# PRELIMINARY/FINAL LAND DEVELOPMENT PLAN

# WARD 17 CITY OF BETHLEHEM NORTHAMPTON COUNTY PENNSYLVANIA

#### **Record Notes**

- 1. SUMMERWOOD CORP. (TACO BELL) IS THE DEVELOPER FOR THE PROJECT
- 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 AS THE UTILITY IS INSTALLED.
- 3. 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. EXISTING UTILITY POLES REQUIRED TO BE RELOCATED FOR CONSTRUCTION OF IMPROVEMENTS SHALL BE RELOCATED IN ACCORDANCE WITH ALL
- 5. IN ACCORDANCE WITH THE NATIONAL FLOOD INSURANCE PROGRAM, FIRM (FLOOD INSURANCE RATE MAP), FOR THE CITY OF BETHLEHEM, NORTHAMPTON COUNTY, COMMUNITY PANEL NUMBERS 42095C0326D, EFFECTIVE DATE JULY 16, 2014, THE PROJECT SITE IS LOCATED IN THE ZONE "X" AREA OF MINIMAL FLOOD HAZARD.
- 6. SINKHOLE REPAIRS AND CLOSURES SHALL BE COMPLETED IN ACCORDANCE WITH THE DETAILS PROVIDED ON THE PROJECT DRAWINGS.
- 7. THE SANITARY SEWER LATERALS ARE PROPOSED TO BE PRIVATELY OWNED. 8. NO UTILITY WILL BE ACCEPTED BY THE CITY WITH A STRUCTURE OR REMNANT THEREOF ON TOP OF THE UTILITY. NO STRUCTURE SHOULD BE
- CONSTRUCTED OVER ANOTHER UTILITY. 9. 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 25 FEET. ANY ARTIFICIAL LIGHT

- MUST NOT INFRINGE ON ADJACENT PROPERTY. ALL LIGHT FIXTURES SHALL HAVE A CUT OFF DESIGN THAT AIMS LIGHT DIRECTLY DOWNWARD. 10. 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. 11. THE OWNER SHALL INSTALL KNOX BOX FOR CITY OF BETHLEHEM FIRE DEPARTMENT ACCESS.
- 12. THE SUBJECT PARCEL WAS PREVIOUSLY DEVELOPED AS THE BETHLEHEM STEEL AND PRIOR TO THE SUBDIVISION THE PROPERTY WAS SLAG
- AND SHALL BE CONSIDERED IMPERVIOUS AREA. THUS, NO NEW IMPERVIOUS COVERAGE IS PROPOSED. 13. 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.
- 14. ANY CHANGE IN THE LOCATION OF THE FIRE DEPARTMENT CONNECTION (FDC) SHALL BE APPROVED BY THE CITY OF BETHLEHEM FIRE

#### **GENERAL CONSTRUCTION NOTES**

- 1. A 36" (MIN.) BAND OF RIVER ROCK, WITH METAL EDGING, SHALL BE INSTALLED IN ALL LANDSCAPED AREAS AROUND PERIMETER OF BUILDING (3" AVG. ROCK ON PERMEABLE WEED BARRIER).
- 2. CONTRACTOR SHALL COORDINATE WITH THE MUNICIPALITY REGARDING THE PLACEMENT OF A MAILBOX.

#### **IRRIGATION NOTES:**

- 1. LANDSCAPER SHALL INSTALL DRIP IRRIGATION IN BEDS AROUND THE
- 2. LANDSCAPER SHALL INSTALL SPRAY IRRIGATION IN OUTER BEDS
- 3. SYSTEM SHALL HAVE A BACK FLOW PREVENTER AND A RAIN SENSOR
- 4. SYSTEM SHALL BE DESIGNED TO RUN ON 1" SERVICE 5. SYSTEM SHALL RUN DURING OFF HOURS
- 6. SYSTEM SHALL BE DESIGNED SO THAT ZONES ARE ADEQUATE FOR A 1" WATER SERVICE (MORE ZONES MAY BE REQUIRED)

#### **NPDES Note**

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.

#### As-Built Note

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 TO THE APPROPRIATE REVISION DATE IN THE REVISION BLOCK.

#### **Engineering Permits Note**

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

#### **Stormwater Notes**

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



"CALL BEFORE YOU DIG" PENNSYLVANIA LAW REQUIRES 3 WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND 10 WORKING DAYS IN DESIGN STAGE - STOP CALL PENNSYLVANIA ONE CALL SYSTEM, INC.

BETHLEHEM CITY(QX) PPL ELECTRIC(PID) SERVICE ELECTRIC CABLE TV INC(SET) 1-800-242-1776 UGI UTILITIES LEHIGH HAZLETON(UJ) THIS PROJECT'S DESIGNER INQUIRY NO. FIRSTLIGHT FIBER(ION) VERIZON(YI) 20221514398

PROJECT / SERIAL NUMBERS / EXCAVATION - DEMOLITION / TYPE OF ONE CALL / DATE / ADDRESS / NEAREST INT. / TOWNSHIP / COUNTY ROUTINE 6/15/2022 1720/1740 E. 4H ST. EMERY STREET CITY OF BETHLEHEM NORTHAMPTON 202215144398 EXCAVATION

# Benchmarks for this Plan

NPDES INDIVIDUAL

PERMIT BOUNDARY

BENCHMARK-1, CORNER OF MAST ARM LOCATED AT THE SW CORNER OF EMERY SOUTH AND 412, IN THE WEST CONC. . BENCHMARK-2, SW CORNER OF A LIGHT POST LOCATED AT THE SE CORNER OF RTE. 412 AND LYNN AVE. . BENCHMARK-3, SOUTH TOP CURB OF STORM INLET LOCATED

ON THE WEST SIDE OF EMERY SOUTH, APPROX. 292 FT.

SOUTH OF B.M.-1. ELEVATION=289.90

**Site Data** 

TAX MAP REFERENCED:

MINIMUM DEVELOPMENT AREA:

MAXIMUM BUILDING COVERAGE:

MAXIMUM BUILDING HEIGHT:

MINIMUM LOT WIDTH:

PARKING SETBACKS:

PARKING REQUIREMENTS:

RESTAURANT COMPONENT:

TOTAL SPACES REQUIRED:

TOTAL SPACES PROVIDED:

ACCESSIBLE PARKING:

BICYCLE PARKING

**BUILDING COVERAGE:** 

<u>SETBACKS:</u>

FRONT YARD:

REAR YARD:

FRONT YARD:

MINIMUM SIZE:

**SPACES REQUIRED:** 

REAR YARD:

SIDE YARD:

SIDE YARD:

IMPERVIOUS COVERAGE

DEED REFERENCED:

ZONING DISTRICT:

EXISTING USE:

WATER:

SEWER:

PROPOSED USE:

P7 - 10 - 1-23 (LOT 23B)

REQUIRED/ALLOWED

<u>IR DISTRICT</u>

20,000 S.F.

90%

200 FT

60 FT.

10 FT

10 FT

10 FT

20 FT

10 FT

9' X 18'

4 SPACES PER 1,000 S.F. OF BLDG.

23 SPACES

2 SPACES

2,722 SF.

TOTAL 62,637 SF. OR 1.44 AC.

(2,722 SF./ 62,637 SF.=4.35%)

1 SPACE PER 4 SEATS (39 INTERIOR)

2 SPACES (5% OF 32) 2 MINIMUM

90%

62,637 S.F./1.44 ACRES

MAP P7, BLOCK 10, LOT 23

2004-1-209584

IR (INDUSTRIAL REDEVELOPMENT)

VACANT LOT

PUBLIC

ALLOWED BY LVIP COVENANTS

50%

N/A

40 FT

25 FT

10 FT

9' X 19'

(8 EXTERIOR)

2,722/1,000x4=11

47/4=12

RESTAURANT-DRIVE THRU (PERMITTED BY SPECIAL EXCEPTION)

<u>LOTS 23B</u>

1.44 ACRES

4.35%

27 FT.

(50,141 S.F.)

450 FT.

33.51 FT.(412)

211.30 FT.

101.28 FT.(WEST)/56.35(EAST

**\*** 10.0 FT

N/A(ACCESS RD.)

N/A(ACCESS RD.)

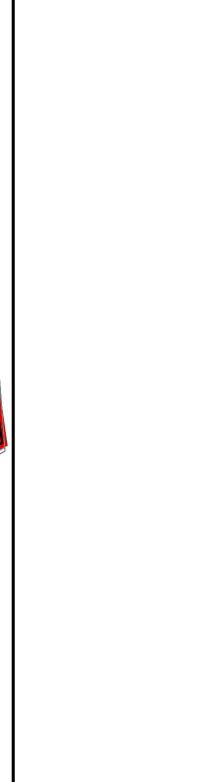
2 SPACES

32 SPACES

2 SPACES

10' X 20'

\*LVIP BUILDING COMMITTEE TO GRANT RELIEF TO ALLOW THE PAVING AREA TO ENCROACH INTO THE REQUIRED FRONT YARD SETBACK WITHIN THEIR CONSTRAINTS.



-DISCHARGE POINT TO EAST

BRANCH SAUCON CREEK

SAUCON CREEK

EAST BRANCH

### REVIEWED BY THE LEHIGH VALLEY PLANNING COMMISSION FOR LEHIGH AND NORTHAMPTON COUNTIES. LVPC STAFF PERSON RESPONSIBLE FOR REVIEW THIS PLAN WAS RECORDED IN THE OFFICE OF THE RECORDER OF DEEDS FOR NORTHAMPTON COUNTY, ON\_\_\_\_\_ PLAN BOOK\_\_\_\_\_, PAGE\_\_\_\_\_. Owner Signature: COMMONWEALTH OF PENNSYLVANIA COUNTY OF NORTHAMPTON 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 AND LAWFUL OWNER OF PROPERTY KNOWN AS \_\_\_\_\_ ; THAT THE ABOVE DESCRIBED PROPERTY IS IN THE PEACEFUL POSSESSION OF SAID CORPORATION AND THAT THERE ARE NO LIENS PENDING AFFECTING THE TITLE THEREOF CORPORATION CORPORATION OFFICIAL SWORN AND SUBSCRIBED TO BEFORE ME THIS \_\_\_ DAY OF \_\_\_\_\_, \_\_\_\_ NOTARY PUBLIC MY COMMISSION EXPIRES ON Developer/Applicant Signature: TACO BELL COMMONWEALTH OF PENNSYLVANIA COUNTY OF NORTHAMPTON 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 AND LAWFUL OWNER OF PROPERTY KNOWN AS \_\_\_\_\_ \_\_; THAT THE ABOVE DESCRIBED PROPERTY IS IN THE PEACEFUL POSSESSION OF SAID CORPORATION AND THAT THERE ARE NO LIENS PENDING AFFECTING THE TITLE THEREOF. SUMMERWOOD CORP. (TACO BELL) CORPORATION CORPORATION OFFICIAL SWORN AND SUBSCRIBED TO BEFORE ME THIS \_\_\_ DAY OF \_\_\_\_\_, \_\_\_\_ NOTARY PUBLIC MY COMMISSION EXPIRES ON \_\_\_\_

APPROVED THIS PLAN OF THE PROPERTY LOT 24A/24B, LVIP VII LOCATED IN NORTHAMPTON COUNTY AS SHOWN HEREIN.

#### **Land Development Plans**

- \* 1 COVER SHEET (RECORD PLAN 1 OF 2) \* 2 RECORD PLAN (2 OF 2)
- 3 EXISTING FEATURES PLAN
- 4 DEMOLITION PLAN
- 5 GRADING & UTILITY PLAN
- 6 CURB GRADE PLAN
- 7 PROFILE PLAN
- 8 PROFILE PLAN
- 9 LANDSCAPE PLAN AND DETAILS 10 LIGHTING PLAN AND DETAILS
- \* 11 POST CONSTRUCTION STORMWATER MANAGEMENT PLAN

12 POST CONSTRUCTION STORMWATER MANAGEMENT DETAILS

- 13 EROSION & SEDIMENTATION CONTROL PLAN 14 EROSION & SEDIMENTATION CONTROL DETAIL SHEET
- 15 EROSION & SEDIMENTATION CONTROL DETAIL SHEET 16 CONSTRUCTION DETAIL SHEET
- 17 CONSTRUCTION DETAIL SHEET
- 18 CONSTRUCTION DETAIL SHEET

\* DENOTES PLAN TO BE RECORDED

#### Supplemental Plans

FIRE TRUCK MOVEMENT EXHIBIT - 1 OF

### Plan Preparer **Hanover** Engineering

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

Statement of Intent

TO DEVELOP LOT 23B OF THE LVIP VII SUBDIVISION AND CONSTRUCT A TACO BELL RESTAURANT WITH A DRIVE THRU WITH ASSOCIATED PARKING AND INFRASTRUCTURE.

**Equitable Owner / Applicant** Owner LVIP, INC TACO BELL 1720 SPILLMAN DRIVE

**ZONING HEARING BOARD DECISION** 

1. THE PROPOSED DRIVE-THRU MEETS ALL SPECIFIC REQUIREMENTS OF

2. APPLICANT PRESENTED CLEAR AND CONVINCING EVIDENCE THAT IT

MEETS THE GENERAL REQUIREMENTS OF ZONING ORDINANCE SEC.

DATE OF ZONING HEARING: MAY 17, 2023

ZONING ORDINANCE SEC. 1322(s).

APPROVED BY A VOTE OF 5-0.

BETHLEHEM, PA 18015

PHONE 610.866.4600

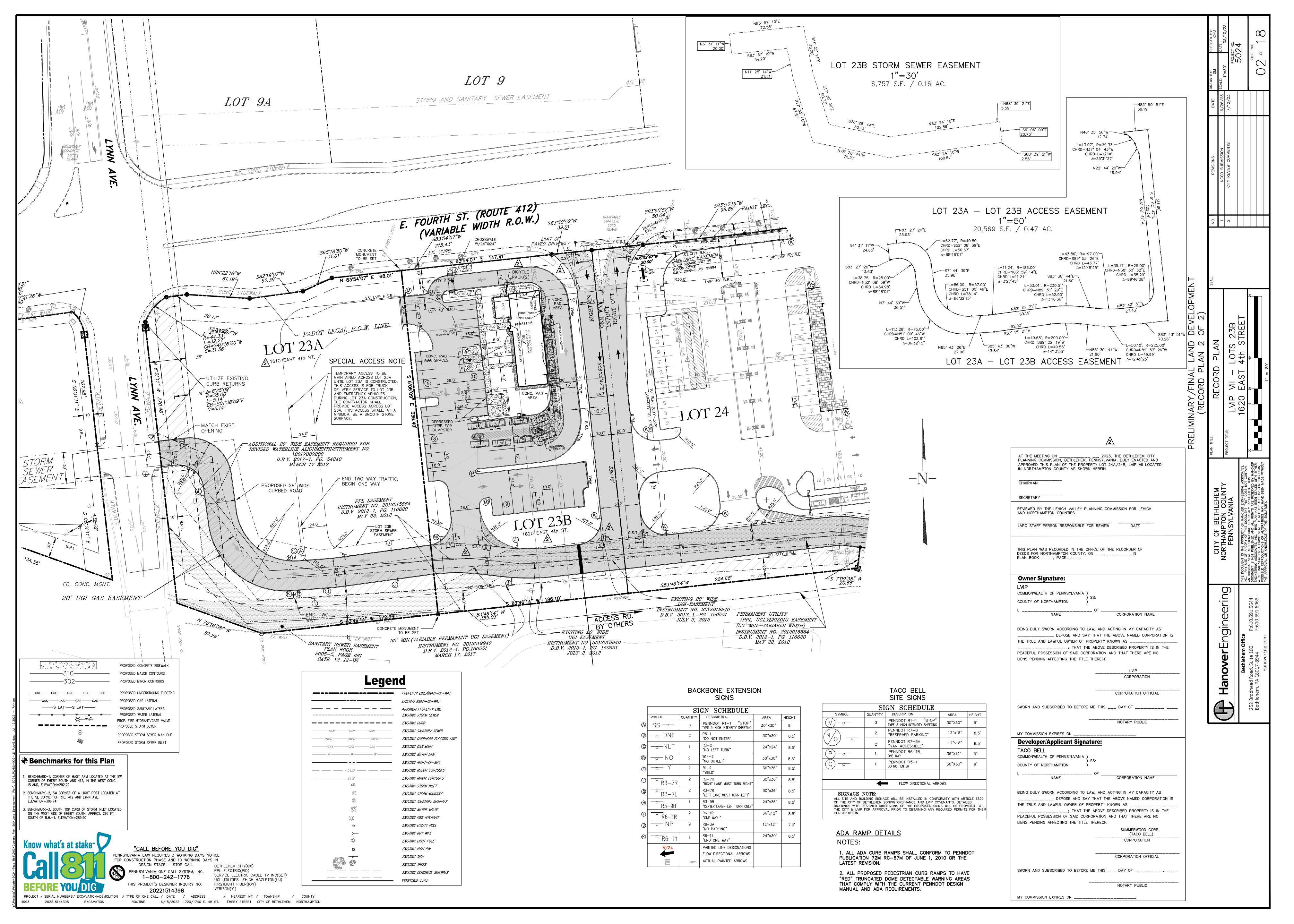
CONCLUSION OF LAW

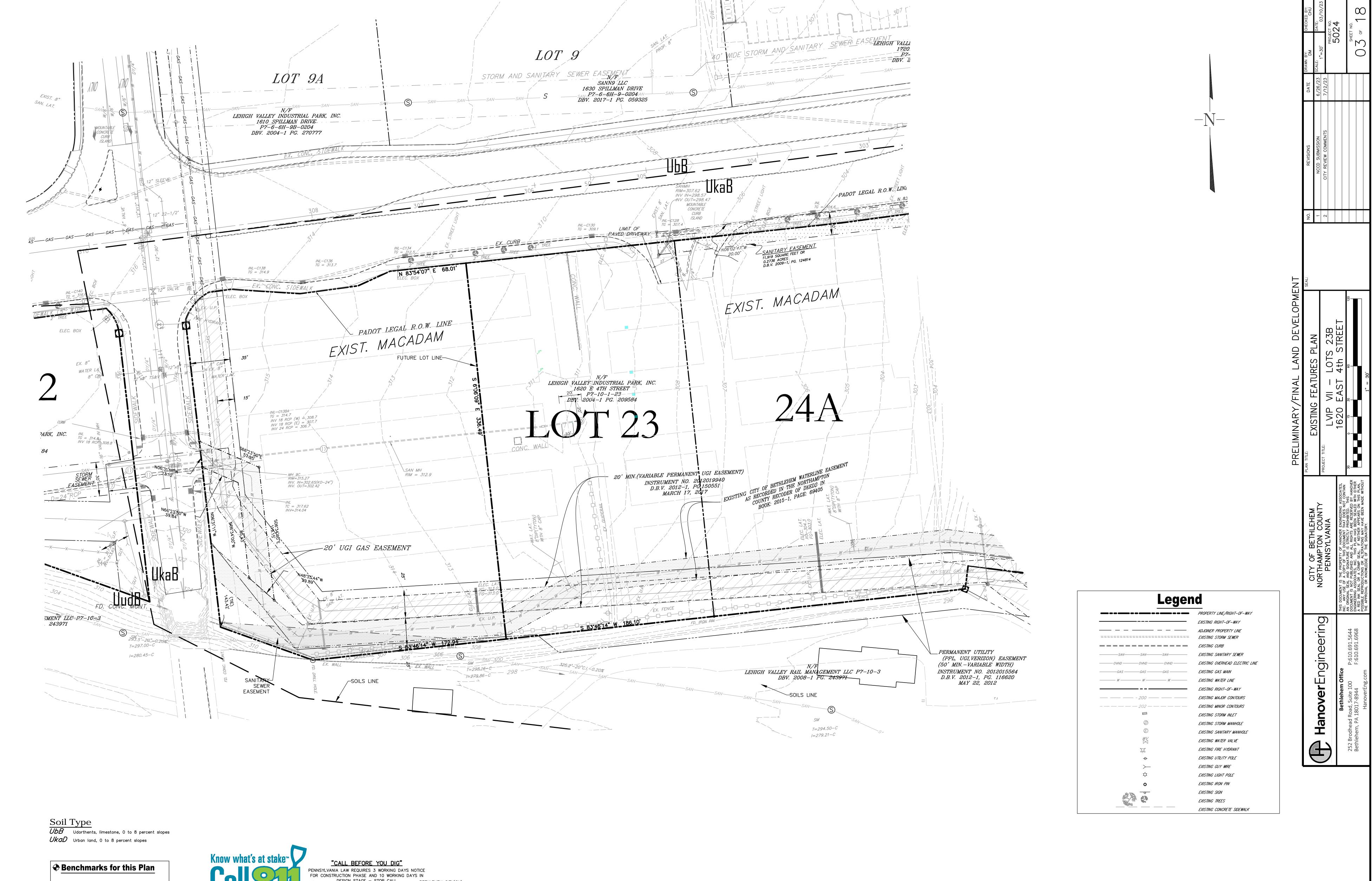
DATE OF WRITTEN DECISION: \_\_\_\_\_, 2023

SUMMERWOOD CORP. 14 BALLIGOMINGO ROAD CONSHOHOCKEN, PA 19428 JOE DEPASCALE, DEVELOPMENT

MANAGER -215-307-6463

**Site Address** 1620 EAST 4TH STREET BETHLEHEM, PA 18015





BENCHMARK-1, CORNER OF MAST ARM LOCATED AT THE SW CORNER OF EMERY SOUTH AND 412, IN THE WEST CONC. ISLAND, ELEVATION=292.22

 BENCHMARK-2, SW CORNER OF A LIGHT POST LOCATED AT THE SE CORNER OF RTE. 412 AND LYNN AVE. ELEVATION=306.74 3. BENCHMARK-3, SOUTH TOP CURB OF STORM INLET LOCATED ON THE WEST SIDE OF EMERY SOUTH, APPROX. 292 FT. SOUTH OF B.M.-1. ELEVATION=289.90



4993 202215144398 EXCAVATION

DESIGN STAGE - STOP CALL

PENNSYLVANIA ONE CALL SYSTEM, INC.

