PRELIMINARY/FINAL LAND DEVELOPMENT PLAN LVIP VII – LOT 90

WARD 16 CITY OF BETHLEHEM NORTHAMPTON COUNTY PENNSYLVANIA

Record Notes

1. TRIPLE NET INVESTMENTS LX, LLC(TN 60) IS THE DEVELOPER FOR THIS PROJECT.

/1\ WAREHOUSING OR STORAGE AS A PRINCIPAL USE AT THEIR MARCH 23, 2022 HEARING.

2. THE LOT SHOWN IS SUBJECT TO ALL EASEMENTS VISIBLE, OR ON RECORD, OR AS REQUIRED BY A UTILITY TO SERVE SAID LOT AT SUCH TIME

. ALL PUBLIC IMPROVEMENTS IN THIS PROJECT SHALL BE CONSTRUCTED TO THE STANDARDS OF THE CITY OF BETHLEHEM, THE PENNSYLVANIA DEPARTMENT OF TRANSPORTATION AND THE APPROPRIATE PUBLIC UTILITY AUTHORITIES, UNLESS SAID IMPROVEMENTS ARE APPROVED

4. THE DEVELOPER SHALL BE RESPONSIBLE FOR THE PLACEMENT OF ALL STREET IDENTIFICATION AND TRAFFIC SIGNS AS DEEMED NECESSARY BY 5. EXISTING UTILITY POLES REQUIRED TO BE RELOCATED FOR CONSTRUCTION OF IMPROVEMENTS SHALL BE RELOCATED IN ACCORDANCE WITH ALL

6. IN ACCORDANCE WITH THE NATIONAL FLOOD INSURANCE PROGRAM, FIRM (FLOOD INSURANCE RATE MAP), FOR THE CITY OF BETHLEHEM, NORTHAMPTON COUNTY, COMMUNITY PANEL NUMBERS 42095C0263E, EFFECTIVE DATE JULY 16, 2014, THE PROJECT SITE IS LOCATED IN THE ZONE "X" AREA OF MINIMAL FLOOD HAZARD.

7. SINKHOLE REPAIRS AND CLOSURES SHALL BE COMPLETED IN ACCORDANCE WITH THE DETAILS PROVIDED ON THE PROJECT DRAWINGS. 8. THE SANITARY SEWER LATERALS ARE PROPOSED TO BE PRIVATELY OWNED.

9. NO UTILITY WILL BE ACCEPTED BY THE CITY WITH A STRUCTURE OR REMNANT THEREOF ON TOP OF THE UTILITY. NO STRUCTURE SHOULD BE

10. ALL ELECTRICAL WORK WILL REQUIRE AN ELECTRICAL PERMIT AND A "PPL" JOB REQUEST NUMBER. DEVELOPER MUST FOLLOW CITY OF BETHLEHEM'S REQUIREMENTS FOR PARKING LOT AREA LIGHTING. POLE HEIGHTS MAY NOT BE GREATER THAN 20 FEET. ANY ARTIFICIAL LIGHT MUST NOT INFRINGE ON ADJACENT PROPERTY. ALL LIGHT FIXTURES SHALL HAVE A CUT OFF DESIGN THAT AIMS LIGHT DIRECTLY DOWNWARD. 11. AT THE TIME OF ANY FUTURE EXPANSION THE DESIGNER SHALL VERIFY AND PROVIDE ANY FEATURES NECESSARY TO ASSURE THAT THE DOWNSTREAM STORM SYSTEM HAS ADEQUATE CONVEYANCE CAPACITY AND MEETS CITY OF BETHLEHEM STANDARDS.

12. THE OWNER SHALL INSTALL KNOX BOX FOR CITY OF BETHLEHEM FIRE DEPARTMENT ACCESS. DEVICES SHALL BE ACTIVATED BY WATERFLOW EQUIVALENT TO THE FLOW OF A SINGLE SPRINKLER OF THE SMALLEST ORIFICE SIZE INSTALLED IN SYSTEM IS INSTALLED. ACTUATION OF THE AUTOMATIC SPRINKLER SYSTEM SHALL ACTUATE THE BUILDING FIRE ALARM SYSTEM. IN AUTOMATIC SPRINKLER SYSTEMS WHERE MULTIPLE SPRINKLER RISERS ARE REQUIRED, AND THE RISERS ARE LOCATED IN SEPARATE AREAS WITHIN THE BUILDING, AN OUTSIDE VISIBLE ALARM NOTIFICATION APPLIANCE SHALL BE REQUIRED FOR EACH RISER. SUCH APPLIANCE SHALL BE A WHITE

2014-21 - PASSED 8/5/14) 14. THE SUBJECT PARCEL WAS PREVIOUSLY DEVELOPED AS THE BETHLEHEM STEEL AND PRIOR SUBDIVISION WAS SLAG AND IMPERVIOUS AREA. THUS, NO NEW IMPERVIOUS COVERAGE IS PROPOSED.

STROBE (MINIMUM 95 CANDELA STROBE RATING) PLACED IN AN APPROVED LOCATION ON THE EXTERIOR WALL, AS CLOSE AS PRACTICABLE. EACH SPRINKLER RISER. THE STROBE WILL ACTIVATE WHEN THE WATER FLOW ALARM FOR ITS RESPECTIVE RISER IS ACTIVATED. (ORD.

15. PROPOSED MONUMENT SIGN LOCATION AND SIZE SHALL CONFORM WITH THE CITY'S ZONING ORDINANCE AND LVIP COVENANTS AND WILL REQUIRE A PERMIT FROM THE CITY PRIOR TO CONSTRUCTION.

16. ANY CHANGE IN THE LOCATION OF THE FIRE DEPARTMENT CONNECTION (FDC) MUST BE APPROVED BY THE CITY OF BETHLEHEM FIRE 17. THE CITY OF BETHLEHEM ZONING HEARING BOARD GRANTED A SPECIAL EXCEPTION TO PERMIT DISTRIBUTION AS A PRINCIPAL USE AND

BY SUBMISSION OF THESE PLANS THE ENGINEER ON RECORD CERTIFIES THAT THESE PLANS ARE IN COMPLETE CONFORMANCE WITH THE CITY OF BETHLEHEM STORM WATER MANAGEMENT ORDINANCE.

ACCURATE AS-BUILT PLANS SHALL BE KEPT UP TO DATE DURING THE CONSTRUCTION PROCESS. AT THE COMPLETION OF THE PROJECT, RECORD DRAWINGS SHALL BE DEVELOPED FROM AS-BUILT PLANS AND SUBMITTED TO THE CITY ENGINEER'S OFFICE. ALL

FINAL DRAWINGS SHALL SHOW NORTH AMERICAN DATUM(NAD) 1983 STATE PLANE COORDINATES IN FEET (PENNSYLVANIA SOUTH, FIPS ZONE 3702) AND THE DIGITAL FILE SHALL BE IN STATE PLANE FEET COORDINATES AS APPLICABLE. THE HARD COPY OF THE RECORD DRAWINGS SHALL BE IN FORM OF MYLAR COPY. THE ENGINEER OF RECORD SHALL CERTIFY(I.E. P.E. STAMPED AND SIGNED) THAT THE RECORD DRAWINGS COMPLY SUBSTANTIALLY WITH THE APPROVED PLAN AND THAT THEY CONFORM TO INDUSTRY STANDARDS. ALL DIGITAL FILES SHALL RESIDE ON PC COMPATIBLE CD ROM CONTAINING THE DIGITAL REPRESENTATION OF THE FINAL PLAN AS PRESENTED ON THE TWENTY-FOUR (24) INCH BY THIRTY-SIX (36) INCH SHEETS. THE DIGITAL MAP SHALL BE AUTOCAD COMPATIBLE. ALL LAYERS INCLUDED IN THE DIGITAL MAPS SHALL BE THE STANDARDIZED LAYERS PREPARED AND UTILIZED BY THE CITY OF BETHLEHEM TO ENSURE COMPATIBILITY WITH THE CITY'S EXISTING CADD STANDARDS AND AS DESCRIBED IN APPENDIX A OF THE CITY'S SUBDIVISION AND LAND DEVELOPMENT ORDINANCE.

Revisions Note

IN ORDER TO MAINTAIN CONTINUITY BETWEEN PLAN REVISIONS, ANY CHANGES TO A PREVIOUS PLAN SUBMISSION SHALL BE FLAGGED WITH A TRIANGLE. ANY CHANGES NOT FLAGGED MAY BE CONSIDERED NOT APPROVED. FLAGGED CHANGES SHALL BE REFERENCED

Engineering Permits Note

TO THE APPROPRIATE REVISION DATE IN THE REVISION BLOCK.

PRIOR TO ANY WORK WITHIN THE RIGHT-OF-WAY, PERMITS MUST BE OBTAINED FROM CITY ENGINEERING OFFICE.

1. THE MAINTENANCE OF STORM WATER FACILITIES NOT DEDICATED TO AND ACCEPTED BY THE CITY, SHALL BE THE OWNER'S RESPONSIBILITY. THE OWNER'S DEED, AND THE DEED TO ANY SUBSEQUENT OWNER, SHALL NOTE THAT THE OWNER SHALL ACCEPT THE MAINTENANCE RESPONSIBILITIES. THE CITY OF BETHLEHEM SHALL BE PERMITTED TO INSPECT THE STORM WATER FACILITIES ON AT LEAST AN ANNUAL SCHEDULE TO ENSURE THAT ANY NECESSARY CORRECTIVE WORK IS PERFORMED IN A TIMELY MANNER.

2. THE DRAINAGE EASEMENT PROVIDES FOR THE FLOW OF STORMWATER ACROSS LOTS, AND MAY NOT BE ALTERED WITHOUT THE WRITTEN PERMISSION OF THE CITY ENGINEER. NO OBSTRUCTIONS SUCH AS PLANTING BERMS OR FENCES MAY BE INSTALLED IN THE DRAINAGE EASEMENTS AREAS WITHOUT SUFFICIENT PROVISION FOR THE PASSAGE OF STORMWATER, AND ANY SUCH PROPOSED PROVISION SHALL BE APPROVED IN WRITING BY THE CITY ENGINEER.

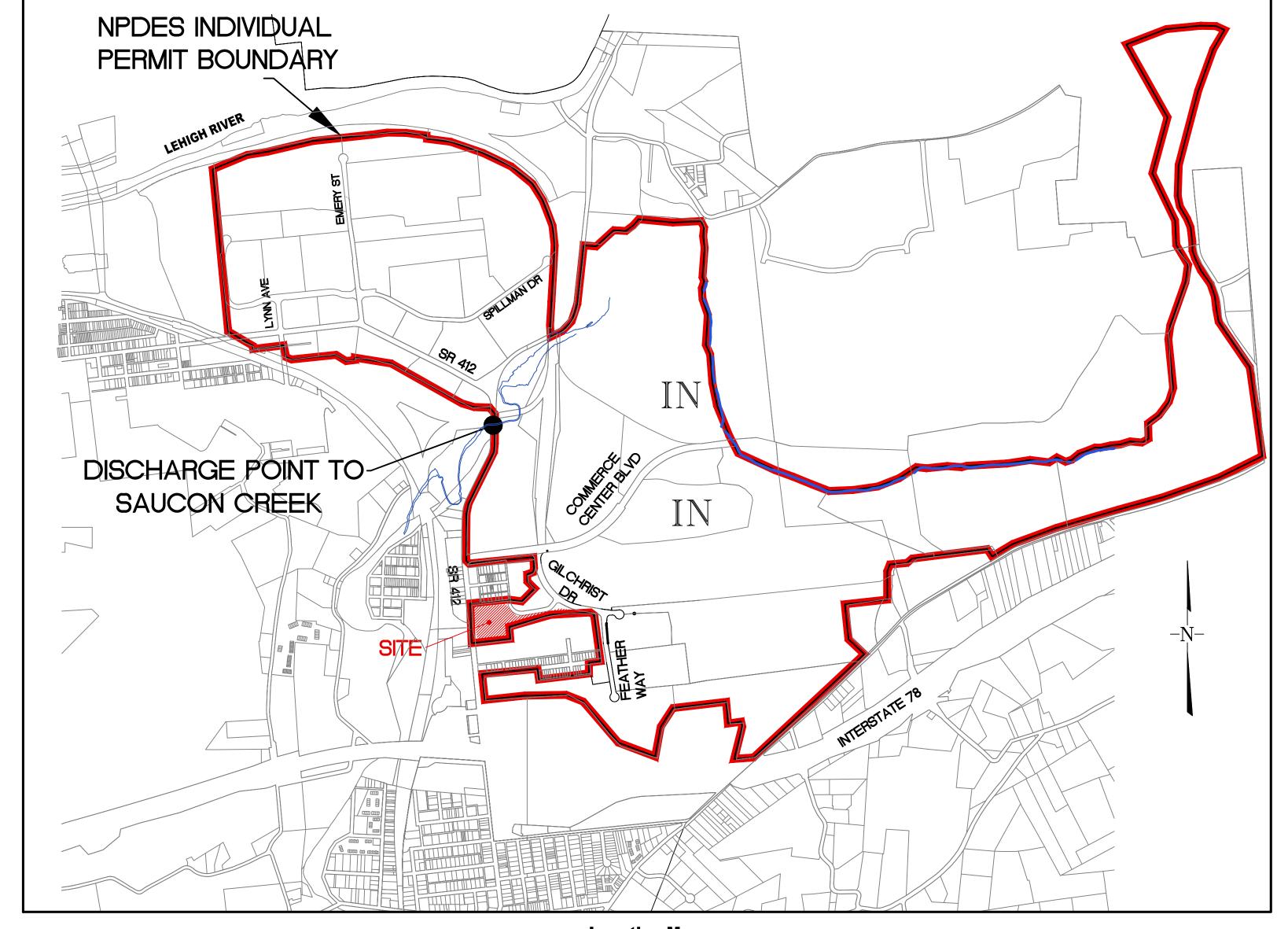
Inlet Marker Note

ALL PUBLIC INLETS SHOULD HAVE INLET MARKERS. THE DESIGN OF THE INLET MARKERS SHALL BE APPROVED BY THE CITY

Building Stakeout Note

THE BUILDING FOOTPRINT SHALL BE VERIFIED WITH THE ARCHITECT PRIOR TO STAKEOUT





Site Data			
	: BOOK 20 MAP P7 2	RES / 249,623 S.F. 19-5, RAGE 522 RE 7, BLOCK 22 LOT 1B 2005-1-420073 IR (INDUSTRIAL) VACANT LOT E/DISTRIBUTION CEN PUBLIC PUBLIC	
•	REQUIRED/ALLOWED IR DISTRICT	ALLOWED BY LVIP COVENANTS	PROPOSED _LOT_90
MINIMUM LOT WIDTH: MINIMUM DEVELOPMENT AR MAXIMUM BUILDING COVERA MAXIMUM BUILDING HEIGHT IMPERVIOUS COVERAGE	60 FT EA: 20,000 S.F. AGE: 90%	N/A N/A N/A 50% N/A 70%	201 90 316 FT.(412)/768 FT.(HARVARD) 5.73 ACRES 21.51% 45 FT. 47.52 % (118,615 S.F.)
SETBACKS: FRONT YARD: REAR YARD: SIDE YARD: PARKING SETBACKS:	10 FT 20 FT (1) 20 FT (1)	25 FT 15 FT 15 FT	75 FT N/A 31 FT
FRONT YARD: REAR YARD: SIDE YARD:	N/A N/A N/A	15 FT 10 FT 10 FT	10 FT. HARVARD (2 N/A 40 FT.
PARKING REQUIREMENTS: MINIMUM SIZE:	9' X 18'		9' X 18'
SPACES REQUIRED: WAREHOUSING: (REQUIRED PARKING FOR	1 SPACE PER 1,000 S.F. OF BLDG. MAX. POTENTIAL USE)	53,70	0/1000=54
TOTAL SPACES REQUIRED:	54 SPACES		
ACCESSIBLE PARKING:	3 SPACES		4 SPACES
TOTAL SPACES PROVIDED:			63 SPACES
BICYCLE PARKING BUILDING COVERAGE:	3 SPACES 53,700 SF.		3 SPACES
	TOTAL 249,623 SF. OR 5.73 AC. (53,700 SF./ 249,623 SF.=21.51%)		

1. NE CORNER (SQUARE CUT) OF A CONCRETE PPL VAULT (66961S47176) ON THE SOUTH SIDE OF COMMERCE CENTER BLVD NEAR THE WEST SIDE OF GILCHRIST DRIVE.

Benchmarks for this Plan

AVE, ON THE SOUTH SIDE OF GILCHRIST DR. ELEV=299.60

ELEV=344.36

2. TOP NUT OF FIRE HYDRANT, JUST SOUTH OF HARVARD

3. TOP NUT OF FIRE HYDRANT, EAST OF FEATHER WAY,

ON SOUTH SIDE OF GILCHRIST DR. MARKED AS L7089

4. NW CORNER (SQUARE CUT OF A CONCRETE PPL VAULT(67062S47058) ON THE EAST SIDE OF FEATHER

WAY, JUST NORTH OF THE CURTIS WRIGHT BUILDING.

/1\ (SE) SPECIAL EXCEPTION - GRANTED ON MARCH 23, 2022 BY THE CITY OF BETHLEHEM ZONING HEARING BOARD.

