

SITE DATA

OWNER: CAMBRIA PARTNERS, LLC
LOT 1
PIN: 642802940984-1
ADDRESS: 1210 EATON AVENUE
AREA: 36,354 S.F. (0.8346 A.C.)
LOT 2
PIN: 642802843854-1
ADDRESS: 1214 EATON AVENUE
AREA: 9,118 S.F. (0.2093 A.C.)
NUMBER OF LOTS - EXISTING: 2
PROPOSED: 1
LINEAL FEET OF NEW STREETS - 0 L.F.
WATER SUPPLY - PUBLIC (CITY OF BETHLEHEM)
SEWER - PUBLIC (CITY OF BETHLEHEM)

ZONING DATA

Table with columns: ZONING DISTRICT, RG, MEDIUM DENSITY RESIDENTIAL, REQUIRED, EXISTING, PROPOSED. Rows include Minimum Lot Size, Minimum Lot Width, Minimum Yards, Max. Building Coverage, Max. Building Height, Minimum Lot Area per Dwelling Unit, and Proposed Density.

Legend

- PROPERTY LINE
EXISTING RIGHT-OF-WAY
BUILDING RESTRICTION LINE
EXISTING EDGE OF PAVEMENT
EXISTING VEGETATION
EXISTING CENTERLINE
EXISTING ROAD PAVEMENT
EXISTING SIDEWALK
EXISTING STRUCTURE
EXISTING ADJOINER
EXISTING GAS LINE
EXISTING SANITARY LINE
EXISTING STORM SEWER
EXISTING WATER LINE
EXISTING CURB
EXISTING FENCE
EXISTING MINOR CONTOUR
EXISTING MAJOR CONTOUR
EXISTING ELECTRIC POLE
EXISTING GAS VALVE
EXISTING WATER VALVE
EXISTING FIRE HYDRANT
EXISTING IRON PIN
EXISTING CONTROL POINT
EXISTING TEST PIT
EXISTING INLET

Legend

- PROP. PROPERTY LINE
PROP. TRACT LINE
PROP. RIGHT-OF-WAY
PROP. EASEMENT
PROP. BUILDING RESTRICTION LINE
PROP. FENCE
PROP. TREE LINE
PROP. CENTERLINE
PROP. SIDEWALK
PROP. CURB
PROP. DRIVEWAY
PROP. CONTOUR MAJOR
PROP. CONTOUR MINOR
PROP. GAS LINE
PROP. GAS LATERAL LINE
PROP. SANITARY LINE
PROP. SANITARY LATERAL LINE
PROP. STORM LINE
PROP. WATER LINE
PROP. WATER LATERAL LINE
PROP. DRAINAGE PATH
PROP. MONUMENTATION
PROP. UTILITY POLE
PROP. SANITARY MANHOLE
PROP. CLEANOUT
PROP. VENT
PROP. STORM MANHOLE
PROP. INLET
PROP. SIGN
PROP. FIRE HYDRANT
PROP. WATER VALVE
PROP. WELL
PROP. GAS VALVE
PROP. TREE
PROP. BENCHMARK
PROP. CONCRETE WHEELSTOP
PROP. BUILDING/STRUCTURE
PROP. DRIVEWAY

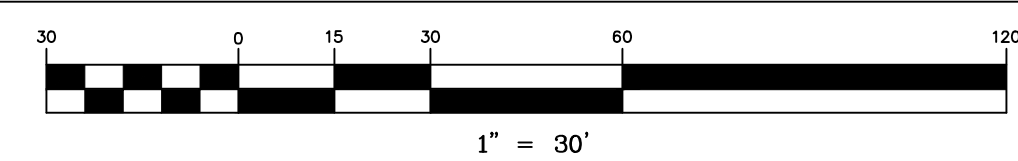
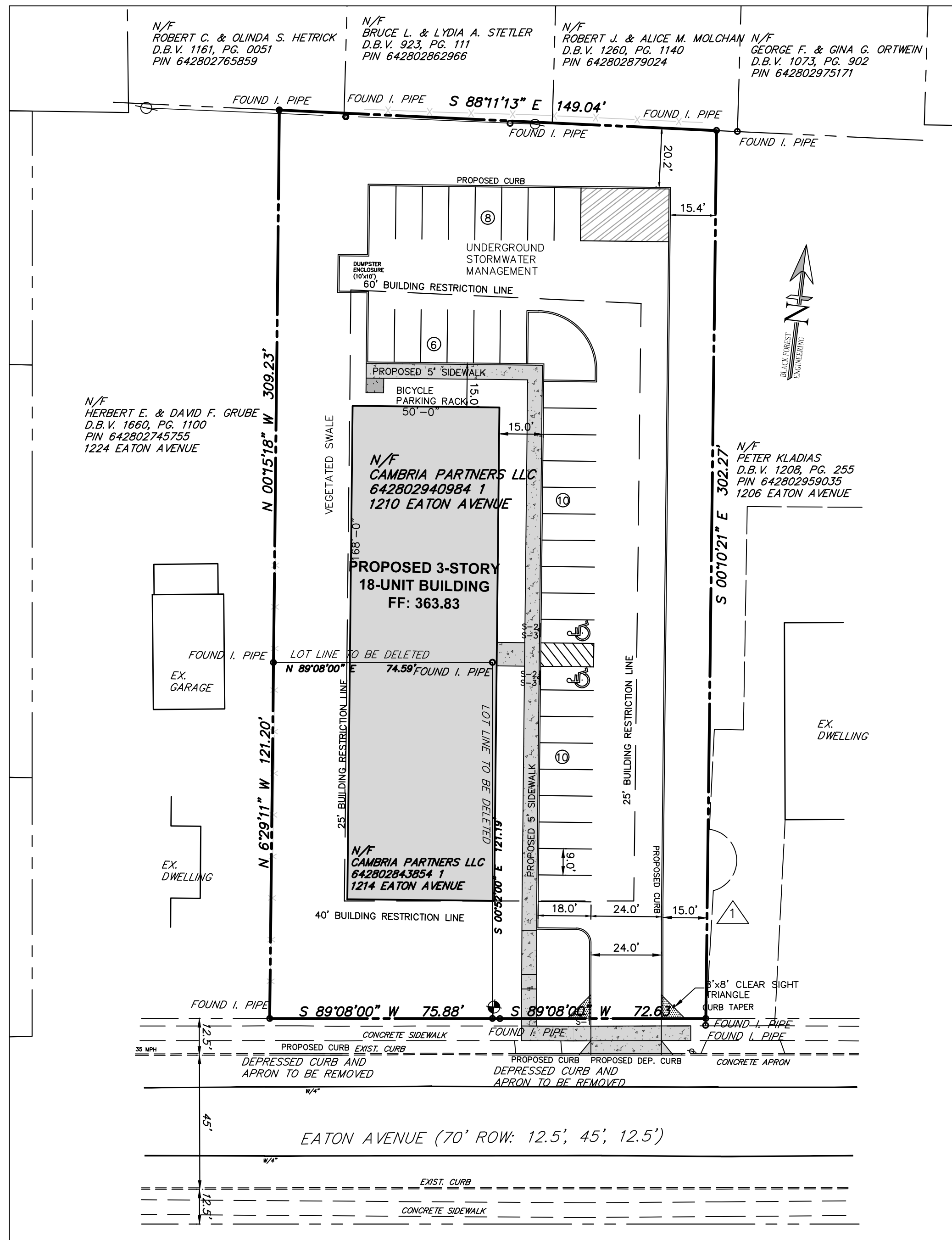
SHEET INDEX

Table with columns: SHEET, OF, RECORD PLAN. Lists sheets 1 through 9 and their corresponding plan types.

THE APARTMENTS AT 1210 EATON AVENUE
PRELIMINARY/FINAL LAND DEVELOPMENT AND LOT CONSOLIDATION
CITY OF BETHLEHEM, LEHIGH COUNTY
PENNSYLVANIA

PLAN INTENT

THE APPLICANT WISHES TO CONSTRUCT AN 18 UNIT MULTI-FAMILY DWELLING WITH ASSOCIATED PARKING AND SITE IMPROVEMENTS.

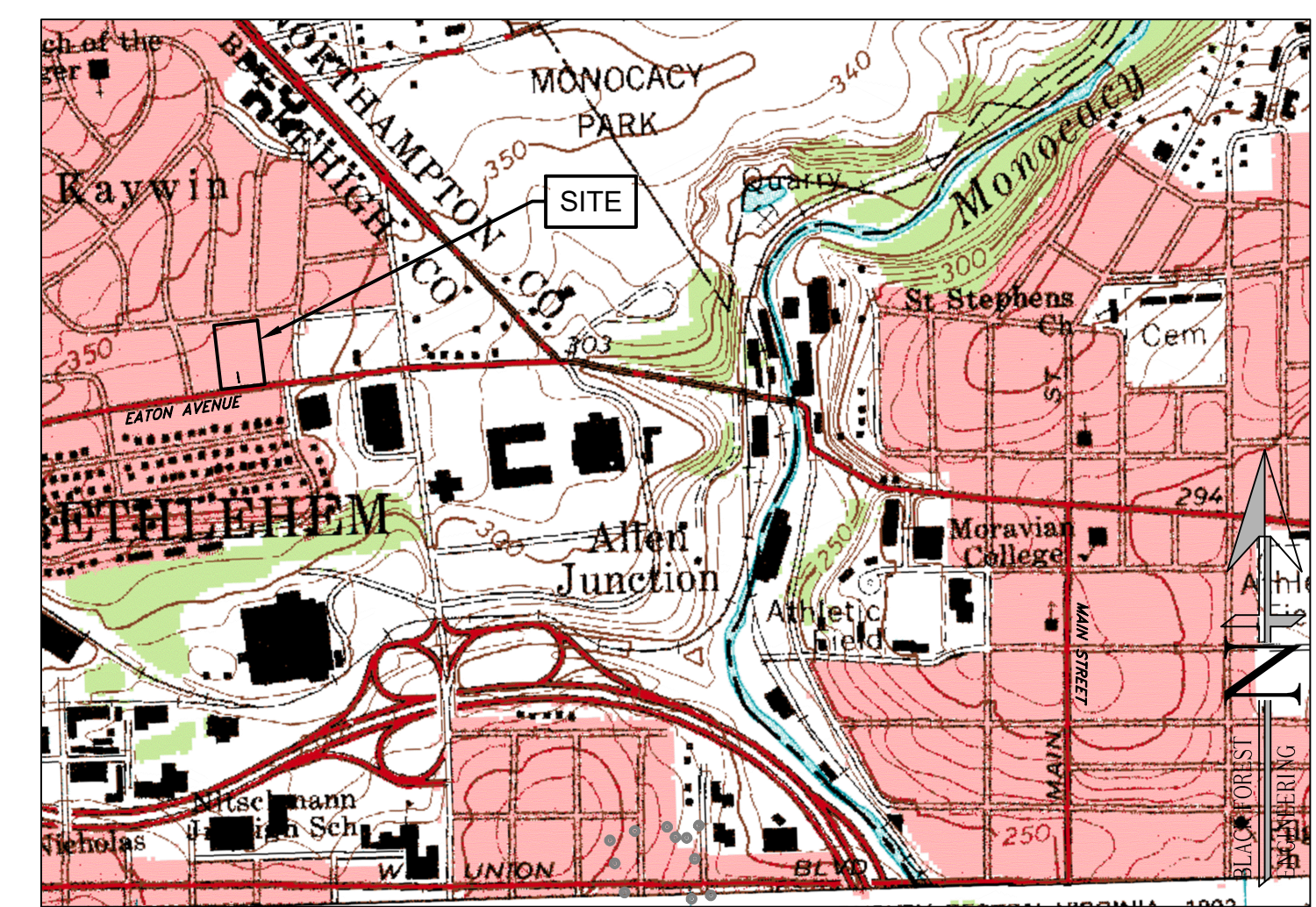


SIGN SCHEDULE

Table with columns: SYMBOL, LEGEND, QTY., BLANK SIZE, PENNDOT #. Lists signs for STOP, Reserved Parking, and Van Accessible Parking.

PLAN REVISIONS

Table with columns: SYMBOL, REVISIONS. Lists revisions for stormwater comments and utility locations.



LOCATION MAP

USGS CATAWAUGA QUADRANGLE
SCALE: 1"=1000'

SIGNATURE BLOCKS

CERTIFICATION OF OWNERSHIP

I (WE) THE OWNER(S) OF ... BEING DULY SWORN ACCORDING TO LAW, DEPOSE AND SAY THAT I (WE) AM (ARE) THE SOLE OWNER(S) OF THE ABOVE PROPERTY IN PEACEFUL POSSESSION OF THE SAME AND THAT THERE ARE NO SUITS OR LIENS PENDING AFFECTING THE TITLE THEREOF.

SIGNATURE OF OWNER PRINTED NAME OF OWNER

NOTARIZATION

SWORN AND SUBSCRIBED BEFORE ME THIS ... DAY OF ... A.D.

(LEGIBLE IMPRESSION OF NOTARY SEAL)

NOTARY PUBLIC

MY COMMISSION EXPIRES: ...

PLANNING COMMISSION APPROVAL

THE WITHIN PLOT OR PLAN OF LAND LOCATED IN BETHLEHEM, LEHIGH COUNTY, PENNSYLVANIA, WAS APPROVED BY THE BETHLEHEM CITY PLANNING COMMISSION.

CHAIRMAN DATE

PLANNING DIRECTOR DATE

ENGINEER'S CERTIFICATION

I HEREBY CERTIFY THAT THIS PLAN CORRECTLY AND ACCURATELY REPRESENTS THE LANDS OF THE OWNER AND, WHERE APPLICABLE, THE LOTS, BUILDINGS, STREETS, PARKING AREAS, WALKWAYS, AND OTHER STRUCTURES AND IMPROVEMENTS SHOWN THEREON.

JOSEPH EDWARD RENTKO
REGISTRATION NO. PE085609

PROOF OF RECORDING

PLAN RECORDED IN THE OFFICE OF THE RECORDER OF DEEDS OF LEHIGH COUNTY.

PENNSYLVANIA, UNDER DOCKET ID #

ON THE ... DAY OF ... 20...

WITNESS MY HAND AND SEAL OF OFFICE THIS ... DAY OF ... 20...

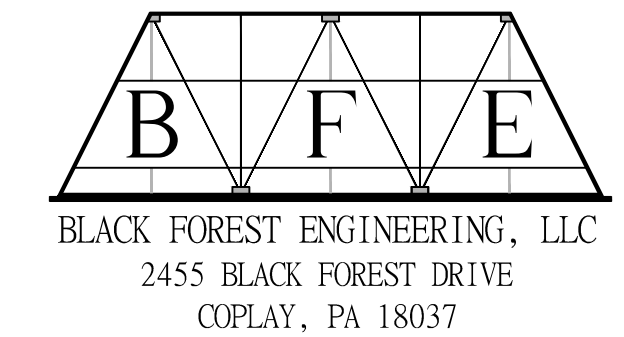
RECORDER OF DEEDS

L.V.P.C. REVIEW

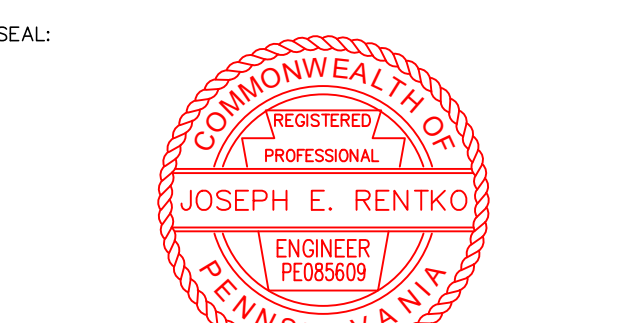
REVIEWED BY THE LEHIGH VALLEY PLANNING COMMISSION

PLANNING DATE

'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.
1-800-242-1776
SERIAL NUMBER: 2022055078



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JOSEPH E. RENTKO, P.E. #PE085609
2455 BLACK FOREST DRIVE
COPLAY, PA 18037
717-239-4499

Table with columns: REV, DESCRIPTION, BY, DATE. Lists review dates for City Review Letter and LVPC Stormwater.

PROJECT TITLE: THE APARTMENTS AT 1210 EATON AVENUE
PROJECT OWNER: CAMBRIA PARTNERS, LLC
555 ASHWOOD ROAD
NAZARETH, PA 18064

PROJECT LOCATION: CITY OF BETHLEHEM
LEHIGH COUNTY
PENNSYLVANIA

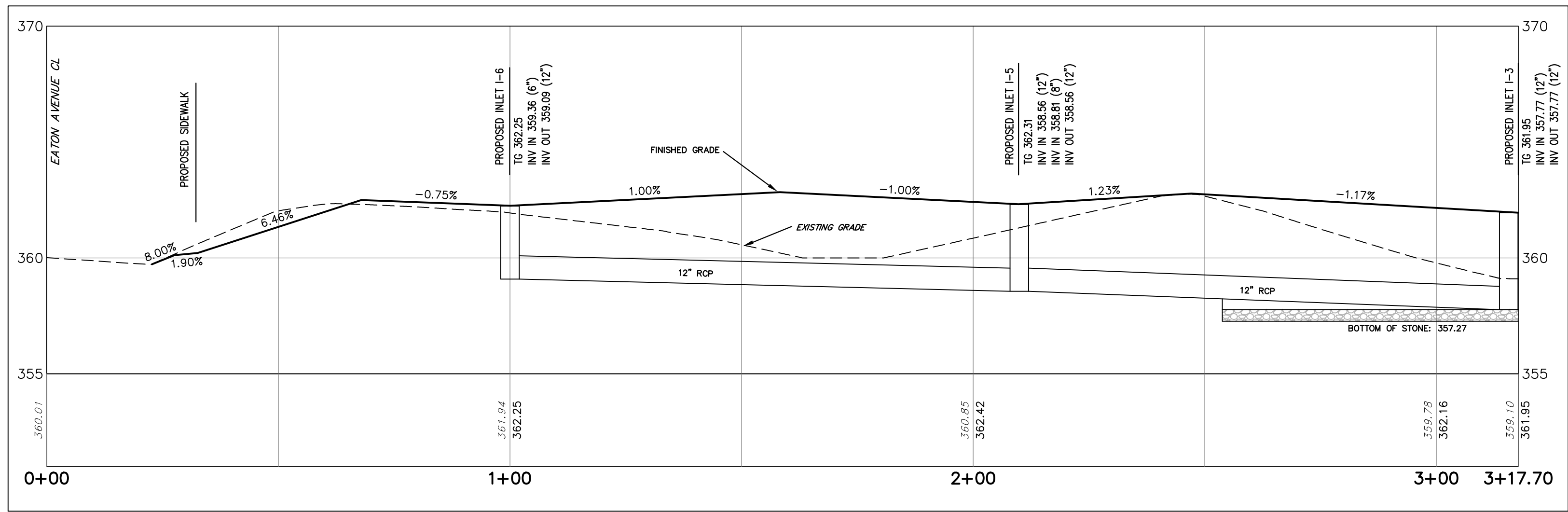
RECORD

Table with columns: SCALE, DATE, DRAWN, CHECKED, PROJECT NO., DRAWING NO., REVISION. Shows scale 1"=30', date 2/9/22, drawing 1 of 9, and project 1210.

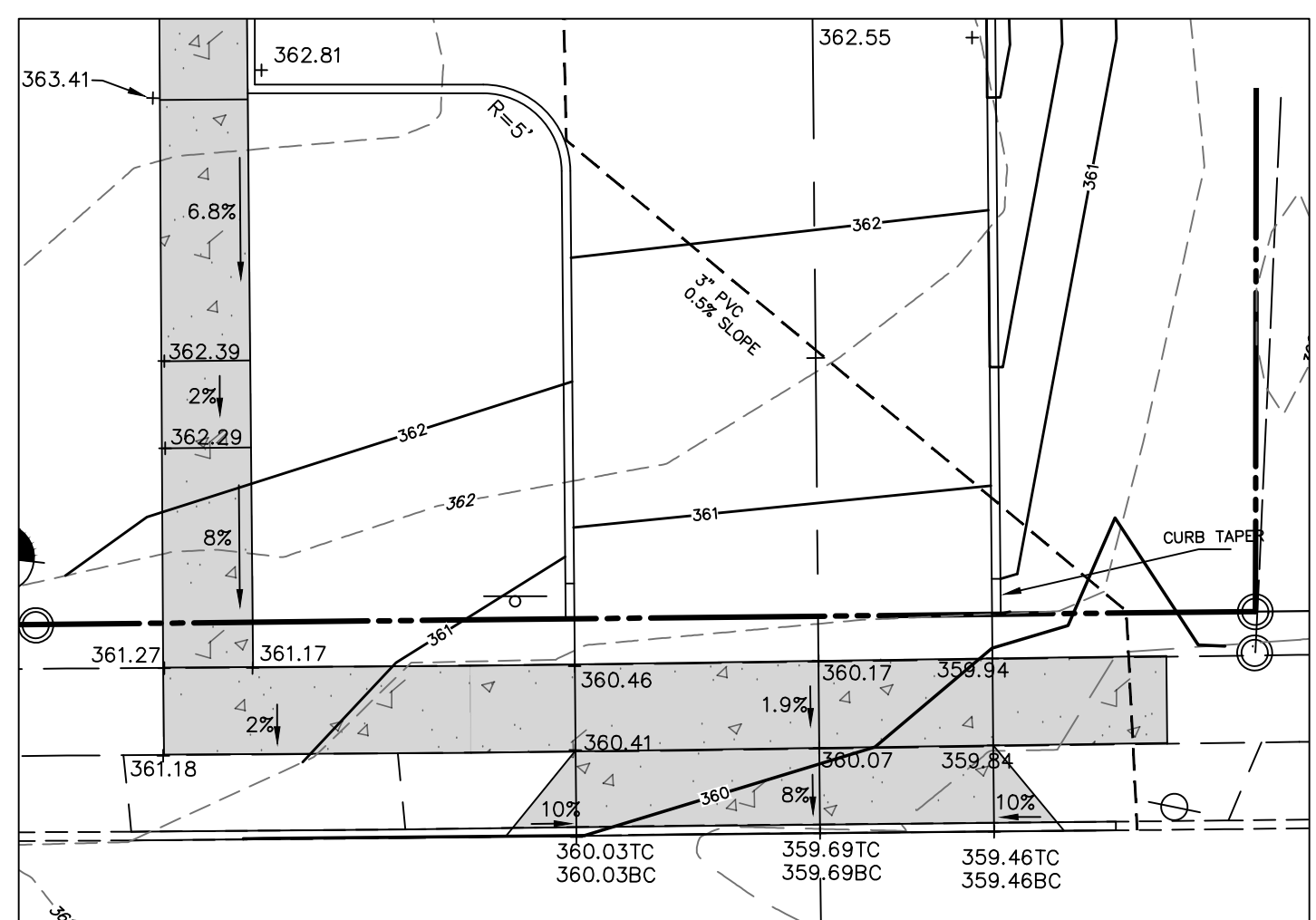




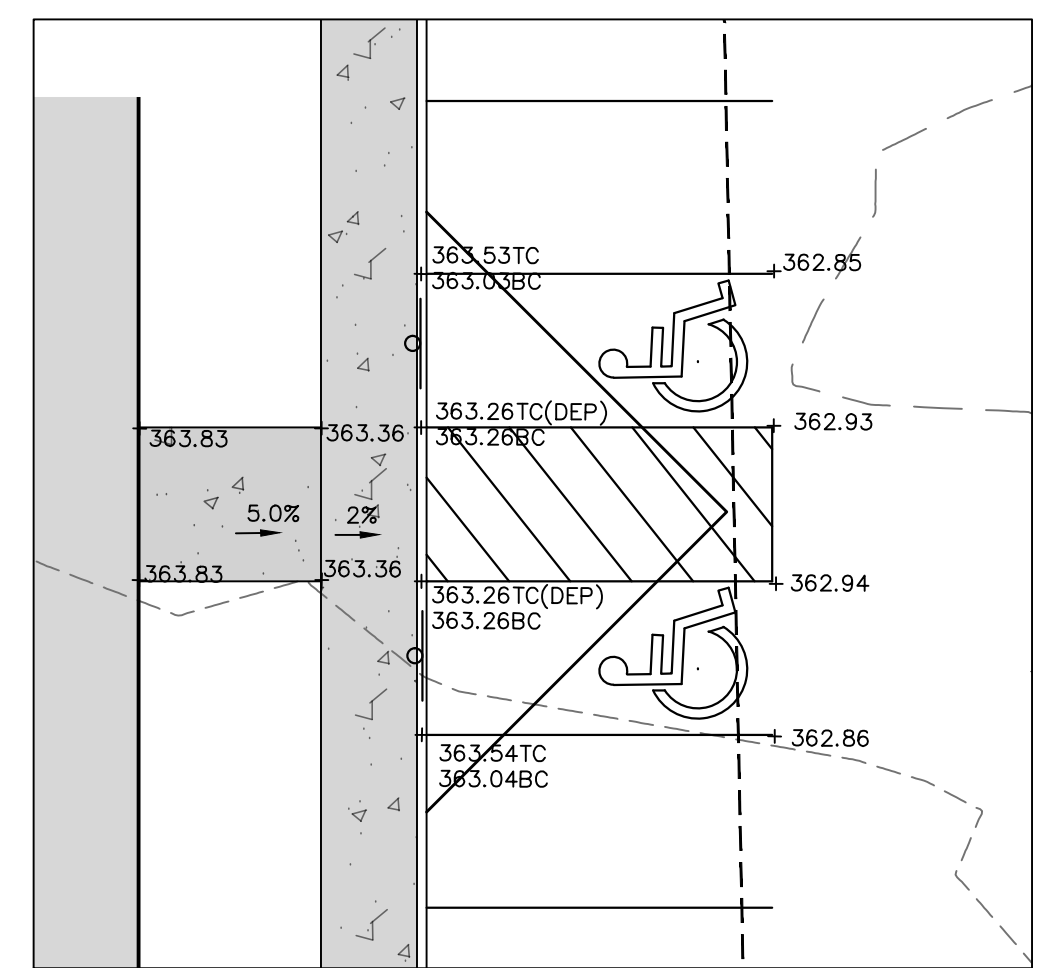




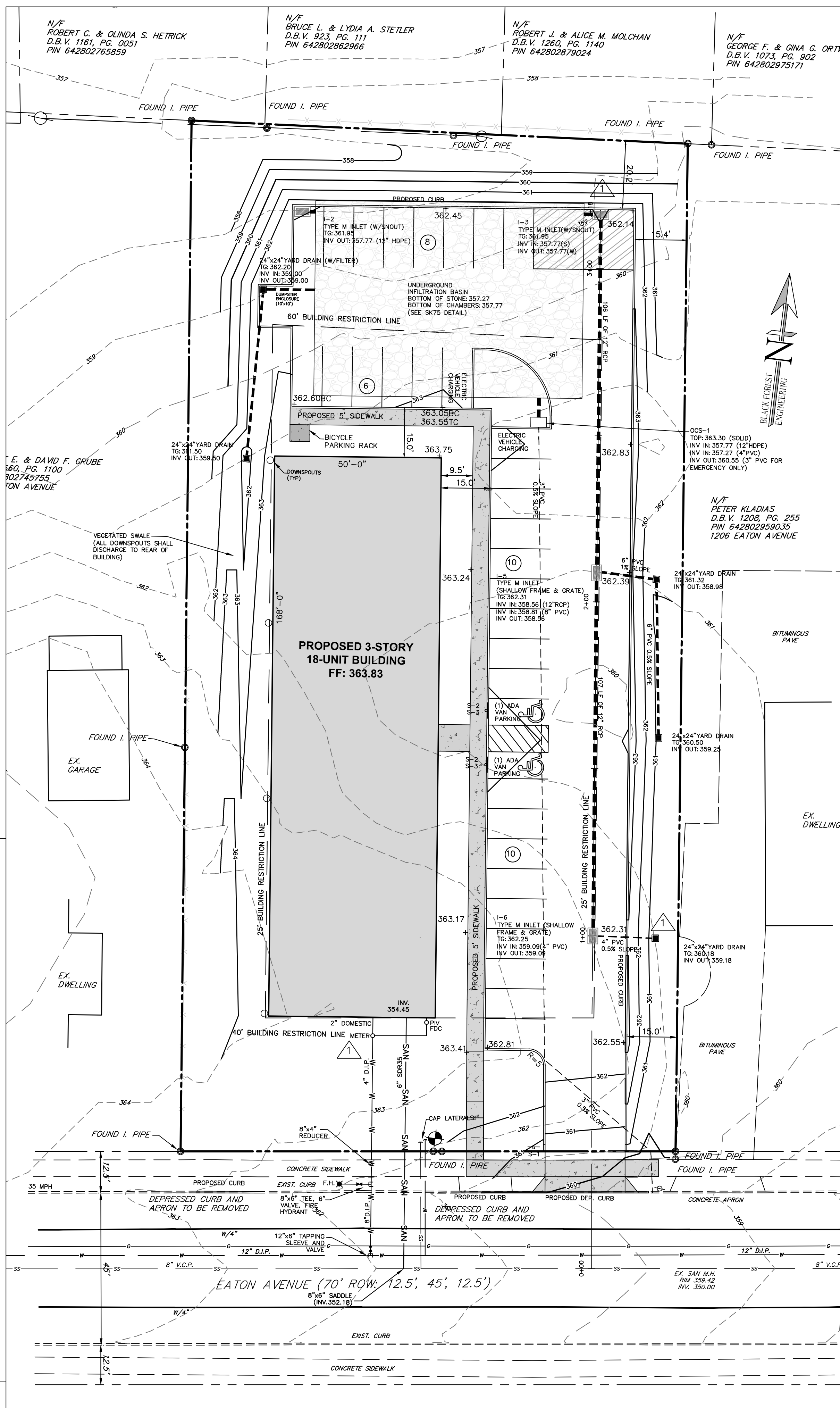
MAIN DRIVEWAY PROFILE  
SCALE: 1"=4' VERT.  
1"=20' HORIZ.



DRIVEWAY APRON BLOW-UP  
SCALE: 1"=10'



ADA PARKING BLOW-UP  
SCALE: 1"=10'



**BLACK FOREST ENGINEERING, LLC**  
2455 BLACK FOREST DRIVE  
COPLAY, PA 18037

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SEAL:  
**COMMONWEALTH OF PENNSYLVANIA**  
REGISTERED PROFESSIONAL ENGINEER  
**JOSEPH E. RENTKO**  
ENGINEER  
PE#085609

JOSEPH E. RENTKO, P.E. #E085609  
2455 BLACK FOREST DRIVE  
COPLAY, PA 18037  
717-339-4499

REV.	DESCRIPTION	BY	DATE
02	CITY REVIEW LETTER	JER	3/29/22
01	LVPC STORMWATER	JER	3/1/22

PROJECT TITLE:  
**THE APARTMENTS AT  
1210 EATON AVENUE**

PROJECT OWNER:  
CAMBRIA PARTNERS, LLC  
555 ASHWOOD ROAD  
NAZARETH, PA 18064

PROJECT LOCATION:  
**CITY OF BETHLEHEM  
WARD 13 BLOCK 149A  
LEHIGH COUNTY  
PENNSYLVANIA**

PLAN TITLE:  
**PROPOSED SITE**

SCALE:	DATE:	DRAWN:	CHECKED:
1"=20'	2/9/22	JER	JER
PROJECT NO.	DRAWING NO.	REVISION:	
1210	3 OF 9	00	

EXISTING Legend	PROPOSED Legend
--- PROPERTY LINE	--- PROP. PROPERTY LINE
--- EXISTING RIGHT-OF-WAY	--- PROP. TRACT LINE
--- BUILDING RESTRICTION LINE	--- PROP. RIGHT-OF-WAY
--- EXISTING EDGE OF PAVE	--- PROP. EASEMENT
--- EXISTING VEGETATION	--- PROP. BUILDING RESTRICTION LINE
--- EXISTING CENTERLINE	--- PROP. FENCE
--- EXISTING ROAD PAVEMENT	--- PROP. TREE LINE
--- EXISTING SIDEWALK	--- PROP. CENTERLINE
--- EXISTING STRUCTURE	--- PROP. SIDEWALK
--- EXISTING ADJOINER	--- PROP. CURB
--- EXISTING GAS LINE	--- PROP. DRIVEWAY
--- EXISTING SANITARY LINE	--- PROP. CONTOUR MAJOR
--- EXISTING STORM SEWER	--- PROP. CONTOUR MINOR
--- EXISTING WATER LINE	--- PROP. GAS LINE
--- EXISTING CURB	--- G-LAT --- G-LAT --- G-LAT
--- EXISTING FENCE	--- SAN --- SAN --- SAN
--- EXISTING MINOR CONTOUR	--- S-LAT --- S-LAT --- S-LAT
--- EXISTING MAJOR CONTOUR	--- W-LAT --- W-LAT --- W-LAT
--- EXISTING ELECTRIC POLE	--- W-LAT --- W-LAT --- W-LAT
--- EXISTING GAS VALVE	--- PROP. DRAINAGE PATH
--- EXISTING WATER VALVE	--- PROP. MONUMENTATION
--- EXISTING FIRE HYDRANT	--- PROP. UTILITY POLE
--- EXISTING IRON PIN	--- PROP. SANITARY MANHOLE
--- EXISTING CONTROL POINT	--- PROP. CLEANOUT
--- EXISTING TEST PIT	--- PROP. VENT
--- EXISTING INLET	--- PROP. STORM MANHOLE
	--- PROP. INLET
	--- PROP. SIGN
	--- PROP. FIRE HYDRANT
	--- PROP. WATER VALVE
	--- PROP. WELL
	--- PROP. GAS VALVE
	--- PROP. TREE
	--- PROP. BENCHMARK
	--- PROP. CONCRETE WHEELSTOP
	--- PROP. BUILDING/STRUCTURE
	--- PROP. DRIVEWAY

**Pure Basin & Curb Inlet Filters**

Pure basin and curb inlet filters are the preferred choice for permanent inlet protection and stormwater runoff control. Constructed of versatile stainless steel, 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
- Gas stations
- Parking lots
- Deck drains
- Maintenance

**Features:**

- Custom stainless steel frames are configured to fit into any drainage structure
- Flow and bypass rates meet specific inlet requirements
- Filter bags target specific removal of trash, leaves, silt, particles, oil and grease
- Works before grade with bypass to drain area if bag is full
- Installs quickly and maintained with removal tool
- Stainless steel frame provides extended service life
- Replaceable filter bags handle loads with a safety factor of five
- Meets stringent removal requirements
- PCFC bags exceed 98% removal efficiency of street sweep size particles
- PCFC bags have been tested to 98% TSS removal of 0.1 to 10 US Silica Sand and 97% TPH (Total petroleum hydrocarbon) removal

**Inspection Frequency:**

Construction site inspection should occur following each 10" (254 mm) or more rain event. Post construction inspections should occur three times per year in areas with mild year round rainfall and four times per year in areas with seasonal rains. Industrial application site inspections should occur on a regular scheduled basis no less than once per year.

