

**SITE DATA & ZONING DATA**

PARD: N7W1C 1 3  
 DEED: 2021-1-317652  
 PROPERTY 1405 NORTH BLVD  
 AREA: 21,147 SF (0.49 AC)  
 OWNER:  
 VILLANI DOMENIC  
 930 WAFFORD LANE  
 BETHLEHEM PA 18017-3892  
 239.272.3173  
 dv3522@yohoo.com

NUMBER OF LOTS -EXISTING: 1; PROPOSED: 1  
 NUMBER OF UNITS -EXISTING: 1; PROPOSED: 16  
 LINEAL FEET OF NEW STREETS - 0 L.F.  
 WATER SUPPLY - PROPOSED PUBLIC  
 SEWER - PROPOSED PUBLIC

**ZONING REQUIREMENTS FOR RT, HIGH DENSITY RESIDENTIAL**

ITEM	REQUIRED	EXISTING	PROPOSED
LOT AREA	9000 SF	21147 SF	21147 SF
LOT WIDTH	90'-0"	148'-0"	148'-0"
MIN. FRONT SETBACK -DWELLING	10'-0"	10'-0"	10'-0"
MIN. REAR SETBACK	20'-0"	20'-0"	20'-0"
MIN. SIDE SETBACK	15'	15'	15'
MAX. BUILDING HEIGHT	35'	25'	30'
BLDG. LOT COVERAGE (max.)	80%	15% (3160 SF)	24% (5020 SF)

DENSITY: 1200 SF REQUIRED PER UNIT  
 21147 SF /1200 SF = 17.62;  
 16 UNITS PROPOSED

**SURVEY NOTES:**

- THIS PLAN IS BASED ON A FIELD SURVEY CONDUCTED BY BLACK FOREST ENGINEERING LLC USING A TOTAL STATION AND GPS RTK UNIT.
- BEARINGS BASED ON PA STATE PLANE SOUTH, NAD83.
- ELEVATIONS BASED ON NAVD88.
- UTILITY LOCATIONS SHOULD BE CONSIDERED APPROXIMATE AND HAVE BEEN BASED ON VISIBLE ABOVE-GROUND EVIDENCE. A CONTRACTOR SHALL DETERMINE THE ACTUAL LOCATION OF ALL UTILITIES SHOWN ON THIS PLAN AND ANY ADDITIONAL EXISTING UTILITIES NOT SHOWN ON THIS PLAN.
- BOUNDARY LINES SHOWN WITH BEARINGS AND DISTANCES OR CURVE INFORMATION HAVE BEEN FIELD VERIFIED BY THIS SURVEY.

**BENCHMARK FOR THIS PLAN**

VERTICAL CONTROL IS BASED UPON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88). BEARING SYSTEM BASED UPON THE PENNSYLVANIA NORTH AMERICAN DATUM OF 1983, SOUTH ZONE, US FOOT (PA-NAD83).

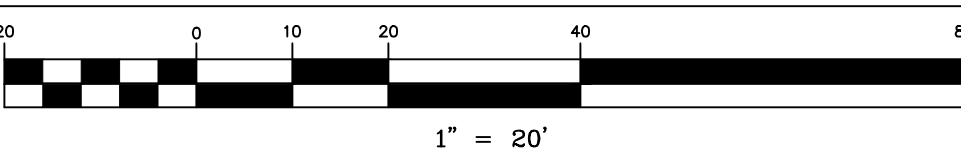
- EXISTING MANHOLE RIM=374.11

**Legend**

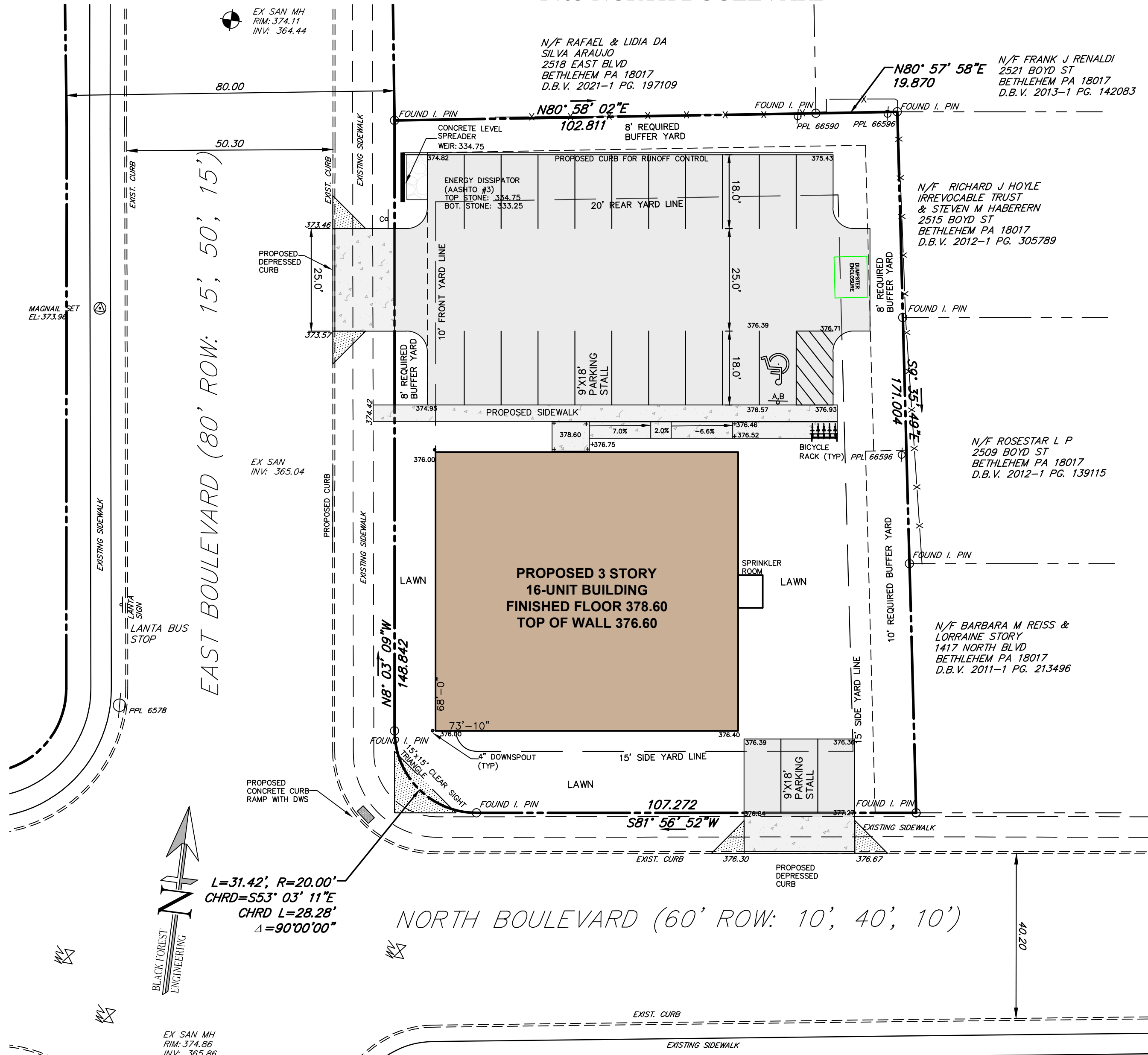
	EXISTING PROPERTY LINE
	EXISTING RIGHT-OF-WAY
	EXISTING EDGE OF PAVE
	EXISTING VEGETATION
	EXISTING CENTERLINE
	EXISTING ROAD PAVEMENT
	EXISTING SIDEWALK
	EXISTING STRUCTURE
	EXISTING ADJOINER
	EXISTING MINOR CONTOUR
	EXISTING MAJOR CONTOUR
	EXISTING ELECTRIC POLE
	EXISTING IRON PIN
	EXISTING CONTROL POINT
	EXISTING TEST PIT/PROBE
	EXISTING SEWAGE PERC TEST
	EXISTING STORMWATER INFILTRATION TEST

**Proposed 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. IRON PIN
	PROP. CONCRETE MONUMENT
	PROP. SIGN
	PROP. TREE
	PROP. BENCHMARK
	PROP. BUILDING/STRUCTURE
	PROP. DRIVEWAY
	PROP. RETAINING WALL
	PROP. SIDEWALK



**LAND DEVELOPMENT LOCATED IN THE CITY OF BETHLEHEM WARD 14 BLOCK 90 NORTHAMPTON COUNTY COMMONWEALTH OF PENNSYLVANIA INVOLVING PARCEL LOCATED AT 1405 NORTH BOULEVARD**



