

# GEORGE HAGGAR FIRE TRAINING CENTER

UPPER DUBLIN TOWNSHIP, MONTGOMERY COUNTY, PENNSYLVANIA

## CONSULTANTS:

CMC ENGINEERING  
LANDSCAPE ARCHITECT, CIVIL ENGINEER  
& PLANNER

## PREPARED FOR:

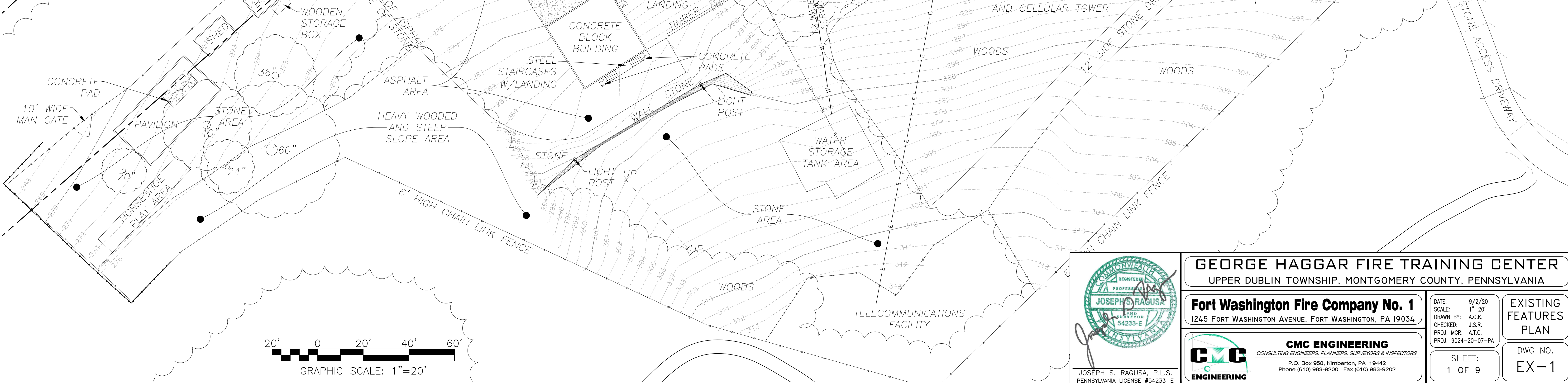
UPPER DUBLIN TOWNSHIP  
801 LOCH ALSH AVE, FORT WASHINGTON, PA 19034

## SHEET LISTING:

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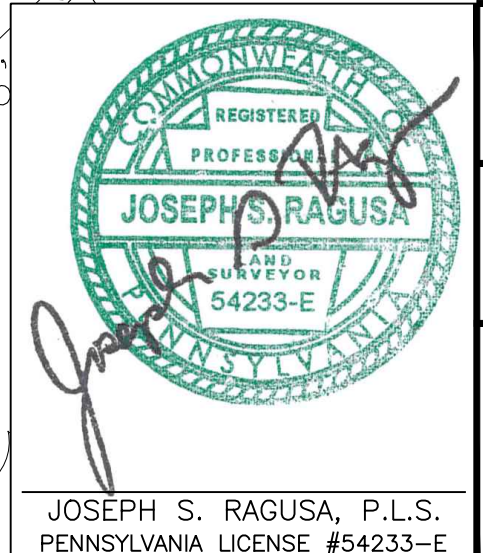


**SOIL DATA:**  
**EcC—Edgemont channery loam, 8 to 15 percent slopes**  
 Map Unit Composition  
 Edgemont and similar soils: 93 percent  
 Minor components: 7 percent  
 Landform: Ridges  
 Landform position (two-dimensional): Shoulder  
 Landform position (three-dimensional): Upper third of mountainflank  
 Down-slope shape: Convex, linear  
 Across-slope shape: Linear, convex  
 Parent material: Residuum weathered from quartzite and/or residuum weathered from orthoquartzite  
 Typical profile  
 Ap - 0 to 8 inches: channery loam  
 Bt - 8 to 36 inches: channery fine sandy loam  
 C - 36 to 60 inches: channery sandy loam  
 Properties and qualities  
 Slope: 8 to 15 percent  
 Depth to restrictive feature: 42 to 84 inches to lithic bedrock  
 Drainage class: Well drained  
 Runoff class: Low  
 Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 6.00 in/hr)  
 Depth to water table: More than 80 inches  
 Frequency of flooding: None  
 Frequency of ponding: None  
 Available water supply, 0 to 60 inches: Low (about 5.8 inches)  
 Interpretive groups  
 Land capability classification (irrigated): None specified  
 Land capability classification (nonirrigated): 3e  
 Hydrologic Soil Group: A  
 Ecological site: F148XY024PA - Moist, Piedmont - felsic, Upland, Mixed  
 Oak - Hardwood - Conifer Forest  
 Hydric soil rating: No  
 Minor Components  
 Buchanan  
 Percent of map unit: 4 percent  
 Landform: Terraces  
 Landform position (two-dimensional): Footslope  
 Landform position (three-dimensional): Mountainbase  
 Down-slope shape: Concave, linear  
 Across-slope shape: Concave, linear  
 Hydric soil rating: No  
 Andover  
 Percent of map unit: 3 percent  
 Landform: Drainage ways  
 Landform position (two-dimensional): Footslope, toeslope  
 Landform position (three-dimensional): Mountainbase  
 Down-slope shape: Concave, linear  
 Across-slope shape: Concave, linear  
 Hydric soil rating: Yes



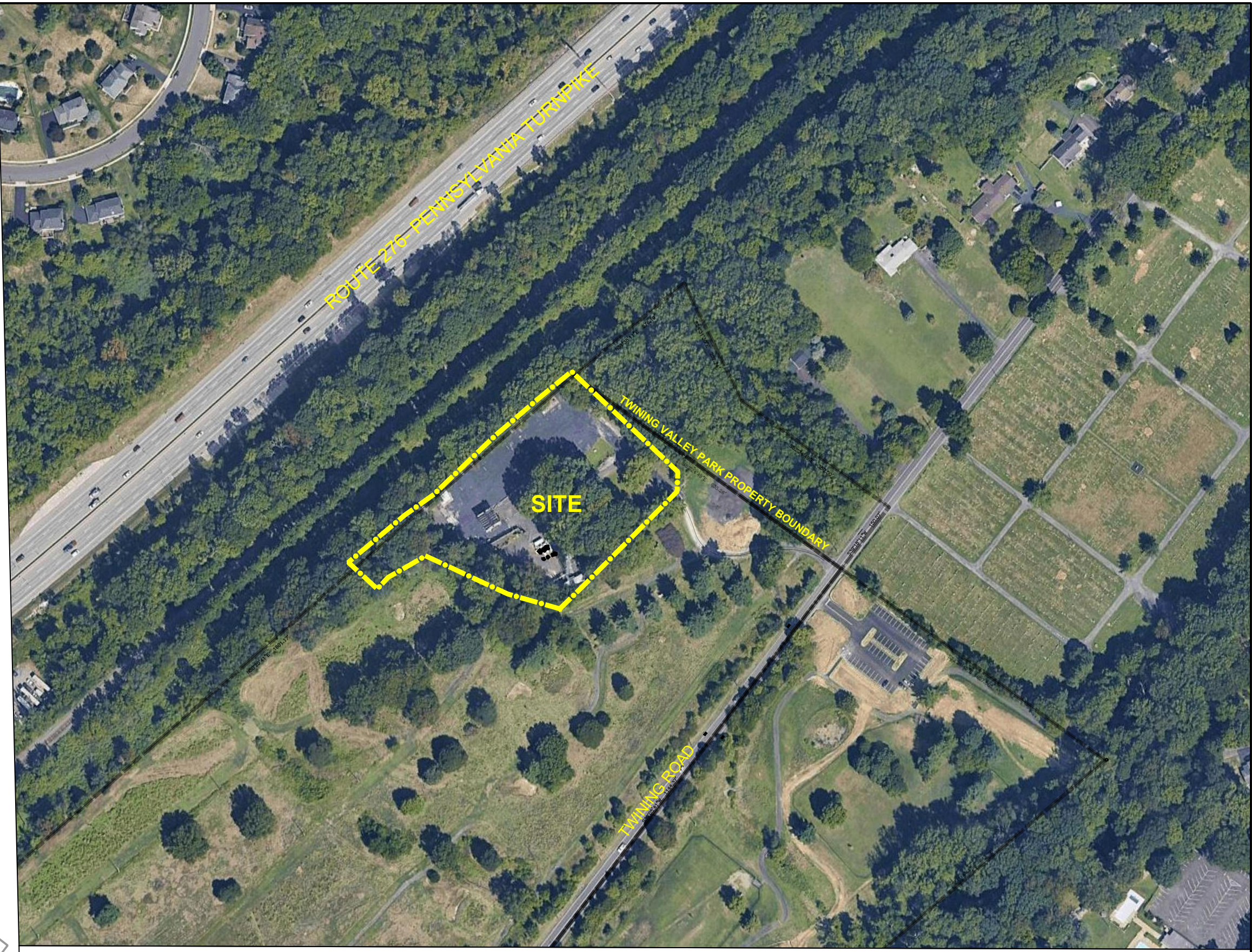
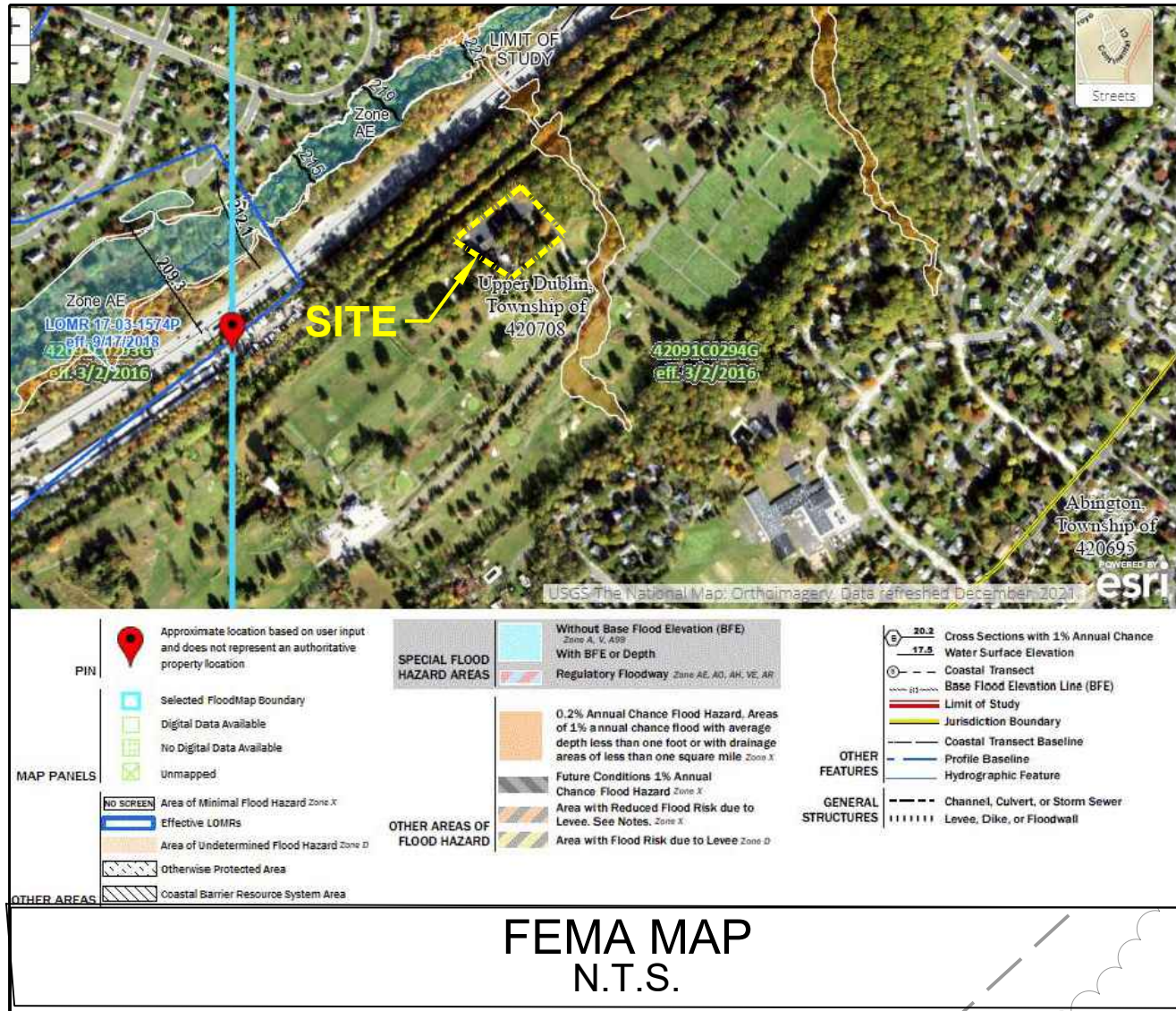
**GENERAL NOTE:**  
 EXISTING CONDITIONS TAKEN FROM A FIELD SURVEY PERFORMED BY CMC ENGINEERING ON AUGUST 25, 2020.

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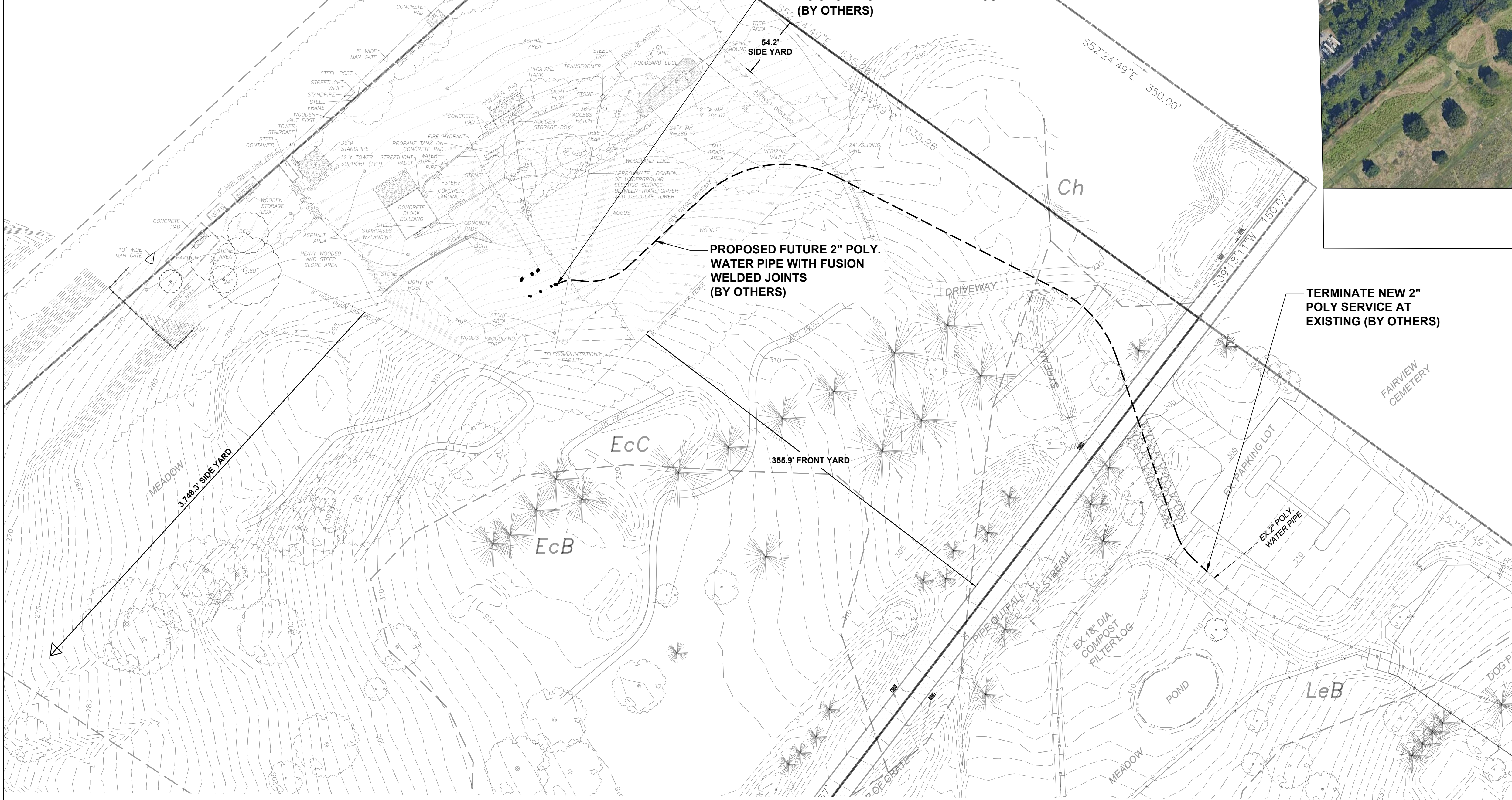


<b>GEORGE HAGGART FIRE TRAINING CENTER</b> UPPER DUBLIN TOWNSHIP, MONTGOMERY COUNTY, PENNSYLVANIA	
<b>Fort Washington Fire Company No. 1</b> 1245 FORT WASHINGTON AVENUE, FORT WASHINGTON, PA 19034	
DATE: 9/2/20 SCALE: 1"=20' DRAWN BY: A.C.K. CHECKED: J.S.R. PROJ. MGR: A.T.G. PROJ: 9024-20-07-PA	EXISTING FEATURES PLAN DWG NO. EX-1
<b>CMC ENGINEERING</b> CONSULTING ENGINEERS, PLANNERS, SURVEYORS & INSPECTORS P.O. Box 958, Kimberton, PA 19442 Phone (610) 983-9200 Fax (610) 983-9202	
SHEET: 1 OF 9	

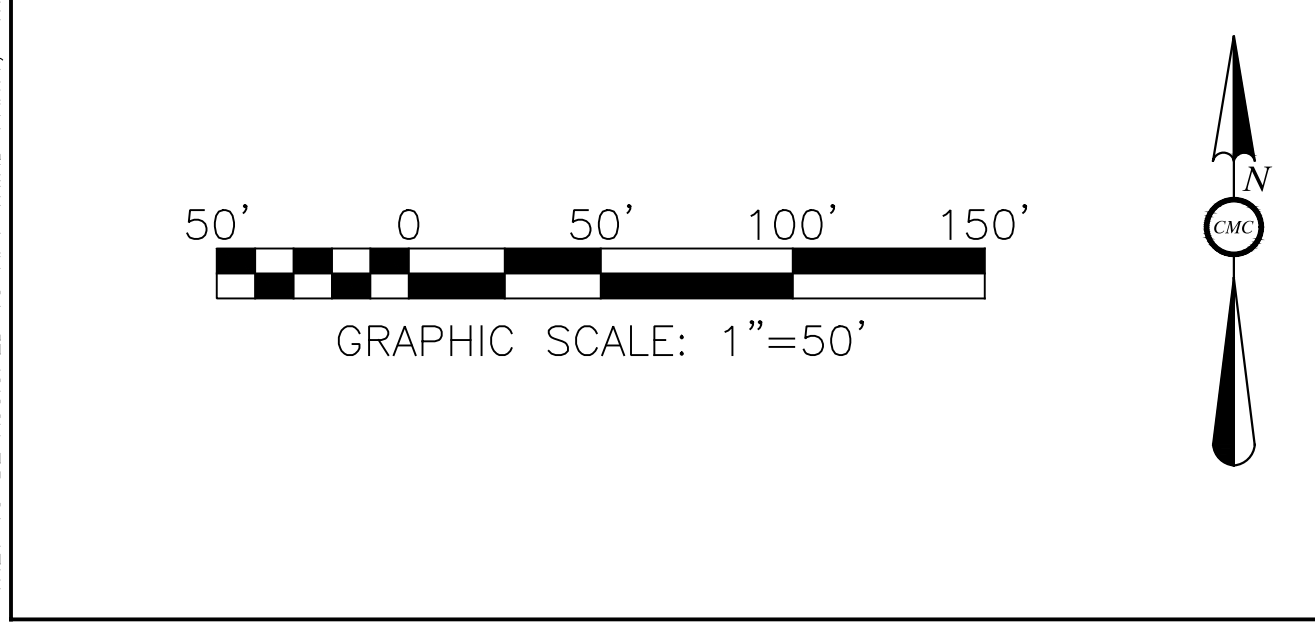




LOCATION MAP  
SCALE: 1"=200'

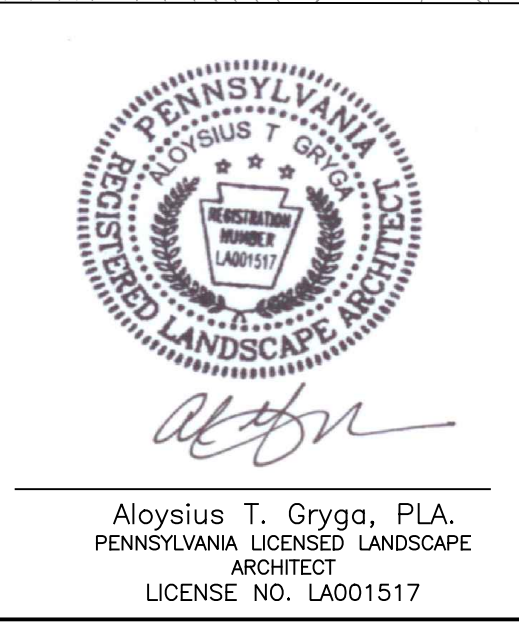


- GENERAL NOTES**
- EXISTING CONDITIONS TAKEN FROM A FIELD SURVEY PERFORMED BY CMC ENGINEERING ON AUGUST 25, 2020.
  - EXISTING CONDITION FEATURES LOCATED OUTSIDE OF THE PROPERTY BOUNDARY (FENCED AREA) HAS BEEN PROVIDED BY UPPER DUBLIN TOWNSHIP. ACCORDING TO THIS INFORMATION AND THE FEMA MAP (SHOWN ON THIS PAGE) THERE ARE NO FLOODPLAIN, WETLANDS, STREAMS AND BUILDING STRUCTURE LOCATED WITHIN 50 FEET OF THE PROJECT AREA.
  - ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE CONSTRUCTION SEQUENCE. EACH STAGE SHALL BE COMPLETED BEFORE ANY FOLLOWING STAGE IS INITIATED.
  - THE LIMIT OF DISTURBANCE (LOD) SHALL BE AS IDENTIFIED ON THE GRADING AND EROSION CONTROL PLAN.
  - THE CONTRACTOR SHALL BE RESPONSIBLE TO REPAIR ANY DAMAGED AREA OUTSIDE THE LIMIT OF DISTURBANCE CAUSED BY CONSTRUCTION ACTIVITY, AT THE CONTRACTOR'S EXPENSE.
  - THE STORAGE OF CONSTRUCTION MATERIALS SHALL OCCUR WITHIN THE LIMIT OF DISTURBANCE.
  - NO CONSTRUCTION VEHICLES NOR EQUIPMENT IS PERMITTED TO PARK OR BE STORED WITHIN THE CANOPY OF ANY TREES.