**Maintenance guidelines:**

Empty the filter bag if more than half filled with sediment and debris or as directed by the engineer. Remove the grate, engage the lifting bars or handles with the removal tool and lift from the structure. Dispose of the sediment or debris as directed by the engineer or maintenance contract in accordance with EPA guidelines.

**As an alternative, an industrial vacuum may be used to collect the accumulated sediment. Remove any silted on soil from the sediment bag and remove from the bag with medium spray for optimal drainage. Release the bag if debris or sediment is 1/2" (12.7 mm) diameter or greater on the outer wall of the bag. Industrial vacuum PCFC bags should be maintained prior to 50% oil saturation. The average 24" PCFC filter bag will retain approximately 90 or 12.8 gal of oil which must be disposed or recycled. While utilizing the Charms Industries Structural PCFC bags note that these oil saturations will gradually sun down and solidify, indicating replacement is needed. Each patch will absorb approximately 42 gal. (16.0 L) of oil before requiring replacement. The spent media may be recycled for its fuel value through water to energy incineration. Dispose of oil-contaminated products in accordance with EPA guidelines.**

**Filter bag replacement:**

Remove the bag by loosening or cutting of the clamping band. Take the new filter bag, which is equipped with a stainless steel woven wire clamping band and use a screwdriver to tighten the bag around the frame channel. Ensure the bag is secure and there is no slack around the perimeter of the band.

**ADS INLET FILTER**  
NOT TO SCALE

**SANITARY SEWER NOTES**

- ALL SANITARY SEWER MATERIAL AND APPURTENANCES TO BE DEDICATED TO THE CITY MUST BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF BETHLEHEM CONSTRUCTION SPECIFICATIONS, AS AMENDED AND THE PA DEP DOMESTIC WASTEWATER FACILITIES MANUAL, LATEST REVISION.
- ALL SANITARY SEWER PIPE, FITTINGS, AND APPURTENANCES MUST BE SDR-35 PVC, UNLESS NOTED OTHERWISE.
- CONNECTION TO EXISTING SANITARY SEWER MANHOLE MUST BE MADE USING WATERIGHT CONNECTION.
- THE SITE PLUMBER SHALL UTILIZE ONE OF THE EXISTING WYES TO CONNECT THE SANITARY SEWER LATERAL TO THE EXISTING MAIN.
- EXISTING SANITARY SEWER CONNECTIONS SHALL BE CAPPED PRIOR TO DEMOLITION. CAPPING PERMITS SHALL BE OBTAINED FROM THE CITY OF BETHLEHEM ENGINEERING BUREAU.

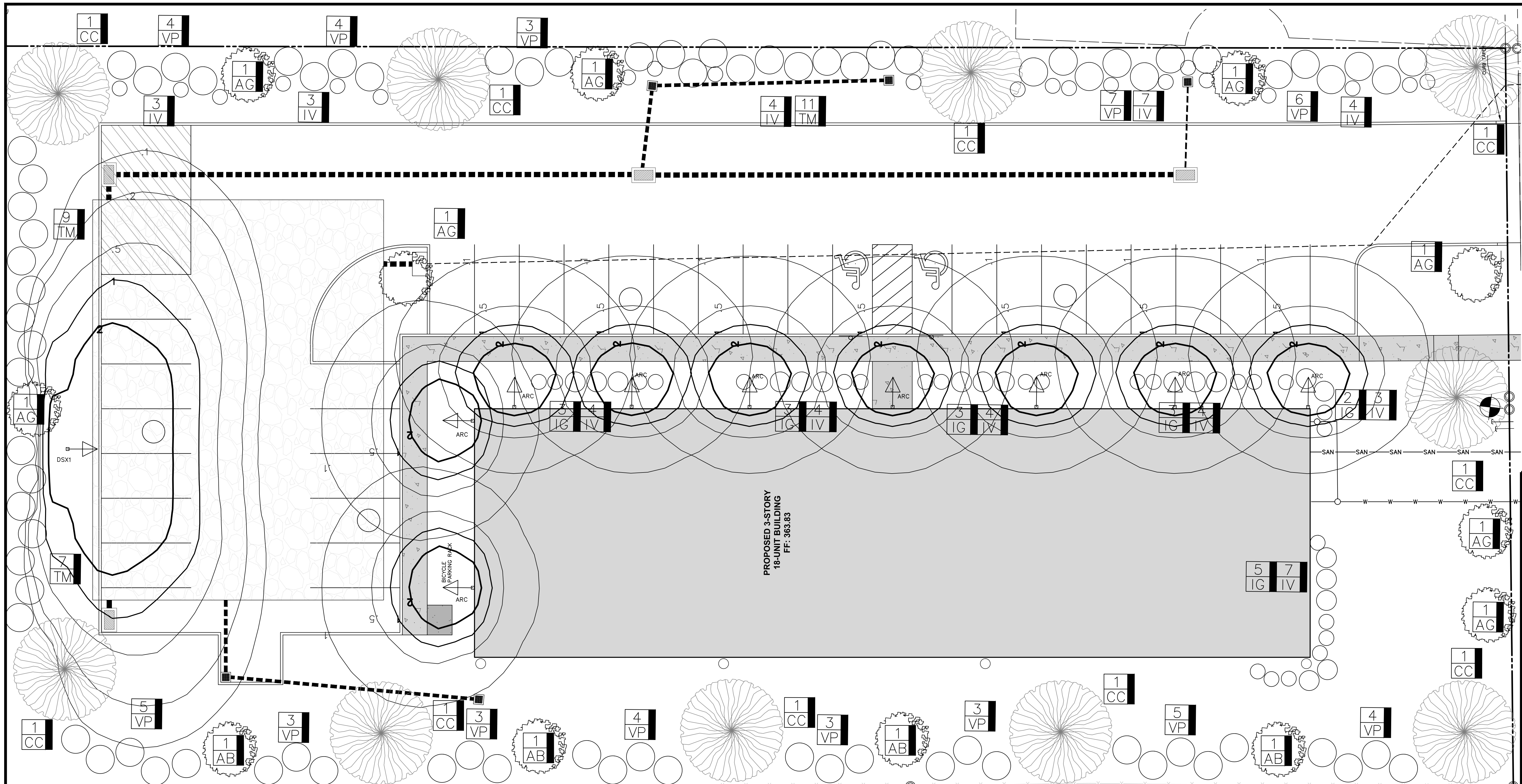
**WATER UTILITY NOTES**

- ALL WATER SERVICE LATERALS MUST BE INSTALLED FROM THE MAIN, CORPORATION STOP TO THE CURB STOP AT THE CITY RIGHT-OF-WAY WITHOUT A SPLICE CONNECTION.
- THE CONTRACTOR SHALL NOT OPERATE EXISTING VALVES, FIRE HYDRANTS, ETC., WITHIN THE CITY'S WATER SYSTEM. ARRANGEMENTS SHALL BE MADE THROUGH THE CITY FOR OPERATION.
- ALL WATER SYSTEM MATERIALS, APPURTENANCES AND CONSTRUCTION WITHIN THE CITY RIGHT-OF-WAY MUST BE IN COMPLIANCE WITH THE CITY OF BETHLEHEM CONSTRUCTION SPECIFICATIONS, AS AMENDED AND THE PA DEP PUBLIC WATER SUPPLY MANUAL, LATEST EDITION.
- ALL WATER LATERALS AND APPURTENANCES MUST MAINTAIN A MINIMUM OF 4 FEET COVER FROM FINISHED GRADE AND SHALL BE DUCTILE IRON PIPE.

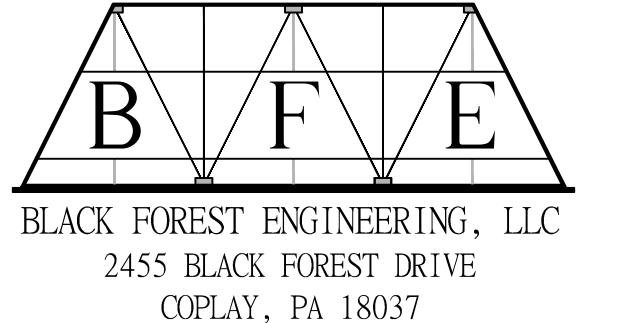
**GENERAL UTILITY NOTES**

- THE DEVELOPER IS RESPONSIBLE TO SECURE AND PAY FOR ALL ESTABLISHED CITY APPLICATION, ALLOCATION AND TRANSMISSION AND PERMITS NECESSARY FOR THE CONNECTION OF THE WATER AND SEWER SYSTEMS TO THE CITY PUBLIC SYSTEMS.
- ALL DEVELOPMENT CONSTRUCTION IMPROVEMENTS ARE SUBJECT TO QUALITY CONTROL INSPECTION BY THE CITY OR THEIR ASSIGNED AGENTS. ALL WORK CONSTRUCTED WITHOUT QUALITY CONTROL INSPECTION WILL BE SUBJECT TO REJECTION AND REMOVAL AND RECONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE CITY A MINIMUM OF 3 DAYS PRIOR TO ANY CONSTRUCTION OPERATIONS WITHIN THE CITY RIGHT-OF-WAY OR AFFECTING A CITY UTILITY.

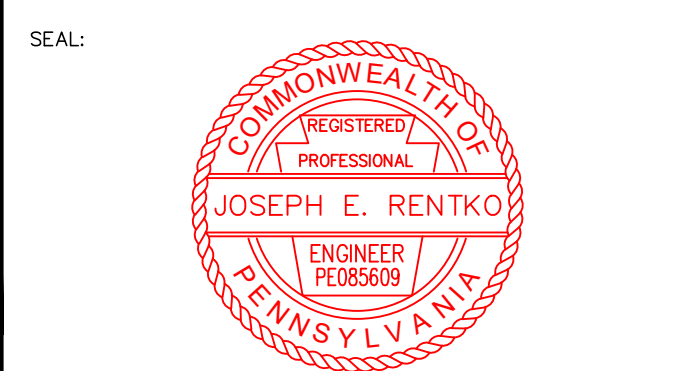




PLAN PREPARER  
 BLACK FOREST ENGINEERING, LLC  
 2455 BLACK FOREST DRIVE  
 COPLAY, PA 18037  
 (570)-239-4499



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JOSEPH E. RENTKO, P.E. #PE085609  
 2455 BLACK FOREST DRIVE  
 COPLAY, PA 18037  
 570-239-4499

**REQUIRED LANDSCAPING:**

**STREET TREES:**  
 EATON AVE =149 LF FRONTAGE (1 TREE REQ'D PER 30 LF); 5 TREES REQ'D

1. LANDSCAPE AREAS EQUAL TO 10 PERCENT OF THE OFFSTREET PARKING AREA SHALL BE PROVIDED.  
 APPROX PARKING AREA=14,160 SF  
 REQ'D LANDSCAPE AREA=1,416 SF

2. LANDSCAPE AREAS EQUAL TO 10 PERCENT OF THE MULTIFAMILY BUILDING AREA SHALL BE PROVIDED.  
 APPROX BUILDING AREA=3,400 SF  
 REQ'D LANDSCAPE AREA=340 SF

3. ONE (1) TREE WITH 8" TRUNK DIAMETER HAS BEEN REMOVED AND WILL BE REPLACED WITH ONE (1) TREE. ANY OTHER TREES REMOVED SHALL BE REPLACED IN KIND.

TOTAL REQ'D LANDSCAPE AREA=2,256 SF

(22 PROPOSED TREES AT MINIMUM CREDIT OF 100 SF PER TREE)  
 PROVIDED LANDSCAPE AREA=3,000 SF

**PLANT LIST: STREET & PARKING LOT TREES**

KEY	BOTANIC / COMMON NAME	SIZE	ROOT CONDITION	QUANTITY
AB	ACER BURGERIAUM / TRIDENT MAPLE	2"-2.5" CAL.	B&B	4
AG	ACER GRISCUIM / PAPERBARK MAPLE	2"-2.5" CAL.	B&B	8
CC	CERCIS CANADENSIS / EASTERN REDBUD	2"-2.5" CAL.	B&B	10

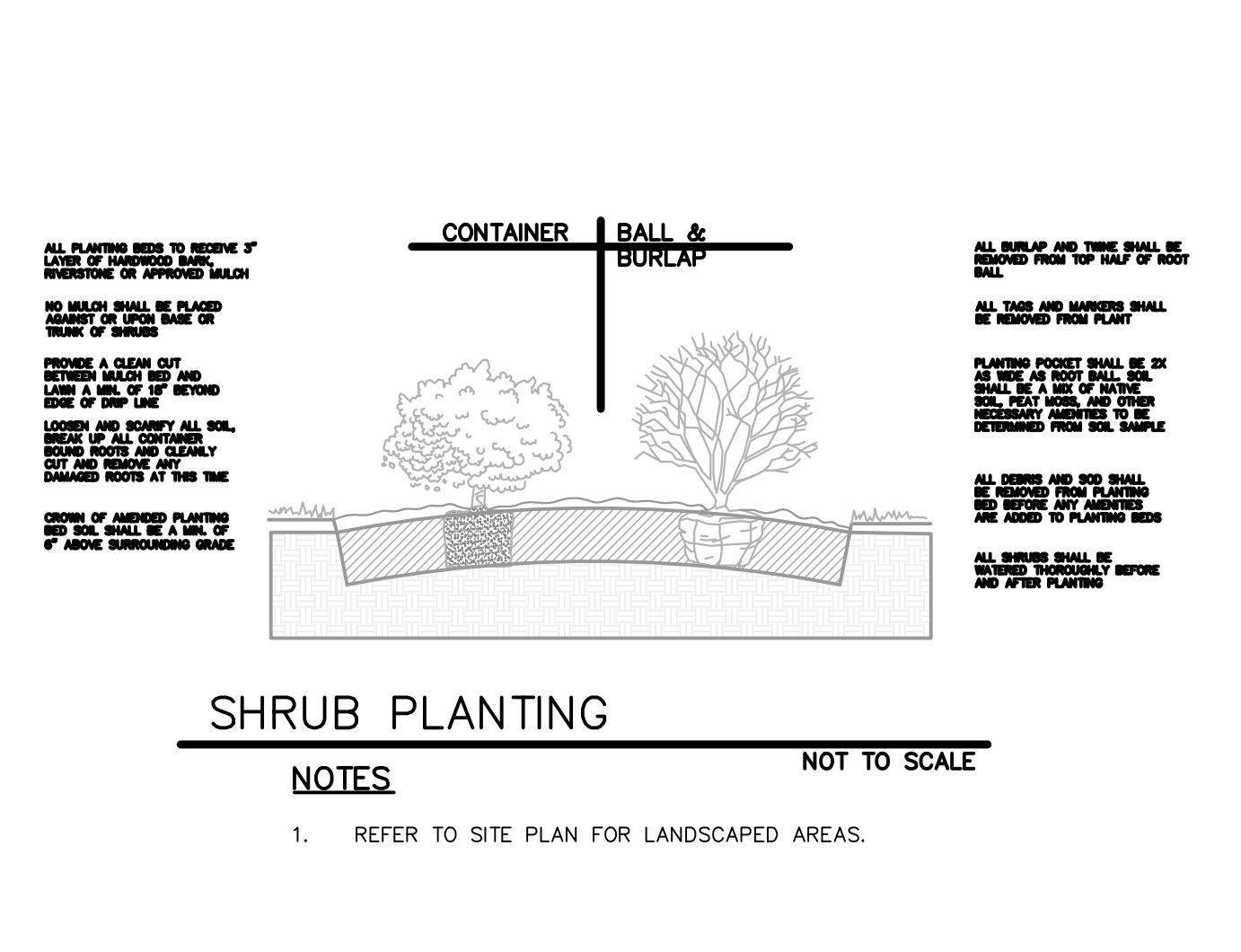
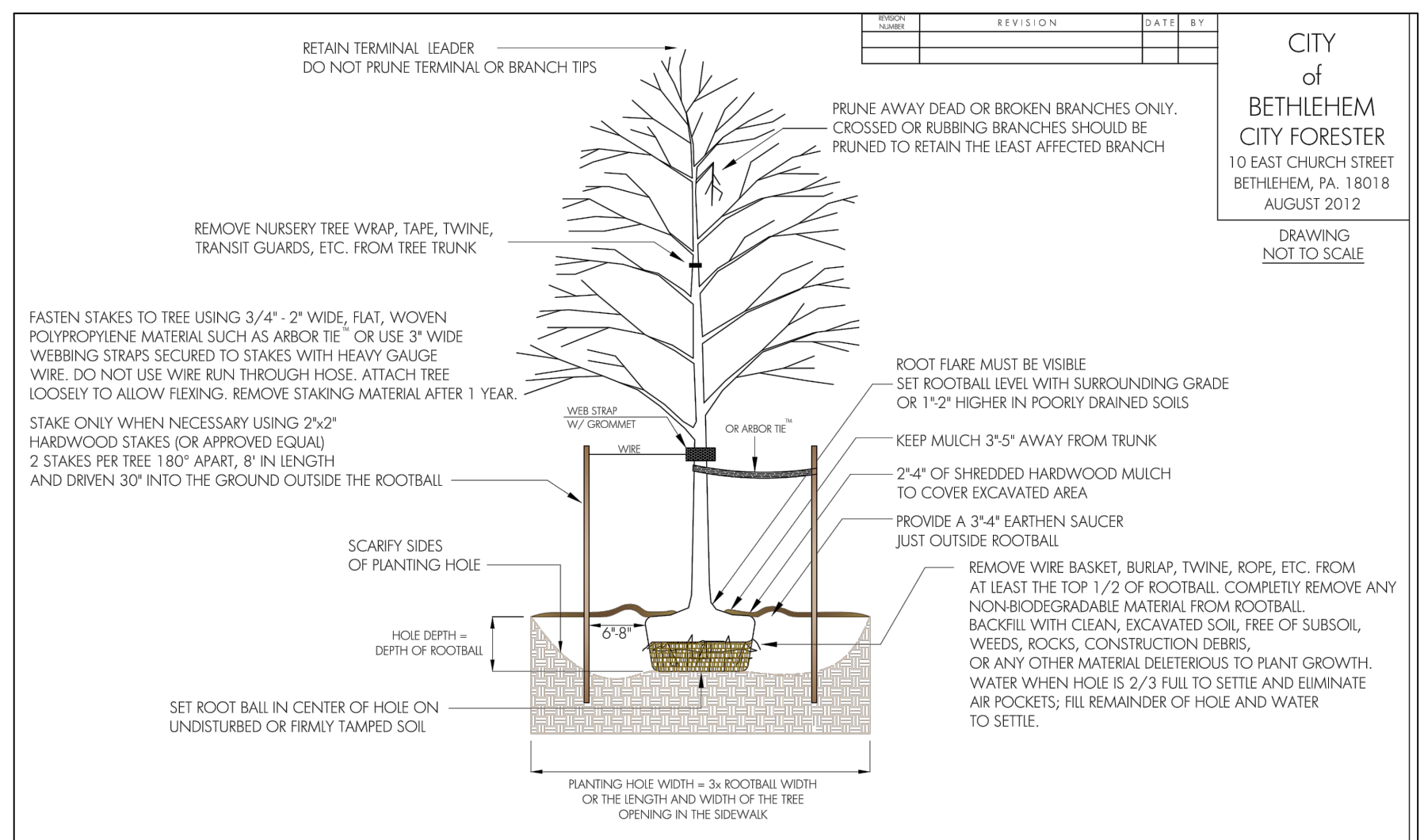
**PLANT LIST: BUFFER PLANTS**

KEY	BOTANIC / COMMON NAME	SIZE	ROOT CONDITION	QUANTITY
TM	TAXUS X MEDIA / JAPANESE YEW	2' HT.	B&B	27
VP	VBURNUM X PRAGENSE / PRAGENSE VBURNUM	7 LB	B&B	53

**PLANT LIST: FOUNDATION PLANTS**

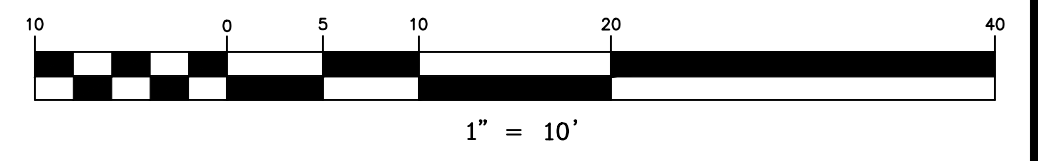
KEY	BOTANIC / COMMON NAME	SIZE	ROOT CONDITION	QUANTITY
IG	ILEX GLABRA / SHAMROCK	5 LB	CONT.	19
IV	ITEA VIRGINICA / LITTLE HENRY	5 LB	CONT.	43

ALL TREES AND SHRUBS SHALL BE MATCHES, IN FORM, IN THEIR VARIETY.



**SHRUB PLANTING**

**NOTES**  
 1. REFER TO SITE PLAN FOR LANDSCAPED AREAS.



**SITE LIGHTING PLAN**

KEY	COMPANY	PRODUCT NAME	QTY	HT
ARC	LITHONIA	ARC 1 LED P1 30K	9	10
DSX	LITHONIA	DSX1 LED P1 40K BLC MVOLT	1	15

PROPOSED BUILDING LIGHTS MODEL: ARC 1 LED P1 30K (OR EQUAL) 10FT HT

PROPOSED PARKING/STREET LIGHTS MODEL: DSX1 LED P1 40K BLC MVOLT (OR EQUAL) 15FT POLE

**PARKING REQUIREMENT**

1.75 SPACES PER MULTI FAMILY UNIT  
 18 UNITS x 1.75 = 32 SPACES REQ'D (34 PROVIDED)

**THE APARTMENTS AT 1210 EATON AVENUE**

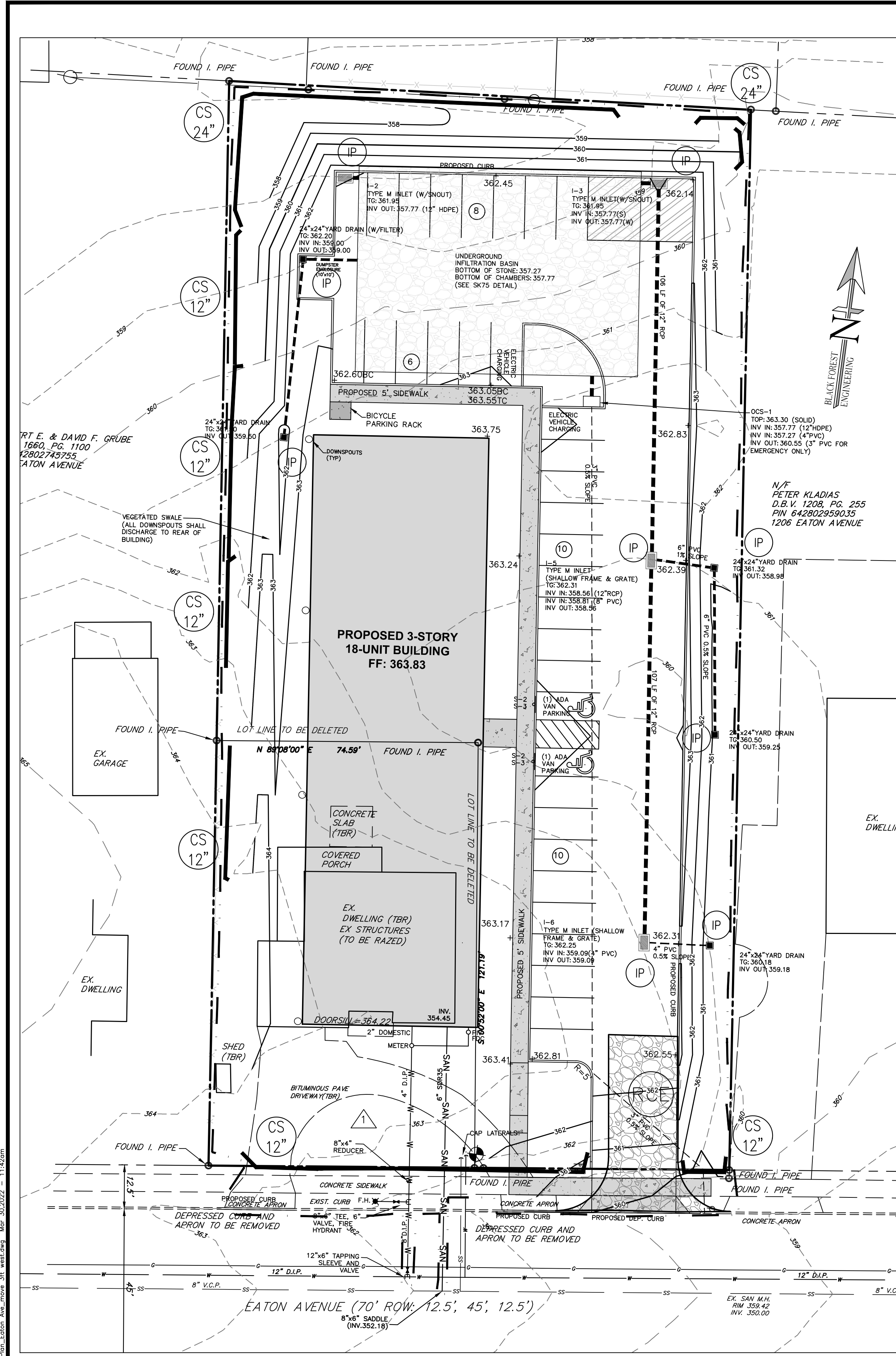
PROJECT OWNER: CAMBRIA PARTNERS, LLC  
 555 ASHWOOD ROAD  
 NAZARETH, PA 18064

PROJECT LOCATION:  
 CITY OF BETHLEHEM  
 WARD 13 BLOCK 149A  
 LEHIGH COUNTY  
 PENNSYLVANIA

**PLANNING AND LANDSCAPE**

SCALE:	DATE:	DRAWN:	CHECKED:
1"=10'	2/9/22	JER	JER
PROJECT NO.	DRAWING NO.	REVISION:	
1210	4 of 9	00	





**ACCELERATED EROSION CONTROL**  
 DURING THE CONSTRUCTION PHASE, MEASURES TO CONTROL ACCELERATED EROSION INCLUDE BUT ARE NOT LIMITED TO THE USE OF TEMPORARY STOCKPILES, PUMPED WATER FILTERS, AND PERMANENT STABILIZATION OF FINAL GRADES. ALL EFFORTS TO MINIMIZE THE EXTENT AND DURATION OF THE EARTH DISTURBANCE ACTIVITIES, MINIMIZE SOIL COMPACTION (WHERE PRUDENT), MAXIMIZE THE PRESERVATION OF EXISTING DRAINAGE FEATURES AND VEGETATION, AND TO EMPLOY OTHER MEASURES OR CONTROLS TO PREVENT THE INCREASE OF STORMWATER RUNOFF.

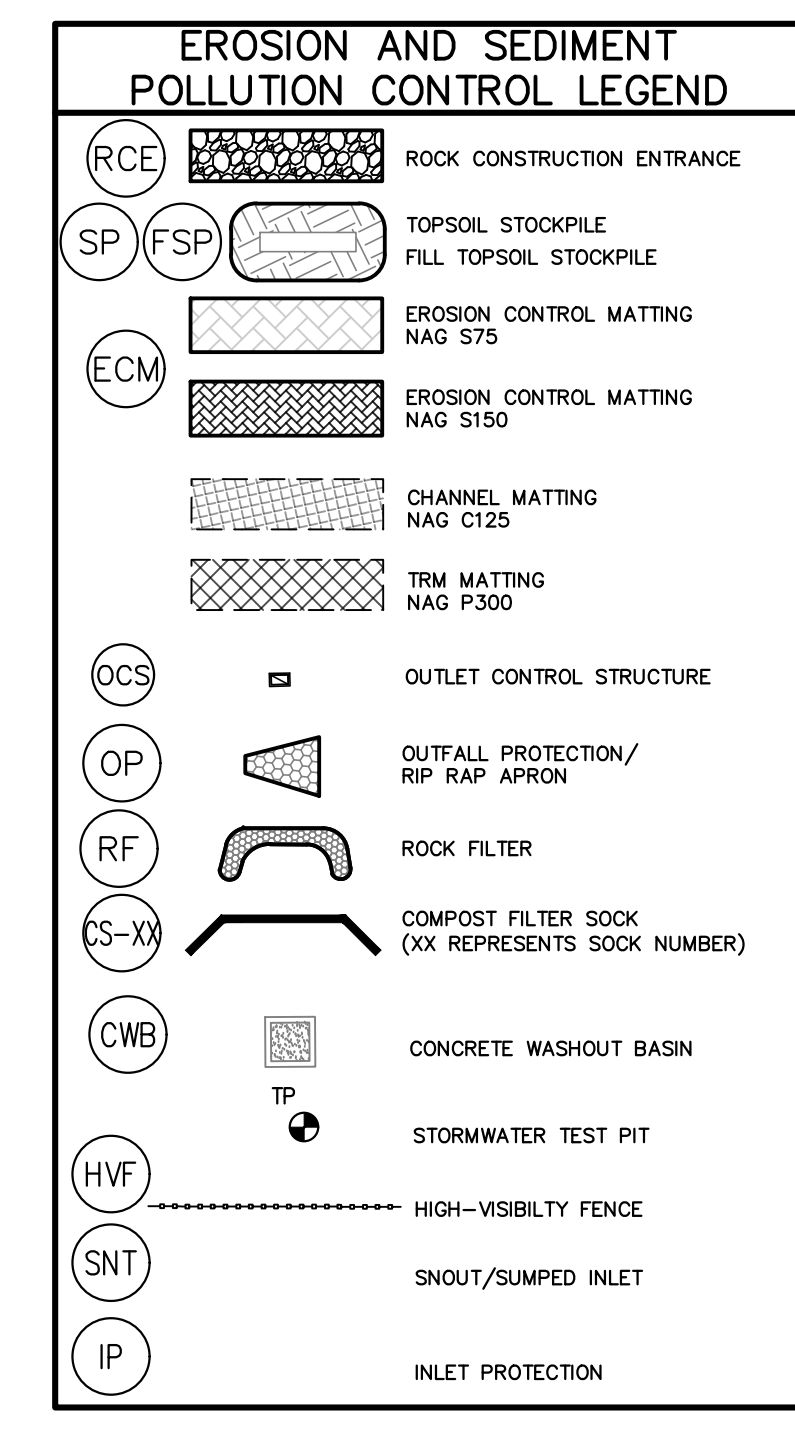
**RESPONSIBILITY FOR E & S CONTROL FACILITIES**  
 NOTE: CONTRACTOR SHALL COMPLETE "INSPECTION REPORT FORM 3150-FM-BWEV-0083" INSURING MAINTENANCE OF E&S FACILITIES. DURING IMPROVEMENTS CONSTRUCTION, THE SITE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTION, STABILIZATION & MAINTENANCE OF ALL SITE EROSION & SEDIMENTATION CONTROL FACILITIES. AFTER CONTRACTOR INVOLVEMENT CEASES, RESPONSIBILITY SHALL REVERT TO THE OWNER OF THE PROPERTY.

**ASSURANCE OF DESIGN PERFORMANCE**  
 THE SPECIFICATIONS AND REQUIREMENTS OF THE PROJECT PLANS, NARRATIVE AND SPECIFICATION ARE THE MINIMUM ACCEPTABLE CONSTRUCTION CRITERIA FOR THIS PROJECT.

DURING SITE DEVELOPMENT CONSTRUCTION, ALL TEMPORARY EROSION AND SEDIMENT 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 REPAIRED, IF POSSIBLE, WASHED OUT LAWN OR SLOPE AREAS MUST HAVE TOPSOIL REPLACED AND THEN MUST BE RE-SEED AND MULCHED.

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

AFTER THE MUNICIPALITY'S FINAL ACCEPTANCE OF SITE WORK CONSTRUCTION AND STABILIZATION BY THE CONTRACTOR, THE GROUND SURFACE AND ALL DRAINAGE FACILITIES LOCATED ON PUBLIC PROPERTY WILL BE MAINTAINED BY THE MUNICIPALITY.



