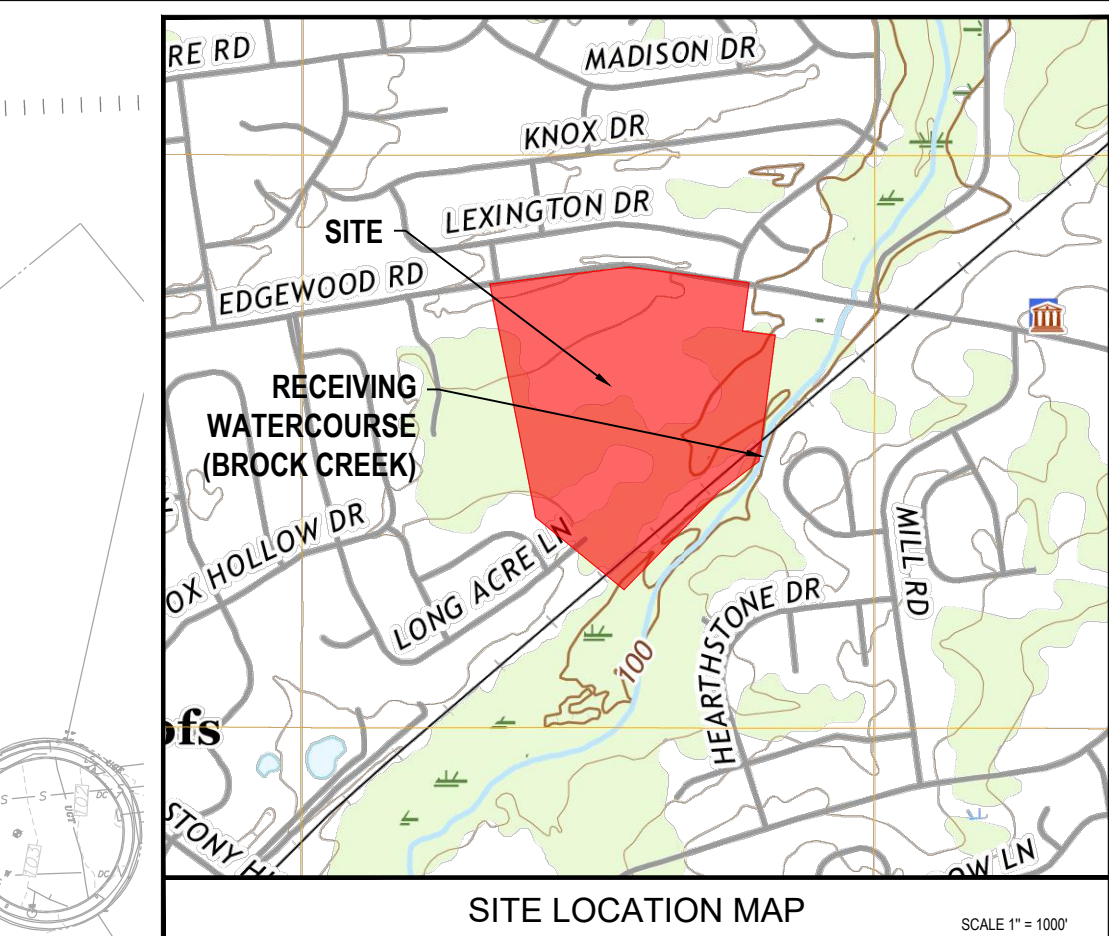
FOR CONTAMINATION:

- IF HAZARDOUS MATERIAL IS IDENTIFIED DURING CONSTRUCTION, EARTH MOVING SHALL IMMEDIATELY CEASE UNTIL CONTAMINATED AREA IS REMEDIATED...
CONTRACTOR SHALL IDENTIFY AND PHYSICALLY MARK LIMITS OF HAZARDOUS MATERIAL WITHIN THE AREA OF CONSTRUCTION...
EXCAVATE HAZARDOUS MATERIAL AND STOCK PILE IN AREA SHOWN ON THIS PLAN...
HAZARD TO A PENNSYLVANIA DEP APPROVED HAZARDOUS WASTE FACILITY...
VERIFY THAT ALL HAZARDOUS MATERIAL IDENTIFIED HAS BEEN REMOVED FROM SITE PRIOR TO COMMENCING CONSTRUCTION AND EARTH MOVING PRACTICES.

SINKHOLE:

- IF A SINNHOLE IS IDENTIFIED DURING CONSTRUCTION, EARTH MOVING SHALL IMMEDIATELY CEASE UNTIL THE SINNHOLE IS REPAIRED...
CONTRACTOR SHALL IDENTIFY AND PHYSICALLY MARK LIMITS OF SINNHOLE REPAIR NECESSARY...
ALL SINNHOLE SHALL BE REPAIRED PER DETAILS PROVIDED ON CG-02 (EITHER FOR PERVIOUS OR IMPERVIOUS COVER)...
CONSTRUCTION AND EARTH MOVING PRACTICES MAY RESUME ONLY AFTER THE REPAIR OF THE SINNHOLE AREA IS COMPLETED.

Drawing Index table with columns: Drawing No., Drawing No., Drawing Title, Last Revised. Rows include CG-200 Master Post-Construction Stormwater Management Plan, CG-201 Post-Construction Stormwater Management Plan, CG-501 Post-Construction Stormwater Management Details, CG-502 Post-Construction Stormwater Management Details.



LIMIT OF DISTURBANCE = 17.80 AC
PROJECT SITE BOUNDARY = 23.40 AC

ACT 187
UTILITY LOCATIONS AS SHOWN ON THIS PLAN ARE APPROXIMATE AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR, PER PA ACT 187 TO CONTACT THE UTILITY COMPANIES FOR MORE ACCURATE LOCATION PRIOR TO ANY EXCAVATION.



Project: FIELDSTONE HARRIS TRACT SUBDIVISION
Drawing Title: MASTER POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN



PCSM LEGEND table with symbols for LOD, LIMIT OF DISTURBANCE, PROJECT SITE BOUNDARY, DRAINAGE BOUNDARY.

LEGEND table with columns: EXISTING SYMBOLS & LINES, PROPOSED SYMBOLS & LINES. Rows include SITE, GRADING AND DRAINAGE, UTILITY.



111a Engineering Inc.
1456 Ferry Road, Suite 603
Doylestown, PA 18901
T: 215.766.8280
F: 215.434.5280

Project: FIELDSTONE HARRIS TRACT SUBDIVISION
TMP # 20-016-073

LOWER MAKEFIELD TOWNSHIP
BUCKS COUNTY PENNSYLVANIA

DATE: COMMENTS: NO.

Project No. 230015101
Date 02-09-2024
Scale 1" = 100'

Drawn By JMS
Checked By CT

Drawing No. CG-200

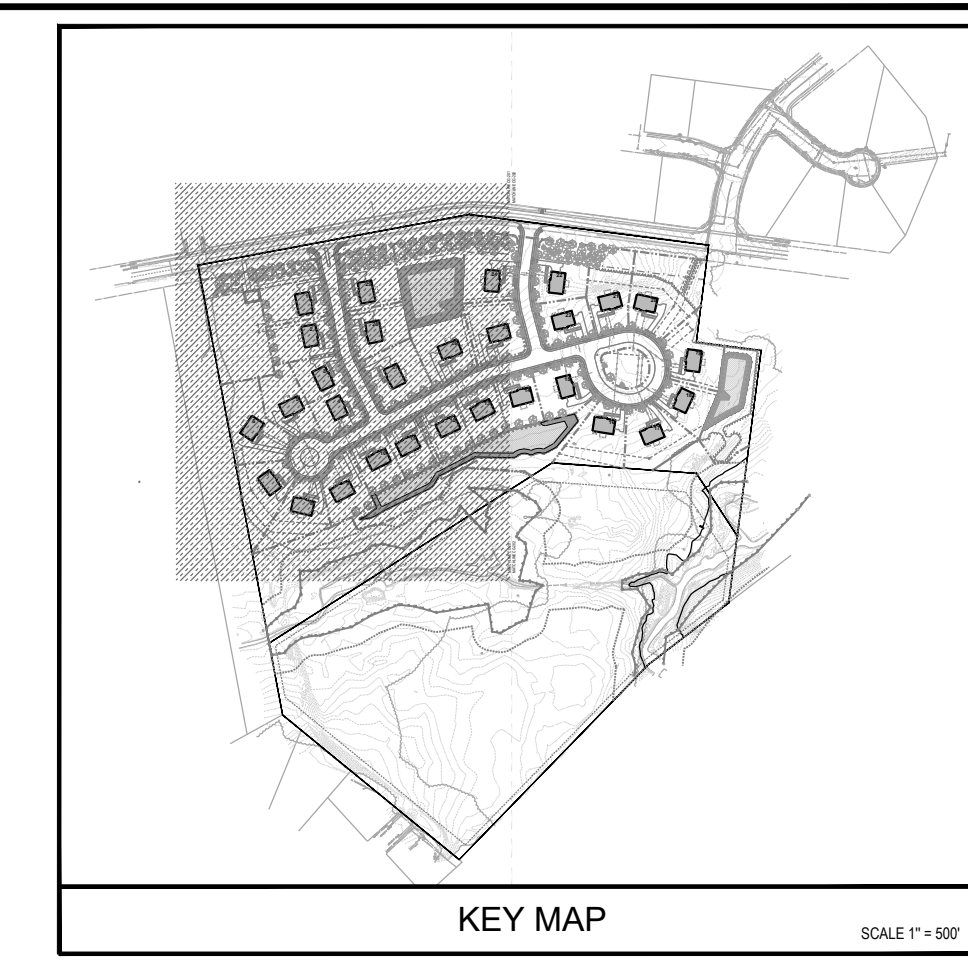
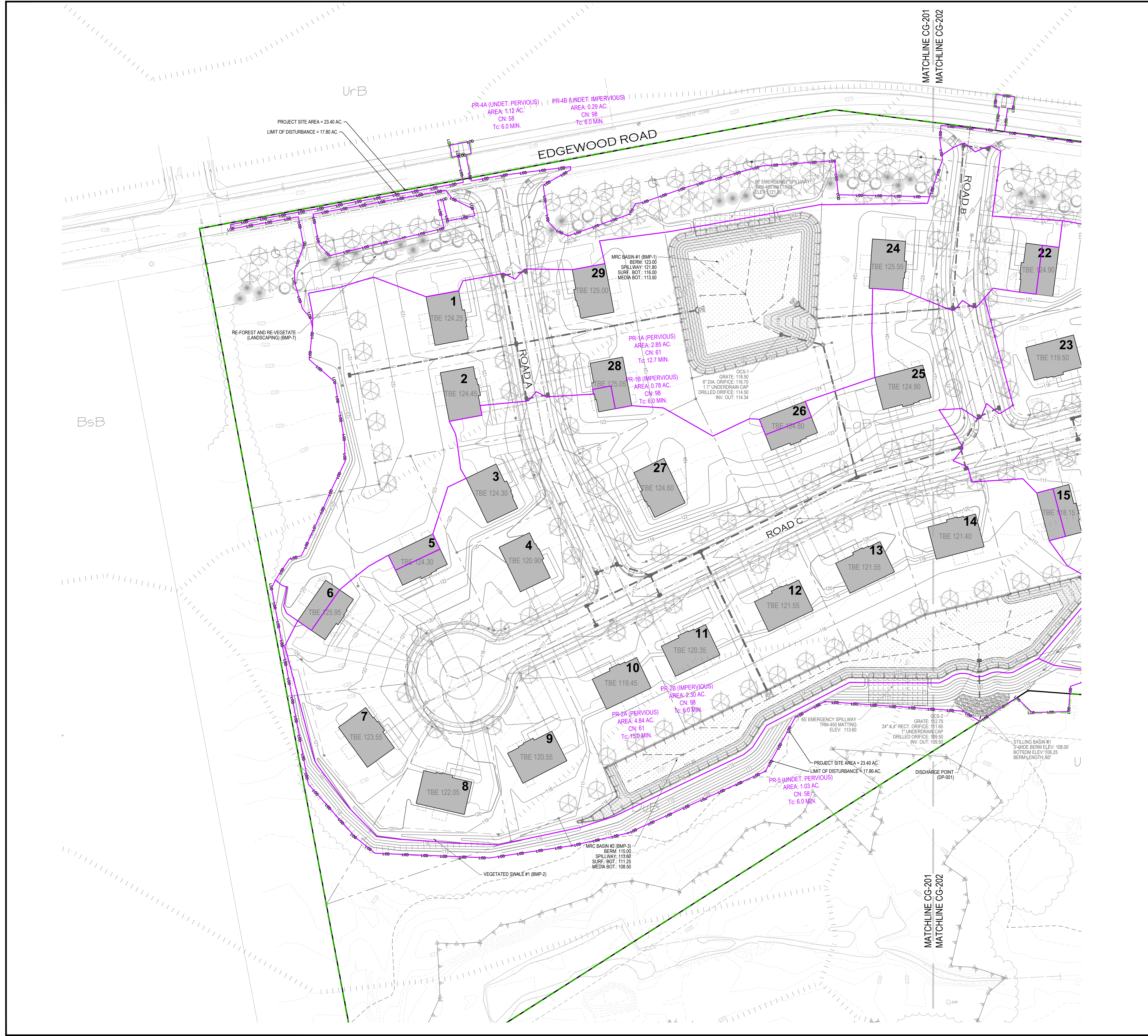
Sheet 16 of 37

THE APPLICANT SHALL ENTER INTO A "STORMWATER BEST MANAGEMENT PRACTICES OPERATIONS AND MAINTENANCE AGREEMENT" PRIOR TO CONSTRUCTION.

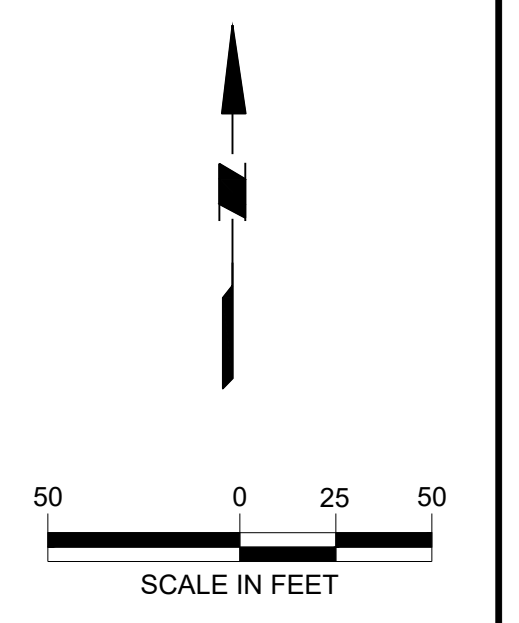
RECORD OWNER & APPLICANT: JPO-Fieldstone, LP One Fayette Street, Suite 175 Conshohocken, PA 19429

DESIGN ENGINEER CERTIFICATION: I, CHIRAG V. THAKKAR, ON THIS DATE... HAS BEEN REVIEWED AND HEREBY CERTIFIES THAT THE STORMWATER MANAGEMENT PLAN MEETS ALL DESIGN STANDARDS AND CRITERIA OF LOWER MAKEFIELD TOWNSHIP ACT 167 STORMWATER MANAGEMENT ORDINANCE (DELAWARE RIVER SOUTH).

LANDOWNER STATEMENT: THE STORMWATER MANAGEMENT SYSTEM TO BE A PERMANENT FEATURE THAT CAN BE ALTERED OR REMOVED ONLY AFTER APPROVAL OF A REVISED PLAN BY THE TOWNSHIP, WHICH SHALL BE RECORDED WITH THE RECORD PLAN AND WHICH SHALL BE APPLICABLE TO ALL FUTURE LANDOWNERS.

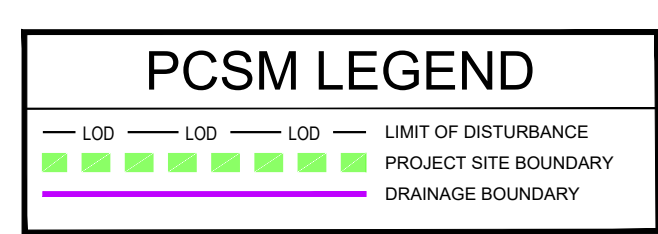
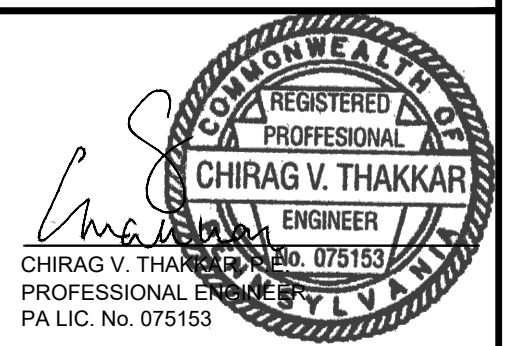


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Project
FIELDSTONE HARRIS TRACT SUBDIVISION
TMP # 20-016-073
LOWER MAKEFIELD TOWNSHIP
BUCKS COUNTY PENNSYLVANIA

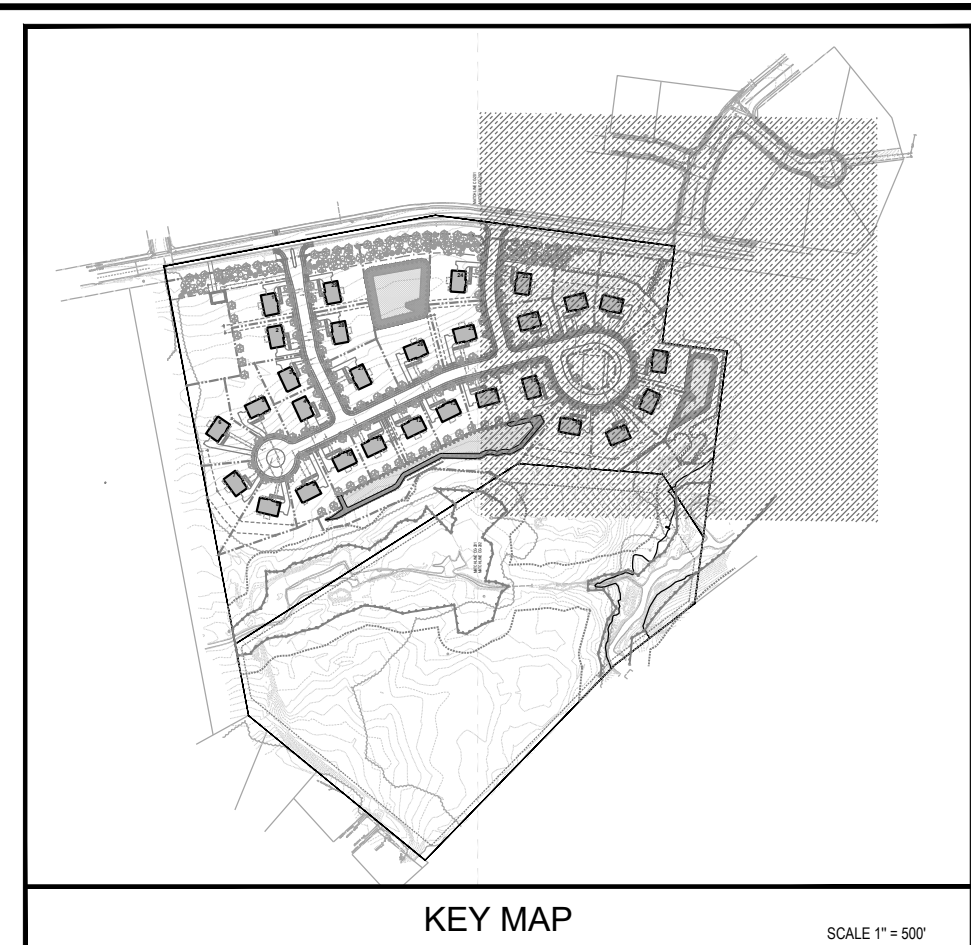
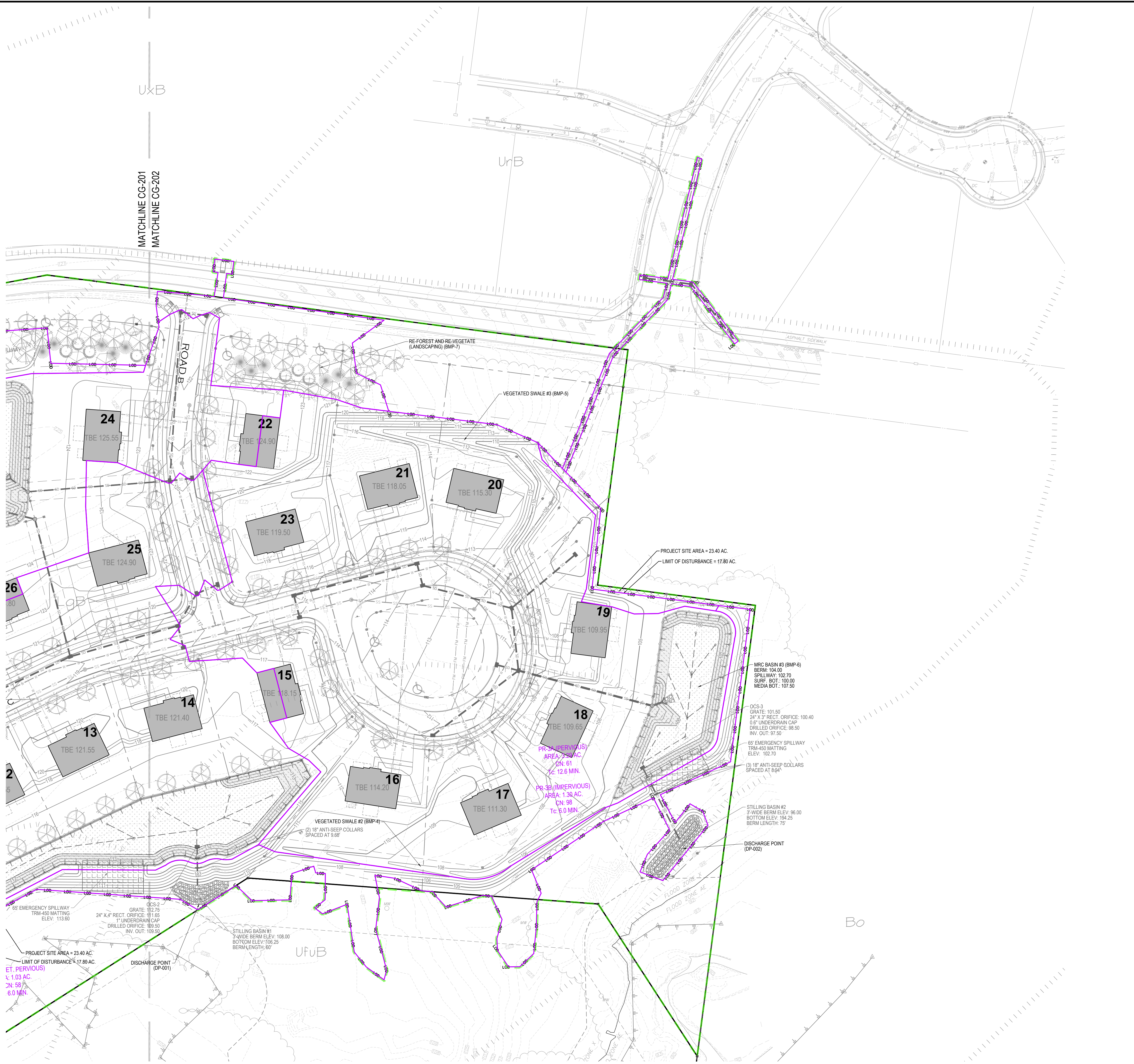
Drawing Title
POST - CONSTRUCTION STORMWATER MANAGEMENT PLAN



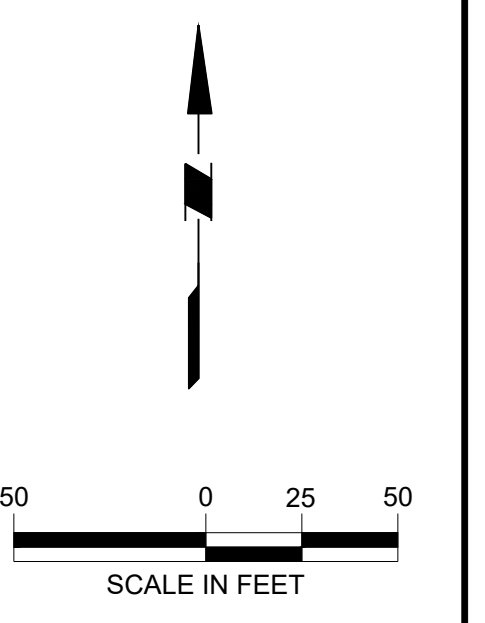
| LEGEND | |
|--|---|
| EXISTING SYMBOLS & LINES | PROPOSED SYMBOLS & LINES |
| <ul style="list-style-type: none"> 190 --- MAJOR CONTOUR LINE 180 --- MINOR CONTOUR LINE --- TELECOMMUNICATIONS LINE --- OVERHEAD UTILITY LINE --- UNDERGROUND ELECTRIC LINE --- WATER LINE --- SANITARY SEWER LINE --- GAS LINE --- STORM SEWER LINE --- TREE/BRUSH LINE --- PROPERTY LINE --- RIGHT-OF-WAY LINE --- DEPRESSED CURB --- FENCE ○ LIGHT POLE ○ UTILITY POLE ○ FIRE HYDRANT ○ WATER VALVE ○ WATER METER ○ WATER WELL ○ MONITORING WELL ○ GAS VALVE ○ SIGN ○ CONCRETE MONUMENT FOUND ○ RAIL MONUMENT FOUND ○ IRON PIN FOUND ○ IRON PIPE FOUND ○ IRON PIN SET ○ EXISTING POST ○ DECIDUOUS TREE ○ CONIFEROUS TREE ○ AIR CONDITIONING UNIT ○ ELECTRIC METER ○ CLEANOUT ○ CONCRETE | <ul style="list-style-type: none"> --- SITE --- SETBACK LINE --- ROAD CENTER LINE --- BUILDING --- DOOR --- EDGE OF PAVEMENT --- TRAFFIC SIGN --- PROPOSED LOT LINE --- POST AND RAIL FENCE --- STORMWATER FACILITY |
| GRADING AND DRAINAGE | |
| <ul style="list-style-type: none"> --- STORM PIPE --- CATCH BASIN --- PROPOSED CONTOUR --- SPOT GRADE --- TOP OF WALL ELEVATION --- BOTTOM OF WALL ELEVATION --- FLOW ARROW --- HEADWALL / FLARED END SECTION --- RIP-RAP | <ul style="list-style-type: none"> --- UTILITY --- TELEPHONE & ELECTRIC LINE --- GAS LINE --- WATER LINE --- SANITARY SEWER LINE |

| DATE | COMMENTS | NO. |
|-------------|------------|-----|
| REVISIONS | | |
| Project No. | 230015101 | |
| Date | 02-09-2024 | |
| Scale | 1" = 50' | |
| Drawn By | JS | |
| Checked By | CT | |
| Drawing No. | CG-201 | |

PROJECT: 230015101 FIELDSTONE HARRIS TRACT SUBDIVISION

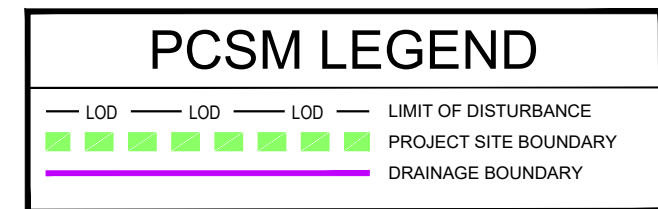
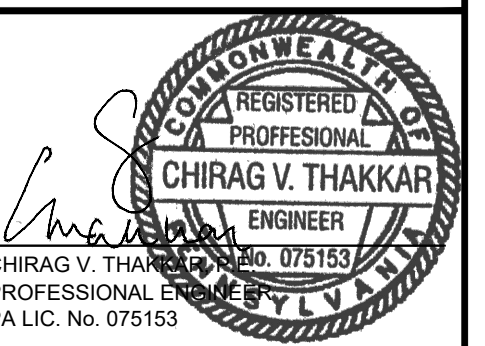


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Project
FIELDSTONE HARRIS TRACT SUBDIVISION
TMP # 20-016-073
LOWER MAKEFIELD TOWNSHIP
BUCKS COUNTY PENNSYLVANIA

Drawing Title
POST - CONSTRUCTION STORMWATER MANAGEMENT



| LEGEND | |
|---|---|
| EXISTING SYMBOLS & LINES | PROPOSED SYMBOLS & LINES |
| <ul style="list-style-type: none"> 100' MAJOR CONTOUR LINE MINOR CONTOUR LINE TELECOMMUNICATIONS LINE OVERHEAD UTILITY LINE UNDERGROUND ELECTRIC LINE WATER LINE SANITARY SEWER LINE GAS LINE STORM SEWER LINE TREE/BRUSH LINE PROPERTY LINE RIGHT-OF-WAY LINE DEPRESSED CURB FENCE LIGHT POLE UTILITY POLE FIRE HYDRANT WATER VALVE WATER METER WATER WELL MONITORING WELL GAS VALVE SIGN CONCRETE MONUMENT FOUND RAIL MONUMENT FOUND IRON PIN FOUND IRON PIPE FOUND IRON PIN SET EXISTING POST DECIDUOUS TREE CONIFEROUS TREE AIR CONDITIONING UNIT ELECTRIC METER CLEANOUT CONCRETE | <ul style="list-style-type: none"> SITE <ul style="list-style-type: none"> SETBACK LINE ROAD CENTER LINE BUILDING DOOR EDGE OF PAVEMENT TRAFFIC SIGN PROPOSED LOT LINE POST AND RAIL FENCE STORMWATER FACILITY GRADING AND DRAINAGE <ul style="list-style-type: none"> STORM PIPE CATCH BASIN PROPOSED CONTOUR SPOT GRADE TOP OF WALL ELEVATION BOTTOM OF WALL ELEVATION FLOW ARROW HEADWALL / FLARED END SECTION RIP-RAP UTILITY <ul style="list-style-type: none"> TELEPHONE & ELECTRIC LINE GAS LINE WATER LINE SANITARY SEWER LINE |

| DATE | COMMENTS | NO. |
|-----------|----------|-----|
| REVISIONS | | |

| | |
|-------------|------------|
| Project No. | 230015101 |
| Date | 02-09-2024 |
| Scale | 1" = 50' |
| Drawn By | JS |
| Checked By | CT |
| Drawing No. | CG-202 |

| DATE | COMMENTS | NO. |
|-----------|----------|-----|
| REVISIONS | | |

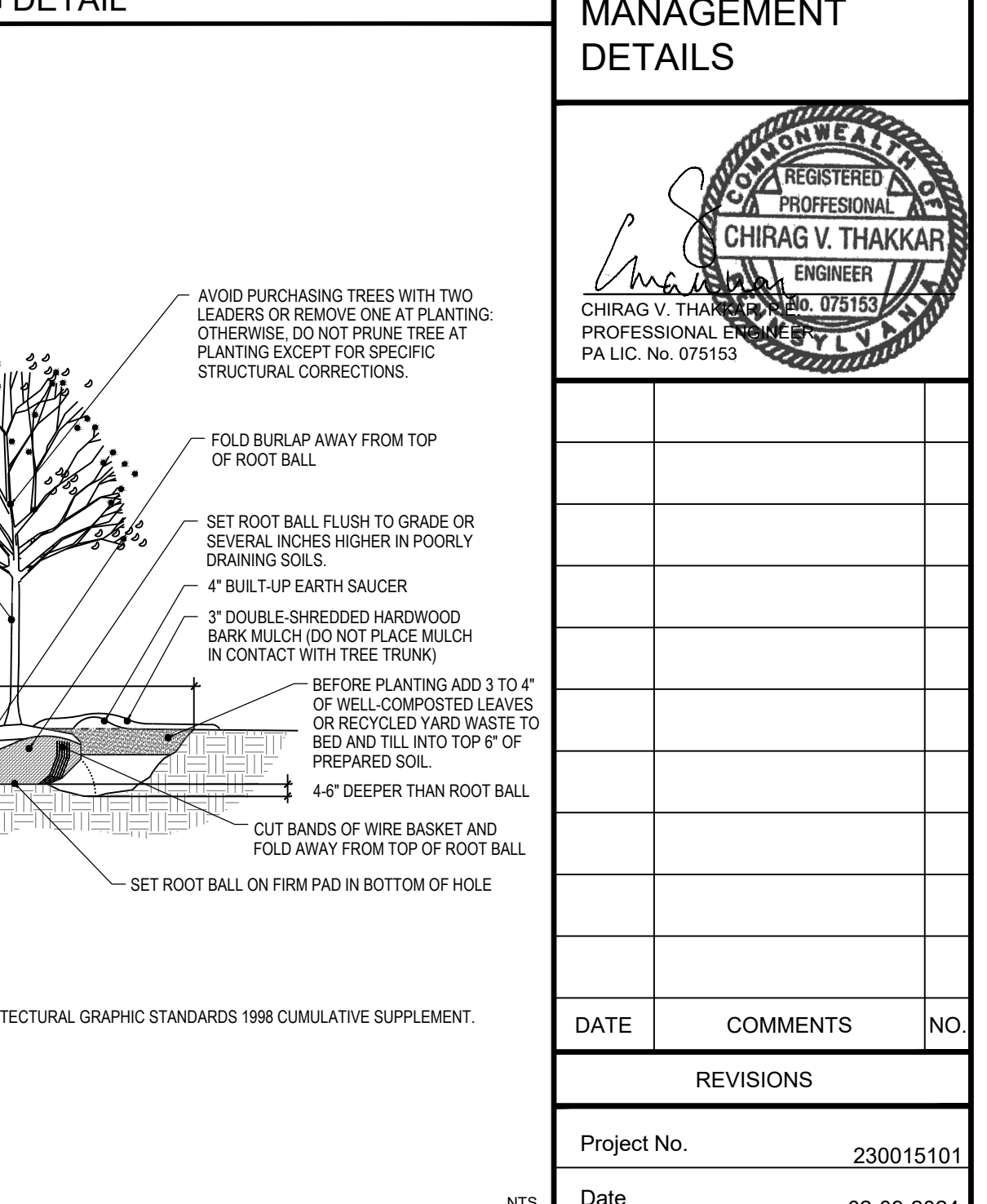
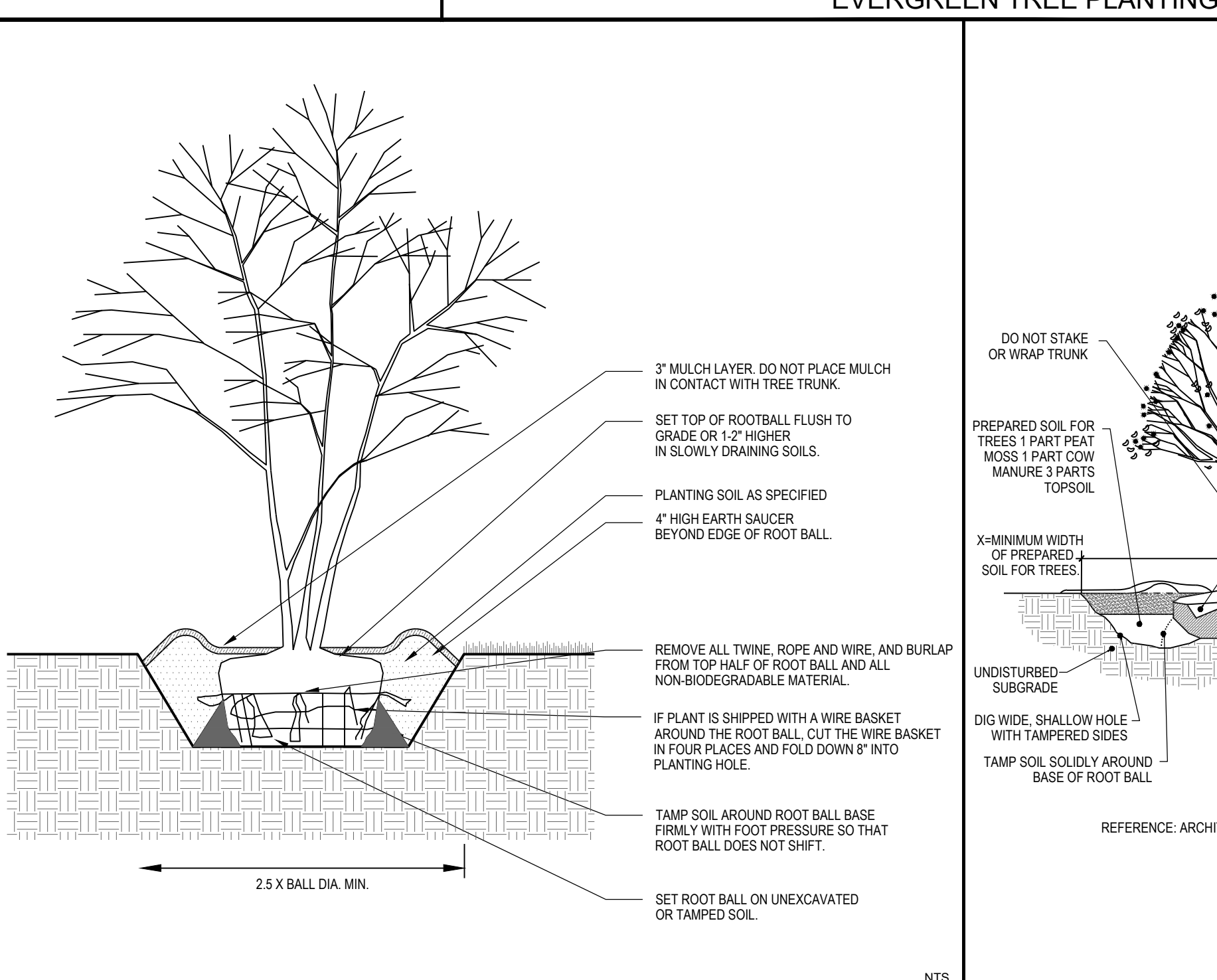
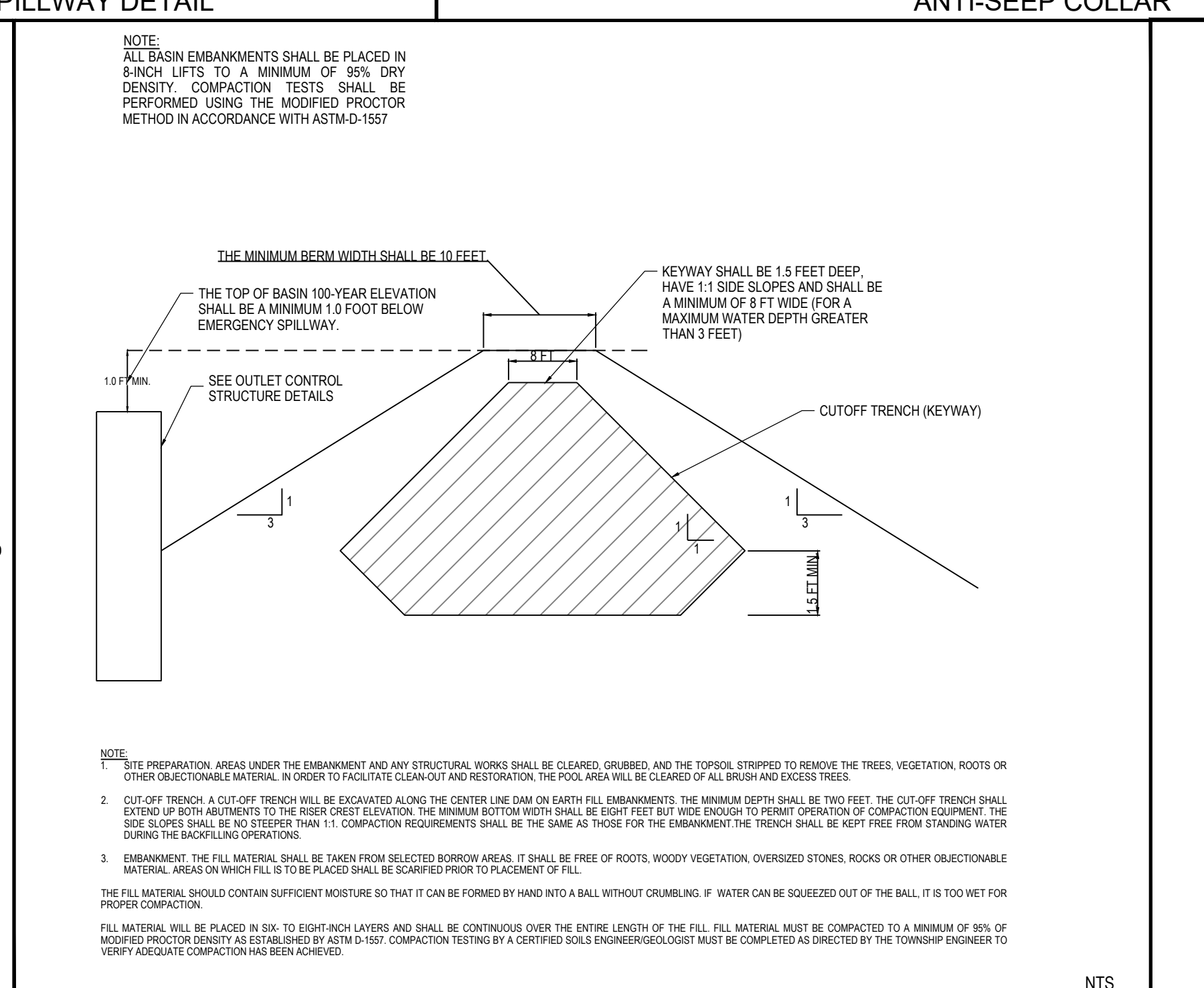
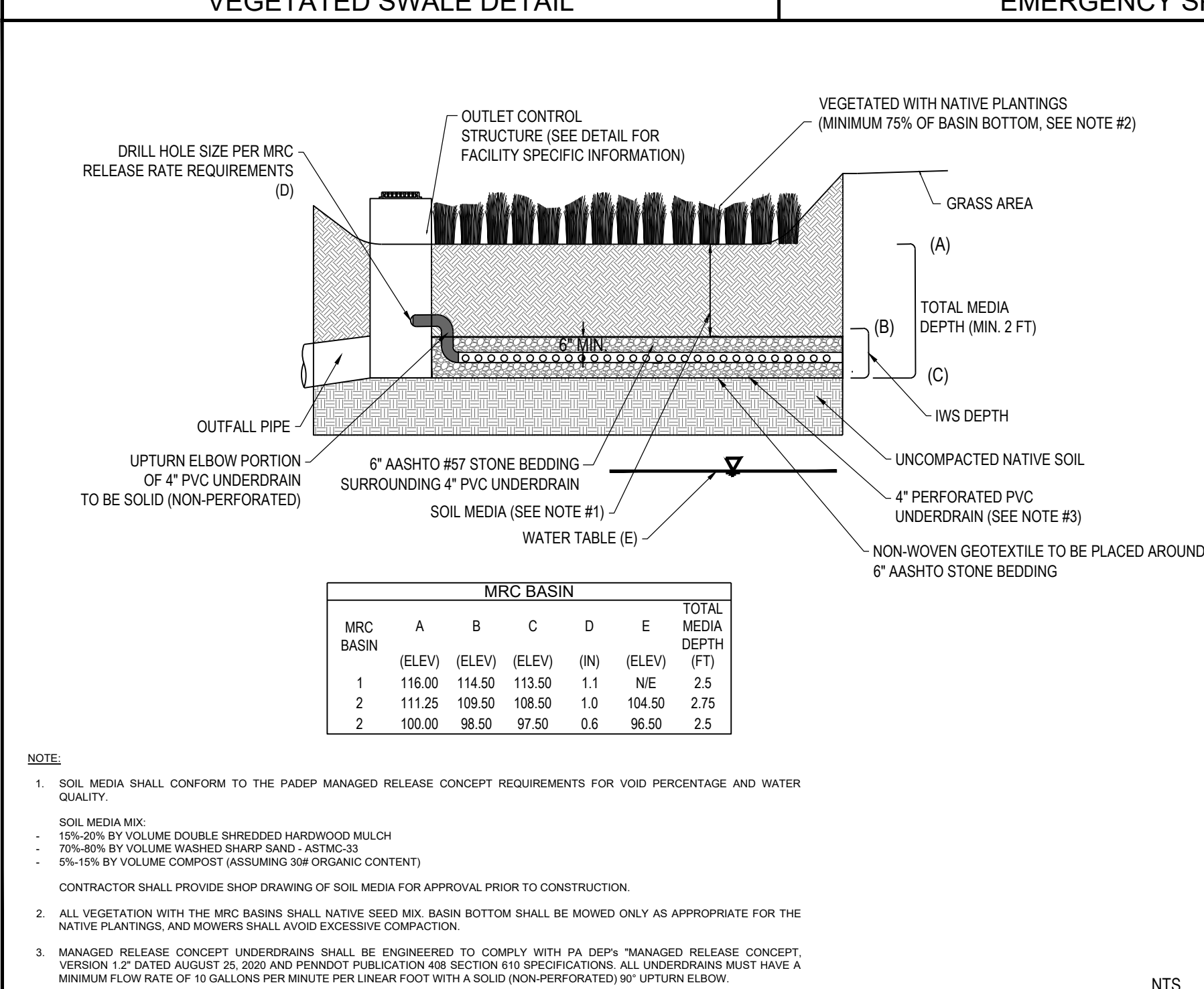
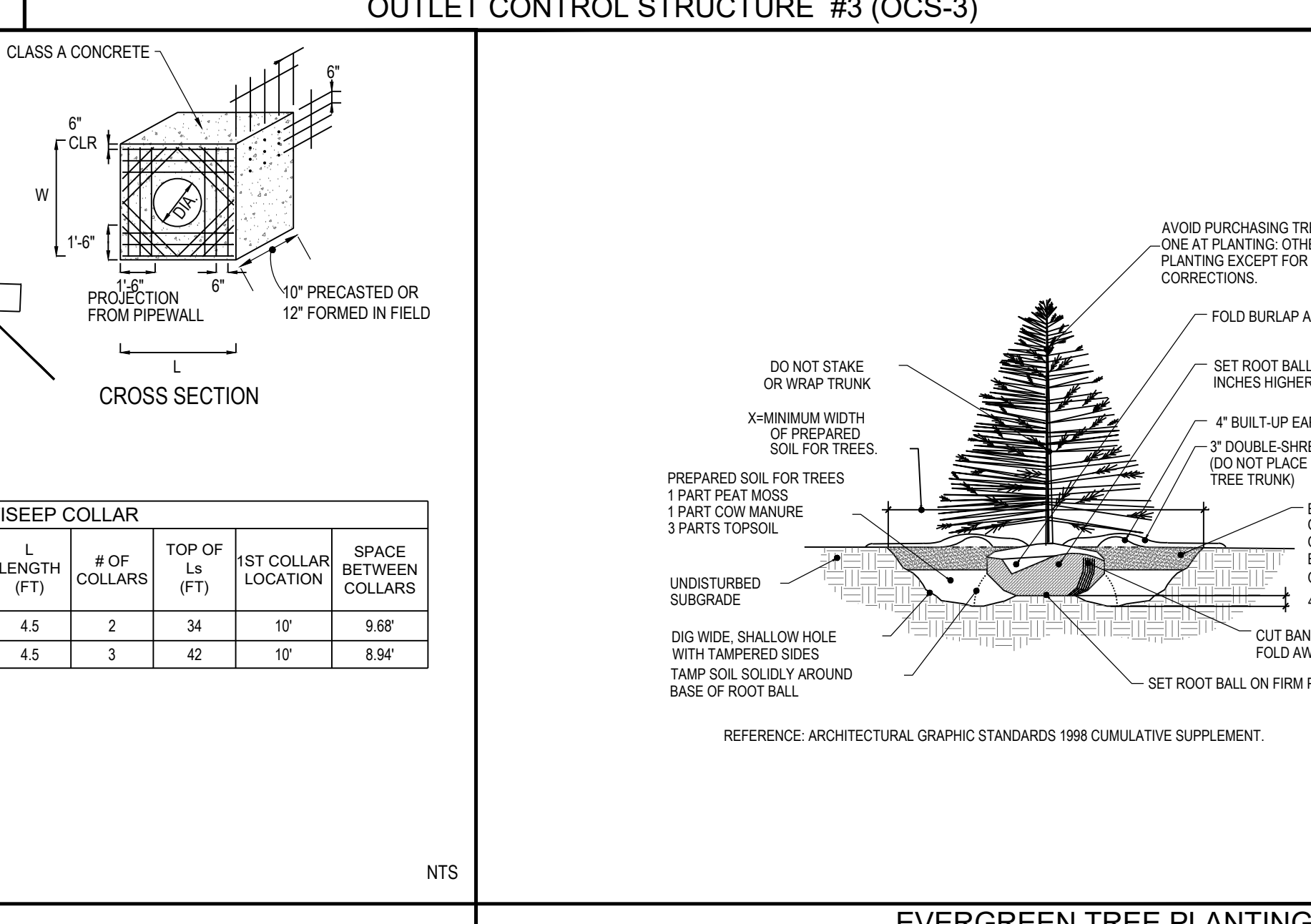
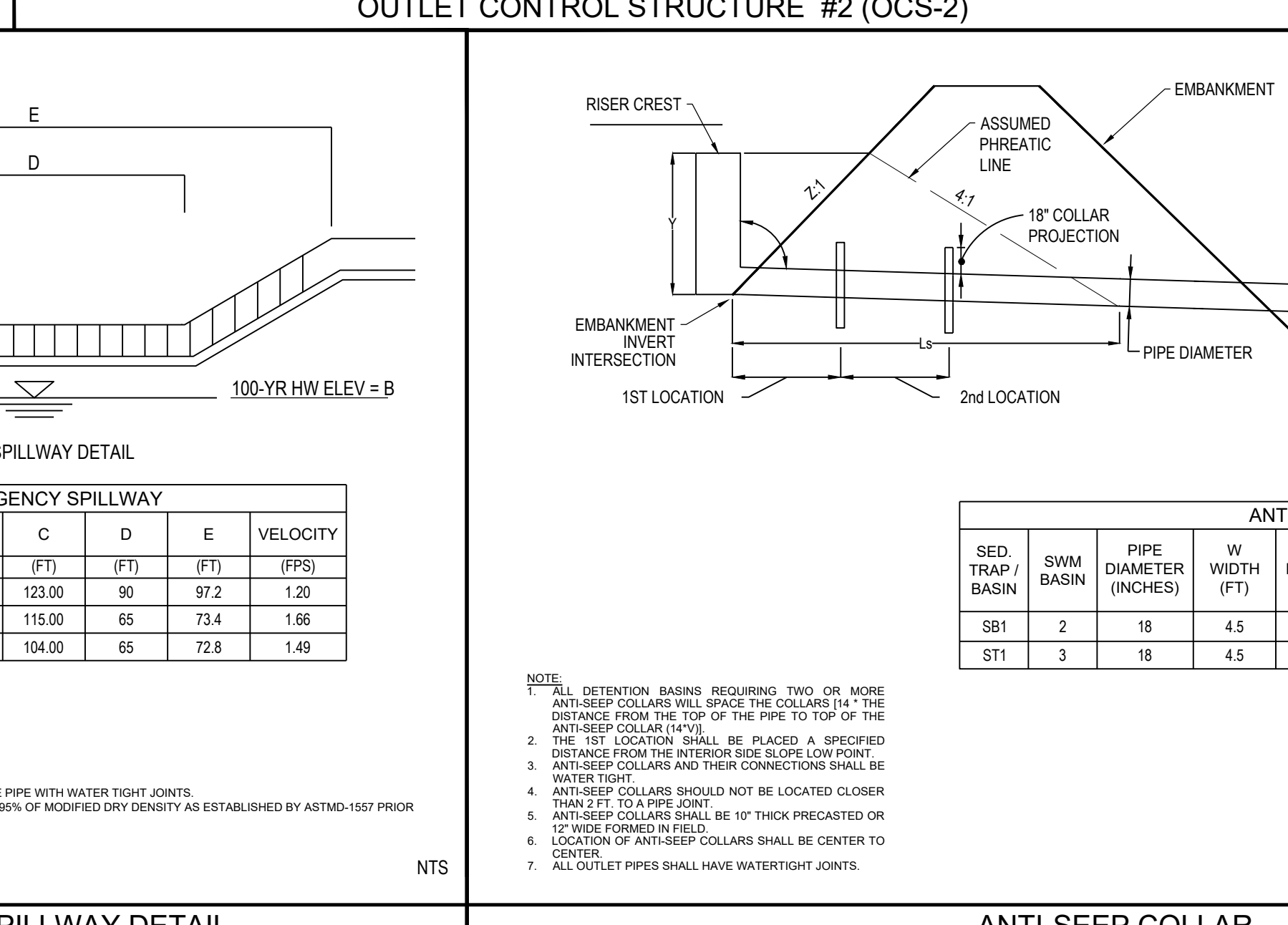
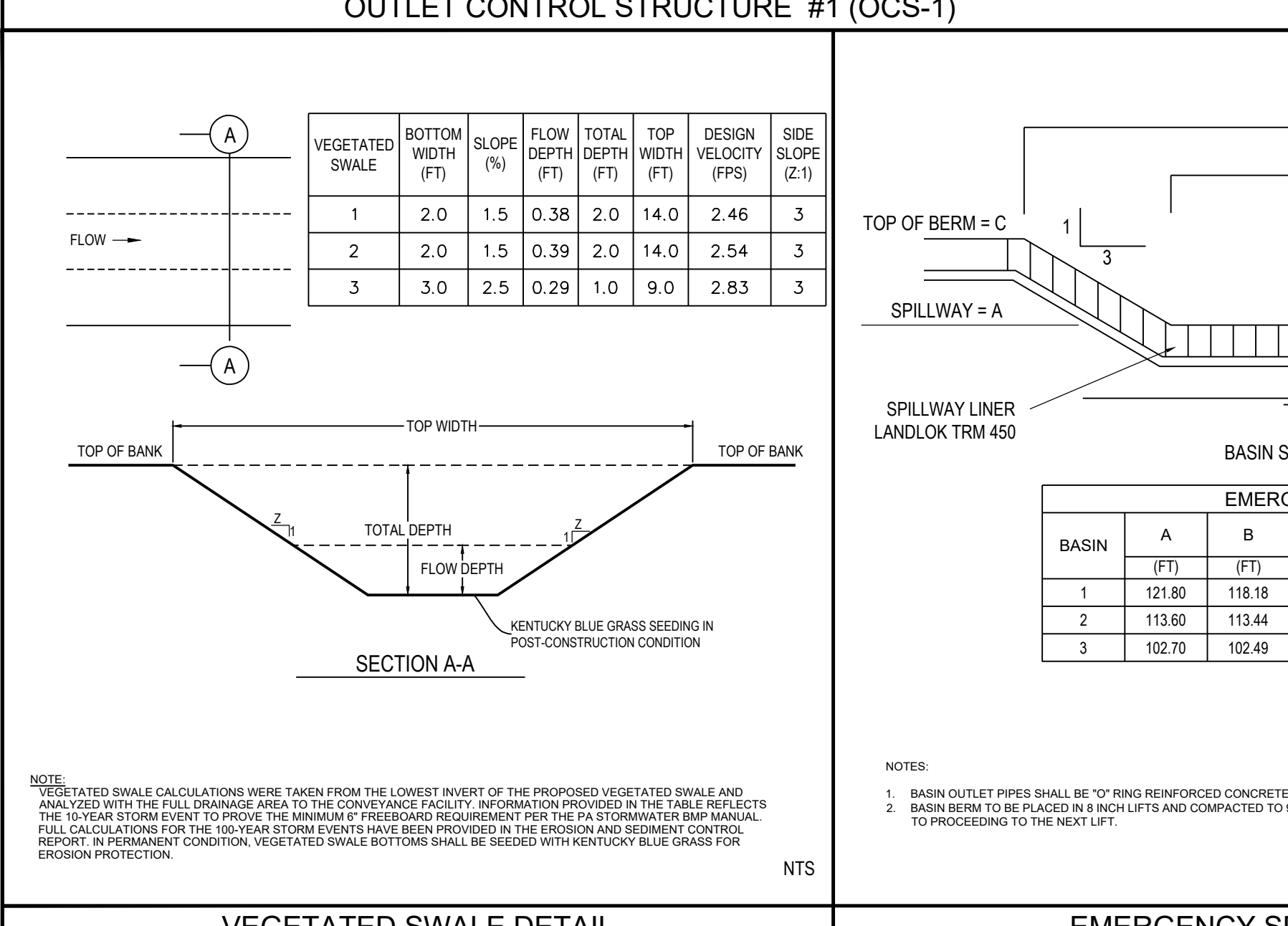
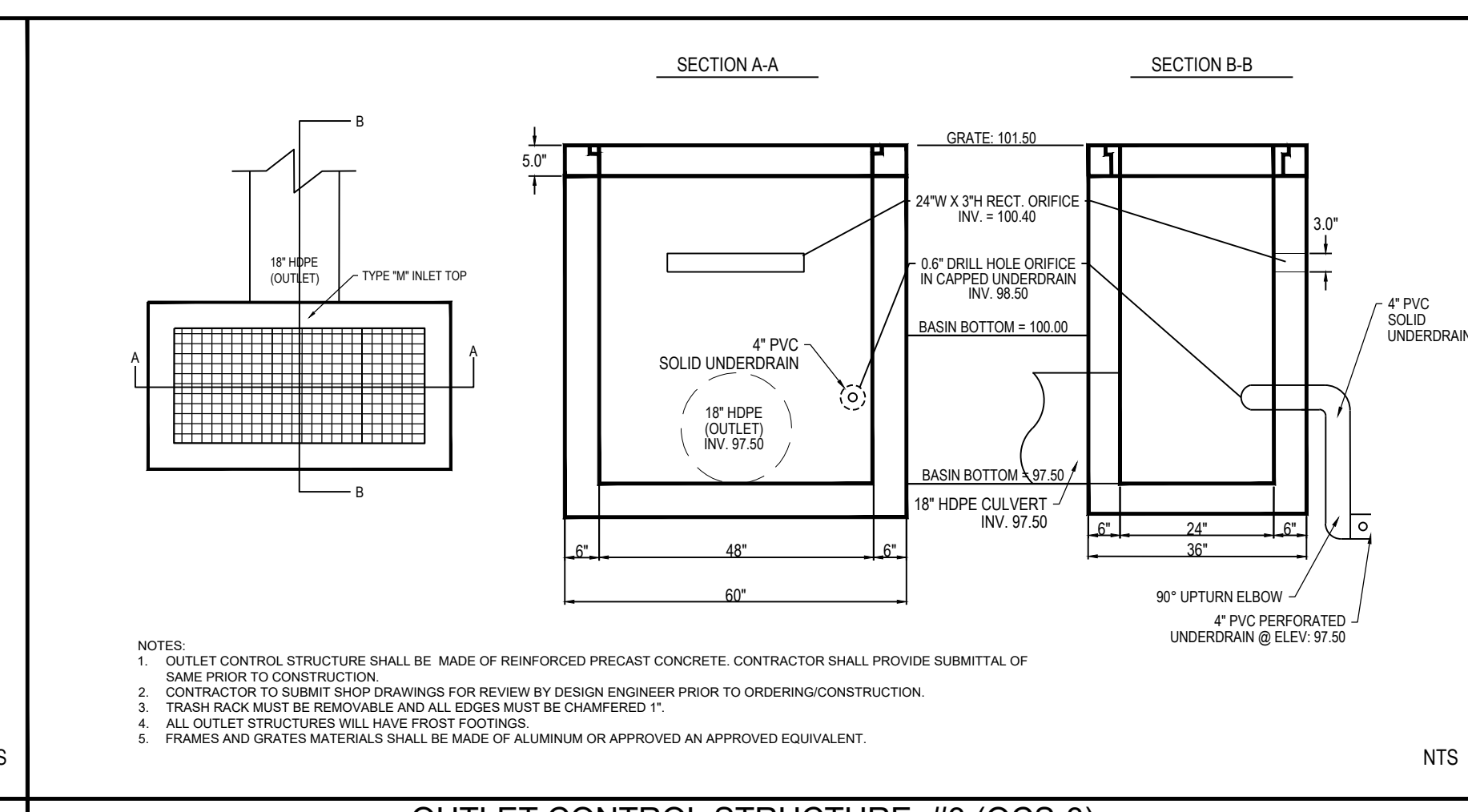
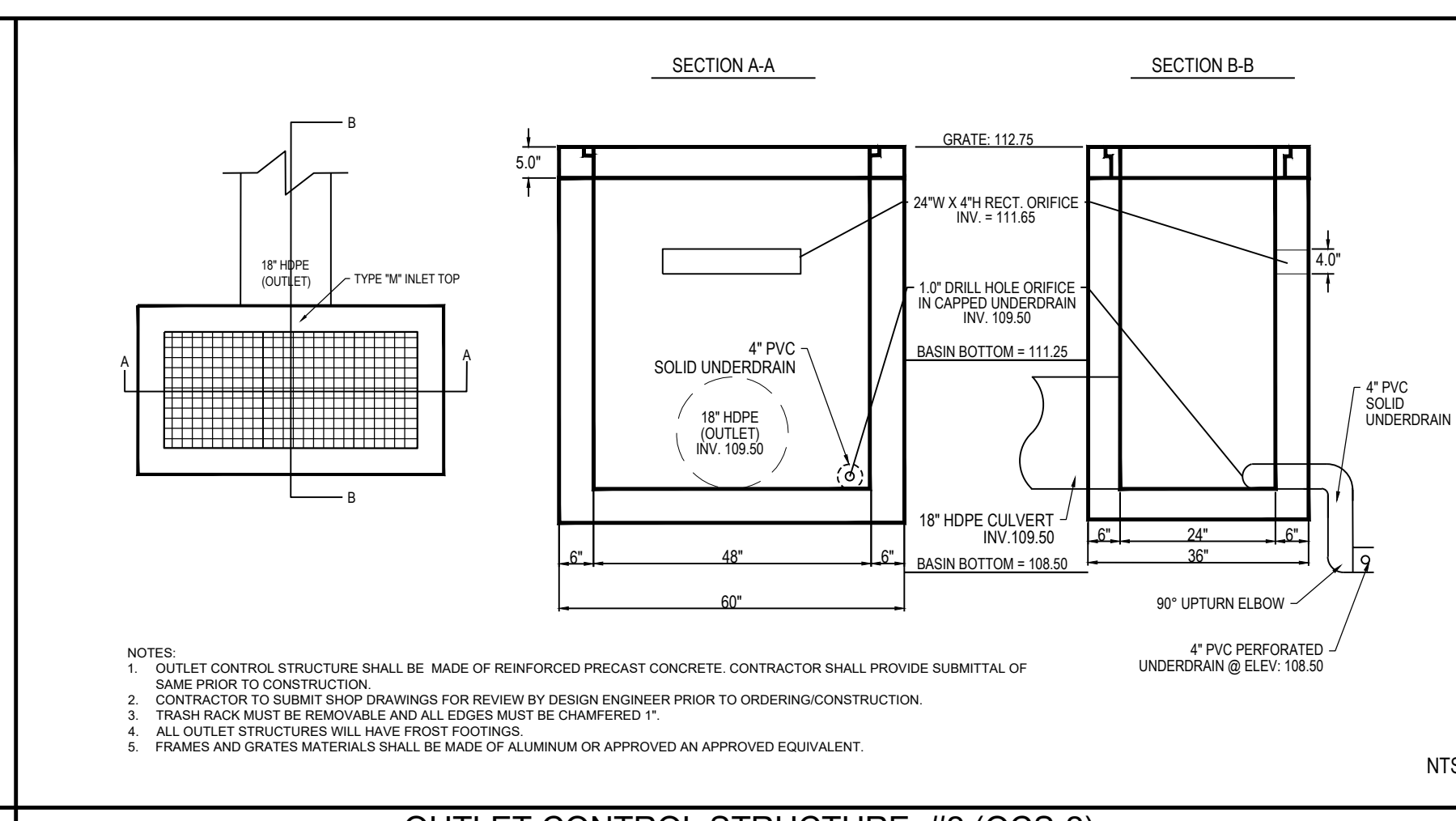
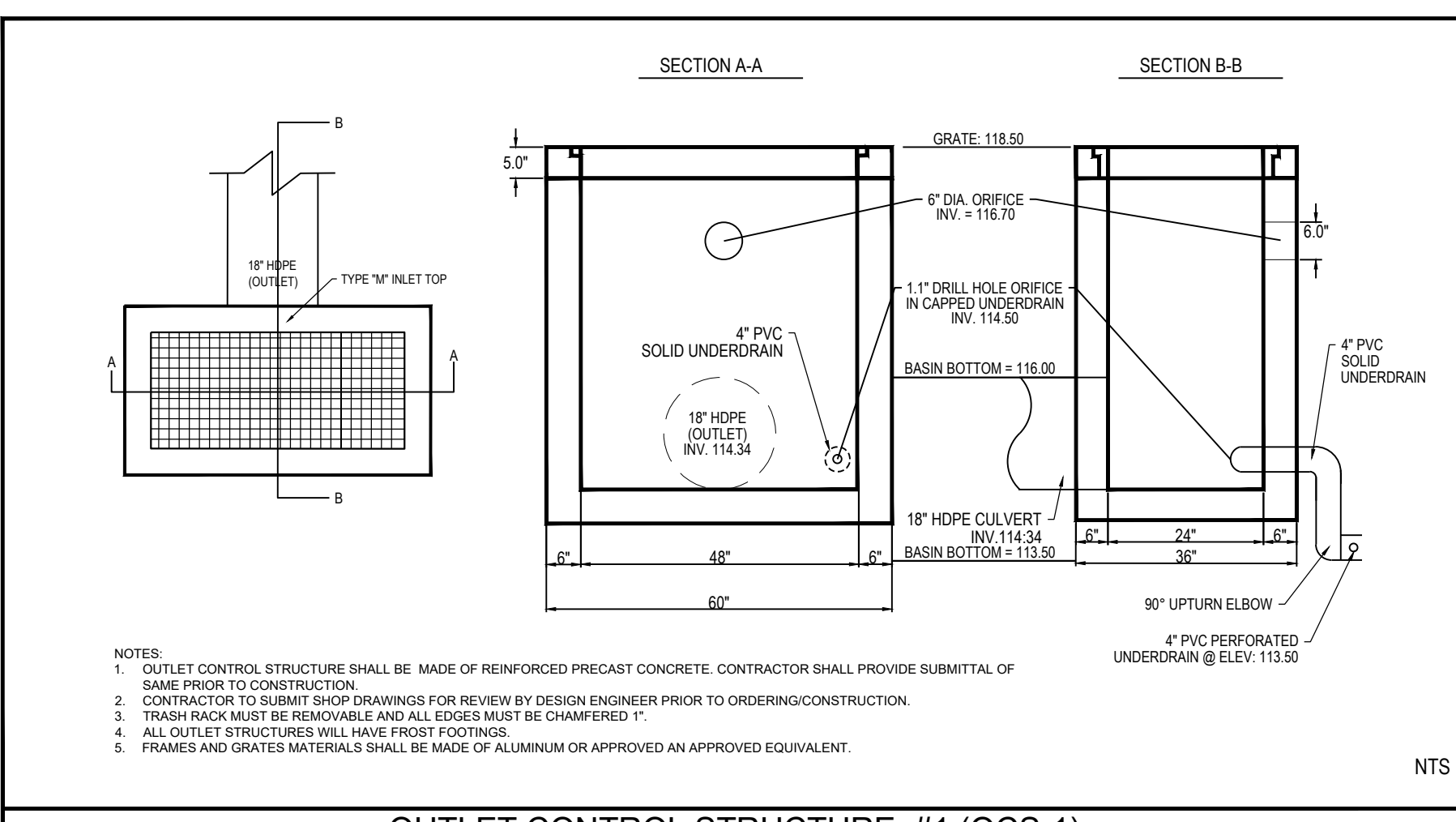
Project No. **230015101**
Date **02-09-2024**