1-800-242-1776

BETHLEHEM CITY(QX)

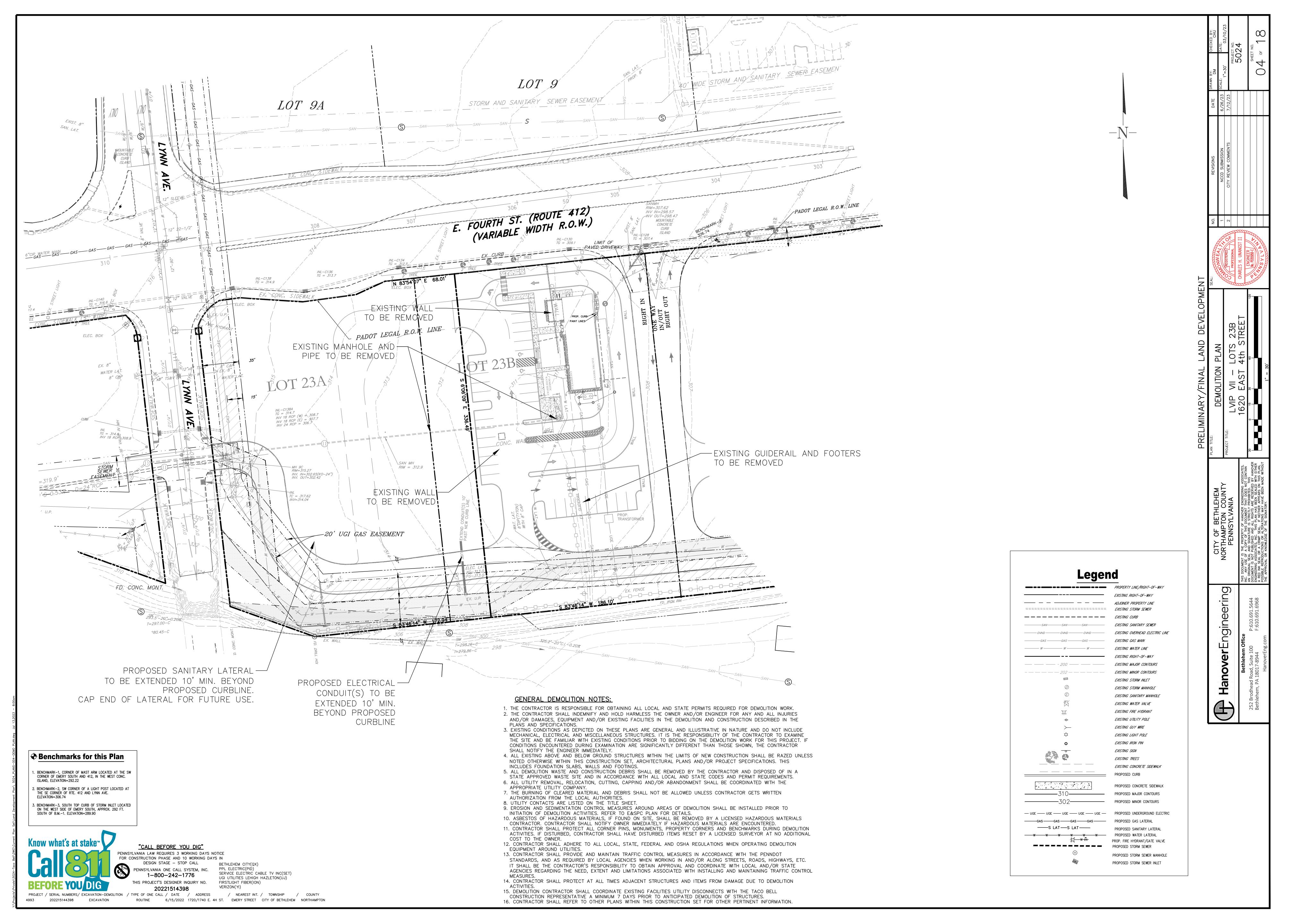
PPL ELECTRIC(PID)

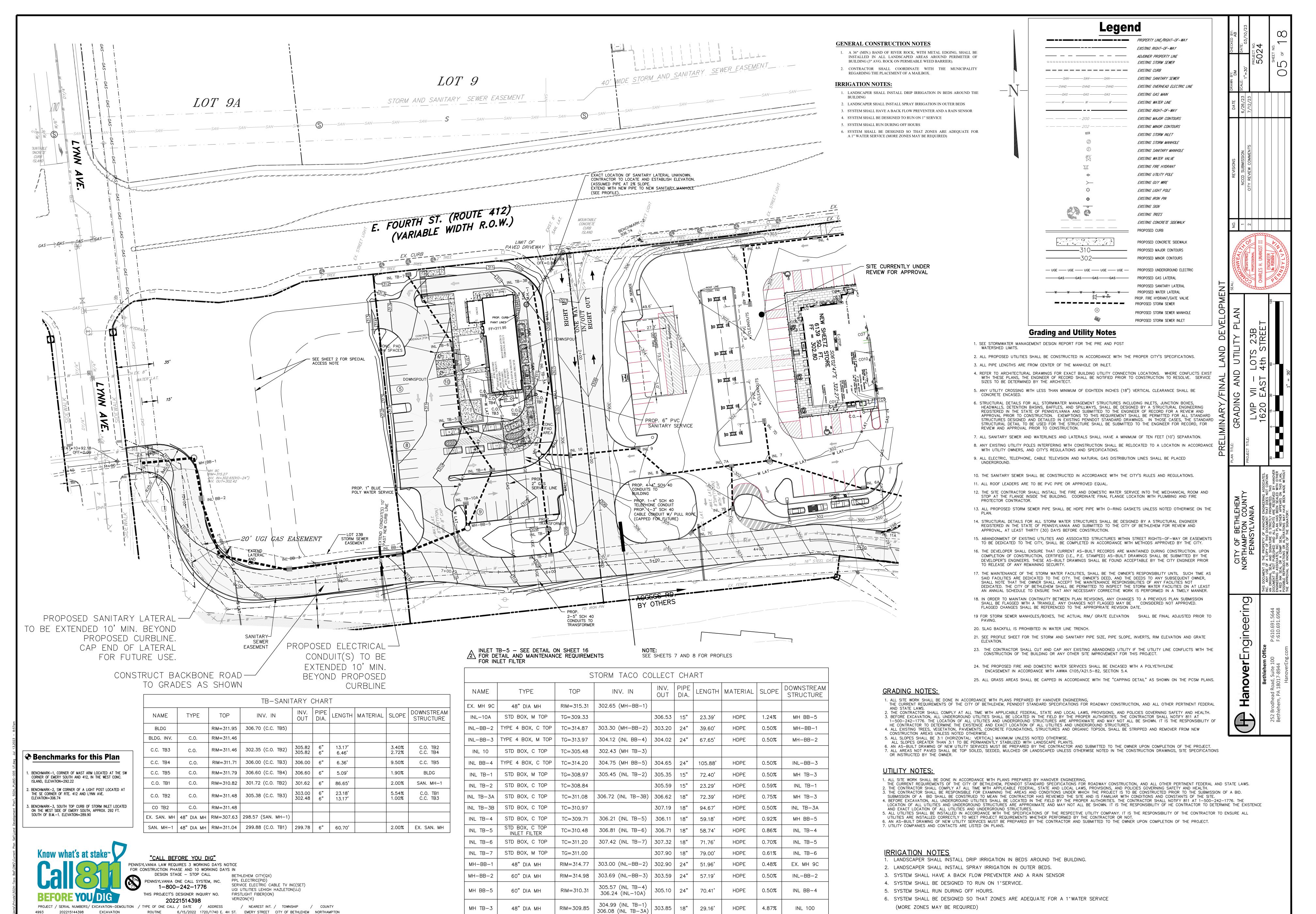
SERVICE ELECTRIC CABLE TV INC(SET)

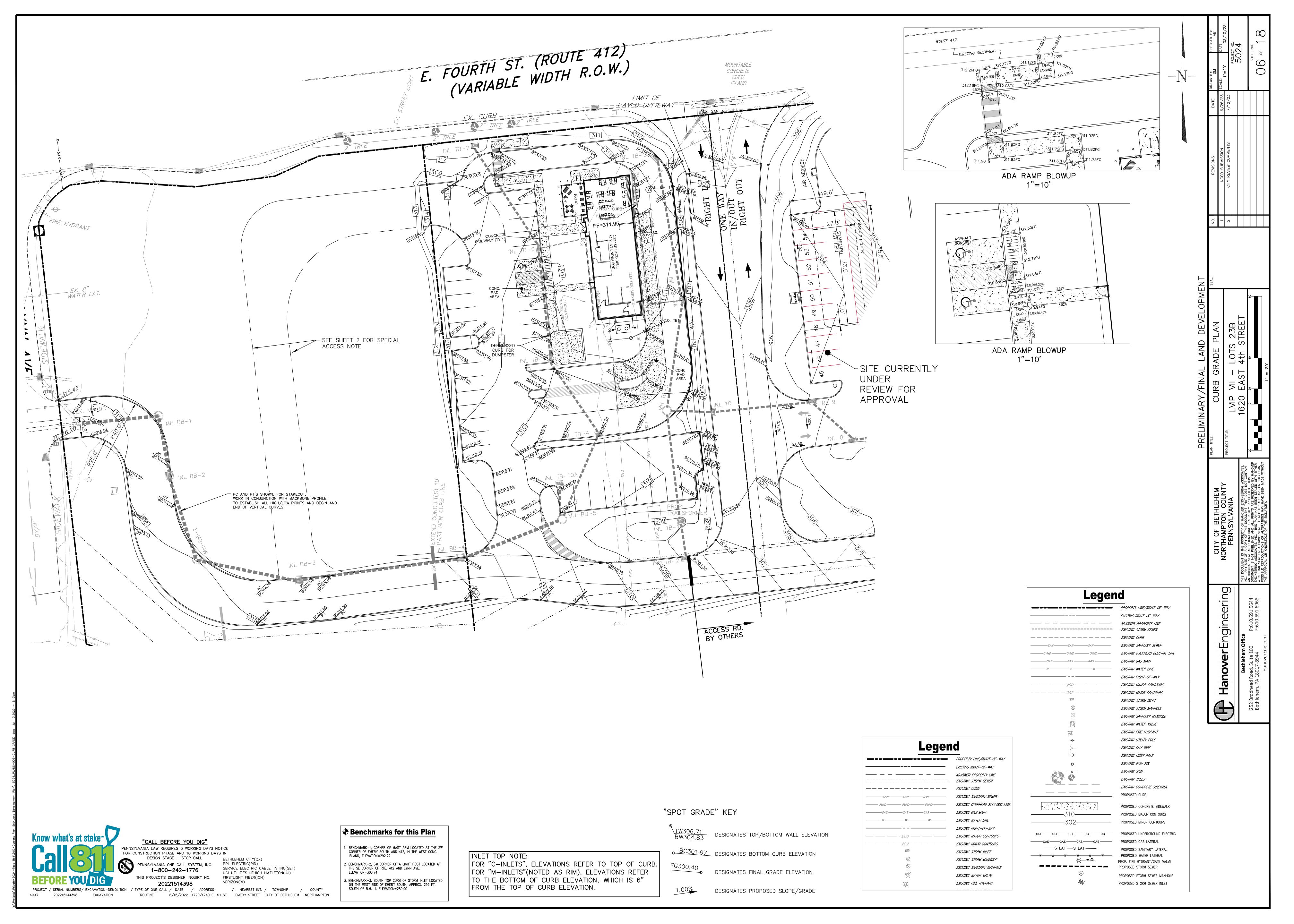
UGI UTILITIES LEHIGH HAZLETON(UJ) DESIGN STAGE - STOP CALL THIS PROJECT'S DESIGNER INQUIRY NO. FIRSTLIGHT FIBER(ION) 20221514398

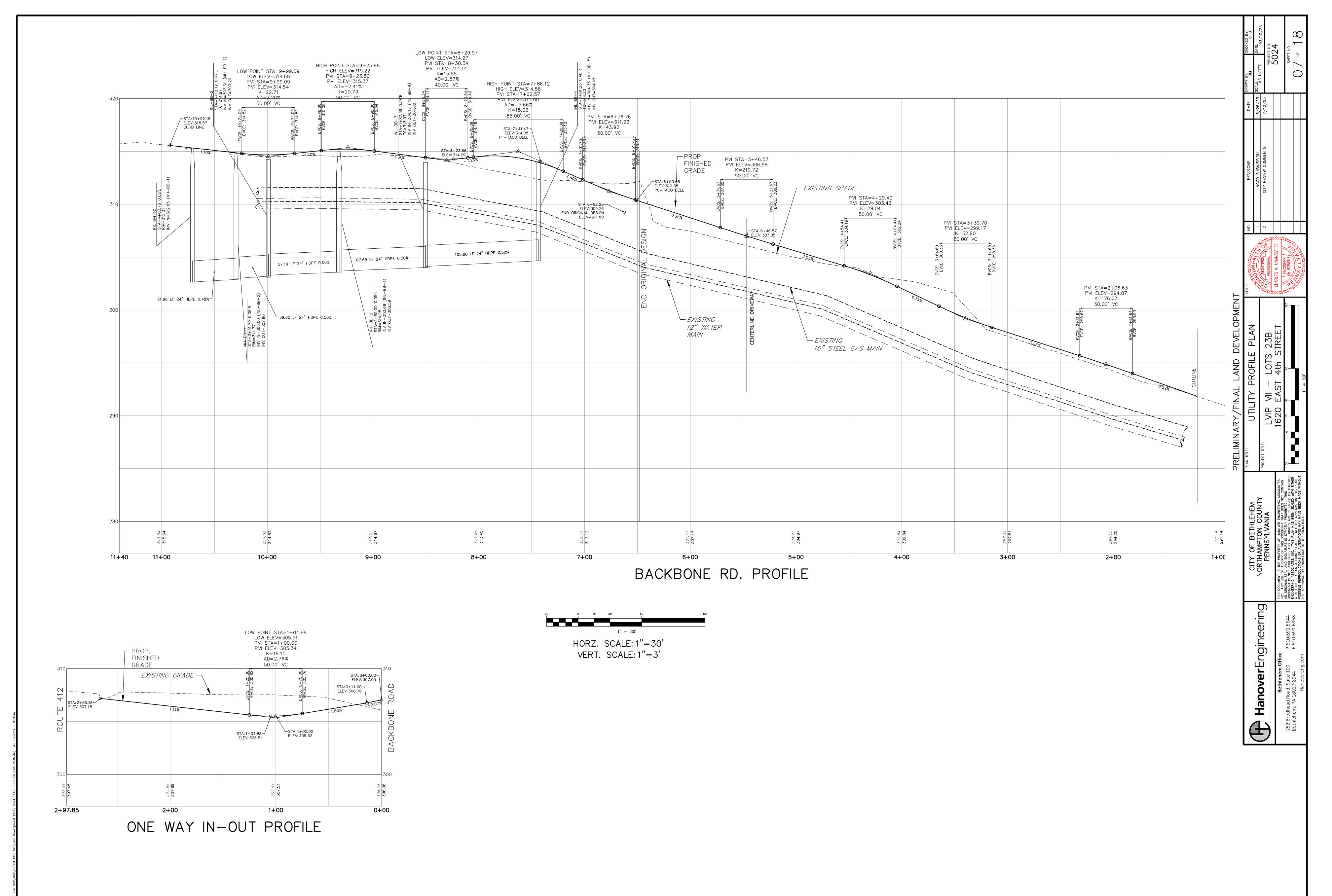
PROJECT / SERIAL NUMBERS/ EXCAVATION-DEMOLITION / TYPE OF ONE CALL / DATE / ADDRESS / NEAREST INT. / TOWNSHIP / COUNTY

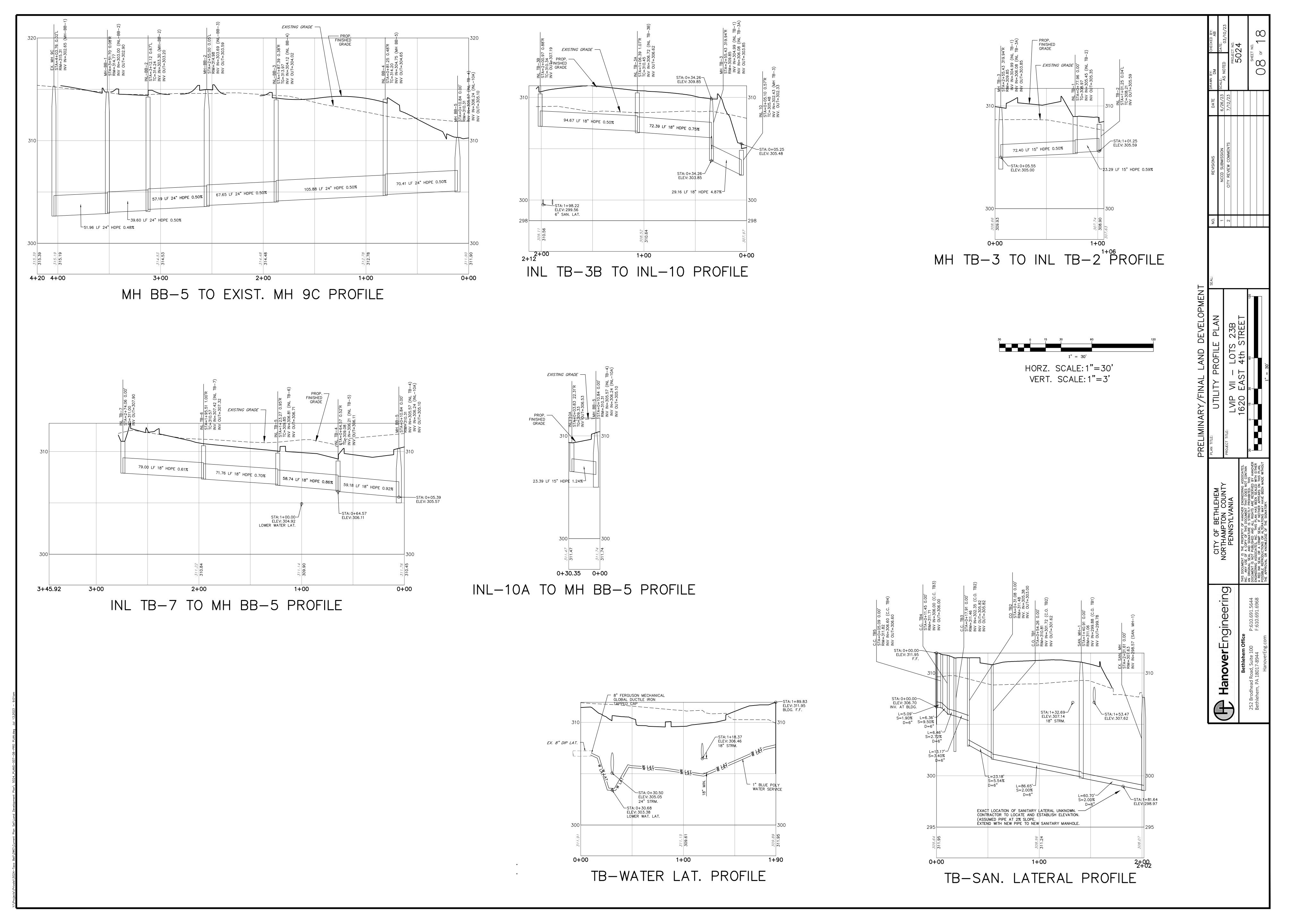
ROUTINE 6/15/2022 1720/1740 E. 4H ST. EMERY STREET CITY OF BETHLEHEM NORTHAMPTON











	T	<u>PLANTING S</u>		<u> </u>	T
SYMBOL	BOTANICAL NAME	COMMON NAME	QTY.	SIZE	REMARKS
		LARGE DECIDU	OUS TREES		L D&D DADIZING LOT
AR	ACER RUBRUM "FRANKSRED"	RED SUNSET RED MAPLE	9	3.5" CAL MIN. @ 6" ABOVE GRADE	B&B PARKING LOT TREE CREDIT(3 TREES) 4 STREET TREES(GROUP III)
TCS	TILIA CORDATA GREENSPIRE	GREENSPIRE LINDEN	<b>2</b> 6	3.5" CAL MIN. @ 6" ABOVE GRADE	B&B STREET TREES (GROUP III)
TC	TILIA CORDATA GREENSPIRE	GREENSPIRE LINDEN	2	3.5" CAL MIN. @ 6" ABOVE GRADE	B&B <b>2</b>
QR	QUERCUS RUBRUM	RED OAK	5	3" CAL MIN. @ 6" ABOVE GRADE	B&B
AS	ACER SACCHARUM "COLUMNARE"	COLUMNAR SUGAR MAPLE	2	3" CAL MIN. @ 6" ABOVE GRADE	B&B
		TOTAL LARGE DECIDUO	US TREES	= 24 🛕	
		EVERGREEN	N TREES		
JG	JUNIPERUS CHINENSIS GLAUCA	COLUMNARIS GLAUCA JUNIPER	6 🛕	7' HGT. MIN.	B&B
ТО	THUGA OCCIDENTALIS "NIGRA"	DARK GREEN ARBORVITAE	4	7' HGT. MIN.	B&B
		TOTAL EVERGREEN	TREES =	10/2	
		SHRU	BS		
ΑZ	AZALEA KURUME "DELAWARE VALLEY"	DELAWARE VALLEY AZALEA <b>Z</b>	<b>2</b> \ 19	18" HGT.	B&B, WHITE FLOWERING
AK	AZALEA KURUME "HINO CRIMSON"	HINO CRIMSON AZALEA	20	18" HGT.	B&B, PINK FLOWERING
JH	JUNIPERUS HOR. "WILTONI"	BLUE RUG JUNIPER	108	12"-18" SPD.	NO. 3 CONTAINER
JC	JUNIPERUS CONFERTA "BLUE PACIFIC"	BLUE PACIFIC JUNIPER	57	12"-18" SPD.	NO. 3 CONTAINER
IC	ILEX CRENATA "HETZII"	LARGE CONVEXED LEAVED HOLLY	7	18" SPD.	B&B
			211 /2		

#### LANDSCAPE REQUIREMENTS CONT.

Total Lot Area:

SITE DATA: 1.44 acres (62,264 sq. ft.) Proposed Outdoor Parking: 32 Spaces

SUMMARY OF LANDSCAPE REQUIREMENTS

City of Bethlehem - Zoning

• <u>Sec. 1318.23 — Buffer Yards —</u> not required; project area zoned IR

• <u>Sec. 1319.02.J.1 - Street Trees (186 L.F.)</u> o <u>Required:</u> One (1) tree for every 40' street frontage = 5 trees <u>(ROUTE 412-EAST 4TH STREET)</u>

• o <u>Proposed:</u> 2 trees proposed, 3 existing trees are in place = 5 total \*Proposed trees in alternate location

• <u>Sec. 1319.02.J.2</u> — <u>Parking Lot Trees</u> o Required: One (1) tree for every 15 outdoor parking spaces = 3 trees (32/15)

3 trees (Large Deciduous Trees) o <u>Proposed:</u> • <u>Sec. 1318.28 -</u> <u>- Tree Preservation</u>

o Required: Two (2) replacement trees for each +8" dia. existing tree removed 0 existing trees removed = 0 replacement trees

O replacement trees proposed on—site (Large Deciduous Trees) City of Bethlehem - SALDO

• Sec. 1349.08 (a)(4)(5) — Plant Species Selection

o <u>Required</u>: Diversity of plant types o <u>Proposed</u>: Variety of species in all categories of plant selections. • Sec. 1349.08.f (1) — Off—street Parking and Loading Areas

o Required: 10% of Parking/Loading areas = 2,549 sq. ft. (25,485 x 10%) o Proposed: 1,477 sq. ft. landscape islands 1,072 sq. ft. landscape beds

LVIP Protective Covenants (Sec. 305.8.a)

 Proposed Use: Convenience Store/Gas Station (Non-Industrial Use) Project Acreage: 1.44 acres

• Required Deciduous Trees: 1.44 ac. x 7 = 13 trees Proposed Deciduous Trees: 13 trees

• Required Evergreen Trees: 1.44 ac. X 5 = 10 TREES • Proposed Evergreen Trees: 12 trees

# LANDSCAPE AREA TABULATION

 LANDSCAPE ISLANDS LANDSCAPE BEDS

1,072 sq. ft.

PROPOSED AREA:

REQUIRED AREA:

2,549 sq. ft. 2,549 sq. ft.

### LANDSCAPE PLAN REQUIREMENTS

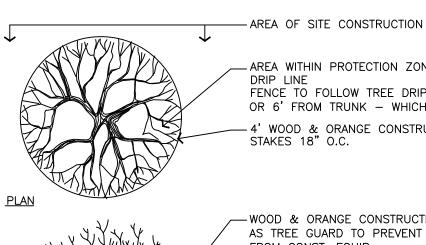
LANDSCAPE PROJECT AREA-62,637 S.F./1.44 AC. EXISTING IMPERVIOUS WITHIN PROJECT AREA-0 S.F./O AC. PROPOSED IMPERVIOUS WITHIN PROJECT AREA-50,141 S.F./1.15 AC.

BUILDINGS-

PROPOSED IMPERVIOUS AREAS: -

1,279 SF. SIDEWALKS-PARKING AND DRIVEWAYS (WITH TRASH ENCL.)-

PROPOSED BUILDING COVER WITHIN AREA OF CONSTRUCTION = 80.0%



- AREA WITHIN PROTECTION ZONE/TREE FENCE TO FOLLOW TREE DRIP LINE OR 6' FROM TRUNK - WHICH EVER IS GREATER -4' WOOD & ORANGE CONSTRUCTION FENCING

NOTE: SHRUBS SHALL BE SELECTIVELY

(TYPICAL FOR DECIDUOUS &

--- TOPSOIL BACKFILL/PLANT PIT

PLASTIC WRAPPING TO BE ENTIRELY REMOVED.

NOTE- CONTAINER PLANTS TO HAVE OUTER

— 6"MIN. TAMPED EARTH

RETAIN TERMINAL LEADER DO

NOT PRUNE TERMINAL OR

BRANCH TIPS.

CUT AND REMOVE BURLAP FROM TOP 1/3 OF BALL.

- EXISTING SOIL- PLANT PIT TO CONTAIN 50% OF THIS

-PRUNE AWAY DEAD OR BROKEN BRANCHES ONLY. CROSSED OR

RUBBING BRANCHES SHOULD BE PRUNED TO RETAIN THE LEAST

-ROOT FLARE MUST BE VISIBLE

HIGHER IN POORLY DRAINED SOILS

KEEP MULCH 3"-5" AWAY FROM TRUNK

/ \_ 2"-4" OF SHREDDED HARDWOOD MULCH

PROVIDE A 3" - 4" EARTHEN SAUCER
JUST OUTSIDE THE ROOTBALL

REMOVE WIRE BASKET, BURLAP, TWINE, ROPE, ETC.. FROM

ANY NON-BIODEGRADEABLE MATERIAL FROM ROOTBALL.

WEEDS, ROCKS, CONSTRUCTION DEBRIS, OR ANY OTHER

REMAINDER OF HOLE AND WATER TO SETTLE.