**LIMIT OF DISTURBANCE:**  
 43,100SF (0.99 AC)

**PLAN PREPARER**  
 BLACK FOREST ENGINEERING, LLC  
 2455 BLACK FOREST DRIVE  
 COPLAY, PA 18037  
 (570)-239-4499

**SOIL TYPES** — **UmB** —  
 UoD Urban Land Duffield — 8 to 25 percent slopes

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

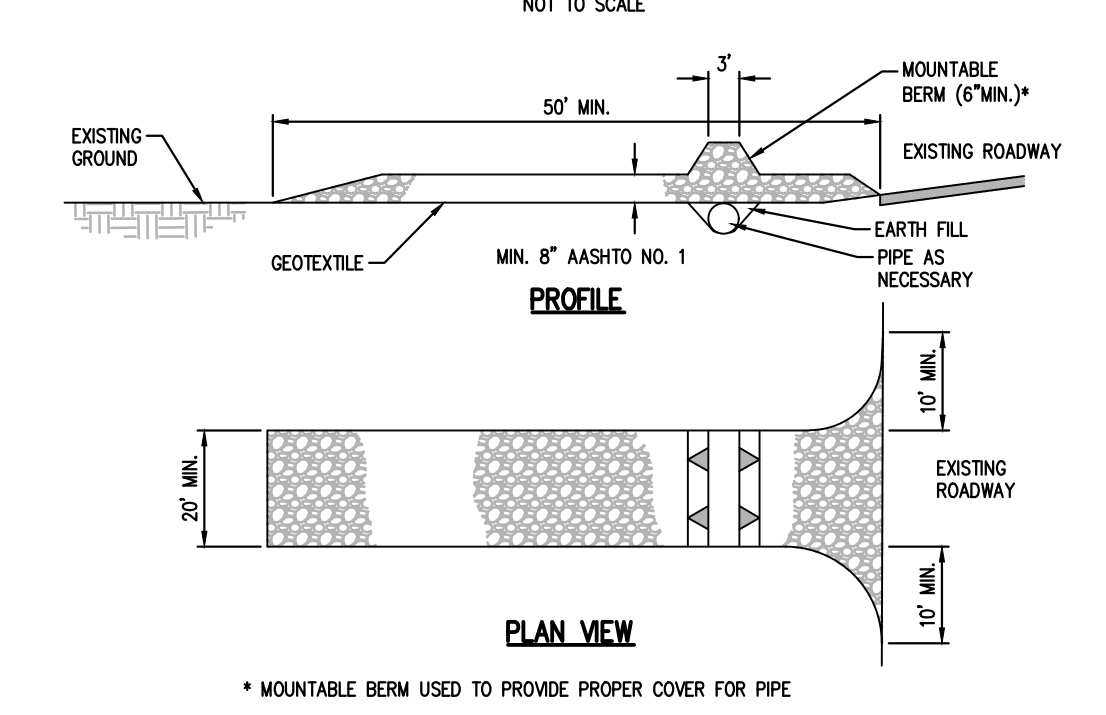
**CONSTRUCTION NOTES:**

- All grading shall be done in accordance with the City of Bethlehem.
- No earthmoving or grading activities may take place until a grading permit is granted by the City of Bethlehem.
- The City Engineer and/or staff may enter the property to inspect all grading and construction activities on the site.
- At least 7 days prior to any earth disturbance activities, the operator shall notify the City and invite all contractors involved in those activities, and the landowner to an on-site meeting.
- At least 7 days prior to any earth disturbance activities, the operator shall provide notice in writing to the City of Bethlehem that earth disturbance activities will be commencing.
- Temporary and permanent seeding shall be in accordance with requirements on the details. Compost Filter Socks shall be installed downslope of all topsoil stockpiles as indicated in the Topsoil Stockpile detail.
  - Topsoil pile locations may be adjusted to fit the contractor schedule as long as the silt sock is placed downslope of the pile locations.
  - Prior to any seeding and lime and fertilizer application, a soil test shall be performed to determine the pH factor. Additional lime and fertilizer may be required.
- All disturbed areas shall be immediately stabilized if earth disturbance/construction has ceased. Disturbed slopes of 3:1 or greater shall be stabilized with erosion control matting.
- Soil compaction and vehicle traffic shall be kept to a minimum at areas designated for sanitary absorption or stormwater infiltration BMPs.
- Topsoil should be stripped and stockpiled prior to all earthwork. Only strip the amount of topsoil necessary to perform earthwork. All disturbed areas shall be stabilized immediately if disturbance has ceased.
- On a daily basis, the Contractor shall inspect and clean any sediment that is tracked onto existing roads.
- All erosion control facilities shall be inspected after every runoff event and on a weekly basis, any necessary repairs must be made immediately.
- An area shall be considered to have achieved final stabilization when it has a minimum uniform 70% perennial vegetative cover or other permanent non-vegetative cover with a density sufficient to resist accelerated surface erosion and subsurface characteristics sufficient to resist sliding or other movements.
- NAGS75 matting to be applied to all proposed 3:1 slopes.

**SEQUENCE OF CONSTRUCTION**

- At least 7 days before starting any earth disturbance activities, the operator provide written notification to the City of Bethlehem and shall invite all contractors involved in those activities, appropriate municipal officials, the ESPC plan preparer and the landowner to an on-site meeting.
- At least 3 days prior to starting any earth disturbance activities, or expanding into an area previously unmarked, the Pennsylvania One Call System, Inc. shall be notified at 1-800-242-1776 for the location of existing underground utilities.
- Flag and mark the Limits of Disturbance. No grading or earthmoving may take place beyond the Limits of Disturbance.
- Install Rock Construction Entrance (RCE) off of Eaton Avenue where indicated on the Plan. This shall be the only ingress and egress from the site. Any sediment tracked onto the public roadway shall be collected and returned to the site by the end of each workday. Any sediment tracked onto the public roadway during RCE construction shall be cleaned immediately.
- Install perimeter compost filter socks at locations indicated on plan and per details.
- Remove existing buildings, structures and asphalt from the site. Immediately stabilize any disturbed areas outside of construction area. Any remaining topsoil shall be stockpiled in stockpile locations indicated on the Plan.
- Begin bulk earthwork for the building pad and parking lot. Rough grade the driveway and sidewalk. Fill should be compacted in layers so as to minimize sliding, slumping and erosion of soil. Erosion control matting shall be installed on any graded slopes of 3:1 or greater. The underground infiltration basin shall be installed at this time. Careful attention shall be paid to not over compact the subbase. Immediately install and connect the proposed outlet control structure. Begin storm sewer installation beginning at basin riser and working up slope.
- Rough grade building pad area. Fill should be compacted in layers so as to minimize sliding, slumping and erosion of soil. All newly graded shall be stabilized immediately. Erosion control matting shall be installed on any graded slopes of 3:1 or greater.
- Begin building construction and utility connection installation. Complete final paving.
- Upon completion of proposed improvements, any temporary staging area shall be restored to existing condition. Proposed landscaping shall be installed upon completion of buildings and retaining walls.
- After the site is stabilized, remove E&S BMPs. Immediately stabilize any areas disturbed by the removal of the erosion and sediment pollution controls. An area shall be considered to have achieved final stabilization when it has a minimum uniform 70% perennial vegetative cover or other permanent non-vegetative cover with a density sufficient to resist accelerated surface erosion and subsurface characteristics sufficient to resist sliding or other movements.

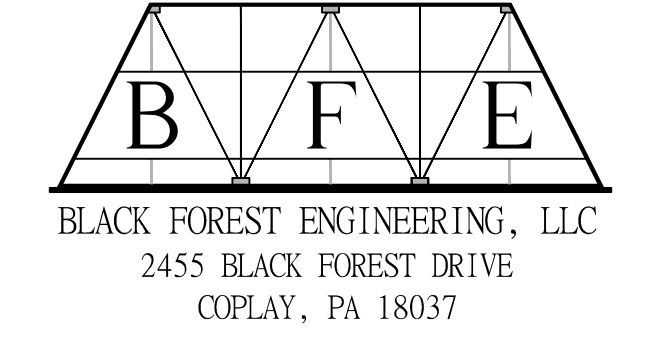
**Standard Construction Detail # 3-1**  
**ROCK CONSTRUCTION ENTRANCE**  
 NOT TO SCALE



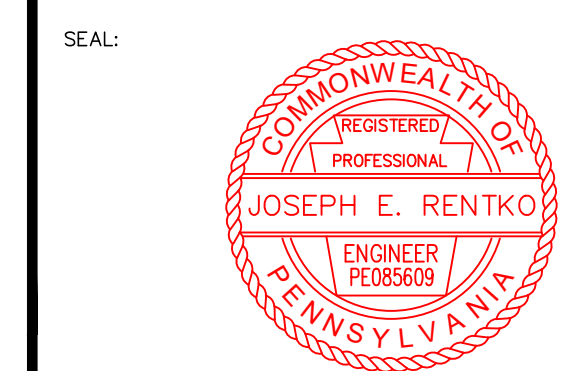
**General Notes:**

- REMOVE TOPSOIL PRIOR TO INSTALLATION OF ROCK CONSTRUCTION ENTRANCE. EXTEND ROCK OVER FULL WIDTH OF ENTRANCE.
  - RIPRAFF SHALL BE DIVERTED FROM ROADWAY TO A SUITABLE SEDIMENT REMOVAL BMP PRIOR TO ENTERING ROCK CONSTRUCTION ENTRANCE.
  - MOUNTABLE BERM SHALL BE INSTALLED WHEREVER OPTIONAL CULVERT PIPE IS USED AND PROPER PIPE COVER AS SPECIFIED BY MANUFACTURER IS NOT OTHERWISE PROVIDED. PIPE SHALL BE SIZED APPROPRIATELY FOR SIZE OF DITCH BEING CROSSED.
- MAINTENANCE: ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE SHALL BE MAINTAINED ON SITE FOR THIS PURPOSE. ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE IMMEDIATELY. IF EXCESSIVE AMOUNTS OF SEDIMENT ARE BEING DEPOSITED ON ROADWAY, EXTEND LENGTH OF ROCK CONSTRUCTION ENTRANCE BY 50 FOOT INCREMENTS UNTIL CONDITION IS ALLEVIATED OR INSTALL WASH RACK. WASHING THE ROADWAY OR SWEEPING THE DEPOSITS INTO ROADWAY DITCHES, SEWERS, CULVERTS, OR OTHER DRAINAGE COURSES IS NOT ACCEPTABLE.

**"CALL BEFORE YOU DIG"**  
 PENNSYLVANIA LAW REQUIRES 3 WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND 10 WORKING DAYS IN ADVANCE FOR UTILITY PHASE. IF YOU ARE NOT SURE, STOP CALL PENNSYLVANIA ONE CALL SYSTEM, INC. 1-800-242-1776 SERIAL NUMBER: 20220553078

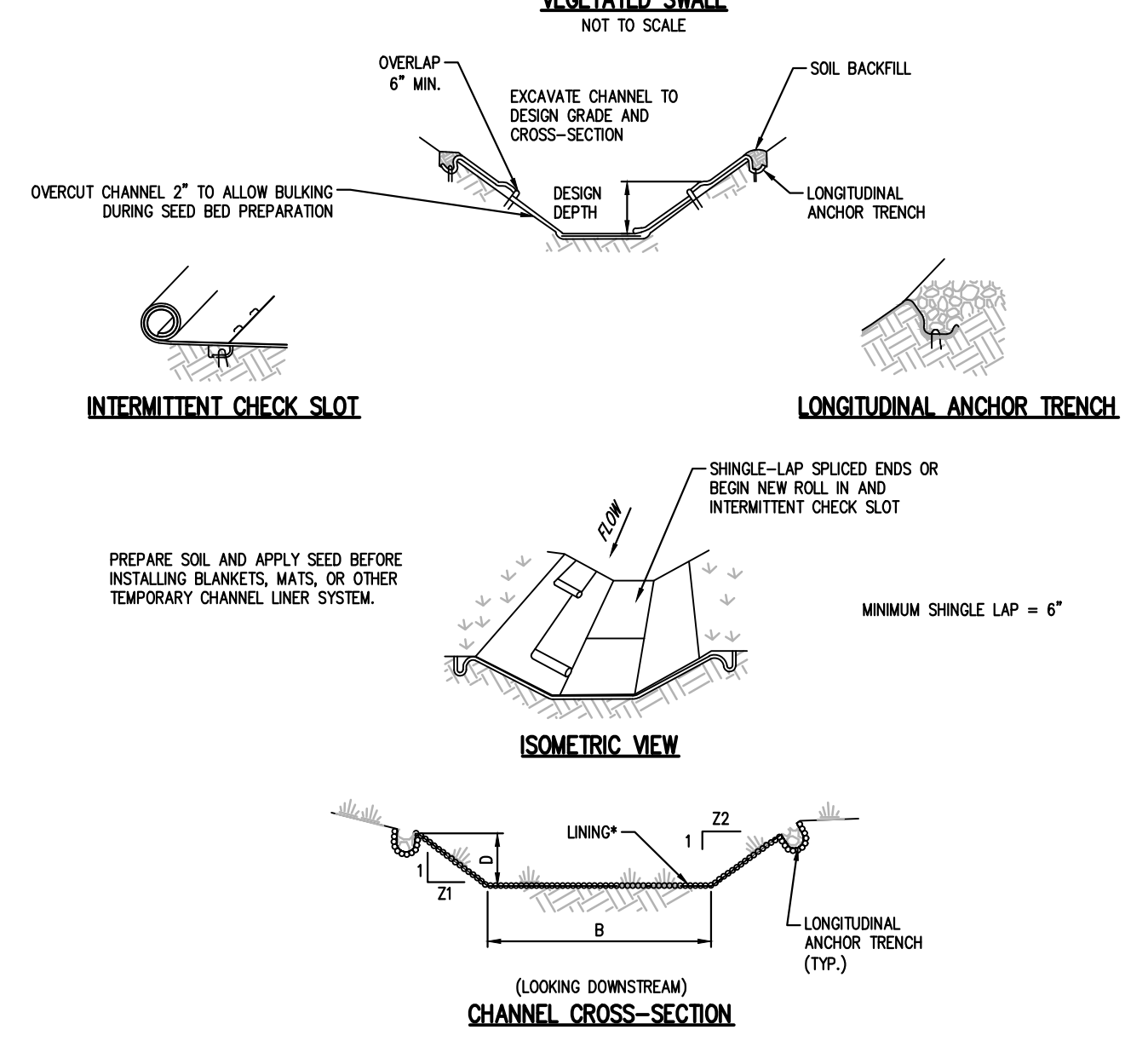


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JOSEPH E. RENTKO, P.E. #0085609  
 2455 BLACK FOREST DRIVE  
 COPLAY, PA 18037  
 570-239-4499

**Standard Construction Detail # 6-1**  
**VEGETATED SWALE**  
 NOT TO SCALE



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

ADAPTED FROM SAUX APPLIED EARTHCRE - EROSION DRAW 5.0

**General Notes:**

- ANCHOR TRENCHES SHALL BE INSTALLED AT BEGINNING AND END OF CHANNEL IN THE SAME MANNER AS LONGITUDINAL ANCHOR TRENCHES.
- CHANNEL DIMENSIONS SHALL BE CONSTANTLY MAINTAINED. CHANNEL SHALL BE CLEANED WHENEVER TOTAL CHANNEL DEPTH IS REDUCED BY 25% AT ANY LOCATION. SEDIMENT DEPOSITS SHALL BE REMOVED WITHIN 24 HOURS OF DISCOVERY OR AS SOON AS SOIL CONDITIONS PERMIT ACCESS TO CHANNEL WITHOUT FURTHER DAMAGE. DAMAGED LINING SHALL BE REPAIRED OR REPLACED WITHIN 48 HOURS OF DISCOVERY.
- NO MORE THAN ONE THIRD OF THE SHOOT (GRASS LEAF) SHALL BE REMOVED IN ANY MOWING. GRASS HEIGHT SHALL BE MAINTAINED BETWEEN 2 AND 3 INCHES UNLESS OTHERWISE SPECIFIED. EXCESS VEGETATION SHALL BE REMOVED FROM PERMANENT CHANNELS TO ENSURE SUFFICIENT CHANNEL CAPACITY.

CHANNEL NO.	STATIONS	BOTTOM WIDTH B (FT)	DEPTH D (FT)	Z1 (FT)	Z2 (FT)	LINING*
REAR YARD	ALL	2	1	3	3	NAG S75

PROJECT TITLE:  
**THE APARTMENTS AT 1210 EATON AVENUE**  
 PROJECT OWNER: CAMBRIA PARTNERS, LLC  
 555 ASHWOOD ROAD  
 NAZARETH, PA 18064

PROJECT LOCATION:  
**CITY OF BETHLEHEM  
 WARD 13 BLOCK 149A  
 LEHIGH COUNTY  
 PENNSYLVANIA**

PLAN TITLE:  
**EROSION CONTROL**

SCALE: 1"=20'	DATE: 2/9/22	DRAWN: JER	CHECKED: JER
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PROJECT NO. 1210	DRAWING NO. 5 OF 9	REVISION: 00
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B.F.E., LLC, Project: 20220328, 1210 Eaton Ave, move 3rd, water, sewer, Mar. 30, 2022 - 11:42am



**MULCHING**—Mulch absorbs rainfall impact, increases the rate of infiltration, reduces soil moisture loss due to evaporation, moderates soil temperatures, provides a suitable environment for germination, and protects the seedling from intense sunlight. All seeded areas should be mulched or blanketed to minimize the potential for failure to establish an adequate vegetative cover. Mulching may also be used as a temporary stabilization of disturbed areas in non-germinating seasons.

Apply mulches at the rates shown in table 11.6

Straw and hay mulch should be anchored immediately after application to prevent being blown away. A tractor-drawn implement may be used to crimp the straw or hay into the soil (about 3 inches). This method should be limited to slopes no steeper than 3H:1V. The machinery should be operated on the contour. (Note: Crimping of hay or straw by running over it with tracked machinery is not recommended.)

Mulch Type	Application Rate (Min.)			Notes
	Per Acre	Per 1,000 sq. ft.	Per 1,000 sq. yds.	
Straw	3 tons	140 lb.	1,240 lb.	Either wheel or oat straw, free of weeds, not chipped or finely broken.
Hay	3 tons	140 lb.	1,240 lb.	Timothy, mixed clover and timothy or other native forage grasses
Wood Chips	4-6 tons	185-275 lb.	1,650-2,500 lb.	May prevent germination of grasses and legumes
Hydromulch	1 ton	47 lb.	415	See limitations above

**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 EAS 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 APPROVAL AT ITS DISCRETION.

AT LEAST 7 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, INCLUDING CLEARING AND GRUBBING, THE OWNER AND/OR OPERATOR SHALL NOTIFY ALL CONTRACTORS, THE LANDOWNER, APPROPRIATE MUNICIPAL OFFICIALS, THE EAS PLAN PREPARER, THE PCSM PLAN PREPARER, THE LICENSED PROFESSIONAL RESPONSIBLE FOR OVERSIGHT OF CRITICAL STAGES OF IMPLEMENTATION OF THE PCSM PLAN, AND A REPRESENTATIVE FROM THE LOCAL CONSERVATION DISTRICT TO AN ON-SITE PRECONSTRUCTION MEETING.

AT LEAST 3 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, OR EXPANDING INTO AN AREA PREVIOUSLY UNMARKED, THE PENNSYLVANIA ONE CALL SYSTEM INC. SHALL BE NOTIFIED AT 1-800-242-1776 FOR THE LOCATION OF EXISTING UNDERGROUND UTILITIES.

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 THE CONSTRUCTION SEQUENCE. GENERAL SITE CLEARING, GRUBBING AND TOPSOIL STRIPPING MAY NOT COMMENCE IN ANY STAGE OR PHASE OF THE PROJECT UNTIL THE EAS BMPs SPECIFIED BY THE SEQUENCE FOR THAT STAGE OR PHASE HAVE BEEN INSTALLED AND ARE FUNCTIONING AS DESCRIBED IN THIS EAS 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.

TOPSOIL REQUIRED FOR THE ESTABLISHMENT OF VEGETATION SHALL BE STOCKPILED AT THE LOCATION(S) SHOWN ON THE PLAN MAP(S) IN THE AMOUNT NECESSARY TO COMPLETE THE FINISH GRADING OF ALL EXPOSED AREAS. IT SHALL 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.

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 2601 ET SEQ., 2711, AND 2871.1 ET SEQ. NO BUILDING MATERIALS OR WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURIED, BURIED, DUMPED, OR DISCHARGED AT THIS SITE.

ALL OFF-SITE WASTE AND BORROW AREAS MUST HAVE AN EAS PLAN APPROVED BY THE LOCAL CONSERVATION DISTRICT OR THE DEPARTMENT FULLY IMPLEMENTED PRIOR TO BEING ACTIVATED.

THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ANY MATERIAL BROUGHT ON SITE IS CLEAN FILL. FORM FP-1001 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.

ALL PUMPING OF WATER FROM ANY WORK AREA SHALL BE DONE ACCORDING TO THE PROCEDURE DESCRIBED IN THIS PLAN. OVER UNDISTURBED VEGETATED AREAS. ALL PUMPING OF SEDIMENT LADEN WATER SHALL BE THROUGH A SEDIMENT CONTROL BMP, SUCH AS A PUMPED WATER FILTER BAG DISCHARGING OVER NON-DISTURBED AREAS.

VEHICLES AND EQUIPMENT MAY NEVER ENTER DIRECTLY NOR EXIT DIRECTLY FROM LOTS (SPECIFY LOT NUMBERS), ONTO (SPECIFY ROAD NAMES). VEHICLES AND EQUIPMENT MAY ONLY ENTER AND EXIT THE CONSTRUCTION SITE VIA A STABILIZED ROCK CONSTRUCTION ENTRANCE.

UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENT BMPs SHALL BE MAINTAINED PROPERLY. MAINTENANCE SHALL INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENT BMPs AFTER EACH RAINFALL EVENT AND ON A WEEKLY BASIS. THE OPERATOR WILL MAINTAIN AND MAKE AVAILABLE TO LEHIGH COUNTY CONSERVATION DISTRICT COMPLETE, WRITTEN INSPECTION LOGS OF ALL THOSE INSPECTIONS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REVEGETATING AND PENDING MUST BE PERFORMED IMMEDIATELY. IF THE EAS BMPs FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMPs, OR MODIFICATIONS OF THOSE INSTALLED WILL BE REQUIRED.

A LOG SHOWING DATES THAT EAS 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 REGIONAL AGENCY OFFICIALS AT THE TIME OF INSPECTION.

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 SWEEPED INTO ANY ROADSIDE DITCH, STORM SEWER, OR SURFACE WATER.

ALL SEDIMENT REMOVED FROM BMPs SHALL BE DISPOSED OF IN THE MANNER DESCRIBED ON THE PLAN DRAWINGS. SEDIMENT REMOVED FROM BMPs SHALL BE DISPOSED OF IN LANDSCAPED AREAS OUTSIDE OF STEEP SLOPES, WETLANDS, FLOODPLAINS OR DRAINAGE SWALES AND IMMEDIATELY STABILIZED, OR PLACED IN TOPSOIL STOCKPILES.

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 OUTCROPS SHALL HAVE A MINIMUM OF 2 INCHES OF TOPSOIL.

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.

ALL EARTHEN FILLS SHALL BE PLACED IN COMPACTED LAYERS NOT TO EXCEED 9 INCHES IN THICKNESS.

FILL MATERIALS SHALL BE FREE OF FROZEN PARTICLES, BRUSH, ROOTS, SOIL, OR OTHER FOREIGN OR OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY FILLS.

FROZEN MATERIALS OR SOFT, MUCKY, OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED INTO FILLS.

FILL SHALL NOT BE PLACED ON SATURATED OR FROZEN SURFACES.

SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE HANDLED IN ACCORDANCE WITH THE STANDARD AND SPECIFICATION FOR SURFACE DRAIN OR OTHER APPROVED METHOD.

ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY UPON REACHING FINISHED GRADE. OUTCROPS IN COMPETENT BEDROCK AND ROCK FILLS NEED NOT BE PERMANENTLY STABILIZED WITHIN 50 FEET OF A SURFACE WATER, OR AS OTHERWISE SHOWN ON THE PLAN DRAWINGS. SHALL BE BLANKETED ACCORDING TO THE STANDARDS OF THIS PLAN.

IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE IN ANY AREA OR SUBAREA OF THE PROJECT, THE OPERATOR SHALL STABILIZE ALL UNDISTURBED AREAS. DURING NON-GERMINATING MONTHS, MULCH OR OTHER 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.

PERMANENT STABILIZATION IS DEFINED AS A MINIMUM UPROOT, 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.

EROSION AND SEDIMENT BMPs MUST BE CONSTRUCTED, STABILIZED, AND FUNCTIONAL BEFORE SITE DISTURBANCE BEGINS WITHIN THE TRIBUTARY AREAS OF THOSE BMPs. EAS 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 THE DEPARTMENT.

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 EAS BMPs.

AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENT BMPs MUST BE REMOVED OR CONVERTED TO PERMANENT BEST 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 SEASON.

UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL CONTACT THE LOCAL CONSERVATION DISTRICT TO SCHEDULE A FINAL INSPECTION.

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

IN THE EVENT OF SINKHOLE DISCOVERY A PROFESSIONAL GEOLOGIST OR ENGINEER WILL BE CONTACTED CONCERNING MITIGATION. ADDITIONALLY, THE LEHIGH COUNTY CONSERVATION DISTRICT WILL BE MADE AWARE OF THE SINKHOLE DISCOVERY IMMEDIATELY.

THE OPERATOR SHALL ASSURE THAT THE APPROVED EROSION AND SEDIMENT CONTROL PLAN IS PROPERLY AND COMPLETELY IMPLEMENTED.

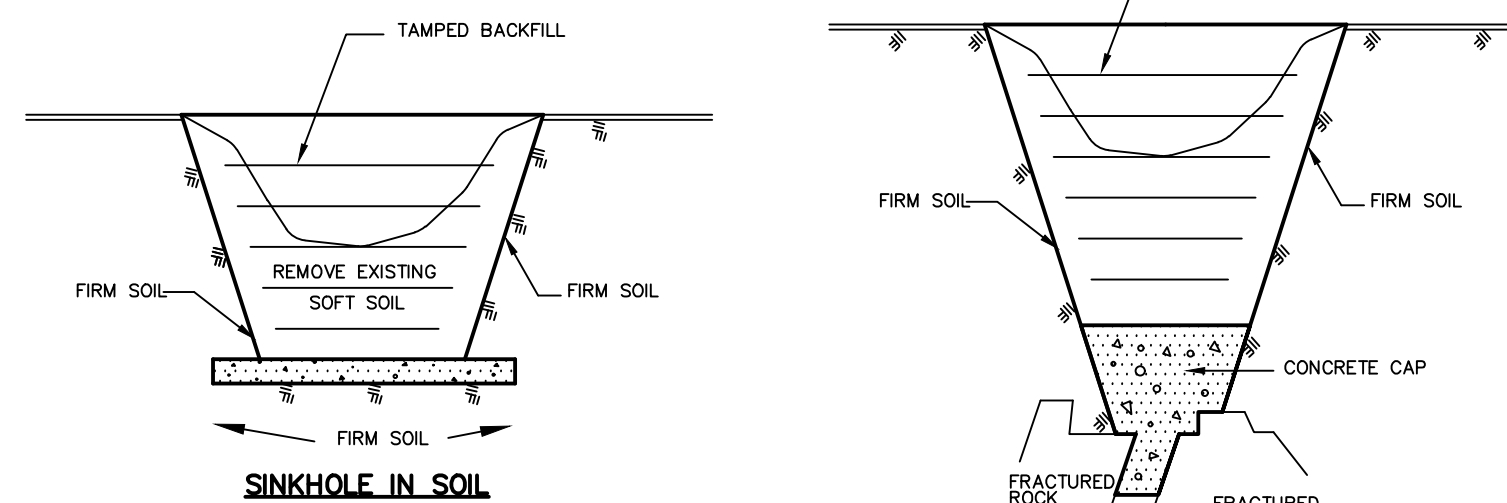
THE CONTRACTOR IS ADVISED TO BECOME THOROUGHLY FAMILIAR WITH THE PROVISIONS OF THE APPENDIX 64, EROSION CONTROL RULES AND REGULATIONS, TITLE 25, PART 1, DEPARTMENT OF ENVIRONMENTAL PROTECTION, SUBPART 6, INCLUDING OF NATURAL RESOURCES, ARTICLE III, WATER RESOURCES, CHAPTER 102, EROSION CONTROL.

THE EAS CONTROL PLAN MAPPING MUST DISPLAY A PA ONE CALL SYSTEM INCORPORATED SYMBOL, INCLUDING THE SITE IDENTIFICATION NUMBER. ( THIS IS A NUMBERED SYMBOL, NOT A NOTE. )

AT STREAM CROSSINGS, 50' BUFFER AREAS SHOULD BE MAINTAINED. ON BUFFERS, CLEARING, SOIL DISTURBANCES, DICATION, AND EQUIPMENT TRAFFIC SHOULD BE MINIMIZED. ACTIVITIES SUCH AS STACKING LOGS, BURNING CLEARED BRUSH, DISCHARGING RAINWATER FROM TRENCHES, WELDING PIPE SECTIONS, REVEGETATING AND MAINTAINING EQUIPMENT SHOULD BE ACCOMPLISHED OUTSIDE OF BUFFERS.

ALL WETLANDS MUST BE DELINEATED AND PROTECTED WITH ORANGE SAFETY FENCE PRIOR TO ANY EARTHMOVING ACTIVITY.

STRAW MULCH SHALL BE APPLIED IN LONG STRIPS, NOT CHOPPED OR FINELY BROKEN



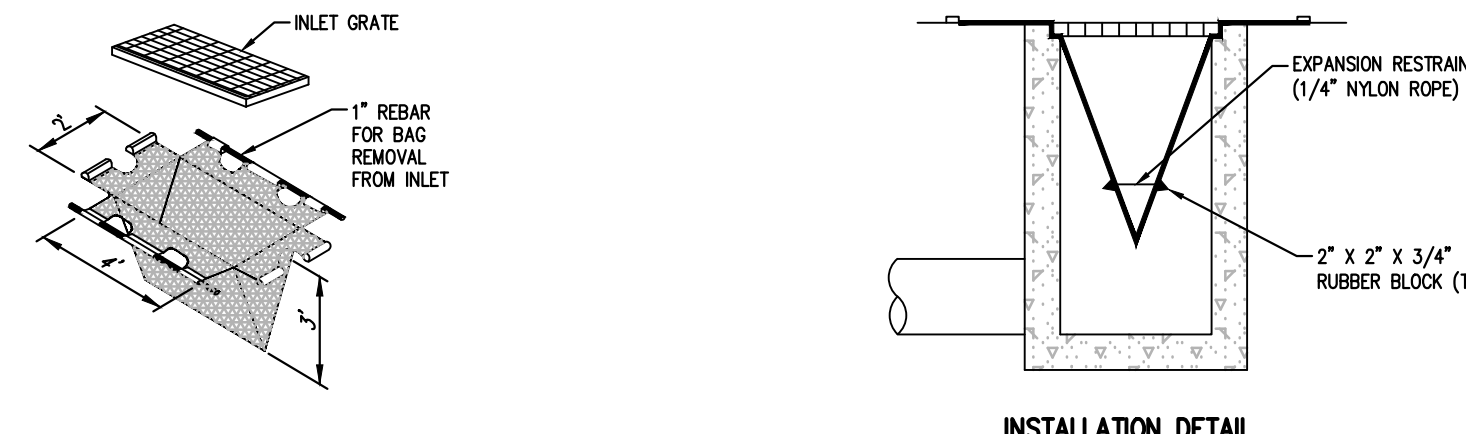
- EXCAVATE DOWN TO ROCK TO SINKHOLE THROAT OR TO A DEPTH OF 15 FEET BELOW GRADE, WHICHEVER OCCURS FIRST.
- IF ROCK IS ENCOUNTERED WITHIN 10 FEET STOP EXCAVATION. THE LIMIT OF EXCAVATION SHALL BE DETERMINED BY THE ENGINEER. GENERALLY A ZONE OF SOFT, IN-FILL MATERIAL WILL BE FOUND WHICH COVERS MOST OF 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 (4-8 FT), 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 ENGINEER.
- 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 20% 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.

**SINKHOLE REPAIR DETAILS**  
N. T. S.

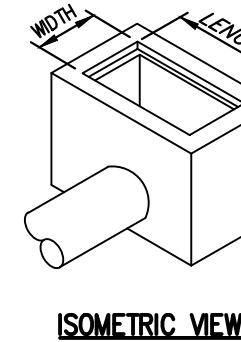
**STANDARD CONSTRUCTION DETAIL # 4-16**

**FILTER BAG INLET PROTECTION - TYPE M INLET**

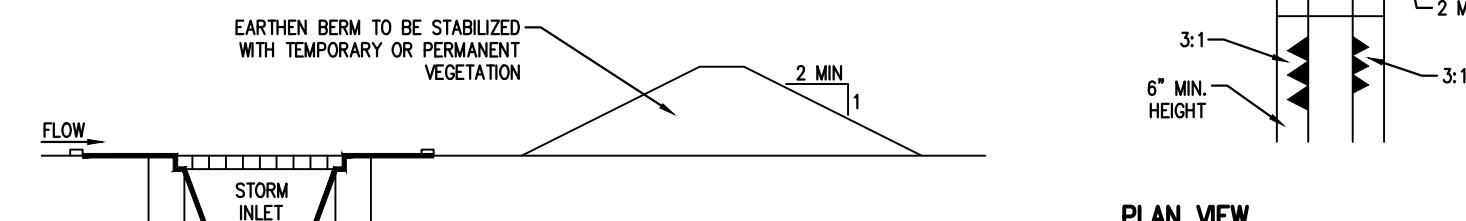
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**INSTALLATION DETAIL**



**ISOMETRIC VIEW**



**PLAN VIEW**



**ELEVATION VIEW**

ADAPTED FROM PENNDOT RC-70, 2008 EDITION

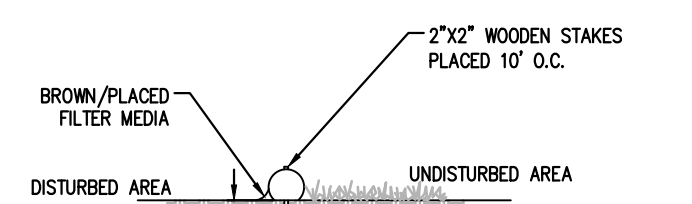
**GENERAL NOTES:**

- 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.
- ROLLED EARTHEN BERM SHALL BE MAINTAINED UNTIL ROADWAY IS STONED. ROAD SURFACE 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.
- AT A MINIMUM, THE FABRIC SHALL HAVE A MINIMUM GRAZ TENSILE STRENGTH OF 120 LBS, A MINIMUM BURST STRENGTH OF 200 PS, AND A MINIMUM TROPICAL TEAR STRENGTH OF 50 LBS. FILTER BAGS SHALL BE CAPABLE OF TRAPPING ALL PARTICLES NOT PASSING A NO. 40 SIEVE.
- INLET FILTER BAGS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RAINFALL EVENT. BAGS SHALL BE EMPTIED AND RINSED OR REPLACED WHEN HALF FULL OR WHEN FLOW CAPACITY HAS BEEN REDUCED SO AS TO CAUSE FLOODING OR BYPASSING OF THE INLET. DAMAGED OR CLOGGED BAGS SHALL BE REPLACED. 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.
- DO NOT USE ON MAJOR PAVED ROADWAYS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS.