**RECORD NOTES**

- EACH LOT SHOWN IS SUBJECT TO ALL EASEMENTS VISIBLE, ON RECORD, OR AS REQUIRED BY A UTILITY TO SERVE SAID LOT AT SUCH TIME AS THE UTILITY IS INSTALLED.
- ALL IMPROVEMENTS WITHIN THE PUBLIC RIGHT-OF-WAY SHALL COMPLY WITH THE CITY OF BETHLEHEM STANDARDS AND SPECIFICATIONS AND THE APPROPRIATE PUBLIC UTILITY AUTHORITIES.
- THE SITE WAS EVALUATED FOR WETLANDS AND WATERCOURSES AND IT WAS DETERMINED THAT WETLANDS AND WATERCOURSES DO NOT EXIST ON THE SITE.
- THERE ARE NO FEMA DELINEATED 100-YR FLOODPLAINS OR WATERCOURSES ON OR NEAR THIS PROPERTY.
- ALL LOTS SHALL HAVE A TEN (10) FOOT DRAINAGE, GRADING AND UTILITY EASEMENT ALONG LOT LINES ADJOINING NEIGHBORS. THE DRAINAGE EASEMENT PROVIDED FOR THE FLOW OF STORM WATER ACROSS LOTS, AND MAY NOT BE ALTERED WITHOUT THE WRITTEN PERMISSION OF THE CITY ENGINEER. NO OBSTRUCTIONS SUCH AS PLANTING BERMS OR FENCES MAY BE INSTALLED IN THE DRAINAGE EASEMENT AREAS WITHOUT SUFFICIENT PROVISION FOR THE PASSAGE OF STORM WATER AND ANY SUCH PROPOSED PROVISION SHALL BE APPROVED IN WRITING BY THE CITY ENGINEER.
- ACTUAL UTILITY CONNECTION POINTS SHALL BE VERIFIED BY SITE CONTRACTOR PRIOR TO CONSTRUCTION.
- ALL LOTS SHALL BE LAID OUT AND GRADED TO PREVENT CROSS LOT DRAINAGE AND TO PROVIDE POSITIVE DRAINAGE AWAY FROM PROPOSED BUILDING AREAS.
- ALL CITY PERMITS MUST BE OBTAINED PRIOR TO THE START OF CONSTRUCTION.
- RUNOFF FROM ALL ON-SITE IMPERVIOUS AREAS SHALL NOT BE DIRECTED INTO THE PUBLIC SANITARY SEWER, ACROSS THE SIDEWALK AREA WITHIN THE PUBLIC RIGHT-OF-WAY, OR ONTO ADJOINING PROPERTIES, SECTION 1753.08 B.4 OF THE CITY PROPERTY REHABILITATION & MAINTENANCE CODE.
- ALL LATERAL SANITARY SEWER PIPING IS TO BE SCH 40 OR SDR-26 PVC PIPING UNLESS OTHERWISE NOTED.
- WORK TO BE PERFORMED ONSITE, SHALL BE DONE IN ACCORDANCE WITH THE IBC.
- ALL PAVEMENT MARKINGS MUST BE THERMOPLASTIC PAVEMENT MARKINGS.
- AN APPROVED PLANNING MODULE FOR 16-UNITS IS REQUIRED PRIOR TO OCCUPANCY.
- THE CITY OF BETHLEHEM FIRE DEPARTMENT SHALL APPROVE THE FINAL LOCATION OF THE KNOX BOX. THE PROPOSED UNITS WILL BE INDIVIDUALLY SPRINKLERED AND THEREFORE A FIRE DEPARTMENT CONNECTION (FDC), AND POST INDICATING VALVE (PIV) HAVE NOT BEEN PROPOSED.
- ANY CHANGE IN THE LOCATION OF THE FIRE DEPARTMENT CONNECTION AND/OR KNOX BOX MUST BE APPROVED BY THE CITY OF BETHLEHEM FIRE DEPARTMENT.
- CHAPTER 33 OF THE IFC "FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION" SHALL BE ENFORCED FOR THE DURATION OF THE CONSTRUCTION PROJECT.
- BY SUBMISSION OF THESE PLANS THE ENGINEER ON RECORD CERTIFIES THAT THESE PLANS ARE IN COMPLETE CONFORMANCE WITH THE CITY OF BETHLEHEM STORMWATER MANAGEMENT ORDINANCE.
- IN ORDER TO MAINTAIN CONTINUITY BETWEEN PLAN REVISIONS, ANY CHANGES TO A PREVIOUS PLAN SUBMISSION SHALL BE FLAGGED WITH A TRIANGLE. ANY CHANGES NOT FLAGGED MAY BE CONSIDERED NOT APPROVED. FLAGGED CHANGES SHALL BE REFERENCED TO THE APPROPRIATE REVISION DATE DATE IN THE REVISION BLOCK.
- ACCURATE AS-BUILT PLANS SHALL BE KEPT UP TO DATE DURING THE CONSTRUCTION PROCESS. AT THE COMPLETION OF THE PROJECT RECORD DRAWINGS SHALL BE DEVELOPED FROM THE AS-BUILT PLANS AND SUBMITTED TO THE CITY ENGINEER'S OFFICE. ALL FINAL DRAWINGS SHALL SHOW NORTH AMERICAN DATUM (NAD), 1983 STATE PLANE COORDINATES IN FEET (PA SOUTH, FIPS ZONE 3702) AND THE DIGITAL FILE SHALL BE IN STATE PLANE FEET COORDINATES AS APPLICABLE. THE HARD COPY OF THE RECORD DRAWINGS SHALL BE IN THE FORM OF MYLAR COPY. THE ENGINEER OF RECORD SHALL CERTIFY (IE PE STAMPED AND SIGNED) THAT THE RECORD DRAWINGS COMPLY SUBSTANTIALLY WITH THE APPROVED PLAN AND THAT THEY CONFORM TO INDUSTRY STANDARDS. ALL DIGITAL FILES RESIDE ON PC COMPATIBLE CD ROM CONTAINING THE DIGITAL REPRESENTATION OF THE FINAL PLANAS PRESENTED ON THE TWENTY-FOUR (24) INCH BY THIRTY-SIX (36) INCH SHEETS. THE DIGITAL MAP SHALL BE AUTOCAD COMPATIBLE. ALL LAYERS INCLUDED IN THE DIGITAL MAPS SHALL BE THE STANDARDIZED LAYERS PREPARED AND UTILIZED BY THE CITY OF BETHLEHEM TO ENSURE COMPATIBILITY WITH THE CITY'S EXISTING CAD STANDARDS AND AS DESCRIBED IN THE APPENDIX A OF THE CITY'S SUBDIVISION AND LAND DEVELOPMENT ORDINANCE.
- THE CURRENT LANDOWNER SHALL BE RESPONSIBLE TO ENSURE THAT THE HITCH, RACK OR LOCKER CONTINUES TO BE AVAILABLE AND IS WELL MAINTAINED AND IS REPLACED IF DAMAGED OR REMOVED.

**PLAN INTENT**

THE APPLICANT WISHES TO CONSTRUCT A MULTI-FAMILY APARTMENT BUILDING WITH EIGHTEEN (16) UNITS. IN ADDITION TO OFF-STREET PARKING SPACES, THERE IS STREET PARKING AVAILABLE AND A LANTA BUS ROUTE FOR TENANTS.



**SIGNATURE BLOCKS**

**LOCATION MAP**

SCALE: 1"=1000'

**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 SUIUS 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, NORTHAMPTON COUNTY, PENNSYLVANIA, WAS APPROVED BY THE BETHLEHEM CITY PLANNING COMMISSION.

CHAIRMAN \_\_\_\_\_ DATE \_\_\_\_\_

SECRETARY \_\_\_\_\_ 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 NORTHAMPTON COUNTY.

PENNSYLVANIA, UNDER DOCKET ID # \_\_\_\_\_

ON THE \_\_\_\_\_ DAY OF \_\_\_\_\_ 20\_\_\_\_

WITNESS MY HAND AND SEAL OF OFFICE THIS \_\_\_\_\_ DAY OF \_\_\_\_\_ 20\_\_\_\_

RECORDER OF DEEDS \_\_\_\_\_

WITNESS: \_\_\_\_\_

**L.V.P.C REVIEW**

REVIEWED BY THE LEHIGH VALLEY PLANNING COMMISSION

PLANNING \_\_\_\_\_ DATE \_\_\_\_\_

**SURVEYOR'S CERTIFICATION**

I HEREBY CERTIFY THAT THIS PLAN HAS BEEN COMPILED FROM A SURVEY ACTUALLY MADE ON THE GROUND, THAT IS CORRECT, AND AT THE TIME THE SURVEY WAS MADE, THERE WERE NO EASEMENTS OR ENCROACHMENTS ACROSS PROPERTY LINES, OTHER THAN THOSE SHOWN.

SURVEYOR \_\_\_\_\_ DATE REGISTERED \_\_\_\_\_

**PARKING REQUIREMENT**

1.5 SPACES PER DWELLING  
 16 UNITS x 1.5 = 24 SPACES  
 24 VEHICLE SPACES REQUIRED

PROVIDED:  
 21 SPACES IN LOT  
 +3 SPACES OFF NORTH BLVD  
 TOTAL AVAILABLE VEHICLE PARKING=24 SPACES

**STORMWATER MANAGEMENT NOTE:**

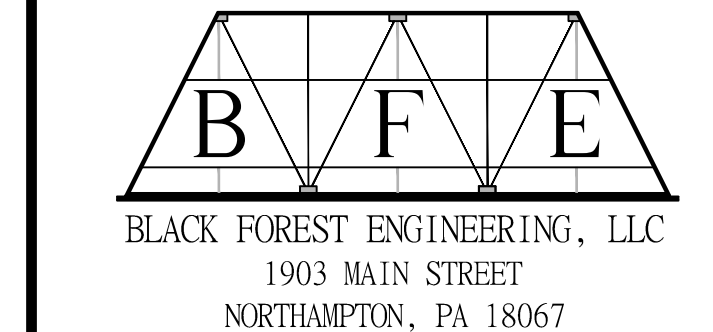
THE EXISTING CONDITION HAS 3,160 SF OF IMPERVIOUS COVER; THE PROPOSED CONDITION HAS 12,447 SF OF IMPERVIOUS COVER; THERE IS AN INCREASE OF 9,287 SF

**FINAL PLAN SHEET INDEX**

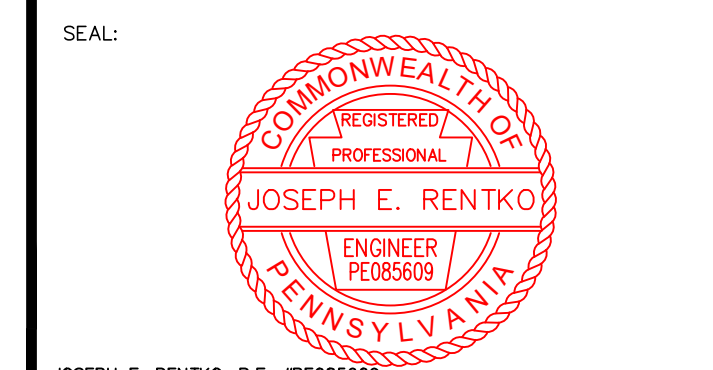
PLAN TITLE	SHEET NO.
* RECORD PLAN	1 OF 6
EXISTING FEATURES PLAN	2 OF 6
GRADING & UTILITY PLAN	2 OF 6
LANDSCAPE AND LIGHTING PLAN	3 OF 6
EROSION CONTROL PLAN	4 OF 6
CONSTRUCTION DETAILS	5 OF 6
CONSTRUCTION DETAILS	6 OF 6

**"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



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JOSEPH E. RENTKO, P.E. #PE085609  
 2455 BLACK FOREST DRIVE  
 COPLEY, PA 18037  
 570-239-4499  
 jrentko@bfeeng.com

REV.	DESCRIPTION:	BY	DATE

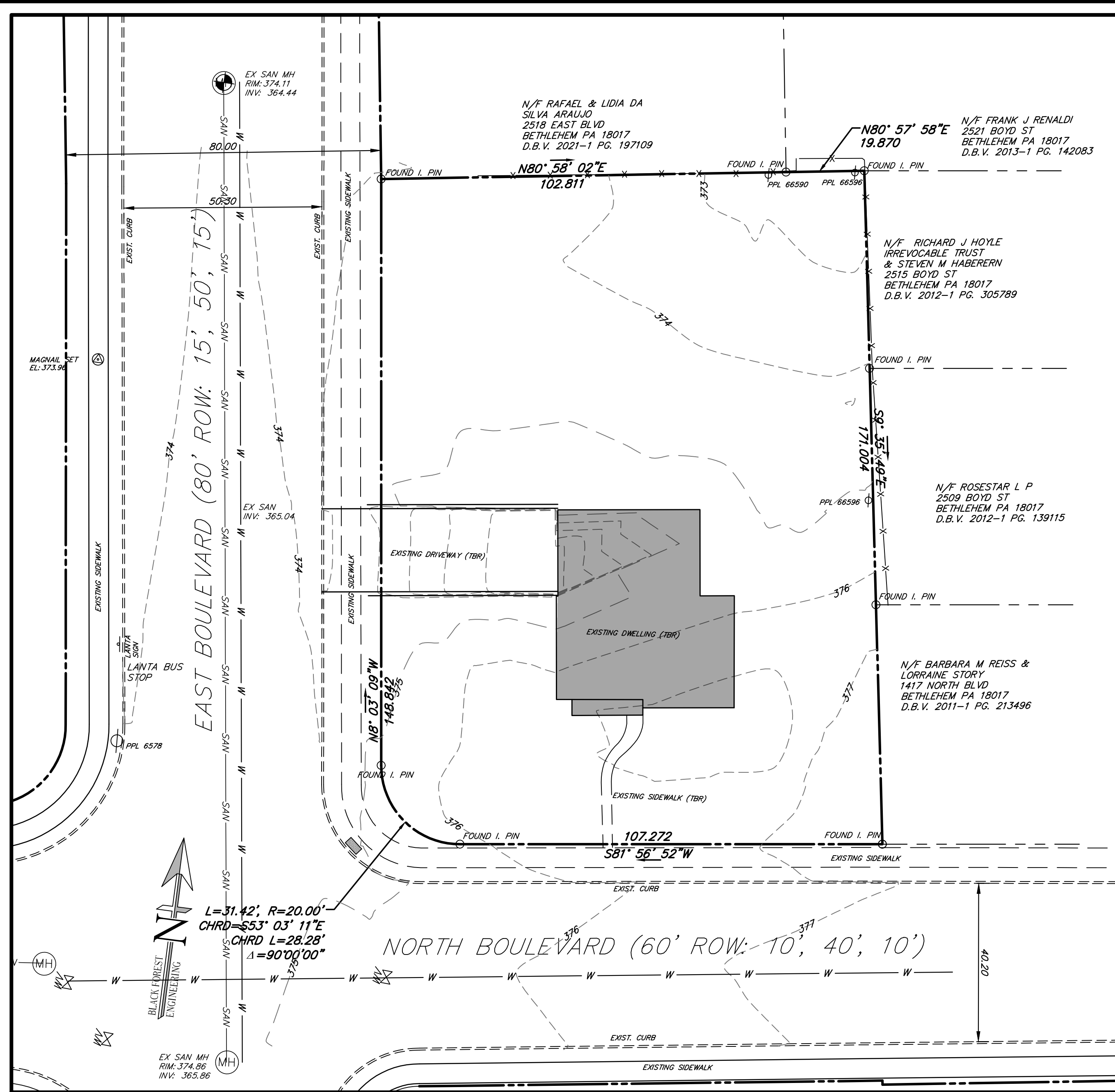
PROJECT TITLE:  
**APARTMENTS AT 1405 NORTH BLVD**  
 PROJECT OWNER:  
 DOMENIC VILLANI  
 930 WAFFORD LANE  
 BETHLEHEM PA 18017-3892