Scale **NOT TO SCALE**

Drawn By **X**
Checked By **X**

Drawing No.

CG-502



PROJECT: 230015101 FIELDSTONE HARRIS TRACT SUBDIVISION

| ON-SITE SOIL TYPE DESCRIPTION | | | | | | |
|-------------------------------|--|-------------------------|--------------------------------|-----------------------|---|--------|
| Map Symbol | Soil | Hydrological Soil Group | Seasonal High Water Table (FT) | Depth to Bedrock (IN) | Soil Limitations | Hydric |
| Bo | Bowmansville-Knauers silt loams | C/D | 0 - 1.5 | 72-99 | Cutbanks cave, corrosive to concrete and steel, flooding, depth to saturated/seasonal high water table, hydric/hydric inclusions, low strength/ landslide prone, slow percolation, piping, poor source of topsoil, frost action, wetness. | Yes |
| BbB | Brownsburg silt loam | B | >6.7 | 40 - 60 | Cutbanks cave, corrosive to concrete, easily erodible, low strength/ landslide prone, slow percolation, piping, poor source of topsoil, frost action. | No |
| DuB | Ducaron silt loam | B | >6.7 | 60-99 | Cutbanks cave, corrosive to concrete, easily erodible, low strength/ landslide prone, slow percolation, piping, frost action. | No |
| LgB | Lansdale loam | B | >6.7 | 42-60 | Cutbanks cave, corrosive to concrete, droughty, low strength/ landslide prone, poor source of topsoil, frost action. | No |
| SbB | Steinsbug gravelly loam | B | >6.7 | 20 - 40 | Cutbanks cave, corrosive to concrete, slow percolation, poor source of topsoil. | No |
| Urb | Urban land-Lansdale Complex, 0 to 8 % slopes | Not Rated | Not Rated | 10 - 99 | Cutbanks cave, corrosive to concrete, droughty, low strength/ landslide prone, slow percolation, poor source of topsoil, frost action. | No |
| UrbB | Urban land - Penn Complex 0 to 8 % slopes | Not Rated | Not Rated | 10 - 100 | Cutbanks cave, corrosive to concrete, droughty, hydric/hydric inclusions low strength/ landslide prone, piping, poor source of topsoil, frost action. | No |

DEFINITIONS:
CLEAN FILL IS DEFINED AS UNCONTAMINATED, NON-WATER SOLUBLE, NON-COMPOSTABLE, 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. UNCONTAMINATED MEANS UNFFECTED BY SPILL OR RELEASE, OR IF AFFECTED, LEVELS ARE BELOW RESIDENTIAL STANDARDS.

ENVIRONMENTAL DUE DILIGENCE: THE APPLICANT MUST PERFORM ENVIRONMENTAL DUE DILIGENCE TO DETERMINE IF THE FILL MATERIALS ASSOCIATED WITH THE PROJECT QUALIFY AS CLEAN FILL. ENVIRONMENTAL DUE DILIGENCE IS DEFINED AS INVESTIGATIVE TECHNIQUES INCLUDING, BUT NOT LIMITED TO VISUAL PROPERTY INSPECTIONS, ELECTRONIC DATA BASE SEARCHES, REVIEW OF PROPERTY OWNERSHIP, REVIEW OF PROPERTY USE HISTORY, SANDBORN MAPS, ENVIRONMENTAL QUESTIONNAIRES, TRANSACTION SCREENS, ANALYTICAL TESTING, ENVIRONMENTAL ASSESSMENTS OR AUDITS.

SOIL LIMITATIONS AND RESOLUTIONS

| SOIL LIMITATION | RESOLUTION(S) |
|---|--|
| CUTBANKS CAVE | PROVIDE APPROPRIATE BENCHING AND/OR SHORING IN AREAS OF EXCAVATION. |
| CORROSION TO CONCRETE/STEEL | INSTALL REBAR TO MINIMUM COVER REQUIREMENTS AND USE EPOXY COATED REBAR. APPLY MOISTURE BARRIER TO SURFACE OF EXPOSED CONCRETE. |
| DROUGHTY | SOIL SHOULD BE INSPECTED BY A GEOTECHNICAL ENGINEER PRIOR TO USE ON SITE. ANY RECOMMENDATIONS PRESCRIBED BY THE GEOTECHNICAL ENGINEER SHALL BE FOLLOWED PRIOR TO USE ON SITE. |
| EASILY ERODIBLE | SOILS SHALL BE STABILIZED WITH EITHER TEMPORARY OR FINAL STABILIZATION IN AREAS WHERE EARTHWORK IS DELAYED OR STOPPED FOR FOUR CONSECUTIVE DAYS. |
| FLOODING | ANALYZE DEVELOPMENT IN FLOOD PRONE AREAS. |
| DEPTH TO SATURATED ZONE / SEASONAL HIGH WATER TABLE | SOILS SHOULD BE EVALUATED FOR WETNESS PRIOR TO USE IN SITE WORK. IF GEOTECHNICAL ENGINEER DEEMS SOIL TOO WET FOR SITE WORK, THEN SOILS SHALL BE AMENDED OR DRIED PER GEOTECHNICAL ENGINEER'S RECOMMENDATIONS. |
| HYDRIC / HYDRIC INCLUSIONS | SOIL TO BE EVALUATED BY A GEOTECHNICAL SPECIALIST. WATER TABLE EVALUATION WILL BE REQUIRED, POSSIBLY IN AREA OF WETLANDS. |
| LOW STRENGTH / LANDSLIDE PRONE | SOILS SHOULD NOT BE USED FOR STRUCTURAL FILL UNLESS THEY HAVE BEEN EVALUATED BY A GEOTECHNICAL ENGINEER AND THE GEOTECHNICAL ENGINEER DEEMS THEM SUITABLE AS FILL OR PROVIDES RECOMMENDATIONS TO AMEND SOILS MAKING THEM SUITABLE AS FILL. |
| SLOW PERCOLATION | SOIL TO BE EVALUATED FOR SUITABILITY FOR INFILTRATION PRACTICES. |
| PIPING | AREAS OF EMBANKMENTS WITH PIPES PASSING THROUGH THEM SHALL HAVE ANTI-SLEEP COLLARS INSTALLED PER THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION'S (PA DEP) EROSION AND SEDIMENT CONTROL PROGRAM. |
| POOR SOURCE OF TOPSOIL | SOILS SHOULD BE AMENDED AS RECOMMENDED TO PROVIDE ADEQUATE MATERIALS NECESSARY FOR REQUIRED PLANT GROWTH. |
| FROST ACTION | SOILS SHOULD BE FREE OF FROZEN OR MUCKY MATERIALS. FILL SHOULD NOT BE PLACED ON SATURATED OR FROZEN SURFACES. EARTHWORK INVOLVING THESE SOILS SHOULD BE LIMITED TO THE WARMER MONTHS WHEN PRACTICAL. |
| WETNESS | SOILS SHALL BE EVALUATED FOR WETNESS PRIOR TO USE IN SITE WORK. IF GEOTECHNICAL ENGINEER DEEMS SOILS TOO WET FOR SITE WORK, THEN SOILS SHALL BE AMENDED OR DRIED PER GEOTECHNICAL ENGINEER'S RECOMMENDATIONS. |

MAINTENANCE FOR BEST MANAGEMENT PRACTICES NOTES:
MAINTENANCE, ROUTINE INSPECTION AND ANY REPAIRS OF THE PROPOSED STORMWATER MANAGEMENT SYSTEM SHALL REST WITH THE OWNER OF THE PROPERTY. THE TOWNSHIP HAS THE RIGHT, BUT NOT THE RESPONSIBILITY, TO INSPECT AND MAINTAIN ALL BMPs.

- 1) STORMWATER CONVEYANCE SYSTEM
 - CATCH BASINS, MANHOLES AND PIPES TO BE INSPECTED FOR CLOGGING AND EXCESSIVE DEBRIS AND SEDIMENT ACCUMULATION AT LEAST ANNUALLY AS WELL AS AFTER EVERY STORM EXCEEDING 1-INCH OF RAINFALL.
 - ALL STRUCTURAL COMPONENTS MUST BE INSPECTED FOR CRACKING, SUBSIDENCE, BREACHING, WEARING, AND DETERIORATION AT LEAST ANNUALLY.
- 2) VEGETATED SWALES
 - INSPECT AND CORRECT EROSION PROBLEMS, DAMAGE TO VEGETATION AND SEDIMENT AND DEBRIS ACCUMULATION (WHEN 3 INCHES AT ANY SPOT COVERS VEGETATION).
 - INSPECT VEGETATION ON SLOPES FOR EROSION AND FORMATION OF RILLS AND GULLIES. CORRECT AS NEEDED.
 - INSPECT FOR POOLS OF STANDING WATER, DENATERS AND DISCHARGE TO A STORM SEWER AT AN APPROVED LOCATION AND RESTORE TO DESIGN GRADE.
 - MOW AND TRIM VEGETATION TO ENSURE SAFETY, AESTHETICS, PROPER SWALE OPERATION, OR TO SUPPRESS WEEDS AND INVASIVE VEGETATION. DISPOSE OF CUTTINGS IN LOCAL COMPOSTING FACILITY. MOW ONLY WHEN SWALE IS DRY TO AVOID RUTTING.
 - INSPECT FOR LITTER. REMOVE PRIOR TO MOWING.
 - INSPECT FOR UNIFORMITY IN CROSS-SECTION AND LONGITUDINAL SLOPE. CORRECT AS NEEDED.
 - INSPECT SWALE INLET (CURB CUTS, PIPES, ETC) AND OUTLET FOR SIGNS OF EROSION OR BLOCKAGE. CORRECT AS NEEDED.
 - MAINTENANCE ACTIVITIES TO BE DONE AS NEEDED.
 - PLANT ALTERNATIVE GRASS SPECIES IN THE EVENT OF UNSUCCESSFUL ESTABLISHMENT.
 - RESEED BARE AREAS. INSTALL APPROPRIATE EROSION CONTROL MEASURES WHEN NATIVE SOIL IS EXPOSED THROUGH CHANNELS ARE FORMING.
 - ROTOTILL AND REPLANT SWALE IF DRAIN DOWN TIME IS LESS THAN 48 HOURS.
 - WATER DURING DRY PERIODS. FERTILIZE, AND APPLY PESTICIDE ONLY WHEN ABSOLUTELY NECESSARY.

ENVIRONMENTAL DUE DILIGENCE: THE APPLICANT MUST PERFORM ENVIRONMENTAL DUE DILIGENCE TO DETERMINE IF THE FILL MATERIALS ASSOCIATED WITH THE PROJECT QUALIFY AS CLEAN FILL. ENVIRONMENTAL DUE DILIGENCE IS DEFINED AS INVESTIGATIVE TECHNIQUES INCLUDING, BUT NOT LIMITED TO VISUAL PROPERTY INSPECTIONS, ELECTRONIC DATA BASE SEARCHES, REVIEW OF PROPERTY OWNERSHIP, REVIEW OF PROPERTY USE HISTORY, SANDBORN MAPS, ENVIRONMENTAL QUESTIONNAIRES, TRANSACTION SCREENS, ANALYTICAL TESTING, ENVIRONMENTAL ASSESSMENTS OR AUDITS.

FOR CONTAMINATION:
1. IF HAZARDOUS MATERIAL IS IDENTIFIED DURING CONSTRUCTION, EARTH MOVING SHALL IMMEDIATELY CEASE UNTIL CONTAMINATED AREA IS REMEDIATED.
2. CONTRACTOR SHALL IDENTIFY AND PHYSICALLY MARK LIMITS OF HAZARDOUS MATERIAL WITHIN THE AREA OF CONSTRUCTION.
3. EXCAVATE HAZARDOUS MATERIAL AND STOCK PILE IN AREA SHOWN ON THIS PLAN.
4. HAIL TO A PENNSYLVANIA DEP APPROVED HAZARDOUS WASTE FACILITY.
5. VERIFY THAT ALL HAZARDOUS MATERIAL IDENTIFIED HAS BEEN REMOVED FROM SITE PRIOR TO COMMENCING CONSTRUCTION AND EARTH MOVING PRACTICES.

SINKHOLE
1. IF A SINKHOLE IS IDENTIFIED DURING CONSTRUCTION, EARTH MOVING SHALL IMMEDIATELY CEASE UNTIL THE SINKHOLE IS REPAIRED.
2. CONTRACTOR SHALL IDENTIFY AND PHYSICALLY MARK LIMITS OF SINKHOLE REPAIR NECESSARY.
3. SINKHOLE SHALL BE REPAIRED PER DETAILS PROVIDED ON CE-502 (EITHER FOR PERVIOUS OR IMPERVIOUS COVER).
4. CONSTRUCTION AND EARTH MOVING PRACTICES MAY RESUME ONLY AFTER THE REPAIR OF THE SINKHOLE AREA IS COMPLETED.

RECEIVING WATER: BROCK CREEK
PART OF THE DELAWARE RIVER SOUTH WATERSHED
OH 93 CLASSIFICATION: WMF, IWF
IMPAIRED SOURCE: URBAN RUNOFF, STORM SEWERS, OTHER HABITAT ALTERATIONS, FLOW REGIME MODIFICATION

RECEIVING WATER AND CLASSIFICATION
RECEIVING WATER: BROCK CREEK
PART OF THE DELAWARE RIVER SOUTH WATERSHED
OH 93 CLASSIFICATION: WMF, IWF
IMPAIRED SOURCE: URBAN RUNOFF, STORM SEWERS, OTHER HABITAT ALTERATIONS, FLOW REGIME MODIFICATION

REPLACEMENT OF FAILED BMPs
IN THE EVENT THAT A COMPLETE FAILURE OF ANY ON-SITE BMP OCCURS, THE RESPONSIBLE PARTY FOR OPERATION AND MAINTENANCE SHALL HAVE THE BMP REMOVED COMPLETELY AND HAVE THE BMP RECONSTRUCTED PER THE BMP SEQUENCE OF CONSTRUCTION ON THE APPROVED THIS PLAN. TEMPORARY EROSION AND SEDIMENT CONTROLS WILL BE REQUIRED IN RECONSTRUCTION/REPLACEMENT OF THE BMP REQUIRES EARTH DISTURBANCE.

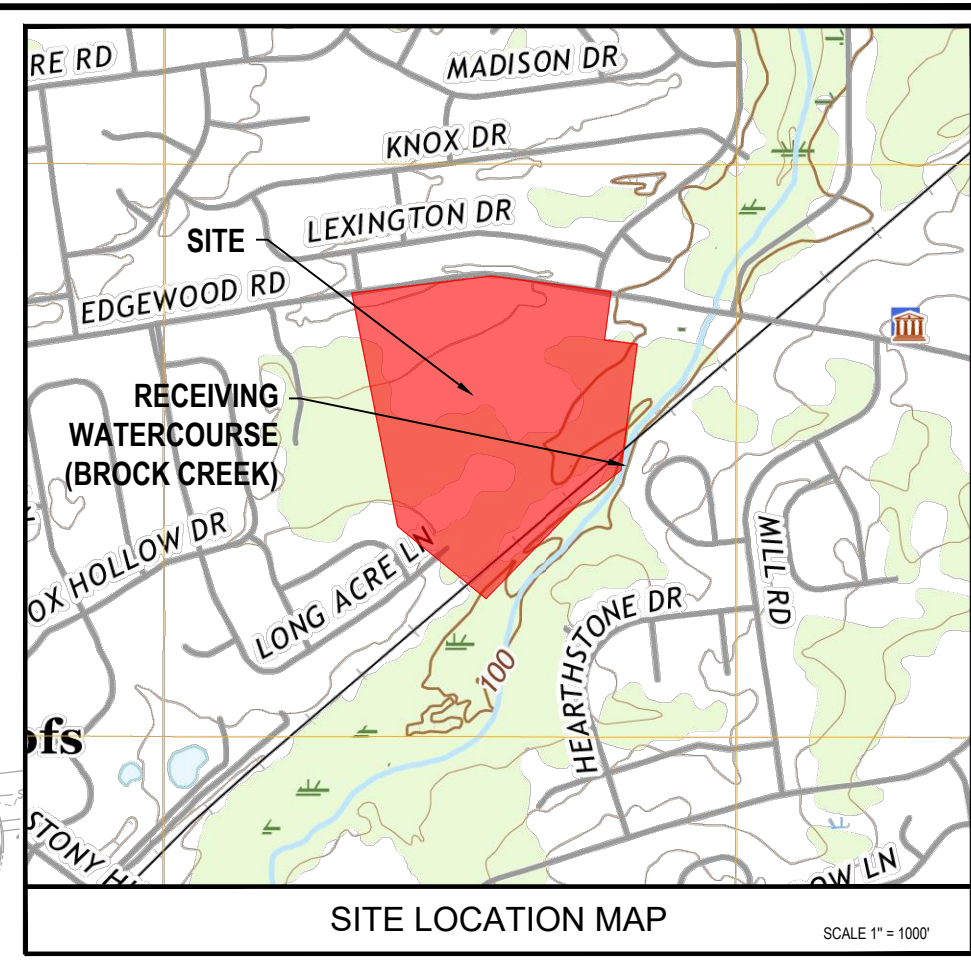
THERMAL IMPACT ANALYSIS NOTE:
THERMAL IMPACTS WILL BE MINIMIZED AND MITIGATED IN THE E&S PHASE BY FILTERING RUNOFF THROUGH NATURAL VEGETATION, COMPOST FILTER SOCKS, AND SEDIMENT TRAPS PRIOR TO DISCHARGING OFF-SITE.

RECEIVING WATER AND CLASSIFICATION
RECEIVING WATER: BROCK CREEK
PART OF THE DELAWARE RIVER SOUTH WATERSHED
OH 93 CLASSIFICATION: WMF, IWF
IMPAIRED SOURCE: URBAN RUNOFF, STORM SEWERS, OTHER HABITAT ALTERATIONS, FLOW REGIME MODIFICATION



Drawing Index

| Drawing No. | Drawing No. | Drawing Title | Last Revised |
|-------------|-------------|---|--------------|
| 20 | CE-100 | Master Soil Erosion & Sediment Control Plan | 2/9/2024 |
| 21 | CE-101 | Soil Erosion & Sediment Control Plan | 2/9/2024 |
| 22 | CE-102 | Soil Erosion & Sediment Control Plan | 2/9/2024 |
| 23 | CE-501 | Soil Erosion & Sediment Control Notes & Details | 2/9/2024 |



LIMIT OF DISTURBANCE = 17.80 AC
PROJECT SITE BOUNDARY = 23.40 AC

ACT 187
UTILITY LOCATIONS AS SHOWN ON THIS PLAN ARE APPROXIMATE AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR, PER ACT 187 TO CONTACT THE UTILITY COMPANIES FOR MORE ACCURATE LOCATION PRIOR TO ANY EXCAVATION. TO OBTAIN ADDITIONAL UTILITY INFORMATION OR TO ARRANGE FOR FIELD LOCATION OF EXISTING UTILITIES BEFORE EXCAVATION, CALL THE PENNSYLVANIA ONE CALL SYSTEM AT 1-800-242-1176. THE UTILITY COMPANIES SHOWN MAY OR MAY NOT HAVE UTILITY LINES IN THE AREA.
CALL BEFORE YOU DIG
PHONE: 1-800-242-1176
WEBSITE: WWW.PAONECALL.COM
110 WORKING DAYS BEFORE EXCAVATION
PENNSYLVANIA ONE CALL SYSTEM, INC.
1-800-242-1176

SOIL EROSION LEGEND

| | |
|---------------------------------------|-------------|
| PROJECT SITE BOUNDARY | --- LOD --- |
| LIMIT OF DISTURBANCE | --- LOD --- |
| COMPOST FILTER SOCK | ----- |
| EXISTING CONTOUR | --- 100 --- |
| PROPOSED CONTOUR | --- 100 --- |
| TEMPORARY CONTOUR | --- 100 --- |
| TREE PROTECTION FENCE | --- TP --- |
| CONSTRUCTION FENCE | --- --- |
| CLEANOUT STAKE | --- --- |
| INLET PROTECTION | --- --- |
| SEDIMENT TRAP DRAINAGE AREA | --- --- |
| FLOW PATH | --- --- |
| EROSION CONTROL MATTING (LANDLOK S-2) | --- --- |
| TOPSOIL STOCKPILE | --- --- |
| CONSTRUCTION ENTRANCE | --- --- |
| SOILS LIMITS | --- --- |
| SOILS TYPE | LgB |

LEGEND

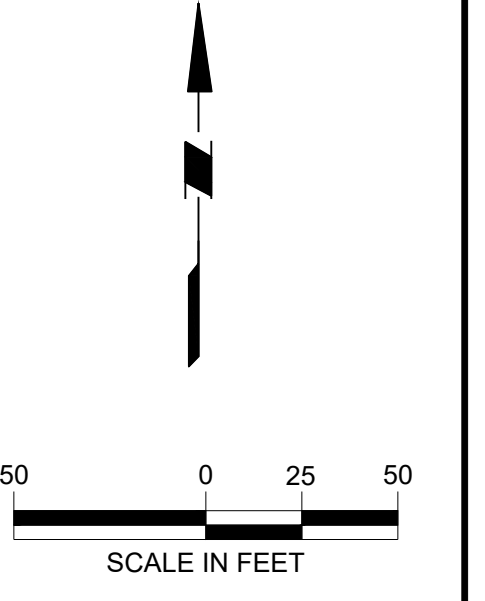
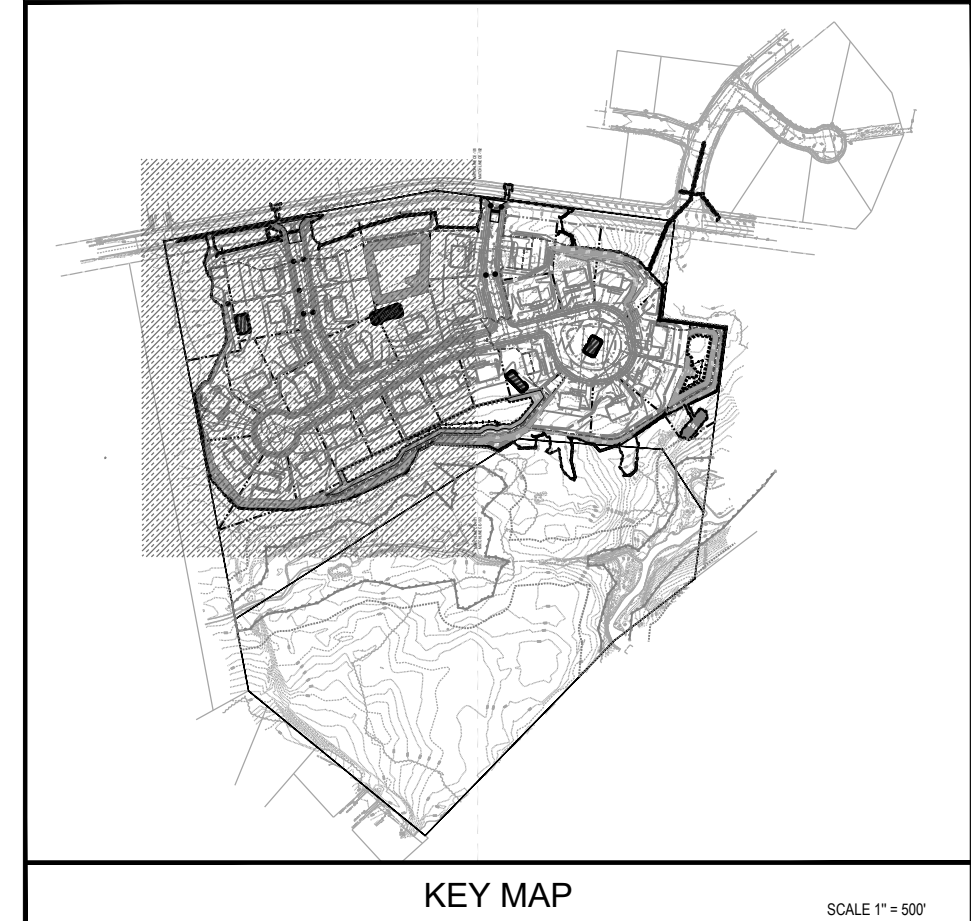
| EXISTING SYMBOLS & LINES | | PROPOSED SYMBOLS & LINES | |
|--------------------------|---------------------------|--------------------------|---------------------|
| --- | MAJOR CONTOUR LINE | --- | SETBACK LINE |
| --- | MINOR CONTOUR LINE | --- | ROAD CENTER LINE |
| --- | TELECOMMUNICATIONS LINE | --- | BUILDING |
| --- | OVERHEAD UTILITY LINE | --- | DOOR |
| --- | UNDERGROUND ELECTRIC LINE | --- | EDGE OF PAVEMENT |
| --- | WATER LINE | --- | TRAFFIC SIGN |
| --- | SANITARY SEWER LINE | --- | PROPOSED LOT LINE |
| --- | GAS LINE | --- | POST AND RAIL FENCE |
| --- | STORM SEWER LINE | --- | STORMWATER FACILITY |
| --- | TREE/BRUSH LINE | --- | |
| --- | PROPERTY LINE | --- | |
| --- | RIGHT-OF-WAY LINE | --- | |
| --- | DEPRESSED CURB | --- | |
| --- | FENCE | --- | |
| --- | LIGHT POLE | --- | |
| --- | UTILITY POLE | --- | |
| --- | FIRE HYDRANT | --- | |
| --- | WATER VALVE | --- | |
| --- | WATER METER | --- | |
| --- | WATER WELL | --- | |
| --- | MONITORING WELL | --- | |
| --- | GAS VALVE | --- | |
| --- | SIGN | --- | |
| --- | CONCRETE MONUMENT FOUND | --- | |
| --- | RAIL MONUMENT FOUND | --- | |
| --- | IRON PIN FOUND | --- | |
| --- | IRON PIPE FOUND | --- | |
| --- | IRON PIN SET | --- | |
| --- | EXISTING POST | --- | |
| --- | DECIDUOUS TREE | --- | |
| --- | CONIFEROUS TREE | --- | |
| --- | AIR CONDITIONING UNIT | --- | |
| --- | ELECTRIC METER | --- | |
| --- | CLEANOUT | --- | |
| --- | CONCRETE | --- | |

Project
FIELDSTONE HARRIS TRACT SUBDIVISION
TMP # 20-016-073
LOWER MAKEFIELD TOWNSHIP
BUCKS COUNTY PENNSYLVANIA

Drawing Title
SOIL EROSION & SEDIMENT CONTROL PLAN

Professional Engineer
CHIRAG V. THAKKAR
PA LIC. NO. 075153

| DATE | COMMENTS | NO. |
|-------------|------------|-----|
| REVISIONS | | |
| Project No. | 230015101 | |
| Date | 02-09-2024 | |
| Scale | 1" = 100' | |
| Drawn By | KGP | |
| Checked By | CT | |
| Drawing No. | CE-100 | |
| Sheet | 21 of 37 | |

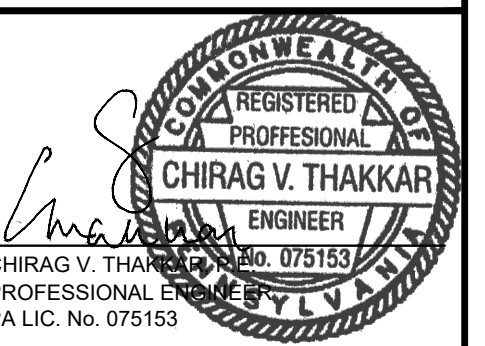


| SOIL EROSION LEGEND | |
|---------------------------------------|-----------|
| PROJECT SITE BOUNDARY | --- |
| LIMIT OF DISTURBANCE | ---L00--- |
| COMPOST FILTER SOCK | ---C12--- |
| EXISTING CONTOUR | ---100--- |
| PROPOSED CONTOUR | ---100--- |
| TEMPORARY CONTOUR | ---100--- |
| TREE PROTECTION FENCE | ---TP--- |
| CONSTRUCTION FENCE | ---CF--- |
| CLEANOUT STAKE | ---CS--- |
| INLET PROTECTION | ---IP--- |
| SEDIMENT TRAP DRAINAGE AREA | ---SD--- |
| FLOW PATH | ---FP--- |
| EROSION CONTROL MATTING (LANDLOK S-2) | ---EM--- |
| TOPSOIL STOCKPILE | ---TS--- |
| CONSTRUCTION ENTRANCE | ---CE--- |
| SOILS LIMITS | LgB |
| SOILS TYPE | LgB |