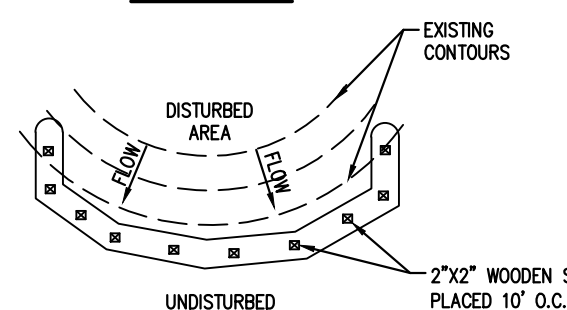
**Standard Construction Detail # 4-1**

**COMPOST FILTER SOCK**

NOT TO SCALE



**SECTION VIEW**



**PLAN VIEW**

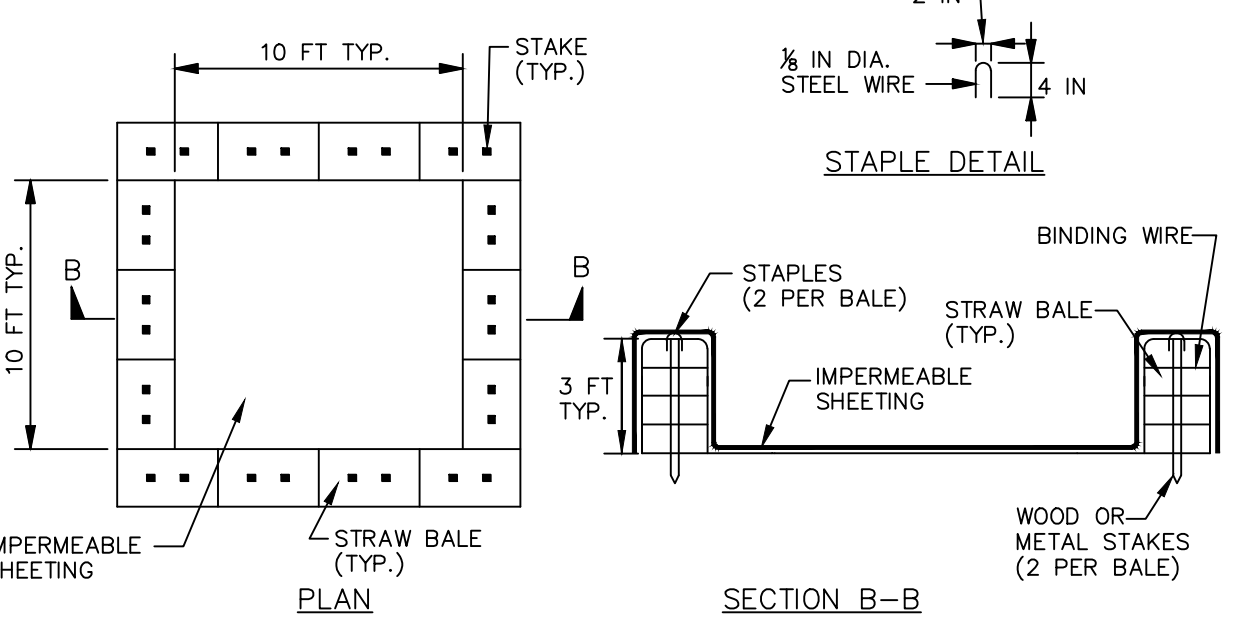
**General Notes:**

- COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE SOCK SHALL BE EXTENDED AT LEAST 8 FEET UP TO THE MAIN SLOPE 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 UPON THE SLOPE 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 RAINFALL 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.

**Site Specific Detail**

**CONCRETE WASHOUT STRUCTURE**

NOT TO SCALE



**PLAN**

**SECTION B-B**

NOTE: CAN BE TWO STACKED BALES OR PARTIALLY EXCAVATED TO REACH 3 FT DEPTH

**CONSTRUCTION SPECIFICATIONS**

- LOCATE WASHOUT STRUCTURE A MINIMUM OF 50 FEET AWAY FROM OPEN CHANNELS, STORM DRAIN INLETS, SENSITIVE AREAS, WETLANDS, BUFFERS AND WATER COURSES AND AWAY FROM CONSTRUCTION TRAFFIC.
- SIZE WASHOUT STRUCTURE FOR VOLUME NECESSARY TO CONTAIN WASH WATER AND SOLIDS AND MAINTAIN AT LEAST 4 INCHES OF FREEBOARD. TYPICAL DIMENSIONS ARE 10 FEET X 10 FEET X 3 FEET DEEP.
- PREPARE SOIL BASE FREE OF ROCKS OR OTHER DEBRIS THAT MAY CAUSE TEARS OR HOLES IN THE LINER. FOR LINER, USE 10 MIL OR THICKER UV RESISTANT, IMPERMEABLE SHEETING, FREE OF HOLES AND TEARS OR OTHER DEFECTS THAT COMPROMISE IMPERMEABILITY OF THE MATERIAL.
- PROVIDE A SIGN FOR THE WASHOUT IN CLOSE PROXIMITY TO THE FACILITY.
- KEEP CONCRETE WASHOUT STRUCTURE WATER TIGHT. REPLACE IMPERMEABLE LINER IF DAMAGED (E.G., RIPPED OR PUNCTURED). EMPTOR OR REPLACE WASHOUT STRUCTURE THAT IS 75 PERCENT FULL, AND DISPOSE OF ACCUMULATED MATERIAL PROPERLY. DO NOT REUSE PLASTIC LINER. MET-VACUUM STORED LIQUIDS THAT HAVE NOT EVAPORATED AND DISPOSE OF IN AN APPROVED MANNER. PRIOR TO FORECASTED RAINSTORMS, REMOVE LIQUIDS OR COVER STRUCTURE TO PREVENT OVERFLOWS. REMOVE HARDENED SOLIDS, WHOLE OR BROKEN UP, FOR DISPOSAL OR RECYCLING. MAINTAIN RUNOFF DIVERSION AROUND EXCAVATED WASHOUT STRUCTURE UNTIL STRUCTURE IS REMOVED.

ALL BMPs SHALL BE INSPECTED AFTER EVERY RUNOFF EVENT AND ON A WEEKLY BASIS. ANY NECESSARY REPAIRS MUST BE MADE IMMEDIATELY.

**Standard Construction Detail # 11-1**

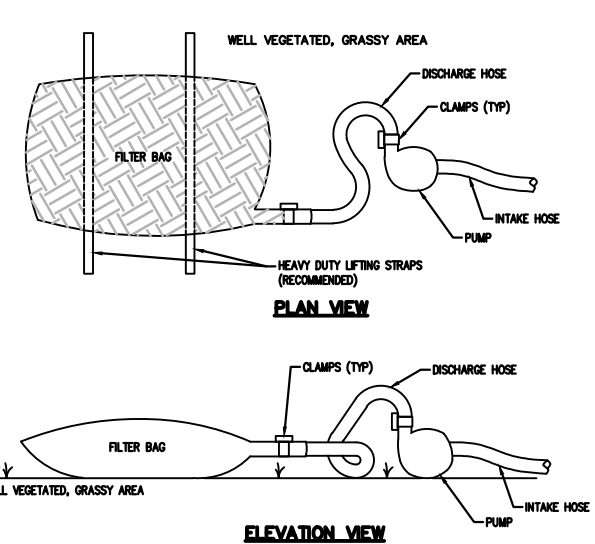
**EROSION CONTROL BLANKET INSTALLATION**

NOT TO SCALE

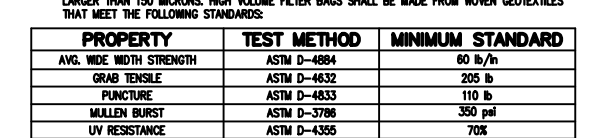
**STANDARD CONSTRUCTION DETAIL # 3-16**

**FILTER BAG WATER FILTER BAG**

NOT TO SCALE



**ELEVATION VIEW**

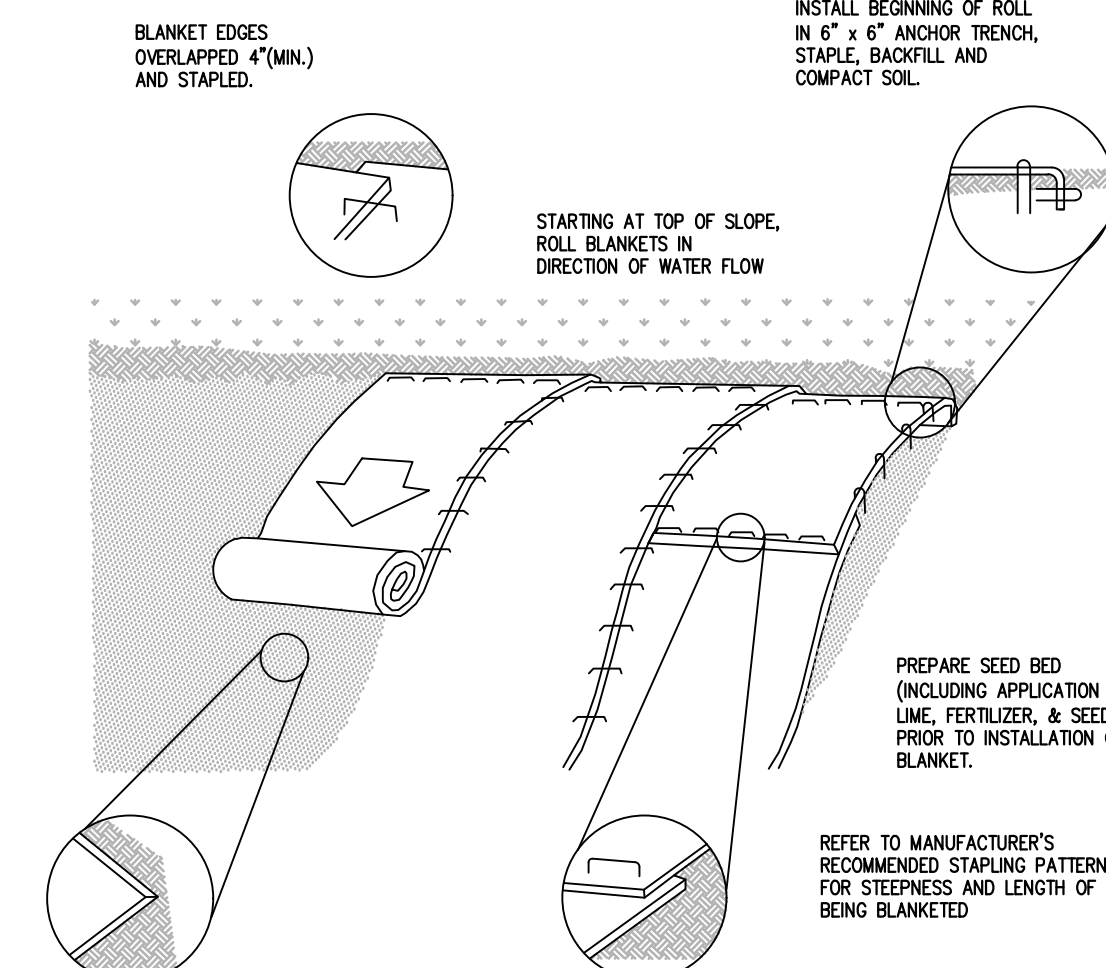


**GENERAL NOTES:**

- A MINIMUM RANGE OF 20 FEET FROM THE WASHOUT STRUCTURE SHALL BE PROVIDED. THE PROTECTIVE AREA SHALL BE MAINTAINED THROUGHOUT THE LIFE OF THE PROJECT. THE PROTECTIVE AREA SHALL BE MAINTAINED THROUGHOUT THE LIFE OF THE PROJECT. THE PROTECTIVE AREA SHALL BE MAINTAINED THROUGHOUT THE LIFE OF THE PROJECT.
- PROVIDE ANCHOR TRENCH AT TOE OF SLOPE IN SIMILAR FASHION AS AT TOP OF SLOPE.
- SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS, AND GRASS.
- BLANKET SHALL HAVE GOOD CONTINUOUS CONTACT WITH UNDERLYING SOIL THROUGHOUT ENTIRE LENGTH. LAY BLANKET LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH SOIL. DO NOT STRETCH BLANKET.
- THE BLANKET SHALL BE STAPLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- BLANKETED AREAS SHALL BE INSPECTED WEEKLY AND AFTER EACH RAINFALL 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.

**PROPERTY TEST METHOD MINIMUM STANDARD**

PROPERTY	TEST METHOD	MINIMUM STANDARD
AVG. WET TENSILE STRENGTH	ASTM D-885	60 LBS
SOIL STRENGTH	ASTM D-885	2
PUNCTURE	ASTM D-885	10 LBS
TEAR STRENGTH	ASTM D-885	10 LBS
UV RESISTANCE	ASTM D-885	70%
AS REQUIRED	ASTM D-885	AS SPEC.



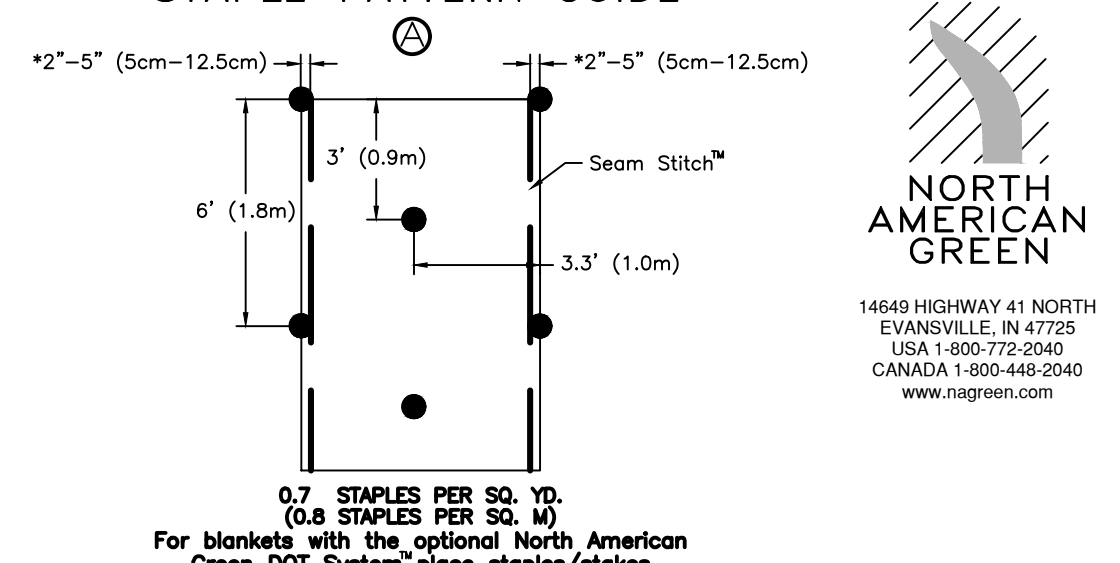
THE BLANKET SHOULD NOT BE STRETCHED; IT MUST MAINTAIN GOOD SOIL CONTACT.

OVERLAP BLANKET ENDS 6" (MIN.) WITH THE UPSLOPE BLANKET OVERLAPPING THE DOWNSLOPE BLANKET (SHINGLE STYLE). STAPLE SECURELY.

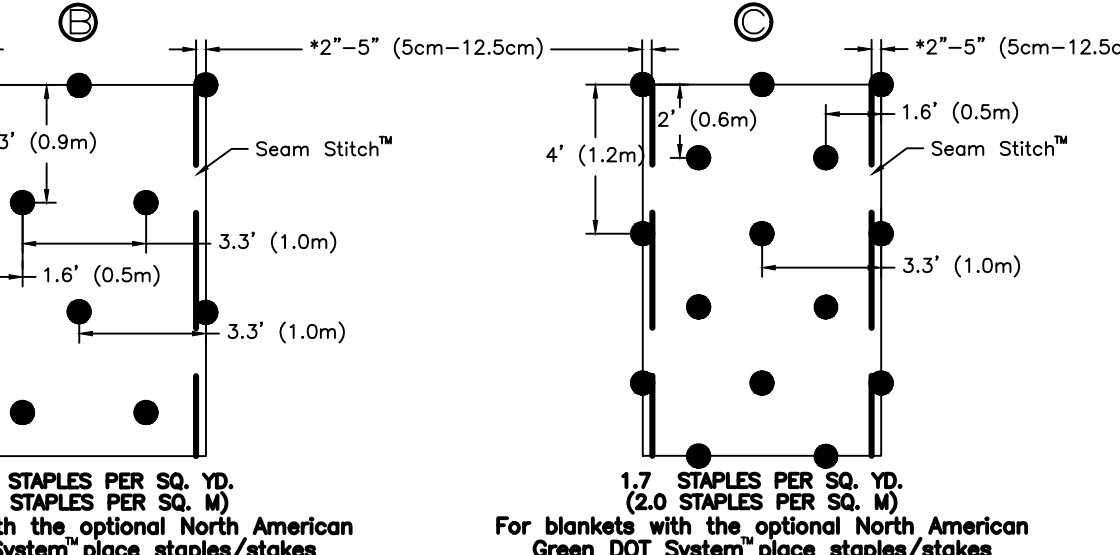
**General Notes:**

- SEED AND SOIL AMENDMENTS SHALL BE APPLIED ACCORDING TO THE RATES IN THE PLAN DRAWINGS PRIOR TO INSTALLING THE BLANKET.
- SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS, AND GRASS.
- BLANKET SHALL HAVE GOOD CONTINUOUS CONTACT WITH UNDERLYING SOIL THROUGHOUT ENTIRE LENGTH. LAY BLANKET LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH SOIL. DO NOT STRETCH BLANKET.
- THE BLANKET SHALL BE STAPLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- BLANKETED AREAS SHALL BE INSPECTED WEEKLY AND AFTER EACH RAINFALL 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.

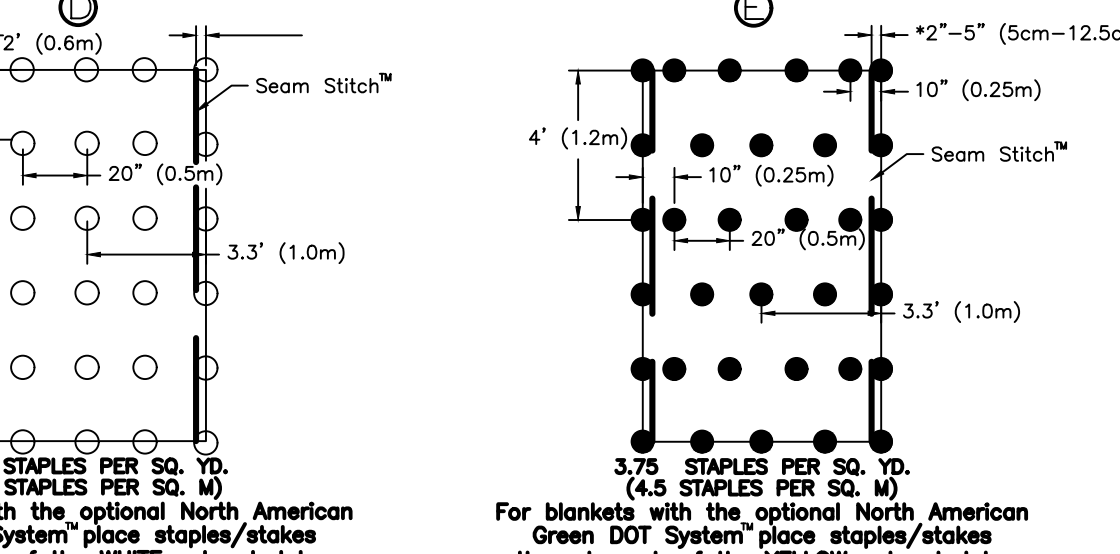
**STAPLE PATTERN GUIDE**



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.



1.15 STAPLES PER SQ. YD. (1.35 STAPLES PER SQ. M.)  
For blankets with the optional North American Green DOT System place staples/stakes through each of the RED colored dots.



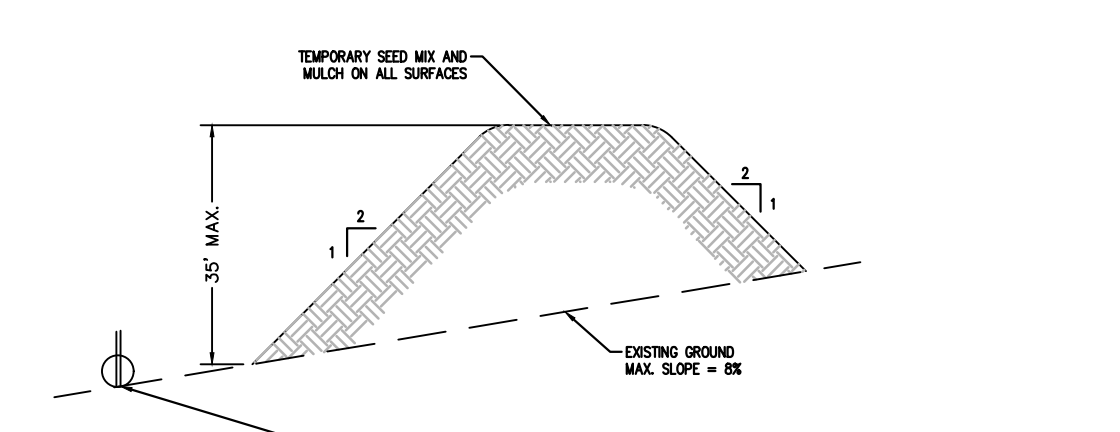
3.4 STAPLES PER SQ. YD. (4.1 STAPLES PER SQ. M.)  
For blankets with the optional North American Green DOT System place staples/stakes through each of the WHITE colored dots.

3.75 STAPLES PER SQ. YD. (4.5 STAPLES PER SQ. M.)  
For blankets with the optional North American Green DOT System place staples/stakes through each of the YELLOW colored dots.

\*Location of Seam Stitch™ will vary depending on North American Green product type:

**TOPSOIL STOCK PILE**

NOT TO SCALE



**GENERAL NOTES:**

- STOCKPILE TOPSOIL OR DEDICATED SOIL MATERIAL AT LOCATIONS SHOWN FOR EACH PHASE OF CONSTRUCTION.
- HEIGHT AND SIDE SLOPES SHALL NOT EXCEED MAXIMUM VALUES SHOWN ON DETAIL.
- INSTALL FILTER SOCK PRIOR TO STOCKPILING OF MATERIAL. REPLACE ANY SOCK REMOVED FOR UNUSUAL ACCESS AT THE END OF WORK DAY.
- APPLY A TEMPORARY SEED MIX AND MULCH OVER FILL WITH SEED FOR 30 DAYS OR MORE.

**NORTH AMERICAN GREEN**  
14649 HIGHWAY 41 NORTH  
EVANSHVILLE, IN 47725  
USA 1-800-772-2040  
CANADA 1-800-440-2040  
www.nagreen.com

**BLACK FOREST ENGINEERING, LLC**  
2455 BLACK FOREST DRIVE  
COPLAY, PA 18037

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SEAL:  
**COMMONWEALTH OF PENNSYLVANIA**  
REGISTERED PROFESSIONAL ENGINEER  
**JOSEPH E. RENTKO**  
ENGINEER (P)  
15000

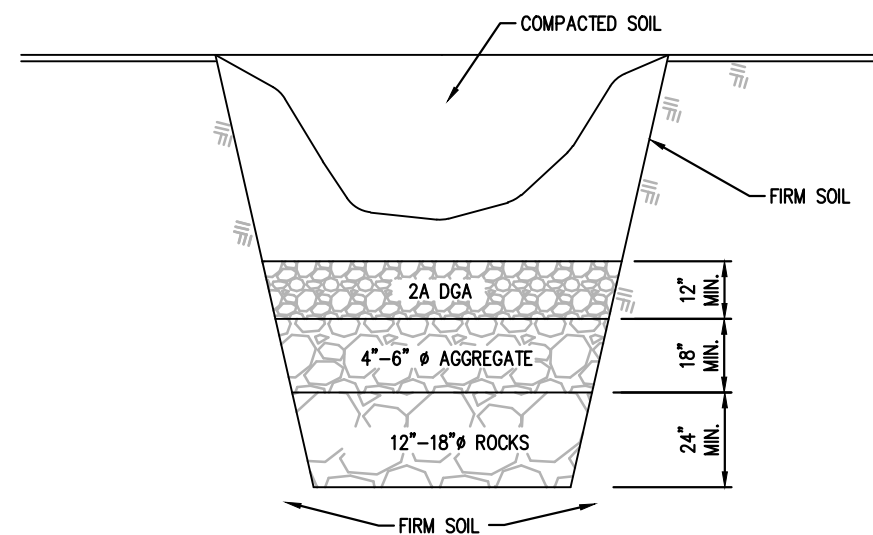
JOSEPH E. RENTKO, P.E. #0285609  
2455 BLACK FOREST DRIVE  
COPLAY, PA 18037  
370-239-4499

REV.	DESCRIPTION:	BY	DATE
02	CITY REVIEW LETTER	JER	3/29/22
01	LVPIC STORMWATER	JER	3/1/22

PROJECT TITLE:  
**THE APARTMENTS AT 1210 EATON AVENUE**

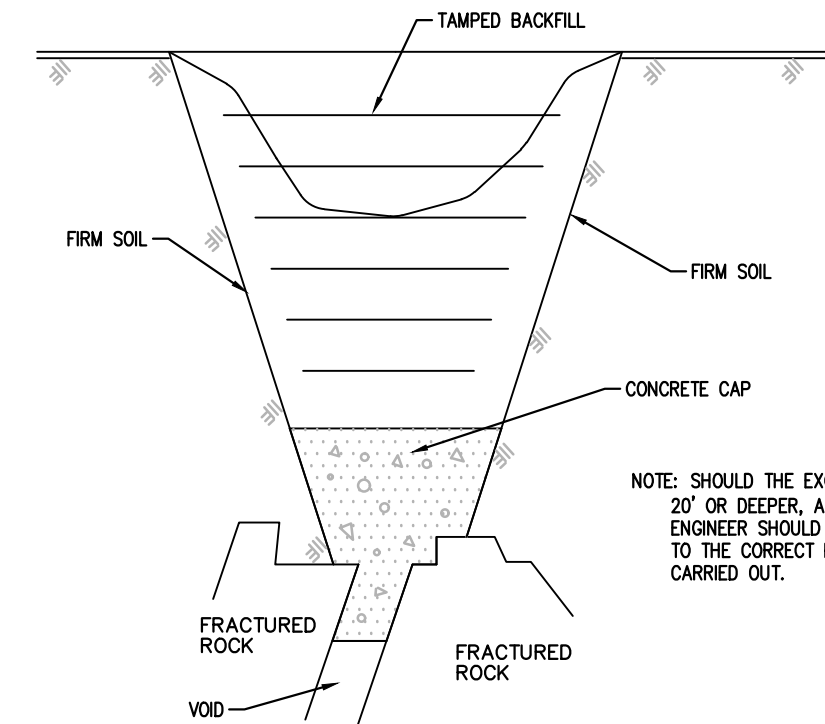
PROJECT OWNER:  
CAMBRIA PARTNERS, LLC  
555 ASHWOOD ROAD  
NAZARETH, PA 18064





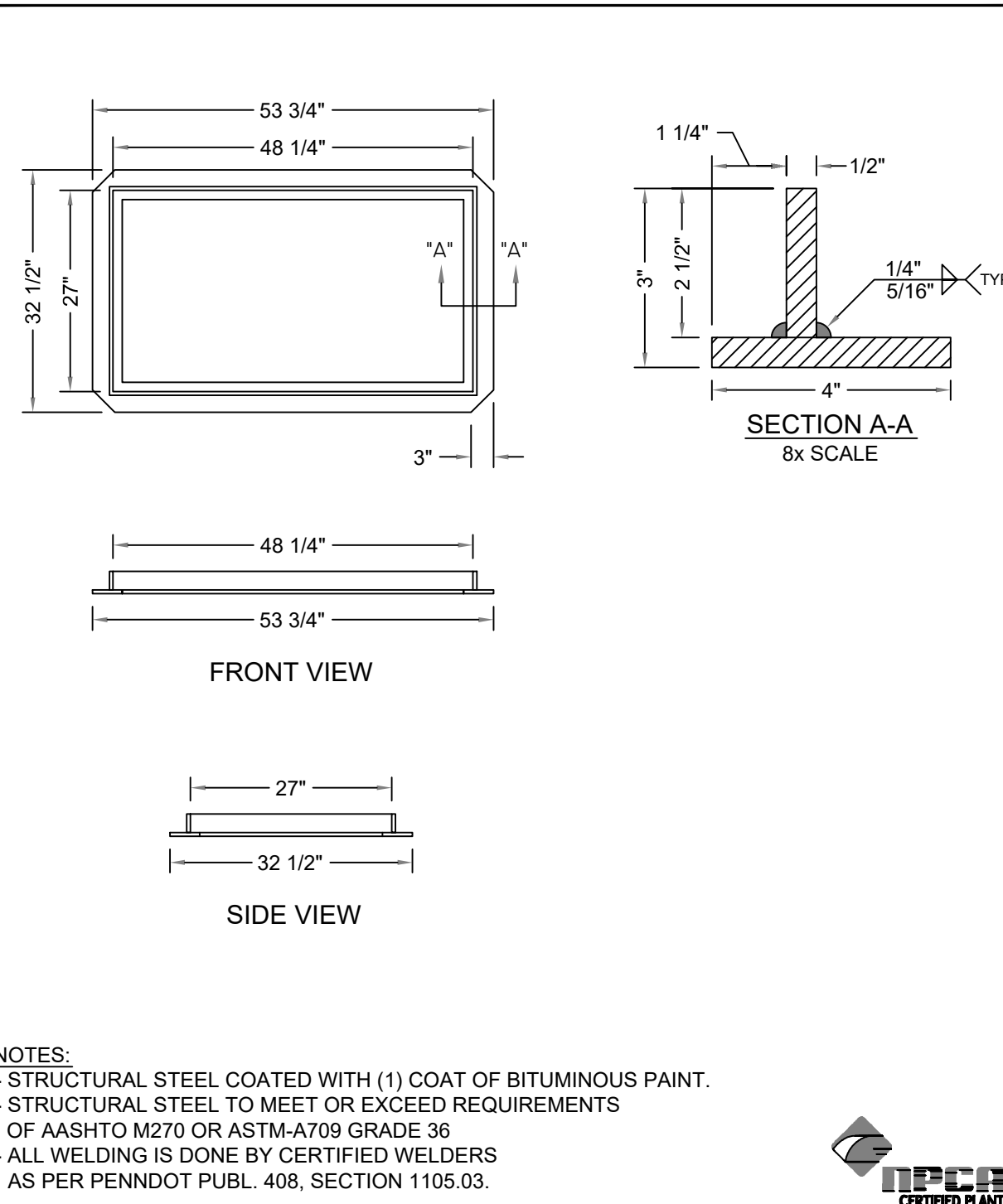
**Sinkhole In Soil**

- NOT TO SCALE
- 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.
  - 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 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 ABOVE.
  - 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.
  - BACKFILL HOLE ABOVE EXISTING GRADE TO DIVERT SURFACE WATER.

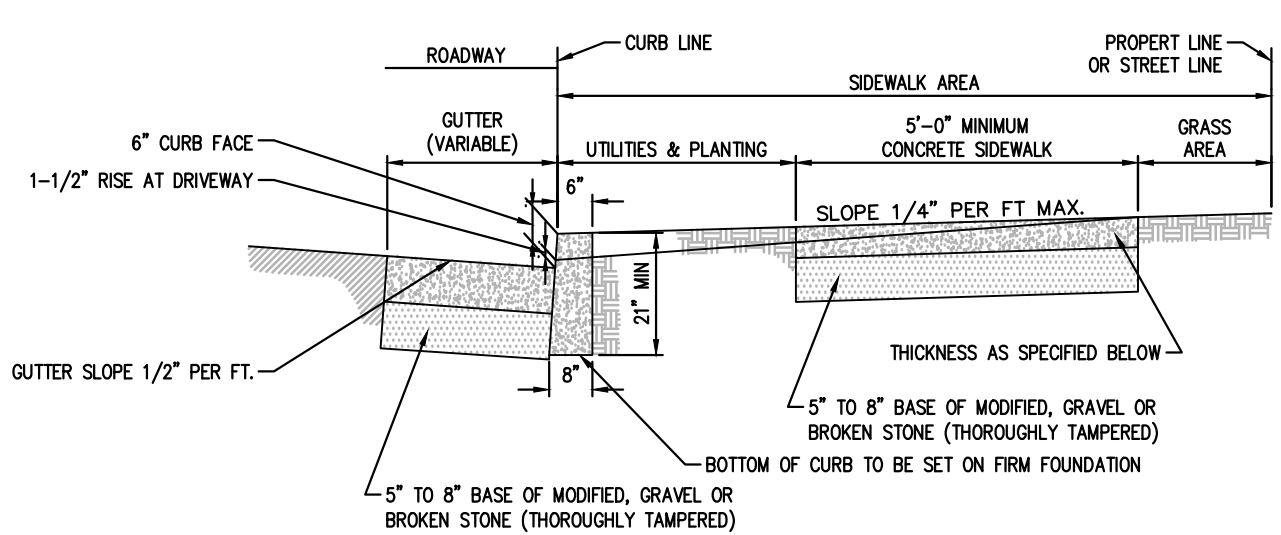


**Sinkhole In Rock**

- NOT TO SCALE
- 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.
  - EXCAVATE DOWN TO BEDROCK OR TO THE SINKHOLE THROAT.
  - EXPOSE THE ROCK SURFACE BY WASHING THE AREA WITH A SMALL HOSE WATER SPRAY 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.
  - 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 20% 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.