PROJECT LOCATION:  
**CITY OF BETHLEHEM  
 WARD 14; BLOCK 90  
 NORTHAMPTON COUNTY  
 PENNSYLVANIA**

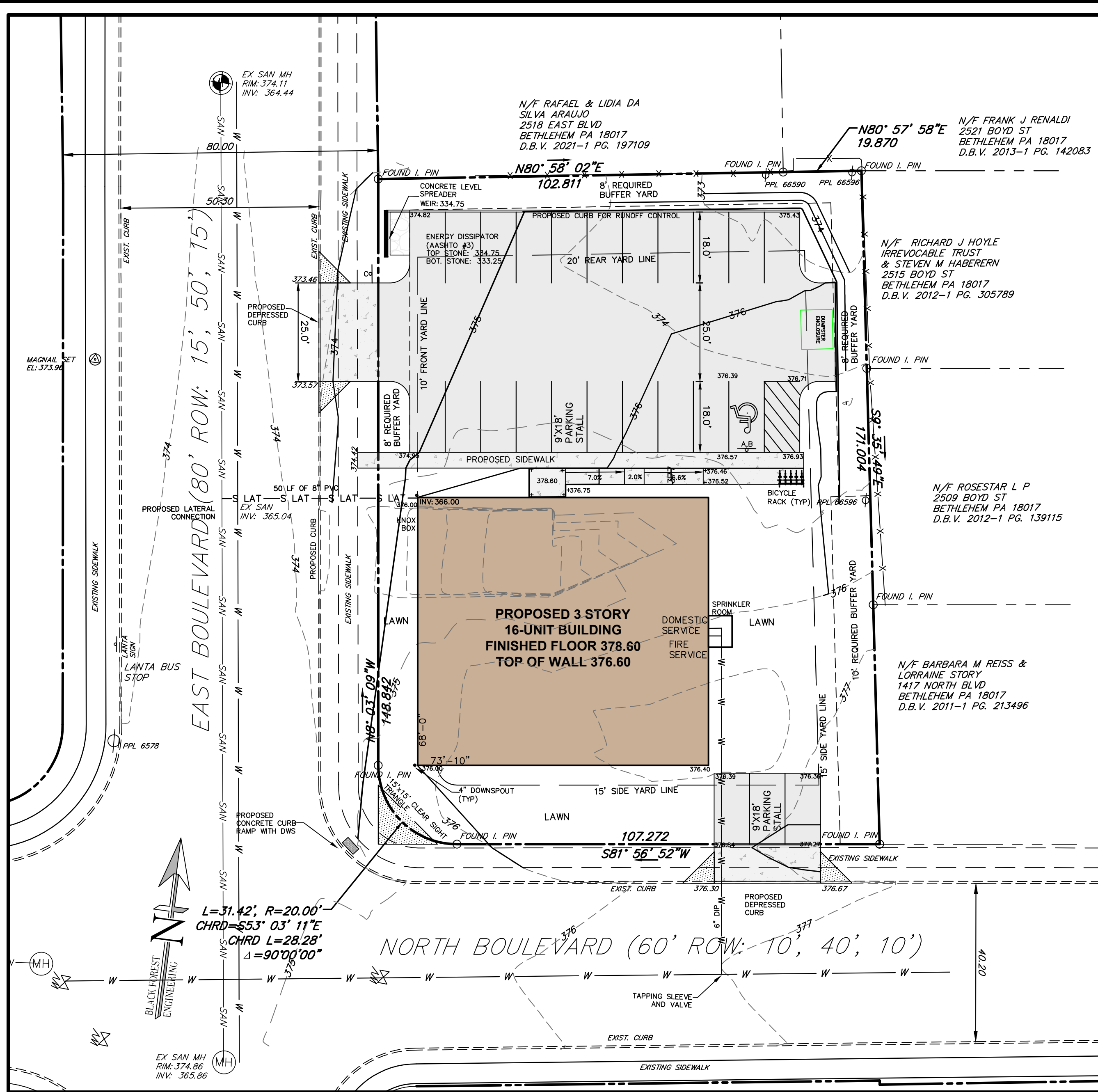
**RECORD PLAN**

SCALE: 1"=20' DATE: 5/8/26 DRAWN: JER CHECKED: JER

PROJECT NO. 002 DRAWING NO. 1 OF 6 REVISION: 00

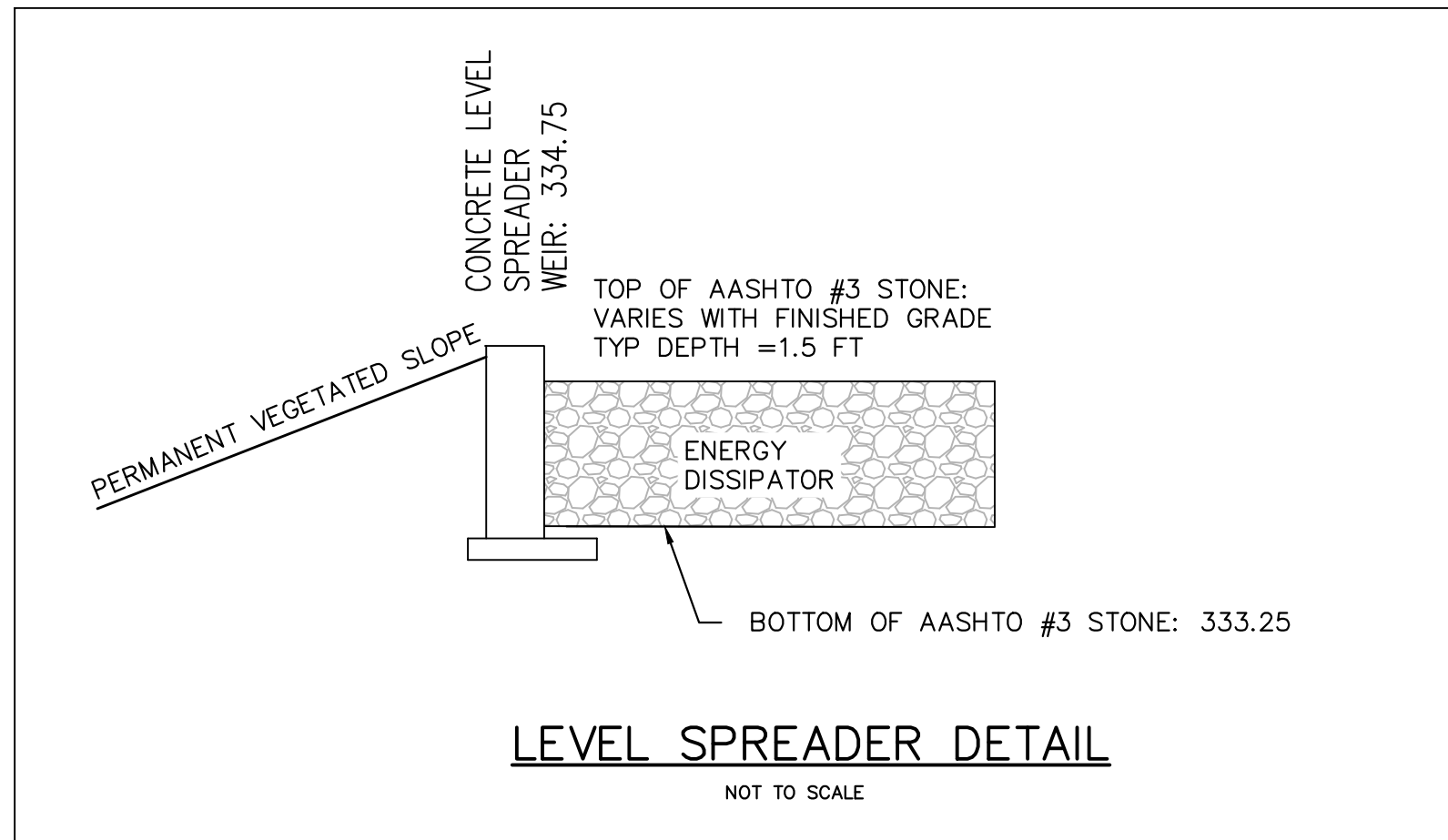
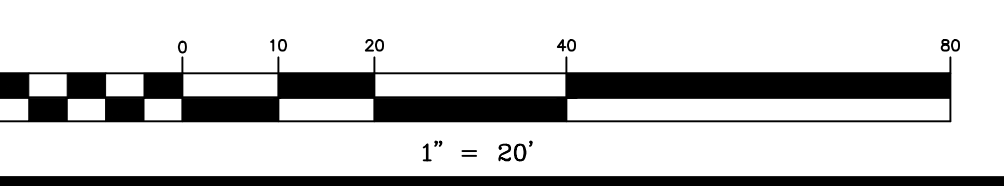


EXISTING FEATURES



GRADING & UTILITY

PROPOSED Legend		EXISTING Legend	
	PROP. PROPERTY LINE		PROPERTY LINE
	PROP. TRACT LINE		EXISTING RIGHT-OF-WAY
	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 MINOR CONTOUR
	PROP. DRIVEWAY		EXISTING MAJOR CONTOUR
	PROP. CONTOUR MAJOR		EXISTING ELECTRIC POLE
	PROP. CONTOUR MINOR		EXISTING IRON PIN
	PROP. IRON PIN		EXISTING CONTROL POINT
	PROP. CONCRETE MONUMENT		EXISTING TEST PIT/PROBE
	PROP. SIGN		EXISTING SEWAGE PERC TEST
	PROP. TREE		EXISTING STORMWATER INFILTRATION TEST
	PROP. BENCHMARK		
	PROP. BUILDING/STRUCTURE		
	PROP. DRIVEWAY		
	PROP. RETAINING WALL		
	PROP. SIDEWALK		



LEVEL SPREADER DETAIL  
NOT TO SCALE

**"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

**BLACK FOREST ENGINEERING, LLC**  
1903 MAIN STREET  
NORTHAMPTON, PA 18067

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SEAL:  
  
JOSEPH E. RENTKO  
REGISTERED PROFESSIONAL ENGINEER  
PENNSYLVANIA

JOSEPH E. RENTKO, P.E. #0005609  
2455 BLACK FOREST DRIVE  
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jrentko@bfeeng.com