AT LEAST THE TOP 1/2 OF ROOTBALL. COMPLETELY REMOVE

BACKFILL WITH CLEAN, EXCAVATED SOIL, FREE OF SUBSOIL

MATERIAL DELETERIOUS TO PLANT GROWTH. WATER WHEN HOLE

IS 2/3 FULL TO SETTLE AND ELIMINATE AIR POCKETS; FILL

SET ROOTBALL LEVEL WITH SURROUNDING GRADE OR 1"-2"

1/3 PEAT, 1/3 EXISTING SOIL

**DECIDUOUS TREE PLANTING DETAIL** NOT TO SCALE

— OR ARBOR TIE™

EVERGREEN TREES).

— 2" MULCH

FINISHED GRADE

ROOTS GENTLY LOOSENED.

SOIL BY VOLUME.

SHRUB PLANTING DETAIL

PLANTING HOLE WIDTH = 4 X

OPENING IN THE SIDEWALK.

ROOTBALL WIDTH OR THE LENGTH AND WIDTH OF TREE BACKFILL 1/3 TOPSOIL,

NOT TO SCALE

A —— A

REMOVE NURSERY TREE WRAP.

WEB STRAP —

TAPE, TWINE, TRANSIT GUARDS, ETC. FROM TREE TRUNK

STAKE ONLY WHEN NECESSARY -

OUTSIDE THE ROOTBALL

USING 2"X2" HARDWOOD STAKES

(OR APPROVED EQUAL) 2 STAKES

PER TREE 180° APART, 8' IN LENGTH

AND DRIVEN 30" INTO THE GROUND

SCARIFY SIDES OF -

SET ROOTBALL IN CENTER OF HOLE-

ON UNDISTURBED OR FIRMLY

PLANTING HOLE

TAMPED SOIL.

FASTEN STAKES TO TREE USING 3/4" - 2" WIDE FLAT, WOVEN POLYPROPYLENE MATERIAL SUCH AS ARBOR TIE

OR USE 3" WIDE WEBBING STRAPS SECURED TO STAKES  $\Rightarrow$ WITH HEAVY GAUGE WIRE. DO NOT USE WIRE RUN THROUGH HOSE. ATTACH TREE LOOSELY TO ALLOW FLEXING. REMOVE STAKING MATERIAL AFTER 1 YEAR.

1/3 TOPSOIL,

1/3 EXISTING SOIL

1/3 PEAT.

---EARTH SAUCER

PRUNED TO COMPENSATE FOR ROOT LOSS. MAINTAIN NATURAL FORM.

- WEED CONTROL FABRIC (BEDS AND PLANTERS)

AS TREE GUARD TO PREVENT DAMAGE FROM CONST. EQUIP. TREE DRIP LINE/TREE PROTECTION ZONE - AREA WITHIN TREE PROTECTION ZONE TO REMAIN UNDISTURBED DURING CONSTRUCTION - 4' WOOD & ORANGE CONSTRUCTION FENCING

TREE PROTECTION DURING SITE CONSTRUCTION

EX. LUNC. STUERALL E. FOURTH ST. (ROUTE 412)

(VARIABLE WIDTH R.O.W.)

(VARIABLE WIDTH R.O.W.)

(VARIABLE WIDTH R.O.W.)

(VISE 4 TREES

> USF 4 TREES CONCRETE CURB ISLAND PAVED DRIVEWAY FX COMO '======ħ EX. CONC. SIDEWALK -======== PADOT LEGAL R.O.W. LINE SEE SHEET 2 FOR SPECIAL ACCESS NOTE INL 8 RIM = 312.9NV. IN=302.65(K0-24") NV. OUT=302.42 STORM SEWER EASEMENT FD. CONC. MONT 1860 1 TREE/50' = 3.7 TREES > USE 4 TREES

NOTE: TREE SHALL BEAR SAME RELATION TO FINISHED GRADE AS TO PREVIOUS

FASTEN STAKES TO TREE USING 3/4" - 2" WIDE FLAT,

WOVEN POLYPROPYLENE MATERIAL SUCH AS ARBOR TIE OR USE 3" WIDE WEBBING STRAPS SECURED TO STAKES WITH HEAVY GAUGE WIRE. DO NOT USE WIRE RUN THROUGH HOSE, ATTACH TREE LOOSELY TO ALLOW

FLEXING. REMOVE STAKING MATERIAL AFTER 1 YEAR.

EXISTING GRADE (TYPICAL).

(2) 2"x2" HARDWOOD STAKES 8' LONG

(MIN) LOCATE ONE STAKE ON SIDE OF PREVAILING WINDS.

3" MULCH 3"-5" AWAY FROM TRUNK

- EARTH SAUCER

— FINISHED GRADE

<del>' B</del>ACKFILL- 1/3 TOPSOIL, 1/3

PEAT, 1/3 EXISTING SOIL

ROOTBALL COVERING

-CUT AND REMOVE TOP 1/3 OF

ESPECIALLY AROUND TRUNK

EXISTING UNDISTURBED SOIL

- REMOVE WIRE BASKET, BURLAP, TWINE, ROPE, ETC.. FROM

ANY NON-BIODEGRADEABLE MATERIAL FROM ROOTBALL.

WEEDS, ROCKS, CONSTRUCTION DEBRIS, OR ANY OTHER

REMÁINDER OF HOLE AND WATER TO SETTLE.

IS 2/3 FULL TO SETTLE AND ELIMINATE AIR POCKETS; FILL

AT LEAST THE TOP 1/2 OF ROOTBALL. COMPLETELY REMOVE

BACKFILL WITH CLEAN, EXCAVATED SOIL, FREE OF SUBSOIL.

MATERIAL DELETERIOUS TO PLANT GROWTH. WATER WHEN HOLE

**─6" MIN. TAMPED EARTH** 

EVERGREEN TREE PLANTING DETAIL

SURVEYORS TAPE FOR VISIBILITY

#### **GENERAL CONSTRUCTION NOTES**

INSTALLED IN ALL LANDSCAPED AREAS AROUND PERIMETER OF

REGARDING THE PLACEMENT OF A MAILBOX.

#### **IRRIGATION NOTES:**

1. LANDSCAPER SHALL INSTALL DRIP IRRIGATION IN BEDS AROUND THE

4. SYSTEM SHALL BE DESIGNED TO RUN ON 1" SERVICE

5. SYSTEM SHALL RUN DURING OFF HOURS

1. A 36" (MIN.) BAND OF RIVER ROCK, WITH METAL EDGING, SHALL BE

BUILDING (3" AVG. ROCK ON PERMEABLE WEED BARRIER). 2. CONTRACTOR SHALL COORDINATE WITH THE MUNICIPALITY

2. LANDSCAPER SHALL INSTALL SPRAY IRRIGATION IN OUTER BEDS 3. SYSTEM SHALL HAVE A BACK FLOW PREVENTER AND A RAIN SENSOR

6. SYSTEM SHALL BE DESIGNED SO THAT ZONES ARE ADEQUATE FOR A 1" WATER SERVICE (MORE ZONES MAY BE REQUIRED)

### PROTECTION OF TREES AND SHRUBS

1. NO PERSON SHALL BREAK, INJURE, MUTILATE, KILL OR DESTROY ANY TREE OR SHRUB, OR PERMIT ANY FIRE TO BURN WHERE SUCH FIRE WILL INJURE ANY PORTION OF ANY TREE OR SHRUB IN ANY PUBLIC AREA OF THE CITY. NO PERSON SHALL KNOWINGLY PERMIT ANY LEAK TO EXIST IN ANY GAS PIPE WITHIN THE ROOT ZONE OF ANY TREE OR SHRUB IN A PUBLIC AREA.

NO PERSON SHALL PERMIT ANY TOXIC CHEMICAL TO SEEP, DRAIN OR BE EMPTIED ON OR ABOUT ANY TREE OR SHRUB IN A PUBLIC AREA.

NO PERSON SHALL KNOWINGLY PERMIT ELECTRIC WIRES TO COME IN CONTACT WITH TREES OR SHRUBS IN ANY PUBLIC AREAS UNLESS PROTECTED BY APPROVED METHODS.

NO PERSON SHALL ATTACH ANY ELECTRICAL INSULATION TO ANY TREE OR SHRUB IN A PUBLIC AREA OR SHALL

EXCAVATE ANY DITCHES, TUNNELS OR TRENCHES, OR LAY ANY DRIVE WITHIN A RADIUS OF TEN FEET FROM ANY TREE OR SHRUB IN A PUBLIC AREA WITHOUT FIRST OBTAINING PERMISSION FROM THE DIRECTOR.

DURING BUILDING OPERATIONS, THE BUILDER SHALL ERECT SUITABLE PROTECTIVE BARRIERS AROUND TREES OR SHRUBS IN PUBLIC AREAS APT TO BE INJURED.

WHENEVER THE DIRECTOR DETERMINES IT IS NECESSARY TO MOVE, PROTECT OR CUT OFF THE ELECTRICITY FROM

SERVICE WIRES SO HE CAN SAFELY AND PROPERLY DO HIS WORK, HE SHALL SERVE WRITTEN NOTICE ON THE OWNERS OF SUCH WIRES AND SUCH OWNERS SHALL COMPLY WITH SUCH ORDERS WITHIN TWENTY-FOUR HOURS AFTER THE SERVICE OF SUCH NOTICE.

8. NO PERSON SHALL PLACE SALT, BRINE, OIL OR OTHER SUBSTANCES INJURIOUS TO PLANT GROWTH IN ANY PLACE IN SUCH A MANNER AS TO INJURE ANY TREE OR SHRUB IN A PUBLIC AREA.

9. NO PERSON SHALL BUILD ANY FIRE OR STATION ANY TAR KETTLE, ROAD ROLLER OR OTHER ENGINE IN SUCH A

MANNER THAT THE HEAT VAPORS OR FUMES THEREFROM MAY INJURE ANY TREE OR SHRUB GROWING IN ANY PUBLIC AREA.

10. NO PERSON IS PERMITTED TO LAY ANY SIDEWALK ALONG OR TO OPEN, CONSTRUCT, CURB OR PAVE ANY STREET OR DO ANY LIKE ACT SO AS TO INTERFERE WITH OR DO INJURY TO ANY TREE OR SHRUB IN A PUBLIC AREA WITHOUT THE CONSENT OF THE DIRECTOR.

AREA WITHOUT THE CONSENT OF THE DIRECTION.

SHOVELS AND ALL OTHER IMPLEMENTS, MACHINES AND TOOLS SHALL BE USED OR OPERATED IN SUCH A
MANNER AS NOT TO DAMAGE OR DESTROY ANY TREE, SHRUB OR PLANT IN ANY PUBLIC AREA.

WHERE IN AUTHORIZED EXCAVATIONS IT BECOMES NECESSARY TO EXPOSE OR CUT ROOTS MORE THAN ONE INCH
IN DIRECTOR TO PROTECT SUCH ROOTS UNDER ADVICE FROM THE

#### **GENERAL PLANTING NOTES:**

5% KENTUCKY BLUEGRASS

1. THE CONTRACTOR MUST VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND FACILITIES PRIOR O BEGINNING CONSTRUCTION. CALL PENNSYLVANIA ONE CALL 1-800-242-1776. THE CONTRACTOR SHALL LAYOUT AND REVIEW ALL PLANT MATERIAL AND PLANT LOCATIONS WITH ARCHITECT OR OWNER PRIOR TO INSTALLATION. SUBSTITUTE SPECIES CAN BE SELECTED FROM THE CITY OF BETHLEHEM "STREET TREE SELECTION AND CARE GUIDE".SUBSTITUTE TREES SHALL BE APPROVED BY THE CITY FORESTER.

FIELD CONDITIONS MAY DICTATE MINOR ADJUSTMENTS TO THE LOCATION OF PLANT MATERIAL. BEFORE MAJOR ADJUSTMENTS OF PLANT LOCATIONS OCCUR, THE CONTRACTOR SHALL NOTIFY THE OWNER OR THE SUBSTITUTIONS: WHEN PLANTS OF A SPECIFIED TYPE OR SIZE ARE NOT AVAILABLE WITHIN A REASONABLE

DISTANCE, SUBSTITUTIONS MAY BE MADE UPON REQUEST BY THE CONTRACTOR, IF APPROVED BY THE OWNER OR THEIR REPRESENTATIVE. THE CONTRACTOR SHALL NOTIFY THE OWNER IN WRITING OF ANY PLANT MATERIALS THAT HE FEELS WILL NOT BE AVAILABLE, PRIOR TO SUBMITTING A BID ON THIS PROJECT. IF A BID IS RECEIVED WITHOUT SUCH QUALIFICATION, IT WILL BE ASSUMED NO SUCH SUBSTITUTIONS WILL BE 8. ALL AREAS DISTURBED DURING PLANTING ACTIVITY SHALL BE REESTABLISHED AS PERMANENT LAWN WITH THE SPECIFIED SEED MIX AS SUPPLIED BY NORTHAMPTON SEED COMPANY;

55% CREEPING RED FESCUE 40% FINE LEAFED PERENNIAL RYEGRASS

% EQUALS PROPORTION BY WEIGHT SEED AT A RATE OF SIX POUNDS PER 1,000 SQUARE FEET AS SUPPLIED BY NORTHAMPTON SEED COMPANY OR APPROVED EQUAL. 9. ALL TREE AND SHRUB GROUPINGS MAY BE COMPLETELY ENCOMPASSED WITHIN ONE LARGE MULCH BED AT EACH PLANT GROUPING LOCATION. THE MULCH BED SHALL TYPICALLY EXTEND MINIMALLY 2' - 0" PAST THE

10. PLANTS WITH BROKEN ROOT BALLS OR EXCESSIVE DAMAGE TO THE CROWN SHALL BE REPLACED PRIOR TO INSTALLATION.
11. MULCH FOR TREES, SHRUBS, AND GROUNDCOVER SHALL BE DOUBLE SHREDDED, HARDWOOD BARK MULCH;

DARK BROWN IN COLOR; AGED AT LEAST ONE YEAR, AND CLEAN AND FREE OF WEEDS. AFTER INSTALLATION, A PROTECTIVE MULCH SHALL BE APPLIED TO ALL PLANTS TO PREVENT MOISTURE LOSS KEEP MULCH 2-3" AWAY FROM THE TRUNK OF THE TREE THE CONTRACTOR SHALL APPLY A PRE-EMERGENT WEED KILLER, PREEN (OR APPROVED EQUAL), TO TOPSOIL

PRIOR TO MULCHING ACTIVITIES. WATER ACTIVATE IF NECESSARY. PRIOR TO MULCHING ACTIVITIES. WATER ACTIVATE IF NECESSART.

TREES IN LEAF WHEN PLANTED SHALL BE TREATED WITH ANTI-DESICCANT SUCH AS WILT-PROOF.

PREPARATION OF PLANTING SOIL: BEFORE MIXING, CLEAN TOPSOIL OF ROOTS, VEGETATION, STONES, CLAY

LUMPS, AND OTHER EXTRANEOUS MATERIALS HARMFUL TO PLANT GROWTH. PLANTING SOIL FOR TREES, SHRUBS, AND GROUND COVER SHALL BE A MIXTURE BY VOLUME OF THE FOLLOWING:

50% ORGANIC MATTER 16. THE CONTRACTOR IS RESPONSIBLE FOR ANY ADJUSTMENTS TO SOIL PH, FERTILITY, AND/OR DRAINAGE CONDITIONS NECESSARY TO ENSURE PROPER GROWING CONDITIONS FOR PROPOSED PLANTINGS. THE CONTRACTOR IS RESPONSIBLE FOR WATERING, WEEDING, FERTILIZING, AND MAINTAINING ALL NEWLY PLANTED PLANTINGS FOR A PERIOD OF THIRTY DAYS AFTER PLANTING. A WATER SOURCE IS AVAILABLE ON

ALL PLANT MATERIAL SHALL BE OF LARGEST SIZE AND BLOOM POTENTIAL AVAILABLE TO BE OBTAINED BY

19. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF PLANT MATERIAL AT THE APPROPRIATE TIME OF 20. ALL NEW PLANT MATERIAL SHALL BE WARRANTED FOR A PERIOD OF 18 MONTHS FROM DATE OF FINAL

ALL PLANTS SHALL BE LOCATED TO AVOID PLACEMENT WITHIN SWALE CENTERLINES. ALL PLANTS SHALL BE IN ACCORDANCE WITH THE AMERICAN STANDARD FOR NURSERY STOCK, LATEST FOUNDATION PLANTING BEDS AND ENTRY WAY LANDSCAPING MAY BE DESIGNED AT THE DISCRETION OF THE

ALL TREES AND SHRUBBERY SHALL BE OF STANDARD NURSERY STOCK FREE OF DISEASE AND INSECT

25. PLANTING MATERIAL SHALL BE BALLED AND BURLAPED STOCK. CUT BURLAP AROUND THE ROOT BALL AND FOLD IT DOWN AT LEAST 1/2 WAY.
ALL PLANTINGS SHALL INCORPORATE A PEAT MOSS MIXTURE. SHOULD ON-SITE TOPSOIL BE OF INSUFFICIENT VOLUME FOR TREE, SHRUB AND LAWN PLANTING, TOPSOIL SHALL BE IMPORTED TO THE SITE OR EXISTING SITE
SOILS AMENDED TO PROVIDE FOR ADEQUATE GROWING MEDIUM DEPTHS.

THE FOUNDATION PLAN PLANTINGS SHALL BE PLANTED TO PROVIDE AT LEAST 24" OF CLEARANCE FROM THE THE FOUNDATION PLANTINGS SHALL CONSIST OF DROUGHT RESISTANT SHRUBS, PERENNIALS AND SEASONAL

#### **GENERAL CITY LANDSCAPING NOTES:**

1. NO SOIL DISTURBANCE OR COMPACTION, CONSTRUCTION MATERIALS, TRAFFIC, BURIAL PITS, TRENCHING OR OTHER LAND DISTURBANCE IS ALLOWED IN THE TREE PROTECTION ZONE UNLESS INDICATED ON THE PLAN.

2. TREE PROTECTION BARRICADES MUST BE INSTALLED PRIOR TO ANY DESTRUCTION AND/OR CONSTRUCTION ACTIVITY. THE ROOT PROTECTION ZONE SHALL BE THE AREA ENCOMPASSED BY A CIRCLE WITH A RADIUS EXTENDING 1.25 FT. FROM THE TRUNK OF THE TREE FOR EVERY INCH DBH

(DIAMETER AT BREAST HEIGHT) OF THE TREE. . VIOLATIONS OF TREE PROTECTION REQUIREMENTS ARE SUBJECT TO PENALTY PER CITY

5. ALL TREES ON PUBLIC PROPERTY ARE PROTECTED BY ORDINANCE: NO PRUNING, ROOT PRUNING OF ROOTS OVER ONE INCH IN DIAMETER, AND/OR TREE REMOVAL IS TO BE PERFORMED WITHOUT A PERMIT AND WORK MUST BE PERFORMED BY A CITY LICENSED

6. ALL PLANT MATERIALS ARE TO CONFORM TO THE AMERICAN STANDARD FOR NURSERY STOCK, LATEST EDITION, AMERICAN NURSERY AND LANDSCAPE ASSOCIATION. . STREET AND PARKING LOT TREES SHALL BE A MINIMUM OF 14' IN HEIGHT AND HAVE A SINGLE STRAIGHT TRUNK WITH THE FIRST LATERAL BRANCH AT 7' ABOVE THE ROOT BALL. TREES WITH AN UPRIGHT BRANCHING HABIT, SUCH AS ZELKOVA, MAY HAVE THE FIRST

LATERAL BRANCH AT 6' ABOVE THE ROOT BALL.

ALL LANDSCAPING SHALL CONFORM TO THE CURRENT EDITION OF THE ARBORICULTURAL SPECIFICATIONS AND STANDARDS OF PRACTICE OF THE CITY OF

9. A ROOT CONTROL SYSTEM IS REQUIRED WHEN INSTALLING STREET TREES. THE ROOT BARRIER SHALL BE OF THE BIO-BARRIER TYPE AND A MINIMUM OF EIGHTEEN (18") INCHES WIDE. ANY SUBSTITUTION SHALL BE APPROVED BY THE CITY FORESTER. THE ROOT-CONTROL SYSTEM IS TO BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. TREE OPENINGS IN THE SIDEWALK SHALL HAVE THE BIO-BARRIER INSTALLED ALONG THE FACE OF THE TREE OPENING WHICH IS PARALLEL TO THE STREET AND CLOSEST TO THE PROPERTY LINE, OVERLAPPING THE NEAREST TWO CORNERS BY APPROXIMATELY FOUR (4") INCHES. WHERE TREES ARE TO BE PLANTED IN A PARKWAY OR PLANTING STRIP BETWEEN CURB AND SIDEWALK, THE BARRIER SHALL BE INSTALLED SOURCE. THE LENGTH OF THE BARRIER SHALL BE A MINIMUM LENGTH EQUAL TO THE SPREAD OF THE TREE CANOPY AT MATURITY PLUS TEN (10') FEET.

### **UNDERGROUND CONDUIT NOTE**

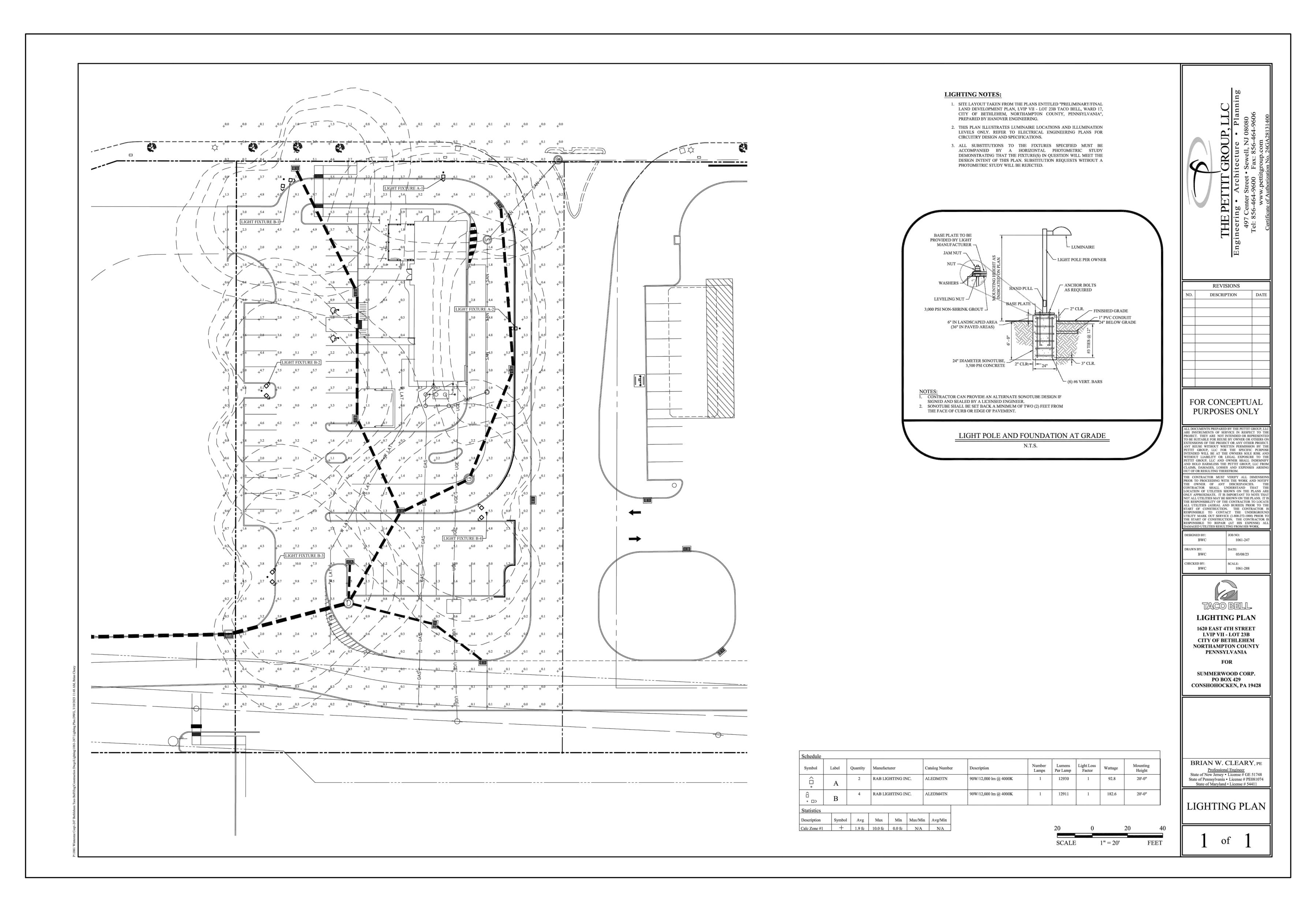
THE CONTRACTOR SHALL EXERCISE EXTREME CARE WHEN CUTTING IN THE DRIVEWAY APRONS TO AVOID DAMAGE TO UNDERGROUND POWER LINES. IF DAMAGED, IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO REPAIR, MOVE, OR READJUST ANY CONDUIT OR POWER FEEDS.