(1) A REAR YARD OF 50 FT. AND SIDE YARD OF 25 FEET SHALL BE REQUIRED FOR A PRINCIPAL NON-RESIDENTIAL BUILDING WOULD BE ADJACENT TO A LOT IN A RESIDENTIAL DISTRICT. SUCH SIDE AND REAR SHALL BE INCREASED TO 60 FEET FOR ANY BUILDING AREA OR LAND AREA OR LAND AREA USED FOR MANUFACTURING OR A TRACTOR-TRAILER LOADING AREA. Λ (2) LVIP BUILDING COMMITTEE GRANTED RELIEF OF THE REQUIRED PARKING SETBACK WITHIN THEIR CONSTRAINTS

PLANNING (APPROVED	ETING ON
CHAIRMAN	
OT IT WITH THE	
SECRETARY	
JECKE IAK I	
	BY THE LEHIGH VALLEY PLANNING COMMISSION FOR LEHIGH IAMPTON COUNTIES.
LVPC STAF	F PERSON RESPONSIBLE FOR REVIEW DATE
211 0 011	
	WAS RECORDED IN THE OFFICE OF THE RECORDER OF NORTHAMPTON COUNTY, ONIN
	, PAGE
Owner S	Signature:
TRIPLE NET	INVESTMENTS LX, LLC(TN 60)
COMMONWE	ALTH OF PENNSYLVANIA)
COUNTY OF) SS: NORTHAMPTON)
	,
·,	NAME CORPORATION NAME
BEING DULY	SWORN ACCORDING TO LAW, AND ACTING IN MY CAPACITY AS
	DEPOSE AND SAY THAT THE ABOVE NAMED CORPORATION IS
THE TRUE A	AND LAWFUL OWNER OF PROPERTY KNOWN AS
	; THAT THE ABOVE DESCRIBED PROPERTY IS IN THE
PEACEFUL F	POSSESSION OF SAID CORPORATION AND THAT THERE ARE NO
LIENS PEND	ING AFFECTING THE TITLE THEREOF.
	CORPORATION
	CORPORATION
	CORPORATION OFFICIAL
SWORN AND	SUBSCRIBED TO BEFORE ME THIS DAY OF,
	NOTARY PUBLIC
MY COMMIS	SION EXPIRES ON

Land Development Plans

- 1 COVER SHEET RECORD PLAN 1 OF 2
- 2 RECORD PLAN 2 OF 2 3 EXISTING FEATURES AND DEMOLITION PLAN
- 4 GRADING & UTILITY PLAN
- 5 CURB GRADE PLAN 6 PROFILE PLAN
- 7 LANDSCAPE PLAN AND DETAILS
- 8 POST CONSTRUCTION STORMWATER MANAGEMENT PLAN 9 EROSION & SEDIMENTATION CONTROL PLAN
- 10 EROSION & SEDIMENTATION CONTROL DETAIL SHEET 11 EROSION & SEDIMENTATION CONTROL DETAIL SHEET
- 12 CONSTRUCTION DETAIL SHEET

13 CONSTRUCTION DETAIL SHEET

Supplemental Plans

VEHICLE MOVEMENT EXHIBIT - 1 OF 1 LIGHTING PLAN - (BY OTHERS)

Statement of Intent

TO CONSTRUCT A WAREHOUSE / DISTRIBUTION CENTER BUILDING WITH ASSOCIATED PARKING AND INFRASTRUCTURE.



HanoverEng.com

Bethlehem Office 252 Brodhead Road. Suite 100 P:610.691.5644 Bethlehem, PA 18017-8944 F:610.691.6968

Owner LVIP, INC

PHONE 610.866.4600

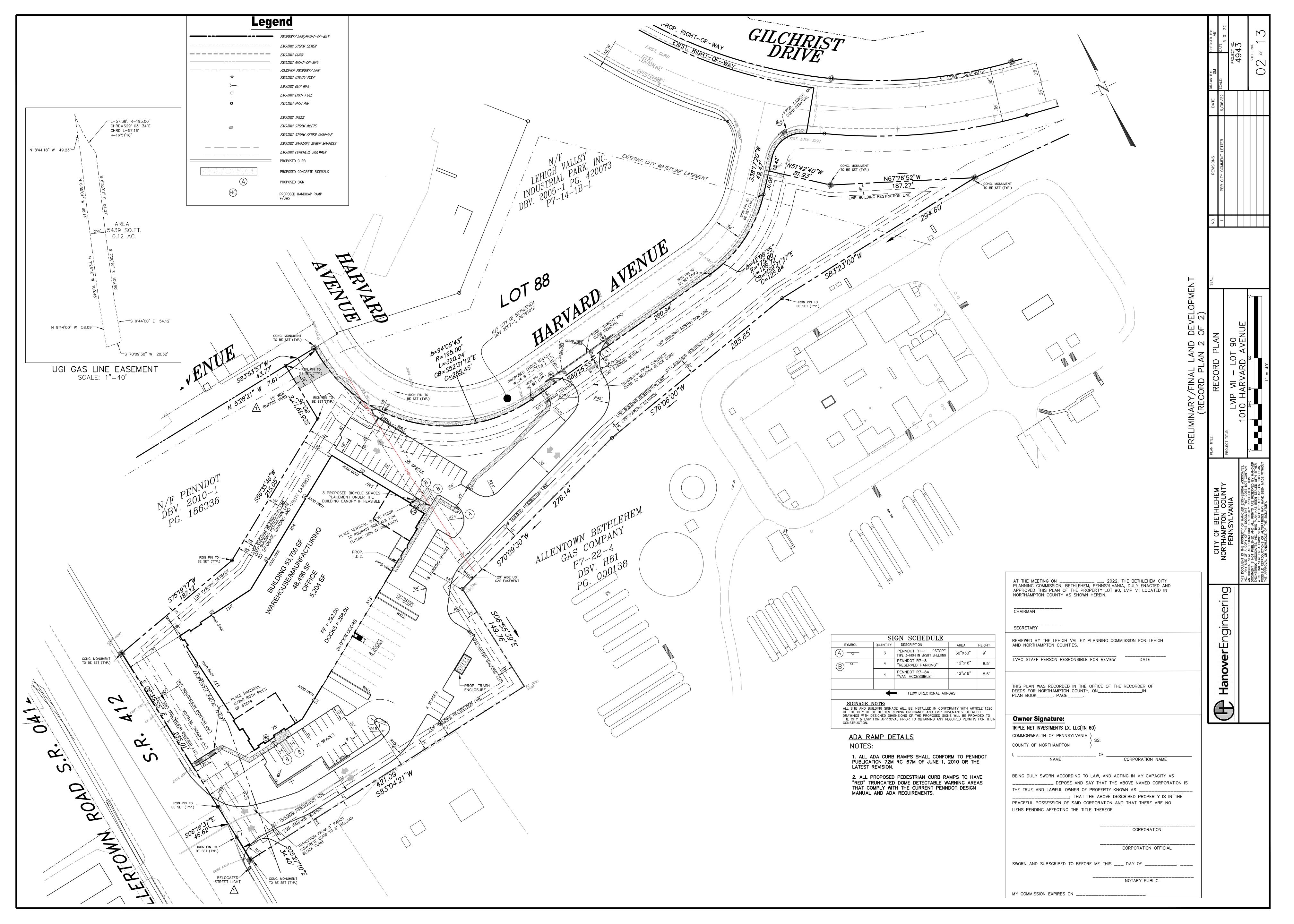
1720 SPILLMAN DRIVE BETHLEHEM, PA 18015

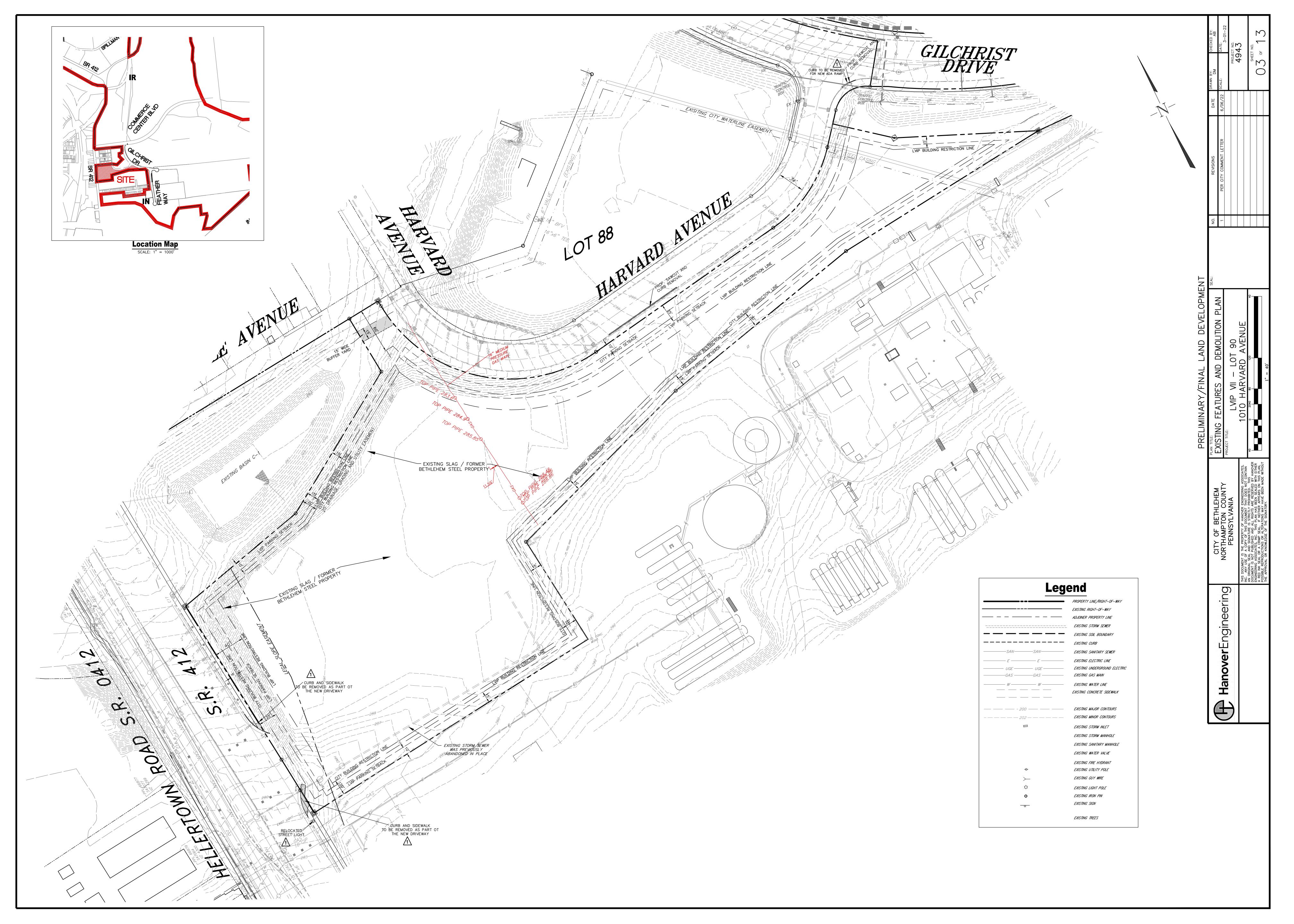
Equitable Owner/ Applicant

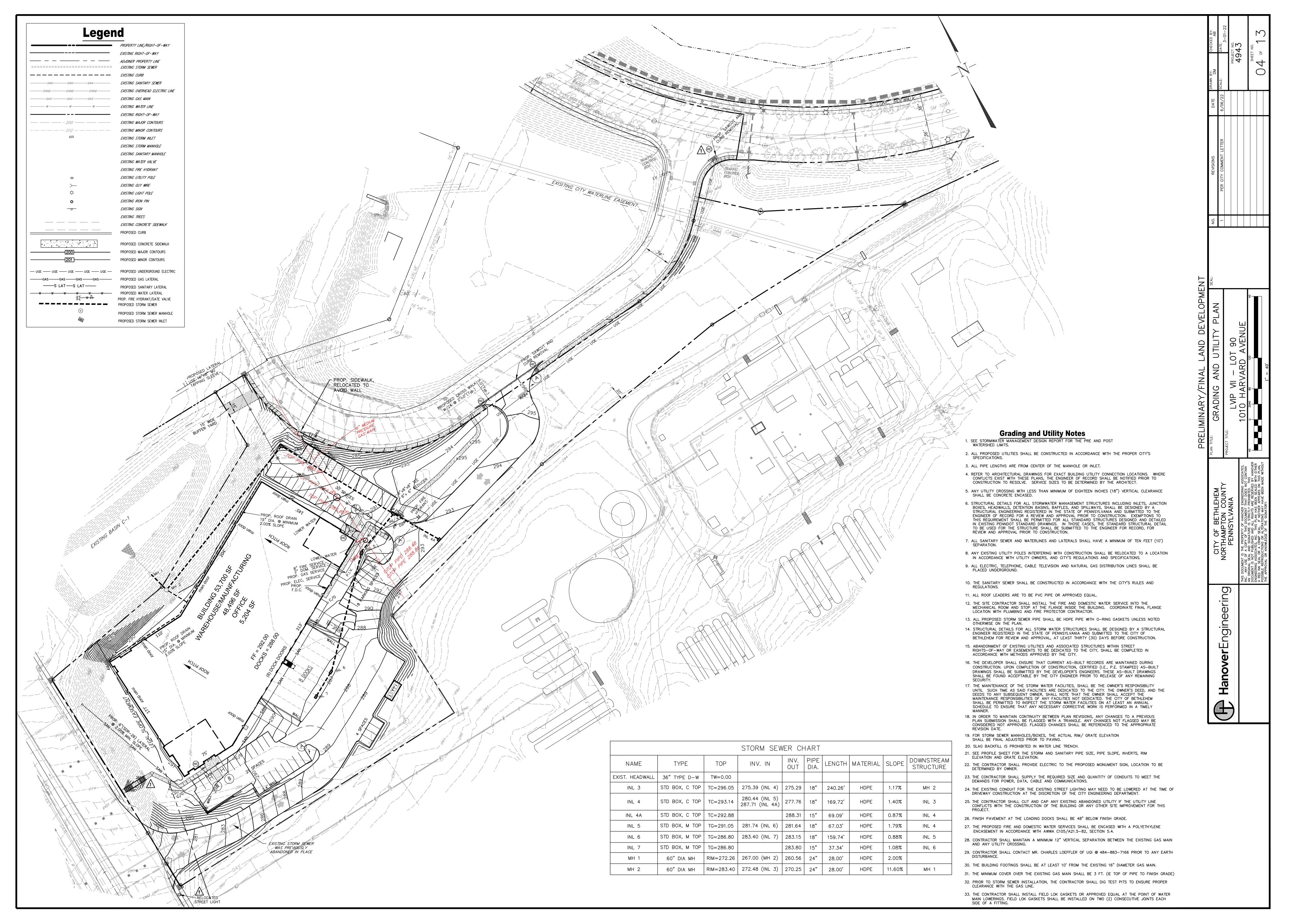
TRIPLE NET INVESTMENTS LX, LLC(TN 60) 171 STATE ROUTE 173, SUITE 100 ASBURY, NJ 08802 (908) - 730 - 6909