**LEGEND**

--- PROPOSED 2" POLY. WATER PIPE BY OTHERS



REV.	DATE	DESCRIPTION

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UPPER DUBLIN TOWNSHIP, MONTGOMERY COUNTY, PENNSYLVANIA

**UPPER DUBLIN TOWNSHIP**  
801 LOCH ALSH AVE, FORT WASHINGTON, PA 19034

**CMC ENGINEERING**  
LANDSCAPE ARCHITECTURE & PLANNING  
262 Bethlehem Pike, Suite 200, Colmar, PA 18915  
Tel: 610.983.9200 Fax: 610.983.9202

DATE: 04/21/23  
SCALE: 1"=20'  
AUTOCADD: HL  
CHECKED: AG  
PROJ. MGR: AG  
PROJ: 9074-21-1-PA

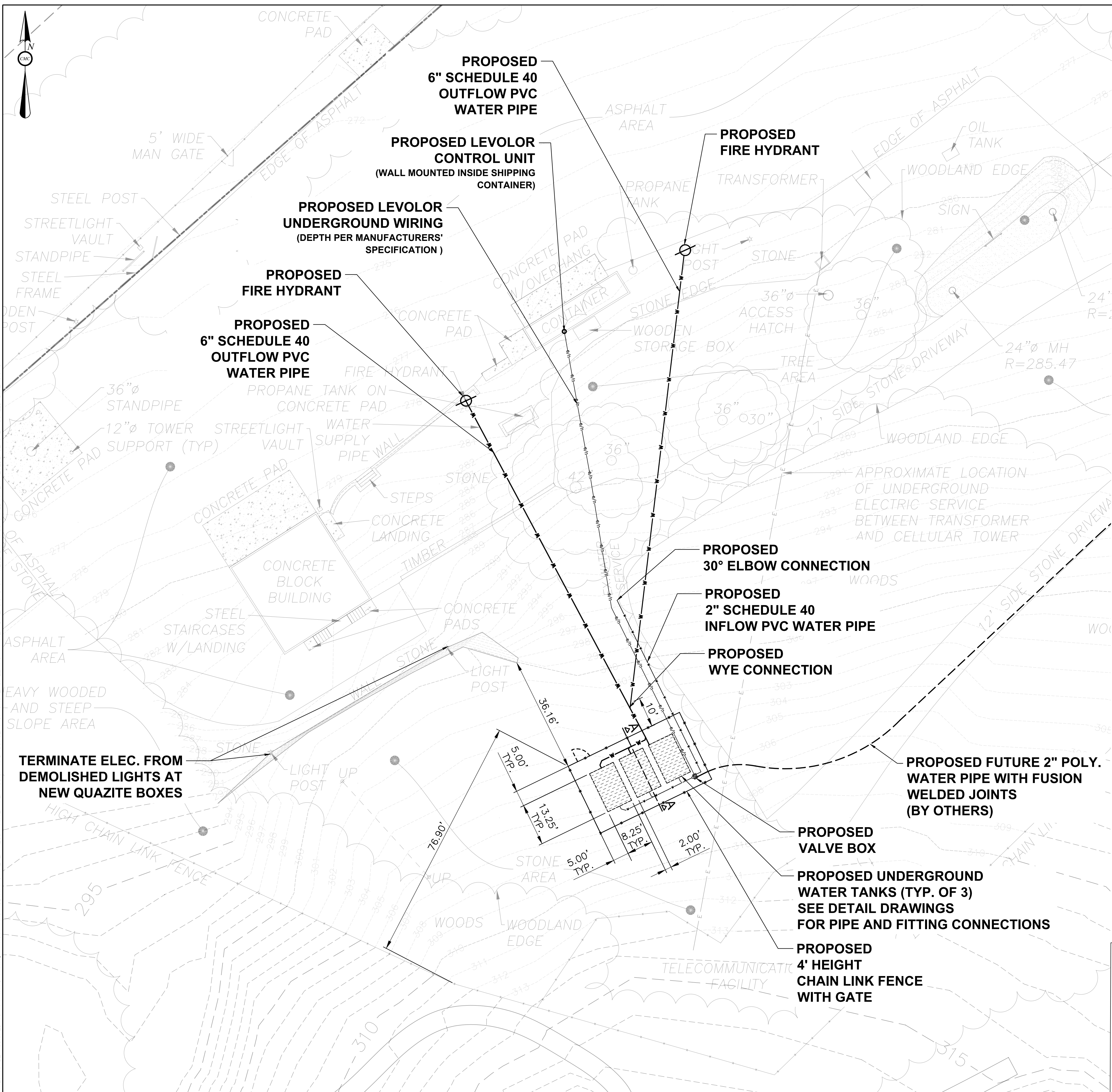
CONTEXT PLAN

DWG NO. S-1

SHEET: 3 of 9

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**LEGEND**

- +— PROPOSED 4' HEIGHT CHAIN LINK FENCE
- w— PROPOSED LEVOLOR UNDERGROUND WIRING
- w— PROPOSED 6" POLY. WATER PIPE
- w— PROPOSED 2" POLY. WATER PIPE
- - - PROPOSED FUTURE 2" POLY. WATER PIPE (BY OTHERS)
- ⊗ PROPOSED FIRE HYDRANT
- PROPOSED VALVE BOX
- ▨ PROPOSED UNDERGROUND WATER TANK

15' 0 15' 30' 45'

GRAPHIC SCALE: 1"=15'

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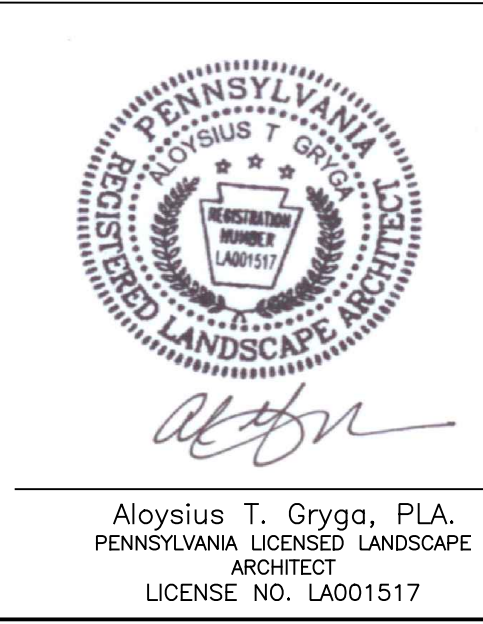
SITE IMPROVEMENT & UTILITY PLAN

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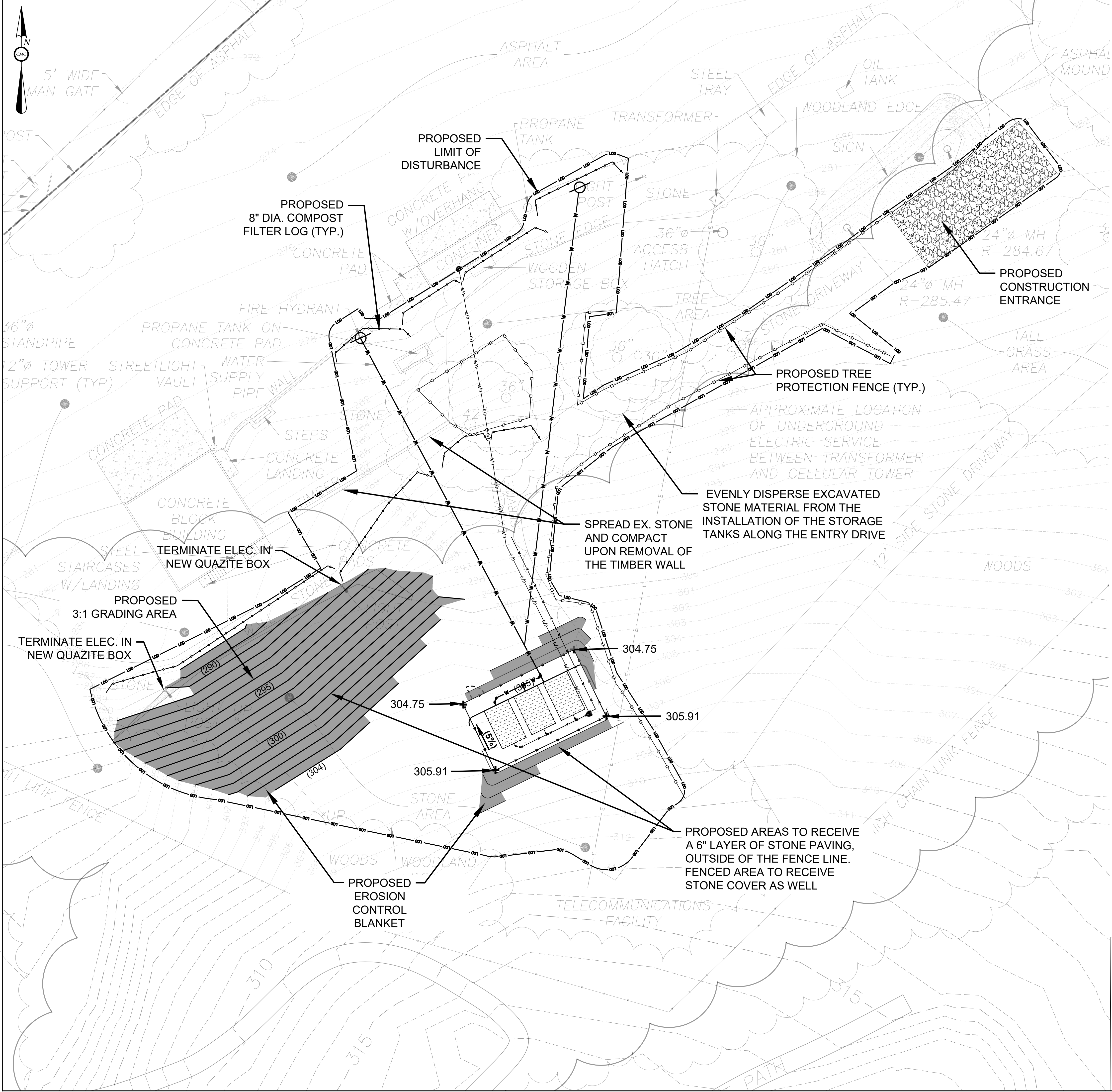
DWG NO. S-2

SHEET: 4 of 9

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**GRADING NOTES**

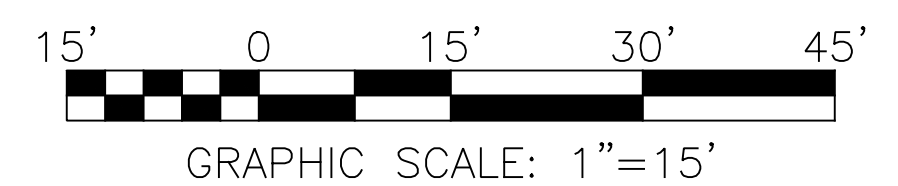
1. ALL GRADING SHALL BE PERFORMED IN ACCORDANCE WITH THE APPROVED PLANS.
2. ALL EXISTING SLOPES WITHIN THE PAVED SURFACES SHALL BE MAINTAINED. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO ENSURE THAT THE SLOPE OF THE PROPOSED PAVING REMAIN CONSISTENT WITH WHAT EXISTED PRIOR TO DEMOLITION. THE CONTRACTOR SHALL ELIMINATE ANY PONDING & AREAS THAT MAY EXIST WHEN REPAVING THE AREAS AND THEY SHALL REPAIR ANY NEW PAVING THAT RESULTS IN AREAS THAT CAPTURE / RETAIN WATER AT THE SURFACE TO THE SATISFACTION OF THE OWNER / OWNERS REPRESENTATIVE.
3. SITE GRADING SHALL NOT COMMENCE UNTIL AN APPROVED GRADING PERMIT HAS BEEN ISSUED BY THE TOWNSHIP.
4. IMPORT MATERIAL SHALL BE OBTAINED FROM, AND EXPORT MATERIAL SHALL BE DISPOSED OF AT, A LEGAL SITE.
5. THE TOWNSHIP ENGINEERS APPROVAL OF THESE PLANS DOES NOT CONSTITUTE THE BUILDING OFFICIALS APPROVAL OF ANY FOUNDATION FOR STRUCTURES TO BE PLACED ON THE AREA COVERED BY THESE PLANS.
6. ALL PROPOSED SLOPES SHALL BE ROUNDED INTO THE EXISTING TERRAIN TO PRODUCE A CONTOURED TRANSITION FROM CUT OR FILL FACES TO NATURAL GROUND AND ABUTTING CUT OR FILL SURFACES.
7. FILL SLOPES SHALL BE COMPACTED TO A RELATIVE COMPACTION OF 90 PERCENT OF MAXIMUM DRY DENSITY OR AS RECOMMENDED BY THE SOILS/GEOTECHNICAL ENGINEER.
8. ALL PROPOSED CONTOUR GRADES AND SPOT ELEVATIONS SHOWN ARE TO TOP OF PAVING, FINISHED FLOOR OR FINISH GRADE IN LANDSCAPED AREAS.
9. TOTAL AREA OF DISTURBANCE = 23,500 S.F. (0.54 ACRES)
10. NO CONCRETE PAVING IS PROPOSED FOR USE ON SITE. CONCRETE WASH-WATER CONTROL IS NOT NEEDED.

**CONSTRUCTION SEQUENCE**

1. AT LEAST SEVEN DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, THE OPERATOR SHALL INVITE ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES, THE LAND OWNER, ALL APPROPRIATE TOWNSHIP OFFICIALS, AND THE LANDSCAPE ARCHITECT TO AN ON-SITE MEETING.
2. AT LEAST THREE DAYS BEFORE STARTING AN EARTH DISTURBANCE ACTIVITIES, ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES SHALL NOTIFY THE PENNSYLVANIA ONE CALL SYSTEM INCORPORATED AT 1-800-242-1776 FOR BURIED UTILITY LOCATIONS. THE CONTRACTOR SHALL LOCATE THE ELEC. SERVICE FOR THE CELLULAR TOWER.
3. THE LIMIT OF DISTURBANCE IS TO BE FIELD DELINEATED PRIOR TO THE START OF ANY EARTH DISTURBANCE.
4. INSTALL EROSION CONTROL MEASURES AS SHOWN ON THE PLAN.
5. DEMOLISH AND DISPOSE THE EXISTING WALL, EXISTING WATER STORAGE TANKS, PIPE CONNECTIONS, CONCRETE PAD (INCLUDING SUB-BASE), AND EXISTING UNDERGROUND WATER PIPE AS NOTED ON THE DEMOLITION PLAN.
6. EXCAVATE FOR UNDERGROUND WATER TANKS AND WATER PVC PIPES TRENCHES AS SHOWN ON THE DEMOLITION PLAN.
7. DISPOSE ALL OF THE DEMOLITION MATERIALS INCLUDING CONCRETE PILING AND WOOD (GENERATED FROM THE REMOVAL OF THE WALL) OFFSITE AND EVENLY DISPERSE EXCAVATED STONE MATERIAL FROM THE INSTALLATION OF THE STORAGE TANKS ALONG THE ENTRY DRIVE.
8. INSTALL NEW FIRE HYDRANT, PLUMBING, VALVE BOX, WATER LEVELOR KIT AND WIRING.
9. INSTALL UNDERGROUND WATER TANKS (3), PIPES, FITTINGS, CONNECTIONS, AND INCIDENTALS AND BACKFILL AREA.
10. FINISH SITE GRADING.
11. INSTALL 4' HEIGHT CHAIN LINK FENCE AND GATE.
12. INSTALL 6" DEPTH 3/4" TO 1" CLEAN STONE OVER ALL AREAS THAT HAVE BEEN GRADED AROUND THE NEW UNDERGROUND TANKS AND AREAS OF EXISTING SURFACE STONE.
13. FINE GRADE AND LAWN SEEDING OF ALL AREAS NOT TO BE STONED.
14. REMOVE ALL E&S DEVICES UPON VEGETATIVE AREAS ACHIEVING A MIN. UNIFORM 70% PERENNIAL VEGETATIVE COVER OVER THE ENTIRE DISTURBED AREA.

**LEGEND**

- PROPOSED 4' HEIGHT CHAIN LINK FENCE
- PROPOSED 6" POLY. WATER PIPE
- PROPOSED 2" POLY. WATER PIPE
- PROPOSED TREE PROTECTION FENCE
- ⊕ PROPOSED FIRE HYDRANT
- PROPOSED LEVELOR UNDERGROUND WIRING
- PROPOSED VALVE BOX
- (305) PROPOSED CONTOUR
- PROPOSED LIMIT OF DISTURBANCE
- PROPOSED 8" DIA. COMPOST FILTER LOG
- PROPOSED EROSION CONTROL BLANKET
- PROPOSED CONSTRUCTION ENTRANCE
- PROPOSED UNDERGROUND WATER TANK



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SHEET: 5 of 9

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GRADING & EROSION CONTROL PLAN  
DWG NO. S-3

Aloysius T. Grygo, P.L.A.  
PENNSYLVANIA LICENSED LANDSCAPE ARCHITECT  
LICENSE NO. LA001517

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**EROSION AND SEDIMENTATION CONTROL NOTES**

**GENERAL CONSERVATION NOTES AND SPECIFICATIONS**  
 INTENT OF CONSERVATION PROGRAM: THE INTENT OF THIS PROGRAM IS TO PREVENT ACCELERATED EROSION OF THE EXPOSED SITE SOILS DURING THE CONSTRUCTION AND PERMANENT LIFE PERIODS OF THE DEVELOPMENT. THE PROGRAM REQUIRES RETENTION OF ALL SEDIMENTS ON THE CONSTRUCTION SITE TO MINIMIZE THE IMPACT OF DEVELOPMENT ON EXISTING STREAMS AND ADJACENT PROPERTY OWNERS. THESE OBJECTIVES WILL BE ACHIEVED BY MINIMIZING THE EXPOSURE TIME OF POTENTIALLY EROSIIVE SOILS TO RUNOFF AND INSTALLATION OF THE TEMPORARY CONSTRUCTION. THE INTENT OF THIS PROGRAM SHOULD BE UNDERSTOOD AND IMPLEMENTED THROUGHOUT THE ENTIRE DEVELOPMENT. THE VARIOUS CONSTRUCTION TRADES SHOULD BE APPRISED OF THIS PROGRAM AND DIRECTED TO PREVENT UNDUE DISTURBANCE OF PREPARED AND PROTECTED SURFACES.  
 SURFACE STABILIZATION CRITERIA: ALL DENUDEED SOIL SURFACES, INCLUDING SOIL STOCKPILES, ARE SUBJECT TO EROSION AND SHALL BE STABILIZED EITHER TEMPORARILY OR PERMANENTLY, IMMEDIATELY DURING NON-GERMINATION PERIODS, MULCH MUST BE APPLIED AT RECOMMENDED RATES. CRUSHED STONE ON PAVEMENT SUBGRADES IS CONSIDERED ADEQUATE PROTECTION. ALL DISTURBED ZONES AND VEGETATED REGIONS SHALL BE STABILIZED, PREFERABLY WITH A PERMANENT TREATMENT AS FOLLOWS:

**SEEDING SPECIFICATIONS**  
 1. SEEDING SHALL BE PLACED IN ACCORDANCE WITH PENNDOT PUBL. 408, SECTION 804.  
 2. SEED FORMULAS:

FORMULA AND SPECIES	% BY WT	MIN. % PURITY	MIN. % GERMINATION	MAX. % WEED	SEEDING RATE LBS/1000 SQ.YDS
<b>FORMULA B</b>					21.0 TOTAL
• PERENNIAL RYEGRASS MIXTURE	20	98	90	0.15	4.0
• CREEPING RED FESCUE OR CHEWINGS FESCUE	30	98	85	0.15	6.0
• KENTUCKY BLUEGRASS MIXTURE	50	98	80	0.20	11.0
<b>FORMULA C</b>					9.0 TOTAL
• CROWN VETCH	45	99	70	0.10	4.0
• ANNUAL RYEGRASS	55	98	90	0.15	5.0
<b>FORMULA D</b>					21.0 TOTAL
• TALL FESCUE	70	98	85	0.15	15.0
• CREEPING RED FESCUE OR CHEWINGS FESCUE	30	98	85	0.15	6.0
<b>FORMULA E</b>					10.0 TOTAL
• ANNUAL RYEGRASS	100	98	90	0.15	10.0
<b>FORMULA L</b>					24.0 TOTAL
• HARD FESCUE MIXTURE	55	98	85	0.15	13.0
• CREEPING RED FESCUE	35	98	85	0.15	8.5
• ANNUAL RYEGRASS	10	98	90	0.15	2.5
<b>FORMULA W</b>					10.5 TOTAL
• TALL FESCUE	70	98	85	0.15	7.5
• BIRDSFOOT TREFOIL MIXTURE	20	98	80*	0.10	2.0
• REDTOP	10	92	80	0.15	1.0

\*MINIMUM 20% HARD SEED AND 80% NORMAL SPROUTS.  
 3. APPLICATION DATES:  
 FORMULA B, D, & L - MARCH 15 TO JUNE 1  
 AUGUST 1 TO OCTOBER 15  
 FORMULA C - NOT PERMITTED  
 FORMULA E - MARCH 15 TO OCTOBER 15  
 FORMULA W - APRIL 1 TO JUNE 15  
 AUGUST 16 TO SEPTEMBER 15

4. SOIL SUPPLEMENTS MAY BE ADDED IN ACCORDANCE WITH SECTION 804 OR AS FOLLOWS:  
 FERTILIZER - STANDARD QUALITY  
 0-20-20 BASIC FERTILIZER 200 LBS. PER 1000 S.Y.  
 10-10-10 STARTER FERTILIZER 100 LBS. PER 1000 S.Y.  
 LIME - AGRICULTURAL LIMESTONE  
 90% MINIMUM OF CARBONATES 500 LBS. PER 1000 S.Y.