### EXISTING TREE NOTE

1. NO EXISTING TREES GREATER THAN 8" IN DIAMETER ARE ANTICIPATED TO BE REMOVED FOR THIS PROJECT. ALL THE EXISTING VEGETATION ON—SITE ARE NOT IN GOOD CONDITION AND ARE SCRUB LIKE SPECIES.



LANDSCAPE ISLANDS (1,477 S.F.) LANDSCAPE BED PLANTINGS (1,072 S.F.) LANDSCAPING AREAS EXHIBI



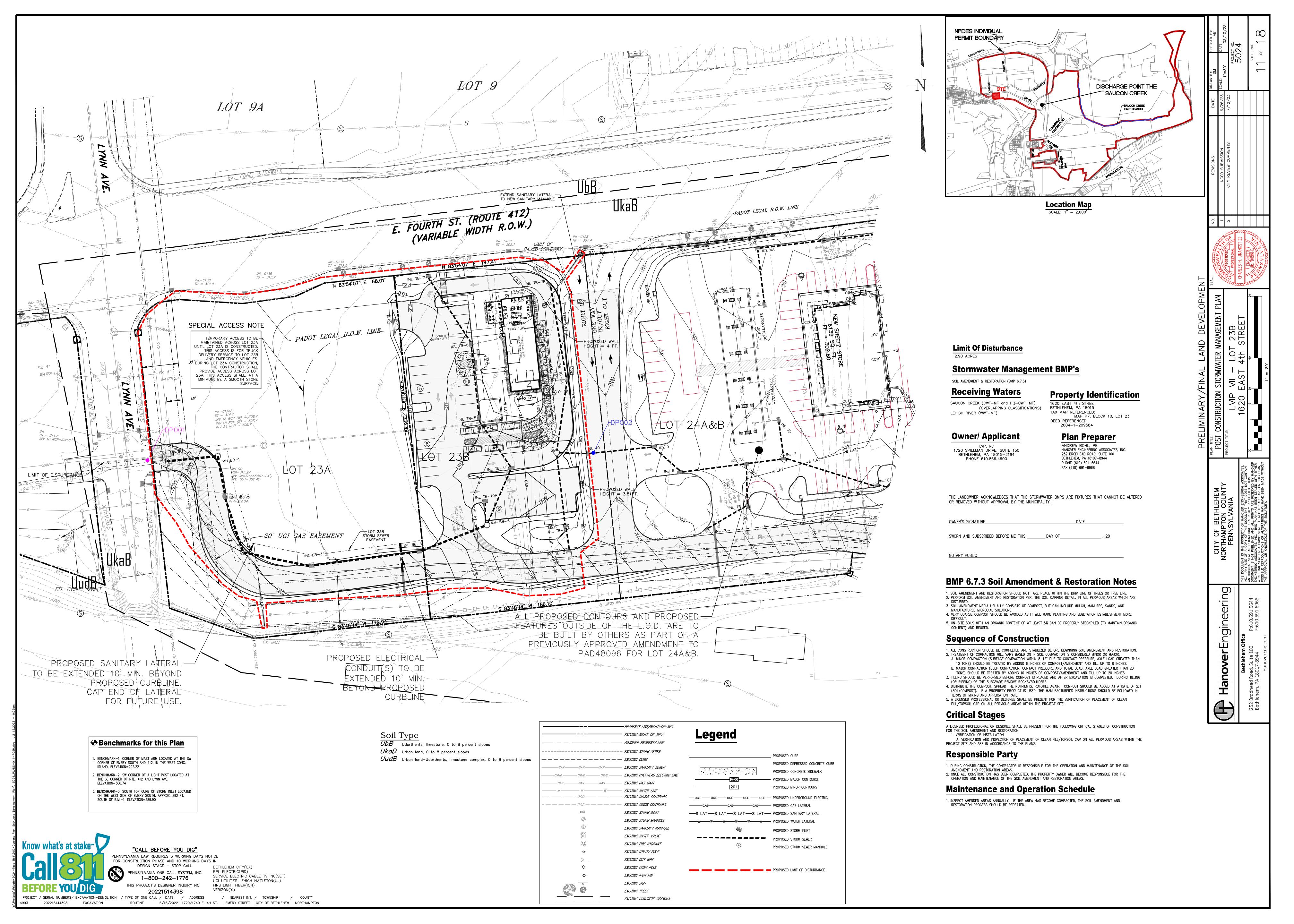
HanoverEng.com

CITY OF BETHLEHEM
NORTHAMPTON COUNTY
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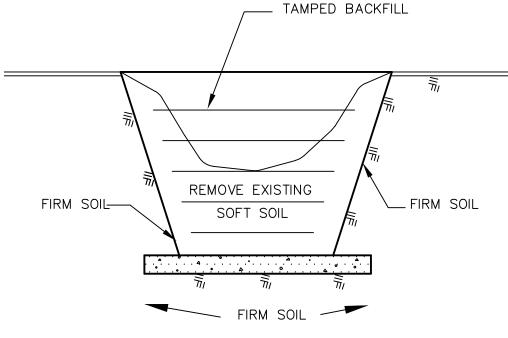
### SOIL CAPPING DETAIL (FOR USE IN UNSUITABLE SOIL AREAS TO BE

LANDSCAPED/SEEDED)

NOT TO SCALE

### **Soil Amendment Note**

ALL PERVIOUS AREAS WHICH ARE DISTURBED SHALL BE CONSIDERED AMENDED SOILS.



#### SINKHOLE IN SOIL

EXCAVATE DOWN TO ROCK TO SINKHOLE THROAT OR TO A DEPTH OF 15 FEET BELOW GRADE, WHICHEVER OCCURS FIRST.

IF ROCK IS ENCOUNTERED WITHIN 10 FEET, STOP EXCAVATION.

THE LIMIT OF EXCAVATION SHALL BE DETERMINED BY THE 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 FOUR (4) FEET OF CONCRETE EXTENDING AT LEAST 1 FOOT INTO FIRM SOIL. IF THE SOFT ZONE IS LARGE (+3FT.), REINFORCING STEEL SHOULD BE INCLUDED WITHIN THE CONCRETE CAP WITH 1" DIAMETER REBAR AT 24" ON CENTER EACH WAY. THE LIMIT OF CONCRETE SHOULD BE DETERMINED BY THE

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

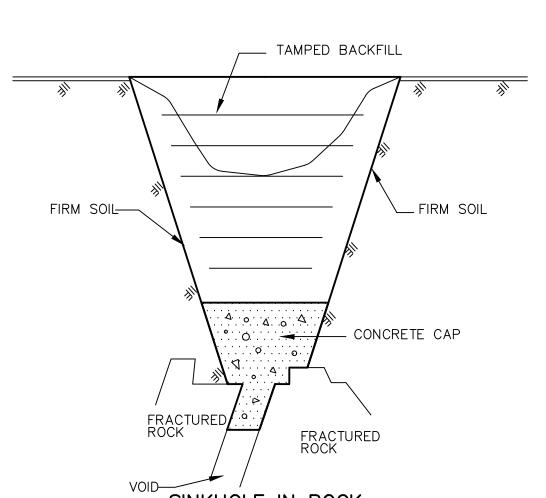
BACKFILL HOLE ABOVE EXISTING GRADE TO DIVERT SURFACE WATER.

WHEN SINKHOLE IS UNDER A PROPOSED UTILITY. CONCRETE IS TO

BE SET 6" BELOW THE UTILITY TO ALLOW FOR A STONE BEDDING.

THE ENGINEER.

#### SINKHOLE REPAIR DETAILS $N \cdot T \cdot S$



## SINKHOLE IN ROCK

- 1. EXCAVATE DOWN TO ROCK TO SINKHOLE THROAT OR TO A DEPTH OF 15 FEET BELOW GRADE, WHICHEVER OCCURS FIRST. 2. IF ROCK IS ENCOUNTERED, EXPOSE THE ROCK SURFACE AND INSTALL HIGH SUMP CEMENT INTO VOIDS AND CREVICES UNTIL VOIDS ARE FILLED AND A CAP COVERS THE AREA. THE LIMIT OF EXCAVATION AND CONCRETE SHALL BE DETERMINED BY THE ENGINEER.

  3. AFTER CONCRETE HAS SET OVERNIGHT, BACKFILL HOLE WITH RELATIVELY IMPERMEABLE CLAY SOIL. COMPACT SOIL IN 6" LIFTS WITH A POWER TAMPER OR RAMMER. THE TOP THREE (3) FEET SHALL BE BACK FILLED WITH 2RC CRUSHED AGGREGATE.

  4. BACKFILL HOLE ABOVE EXISTING GRADE TO DIVERT SURFACE WATER.
- 5. WHEN SINKHOLE IS UNDER A PROPOSED UTILITY. CONCRETE IS TO BE SET 6" BELOW THE UTILITY TO ALLOW FOR A STONE BEDDING.

#### "CALL BEFORE YOU DIG" PENNSYLVANIA LAW REQUIRES 3 WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND 10 WORKING DAYS IN DESIGN STAGE - STOP CALL BETHLEHEM CITY(QX) PPL ELECTRIC(PID) PENNSYLVANIA ONE CALL SYSTEM, INC. SERVICE ELECTRIC CABLE TV INC(SET) 1-800-242-1776 UGI UTILITIES LEHIGH HAZLETON(UJ) THIS PROJECT'S DESIGNER INQUIRY NO. FIRSTLIGHT FIBER(ION) VERIZON(YI) 20221514398 PROJECT / SERIAL NUMBERS / EXCAVATION - DEMOLITION / TYPE OF ONE CALL / DATE / ADDRESS / NEAREST INT. / TOWNSHIP / COUNTY 202215144398 EXCAVATION ROUTINE 6/15/2022 1720/1740 E. 4H ST. EMERY STREET CITY OF BETHLEHEM NORTHAMPTON

#### 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.

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.

### **SOIL LIMITATIONS**

LIMITATIONS	RESOLUTIONS
CUTBANKS CAVE	LAYBACK SLOPES
CORROSIVE TO CONCRETE/STEEL	CATHODIC PROTECTION AND/OR CORROSION RESISTANT
DEPTH TO SATURATED ZONE (SEASONAL HIGH WATER TABLE)	KNOW DEPTH TO SATURATION ZONE AND AVOID
HYDRIC / HYDRIC INCLUSIONS	AVOID
LOW STRENGTH / LANDSLIDE PRONE	LAYBACK SLOPES - DESIGN FOR CONDITION
SLOW PERCOLATIONS	DRAINAGE DITCH
PIPING	TEMPORARILY LOWER GROUND WATER TABLE OR PROVIDE FILTERS
FROST ACTION	LOWER FOOTINGS BELOW FROST DEPTHS, PROVIDE POSITIVE SUBGRADE
SHRINK - SWELL	AVOID USE OF HIGHLY PLASTIC CLAYS IN BUILDING AREA
POTENTIAL SINKHOLE	PLUG OR MITIGATE KNOWN SINKHOLES, PROVIDE POSITIVE SURFACE
DROUGHTY	APPLY COMPOST IF MOISTURE RETENTION IS REQUIRED
EASILY ERODABLE	TAKE EXTRA CARE IN IMPLEMENTATION OF ESPC PLAN
FLOODING	USE PUMPED WATER FILTER BAG OR AVOID
POOR SOURCE OF TOPSOIL	IMPORT TOPSOIL
PONDING	USE PUMPED WATER FILTER BAG OR AVOID

	STORM TACO COLLECT CHART								
NAME	TYPE	TOP	INV. IN	INV. OUT	PIPE DIA.	LENGTH	MATERIAL	SLOPE	DOWNSTREAM STRUCTURE
EX. MH 9C	48" DIA MH	RIM=315.31	302.65 (MH-BB-1)						
INL-10A	STD BOX, M TOP	TG=309.33		306.53	15"	23.39'	HDPE	1.24%	MH BB-5
INL-BB-2	TYPE 4 BOX, C TOP	TC=314.87	303.30 (MH-BB-2)	303.20	24"	39.60'	HDPE	0.50%	MH-BB-1
INL-BB-3	TYPE 4 BOX, M TOP	TG=313.97	304.12 (INL BB-4)	304.02	24"	67.65'	HDPE	0.50%	MH-BB-2
INL 10	STD BOX, C TOP	TC=305.48	302.43 (MH TB-3)						
INL BB-4	TYPE 4 BOX, C TOP	TC=314.20	304.75 (MH BB-5)	304.65	24"	105.88	HDPE	0.50%	INL-BB-3
INL TB-1	STD BOX, M TOP	TG=308.97	305.45 (INL TB-2)	305.35	15"	72.40'	HDPE	0.50%	MH TB-3
INL TB-2	STD BOX, C TOP	TC=308.84		305.59	15"	23.29'	HDPE	0.59%	INL TB-1
INL TB-3A	STD BOX, C TOP	TC=311.08	306.72 (INL TB-3B)	306.62	18"	72.39'	HDPE	0.75%	MH TB-3
INL TB-3B	STD BOX, C TOP	TC=310.97		307.19	18"	94.67	HDPE	0.50%	INL TB-3A
INL TB-4	STD BOX, C TOP	TC=309.71	306.21 (INL TB-5)	306.11	18"	59.18'	HDPE	0.92%	MH BB-5
INL TB-5	STD BOX, C TOP	TC=310.48	306.81 (INL TB-6)	306.71	18"	58.74'	HDPE	0.86%	INL TB-4
INL TB-6	STD BOX, C TOP	TC=311.20	307.42 (INL TB-7)	307.32	18"	71.76'	HDPE	0.70%	INL TB-5
INL TB-7	STD BOX, M TOP	TG=311.00		307.90	18"	79.00'	HDPE	0.61%	INL TB-6
MH-BB-1	48" DIA MH	RIM=314.77	303.00 (INL-BB-2)	302.90	24"	51.96'	HDPE	0.48%	EX. MH 9C
MH-BB-2	60" DIA MH	RIM=314.98	303.69 (INL-BB-3)	303.59	24"	57.19'	HDPE	0.50%	INL-BB-2
MH BB-5	60" DIA MH	RIM=310.31	305.57 (INL TB-4) 306.24 (INL-10A)	305.10	24"	70.41'	HDPE	0.50%	INL BB-4
MH TB-3	48" DIA MH	RIM=309.85	304.99 (INL TB-1) 306.08 (INL TB-3A)	303.85	18"	29.16'	HDPE	4.87%	INL 100

#### **PCSM Standard Notes:**

#### <u>GENERAL</u>

THE MAINTENANCE OF THE STORMWATER FACILITIES ARE THE RESPONSIBILITY OF THE PROPERTY OWNER. THE OWNER'S DEED AND THE DEEDS TO ANY SUBSEQUENT OWNER, SHALL NOTE THAT THE OWNER SHALL ACCEPT THE MAINTENANCE RESPONSIBILITIES OF ANY FACILITIES NOT DEDICATED. THE MUNICIPALITY SHALI BE PERMITTED TO INSPECT THE STORMWATER FACILITIES ON, AT LEAST, AN ANNUAL SCHEDULE TO ENSURE THAT ANY NECESSARY CORRECTIVE WORK IS PERFORMED IN A TIMELY MANNER.

ANY REVISIONS TO THE PCSM PLAN WILL REQUIRE CONSERVATION DISTRICT APPROVAL

#### PERMIT TERMINATION

UPON PERMANENT STABILIZATION OF THE EARTH DISTURBANCE ACTIVITY UNDER \$102.22(a)(2) (RELATING TO PERMANENT STABILIZATION), AND INSTALLATION OF BMPS IN ACCORDANCE WITH AN APPROVED PLAN PREPARED AND IMPLEMENTED IN ACCORDANCE WITH \$102.4 AND \$102.8 (RELATING TO EROSION AND SEDIMENT CONTROL REQUIREMENTS; AND PCSM REQUIREMENTS), THE PERMITTEE OR CO-PERMITTEE SHALL SUBMIT A NOTICE OF TERMINATION TO THE DEPARTMENT OR CONSERVATION DISTRICT.

- THE NOTICE OF TERMINATION MUST INCLUDE: (1) THE FACILITY NAME, ADDRESS AND LOCATION.
- (2) THE OPERATOR NAME AND ADDRESS.
- (3) THE PERMIT NUMBER.
- (4) THE REASON FOR PERMIT TERMINATION.
- (5) IDENTIFICATION OF THE PERSONS WHO HAVE AGREED TO AND WILL BE RESPONSIBLE FOR LONG-TERM OPERATION AND MAINTENANCE OF THE PCSM BMPS IN ACCORDANCE WITH \$102.8(m) AND PROOF OF COMPLIANCE WITH \$102.8(m)(2).

#### PCSM REQUIREMENTS

PCSM REPORTING AND RECORDKEEPING: THE PCSM PLAN, INSPECTION REPORTS AND MONITORING RECORDS SHALL BE AVAILABLE FOR REVIEW AND INSPECTION BY THE DEPARTMENT OR THE CONSERVATION DISTRICT.

<u>LICENSED PROFESSIONAL OVERSIGHT OF CRITICAL STAGES:</u> A LICENSED PROFESSIONAL OR A DESIGNEE SHALL BE PRESENT ONSITE AND BE RESPONSIBLE DURING CRITICAL STAGES OF IMPLEMENTATION OF THE APPROVED PCSM PLAN. THE CRITICAL STAGES MAY INCLUDE THE INSTALLATION OF UNDERGROUND TREATMENT OR STORAGE BMPS, STRUCTURALLY ENGINEERED BMPS, OR OTHER BMPS AS DEEMED APPROPRIATE BY THE DEPARTMENT OR THE CONSERVATION DISTRICT.

FINAL CERTIFICATION: THE PERMITTEE SHALL INCLUDE WITH THE NOTICE OF TERMINATION "RECORD DRAWINGS" WITH A FINAL CERTIFICATION STATEMENT FROM A LICENSED PROFESSIONAL, WHICH READS AS FOLLOWS: "I (NAME) DO HEREBY CERTIFY PURSUANT TO THE PENALTIES OF 18 PA.C.S.A. §4904 TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, THAT THE ACCOMPANYING RECORD DRAWINGS ACCURATELY REFLECT THE AS-BUILT CONDITIONS, ARE TRUE AND CORRECT, AND ARE IN CONFORMANCE WITH CHAPTER 102 OF THE RULES AND REGULATIONS OF THE DEPARTMENT OF ENVIRONMENTAL PROTECTION AND THAT THE PROJECT SITE WAS CONSTRUCTED IN ACCORDANCE WITH THE APPROVED PCSM PLAN, ALL APPROVED PLAN CHANGES AND ACCEPTED CONSTRUCTION PRACTICES."

- (1) THE PERMITTEE SHALL RETAIN A COPY OF THE RECORD DRAWINGS AS A PART OF THE APPROVED
- (2) THE PERMITTEE SHALL PROVIDE A COPY OF THE RECORD DRAWINGS AS A PART OF THE APPROVED PCSM PLAN TO THE PERSON IDENTIFIED IN THIS SECTION AS BEING RESPONSIBLE FOR THE LONG-TERM OPERATION AND MAINTENANCE OF THE PCSM BMPS.

#### PCSM LONG TERM OPERATIONS AND MAINTENANCE REQUIREMENTS

UNTIL THE PERMITTEE OR CO-PERMITTEE HAS RECEIVED WRITTEN APPROVAL OF A NOTICE OF TERMINATION, THE PERMITTEE OR CO-PERMITTEE WILL REMAIN RESPONSIBLE FOR COMPLIANCE WITH THE PERMIT TERMS AND CONDITIONS INCLUDING LONG-TERM OPERATION AND MAINTENANCE FOR ALL PCSM BMPS ON THE PROJECT SITE AND IS RESPONSIBLE FOR VIOLATIONS OCCURRING ON THE PROJECT SITE. THE DEPARTMENT OR CONSERVATION DISTRICT WILL CONDUCT A FINAL INSPECTION AND APPROVE OR DENY THE NOTICE OF TERMINATION WITHIN 30 DAYS.

THE PERMITTEE OR CO-PERMITTEE SHALL BE RESPONSIBLE FOR LONG-TERM OPERATION AND MAINTENANCE OF PCSM BMPS UNLESS A DIFFERENT PERSON IS IDENTIFIED IN THE NOTICE OF TERMINATION AND HAS AGREED TO LONG-TERM OPERATION AND MAINTENANCE OF PCSM BMPS.

FOR ANY PROPERTY CONTAINING A PCSM BMP, THE PERMITTEE OR CO-PERMITTEE SHALL RECORD AN INSTRUMENT WITH THE RECORDER OF DEEDS WHICH WILL ASSURE DISCLOSURE OF THE PCSM BMP AND THE RELATED OBLIGATIONS IN THE ORDINARY COURSE OF A TITLE SEARCH OF THE SUBJECT PROPERTY. THE RECORDED INSTRUMENT MUST IDENTIFY THE PCSM BMP, PROVIDE FOR NECESSARY ACCESS RELATED TO LONG-TERM OPERATION AND MAINTENANCE FOR PCSM BMPS AND PROVIDE NOTICE THAT THE RESPONSIBILITY FOR LONG-TERM OPERATION AND MAINTENANCE OF THE PCSM BMP IS A COVENANT THAT RUNS WITH THE LAND THAT IS BINDING UPON AND ENFORCEABLE BY SUBSEQUENT GRANTEES, AND PROVIDE PROOF OF FILING WITH THE NOTICE OF TERMINATION UNDER \$102.7(b)(5) RELATING TO PERMIT TERMINATION.

THE PERSON RESPONSIBLE FOR PERFORMING LONG-TERM OPERATION AND MAINTENANCE MAY ENTER INTO AN AGREEMENT WITH ANOTHER PERSON INCLUDING A CONSERVATION DISTRICT, NONPROFIT ORGANIZATION, MUNICIPALITY, AUTHORITY, PRIVATE CORPORATION OR OTHER PERSON, TO TRANSFER THE RESPONSIBILITY FOR PCSM BMPS OR TO PERFORM LONG-TERM OPERATION AND MAINTENANCE AND PROVIDE NOTICE THEREOF TO THE DEPARTMENT.

PCSM BMPS LOCATED ON THE PROPERTY.

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

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### RECYCLING AND DISPOSAL OF MATERIALS

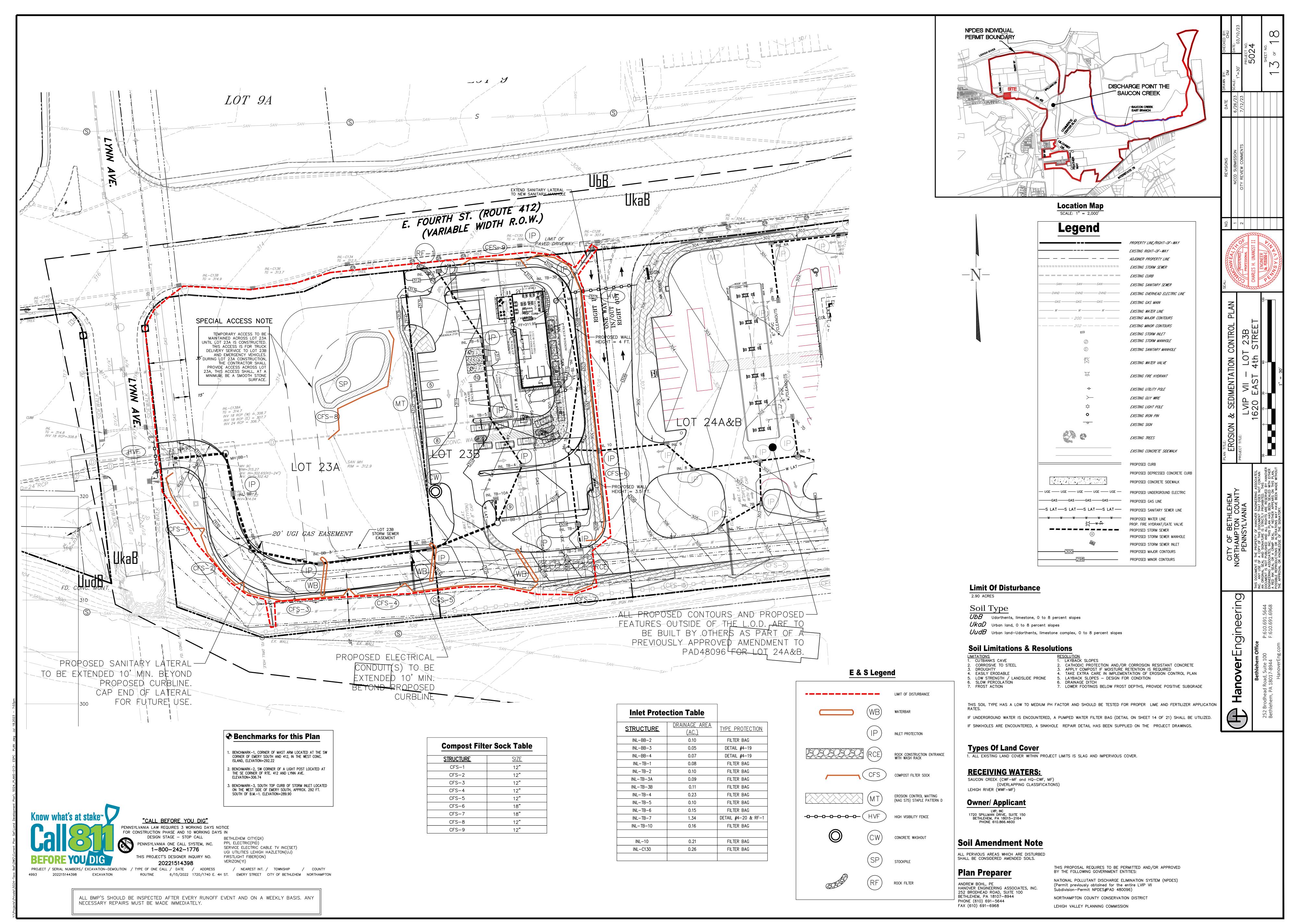
SUCH OFF-PROJECT AREAS PRIOR TO COMMENCEMENT OF WORK.