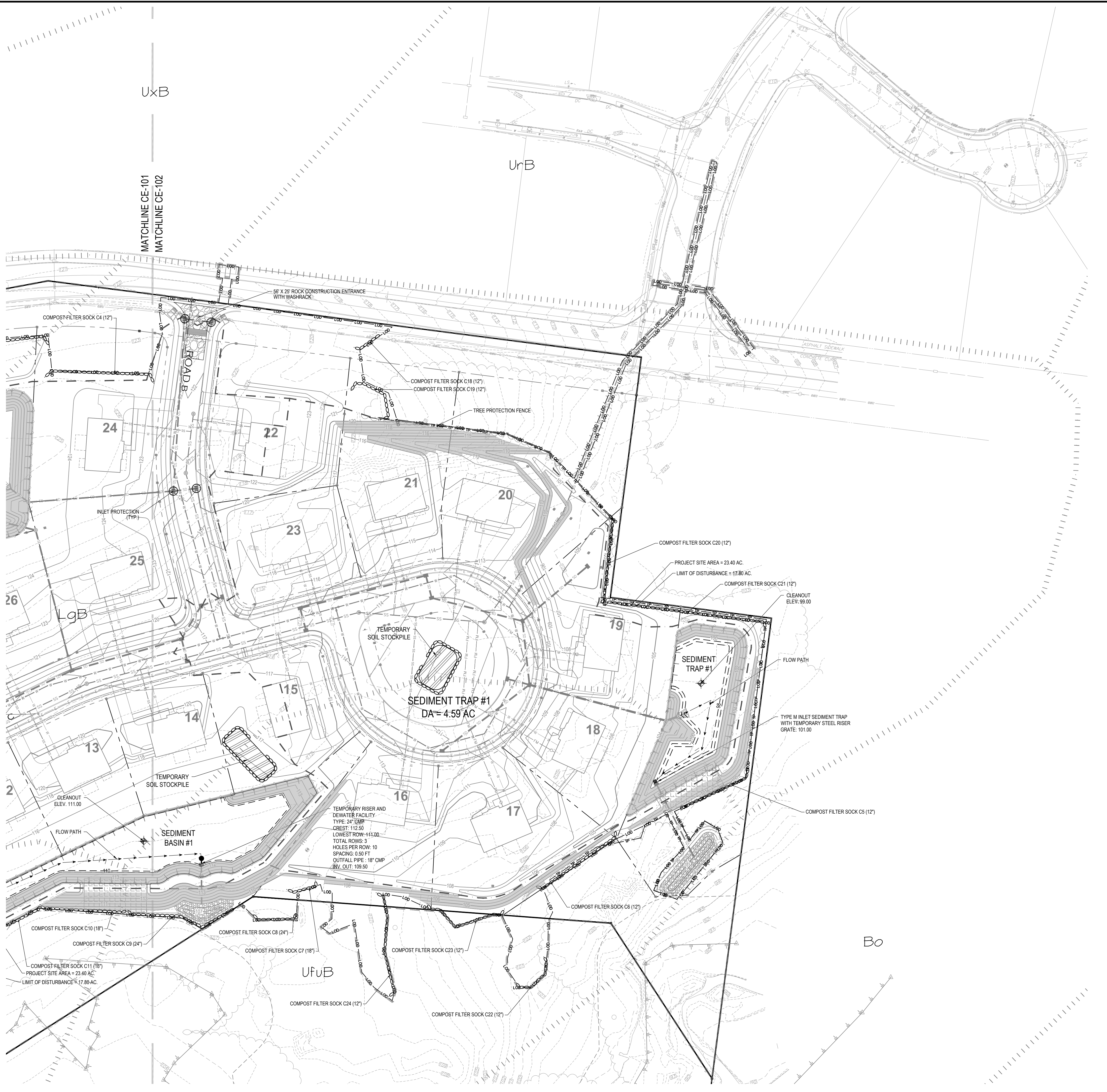
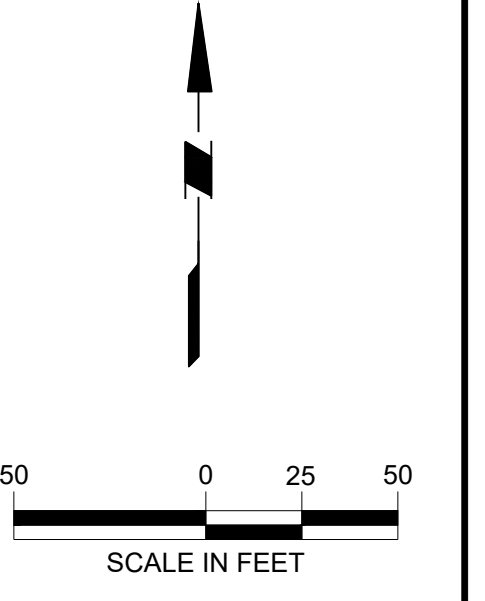
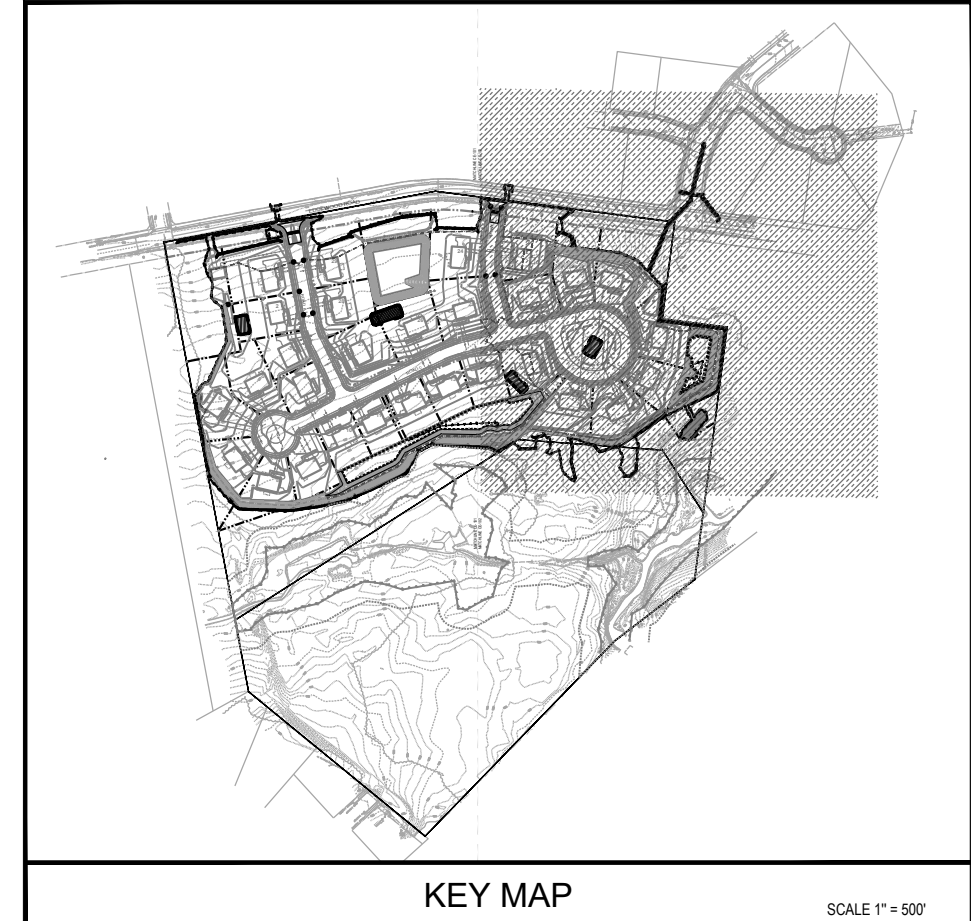
| LEGEND | |
|--------------------------|-------------------------------|
| EXISTING SYMBOLS & LINES | |
| --- | MAJOR CONTOUR LINE |
| --- | MINOR CONTOUR LINE |
| --- | TELECOMMUNICATIONS LINE |
| --- | OVERHEAD UTILITY LINE |
| --- | UNDERGROUND ELECTRIC LINE |
| --- | WATER LINE |
| --- | SANITARY SEWER LINE |
| --- | GAS LINE |
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| --- | FIRE HYDRANT |
| --- | WATER VALVE |
| --- | WATER METER |
| --- | WATER WELL |
| --- | MONITORING WELL |
| --- | GAS VALVE |
| --- | SIGN |
| --- | CONCRETE MONUMENT FOUND |
| --- | RAIL MONUMENT FOUND |
| --- | IRON PIN FOUND |
| --- | IRON PIPE FOUND |
| --- | IRON PIN SET |
| --- | EXISTING POST |
| --- | DECIDUOUS TREE |
| --- | CONIFEROUS TREE |
| --- | AIR CONDITIONING UNIT |
| --- | ELECTRIC METER |
| --- | CLEANOUT |
| --- | CONCRETE |
| PROPOSED SYMBOLS & LINES | |
| SITE | |
| --- | SETBACK LINE |
| --- | ROAD CENTER LINE |
| --- | BUILDING |
| --- | DOOR |
| --- | EDGE OF PAVEMENT |
| --- | TRAFFIC SIGN |
| --- | PROPOSED LOT LINE |
| --- | POST AND RAIL FENCE |
| --- | STORMWATER FACILITY |
| GRADING AND DRAINAGE | |
| --- | STORM PIPE |
| --- | CATCH BASIN |
| --- | PROPOSED CONTOUR |
| --- | SPOT GRADE |
| --- | TOP OF WALL ELEVATION |
| --- | BOTTOM OF WALL ELEVATION |
| --- | FLOW ARROW |
| --- | HEADWALL / FLARED END SECTION |
| --- | RIP-RAP |
| UTILITY | |
| --- | TELEPHONE & ELECTRIC LINE |
| --- | GAS LINE |
| --- | WATER LINE |
| --- | SANITARY SEWER LINE |

Project
FIELDSTONE HARRIS TRACT SUBDIVISION
TMP # 20-016-073
LOWER MAKEFIELD TOWNSHIP
BUCKS COUNTY PENNSYLVANIA

SOIL EROSION & SEDIMENT CONTROL PLAN



| DATE | COMMENTS | NO. |
|-------------|------------|-----|
| REVISIONS | | |
| Project No. | 230015101 | |
| Date | 02-09-2024 | |
| Scale | 1" = 50' | |
| Drawn By | KGP | |
| Checked By | CT | |
| Drawing No. | CE-101 | |

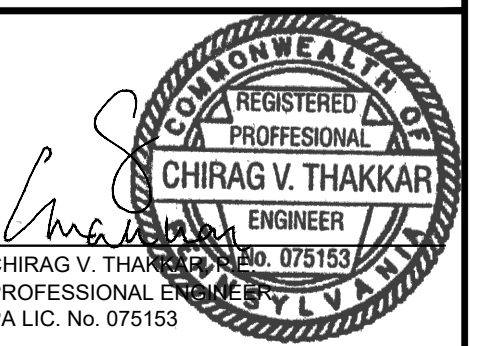


| SOIL EROSION LEGEND | |
|---------------------------------------|-----|
| PROJECT SITE BOUNDARY | --- |
| LIMIT OF DISTURBANCE | --- |
| COMPOST FILTER SOCK | --- |
| EXISTING CONTOUR | --- |
| PROPOSED CONTOUR | --- |
| TEMPORARY CONTOUR | --- |
| TREE PROTECTION FENCE | --- |
| CONSTRUCTION FENCE | --- |
| CLEANOUT STAKE | --- |
| INLET PROTECTION | --- |
| SEDIMENT TRAP DRAINAGE AREA | --- |
| FLOW PATH | --- |
| EROSION CONTROL MATTING (LANDLOK S-2) | --- |
| TOPSOIL STOCKPILE | --- |
| CONSTRUCTION ENTRANCE | --- |
| SOILS LIMITS | LgB |
| SOILS TYPE | LgB |

| LEGEND | |
|--------------------------|-------------------------------|
| EXISTING SYMBOLS & LINES | |
| --- | MAJOR CONTOUR LINE |
| --- | MINOR CONTOUR LINE |
| --- | TELECOMMUNICATIONS LINE |
| --- | OVERHEAD UTILITY LINE |
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| --- | WATER METER |
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| --- | MONITORING WELL |
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| --- | CONCRETE MONUMENT FOUND |
| --- | RAIL MONUMENT FOUND |
| --- | IRON PIN FOUND |
| --- | IRON PIPE FOUND |
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| --- | ELECTRIC METER |
| --- | CLEANOUT |
| --- | CONCRETE |
| PROPOSED SYMBOLS & LINES | |
| SITE | |
| --- | SETBACK LINE |
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| GRADING AND DRAINAGE | |
| --- | STORM PIPE |
| --- | CATCH BASIN |
| --- | PROPOSED CONTOUR |
| --- | SPOT GRADE |
| --- | TOP OF WALL ELEVATION |
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| UTILITY | |
| --- | TELEPHONE & ELECTRIC LINE |
| --- | GAS LINE |
| --- | WATER LINE |
| --- | SANITARY SEWER LINE |

Project
FIELDSTONE HARRIS TRACT SUBDIVISION
TMP # 20-016-073
LOWER MAKEFIELD TOWNSHIP
BUCKS COUNTY PENNSYLVANIA

SOIL EROSION & SEDIMENT CONTROL PLAN



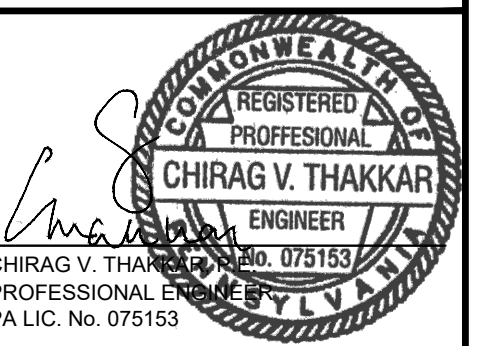
| DATE | COMMENTS | NO. |
|-------------|------------|-----|
| REVISIONS | | |
| Project No. | 230015101 | |
| Date | 02-09-2024 | |
| Scale | 1" = 50' | |
| Drawn By | KGP | |
| Checked By | CT | |
| Drawing No. | CE-102 | |



arna Engineering, Inc.
1456 Ferry Road, Suite 603
Doylestown, PA 19011
T: 215.766.8280
F: 215.434.5280

Project: FIELDSTONE HARRIS TRACT SUBDIVISION
TMP # 20-016-073
LOWER MAKEFIELD TOWNSHIP
BUCKS COUNTY PENNSYLVANIA

Soil Erosion & Sediment Control Notes & Details



CHIRAG V. THAKKAR
PROFESSIONAL ENGINEER
PA LIC. NO. 075153

Table with 3 columns: DATE, COMMENTS, NO. for tracking revisions.

Project No. 230015101
Date 02-09-2024
Scale NOT TO SCALE
Drawn by KGP
Checked by CT
Drawing No.

CE-501
Sheet 24 of 37

SEQUENCE OF CONSTRUCTION

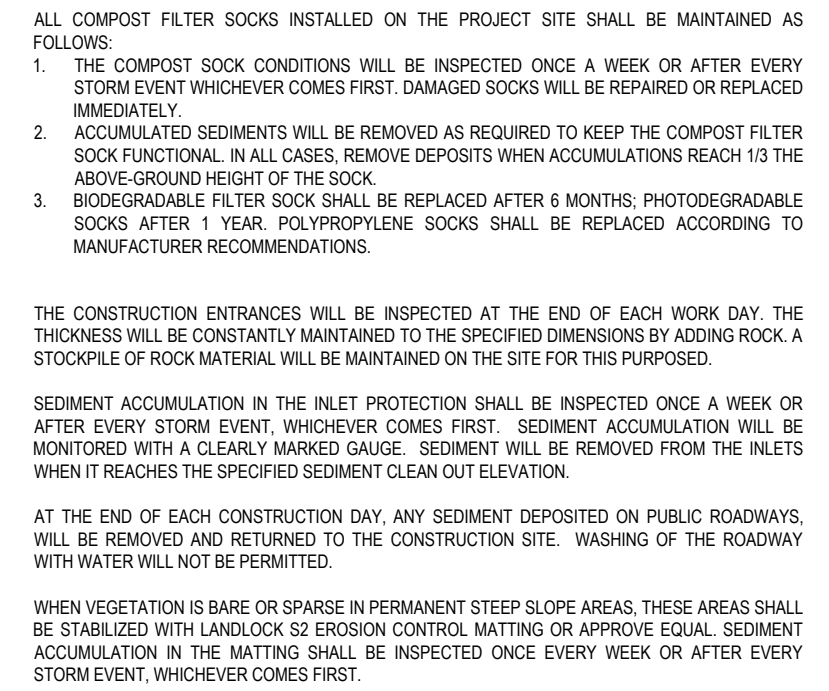
NOTE: SITE DEVELOPMENT OPERATIONS SHOULD BE PERFORMED IN ACCORDANCE WITH THE FOLLOWING GENERAL SEQUENCE OF OPERATIONS...

- 1. ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE FOLLOWING SEQUENCE...
2. AT LEAST 7 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES...
3. BEFORE IMPLEMENTING ANY REVISIONS TO THE APPROVED EROSION AND SEDIMENT CONTROL PLAN...

MAINTENANCE PROGRAM

THE CONTRACTOR WILL BE RESPONSIBLE FOR THE PROPER CONSTRUCTION STABILIZATION AND MAINTENANCE OF ALL TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES...

- 1. THE COMPOST SOCK CONDITIONS WILL BE INSPECTED ONCE A WEEK OR AFTER EVERY STORM EVENT...
2. ACCUMULATED SEDIMENTS WILL BE REMOVED AS REQUIRED TO KEEP THE COMPOST FILTER SOCK FUNCTIONAL...



THE CONTRACTOR WILL BE RESPONSIBLE FOR THE PROPER CONSTRUCTION STABILIZATION AND MAINTENANCE OF ALL TEMPORARY EROSION CONTROL MEASURES AND RELATED ITEMS...

EROSION & SEDIMENT CONTROL PLAN STANDARD NOTES

- 1. STOODPILE HEIGHTS MUST NOT EXCEED 35 FEET. STOODPILE SLOPES MUST NOT EXCEED 2:1.
2. THE OPERATOR/RESPONSIBLE PERSON (ORP) ON SITE SHALL ASSURE THAT THE APPROVED EROSION AND SEDIMENT CONTROL PLAN IS PROPERLY AND COMPLETELY IMPLEMENTED.
3. IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION...

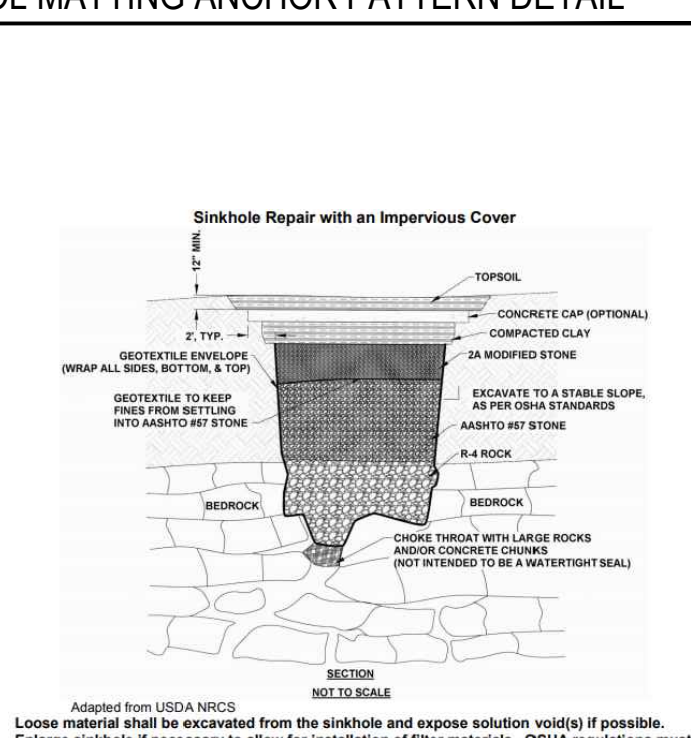
UTILITY TRENCH EXCAVATION GUIDELINES

- 1. CONSTRUCTION REQUIREMENTS
1.a. LIMIT ADVANCE CLEARING AND GRUBBING OPERATIONS TO A DISTANCE EQUAL TO TWO TIMES THE LENGTH OF PIPE INSTALLATION...

TEMPORARY SEEDING NOTES

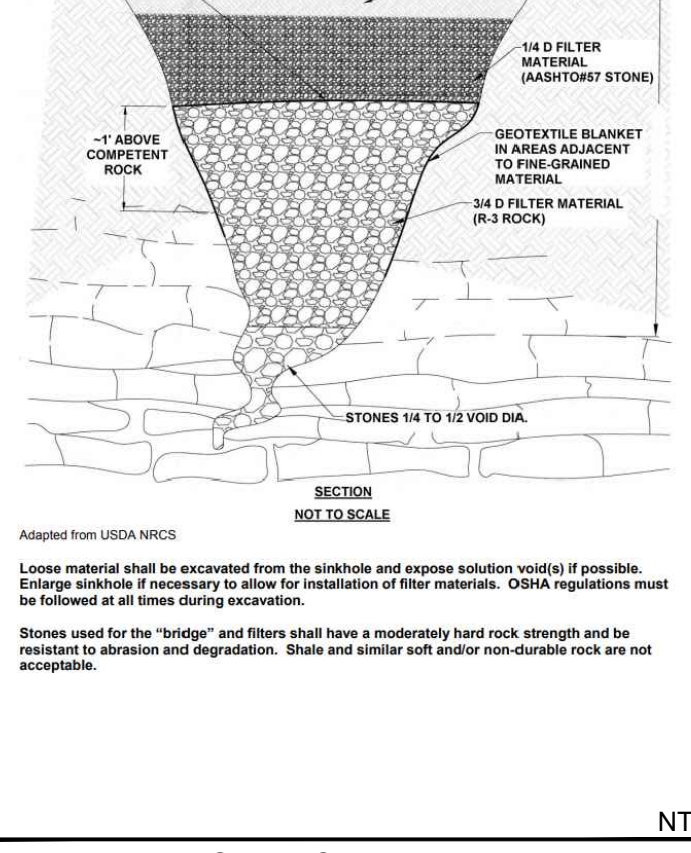
- 1. THE FOLLOWING SURFACES OF THE SITE SHALL BE TEMPORARILY SEEDED AND:
1) THE SURFACE OF TPOSED STOCKPILES
2) THE SURFACE OF EXPOSED EARTH AREAS NOT SUBJECT TO CONSTRUCTION...

SINKHOLE REPAIR



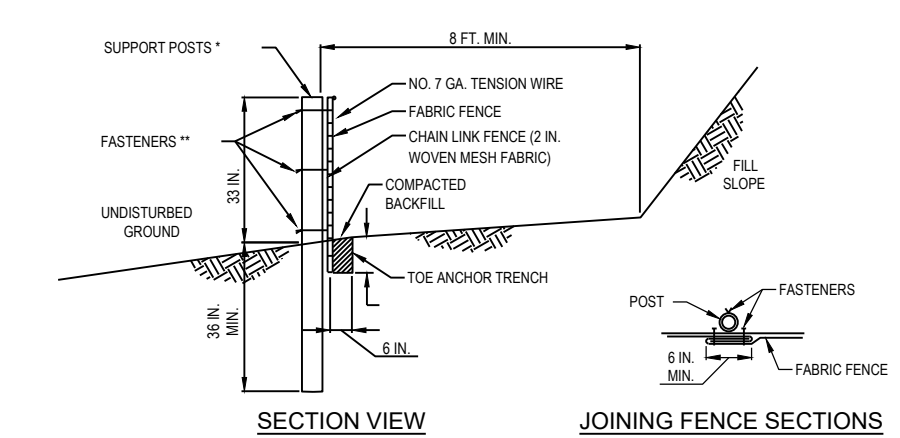
Adapted from USDA NRCS. Loose material shall be excavated from the sinkhole and exposed soil surface(s) if possible. Erosion blankets if necessary to allow for installation of filter materials...

LANDLOK S2 LINER



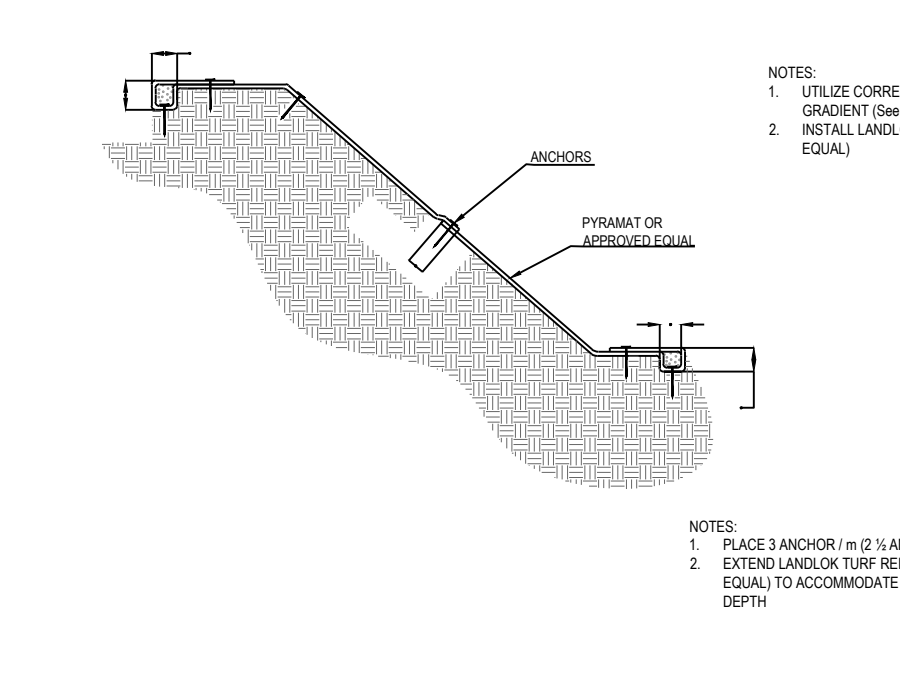
Please note that the information presented herein is general information only. It is for conceptual use only and not intended to be used for construction...

STANDARD CONSTRUCTION DETAIL #4-10 SUPER SILT FENCE



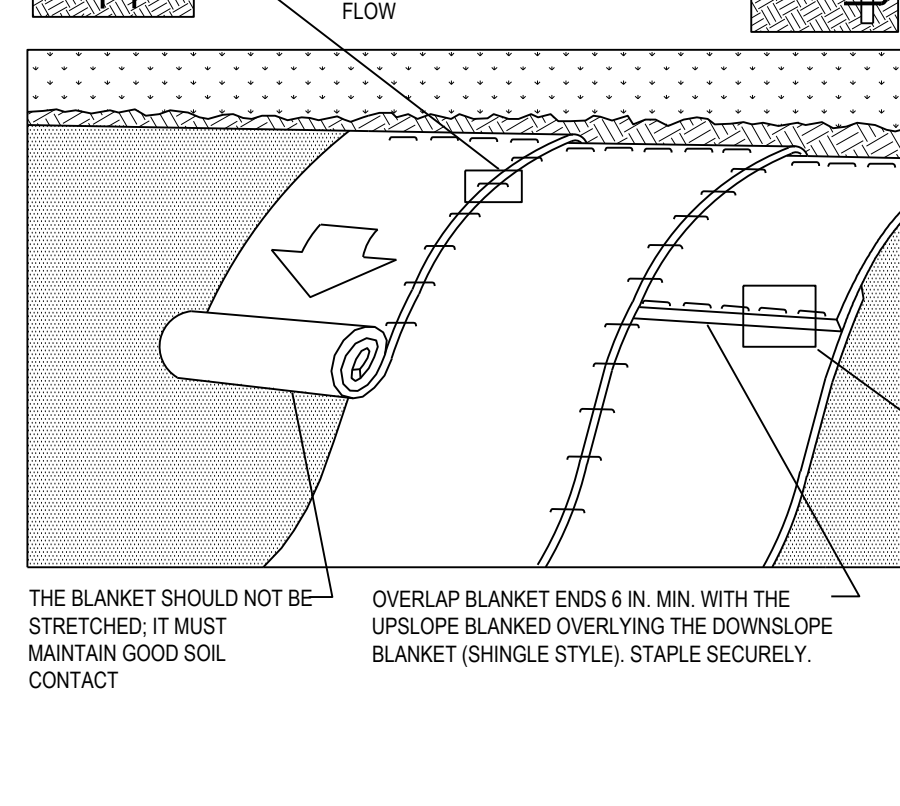
NOTE: FABRIC SHALL HAVE THE MINIMUM PROPERTIES AS SHOWN IN TABLE 4.3 OF THE PA DEP EROSION CONTROL MANUAL. FABRIC WIDTH SHALL BE 42 IN. MINIMUM.

STANDARD CONSTRUCTION DETAIL #4-1 ROCK CONSTRUCTION ENTRANCE



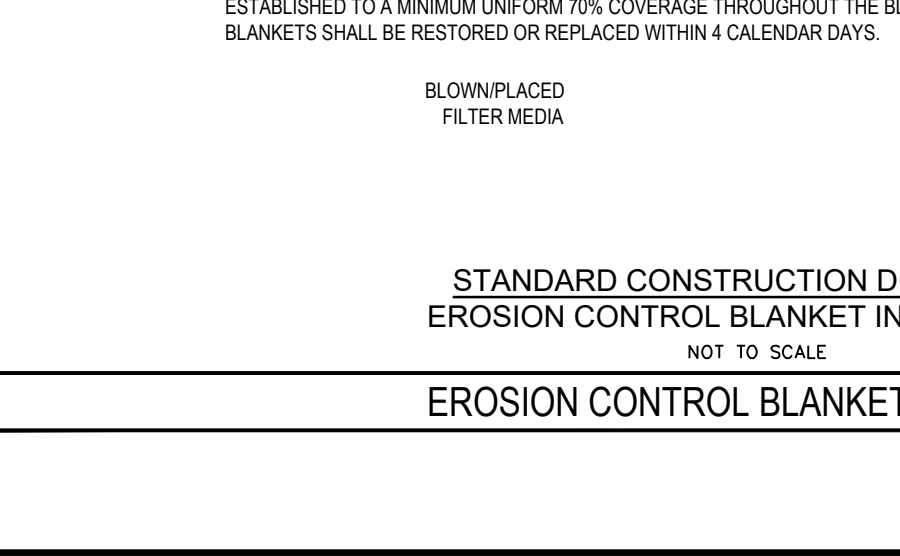
NOTE: COMPOST FILTER SOCKS MUST BE PLACED AROUND THE PERIMETER OF ALL STOCKPILES. IMMEDIATELY APPLY TO TEMPORARILY SEEDED TO ALL STOCKPILES WHICH WILL REMAIN IN PLACE 30 DAYS OR MORE.

STANDARD CONSTRUCTION DETAIL #3-2 ROCK CONSTRUCTION ACCESS WITH WASH RACK



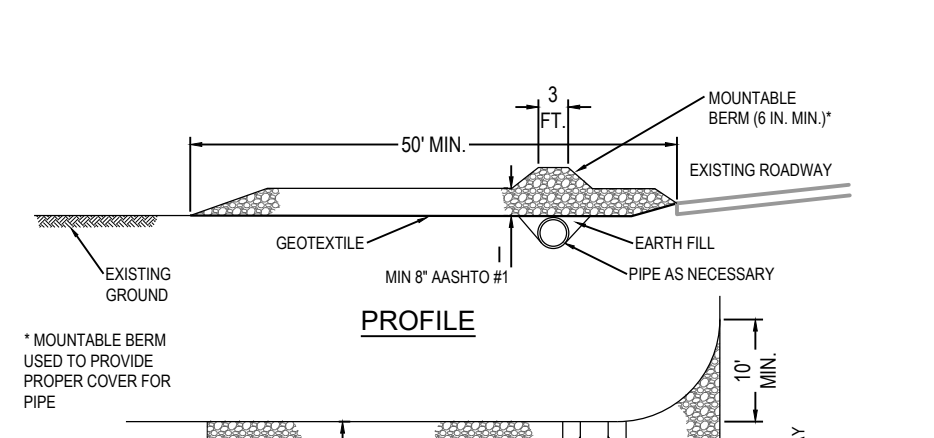
NOTE: WASH RACK SHALL BE DESIGNED AND CONSTRUCTED TO ACCOMMODATE ANTICIPATED CONSTRUCTION VEHICULAR TRAFFIC. A WATER SUPPLY SHALL BE MADE AVAILABLE TO WASH THE WHEELS OF ALL VEHICLES EXITING THE SITE.

STANDARD CONSTRUCTION DETAIL #11-1 EROSION CONTROL BLANKET INSTALLATION



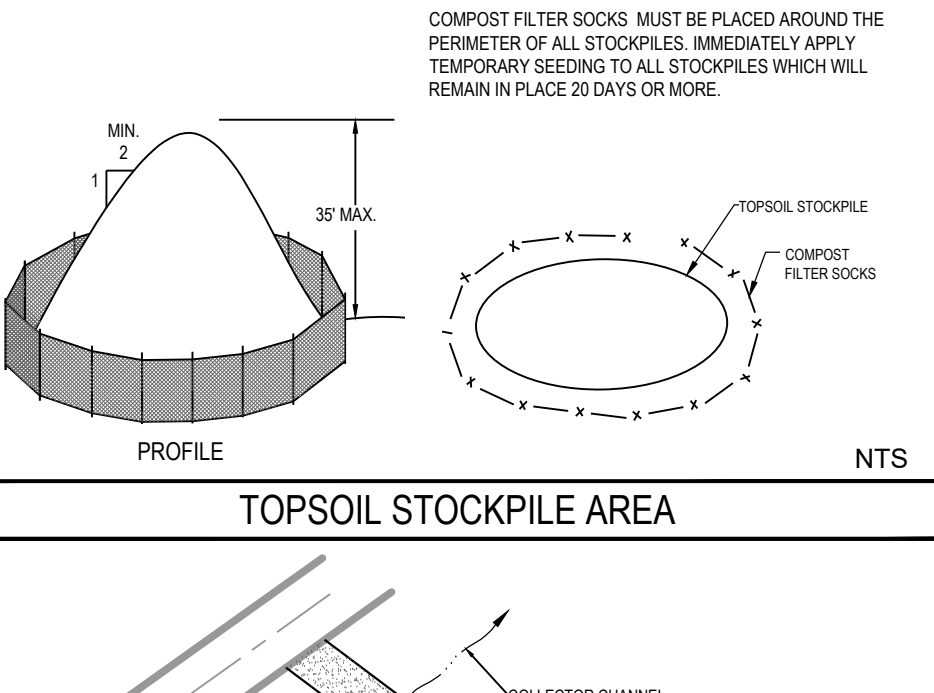
NOTE: SEED AND SOIL AMENDMENTS SHALL BE APPLIED ACCORDING TO THE RATES IN THE PLAN DRAWINGS PRIOR TO INSTALLING THE BLANKET.

STANDARD CONSTRUCTION DETAIL #4-1 COMPOST FILTER SOCK



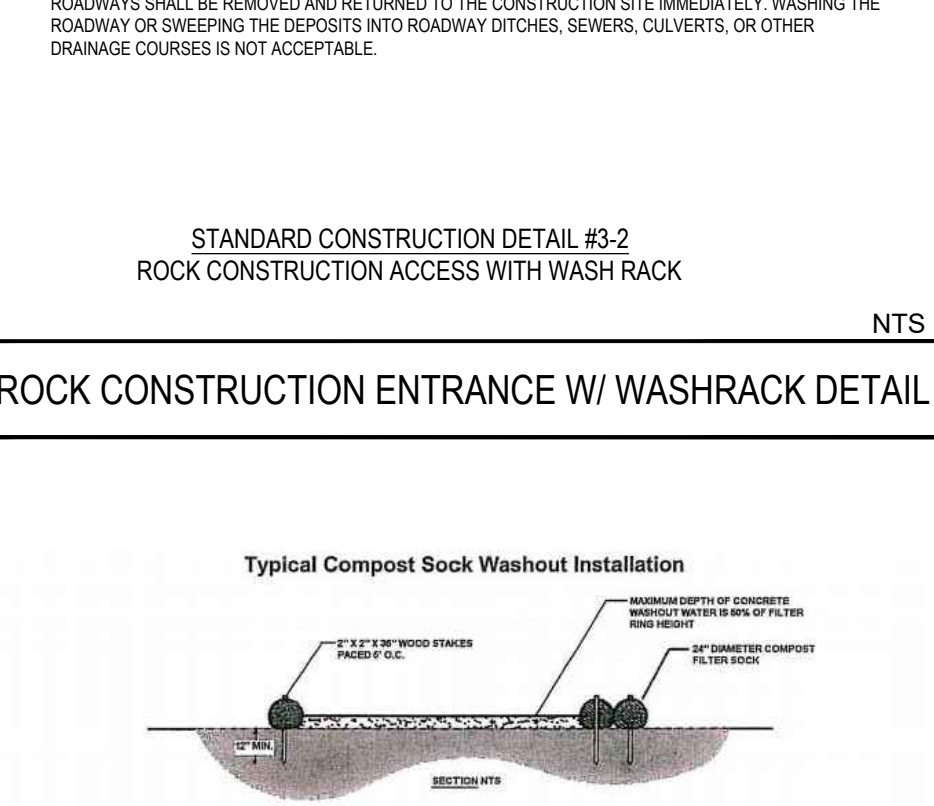
NOTE: SOCK FABRIC SHALL MEET STANDARDS OF TABLE 4.1 OF THE PA DEP EROSION CONTROL MANUAL. COMPOST SHALL MEET THE STANDARDS OF TABLE 4.2 OF THE PA DEP EROSION CONTROL MANUAL.

STANDARD CONSTRUCTION DETAIL #3-1 ROCK CONSTRUCTION ENTRANCE



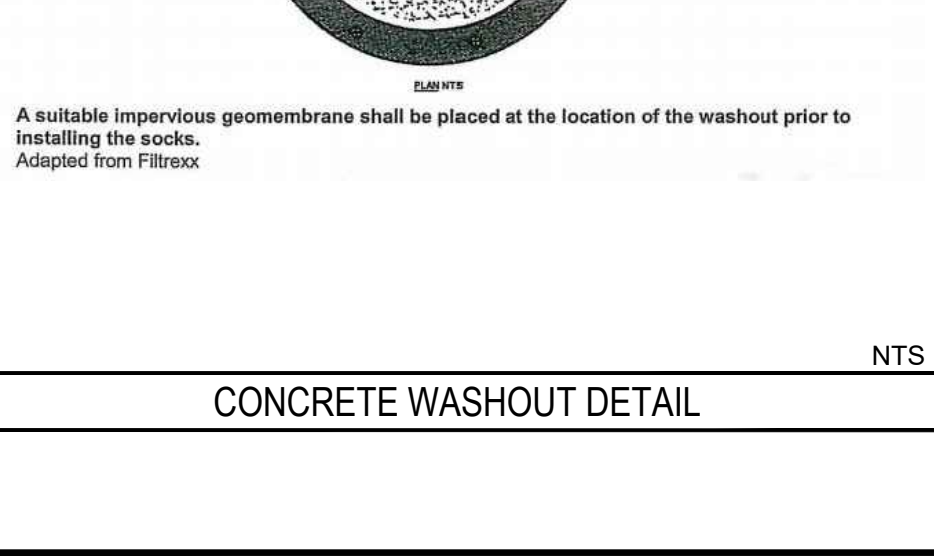
NOTE: MAINTENANCE: ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE SHALL BE MAINTAINED ON SITE FOR THIS PURPOSE.

STANDARD CONSTRUCTION DETAIL #3-2 ROCK CONSTRUCTION ACCESS WITH WASH RACK



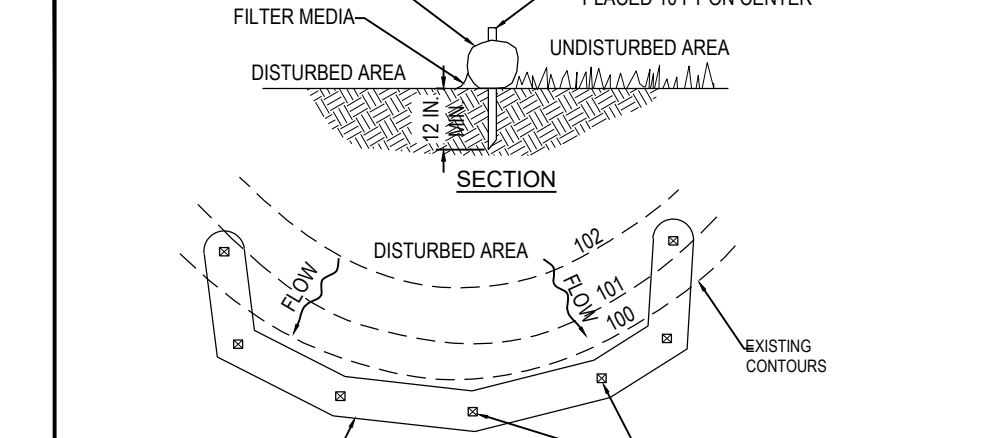
NOTE: WASH RACK SHALL BE DESIGNED AND CONSTRUCTED TO ACCOMMODATE ANTICIPATED CONSTRUCTION VEHICULAR TRAFFIC.

STANDARD CONSTRUCTION DETAIL #11-1 EROSION CONTROL BLANKET INSTALLATION



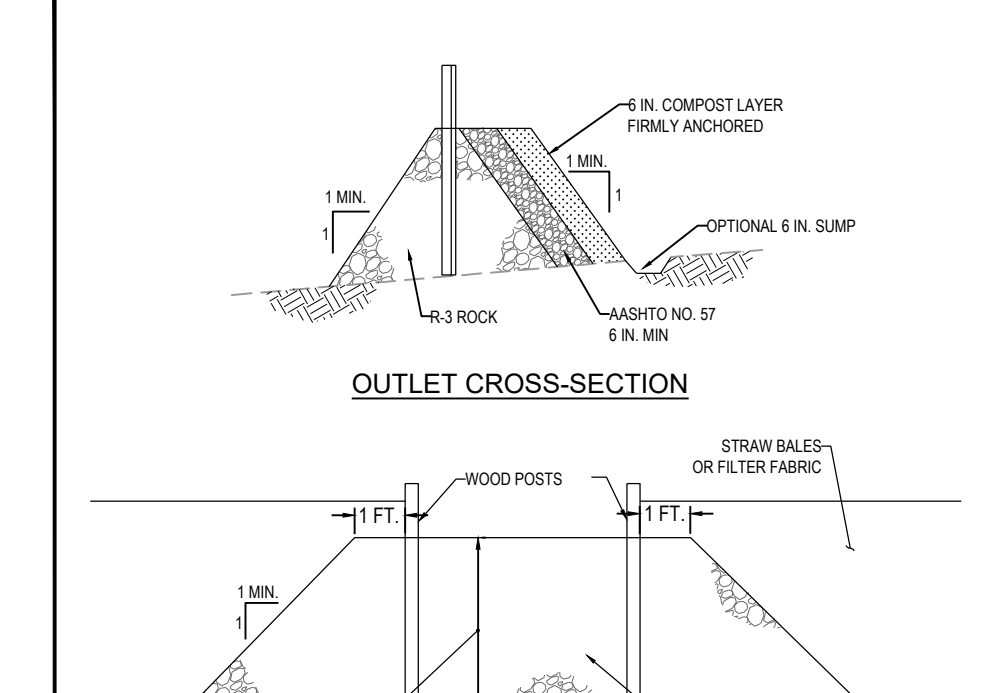
NOTE: SEED AND SOIL AMENDMENTS SHALL BE APPLIED ACCORDING TO THE RATES IN THE PLAN DRAWINGS PRIOR TO INSTALLING THE BLANKET.

STANDARD CONSTRUCTION DETAIL #4-1 COMPOST FILTER SOCK



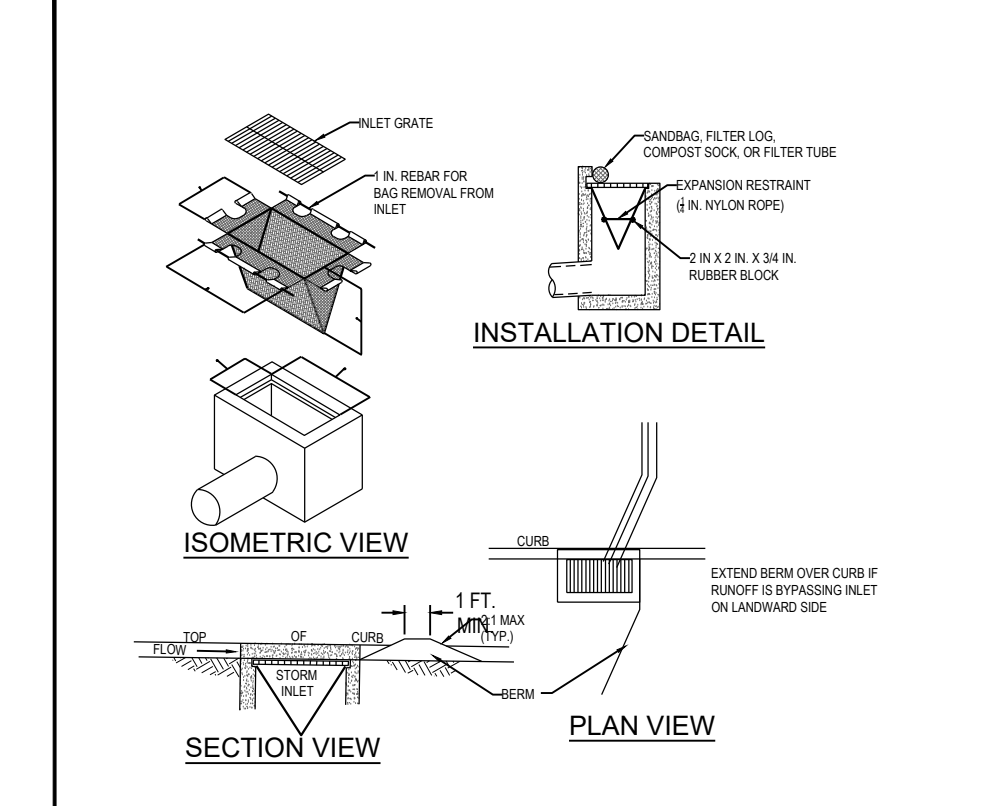
NOTE: SOCK FABRIC SHALL MEET STANDARDS OF TABLE 4.1 OF THE PA DEP EROSION CONTROL MANUAL. COMPOST SHALL MEET THE STANDARDS OF TABLE 4.2 OF THE PA DEP EROSION CONTROL MANUAL.

STANDARD CONSTRUCTION DETAIL #3-1 ROCK CONSTRUCTION ENTRANCE



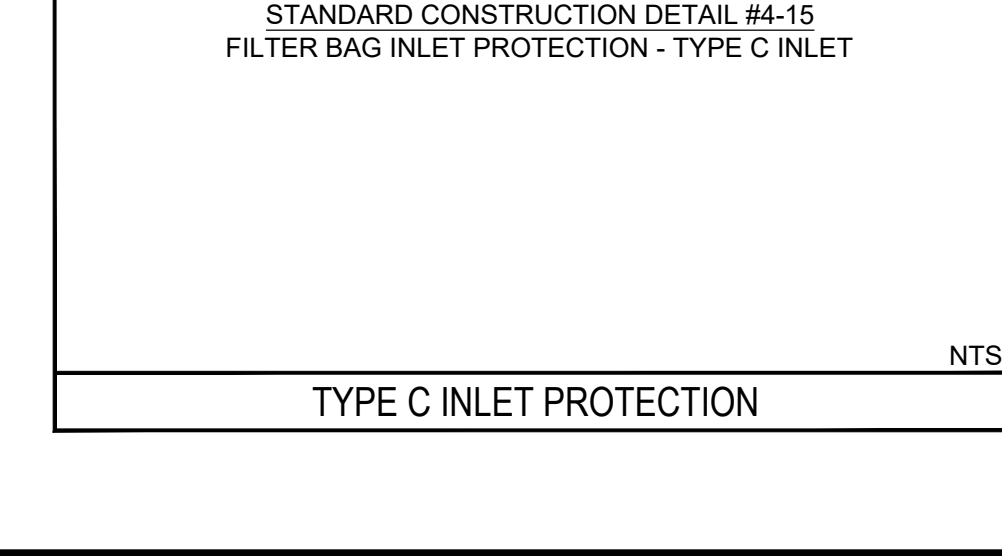
NOTE: MAINTENANCE: ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE SHALL BE MAINTAINED ON SITE FOR THIS PURPOSE.

STANDARD CONSTRUCTION DETAIL #3-2 ROCK CONSTRUCTION ACCESS WITH WASH RACK



NOTE: WASH RACK SHALL BE DESIGNED AND CONSTRUCTED TO ACCOMMODATE ANTICIPATED CONSTRUCTION VEHICULAR TRAFFIC.

STANDARD CONSTRUCTION DETAIL #11-1 EROSION CONTROL BLANKET INSTALLATION



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

TYPE C INLET PROTECTION

NOTE: MAXIMUM DRAINAGE AREA = 12 ACRES. INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. STRIPS SHALL BE REQUIRED FOR ALL INSTALLATIONS.

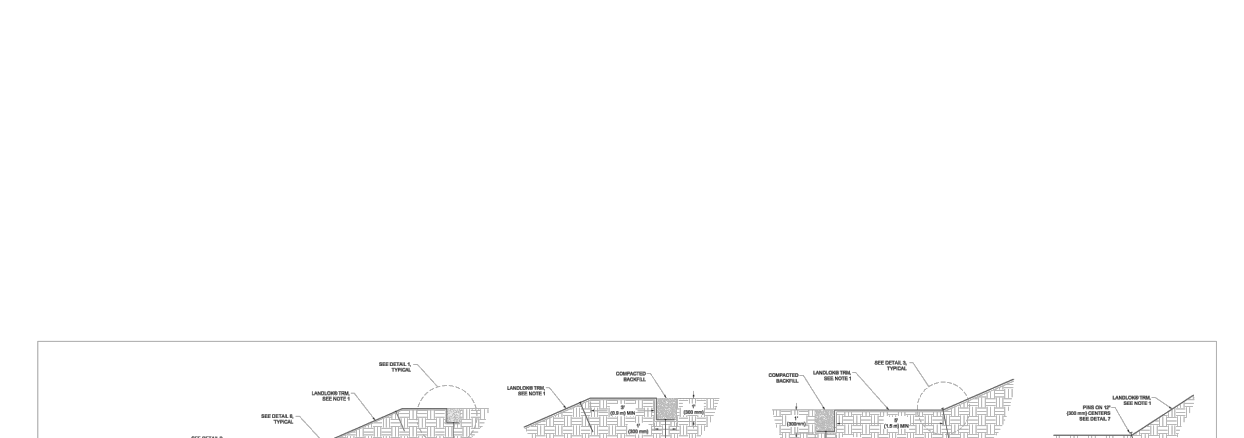
CONCRETE WASHOUT DETAIL

NOTE: A suitable impervious geomembrane shall be placed at the location of the washout prior to installing the sock. Adapted from Filtrax.