REV.	DESCRIPTION	BY	DATE

PROJECT TITLE:  
**APARTMENTS AT 1405 NORTH BLVD**

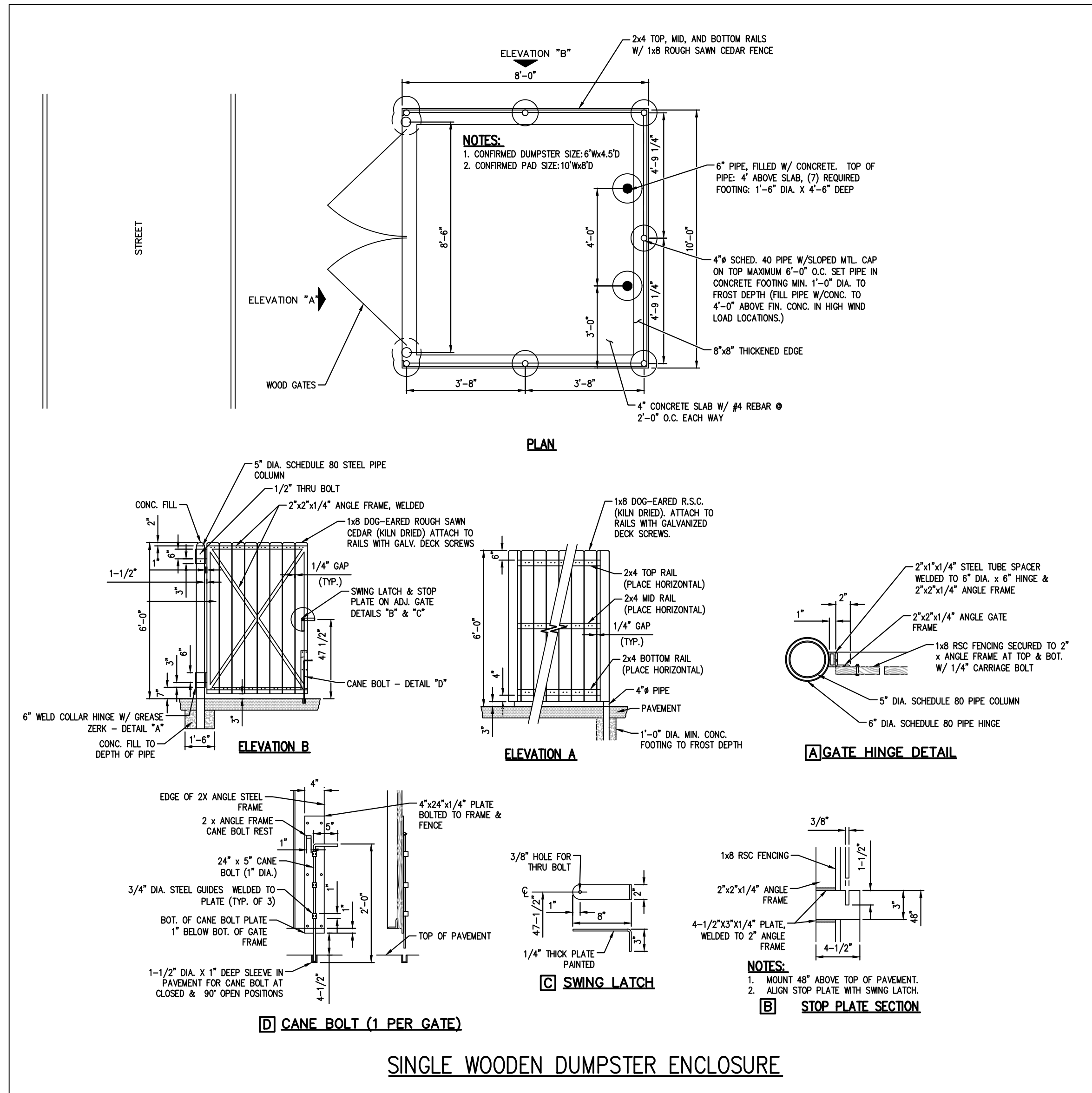
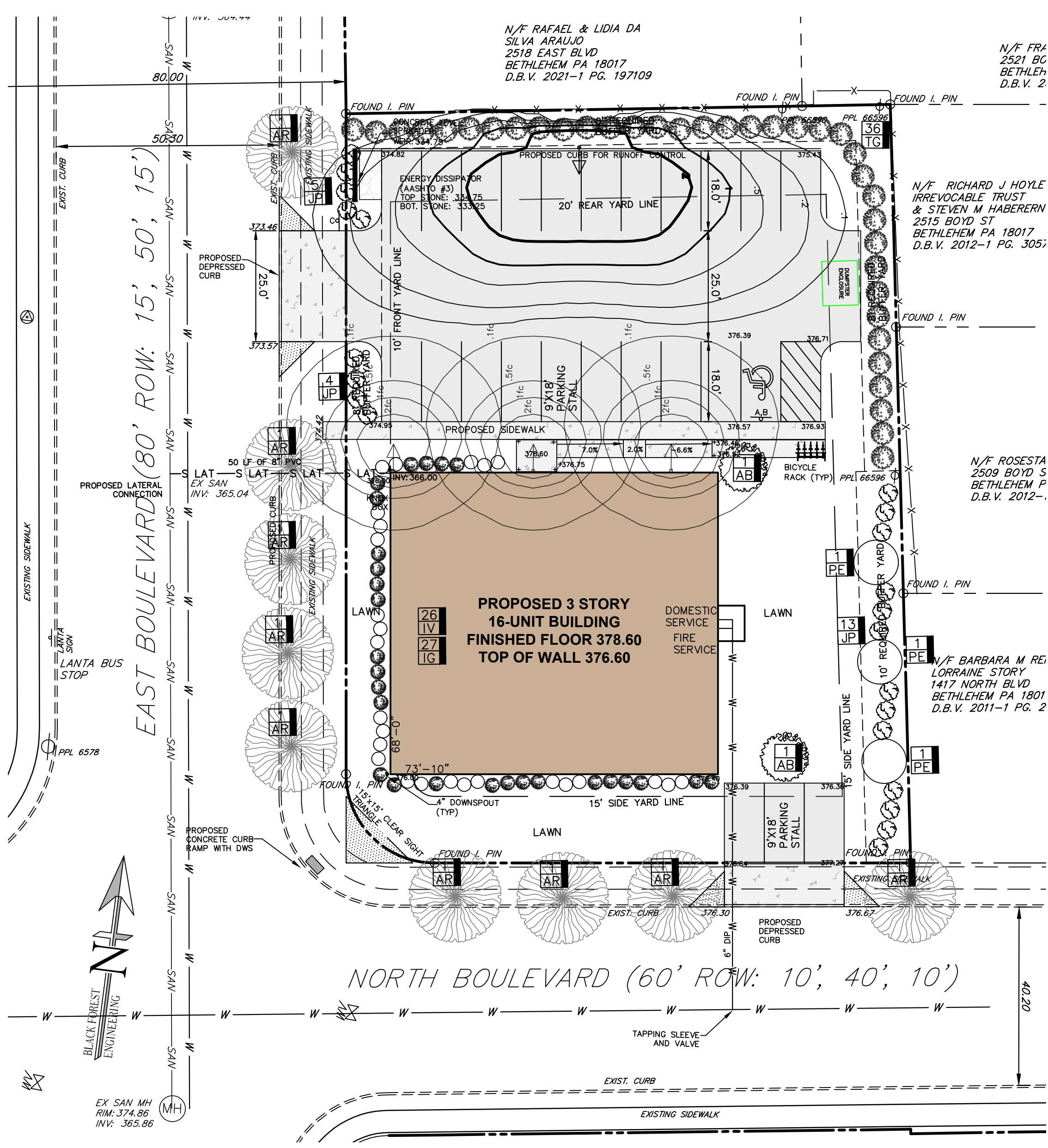
PROJECT OWNER:  
DOMENIC VILLANI  
930 WAFFORD LANE  
BETHLEHEM PA 18017-3892

PROJECT LOCATION:  
CITY OF BETHLEHEM  
WARD 14; BLOCK 90  
NORTHAMPTON COUNTY  
PENNSYLVANIA

PLAN TITLE:  
EX.FEAT.; G&U

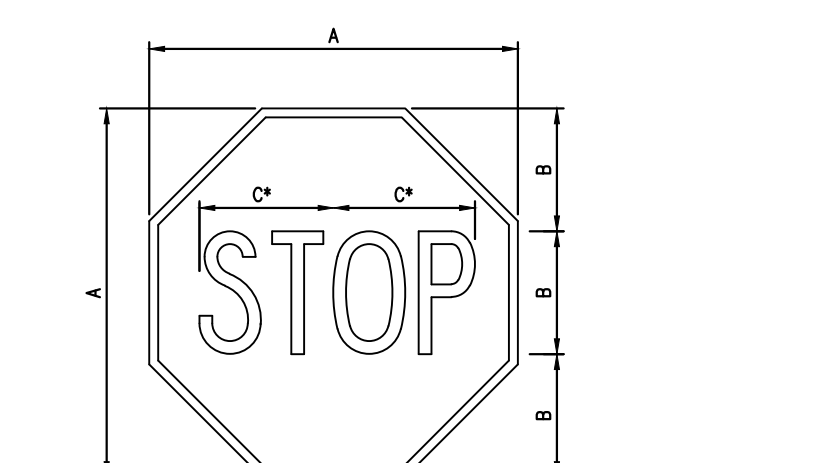
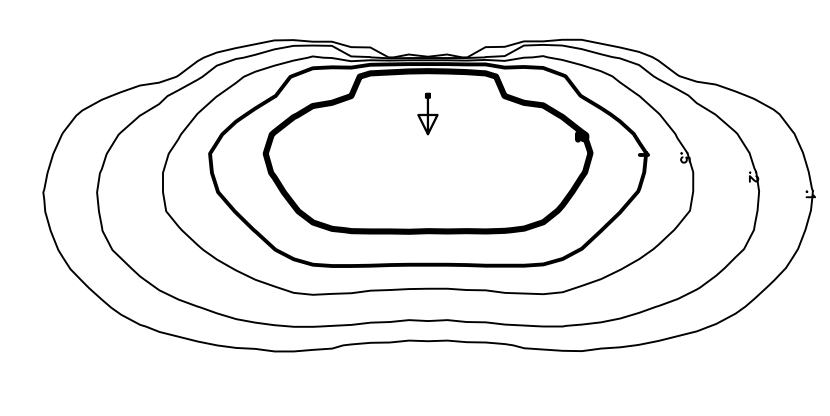
SCALE: 1"=20'	DATE: 5/8/26	DRAWN: JER	CHECKED: JER
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PROJECT NO. 002	DRAWING NO. 2 OF 6	REVISION: 00
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LIGHTING SCHEDULE				
KEY	COMPANY	PRODUCT NAME	QTY	HT
DSX	LITHONIA	DSX1 LED P1 40K BLC MVOLT	1	15