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

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 PROJECT SITE.

WASHING OF FILTER STONE AND RE-DISTRIBUTION OF WET SEDIMENT FROM BASINS, TRAPS OR OTHER FACILITIES SHALL BE ONLY PERMITTED UPHILL OF AN EFFECTIVE SEDIMENT FILTER FACILITY. SILT LADEN RUNOFF SHALL NOT BE ALLOWED TO FLOW DIRECTLY TO UNPROTECTED CATCH BASINS, PONDS, 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



#### 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
- 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

OVERSIGHT OF CRITICAL STAGES OF IMPLEMENTATION OF THE PCSM PLAN, AND A REPRESENTATIVE FROM THE LOCAL

- 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 IE 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
- 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
- 2. 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

HYDRO MULCH 1 TON

MULCHED.

OF 2 INCHES OF TOPSOIL.

- 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 CHALL 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.

#### **MULCH APPLICATION RATES** APPLICATION RATE (MIN.) PER ACRE | PER 1.000 SQ. FT. | PER 1.000 SQ. YD THER WHEAT OR OAT STRAW, FREE OF WEEDS, NOT 1,240 LB. STRAW 3 TONS 140 LB. CHOPPED OR FINELY BROKEN TIMOTHY, MIXED CLOVER AND TIMOTHY OR OTHER 3 TONS 140 LB. NATIVE FORAGE GRASSES 185-275 LB. 1,650-2,500 LB. MAY PREVENT GERMINATION OF GRASSES AND LEGUMES WOOD CHIPS 4-6 TONS

#### **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

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.

MUST HAVE TOPSOIL REPLACED AND THEN MUST BE RE-SEEDED AND

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 EACH RUNOFF EVENT AND ON A WEEKLY 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 CONTRACT	OR'S MIX AS STATED BELOW:			
		<u>PER</u>	<u>PER</u>	
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	MULCH SPECIFICATIONS			
TEMPORARY SEEDING -				

- 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.

- APPLY ONE TON OF LIME PER ACRE AND

- 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

#### Lime And Fertilizer Specifications

ENGINEER AND THE LOCAL COUNTY CONSERVATION DISTRICT.

#### 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.,

#### ARE NOTED ON THE PROJECT PLANS. 102.5(B)(8) MAINTENANCE OF CONTROL FACILITIES

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

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

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO BE FAMILIAR WITH, AND TO INFORM HIS WORKERS

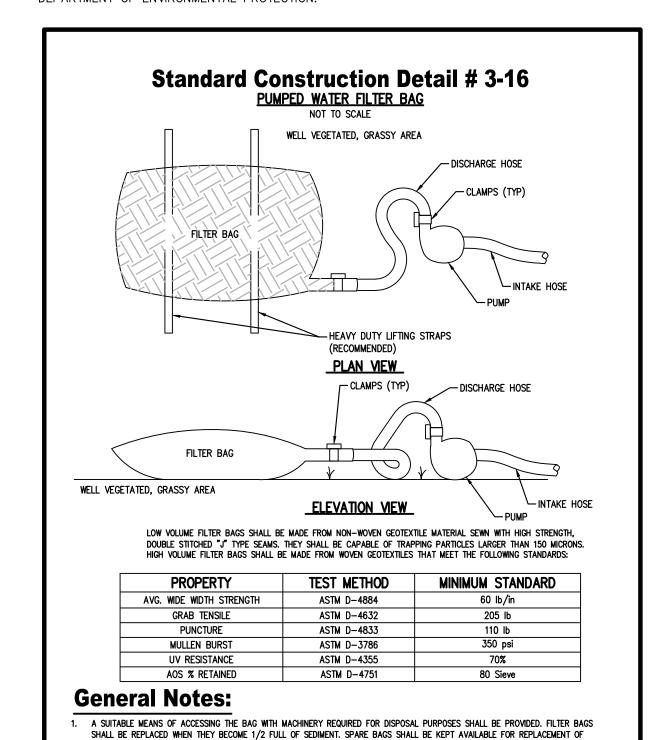
ELEVATION IN THE BOTTOM OF STORMWATER MANAGEMENT PONDS, OR THE SPECIFIED ELEVATIONS IN SEDIMENT TRAPS, MUST BE REMOVED AND STOCKPILED OR REDISTRIBUTED AND STABILIZED ON THE WASHING OF FILTER STONE AND RE-DISTRIBUTION OF WET SEDIMENT FROM BASINS, TRAPS OR OTHER FACILITIES SHALL BE ONLY PERMITTED UPHILL OF AN EFFECTIVE SEDIMENT FILTER FACILITY. SILT LADEN RUNOFF SHALL NOT BE ALLOWED TO FLOW DIRECTLY TO UNPROTECTED CATCH BASINS, PONDS, 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.

#### 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.



iose that have failed or are filled. Bags shall be placed on straps to facilitate removal unless bags come with

BAGS SHALL BE LOCATED IN WELL-VEGETATED (GRASSY) AREA, AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS. WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE UNDERLAYMENT AND FLOW PATH SHALL BE PROVIDED. BAGS MAY BE PLACED ON FILTER STONE TO INCREASE DISCHARGE CAPACITY. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5%. FOR SLOPES EXCEEDING 5%, CLEAN ROCK OR OTHER NON-ERODIBLE AND NON-POLLUTING MATERIAL MAY BE PLACED UNDER THE BAG TO REDUCE SLOPE STEEPNESS.

NO DOWNSLOPE SEDIMENT BARRIER IS REQUIRED FOR MOST INSTALLATIONS. COMPOST BERM OR COMPOST FILTER ROCK SHALL BE INSTALLED BELOW BAGS LOCATED IN HQ OR EV WATERSHEDS, WITHIN 50 FEET OF ANY RECEIVING SURFACE WATER OR WHERE GRASSY

HE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY THE PUMPING RATE SHALL BE NO GREATER THAN 750 GPM OR 1/2 THE MAXIMUM SPECIFIED BY THE MANUFACTURER, WHICHEVER IS

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

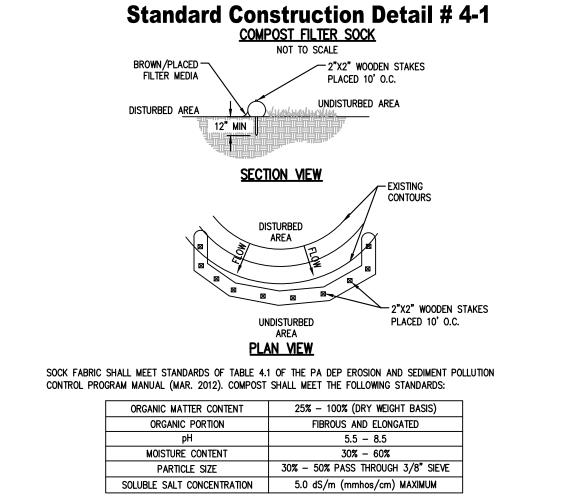
#### SEQUENCE OF CONSTRUCTION

C.PA-ONE-CALL: 1-800-242-1776

- 1. 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 B.NORTHAMPTON COUNTY CONSERVATION DISTRICT: 610-829-6276
- 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 OF ALL TOPSOIL STOCKPILES. 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 WITH WASH RACK AS SHOWN. 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 WITHIN THE LIMIT OF DISTURBANCE.
- 8. INSTALL HIGH VISIBILITY FENCING AT EXISTING ENTRANCE OFF OF 412. IMMEDIATELY STABILIZE ALL DISTURBED
- 9. PLACE ALL COMPOST FILTER SOCKS CFS-1 THROUGH CFS-7 AS SHOWN ON SHEET 13 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.
- 11. CONSTRUCT BUILDING FOOTERS AND PATIO.
- 12. ROUGH GRADE SITE INCLUDING RETAINING WALLS, PARKING AREAS, AND DRIVEWAYS. IMMEDIATELY STABILIZE DISTURBED AREAS. CONTINUE TO UTILIZE THE ROCK CONSTRUCTION ENTRANCE FOR THE ENTIRETY OF THE SITE
- 13. INSTALL STORM SEWER AFTER REMOVAL OF EXISTING INLETS AS SHOWN ON THE PLANS. PLACE INLET PROTECTION AS EACH INLET IS PLACED. INSTALL WATERBARS AT INL-BB-3 AND INL-BB-4 AS THESE INLETS ARE INSTALLED.
- 14. CONSTRUCT BUILDING AND CONNECT ROOF LEADERS TO PREVIOUSLY CONSTRUCTED STORM SEWER COLLECTION SYSTEM AS NEEDED.
- 15. INSTALL SITE UTILITIES INCLUDING SANITARY SEWER LATERAL, WATER SERVICE, GAS LATERAL, SITE LIGHTING, UNDERGROUND ELECTRIC AND COMMUNICATION LINES. IMMEDIATELY STABILIZE DISTURBED AREAS. IF STORMWATER FILLS IN EXCAVATION TRENCH, UTILIZE FILTER BAG TO REMOVE.
- 16. INSTALL ALL CONCRETE CURBING AND SIDEWALKS. ALL DISTURBANCE GENERATED DURING THE INSTALLATION OF THESE ITEMS SHOULD BE IMMEDIATELY STABILIZED.
- 17. PLACE SUBBASE STONE AGGREGATE FOR ALL AREAS TO BE PAVED.

SUFFICIENT TO RESIST SLIDING OR OTHER MOVEMENTS.

- 18. FINISH PAVING ALL ASPHALT AREAS AND LINE STRIPE PARKING FACILITIES AND DRIVEWAYS. 19. INSTALL CAPPING MATERIAL AND PROPOSED LANDSCAPING. IMMEDIATELY STABILIZE ALL AREAS.
- 20. ALL E&S BMPs SHALL BE REMOVED AFTER ALL VEGETATED AREAS HAVE ACHIEVED FINAL STABILIZATION. ACCUMULATED SEDIMENT SHALL BE REMOVED IN ACCORDANCE WITH THE PLANS. 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
- 21. 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



#### **General Notes:**

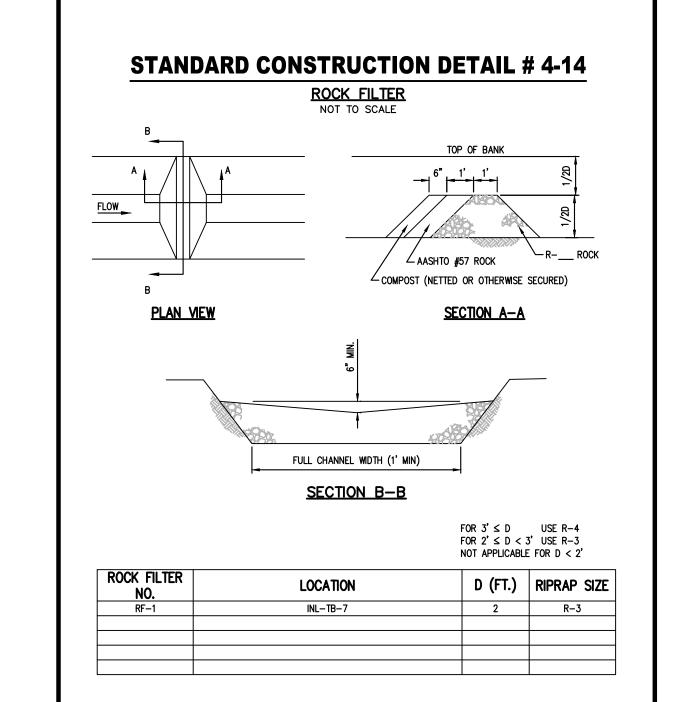
1. COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE SOCK SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN SOCK ALIGNMENT (SEE FIGURE 4.1 OF THE PA DEP EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL, MAR. 2012). MAXIMUM SLOPE LENGTH ABOVE ANY SOCK 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

co		NOTE 4.1 IC MINIMUM SPECIFICA	TIONS		
3 mil HDPE	5 mil HDPE	5 mil HDPE	MULTI-FILAMENT POLYPROPYLENE (MFPP)	HEAVY DUTY MULTI-FILAMENT POLYPROPYLENE (HDMFPP)	
PHOTO — DEGRADABLE	PHOTO — DEGRADABLE	BIO – DEGRADABLE	PHOTO — DEGRADABLE	PHOTO — DEGRADABLE	
12" 18"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 24" 32"	
3/8"	3/8"	3/8"	3/8"	1/8"	
·	26 psi	26 psi	44 psi	202 psi	
23% AT 1000 HR.	23% AT 1000 HR.		100% AT 1000 HR.	100% AT 1000 HR.	
6 MONTHS	9 MONTHS	6 MONTHS	1 YEAR	2 YEARS	
	TWO-PLY	SYSTEMS			
			HDPE BIAXIAL NET		
NITAINMENT NETTING		CONTINUOUSLY WOUND			
NIAINMENT NETTING		FUSION—WELD JUNCTURES			
		3/4" X 3/4" MAX. APERTURE SIZE			
FILTRATION MESH		COMPOSITE POLYPROPYLENE FABRIC (WOVEN LAYER & NON-WOVEN FLEECE MECHANICALLY FUSED VIA NEEDLE PUNCH)			
		3/16" MAX. APERTURE SIZE			
	3 mil HDPE  PHOTO - DEGRADABLE  12" 18"  3/8"  23% AT 1000 HR.  6 MONTHS	3 mil HDPE   5 mil HDPE	3 mil HDPE   5 mil HDPE   5 mil HDPE	COMPOST SOCK FABRIC MINIMUM SPECIFICATIONS   MULTI-FILAMENT POLYPROPYLENE (MFPP)	

<b>TABLE 4.2</b>						
COMPOST 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					

SOCK FABRICS COMPOSED OF BURLAP MAY BE USED ON PROJECTS LASTING 6 MONTHS OR LESS.



1. SEDIMENT SHALL BE REMOVED WHEN ACCUMULATIONS REACH 1/2 THE HEIGHT OF THE

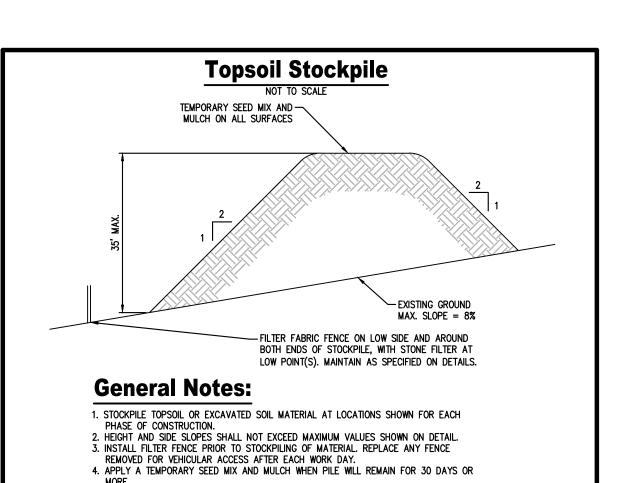
. IMMEDIATELY UPON STABILIZATION OF EACH CHANNEL, INSTALLER SHALL REMOVE

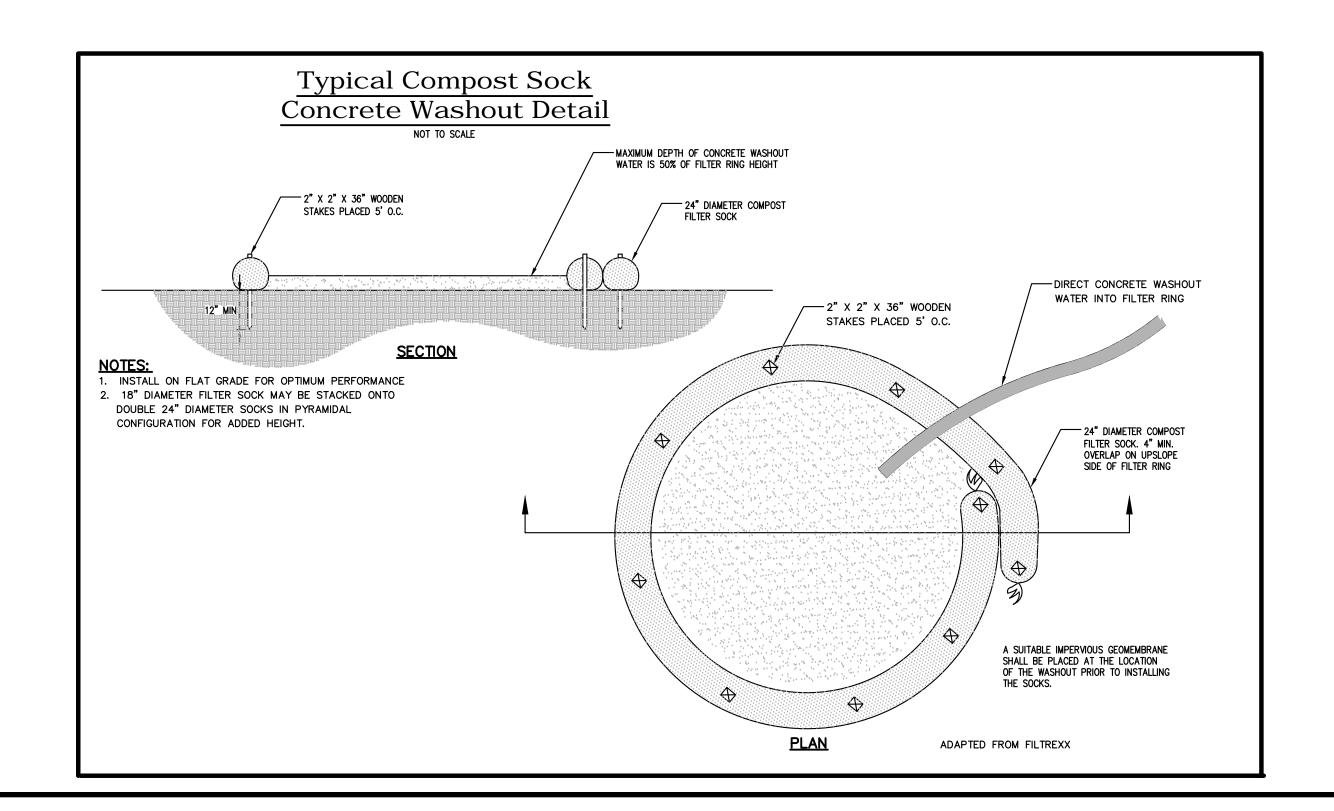
ACCUMULATED SEDIMENT, REMOVE ROCK FILTER, AND STABILIZE DISTURBED AREAS.

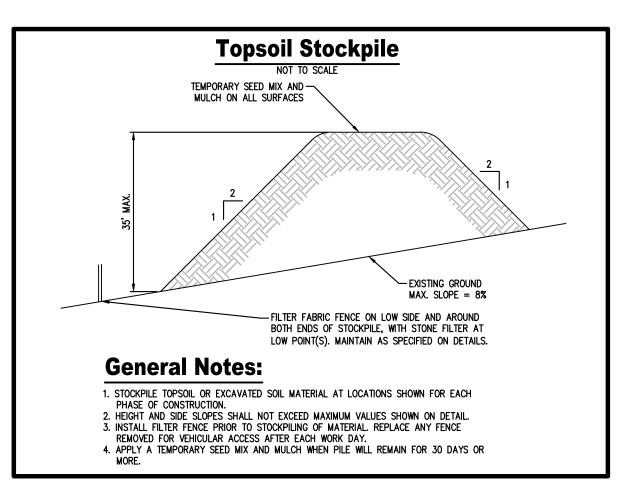
**GENERAL NOTES:** 

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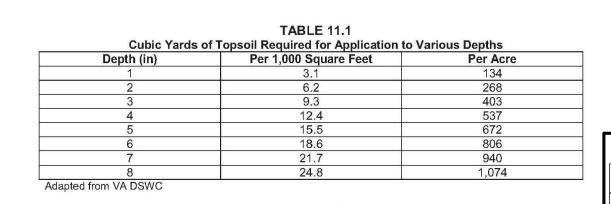
**(U)** 







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



#### **TABLE 11.2 Soil Amendment Application Rate Equivalents**

1889 TWENT YES 1871 TO 1871	Perma	nent 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. orary Seeding Appl	210 lb.	Or as per soil test; may not be required in agricultural fields
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 Specification				าร ้
Species	Growth Habit <sup>1</sup>	Wet Soil	Dry Site	Low Fertility	Acid Soil (pH 5-5.5) <sup>2</sup>	Purity (%)	Ready Germ (%)	Hard Seed (%)	Total Germ (%)	Seeds/lk (1,000s)
Warm-Season Grass	ses					2				
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								-23	
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 <sup>5</sup>										
Crownvetch	sod	no	yes	yes	no	98	40	30	65	120
Birdsfoot trefoil <sup>6</sup>	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

- 1 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.
- <sup>2</sup> Once established, plants may grow at a somewhat lower pH, but cover generally is only adequate at pH 6.0 or above. 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. Switchgrass seed is sold only on the basis of PLS.
- <sup>5</sup> Need specific legume inoculant. Inoculant suitable for garden peas and sweetpeas usually is satisfactory for flatpea. <sup>6</sup> Birdsfoot trefoil is adapted over the entire state, except in the extreme southeast where crown and root rots may injure stands.
- Penn State, "Erosion Control and Conservation Plantings on Noncropland,"

**Seed Mixture** (Select one mixture) Variable drainage Slopes and Banks (mowed 1 plus 2 or 10 Well-drained Slopes and Banks (grazed/hay) 1 plus 2, 3, or 4 Shallow, less than 3 feet deep 1 plus 2, 3, or 4 Deep, not mowed 1 plus

Recommended Seed Mixtures for Stabilizing Disturbed Areas

- Gullies and Eroded Areas Erosion Control Facilities (BMPs) Sod waterways, spillways, frequent water flow areas Drainage ditches Pond banks, dikes, levees, dams, diversion channels, And occasional water flow areas Mowed areas 1 plus Non-mowed areas For hay or silage on diversion channels and occasional water flow areas Non-mowed areas Pure crownvetch<sup>3</sup> 1 plus 1 plus 5, 7, 8, 9, or 10 Well-drained 1 plus Variable drained Poorly drained 1 plus Areas mowed several times per year 1 plus Utility Right-of-way 1 plus 5, 8, or 12<sup>1</sup> Well-drained 1 plus Variable drained Well-drained areas for grazing/hay Effluent Disposal Areas Sanitary Landfills Surface mines Spoils, mine wastes, fly ash, slag, settling basin
- 1. For seed mixtures 11 and 12, only use spring oats or weeping lovegrass (included in mix) as nurse crop. Contact the Pennsylvania Department of Transportation district roadside specialist for specific suggestions o treatment techniques and management practices. 3. Seed mixtures containing crown vetch should not be used in areas adjacent to wetlands or stream channels due to the invasive nature of this species.

Residues and other severely disturbed areas

Severely disturbed areas for grazing/hay

due to the invasive nature of this species.