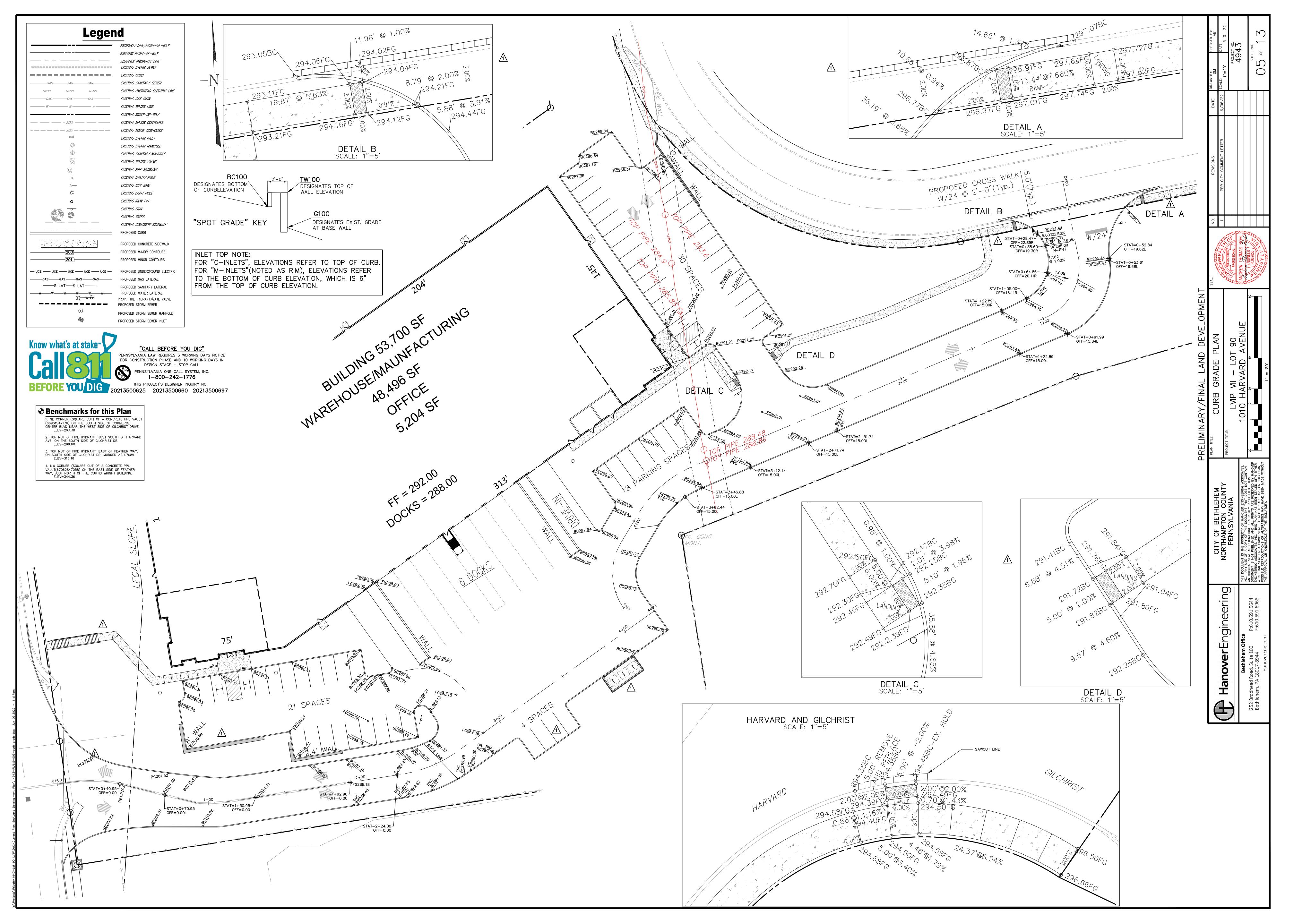
mcampbell@jgpetrucci.com

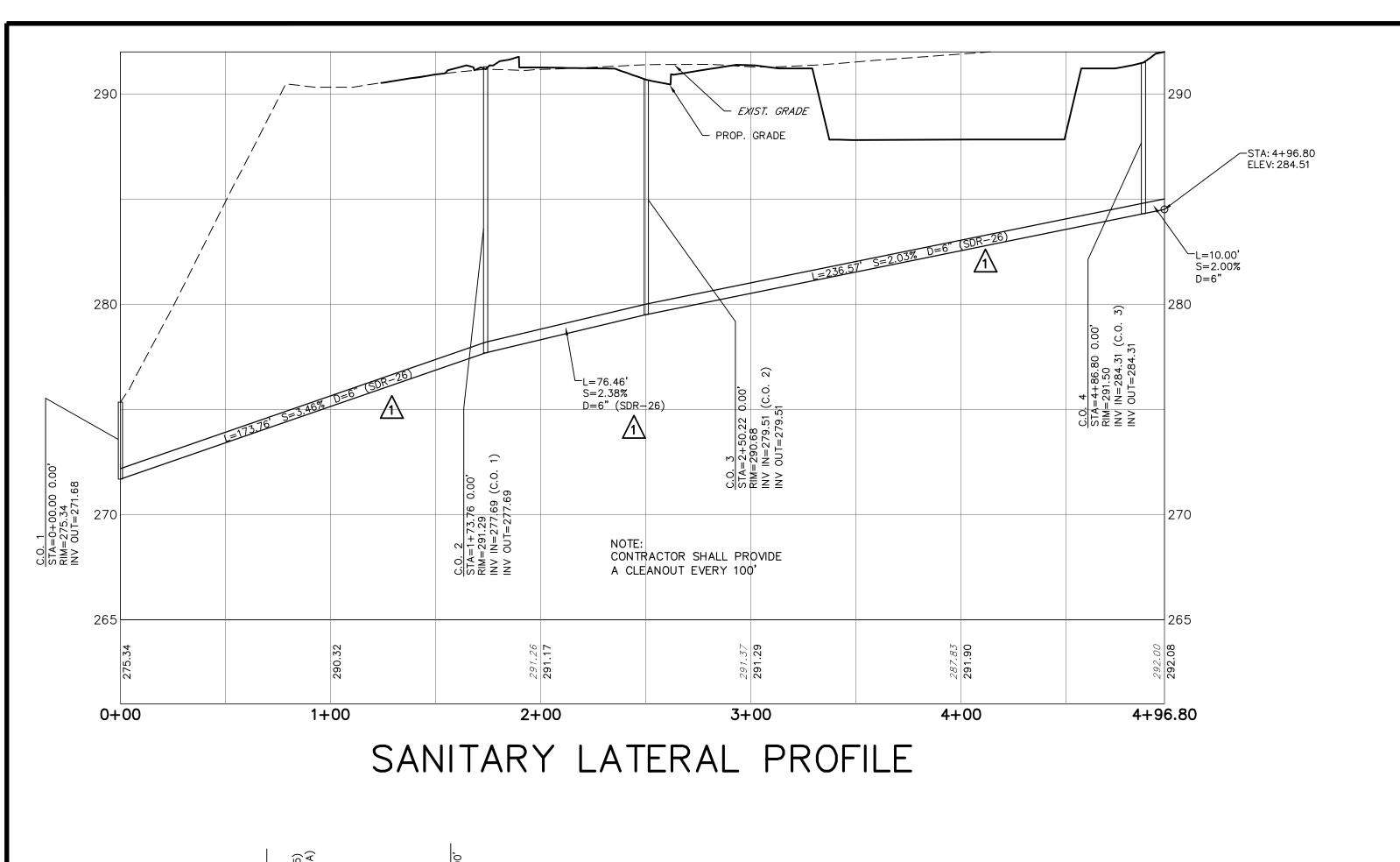
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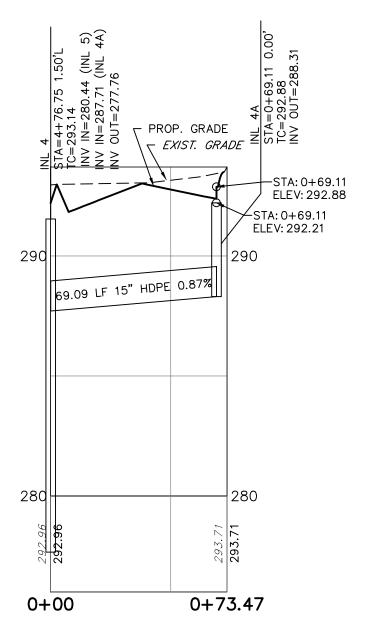