EROSION CONTROL BLANKET DETAIL

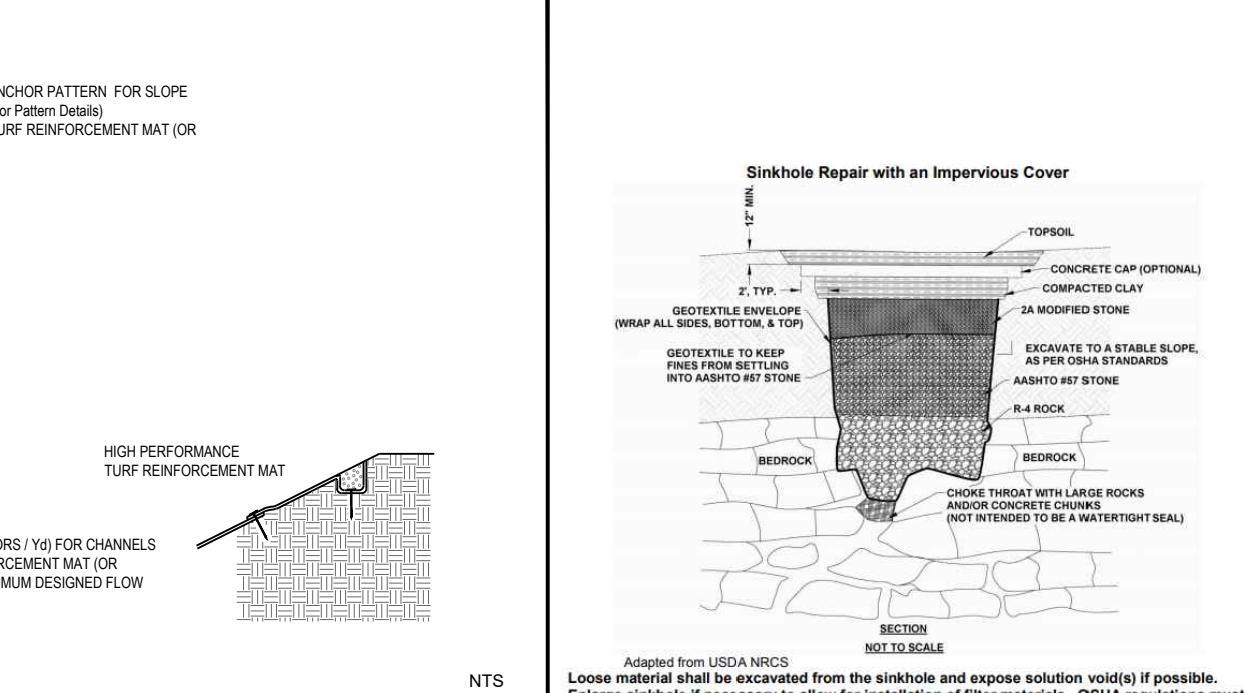
NOTE: THE BLANKET SHALL NOT BE STRETCHED; IT MUST MAINTAIN DIRECT CONTACT WITH SOIL. DO NOT STRETCH BLANKET.

LANDLOK EROSION CONTROL MATTING ANCHOR PATTERN DETAIL



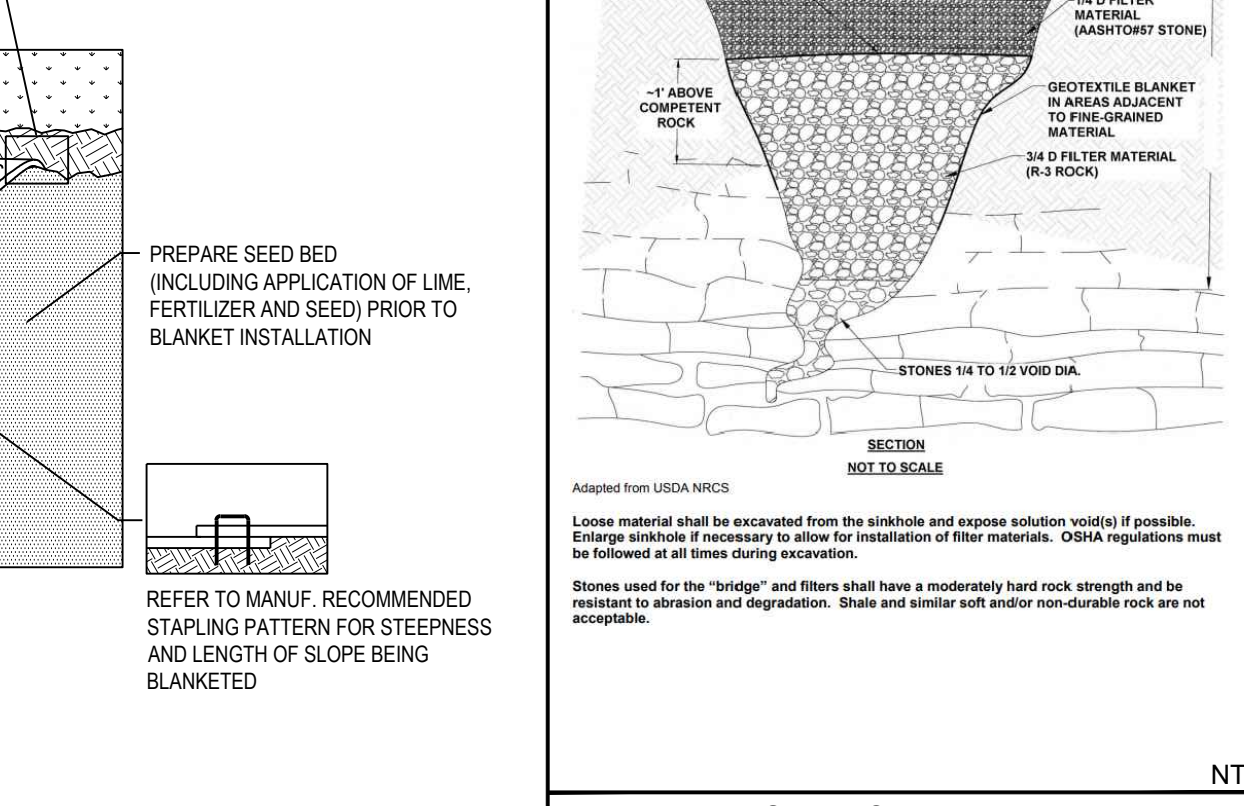
NOTE: UTILIZE CORRECT ANCHOR PATTERN FOR SLOPE GRADIENT (See Anchor Pattern Details). EROSION BLANKETS IF NECESSARY TO ALLOW FOR INSTALLATION OF FILTER MATERIALS. OSHA REGULATIONS MUST BE FOLLOWED AT ALL TIMES DURING INSTALLATION.

STANDARD CONSTRUCTION DETAIL #4-10 SUPER SILT FENCE



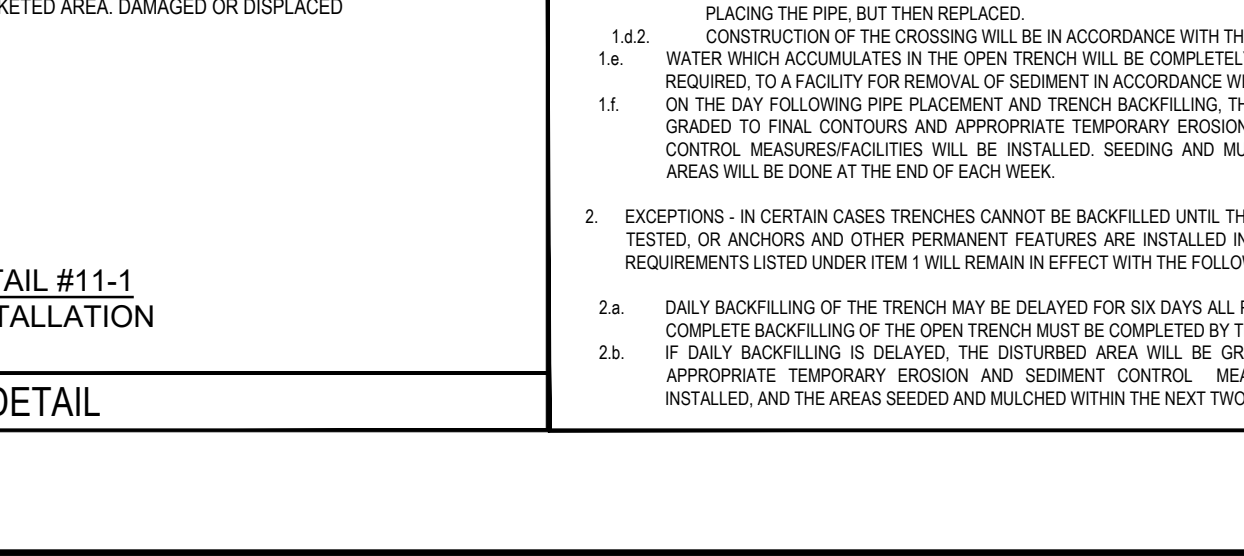
NOTE: FABRIC SHALL HAVE THE MINIMUM PROPERTIES AS SHOWN IN TABLE 4.3 OF THE PA DEP EROSION CONTROL MANUAL. FABRIC WIDTH SHALL BE 42 IN. MINIMUM.

STANDARD CONSTRUCTION DETAIL #3-2 ROCK CONSTRUCTION ACCESS WITH WASH RACK



NOTE: WASH RACK SHALL BE DESIGNED AND CONSTRUCTED TO ACCOMMODATE ANTICIPATED CONSTRUCTION VEHICULAR TRAFFIC.

STANDARD CONSTRUCTION DETAIL #11-1 EROSION CONTROL BLANKET INSTALLATION



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

TYPE C INLET PROTECTION

NOTE: MAXIMUM DRAINAGE AREA = 12 ACRES. INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. STRIPS SHALL BE REQUIRED FOR ALL INSTALLATIONS.

| DATE | COMMENTS | NO. |
|-----------|----------|-----|
| REVISIONS | | |

| | |
|-------------|--------------|
| Project No. | 230015101 |
| Date | 02-09-2024 |
| Scale | NOT TO SCALE |
| Drawn By | KGP |
| Checked By | CT |
| Drawing No. | |

| OUTLET NO. | PIPE DIA (IN) | RIPRAP SIZE (IN) | THICK (IN) | LENGTH (FT) | INITIAL WIDTH (FT) | TERMINAL WIDTH (FT) |
|------------|---------------|------------------|------------|-------------|--------------------|---------------------|
| HW-1.1 | 18 | 3 | 9 | 7 | 4.5 | 7.3 |
| HW-1.7 | 18 | 3 | 9 | 7 | 4.5 | 7.3 |
| OF-2.1 | 24 | 3 | 9 | 9 | 6 | 9.6 |
| HW-3.1 | 24 | 3 | 9 | 9 | 6 | 9.6 |

STANDARD CONSTRUCTION DETAIL #9-1
RIPRAP APRON AT PIPE OUTLET WITH FLARED END SECTION OR ENDWALL

STANDARD CONSTRUCTION DETAIL #7-5
TRASH RACK AND ANTI-VORTEX DEVICE
NOT TO SCALE

| TRAP NO. | Z1 (FT) | Z2 (FT) | FABRICATED RISER LENGTH (FT) | STEEL RISER ELEV (FT) | PERM INVERT ELEV (FT) | STORM SEWER INLET ELEV (FT) | EMBANK TOP ELEV (FT) | BOTTOM ELEV (FT) |
|----------|---------|---------|------------------------------|-----------------------|-----------------------|-----------------------------|----------------------|------------------|
| 1 | 3 | 3 | 101.00 | 100.00 | 97.550 | 101.50 | 104.00 | 98.00 |

STANDARD CONSTRUCTION DETAIL #8-7
TYPE M INLET SEDIMENT TRAP
NOT TO SCALE

| OUTLET NO. | X (FT) | h (FT) | RIPRAP SIZE (IN) | EMBANK TOP ELEV (FT) |
|------------|--------|--------|------------------|----------------------|
| OF-1 | 4.5 | 1.75 | 4 | 0.35 |
| OF-2 | 3.0 | 1.75 | 4 | 0.40 |

STANDARD CONSTRUCTION DETAIL #3-4
STILLING BASIN
NOT TO SCALE

STANDARD CONSTRUCTION DETAIL #7-18
SEDIMENT BASIN OR SEDIMENT TRAP
SEDIMENT STORAGE DEWATERING FACILITY
NOT TO SCALE

STANDARD CONSTRUCTION DETAIL #7-9
SEDIMENT BASIN/DETENTION POND RISER STRUCTURES
NOT TO SCALE

| BASIN NO. | Z1 (FT) | Z2 (FT) | TEMPORARY RISER | | BARREL | |
|-----------|---------|---------|-----------------|-----------------|----------|-----------------|
| | | | DIA (IN) | CREST ELEV (FT) | DIA (IN) | INLET ELEV (FT) |
| 1 | 3 | 3 | 24 | 112.50 | 18 | 109.50 |

STANDARD CONSTRUCTION DETAIL #7-7
SEDIMENT BASIN DETENTION POND EMBANKMENT AND SPILLWAY DETAILS
NOT TO SCALE

STANDARD CONSTRUCTION DETAIL #7-8
SEDIMENT BASIN DETENTION POND EMBANKMENT AND SPILLWAY DETAILS
NOT TO SCALE

| PROPERTY | TEST METHOD | MINIMUM STANDARD |
|--------------------|-------------|------------------|
| AVG. WGT. PER YARD | ASTM D-4884 | 60 LB/YD |
| MIN. WGT. PER YARD | ASTM D-4884 | 50 LB/YD |
| MIN. WGT. PER YARD | ASTM D-4884 | 40 LB/YD |
| MIN. WGT. PER YARD | ASTM D-4884 | 30 LB/YD |
| MIN. WGT. PER YARD | ASTM D-4884 | 20 LB/YD |
| MIN. WGT. PER YARD | ASTM D-4884 | 10 LB/YD |

STANDARD CONSTRUCTION DETAIL #3-16
PUMPED WATER FILTER BAG

| VEGETATED SWALE | BOTTOM WIDTH (FT) | SLOPE (%) | FLOW DEPTH (FT) | TOTAL DEPTH (FT) | TOP WIDTH (FT) | DESIGN VELOCITY (FPS) | SIDE SLOPE (2:1) |
|-----------------|-------------------|-----------|-----------------|------------------|----------------|-----------------------|------------------|
| 1 | 2.0 | 1.5 | 0.38 | 2.0 | 14.0 | 2.46 | 3 |
| 2 | 2.0 | 1.5 | 0.39 | 2.0 | 14.0 | 2.54 | 3 |
| 3 | 3.0 | 2.5 | 0.29 | 1.0 | 9.0 | 2.83 | 3 |

TEMPORARY VEGETATED SWALE DETAIL
NTS

| SED. TRAP / SWIM BASIN | PIPE DIAMETER (INCHES) | W WIDTH (FT) | L LENGTH (FT) | # OF COLLARS | TOP OF Ls (FT) | 1ST COLLAR LOCATION | SPACE BETWEEN COLLARS | |
|------------------------|------------------------|--------------|---------------|--------------|----------------|---------------------|-----------------------|-------|
| SB1 | 2 | 18 | 4.5 | 4.5 | 2 | 34 | 10' | 9.68' |
| ST1 | 3 | 18 | 4.5 | 4.5 | 3 | 42 | 10' | 8.94' |

ANTI-SEEP COLLARS
NTS

SEDIMENT BASIN DETAIL
NTS

UTILITY PLAN NOTES:

- CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS AND SPECIFICATIONS FOR ACTUAL SIZE AND LOCATION OF ALL UTILITY SERVICE ENTRANCES TO INCLUDE: SANITARY SEWER, LATERAL, WATER SERVICE, ELECTRICAL, TELEPHONE AND CABLE SERVICE. CONTRACTOR SHALL COORDINATE INSTALLATION OF UTILITIES IN SUCH A MANNER AS TO AVOID CONFLICTS AND ASSURE PROPER DEPTHS ARE ACHIEVED AS WELL AS COORDINATING WITH THE UTILITY COMPANIES AS TO LOCATION AND SCHEDULING OF CONNECTIONS TO THEIR FACILITIES.
- CONTRACTOR MUST ENSURE THAT UNINTERRUPTED UTILITY SERVICES, INCLUDING BUT NOT LIMITED TO, SANITARY SEWER, STORM SEWER, GAS, CABLE, TELEPHONE, ELECTRIC AND COMMUNICATION SERVICES TO THE ADJOINING BUILDINGS IS MAINTAINED AT ALL TIMES.
- CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS, UTILITY LOCATIONS INCLUDING INVERTS PRIOR TO CONSTRUCTION. ANY CONDITIONS FOUND TO DIFFER FROM THOSE SHOWN BY THE DRAWINGS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER IN WRITING.
- ALL SITE UTILITIES ARE TO BE BROUGHT TO WITHIN 5 FT. OF THE BUILDING LINE, PLUGGED AND MARKED UNLESS OTHERWISE NOTED. THE BUILDING CONTRACTOR SHALL MAKE THE FINAL CONNECTION BETWEEN THE BUILDING SYSTEMS AND THE UTILITY LATERALS.
- CONTRACTOR TO COORDINATE CONSTRUCTION OF ALL UTILITY INSTALLATION WITH APPROPRIATE UTILITY COMPANIES. ALL CONSTRUCTION, INCLUDING BUT NOT LIMITED TO, UTILITY TRENCHING DETAILS, DEPTH OF INSTALLATION, MATERIALS, GROUND SLOPE, UTILITY CROSSINGS, CONNECTIONS TO MAIN, SEPARATION DISTANCES, ETC., SHALL BE PERFORMED PER STANDARDS, SPECIFICATIONS AND REQUIREMENTS OF UTILITY COMPANIES AS WELL AS ANY APPLICABLE LOCAL, STATE AND FEDERAL RULES AND REQUIREMENTS.
- ALL UTILITIES SHALL BE INSTALLED UNDERGROUND UNLESS OTHERWISE SPECIFIED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING PENNSYLVANIA ONE CALL SYSTEM AS REQUIRED BY PA ACT 38 OF 1991 THREE (3) WORKING DAYS PRIOR TO DIGGING. CALL TOLL FREE 1-800-242-1776.
- CONTRACTOR SHALL BE RESPONSIBLE TO INSURE THAT ALL CONSTRUCTION IS COMPLETED IN ACCORDANCE WITH THE LATEST OSHA REQUIREMENTS AND REQUIREMENTS OF UTILITY PROVIDERS.
- WHERE LESS THAN 18" OF CLEARANCE IS PROVIDED BETWEEN THE SANITARY SEWER AND OTHER UTILITIES, THE SEWER MUST BE CONCRETE ENCASED FOR A DISTANCE OF 10' ON EITHER SIDE OF THE CROSSING.
- WHERE A MINIMUM TEN (10) FOOT SEPARATION BETWEEN WATER AND SEWER MAINS CANNOT BE MAINTAINED, THE UTILITIES MUST BE VERTICALLY SEPARATED BY A MINIMUM OF 18 INCHES AND CONSTRUCTED IN SEPARATE TRENCHES.
- ALL SANITARY LATERALS MUST CONNECT TO THE SEWER MAINS BY A "WYE" CONNECTION OR AT A MANHOLE.
- ALL ABANDONED SEWER LINES MUST BE ABANDONED AT THE MAIN BY AN APPROVED TRENCHLESS SEWER REPAIR CONTRACTOR.
- CONTRACTOR MUST REFER TO ARCHITECTURAL PLANS FOR SIZE AND LOCATION OF ALL UTILITY TIE-INS INTO THE BUILDINGS.
- LOCATION OF EXISTING UTILITIES WITHIN EDGEWOOD ROAD AND SCHUYLER ROAD SHALL BE FIELD DETERMINED PRIOR TO CONSTRUCTION AND DESIGN ADJUSTMENTS MAY BE REQUIRED.
- SANITARY CLEANOUTS ARE REQUIRED EVERY 50 FEET AND AT ALL BENDS.
- WATER MAINS AND HYDRANTS SHALL BE INSTALLED AND IN OPERATION PRIOR TO ANY COMBUSTIBLE MATERIALS ARRIVING ON THE CONSTRUCTION SITE.
- SERVICEABLE ROAD SURFACE TO BE INSTALLED AND WATER SERVICE WITH HYDRANTS TO BE IN-SERVICE PRIOR TO CONSTRUCTION (ROADWAY TO BE APPROVED BY TOWNSHIP ENGINEER).
- AREAS TO BE DETERMINED FOR THE STORAGE OF CONSTRUCTION SUPPLIES MUST BE APPROVED BY THE FIRE MARSHAL IN ADVANCE.
- ALL FIRE HYDRANTS ARE TO BE KEPT CLEAR AT ALL TIMES.
- A MINIMUM OF FOUR (4) FEET OF COVER SHALL BE PROVIDED OVER ALL WATER MAINS.
- A MINIMUM CLEARANCE OF 18 INCHES SHALL BE PROVIDED WHERE A WATER MAIN CROSSES ANOTHER UTILITY.

| Crossing # | Pipe Name | Pipe #1 | | | | | Pipe #2 | | | | | Pipe on top | Clearance | | | |
|------------|--------------------|---------------|-----------|-------|-------------------|------|---------------|--------------------|--------|-------------------|-------|-------------|-----------|-------------|--------------------|----|
| | | Invert @ Down | Length ft | Slope | Invert @ Crossing | Size | Invert @ Down | Length ft | Slope | Invert @ Crossing | Size | | | Top of Pipe | | |
| 1 | San M4-A-6 to M4-1 | 101.31 | 133.35 | 0.50% | 101.98 | 8 | 102.64 | CB-0.1 to CB-0.2 | 98.27 | 32.90 | 0.50% | 98.38 | 18 | 99.88 | San M4-A-6 to M4-1 | 25 |
| 2 | M4-3 to M4-4 | 103.65 | 128.33 | 1.11% | 105.07 | 8 | 105.74 | CB-3.4 to CB-3.5 | 107.00 | 34.01 | 2.04% | 107.69 | 18 | 109.19 | CB-3.4 to CB-3.5 | 23 |
| 3 | M4-5 to M4-6 | 106.07 | 58.45 | 0.50% | 106.36 | 8 | 107.03 | CB-3.7 to CB-3.8 | 111.50 | 18.89 | 1.00% | 111.70 | 18 | 113.20 | CB-3.7 to CB-3.8 | 56 |
| 4 | M4-6 to M4-7 | 106.87 | 48.39 | 0.50% | 107.11 | 8 | 107.78 | CB-2.5 to CB-2.6 | 113.50 | 20.02 | 1.00% | 113.70 | 18 | 115.20 | CB-2.5 to CB-2.6 | 71 |
| 5 | M4-7 to M4-8 | 107.75 | 200.93 | 0.50% | 108.75 | 8 | 109.42 | OF-2 TO CB-2.2 | 111.00 | 152.00 | 0.50% | 111.76 | 18 | 113.26 | OF-2 TO CB-2.2 | 28 |
| 6 | M4-7 to M4-8 | 107.75 | 202.78 | 0.50% | 109.05 | 8 | 109.73 | CB-2.9 TO CB-2.10 | 113.00 | 20.00 | 1.00% | 113.20 | 18 | 114.70 | CB-2.9 TO CB-2.10 | 42 |
| 7 | M4-11 to M4-12 | 110.00 | 46.00 | 1.30% | 110.46 | 8 | 111.13 | CB-2.11 TO CB-2.12 | 112.56 | 20.06 | 1.00% | 112.76 | 18 | 114.26 | CB-2.11 TO CB-2.12 | 20 |
| 8 | M4-10 to M4-11 | 110.44 | 190.95 | 1.30% | 111.39 | 8 | 112.06 | CB-1.3 TO CB-1.4 | 117.40 | 20.00 | 0.50% | 117.50 | 19 | 119.09 | CB-1.3 TO CB-1.4 | 65 |
| 9 | M4-10 to M4-11 | 110.44 | 192.95 | 0.50% | 111.00 | 8 | 111.67 | CB-1.2 TO HW-1.1 | 116.00 | 182.96 | 0.50% | 116.91 | 18 | 118.41 | CB-1.2 TO HW-1.1 | 63 |
| 10 | M4-10 to M4-11 | 110.44 | 50.97 | 0.50% | 110.69 | 8 | 111.36 | CB-1.5 TO CB-1.6 | 117.32 | 20.00 | 0.50% | 117.42 | 18 | 118.92 | CB-1.5 TO CB-1.6 | 73 |
| 11 | M4-6 to M4-11 | 106.87 | 170.07 | 1.30% | 107.72 | 8 | 108.39 | CB-1.9 TO CB-1.10 | 116.88 | 17.51 | 0.50% | 116.97 | 18 | 118.47 | CB-1.9 TO CB-1.10 | 93 |
| 12 | M4-6 to M4-11 | 106.87 | 48.27 | 1.30% | 107.11 | 9 | 107.88 | CB-2.7 TO CB-2.8 | 113.63 | 20.00 | 0.50% | 113.73 | 18 | 115.23 | CB-2.7 TO CB-2.8 | 70 |
| 13 | M4-8 to M4-9 | 110.00 | 47.48 | 1.30% | 110.24 | 8 | 110.90 | CB-2.13 TO CB-2.14 | 112.56 | 4.15 | 1.00% | 112.60 | 18 | 114.10 | CB-2.13 TO CB-2.14 | 20 |



ACT 187

UTILITY LOCATIONS AS SHOWN ON THIS PLAN ARE APPROXIMATE AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR, PER PA ACT 187 TO CONTACT THE UTILITY COMPANIES FOR MORE ACCURATE LOCATION PRIOR TO ANY EXCAVATION. TO OBTAIN ADDITIONAL UTILITY INFORMATION OR TO ARRANGE FOR FIELD LOCATION OF EXISTING UTILITIES BEFORE EXCAVATION, CALL THE PENNSYLVANIA ONE CALL SYSTEM AT 1-800-242-1776. THE UTILITY COMPANIES SHOWN MAY OR MAY NOT HAVE UTILITY LINES IN THE AREA.

CALL BEFORE YOU DIG !!
 (1) IDENTIFY LINES (UNDERGROUND)
 (2) WORKING SAFELY FOR YOUR PROTECTION AND THE PROTECTION OF OTHERS
 (3) WORKING SAFELY FOR THE PROTECTION OF OTHERS
 STOP & CALL !!

Pennsylvania One Call System, Inc.
 1-800-242-1776

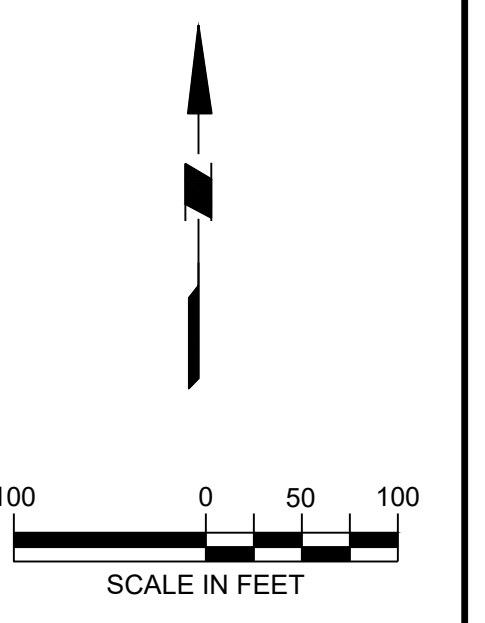


PRELIMINARY DESIGN SERIAL NUMBER: 2023091628

| EXISTING SYMBOLS & LINES | | PROPOSED SYMBOLS & LINES | |
|--------------------------|---------------------------|--------------------------|---------------------|
| --- 1.50 --- | MAJOR CONTOUR LINE | --- | SITE |
| --- 0.50 --- | MINOR CONTOUR LINE | --- | SETBACK LINE |
| --- | TELECOMMUNICATIONS LINE | --- | ROAD CENTER LINE |
| --- | OVERHEAD UTILITY LINE | --- | BUILDING |
| --- | UNDERGROUND ELECTRIC LINE | --- | DOOR |
| --- | WATER LINE | --- | EDGE OF PAVEMENT |
| --- | SANITARY SEWER LINE | --- | TRAFFIC SIGN |
| --- | GAS LINE | --- | PROPOSED LOT LINE |
| --- | STORM SEWER LINE | --- | POST AND RAIL FENCE |
| --- | TREE/BRUSH LINE | --- | STORMWATER FACILITY |
| --- | PROPERTY LINE | --- | |
| --- | RIGHT-OF-WAY LINE | --- | |
| --- | DEPRESSED CURB | --- | |
| --- | FENCE | --- | |
| --- | LIGHT POLE | --- | |
| --- | UTILITY POLE | --- | |
| --- | FIRE HYDRANT | --- | |
| --- | WATER VALVE | --- | |
| --- | WATER METER | --- | |
| --- | WATER WELL | --- | |
| --- | MONITORING WELL | --- | |
| --- | GAS VALVE | --- | |
| --- | SIGN | --- | |
| --- | CONCRETE MONUMENT FOUND | --- | |
| --- | RAIL MONUMENT FOUND | --- | |
| --- | IRON PIN FOUND | --- | |
| --- | IRON PIPE FOUND | --- | |
| --- | IRON PIN SET | --- | |
| --- | EXISTING POST | --- | |
| --- | DECIDUOUS TREE | --- | |
| --- | CONIFEROUS TREE | --- | |
| --- | AIR CONDITIONING UNIT | --- | |
| --- | ELECTRIC METER | --- | |
| --- | CLEANOUT | --- | |
| --- | CONCRETE | --- | |

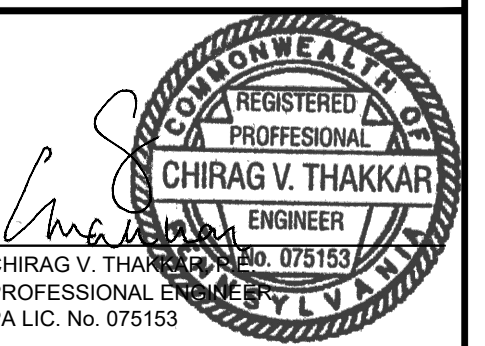


arna Engineering Inc.
 1456 Ferry Road, Suite 603
 Doylestown, PA 18901
 T: 215.766.8280
 F: 215.434.5280



Project
FIELDSTONE HARRIS TRACT SUBDIVISION
 TMP # 20-016-073
 LOWER MAKEFIELD TOWNSHIP
 BUCKS COUNTY PENNSYLVANIA

Drawing Title
UTILITY PLAN

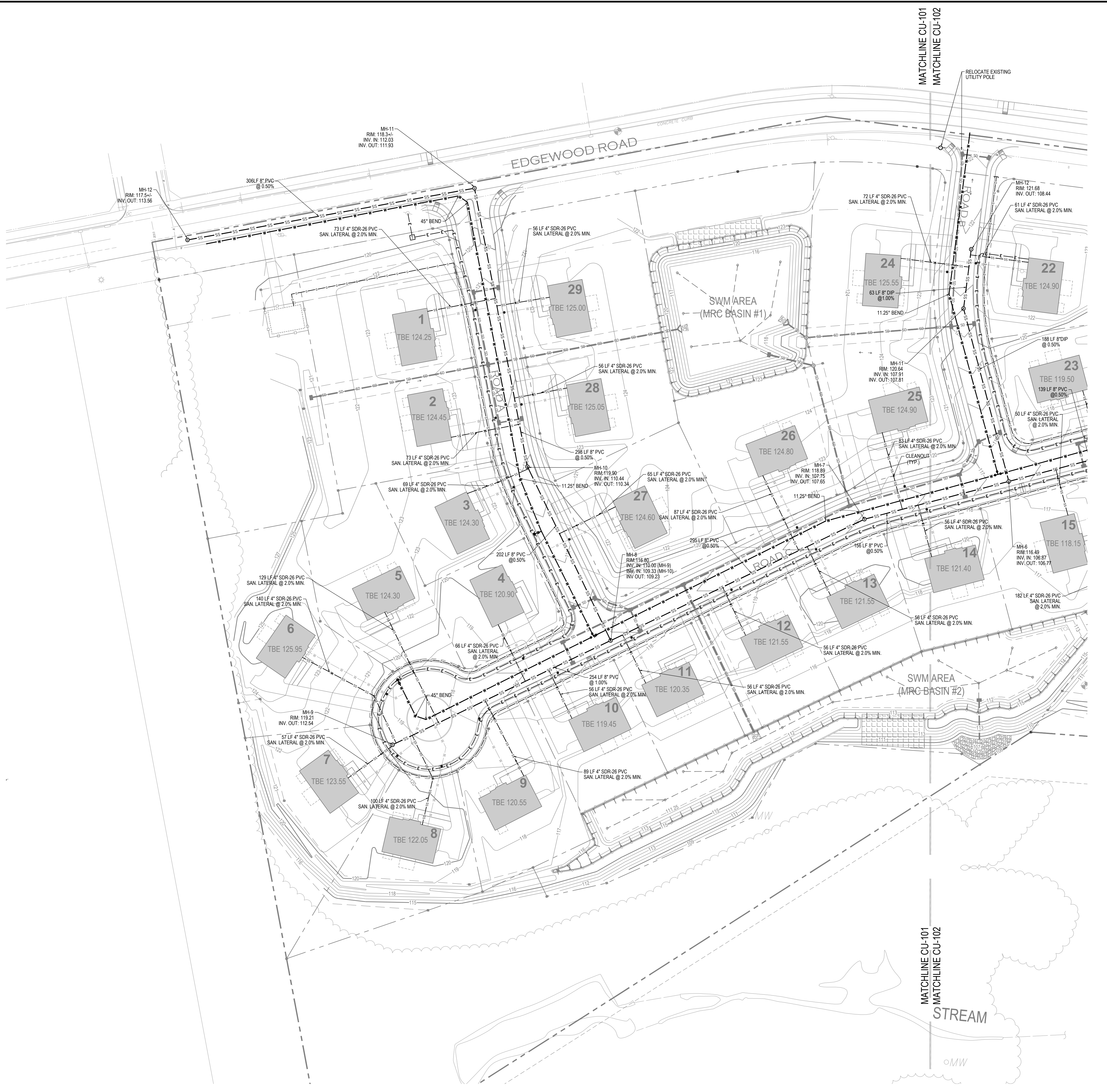
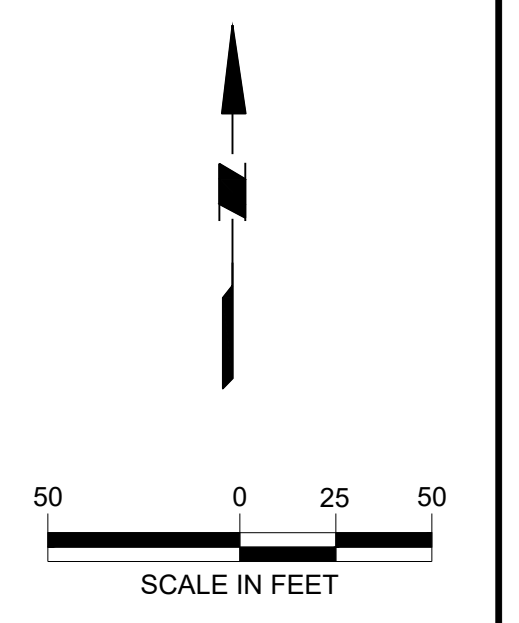
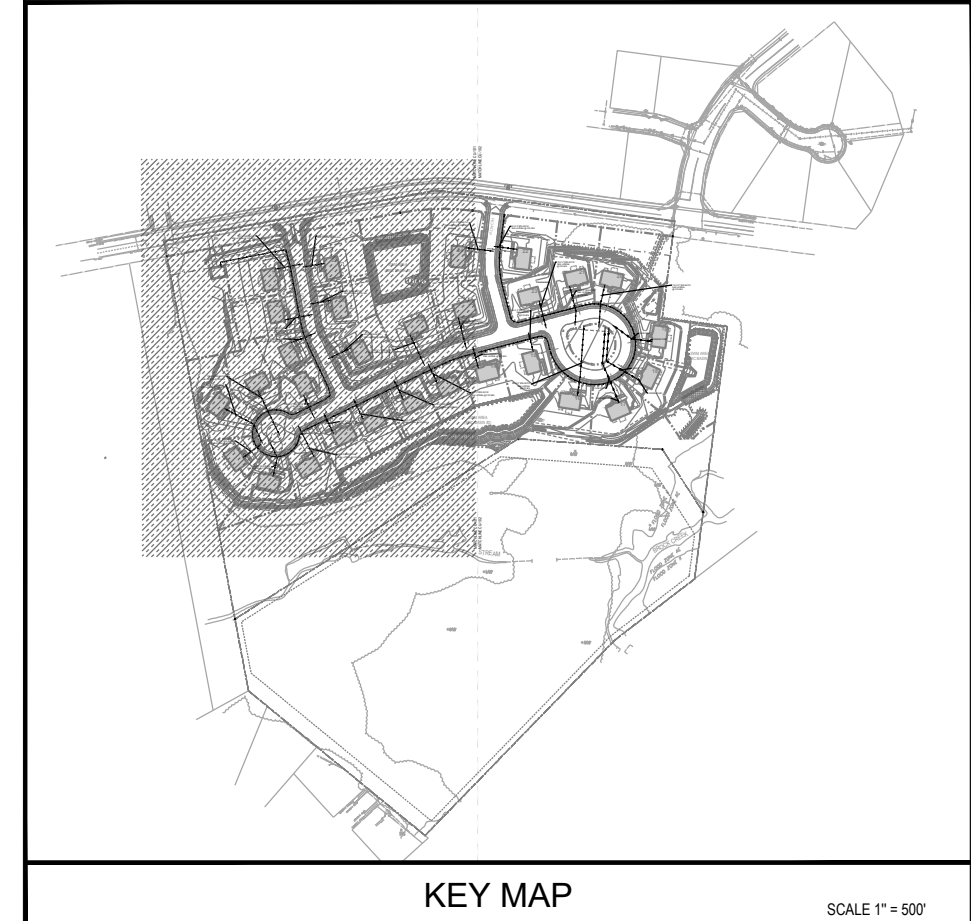


CHIRAG V. THAKKAR
 REGISTERED PROFESSIONAL ENGINEER
 PA LIC. No. 075153

| DATE | COMMENTS | NO. |
|-----------|----------|-----|
| REVISIONS | | |
| | | |
| | | |
| | | |

Project No. 230015101
 Date 02-09-2024
 Scale 1" = 100'
 Drawn By KGP
 Checked By CT
 Drawing No. CU-100
 Sheet 26 of 37

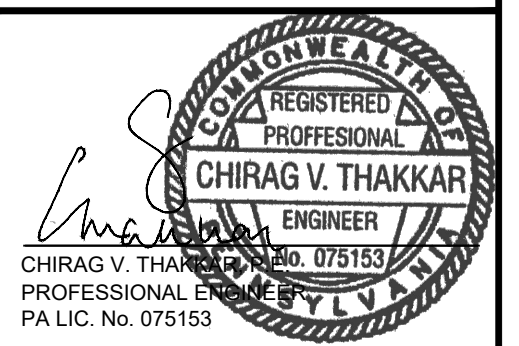
PROJECT: 230015101 FIELDSTONE HARRIS TRACT SUBDIVISION



Project
FIELDSTONE HARRIS TRACT SUBDIVISION
TMP # 20-016-073
LOWER MAKEFIELD TOWNSHIP
BUCKS COUNTY PENNSYLVANIA

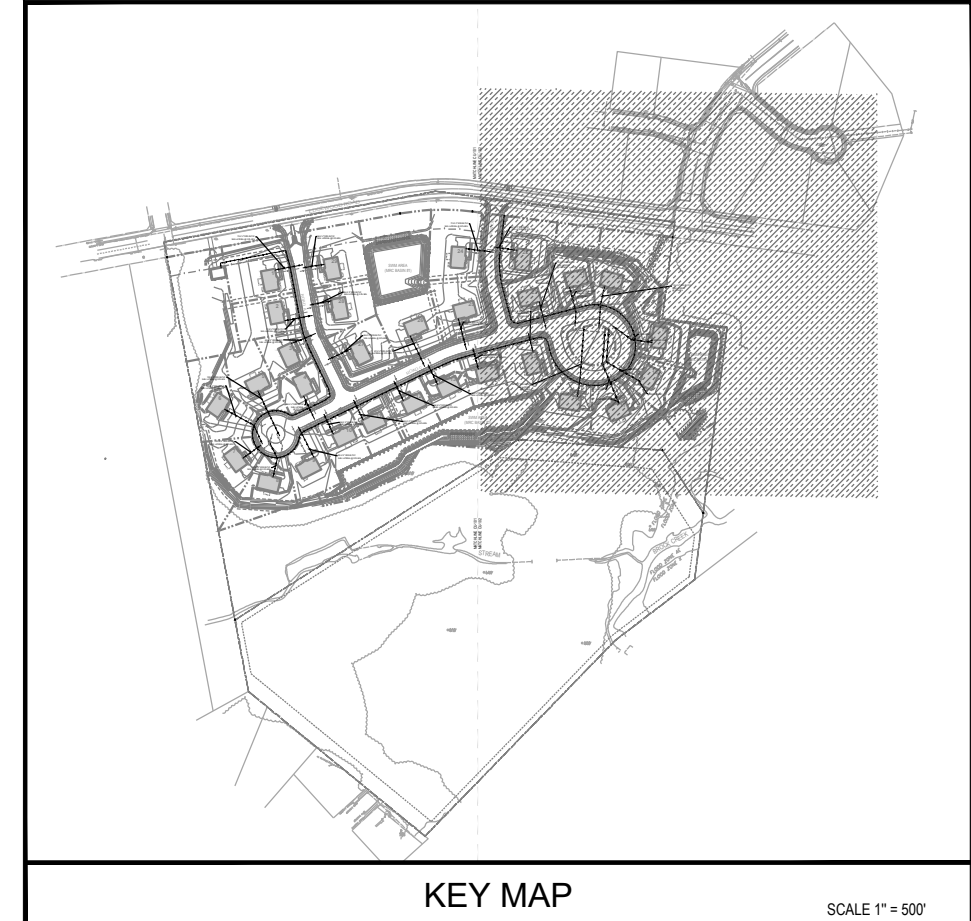
Drawing Title
UTILITY PLAN

ACT 187
UTILITY LOCATIONS AS SHOWN ON THIS PLAN ARE APPROXIMATE AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR, PER PA ACT 187 TO CONTACT THE UTILITY COMPANIES FOR MORE ACCURATE LOCATION PRIOR TO ANY EXCAVATION.
TO OBTAIN ADDITIONAL UTILITY INFORMATION OR TO ARRANGE FOR FIELD LOCATION OF EXISTING UTILITIES BEFORE EXCAVATION, CALL THE PENNSYLVANIA ONE CALL SYSTEM AT 1-800-242-1176. THE UTILITY COMPANIES SHOWN MAY OR MAY NOT HAVE UTILITY LINES IN THE AREA.
CALL BEFORE YOU DIG # (PENNsylvania) 800-442-8888
(1) WORKING SAFELY FOR ALL (2) WORKING SAFELY FOR YOUR OWN PROTECTION (3) STOP & CALL
Pennsylvania One Call System, Inc.
1-800-242-1176



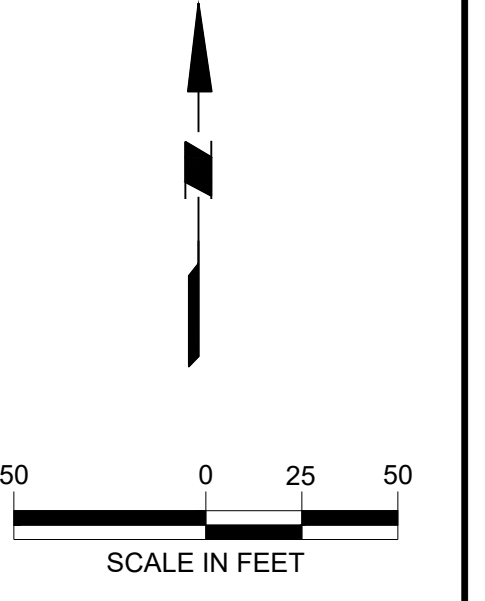
| DATE | COMMENTS | NO. |
|----------------|---------------|-----|
| REVISIONS | | |
| Project No. | 230015101 | |
| Date | 02-09-2024 | |
| Scale | 1" = 50' | |
| Drawn By | KGP | |
| Checked By | CT | |
| Drawing No. | CU-101 | |
| Sheet 27 of 37 | | |

| EXISTING SYMBOLS & LINES | | PROPOSED SYMBOLS & LINES | |
|-------------------------------|---------------------------|-----------------------------------|-------------------------------|
| --- 1.50 --- | MAJOR CONTOUR LINE | --- SITE | SITE |
| --- 1.00 --- | MINOR CONTOUR LINE | --- SETBACK LINE | SETBACK LINE |
| --- TELECOMMUNICATIONS LINE | TELECOMMUNICATIONS LINE | --- ROAD CENTER LINE | ROAD CENTER LINE |
| --- OVERHEAD UTILITY LINE | OVERHEAD UTILITY LINE | --- BUILDING | BUILDING |
| --- UNDERGROUND ELECTRIC LINE | UNDERGROUND ELECTRIC LINE | --- DOOR | DOOR |
| --- WATER LINE | WATER LINE | --- EDGE OF PAVEMENT | EDGE OF PAVEMENT |
| --- SANITARY SEWER LINE | SANITARY SEWER LINE | --- TRAFFIC SIGN | TRAFFIC SIGN |
| --- GAS LINE | GAS LINE | --- PROPOSED LOT LINE | PROPOSED LOT LINE |
| --- STORM SEWER LINE | STORM SEWER LINE | --- POST AND RAIL FENCE | POST AND RAIL FENCE |
| --- TREE/BRUSH LINE | TREE/BRUSH LINE | --- STORMWATER FACILITY | STORMWATER FACILITY |
| --- PROPERTY LINE | PROPERTY LINE | | |
| --- RIGHT-OF-WAY LINE | RIGHT-OF-WAY LINE | | |
| --- DEPRESSED CURB | DEPRESSED CURB | | |
| --- DC | FENCE | | |
| ○ | LIGHT POLE | --- GRADING AND DRAINAGE | GRADING AND DRAINAGE |
| ○ | UTILITY POLE | --- STORM PIPE | STORM PIPE |
| ○ | FIRE HYDRANT | --- CATCH BASIN | CATCH BASIN |
| ○ | WATER VALVE | --- PROPOSED CONTOUR | PROPOSED CONTOUR |
| ○ | WATER METER | --- SPOT GRADE | SPOT GRADE |
| ○ | WATER WELL | --- TOP OF WALL ELEVATION | TOP OF WALL ELEVATION |
| ○ | MONITORING WELL | --- BOTTOM OF WALL ELEVATION | BOTTOM OF WALL ELEVATION |
| ○ | GAS VALVE | --- FLOW ARROW | FLOW ARROW |
| ○ | SIGN | --- HEADWALL / FLARED END SECTION | HEADWALL / FLARED END SECTION |
| ○ | CONCRETE MONUMENT FOUND | --- RIP-RAP | RIP-RAP |
| ○ | RAIL MONUMENT FOUND | | |
| ○ | IRON PIN FOUND | --- UTILITY | UTILITY |
| ○ | IRON PIPE FOUND | --- TELEPHONE & ELECTRIC LINE | TELEPHONE & ELECTRIC LINE |
| ○ | IRON PIN SET | --- GAS LINE | GAS LINE |
| ○ | EXISTING POST | --- WATER LINE | WATER LINE |
| ○ | DECIDUOUS TREE | --- SANITARY SEWER LINE | SANITARY SEWER LINE |
| ○ | CONIFEROUS TREE | | |
| ○ | AIR CONDITIONING UNIT | | |
| ○ | ELECTRIC METER | | |
| ○ | CLEANOUT | | |
| ○ | CONCRETE | | |
| ○ | (TR) | | |
| ○ | (TBR) | | |



KEY MAP

SCALE 1" = 50'



Project
**FIELDSTONE
HARRIS TRACT
SUBDIVISION**
TMP # 20-016-073
LOWER MAKEFIELD TOWNSHIP
BUCKS COUNTY PENNSYLVANIA

Drawing Title
UTILITY PLAN

ACT 187

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CALL BEFORE YOU DIG !!
FOLLOWING ARE THE REQUIREMENTS:
(1) WORKING SAFELY FOR YOUR OWN PROTECTION AND THE PROTECTION OF OTHERS.
(2) STOP & CALL !!
Pennsylvania One Call System, Inc.
1-800-242-1176