5. FORMULA B SHALL BE USED TO ESTABLISH FINAL VEGETATION IN LAWN AREAS AND FORMULA E SHALL BE USED TO ESTABLISH TEMPORARY VEGETATION.

**MULCHING SPECIFICATION**  
 1. MULCHING OF DISTURBED OR SEEDED AREA SHALL BE FURNISHED, PLACED, ANCHORED AND MAINTAINED IN ACCORDANCE WITH PENNDOT PUBL. 408, SECTION 805.  
 2. MULCHING SHALL BE PLACED IMMEDIATELY AFTER SEEDING OR WITHIN 48 HOURS AFTER SEEDING IS COMPLETE.  
 3. HAY OR STRAW SHALL BE UNIFORMLY PLACED IN A CONTINUOUS BLANKET, AT A MINIMUM RATE OF 3.0 TONS PER ACRE.  
 4. STRAW MULCH SHOULD BE APPLIED IN LONG STRANDS, NOT CHOPPED OR FINELY BROKEN.

**SEEDING AND MULCHING SCHEDULE**  
 1. THE DIVERSIONS, CHANNELS, SEDIMENT BASINS, SEDIMENT TRAPS, AND STOCKPILES, WHEN USED, MUST BE STABILIZED IMMEDIATELY.  
 2. IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE, THE OPERATOR SHALL STABILIZE ANY AREAS DISTURBED BY THE ACTIVITIES. DURING NON-GERMINATING PERIODS, MULCH MUST BE APPLIED AT THE SPECIFIED RATES. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE REDISTURBED WITHIN ONE YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE TEMPORARY VEGETATIVE STABILIZATION SPECIFICATIONS. DISTURBED AREAS WHICH ARE AT FINISHED GRADE OR WHICH WILL NOT BE REDISTURBED WITHIN ONE YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE PERMANENT VEGETATIVE STABILIZATION SPECIFICATIONS.  
 3. AN AREA SHALL BE CONSIDERED TO HAVE ACHIEVED FINAL STABILIZATION WHEN IT HAS A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED SURFACE EROSION AND SUBSURFACE CHARACTERISTICS SUFFICIENT TO RESIST SLIDING AND OTHER MOVEMENTS.

**MAINTENANCE PROGRAM FOR TEMPORARY SEDIMENTATION CONTROLS STRUCTURES**  
 MAINTENANCE OF ALL TEMPORARY SEDIMENTATION CONTROL STRUCTURES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND AS STATED BELOW:  
 1. SEDIMENT MUST BE REMOVED WHEN ACCUMULATIONS REACH ONE-HALF THE EFFECTIVE HEIGHT OF COMPOST FILTER SOCKS.  
 2. SEDIMENT MUST BE REMOVED FROM SEDIMENT TRAP WHEN THE SEDIMENT REACHES THE DESIGNATED CLEANOUT ELEVATION.  
 3. SEDIMENT MUST BE REMOVED FROM ROCK FILTERS WHEN COLLECTED SEDIMENT BEGINS TO AFFECT THE FILTER'S FUNCTION.  
 4. INLET PROTECTION FILTER BAGS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RAINFALL EVENT. BAGS SHALL BE EMPTIED AND RINSED OR REPLACED WHEN HALF FULL OR WHEN FLOW CAPACITY HAS BEEN REDUCED SO AS TO CAUSE FLOODING OR BYPASSING OF THE INLET. DAMAGED OR CLOGGED BAGS SHALL BE REPLACED.  
 5. SEDIMENT REMOVED FROM THE FACILITIES MAY BE REINCORPORATED INTO THE SITE'S EARTHWORK AS FILL OR TAKEN TO A SAFE, APPROVED LOCATION UNTIL THE SITE IS STABILIZED. ALL EROSION AND SEDIMENTATION CONTROLS MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL CONTROLS AFTER EACH STORM EVENT AND ON A WEEKLY BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE, REGRADING, RESEEDING, REMULCHING AND RENETTING MUST BE PERFORMED IMMEDIATELY.

**MAINTENANCE OF TEMPORARY SEDIMENTATION CONTROL STRUCTURES**  
 MAINTENANCE OF ALL TEMPORARY SEDIMENTATION CONTROL STRUCTURES SHALL BE IN ACCORDANCE WITH THESE PLANS AND THE EROSION AND CONTROL CONTROL NARRATIVE. INSPECTION AND MAINTENANCE OF ALL FACILITIES SHALL BE MADE AFTER EACH RAIN STORM EVENT AND ON A WEEKLY BASIS.

**SEDIMENT REMOVAL/DISPOSAL**  
 1. SEDIMENT MUST BE REMOVED FROM STORM WATER INLET PROTECTION AFTER EACH RUNOFF EVENT. ALL SILT AND FOREIGN MATTER SHALL BE REMOVED FROM THE TOP OF THE BINDER COURSE AND PROPERLY DISPOSED OF BEFORE WEARING SURFACE IS INSTALLED.  
 2. ALL PUMPING OF SEDIMENT LADEN WATER SHALL BE THROUGH A SEDIMENT CONTROL BMP, SUCH AS A PUMPED WATER FILTER BAG DISCHARGING OVER NON-DISTURBED AREAS.  
 3. SEDIMENT REMOVED FROM BMP'S SHALL BE DISPOSED OF IN LANDSCAPED AREAS OUTSIDE OF STEEP SLOPES, WETLANDS, FLOODPLAINS OR DRAINAGE SWALES AND IMMEDIATELY STABILIZED OR PLACED IN TOPSOIL STOCKPILES.

**DUST CONTROL**  
 DUST AND OTHER PARTICULATES SHALL BE KEPT WITHIN TOLERABLE LIMITS BY USING WATER. APPLICATION SHALL BE AS NEEDED OR AS DIRECTED BY THE TOWNSHIP ENGINEER OR THE CONSERVATION DISTRICT.

**CRITICAL VEGETATION AREAS (C.V.A.)**  
 CRITICAL VEGETATION AREAS ARE TO BE GRADED, HYDROSEEDDED AND MULCHED WITHIN 10 DAYS OF THE COMPLETION OF EXCAVATION. IN GENERAL, CRITICAL VEGETATION AREAS ARE DEFINED AS CUT SLOPES STEEPER THAN 3:1, ALL FILL SLOPES STEEPER THAN 4:1 AND IN ALL DRAINAGE SWALES.

**MONITORING, INSPECTION, AND REPORTING REQUIREMENTS**  
**A. VISUAL INSPECTIONS**  
 THE PERMITTEE AND CO PERMITTEE(S) MUST ENSURE THAT VISUAL SITE INSPECTIONS ARE CONDUCTED WEEKLY, AND WITHIN 24 HOURS AFTER EACH MEASURABLE RAINFALL EVENT THROUGHOUT THE DURATION OF CONSTRUCTION AND UNTIL THE RECEIPT AND ACKNOWLEDGEMENT OF THE NOT BY THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT. THE VISUAL SITE INSPECTIONS AND REPORTS SHALL BE COMPLETED IN A FORMAT PROVIDED BY THE DEPARTMENT, AND CONDUCTED BY QUALIFIED PERSONNEL, TRAINED AND EXPERIENCED IN EROSION AND SEDIMENT CONTROL, TO ASCERTAIN THAT E&S BMP'S AND PCSM BMP'S ARE PROPERLY CONSTRUCTED AND MAINTAINED TO EFFECTIVELY MINIMIZE POLLUTION TO THE WATERS OF THIS COMMONWEALTH. A WRITTEN REPORT OF EACH INSPECTION SHALL BE KEPT AND INCLUDE AT A MINIMUM:  
 1. A SUMMARY OF SITE CONDITIONS, E&S BMP AND PCSM BMP, IMPLEMENTATION AND MAINTENANCE AND COMPLIANCE ACTIONS  
 2. THE DATE, TIME, NAME AND SIGNATURE OF THE PERSON CONDUCTING THE INSPECTION.

**B. NONCOMPLIANCE REPORTING**  
 WHERE E&S, PCSM OR PPC BMP'S ARE FOUND TO BE INOPERATIVE OR INEFFECTIVE DURING AN INSPECTION, OR ANY OTHER TIME, THE PERMITTEE AND COPERMITTEE(S) SHALL, WITHIN 24 HOURS, CONTACT THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT, BY PHONE OR PERSONAL CONTACT, FOLLOWED BY THE SUBMISSION OF A WRITTEN REPORT WITHIN 5 DAYS OF THE INITIAL CONTACT. NONCOMPLIANCE REPORTS SHALL INCLUDE THE FOLLOWING INFORMATION:  
 1. ANY CONDITION ON THE PROJECT SITE WHICH MAY ENDANGER PUBLIC HEALTH, SAFETY, OR THE ENVIRONMENT, OR INVOLVE INCIDENTS WHICH CAUSE OR THREATEN POLLUTION.  
 2. THE PERIOD OF NONCOMPLIANCE, INCLUDING EXACT DATES AND TIMES AND/OR ANTICIPATED TIME WHEN THE ACTIVITY WILL RETURN TO COMPLIANCE.  
 3. STEPS BEING TAKEN TO REDUCE, ELIMINATE, AND PREVENT RECURRENCE OF THE NONCOMPLIANCE.  
 4. THE DATE OR SCHEDULE OF DATES, AND IDENTIFYING REMEDIES FOR CORRECTING NONCOMPLIANCE CONDITIONS.

**C. REDUCTION, LOSS, OR FAILURE OF THE BMP'S**  
 UPON REDUCTION, LOSS, OR FAILURE OF THE BMP'S, THE PERMITTEE AND CO PERMITTEE SHALL TAKE IMMEDIATE ACTION TO RESTORE THE BMP'S OR PROVIDE AN ALTERNATIVE METHOD OF TREATMENT, SUCH RESTORED BMP'S OR ALTERNATIVE TREATMENT SHALL BE AT LEAST AS EFFECTIVE AS THE ORIGINAL BMP'S.

**D. TERMINATION OF COVERAGE**  
 UPON PERMANENT STABILIZATION OF EARTH DISTURBANCE ACTIVITIES ASSOCIATED WITH CONSTRUCTION ACTIVITY THAT ARE AUTHORIZED BY THIS PERMIT AND WHEN BMP'S IDENTIFIED IN THE PCSM PLAN HAVE BEEN PROPERLY INSTALLED, THE PERMITTEE AND/OR CO PERMITTEE OF THE FACILITY MUST SUBMIT A NOT FORM THAT IS SIGNED IN ACCORDANCE WITH PART B, SECTION 1.C, SIGNATORY REQUIREMENTS, OF THIS PERMIT. ALL LETTERS CERTIFYING DISCHARGE TERMINATION ARE TO BE SENT TO THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT. THE NOT MUST CONTAIN THE FOLLOWING INFORMATION: FACILITY NAME, ADDRESS, AND LOCATION, OPERATOR NAME AND ADDRESS, PERMIT NUMBER, IDENTIFICATION AND PROOF OF ACKNOWLEDGMENT FROM THE PERSON(S) WHO WILL BE RESPONSIBLE FOR OPERATION AND MAINTENANCE OF THE PCSM BMP'S IN ACCORDANCE WITH THE APPROVED PCSM PLAN, AND THE REASON FOR PERMIT TERMINATION. UNTIL THE PERMITTEE HAS RECEIVED WRITTEN ACKNOWLEDGEMENT OF THE NOT, THE PERMITTEE WILL REMAIN AND WILL BE RESPONSIBLE FOR VIOLATIONS OCCURRING ON THE PROJECT SITE. FOR OPERATING AND MAINTAINING ALL E&S BMP'S AND PCSM BMP'S ON THE PROJECT SITE.

**E. COMPLETION CERTIFICATE AND FINAL PLANS**  
 WITHIN 30 DAYS AFTER THE COMPLETION OF EARTH DISTURBANCE ACTIVITIES AUTHORIZED BY THIS PERMIT, INCLUDING THE PERMANENT STABILIZATION OF THE SITE AND PROPER INSTALLATION OF PCSM BMP'S IN ACCORDANCE WITH THE APPROVED PCSM PLAN, OR UPON SUBMISSION OF THE NOT IF SOONER, THE PERMITTEE SHALL FILE WITH THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT A STATEMENT SIGNED BY A LICENSED PROFESSIONAL AND BY THE PERMITTEE CERTIFYING THAT WORK HAS BEEN PERFORMED IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF THIS PERMIT AND THE APPROVED E&S AND PCSM PLANS.

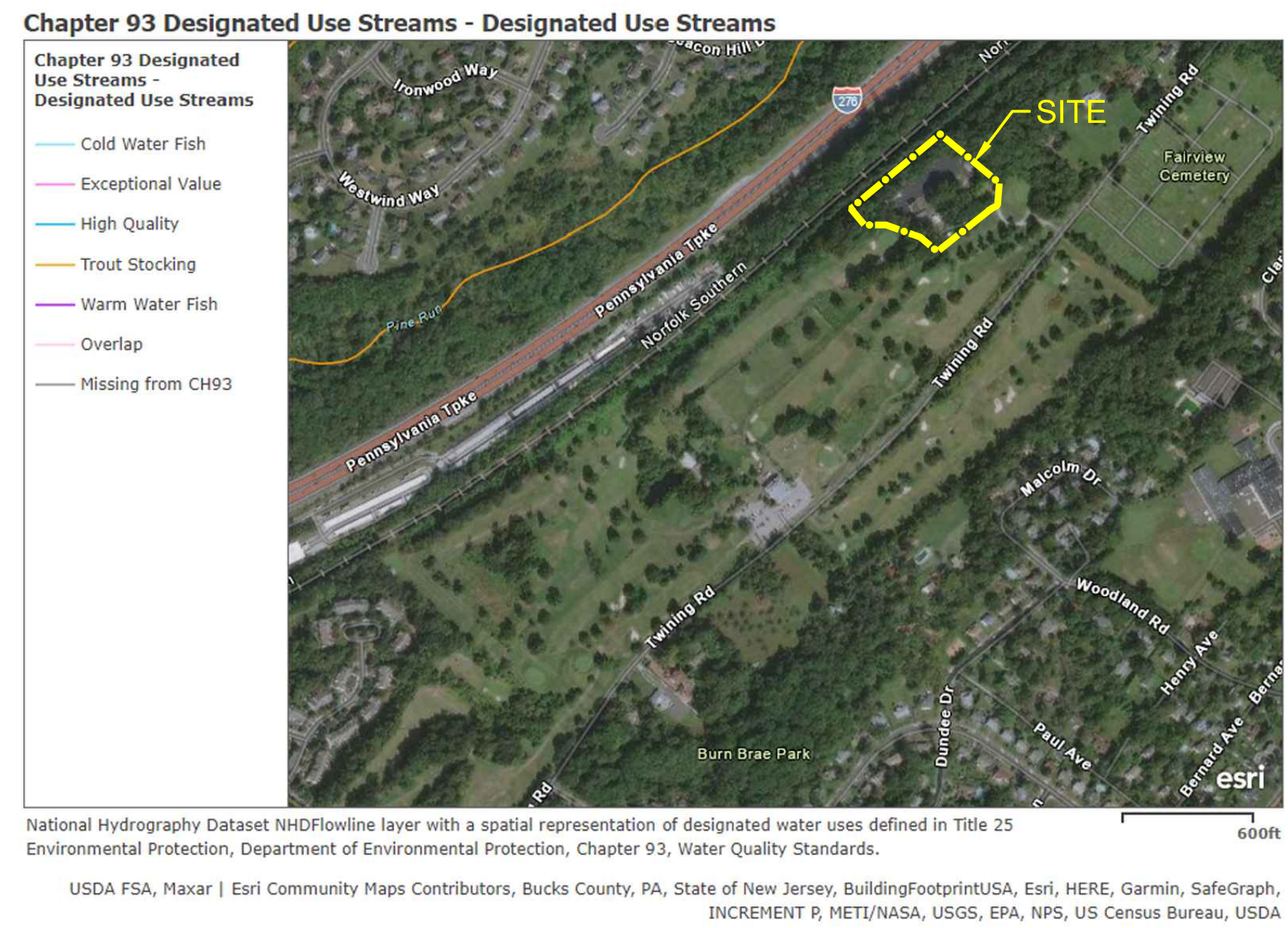
**SOIL EROSION AND SEDIMENTATION CONTROL NOTES**  
 1. ALL EARTH DISTURBANCES, INCLUDING CLEARING AND GRUBBING AS WELL AS CUTS AND FILLS SHALL BE DONE IN ACCORDANCE WITH THE APPROVED E&S PLAN. A COPY OF THE APPROVED DRAWINGS (STAMPED, SIGNED AND DATED BY THE REVIEWING AGENCY) MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES. THE REVIEWING AGENCY SHALL BE NOTIFIED OF ANY CHANGES TO THE APPROVED PLAN PRIOR TO IMPLEMENTATION OF THOSE CHANGES. THE REVIEWING AGENCY MAY REQUIRE A WRITTEN SUBMITTAL OF THOSE CHANGES FOR REVIEW AND APPROVAL AT ITS DISCRETION.  
 2. AT LEAST 7 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, INCLUDING CLEARING AND GRUBBING, THE OWNER AND/OR OPERATOR SHALL INVITE ALL CONTRACTORS, THE LANDOWNER, APPROPRIATE MUNICIPAL OFFICIALS, THE E&S PLAN PREPARER, THE PCSM PLAN PREPARER, THE LICENSED PROFESSIONAL RESPONSIBLE FOR OVERSIGHT OF CRITICAL STAGES OF IMPLEMENTATION OF THE PCSM PLAN, AND A REPRESENTATIVE FROM THE LOCAL CONSERVATION DISTRICT TO AN ON-SITE PRE-CONSTRUCTION MEETING.  
 3. AT LEAST 3 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, OR EXPANDING INTO AN AREA PREVIOUSLY UNMARKED, THE PENNSYLVANIA ONE CALL SYSTEM INC. SHALL BE NOTIFIED AT 1-800-242-1776 FOR THE LOCATION OF EXISTING UNDERGROUND UTILITIES.  
 4. ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE PROVIDED ON THE PLAN DRAWINGS. DEVIATION FROM THAT SEQUENCE MUST BE APPROVED IN WRITING FROM THE LOCAL CONSERVATION DISTRICT OR BY THE DEPARTMENT PRIOR TO IMPLEMENTATION.  
 5. AREAS TO BE FILLED ARE TO BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS AND OTHER OBJECTIONABLE MATERIAL.  
 6. CLEARING, GRUBBING, AND TOPSOIL STRIPPING SHALL BE LIMITED TO THOSE AREAS DESCRIBED IN EACH STAGE OF THE CONSTRUCTION SEQUENCE. GENERAL SITE CLEARING, GRUBBING AND TOPSOIL STRIPPING MAY NOT COMMENCE IN ANY STAGE OR PHASE OF THE PROJECT UNTIL THE E&S BMP'S SPECIFIED BY THE BMP SEQUENCE FOR THAT STAGE OR PHASE HAVE BEEN INSTALLED AND ARE FUNCTIONING AS DESCRIBED IN THIS E&S PLAN.  
 7. AT NO TIME SHALL CONSTRUCTION VEHICLES BE ALLOWED TO ENTER AREAS OUTSIDE THE LIMIT OF DISTURBANCE BOUNDARIES SHOWN ON THE PLAN MAPS. THESE AREAS MUST BE CLEARLY MARKED AND FENCED OFF BEFORE CLEARING AND GRUBBING OPERATIONS BEGIN.  
 8. TOPSOIL REQUIRED FOR THE ESTABLISHMENT OF VEGETATION SHALL BE STOCKPILED AT THE LOCATION(S) SHOWN ON THE PLAN MAP(S) IN THE AMOUNT NECESSARY TO COMPLETE THE FINISH GRADING OF ALL EXPOSED AREAS THAT ARE TO BE STABILIZED BY VEGETATION. EACH STOCKPILE SHALL BE PROTECTED IN THE MANNER SHOWN ON THE PLAN DRAWINGS. STOCKPILE SLOPES SHALL BE 2H:1V OR FLATTER. STOCKPILE HEIGHTS SHALL NOT EXCEED 35 FEET.  
 9. IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO MINIMIZE THE POTENTIAL FOR EROSION AND SEDIMENT POLLUTION AND NOTIFY THE LOCAL CONSERVATION DISTRICT AND/OR THE REGIONAL OFFICE OF THE DEPARTMENT.  
 10. BEFORE INITIATING ANY REVISION TO THE APPROVED EROSION AND SEDIMENT CONTROL PLAN OR REVISIONS TO OTHER PLANS WHICH MAY AFFECT THE EFFECTIVENESS OF THE APPROVED E&S CONTROL PLAN, THE OPERATOR MUST RECEIVE APPROVAL OF THE REVISIONS FROM THE MONTGOMERY COUNTY CONSERVATION DISTRICT. THE OPERATOR SHALL ASSURE THAT THE APPROVED EROSION AND SEDIMENT CONTROL PLAN IS PROPERLY AND COMPLETELY IMPLEMENTED.  
 11. ALL BUILDING MATERIALS AND WASTES SHALL BE REMOVED FROM THE SITE AND RECYCLED OR DISPOSED OF IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 280.1 ET SEQ., 271.1, AND 287.1 ET. SEG. NO BUILDING MATERIALS OR WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURNED, BURIED, DUMPED, OR DISCHARGED AT THE SITE.  
 12. ALL OFF-SITE WASTE AND BORROW AREAS MUST HAVE AN E&S PLAN APPROVED BY THE LOCAL CONSERVATION DISTRICT OR THE DEPARTMENT FULLY IMPLEMENTED PRIOR TO BEING ACTIVATED.  
 13. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ANY MATERIAL BROUGHT ON SITE IS CLEAN FILL. FORM FP-001 MUST BE RETAINED BY THE PROPERTY OWNER FOR ANY FILL MATERIAL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE BUT QUALIFYING AS CLEAN FILL DUE TO ANALYTICAL TESTING.  
 14. VEHICLES AND EQUIPMENT MUST ENTER FROM TWINING ROAD AND USE EXISTING 17' SIDE STONE DRIVE. UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENTATION BMP'S MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENTATION BMP'S AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL SITE INSPECTIONS, THE COMPLIANCE INSPECTIONS, AND THE DATE, TIME, AND NAME OF THE PERSON CONDUCTING THE INSPECTION WILL BE DOCUMENTED IN AN INSPECTION LOG KEPT FOR THIS PURPOSE. THE INSPECTION LOG WILL BE KEPT ON SITE AT ALL TIMES AND MADE AVAILABLE TO THE DISTRICT UPON REQUEST. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING, AND RENETTING MUST BE PERFORMED IMMEDIATELY. IF EROSION AND SEDIMENTATION BMP'S FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMP'S OR MODIFICATIONS OF THOSE INSTALLED WILL BE NEEDED. WHERE BMP'S ARE FOUND TO FAIL TO ALLEVIATE EROSION AND SEDIMENT POLLUTION THE PERMITTEE OR CO-PERMITTEE SHALL INCLUDE THE FOLLOWING INFORMATION:  
 15.1. THE LOCATION AND SEVERITY OF THE BMP'S FAILURE AND ANY POLLUTION EVENTS.  
 15.2. ALL STEPS TAKEN TO REDUCE, ELIMINATE AND PREVENT THE RECURRENCE OF THE NON-COMPLIANCE.  
 15.3. THE TIME FRAME TO CORRECT THE NON-COMPLIANCE, INCLUDING THE EXACT DATES WHEN THE ACTIVITY WILL RETURN TO COMPLIANCE.  
 AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENT BMP'S MUST BE REMOVED. AREAS DISTURBED DURING THEIR REMOVAL OF THE BMP'S MUST BE STABILIZED IMMEDIATELY.