**MONARCH PRECAST CONCRETE CORP.**  
 425 NORTH DAUPHIN STREET ALLENTOWN, PA 18109 PHONE (610) 435-6746  
 WWW.MONARCHPRECAST.COM FAX (610) 437-7133



**General Requirements:**

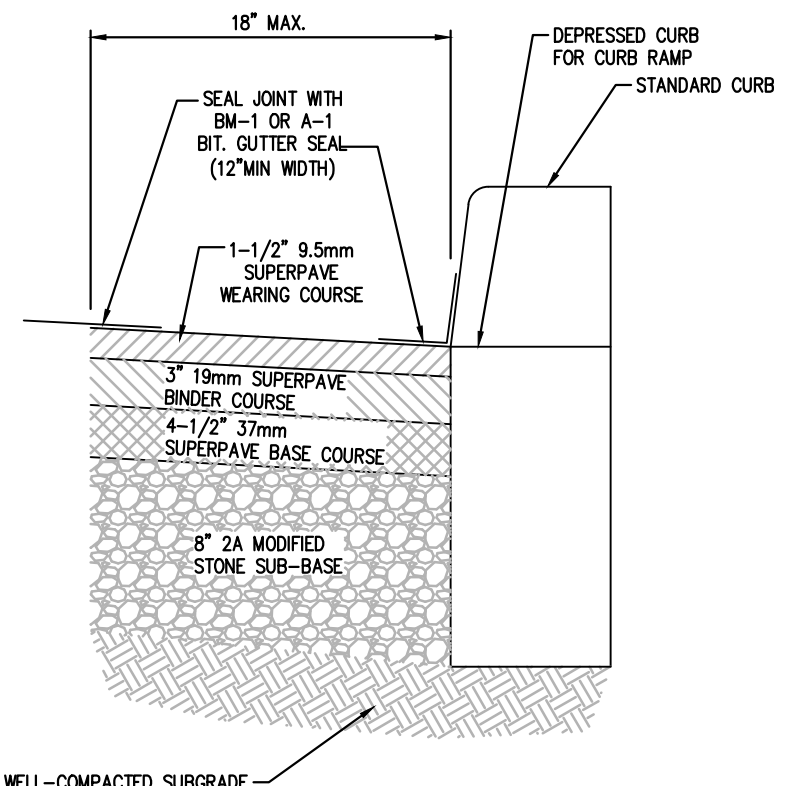
**ONE COURSE (MONOLITHIC) CONSTRUCTION** FOR ALL CURB, GUTTER AND SIDEWALK CONCRETE MIX: TO BE CLASS A CONCRETE 3300# 6 BAG MIX - 5.6 GAL. WATER PER BAG THROUGHOUT; USE POWER BATCH MIXER, NO SLAG.  
**CURB:** 21" MINIMUM DEPTH WITH APPROVED FINISH ON TOP AND EXPOSE FACE.  
**GUTTER:** 8" DEPTH - SLOPE OF GUTTER 1/2" PER FOOT AWAY FROM CURB.  
**SIDEWALK:** THICKNESS - RESIDENTIAL AREA - 5", BUSINESS AND INDUSTRIAL AREAS - 6" AT RESIDENTIAL DRIVEWAYS - 6", AT BUSINESS AND INDUSTRIAL DRIVEWAYS - 8" FINISH - USE WOOD FLOAT TO PRODUCE SKID RESISTANCE SURFACE ON GRADES OF SIX OR MORE PRODUCE A ROUGHER FINISH.  
**EXPANSION AND CONTRACTION JOINTS:** SEE CITY CONSTRUCTION STANDARD NO. 1A.  
**HANDICAP RAMPS:** REQUIRED ON ALL RAMP IN ACCORDANCE WITH CURRENT ADA REQUIREMENTS.  
**DRIVEWAYS:** SEE CITY STANDARD DRIVEWAY ENTRANCE AND APRON SKETCH.  
**EXCAVATION IN CARTWAY:** WHEN EXCAVATING IN THE CARTWAY OF THE CITY STREET, A CLEAN, FULL DEPTH CUT-BY JACK HAMMERING OR SAWN CUTTING SHALL BE MADE IN THE STREET BETWEEN THE AFFECTED AND THE UNAFFECTED WORK AREAS. FURTHER, FINAL RESTORATION IN THE AFFECTED AREA OF THE STREET SHALL CONSIST OF CREATING A NEW CLEAN CUT BY SAWCUTTING 12" BEYOND THE EDGE OF ANY AFFECTED WORK AREAS. BACKFILL WITH PENNDOT 2A MODIFIED STONE, AND PROPERLY COMPACTING THIS STONE TO THE ELEVATION OF THE TOP OF THE SUBBASE (I.E. BOTTOM OF THE BASE COURSE OF MACADAM), BUT NO HIGHER THAN 3-INCHES BELOW THE FINISH GRADE-EXCEPT AS REQUIRED TO PROVIDE REASONABLE TEMPORARY ACCESS AT DRIVEWAYS.

**Ordinance Requirements:**

**WARRANT OF SURVEY** - PROCURED FROM THE CITY ENGINEER'S OFFICE, PROVIDES FOR ESTABLISHING LINE & GRADES; STAKES TO BE PROTECTED BY APPLICANT AND USED WITHIN 30 DAYS.  
**EXCAVATION PERMIT** - PROCURED FROM THE CITY ENGINEER'S OFFICE; FOR SIDEWALK AND DRIVEWAY CONSTRUCTION.  
**DETAIL REQUIREMENTS:** FOR FURTHER DETAILS AND OTHER REQUIREMENTS SEE THE FOLLOWING DOCUMENTS ON FILE IN THE OFFICE OF THE CITY ENGINEER:  
 \* STANDARD SPECIFICATIONS FOR THE CONSTRUCTION OF CONCRETE CURB, GUTTER AND SIDEWALK \* COORDINATED ORDINANCES OF THE CITY OF BETHLEHEM, ARTICLES 903 AND 909.

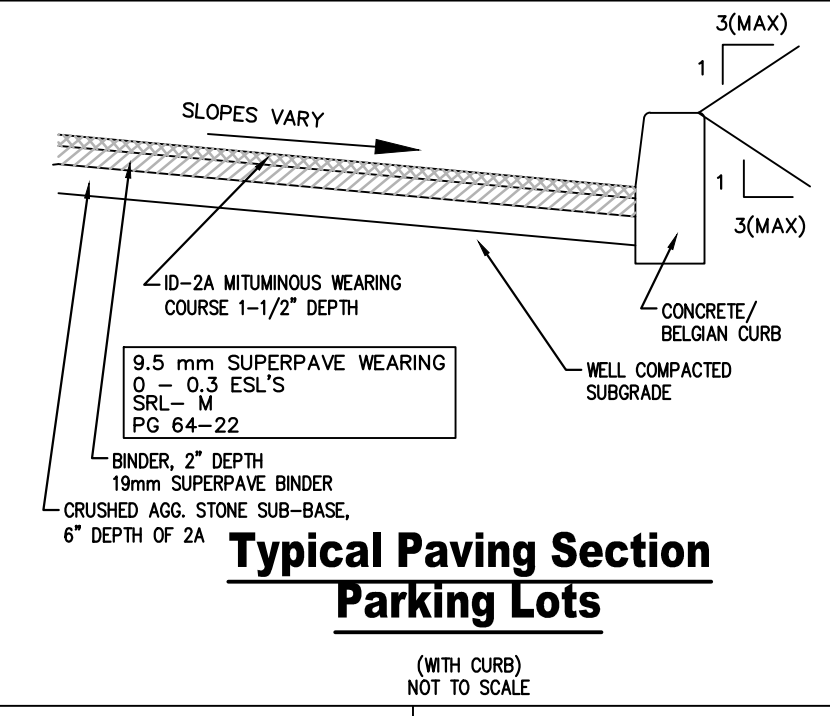
**NOTE:**  
 \* WHENEVER A CURB, GUTTER AND/OR SIDEWALK IS LOCATED IN THE HISTORIC DISTRICT, SPECIAL REQUIREMENTS MAY APPLY.  
 \* CHANGES TO DIMENSIONAL REQUIREMENTS MAY BE CONSIDERED IN CASES WHERE OBSTRUCTIONS OR ENCROACHMENTS EXIST. ANY EXCEPTIONS MUST BE APPROVED BY THE CITY ENGINEER. CURRENT ADA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

**CITY OF BETHLEHEM, PA. BUREAU OF ENGINEERING Construction Standard No. 1**

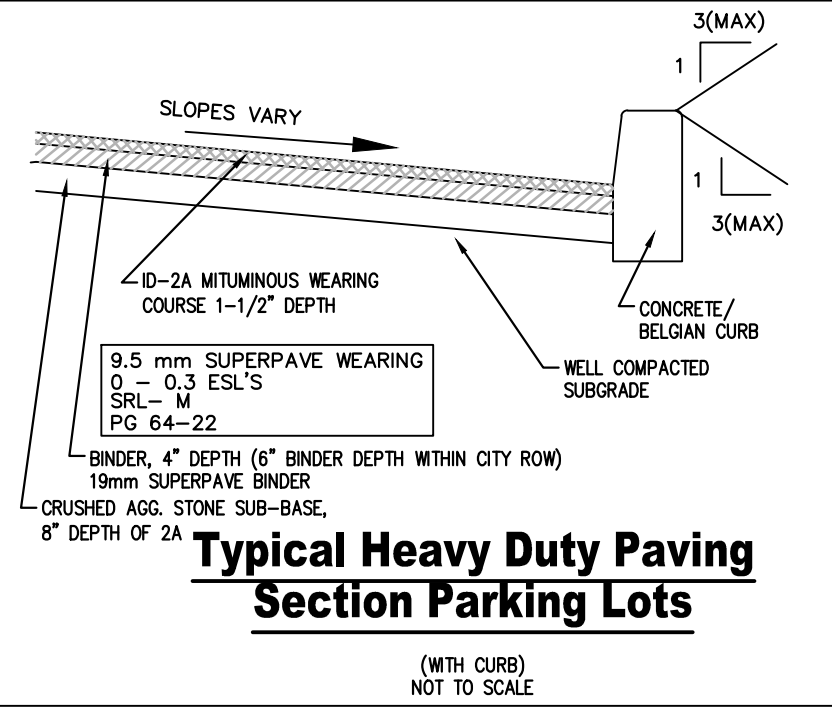


**Pavement Restoration For Curb Replacement**

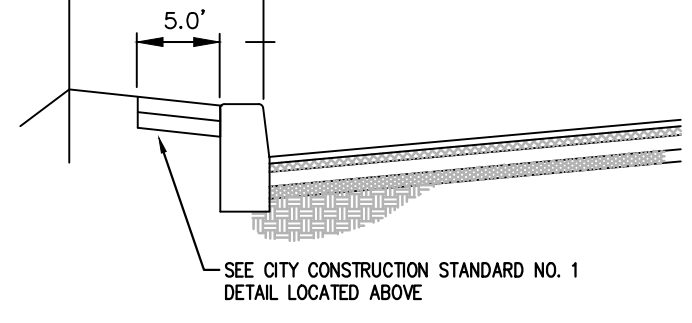
NOT TO SCALE  
 \* THE BASE COURSE AND SURFACE COURSE SHALL MATCH EXISTING DEPTHS OF PAVING



**Typical Paving Section Parking Lots**

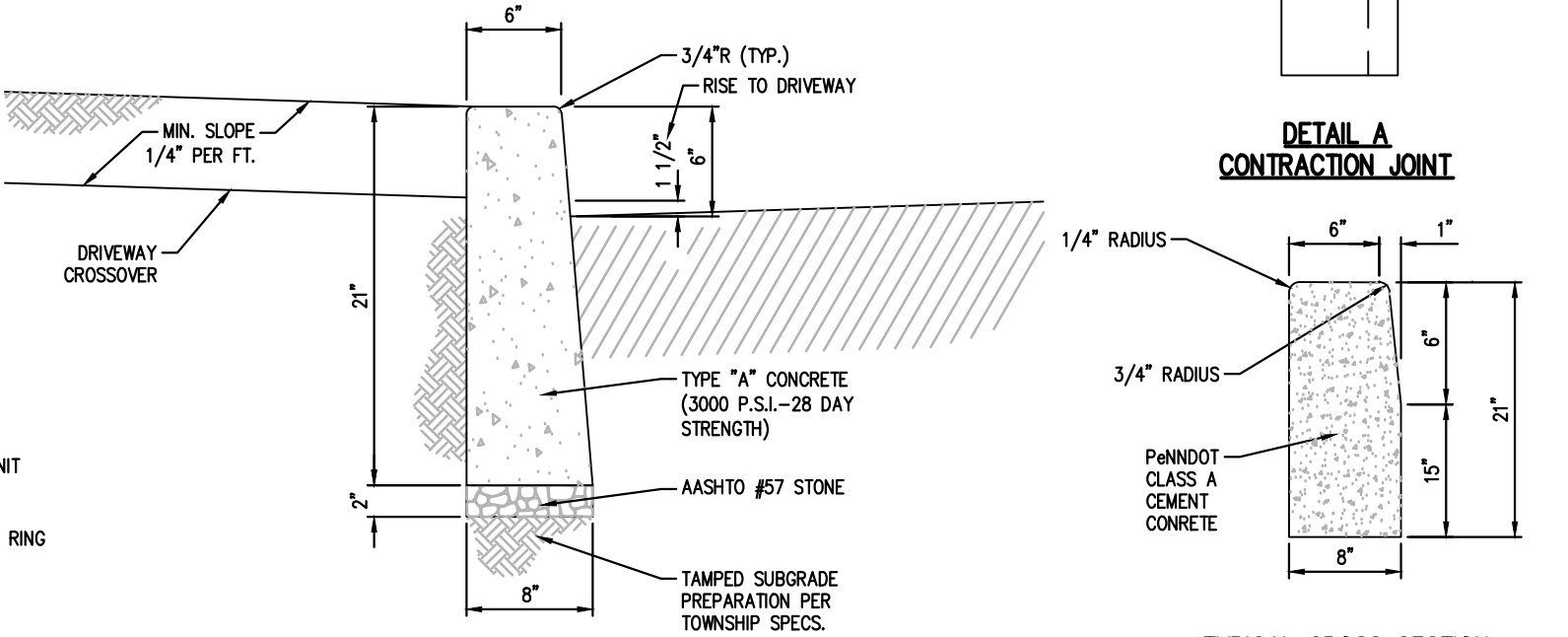


**Typical Heavy Duty Paving Section Parking Lots**



**Concrete Sidewalk Detail Along Orchard Street**

- 1/2" PREMOLDED EXPANSION JOINTS SHALL BE PLACED AT CONTACTS WITH EXISTING CURB, ANY INLET STRUCTURE AND AT 30 FT. MAXIMUM INTERVALS.
- CONTRACTION JOINTS ARE TO BE SPAZED AT EQUAL INTERVALS, NOT EXCEEDING 10 FT. BETWEEN EXPANSION JOINTS.

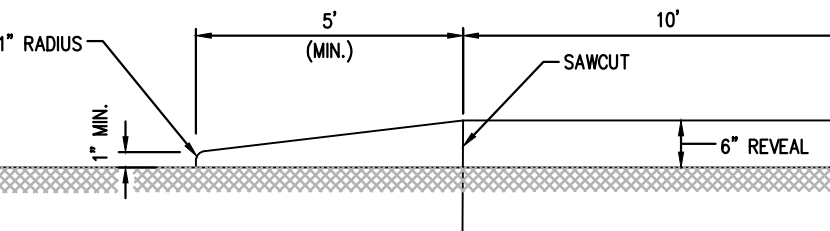


**Upright Curb Detail**

**TYPICAL CROSS SECTION**

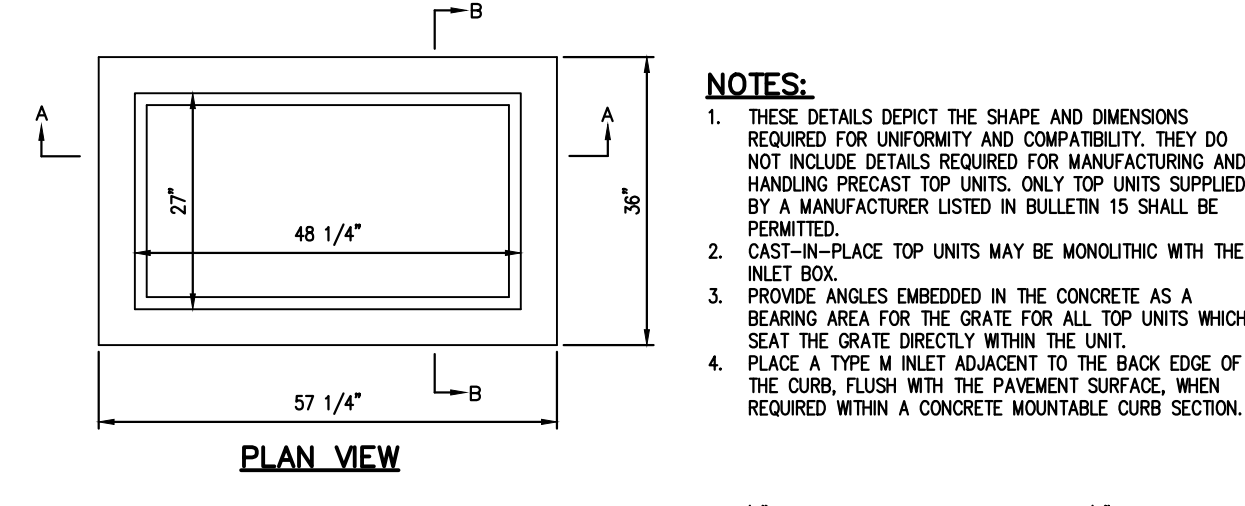
**Notes:**

- MATERIALS AND CONSTRUCTION SHALL MEET THE REQUIREMENTS OF PUBLICATION 408, SECTIONS 630.
- SPACE CONTRACTION JOINTS IN UNIFORM LENGTHS OR SECTIONS.
- PLACE 3/4" PREMOLDED EXPANSION JOINT FILLER MATERIAL AT STRUCTURES AND AT THE END OF THE WORK DAY. CUT MATERIAL TO CONFORM TO AREA ADJACENT TO CURB OR TO CONFORM TO CROSS SECTIONAL AREA OF CURB.



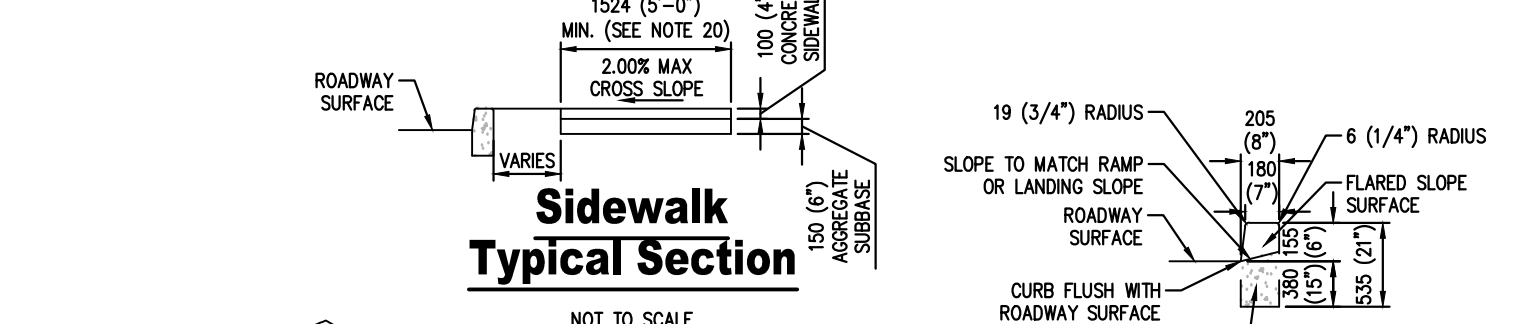
**Typical Curb Taper Detail**

NOT TO SCALE



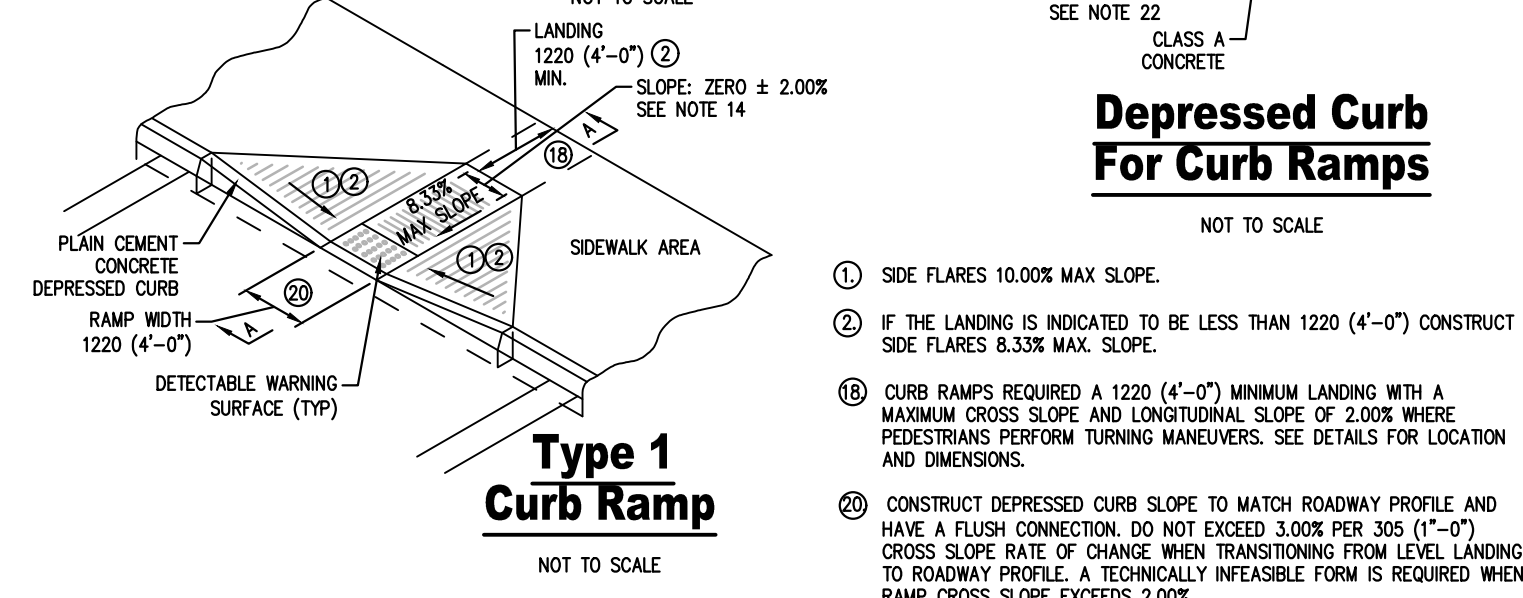
**TYPE M INLET CONCRETE TOP UNITS**

NOT TO SCALE



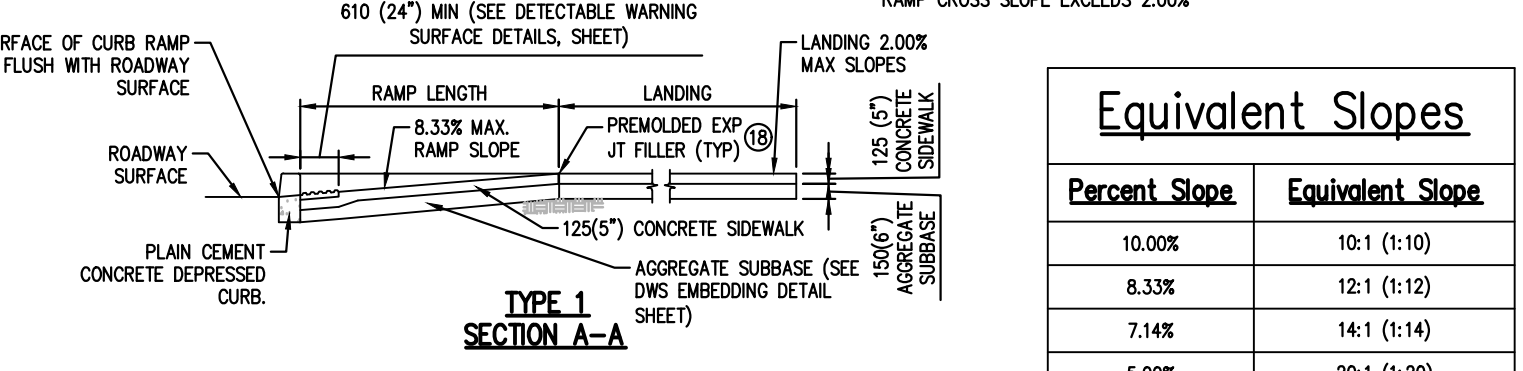
**Sidewalk Typical Section**

NOT TO SCALE



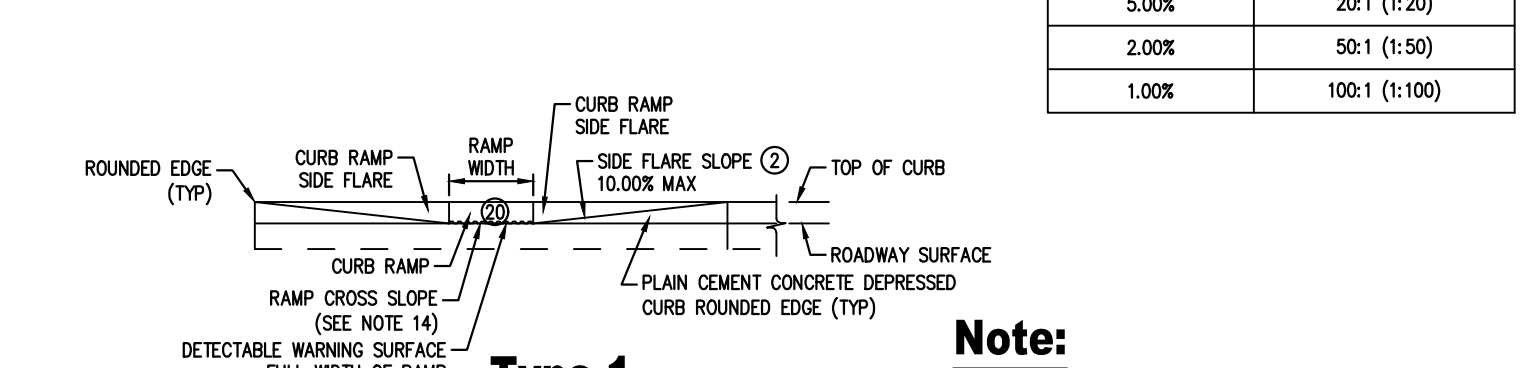
**Type 1 Curb Ramp**

NOT TO SCALE



**Type 1 Section A-A**

NOT TO SCALE



**Type 1 Elevation**

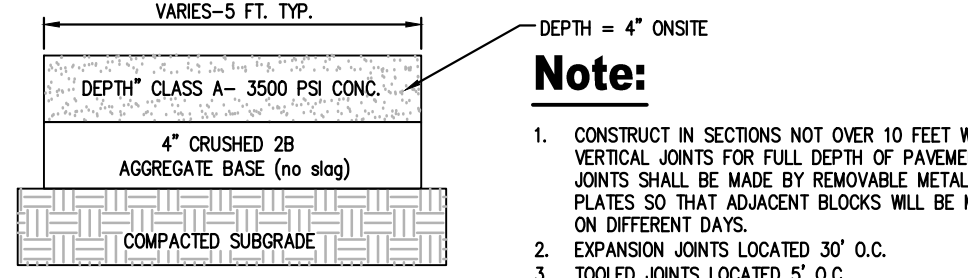
NOT TO SCALE

- Notes:**
- PROVIDE MATERIALS AND CONSTRUCTION MEETING THE REQUIREMENTS OF PUBLICATION 408, SECTIONS 350, 409, 630, 676 AND 694.
  - PROVIDE EXPANSION JOINT MATERIAL 13 (1/2)" THICK WHERE CURB RAMP ADJACENT TO ANY RAMP, SIDEWALK OR STRUCTURE WITH THE TOP OF JOINT FILLER FLUSH WITH THE ADJACENT CONCRETE SURFACE.
  - CONSTRUCT CURB RAMPS WITH A MINIMUM 1220 X 1220 (4'-0" X 4'-0") CLEAR SPACE BEHIND THE CURB FACE, WITHIN THE WIDTH OF THE CROSSWALK AND WHOLLY OUTSIDE THE PARALLEL VEHICLE TRAVEL LANE. SEE SHEET 7 FOR CROSSWALK DETAILS.
  - SEAL JOINTS WITH AN APPROVED SEALING MATERIAL.
  - PROVIDE SLIP RESISTANT TEXTURE ON CURB RAMP BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP. EXTEND TEXTURE THE FULL WIDTH AND LENGTH OF THE CURB RAMP INCLUDING FLARED SIDE RAMPS.
  - MODIFY CONSTRUCTION DETAILS TO ADAPT DIMENSIONS TO EXISTING CURB HEIGHTS WHERE THE CURB IS LESS THAN THE STANDARD 205 (8") HEIGHT.
  - CURB RAMP AND SIDE FLARE LENGTHS ARE VARIABLE AND BASED ON CURB HEIGHT AND THE SIDEWALK SLOPE.
  - TO AVOID GRASSING GRADE IMMEDIATELY WHEN TRAVELING THE HEIGHT OF CURB, RAMP LENGTH NOT TO EXCEED 4500 (15'-0"). ADJUST RAMP SLOPE AS NEEDED TO PROVIDE ACCESS TO THE MAXIMUM EXTENT FEASIBLE.
  - NON-WALK AREA IS AN OBSTRUCTED OR GRASS/NON-PAVED AREA ADJACENT TO THE SIDEWALK ACCESS ROUTE THAT IS NOT USED BY THE PEDESTRIAN FOR ACCESS.
  - THE DETAILS DEPICT PEDESTRIAN PUSHBUTTON POLES TO ILLUSTRATE THE RECOMMENDED PLACEMENT OF PEDESTRIAN PUSHBUTTONS. FOR ALTERATION PROJECTS PROVIDE ACCESS TO EXISTING PEDESTRIAN PUSHBUTTONS TO THE MAXIMUM EXTENT FEASIBLE. INSTALL PEDESTRIAN PUSHBUTTON STUB POLES, WHERE APPLICABLE, SO AS NOT TO CREATE PEDESTRIAN OBSTRUCTIONS.
  - ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. US CUSTOMARY UNITS IN ( ) PARENTHESIS.
  - ALSO DETECTABLE WARNING SURFACE TRUNCATED DOMES ON A SQUARE GRID IN THE PREDOMINANT DIRECTION OF THE RAMP AND PERPENDICULAR TO CURB.
  - PROVIDE DETECTABLE WARNING SURFACES (DWS) 610 (24") MINIMUM (IN THE DIRECTION OF PEDESTRIAN TRAVEL) ACROSS FULL WIDTH OF RAMP AT THE GRADE BREAK NEAR STREET EDGE. PROVIDE DWS THAT CONTRAST VISUALLY WITH ADJACENT WALKWAY SURFACES, EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT FOR THE FULL WIDTH OF RAMP.
  - FOR NEW CONSTRUCTION, DO NOT EXCEED 2.00% CROSS SLOPE ON THE CURB RAMP OR PEDESTRIAN ACCESSIBLE ROUTE.
  - FOR NEW CONSTRUCTION AND ALTERATIONS, CONSTRUCT CURB RAMP AND FLARE SLOPES WITH THE LATEST SLOPE POSSIBLE. THE SLOPES INDICATED IN THE DETAILS SHOW THE MAX SLOPE ALLOWABLE. SLOPES THAT EXCEED THOSE INDICATED IN THE DETAILS, OR CONTRACT DOCUMENTS AS APPLICABLE, WILL NOT BE ACCEPTED AND WILL BE DECONSTRUCTED.
  - CONSTRUCT SIDEWALKS AT A LONGITUDINAL SLOPE NOT TO EXCEED 5.00% FOR ROADWAY PROFILE SLOPES THAT EXCEED 5.00%. CONSTRUCT PARALLEL SIDEWALKS ADJACENT TO ROADWAY AT A LONGITUDINAL SLOPE NOT TO EXCEED ROADWAY PROFILE SLOPE.
  - THE CHANGE IN GRADE AT THE BOTTOM OF THE CURB RAMP AND ADJOINING ROAD SURFACE IS NOT TO EXCEED AN ALGEBRAIC DIFFERENCE OF 11.00%. THE COUNTER SLOPE OF THE GUTTER OR ROAD AT THE FOOT OF A CURB RAMP, LANDING OR BLENDING TRANSITION IS NOT TO EXCEED 5.00%. SEE SHEET 8 FOR DETAILS.
  - THE CONSTRUCTION STANDARDS DEPICTED ARE MOST APPROPRIATE FOR NEW CONSTRUCTION. ALL CONSTRUCTION MUST MEET THE STANDARDS CONTAINED HEREIN UNLESS OTHERWISE NOTED OR DIRECTED.
  - ALL SLOPES ARE MEASURED WITH RESPECT TO A LEVEL PLANE. THEREFORE, THE LENGTH OF RAMP IS NOT SOLELY DEPENDANT ON THE HEIGHT OF CURB. (FOR EXAMPLE, A 150 (6") CURB DOES NOT NECESSARILY MEAN A RAMP LENGTH OF 150 (6'-0") FOR A 12:1 (1:10) SLOPE).
  - SIDEWALK WIDTH MAY BE REDUCED TO 1220 (4'-0"), WHEN PASSING AREAS 1525 X 1525 (5'-0" X 5'-0") ARE PROVIDED EVERY 61 METERS (200').
  - THE TRAVEL LANE IS DEFINED BY THE OUTSIDE EDGE OF THE WHITE PAVEMENT MARKING LINE. IF A WHITE PAVEMENT MARKING LINE DOES NOT EXIST, THE TRAVEL LANE IS DEFINED BY THE CONTRACT DOCUMENTS.
  - CONSTRUCT DEPRESSURE CURB FOR CURB RAMPS FLUSH TO ADJACENT ROADWAY. GRADE EDGE OF ROAD ELEVATIONS AT THE FLOW LINE TO ENSURE POSITIVE DRAINAGE AND PREVENT PONDING FOR LEVEL LANDINGS BEHIND DEPRESSURE CURB. ADJUST SLOPES TO PROVIDE POSITIVE DRAINAGE.
  - CHEEK WALLS ARE PERMITTED WITHIN TO NON-WALK AREAS OR ELEVATION DIFFERENCES CANNOT BE ACCOMMODATED BY FLARES OR GRADING. GRADE GRASS AREAS OR OTHER NON-WALK AREAS AT 3:1 (1:3) MAXIMUM. DO NOT INSTALL CHEEK WALLS THAT INTERSECT THE PEDESTRIAN ACCESS ROUTE.
  - CONSTRUCT TOP OF PLAN CEMENT CONCRETE DEPRESSURE CURB TO BE FLUSH WITH ADJACENT SURFACES (RAMPS, SIDEWALKS, SIDEWALKS WITH FLARES).
  - FOR CURB RAMPS THAT LEAD TO A SINGLE CROSSWALK, THE RAMP (EXCLUDING FLARES) TO BE FULLY DUMPED TO FULLY DUMPED CROSSWALK LINES. SEE SHEET 7 FOR DETAILS.
  - A 1220 (4'-0") MAXIMUM DIGITAL DISPLAY LEVEL WILL BE USED TO VERIFY THE SLOPES OF CURB RAMPS AND SIDEWALKS.