PRELIMINARY DESIGN SERIAL NUMBER: 2023091628

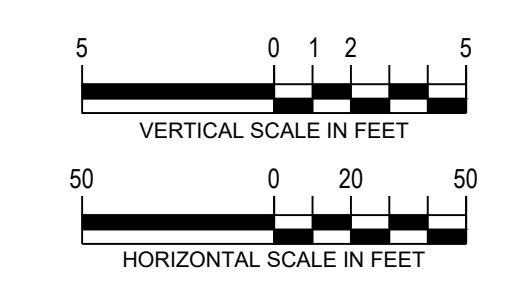
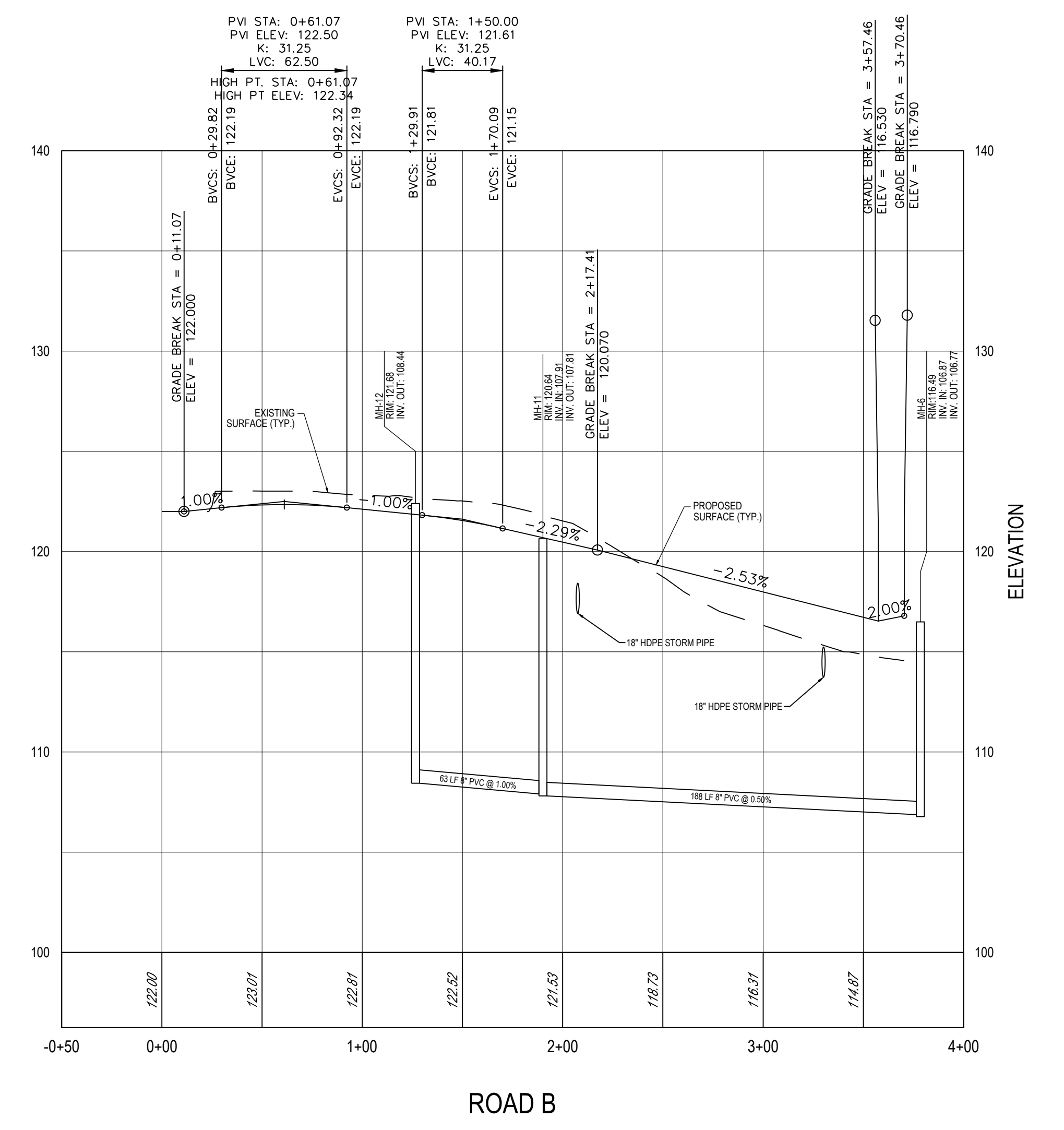
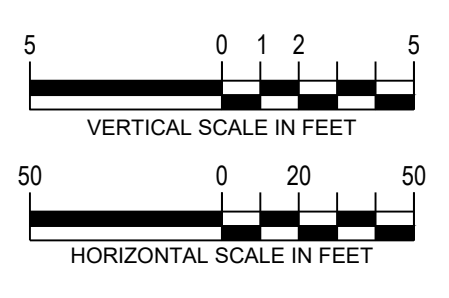
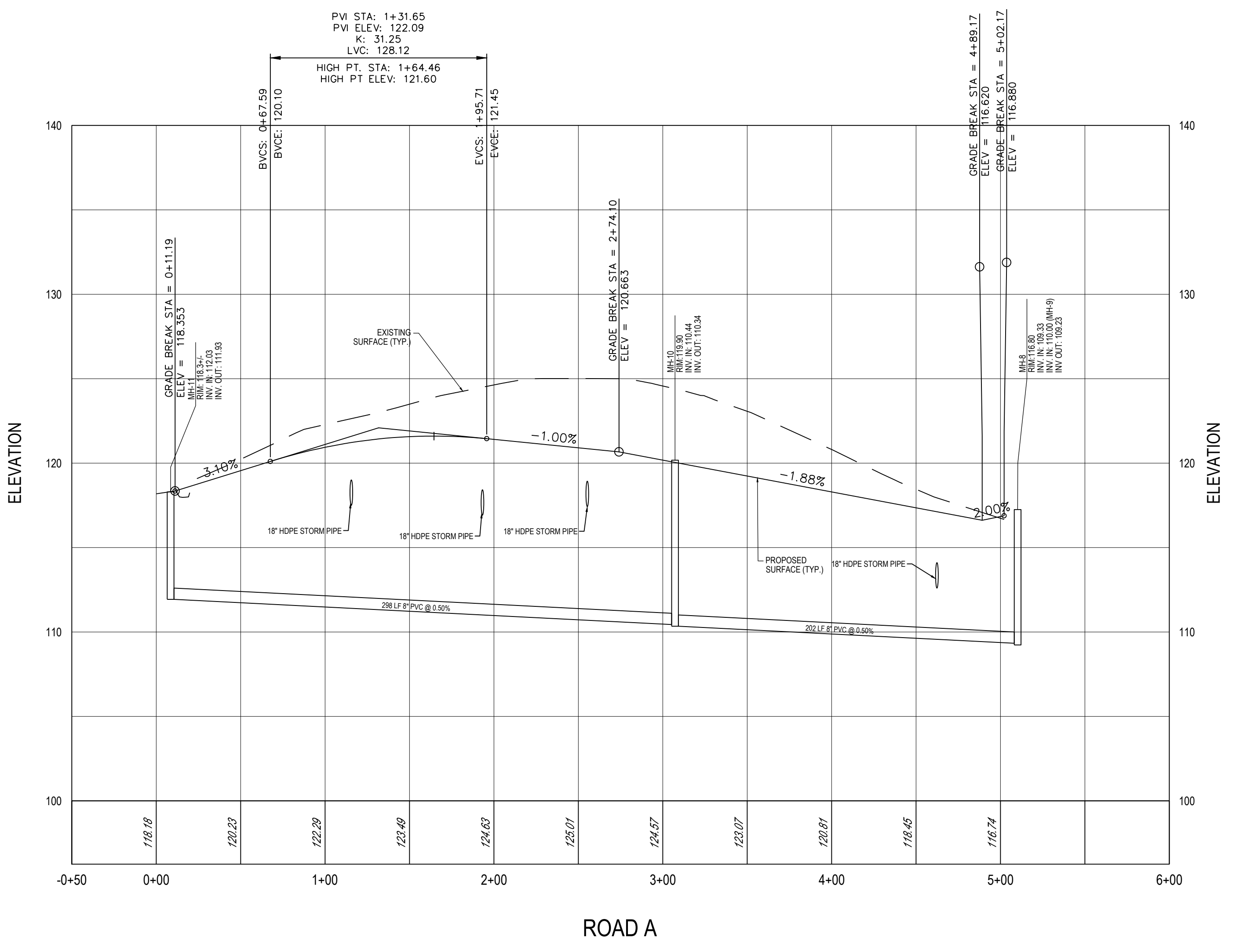
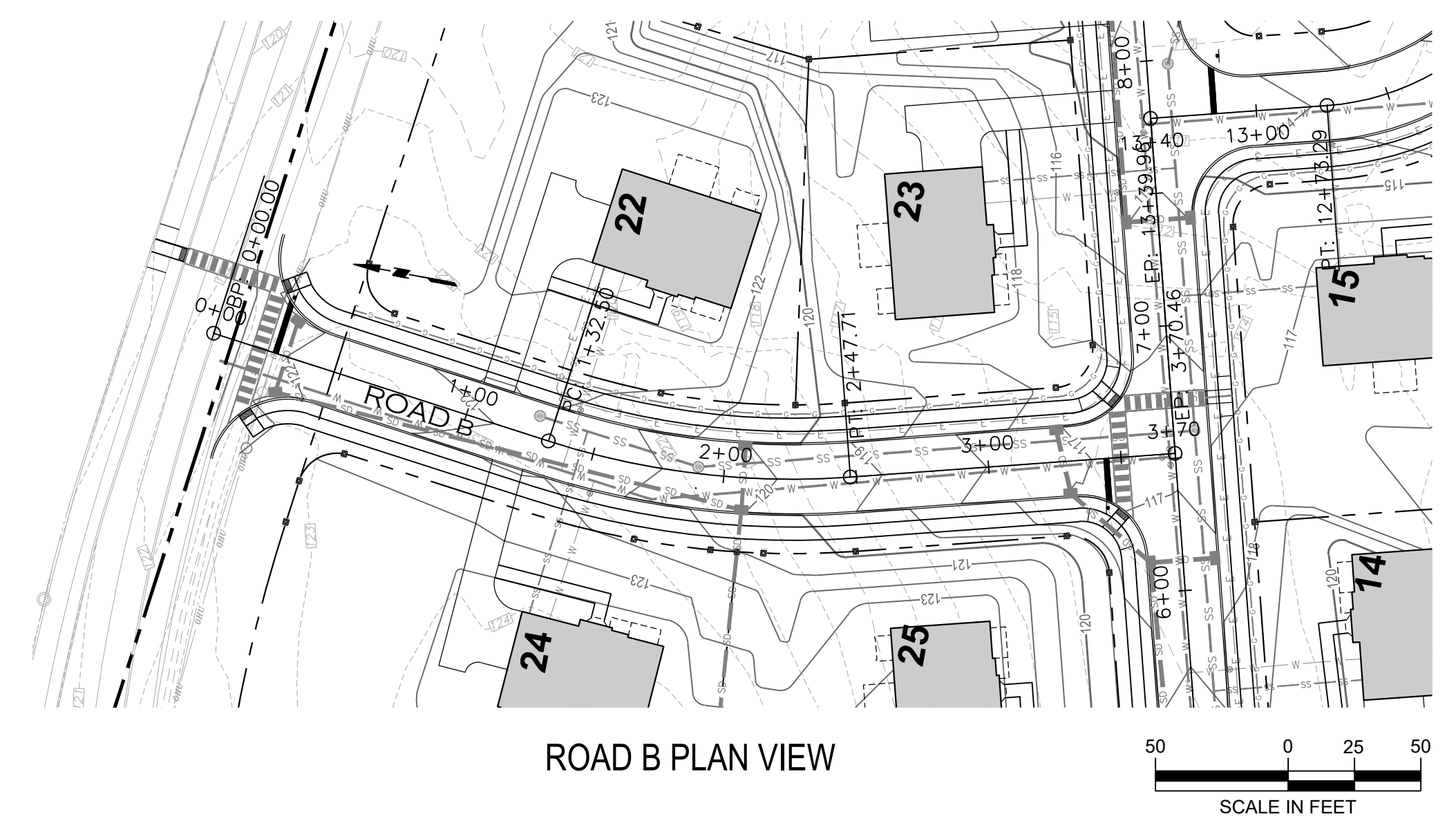
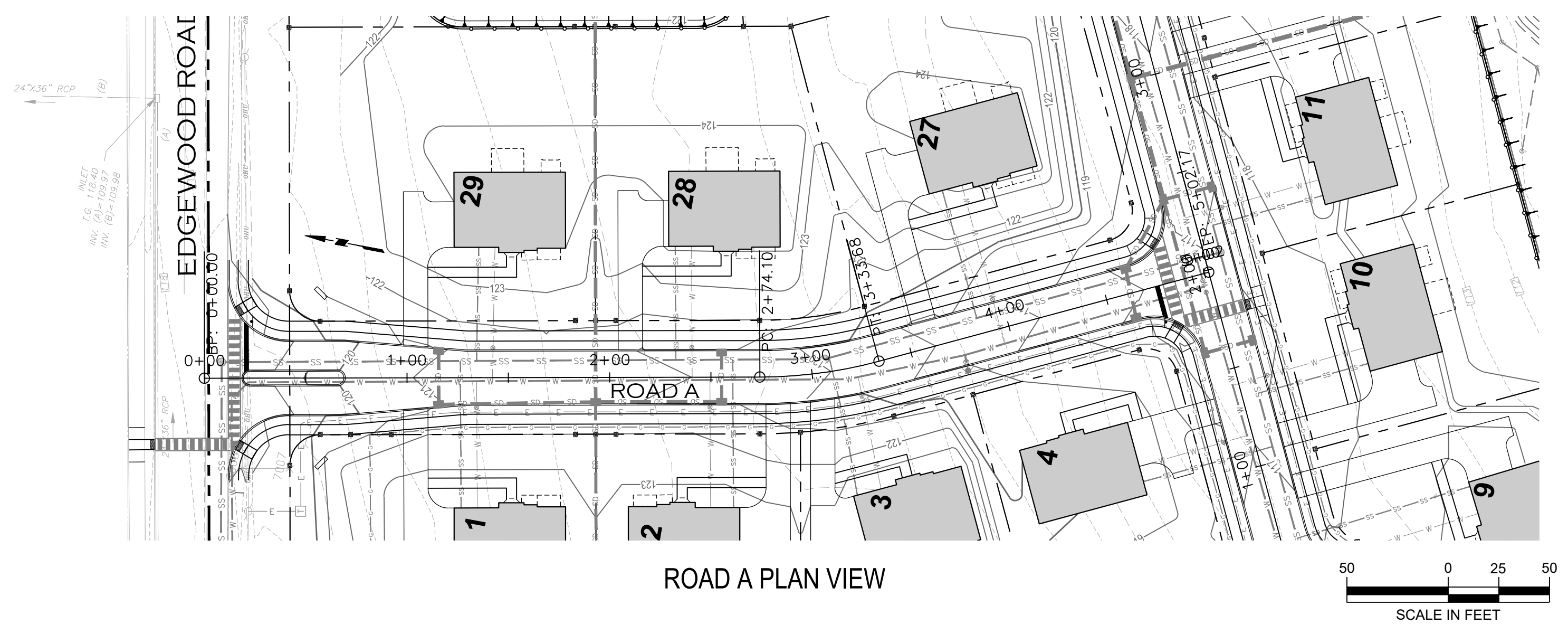
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|--------------------------|---------------------------|--------------------------|---------------------|
| | MAJOR CONTOUR LINE | | SITE |
| | MINOR CONTOUR LINE | | SETBACK LINE |
| | TELECOMMUNICATIONS LINE | | ROAD CENTER LINE |
| | OVERHEAD UTILITY LINE | | BUILDING |
| | UNDERGROUND ELECTRIC LINE | | DOOR |
| | WATER LINE | | EDGE OF PAVEMENT |
| | SANITARY SEWER LINE | | TRAFFIC SIGN |
| | GAS LINE | | PROPOSED LOT LINE |
| | STORM SEWER LINE | | POST AND RAIL FENCE |
| | TREE/BRUSH LINE | | STORMWATER FACILITY |
| | PROPERTY LINE | | |
| | RIGHT-OF-WAY LINE | | |
| | DEPRESSED CURB | | |
| | FENCE | | |
| | LIGHT POLE | | |
| | UTILITY POLE | | |
| | FIRE HYDRANT | | |
| | WATER VALVE | | |
| | WATER METER | | |
| | WATER WELL | | |
| | MONITORING WELL | | |
| | GAS VALVE | | |
| | SIGN | | |
| | CONCRETE MONUMENT FOUND | | |
| | RAIL MONUMENT FOUND | | |
| | IRON PIN FOUND | | |
| | IRON PIPE FOUND | | |
| | IRON PIN SET | | |
| | EXISTING POST | | |
| | DECIDUOUS TREE | | |
| | CONIFEROUS TREE | | |
| | AIR CONDITIONING UNIT | | |
| | ELECTRIC METER | | |
| | CLEANOUT | | |
| | CONCRETE | | |
| | TELEPHONE & ELECTRIC LINE | | |
| | GAS LINE | | |
| | WATER LINE | | |
| | SANITARY SEWER LINE | | |

| DATE | COMMENTS | NO. |
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| REVISIONS | | |

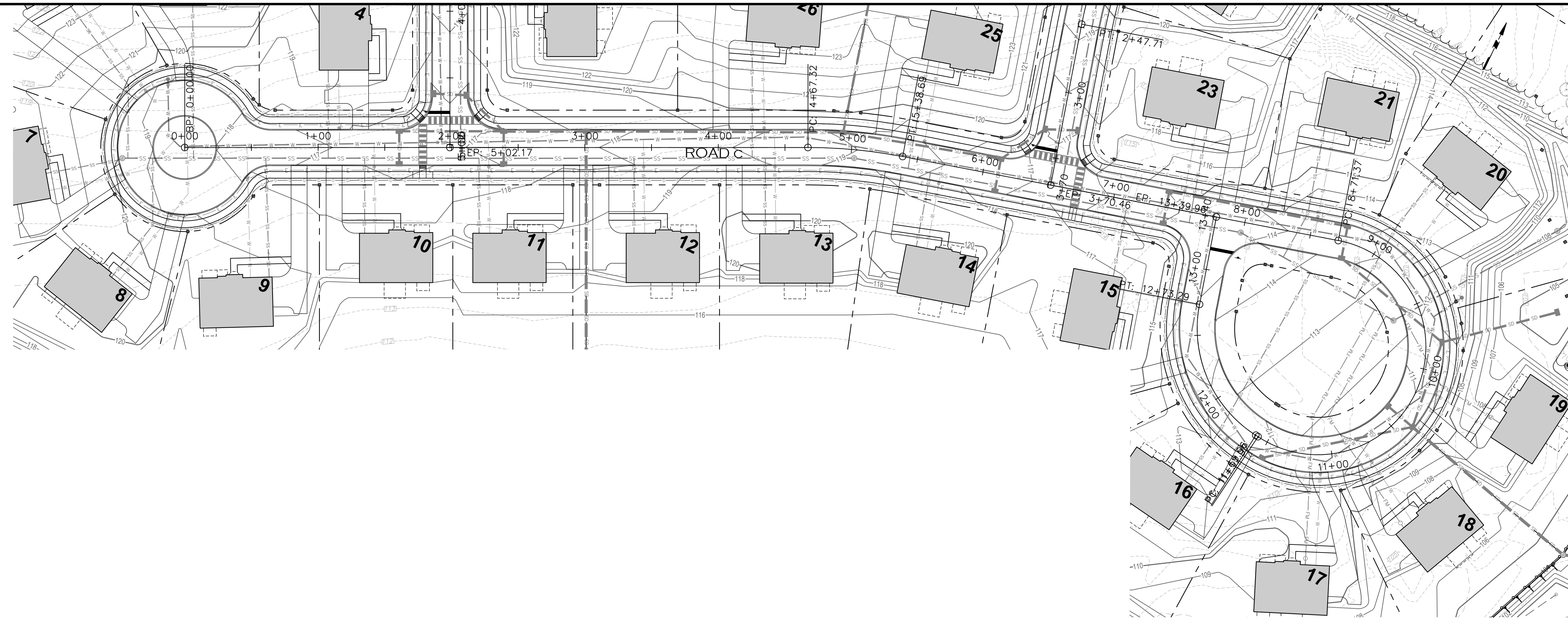
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| Project No. | 230015101 |
| Date | 02-09-2024 |
| Scale | 1" = 50' |
| Drawn By | KGP |
| Checked By | CT |
| Drawing No. | CU-102 |

| DATE | COMMENTS | NO. |
|-----------|----------|-----|
| REVISIONS | | |

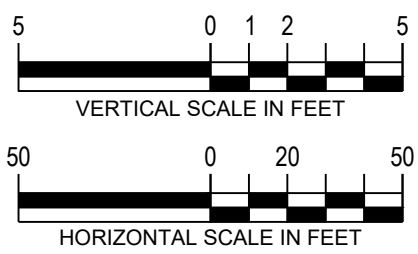
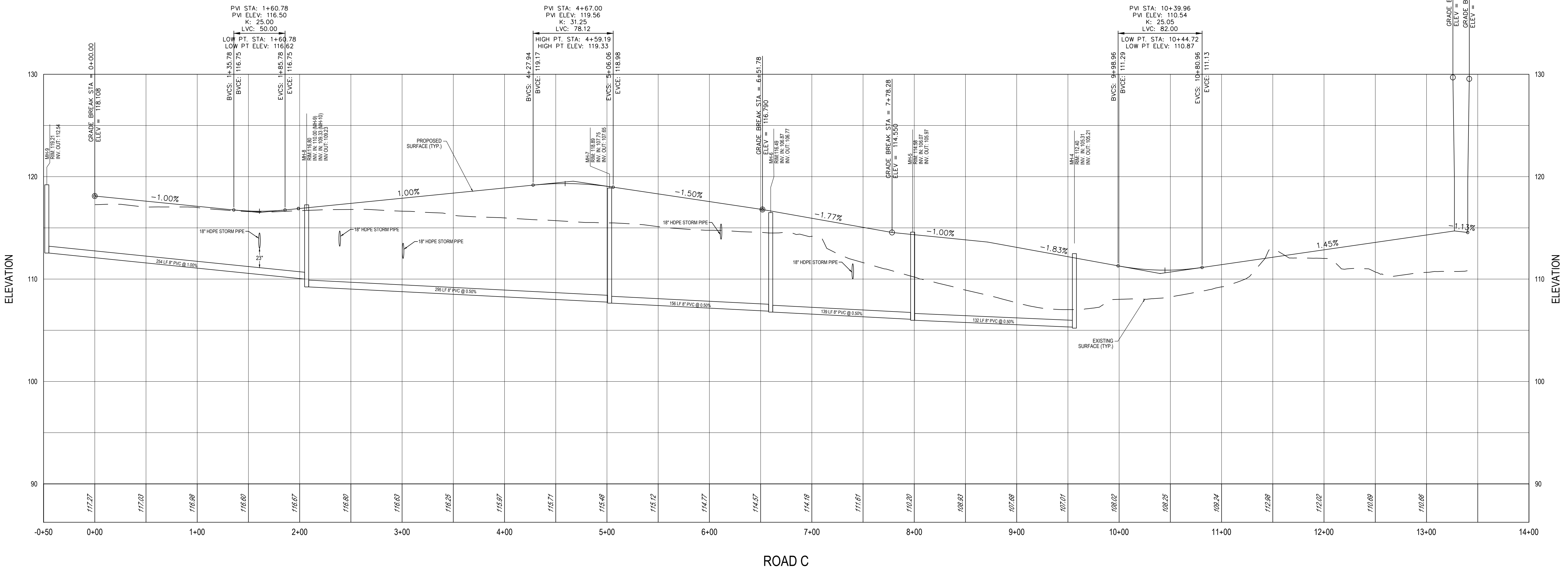
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| Project No. | 230015101 |
| Date | 02-09-2024 |
| Scale | AS SHOWN |
| Drawn By | KGP |
| Checked By | CT |
| Drawing No. | |



PROJECT: 230015101 FIELDSTONE HARRIS TRACT SUBDIVISION

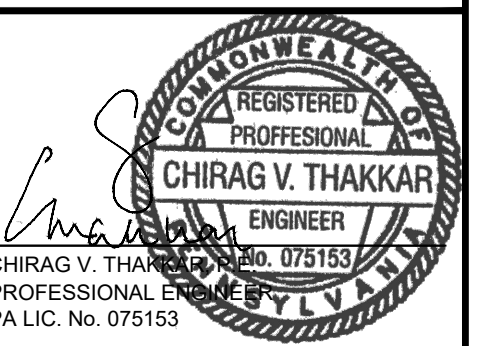


ROAD C PLAN VIEW



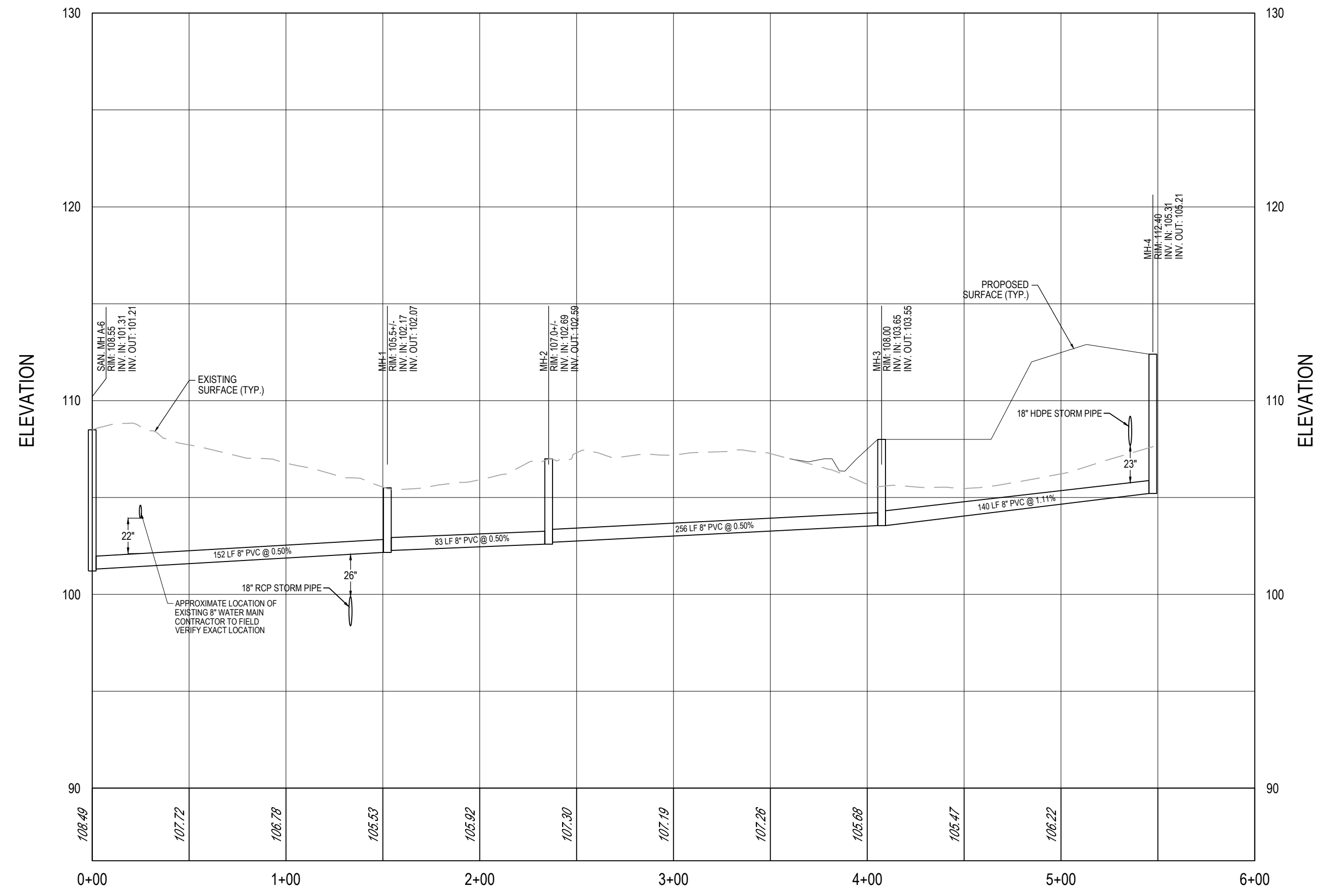
Project
**FIELDSTONE
HARRIS TRACT
SUBDIVISION**
TMP # 20-016-073
LOWER MAKEFIELD TOWNSHIP
BUCKS COUNTY PENNSYLVANIA

Drawing Title
**ROADWAY AND
UTILITY
PROFILES**

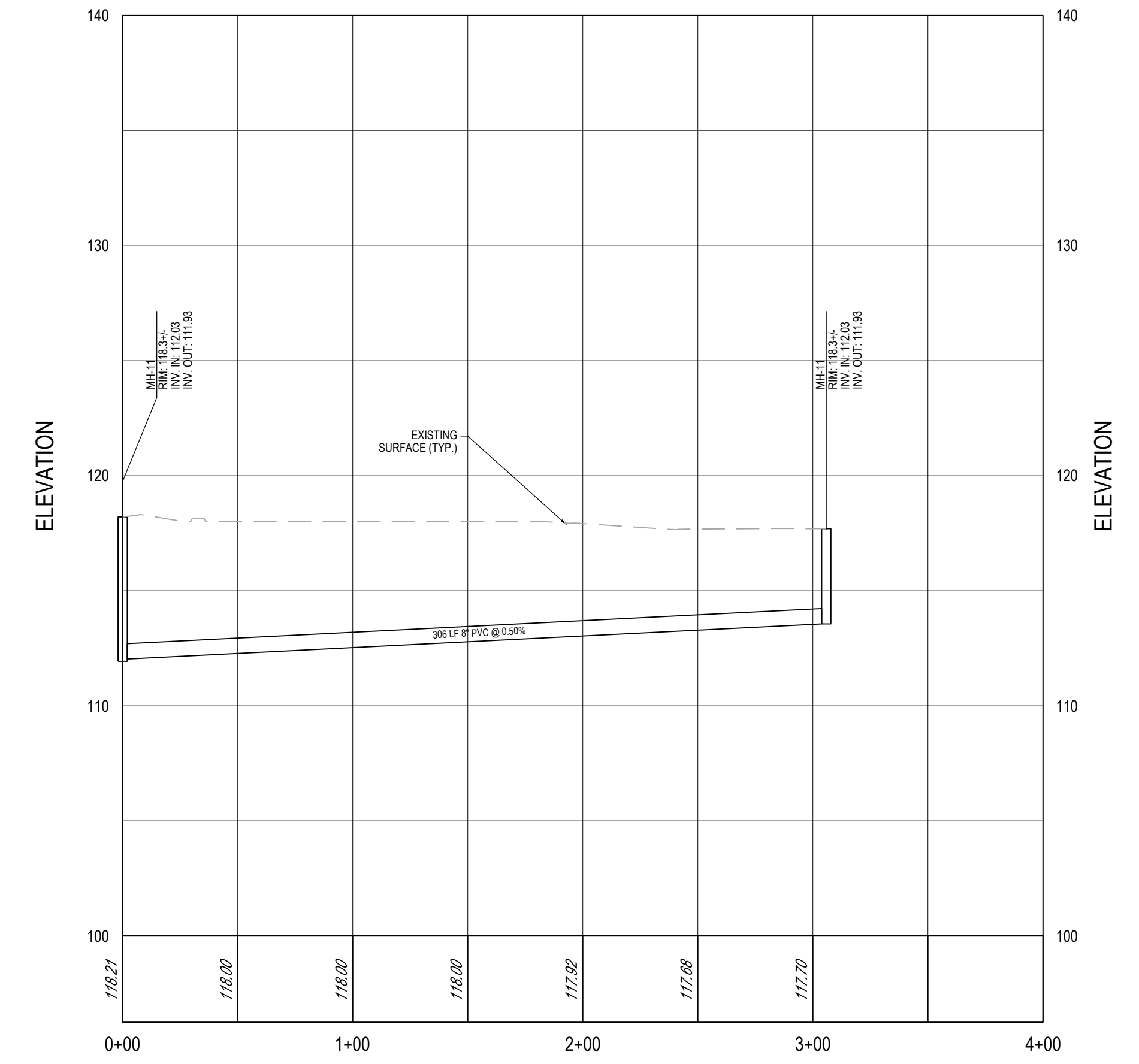


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| REVISIONS | |
|-------------|------------|
| Project No. | 230015101 |
| Date | 02-09-2024 |
| Scale | AS SHOWN |
| Drawn By | KGP |
| Checked By | CT |
| Drawing No. | CU-302 |



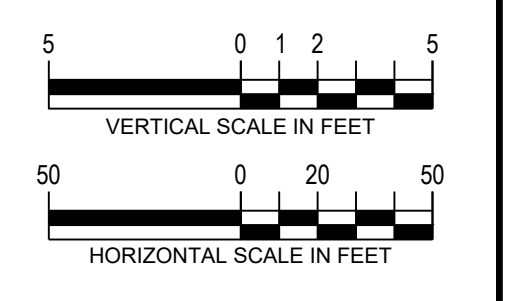
SAN MH A-8 TO MH-4



MH-12 TO MH-11

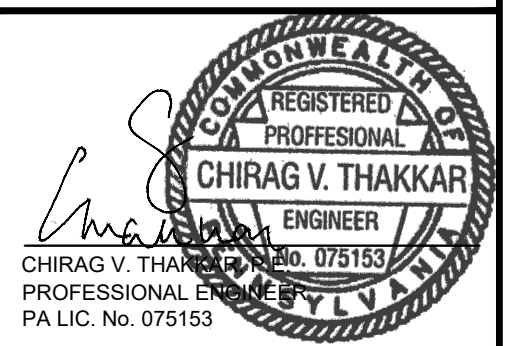


arna Engineering Inc.
1456 Ferry Road, Suite 603
Doylestown, PA 18901
T: 215.766.8280
F: 215.434.5280



Project
FIELDSTONE HARRIS TRACT SUBDIVISION
TMP # 20-016-073
LOWER MAKEFIELD TOWNSHIP
BUCKS COUNTY PENNSYLVANIA

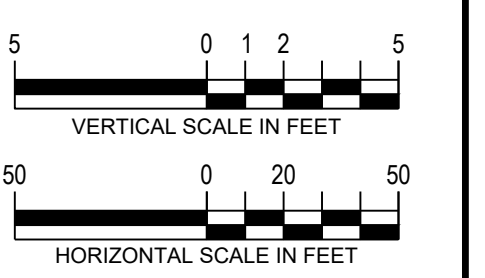
Drawing Title
UTILITY PROFILES



| DATE | COMMENTS | NO. |
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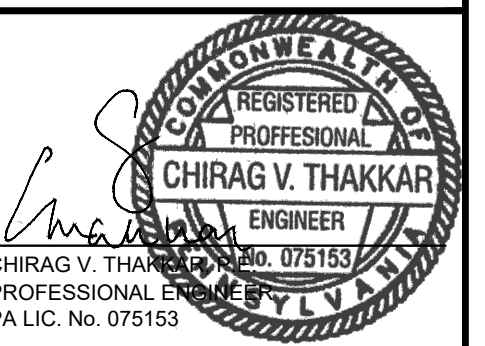
| REVISIONS | |
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| Project No. | 230015101 |
| Date | 02-09-2024 |
| Scale | AS SHOWN |
| Drawn By | KGP |
| Checked By | CT |

Drawing No.
CU-303



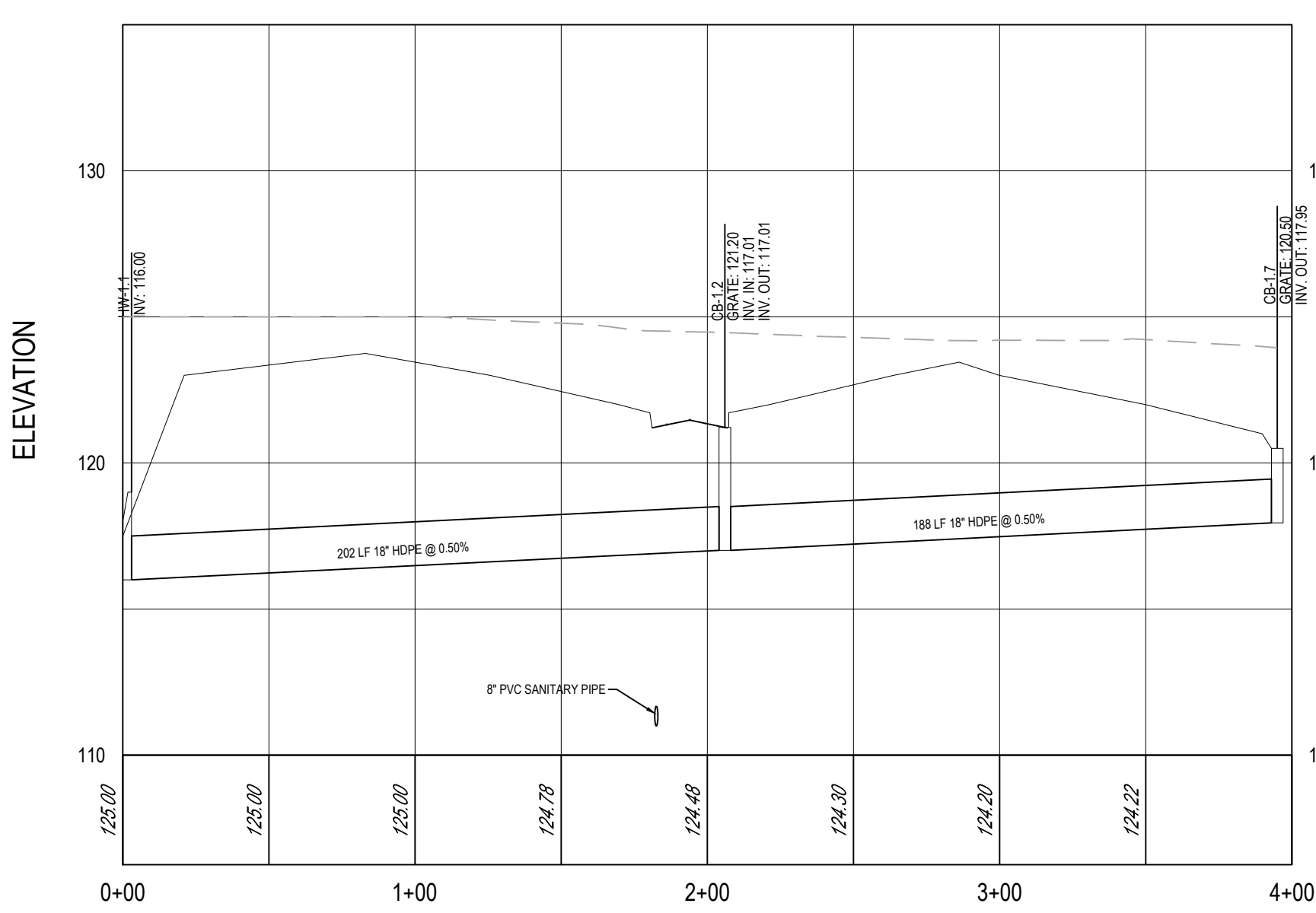
Project
FIELDSTONE HARRIS TRACT SUBDIVISION
TMP # 20-016-073
LOWER MAKEFIELD TOWNSHIP
BUCKS COUNTY PENNSYLVANIA

STORM PROFILES

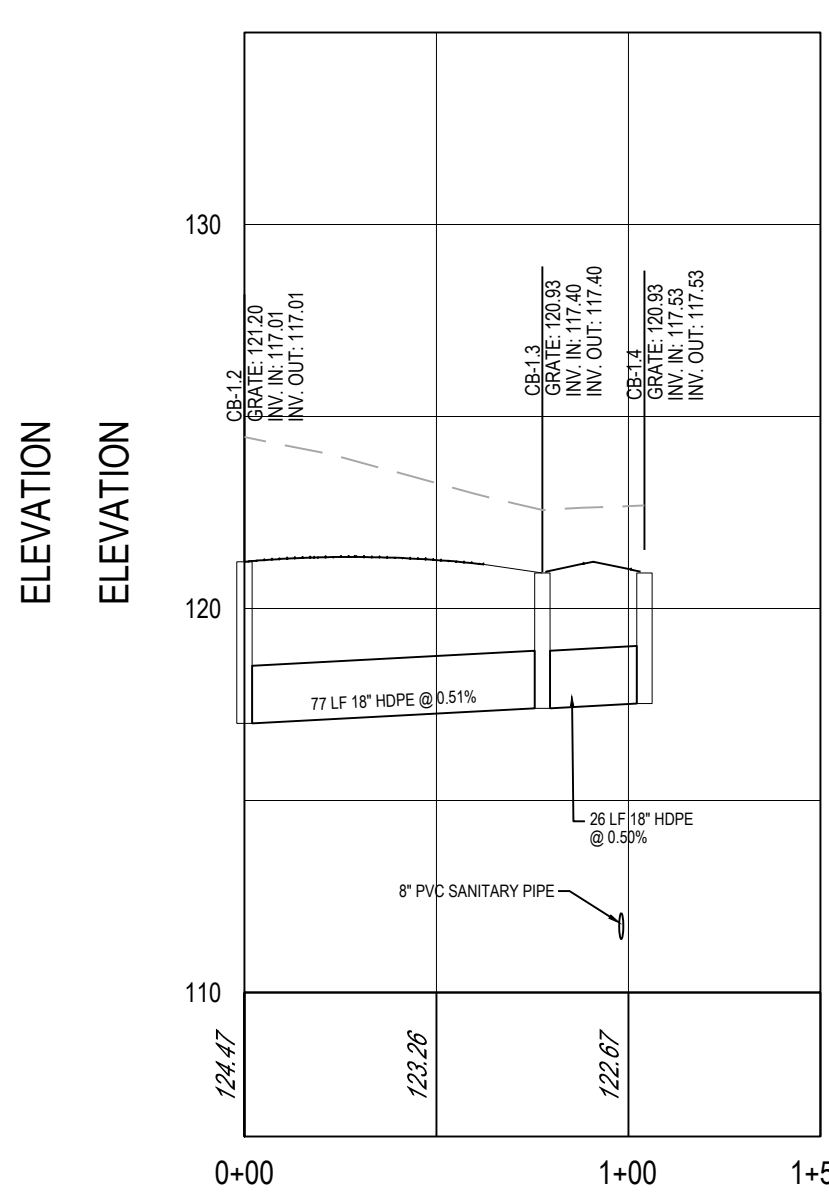


| DATE | COMMENTS | NO. |
|-------------|------------|-----|
| REVISIONS | | |
| Project No. | 230015101 | |
| Date | 02-09-2024 | |
| Scale | AS SHOWN | |
| Drawn By | KGP | |
| Checked By | CT | |

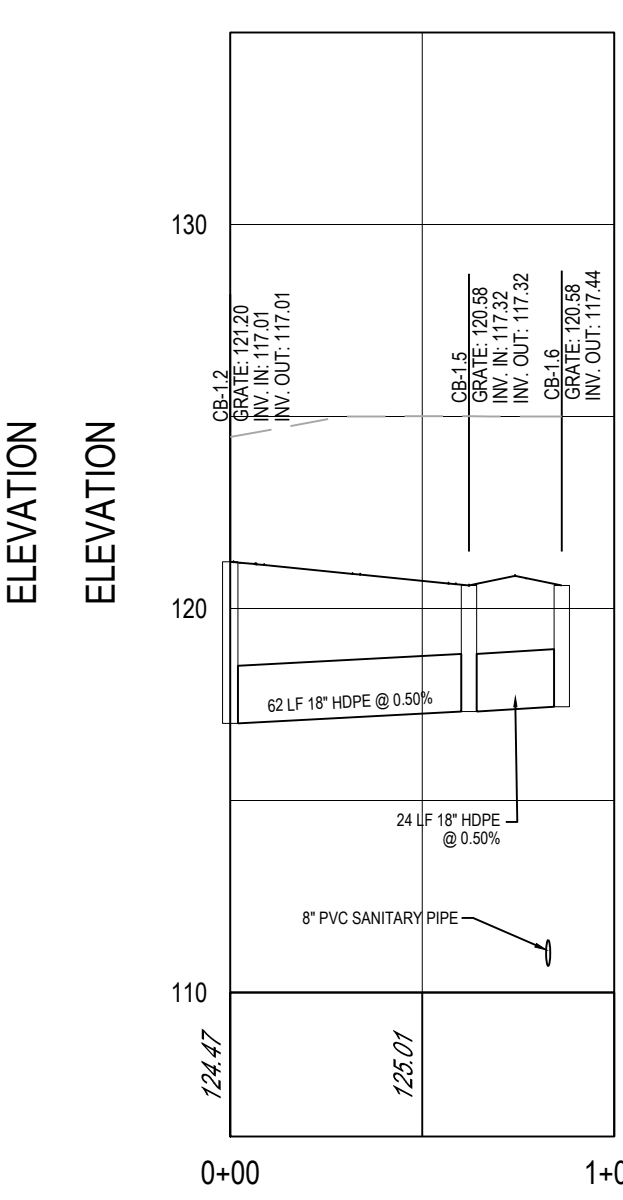
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CU-304