16. SEDIMENT TRACKED ONTO ANY PUBLIC ROADWAY OR SIDEWALK SHALL BE RETURNED TO THE SITE IMMEDIATELY AND DISPOSED IN THE MANNER DESCRIBED IN THIS PLAN. IN NO CASE SHALL THE SEDIMENT BE WASHED, SHOVELED, OR SWEEPED INTO ANY ROADSIDE DITCH, STORM SEWER, OR SURFACE WATER.  
 17. ALL SEDIMENT REMOVED FROM BMP'S SHALL BE DISPOSED OF IN THE MANNER DESCRIBED ON THE PLAN DRAWINGS.  
 18. AREAS WHICH ARE TO BE TOP SOILED SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 3 TO 5 INCHES -- 6 TO 12 INCHES ON COMPACTED SOIL OR PRIOR TO PLACEMENT OF TOPSOIL. AREAS TO BE VEGETATED SHALL HAVE A MINIMUM 4 INCHES OF TOPSOIL IN PLACE PRIOR TO SEEDING AND MULCHING. FILL OUTSLOPES SHALL HAVE A MINIMUM OF 2 INCHES OF TOPSOIL.  
 19. ALL FILLS SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS. FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES AND CONDUITS, ETC. SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES.  
 20. ALL EARTHEN FILLS SHALL BE PLACED IN COMPACTED LAYERS NOT TO EXCEED 8 INCHES IN THICKNESS.  
 21. FILL MATERIALS SHALL BE FREE OF FROZEN PARTICLES, BRUSH, ROOTS, SOD, OR OTHER FOREIGN OR OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY FILLS.  
 22. FROZEN MATERIALS OR SOFT, MUCKY, OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED INTO FILLS.  
 23. FILL SHALL NOT BE PLACED ON SATURATED OR FROZEN SURFACES.  
 24. SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE HANDLED IN ACCORDANCE WITH THE STANDARD AND SPECIFICATION FOR SUBSURFACE DRAIN OR OTHER APPROVED METHOD.  
 25. ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY UPON REACHING FINISHED GRADE. CUT SLOPES IN COMPETENT BEDROCK AND ROCK FILLS NEED NOT BE VEGETATED. SEEDED AREAS WITHIN 50 FEET OF A SURFACE WATER OR AS OTHERWISE SHOWN ON THE PLAN DRAWINGS, SHALL BE BLANKETED ACCORDING TO THE STANDARDS OF THE PLAN. EROSION CONTROL BLANKET IS REQUIRED TO STABILIZE ALL SLOPES 3:1 AND GREATER. ALL EROSION CONTROL BLANKET SHALL BE NORTH AMERICAN GREEN S150, OR APPROVED EQUAL.  
 26. IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE IN ANY AREA OR SUBAREA OF THE PROJECT, THE OPERATOR SHALL STABILIZE ALL DISTURBED AREAS. DURING NON-GERMINATING PROJECT, THE OPERATOR SHALL STABILIZE ALL DISTURBED AREAS. DURING NON-GERMINATING MONTHS, MULCH OR PROTECTIVE BLANKETING SHALL BE APPLIED AS DESCRIBED IN THE PLAN. AREAS NOT AT FINISHED GRADE, WHICH WILL BE REACTIVATED WITHIN 1 YEAR, MAY BE STABILIZED IN ACCORDANCE WITH THE TEMPORARY STABILIZATION SPECIFICATIONS. THOSE AREAS WHICH WILL NOT BE REACTIVATED WITHIN 1 YEAR SHALL BE STABILIZED IN ACCORDANCE WITH THE PERMANENT STABILIZATION SPECIFICATIONS.  
 27. PERMANENT STABILIZATION IS DEFINED AS A MINIMUM UNIFORM, PERENNIAL 70% VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED EROSION. CUT AND FILL SLOPES SHALL BE CAPABLE OF RESISTING FAILURE DUE TO SLUMPING, SLIDING, OR OTHER MOVEMENTS.  
 28. E&S BMP'S SHALL REMAIN FUNCTIONAL AS SUCH UNTIL ALL AREAS TRIBUTARY TO THEM ARE PERMANENTLY STABILIZED OR UNTIL THEY ARE REPLACED BY ANOTHER BMP APPROVED BY THE LOCAL CONSERVATION DISTRICT OR THE DEPARTMENT.  
 29. E&S BMP'S MUST BE CONSTRUCTED, STABILIZED AND FUNCTIONAL BEFORE SITE DISTURBANCE WITHIN THE TRIBUTARY AREAS OF THOSE BMP'S.  
 30. UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL CONTACT THE LOCAL CONSERVATION DISTRICT FOR AN INSPECTION PRIOR TO REMOVAL/CONVERSION OF THE E&S BMP'S.  
 31. AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENT BMP'S MUST BE REMOVED OR CONVERTED TO PERMANENT POST CONSTRUCTION STORMWATER MANAGEMENT BMP'S. AREAS DISTURBED DURING REMOVAL OR CONVERSION OF THE BMP'S SHALL BE STABILIZED IMMEDIATELY. IN ORDER TO ENSURE RAPID REVEGETATION OF DISTURBED AREAS, SUCH REMOVAL/CONVERSIONS ARE TO BE DONE ONLY DURING THE GERMINATING SEASON.  
 32. UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL CONTACT THE LOCAL CONSERVATION DISTRICT TO SCHEDULE A FINAL INSPECTION.  
 33. FAILURE TO CORRECTLY INSTALL E&S BMP'S, FAILURE TO PREVENT SEDIMENT-LADEN RUNOFF FROM LEAVING THE CONSTRUCTION SITE OR FAILURE TO TAKE IMMEDIATE CORRECTIVE ACTION TO RESOLVE FAILURE OF E&S BMP'S MAY RESULT IN ADMINISTRATIVE, CIVIL, AND/OR CRIMINAL PENALTIES BEING INSTITUTED BY THE DEPARTMENT AS DEFINED IN SECTION 602 OF THE PENNSYLVANIA CLEAN STREAMS LAW. THE CLEAN STREAMS LAW PROVIDES FOR UP TO \$10,000 PER DAY IN CIVIL PENALTIES, UP TO \$10,000 IN SUMMARY CRIMINAL PENALTIES, AND UP TO \$25,000 IN MISDEMEANOR CRIMINAL PENALTIES FOR EACH VIOLATION.  
 34. SHOULD ANY MEASURES CONTAINED WITHIN THIS PLAN PROVE INCAPABLE OF ADEQUATELY REMOVING SEDIMENT FROM ON-SITE FLOWS PRIOR TO DISCHARGE OR STABILIZING THE SURFACES INVOLVED, ADDITIONAL MEASURES MUST BE IMMEDIATELY IMPLEMENTED BY THE CONTRACTOR TO ELIMINATE ALL SUCH PROBLEMS. THE MONTGOMERY COUNTY CONSERVATION DISTRICT MUST BE NOTIFIED BY THE DEVELOPER OF ANY AND ALL CHANGES OR MODIFICATIONS TO THE CONTROLS.  
 35. ALL COMPOST FILTER SOCK MUST BE INSTALLED ON UNDISTURBED GROUND, AT LEAST 8 FEET BELOW THE TOE OF THE SLOPE, AND PARALLEL TO EXISTING ELEVATION CONTOURS WITH BOTH ENDS EXTENDING UP SLOPE AT LEAST 8' AT A 45 DEGREE ANGLE.  
 36. THE CONTRACTOR IS ADVISED TO BECOME THOROUGHLY FAMILIAR WITH THE PROVISION OF APPENDIX 64, EROSION CONTROL RULES AND REGULATIONS, TITLE 25, PART 1, DEPARTMENT OF ENVIRONMENTAL PROTECTION SUB-PART C, PROTECTION OF NATURAL RESOURCES, ARTICLE III, WATER RESOURCES, CHAPTER 102, EROSION CONTROL.  
 37. THE PROPOSED CONSERVATION MEASURES MUST BE IN COMPLIANCE WITH PADEP CHAPTER 102 REGULATIONS.  
 38. A COPY OF THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES.  
 39. UPON THE INSTALLATION OR STABILIZATION OF ALL PERIMETER SEDIMENT CONTROL BMP'S AND AT LEAST 3 DAYS PRIOR TO PROCEEDING WITH THE BULK EARTH DISTURBANCE ACTIVITIES, THE PERMITTEE OR CO-PERMITTEE SHALL PROVIDE NOTIFICATION TO THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT.  
 40. CLEAN FILL IS DEFINED AS: UNCONTAMINATED, NON-WATER SOLUBLE, NON-DECOMPOSABLE, INERT, SOLID MATERIAL. THE TERM INCLUDES SILT, ROCK, STONE, DRIVING 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. (THE TERM "USED ASPHALT" DOES NOT INCLUDE MILLED ASPHALT OR ASPHALT THAT HAS BEEN PROCESSED FOR RE-USE). CLEAN FILL AFFECTED BY A SPILL OR RELEASE OF A REGULATED TED SUBSTANCE: FILL MATERIALS AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE STILL QUALIFIES AS CLEAN FILL PROVIDED THE TESTING REVEALS THAT THE FILL MATERIAL CONTAINS CONCENTRATIONS OF REGULATED SUBSTANCES THAT ARE BELOW THE RESIDENTIAL LIMITS IN TABLES FP-1A AND FP-1B FOUND IN THE DEPARTMENT'S POLICY "MANAGEMENT OF FILL". ANY PERSON PLACING CLEAN FILL THAT HAS BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE MUST USE FORM FP-001 TO CERTIFY THE ORIGIN OF THE FILL MATERIAL AND THE RESULTS OF THE ANALYTICAL TESTING TO QUALIFY THE MATERIAL AS CLEAN FILL. FORM FP-001 MUST BE RETAINED BY THE OWNER OF THE PROPERTY RECEIVING THE FILL. A COPY OF FORM FP-001 CAN BE FOUND AT THE END OF THESE INSTRUCTIONS.  
 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, SANBORN MAPS, ENVIRONMENTAL QUESTIONNAIRES, TRANSACTION SCREENING, ANALYTICAL TESTING, ENVIRONMENTAL ASSESSMENTS OR AUDITS. ANALYTICAL TESTING IS NOT A REQUIRED PART OF DUE DILIGENCE UNLESS VISUAL INSPECTION AND/OR REVIEW OF THE PAST LAND USE OF THE PROPERTY INDICATES THAT THE FILL MAY HAVE BEEN SUBJECT TO A SPILL OR RELEASE OF REGULATED SUBSTANCE. IF THE FILL MAY HAVE BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE, IT MUST BE TESTED TO DETERMINE IF IT QUALIFIES AS CLEAN FILL. TESTING SHOULD BE PERFORMED IN ACCORDANCE WITH APPENDIX A OF THE DEPARTMENT'S POLICY "MANAGEMENT OF FILL".  
 41. FILL MATERIAL THAT DOES NOT QUALIFY AS CLEAN FILL IS REGULATED FILL. REGULATED FILL IS WASTE AND MUST BE MANAGED IN ACCORDANCE WITH THE DEPARTMENT'S MUNICIPAL OR RESIDUAL WASTE REGULATIONS BASED ON 25 PA. CODE CHAPTERS 287 RESIDUAL WASTE MANAGEMENT OR 271 MUNICIPAL WASTE MANAGEMENT, WHICHEVER IS APPLICABLE. THESE REGULATIONS ARE AVAILABLE ON-LINE AT www.pacode.com.  
 42. ALL CHANNELS SHALL BE KEPT FREE OF OBSTRUCTIONS INCLUDING BUT NOT LIMITED TO FILL, ROCKS, LEAVES, WOODY DEBRIS, ACCUMULATED SEDIMENT, EXCESS VEGETATION, AND CONSTRUCTION MATERIAL/WASTES.  
 43. UNDERGROUND UTILITIES CUTTING THROUGH ANY ACTIVE CHANNEL SHALL BE IMMEDIATELY BACKFILLED AND THE CHANNEL RESTORED TO ITS ORIGINAL CROSS-SECTION AND PROTECTIVE LINING. ANY BASE FLOW WITHIN THE CHANNEL SHALL BE CONVEYED PAST THE WORK AREA IN THE MANNER DESCRIBED IN THIS PLAN UNTIL SUCH RESTORATION IS COMPLETE.  
 44. SEDIMENT BASINS AND/OR TRAPS SHALL BE KEPT FREE OF ALL CONSTRUCTION WASTE, WASH WATER, AND OTHER DEBRIS HAVING POTENTIAL TO CLOG THE BASIN/TRAP OUTLET STRUCTURES AND/OR POLLUTE THE SURFACE WATERS.  
 45. SEDIMENT TRAPS SHALL BE PROTECTED FROM UNAUTHORIZED ACTS BY THIRD PARTIES.  
 46. ANY DAMAGE THAT OCCURS IN WHOLE OR IN PART AS A RESULT OF BASIN OR TRAP DISCHARGE SHALL BE IMMEDIATELY REPAIRED BY THE PERMITTEE IN A PERMANENT MANNER SATISFACTORY TO THE MUNICIPALITY, LOCAL CONSERVATION DISTRICT, AND THE OWNER OF THE DAMAGED PROPERTY.

47. FILL MATERIAL FOR EMBANKMENTS SHALL BE FREE OF ROOTS, OR OTHER WOODY VEGETATION, ORGANIC MATERIAL, LARGE STONES, AND OTHER OBJECTIONABLE MATERIALS. THE EMBANKMENT SHALL BE COMPACTED IN MAXIMUM 9 INCH LAYERED LIFTS AT 95% DENSITY.  
 48. THE PROJECT WILL MINIMIZE THE EXTENT AND DURATION OF DISTURBANCE BY SEQUENCING THE THE CONSTRUCTION SUCH THAT THE ENTIRE SITE IS NOT DISTURBED AT ONE TIME AND BY STABILIZING DISTURBANCE AS SOON AS PRACTICAL.  
 49. POST-CONSTRUCTION RUNOFF FROM THE PROPOSED IMPROVEMENTS WILL BE ROUTED THROUGH BMP'S TO REDUCE RUNOFF VOLUME AND RATE. REDUCTION IN POST-DEVELOPMENT VOLUMES AND RATES WILL ASSIST IN MAINTAINING THE INTEGRITY OF THE RECEIVING WATERWAYS.  
 50. SOIL COMPACTION WILL BE MINIMIZED TO THE EXTENT PRACTICAL, AIDED BY THE REDUCTION IN IMPERVIOUS SURFACE AREA.  
 51. THE PROJECT WILL UTILIZE UNDER-DRAINED RAIN GARDENS, ALONG WITH SOIL AMENDMENTS TO MINIMIZE CHANGES IN STORMWATER RUNOFF VOLUME.  
 52. MAINTENANCE OF ALL SEDIMENT AND EROSION CONTROL DEVICES IS THE RESPONSIBILITY OF THE CONTRACTOR DURING CONSTRUCTION.  
 53. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING DIVERSION TRENCHES, EROSION CHECKS, BERMS, ETC., OR OTHER MEANS OF ACCEPTED PRACTICE AS REQUIRED ON THE SITE TO PREVENT ACCELERATED RUNOFF AND EROSION, WHICH MAY NOT BE INDICATED, BUT IS WITHIN THE INTENT OF THIS PLAN.  
 54. THE CONTRACTOR MUST ENSURE THE PROPER OPERATION OF THE DEVICES IS NOT HINDERED DUE TO EXCESSIVE SEDIMENT BUILDUP OR UNAUTHORIZED ACTS OF THIRD PARTIES.

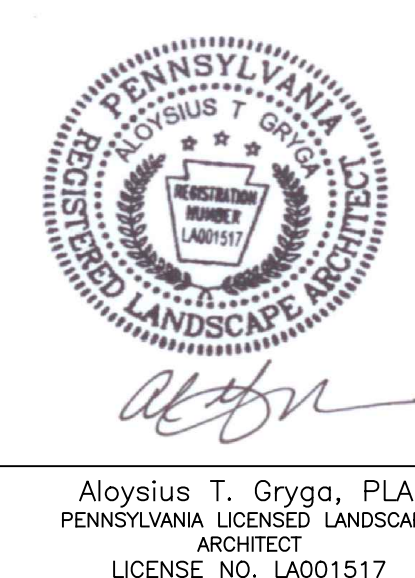
**CHAPTER 93 CLASSIFICATION OF WATERBODIES**

GROUNDWATER IN THE VICINITY OF THE SUBJECT PROPERTY WILL LIKELY FLOW IN A NORTH, NORTHWEST DIRECTION TOWARDS THE PINE RUN. PINE RUN IS IDENTIFIED AS TROUT STOCKING BASED ON CHAPTER 93 DESIGNATED USE STREAMS.