**Equivalent Slopes**

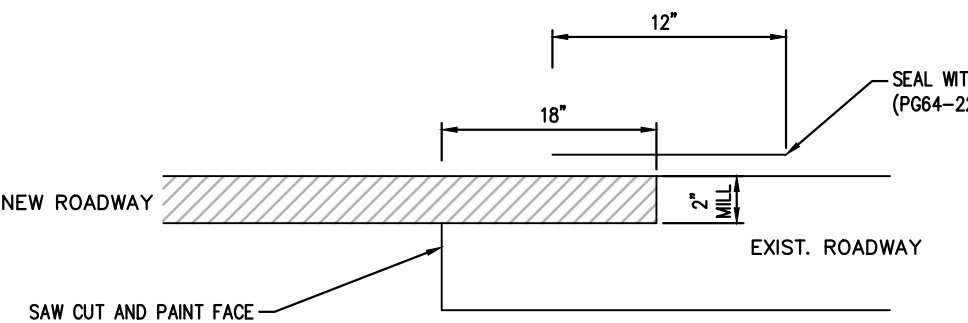
Percent Slope	Equivalent Slope
10.00%	10:1 (1:10)
8.33%	12:1 (1:12)
7.14%	14:1 (1:14)
5.00%	20:1 (1:20)
2.00%	50:1 (1:50)
1.00%	100:1 (1:100)

**Note:**  
 EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.



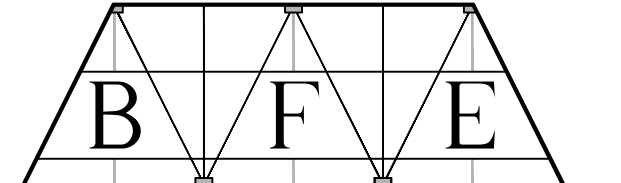
**Concrete Sidewalk Detail**

NOT TO SCALE



**Paving Joint Detail**

(TIE INTO EXISTING PAVEMENT) NOT TO SCALE



**BLACK FOREST ENGINEERING, LLC**  
 2455 BLACK FOREST DRIVE  
 COPLAY, PA 18037

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SEAL:

02	CITY REVIEW LETTER	JER	3/29/22
01	LVPD STORMWATER	JER	3/1/22
REV:	DESCRIPTION:	BY	DATE

**THE APARTMENTS AT 1210 EATON AVENUE**

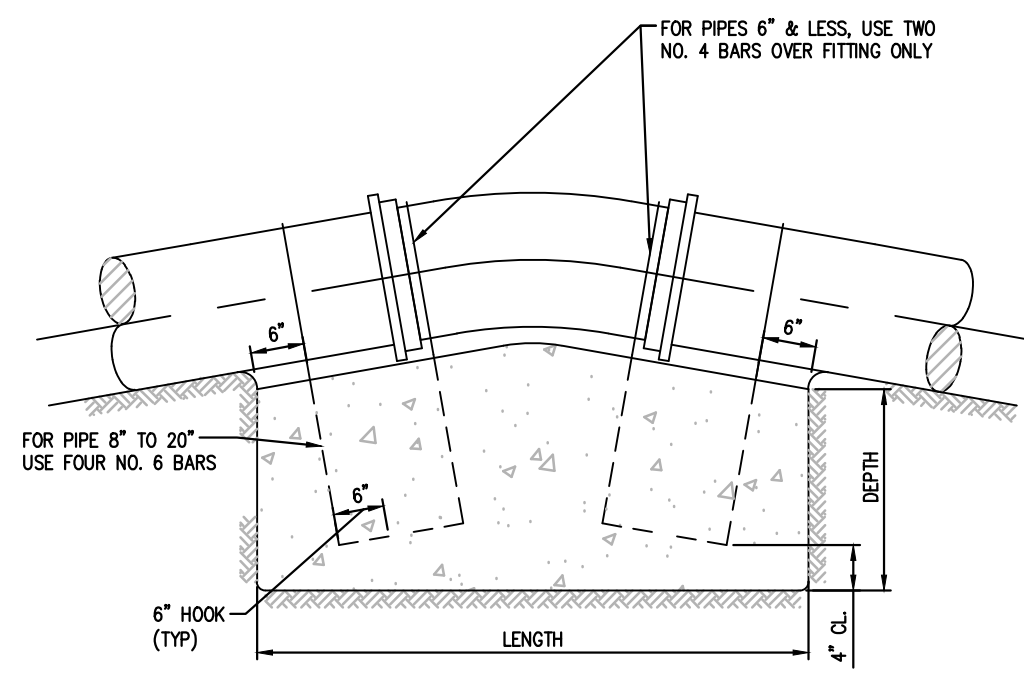
PROJECT OWNER: CAMBRIA PARTNERS, LLC  
 555 ASHWOOD ROAD  
 NAZARETH, PA 18064

PROJECT LOCATION: CITY OF BETHLEHEM  
 WARD 13 BLOCK 149A  
 LEHIGH COUNTY  
 PENNSYLVANIA

**CONSTRUCTION DETAILS**

SCALE:	DATE:	DRAWN:	CHECKED:
AS NOTED	2/9/22	JER	JER
PROJECT NO.	DRAWING NO.	REVISION:	
1210	7 OF 9	00	





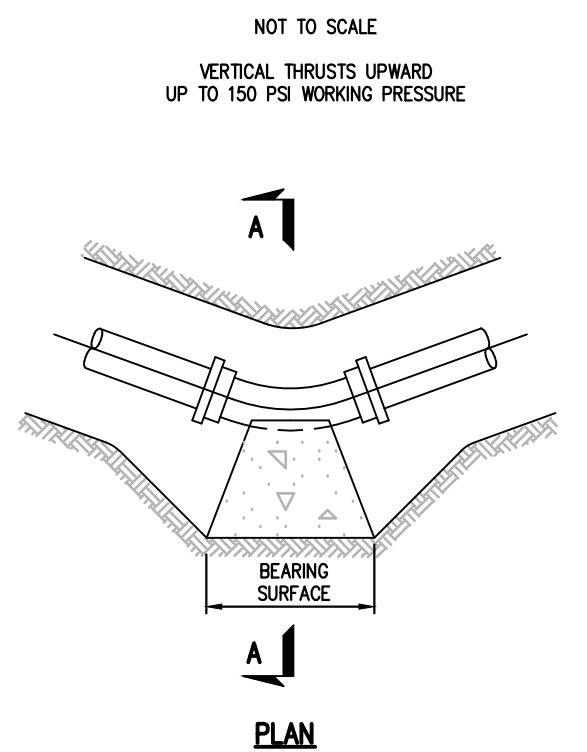
**TYPICAL SECTION**

PIPE SIZES (inches)	DIMENSIONS OF CONCRETE BLOCKING											
	LENGTH			WIDTH			DEPTH					
4 & SMALLER	11 1/4	22 1/2	45	11 1/4	22 1/2	45	11 1/4	22 1/2	45	11 1/4	22 1/2	45
6 & 8	2'	4'	6'	3'	3'	3'	2'	3'	4'			
10 & 12	4.5'	6'	8'	3'	3'	4'	3'	3'	4.5'	5'		
14 & 16	6'	8'	11'	3.5'	3.5'	5'	3.5'	5'	5'	5'		
18 & 20	7'	9'	13'	4'	5'	5.5'	4'	5'	6'	6'		

**Notes:**

- NO COUPLING OR JOINTS SHALL BE COVERED WITH CONCRETE.
- REINFORCING BAR STRAPS TO BE SHAPED TO PIPE CURVATURE.
- ALL EXPOSED STEEL TO BE PAINTED WITH TWO COATS ASPHALTIC PAINT.

**Thrust Blocking - Vertical Thrusts**

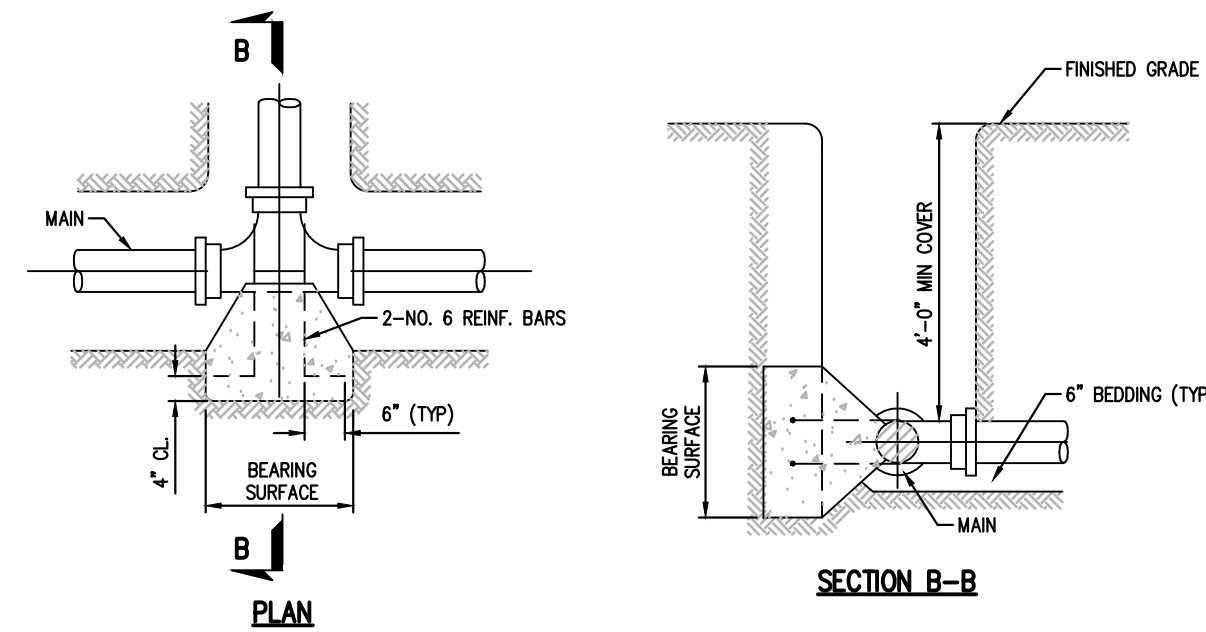


**Notes:**

- SEE STANDARD DETAIL STANDARD DETAIL VI-27 FOR BEARING AREA REQUIRED.
- NO COUPLING OR JOINTS SHALL BE COVERED WITH CONCRETE.

**Thrust Blocking For Bends**

NOT TO SCALE  
TYPICAL BLOCKING FOR HORIZONTAL & VERTICAL DOWNWARD THRUSTS UP TO 150 PSI WORKING PRESSURE



**Notes:**

- SEE STANDARD DETAIL STANDARD DETAIL VI-27 FOR BEARING AREA REQUIRED.
- NO COUPLING OR JOINTS SHALL BE COVERED WITH CONCRETE.
- REINFORCING BAR STRAPS TO BE SHAPED TO PIPE CURVATURE.
- ALL EXPOSED STEEL TO BE PAINTED WITH TWO COATS ASPHALTIC PAINT.

**Thrust Blocking For Tees**

NOT TO SCALE  
TYPICAL BLOCKING FOR HORIZONTAL & VERTICAL DOWNWARD THRUSTS UP TO 150 PSI WORKING PRESSURE

BEARING AREA REQUIRED, SQUARE FEET

Type of Bearing Material and Allowable loads, psf	4" and less DEGREE BEND			6" and 8" DEGREE BEND			10" and 12" DEGREE BEND		
	LOOSE SAND OR MEDIUM CLAY - 2,000	11 1/4	22 1/2	45	90	11 1/4	22 1/2	45	90
PACKED GRAVEL AND SAND - 4,000	1.0	1.0	1.5	2.0	1.0	1.5	3.0	5.0	
ROCK - 10,000	1.0	1.0	1.0	1.0	1.0	1.2	2.0	1.3	

BEARING AREA REQUIRED, SQUARE FEET

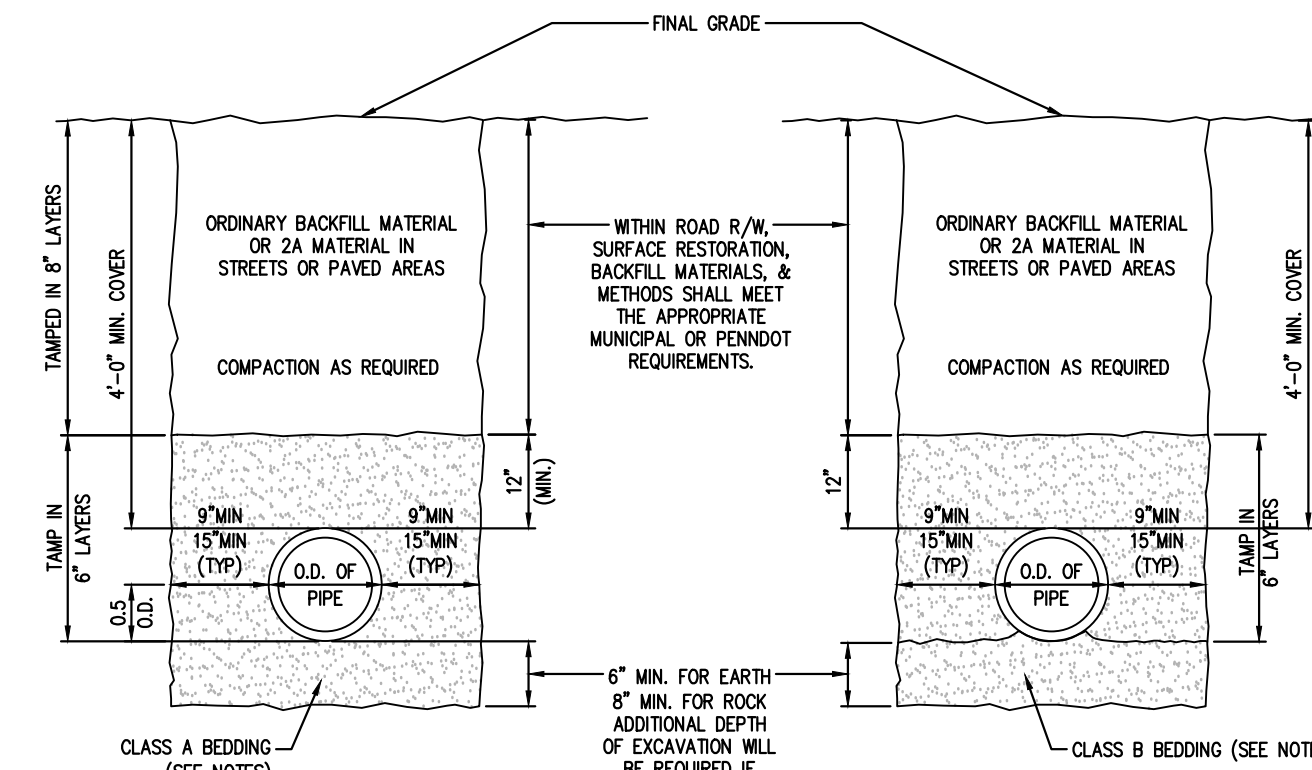
Type of Bearing Material and Allowable Loads	14" and 16" DEGREE BEND OR DEFLECTION			18" and 20" DEGREE BEND OR DEFLECTION		
	LOOSE SAND OR MEDIUM CLAY - 2,000	6.0	12.0	22.5	40.0	9.5
PACKED GRAVEL AND SAND - 4,000	3.0	6.0	11.3	20.0	4.8	9.5
ROCK - 10,000	1.2	2.4	4.5	8.0	2.0	3.8

**Notes:**

THRUST BLOCKING FOR TEES SHALL HAVE THE SAME BEARING AREA AS 90° BENDS OF THE PIPE SIZE OF THE OUTLET. DEAD ENDS SHALL HAVE THE SAME BEARING AS 90° BENDS.

**Thrust Blocking Schedule**

NOT TO SCALE  
SCHEDULE OF DIMENSIONS UP TO 150 PSI WORKING PRESSURE

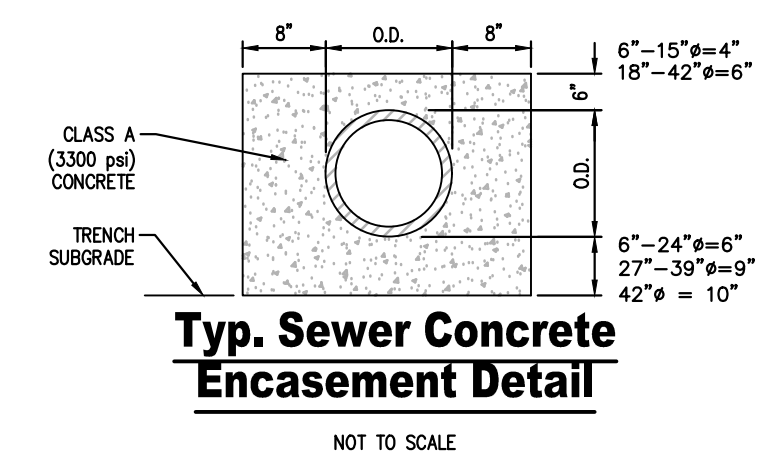


**Ductile Iron & PVC Pipe**  
**HDPE Or Reinforced Concrete Pipe**  
**Typical Trench Details**

NOT TO SCALE

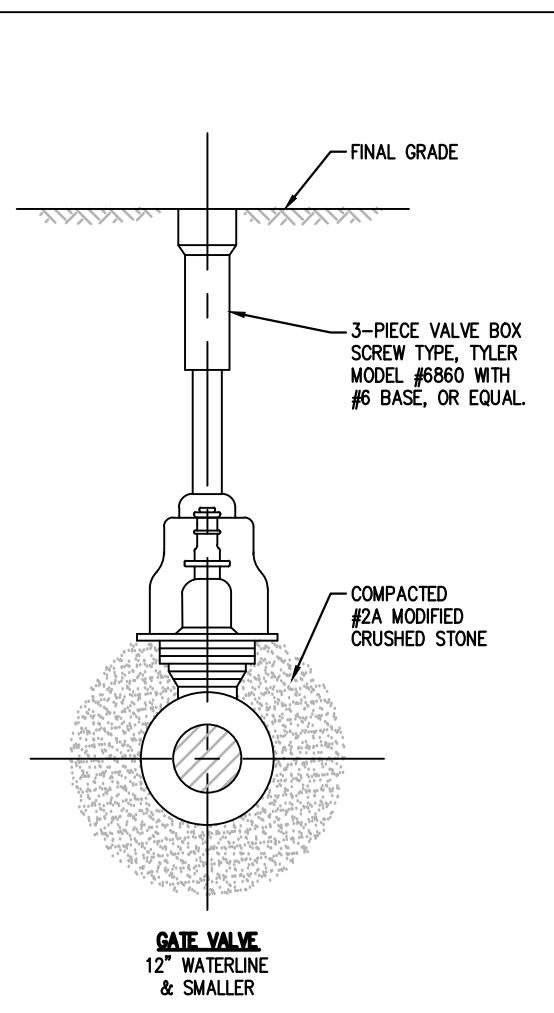
**Notes:**

- ALL BACKFILL MATERIAL IS SUBJECT TO CITY APPROVAL OR UGI APPROVAL FOR GAS MAIN.
- CLASS B BEDDING: APPROVED SCREENINGS TO 12" ABOVE PIPE.
- CLASS B BEDDING: FINE AGGREGATE
- SELECT BACKFILL: CLEAN DRY EARTH WITH A MAXIMUM STONE SIZE 3-INCHES.
- ORDINARY BACKFILL: CLEAN DRY EARTH WITH A MAXIMUM STONE SIZE 6-INCHES.
- SLAG MATERIAL IS PERMITTED ABOVE THE 12 INCHES OF INTIAL COVER MATERIAL ABOVE THE PIPE.
- HYDRO HAMMERS CAN BE USED AT DISTANCES GREATER THAN 3' ABOVE THE TOP OF THE PIPE IF THE SOIL DENSITY HAS BEEN PREVIOUSLY COMPACTED TO A MINIMUM 95% STANDARD PROCTOR.
- PVC PIPE TO BE SDR 35 FOR PIPE RUNS LESS THEN 15' DEEP. FOR SANITARY SEWER RUNS GREATER THEN 15' IN DEPTH, SDR 26 SHALL BE USED.



**Typ. Sewer Concrete Encasement Detail**

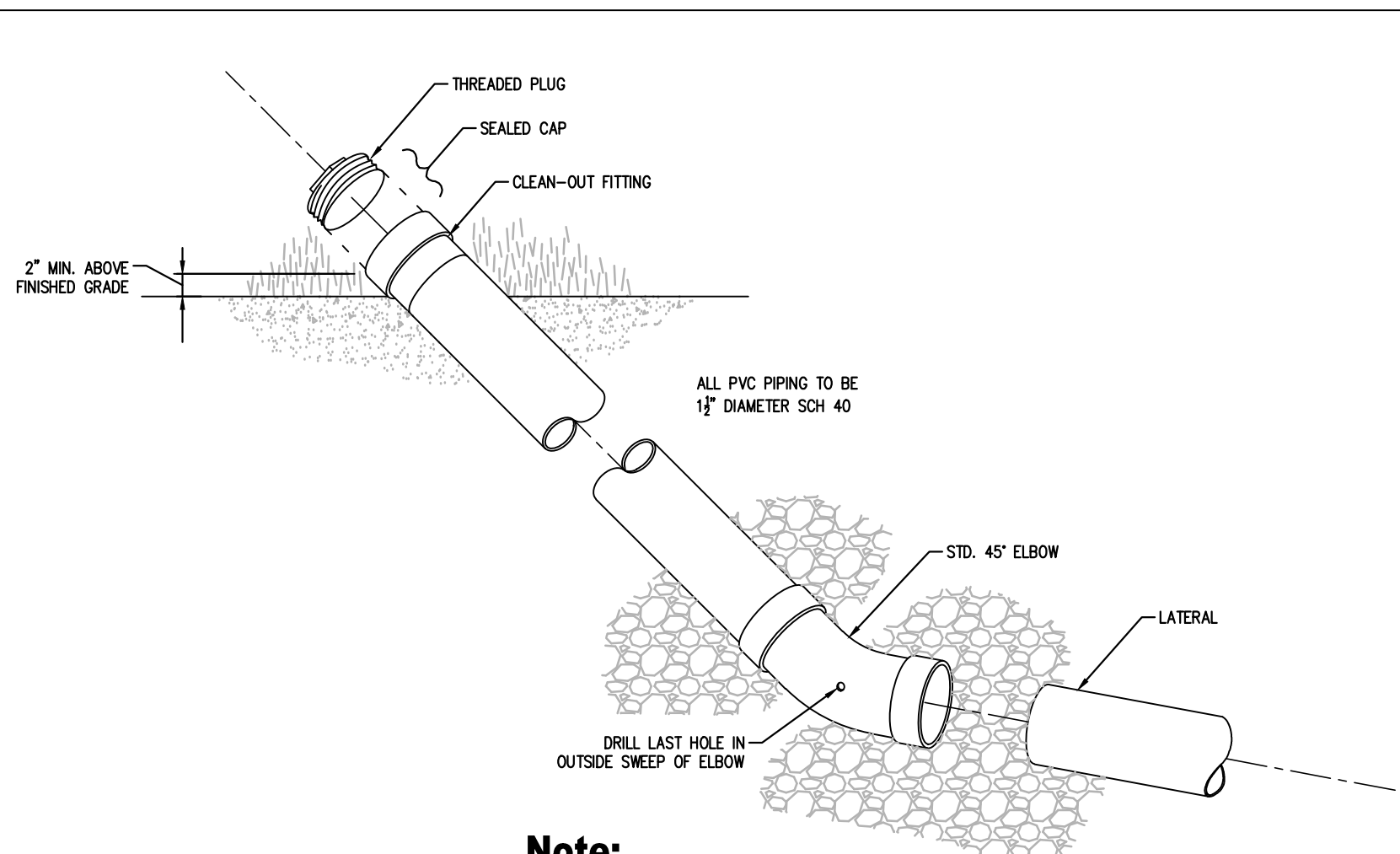
NOT TO SCALE



**Valving Detail**

**NOTE:**

- VALVES 8" OR SMALLER SHALL BE RODDED TO A FITTING WITH 2 ALL-THREAD RODS, 12" VALVES WITH 4 ALL-THREAD RODS.
- ROD DIAMETER SHALL BE EQUAL TO THAT OF THE GLAND BOLTS. RODS SHALL BE GIVEN ONE COAT OF BITUMASTIC PAINT.

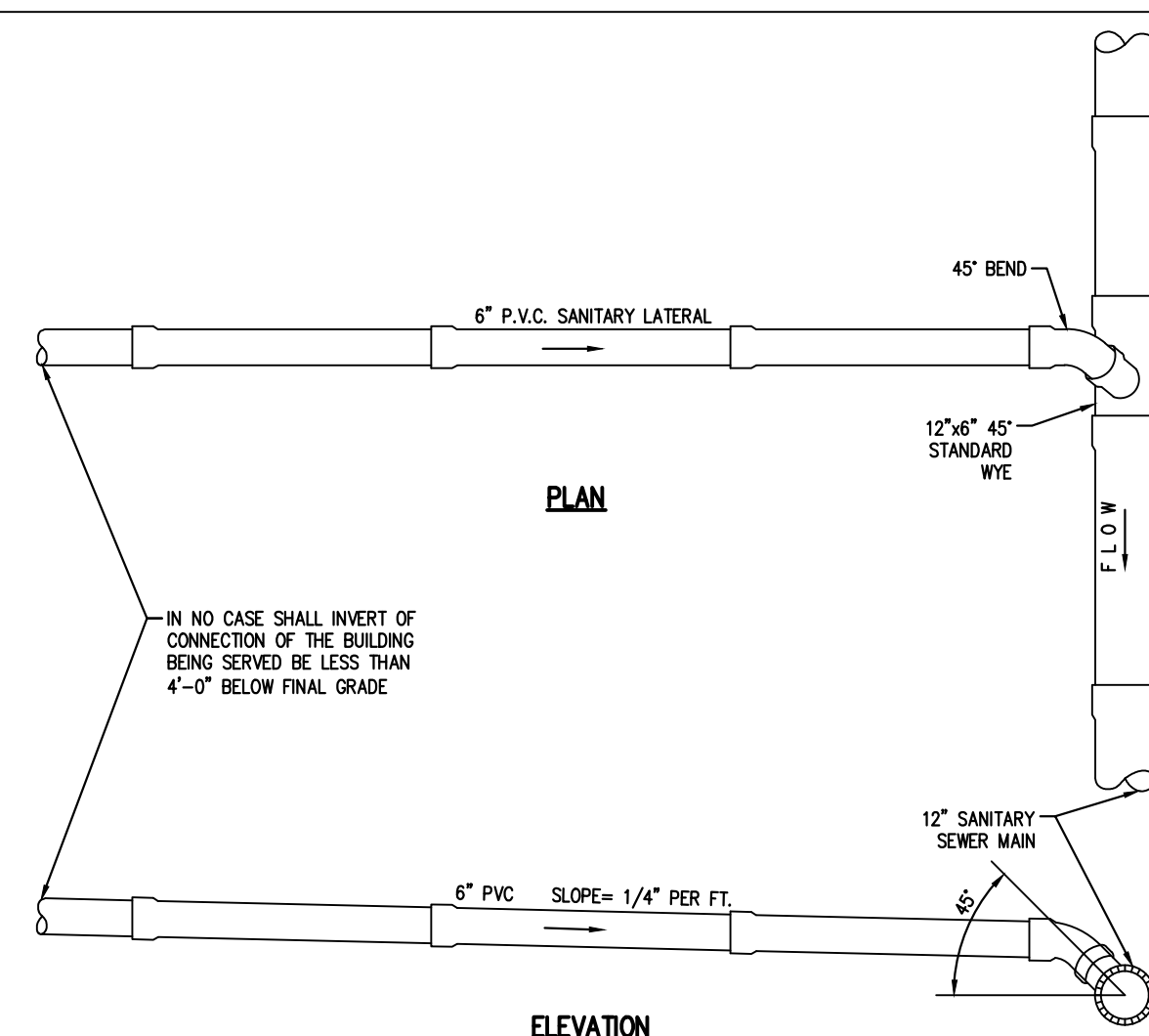


**Note:**

TYPICAL AT END OF ALL LATERALS

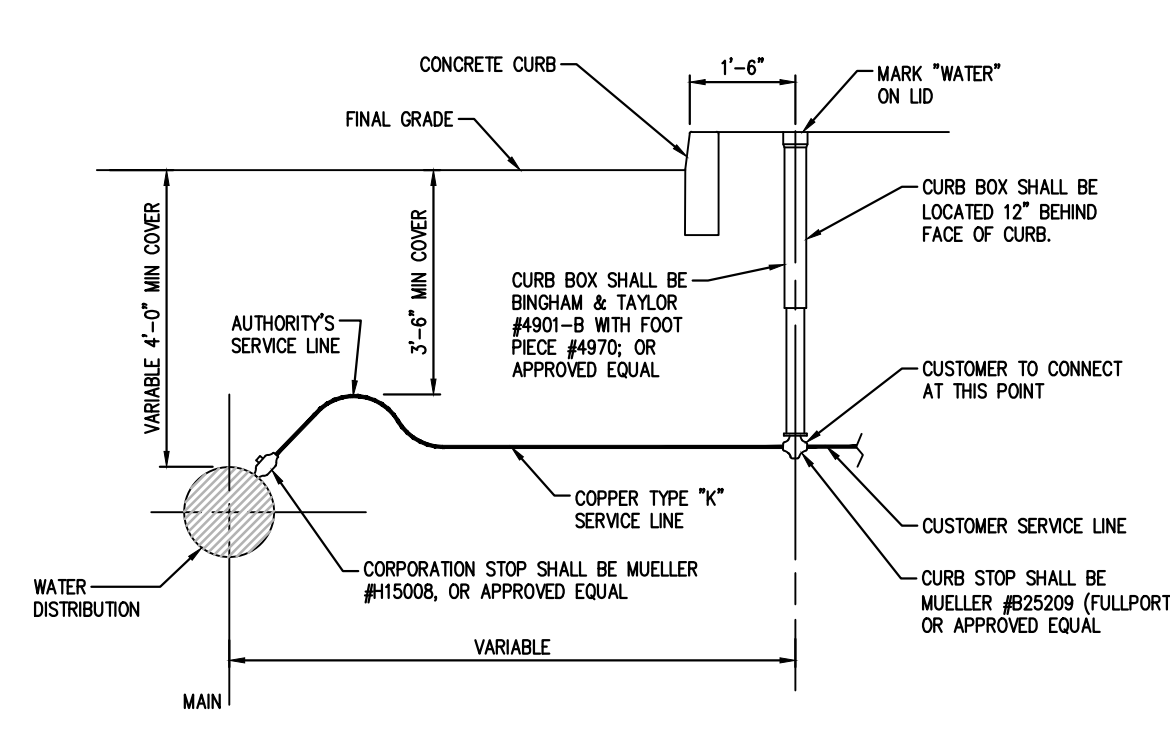
**Lateral Clean-out**

NOT TO SCALE



**Typical Sanitary Sewer Lateral Connection**

NOT TO SCALE

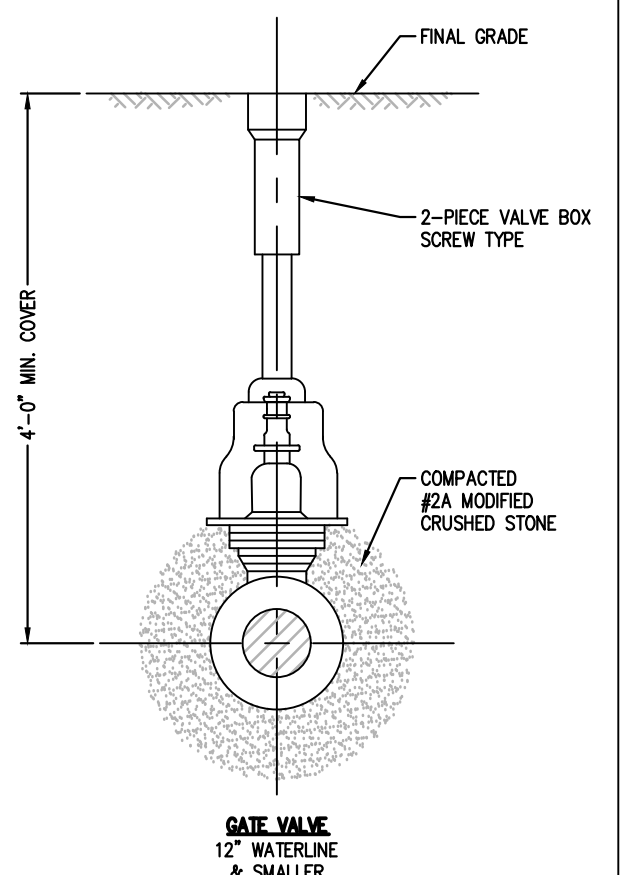


**Water Lateral Small Service Connection**

NOT TO SCALE

**Notes:**

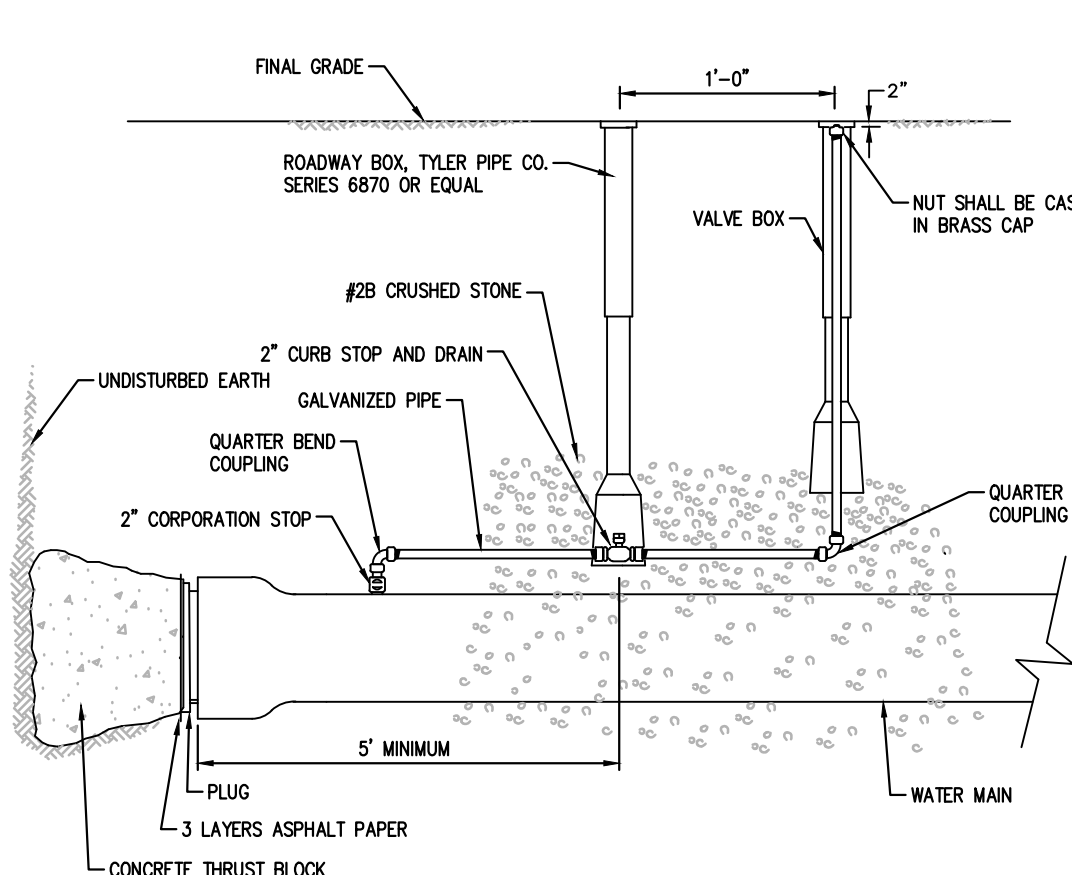
- ALL PIPE MUST BE BEDDED IN A MIN. 4" LAYER OF SAND OR SCREENINGS AND SHALL BE BACK FILLED WITH THE SAME MATERIAL IN MAX. 6" LAYERS COMPACTED. EACH LAYER SHALL BE HAND TAMPED UNTIL 1" OF COVER EXISTS OVER THE PIPE.
- PIPES AROUND WIRES AND ALL PLUGS, CAPS, HYDRANTS, TEES, CROSSES, VALVES, ETC., SHALL BE BLOCKED WITH CONCRETE TO TAKE THE REACTION AND OR THRUST.