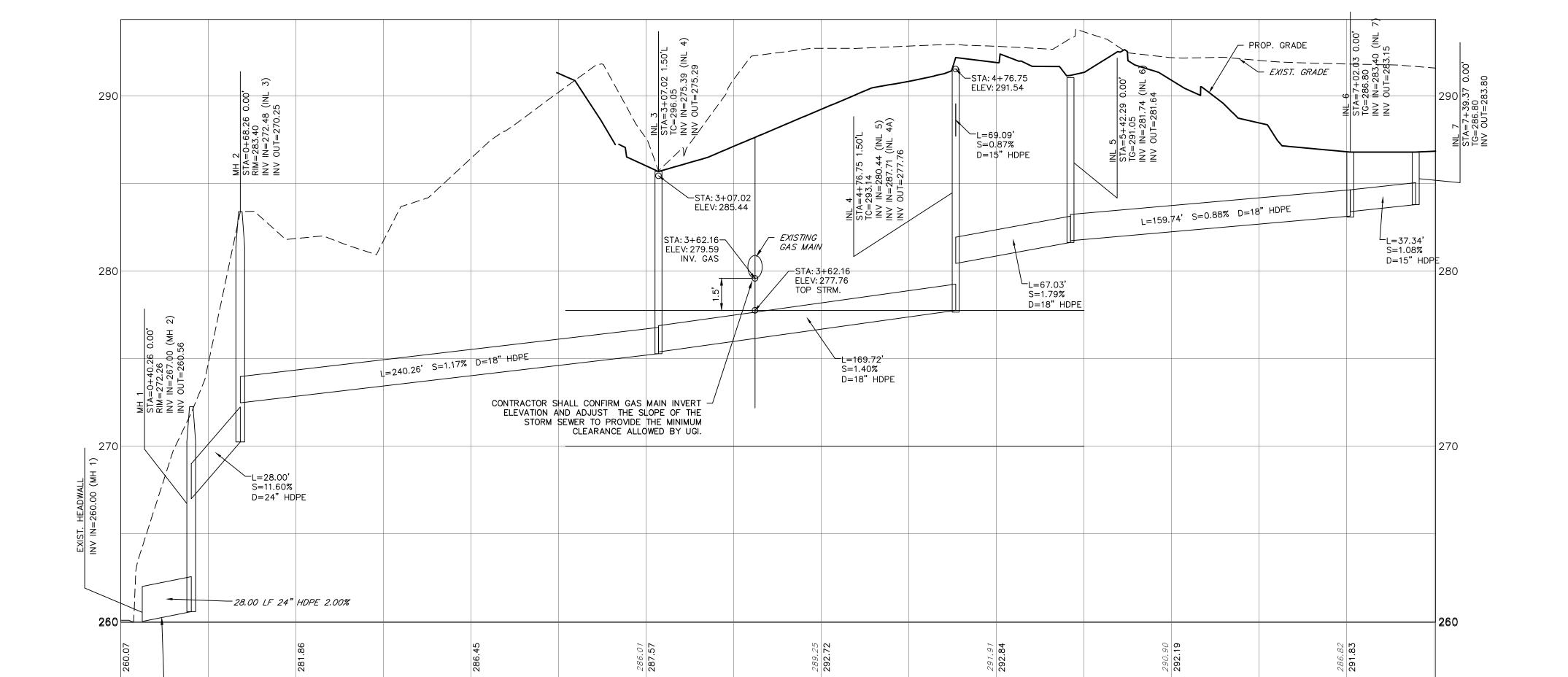






SS INL 4 TO 4A PROFILE

0+00



4+00

STORM SFWFR MH 1 TO INI 7 PROFILE

5+00

6+00

7+00

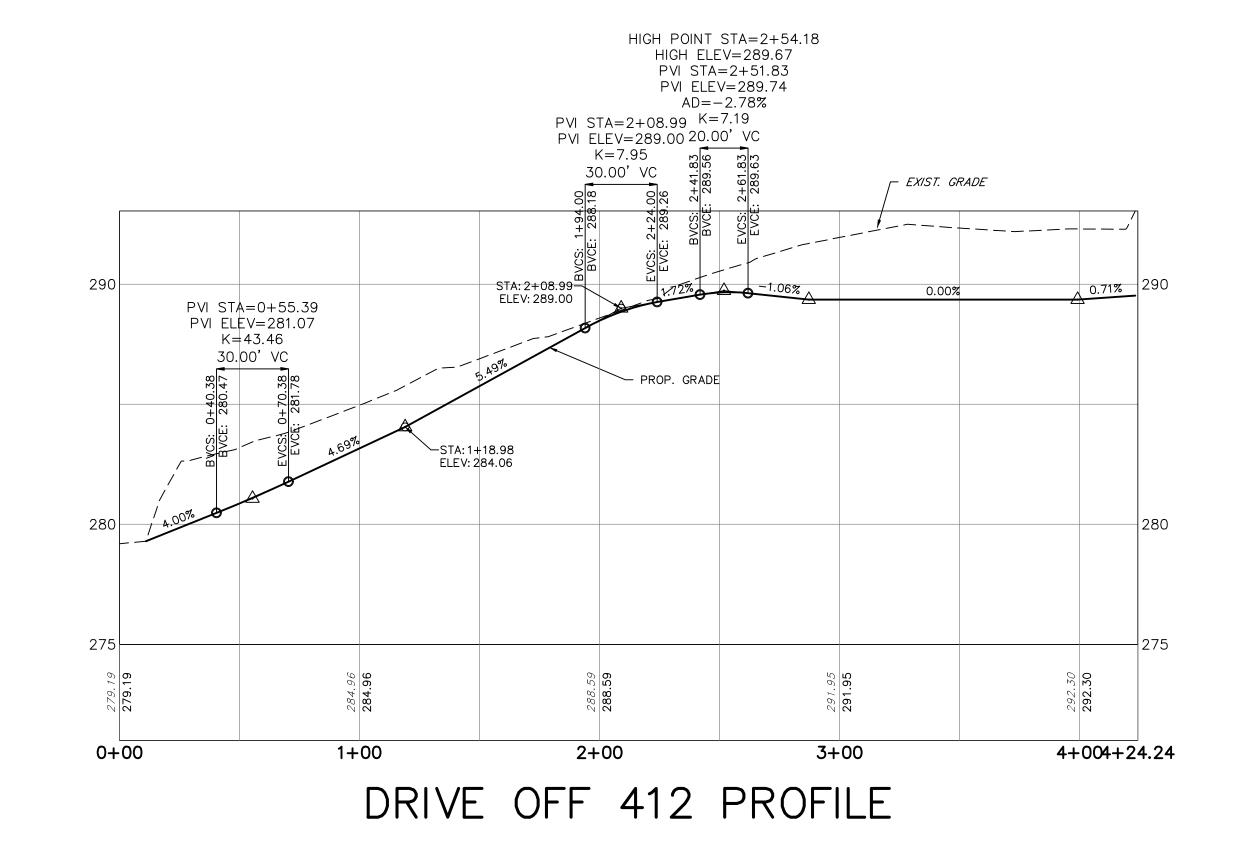
7+50.79

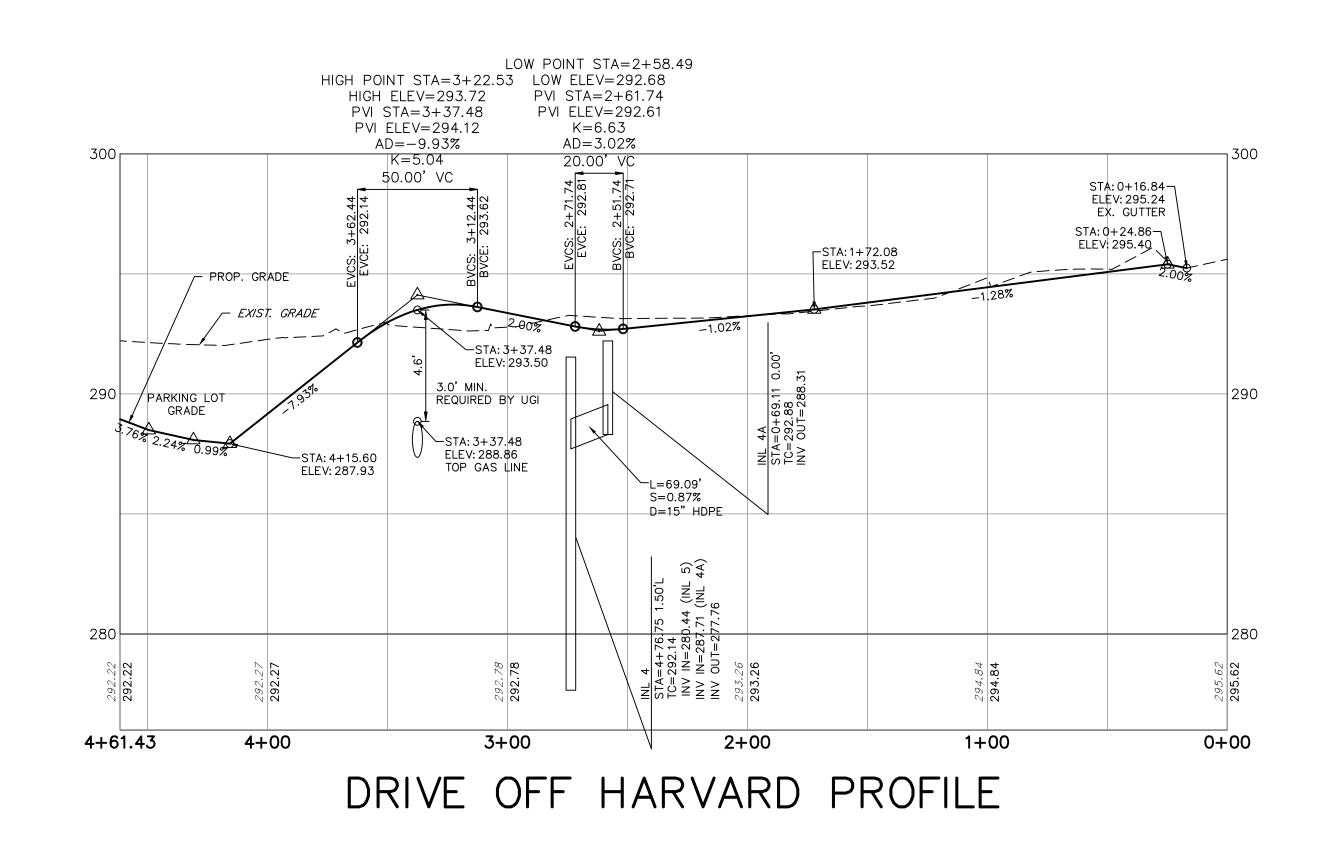
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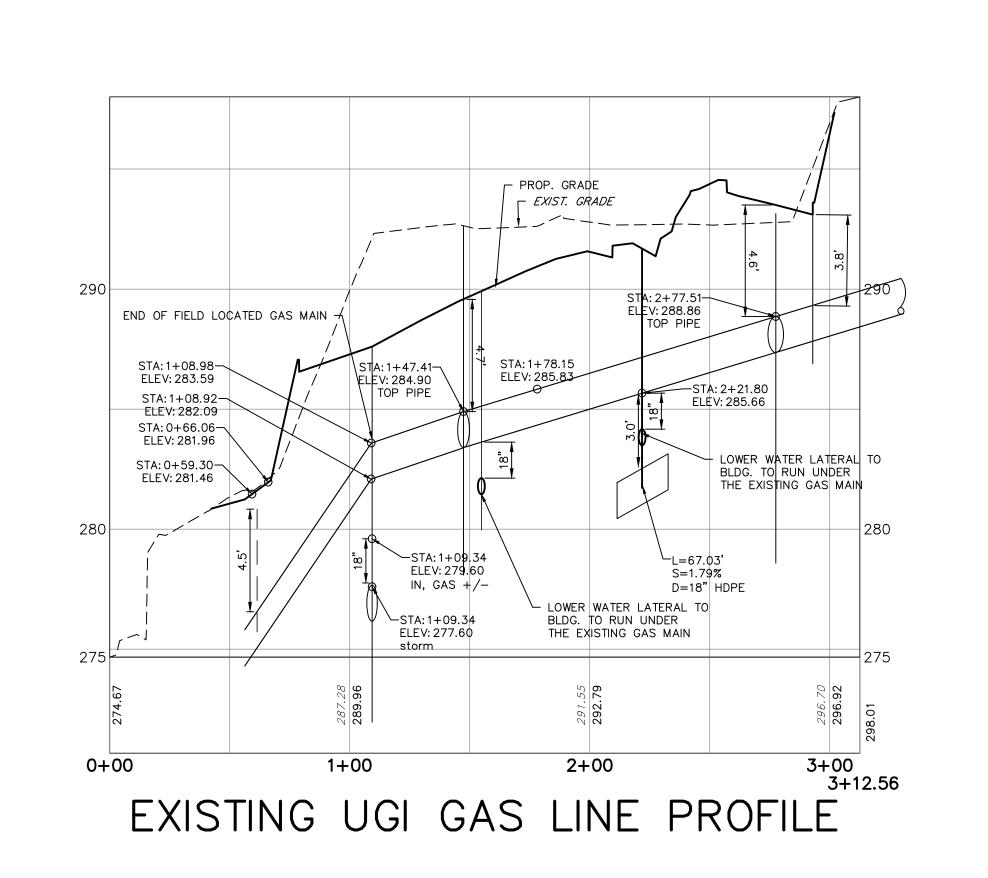
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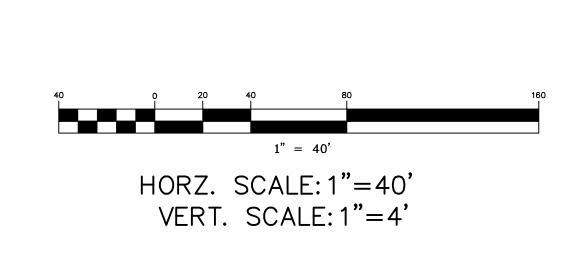
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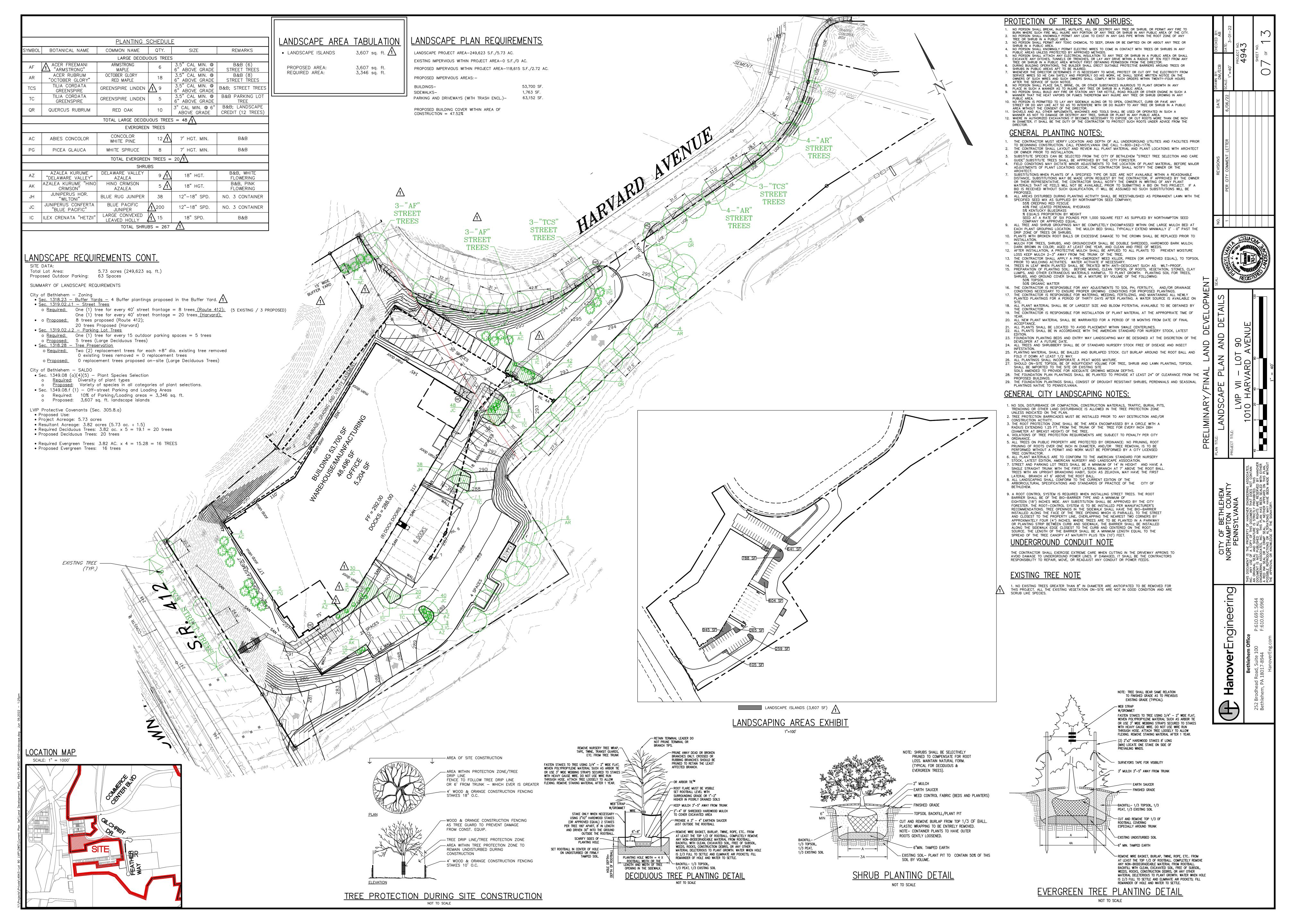
EXISTING 24" CMP
CONTRACTOR SHALL CONFIRM INVERT ELEVATION
AND ADJUST INVERT IN ACCORDINGLY

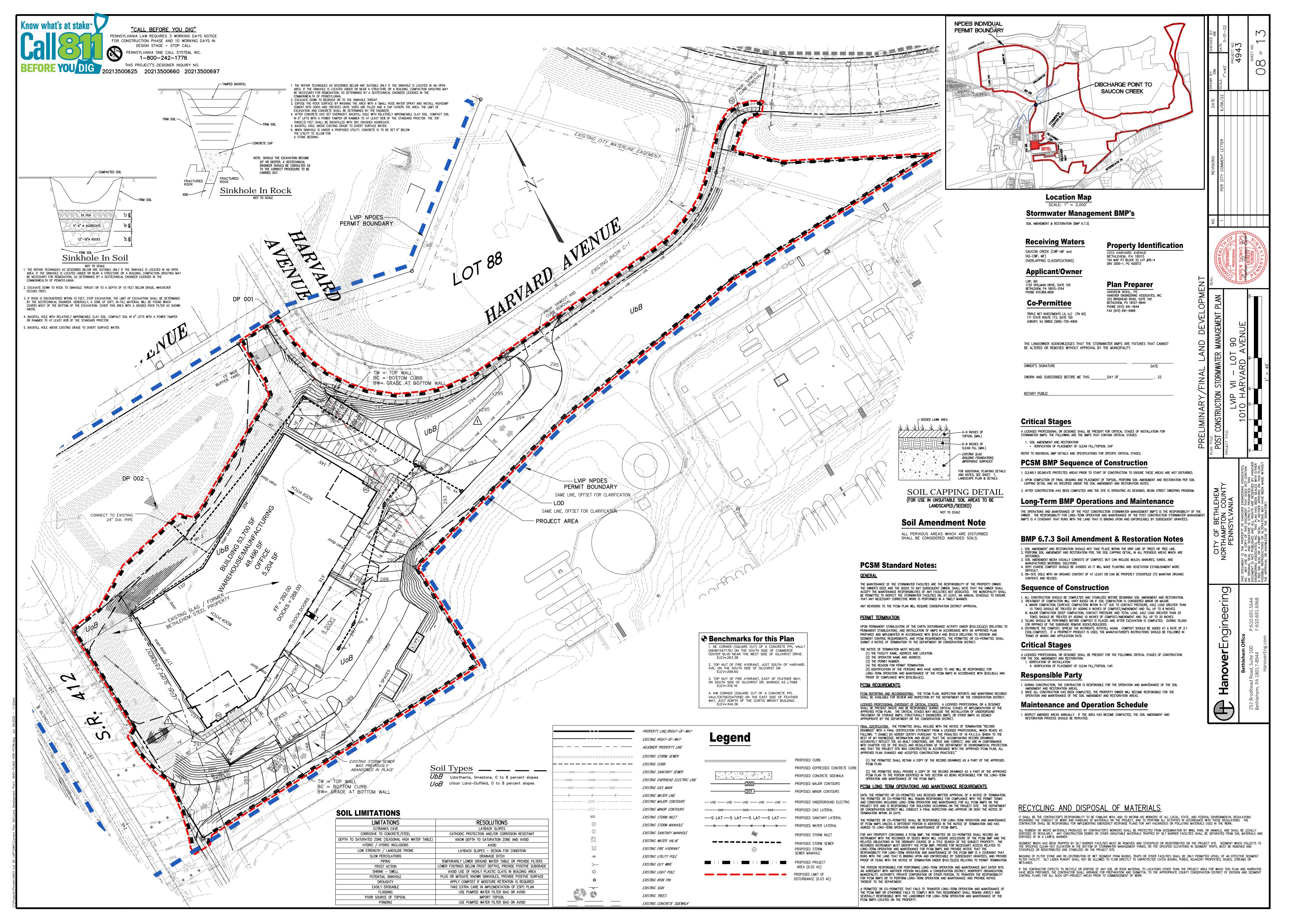


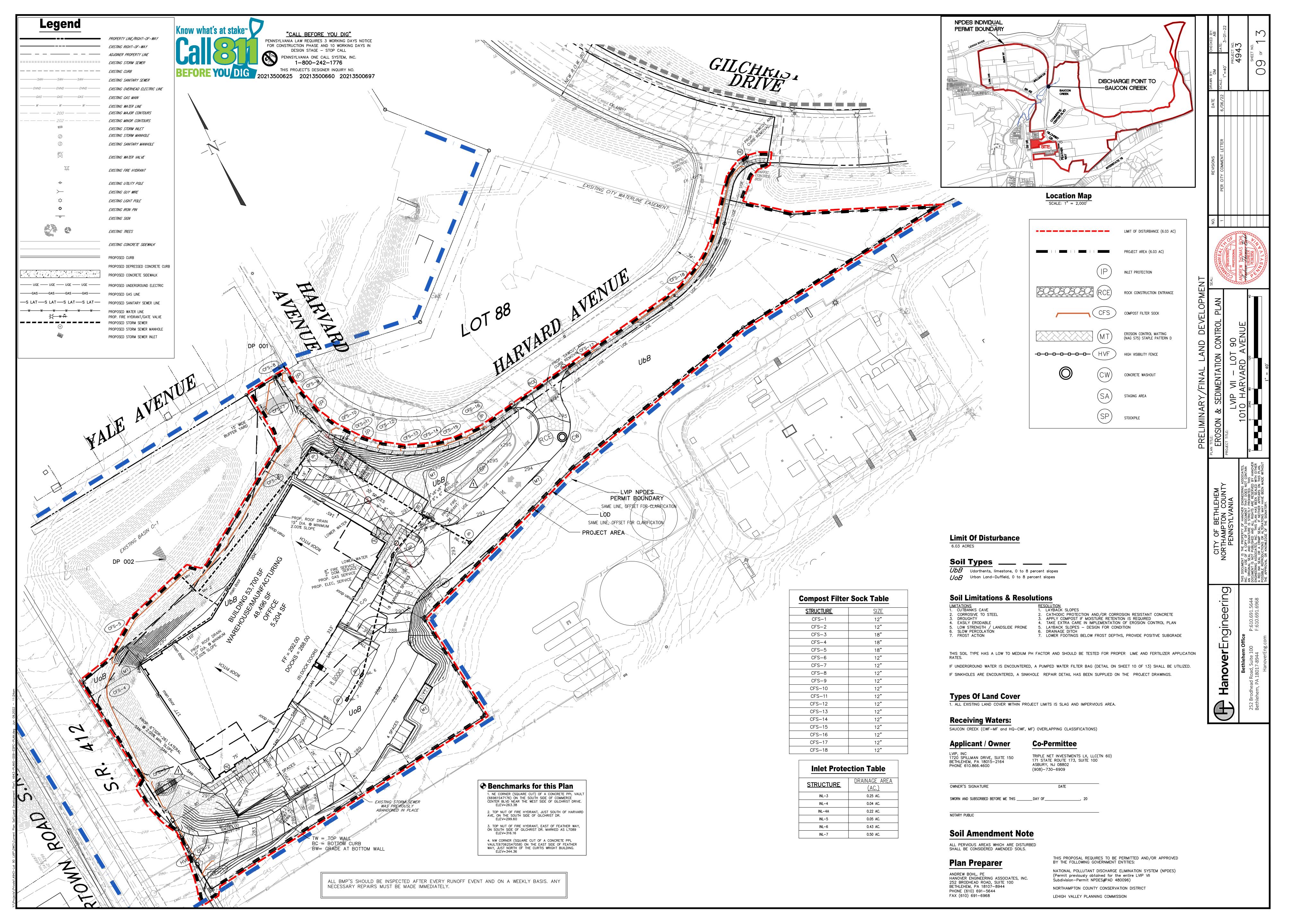












Standard Erosion And Sediment Control Plan Notes

- . 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
- . 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 PRECONSTRUCTION MEETING

- . 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. . AREAS TO BE FILLED ARE TO BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION,
- ROOTS AND OTHER OBJECTIONABLE MATERIAL. . CLEARING, GRUBBING, AND TOPSOIL STRIPPING SHALL BE LIMITED TO THOSE AREAS DESCRIBED IN EACH STAGE OF E CONSTRUCTION SEQUENCE. GENERAL SITE CLEARING, GRUBBING AND TOPSOIL STRIPPING MAY NOT COMMENCE IN ANY STAGE OR PHASE OF THE PROJECT UNTIL THE E&S BMPS SPECIFIED BY THE BMP SEQUENCE FOR THAT STAGE
- OR PHASE HAVE BEEN INSTALLED AND ARE FUNCTIONING AS DESCRIBED IN THIS E&S PLAN. . 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 MAPS(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 HEIGHTS SHALL NOT EXCEED 35 FEET. STOCKPILE SLOPES SHALL BE 2H:1V OR FLATTER. . 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. 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 260.1 FT SEQ...
- 271.1, AND 287.1 ET. SEQ. NO BUILDING MATERIALS OR WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURNED, BURIED, DUMPED, OR DISCHARGED AT THE SITE. 11. 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. 12. 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.
- 13. ALL PUMPING OF WATER FROM ANY WORK AREA SHALL BE DONE ACCORDING TO THE PROCEDURE DESCRIBED IN THIS PLAN. OVER UNDISTURBED VEGETATED AREAS. 14. UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENT BMPS SHALL BE MAINTAINED PROPERLY. MAINTENANCE
- SHALL INCLUDE INSPECTIONS OF ALL FROSION AND SEDIMENT BMPS AFTER FACH RUNOFF EVENT AND ON A WEEKLY BASIS, ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING. RESEEDING. REMULCHING AND RENETTING MUST BE PERFORMED IMMEDIATELY. IF THE E&S BMPS FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMPS, OR MODIFICATIONS OF THOSE INSTALLED WILL BE REQUIRED. 15. A LOG SHOWING DATES THAT E&S BMPS WERE INSPECTED AS WELL AS ANY DEFICIENCIES FOUND AND THE DATE
- THEY WERE CORRECTED SHALL BE MAINTAINED ON THE SITE AND BE MADE AVAILABLE TO REGULATORY AGENCY OFFICIALS AT THE TIME OF INSPECTION. 16. SEDIMENT TRACKED ONTO ANY PUBLIC ROADWAY OR SIDEWALK SHALL BE RETURNED TO THE CONSTRUCTION SITE BY THE END OF EACH WORK DAY AND DISPOSED IN THE MANNER DESCRIBED IN THIS PLAN. IN NO CASE SHALL THE SEDIMENT BE WASHED, SHOVELED, OR SWEPT INTO ANY ROADSIDE DITCH, STORM SEWER, OR SURFACE WATER.
- 17. ALL SEDIMENT REMOVED FROM BMPS SHALL BE DISPOSED OF IN THE MANNER DESCRIBED ON THE PLAN DRAWINGS. 18. AREAS WHICH ARE TO BE TOPSOILED SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 3 TO 5 INCHES -- 6 TO 12 INCHES ON COMPACTED SOILS -- 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 9 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
- 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 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.
- 7. 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 BMPS 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 29. 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 BMPS. 30. AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENT BMPS MUST BE REMOVED OR CONVERTED TO PERMANENT POST CONSTRUCTION STORMWATER MANAGEMENT BMPS. AREAS DISTURBED DURING

REMOVAL OR CONVERSION OF THE BMPS SHALL BE STABILIZED IMMEDIATELY. IN ORDER TO ENSURE RAPID

REVEGETATION OF DISTURBED AREAS, SUCH REMOVAL/CONVERSIONS ARE TO BE DONE ONLY DURING THE GERMINATING

- 31. 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
- 32. FAILURE TO CORRECTLY INSTALL E&S BMPS, FAILURE TO PREVENT SEDIMENT—LADEN RUNOFF FROM LEAVING THE CONSTRUCTION SITE, OR FAILURE TO TAKE IMMEDIATE CORRECTIVE ACTION TO RESOLVE FAILURE OF E&S BMPS MAY RESULT IN ADMINISTRATIVE, CIVIL, AND/OR CRIMINAL PENALTIES BEING INSTITUTED BY THE DEPARTMENT AS DEFINED IN SECTION 602 OF THE PENNSYLVANIÁ 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.