National Hydrography Dataset NHDFlowline layer with a spatial representation of designated water uses defined in Title 25 Environmental Protection, Department of Environmental Protection, Chapter 93, Water Quality Standards.  
 USDA FSA, Maxar | Esri Community Maps Contributors, Bucks County, PA, State of New Jersey, BuildingFootprintUSA, Esri, HERE, Garmin, SafeGraph, INCREMENT R, NETI/NASA, USGS, EPA, NPS, US Census Bureau, USDA

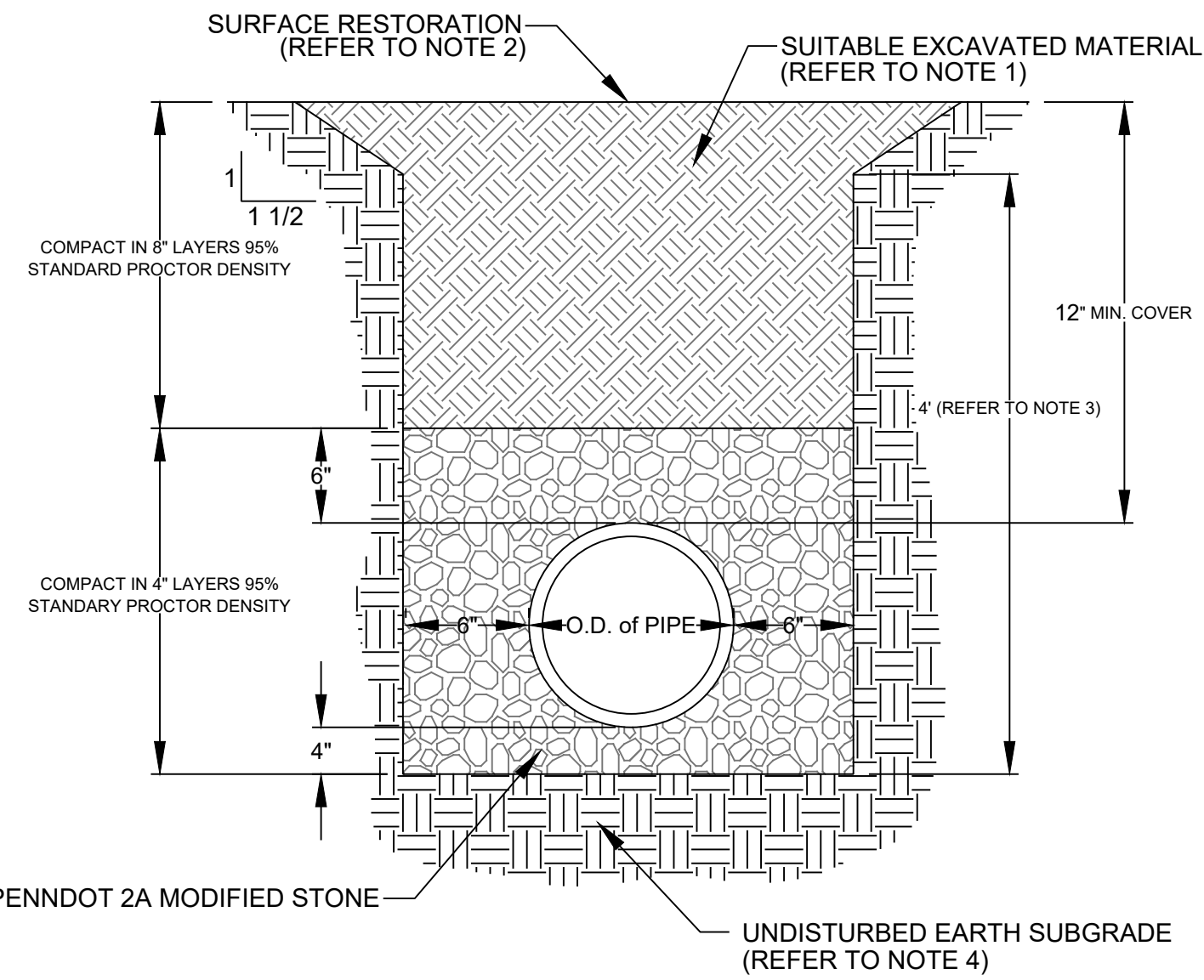
REV.	DATE	DESCRIPTION
<b>GEORGE HAGGAR FIRE TRAINING CENTER</b>		
UPPER DUBLIN TOWNSHIP, MONTGOMERY COUNTY, PENNSYLVANIA		
<b>UPPER DUBLIN TOWNSHIP</b>		
801 LOCH ALSH AVE, FORT WASHINGTON, PA 19034		
DATE:	04/21/23	<b>EROSION CONTROL NOTES</b>
SCALE:	AS NOTED	
AUTOCADD:	HL	
CHECKED:	AG	
PROJ. MGR:	AG	
PROJ:	9074-21-1-PA	DWG NO.
SHEET: 6 of 9		S-4



**CMC ENGINEERING**  
 LANDSCAPE ARCHITECTURE & PLANNING  
 262 Bethlehem Pike, Suite 200, Coimbar, PA 18915  
 Tel: 610.983.9200 Fax: 610.983.9202

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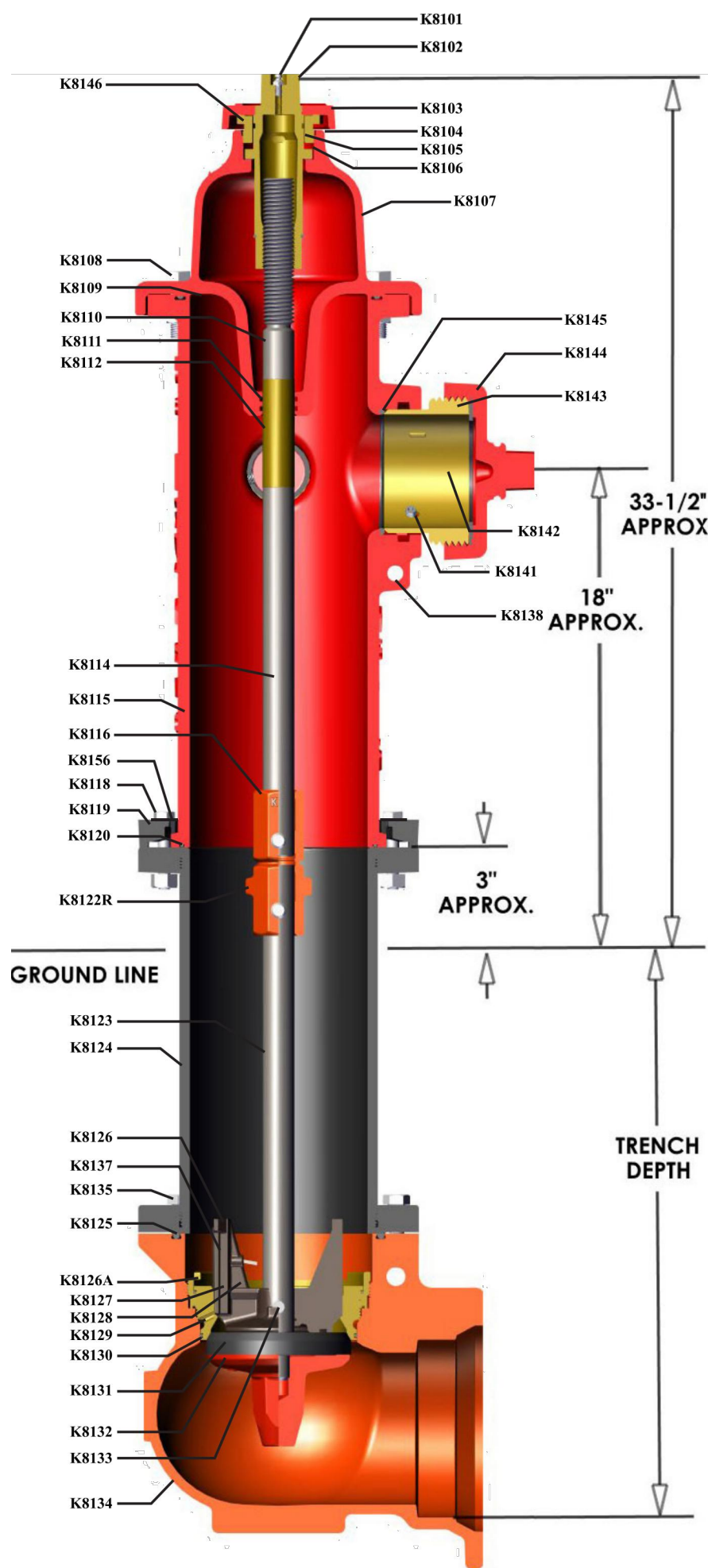


**NOTES:**

- FOR EXISTING NON-PAVED AREAS, SUITABLE EXCAVATED MATERIAL SHALL BE CLEAN, DRY NON-FROZEN EARTH WITH A MAXIMUM STONE SIZE OF 6 INCHES. FOR PAVED AREAS, REFER TO APPROPRIATE RESTORATION DETAIL FOR REQUIRED BACKFILL TO GRADE.
- FOR EXISTING NON-PAVED AREAS, INSTALL 8" OF SCREENED TOPSOIL TO FINAL GRADE, STRAW MULCH STABILIZATION (OR EXPOSURE CONTROL FABRIC ON SLOPES) AND SEED (REFER TO SEED OR HYDROSEED SPECIFICATION). FOR PAVED AREAS, REFER TO APPROPRIATE RESTORATION DETAIL, IN PENNDOT OR MUNICIPAL ROAD.
- FOR TRENCHES EXCEEDING 4 FEET IN HEIGHT, UPPER SECTION OF TRENCH SHALL BE CUT BACK A MINIMUM OF 1-1/2 HORIZONTAL TO 1 VERTICAL. IN LIEU OF A CUT BACK, PROPER SHORING MAY BE USED WHEN APPROVED BY THE ENGINEER. TRENCH RESTORATION SHALL BE IN ACCORDANCE WITH OSHA REGULATIONS. WHERE OSHA REGULATIONS ARE MORE STRINGENT THAN THIS DETAIL, OSHA REGULATIONS SHALL TAKE PRECEDENCE.
- USE THIS DETAIL FOR EXCAVATION IN ROCK AND UNSUITABLE SUBGRADE. WHERE UNSUITABLE SUBGRADE IS ENCOUNTERED, INSTALL A 12" MINIMUM LAYER OF PENNDOT #4 STONE BALLAST TO STABILIZE SUBGRADE, PRIOR TO INSTALLING PIPE BEDDING.
- USE THIS DETAIL ALSO FOR INSTALLING UTILITIES WITHIN NEW ROADS AND PARKING LOTS. REFER TO TYPICAL PAVING SECTIONS FOR SURFACE CONSTRUCTION.
- FOR WATERMAIN AND OTHER UTILITIES, REFER TO OWNERS STANDARDS AND SPECIFICATIONS FOR TRENCH BACKFILL.

**7 UTILITY TRENCH DETAIL - STANDARD**

**NTS**



**6 FIRE HYDRANT DETAIL**

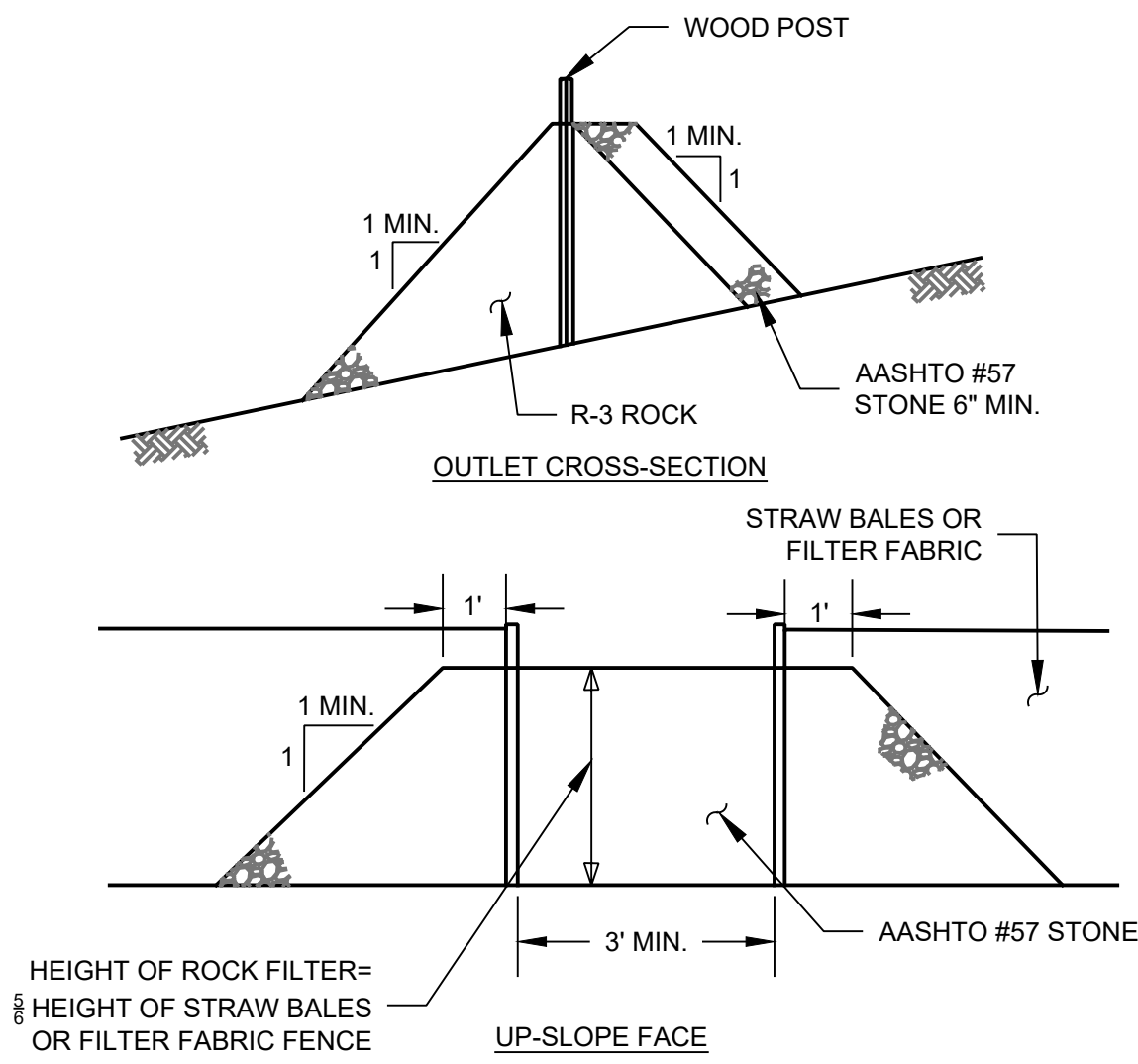
**NTS**

DETAIL & PART	MATERIAL	ASTM SPEC (or as stated)
K8101	ALUMINUM FITTING	STAINLESS STEEL A276 304
1 K8102	OPERATING STEM NUT	BRONZE B304 C27500
K8103	DRY SHIELD	CAST IRON A138 CLASS B
K8104	STEM LOCK NUT	BRONZE B304 C27500
1 K8105	O-RING	BRUN N (SYN. RUBBER) D2000
1 K8106	THREAT WASHER	NITRATION RES. A193 410
K8107	HYDRANT CAP	CAST IRON A138 CLASS B
K8108	CAP BOLTS & NUTS	STAINLESS STEEL F193C1994
1 K8109	CAP O-RING	BRUN N (SYN. RUBBER) D2000
* K8110	STEM FERRULE	BRASS B153 C26000
1 K8111	O-RING	BRUN N (SYN. RUBBER) D2000
* K8112	O-RING	BRUN N (SYN. RUBBER) D2000
K8114	UPPER STEM	C.R. STEEL A108
K8115	UPPER BARREL	CAST IRON A138 CLASS B
K8116	STEM BREAKING COUPLING	CAST IRON A138 CLASS B
K8118	BOLTS & NUTS	STAINLESS STEEL F193C1994
K8119	BREAKING RING	CAST IRON A138 CLASS B
K8120	O-RING	BRUN N (SYN. RUBBER) D2000
K8122R	COUPLING PINS	STAINLESS STEEL A10
K8123	LOWER STEM	C.R. STEEL A108
K8124	LOWER BARREL	DUCTILE IRON A536 10 70 50 05
1 K8125	ELBOW O-RING	BRUN N (SYN. RUBBER) D2000
1 K8126A	O-RING	BRUN N (SYN. RUBBER) D2000
* K8127	SEAT RING INSERT	BRONZE B1944 C27500
1 K8128	SEAT RING	BRONZE B1944 C27500
K8129	DRAIN TUBE	BRASS B153 C23000
1 K8130	O-RING	BRUN N (SYN. RUBBER) D2000
1 K8131	MAIN VALVE	EPDM
K8132	BOTTOM PLATE	CAST IRON A138 CLASS B
K8133	DRAIN VALVE PIN	STAINLESS STEEL A191306
K8134	ELBOW	DUCTILE IRON A536 10 70 50 05
K8135	ELBOW BOLTS AND NUTS	STEEL 302/304 STAINLESS ASTM F593
K8136	DRAIN VALVE	BRONZE B1944 C27500
1 K8137	DRAIN VALVE FACING WASHER	BRUN N W/STAINLESS STEEL D2000/A276 304
K8138	NOZZLE CHAIN S HOOK	STEEL A108
K8139	NOZZLE CAP CHAIN	STEEL A108
K8140	NOZZLE CHAIN BAND	STEEL A108
1 K8141	NOZZLE RETAINING SCREW	STAINLESS STEEL A276 304
* K8142	NOZZLE HOSE STEAMER	BRONZE B1944 C27500
1K K8143	NOZZLE CAP GASKET	RUBBER D2000 TYPE AA
* K8144	NOZZLE CAP	CAST IRON A138 CLASS B
1K K8145	O-RING	BRUN N (SYN. RUBBER) D2000
K8146	ALLEN HEAD SET SCREW	STAINLESS STEEL A276 304
K8147	SEAT REMOVAL WRENCH	
K8148	NOZZLE REMOVAL TONGS	
1 K8149	COLLISION REPAIR KIT	
K8150	GRADE EXTENSION KIT	
K8151	BREAKING RING STRAP	

NOTE: Also available in DI 350 PSI.

MODEL # 5 1/2" GUARDIAN K81-D (6" MECHANICAL JOINT OR ELBOW WILL BE NEEDED.)

**Kennedy Valve**  
Division of McWane  
1021 E. Water Street  
Elmira, New York 14902-1516  
607-734-2211 | Fax: 800-952-4771



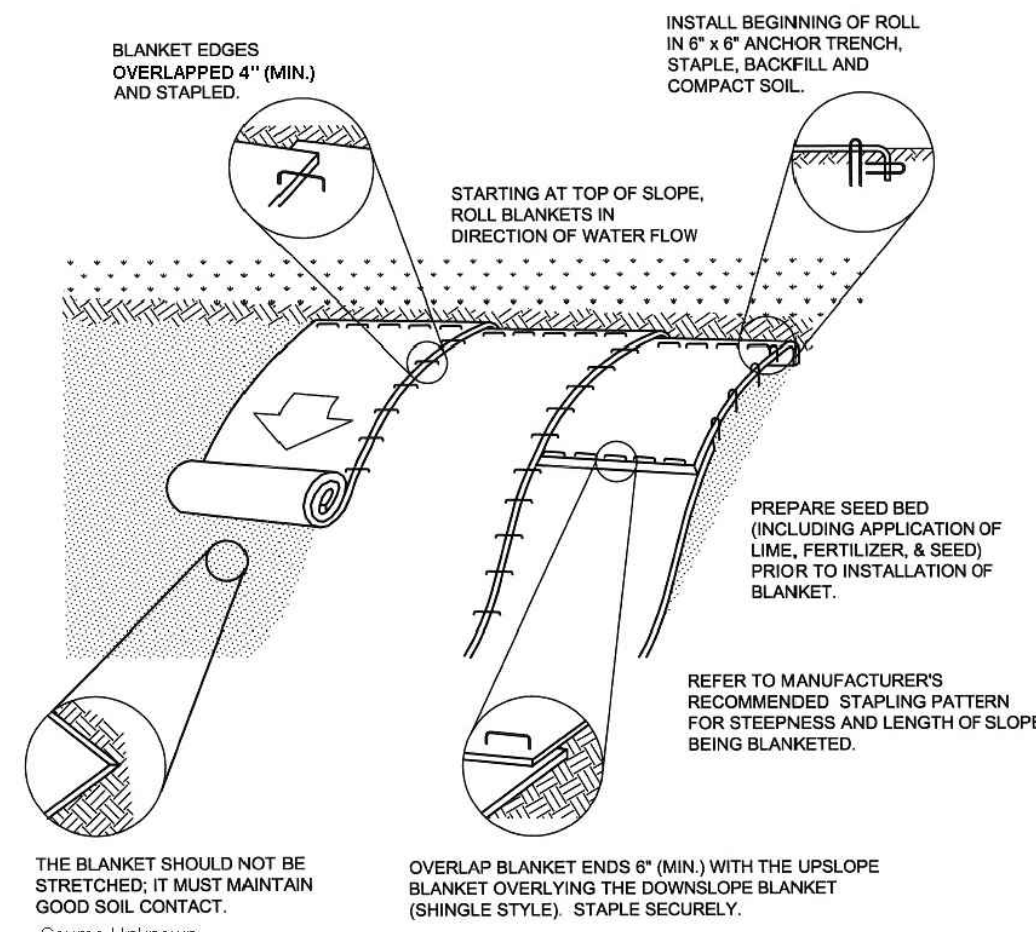
HEIGHT OF ROCK FILTER= 1/2 HEIGHT OF STRAW BALES OR FILTER FABRIC FENCE

UP-SLOPE FACE

NOTES:  
A ROCK FILTER OUTLET SHALL BE INSTALLED WHERE FAILURE OF A SILT FENCE OR STRAW BALE BARRIER HAS OCCURRED DUE TO CONCENTRATED FLOW. ANCHORED COMPOST LAYER SHALL BE USED ON UPSLOPE FACE IN HQ AND EV WATERSHEDS. SEDIMENT SHALL BE REMOVED WHEN ACCUMULATION REACH 1/2 THE HEIGHT OF THE OUTLET.