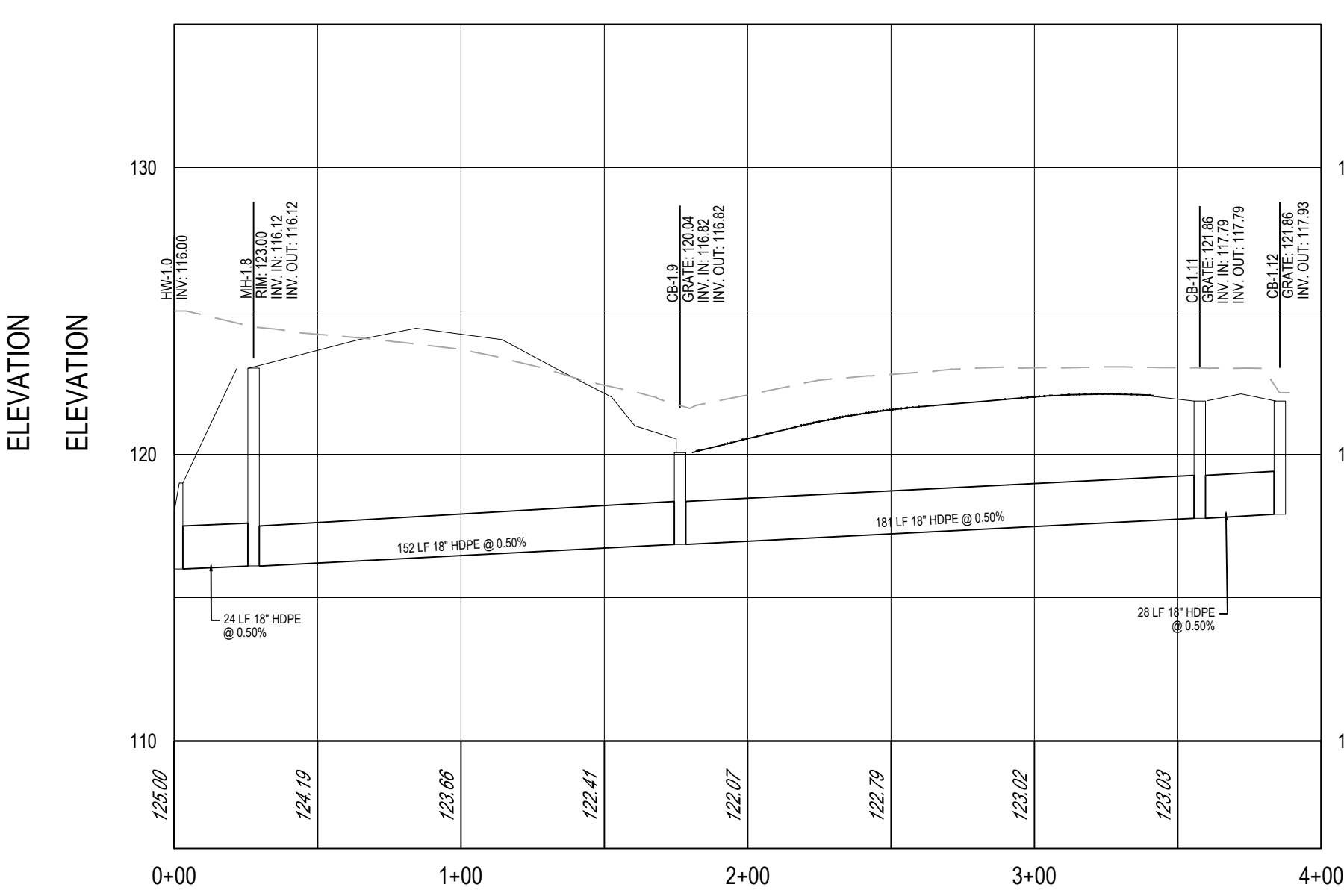
CB-1.7 TO HW-1.1



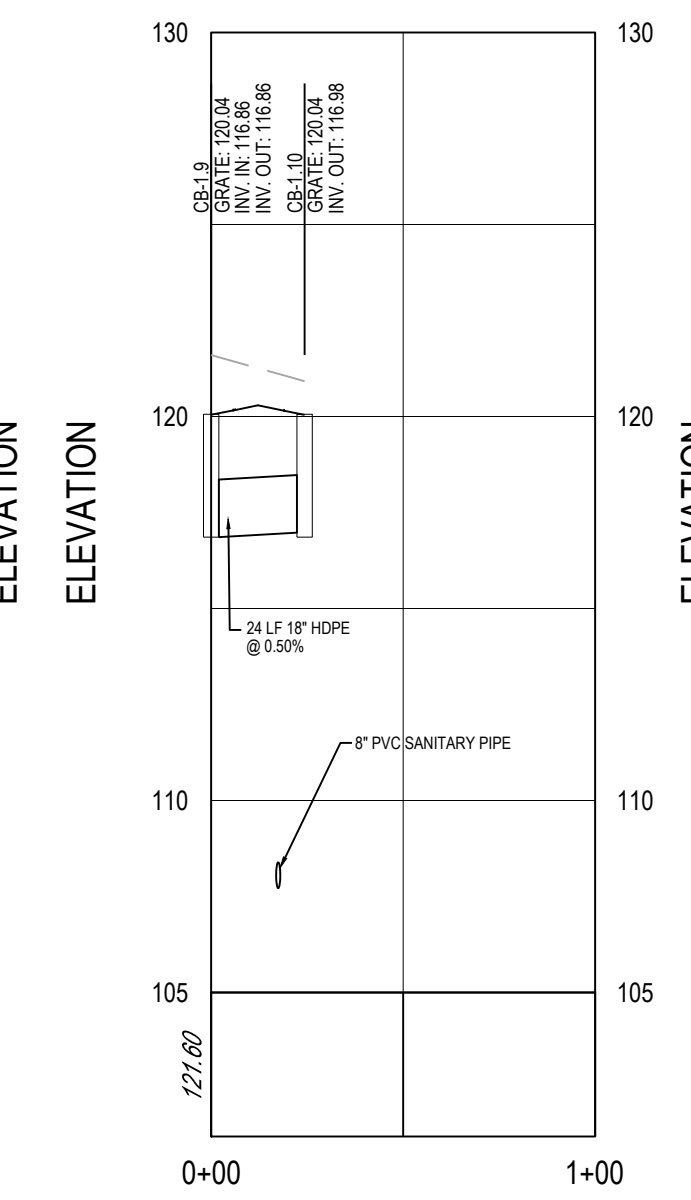
CB-1.4 TO CB-1.2



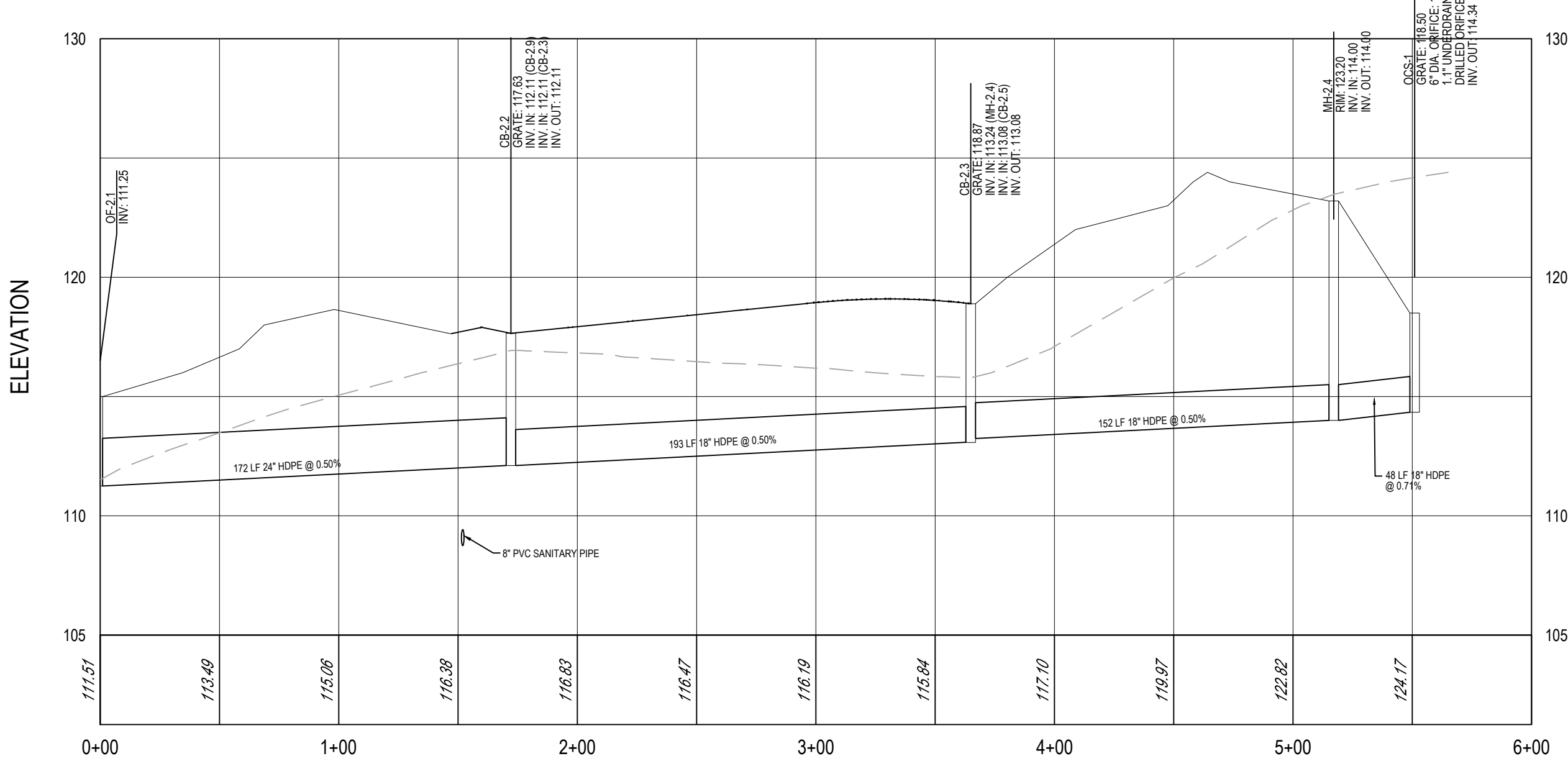
CB-1.6 TO CB-1.2



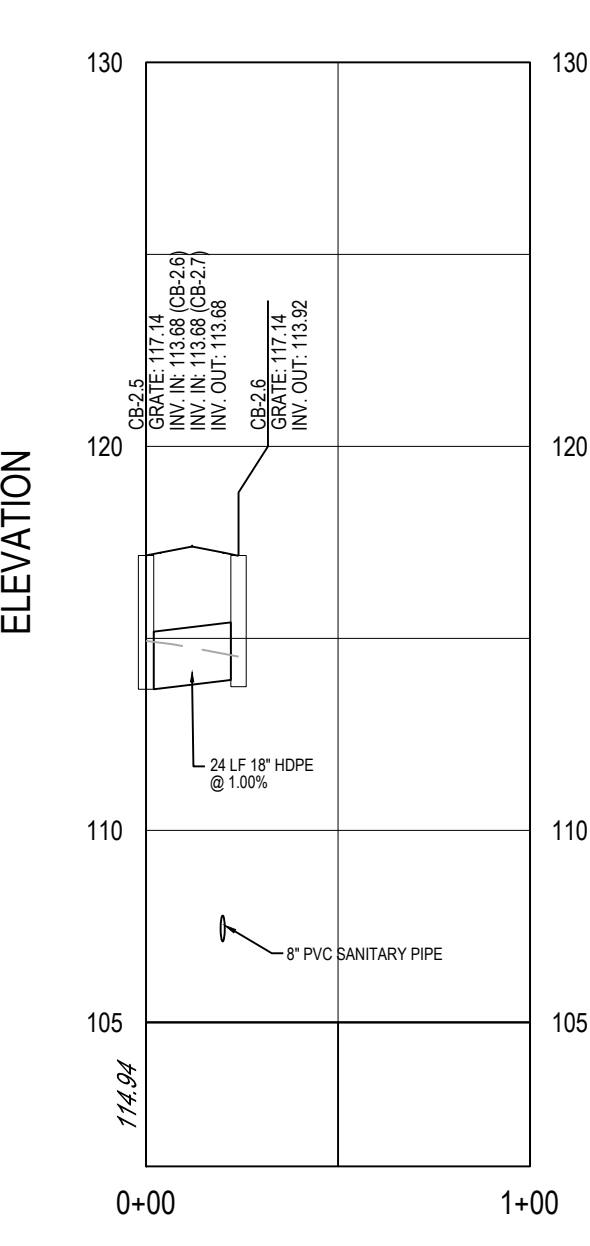
CB-1.12 TO HW-1.1



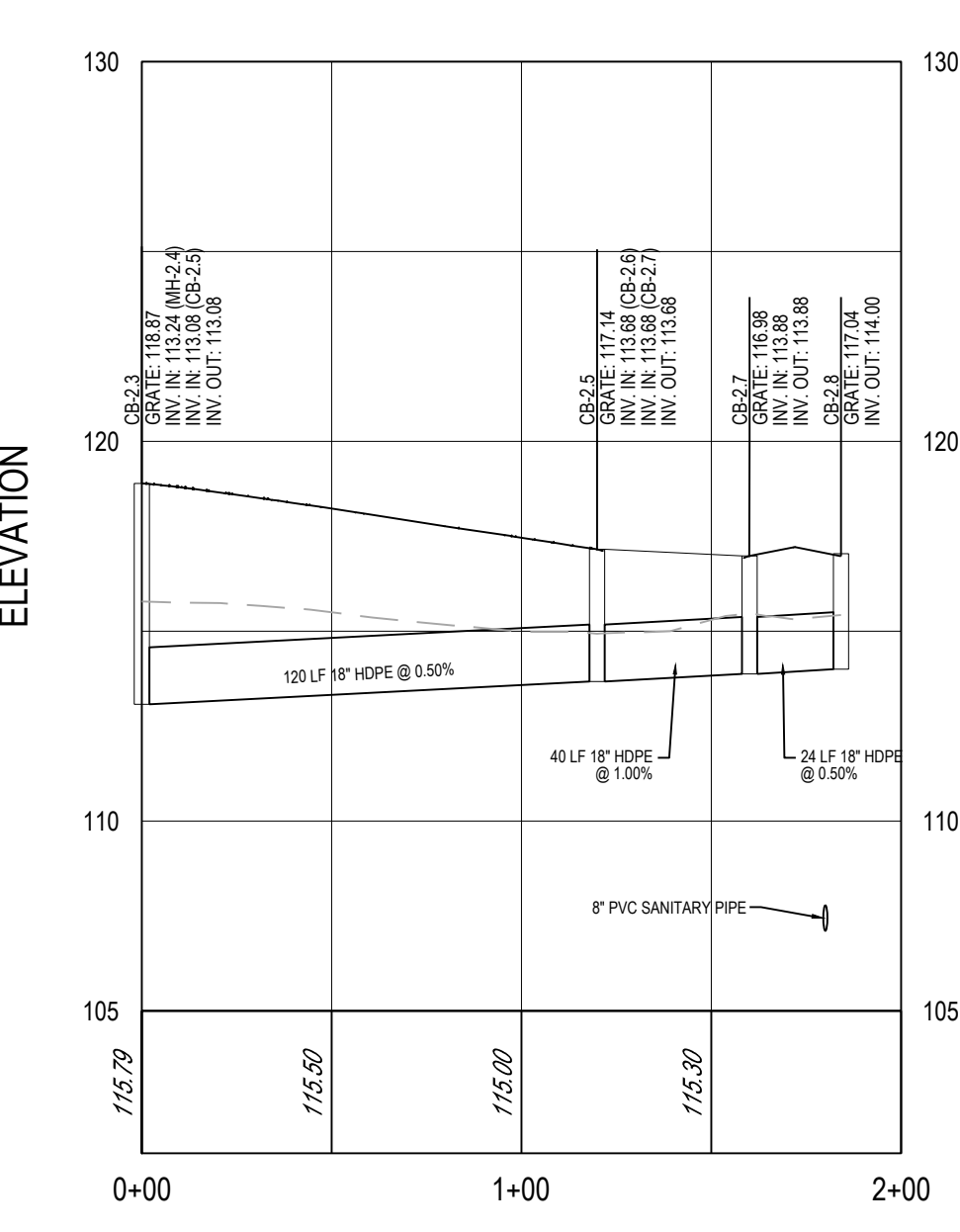
CB-1.10 TO CB-1.9



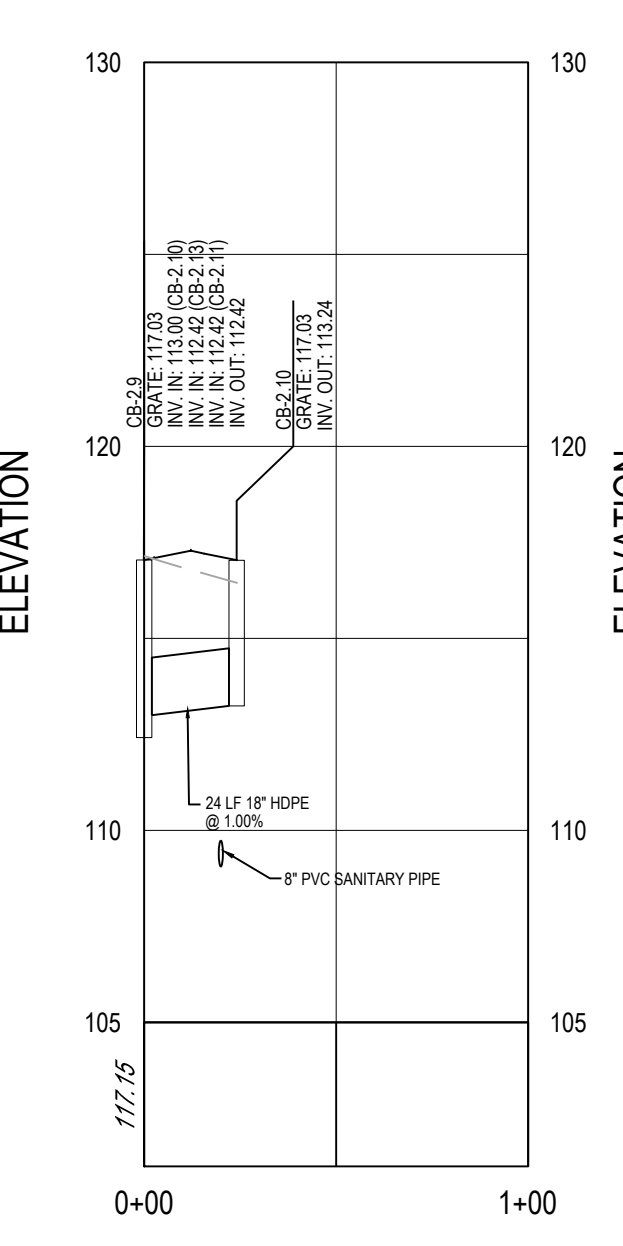
OCS-1 TO OF-2.1



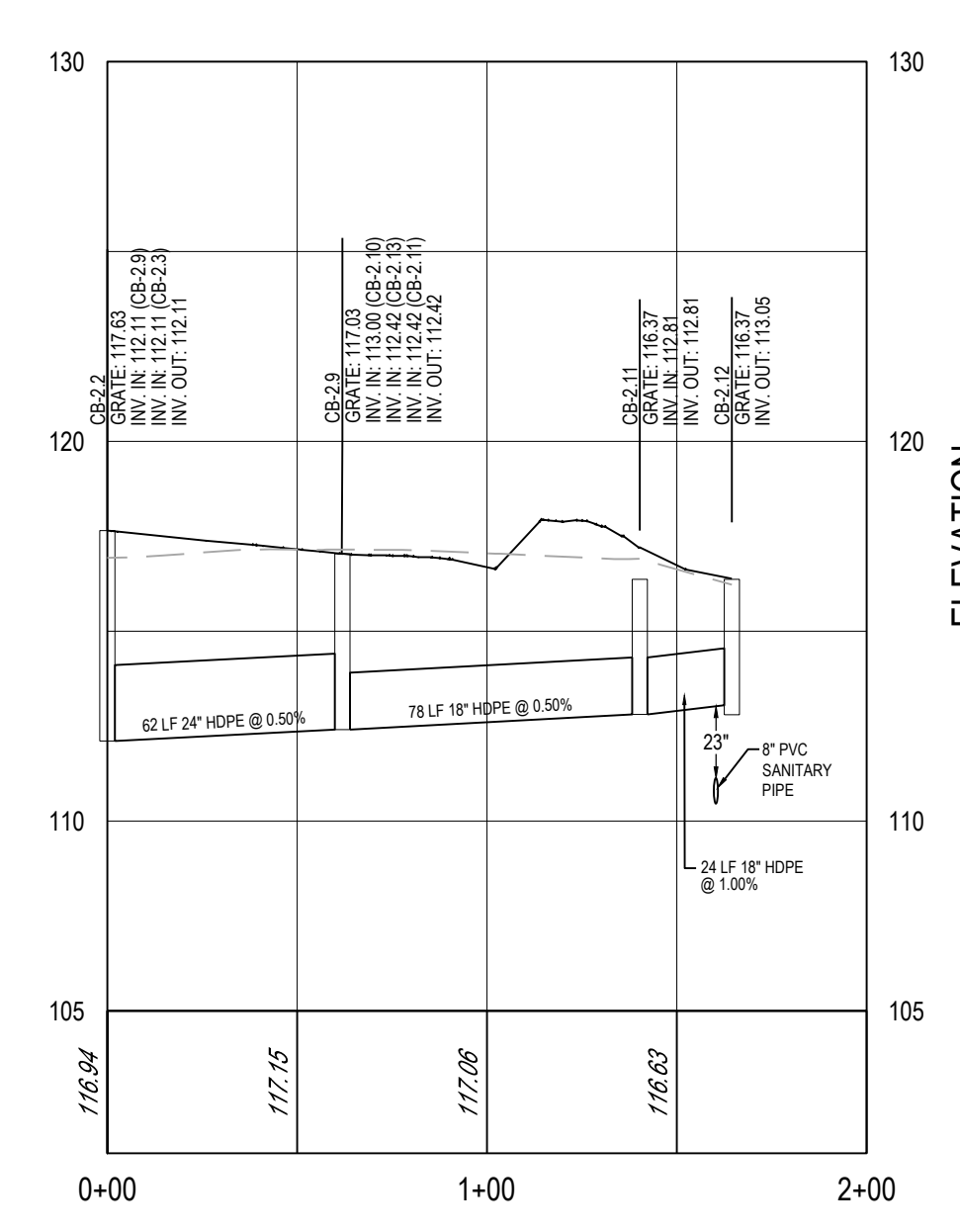
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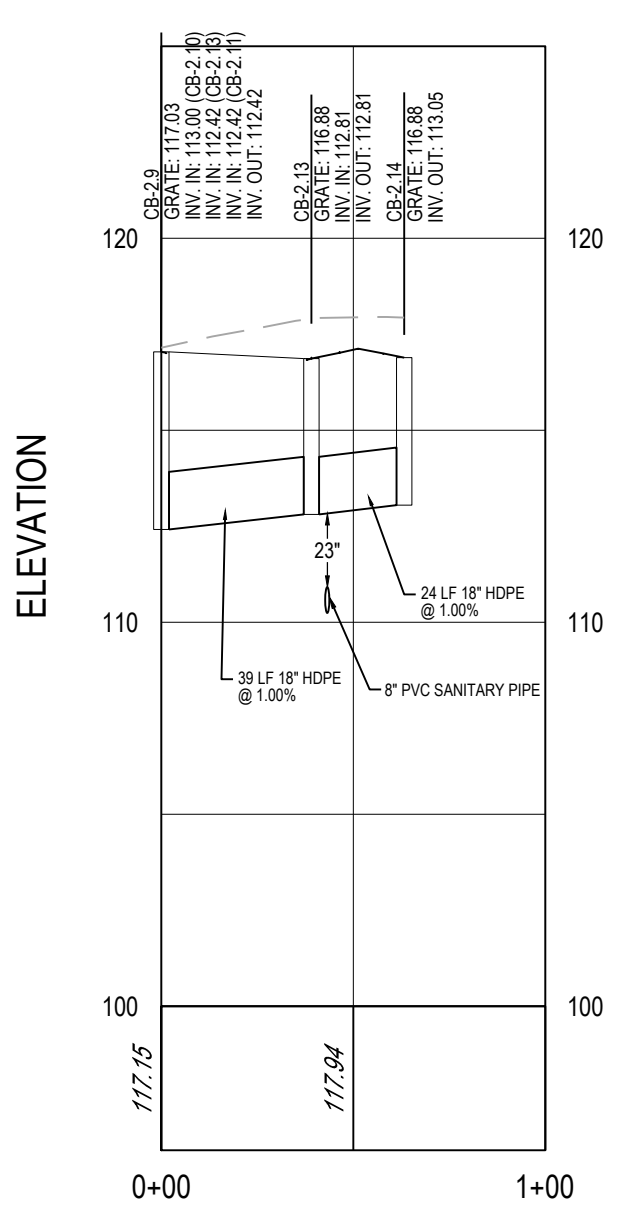
CB-2.8 TO CB-2.3



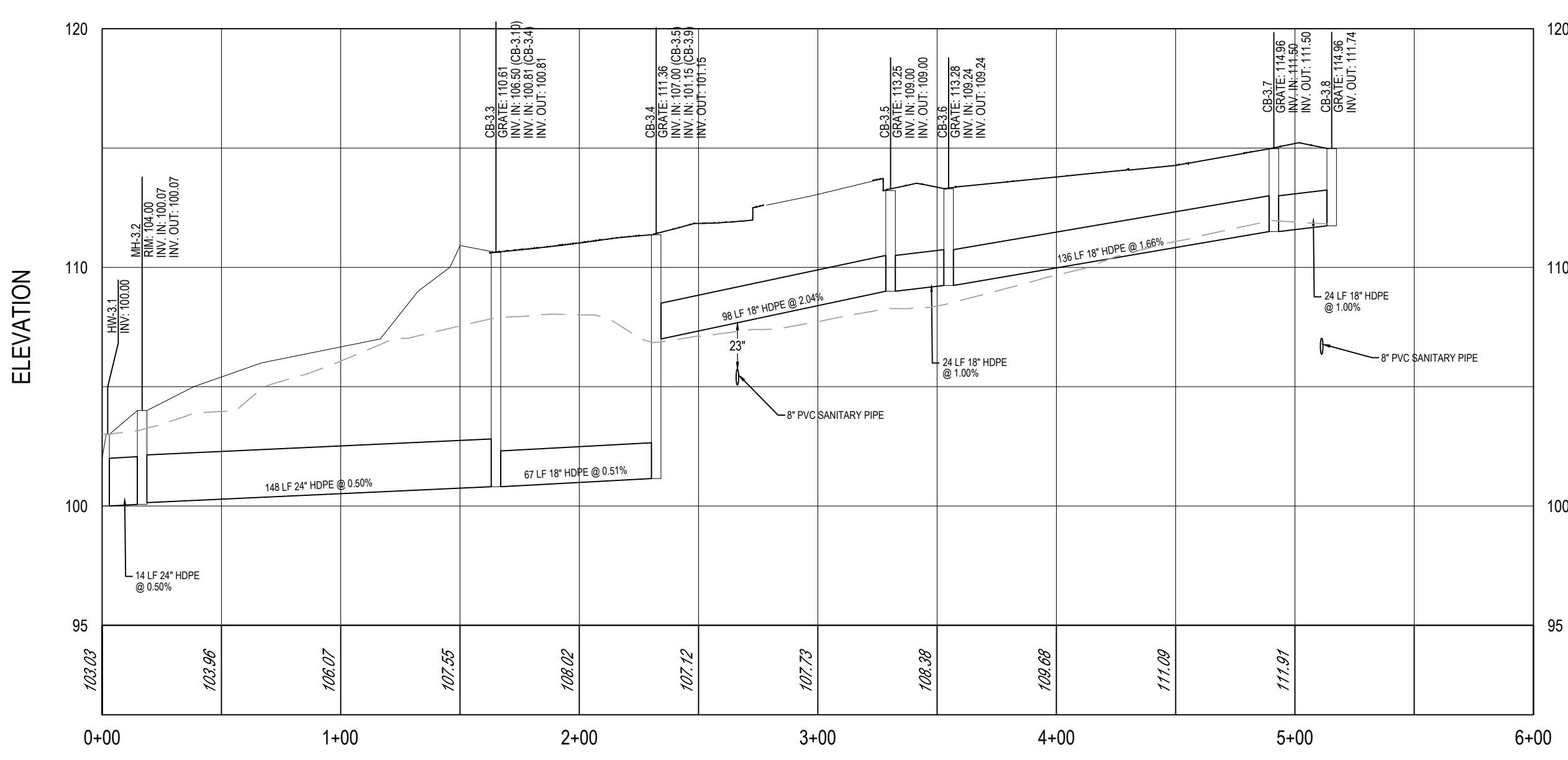
CB-2.10 TO CB-2.9



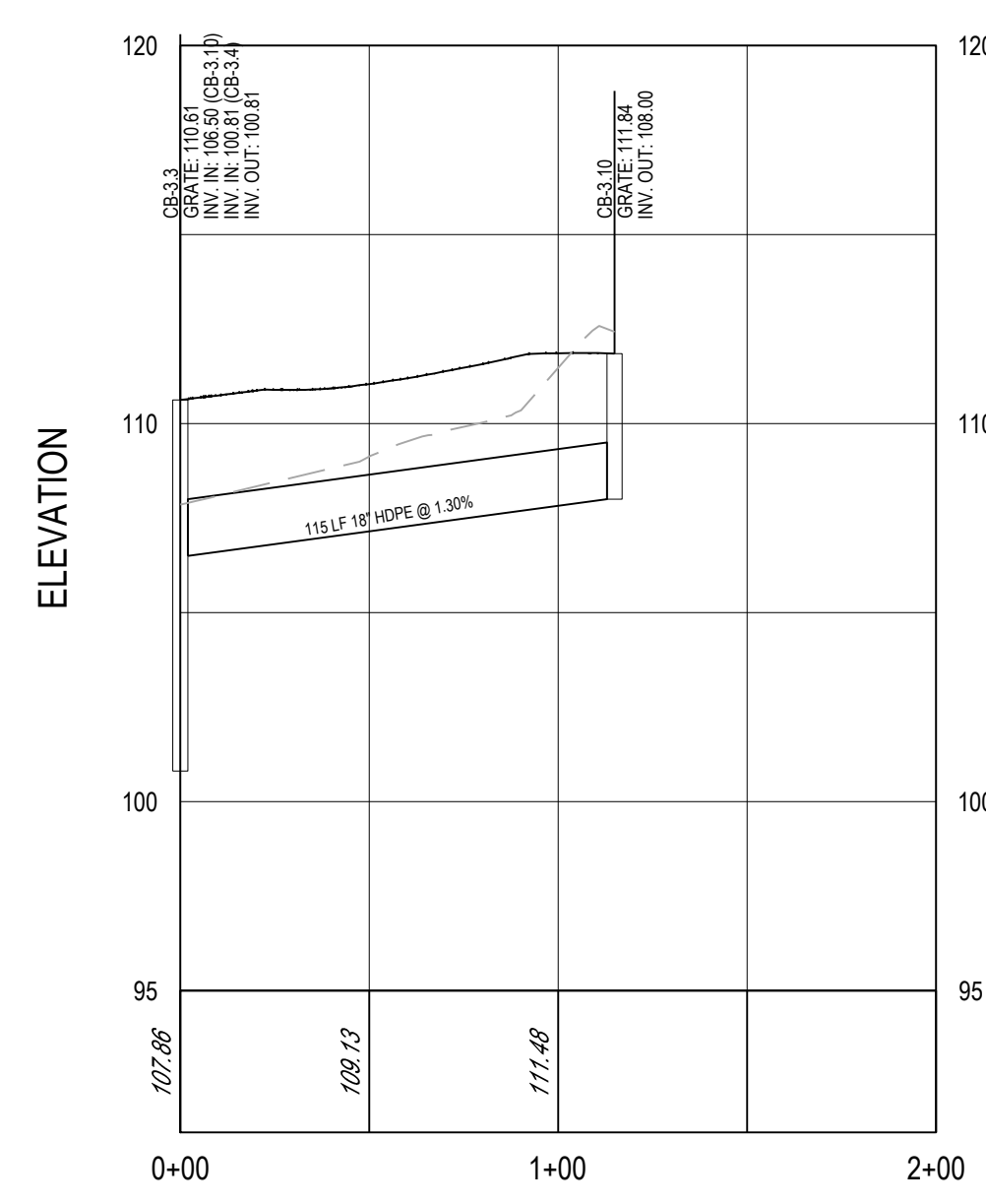
CB-2.12 TO CB-2.2



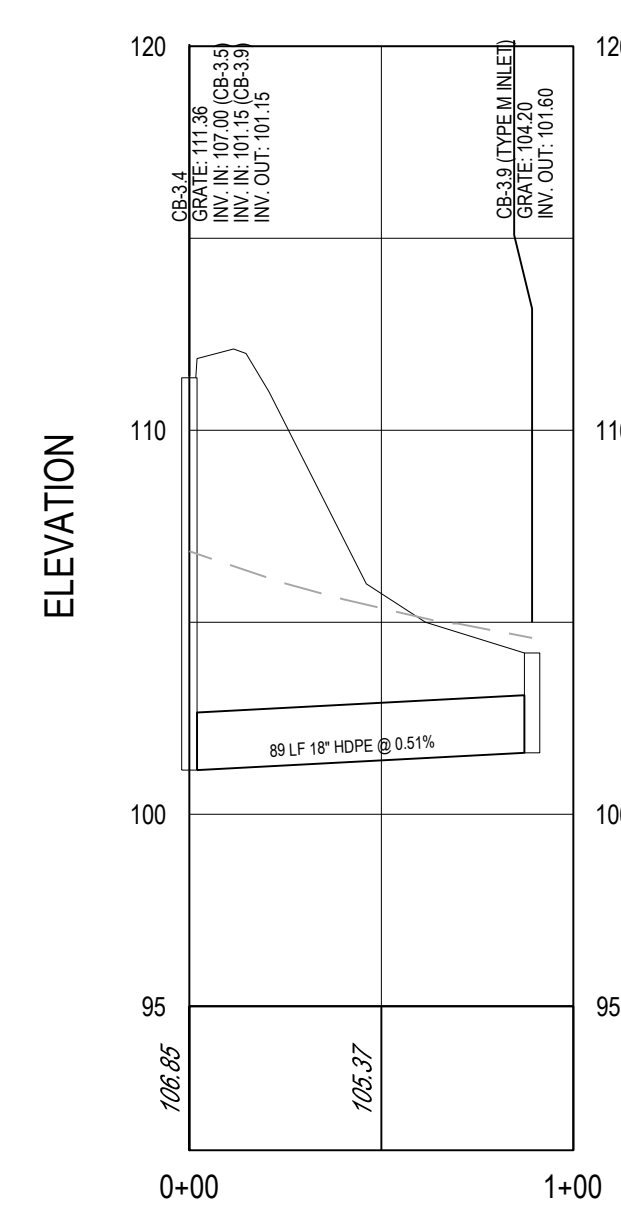
CB-2.14 TO CB-2.9



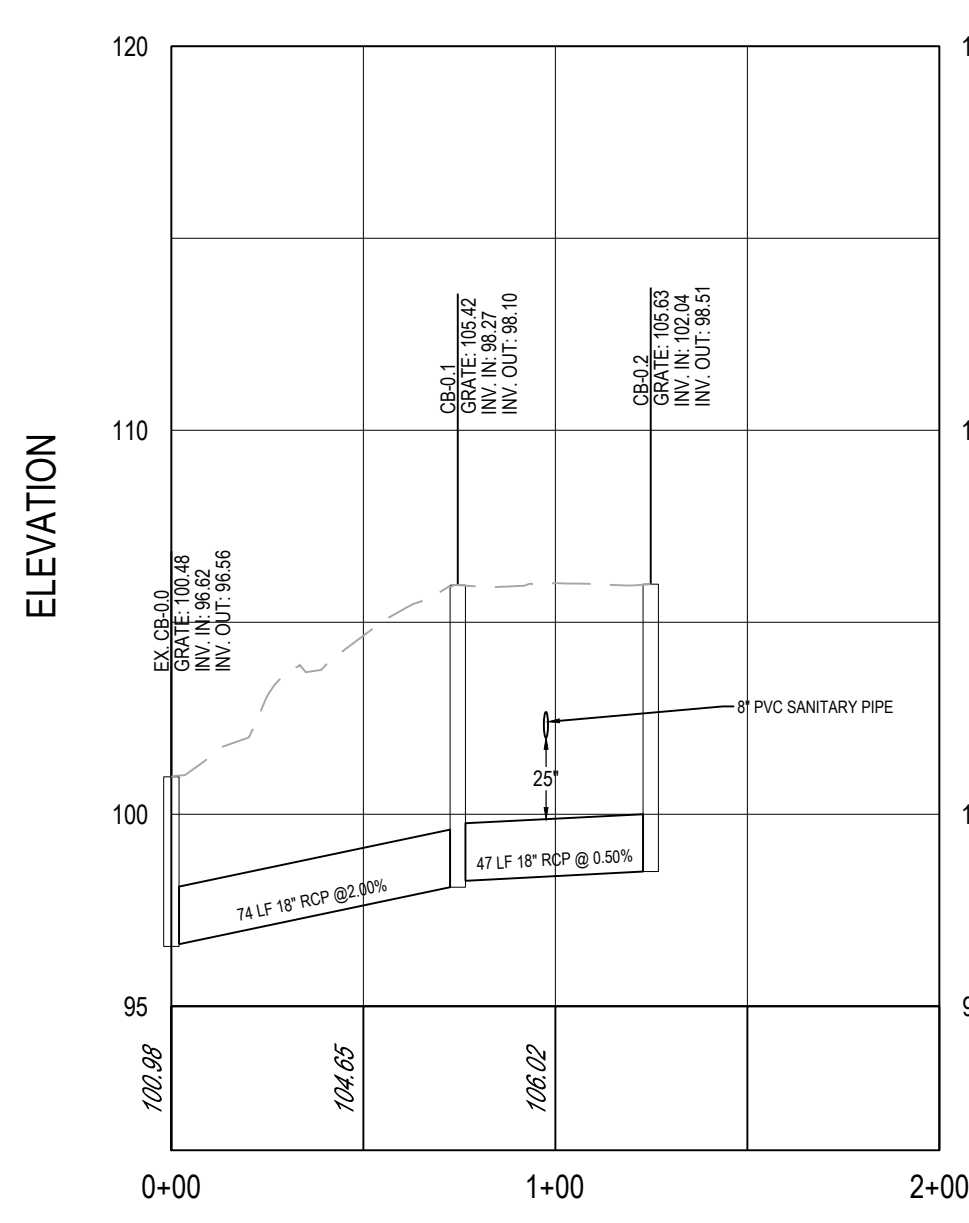
CB-3.8 TO HW-3.1



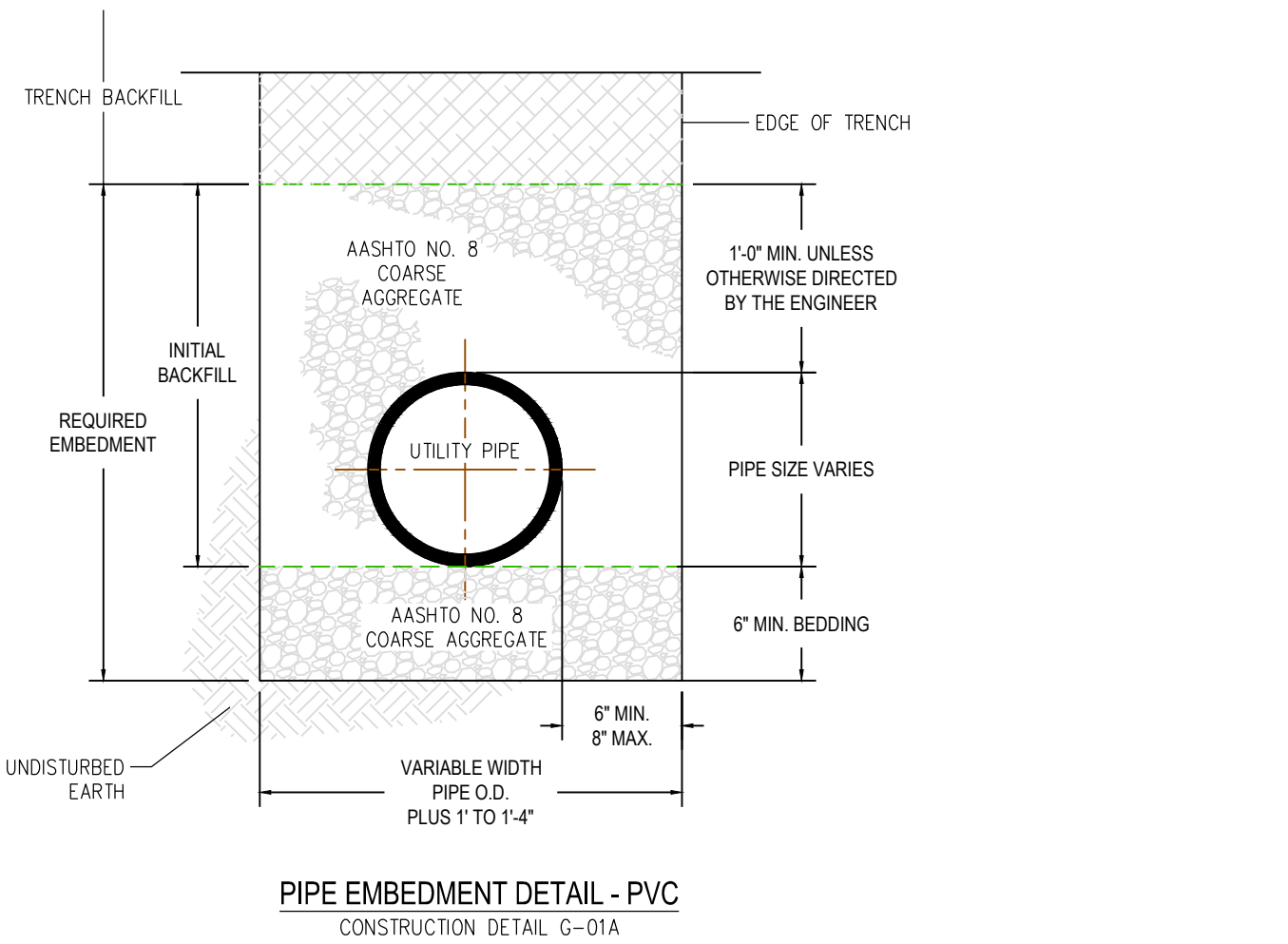
CB-3.10 TO CB-3.3



CB-3.9 TO CB-3.8



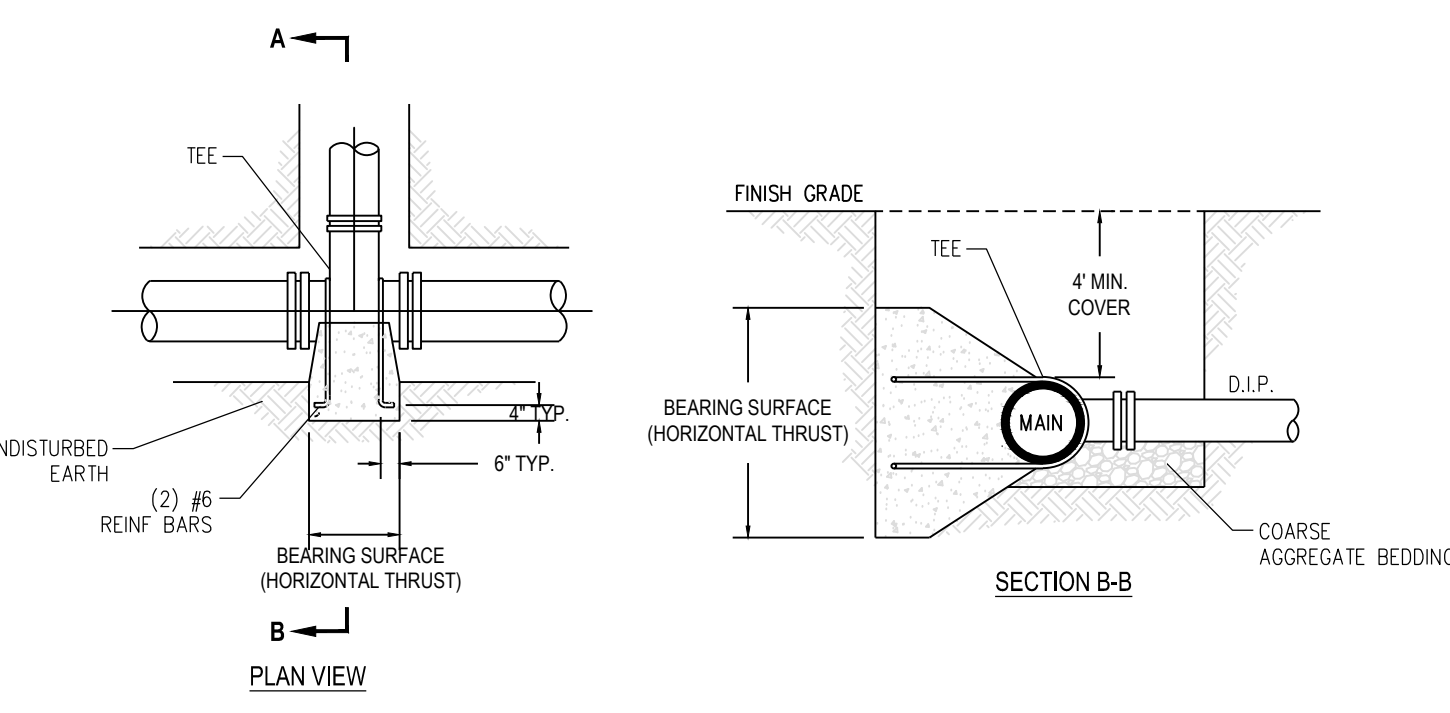
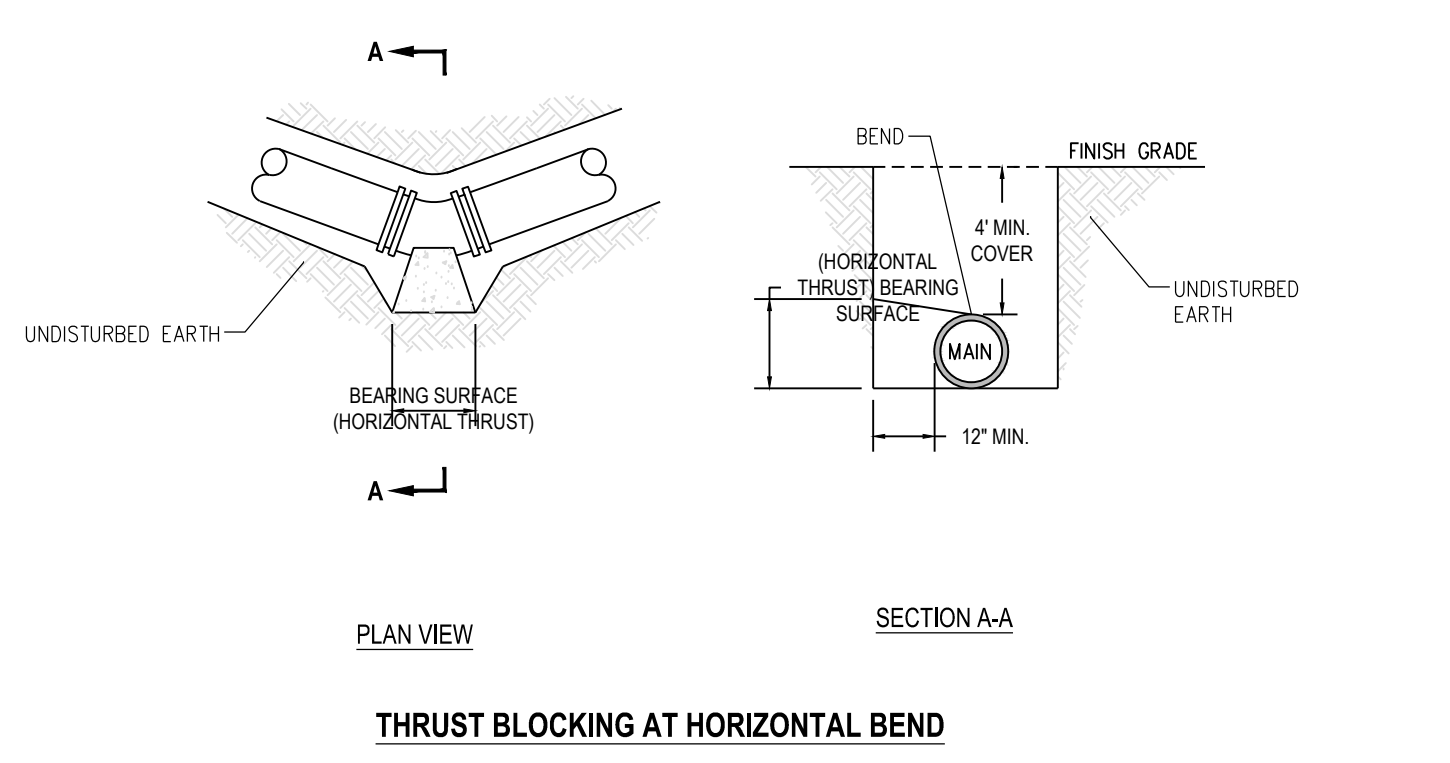
CB-0.2 TO EX-CB-0.0



PIPE EMBEDMENT DETAIL - PVC FOR LOWER MAKEFIELD TOWNSHIP

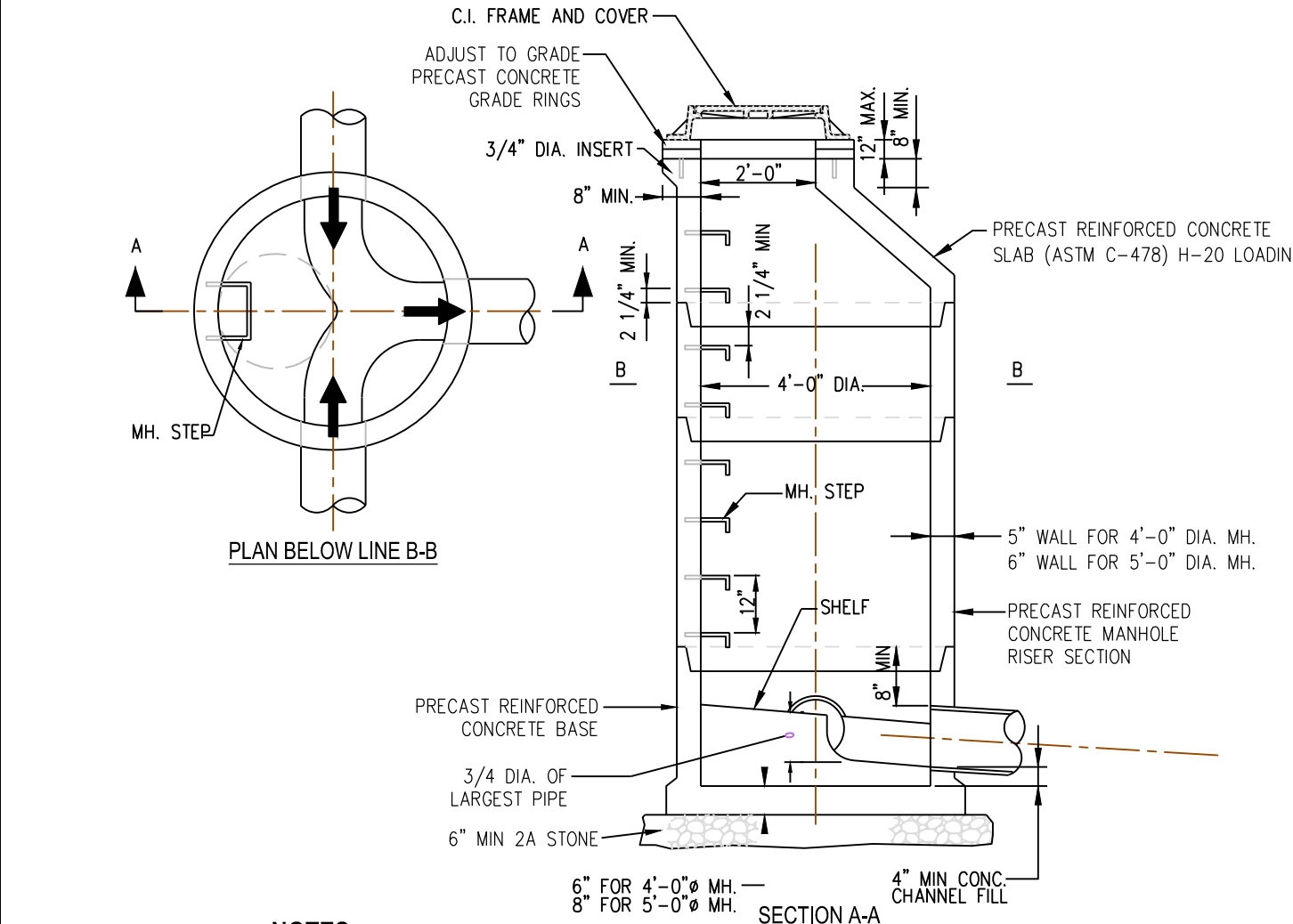
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| Project Engr. | Scale | Job No. | Date | Drawing No. |
| FEE | NOT TO SCALE | 068-001 | 02/10/14 | G-1A |

Ebert Engineering, Inc.
 Water and Wastewater Engineering
 PO Box 540
 4397 Shippack Pike
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 Phone (610) 584 6701
 Fax (610) 584 6704
 E-mail febert@ebertengineering.com