OPTIONAL NOTES

- THE FOLLOWING NOTES SHOULD BE ADDED TO PLAN DRAWINGS AS APPLICABLE.
- CONCRETE WASH WATER SHALL BE HANDLED IN THE MANNER DESCRIBED ON THE PLAN DRAWINGS. IN NO CASE SHALL IT BE ALLOWED TO ENTER ANY SURFACE WATERS OR GROUNDWATER SYSTEMS. . 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. 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
- CHANNELS HAVING RIPRAP, RENO MATTRESS, OR GABION LININGS MUST BE SUFFICIENTLY OVER-EXCAVATED SO THAT
- THE DESIGN DIMENSIONS WILL BE PROVIDED AFTER PLACEMENT OF THE PROTECTIVE LINING. . 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.
- . SEDIMENT TRAPS SHALL BE PROTECTED FROM UNAUTHORIZED ACTS BY THIRD PARTIES. '. 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
- 8. UPON REQUEST, THE APPLICANT OR HIS CONTRACTOR SHALL PROVIDE AN AS-BUILT (RECORD DRAWING) FOR ANY SEDIMENT BASIN OR TRAP TO THE MUNICIPAL INSPECTOR, LOCAL CONSERVATION DISTRICT OR THE DEPARTMENT. 9. EROSION CONTROL BLANKETING SHALL BE INSTALLED ON ALL SLOPES 3H:1V OR STEEPER WITHIN 50 FEET OF A
- SURFACE WATER AND ON ALL OTHER DISTURBED AREAS SPECIFIED ON THE PLAN MAPS AND/OR DETAIL SHEETS. 10. FILL MATERIAL FOR EMBANKMENTS SHALL BE FREE OF ROOTS, OR OTHER WOODY VEGETATION, ORGANIC MATERIAL, LARGE STONES, AND OTHER OBJECTIONABLE MATERIALS.

SYNTHETIC BINDERS, OR CHEMICAL BINDERS MAY BE USED AS RECOMMENDED BY THE MANUFACTURER TO ANCHOR MULCH PROVIDED SUFFICIENT DOCUMENTATION IS PROVIDED TO SHOW THEY ARE NON-TOXIC TO NATIVE PLANT AND ANIMAL SPECIES. MULCH ON SLOPES OF 8% OR STEEPER SHOULD BE HELD IN PLACE WITH NETTING, LIGHTWEIGHT PLASTIC, FIBER, OR PAPER NETS MAY BE STAPLED OVER THE MULCH ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

SHREDDED PAPER HYDROMULCH SHOULD NOT BE USED ON SLOPES STEEPER THAN 5%. WOOD FIBER HYDROMULCH MAY BE APPLIED ON

STEEPER SLOPES PROVIDED A TACKIFIER IS USED. THE APPLICATION RATE OF HYDROMULCH SHOULD BE 2,000 LB./ACRE AT A MINIMUM. MILICH ADDITION PATES

_	MOLCH APPLICATION RATES								
	MULCH TYPE		APPLICATION RATE (NOTES					
	MULCH TIPE	PER ACRE	PER 1,000 SQ. FT.	PER 1,000 SQ. YD.	NOTES				
	STRAW	3 TONS	140 LB.	1,240 LB.	EITHER WHEAT OR OAT STRAW, FREE OF WEEDS, NOT CHOPPED OR FINELY BROKEN				
	HAY	3 TONS	140 LB.	1,240 LB	TIMOTHY, MIXED CLOVER AND TIMOTHY OR OTHER NATIVE FORAGE GRASSES				
	WOOD CHIPS	4-6 TONS	185-275 LB.	1,650-2,500 LB.	MAY PREVENT GERMINATION OF GRASSES AND LEGUMES				
	HYDRO MULCH	1 TON	47 LB.	415	SEE LIMITATIONS ABOVE				

Assurance Of Design Performance THE SPECIFICATIONS AND REQUIREMENTS OF THE PROJECT PLANS.

ACCEPTABLE CONSTRUCTION CRITERIA FOR THIS PROJECT.

DURING SITE DEVELOPMENT CONSTRUCTION, ALL TEMPORARY EROSION AND SEDIMENTATION CONTROL FACILITIES MUST BE CHECKED BY THE SITE CONTRACTOR AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ANY DAMAGE TO THE FACILITIES MUST BE REPAIRED IMMEDIATELY. ANY LOST SOIL MATERIAL SHALL BE RECOVERED, IF POSSIBLE, WASHED OUT LAWN OR SLOPE AREAS MUST HAVE TOPSOIL REPLACED AND THEN MUST BE RE-SEEDED AND MULCHED.

IF, FOR ANY REASON, THE DESIGNED FACILITIES OR MEASURES DO NOT PROVIDE THE NECESSARY PROTECTION, THE CONTRACTOR SHALL ADJUST THE FROSION CONTROL MEASURES AND SEDIMENT CONTROL MEASURES TO ACHIEVE A COMPLETE NON-ERODED STABILIZED SITE CONDITION.

AFTER THE CITY'S FINAL ACCEPTANCE OF SITE WORK CONSTRUCTION AND STABILIZATION BY THE CONTRACTOR, THE GROUND SURFACE AND ALL DRAINAGE FACILITIES LOCATED ON PRIVATE PROPERTY MUST BE MAINTAINED BY THE OWNER OF THE PROPERTY.

Temporary Stabilization & Permanent Stabilization

- 1. HAY OR STRAW MULCH MUST BE APPLIED AT 3.0 TONS PER ACRE. 2. MULCH WITH MULCH CONTROL NETTING OR EROSION CONTROL BLANKETS MUST BE INSTALLED ON ALL SLOPES 3:1 AND STEEPER."
- 3. STRAW MULCH SHALL BE APPLIED IN LONG STRANDS, NOT CHOPPED OR FINELY BROKEN.

102.4(B)(5)(X) "A MAINTENANCE PROGRAM WHICH PROVIDES FOR INSPECTION OF BMPS ON A WEEKLY BASIS AND AFTER EACH MEASURABLE RAINFALL EVENT, INCLUDING THE REPAIR OF THE BMPS TO ENSURE EFFECTIVE AND EFFICIENT OPERATION."

- 4. UNTIL THE SITE IS STABILIZED. ALL EROSION AND SEDIMENT BMPS MUST BE MAINTAINED PROPERLY, MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENT CONTROL BMPS AFTER FACH RUNOFF EVENT AND ON A WEFKLY BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, RE-GRADING, RE-SEEDING, RE-MULCHING. AND RE-NETTING. MUST BE PERFORMED IMMEDIATELY. IF EROSION AND SEDIMENT CONTROL BMPS FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMPS, OR MODIFICATIONS OF THOSE INSTALLED WILL BE REQUIRED. E&SPCPM P168
- 5. SEDIMENT REMOVED FROM BMPS SHALL BE DISPOSED OF IN LANDSCAPED AREAS OUTSIDE OF STEEP SLOPES, WETLANDS, FLOODPLAINS OR DRAINAGE SWALES AND IMMEDIATELY STABILIZED, OR

102.4(B)(5)(XI) "PROCEDURES WHICH ENSURE THAT THE PROPER MEASURES FOR THE RECYCLING OR DISPOSAL OF MATERIALS ASSOCIATED WITH OR FROM THE PROJECT SITE WILL BE UNDERTAKEN IN ACCORDANCE WITH THIS TITLE."

- 6. THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE, OR DISPOSE OF ALL BUILDING MATERIALS AND WASTES IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ., 271.1 ET SEQ., AND 287.1 ET SEQ. THE CONTRACTOR SHALL NOT ILLEGALLY BURY, DUMP, OR DISCHARGE ANY BUILDING MATERIAL OR WASTES AT THE SITE."
- 7. SOIL/ROCK DISPOSAL AREAS SHOULD BE ADDRESSED IN THE NARRATIVE AND ON THE DRAWINGS WITH APPROPRIATE BMPS (E.G. THE OPERATOR SHALL ASSURE THAT AN EROSION AND SEDIMENT CONTROL PLAN HAS BEEN PREPARED. APPROVED BY THE CONSERVATION DISTRICT AND IS BEING IMPLEMENTED AND MAINTAINED FOR ALL PROPOSED SOIL/ROCK SPOIL AND BORROW AREAS ON OR OFFSITE.).

REFER TO NARRATIVE FOR PENN DOT PUBL. 408 DATA Temporary Seeding

PLACED IN TOPSOIL STOCKPILES.

ALL DISTURBED EARTH SURFACES OR TOPSOIL STOCKPILES WHICH ARE TO REMAIN LONGER THAN FOUR (4) DAYS SHALL BE STABILIZED AND

SEEDED WITH A CONTRACTOR	R'S MIX AS STATED BELOW:		
		PER	PER
DATE	TYPE OF MIXTURE	1,000 SF	ACRE
MARCH 1 TO JUNE 15	ANNUAL RYEGRASS - 100%	1.0 LB.	40 LB.
JUNE 15 TO AUG. 15	SUDANGRASS - 100%	1.0 LB.	40 LB.
AUG. 15 TO SEPT. 15	ANNUAL RYEGRASS - 100%	0.7 LB.	30 LB.
MARCH 1 TO AUG. 15			
AUG. 15 TO OCT. 15	WINTER WHEAT - 100%	4.1 LB.	180 LB.
OCT. 15 TO MARCH 1	HAY OR STRAW MULCH		3.0 TONS
LIME AND FERTILIZER AND M	ULCH SPECIFICATIONS		
TEMPORARY SEEDING -			

- APPLY ONE TON OF LIME PER ACRE AND - FERTILIZER 50-50-50 PER ACRE - MULCH, HAY OR STRAW - 3 TONS PER ACRE STRAW MULCH SHALL BE APPLIED IN LONG STRANDS, NOT CHOPPED OR FINELY BROKEN.
- A. FORMULA "B" PRIMARILY KENTUCKY BLUEGRASS & CREEPING RED OR CHEWINGS FESCUE, SPREAD AT A SEEDING RATE OF 42 LB. PER 1000 SQ. YDS. SPREAD FORMULA "B" FROM MARCH 15 TO JUNE 1 OR FROM AUGUST 1 TO OCTOBER 15.
- B. FORMULA "C"- CROWNVETCH AND ANNUAL RYEGRASS (45% 55%) SPREAD AT A RATE OF 12 LB. PER 1000 SQ. YDS. ON ALL SLOPES 2 HORIZONTAL TO 1 VERTICAL OR STEEPER. SPREAD FORMULA "C" RYEGRASS PORTION FROM MARCH 1 TO OCTOBER 15 AND CROWNVETCH PORTION ANYTIME EXCEPT SEPTEMBER AND OCTOBER.
- C. FORMULA "W"—MIXTURE OF TALL FESCUE, BIRDSFOOT TREFOIL, AND REDTOP, SPREAD AT A SEEDING RATE OF 15 LB. PER 1000 SQ. YDS. ON THE DETENTION POND. SPREAD THIS FORMULA FROM APRIL 1 TO JUNE 15 OR FROM AUGUST 16 TO SEPTEMBER 15.
- D. ALTERNATE SEED MIXES, BASED ON SECTION IX OF THE "PENN STATE AGRONOMY GUIDE". MAY BE USED ONLY IF APPROVED IN WRITING IN ADVANCE OF PLACEMENT.

Note: SLURRY APPLICATIONS MUST INCLUDE A STRAW MULCH BINDER. AT A RATE OF 3.0 TONS PER

Permanent Seeding - IMMEDIATELY UPON FINAL GRADING OF ANY PHASE OR SECTION, TOPSOIL SHALL BE BROUGHT BACK OVER THE DISTURBED AREAS WHICH ARE NOT TO BE PAVED OR BUILT UPON. THIS TOPSOIL SHALL BE SPREAD TO A SMOOTH FINISH GRADE WITH A MINIMUM DEPTH OF SIX (6) INCHES. THE TOPSOIL SHALL THEN BE:

- A. RAKED FREE OF STONES;
- B. LIMED AND FERTILIZED AS NECESSARY;
- C. PLANTED WITH GRASS OR OTHER SPECIFIED SEED;
- D. MULCHED OR MATTED TO PROTECT THE SEED FROM DRYNESS AND EROSION (STRAW OR HAY AT 1,240 LB. PER 1,000 SQ. YD.).
- IT IS RECOMMENDED THAT THE CONTRACTOR TAKE SOIL SAMPLES TO ENSURE THE PROPOSED SEED MIXTURE WILL PROVIDE ADEQUATE COVER. PERMANENT SEEDING SHALL BE UNDERTAKEN IN ACCORDANCE WITH PENNDOT, FORM 408 SPECIFICATIONS AS FOLLOWS:
- A. PENNDOT FORMULA "B" (PRIMARILY KENTUCKY BLUEGRASS AND CREEPING RED OR CHEWING FESCUE) SPREAD AT A RATE OF 21 POUNDS PER 1,000 SQUARE YARDS, OR OTHER SEED MIX APPROVED FOR THE AREA. SPREAD FORMULA "B" FROM MARCH 15 TO JUNE 1, OR FROM AUGUST 1 TO OCTOBER 15.
- B. ALTERNATE SEED MIXES, BASED ON SECTION IX OF THE "PENN STATE AGRONOMY GUIDE", MAY BE USED ONLY IF APPROVED IN WRITING IN ADVANCE OF PLACEMENT BY THE PROJECT

ENGINEER AND THE LOCAL COUNTY CONSERVATION DISTRICT. Lime And Fertilizer Specifications

PULVERIZED AGR. LIMESTONE, 800 LBS. PER 1,000 S.Y. ANALYSIS COMMERCIAL 10-20-20, 140 LBS. PER 1,000 S.Y. UREAFORM FERTILIZER 38-0-0, 50 LBS. PER 1,000 S.Y. IBDUFERTILIZER 31-0-0, 61 LBS. PER 1,000 S.Y.

MULCH OR APPLY HAY AT 1,240 LBS. PER 1,000 S.Y. TO SEEDED AREAS TO PROTECT THE SEED FROM DRYNESS AND EROSION.

Location Of Measures And Facilities

THE REQUIRED LOCATIONS OF THE PERMANENT CONTROL MEASURES WILL BE DETERMINED BY THE ENGINEER DURING/AFTER CONSTRUCTION AND WILL BE INSTALLED TO STABILIZE THE PROJECT AS PART OF THE CONTRACTOR'S RESPONSIBILITY.

Dimensioned Details Of The Facilities

ALL ITEMS TO BE USED IN THIS PROJECT SHALL BE CONSTRUCTED TO PREVAILING STANDARDS. DETAILS OF SPECIAL EROSION CONTROL FACILITIES, I.E. THE FILTER FABRIC, INLET PROTECTION, ETC.,

102.5(B)(8) MAINTENANCE OF CONTROL FACILITIES

ARE NOTED ON THE PROJECT PLANS.

Disposal Of Materials From The Control Facilities

SEDIMENT WHICH HAS BEEN TRAPPED BY SILT BARRIER FACILITIES MUST BE REMOVED AND STOCKPILED OR REDISTRIBUTED ON THE PROJECT SITE. ALL CONSTRUCTION DEBRIS OR OTHER UNSUITABLE MATERIALS SHALL BE REMOVED BY THE CONTRACTOR AND DISPOSED OF IN A LAWFUL MANNER. WASHING OF FILTER STONE AND REDISTRIBUTION OF WET SEDIMENT SHALL BE ONLY PERMITTED UPHILL OF AN EFFECTIVE SEDIMENT FILTER FACILITY. SILT LADEN RUN-OFF SHALL NOT BE ALLOWED TO FLOW DIRECTLY TO UNPROTECTED INLETS, BASINS, ADJACENT PROPERTIES, ROADWAYS, OR WETLANDS. ALL SILT BARRIER FACILITIES MUST BE CHECKED FOR CAPACITY AND PROPER FUNCTION WEEKLY AND AFTER EACH RUNOFF EVENT UNTIL ALL UPSTREAM AREAS HAVE A UNIFORM PERENNIAL VEGETATIVE

COVER OF OVER SEVENTY (70) PERCENT. RECYCLING AND/OR DISPOSAL OF MATERIALS ASSOCIATED WITH OR FROM THE PROJECT SITE MUST BE ACCORDANCE WITH PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION.