**5 ROCK FILTER OUTLET DETAIL**

**NTS**



Seed and soil amendments shall be applied according to the rates in the plan drawings prior to installing the blanket.

Provide anchor trench at toe of slope in similar fashion as at top of slope.

Slope surface shall be free of rocks, clods, sticks, and grass.

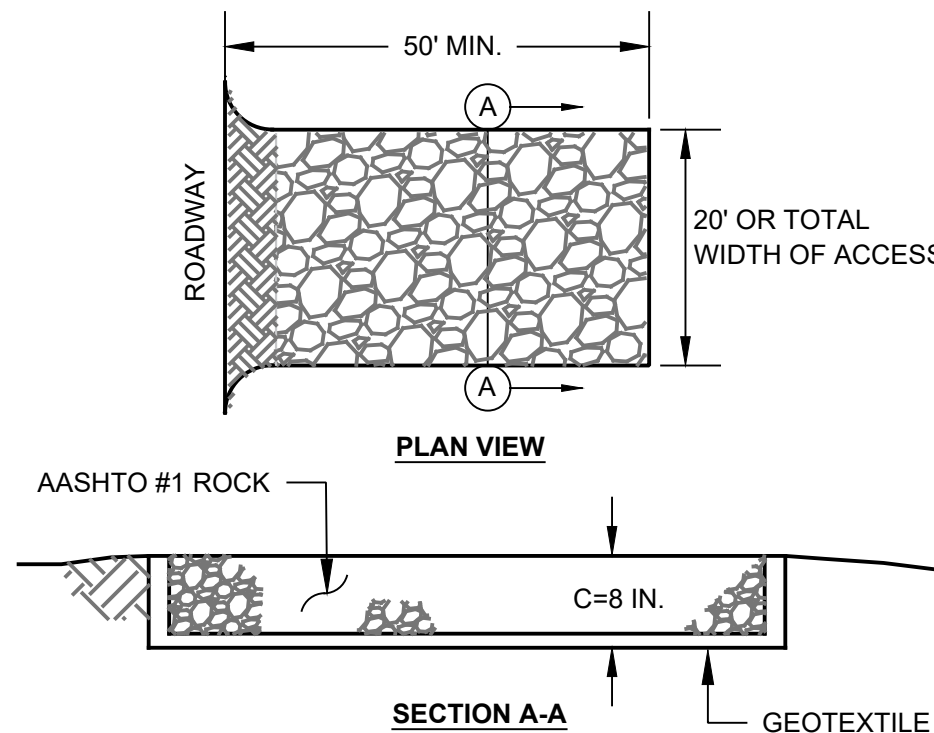
Blanket shall have good continuous contact with underlying soil throughout entire length. Lay blanket loosely and stake or staple to maintain direct contact with soil. Do not stretch blanket.

The blanket shall be installed in accordance with the manufacturer's recommendations.

Blanketed areas shall be inspected weekly and after each runoff event until perennial vegetation is established to a minimum uniform 70% coverage throughout the blanketed area. Damaged or displaced blankets shall be restored or replaced within 4 calendar days.

**4 EROSION CONTROL BLANKET INSTALLATION DETAIL**

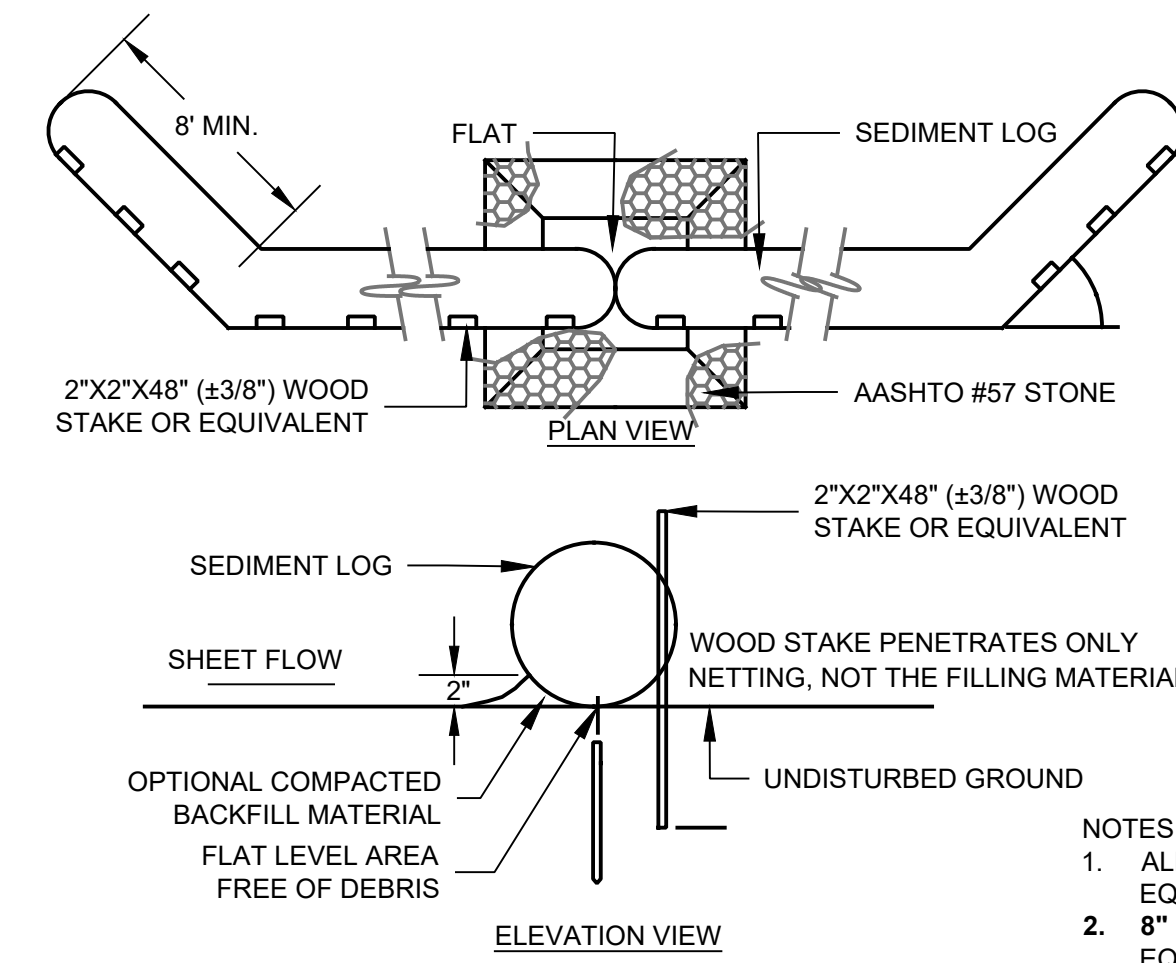
**NTS**



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. AT THE END OF EACH CONSTRUCTION DAY, ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE.

**3 CONSTRUCTION ENTRANCE DETAIL (STONE TIRE SCRUBBER)**

**NTS**

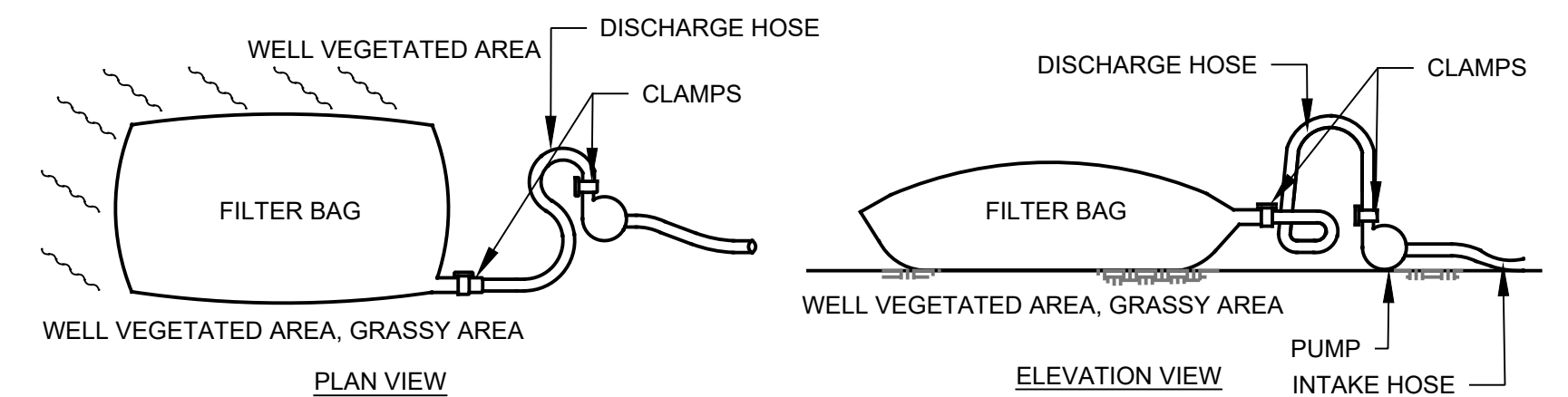


**2 FILTER LOG DETAIL**

**NTS**

- NOTES:
- ALL MATERIAL TO MEET FILTREXX OR APPROVED EQUIVALENT SPECIFICATIONS.
  - 8" DIAMETER COMPOST FILTER LOG OR APPROVED EQUIVALENT COMPOST/STOCK/ROCK/SEED FILL TO MEET APPLICATION REQUIREMENTS.
  - COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.
  - FILTER LOG OR APPROVED EQUIVALENT MUST BE PLACED AT LEVEL EXISTING GRADE. BOTH ENDS OF THE BARRIER MUST BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN BARRIER ALIGNMENT.
  - SEDIMENT MUST BE REMOVED WHEN ACCUMULATIONS REACH 1/2 THE ABOVE GROUND HEIGHT OF THE BARRIER.
  - ANY SECTION OF BARRIER WHICH HAS BEEN UNDERMINED OR TOPPED MUST BE IMMEDIATELY REPLACED WITH A ROCK FILTER OUTLET. SEE STANDARD CONSTRUCTION DETAIL.

FILTER FABRIC SIZE	EQUIVALENT FILTER LOG SIZE
18" SILT FENCE	12" DIAMETER FILTER LOG
30" SILT FENCE	18" DIAMETER FILTER LOG
SUPER SILT FENCE	24" DIAMETER FILTER LOG



- NOTES:
- FILTER BAG SHALL BE USED TO EXTRACT WATER FROM PROPOSED DRIVEWAY AREA, PRIOR TO WATER BEING ABLE TO ENTER THE PROPOSED INLETS. WATER SHALL BE PUMPED AS NEEDED WITH THE BAG BEING PLACED IN THE LAWN AREA WHERE THE FUTURE WATER SHALL BE PUMPED TO, IN ORDER TO DRAIN THE SUBSURFACE SYSTEM.
  - FILTER BAGS SHALL BE MADE FROM NON-WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH, DOUBLE STITCHED "J" TYPE SEAMS. THEY SHALL BE CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS.
  - A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES MUST BE PROVIDED. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME HALF FULL. SPARE BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED.
  - BAGS SHALL BE LOCATED IN WELL-VEGETATED (GRASSY) AREA, AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS. WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE FLOW PATH SHALL BE PROVIDED. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5%.
  - THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED.
  - THE PUMPING RATE SHALL BE NO GREATER THAN 750 GPM OR 1/2 THE MAXIMUM SPECIFIED BY THE MANUFACTURER, WHICHEVER IS LESS. PUMP INTAKES SHOULD BE FLOATING AND SCREENED.
  - FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM IS CORRECTED.

**1 PUMPED WATER FILTER BAG DETAIL**

**NTS**

REV.	DATE	DESCRIPTION

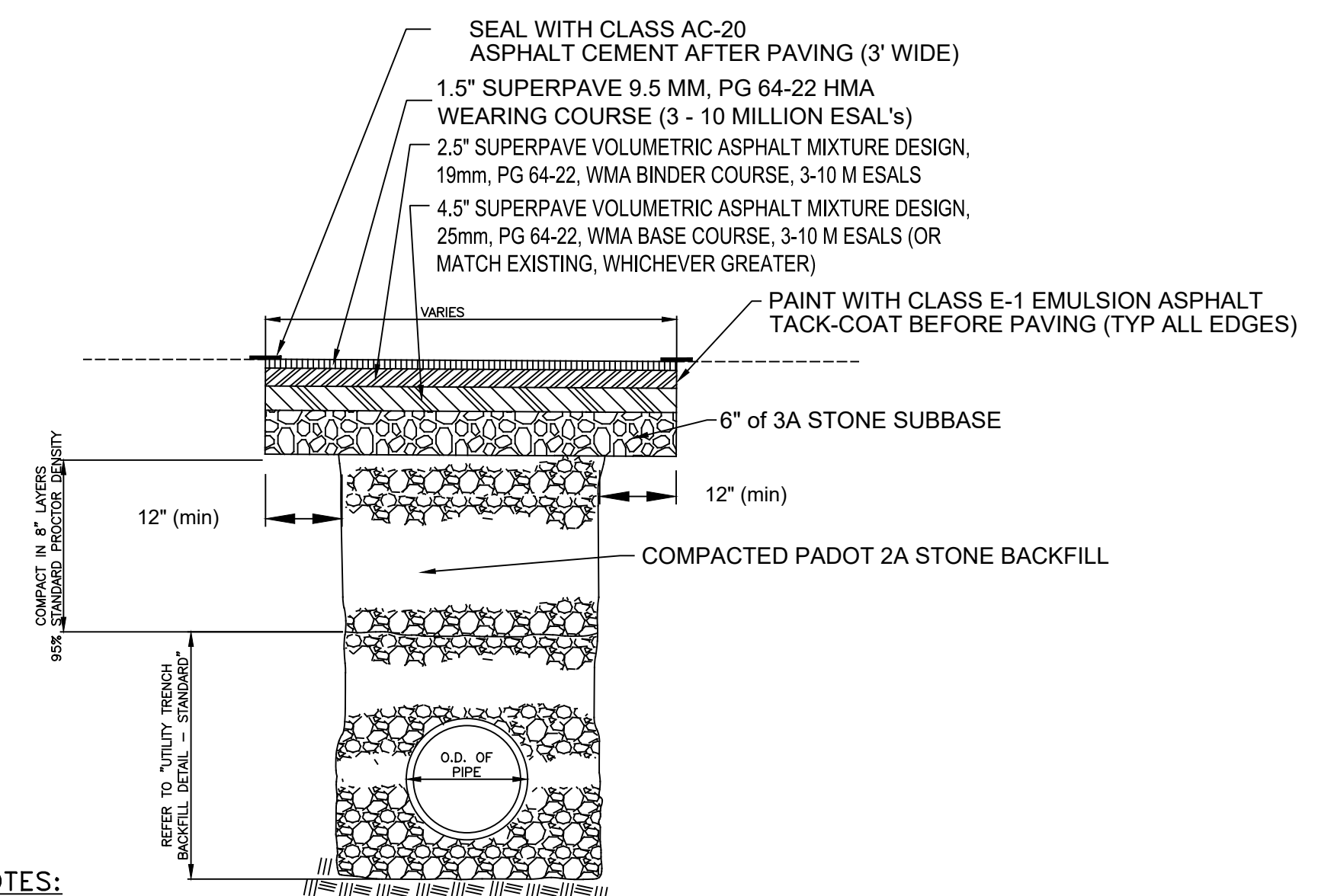
**GEORGE HAGGAR FIRE TRAINING CENTER**  
UPPER DUBLIN TOWNSHIP, MONTGOMERY COUNTY, PENNSYLVANIA

**UPPER DUBLIN TOWNSHIP**  
801 LOCH ALSH AVE, FORT WASHINGTON, PA 19034

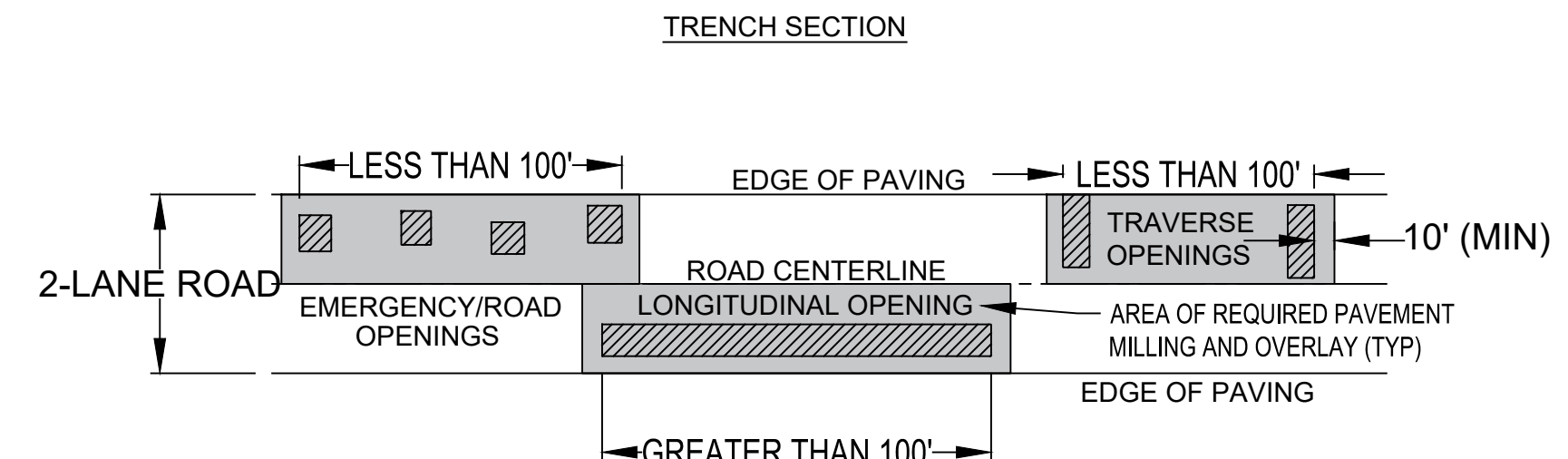
**CMC ENGINEERING**  
LANDSCAPE ARCHITECTURE & PLANNING  
262 Bethlehem Pike, Suite 200, Colmar, PA 18915  
Tel: 610.983.9200 Fax: 610.983.9202

DATE: 04/21/23	SCALE: AS NOTED	<b>DETAILS</b>
AUTOCADD: HL	CHECKED: AG	
PROJ. MGR: AG	PROJ: 9074-21-1-PA	
SHEET: 7 of 9		DWG NO. D-1

Aloysius T. Gygo, P.L.A.  
PENNSYLVANIA LICENSED LANDSCAPE ARCHITECT  
LICENSE NO. LA001517

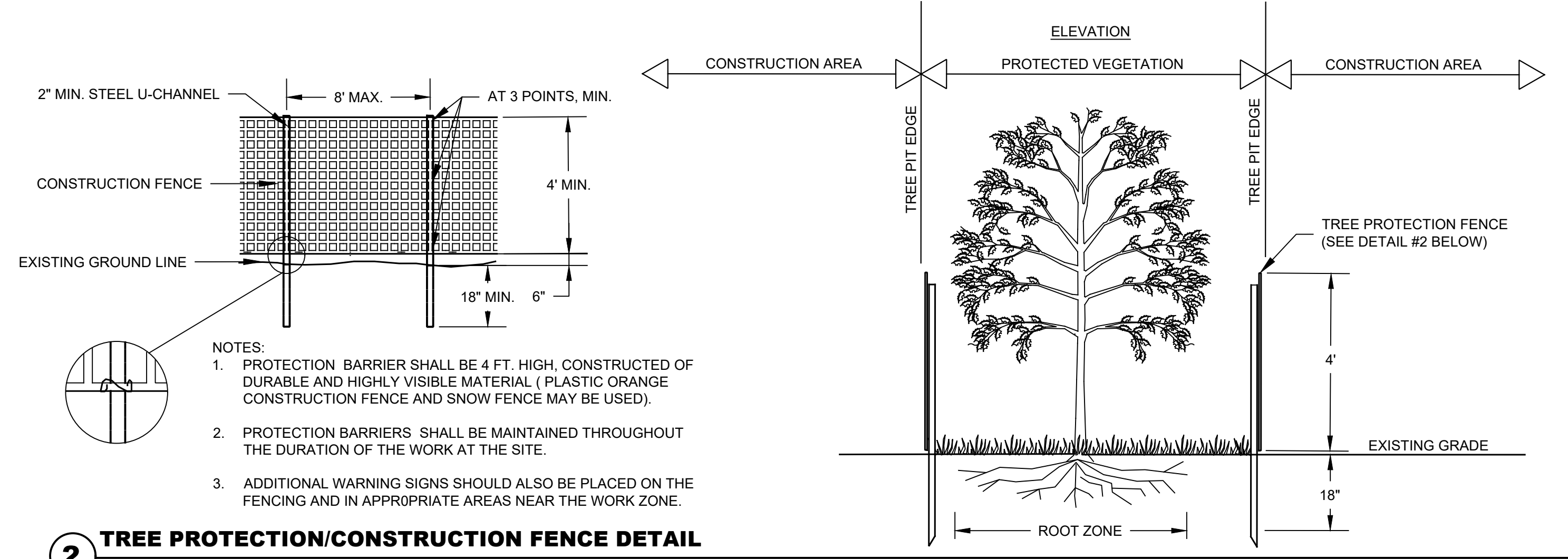


- NOTES:**
- USE THIS DETAIL ONLY FOR UTILITY INSTALLATION WITHIN TOWNSHIP OWNED RIGHT-OF-WAY.
  - ALL STREET ROADWAY PAVEMENTS SHALL BE CUT BY A MECHANICAL SAW OR PAVING CUTTER ON A STRAIGHT LINE TO THE FULL DEPTH OF EXISTING PAVING.
  - ANY ITEMS (I.E., CURB, PAVED SURFACES OUTSIDE THE LIMIT OF WORK, ETC.) DAMAGED AS A RESULT OF THE CONTRACTOR'S OPERATION SHALL BE REPLACED IN KIND AT THE CONTRACTOR'S EXPENSE.
  - THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF TEMPORARY PAVEMENT UNTIL IT IS REPLACED WITH PERMANENT PAVEMENT. (REFER TO "UTILITY TRENCH RESTORATION DETAIL - TEMPORARY PAVING")
  - BITUMINOUS MATERIAL FOR BASE AND SURFACE COURSES OR PERMANENT PAVEMENT REPLACEMENT SHALL NOT BE PLACED WHEN THE AIR TEMPERATURE IS 40° F OR LOWER; NOR WHEN THE TEMPERATURE OF THE PAVEMENT, BASE, OR BINDER ON WHICH IT IS TO BE PLACED IS 40° F OR LOWER.
  - IN ADDITION TO THIS RESTORATION DETAIL, CONTRACTOR SHALL ADHERE TO THE TOWNSHIP RESTORATION STANDARDS.