THRUST BLOCK AT TEE HORIZONTAL THRUST BLOCK ARRANGEMENT CONSTRUCTION DETAIL G-12

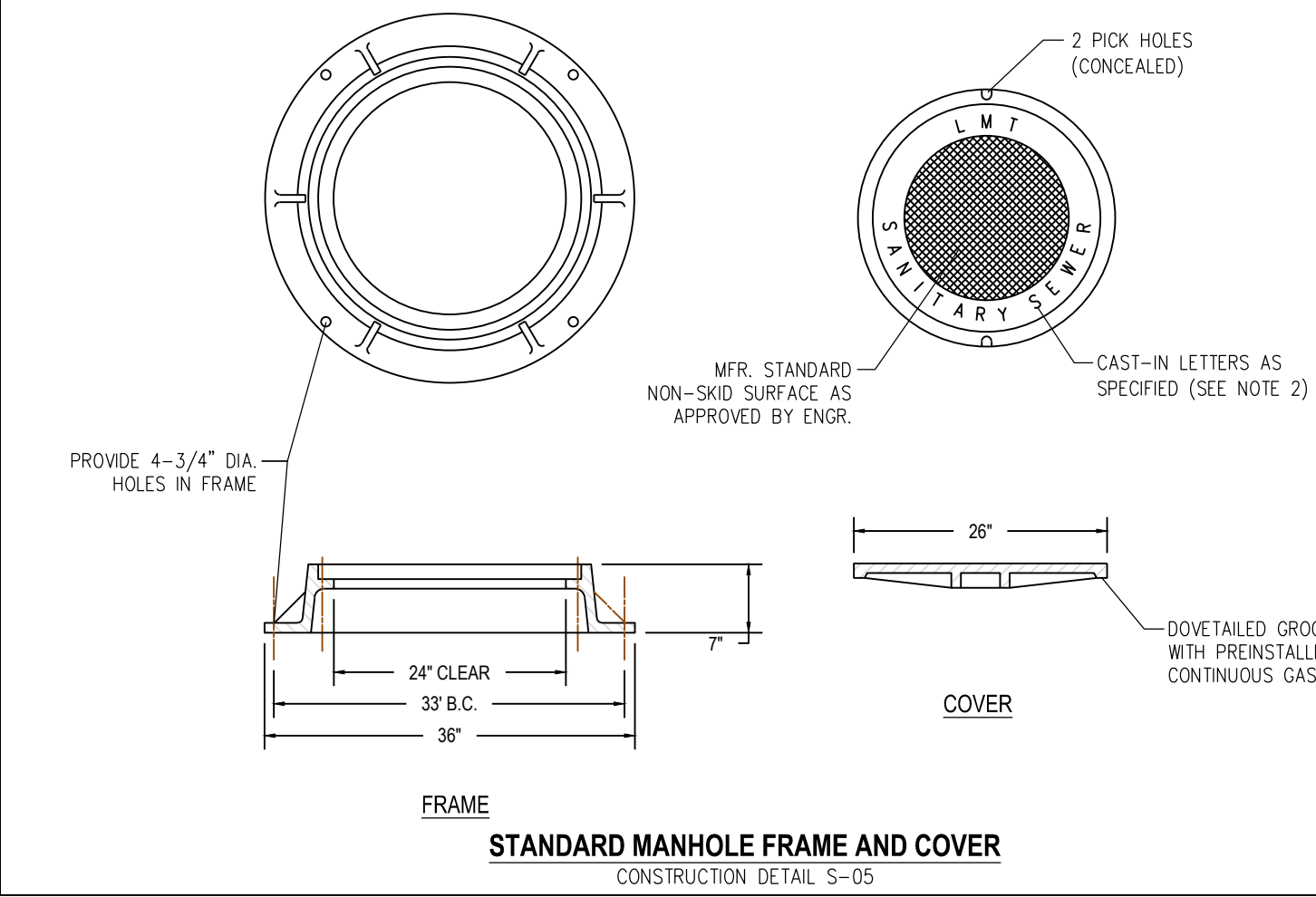
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| Project Engr. | Scale | Job No. | Date | Drawing No. |
| FEE | NOT TO SCALE | 068-001 | 02/10/14 | G-12 |



STANDARD MANHOLE TYPE A FOR LOWER MAKEFIELD TOWNSHIP

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| Project Engr. | Scale | Job No. | Date | Drawing No. |
| FEE | NOT TO SCALE | 068-001 | 02/11/16 | S-01 |

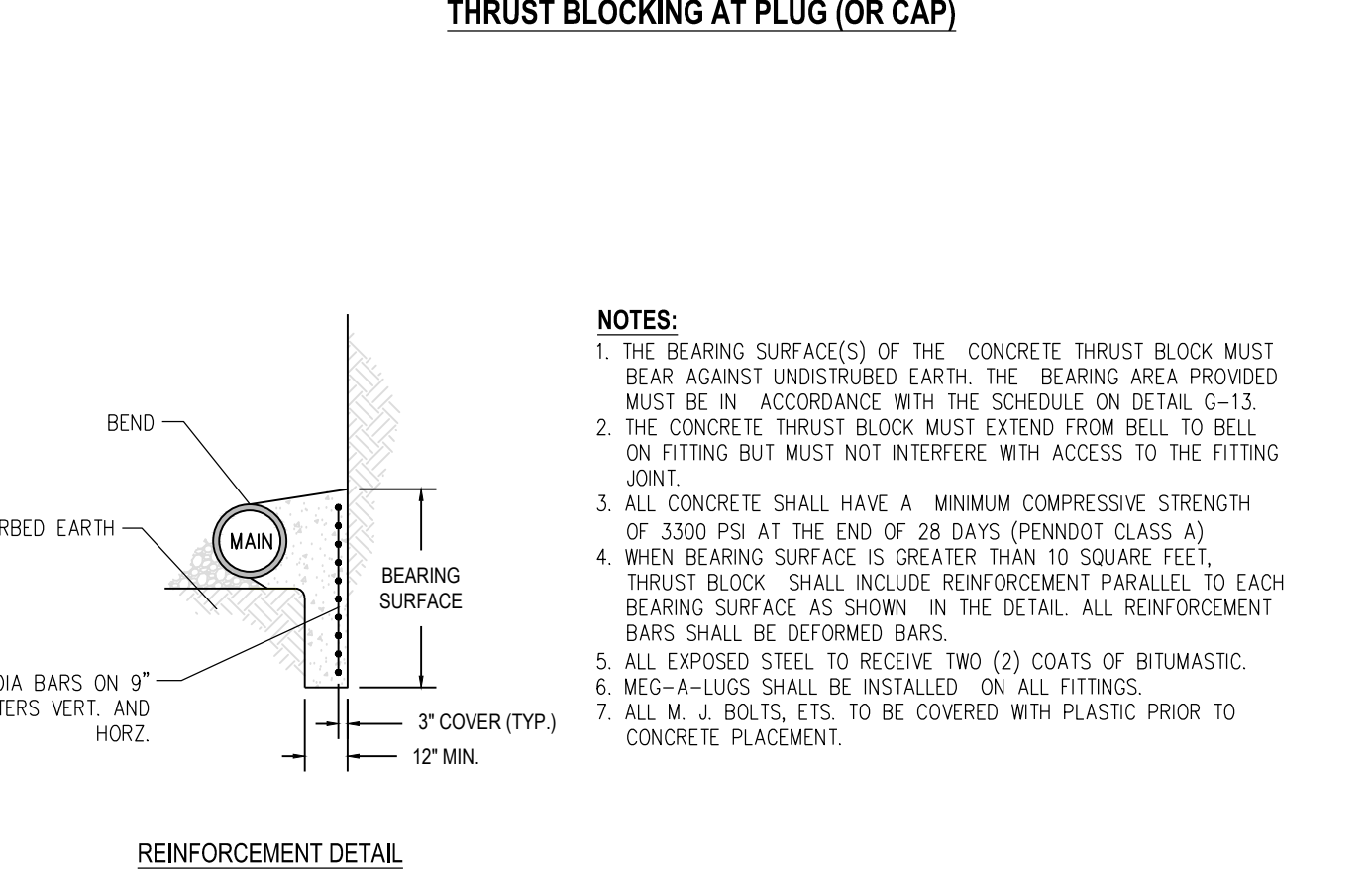
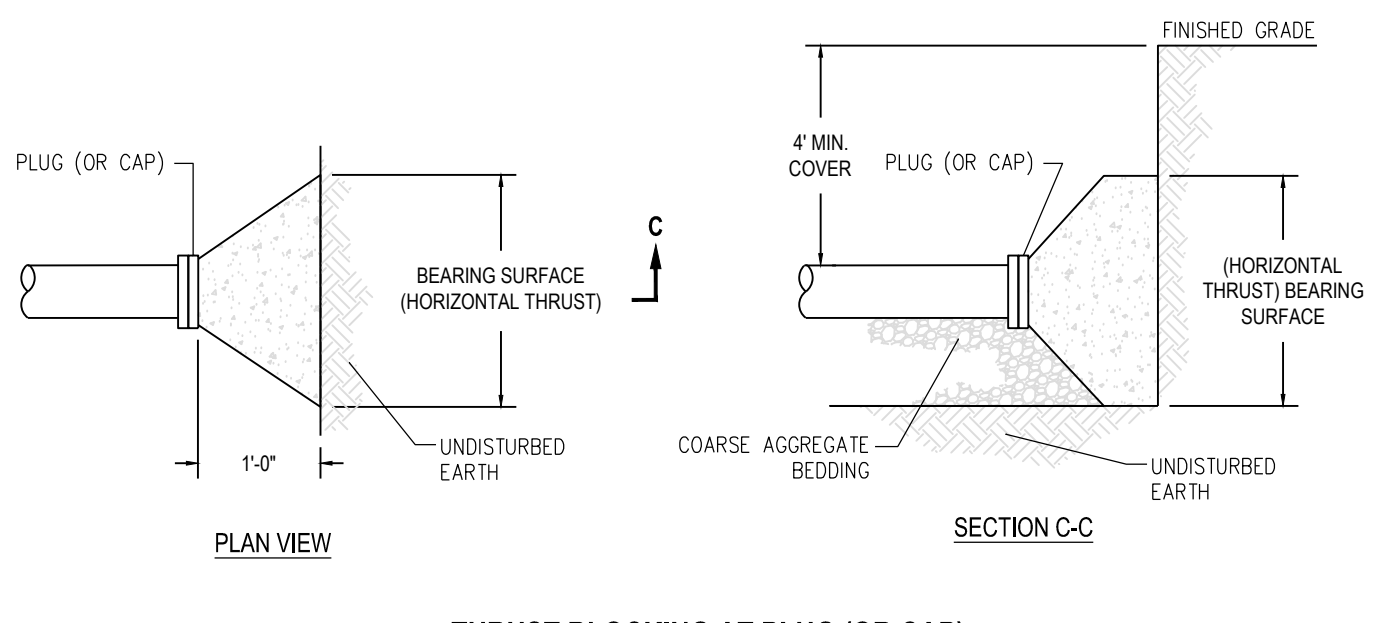
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 E-mail febert@ebertengineering.com



STANDARD MANHOLE FRAME AND COVER FOR LOWER MAKEFIELD TOWNSHIP

| | | | | |
|---------------|--------------|---------|----------|-------------|
| Project Engr. | Scale | Job No. | Date | Drawing No. |
| FEE | NOT TO SCALE | 068-001 | 02/11/16 | S-05 |

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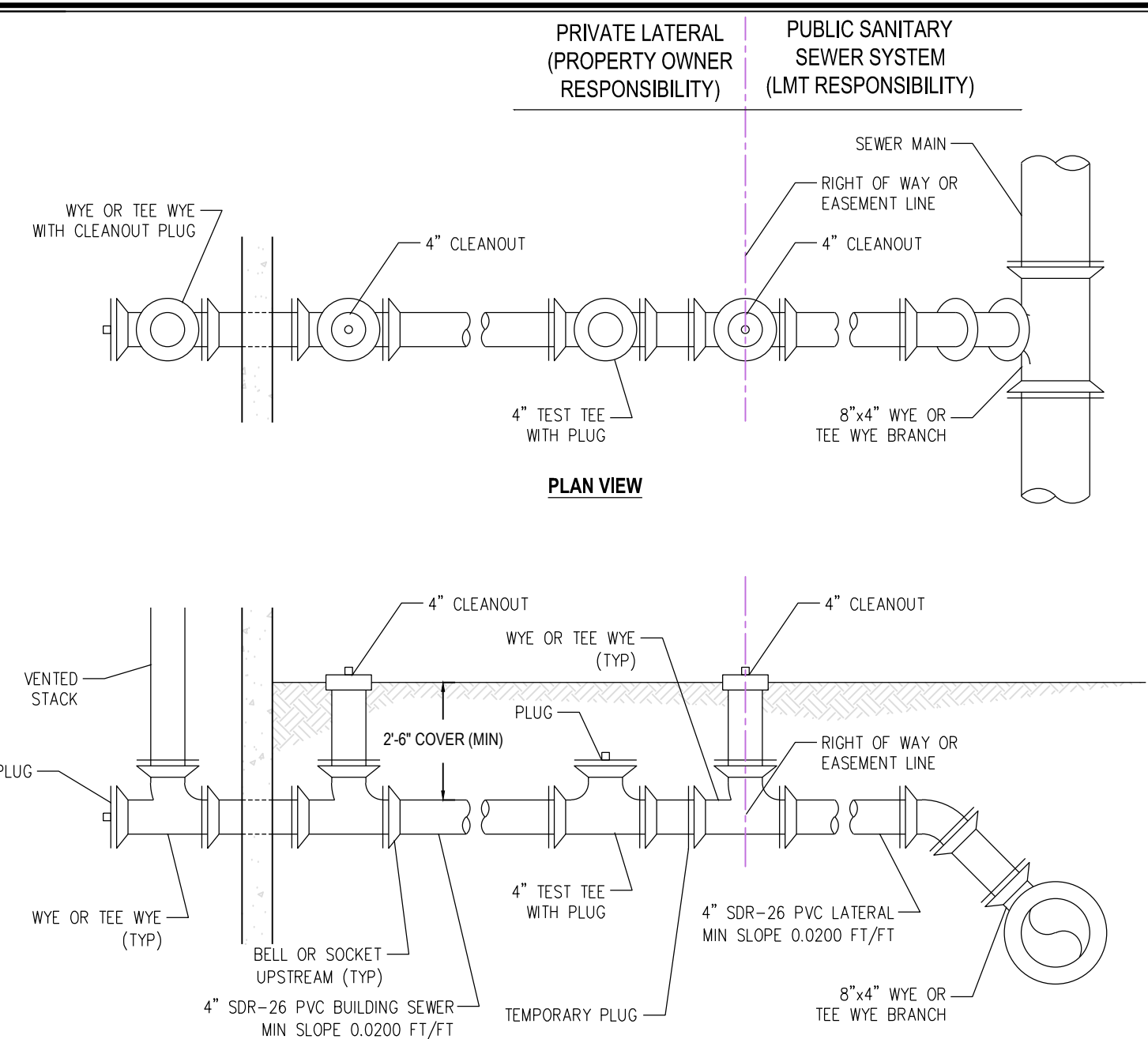


- NOTES:**
- THE BEARING SURFACE(S) OF THE CONCRETE THRUST BLOCK MUST BEAR AGAINST UNDISTURBED EARTH. THE BEARING AREA PROVIDED MUST BE IN ACCORDANCE WITH THE SCHEDULE ON DETAIL G-13.
 - THE CONCRETE THRUST BLOCK MUST EXTEND FROM BELL TO BELL ON FITTING BUT MUST NOT INTERFERE WITH ACCESS TO THE FITTING JOINT.
 - ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3300 PSI AT THE END OF 28 DAYS (PENNDOT CLASS A).
 - WHEN BEARING SURFACE IS GREATER THAN 10 SQUARE FEET, THRUST BLOCK SHALL INCLUDE REINFORCEMENT PARALLEL TO EACH BEARING SURFACE AS SHOWN IN THE DETAIL. ALL REINFORCEMENT BARS SHALL BE DEFORMED BARS.
 - ALL EXPOSED STEEL TO RECEIVE TWO (2) COATS OF BITUMASTIC.
 - MEG-A-LUGS SHALL BE INSTALLED ON ALL FITTINGS.
 - ALL M. J. BOLTS, ETC. TO BE COVERED WITH PLASTIC PRIOR TO CONCRETE PLACEMENT.

HORIZONTAL THRUST BLOCK ARRANGEMENT FOR LOWER MAKEFIELD TOWNSHIP

| | | | | |
|---------------|--------------|---------|----------|-------------|
| Project Engr. | Scale | Job No. | Date | Drawing No. |
| FEE | NOT TO SCALE | 068-001 | 02/10/14 | G-12 |

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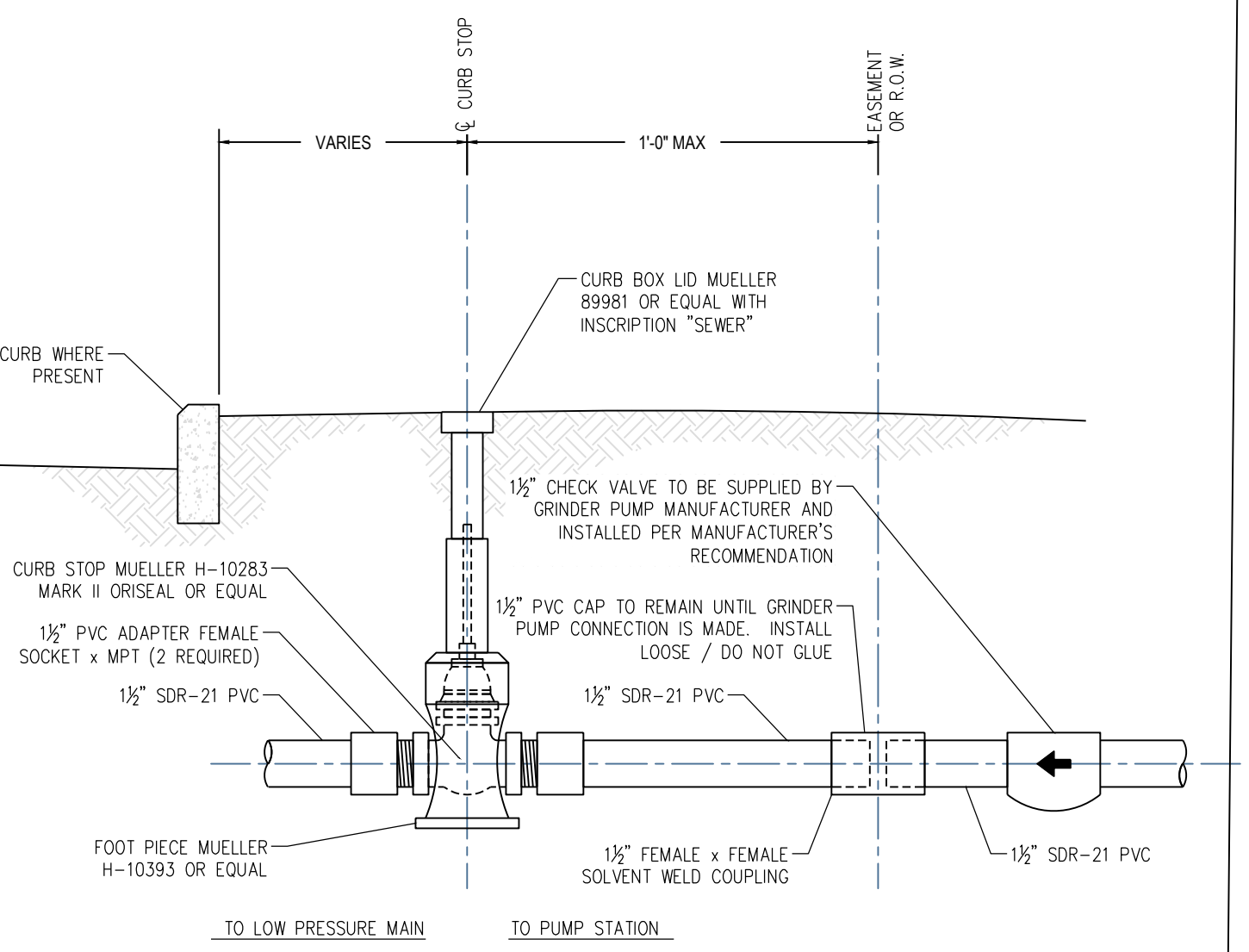


- NOTES:**
- BUILDING SEWER FROM RIGHT OF WAY LINE TO BUILDING PLUMBING SYSTEM SHALL CONFORM TO THE INTERNATIONAL PLUMBING CODE ADOPTED BY TOWNSHIP.
 - TEMPORARY PLUG TO REMAIN IN LATERAL UNTIL CONSTRUCTION OF BUILDING SEWER OCCURS. BUILDING SEWER SHALL BE PLUGGED AT TEST TEE UNTIL CONSTRUCTION IS COMPLETED AND TESTED.
 - PIPE TO BE EMBEDDED IN 18\"/>

SERVICE CONNECTION SHALLOW SEWER FOR LOWER MAKEFIELD TOWNSHIP

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| Project Engr. | Scale | Job No. | Date | Drawing No. |
| FEE | NOT TO SCALE | 068-001 | 02/11/16 | S-08 |

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LOW PRESSURE LATERAL CONNECTION FOR LOWER MAKEFIELD TOWNSHIP

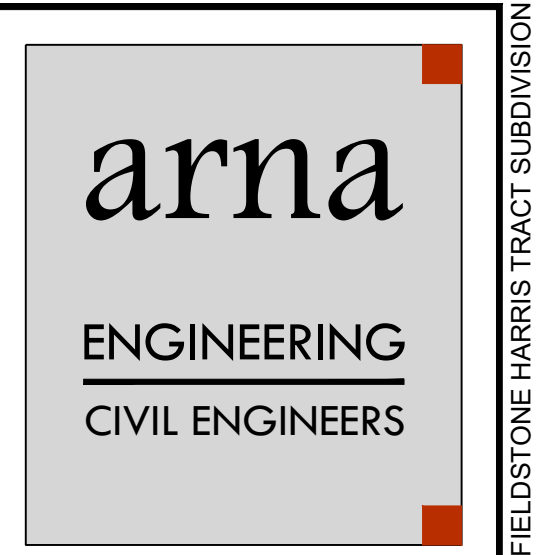
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| Project Engr. | Scale | Job No. | Date | Drawing No. |
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- NOTES:**
- ALL MATERIAL SHALL BE GRAY CAST IRON, A.S.T.M. A 48-83 CL30 SUITABLE FOR HIGHWAY LOADING.
 - COVER SHALL HAVE THE WORDS "LMT SANITARY SEWER" CAST THEREON. FOR WATER CHAMBERS, THE INSCRIPTION SHALL BE "WATER" INSTEAD OF "SANITARY SEWER".
 - PROVIDE MINIMUM COVER OF 4'.
 - CHECK VALVE SHALL BE PLACED 1' INSIDE PROPERTY LINE.
 - PRESSURE TEST FORCE MAIN WITH ALL CURB STOPS EXPOSED PRIOR TO BACKFILL.

STANDARD MANHOLE FRAME AND COVER FOR LOWER MAKEFIELD TOWNSHIP

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| Project Engr. | Scale | Job No. | Date | Drawing No. |
| FEE | NOT TO SCALE | 068-001 | 02/11/16 | S-05 |

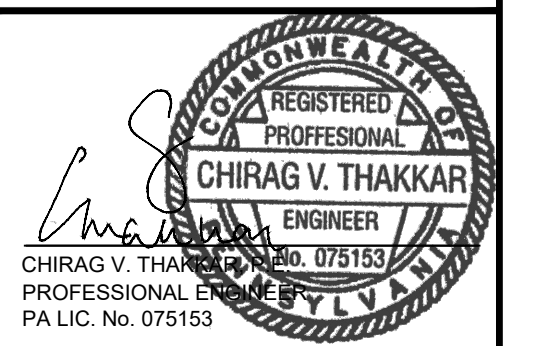
Ebert Engineering, Inc.
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Project
FIELDSTONE HARRIS TRACT SUBDIVISION
 TMP # 20-016-073
 LOWER MAKEFIELD TOWNSHIP
 BUCKS COUNTY PENNSYLVANIA

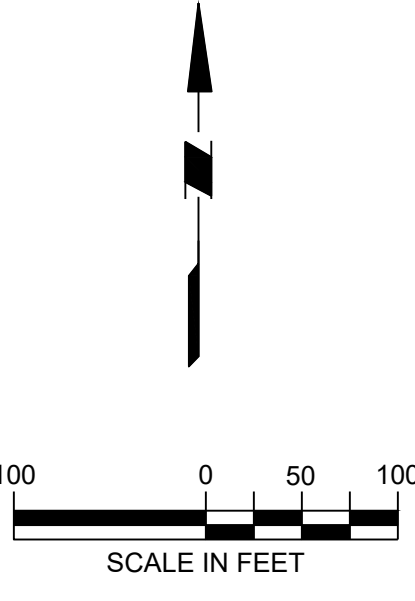
Drawing Title
UTILITY DETAILS



| DATE | COMMENTS | NO. |
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| REVISIONS | | |

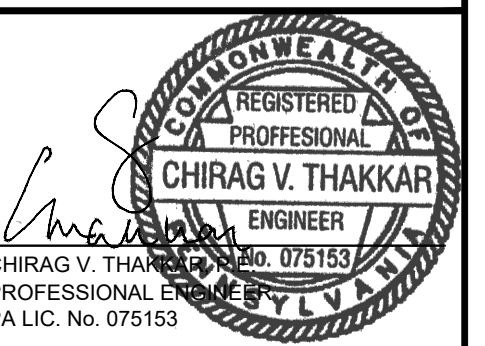
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| Project No. | 230015101 |
| Date | 02-09-2024 |
| Scale | NOT TO SCALE |
| Drawn By | KGP |
| Checked By | CT |
| Drawing No. | CU-501 |
| Sheet | 33 of 37 |

PROJECT: 230015101 FIELDSTONE HARRIS TRACT SUBDIVISION



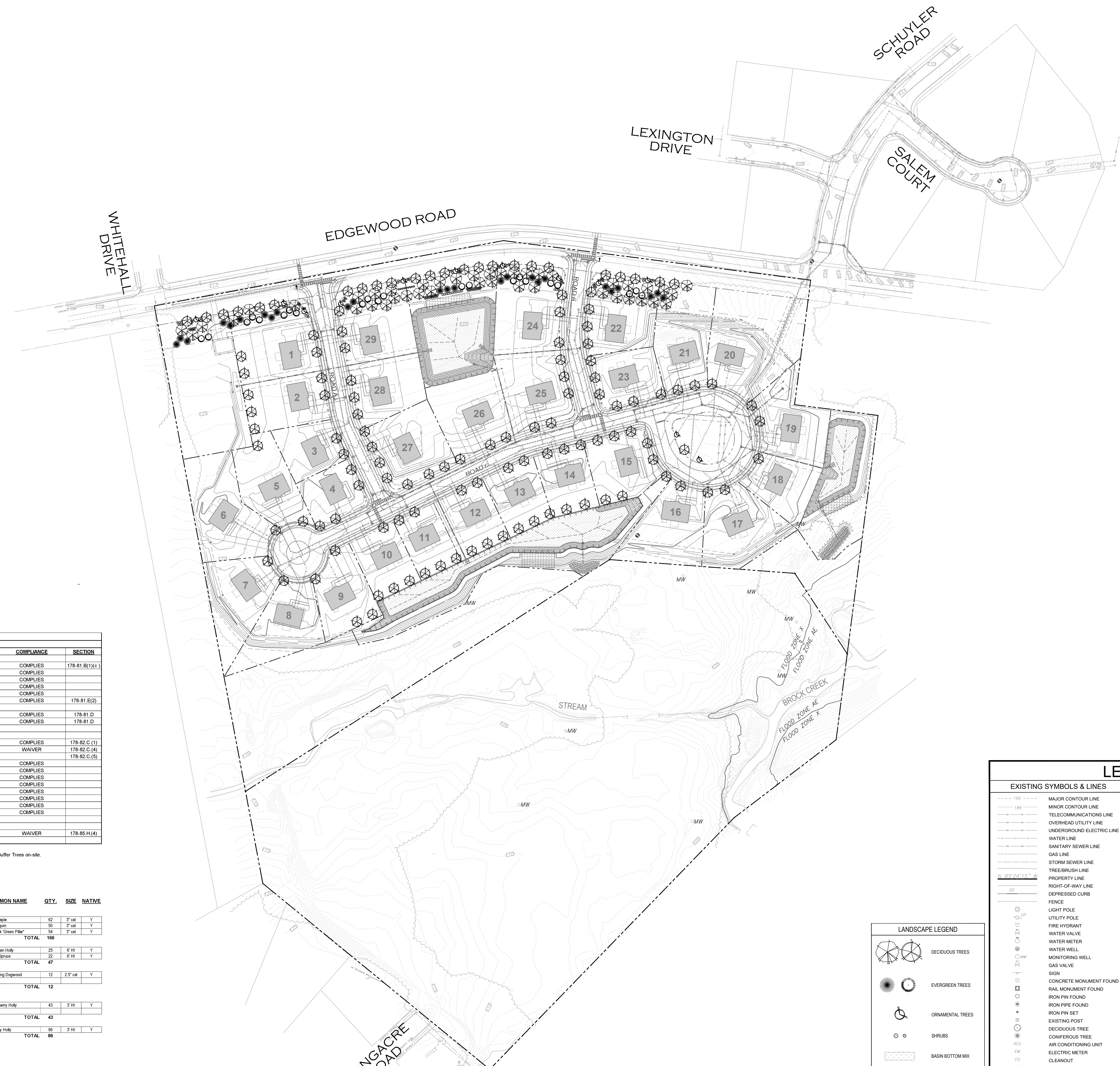
Project
FIELDSTONE HARRIS TRACT SUBDIVISION
TMP # 20-016-073
LOWER MAKEFIELD TOWNSHIP
BUCKS COUNTY PENNSYLVANIA

Drawing Title
MASTER LANDSCAPE PLAN



| DATE | COMMENTS | NO. |
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| REVISIONS | |
|-------------|------------|
| Project No. | 230015101 |
| Date | 02-09-2024 |
| Scale | 1" = 100' |
| Drawn By | KGP |
| Checked By | CT |
| Drawing No. | LP-100 |



| TOWNSHIP OF LOWER MAKEFIELD LANDSCAPE COMPLIANCE CHART | | | | |
|---|----------------------------------|----------------------------------|------------|----------------|
| ITEM | REQUIRED | PROPOSED | COMPLIANCE | SECTION |
| Street Trees | | | | |
| Tree Spacing (formal allee) | 35 FT | 35 FT | COMPLIES | 178-81.B(1)(c) |
| Trees along Edgewood Road (834 LF) | 24 | 24 | COMPLIES | |
| Trees along Road A (491 LF) | 15 | 18 | COMPLIES | |
| Trees along Road B (360 LF) | 11 | 13 | COMPLIES | |
| Trees along Road C (1340 LF) | 39 | 44 | COMPLIES | |
| Min. Caliper | 3 inch | 3 inch | COMPLIES | 178-81.E(2) |
| Setbacks | | | | |
| Min. Setback from Sidewalks and Curbs | 4 FT | 4 FT | COMPLIES | 178-81.D |
| Max. Setback from Right-of-Way Lines | 15 FT | 2 FT | COMPLIES | 178-81.D |
| Buffer Requirements (Type II) | | | | |
| Min. screened planted area width | 25 FT | 25 FT | COMPLIES | 178-82.C (1) |
| Berming shall be provided | Required | Not Provided | WAIVER | 178-82.C (4) |
| Planting Requirements for 834 LF of Buffer | | | | 178-82.C (5) |
| Shade Trees Size | 14-FT min. height, 3" min. cal. | 14-FT min. height, 3" min. cal. | COMPLIES | |
| Shade Trees Quantities (50 trees/1,000 LF) | 42 | 42 | COMPLIES | |
| Evergreen Size | 6-FT min. height | 6-FT min. height | COMPLIES | |
| Evergreen Quantities (55 trees/1,000 LF) | 47 | 47 | COMPLIES | |
| Ornamental Flowering Trees Size | 8-FT min. height, 2.5" min. cal. | 8-FT min. height, 2.5" min. cal. | COMPLIES | |
| Ornamental Flowering Trees Quantities (10 trees/1,000 LF) | 9 | 10 | COMPLIES | |
| Shrubs Size | 3-FT min. height | 3-FT min. height | COMPLIES | |
| Shrubs Quantities (150 trees/1,000 LF) | 126 | 129 | COMPLIES | |
| Replacement Tree Requirements | | | | |
| Refer to Tree Replacement Table for Requirements | 429 | 225 | WAIVER | 178-85.H(4) |

Notes:
1. Per Section 178-85.H(4), the requirements for tree replacement can be met by proposed Street Trees, Parking Lot Trees, and Buffer Trees on-site.

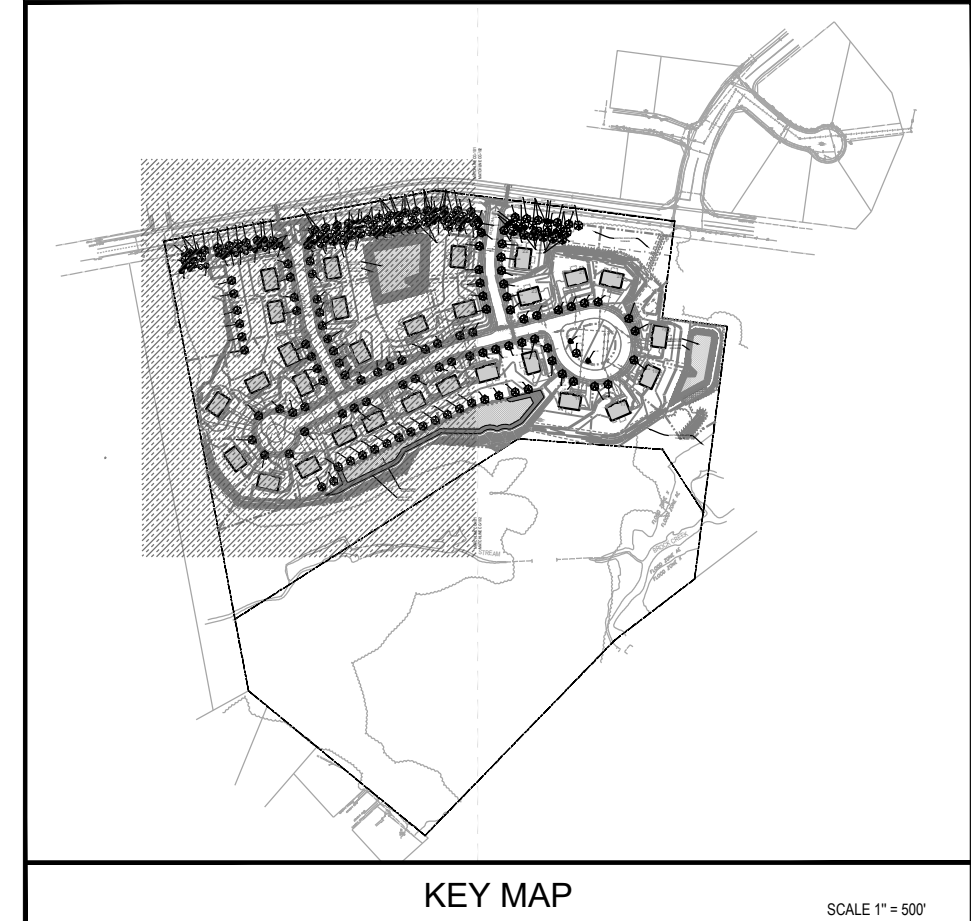
| TREE REPLACEMENT TABLE | | | | |
|----------------------------|------------------|--------------------------------------|------------------------------------|------------------------------|
| Tree Size Removed (inches) | Quantity Removed | Number of 2.5 to 3-inch Replacements | Number of 3 to 4-inch Replacements | Total number of Replacements |
| 10 to 17 | 50 | 4 | 208 | 258 |
| 18 to 29 | 23 | 7 | 161 | 184 |
| > 30 | 4 | 10 | 40 | 54 |
| Total = | | | | 496 |

Note: Trees of 10 inches caliper or more which are proposed to be removed during any stage of development, shall be replaced with an approved tree or trees as specified above.

| PLANT MATERIAL SCHEDULE | | | | | |
|-------------------------------------|--------------------------|------------------------|--------------|------------|--------|
| ABB. | SCIENTIFIC NAME | COMMON NAME | QTY. | SIZE | NATIVE |
| TREES - SHADE/CANOPY | | | | | |
| AR | Acer rubrum | Red Maple | 62 | 3" cal. | Y |
| LS | Liquidambar styraciflua | Sweetgum | 50 | 3" cal. | Y |
| SPFR | Quercus prinus 'Pringle' | Pin Oak 'Green Pillar' | 54 | 3" cal. | Y |
| | | | TOTAL | 166 | |
| TREES - EVERGREEN | | | | | |
| DO | Thuja occidentalis | Arborvitae | 25 | 6" Ht. | Y |
| PC | Picea glauca | White Spruce | 22 | 6" Ht. | Y |
| | | | TOTAL | 47 | |
| TREES - ORNAMENTAL/FLORERING | | | | | |
| CF | Cornus florida | Flowering Dogwood | 12 | 2.5" cal. | Y |
| | | | TOTAL | 12 | |
| DECIDUOUS SHRUBS | | | | | |
| LV | Hamamelis virginica | Witchberry Holly | 43 | 3" Ht. | Y |
| | | | TOTAL | 43 | |
| EVERGREEN SHRUBS | | | | | |
| GS | Ilex glabra | Hollyberry Holly | 86 | 3" Ht. | Y |
| | | | TOTAL | 86 | |

| LANDSCAPE LEGEND | |
|------------------|----------------------|
| | DECIDUOUS TREES |
| | EVERGREEN TREES |
| | ORNAMENTAL TREES |
| | SHRUBS |
| | BASIN BOTTOM MIX |
| | BASIN SIDE SLOPE MIX |

| EXISTING SYMBOLS & LINES | | PROPOSED SYMBOLS & LINES | |
|--------------------------|---------------------------|--------------------------|-------------------------------|
| | MAJOR CONTOUR LINE | | SITE |
| | MINOR CONTOUR LINE | | SETBACK LINE |
| | TELECOMMUNICATIONS LINE | | ROAD CENTER LINE |
| | OVERHEAD UTILITY LINE | | BUILDING |
| | UNDERGROUND ELECTRIC LINE | | DOOR |
| | WATER LINE | | EDGE OF PAVEMENT |
| | SANITARY SEWER LINE | | TRAFFIC SIGN |
| | GAS LINE | | PROPOSED LOT LINE |
| | STORM SEWER LINE | | POST AND RAIL FENCE |
| | TREE/BRUSH LINE | | STORMWATER FACILITY |
| | PROPERTY LINE | | |
| | RIGHT-OF-WAY LINE | | |
| | DEPRESSED CURB | | |
| | FENCE | | |
| | LIGHT POLE | | |
| | UTILITY POLE | | |
| | FIRE HYDRANT | | |
| | WATER VALVE | | |
| | WATER METER | | |
| | MONITORING WELL | | |
| | GAS VALVE | | |
| | SIGN | | |
| | CONCRETE MONUMENT FOUND | | |
| | IRON PIN FOUND | | |
| | IRON PIPE FOUND | | |
| | IRON PIN SET | | |
| | EXISTING POST | | |
| | DECIDUOUS TREE | | |
| | CONFEDEROUS TREE | | |
| | AIR CONDITIONING UNIT | | |
| | ELECTRIC METER | | |
| | CLEANOUT | | |
| | CONCRETE | | |
| | (TR) | | |
| | (TBR) | | |
| | | | STORM PIPE |
| | | | CATCH BASIN |
| | | | PROPOSED CONTOUR |
| | | | SPOT GRADE |
| | | | TOP OF WALL ELEVATION |
| | | | BOTTOM OF WALL ELEVATION |
| | | | FLOW ARROW |
| | | | HEADWALL / FLARED END SECTION |
| | | | RIP-RAP |
| | | | TELEPHONE & ELECTRIC LINE |
| | | | GAS LINE |
| | | | WATER LINE |
| | | | SANITARY SEWER LINE |



MATCHLINE CG-101
MATCHLINE CG-102

MATCHLINE CG-101
MATCHLINE CG-102

TOWNSHIP OF LOWER MAKEFIELD LANDSCAPE COMPLIANCE CHART

| ITEM | REQUIRED | PROPOSED | COMPLIANCE | SECTION |
|---|----------------------------------|----------------------------------|------------|----------------|
| Street Trees | | | | |
| Tree Spacing (formal allee) | 35 FT | 35 FT | COMPLIES | 178-81.B(1)(c) |
| Trees along Edgewood Road (834 LF) | 24 | 24 | COMPLIES | |
| Trees along Road A (491 LF) | 15 | 18 | COMPLIES | |
| Trees along Road B (360 LF) | 11 | 13 | COMPLIES | |
| Trees along Road C (1340 LF) | 39 | 44 | COMPLIES | |
| Min. Caliper | 3 inch | 3 inch | COMPLIES | 178-81.E(2) |
| Setbacks | | | | |
| Min. Setback from Sidewalks and Curbs | 4 FT | 4 FT | COMPLIES | 178-81.D |
| Max. Setback from Right-of-Way Lines | 15 FT | 2 FT | COMPLIES | 178-81.D |
| Buffer Requirements (Type II) | | | | |
| Min. screened planted area width | 25 FT | 25 FT | COMPLIES | 178-82.C (1) |
| Berming shall be provided | Required | Not Provided | WAIVER | 178-82.C (4) |
| Planting Requirements for 834 LF of Buffer | | | | 178-82.C (5) |
| Shade Trees Size | 14-FT min. height, 3" min. cal. | 14-FT min. height, 3" min. cal. | COMPLIES | |
| Shade Trees Quantities (50 trees/1,000 LF) | 42 | 42 | COMPLIES | |
| Evergreen Size | 6-FT min. height | 6-FT min. height | COMPLIES | |
| Evergreen Quantities (55 trees/1,000 LF) | 47 | 47 | COMPLIES | |
| Ornamental Flowering Trees Size | 8-FT min. height, 2.5" min. cal. | 8-FT min. height, 2.5" min. cal. | COMPLIES | |
| Ornamental Flowering Trees Quantities (10 trees/1,000 LF) | 9 | 10 | COMPLIES | |
| Shrubs Size | 3-FT min. height | 3-FT min. height | COMPLIES | |
| Shrubs Quantities (150 trees/1,000 LF) | 126 | 129 | COMPLIES | |
| Replacement Tree Requirements | | | | |
| Refer to Tree Replacement Table for Requirements | 429 | 225 | WAIVER | 178-85.H(4) |

Notes:
1. Per Section 178-85.H(4), the requirements for tree replacement can be met by proposed Street Trees, Parking Lot Trees, and Buffer Trees on-site.

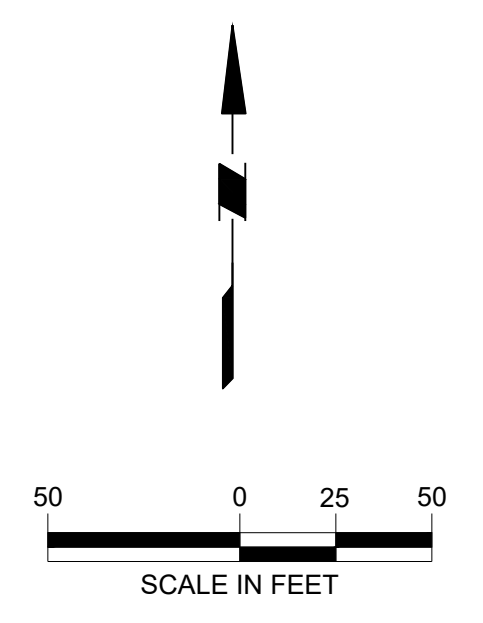
TREE REPLACEMENT TABLE

| Tree Size (inches) | Quantity Trees Removed | Number of 2.5 to 3-inch Replacements | Total number of 2.5 to 3-inch Replacements |
|--------------------|------------------------|--------------------------------------|--|
| 10 to 17 | 57 | 4 | 228 |
| 18 to 29 | 23 | 7 | 161 |
| > 30 | 4 | 10 | 40 |
| Total | | | 429 |

Note: Trees of 10 inches caliper or more which are proposed to be removed during any stage of development, shall be replaced with an approved tree or trees as specified above.

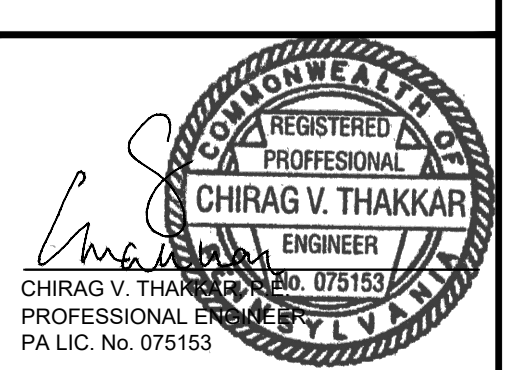
PLANT MATERIAL SCHEDULE

| ABB. | SCIENTIFIC NAME | COMMON NAME | QTY. | SIZE | NATIVE |
|-------------------------------------|----------------------------|----------------------|------------|-----------|--------|
| TREES - SHADE/CANOPY | | | | | |
| AR | Acer rubrum | Red Maple | 82 | 3" cal. | Y |
| LS | Liquidambar styraciflua | Sweetgum | 50 | 3" cal. | Y |
| QPPR | Quercus prinus 'Princeton' | Ph. Oak 'Green Park' | 54 | 3" cal. | Y |
| | | TOTAL | 166 | | |
| TREES - EVERGREEN | | | | | |
| IS | Ilex opaca | Jonathan Holly | 25 | 6 HI. | Y |
| PG | Pinus strobus | White Spruce | 22 | 6 HI. | Y |
| | | TOTAL | 47 | | |
| TREES - ORNAMENTAL/FLOWERING | | | | | |
| CF | Cornus florida | Flowering Dogwood | 12 | 2.5" cal. | Y |
| | | TOTAL | 12 | | |
| DECIDUOUS SHRUBS | | | | | |
| LVC | Illex verticillata | Winterberry Holly | 43 | 3 HI. | Y |
| | | TOTAL | 43 | | |
| EVERGREEN SHRUBS | | | | | |
| GG | Ilex glabra | Ironberry Holly | 86 | 3 HI. | Y |
| | | TOTAL | 86 | | |



Project
FIELDSTONE HARRIS TRACT SUBDIVISION
TMP # 20-016-073
LOWER MAKEFIELD TOWNSHIP
BUCKS COUNTY PENNSYLVANIA

Drawing Title
LANDSCAPE PLAN



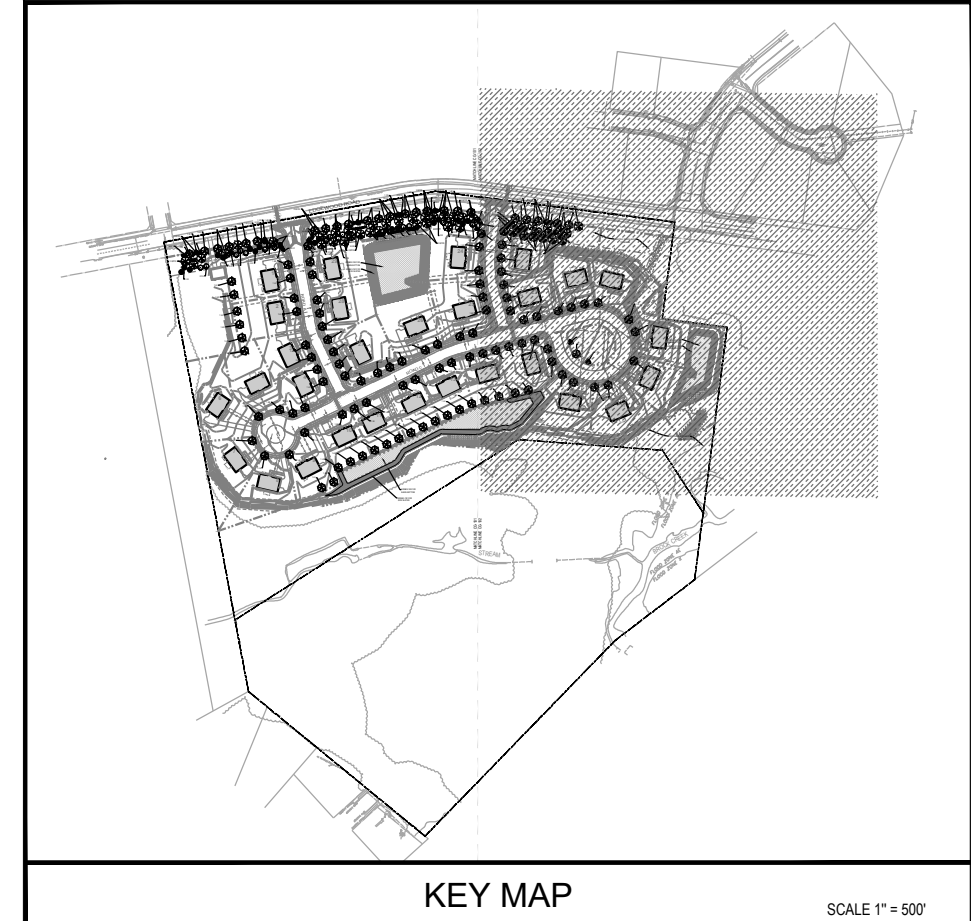
LANDSCAPE LEGEND

| | |
|--|----------------------|
| | DECIDUOUS TREES |
| | EVERGREEN TREES |
| | ORNAMENTAL TREES |
| | SHRUBS |
| | BASIN BOTTOM MIX |
| | BASIN SIDE SLOPE MIX |

LEGEND

| EXISTING SYMBOLS & LINES | PROPOSED SYMBOLS & LINES |
|--------------------------|---------------------------|
| | MAJOR CONTOUR LINE |
| | MINOR CONTOUR LINE |
| | TELECOMMUNICATIONS LINE |
| | OVERHEAD UTILITY LINE |
| | UNDERGROUND ELECTRIC LINE |
| | WATER LINE |
| | SANITARY SEWER LINE |
| | GAS LINE |
| | STORM SEWER LINE |
| | TREE/BRUSH LINE |
| | PROPERTY LINE |
| | RIGHT-OF-WAY LINE |
| | DEPRESSED CURB |
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| | FIRE HYDRANT |
| | WATER VALVE |
| | WATER METER |
| | WATER WELL |
| | MONITORING WELL |
| | GAS VALVE |
| | SIGN |
| | CONCRETE MONUMENT FOUND |
| | RAIL MONUMENT FOUND |
| | IRON PIN FOUND |
| | IRON PIPE FOUND |
| | IRON PIN SET |
| | EXISTING POST |
| | DECIDUOUS TREE |
| | CONIFEROUS TREE |
| | AR CONDITIONING UNIT |
| | ELECTRIC METER |
| | CLEANOUT |
| | CONCRETE |

| DATE | COMMENTS | NO. |
|-------------|---------------|-----|
| REVISIONS | | |
| Project No. | 230015101 | |
| Date | 02-09-2024 | |
| Scale | 1" = 50' | |
| Drawn By | JEM | |
| Checked By | CT | |
| Drawing No. | LP-101 | |
| Sheet | 35 of 37 | |



KEY MAP

SCALE 1" = 50'

MATCHLINE CG-101
MATCHLINE CG-102



TOWNSHIP OF LOWER MAKEFIELD

LANDSCAPE COMPLIANCE CHART

| ITEM | REQUIRED | PROPOSED | COMPLIANCE | SECTION |
|---|----------------------------------|----------------------------------|------------|----------------|
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| Tree Spacing (formal allee) | 35 FT | 35 FT | COMPLIES | 178-81.B(1)(c) |
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Notes:
1. Per Section 178-85.H(4), the requirements for tree replacement can be met by proposed Street Trees, Parking Lot Trees, and Buffer Trees on-site.