(lime to soil test)

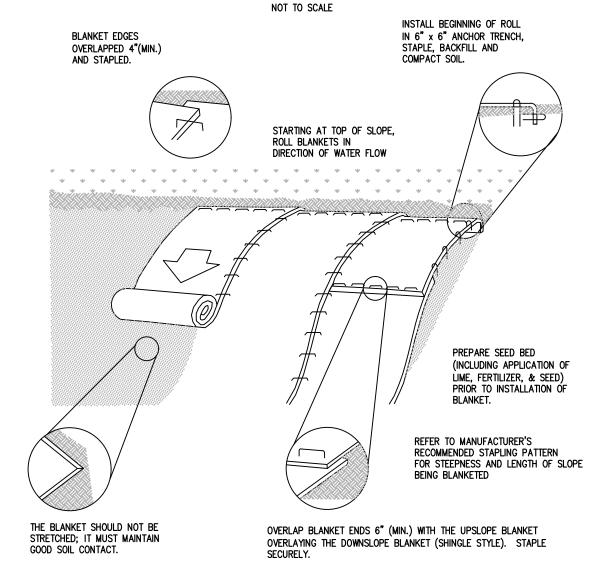
1 plus 3, 4, 5, 7, 8, 9, 11<sup>1</sup>, or 12<sup>1</sup>

#### **Recommended Seed Mixtures for Stabilizing Disturbed Areas**

	Nurse	Seed Mixture
Site Condition	Crop	(Select one mixture)
Slopes and Banks (not mowed)		,
Well-drained	1 plus	3, 5, 8, or 12 <sup>1</sup>
Variable drainage	1 plus	3 or 7
Slopes and Banks (mowed)	11 12 2000 200 400	
Well-drained	1 plus	2 or 10
Slopes and Banks (grazed/hay)	a all	The contraction of the contracti
Well-drained	1 plus	2, 3, or 13
Gullies and Eroded Areas	1 plus	3, 5, 7, or 12 <sup>1</sup>
Erosion Control Facilities (BMPs)		
Sod waterways, spillways, frequent water flow areas	1 plus	2, 3, or 4
Drainage ditches	e Trosce	
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,	e Trossos	That reads the
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	e Transce	Tel 2009
occasional water flow areas	1 plus	3 or 13
Highways 2		
Non-mowed areas		
Pure crownvetch <sup>3</sup>	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 <sup>1</sup>
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 <sup>1</sup> , or 12 <sup>1</sup>
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 <sup>1</sup> , or 12 <sup>1</sup>
(lime to soil test)	- 00	
Severely disturbed areas for grazing/hay	1 plus	3 or 13

I. For seed mixtures 11 and 12, only use spring oats or weeping lovegrass (included in mix) as nurse crop. Contact the Pennsylvania Department of Transportation district roadside specialist for specific suggestions or treatment techniques and management practices. 3. Seed mixtures containing crown vetch should not be used in areas adjacent to wetlands or stream channels

#### **Standard Construction Detail # 11-1 EROSION CONTROL BLANKET INSTALLATION**



**General Notes:** 

For blankets with the optional North American

Green DOT System™place staples/stakes

through each of the WHITE colored dots.

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

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

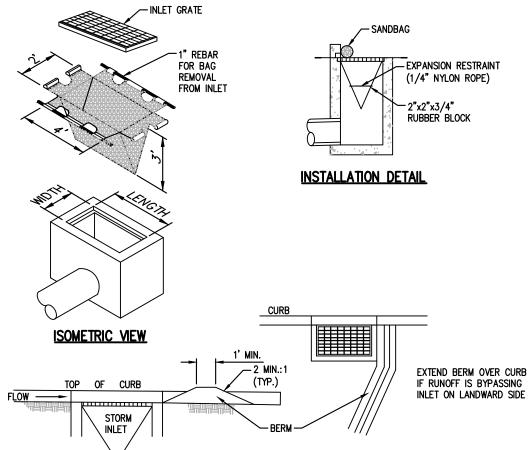
  3. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS, AND GRASS.

  4. BLANKET SHALL HAVE GOOD CONTINUOUS CONTACT WITH UNDERLYING SOIL THROUGHOUT ENTIRE LENGTH. LAY BLANKET
- LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH SOIL. DO NOT STRETCH BLANKET. 3. THE BLANKET SHALL BE STAPLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
  3. 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.

#### Staple Pattern Guide Seam Stitch™ 3.3' (1.0m) 4649 HIGHWAY 41 NORTH EVANSVILLE, IN 47725 USA 1-800-772-2040 CANADA 1-800-448-2040 www.nagreen.com 0.7 STAPLES PER SQ. YD. (0.8 STAPLES PER SQ. M) For blankets with the optional North American Green DOT System™place staples/stakes through each of the BLUE colored dots. 5cm-12.5cm) 1.15 STAPLES PER SQ. YE (1.35 STAPLES PER SQ. M 2.0 STAPLES PER SQ. M For blankets with the optional North American Green DOT System™place staples/stakes For blankets with the optional North American Green DOT System™place staples/stakes through each of the GREEN colored dots. through each of the RED colored dots. →H (5cm-12.5cm) $\circ$ $\circ \circ \circ$ do o ob 3.4 STAPLES PER SQ. YD. (4.1 STAPLES PER SQ. M) (4.5 STAPLES PER SQ. M)

'Location of Seam Stitch<sup>™</sup>will vary depending on North American Green product type:

# **STANDARD CONSTRUCTION DETAIL # 4-15** FILTER BAG INLET - TYPE C-INLET NOT TO SCALE



**GENERAL NOTES:** 

ADAPTED FROM PENNDOT RC-70, 2008 EDITION

**ELEVATION VIEW** 

- I. MAXIMUM DRAINAGE AREA = 1/2 ACRE. . INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS.

  3. ROLLED EARTHEN BERM SHALL BE MAINTAINED UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. SIX INCH MINIMUM HEIGHT ASPHALT BERM SHALL
- BE MAINTAINED UNTIL ROADWAY SURFACE RECEIVES FINAL COAT.

  4. AT A MINIMUM, THE FABRIC SHALL HAVE A MINIMUM GRAB TENSILE STRENGTH OF 120 LBS., A MINIMUM BURST STRENGTH OF 200 PSI, AND A MINIMUM TRAPEZOIDAL TEAR STRENGTH OF 50 LBS. FILTER BAGS SHALL BE CAPABLE OF TRAPPING ALL PARTICLES NOT PASSING A NO. 40 SIEVE.

  5. INLET FILTER BAGS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF 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. A SUPPLY SHALL BE MAINTAINED ON SITE FOR REPLACEMENT OF BAGS. ALL NEEDED REPAIRS SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION. DISPOSE ACCUMULATED SEDIMENT AS WELL AS ALL USED BAGS ACCORDING TO THE
- 6. DO NOT USE ON MAJOR PAVED ROADWAYS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS.

1. MAXIMUM DRAINAGE AREA = 1/2 ACRE. 2. INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS. 3. ROLLED EARTHEN BERM SHALL BE MAINTAINED UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM ON ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. EARTHEN BERM IN CHANNEL SHALL BE MAINTAINED UNTIL PERMANENT STABILIZATION IS COMPLETED OR REMAIN PERMANENTLY.

4. AT A MINIMUM, THE FABRIC SHALL HAVE A MINIMUM GRAB TENSILE STRENGTH OF 120 LBS., A MINIMUM BURST STRENGTH OF 200 PSI, AND A MINIMUM TRAPEZOIDAL TEAR STRENGTH OF 50 LBS. FILTER BAGS SHALL BE CAPABLE OF TRAPPING ALL PARTICLES NOT PASSING A NO. 40 SIEVE. 5. INLET FILTER BAGS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. BAGS SHALL BE EMPTIED AND RINSED OR REPLACED WHEN HALF FULL OR WHEN FLOW CAPACITY HAS BEEN REDUCED SO

ADAPTED FROM PENNDOT RC-70, 2008 EDITION

**ELEVATION VIEW** 

EARTHEN BERM TO BE STABILIZED-

WITH TEMPORARY OR PERMANENT

STORM INLET

**GENERAL NOTES:** 

STANDARD CONSTRUCTION DETAIL # 4-16

FILTER BAG INLET PROTECTION — TYPE M INLET

NOT TO SCALE

(1/4" NYLON ROPE)

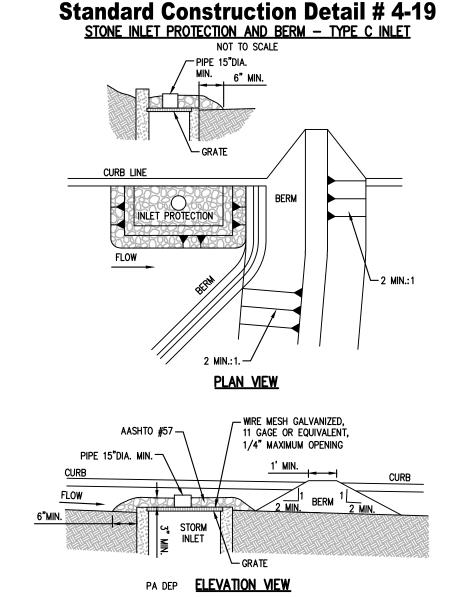
Rubber block (typ)

**INSTALLATION DETAIL** 

<u>PLAN VIEW</u>

AS TO CAUSE FLOODING OR BYPASSING OF THE INLET. DAMAGED OR CLOGGED BAGS SHALL BE REPLACED. A SUPPLY SHALL BE MAINTAINED ON SITE FOR REPLACEMENT OF BAGS. ALL NEEDED REPAIRS SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION. DISPOSE ACCUMULATED SEDIMENT AS WELL AS ALL USED BAGS ACCORDING TO THE PLAN NOTES.

6. DO NOT USE ON MAJOR PAVED ROADWAYS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS.



### **General Notes:**

MOISTURE CONTENT

PARTICLE SIZE

SOLUBLE SALT CONCENTRATION

1. INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS.

2. ROLLED EARTHEN BERM SHALL BE MAINTAINED IMMEDIATELY DOWN GRADIENT OF THE PROTECTED INLET UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. A 6" MINIMUM HEIGHT ASPHALT BERM SHALL BE MAINTAINED UNTIL ROADWAY SURFACE RECEIVES FINAL COAT. 3. STONE INLET PROTECTION AND BERM FOR A TYPE C INLET CAN BE USED IN ONE ACRE

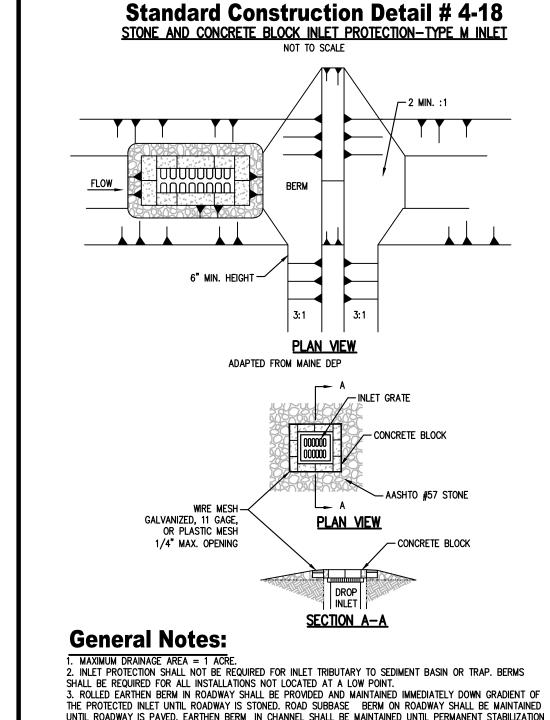
MAXIMUM DRAINAGE AREA WITH 15" OVERFLOW PIPE AND 4" HEAD. A PERFORATED PLATE

WELDED TO A METAL RISER MAY NOT BE SUBSTITUTED FOR THE WIRE MESH. A SLOTTED PLATE WELDED TO THE RISER MAY BE USED IN CONJUNCTION WITH THE WIRE MESH IF CALCULATIONS ARE PROVIDED TO SHOW SUFFICIENT CAPACITY OF THE INLET TO ACCEPT THE PEAK RUNOFF FOR A 2-YEAR STORM EVENT FROM THE TRIBUTARY DRAINAGE AREA. 4. SEDIMENT SHALL BE REMOVED WHEN IT REACHES HALF THE HEIGHT OF THE STONE. DAMAGED OR CLOGGED INSTALLATIONS SHALL BE REPAIRED OR REPLACED IMMEDIATELY. 5. DO NOT USE ON MAJOR PAVED ROADWAYS WHERE PONDING MAY CAUSE TRAFFIC 6. FOR SYSTEMS DISCHARGING TO HQ OR EV SURFACE WATER, A 6" THICK COMPOST LAYER

SHALL BE SECURELY ANCHORED ON OUTSIDE MEET THE FOLLOWING STANDARDS:	E AND OVER TOP OF STONE. COMPOST SHALL
ORGANIC MATTER CONTENT	80%-100% (DRY WEIGHT BASIS)
ORGANIC PORTION	FIBROUS AND ELONGATED
рН	5.5-8.0

98% PASS THROUGH 1" SCREEN

5.0 dS/m (mmhos/cm) MAXIMUM



JNTIL ROADWAY IS PAVED. EARTHEN BERM IN CHANNEL SHALL BE MAINTAINED UNTIL PERMANENT STABILIZATION COMPLETED OR TO REMAIN PERMANENTLY 4. TOP OF BLOCK SHALL BE AT LEAST 6 INCHES BELOW ADJACENT ROADS IF PONDED WATER WOULD POSE A 5. SEDIMENT SHALL BE REMOVED WHEN IT REACHES HALF THE HEIGHT OF THE STONE. DAMAGED OR CLOGGED NSTALLATIONS SHALL BE REPAIRED OR REPLACED IMMEDIATELY. 5. FOR SYSTEMS DISCHARGING TO AN 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:

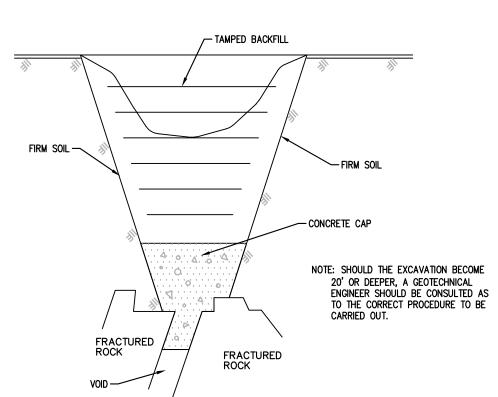
ORGANIC MATTER CONTENT	80%-100% (DRY WEIGHT BASIS)
ORGANIC PORTION	FIBROUS AND ELONGATED
рН	5.5-8.0
MOISTURE CONTENT	35%–55%
PARTICLE SIZE	98% PASS THROUGH 1" SCREEN
SOLUBLE SALT CONCENTRATION	5.0 dS/m (mmhos/cm) MAXIMUM

# 2A DGA 4"-6" Ø AGGREGATE 12"-18"ø ROCKS 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

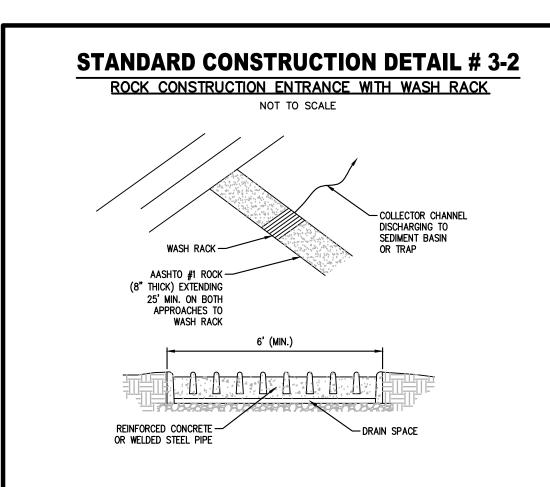
2. EXCAVATE DOWN TO ROCK TO SINKHOLE THROAT OR TO A DEPTH OF 15 FEET BELOW GRADE, WHICHEVER 3. IF ROCK IS ENCOUNTERED WITHIN 10 FEET, STOP EXCAVATION. THE LIMIT OF EXCAVATION SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER. GENERALLY, A ZONE OF SOFT, IN-FILL MATERIAL WILL BE FOUND WHICH COVERS MOST 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 EXCAVATION AND CONCRETE SHALL BE DETERMINED BY THE ENGINEER.
- 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. 5. BACKFILL HOLE ABOVE EXISTING GRADE TO DIVERT SURFACE WATER.
- 6. WHEN SINKHOLE IS UNDER A PROPOSED UTILITY. CONCRETE IS TO BE SET 6" BELOW THE UTILITY TO ALLOW FOR



**GENERAL NOTES:** 

1. WASH RACK SHALL BE 20 FEET (MIN.) WIDE OR TOTAL WIDTH OF ACCESS.
2. WASH RACK SHALL BE DESIGNED AND CONSTRUCTED TO ACCOMMODATE ANTICIPATED CONSTRUCTED VEHICULAR TRAFFIC. 3. A WATER SUPPLY SHALL BE MADE AVAILABLE TO WASH THE WHEELS OF ALL VEHICLES EXITING THE SITE.

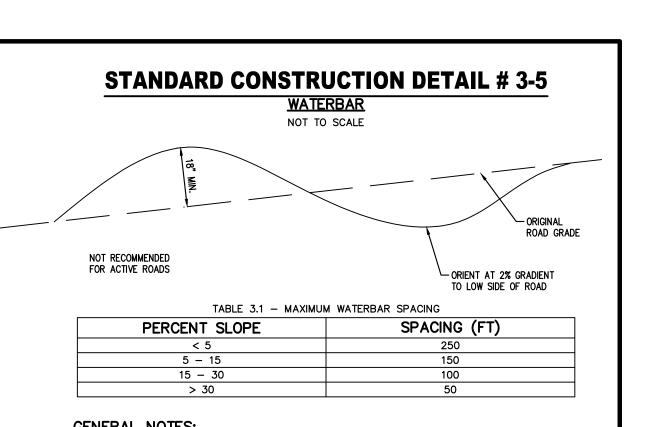
ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE OF ROCK MATERIAL SHALL BE MAINTAINED ON SITE FOR THIS PURPOSE. DRAIN SPACE UNDER WASH RACK SHALL BE KEPT OPEN AT ALL TIMES. DAMAGE TO THE WASH RACK SHALL BE REPAIRED PRIOR TO FURTHER USE OF THE RACK. ALL SEDIMENT DEPOSITED ON ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE IMMEDIATELY. WASHING THE ROADWAY OR SWEEPING THE DEPOSITS INTO ROADWAY DITCHES, SEWERS, CULVERTS, OR OTHER DRAINAGE COURSES IS NOT ACCEPTABLE.

#### **Standard Construction Detail # 4-6** ROCK FILTER OUTLET NOT TO SCALE OPTIONAL 6" COMPOST LAYER LR-3 ROCK OUTLET CROSS-SECTION - WOOD POSTS -\ FILTER FABRIC AASHTO #5 HEIGHT OF ROCK -FILTER=5/6 HEIGHT OF STRAW BALES OR FILTER FABRIC FENCE UP-SLOPE FACE **General Notes:** A ROCK FILTER OUTLET SHALL BE INSTALLED WHERE FAILURE OF A STRAW BALE BARRIER OR FILTER FABRIC FENCE HAS OCCURRED DUE TO CONCENTRATED FLOW. ANCHORED COMPOST LAYER SHALL BE USED ON UPSLOPE FACE IN HQ AND EV 2. SEDIMENT MUST BE REMOVED WHEN ACCUMULATIONS REACH 1/3 THE HEIGHT OF THE OUTLET.

For blankets with the optional North American

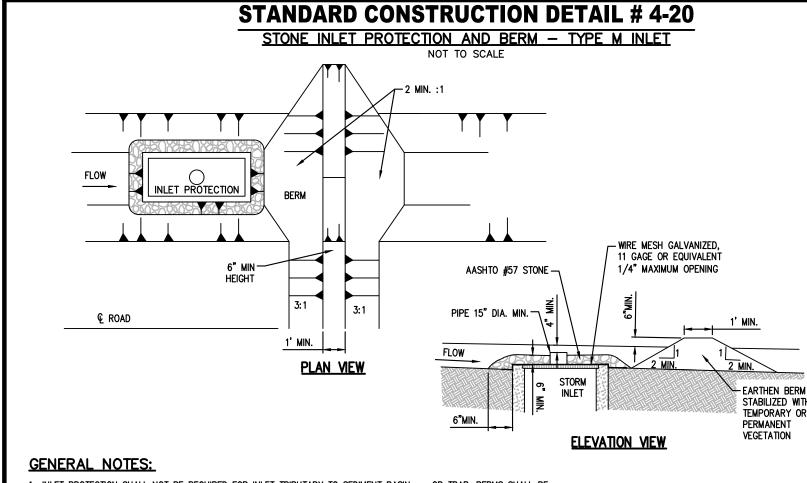
through each of the YELLOW colored dots.

Green DOT System™place staples/stakes



**GENERAL NOTES:** 1. WATERBARS SHALL DISCHARGE TO A STABLE AREA.

- 2. WATERBARS SHALL BE INSPECTED WEEKLY (DAILY ON ACTIVE ROADS) AND AFTER EACH RUNOFF EVENT. DAMAGED OR ERODED WATERBARS SHALL BE RESTORED TO ORIGINAL DIMENSIONS WITHIN 24 HOURS OF INSPECTION. 3. MAINTENANCE OF WATERBARS SHALL BE PROVIDED UNTIL ROADWAY, SKIDTRAIL, OR RIGHT-OF-WAY HAS ACHIEVED
- 4. WATERBARS ON RETIRED ROADWAYS, SKIDTRAILS, AND RIGHT-OF-WAYS SHALL BE LEFT IN PLACE AFTER PERMANENT STABILIZATION HAS BEEN ACHIEVED.



1. INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS NOT LOCATED AT A LOW POINT. 2. ROLLED EARTHEN BERM SHALL BE MAINTAINED IMMEDIATELY DOWN GRADIENT OF THE PROTECTED INLET UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. EARTHEN BERM IN CHANNEL SHALL BE MAINTAINED UNTIL PERMANENT STABILIZATION IS COMPLETED OR TO REMAIN PERMANENTLY. 3, STONE INLET PROTECTION AND BERM FOR A TYPE M INLET CAN BE USED IN ONE ACRE MAXIMUM DRAINAGE AREA WITH 15" OVERFLOW PIPE AND 4" HEAD. A PERFORATED PLATE WELDED TO A METAL RISER MAY NOT BE SUBSTITUTED FOR THE WIRE MESH. A SLOTTED PLATE WELDED TO THE RISER MAY BE USED IN CONJUNCTION WITH THE WIRE MESH IF CALCULATIONS ARE PROVIDED TO SHOW SUFFICIENT CAPACITY OF THE INLET TO ACCEPT THE PEAK RUNOFF FOR A 2-YEAR STORM EVENT FROM THE TRIBUTARY DRAINAGE AREA. TOP OF PIPE SHALL BE AT LEAST 6 INCHES BELOW ADJACENT ROADWAY IF PONDED WATER WOULD POSE A SAFETY HAZARD TO TRAFFIC. EARTHEN BERM SHALL BE 4. SEDIMENT SHALL BE REMOVED WHEN IT REACHES HALF THE HEIGHT OF THE STONE. DAMAGED OR CLOGGED

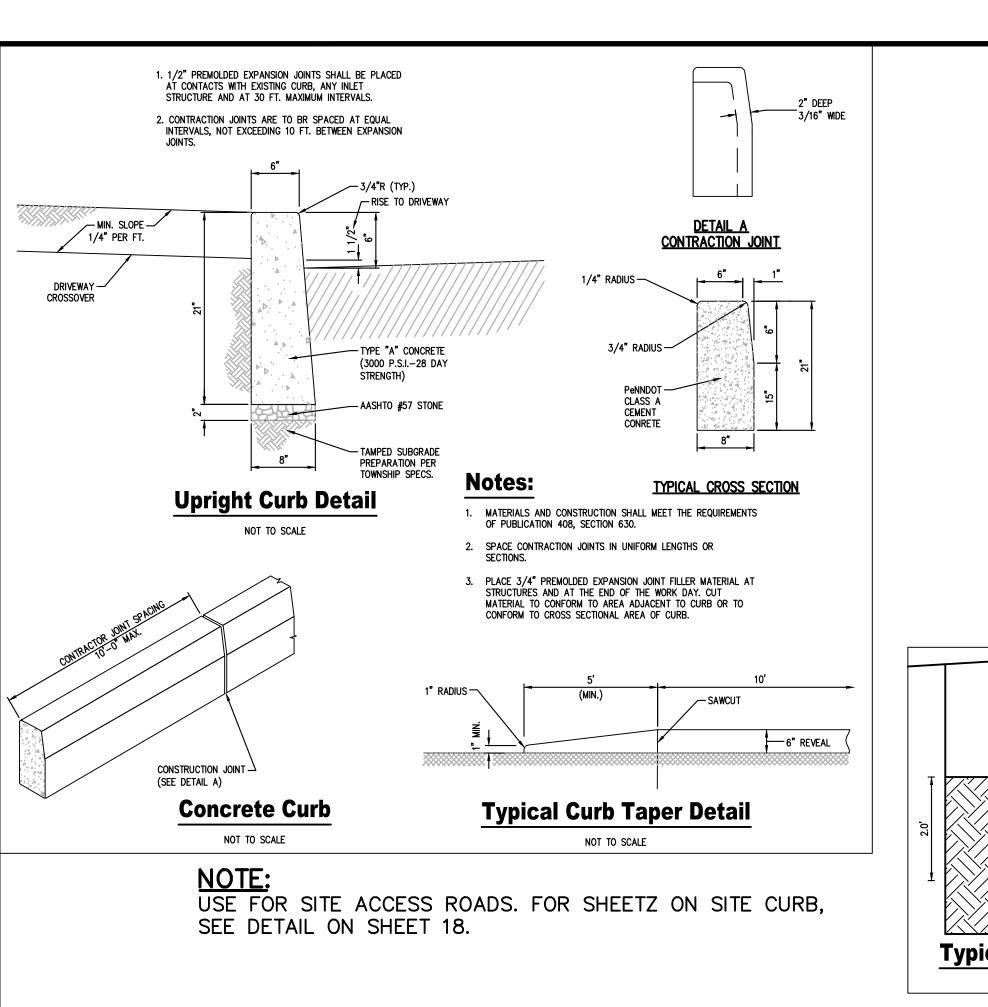
INSTALLATIONS SHALL BE REPAIRED OR REPLACED IMMEDIATELY. FOR SYSTEMS DISCHARGING TO HQ OR EV SURFACE WATER, A 6 INCH THICK COMPOST LAYER SHALL BE SECURELY ANCHORED ON OUTSIDE AND OVER TOP OF STONE.