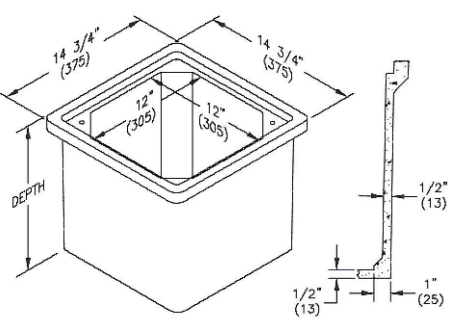
**NOTE:** THE ENTIRE ROADWAY LANE THAT IS OPENED MUST BE MILLED AND PAVED WITH WEARING COURSE UNDER THE FOLLOWING CONDITIONS: WHERE LONGITUDINAL OPENINGS EXCEED 100 FEET; OR TWO TRANSVERSE OPENINGS IN LESS THAN 100 FEET; OR FOUR (4) EMERGENCY/ROAD OPENINGS IN LESS THAN 100 FEET.

**4 TRENCH RESTORATION DETAIL - PAVED AREAS (BY OTHERS)** NTS



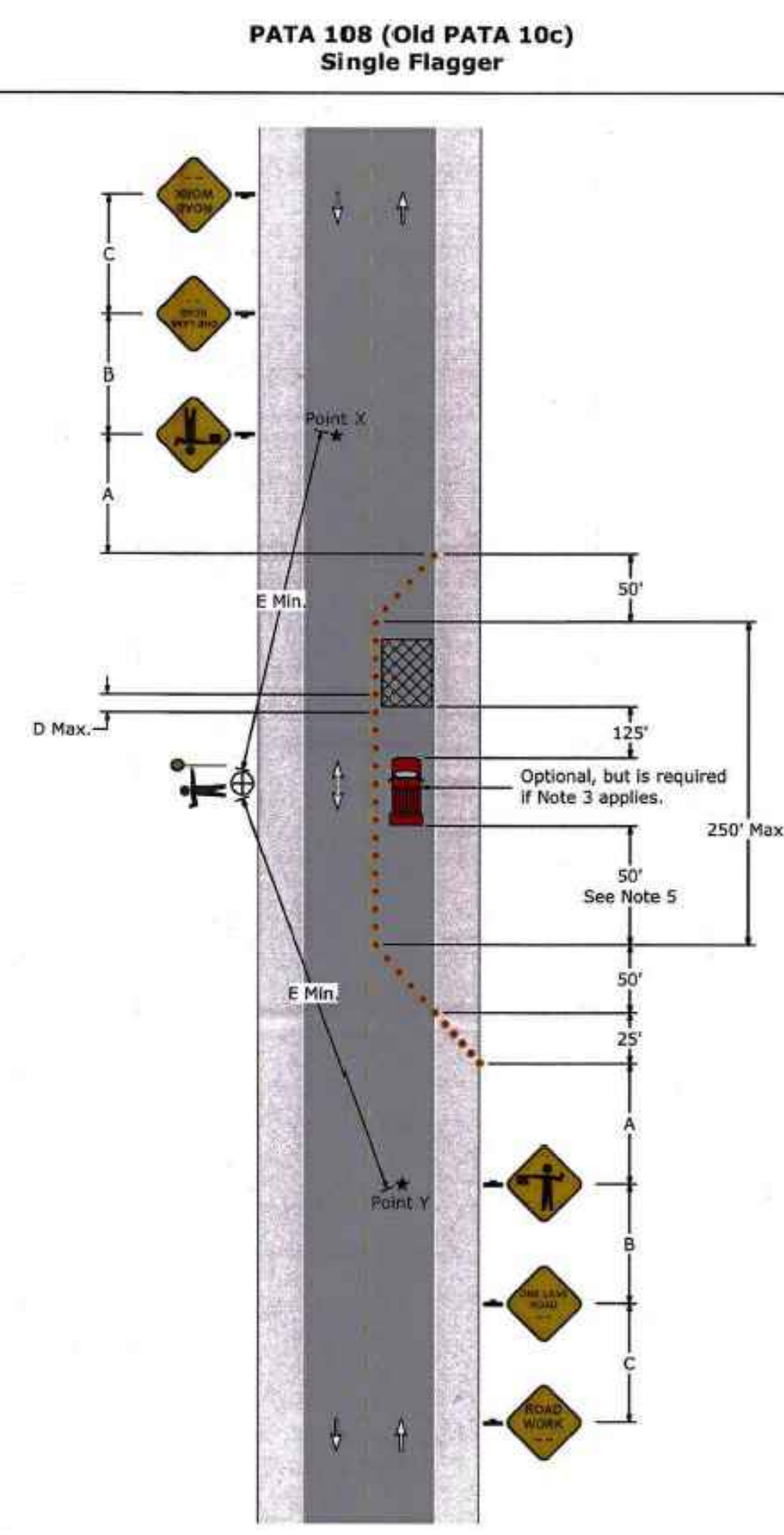
- NOTES:**
- PROTECTION BARRIER SHALL BE 4 FT. HIGH, CONSTRUCTED OF DURABLE AND HIGHLY VISIBLE MATERIAL (PLASTIC ORANGE CONSTRUCTION FENCE AND SNOW FENCE MAY BE USED).
  - PROTECTION BARRIERS SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE WORK AT THE SITE.
  - ADDITIONAL WARNING SIGNS SHOULD ALSO BE PLACED ON THE FENCING AND IN APPROPRIATE AREAS NEAR THE WORK ZONE.

**2 TREE PROTECTION/CONSTRUCTION FENCE DETAIL** NTS



**NOTES:**  
12" X 12" X 12" DEPTH QUAZITE BOX & ENCLOSURE (OR APPROVED EQUAL) MFG BY: QUAZITE SUPPLY, INC. MODEL NO: PC1212BA12-CA QTY: 2 INSTALL PER MFG. SPECIFICATIONS

**5 QUAZITE BOX DETAIL** NTS



- 1 TEMPORARY TRAFFIC CONTROL GUIDELINES (BY OTHERS)** NTS
- Notes:**
- Each flagger shall be clearly visible to traffic for a minimum distance of E and shall be in constant communication with all other flaggers.
  - For operations of 15 minutes or less:
    - The Road Work (W20-1), One Lane Road (W20-4), Be Prepared To Stop (W3-4), and Flagger Symbol (W20-7) signs are not required.
    - All channelizing devices may be eliminated if a shadow vehicle is present.
  - The buffer space shall be extended so that the two-way traffic taper is placed before a horizontal (or crest vertical) curve to provide adequate sight distance for the flagger and a queue of stopped vehicles.
  - When a shadow vehicle is not used, distance E is measured from end of taper to beginning of work space.

**Signs**

W20-1 W20-4 W20-7 W3-4

**Sign Spacing Chart**

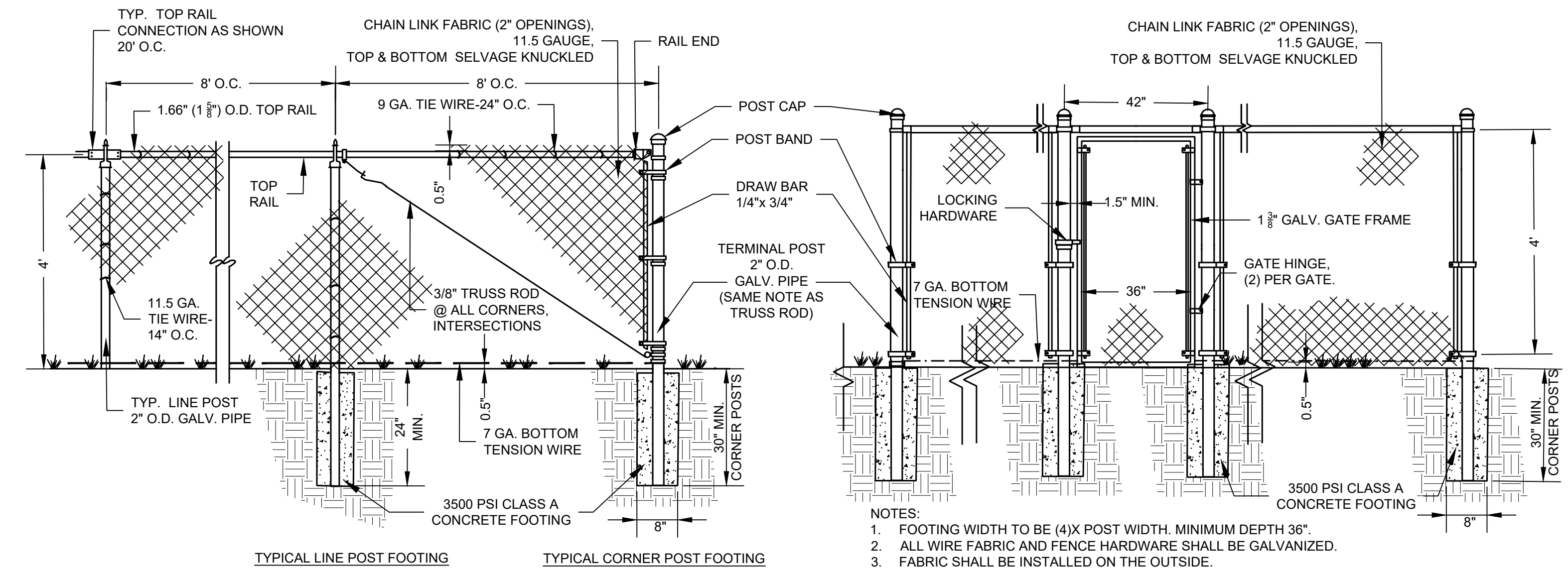
Condition	Distance				Per Tape Type (Length)						
	A	B	C	F	1/2L	1/3L	1/4L	50'			
Urban 35 MPH or less	100	100	100	100	6	6	6	6	50	155	150
Urban Greater than 35 MPH	350	350	350	350	6	6	6	6	60	200	150
Rural	500	500	500	500	6	6	6	6	70	250	150

**Taper Length Formulas**

40 MPH or less	$L = \frac{WS^2}{50}$
45 MPH or more	$L = WS$

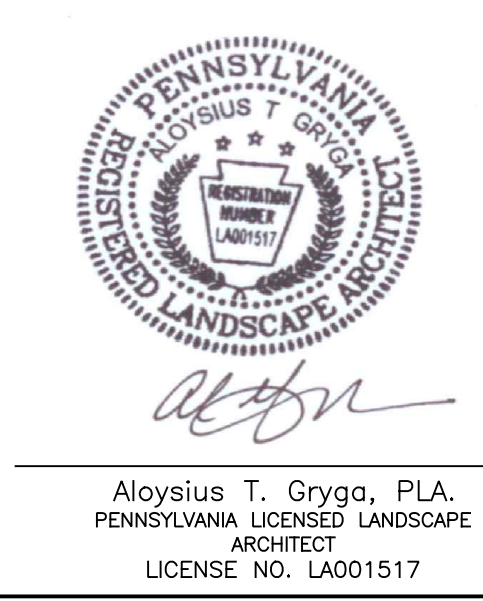
S = Regulatory Speed Limit  
W = Width of Offset  
L = Length

**Note:** Channelizing devices used in taper shall be equally spaced at 1/2 D Max.



- NOTES:**
- FOOTING WIDTH TO BE (4X) POST WIDTH. MINIMUM DEPTH 36".
  - ALL WIRE FABRIC AND FENCE HARDWARE SHALL BE GALVANIZED.
  - FABRIC SHALL BE INSTALLED ON THE OUTSIDE.

**3 4' HEIGHT CHAIN LINK FENCE AND GATE DETAIL** NTS



REV.	DATE	DESCRIPTION

**GEORGE HAGGAR FIRE TRAINING CENTER**  
UPPER DUBLIN TOWNSHIP, MONTGOMERY COUNTY, PENNSYLVANIA

**UPPER DUBLIN TOWNSHIP**  
801 LOCH ALSH AVE, FORT WASHINGTON, PA 19034

**CMC ENGINEERING**  
LANDSCAPE ARCHITECTURE & PLANNING  
262 Bethlehem Pike, Suite 200, Colmar, PA 18915  
Tel: 610.983.9200 Fax: 610.983.9202

DATE: 04/21/23  
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CHECKED: AG  
PROJ. MGR: AG  
PROJ: 9074-21-1-PA

**DETAILS**

DWG NO. D-2

SHEET: 8 of 9

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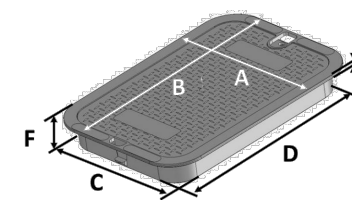
Series: Standard Series  
 Box Color: Black  
 Box material: Polypropylene  
 Cover Color: Green  
 Cover Marking: Irrigation Control Valve  
 Cover material: HDPE  
 Box Weight: 5.70 lbs  
 Lid Weight: 2.61 lbs  
 Total Weight: 8.31 lbs  
 Load rating:  
 Pedestrian & lawn care equipment

**113BC**



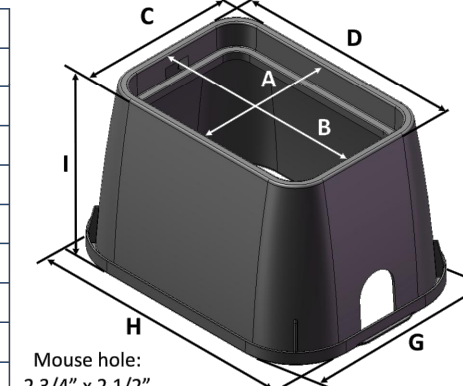
Box includes 3/8-16 brass nut  
 All 14"x19" covers and risers fit this box

Made in USA  
 Made from 100% recycled materials



Lid Dimensions	
A. Top width	11 5/8"
B. Top length	16 13/16"
C. Bottom width	10 1/8"
D. Bottom length	15 1/4"
E. Rim thickness	1/4"
F. Overall height	2"

Box Dimensions	
A. Top inside width	10"
B. Top inside length	15"
C. Top outside width	11 5/8"
D. Top outside length	16 13/16"
E. Bottom inside width	15"
F. Bottom inside length	20"
G. Bottom outside width	16"
H. Bottom outside length	21"
I. Height	12"

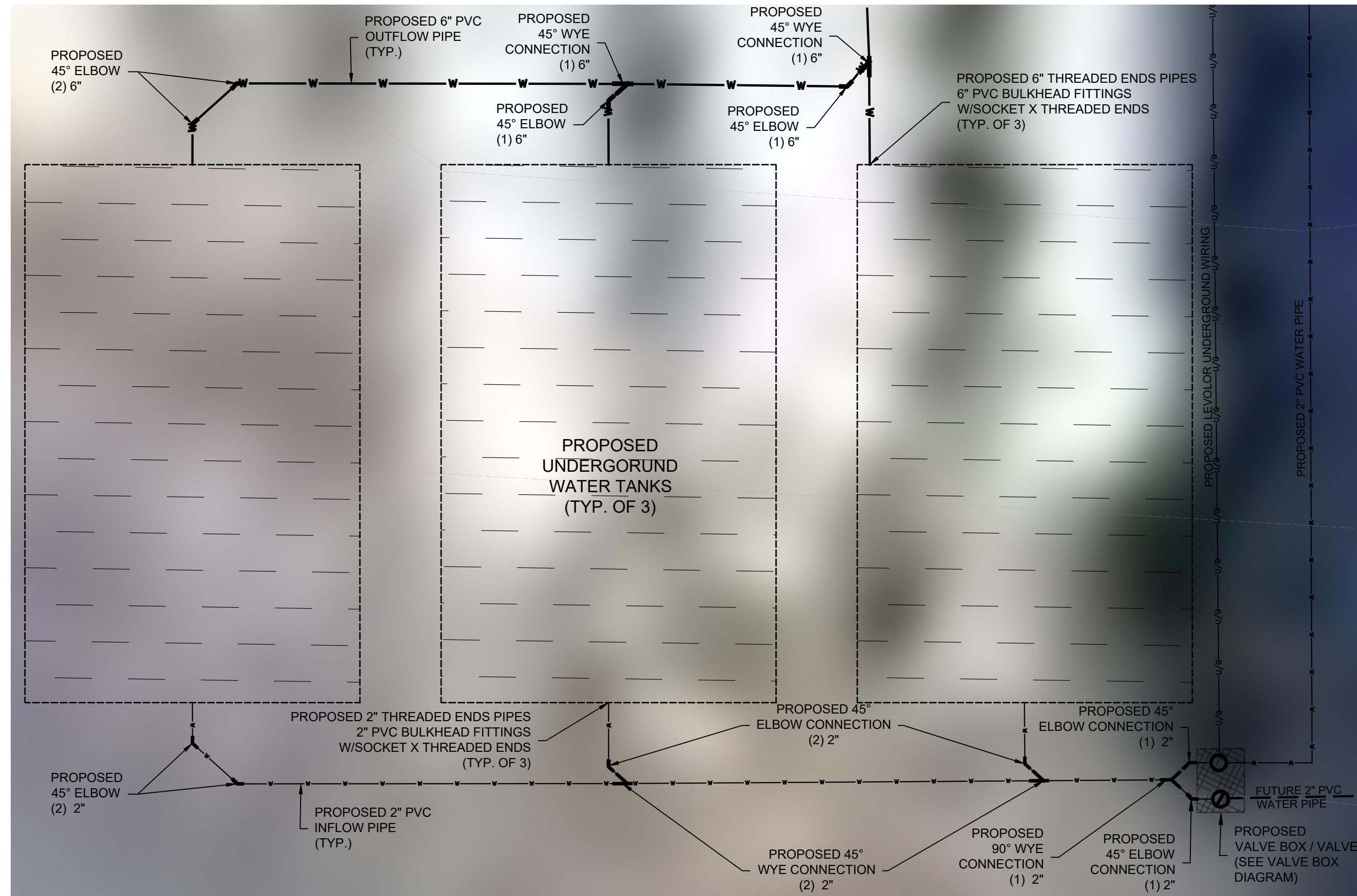


Visit [ndspro.com](http://ndspro.com) for specs, detail drawings, and case studies

**NOTES:**  
 QTY: 1  
 SHALL BE INSTALLED AS SHOWN ON THE PLANS, VALVE BOX DIAGRAM AND PER MANUFACTURER'S SPECIFICATIONS.