Recycling And Disposal Of Materials IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO BE FAMILIAR WITH. AND TO INFORM HIS WORKERS

OF ALL LOCAL, STATE, AND FEDERAL ENVIRONMENTAL REGULATIONS REGARDING THE CONDUCT OF WORK AND HANDLING OF MATERIALS ON THE PROJECT. AND TO PERFORM ALL ACTIVITIES IN ACCORDANCE WITH THOSE REGULATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING EMERGENCY RESPONSE PLANS FOR ANY HAZARDOUS OR POLLUTING MATERIALS USED IN THE WORK. ALL RUBBISH OR WASTE MATERIALS PRODUCED BY CONTRACTOR'S WORKERS SHALL BE PROTECTED FROM DISSEMINATION BY WIND, RAIN, OR ANIMALS, AND SHALL BE LEGALLY DISPOSED OF REGULARLY

ANY CONSTRUCTION DEBRIS OR OTHER UNSUITABLE MATERIALS TRAPPED BY SILT BARRIER FACILITIES

SHALL BE SEPARATED FROM SOIL MATERIALS AND DISPOSED OF IN A LAWFUL MANNER. SEDIMENT WHICH HAS BEEN TRAPPED BY SILT BARRIER FACILITIES MUST BE REMOVED AND STOCKPILED OR REDISTRIBUTED ON THE PROJECT SITE. SEDIMENT WHICH COLLECTS TO THE SPECIFIED CLEAN-OUT ELEVATION IN THE BOTTOM OF STORMWATER MANAGEMENT PONDS, OR THE SPECIFIED ELEVATIONS IN SEDIMENT TRAPS, MUST BE REMOVED AND STOCKPILED OR REDISTRIBUTED AND STABILIZED ON THE

ADJACENT PROPERTIES, ROADS, STREAMS OR WETLANDS. IF THE CONTRACTOR EXPECTS TO RECYCLE OR DISPOSE OF ANY SOIL OR ROCK MATERIAL TO LOCATIONS OTHER THAN THE PROJECT AREA FOR WHICH THIS PLAN AND NARRATIVE HAVE BEEN PREPARED, THE CONTRACTOR SHALL ARRANGE FOR PREPARATION AND SUBMITTAL TO THE APPROPRIATE COUNTY CONSERVATION DISTRICT OF EROSION AND SEDIMENT CONTROL PLANS FOR ALL SUCH OFF-PROJECT AREAS PRIOR TO COMMENCEMENT OF WORK.

WASHING OF FILTER STONE AND RE-DISTRIBUTION OF WET SEDIMENT FROM BASINS, TRAPS OR OTHER

RUNOFF SHALL NOT BE ALLOWED TO FLOW DIRECTLY TO UNPROTECTED CATCH BASINS, PONDS,

FACILITIES SHALL BE ONLY PERMITTED UPHILL OF AN EFFECTIVE SEDIMENT FILTER FACILITY. SILT LADEN

Anticipated Project Specific Waste

SEDIMENT TRAPPED BY EROSION CONTROL BMPS PLANT WASTE CREATED DURING CLEARANCE OF SITE

ALL WASTE IS TO BE RECYCLED OR DISPOSED OF IN ACCORDANCE WITH THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION.

SEQUENCE OF CONSTRUCTION

SCHEDULE A PRE-CONSTRUCTION CONFERENCE AND PROVIDE AT LEAST SEVEN (7) WORKING DAYS' NOTICE TO THE FOLLOWING AGENCIES PRIOR TO COMMENCEMENT OF SITE GRADING WORK:

A. PROJECT ENGINEER: 610-691-5644

OF ALL TOPSOU STOCKPILES

- B. NORTHAMPTON COUNTY CONSERVATION DISTRICT: 610-829-6276 C. PA-ONE-CALL: 1-800-242-1776
- 2. THE CONTRACTOR SHALL CONTACT THE DESIGN ENGINEER AT LEAST FORTY-EIGHT HOURS (48 HOURS) IN ADVANCE OF EROSION CONTROL FACILITIES COMPONENT INSTALLATIONS.
- 3. THE CONTRACTOR SHALL REFER TO THE POST CONSTRUCTION STORMWATER MANAGEMENTS PLANS FOR LOW IMPACT/NO COMPACTION TECHNIQUES FOR THE EXCAVATION AND PLACEMENT OF THE PROPOSED FILL MATERIALS.
- 4. PRIOR TO REMOVAL OF TOPSOIL, REFER TO THE ESPC PLAN SHEET FOR LOCATION OF SOIL STOCKPILES. TEMPORARY AND PERMANENT SEEDING SHALL BE IN ACCORDANCE WITH REQUIREMENTS LISTED AND AS NOTED IN THE PROJECT

NARRATIVE AND AS LISTED ON THE ESPC PLAN SHEET. COMPOST FILTER SOCK SHALL BE INSTALLED DOWNSLOPE

- A. PRIOR TO ANY SEEDING AND LIME AND FERTILIZE APPLICATION, A SOIL TEST SHALL BE PERFORMED TO DETERMINE THE PH FACTOR. ADDITIONAL LIME AND FERTILIZER MAY BE REQUIRED.
- 5. DISTURBED AREAS SHALL NOT BE STRIPPED OF TOPSOIL FOR MORE THAN FOUR (4) DAYS WITHOUT TEMPORARY STABILIZATION.
- 6. PLACE ROCK CONSTRUCTION ENTRANCE AT THE ENTRANCE TO LOT 90 FROM HARVARD AVENUE AS SHOWN ON SHEET 9. ALL CONSTRUCTION TRAFFIC FOR THE SITE IS TO ENTER AT THIS LOCATION. ALTERNATE ENTRANCES ARE PROHIBITED, UNLESS APPROVED BY THE CONSERVATION DISTRICT.
- 7. INSTALL INLET PROTECTION AT ALL EXISTING INLETS ALONG THE FRONTAGE OF THE LOT 90 WITHIN ROUTE 412 AND HARVARD AVENUE AS SHOWN ON SHEET 9.
- 8. INSTALL HIGH VISIBILITY FENCING AS SHOWN ON SHEET 9. IMMEDIATELY STABILIZE ALL DISTURBED AREAS. 9. PLACE ALL COMPOST FILTER SOCKS CFS-1 THROUGH CFS-18 AS SHOWN ON SHEET 9 AND IMMEDIATELY STABILIZE ANY DISTURBED AREAS.
- 10. CLEAR AND GRUB ENTIRETY OF SITE WITHIN THE LIMIT OF DISTURBANCE PRIOR TO ANY EARTHMOVING ACTIVITIES. REMOVE STOCKPILE OF SLAG AND FILL MATERIAL. REMOVE ALL WASTE MATERIALS, AS OUTLINED ON SHEET 10.
- 11. CONNECT THE PROPOSED STORM SEWER TO THE EXISTING STORM PIPE LOCATED UPSLOPE FROM THE EXISTING BASIN TO THE NORTH. INSTALL THE STORM FROM THE EXISTING PIPE TO INLET 7. IMMEDIATELY STABILIZE ANY EARTH DISTURBANCE ASSOCIATED WITH THE INSTALLATION OF THE STORM SEWER. BACKFILL AND STABILIZE AREA OF

EXCAVATIONS. IF STORMWATER FILLS IN EXCAVATION TRENCH, UTILIZE FILTER BAG TO REMOVE.

12. ROUGH GRADE SITE INCLUDING BUILDING PAD, PARKING AREAS, AND LOADING DOCK AREAS. IMMEDIATELY STABILIZE DISTURBED AREAS.

13. CONSTRUCT BUILDING AND CONNECT ROOF LEADERS TO PREVIOUSLY CONSTRUCTED STORM SEWER COLLECTION

- SYSTEM AS NEEDED. 14. INSTALL SITE UTILITIES INCLUDING SANITARY SEWER LATERAL, WATER SERVICE, GAS LATERAL, SITE LIGHTING, UNDERGROUND ELECTRIC AND COMMUNICATION LINES. ALSO, INSTALL THE RETAINING WALLS. IMMEDIATELY STABILIZE DISTURBED AREAS. IF STORMWATER FILLS IN EXCAVATION TRENCH, UTILIZE FILTER BAG TO REMOVE. THIS STEP CAN
- 15. INSTALL ALL CONCRETE CURBING AND SIDEWALKS. ALL DISTURBANCE GENERATED DURING THE INSTALLATION OF THESE ITEMS SHOULD BE IMMEDIATELY STABILIZED.
- 16. PLACE SUBBASE STONE AGGREGATE FOR ALL AREAS TO BE PAVED.
- 17. FINISH PAVING ALL ASPHALT AREAS AND LINE STRIPE PARKING FACILITIES.

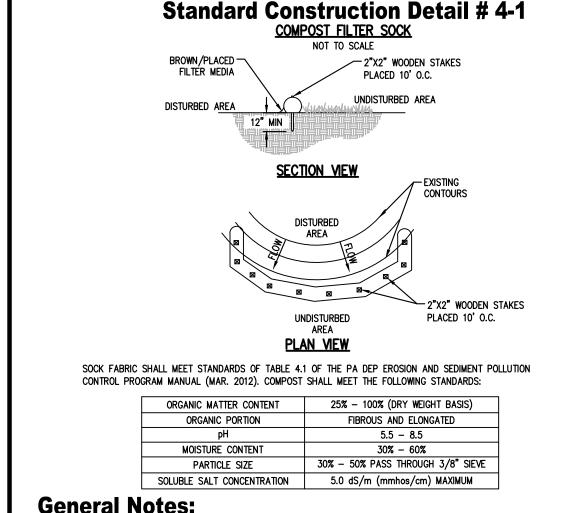
BE COMPLETED CONCURRENTLY WITH STEP 13 (BUILDING CONSTRUCTION).

- 18. INSTALL CAPPING MATERIAL AND PROPOSED LANDSCAPING. IMMEDIATELY STABILIZE ALL AREAS. 19. A VEGETATED AREA SHALL BE CONSIDERED TO HAVE ACHIEVED FINAL STABILIZATION WHEN IT HAS A MINIMUM
- UNIFORM 70% PERENNIAL VEGETATIVE COVER OVER THE ENTIRE DISTURBED AREA AND/OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED SURFACE EROSION AND SUBSURFACE CHARACTERISTICS SUFFICIENT TO RESIST SLIDING OR OTHER MOVEMENTS. 20. NO SOIL IS TO BE HAULED OFF SITE WITHOUT SEPARATE EROSION AND SEDIMENTATION POLLUTION CONTROL PLAN

REVIEWED BY THE DESIGN ENGINEER. A VEGETATED AREA SHALL BE CONSIDERED TO HAVE ACHIEVED FINAL

STABILIZATION WHEN IT HAS A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER OVER THE ENTIRE DISTURBED

AREA AND/OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED SURFACE EROSION AND SUBSURFACE CHARACTERISTICS SUFFICIENT TO RESIST SLIDING OR OTHER MOVEMENTS.

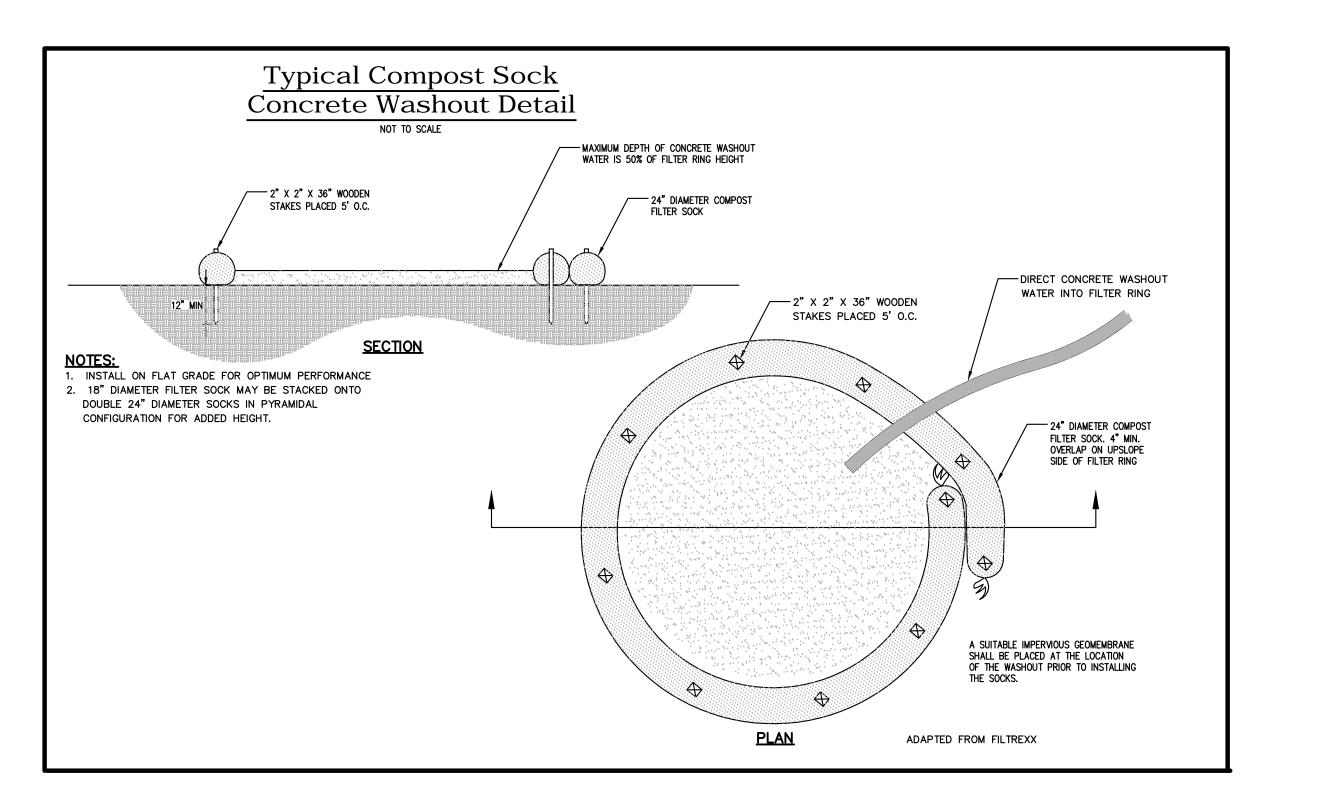


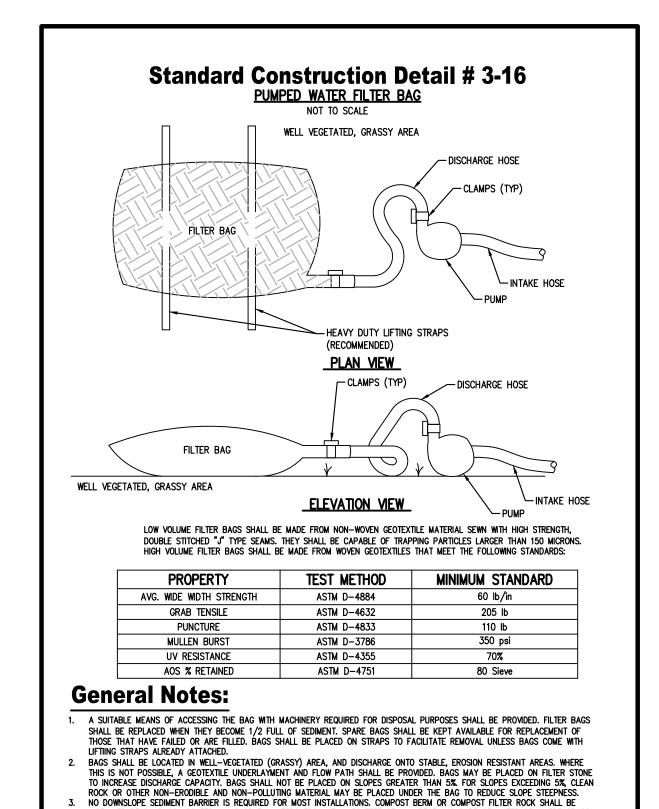
1. COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE SOCK SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN SOCK ALIGNMENT (SEE FIGURE 4.1 OF THE PA DEP EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL, MAR. 2012). MAXIMUM SLOPE LENGTH ABOVE ANY SOCK SHALL NOT EXCEED THAT SHOWN OF FIGURE 4.2 OF THE PA DEP EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL (MAR. 2012). STAKES MAY BE INSTALLED

- IMMEDIATELY DOWNSLOPE OF THE SOCK IF SO SPECIFIED BY THE MANUFACTURER. TRAFFIC SHALL NOT BE PERMITTED TO CROSS FILTER SOCKS. . ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES HALF THE ABOVEGROUND HEIGHT OF THE SOCK AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN. . SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.
- BIODEGRADABLE FILTER SOCK SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS. . UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES SHALL BE REMOVED. THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IN THE LATTER CASE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT. TABLE 4.1

	C		ABLE 4.1 RIC MINIMUM SPECIFICA	ATIONS		
MATERIAL TYPE	3 mil HDPE	5 mil HDPE	5 mil HDPE	MULTI-FILAMENT POLYPROPYLENE (MFPP)	HEAVY DUTY MULTI-FILAMENT POLYPROPYLENE (HDMFPP)	
MATERIAL CHARACTERISTICS	PHOTO — DEGRADABLE	PHOTO – DEGRADABLE	BIO - DEGRADABLE	PHOTO — DEGRADABLE	PHOTO — DEGRADABLE	
SOCK DIAMETERS	12" 18"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 24" 32"	
MESH OPENING	3/8"	3/8"	3/8"	3/8"	1/8"	
TENSILE STRENGTH		26 psi	26 psi	44 psi	202 psi	
ULTRAVIOLET STABILITY % ORIGINAL STRENGTH (ASTM G-155)	23% AT 1000 HR.	23% AT 1000 HR.		100% AT 1000 HR.	100% AT 1000 HR.	
MINIMUM FUNCTIONAL LONGEVITY	6 MONTHS	9 MONTHS	6 MONTHS	1 YEAR	2 YEARS	
		TWO-PLY	SYSTEMS		•	
				HDPE BIAXIAL NET		
INNED CO	MITAINMENT NETTING		CONTINUOUSLY WOUND			
INNER CONTAINMENT NETTING			FUSION-WELD JUNCTURES			
			3/4" X 3/4" MAX. APERTURE SIZE			
OUTER FILTRATION MESH			COMPOSITE POLYPROPYLENE FABRIC (WOVEN LAYER & NON-WOVEN FLEECE MECHANICALLY FUSED VIA NEEDLE PUNCH)			
			3/16" MAX. APERTURE SIZE			
SOCK FABRICS COMPOSED OF	BURLAP MAY BE U	JSED ON PROJECTS	LASTING 6 MONTHS O	R LESS.		