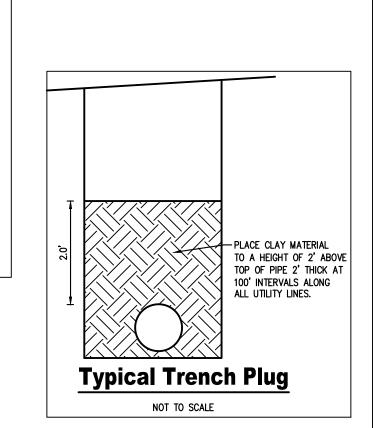
COMPOST SHALL MEET THE FOLLOWING STANDARDS:

ORGANIC PORTION FIBROUS AND ELONGATED 5.5-8.0 MOISTURE CONTENT 35%-55% 98% PASS THROUGH 1" SCREEN SOLUBLE SALT CONCENTRATION 5.0 dS/m (mmhos/cm) MAXIMUM

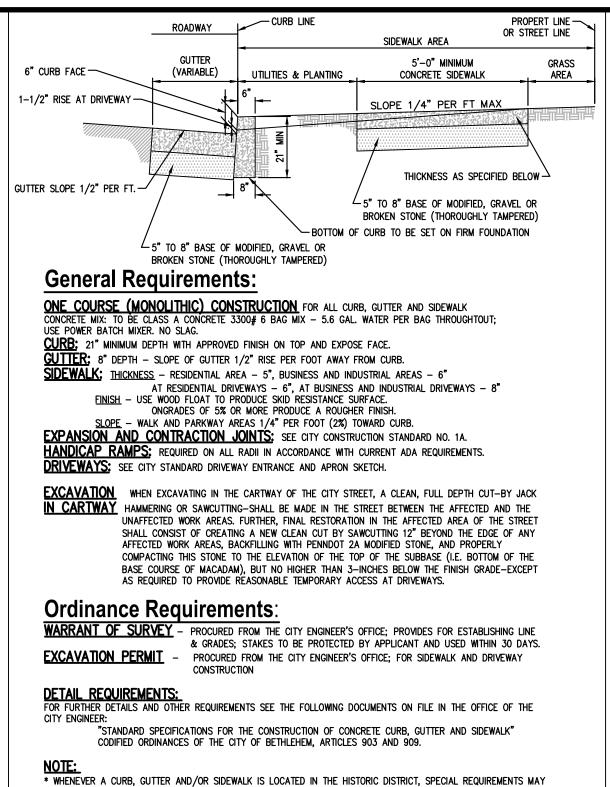
80%-100% (DRY WEIGHT BASIS)

ORGANIC MATTER CONTENT





─ R1-1 REFLECTIVE ALUMINUM

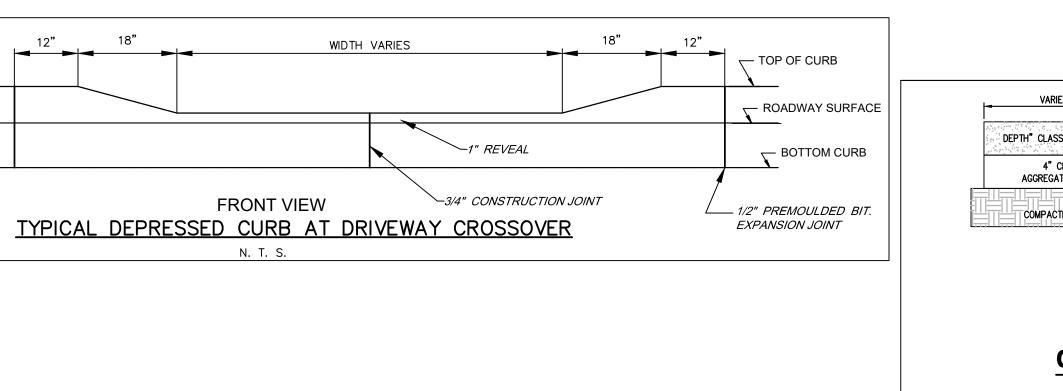


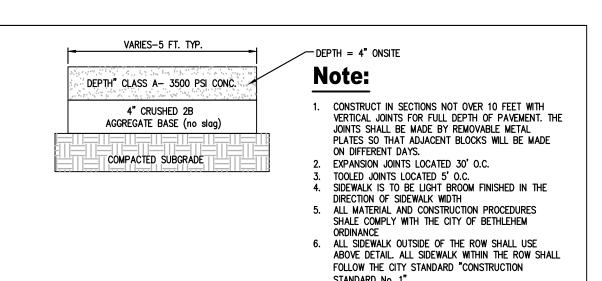
NOTE:

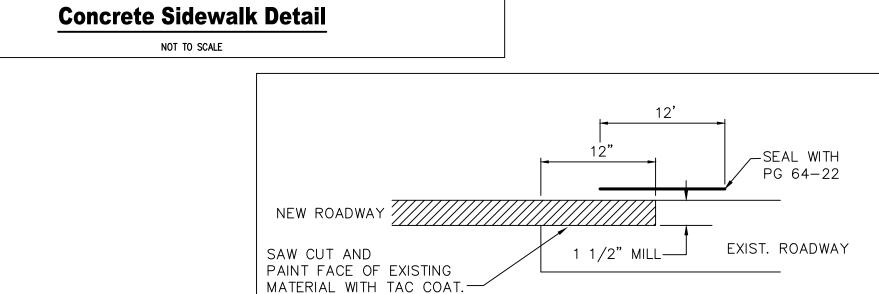
\* WHENEVER A CURB, GUTTER AND/OR SIDEWALK IS LOCATED IN THE HISTORIC DISTRICT, SPECIAL REQUIREMENTS MAY \* CHANGES TO DIMENSIONAL REQUIREMENTS MAY BE CONSIDERED IN CASES WHERE OBSTRUCTIONS OR ENCROACHMENTS EXIST. ANY EXCEPETIONS MUST BE APPROVED BY THE CITY ENGINEER. CURRENT ADA REQUIREMENTS MUST BE IN ALL CASES.

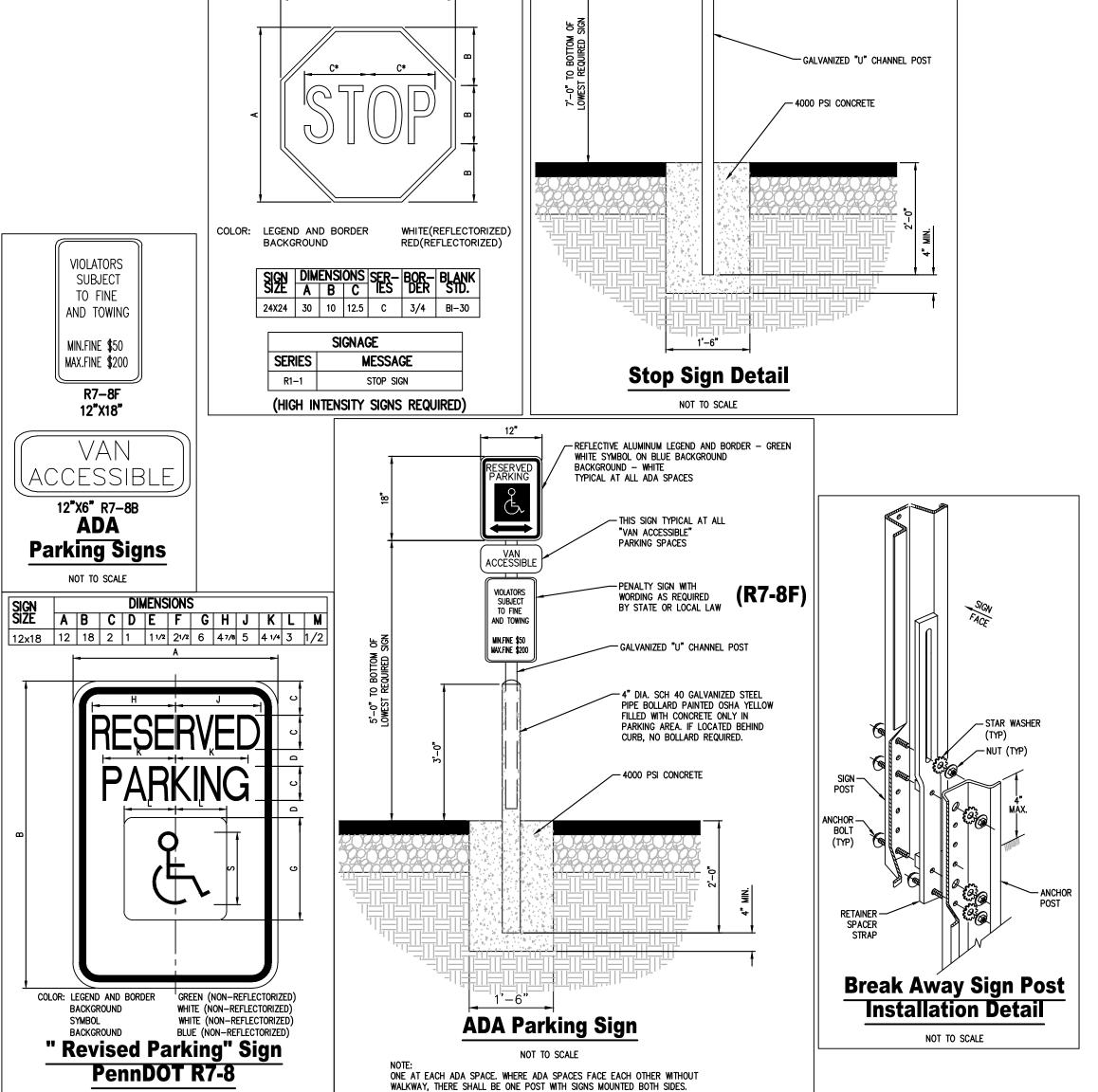
#### CITY OF BETHLEHEM, PA. BUREAU OF ENGINEERING Construction Standard No. '

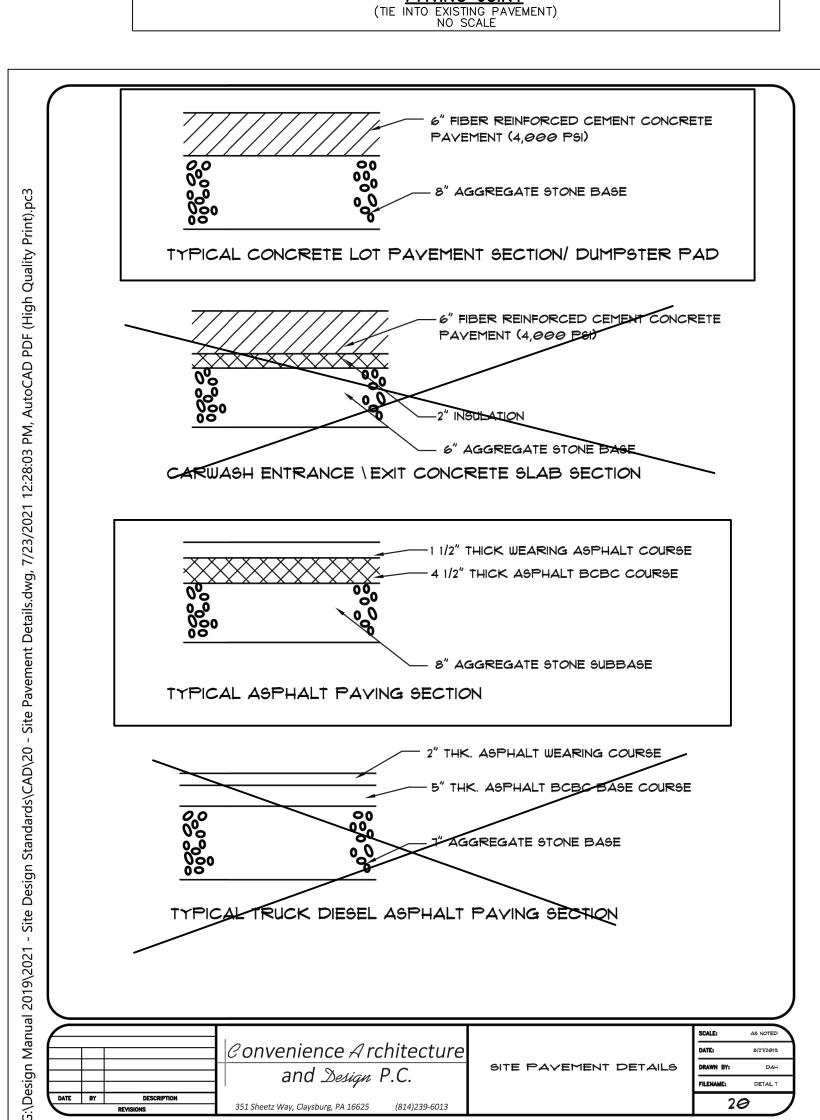
NOT TO SCALE FOR CONCRETE CURB, GUTTER AND SIDEWALK FEBRUARY 7, 2001 REVISED JUNE 4, 2013

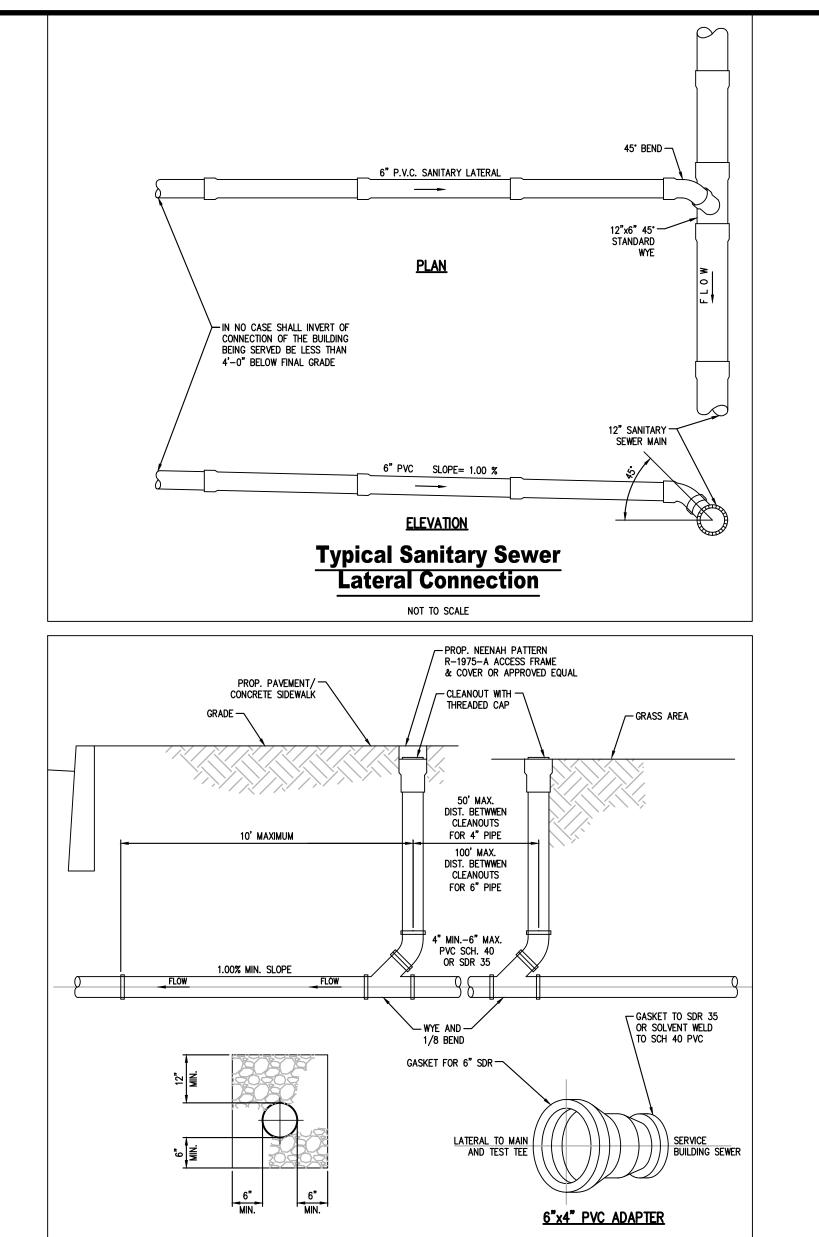




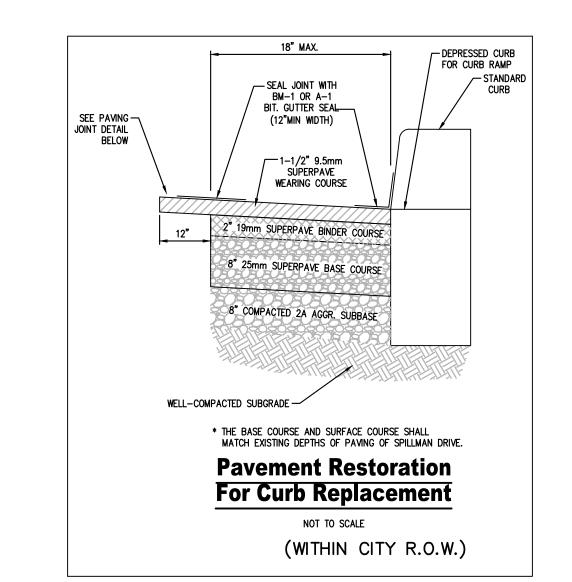








**Service Lateral Detail** 



### FlexStorm Pure™

### **Inlet Filters**

FlexStorm Pure inlet filters are the preferred choice for permanent inlet protection and stormwater runoff control. Constructed of stainless steel, FlexStorm Pure inlet filters will fit any drainage structure and are available with site-specific filter bags providing various levels of filtration.

#### **Applications** Car washes

 Commercial · Loading ramps

#### Industrial

Benefits Custom stainless steel frames are configured to fit • Stainless steel frame provides extended service life Easily replaceable filter bags

Gas stations

Parking lots

Dock drains

Maintenance

into any drainage structure

Features

 Flow and bypass rates meet specific inlet • Meets stringent removal requirements: requirements - All bags rated >80% removal efficiency of street

 Works below grade with bypass to drain area if bag • Installed and maintained by one worker, without additional equipment

sweep-size particles Optional FXP/PCP bags can be used for

hydrocarbon removal when required





#### FlexStorm Pure Inlet Filters Specification

#### **Material and Performance**

The filter is comprised of a stainless steel frame and a replaceable geotextile filter bag attached to the frame with a stainless steel locking band. The filter bag hangs suspended below the grate that shall allow full bypass flow into the drainage structure if the bag is completely filled with sediment. The standard woven polypropylene "FX" filters bags are rated for 200 gpm/sqft with a removal efficiency of 82% when filtering a USDA Sandy Loam sediment load. The post-construction PCP filter bags are rated for 137 gpm/sqft and have been third-party tested

#### Installation

1. Remove the grate from the inlet. 2. Clean debris from the ledges of the inlet.

3. Place the inlet filter onto the load bearing ledges of the structure.

4. Replace the grate and confirm it is not elevated more than 1/8" (3 mm). **Frequency of Inspections** 

1. Inspection should occur following rain events greater than  $\frac{1}{2}$ " (13 mm). 2. Filter inspections should occur a minimum of three times per year, and in snowfall affected regions, inspections

prior to and after snowfall season. 3. Industrial application site inspections (loading ramps, wash racks & maintenance facilities) to be scheduled on

a recurring basis no less than four times per year or as needed.

1. Empty the filter bag manually or by industrial vacuum taking care not to damage the geotextile bag when more than half filled or during scheduled inspection period.

2. Remove compacted silt from sediment bag and flush with medium spray. 3. "PCP" style bags should be pressed or wrung to recover retained oils.

4. Oil skimmer pouches solidify and darken when saturated, indicating time for replacement.

5. Dispose of all oil-contaminated products and recovered oils in accordance with EPA guidelines. Oil skimmer pouches, since a solidifier, will not leach and can be disposed of directly.

6. Inspect and replace bag if torn or punctured. Filter Bag Replacement

1. Remove the bag by loosening or cutting off clamping band.

2. Take the new correctly sized sediment bag and secure hose clamping band to the frame channel as previously/

3. Ensure bag is secure and there is no slack around perimeter.

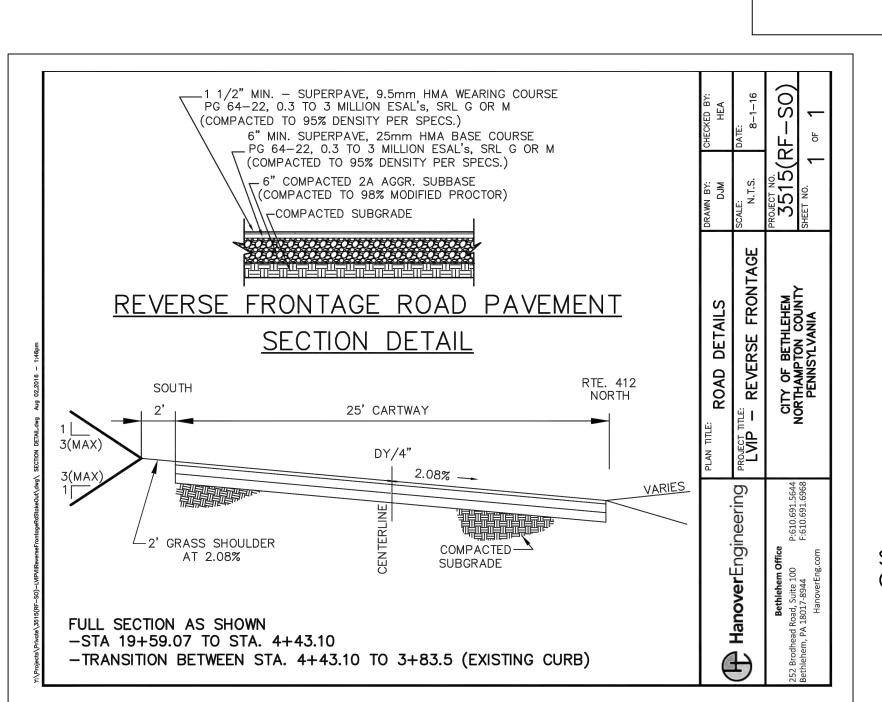
Build America, Buy America (BABA)

For any questions related to Build America, Buy America (BABA) Act compliance contact an ADS representative or email flexstorm@adspipe.com.