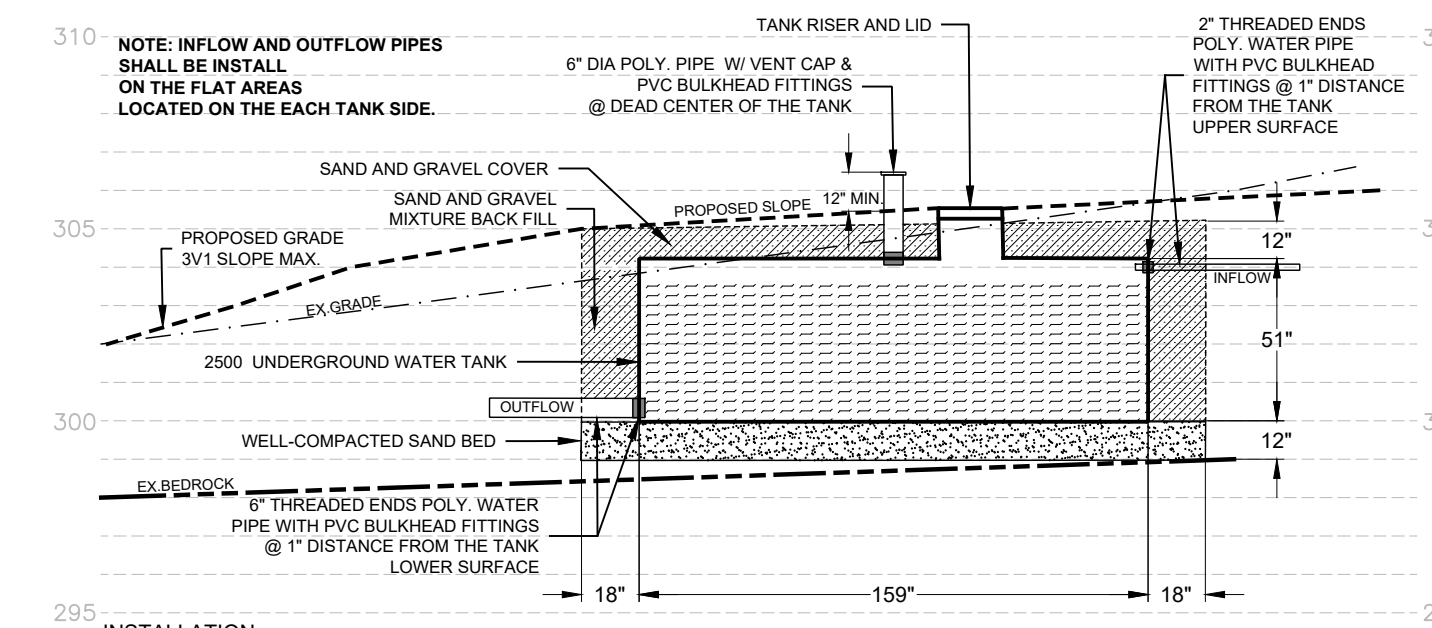
**8 VALVE BOX DETAIL**

NTS



**5 WATER TANK PIPING AND CONNECTIONS DETAIL**

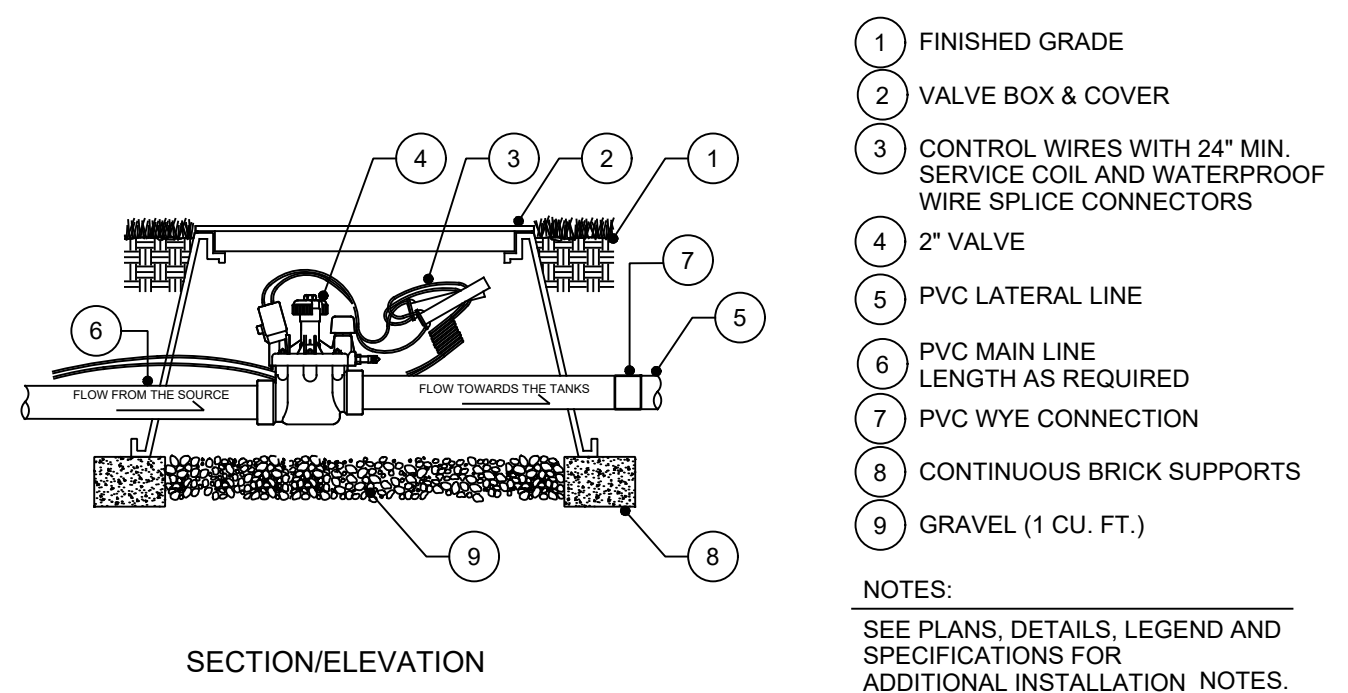
NTS



- INSTALLATION:**
- EXCAVATION**
    - A. EXCAVATE TO A DEPTH THAT WILL PROVIDE A MINIMUM OF 12" OF COVER OVER THE TOP OF THE TANKS.
    - B. ALLOW 18" ON BOTH SIDES AND BOTH ENDS OF THE TANKS.
    - C. BED THE TANKS IN WELL-COMPACTED SAND - 12"
  - CONNECTIONS TO TANKS**
    - A. INSTALL FITTINGS IN ANY LOCATION REQUIRED FOR HOLDING TANKS USE
    - B. INSTALL VENTING PER THE PLUMBING DETAILS.
    - C. TANKS MUST BE VENTED.
    - D. FOR WATER-TIGHT SEAL, LID SHOULD BE SEALED WITH SILICONE OR URETHANE CAULKING. RE-USE STAINLESS STEEL SCREWS SUPPLIED WITH LID TO RE-ATTACH LID TO TANKS.
  - MANHOLE EXTENSION**
    - A. INSTALL MANHOLE EXTENSION BEFORE YOU BACKFILL.
    - B. NORWESCO (OR EQUAL) MANUFACTURER MANHOLE EXTENSIONS ARE SUPPLIED WITH GASKETS AND SCREWS. RE-USE THE STAINLESS STEEL SCREWS TO ATTACH THE LID AT THE TOP OF THE MANHOLE EXTENSION.
  - BACKFILLING EXTERIOR**
    - A. BACKFILL WITH 12" LAYERS AND COMPACT EACH LAYER. ALWAYS COMPACT ENDS FIRST.
    - B. EACH OF THE INTERIOR SUPPORT CONES MUST BE FILLED AND COMPACTED IN 6" LAYERS. THE BOTTOM HALF OF THE CONES ARE TAPERED AND MUST HAVE THE SOIL COMPACTED TO PROVIDE STRUCTURAL SUPPORT.
    - C. MAXIMUM BACKFILL COVER THE TOP OF THE TANKS IS 12".
  - BACKFILL MATERIALS**
    - A. THE PREFERRED MATERIAL FOR BACKFILLING, SURROUNDING AND COVERING THE TANKS IS A SAND AND GRAVEL MIXTURE - 100% SMALLER THAN 1/2" AND APPROXIMATELY 50% SMALLER THAN 1".
    - B. ALL FILL MUST BE FREE OF ANY WOOD, MASONRY DEBRIS, SLT OR CLAY. SHARP OBJECTS MUST NOT COME IN CONTACT WITH THE WALL OF THE TANKS.

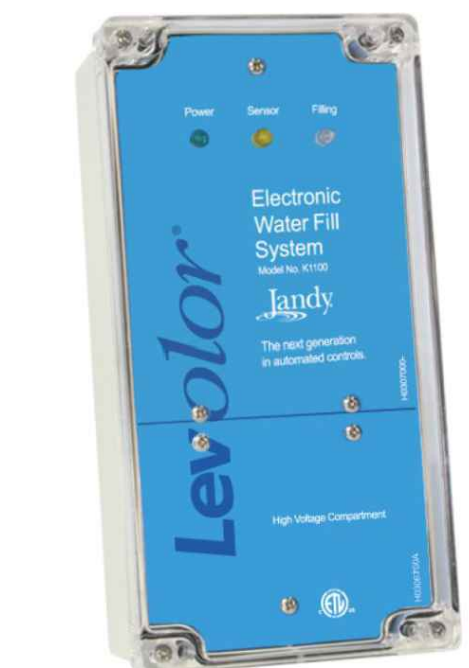
**2 SECTION A-A**

SCALE: 1"=5'



**7 2" ELECTRONIC ZONE VALVE DETAIL**

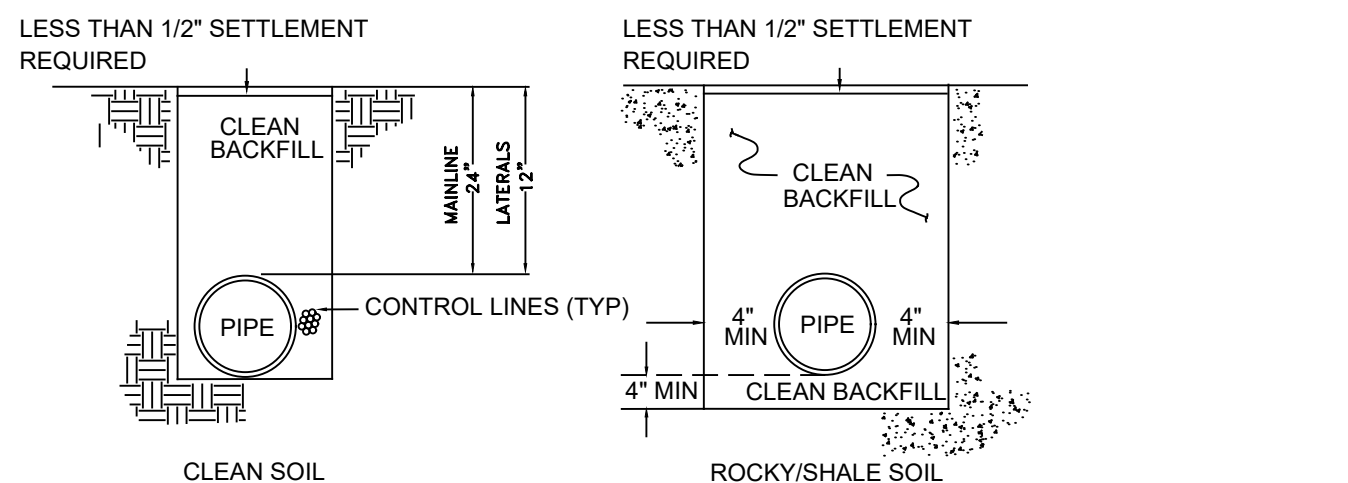
NTS



- NOTES:**
- ITEM: ELECTRONIC WATER LEVELER
  - MANUFACTURER: JANDY LEVOLOR®
  - MODEL NO: LEV110CK/2G
  - QTY: 1
  - SHALL BE PURCHASED IN A KIT INCLUDING THE ELECTRONIC VALVE AND ALL INCIDENTALS.
  - SHALL BE WALL MOUNTED AT THE EXISTING CONTAINER AND PER MANUFACTURER'S SPECIFICATIONS

**4 ELECTRONIC WATER LEVELER**

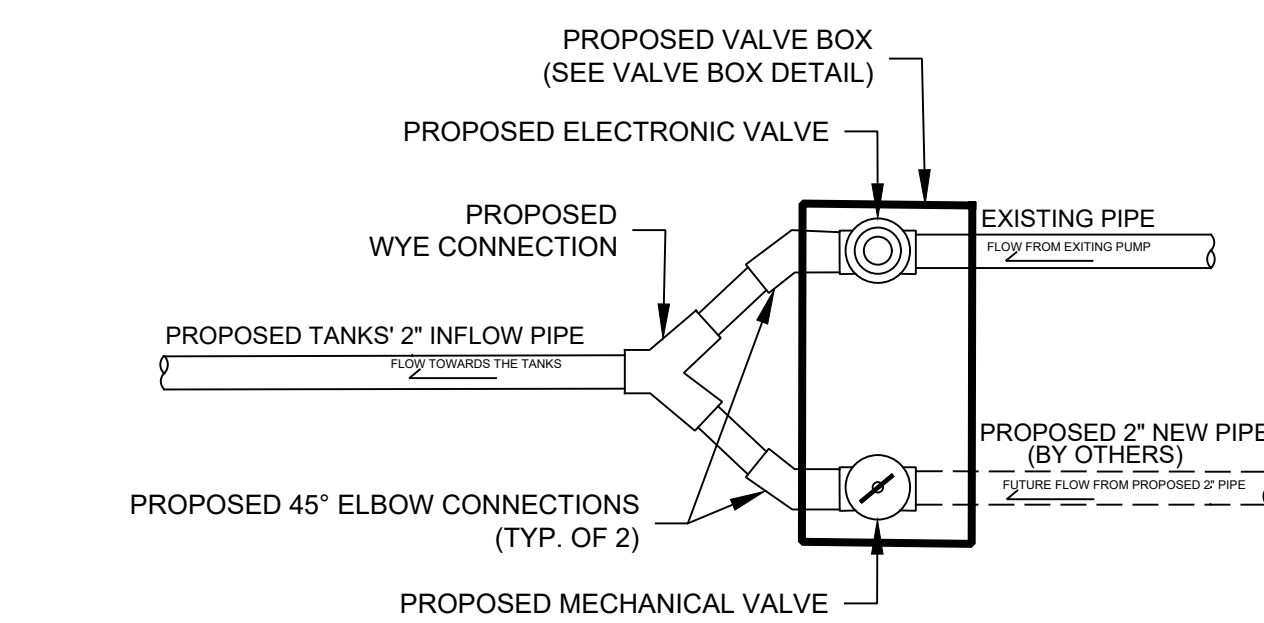
NTS



- NOTES:**
- DEPTH:** TRENCH SHALL BE EXCAVATED TO A DEPTH SUFFICIENT TO INCLUDE THE PIPE AND 24" OF BACKFILL FOR MAINLINE, 12" OF BACKFILL FOR LATERALS.
  - WIDTH:** SUFFICIENT FOR PIPE AND OTHER MATERIALS TO BE INSTALLED.
  - BACKFILL:** FREE OF STONES AND OTHER DEBRIS THAT COULD DAMAGE COMPONENTS OF THE IRRIGATION SYSTEM.
  - INSTALLATION:** LOCATE SIGNAL WIRES NEXT TO PIPE.

**6 TRENCHING, PIPE AND WIRE INSTALLATION**

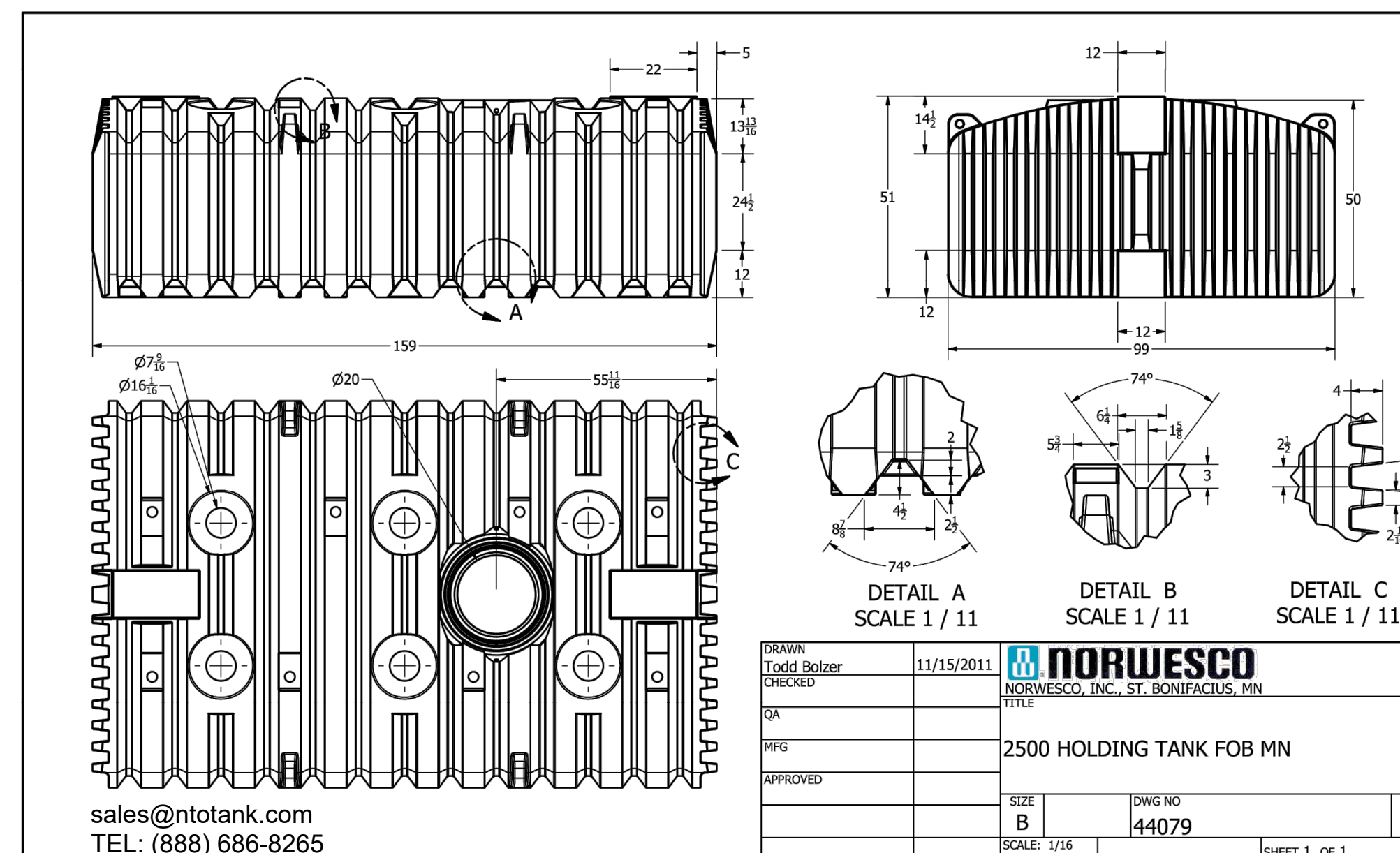
NTS



- NOTES:**
- AS SOON AS THE PROPOSED NEW 2" NEW WATER PIPE IS AVAILABLE, THE MECHANICAL VALVE SHALL BE REPLACED BY ELECTRICAL VALVE, AND ITS WYE CONFECTION END SHALL BE CAPPED.

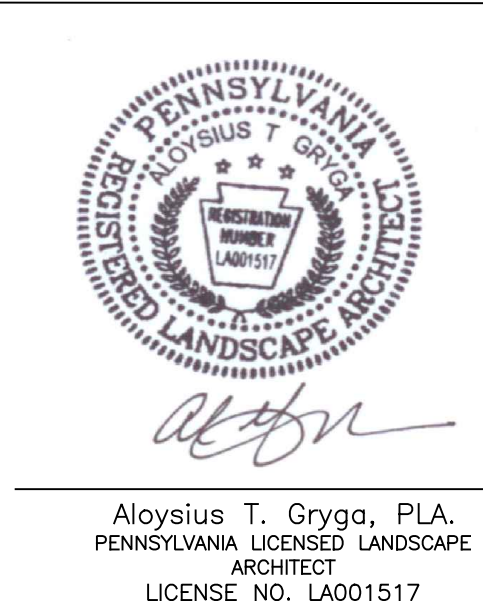
**3 VALVE BOX DIAGRAM**

NTS



**1 UNDERGROUND WATER TANK DETAIL**

NTS



REV.	DATE	DESCRIPTION

**GEORGE HAGGAR FIRE TRAINING CENTER**  
 UPPER DUBLIN TOWNSHIP, MONTGOMERY COUNTY, PENNSYLVANIA

**UPPER DUBLIN TOWNSHIP**  
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 262 Bethlehem Pike, Suite 200, Colmar, PA 18915  
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DATE: 04/21/23  
 SCALE: AS NOTED  
 AUTOCADD: HL  
 CHECKED: AG  
 PROJ. MGR: AG  
 PROJ: 9074-21-1-PA

**DETAILS**

DWG NO. D-3  
 SHEET: 9 OF 9

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