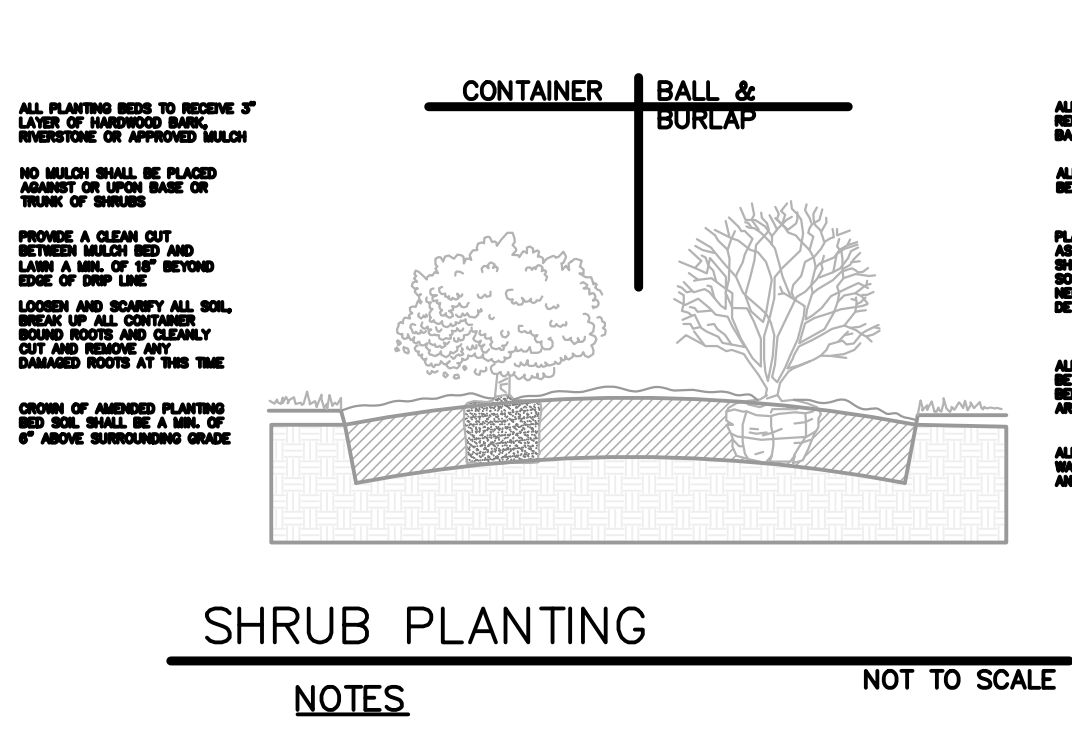
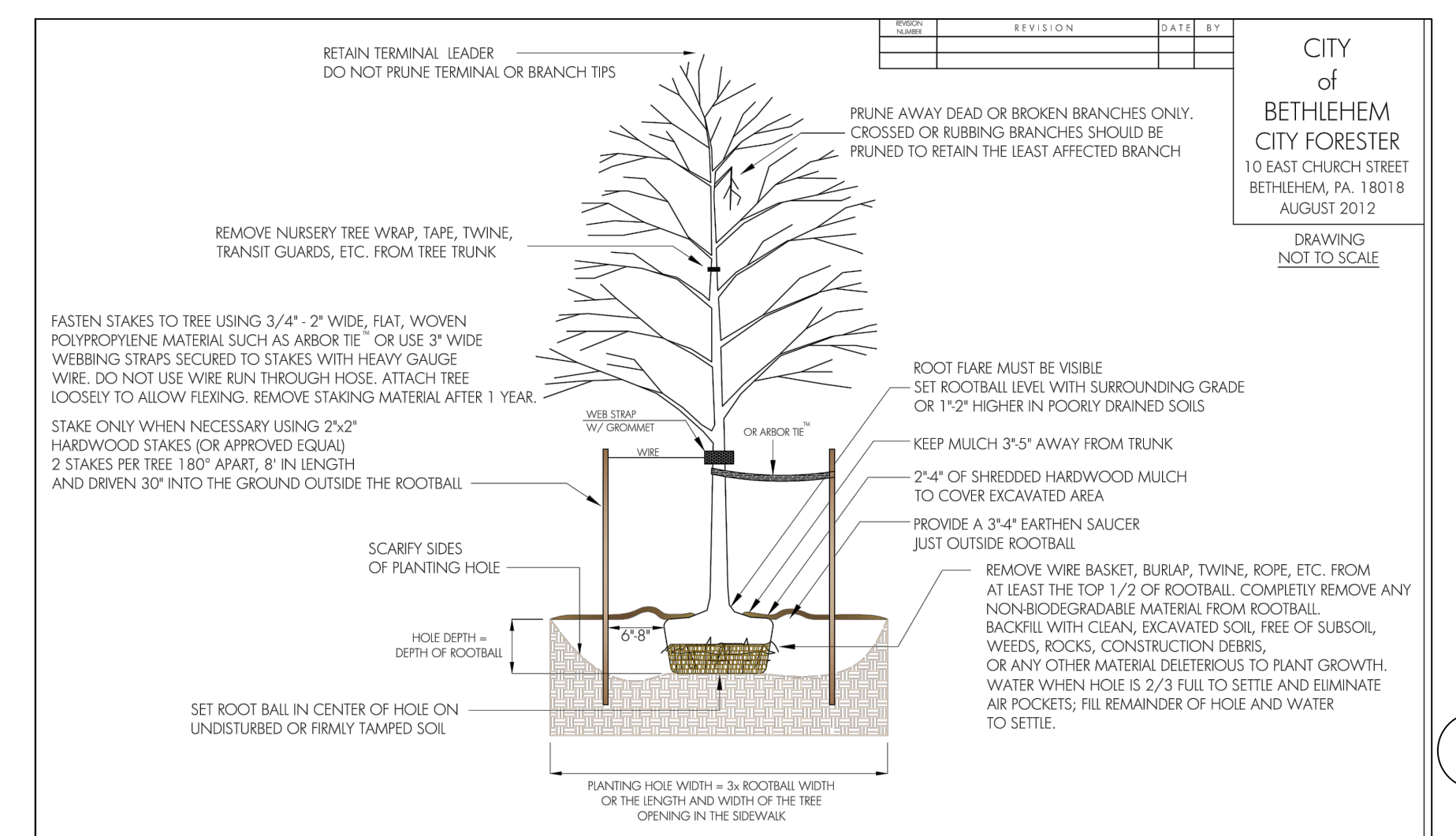
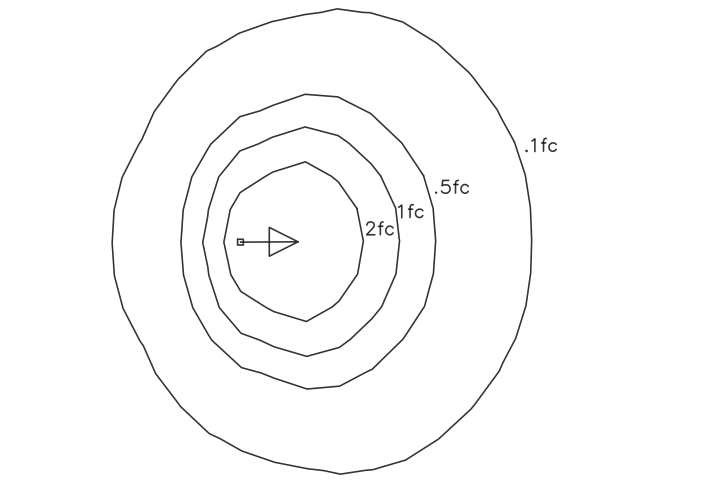
PROPOSED PARKING/STREET LIGHTS MODEL: DSX1 LED P1 40K BLC MVOLT (OR EQUAL) 15FT POLE  
 \*NOTE: ALL LIGHT SOURCES TO BE SHIELDED.



SIGN SCHEDULE				
KEY	DESC.	PERMUT CODE	QTY	SIZE
A	HANDICAP PRKNG	R7-8	1	12" X 18"
B	VAN ACCESSIBLE	R7-8P	1	12" X 18"
C	STOP SIGN	R1-1	1	30" X 30"

LIGHTING SCHEDULE				
KEY	COMPANY	PRODUCT NAME	QTY	HT
ARC	LITHONIA	ARC 1 LED P1 30K	3	

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



SHRUB PLANTING NOT TO SCALE

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

PLANT LIST: BUFFER SHRUBS & TREES\*

KEY	BOTANIC / COMMON NAME	SIZE	ROOT CONDITION	QUANTITY
PE	PICEA EXCELSA/NORWAY SPRUCE	2.5" CAL.	B&B	3
JP	JUNIPERUS X PRITZERIANA / PRITZER JUNPER	4' HT.	B&B	22

REQUIRED LANDSCAPING:

STREET TREES:  
 NORTH BLVD = 107 LF FRONTAGE (1 TREE REQD PER 30 LF); 3.5 TREES REQD; 4 PROVIDED (4 PROPOSED)  
 EAST BLVD = 149 LF FRONTAGE (1 TREE REQD PER 30 LF); 4.9 TREES REQD; 5 PROVIDED (5 PROPOSED)

1. LANDSCAPE AREAS EQUAL TO 10 PERCENT OF THE OFFSTREET PARKING AREA SHALL BE PROVIDED. APPROX PARKING AREA=6485 SF REQ'D LANDSCAPE AREA=649 SF

2. LANDSCAPE AREAS EQUAL TO 10 PERCENT OF THE MULTIFAMILY BUILDING AREA SHALL BE PROVIDED. APPROX BUILDING AREA=5020 SF REQ'D LANDSCAPE AREA=502 SF

TOTAL REQ'D LANDSCAPE AREA=1151 SF PROVIDED LANDSCAPE AREA=>1200 SF

3. ONE (1) TREE PER 15 PARKING SPACES; 2 TREES REQUIRED; 2 PROVIDED

PLANT LIST: STREET & PARKING LOT TREES

KEY	BOTANIC / COMMON NAME	SIZE	ROOT CONDITION	QUANTITY
AB	ACER BUERGERIAUM / TRIDENT MAPLE	2"-2.5" CAL.	B&B	2
AR	ACER RUBRUM/ OCTOBER GLORY	2"-2.5" CAL.	B&B	9

PLANT LIST: BUFFER PLANTS

KEY	BOTANIC / COMMON NAME	SIZE	ROOT CONDITION	QUANTITY
TG	THUJA STANDISHI X PLICATA / THUJA GREEN GIANT	MIN. 6' HT.	B&B	36

PLANT LIST: FOUNDATION PLANTS

KEY	BOTANIC / COMMON NAME	SIZE	ROOT CONDITION	QUANTITY
IG	ILEX GLABRA / SHAMROCK	5 LB	CONT.	27
IV	ITEA VIRGINICA/ LITTLE HENRY	5 LB	CONT.	26

- Notes:
- Include the following notes on the site or grading plan in addition to the landscape plan when applicable:
- No soil disturbance or compaction, construction materials, traffic, burial pits, trenching or other land disturbance is allowed in the tree protection zone unless indicated on the plan.
  - Barricades must be installed prior to any destruction and/or construction activity.
  - The root protection zone shall be the area encompassed by a circle with a radius extending 1.25 ft. from the trunk of the tree for every inch DBH (diameter at breast height) of the tree.
  - Violations of tree protection requirements are subject to penalty per City ordinance.
  - All trees on public property are protected by ordinance; no pruning, root pruning of roots over one inch in diameter, and/or tree removal is to be performed without a permit and work must be performed by a City licensed tree contractor.
  - All plant materials are to conform to the American Standard for Nursery Stock, Latest Edition, American Nursery and Landscape Association.
  - Street and parking lot trees shall be a minimum of 14' in height and have a single straight trunk with the first lateral branch at 7' above the root ball. Trees with an upright branching habit, such as zelkova, may have the first lateral branch at 6' above the root ball.
  - All landscaping shall conform to the current edition of the Arboricultural Specifications and Standards of Practice of the City of Bethlehem.

BLACK FOREST ENGINEERING, LLC  
 1903 MAIN STREET  
 NORTHAMPTON, PA 18067

SEAL:

JOSEPH E. RENTKO, P.E. #PE085609  
 2455 BLACK FOREST DRIVE  
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 570-239-4499  
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REV.	DESCRIPTION:	BY	DATE