TABLE 4.2							
COMPO	ST STANDARDS						
ORGANIC MATTER CONTENT	25% - 100% (DRY WEIGHT BASIS)						
ORGANIC PORTION	FIBROUS AND ELONGATED						
рН	5.5 - 8.5						
MOISTURE CONTENT	30% - 60%						
PARTICLE SIZE	30% - 50% PASS THROUGH 3/8" SIEVE						
SOLUBLE SALT CONCENTRATION	5.0 dS/m (mmhos/cm) MAXIMUM						



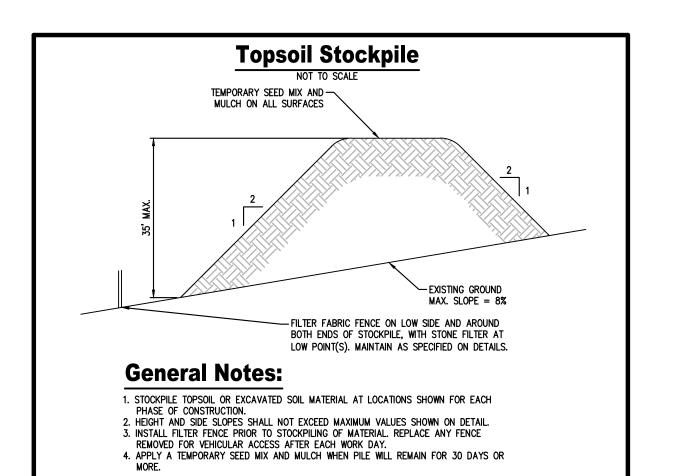


INSTALLED BELOW BAGS LOCATED IN HQ OR EV WATERSHEDS, WITHIN 50 FEET OF ANY RECEIVING SURFACE WATER OR WHERE GRASSY

AREA IS NOT AVAILABLE.
THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED. A PIECE OF PVC PIPE IS RECOMMENDED FOR THIS PURPOSE.

LESS. PUMP INTAKES SHALL BE FLOATING AND SCREENED.
FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL

5. THE PUMPING RATE SHALL BE NO GREATER THAN 750 GPM OR 1/2 THE MAXIMUM SPECIFIED BY THE MANUFACTURER, WHICHEVER IS



ALL BMP'S SHOULD BE INSPECTED AFTER EVERY RUNOFF EVENT AND ON A WEEKLY BASIS. ANY NECESSARY REPAIRS MUST BE MADE IMMEDIATELY.

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Cubic Yards	TABLE 11.1 of Topsoil Required for Application to V	/arious Depths
Depth (in)	Per 1,000 Square Feet	Per Acre
1	3.1	134
2	6.2	268
3	9.3	403
4	12.4	537
5	15.5	672
6	18.6	806
7	21.7	940
8	24.8	1,074

TABLE 11.2 Soil Amendment Application Rate Equivalents

Labor Talkin Vice Local Town	Perma	anent Seeding Appl	lication Rate	
Soil Amendment	Per Acre	Per 1,000 sq. ft.	Per 1,000 sq. yd.	Notes
Agricultural lime	6 tons	240 lb.	2,480 lb.	Or as per soil test; may not be required in agricultural fields
10-20-20 fertilizer	1,000 lb.	25 lb.	210 lb.	Or as per soil test; may not be required in agricultural fields
	Temp	orary Seeding Appl	lication Rate	
Agricultural lime	1 ton	40 lb.	410 lb.	Typically not required for topsoil stockpiles
10-10-10 fertilizer	500 lb.	12.5 lb.	100 lb.	Typically not required for topsoil stockpiles

NOTE: A compost blanket which meets the standards of this chapter may be substituted for the soil amendments shown in Table 11.2.

TABLE 11.3 Plant Tolerances of Soil Limitation Factors

			Tolerates				Minimum	Seed Spe	cificatio	าร³
Species	Growth Habit ¹	Wet Soil	Dry Site	Low Fertility	Acid Soil (pH 5-5.5) ²	Purity (%)	Ready Germ (%)	Hard Seed (%)	Total Germ (%)	Seeds/II (1,000s)
Warm-Season Grass	ses			**	>	*	26	(4	*	
Deertongue	bunch	yes	yes	yes	yes	95	75		75	250
Weeping lovegrass	bunch	no	yes	yes	yes	97	75		75	1,500
Switchgrass⁴ Big bluestem	bunch bunch	yes no	yes yes	yes yes	yes yes			PLS) PLS)		390 150
Cool-Season Grasse	es					22				
Tall Fescue	bunch	yes	no	yes	no	95	80		80	227
Redtop	sod	yes	yes	yes	yes	92	80		80	5,000
Fine fescues	sod	no	no	yes	no	95	80		80	400
Perennial ryegrass	bunch	yes	no	no	no	95	85		85	227
Annual ryegrass	bunch	yes	no	yes	no	95	85		85	227
Kentucky bluegrass	sod	no	no	no	no	85	75		75	2,200
Reed canarygrass	sod	yes	yes	yes	no	95	70		70	520
Orchardgrass	bunch	yes	yes	yes	yes	95	80		80	654
Timothy	bunch	yes	no	yes	yes	95	80		80	1,230
Smooth bromegrass	sod	no	yes	yes	no	95	80		80	136
Legumes ⁵										
Crownvetch	sod	no	yes	yes	no	98	40	30	65	120
Birdsfoot trefoil ⁶	bunch	yes	no	yes	yes	98	60	20	80	400
Flatpea	sod	no	no	yes	yes	98	55	20	75	10
Serecia lespedeza	bunch	no	yes	yes	yes	98	60	20	80	335
Cereals										
Winter wheat	bunch	no	no	no	no	98	85		85	15
Winter rye	bunch	no	no	yes	yes	98	85		85	18
Spring oats	bunch	no	no	no	no	98	85		85	13
Sundangrass	bunch	no	yes	no	no	98	85		85	55
Japanese millet	bunch	yes	no	yes	yes	98	80		80	155

- Growth habit refers to the ability of the species to either form a dense sod by vegetative means (stolons, rhizomes, or roots) or remain in a bunch or single plant form. If seeded heavily enough, even bunch formers can produce a very dense stand. This is sometimes called a sod, but not in the sense of a sod formed by vegetative means.
- Once established, plants may grow at a somewhat lower pH, but cover generally is only adequate at pH 6.0 or above. ³ Minimum seed lots are truly minimum, and seed lots to be used for revegetation purposes should equal or exceed these standards. Thus, deertongue grass should germinate 75% or better.
- Crownvetch should have at least 40% readily germinable seed and 30% hard seed. Commonly, seed lots are available that equal or exceed minimum specifications. Remember that disturbed sites are adverse for plant establishment. Ready germination refers to seed that germinates during the period of the germination test and that would be expected, if conditions are favorable, to germinate rapidly when planted. The opposite of ready germination is dormant seed, of which hard seed is one type.
- ⁵ Need specific legume inoculant. Inoculant suitable for garden peas and sweetpeas usually is satisfactory for flatpea. ⁶ Birdsfoot trefoil is adapted over the entire state, except in the extreme southeast where crown and
- Penn State, "Erosion Control and Conservation Plantings on Noncropland,"

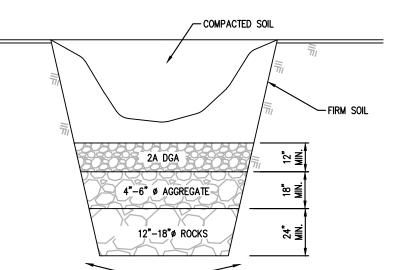
Switchgrass seed is sold only on the basis of PLS.

root rots may injure stands.

- Mixture Seeding Rate - Pure Live Seed Number Adverse Sites Spring oats (spring), or Annual ryegrass (spring or fall), or Winter wheat (fall), or Winter rye (fall) Tall fescue, or Fine fescue, or Kentucky bluegrass, plus Redtop⁴, or Perennial ryegra Birdsfoot trefoil, plus Tall fescue Birdsfoot trefoil, plus Reed canarygrass Crownvetch, plus Tall fescue, or Perennial ryegrass Crownvetch, plus Annual ryegrass Birdsfoot trefoil, plus Crownvetch, plus Tall fescue Flatpea, plus Tall fescue, or Perennial ryegrass Serecia lespedeza, plus Tall fescue, plus Tall fescue, plus Fine fescue Deertongue, plus Birdsfoot trefoil Switchgrass, or Big Bluestem, plus Birdsfoot trefoil Orchardgrass, or Smooth bromegrass, plus Birdsfoot trefoil Penn State, "Erosion Control and Conservation Plantings on Noncroplan 1. PLS is the product of the percentage of pure seed times percentage germination divided by 100. For example, to secure the actual planting rate for switchgrass, divide 12 pounds PLS shown on the seed tag.
- Thus, if the PLS content of a given seed lot is 35%, divide 12 PLS by 0.35 to obtain 34.3 pounds of seed required to plant one acre. All mixtures in this table are shown in terms of PLS.
- suggested seeding rates by 0.5 bushel per acre. . This mixture is suitable for frequent mowing. Do not cut shorter than 4 inches. Keep seeding rate to that recommended in table. These species have many seeds per pound and are very
- competitive. To seed small quantities of small seeds such as weeping lovegrass and redtop, dilute with dry sawdust, sand, rice hulls, buckwheat hulls, etc. 5. Use for highway slopes and similar sites where the desired species after establishment is crownvetch.

	Nurse	Seed Mixture
Site Condition	Crop	(Select one mixture)
Slopes and Banks (not mowed)		
Well-drained	1 plus	3, 5, 8, or 12 ¹
Variable drainage	1 plus	3 or 7
Slopes and Banks (mowed)		
Well-drained	1 plus	2 or 10
Slopes and Banks (grazed/hay)	7.50;	
Well-drained	1 plus	2, 3, or 13
Gullies and Eroded Areas	1 plus	3, 5, 7, or 12 ¹
Erosion Control Facilities (BMPs)		
Sod waterways, spillways, frequent water flow areas	1 plus	2, 3, or 4
Drainage ditches		
Shallow, less than 3 feet deep	1 plus	2, 3, or 4
Deep, not mowed	1 plus	5 or 7
Pond banks, dikes, levees, dams, diversion channels,		
And occasional water flow areas		
Mowed areas	1 plus	2 or 3
Non-mowed areas	1 plus	5 or 7
For hay or silage on diversion channels and		100 2000 100
occasional water flow areas	1 plus	3 or 13
Highways ²		
Non-mowed areas		
Pure crownvetch ³	1 plus	5 or 6
Well-drained	1 plus	5, 7, 8, 9, or 10
Variable drained	1 plus	3 or 7
Poorly drained	1 plus	3 or 4
Areas mowed several times per year	1 plus	2, 3, or 10
Utility Right-of-way		
Well-drained	1 plus	5, 8, or 12 ¹
Variable drained	1 plus	3 or 7
Well-drained areas for grazing/hay	1 plus	2, 3, or 13
Effluent Disposal Areas	1 plus	3 or 4
Sanitary Landfills	1 plus	3, 5, 7, 11 ¹ , or 12 ¹
Surface mines		
Spoils, mine wastes, fly ash, slag, settling basin		
Residues and other severely disturbed areas	1 plus	3, 4, 5, 7, 8, 9, 11 ¹ , or 12 ¹
(lime to soil test)	- /1/2	
Severely disturbed areas for grazing/hay	1 plus	3 or 13

- . For seed mixtures 11 and 12, only use spring oats or weeping lovegrass (included in mix) as nurse crop.
- treatment techniques and management practices. 3. Seed mixtures containing crown yetch should not be used in areas adjacent to wetlands or stream channels due to the invasive nature of this species.



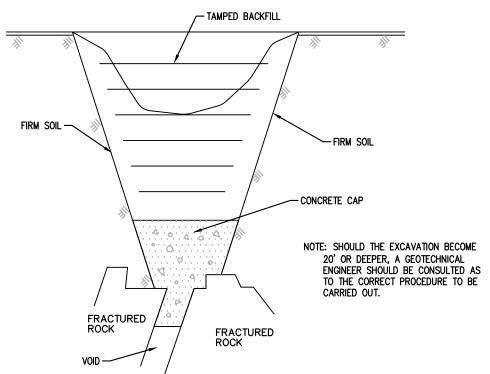
Sinkhole In Soil

1. THE REPAIR TECHNIQUES AS DESCRIBED BELOW ARE SUITABLE ONLY IF THE SINKHOLE IS LOCATED IN AN OPEN AREA. IF THE SINKHOLE IS LOCATED UNDER OR NEAR A STRUCTURE OR A BUILDING, COMPACTION GROUTING MAY BE NECESSARY FOR REMEDIATION, AS DETERMINED BY A GEOTECHNICAL ENGINEER LICENSED IN THE

2. EXCAVATE DOWN TO ROCK TO SINKHOLE THROAT OR TO A DEPTH OF 15 FEET BELOW GRADE, WHICHEVER 3. IF ROCK IS ENCOUNTERED WITHIN 10 FEET, STOP EXCAVATION. THE LIMIT OF EXCAVATION SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER. GENERALLY, A ZONE OF SOFT, IN-FILL MATERIAL WILL BE FOUND WHICH

COVERS MOST OF THE BOTTOM OF THE EXCAVATION. COVER THIS AREA WITH A GRADED ROCK FILTER AS SHOWN

4. BACKFILL HOLE WITH RELATIVELY IMPERMEABLE CLAY SOIL. COMPACT SOIL IN 6" LIFTS WITH A POWER TAMPER OR RAMMER TO AT LEAST 95% OF THE STANDARD PROCTOR. 5. BACKFILL HOLE ABOVE EXISTING GRADE TO DIVERT SURFACE WATER.



Sinkhole In Rock

1. THE REPAIR TECHNIQUES AS DESCRIBED BELOW ARE SUITABLE ONLY IF THE SINKHOLE IS LOCATED IN AN OPEN AREA. IF THE SINKHOLE IS LOCATED UNDER OR NEAR A STRUCTURE OR A BUILDING, COMPACTION GROUTING MAY BE NECESSARY FOR REMEDIATION, AS DETERMINED BY A GEOTECHNICAL ENGINEER LICENSED IN THE

COMMONWEALTH OF PENNSYLVANIA. 2. EXCAVATE DOWN TO BEDROCK OR TO THE SINKHOLE THROAT .

3. EXPOSE THE ROCK SURFACE BY WASHING THE AREA WITH A SMALL HOSE WATER SPRAY AND INSTALL HIGHSUMP CEMENT INTO VOIDS AND CREVICES UNTIL VOIDS ARE FILLED AND A CAP COVERS THE AREA. THE LIMIT OF

4. AFTER CONCRETE HAS SET OVERNIGHT, BACKFILL HOLE WITH RELATIVELY IMPERMEABLE CLAY SOIL. COMPACT SOIL IN 6" LIFTS WITH A POWER TAMPER OR RAMMER TO AT LEAST 95% OF THE STANDARD PROCTOR. THE TOP THREE(3) FEET SHALL BE BACKFILLED WITH 2RC CRUSHED AGGREGATE.

6. WHEN SINKHOLE IS UNDER A PROPOSED UTILITY. CONCRETE IS TO BE SET 6" BELOW THE UTILITY TO ALLOW FOR

5. BACKFILL HOLE ABOVE EXISTING GRADE TO DIVERT SURFACE WATER.

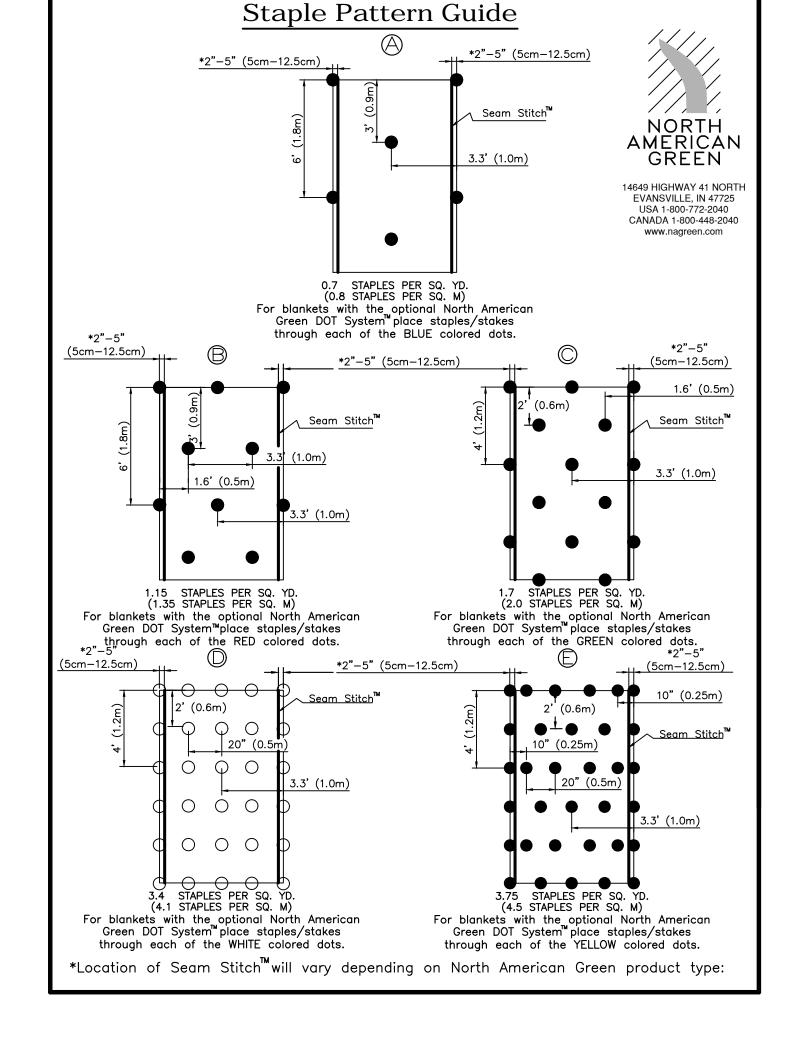
EXCAVATION AND CONCRETE SHALL BE DETERMINED BY THE ENGINEER.