**Gate Valve Detail**

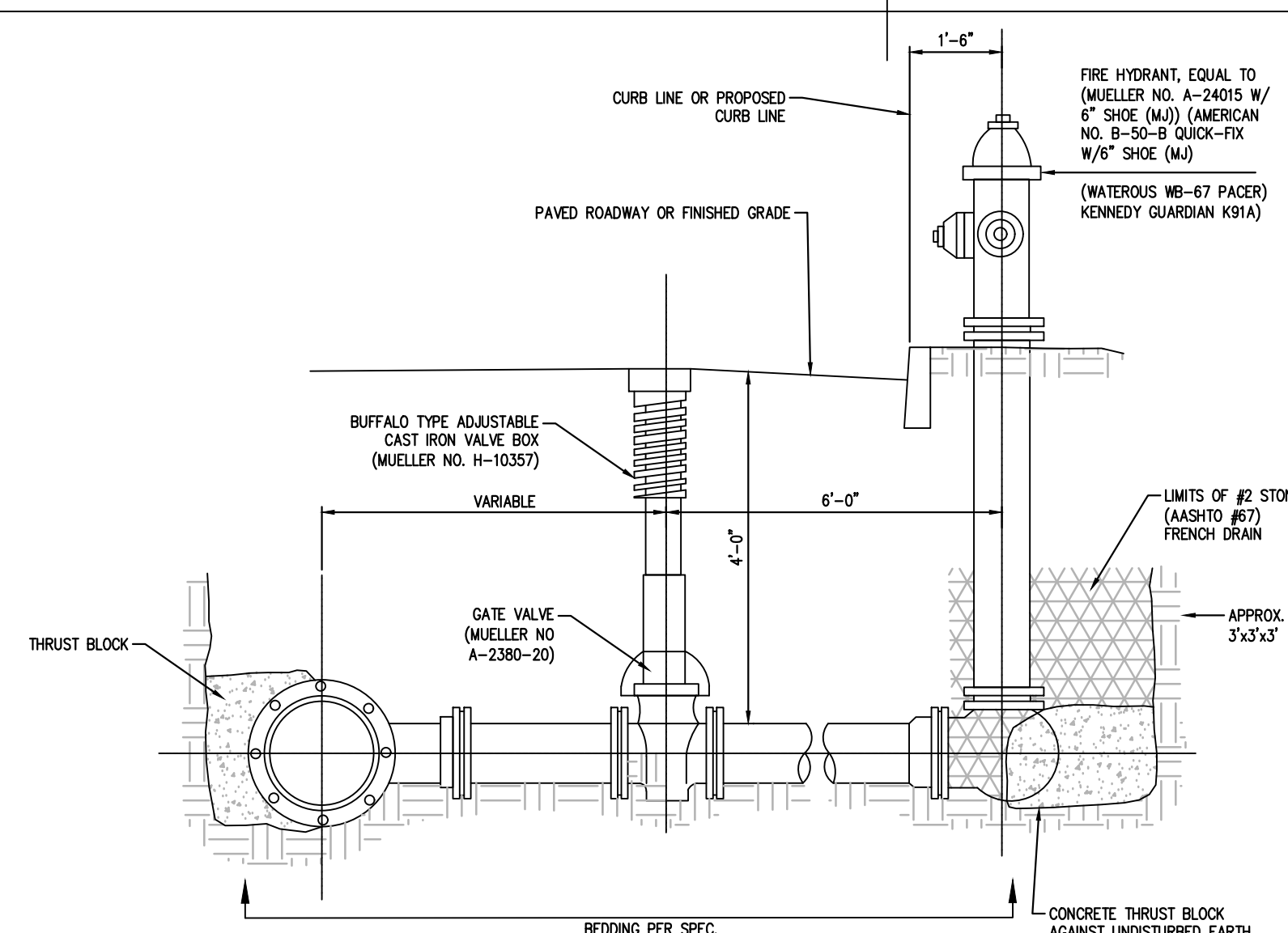
**NOTE:**

- RETAINER GLANDS REQUIRED ON ALL MECHANICAL JOINT FITTINGS
- ROD DIAMETER SHALL BE EQUAL TO THAT OF THE GLAND BOLTS. RODS SHALL BE GIVEN ONE COAT OF BITUMASTIC PAINT.



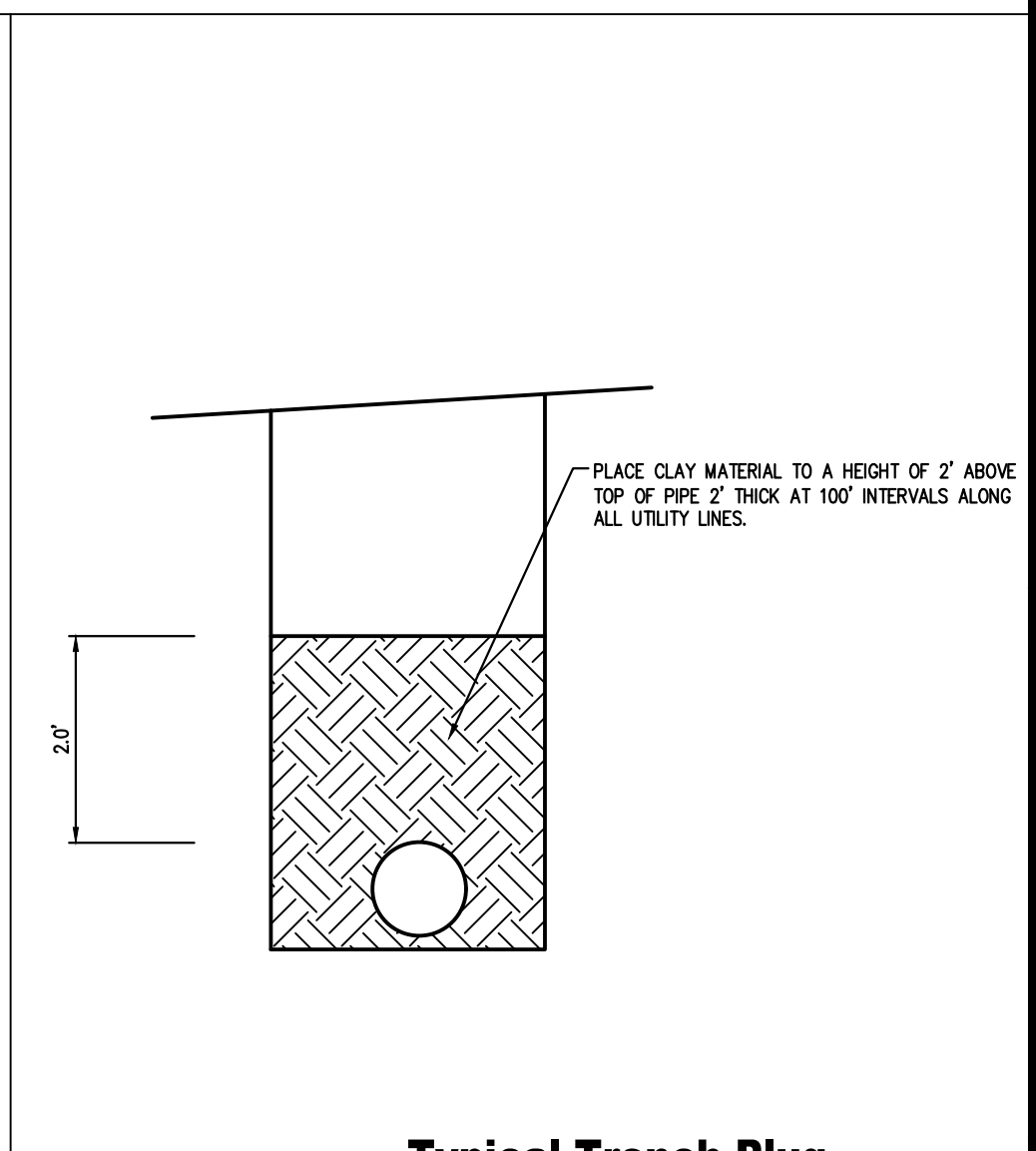
**2" Surface Blowoff**

NOT TO SCALE



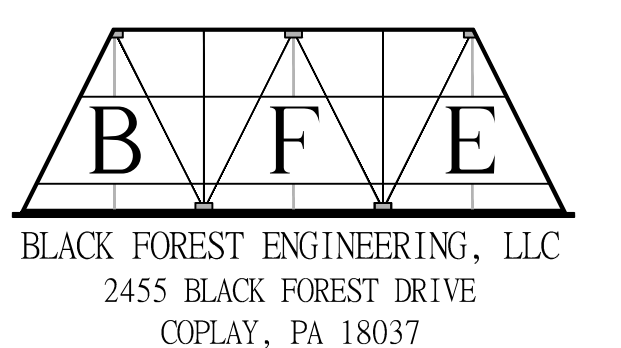
**Typical Fire Hydrant Detail**

NOT TO SCALE



**Typical Trench Plug**

NOT TO SCALE



BLACK FOREST ENGINEERING, LLC  
2455 BLACK FOREST DRIVE  
COPLAY, PA 18037

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REV.	DESCRIPTION:	BY	DATE
02	CITY REVIEW LETTER	JER	3/29/22
01	LVPC STORMWATER	JER	3/1/22

PROJECT TITLE:  
**THE APARTMENTS AT 1210 EATON AVENUE**

PROJECT OWNER:  
CAMBRIA PARTNERS, LLC  
555 ASHWOOD ROAD  
NAZARETH, PA 18064

PROJECT LOCATION:  
CITY OF BETHLEHEM  
WARD 13 BLOCK 149A  
LEHIGH COUNTY  
PENNSYLVANIA

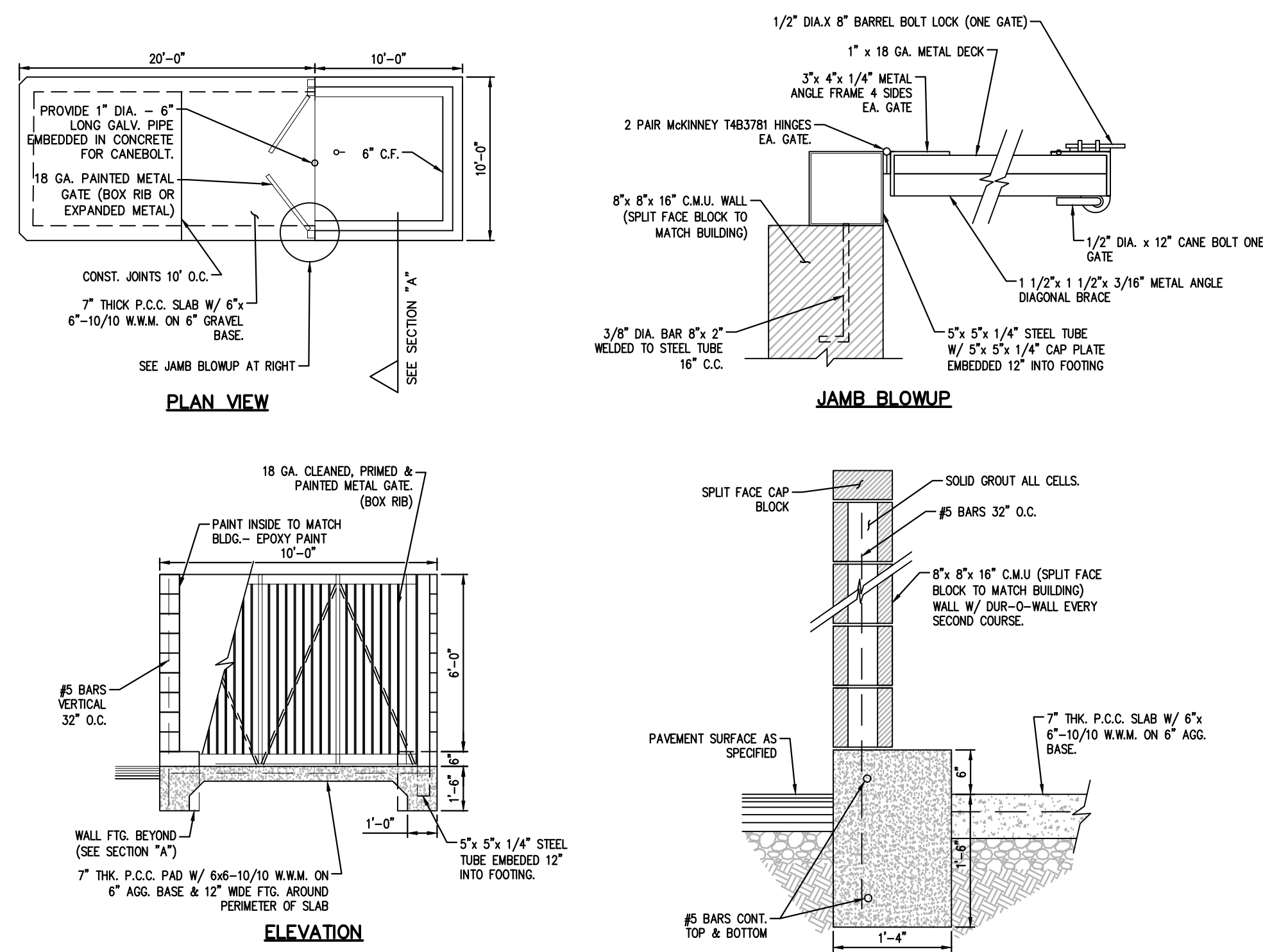
**CONSTRUCTION DETAILS**

SCALE:	DATE:	DRAWN:	CHECKED:
AS NOTED	2/9/22	JER	JER

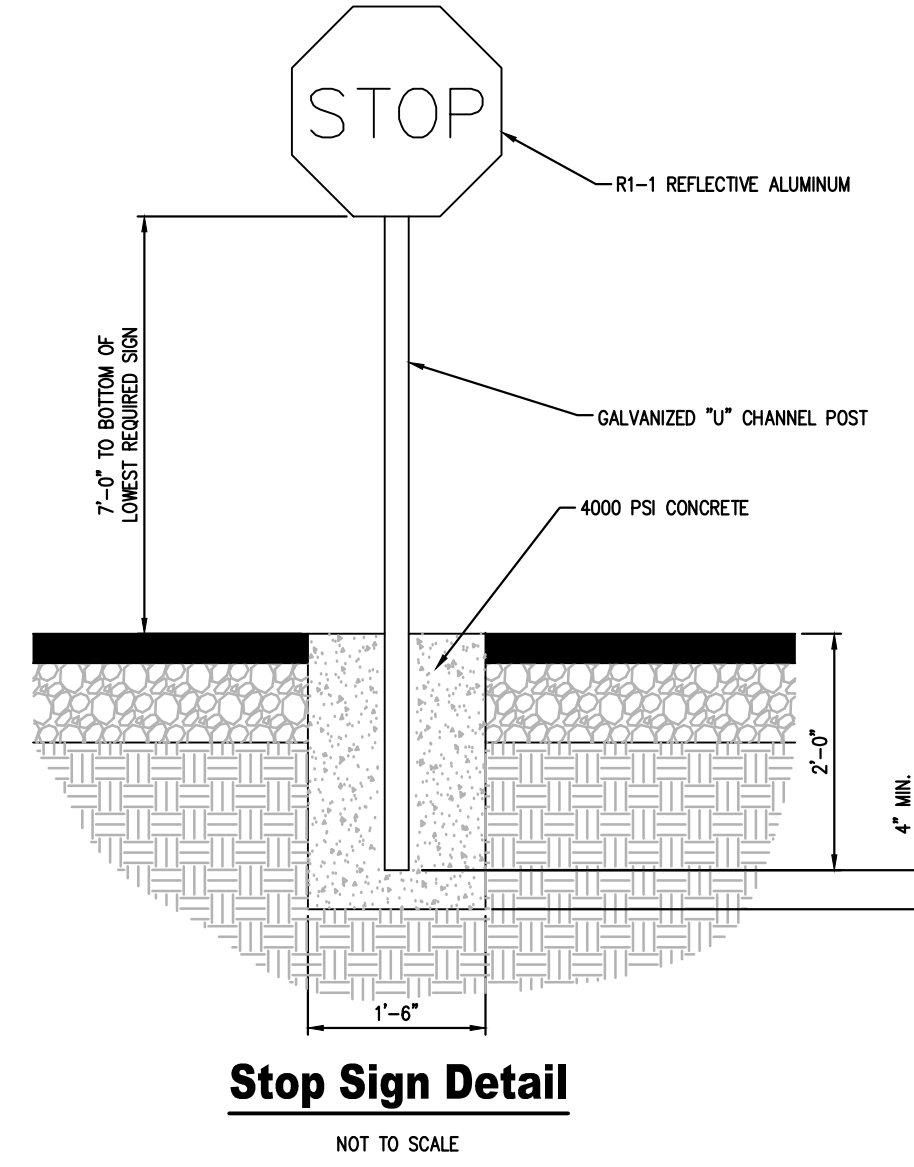
PROJECT NO.	DRAWING NO.	REVISION:
1210	8 OF 9	00

P:\BFE\_LLC\Projects\Draw\_Vitroch\1210\_Eaton\_Ave\_Ashwood\1210\_Eaton\_Ashwood.dwg, 20220328, BemaPlan\_Editor\_Ave\_mose\_31, wds.dwg, Mon, 20/03/2022 - 10:17:20

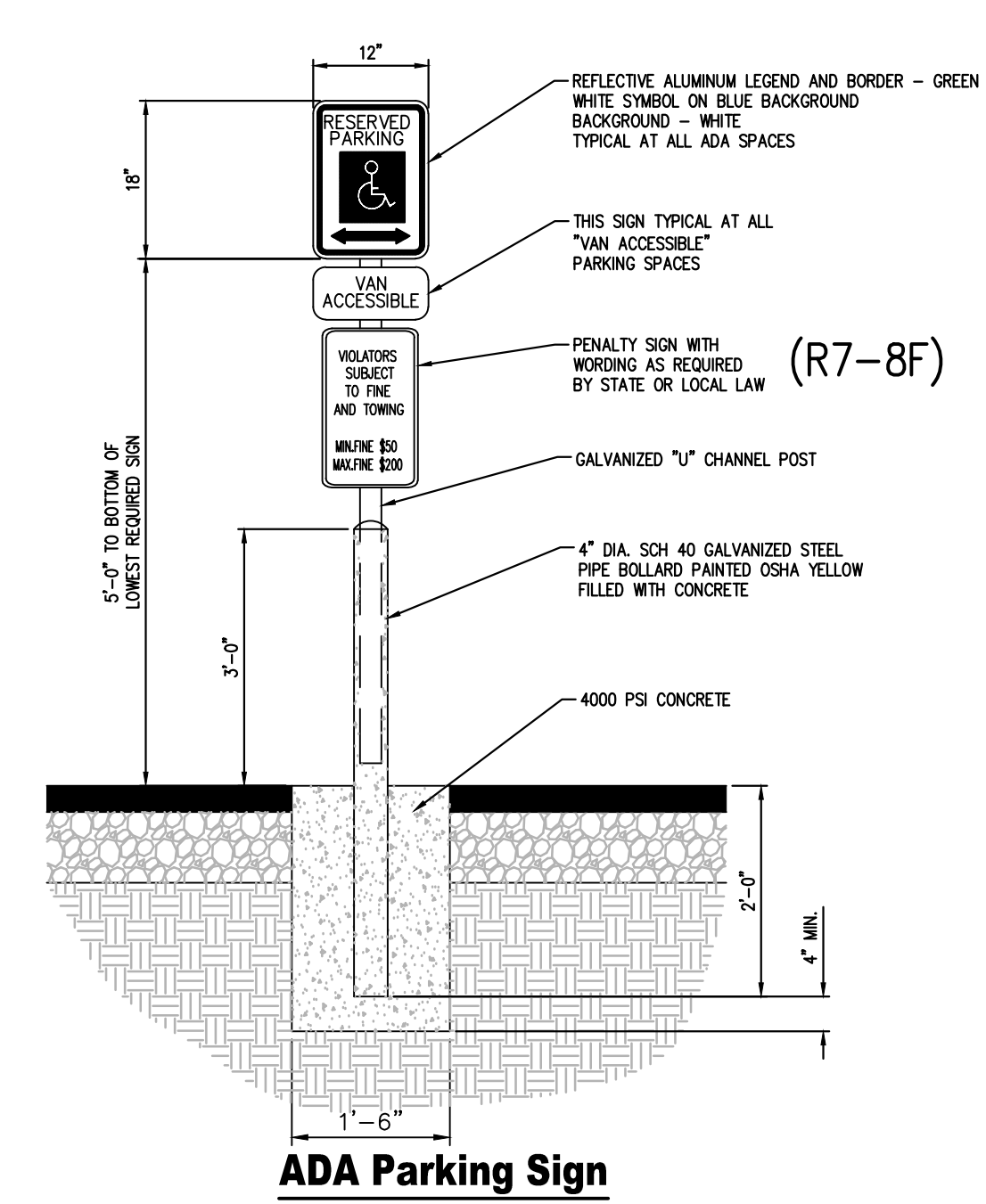




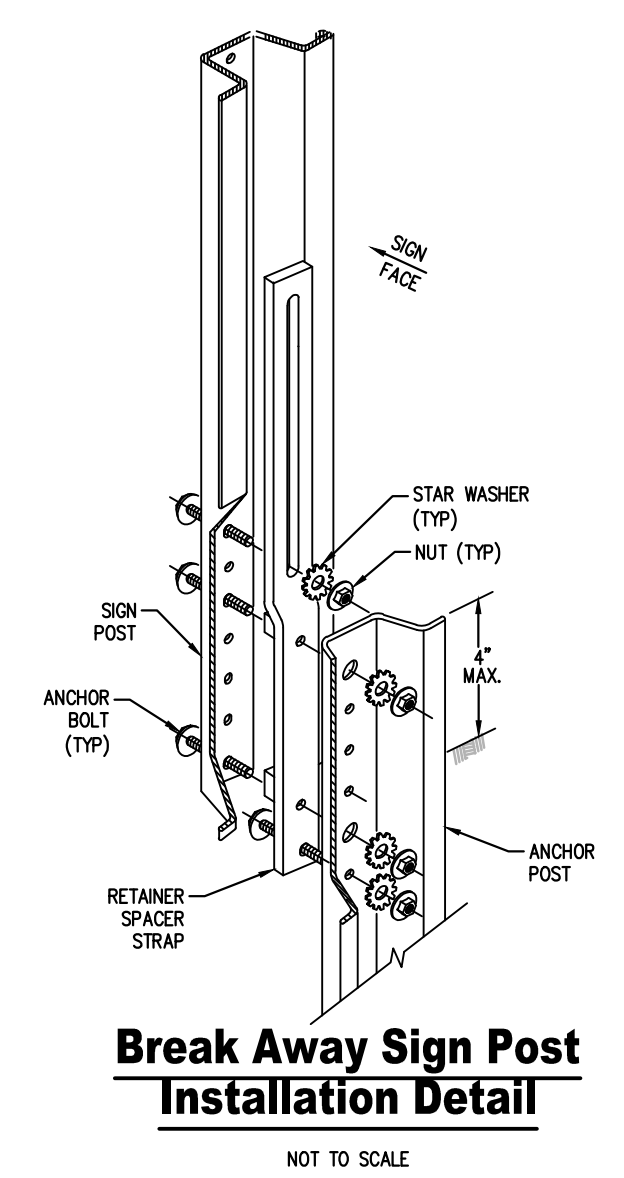
**10'x10' TRASH ENCLOSURE DETAIL**  
NOT TO SCALE



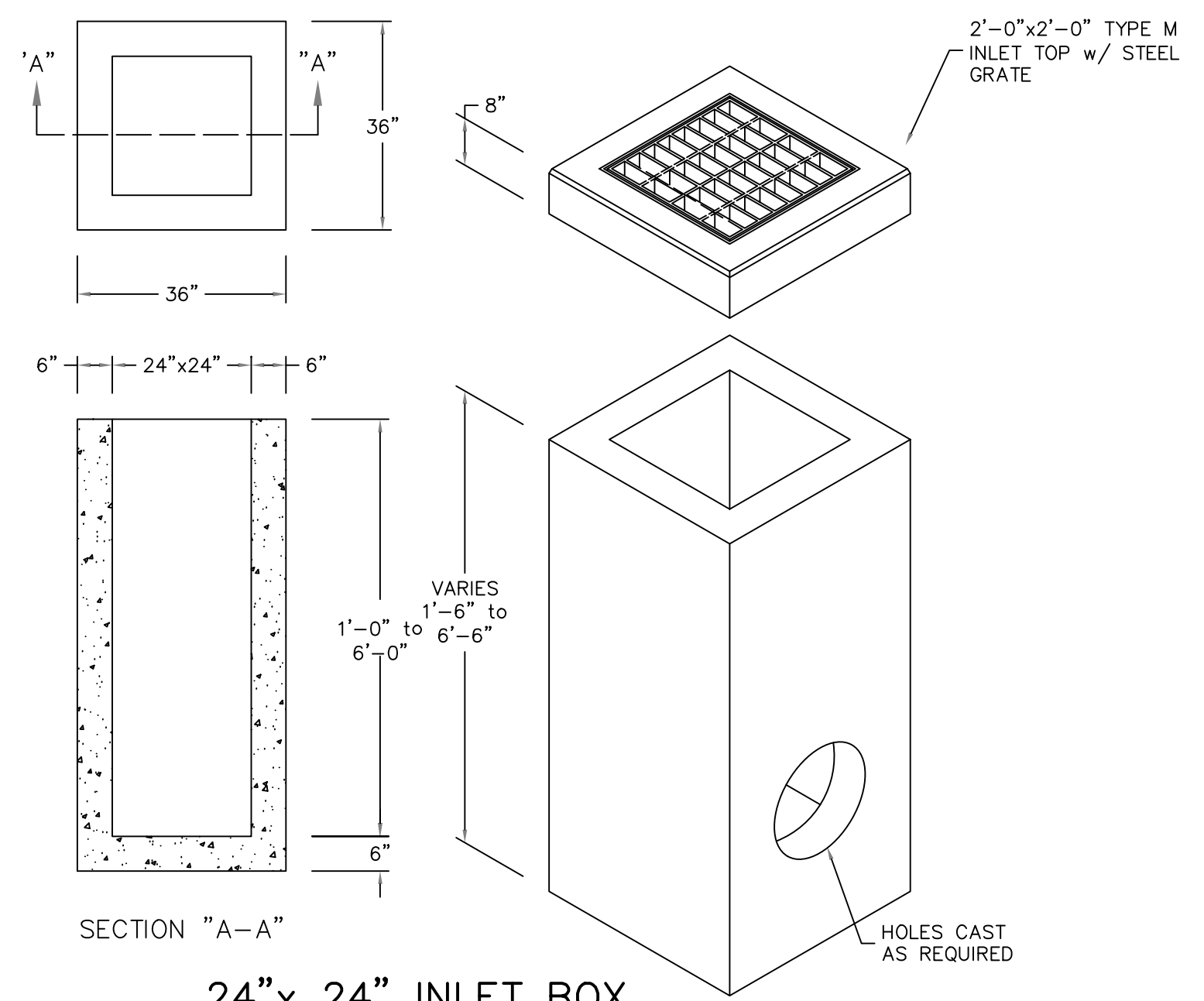
**Stop Sign Detail**  
NOT TO SCALE



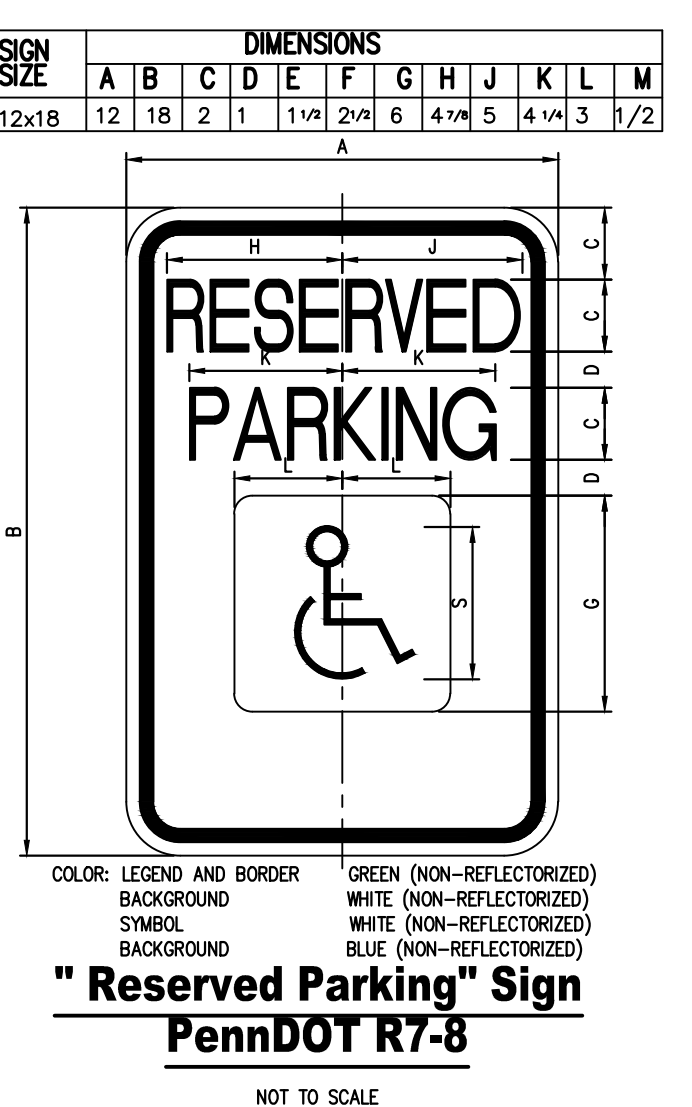
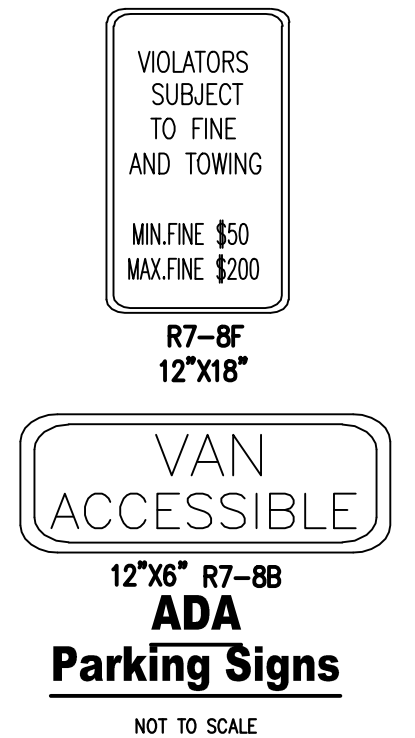
**ADA Parking Sign**  
NOT TO SCALE