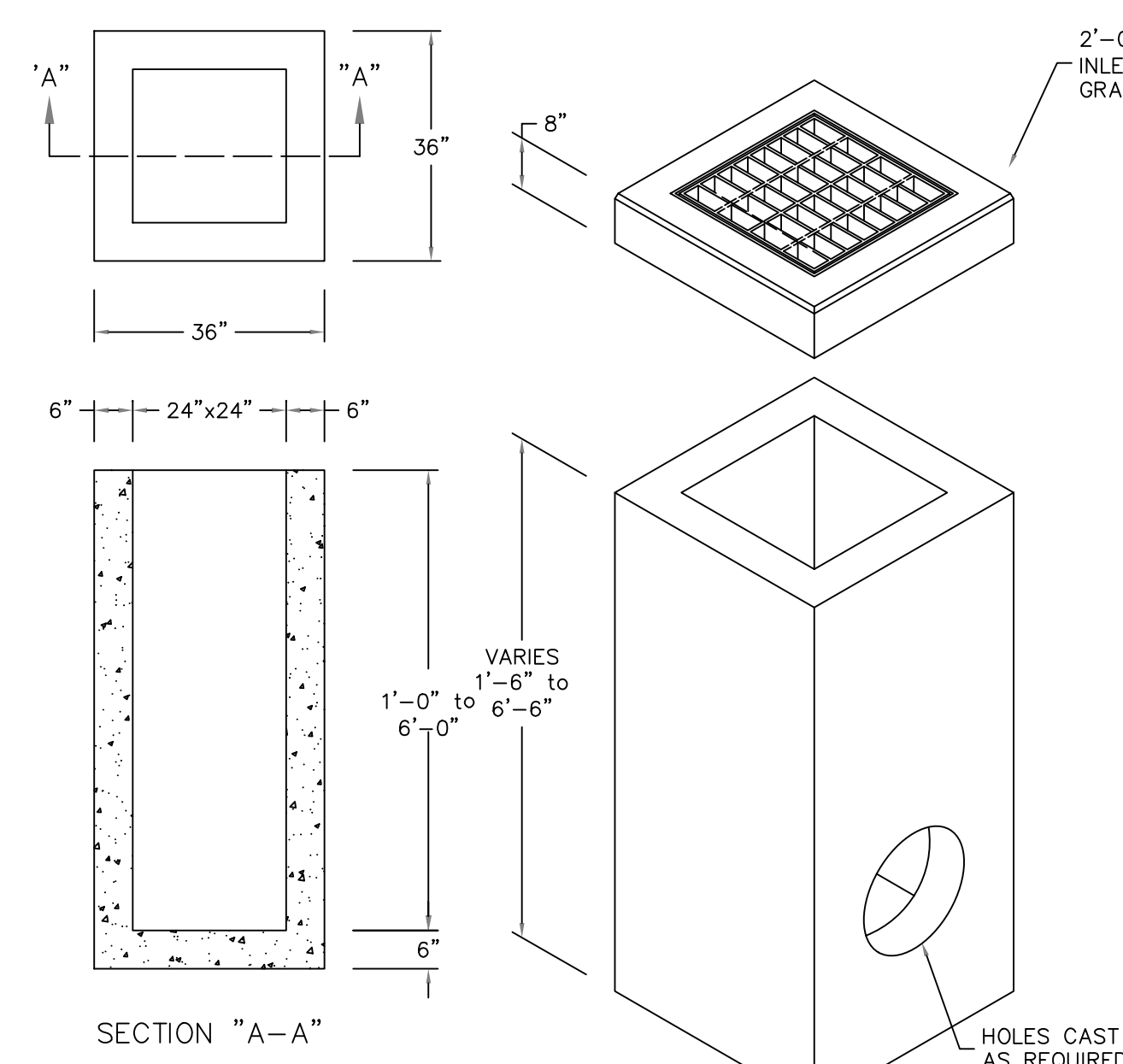
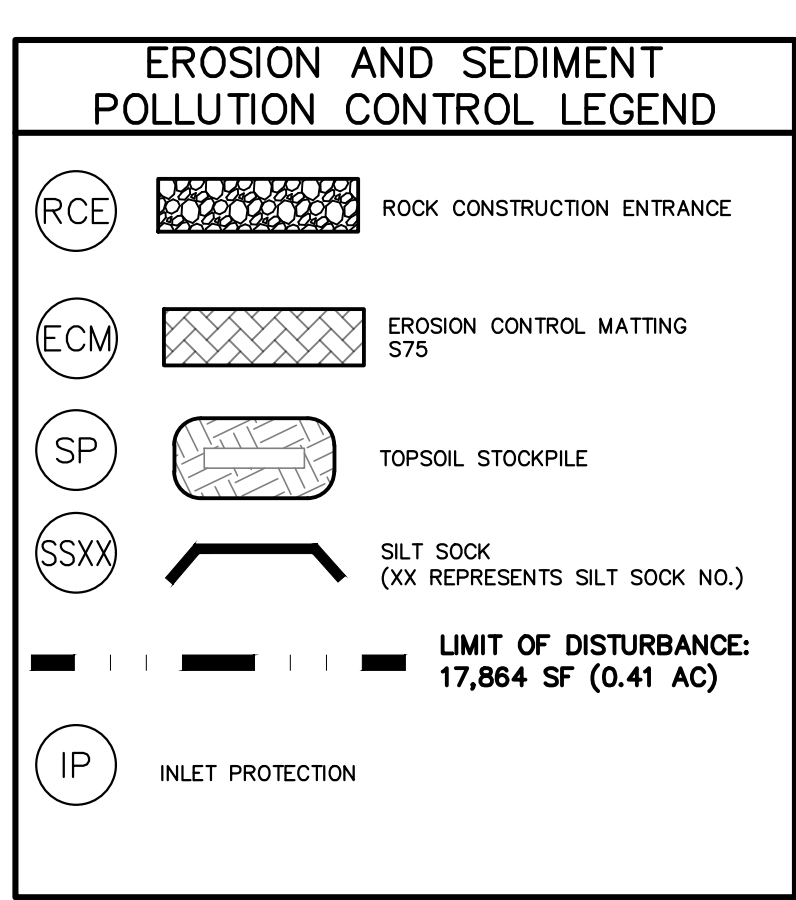
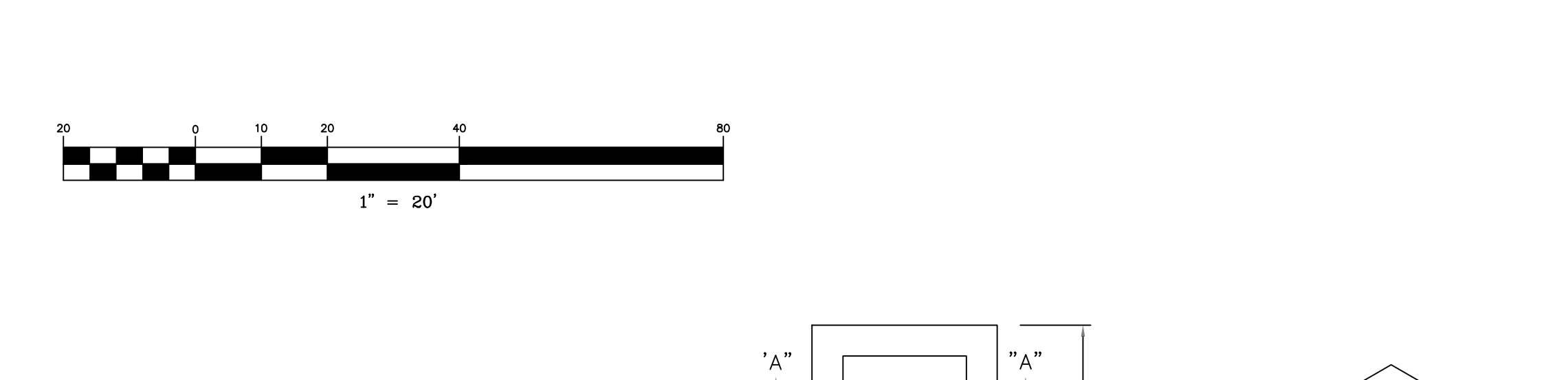
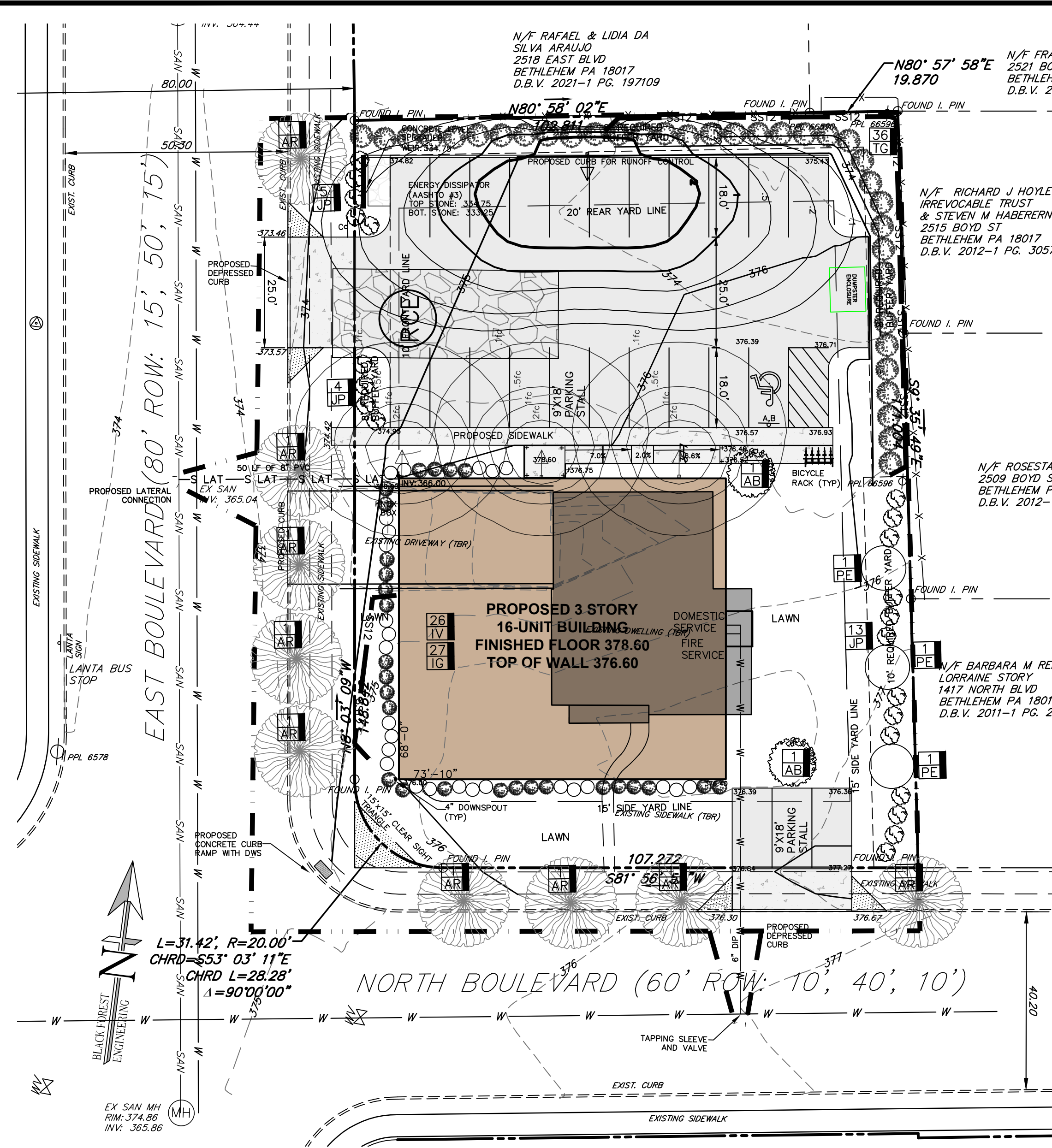
PROJECT TITLE:  
**APARTMENTS AT 1405 NORTH BLVD**

PROJECT OWNER:  
 DOMENIC VILLANI  
 930 WAFFORD LANE  
 BETHLEHEM PA 18017-3892

PROJECT LOCATION:  
**CITY OF BETHLEHEM  
 WARD 14; BLOCK 90  
 NORTHAMPTON COUNTY  
 PENNSYLVANIA**

PLAN TITLE:  
**LIGHTING & LANDSCAPING**

SCALE:	DATE:	DRAWN:	CHECKED:
1"=20'	5/8/26	JER	JER
PROJECT NO.	DRAWING NO.	REVISION:	
002	3 OF 6	00	



24"x 24" INLET BOX  
W/TYPE M INLET TOP

**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 shall 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) 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.
- Raze existing building and remove concrete and debris.
- Strip topsoil and stockpile locations indicated on the Plan.
- Begin bulk earthwork for the building foundation and parking lot. 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 2:1 or greater.
- Begin building construction, utility connection installation, and binder. Complete final paving (wearing course) once site work is substantially complete.
- Upon completion of proposed improvements, any temporary staging area shall be restored to existing condition. Proposed landscaping shall be installed upon completion of building.
- After the site is stabilized, remove EAS BMPs. Immediately stabilize any areas disturbed by the removal of the erosion and sediment pollution controls and plant street trees. 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.