If high-quality seed is used, for most sites seed spring oats at a rate of 2 bushels per acre, winter wheat at 11.5 bushels per acre, and winter rye at 1 bushel per acre. If germination is below 90%, increase these

Recommended Seed Mixtures for Stabilizing Disturbed Areas

	Nurse	Seed Mixture
Site Condition	Crop	(Select one mixture)
lopes and Banks (not mowed)		
Well-drained	1 plus	3, 5, 8, or 12 ¹
Variable drainage	1 plus	3 or 7
lopes and Banks (mowed)	J. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	
Well-drained	1 plus	2 or 10
lopes and Banks (grazed/hay)	300	
Well-drained	1 plus	2, 3, or 13
Gullies and Eroded Areas	1 plus	3, 5, 7, or 12 ¹
rosion Control Facilities (BMPs)	10.	
Sod waterways, spillways, frequent water flow areas	1 plus	2, 3, or 4
Drainage ditches	8 JESSSE	
Shallow, less than 3 feet deep	1 plus	2, 3, or 4
Deep, not mowed	1 plus	5 or 7
Pond banks, dikes, levees, dams, diversion channels,	8 1 00000	
And occasional water flow areas		
Mowed areas	1 plus	2 or 3
Non-mowed areas	1 plus	5 or 7
For hay or silage on diversion channels and	8 1 1 00000	
occasional water flow areas	1 plus	3 or 13
lighways ²		
Non-mowed areas		
Pure crownvetch ³	1 plus	5 or 6
Well-drained	1 plus	5, 7, 8, 9, or 10
Variable drained	1 plus	3 or 7
Poorly drained	1 plus	3 or 4
Areas mowed several times per year	1 plus	2, 3, or 10
tility Right-of-way	- Indianasia	1000
Well-drained	1 plus	5, 8, or 12 ¹
Variable drained	1 plus	3 or 7
Well-drained areas for grazing/hay	1 plus	2, 3, or 13
ffluent Disposal Areas	1 plus	3 or 4
anitary Landfills	1 plus	3, 5, 7, 11 ¹ , or 12 ¹
urface mines	10-25-2	
Spoils, mine wastes, fly ash, slag, settling basin		
Residues and other severely disturbed areas	1 plus	3, 4, 5, 7, 8, 9, 11 ¹ , or 12 ¹
(lime to soil test)	All Ite	
Severely disturbed areas for grazing/hay	1 plus	3 or 13
enn State, "Erosion Control and Conservation Plantings of		No.

Contact the Pennsylvania Department of Transportation district roadside specialist for specific suggestions or



Standard Construction Detail # 11-1

EROSION CONTROL BLANKET INSTALLATION

STARTING AT TOP OF SLOPE, ROLL BLANKETS IN DIRECTION OF WATER FLOW

BLANKET EDGES

THE BLANKET SHOULD NOT BE

General Notes:

STRETCHED; IT MUST MAINTAIN GOOD SOIL CONTACT.

OVERLAPPED 4"(MIN.)
AND STAPLED.

INSTALL BEGINNING OF ROLL

IN 6" x 6" ANCHOR TRENCH,

PREPARE SEED BED

REFER TO MANUFACTURER'S

OVERLAP BLANKET ENDS 6" (MIN.) WITH THE UPSLOPE BLANKET

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

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

4. BLANKET SHALL HAVE GOOD CONTINUOUS CONTACT WITH UNDERLYING SOIL THROUGHOUT ENTIRE LENGTH. LAY BLANKET

5. THE BLANKET SHALL BE STAPLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. 5. 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

LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH SOIL. DO NOT STRETCH BLANKET.

THE BLANKET. 2. PROVIDE ANCHOR TRENCH AT TOE OF SLOPE IN SIMILAR FASHION AS AT TOP OF SLOPE.

BLANKETS SHALL BE RESTORED OR REPLACED WITHIN 4 CALENDAR DAYS.

OVERLAYING THE DOWNSLOPE BLANKET (SHINGLE STYLE). STAPLE

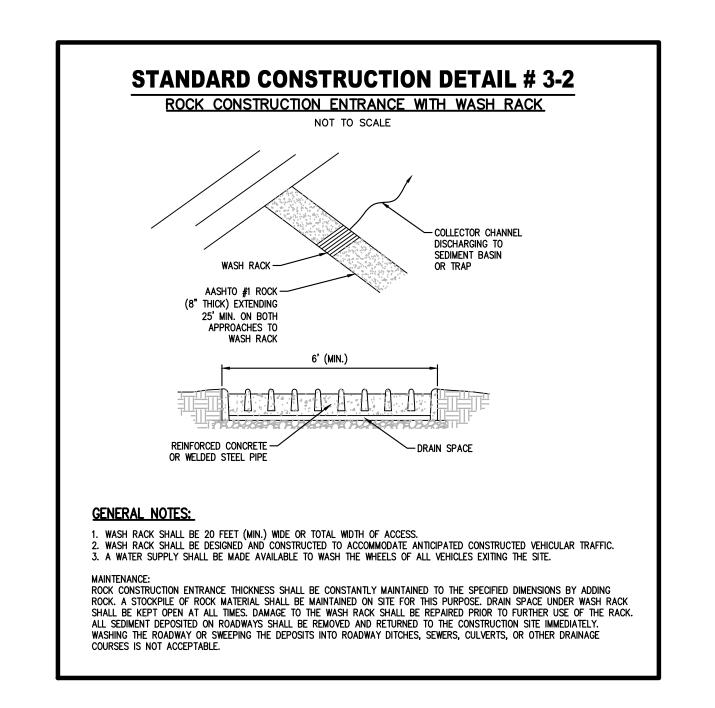
RECOMMENDED STAPLING PATTERN

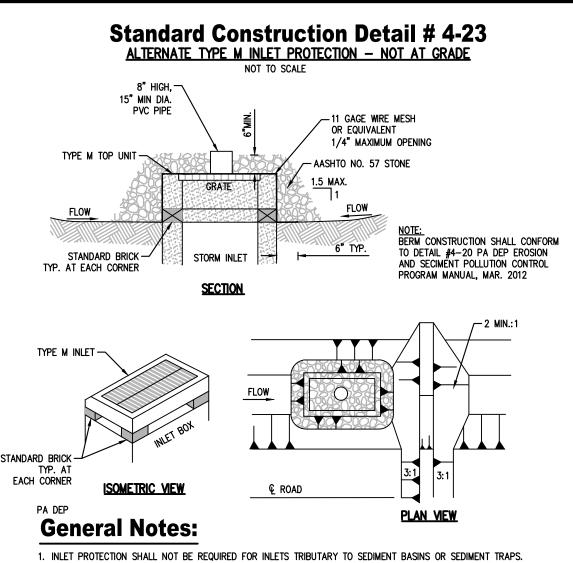
FOR STEEPNESS AND LENGTH OF SLOPE

(INCLUDING APPLICATION OF

LIME, FERTILIZER, & SEED)
PRIOR TO INSTALLATION OF

STAPLE, BACKFILL AND COMPACT SOIL.





ALTERNATE TYPE C INLET PROTECTION CAN BE USED ON ONE ACRE MAXIMUM DRAINAGE AREA WITH 15" OVERFLOW PIPE AND 4" HFAD

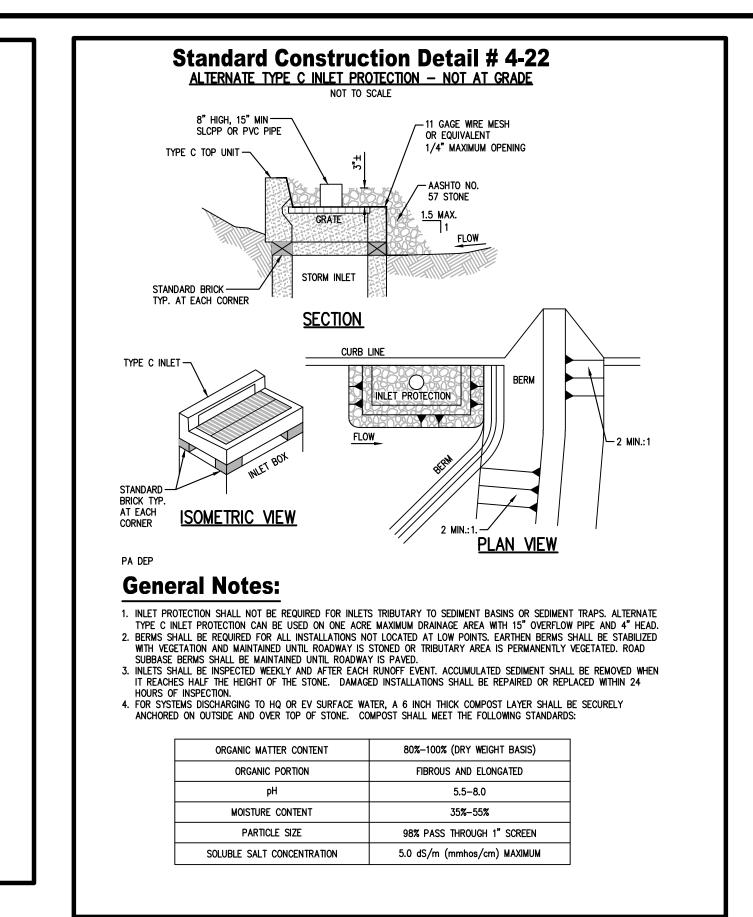
AND 4 HEAD.

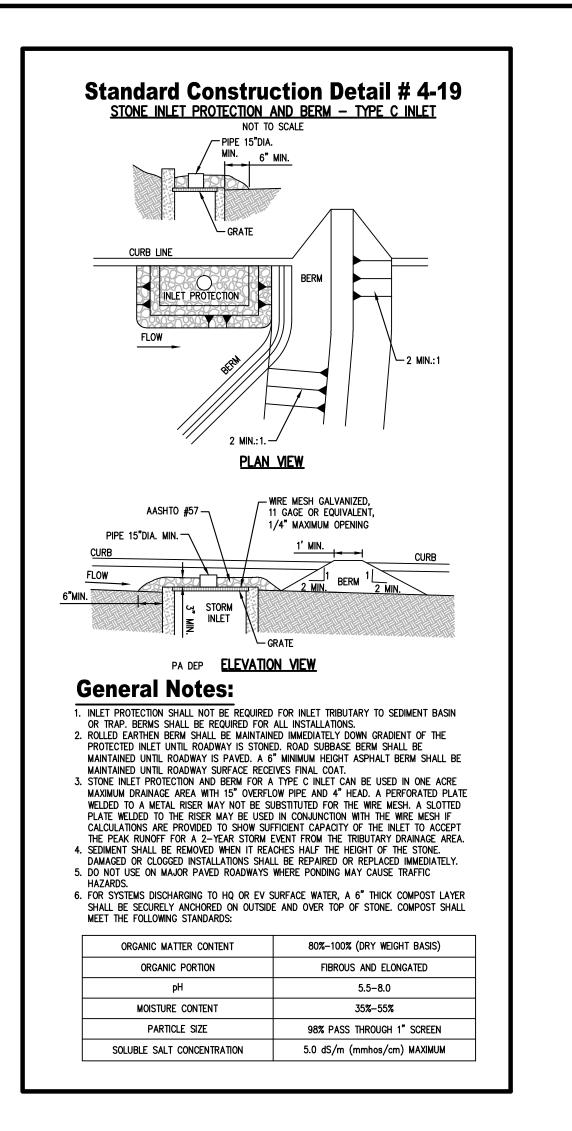
2. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS NOT LOCATED AT LOW POINTS. EARTHEN BERMS SHALL BE STABILIZED WITH VEGETATION AND MAINTAINED UNTIL ROADWAY IS STONED OR TRIBUTARY AREA IS PERMANENTLY VEGETATED. ROAD SUBBASE BERMS SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. 3. INLETS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES HALF THE HEIGHT OF THE STONE. DAMAGED INSTALLATIONS SHALL BE REPAIRED OR REPLACED WITHIN CALLED BY INSPECTED.

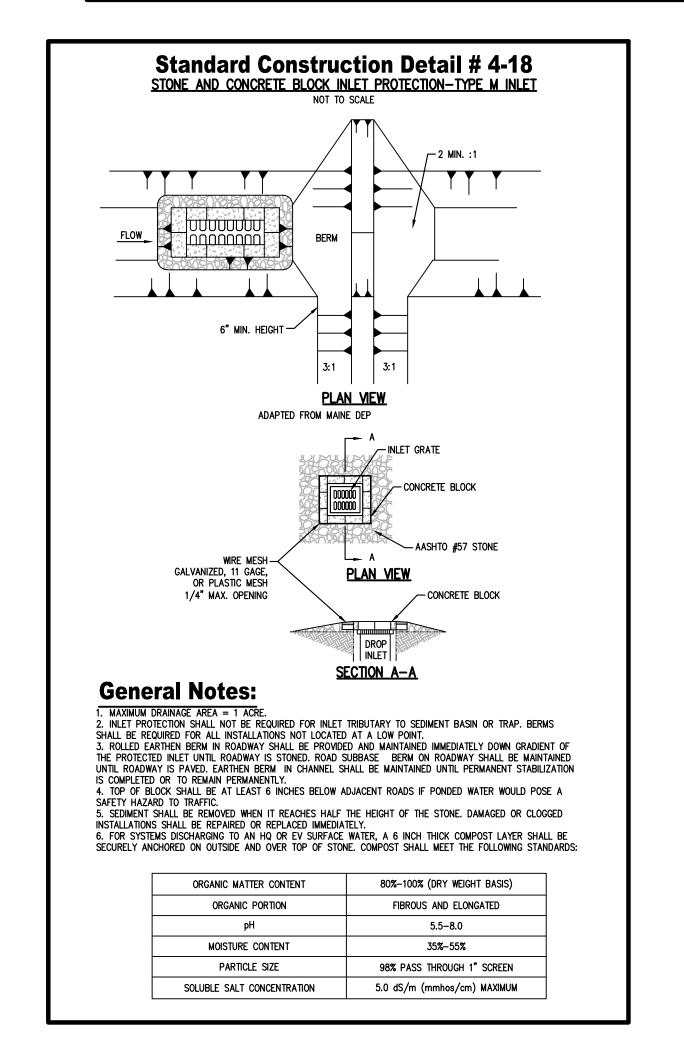
24 HOURS OF INSPECTION. 4. FOR SYSTEMS DISCHARGING TO HQ OR EV SURFACE WATER, A 6 INCH THICK COMPOST LAYER SHALL BE SECURELY

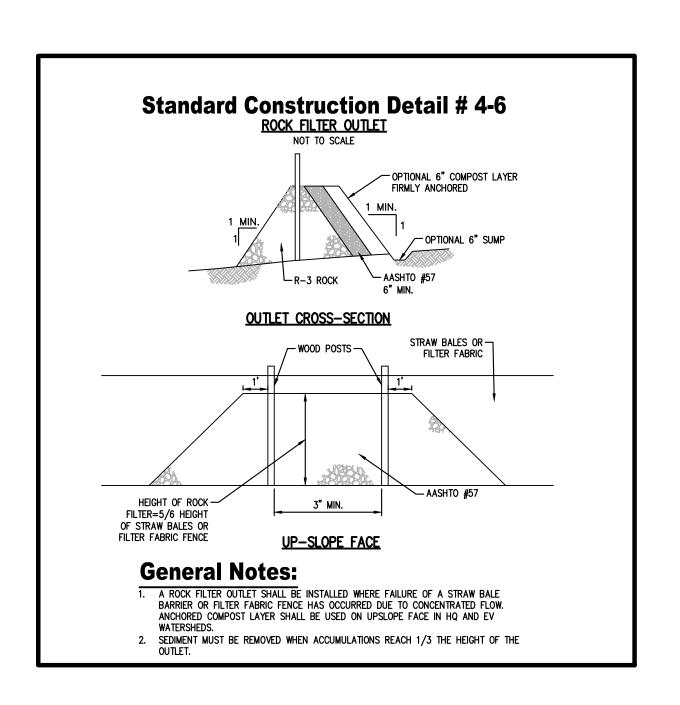
ANCHORED ON OUTSIDE AND OVER TOP OF STONE. COMPOST SHALL MEET THE FOLLOWING STANDARDS

ORGANIC MATTER CONTENT	80%-100% (DRY WEIGHT BASIS)
ORGANIC PORTION	FIBROUS AND ELONGATED
рН	5.5-8.0
MOISTURE CONTENT	35%–55%
PARTICLE SIZE	98% PASS THROUGH 1" SCREEN
SOLUBLE SALT CONCENTRATION	5.0 dS/m (mmhos/cm) MAXIMUM









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