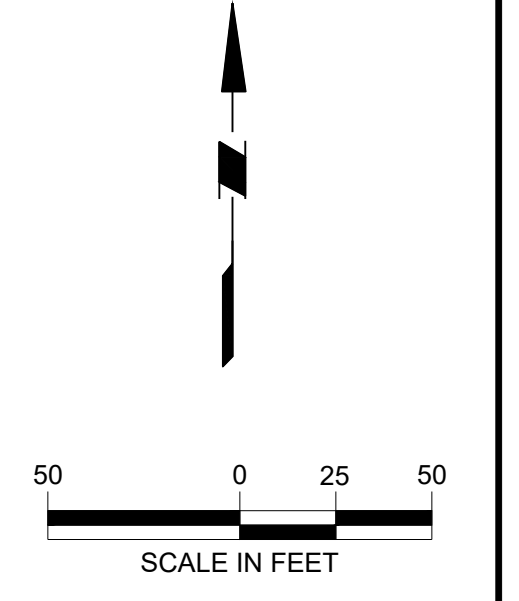
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| Total | | | 429 |

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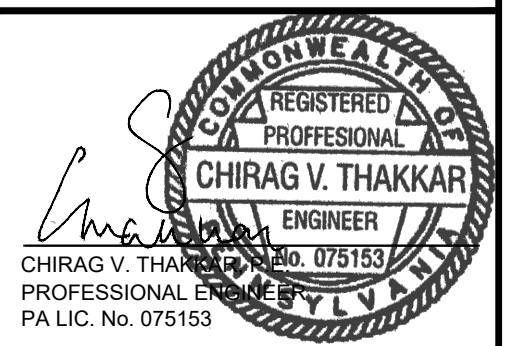
PLANT MATERIAL SCHEDULE

| ABB. | SCIENTIFIC NAME | COMMON NAME | QTY. | SIZE | NATIVE |
|-------------------------------------|----------------------------|------------------------|------------|-----------|--------|
| TREES - SHADE/CANOPY | | | | | |
| AR | Acer rubrum | Red Maple | 82 | 3" cal. | Y |
| LS | Liquidambar styraciflua | Sweetgum | 50 | 3" cal. | Y |
| QPPR | Quercus prinus 'Princeton' | 'Prin. Oak Green Plan' | 54 | 3" cal. | Y |
| | | TOTAL | 166 | | |
| TREES - EVERGREEN | | | | | |
| IS | Ilex opaca | Wintergreen Holly | 25 | 8 HI. | Y |
| PG | Pinus strobus | White Spruce | 22 | 6 HI. | Y |
| | | TOTAL | 47 | | |
| TREES - ORNAMENTAL/FLORERING | | | | | |
| CF | Cornus florida | Flowering Dogwood | 12 | 2.5" cal. | Y |
| | | TOTAL | 12 | | |
| DECIDUOUS SHRUBS | | | | | |
| ILVC | Ilex verticillata | Winterberry Holly | 43 | 3 HI. | Y |
| | | TOTAL | 43 | | |
| EVERGREEN SHRUBS | | | | | |
| IGS | Ilex glabra | Triberry Holly | 86 | 3 HI. | Y |
| | | TOTAL | 86 | | |



Project
FIELDSTONE HARRIS TRACT SUBDIVISION
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LOWER MAKEFIELD TOWNSHIP
BUCKS COUNTY PENNSYLVANIA

LANDSCAPE PLAN



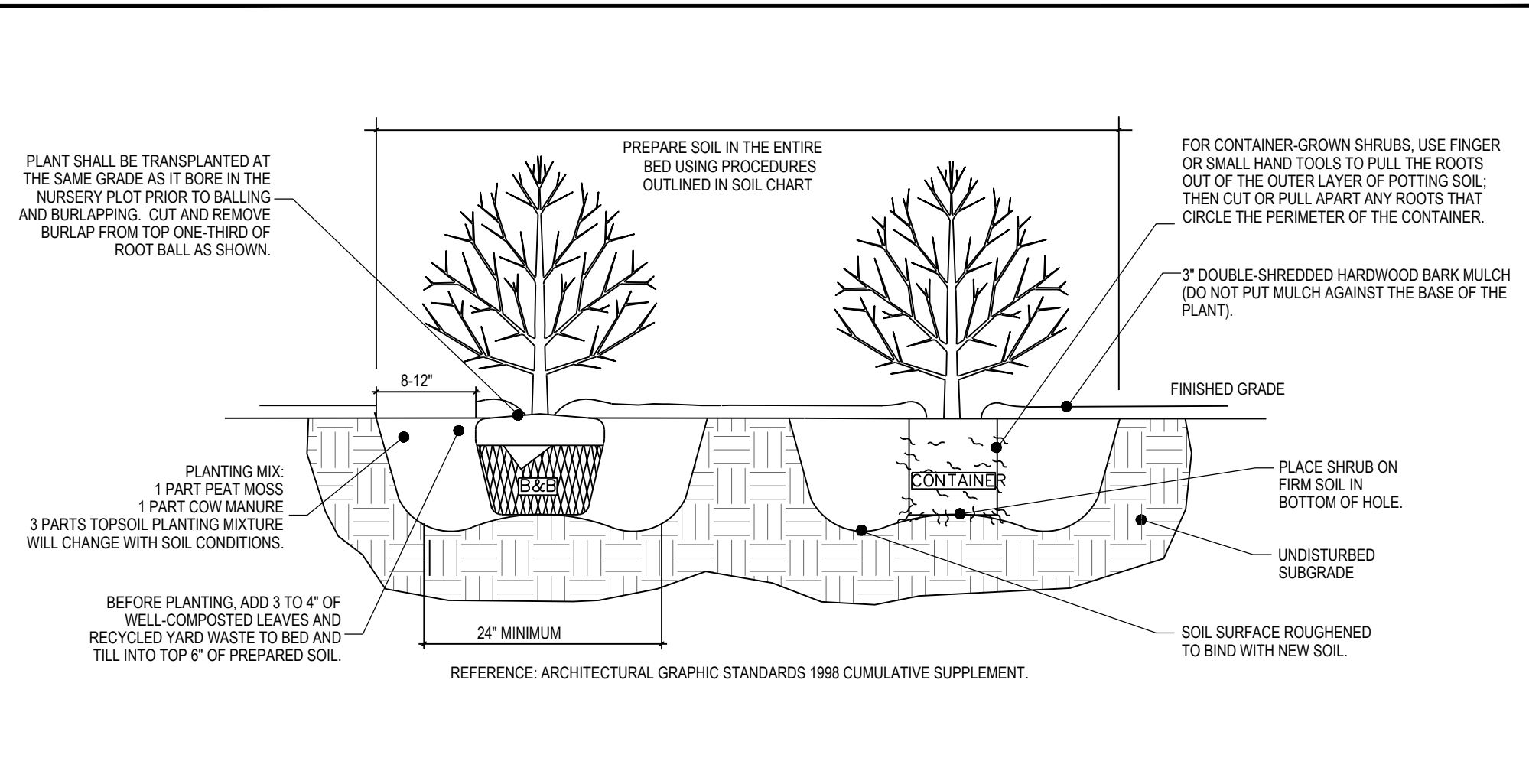
LEGEND

| EXISTING SYMBOLS & LINES | PROPOSED SYMBOLS & LINES |
|--------------------------------|--------------------------|
| --- 150 --- MAJOR CONTOUR LINE | --- SITE |
| --- 100 --- MINOR CONTOUR LINE | --- SETBACK LINE |
| --- TELECOMMUNICATIONS LINE | --- ROAD CENTER LINE |
| --- OVERHEAD UTILITY LINE | --- BUILDING |
| --- UNDERGROUND ELECTRIC LINE | --- DOOR |
| --- WATER LINE | --- EDGE OF PAVEMENT |
| --- SANITARY SEWER LINE | --- TRAFFIC SIGN |
| --- GAS LINE | --- PROPOSED LOT LINE |
| --- STORM SEWER LINE | --- POST AND RAIL FENCE |
| --- TREE/BRUSH LINE | --- STORMWATER FACILITY |
| --- PROPERTY LINE | |
| --- RIGHT-OF-WAY LINE | |
| --- DEPRESSED CURB | |
| --- FENCE | |
| ○ LIGHT POLE | |
| ○ UTILITY POLE | |
| ○ FIRE HYDRANT | |
| ○ WATER VALVE | |
| ○ WATER METER | |
| ○ WATER WELL | |
| ○ MONITORING WELL | |
| ○ GAS VALVE | |
| ○ SIGN | |
| ○ CONCRETE MONUMENT FOUND | |
| ○ RAIL MONUMENT FOUND | |
| ○ IRON PIN FOUND | |
| ○ IRON PIPE FOUND | |
| ○ IRON PIN SET | |
| ○ EXISTING POST | |
| ○ DECIDUOUS TREE | |
| ○ CONIFEROUS TREE | |
| ○ AIR CONDITIONING UNIT | |
| ○ ELECTRIC METER | |
| ○ CLEANOUT | |
| ○ CONCRETE | |

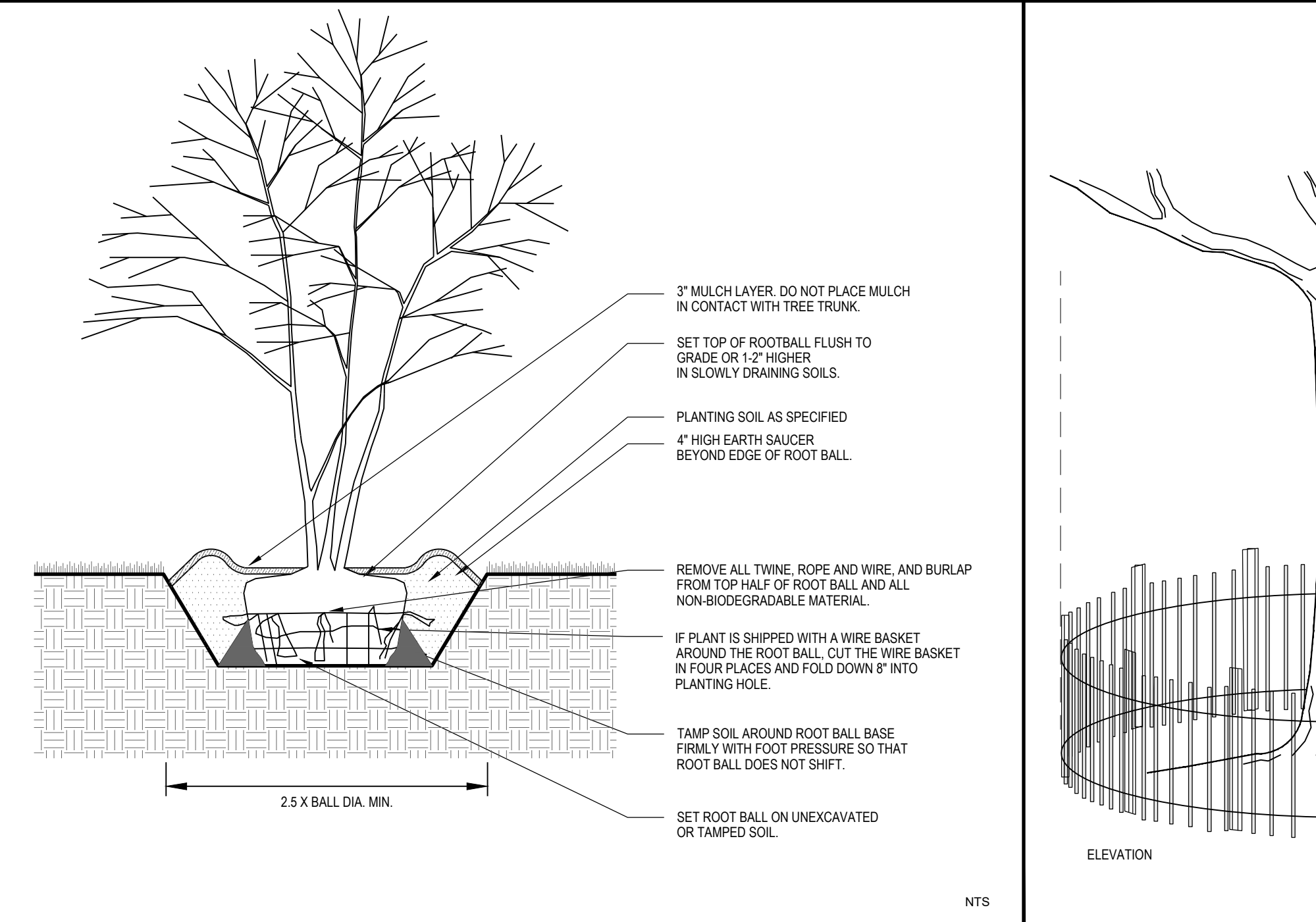
LANDSCAPE LEGEND

| | |
|---|----------------------|
| ○ | DECIDUOUS TREES |
| ● | EVERGREEN TREES |
| ○ | ORNAMENTAL TREES |
| ○ | SHRUBS |
| ○ | BASIN BOTTOM MIX |
| ○ | BASIN SIDE SLOPE MIX |

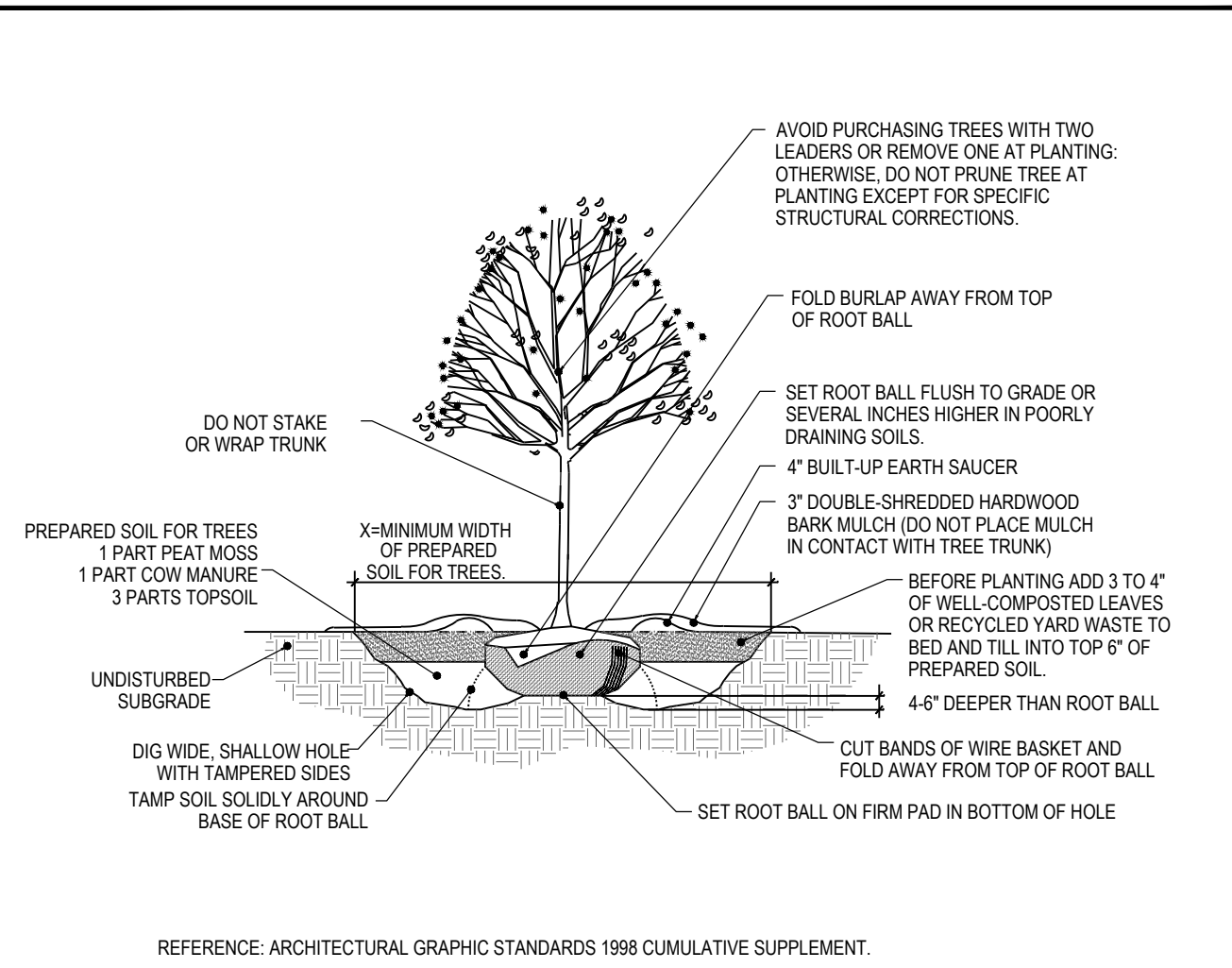
| DATE | COMMENTS | NO. |
|-------------|------------|-----|
| REVISIONS | | |
| Project No. | 230015101 | |
| Date | 02-09-2024 | |
| Scale | 1" = 50' | |
| Drawn By | JEM | |
| Checked By | CT | |
| Drawing No. | LP-102 | |
| Sheet | 36 of 37 | |



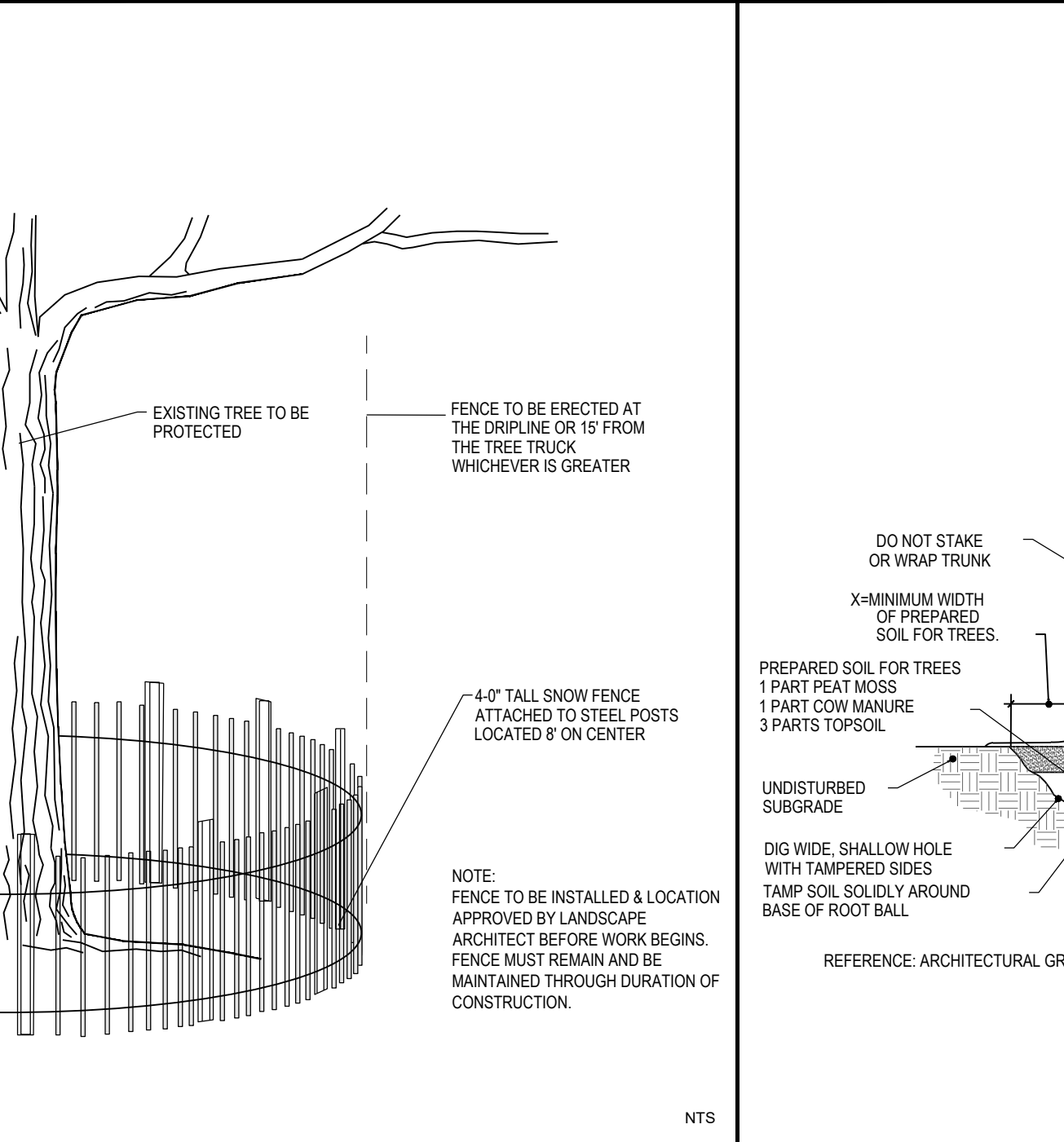
DECIDUOUS AND EVERGREEN SHRUB PLANTING DETAIL



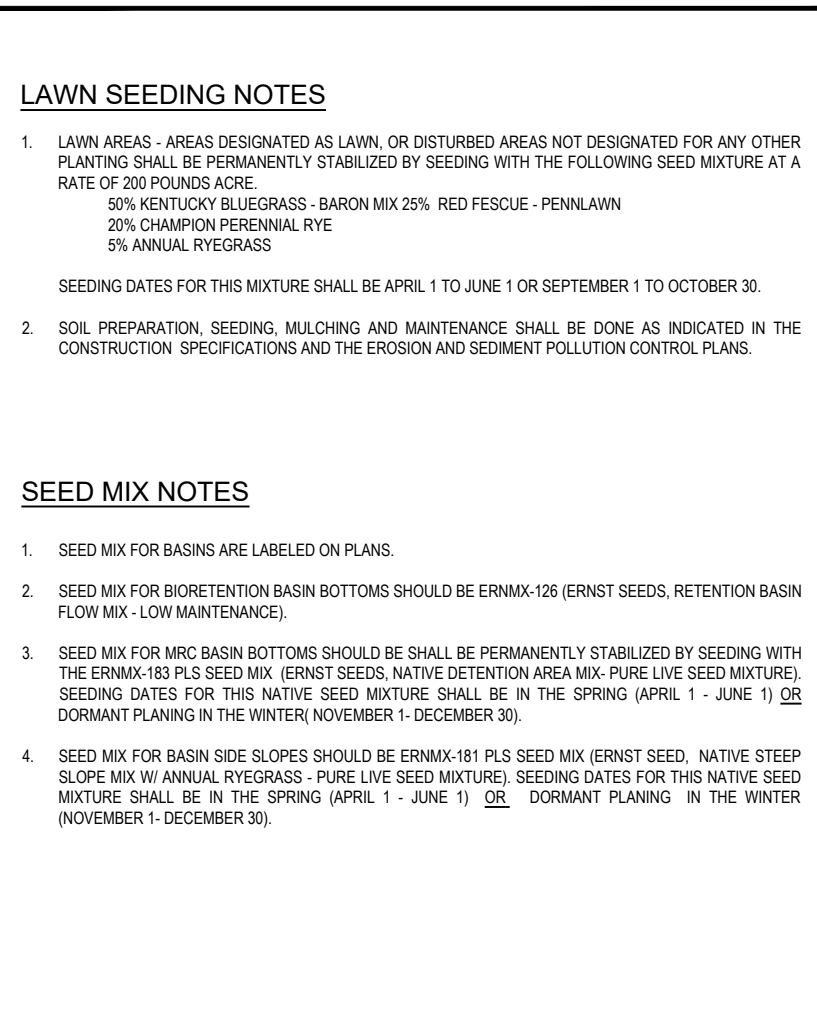
MULTI-STEM TREE PLANTING



DECIDUOUS TREE PLANTING DETAIL



TREE PROTECTION FENCING



EVERGREEN TREE PLANTING DETAIL

LAWN SEEDING NOTES

1. LAWN AREAS - AREAS DESIGNATED AS LAWN, OR DISTURBED AREAS NOT DESIGNATED FOR ANY OTHER PLANTING SHALL BE PERMANENTLY STABILIZED BY SEEDING WITH THE FOLLOWING SEED MIXTURE AT A RATE OF 200 POUNDS ACRE:
50% KENTUCKY BLUEGRASS - 30% PERENNALE
25% ANNUAL RYEGRASS
SEEDING DATES FOR THIS MIXTURE SHALL BE APRIL 1 TO JUNE 1 OR SEPTEMBER 1 TO OCTOBER 30.
2. SOIL PREPARATION, SEEDING, MULCHING AND MAINTENANCE SHALL BE DONE AS INDICATED IN THE CONSTRUCTION SPECIFICATIONS AND THE EROSION AND SEDIMENT POLLUTION CONTROL PLANS.

SEED MIX NOTES

1. SEED MIX FOR BASINS ARE LABELED ON PLANS.
2. SEED MIX FOR ROBERTSON BASIN BOTTOMS SHOULD BE ERN88-136 (ERNST SEEDS, RETENTION BASK FLOW MIX - LOW MAINTENANCE).
3. SEED MIX FOR MRC BASIN BOTTOMS SHOULD BE PERMANENTLY STABILIZED BY SEEDING WITH THE ERN18-183 PLUS SEED MIX (ERNST SEEDS, NATIVE DETENTION AREA MIX - PURE LIVE SEED MIXTURE). SEEDING DATES FOR THIS NATIVE SEED MIXTURE SHALL BE IN THE SPRING (APRIL 1 - JUNE 1) OR DORMANT PLANTING IN THE WINTER (NOVEMBER 1 - DECEMBER 30).
4. SEED MIX FOR BASIN SIDE SLOPES SHOULD BE ERN18-183 PLUS SEED MIX (ERNST SEEDS, NATIVE SLOPE MIX (W. ANNUAL RYEGRASS - PURE LIVE SEED MIXTURE). SEEDING DATES FOR THIS NATIVE SEED MIXTURE SHALL BE IN THE SPRING (APRIL 1 - JUNE 1) OR DORMANT PLANTING IN THE WINTER (NOVEMBER 1 - DECEMBER 30).

GENERAL LANDSCAPE PLANTING NOTES

1. NAMES OF PLANTS AS DESCRIBED ON THIS PLAN CONFORM TO THOSE GIVEN IN "STANDARDIZED PLANT NAMES" (SECTION, PREPARED BY THE AMERICAN JOINT COMMITTEE ON HORTICULTURAL NOMENCLATURE. NAMES OF PLANT VARIETIES NOT INCLUDED THEREIN CONFORM TO NAMES GENERALLY ACCEPTED IN NURSERY TRADE.
2. ALL EXPOSED GROUND SURFACES THAT ARE NOT PAVED WITHIN THE CONTRACT LIMIT LINE, AND THAT ARE NOT COVERED BY LANDSCAPE PLANTING OR SEEDING AS SPECIFIED, SHALL BE COVERED BY A NATURAL MULCH THAT WILL PREVENT SOIL EROSION AND THE EMANATION OF DUST.
3. NO PLANT SHALL BE PUT INTO THE GROUND BEFORE ROUGH GRADING HAS BEEN COMPLETED AND APPROVED BY THE PROJECT LANDSCAPE ARCHITECT OR PROJECT ENGINEER.
4. STANDARDS FOR TREE SPREAD HEIGHT, ROOT BALL AND QUALITY OF NEW PLANT MATERIAL SHALL BE IN ACCORDANCE WITH GUIDELINES AS SET FORTH IN THE "AMERICAN STANDARD FOR NURSERY STOCK, ANSI Z60.1," PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN. PLANT MATERIAL SHALL HAVE NORMAL HABIT OF GROWTH AND BE HEALTHY, VIGOROUS, AND FREE FROM DISEASES AND INSECT INFESTATION.
5. NEW PLANT MATERIAL SHALL BE NURSERY GROWN UNLESS SPECIFIED OTHERWISE. ALL PLANTS SHALL BE SET PLUMB, STAKE AS NECESSARY, AND SHALL BEAR THE SAME RELATIONSHIP TO FINISHED GRADE AS THE PLANTS ORIGINAL GRADE BEFORE DIGGING. PLANT MATERIAL OF THE SAME SPECIES AND SPECIFIED AS THE SAME SIZE SHOULD BE OBTAINABLE IN SHADE, COLOR AND HABIT. THE LANDSCAPE ARCHITECT HAS THE RIGHT TO REJECT PLANT MATERIAL THAT DOES NOT CONFORM TO THE TYPICAL OR SPECIFIED HABIT OF THAT SPECIES.
6. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UNDERGROUND UTILITY AND SEWER LINES PRIOR TO THE START OF EXCAVATION ACTIVITIES. NOTIFY THE PROJECT ENGINEER AND OWNER IMMEDIATELY OF ANY CONFLICTS WITH PROPOSED PLANTING LOCATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE.
7. THE CONTRACTOR SHALL NOT MAKE SUBSTITUTIONS. IF THE SPECIFIED LANDSCAPE MATERIAL IS NOT OBTAINABLE, SUBSTITUTIONS MAY ONLY BE FURNISHED WHEN SUBMITTED THROUGH A WRITTEN REQUEST TO THE CITY AND/OR THEIR REPRESENTATIVES AND APPROVED BY THE CITY AND/OR THEIR REPRESENTATIVES.
8. LANDSCAPE ARCHITECT TO STAKE OUT PLANTING LOCATIONS. FOR REVIEW AND APPROVAL BY THE LANDSCAPE ARCHITECT AND/OR OWNER BEFORE PLANTING WORK BEGINS. THE LANDSCAPE ARCHITECT AND/OR OWNER SHALL DIRECT THE CONTRACTOR IN THE FINAL PLACEMENT OF ALL PLANT MATERIAL, AND LOCATION OF PLANTING BEDS TO ENSURE COMPLIANCE WITH DESIGN INTENT. UNLESS OTHERWISE INSTRUCTED, THE LANDSCAPE ARCHITECT MAY REJECT PLANT MATERIALS AT THE SITE, BEFORE PLANTING, FOR COMPLIANCE WITH REQUIREMENTS FOR GENUS, SPECIES, VARIETY, SIZE, AND QUALITY.
9. THE LANDSCAPE ARCHITECT RETAINS THE RIGHT TO FURTHER REVIEW PLANT MATERIALS FOR SIZE AND CONDITION OF BALLS AND ROOT SYSTEM, INSECTS, INJURIES, AND LATENT DEFECTS, AND TO REJECT UNSATISFACTORY OR DEFECTIVE MATERIAL AT ANY TIME DURING PROCESS OF WORK. THE CONTRACTOR SHALL REMOVE REJECTED PLANT MATERIALS IMMEDIATELY FROM PROJECT SITE AND REPLACE WITH PLANT MATERIAL SPECIFIED HEREIN AS REQUIRED BY THE LANDSCAPE ARCHITECT OR OWNER.
10. DELIVERY, STORAGE AND HANDLING:
A. PACKAGED MATERIALS: PACKAGED MATERIALS SHALL BE DELIVERED IN CONTAINERS SHOWING WEIGHT, ANALYSIS, AND NAME OF MANUFACTURER. MATERIALS SHALL BE PROTECTED FROM DETERIORATION DURING DELIVERY AND WHILE STORED AT SITE.
B. TREES AND SHRUBS: THE CONTRACTOR SHALL PROVIDE TREES AND SHRUBS DUG FOR THE GROWING SEASON FOR WHICH THEY WILL BE PLANTED. DO NOT BEND OR BEND THE TREES OR SHRUBS IN SUCH A MANNER AS TO DAMAGE BARK GREAT BRANCHES, OR DESTROY NATURAL SHAPE. PROVIDE PROTECTIVE COVERING DURING TRANSPORT. DO NOT DROP BALLED AND BURLAPPED STOCK DURING DELIVERY OR HANDLING.
C. ALL PLANTS SHALL BE BALLED AND BURLAPPED OR CONTAINER GROWN AS SPECIFIED. NO CONTAINER GROWN STOCK WILL BE ACCEPTED IF IT IS ROOT BOUND. ALL ROOTBALL WRAPPING AND BINDING MATERIAL MADE OF SYNTHETIC OR PLASTICS SHALL BE REMOVED FROM THE TOP 1/3 OF THE BALL AT THE TIME OF PLANTING. IF THE PLANT IS SHIPPED WITH A WIRE BASKET AROUND THE ROOT BALL, THE WIRE BASKET SHALL BE CUT AND FOLDED DOWN 8 INCHES INTO THE PLANTING HOLE. WITH CONTAINER GROWN STOCK, THE CONTAINER SHALL BE REMOVED AND THE ROOT BALL SHALL BE CUT THROUGH THE SURFACE IN TWO LOCATIONS.
D. THE CONTRACTOR SHALL HAVE TREES AND SHRUBS DELIVERED TO SITE AFTER PREPARATIONS FOR PLANTING HAVE BEEN COMPLETED AND PLANT IMMEDIATELY. IF PLANTING IS DELAYED MORE THAN 2 HOURS AFTER DELIVERY, THE CONTRACTOR SHALL SET TREES AND SHRUBS IN SHADE, PROTECT FROM WEATHER AND MECHANICAL DAMAGE AND KEEP ROOTS MOIST BY COVERING WITH MULCH, BURLAP OR OTHER ACCEPTABLE MEANS OF RETAINING MOISTURE.

11. ALL LANDSCAPED AREAS TO BE CLEARED OF ROCKS, STAMPS, TRASH AND OTHER UNDESIRABLE DEBRIS. ALL THE GRASS AREAS SHOULD BE HAND RAKED SMOOTH ELIMINATING ANY CURBS AND AND UNDESIRED SURFACES PRIOR TO PLANTING OR MULCHING.
12. ALL PLANT MATERIAL SHALL BE INSTALLED AS PER DETAILS, NOTES AND CONTRACT SPECIFICATIONS. THE LANDSCAPE ARCHITECT MAY REVIEW INSTALLATION AND MAINTENANCE PROCEDURES.
13. PLANT MATERIAL SHALL BE GUARANTEED TO BE ALIVE AND IN VIGOROUS GROWING CONDITION FOR A PERIOD OF TWO YEARS FOLLOWING ACCEPTANCE BY THE OWNER. PLANT MATERIAL FOUND TO BE UNHEALTHY, DYING OR DEAD DURING THE PERIOD, SHALL BE REMOVED AND REPLACED IN KIND BY THE CONTRACTOR AT NO EXPENSE TO THE OWNER. IN ADDITION, ALL PLANT MATERIAL SHALL BE MAINTAINED FOR THE PERPETUITY OF THE SITE. ANY PLANT MATERIAL WHICH DOES SHALL BE REPLACED WITH PLANT MATERIAL OF THE SAME SIZE AND SPECIES.
14. THE CONTRACTOR SHALL KEEP AREA CLEAN DURING DELIVERY AND INSTALLATION OF PLANT MATERIALS. REMOVE AND DISPOSE OF OFF-SITE ANY ACCUMULATED DEBRIS OR UNUSED MATERIALS. REPAIR DAMAGE TO ADJACENT AREAS CAUSED BY LANDSCAPE INSTALLATION OPERATIONS.
15. ALL PLANTS SHALL BE WATERED THOROUGHLY TWICE DURING THE FIRST 24 HOUR PERIOD AFTER PLANTING. ALL PLANTS SHALL THEN BE WATERED WEEKLY OR AS REQUIRED BY SITE AND WEATHER CONDITIONS TO MAINTAIN VIGOROUS AND HEALTHY PLANT GROWTH. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ADEQUATE WATER TO ALL PLANTS UNTIL THE JOB IS ACCEPTED AS COMPLETE.
16. THE BACKFILL MIXTURE AND SOIL MIXES ARE TO BE INSTALLED PER THE SPECIFICATIONS.
17. AFTER PLANT IS PLACED IN PLANTING HOLE, ALL "TINE" HOLDING ROOT BALL TOGETHER SHOULD BE COMPLETELY REMOVED AND THE BURLAP SHOULD BE PULLED DOWN SO TO TOP OF THE ROOT BALL IS EXPOSED. SYNTHETIC BURLAP SHOULD BE COMPLETELY REMOVED AFTER INSTALLATION.
18. MULCH SHOULD NOT BE PILED UP AROUND THE TRUNK OF ANY PLANT MATERIAL. NO MULCH OR TOPSOIL SHOULD BE TOUCHING THE BASE OF THE TRUNK ABOVE THE ROOT COLLAR.
19. ALL FENCE INSTALLATION SHALL BE COMPLETED PRIOR TO COMMENCEMENT OF ANY LANDSCAPE PLANTING, SEEDING, SOODING OR IRRIGATION WORK.
20. CONTRACTOR TO COORDINATE FENCE INSTALLATION WITH OTHER TRADES INVOLVED WITH SITE WORK. CONTRACTOR IS RESPONSIBLE TO COORDINATE ALL FENCE POST INSTALLATION WITH EXISTING AND PROPOSED UTILITIES.

PLANTING SPECIFICATIONS:

1. SCOPE OF WORK
A. THIS WORK SHALL CONSIST OF: PERFORMING, CLEARING AND SOIL PREPARATION, FINISH GRADING, PLANTING AND DRAINAGE, INCLUDING ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, AND ANY OTHER APPURTENANCES NECESSARY FOR THE COMPLETION OF THIS PROJECT.
2. MATERIALS
A. GENERAL - ALL MATERIALS SHALL MEET OR EXCEED SPECIFICATIONS AS OUTLINED IN THE PENDANT MANUAL OF ROADWAY AND BRIDGE CONSTRUCTION (1986) OR APPROVED EQUIVALENT.
B. PLANTS - ALL PLANTS SHALL BE HEALTHY OR NORMAL GROWTH, WELL ROOTED, FREE FROM DISEASE AND INSECTS.
C. TOPSOIL - LOAMY SILT, HAVING AN ORGANIC CONTENT NOT LESS THAN 5%, pH RANGE BETWEEN 4.5 - 7.5, FREE OF DEBRIS, ROCKS, LARGER THAN TWO INCHES (2"), WOOD, ROOTS, VEGETABLE MATTER AND CLAY CLOTS.
D. MULCH - DOUBLE SHREDDED HARDWOOD BARK MULCH.
E. FERTILIZER AND SOIL CONDITIONER
1. ORGANIC FERTILIZER - SHALL BE PROCESSED STEWED SLUDGE WITH MINIMAL CONTENT OF 1% NITROGEN AND 2% PHOSPHORIC ACID, EQUAL TO NITROGEN.
2. ORGANIC FERTILIZER AND SOIL CONDITIONER - SHALL BE GROUND POWDER AND ORGANIC BASE MATERIALS COMPOSED OF COMPOSTED ANIMAL AND VEGETABLE MATTER AND COMPOSTED TO SUPPORT BACTERIAL CULTURES, CONTAINING NO POULTRY, ANIMAL OR HUMAN WASTE. GUARANTEED ANALYSIS IS 5-11 NITROGEN/2% PHOSPHATE/3% POTASH/1% 50% HUMUS AND 10% HUMIC ACIDS.
3. GENERAL WORK PROCEDURES
A. LANDSCAPE WORK SHALL COMMENCE AS SOON AS THOSE PORTIONS OF THE SITE ARE AVAILABLE. CONTRACTOR TO UTILIZE WEDNESDAY MAINTENANCE STANDARDS IN PERFORMING ALL LANDSCAPE CONSTRUCTION. THE SITE IS TO BE LEFT IN A CLEAN STATE AT THE END OF EACH DAY'S WORK.
B. ALL DEBRIS, MATERIALS, AND TOOLS SHALL BE PROPERLY STOCKPILED OR DISPOSED OF. ALL PAVED SURFACES SHALL BE SWEEPED CLEAN AT THE END OF EACH DAY'S WORK.
C. WEEDING
A. BEFORE AND DURING PRELIMINARY GRADING AND FINISH GRADING, ALL WEEDS AND GRASSES SHALL BE DUG OUT BY THE ROOTS AND DISPOSING OF AT THE CONTRACTORS EXPENSE.
D. TOPSOILING
A. CONTRACTOR TO PROVIDE FOUR INCHES (4") MINIMUM THICK TOPSOIL LAYER IN ALL PLANTING AREAS. TOPSOIL SHOULD BE SPREAD OVER A PREPARED SURFACE IN A UNIFORM LAYER TO PRODUCE A FOUR INCH (4") COMPACTED, TOPSOIL PRESENT AT THE SITE. IT MAY BE USED TO SUPPLEMENT TOTAL AMOUNT REQUIRED. CONTRACTOR TO FURNISH AN ANALYSIS OF ON-SITE TOPSOIL UTILIZED IN ALL PLANTING AREAS. ADJUST pH AND NUTRIENT LEVELS AS REQUIRED TO ENSURE AN ACCEPTABLE GROWING MEDIUM.
E. SOIL CONDITIONING
A. CULTIVATE AREAS TO BE PLANTED TO A DEPTH OF 8" ALL DEBRIS EXPOSED FROM EXCAVATION AND CULTIVATION SHALL BE DISPOSED OF AT THE CONTRACTORS EXPENSE. SPREAD ORGANIC RIVAL PLANTING SOIL MIXTURES AS FOLLOWS: THROUGHOUT ALL ORGANIC MATTER INTO THE TOP 5 TO 12 IN. OF MOST PLANTING SOILS TO IMPROVE THE SOILS ABILITY TO RETAIN WATER AND NUTRIENTS. USE COMPOSTED BARK MULCH, HAWK WASTE, PEAT MOSS, OR SEWAGE SLUDGE. ALL PRODUCTS SHOULD BE COMPOSTED TO A DARK COLOR AND BE FREE OF PIECES WITH IDENTIFIABLE LEAF OR WOOD STRUCTURE. RECYCLED MATERIALS BY THE SUPPLIER PROVIDED SEWAGE SLUDGE. ALL PRODUCTS SHOULD BE MODIFIED HEAVY CLAY OR SILT (MORE THAN 40% CLAY OR SILT) BY ADDING COMPOSTED PINE BARK UP TO 30% BY VOLUME AND/OR GYPSUM. COARSE SAND MAY BE USED IF ENOUGH IS ADDED TO BRING THE SAND CONTENT TO MORE THAN 6% OF THE TOTAL MIX. IMPROVE DRAINAGE HEAVY SOILS BY PLANTING ON RASSED MOUNDS OR BEDS AND INCLUDING SUBSURFACE DRAINAGE LINES. MODIFY EXTREMELY SANDY SOILS (MORE THAN 85% SAND) BY ADDING ORGANIC MATTER AND/OR DRY, SHREDDED CLAY (UP TO 10% OF THE TOTAL MIX).
B. PLANTING POSITION TREES AND SHRUBS AT THEIR INTENDED LOCATIONS AS PER THE PLANS AND SECURE THE APPROVAL OF THE LANDSCAPE ARCHITECT BEFORE EXCAVATING PITS, MAKING NECESSARY ADJUSTMENTS AS DIRECTED.
C. PLANTING PITS SHALL BE DUG WITH LEVEL BOTTOMS, WITH THE WIDTH TWICE THE DIAMETER OF ROOT BALL. THE ROOT BALL SHALL REST ON UNDISTURBED GRADE. EACH PLANT PIT SHALL BE BACK FILLED WITH THE FOLLOWING PREPARED SOIL MIXED THOROUGHLY:
1 PART PEAT MOSS
1 PART COW MANURE BY VOLUME
3 PARTS TOPSOIL BY VOLUME
B. PREPARED SOIL SHALL BE TAMPERED FIRMLY AT BOTTOM OF PIT. FILL PREPARED SOIL AROUND BALL OF PLANT TO WAY AND INSERT PLANT TABLETS. COMPLETE BACK FILL AND WATER THOROUGHLY.
C. ALL PLANTS SHALL BE SET SO THAT THEY BEAR THE SAME RELATION TO THE REQUIRED GRADE AS THEY BORE TO THE NATURAL GRADE BEFORE BEING TRANSPLANTED.
D. PREPARE RASSED BATH BASINS AS WELL AS PLANTING HOLES OF EACH TREE.
E. WATER IMMEDIATELY AFTER PLANTING. WATER SHALL BE APPLIED TO EACH TREE AND SHRUB IN SUCH MANNER AS NOT TO DISTURB BACK FILL AND TO THE EXTENT THAT ALL MATERIALS IN THE PLANTING HOLE ARE THOROUGHLY SATURATED.
F. PRUNE ALL PROPOSED TREES DIRECTLY ADJACENT TO WALKWAYS TO A MIN. OF 7' BRANCHING HEIGHT.
9. GROUND COVER
A. ALL GROUND COVER AREAS SHALL RECEIVE A 1/4" LAYER OF HUMUS RAISED INTO THE TOP 1" OF PREPARED SOIL PRIOR TO PLANTING GROUND COVER.
B. SPACING AND VARIETY OF GROUND COVER SHALL BE AS SHOWN ON DRAWINGS.
C. IMMEDIATELY AFTER PLANTING GROUND COVER, CONTRACTOR SHALL THOROUGHLY WATER GROUND COVER.
D. ALL GROUND COVER AREAS SHALL BE TREATED WITH A PRE-EMERGENT BEFORE FINAL LANDSCAPE INSPECTION. GROUND COVER AREAS SHALL BE WEEDED PRIOR TO APPLYING PRE-EMERGENT. PRE-EMERGENT TO BE APPLIED AS PER MANUFACTURERS RECOMMENDATION.
10. FINISH GRADING
A. ALL AREAS WILL BE RECEIVED BY THE CONTRACTOR AT SUBSTANTIALLY PLUSMINUS: 1 FOOT OF FINISH GRADE.
B. ALL LAWN AND PLANTING AREAS SHALL BE GRADED TO A SMOOTH EVEN AND UNIFORM PLANE WITH NO ABRUPT CHANGE OF SURFACE, UNLESS OTHERWISE DIRECTED BY LANDSCAPE ARCHITECT. SOIL AREAS ADJACENT TO THE BUILDINGS SHALL SLOPE AWAY.
C. ALL PLANTING AREAS SHALL BE GRADED AND MAINTAINED TO ALLOW FREE FLOW OF SURFACE WATER.
11. GUARANTEE
A. CONTRACTOR SHALL GUARANTEE ALL PLANTS FOR A PERIOD OF EIGHTEEN (18) MONTHS FROM ACCEPTANCE OF JOB BY THE CITY. OWNER TO SECURE A MAINTENANCE BOND FROM THE CONTRACTOR FOR TEN PERCENT (10%) OF THE VALUE OF THE LANDSCAPE INSTALLATION WHICH WILL BE RELEASED AT THE COMMENCEMENT OF THE GUARANTEE PERIOD AND PASSES A FINAL INSPECTION BY THE OWNER OR OWNERS REPRESENTATIVE.
12. CLEANUP
A. UPON THE COMPLETION OF ALL PLANTING WORK AND BEFORE FINAL ACCEPTANCE, THE CONTRACTOR SHALL REMOVE ALL MATERIAL, EQUIPMENT, AND DEBRIS RESULTING FROM HIS WORK. ALL PAVED AREAS SHALL BE BROOM CLEANED AND THE SITE LEFT IN A NEAT AND ACCEPTABLE CONDITION AS APPROVED BY THE OWNERS AUTHORIZED REPRESENTATIVE. MAINTAIN TREES, SHRUBS AND OTHER PLANTS BY PRUNING, CULTIVATING AND WEEDING AS REQUIRED FOR HEALTHY GROWTH. RESTORE PLANTING SAUCERS, TIGHTEN AND REPAIR STAKE AND GUY SUPPORTS AND RESET TREES AND SHRUBS TO PROPER GRADES OR VERTICAL POSITIONS AS REQUIRED. RESTORE OR REPLACE DAMAGED WRAPPINGS. SPRAY WITH HERBICIDE AS REQUIRED TO KEEP TREES AND SHRUBS FREE OF INSECTS AND DISEASE. MAINTAIN LAWNS BY WATERING, FERTILIZING, WEEDING, MOWING, TRIMMING, AND OTHER OPERATIONS SUCH AS ROLLING, REGRASSING AND REPLANTING, AS REQUIRED TO ESTABLISH A SMOOTH, ACCEPTABLE LAWN, FREE OF ERODED OR BARE AREAS.
13. MAINTENANCE (ALTERNATE BID COST PER MONTH AFTER INITIAL 90 DAY MAINTENANCE PERIOD.

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| REVISIONS | | |
| Project No. | 230015101 | |
| Date | 02-09-2024 | |
| Scale | NOT TO SCALE | |
| Drawn By | KGP | |
| Checked By | CT | |
| Drawing No. | LP-501 | |
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