**Notes.**

Include the following notes on the site or grading plan in addition to the landscape plan when applicable:

- No soil disturbance or compaction, construction materials, traffic, burial pits, trenching or other land disturbance is allowed in the tree protection zone unless indicated on the plan.
- Barricades must be installed prior to any destruction and/or construction activity.
- The root protection zone shall be the area encompassed by a circle with a radius extending 1.25 ft. from the trunk of the tree for every inch DBH (diameter at breast height) of the tree.
- Violations of tree protection requirements are subject to penalty per City ordinance.
- All trees on public property are protected by ordinance: no pruning, root pruning of roots over one inch in diameter, and/or tree removal is to be performed without a permit and work must be performed by a City licensed tree contractor.
- All plant materials are to conform to the American Standard for Nursery Stock, Latest Edition, American Nursery and Landscape Association.
- Street and parking lot trees shall be a minimum of 14' in height and have a single straight trunk with the first lateral branch at 7' above the root ball. Trees with an upright branching habit, such as zelkova, may have the first lateral branch at 6' above the root ball.
- All landscaping shall conform to the current edition of the Arboricultural Specifications and Standards of Practice of the City of Bethlehem.

**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 seeding 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.

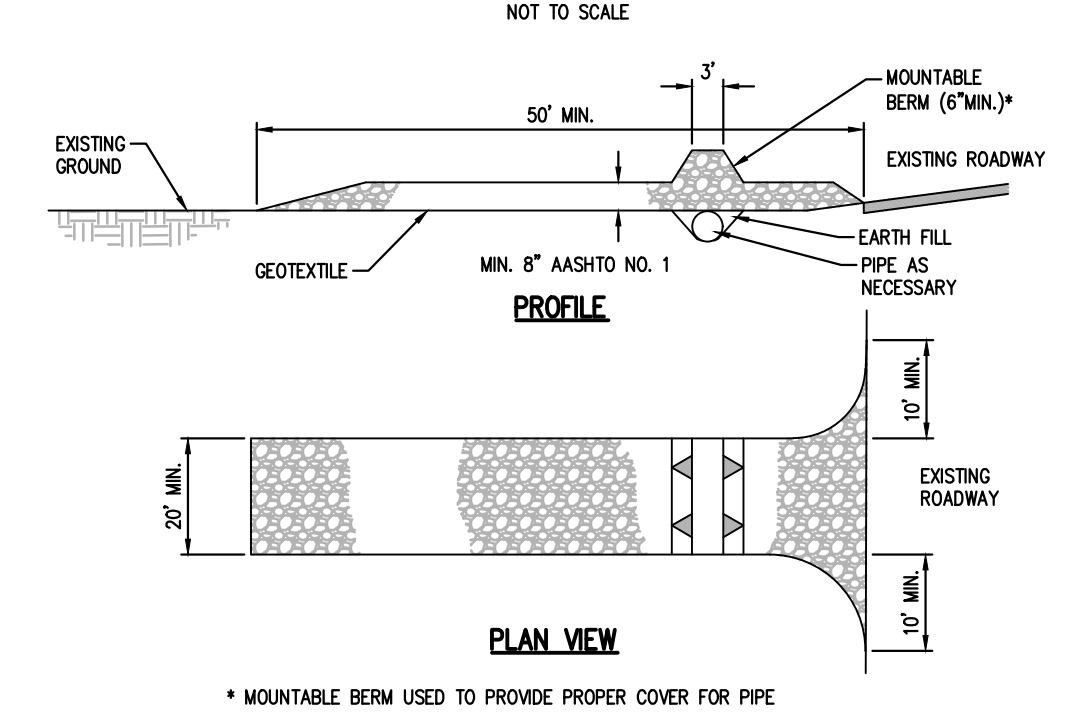
Apply mulches at the rates shown in table 11.6

Straw and hay mulch should be anchored immediately after application to prevent being windblown. 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.)

Table 11.6. Mulch Application Rates

Mulch Type	Application Rate (Min.)		Notes
	Per Acre	Per 1,000 sq. ft.	
Straw	3 tons	140 lb., 1,240 lb.	Either wheat 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
Hydr mulch	1 ton	47 lb., 415	See limitations above

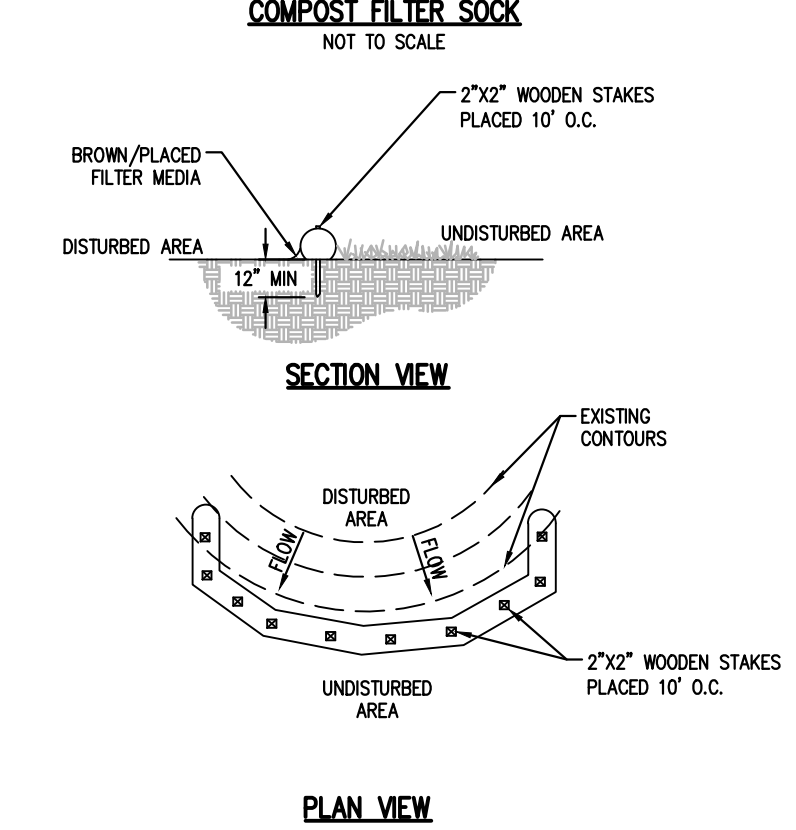
**Standard Construction Detail # 3-1**  
**ROCK CONSTRUCTION ENTRANCE**



**General Notes:**

- REMOVE TOPSOIL PRIOR TO INSTALLATION OF ROCK CONSTRUCTION ENTRANCE. EXTEND ROCK OVER FULL WIDTH OF ENTRANCE.
  - RUNOFF 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. 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.

**Standard Construction Detail # 4-1**  
**COMPOST FILTER SOCK**



**General Notes:**

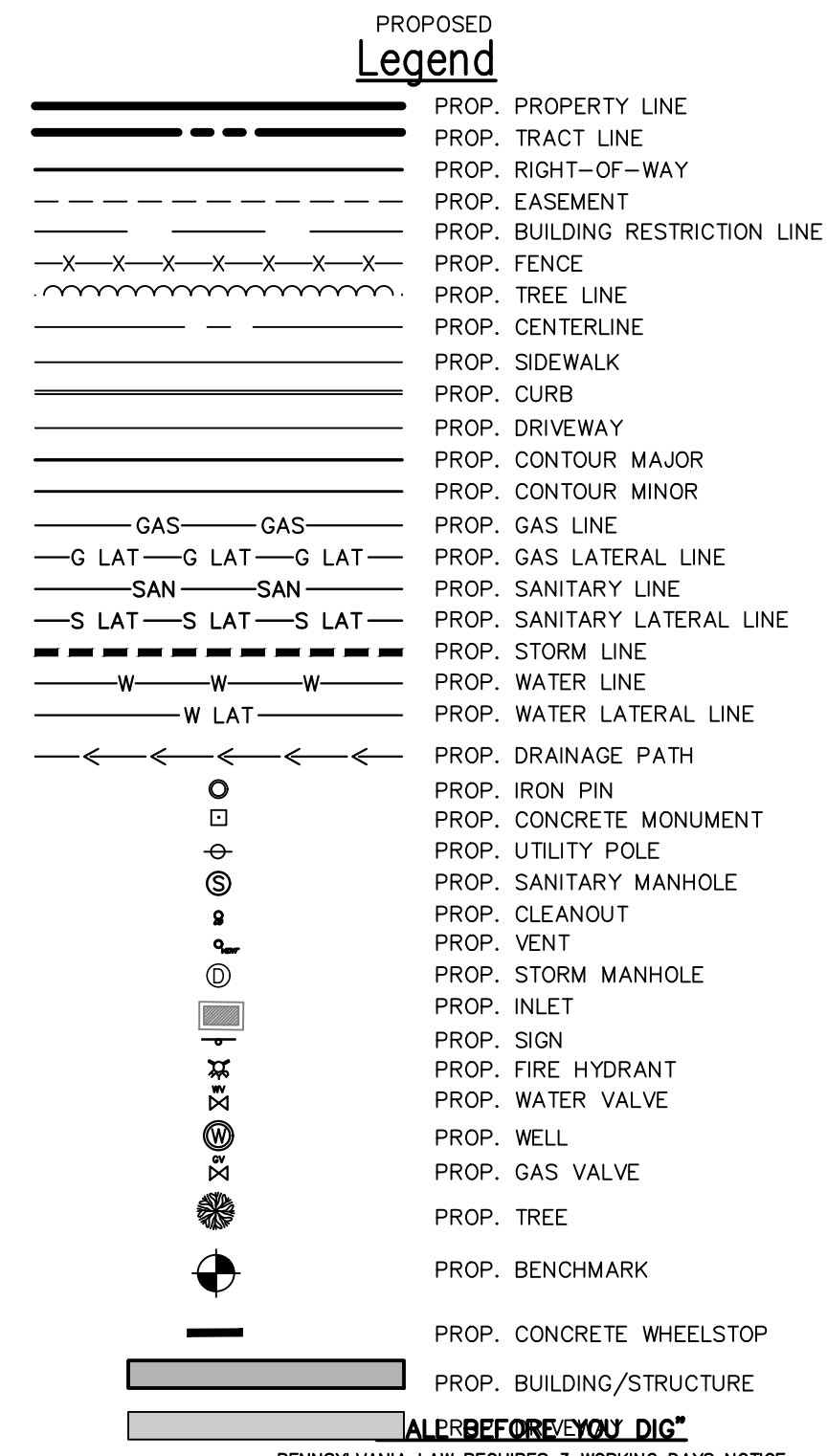
- COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE SOCK SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN SOCK ALIGNMENT (SEE FIGURE 4.1 OF THE PA DEP EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL, MAR. 2012).
- MAXIMUM SLOPE LENGTH ABOVE ANY SOCK SHALL NOT EXCEED THAT SHOWN IN FIGURE 4.2 OF THE PA DEP EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL, (MAR. 2012). STAKES MAY BE INSTALLED IMMEDIATELY DOWNSLOPE OF THE SOCK IF SO SPECIFIED BY THE MANUFACTURER.
- TRAFFIC SHALL NOT BE PERMITTED TO CROSS FILTER SOCKS.
- ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES HALF THE ABOVEGROUND HEIGHT OF THE SOCK AND DISPOSED IN THE MANNER DISPOSED ELSEWHERE IN THE PLAN.
- SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.
- BIODEGRADABLE FILTER SOCK SHALL BE REPLACED AFTER 6 MONTHS, PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
- UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES SHALL BE REMOVED. THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IN THE LATTER CASE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT.