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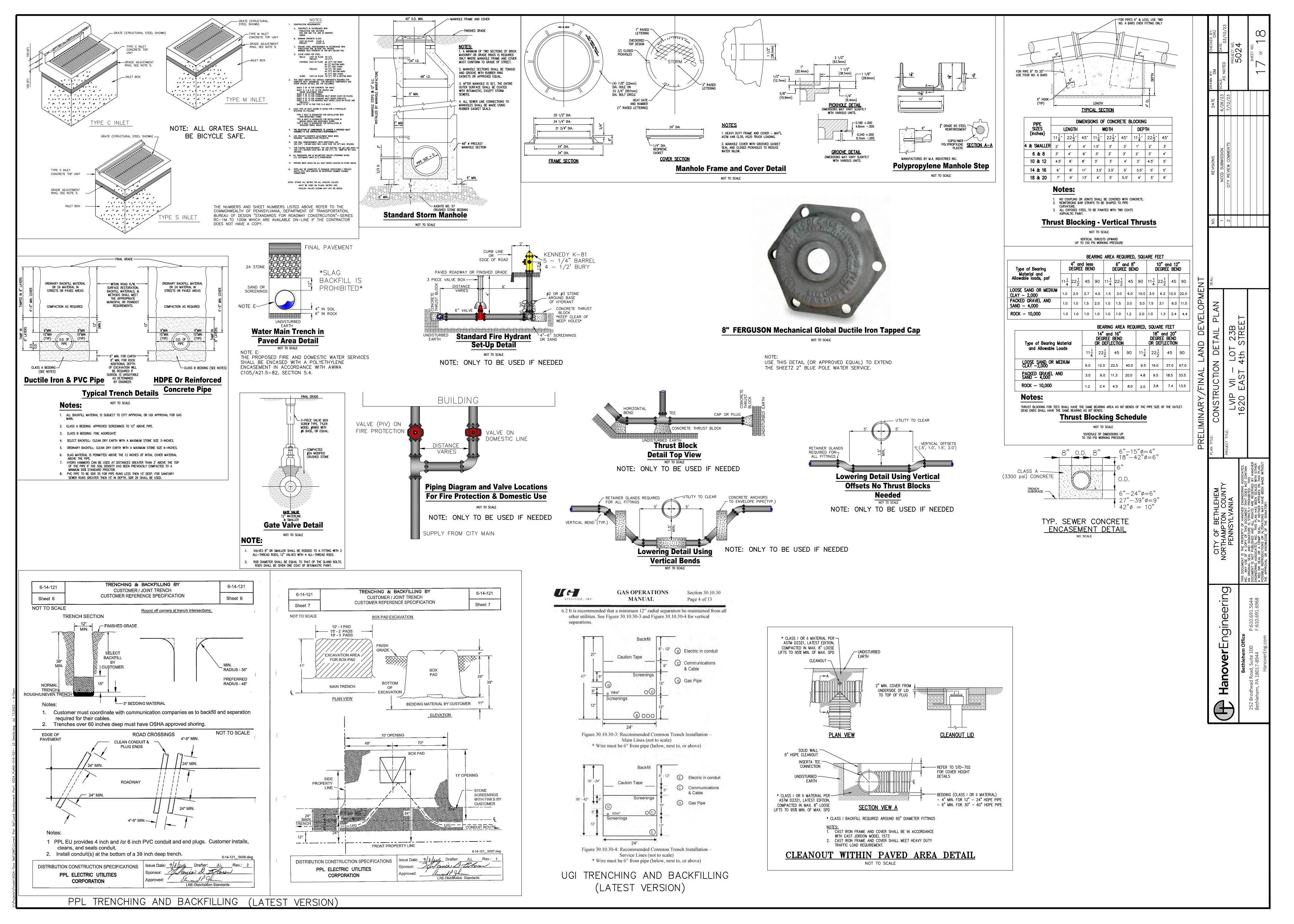


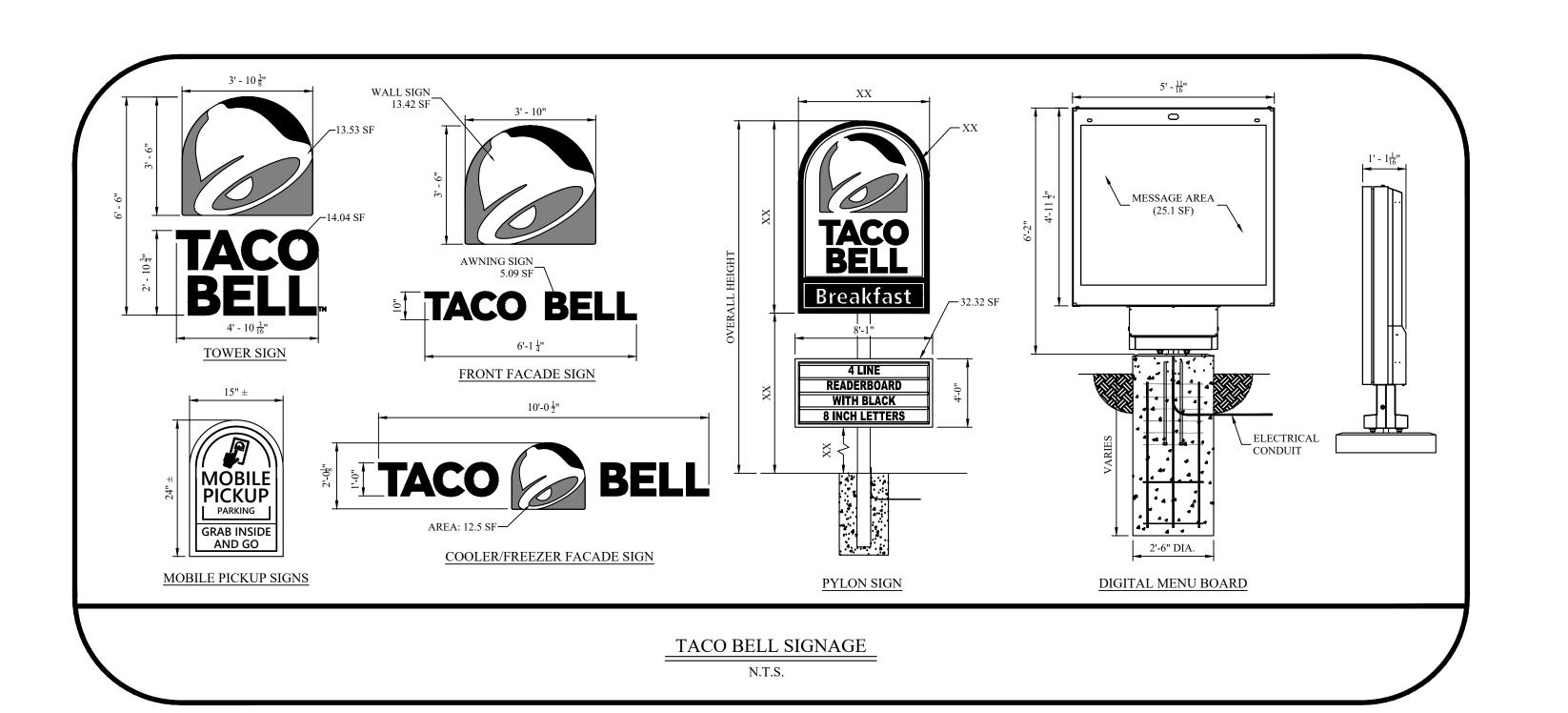
CONTRACTOR SHALL UTILIZE THIS TYPE OF INLET PROTECTION FOR INLET TB-5 WHICH IS LOCATED NEAR THE DUMPSTER. A DIFFERENT MANUFACTURE CAN BE USED IF APPROVED BY THE CITY IN WITTING.

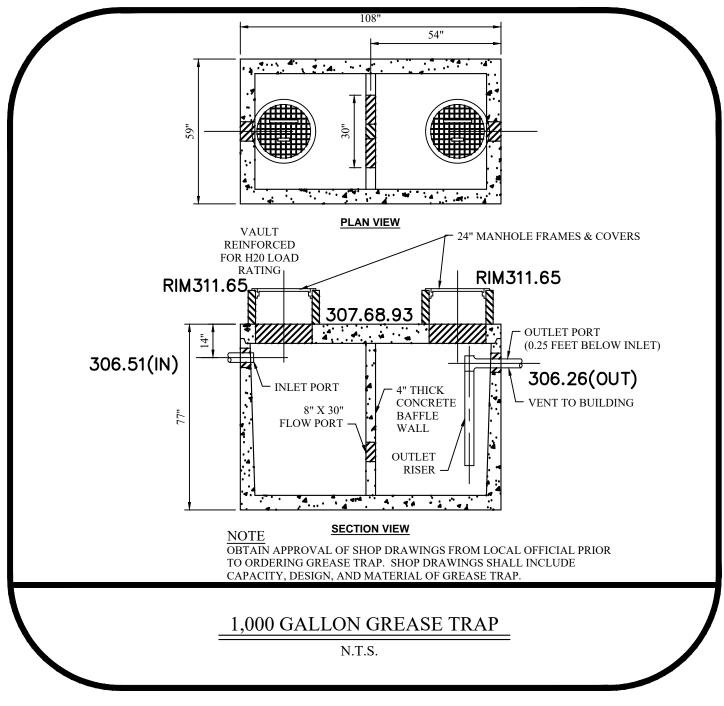
THE OWNER SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE FILTER AND SHALL ABIDE BY THE MANUFACTURES RECOMMENDATIONS AND SPECIFICATIONS.

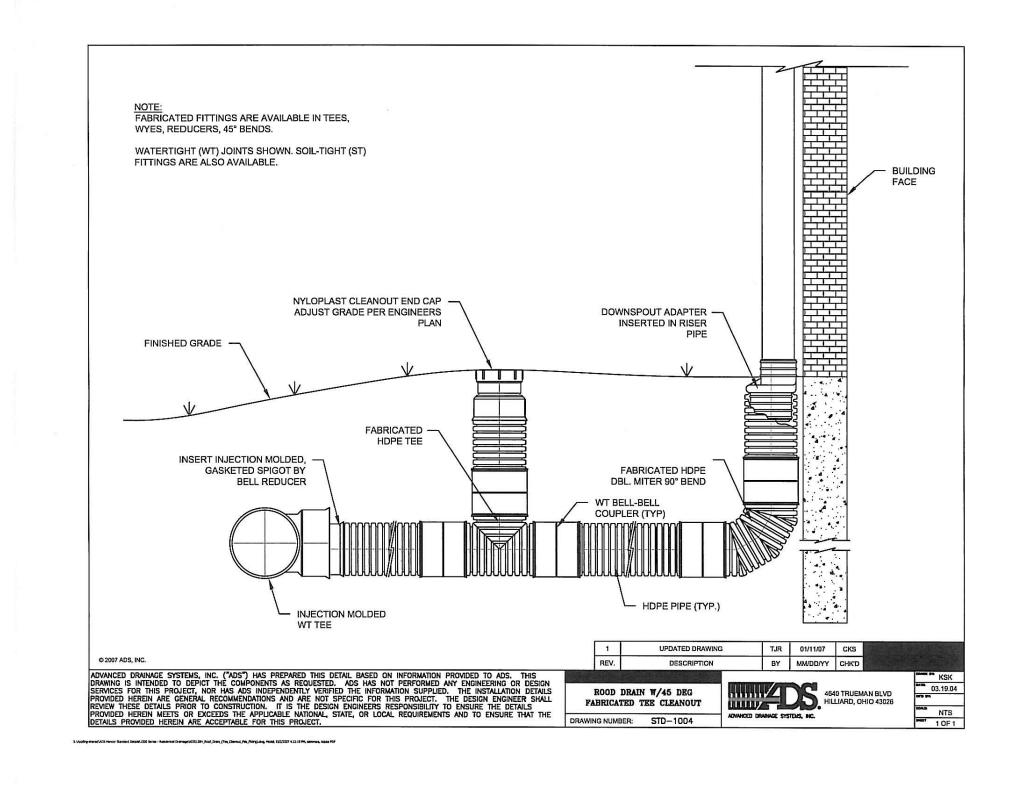
SECTION OF BACKBONE ROAD ORIGINALLY CONSTRUCTED

gi 9



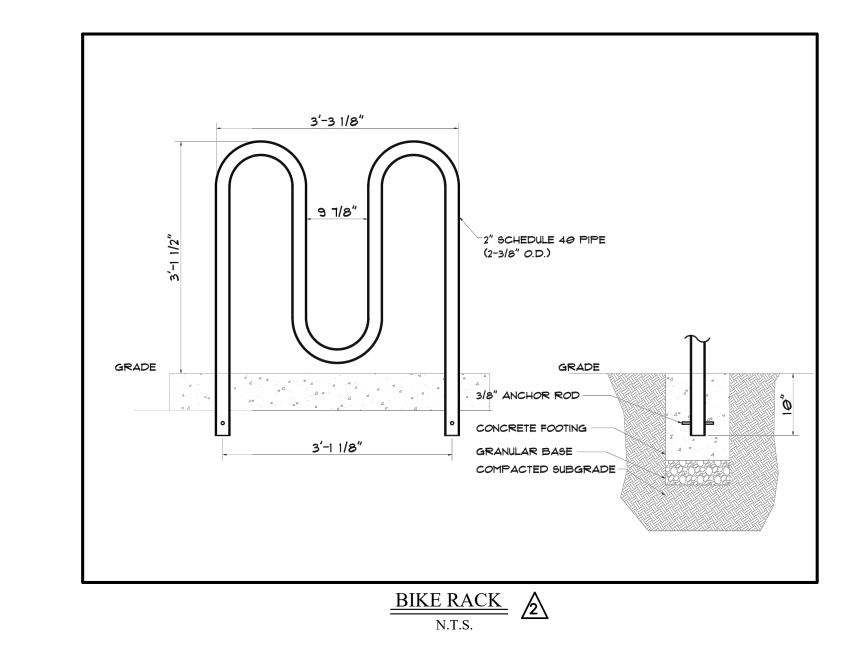


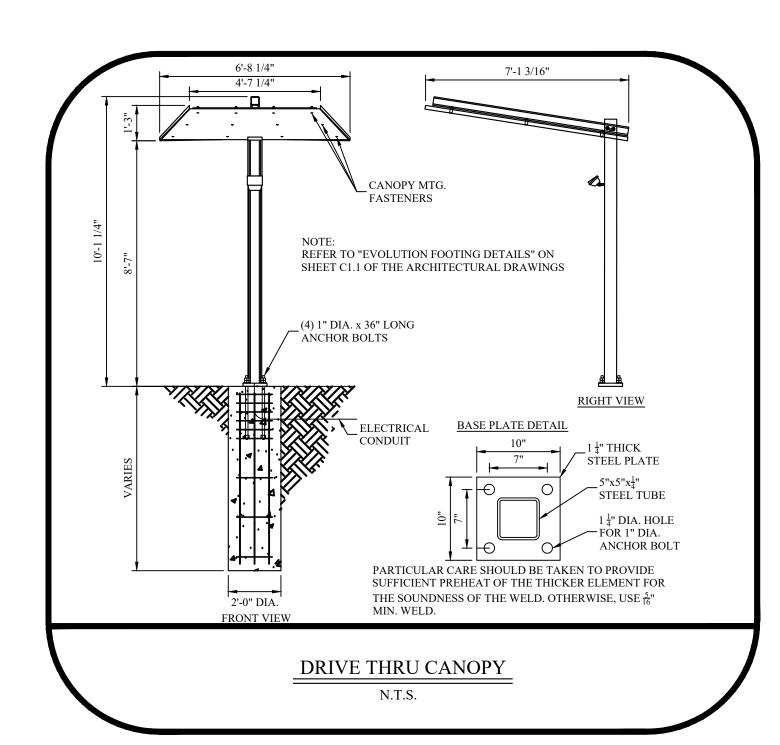


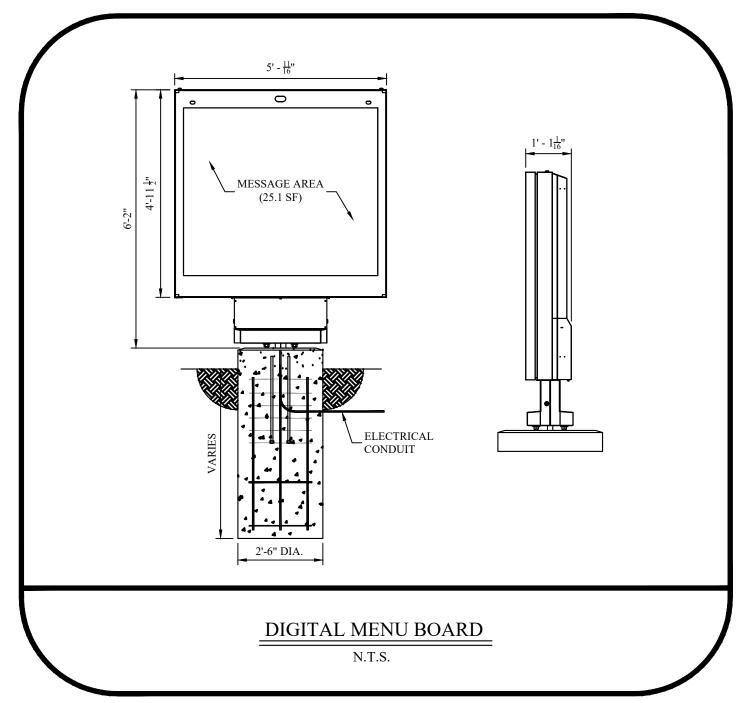


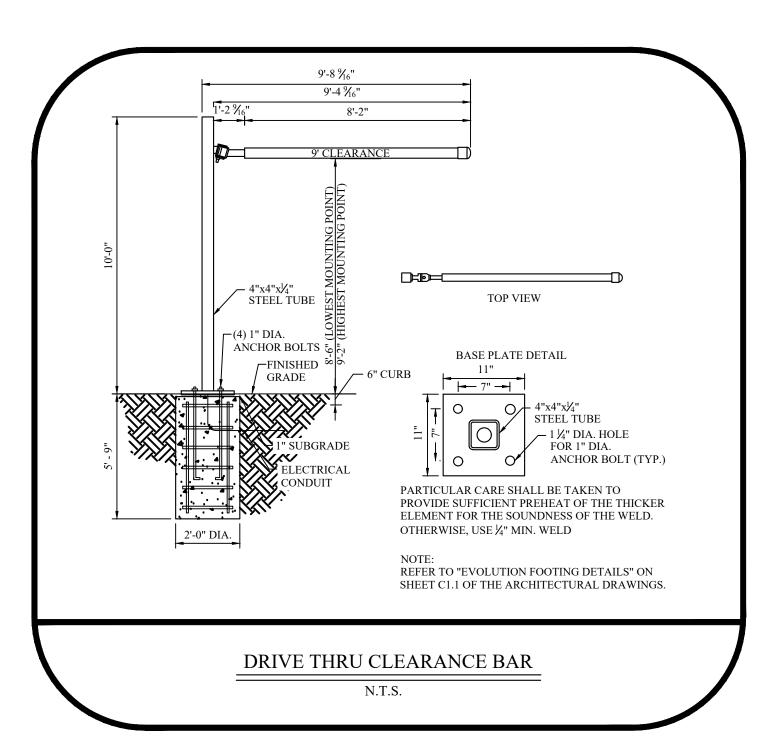
#### NOTE

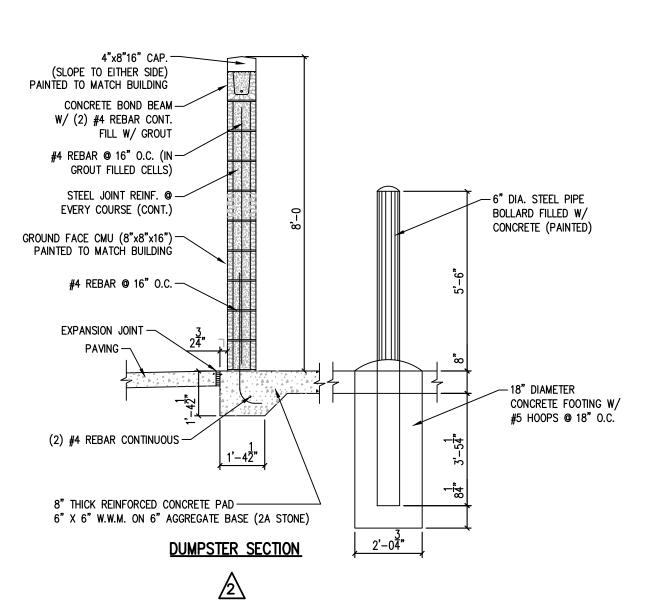
ALL MATERIAL AND FITTINGS SHALL BE APPROVED BY THE OWNER IN WRITING PRIOR TO ANY INSTALLATION.

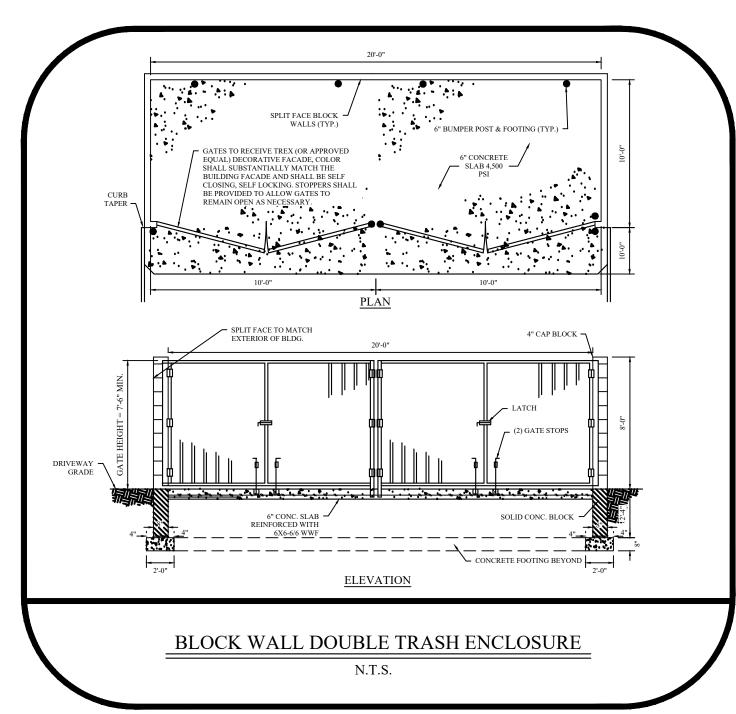




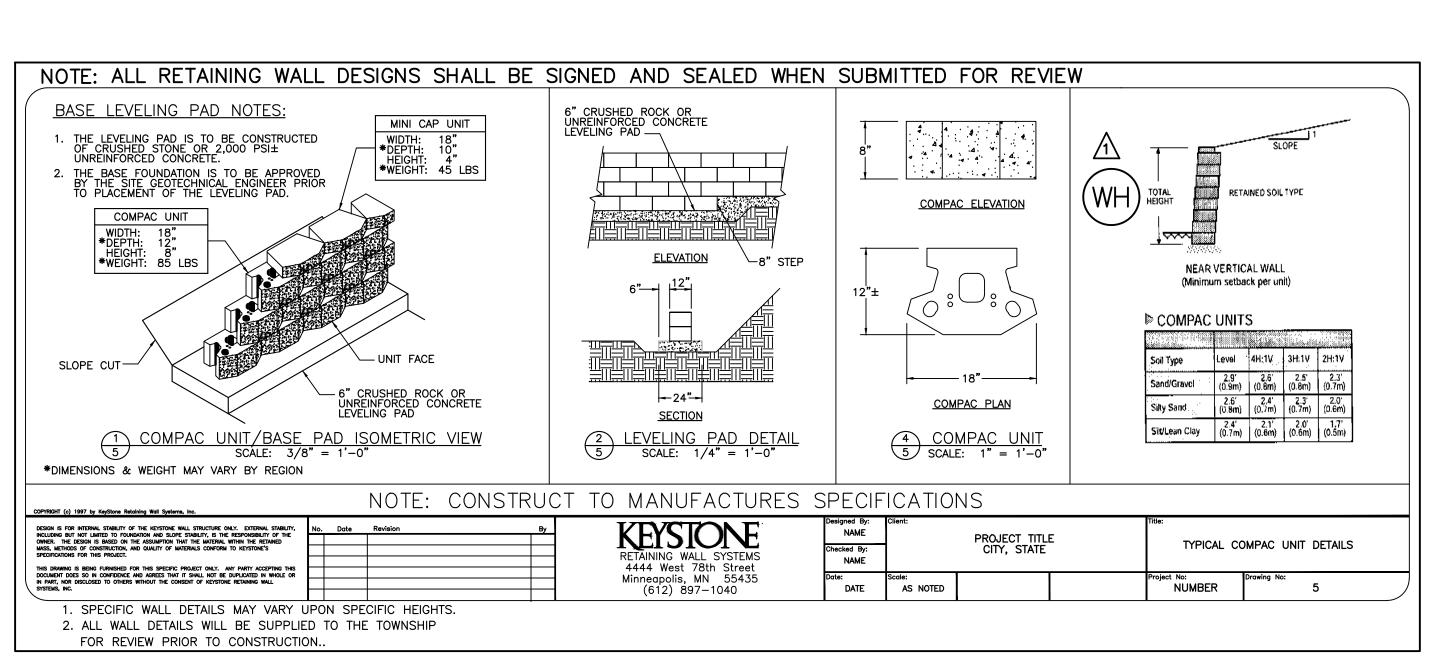








**Dumpster Enclosure** 



### NOTE:

WH MAXIMUM HEIGHT IS 3.71 FT., WALL HEIGHT VARIES. SEE SHEET 6 FOR DETAILED GRADES.