**Break Away Sign Post Installation Detail**  
NOT TO SCALE



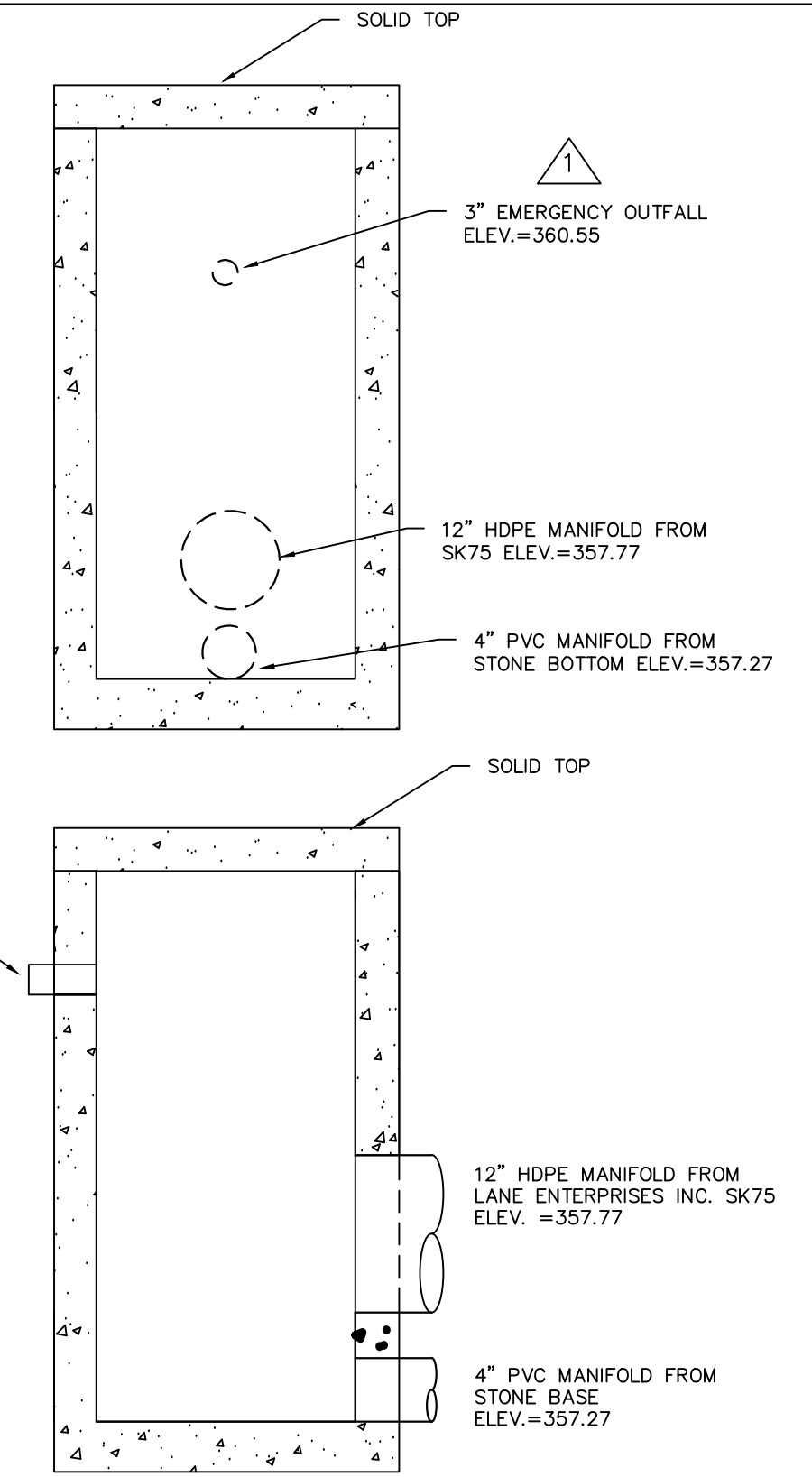
**24'x 24' INLET BOX W/TYPE M INLET TOP**



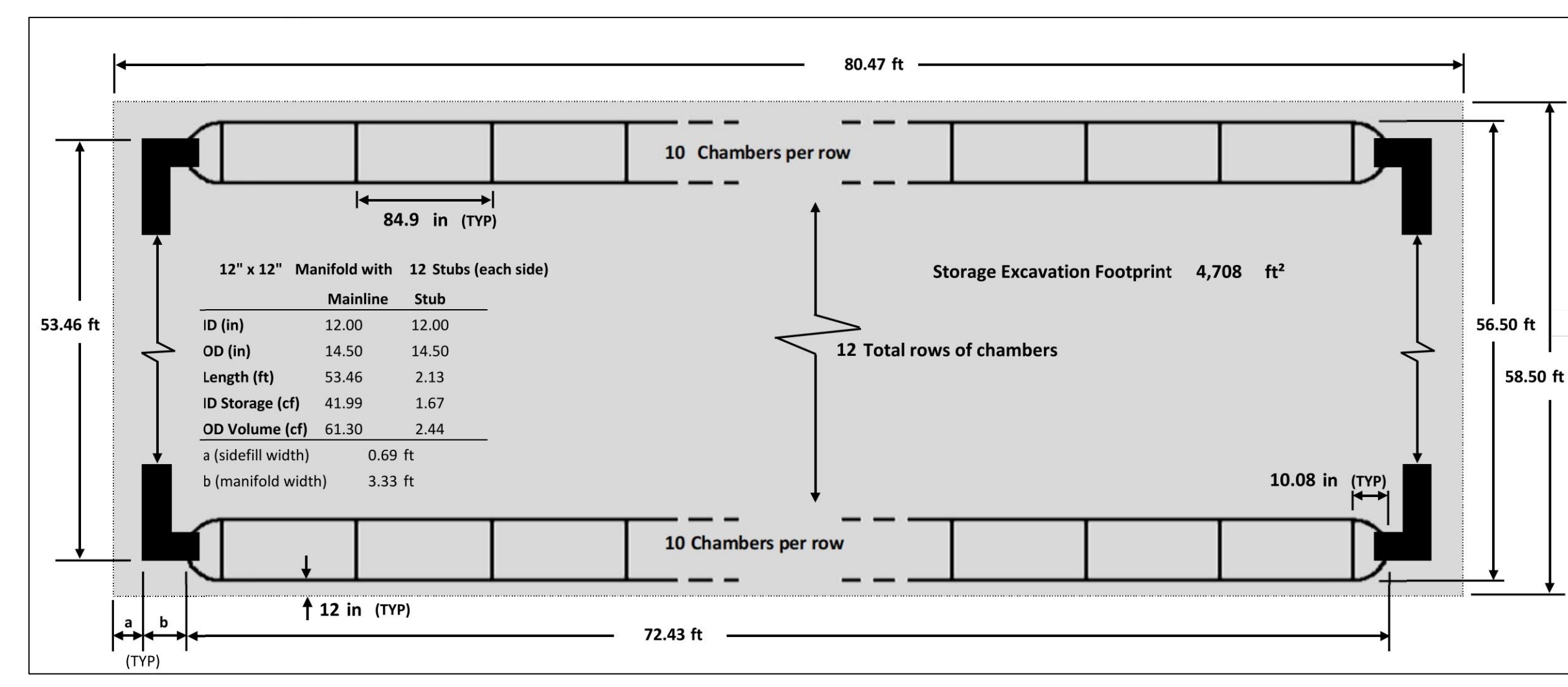
**"Reserved Parking" Sign PennDOT R7-8**  
NOT TO SCALE

SIGN SCHEDULE				
SYMBOL	LEGEND	QTY.	BLANK SIZE	PENNDOT #
S-1	STOP	1	24 X 24	R1-1
S-2	RESERVED PARKING WITH PARKING FINE PLAQUE	2	12 X 18 12 X 18	R7-8 R7-8B
S-3	SAME AS S-4 WITH VAN ACCESSIBLE PLAQUE AND PARKING FINE PLAQUE	2	12 X 18 12 X 6 12 X 18	R7-8 R7-8A R7-8B

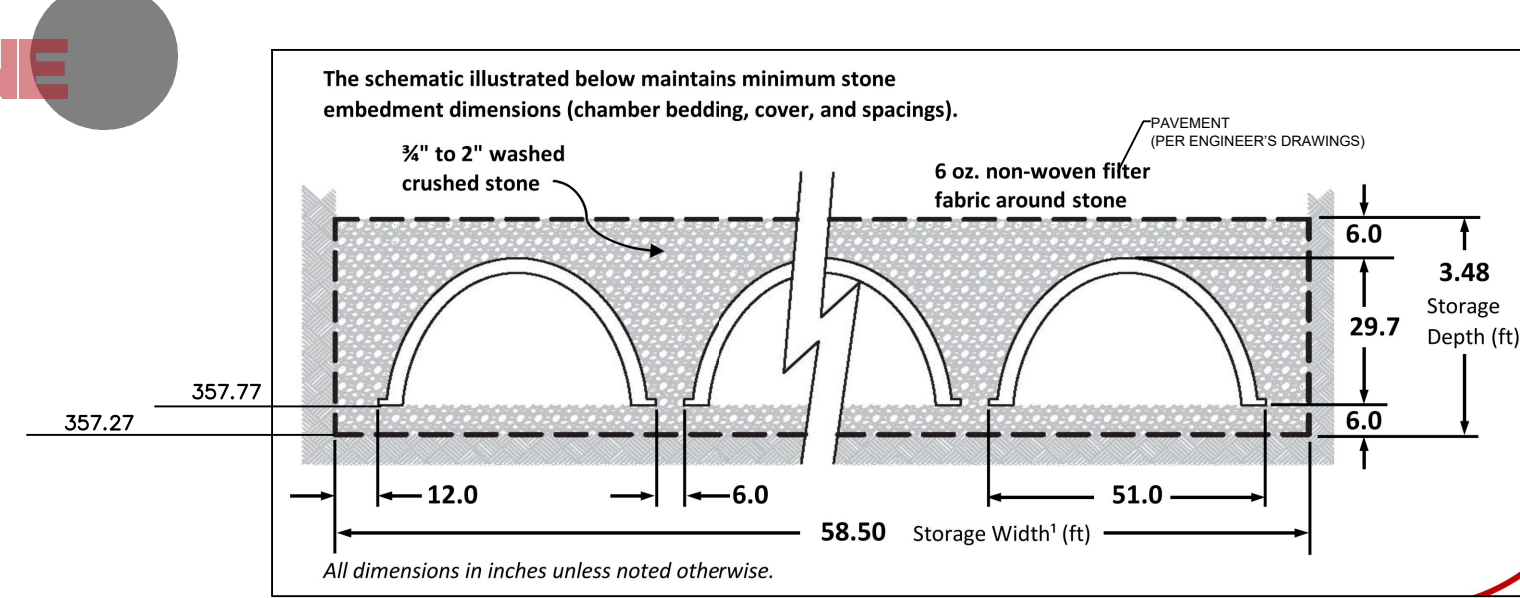
- MOUNT ALL SIGNS ON PENNDOT STD. 2.25 LB. BREAKAWAY CHANNEL BAR POSTS, UNLESS NOTED OTHERWISE.  
- MARK ALL PARKING SPACES WITH 4" WIDE SOLID WHITE LINES.



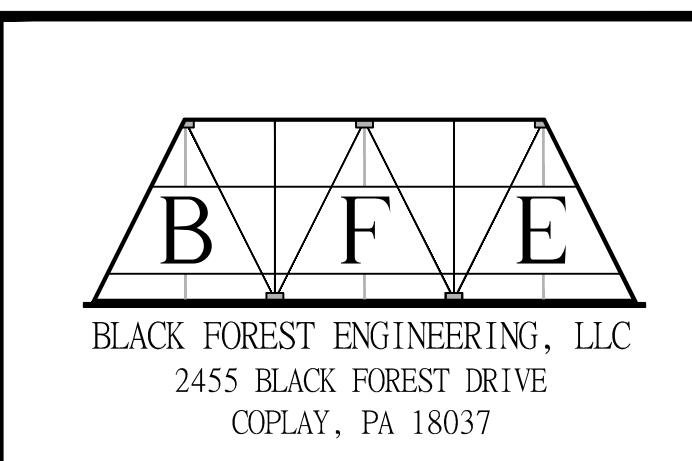
**BASIN OUTLET STRUCTURE (OCS-1)**  
N.T.S.



**UNDERGROUND INFILTRATION BASIN LAYOUT**  
N.T.S.



All dimensions in inches unless noted otherwise.



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02	CITY REVIEW LETTER	JER	3/29/22
01	LVPC STORMWATER	JER	3/1/22

PROJECT TITLE:			
THE APARTMENTS AT 1210 EATON AVENUE			
PROJECT LOCATION:			
CITY OF BETHLEHEM WARD 13 BLOCK 149A LEHIGH COUNTY PENNSYLVANIA			

PROJECT OWNER:			
CAMBRIA PARTNERS, LLC 555 ASHWOOD ROAD NAZARETH, PA 18064			

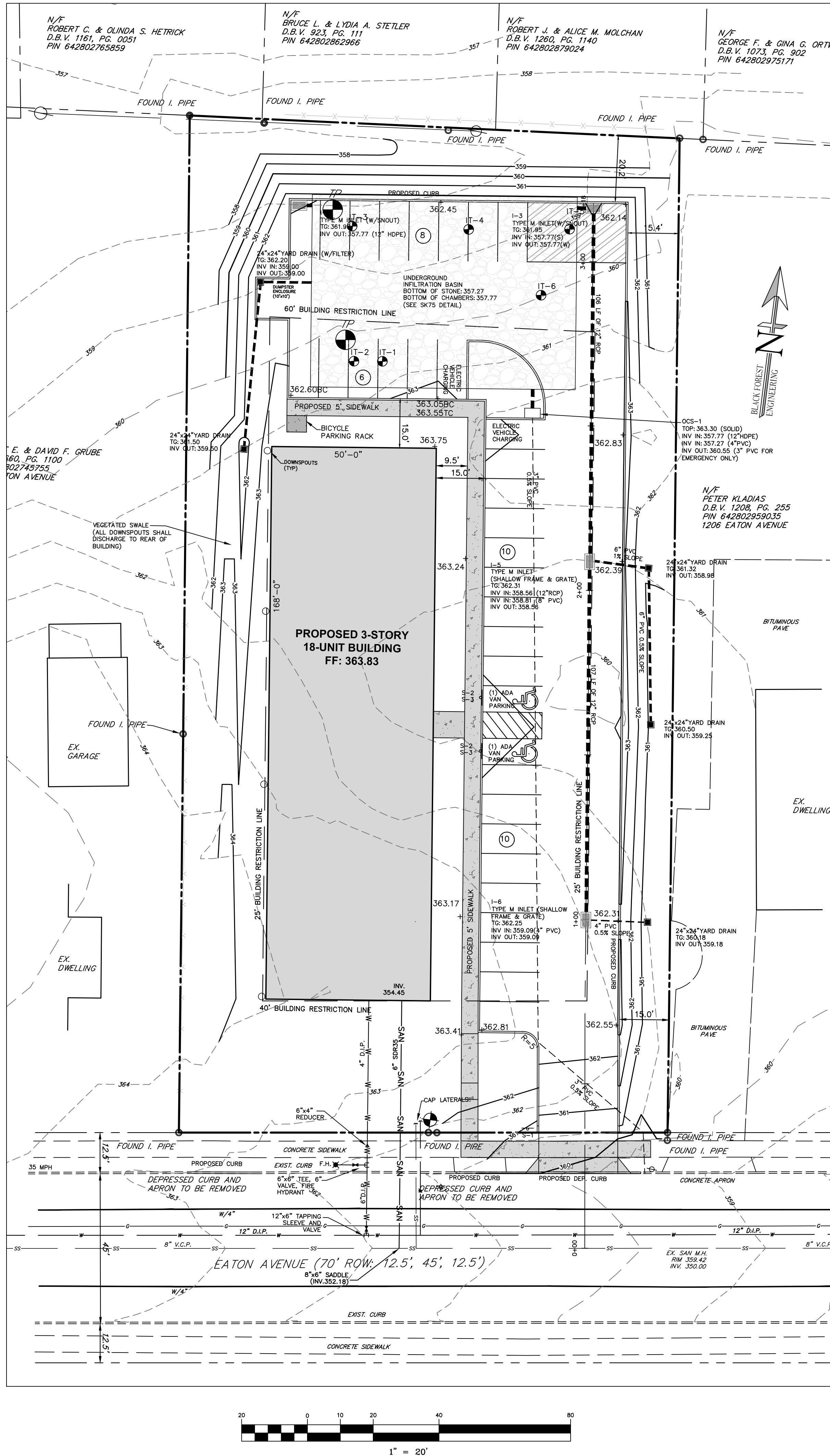
PROJECT TITLE:			
CONSTRUCTION DETAILS			

SCALE:	DATE:	DRAWN:	CHECKED:
AS NOTED	2/9/22	JER	JER

PROJECT NO.	DRAWING NO.	REVISION:
1210	9 OF 9	00

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**PROPOSED PCSM BMPs**

**SUBSURFACE INFILTRATION BED  
VEGETATED SWALE  
SNOUT/SUMPED STRUCTURE**

**UNDERGROUND  
INFILTRATION BASIN**

TOTAL AREA = 31,692 SF  
 IMPERVIOUS AREA = 23,514 SF\*  
 BASIN BOTTOM = 4,709 SF  
 TOTAL LOADING RATIO = 6.73:1  
 IMPERVIOUS LOADING RATIO = 4.99:1\*  
 \*INCLUDES 8,400 SF THAT IS PRE-TREATED  
 BY VEGETATED SWALE

**RECEIVING WATERSHED  
MONACOY CREEK (HQ-CWF,MF)**

**CRITICAL STAGES OF IMPLEMENTATION  
OF PCSM PLAN**

A Licensed Professional or designee shall be present on site to observe the critical stages of the PCSM plan. These stages include the subgrade preparation and installation of the subsurface infiltration basin.

**INFILTRATION BMP PROTECTION**

The proposed Infiltration Subsurface Bed shall remain protected until all areas of the site are 70% stabilized. During construction (prior to 70% stabilization), the contractor shall be responsible for maintenance and operations of the proposed subsurface bed, which will include weekly inspections

**SEQUENCE OF CONSTRUCTION - PCSM BMPs:**

**SUBSURFACE INFILTRATION BEDS**

1. DUE TO THE NATURE OF CONSTRUCTION SITES, SUBSURFACE INFILTRATION SHOULD BE INSTALLED TOWARD THE END OF THE CONSTRUCTION PERIOD, IF POSSIBLE.
2. INSTALL AND MAINTAIN ADEQUATE EROSION AND SEDIMENT CONTROL MEASURES (AS PER THE PENNSYLVANIA EROSION AND SEDIMENTATION CONTROL PROGRAM MANUAL) DURING CONSTRUCTION.
3. THE EXISTING SUBGRADE UNDER THE BED AREAS SHOULD NOT BE COMPACTED OR SUBJECT TO EXCESSIVE CONSTRUCTION EQUIPMENT TRAFFIC PRIOR TO GEOTEXTILE AND STONE BED PLACEMENT.
4. WHERE EROSION OF SUBGRADE HAS CAUSED ACCUMULATION OF FINE MATERIALS AND/OR SURFACE PONDING, THIS MATERIAL SHOULD BE REMOVED WITH LIGHT EQUIPMENT AND THE UNDERLYING SOILS SCARIFIED TO A MINIMUM DEPTH OF 6 INCHES WITH A YORK RAKE (OR EQUIVALENT) AND LIGHT TRACTOR. ALL FINE GRADING SHOULD BE DONE BY HAND. ALL BED BOTTOMS SHOULD BE AT LEVEL GRADE.
5. EARTHEN BERMS (IF USED) BETWEEN INFILTRATION BEDS SHOULD BE LEFT IN PLACE DURING EXCAVATION. THESE BERMS DO NOT REQUIRE COMPACTION IF PROVEN STABLE DURING CONSTRUCTION.
6. INSTALL UPSTREAM AND DOWNSTREAM CONTROL STRUCTURES, CLEANOUTS, PERFORATED PIPING, AND ALL OTHER NECESSARY STORMWATER STRUCTURES.
7. GEOTEXTILE AND BED AGGREGATE SHOULD BE PLACED IMMEDIATELY AFTER APPROVAL OF SUBGRADE PREPARATION AND INSTALLATION OF STRUCTURES. GEOTEXTILE SHOULD BE PLACED IN ACCORDANCE WITH MANUFACTURER'S STANDARDS AND RECOMMENDATIONS. ADJACENT STRIPS OF GEOTEXTILE SHOULD OVERLAP A MINIMUM OF 18 INCHES. IT SHOULD ALSO BE SECURED AT LEAST 4 FEET OUTSIDE OF BED IN ORDER TO PREVENT ANY RUNOFF OR SEDIMENT FROM ENTERING THE STORAGE BED. THIS EDGE STRIP SHOULD REMAIN IN PLACE UNTIL ALL BARE SOILS CONTIGUOUS TO BEDS ARE STABILIZED AND VEGETATED. AS THE SITE IS FULLY STABILIZED, EXCESS GEOTEXTILE ALONG BED EDGES CAN BE CUT BACK TO THE EDGE OF THE BED.
8. INSTALL IMPERMEABLE LINER ON DOWNSLOPE EMBANKMENT OF BED #1 AND BED #2 (SEE INFILTRATION BED IMPERMEABLE LINER DETAIL).
9. CLEAN-WASHED, UNIFORMLY GRADED AGGREGATE SHOULD BE PLACED IN THE BED IN MAXIMUM 8-INCH LIFTS. EACH LAYER SHOULD BE LIGHTLY COMPACTED, WITH CONSTRUCTION EQUIPMENT KEPT OFF THE BED BOTTOM AS MUCH AS POSSIBLE.
10. APPROVED SOIL MEDIA SHOULD BE PLACED OVER INFILTRATION BED IN MAXIMUM 6-INCH LIFTS.
11. SEED AND STABILIZE TOPSOIL.
12. DO NOT REMOVE INLET PROTECTION OR OTHER EROSION AND SEDIMENT CONTROL MEASURES UNTIL SITE IS FULLY STABILIZED.

**VEGETATED SWALES:**

1. ROUGH GRADE SWALES ONLY AFTER UPSLOPE TEMPORARY E&S MEASURES ARE IN PLACE.
2. COMPACTION SHALL BE LIMITED.
3. FINE GRADE AND INSPECT FOR INCONSISTENCIES.
4. SEED, VEGETATE AND COVER WITH PROTECTIVE LINING.

**SNOUT/WATER QUALITY INLETS:**

1. INSTALL INLET AND PIPING AT LOCATION AND DEPTH SPECIFIED ON PLANS. GROUT PIPING INTO STRUCTURE ENSURING PIPE IS FLUSH WITH INTERIOR WALL FACE.
2. INSTALL SNOUT PER MANUFACTURER'S SPECIFICATIONS.
3. INSTALL INLET PROTECTION. INSPECT SNOUT AFTER ANY RAINFALL EVENT GREATER THAN 1/2 INCH. MEASURE AMOUNT OF SEDIMENT DEPOSITED IN INLET. IF SEDIMENT DEPTH REACHES 1/2 DEPTH OF SUMP, STRUCTURE AND SNOUT SHALL BE CLEANED PER MANUFACTURER'S RECOMMENDATIONS.
4. COMPLETE INSTALLATION OF STORM SEWER SYSTEM AND INLET PROTECTION AS INDICATED IN CONSTRUCTION SCHEDULING.
5. AFTER SITE HAS ACHIEVED FULL RESTORATION REMOVE INLET PROTECTION AND BEGIN MAINTENANCE SCHEDULE BASED UPON FIRST YEAR MONTHLY INSPECTION FINDINGS.

**SUMMARY OF STORMWATER TEST RESULTS**

TEST PROBE	SUITABILITY	SUMMARY OF RESULTS
77	SUITABLE 0"-76"	NO LIMITING ZONE AT 353.92
TEST PIT #	TEST ELEVATION	RATE
IT-1	357.27	9.5 INCHES PER HOUR
IT-2	357.27	4.0 INCHES PER HOUR
IT-3	357.27	7.0 INCHES PER HOUR
IT-4	357.27	7.5 INCHES PER HOUR
IT-5	357.27	4.0 INCHES PER HOUR
IT-6	357.27	5.5 INCHES PER HOUR

**Description of PCSM BMPs**

- BMP 6.4.3: Subsurface Infiltration Bed** - A subsurface infiltration bed has been designed to control the volume increase for the 2-year storm from pre to post-development. Preliminary infiltration testing has been completed. Refer to plans for specific construction sequence and required maintenance activities.
- BMP 6.4.8: Vegetated Swale** - A vegetated swale has been designed to convey and pre-treat stormwater collected from the rooftops to the infiltration bed where the 2-yr volume will be managed. Compaction shall be limited during rough grading. Once fine grading is complete, the swale shall be seeded, vegetated and covered with the specified protective lining. Maintenance activities (mowing, inspections, etc) to be done annually and within 48 hours of a major storm event.
- BMP 6.4.4: Snout/Sumped Inlet** - Snouts have been designed to remove non-point source pollutants from runoff as a part of the runoff conveyance system. Regular Maintenance is critical for this BMP. They are generally configured to remove particulate contaminants, silt and debris. Maintenance activities (inspection, cleaning of debris and excess sediment) to be done annually and within 48 hours of a major storm event.

**MAINTENANCE AND OPERATION SCHEDULE FOR STORMWATER MANAGEMENT BMPs:**

FREQUENCY	MAINTENANCE ACTIVITY	REMEDY
WEEKLY OR AS NEEDED	1. INSPECT SURFACE VEGETATION	1. WATER, WEED, AND SEED AS NECESSARY
	2. MOW SURFACE VEGETATION	2. MOW ONLY AS APPROPRIATE FOR VEGETATIVE COVER SPECIES
	3. INSPECT OUTLET STRUCTURES AND SPILLWAYS	3. REMOVE AND ACCUMULATED SEDIMENT OR DEBRIS TO ENSURE PROPER DRAINAGE
SEMI-ANNUALLY	1. INSPECT CATCH BASINS AND INLETS	1. REMOVE DEBRIS AS NECESSARY

**STORMWATER MANAGEMENT NOTES:**

1. IN ADDITION TO D.E.P. COMPLIANCE PROGRAMS, THE CITY OF BETHLEHEM OR ITS DESIGNEE MAY INSPECT ALL PHASES OF THE CONSTRUCTION, OPERATIONS, MAINTENANCE AND ANY OTHER IMPLEMENTATION OF STORMWATER B.M.P.'s.
2. DURING ANY STAGE OF THE REGULATED EARTH DISTURBANCE ACTIVITIES, IF THE CITY OF BETHLEHEM OR ITS DESIGNEE DETERMINES THAT ANY B.M.P.'s ARE NOT BEING IMPLEMENTED IN ACCORDANCE WITH THIS CHAPTER, THE CITY OF BETHLEHEM MAY SUSPEND OR REVOKE ANY EXISTING PERMITS OR OTHER APPROVALS UNTIL THE DEFICIENCIES ARE CORRECTED.
3. UPON PRESENTATION OF PROPER CREDENTIALS, DULY AUTHORIZED REPRESENTATIVES OF THE CITY OF BETHLEHEM MAY ENTER AT REASONABLE TIMES UPON ANY PROPERTY WITHIN THE CITY OF BETHLEHEM TO INSPECT THE IMPLEMENTATION, CONDITION, OR OPERATION AND MAINTENANCE OF THE STORMWATER B.M.P.'s.
4. B.M.P. OWNERS AND OPERATORS SHALL ALLOW PERSONS WORKING ON BEHALF OF THE CITY OF BETHLEHEM READY ACCESS TO ALL PARTS OF THE PREMISES FOR THE PURPOSES OF DETERMINING COMPLIANCE.
5. PERSONS WORKING ON BEHALF OF THE CITY OF BETHLEHEM SHALL HAVE THE RIGHT TO TEMPORARILY LOCATE ANY B.M.P. IN THE CITY OF BETHLEHEM SUCH DEVICES AS ARE NECESSARY TO CONDUCT MONITORING AND/OR SAMPLING OF THE DISCHARGES FROM SUCH B.M.P.
6. ALL ON-SITE INLETS, MANHOLES, STORMWATER PIPING (INCLUDING UNDERDRAIN) SHALL BE CLEARED OF DEBRIS PER ESTABLISHED SCHEDULE, WHEN ACCUMULATION HINDERS OPERATION OF THE FACILITY, OR SEMI-ANNUALLY AT A MINIMUM.

PROFESSIONAL ENGINEER'S STATEMENT  
 I, JOSEPH E. RENTKO, DO HEREBY CERTIFY THAT I AM A PROFESSIONAL ENGINEER LICENSED AND REGISTERED TO PRACTICE ENGINEERING IN THE COMMONWEALTH OF PENNSYLVANIA, PURSUANT TO PENNSYLVANIA PROFESSIONAL ENGINEERS REGISTRATION LAW, ACT OF MAY 23, 1945, P.L. 915, AS AMENDED, AS FOUND AS 83 P.S. SECTION 1401.1 AND 1401.2, AND THE ENGINEERING ASPECTS OF THE PLAN ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE, INFORMATION, AND BELIEF, AND I DO FURTHER CERTIFY THAT THE PLAN COMPLIES WITH THE REQUIREMENTS OF THE STORMWATER MANAGEMENT REGULATIONS OF THE CITY OF BETHLEHEM.

PROFESSIONAL ENGINEER'S SIGNATURE  
 JOSEPH E. RENTKO, P.E. #PE085609  
 2455 BLACK FOREST DRIVE  
 COPLAY, PA 18037  
 570-239-4499

OWNER/OPERATOR

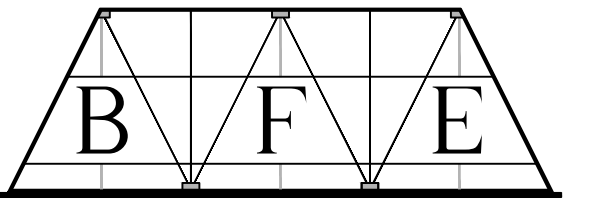
SWORN TO AND SUBSCRIBED BEFORE ME  
 THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_

SEAL

NOTARY PUBLIC

RECORDED IN THE OFFICE OF THE RECORDER OF DEEDS OF LEHIGH COUNTY, PENNSYLVANIA ON \_\_\_\_\_, 20\_\_\_\_, IN MAP BOOK VOLUME \_\_\_\_\_ PAGE \_\_\_\_\_

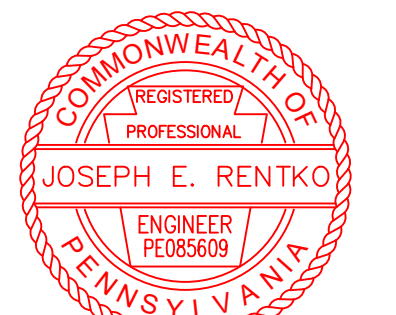
LEHIGH COUNTY RECORDER OF DEEDS



BLACK FOREST ENGINEERING, LLC  
 2455 BLACK FOREST DRIVE  
 COPLAY, PA 18037

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SEAL:



JOSEPH E. RENTKO, P.E. #PE085609  
 2455 BLACK FOREST DRIVE  
 COPLAY, PA 18037  
 570-239-4499

REV.	DESCRIPTION:	BY	DATE
02	CITY REVIEW LETTER	JER	3/29/22
01	LVPC STORMWATER	JER	3/1/22

PROJECT TITLE:  
**THE APARTMENTS AT  
 1210 EATON AVENUE**

PROJECT OWNER:  
 CAMBRIA PARTNERS, LLC  
 555 ASHWOOD ROAD  
 NAZARETH, PA 18064

PROJECT LOCATION:  
**CITY OF BETHLEHEM  
 WARD 13 BLOCK 149A  
 LEHIGH COUNTY  
 PENNSYLVANIA**

PLAN TITLE:  
**DRAINAGE PLAN**

SCALE: 1"=20'  
 DATE: 2/9/22  
 DRAWN: JER  
 CHECKED: JER

PROJECT NO. 1210  
 DRAWING NO. 1 OF 2  
 REVISION: 00