TABLE 4.1  
COMPOST SOCK FABRIC MINIMUM SPECIFICATIONS

MATERIAL TYPE	3 mil HDPE	5 mil HDPE	5 mil HDPE	MULTI-FILAMENT POLYPROPYLENE (MPPF)	HEAVY DUTY MULTI-FILAMENT POLYPROPYLENE (DMPPF)
	PHOTO-DEGRADABLE	PHOTO-DEGRADABLE	BIO-DEGRADABLE	PHOTO-DEGRADABLE	PHOTO-DEGRADABLE
SOCK DIAMETERS	12" 18"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 24" 32"
MESH OPENING	3/8"	3/8"	3/8"	3/8"	1/8"
TENSILE STRENGTH		26 psi	26 psi	44 psi	202 psi
ULTRAVIOLET STABILITY % ORIGINAL STRENGTH (ASTM G-155)	23% AT 1000 HR.	23% AT 1000 HR.		100% AT 1000 HR.	100% AT 1000 HR.
MINIMUM FUNCTIONAL LONGEVITY	6 MONTHS	9 MONTHS	6 MONTHS	1 YEAR	2 YEARS

TABLE 4.2  
COMPOST STANDARDS

ORGANIC MATTER CONTENT	25% - 100% (DRY WEIGHT BASIS)
ORGANIC PORTION	FIBROUS AND ELONGATED
pH	5.5 - 8.5
MOISTURE CONTENT	50% - 60%
PARTICLE SIZE	30%-SOX PASS THROUGH 3/8" SIEVE
SOLUBLE SALT CONCENTRATION	5.0 gS/m (mmhos/cm) MAXIMUM



**ALWAYS BEFORE YOU DIG!**  
PENNSYLVANIA LAW REQUIRES 3 WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND 10 WORKING DAYS IN DESIGN STAGE - STOP CALL  
DESIGN CALL SYSTEM, INC.  
1-800-242-1776

**BLACK FOREST ENGINEERING, LLC**  
1903 MAIN STREET  
NORTHAMPTON, PA 18067

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SEAL:

JOSEPH E. RENTKO, P.E. #PE00000000  
2455 BLACK FOREST DRIVE  
COPLAY, PA 18037  
610-239-4499  
jrentko@bfeeng.com

REV.	DESCRIPTION:	BY	DATE

PROJECT TITLE:  
**APARTMENTS AT 1405 NORTH BLVD**

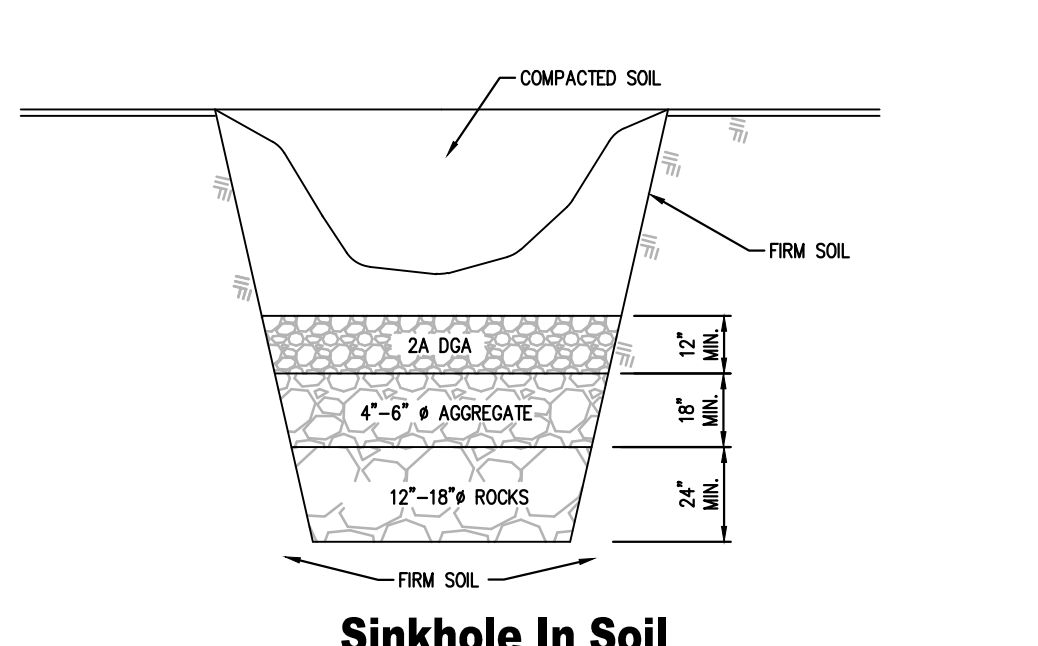
PROJECT OWNER:  
DOMENIC VILLANI  
930 WAFFORD LANE  
BETHLEHEM PA 18017-3892

PROJECT LOCATION:  
CITY OF BETHLEHEM  
WARD 14; BLOCK 90  
NORTHAMPTON COUNTY  
PENNSYLVANIA

PLAN TITLE:  
**ESPC**

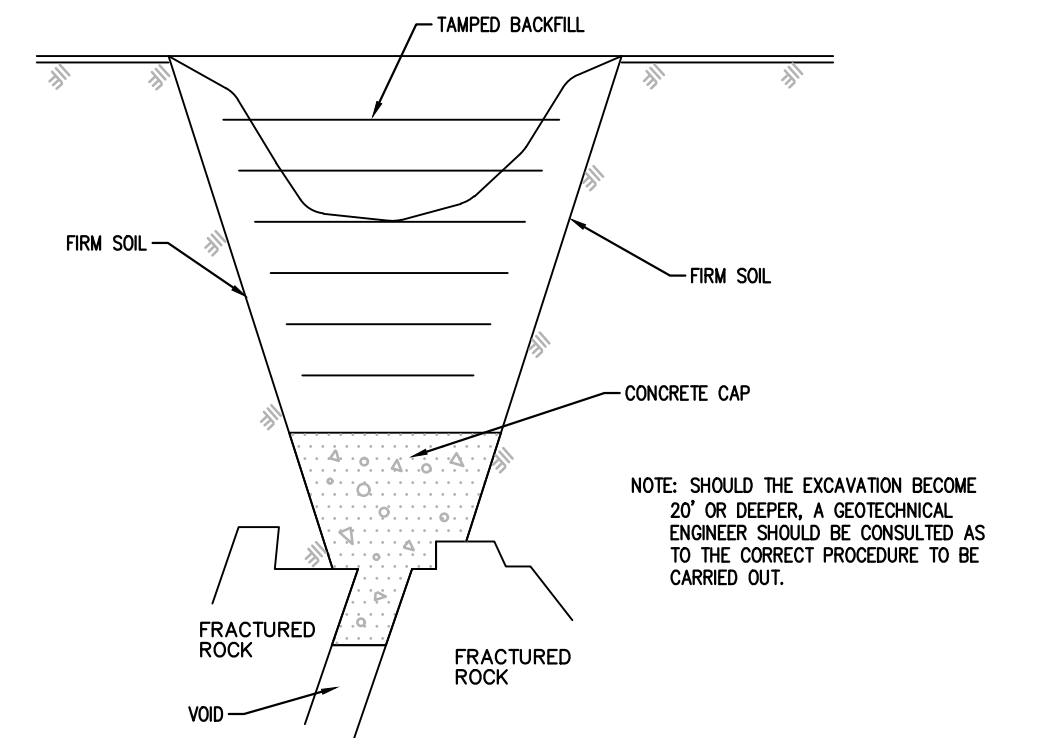
SCALE:	DATE:	DRAWN:	CHECKED:
1"=20'	5/8/26	JER	JER

PROJECT NO.	DRAWING NO.	REVISION:
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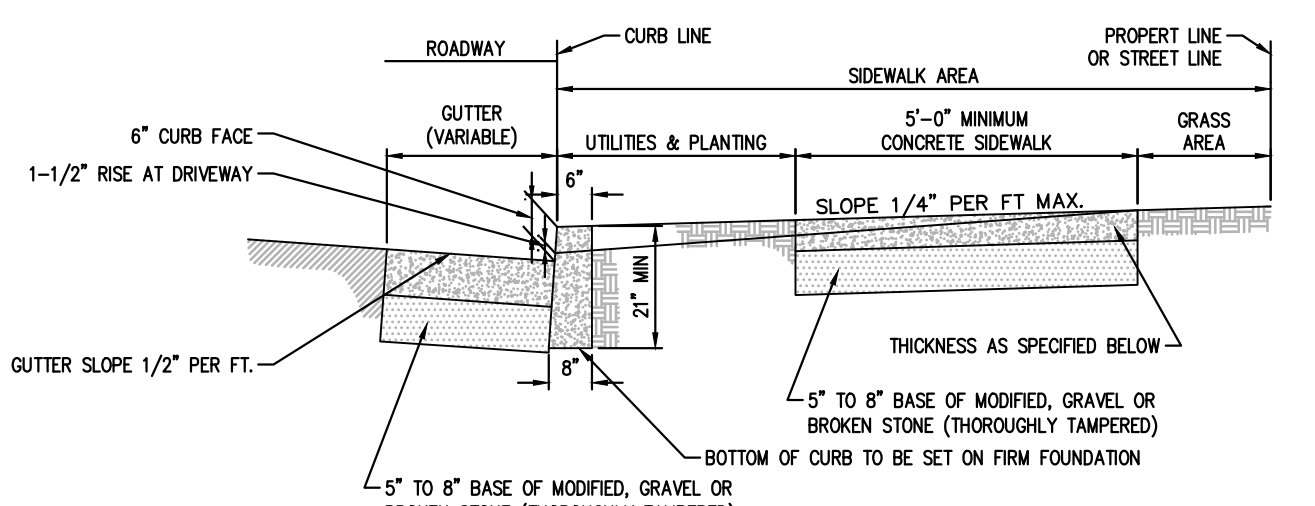
**Sinkhole In Soil**

1. THE REPAIR TECHNIQUES AS DESCRIBED BELOW ARE SUITABLE ONLY IF THE SINKHOLE IS LOCATED IN AN OPEN AREA. IF THE SINKHOLE IS LOCATED UNDER OR NEAR A STRUCTURE OR A BUILDING, COMPACTION GROUTING MAY BE NECESSARY FOR FOUNDATION, AS DETERMINED BY A GEOTECHNICAL ENGINEER LICENSED IN THE COMMONWEALTH OF PENNSYLVANIA.
2. EXCAVATE DOWN TO ROCK TO SINKHOLE THROAT OR TO A DEPTH OF 15 FEET BELOW GRADE, WHICHEVER OCCURS FIRST.
3. IF ROCK IS ENCOUNTERED WITHIN 10 FEET, STOP EXCAVATION. THE LIMIT OF EXCAVATION SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER. GENERALLY, A ZONE OF SOFT, IN-FILL MATERIAL WILL BE FOUND WHICH COVERS MOST OF THE BOTTOM OF THE EXCAVATION. COVER THIS AREA WITH A GRADED ROCK FILTER AS SHOWN ABOVE.
4. BACKFILL HOLE WITH RELATIVELY IMPERMEABLE CLAY SOIL. COMPACT SOIL IN 6" LIFTS WITH A POWER TAMPER OR RAMMER TO AT LEAST 95% OF THE STANDARD PROCTOR.
5. BACKFILL HOLE ABOVE EXISTING GRADE TO DIVERT SURFACE WATER.



**Sinkhole In Rock**

1. THE REPAIR TECHNIQUES AS DESCRIBED BELOW ARE SUITABLE ONLY IF THE SINKHOLE IS LOCATED IN AN OPEN AREA. IF THE SINKHOLE IS LOCATED UNDER OR NEAR A STRUCTURE OR A BUILDING, COMPACTION GROUTING MAY BE NECESSARY FOR FOUNDATION, AS DETERMINED BY A GEOTECHNICAL ENGINEER LICENSED IN THE COMMONWEALTH OF PENNSYLVANIA.
2. EXCAVATE DOWN TO BEDROCK OR TO THE SINKHOLE THROAT.
3. EXPOSE THE ROCK SURFACE BY WASHING THE AREA WITH A SMALL HOSE WATER SPRAY AND INSTALL HIGHIMP CEMENT UNITS INTO VOIDS AND CRACKS UNTIL VOIDS ARE FILLED AND A CAP COVERS THE AREA. THE LIMIT OF EXCAVATION AND CONCRETE SHALL BE DETERMINED BY THE ENGINEER.
4. AFTER CONCRETE HAS SET OVERNIGHT, BACKFILL HOLE WITH RELATIVELY IMPERMEABLE CLAY SOIL. COMPACT SOIL IN 6" LIFTS WITH A POWER TAMPER OR RAMMER TO AT LEAST 95% OF THE STANDARD PROCTOR. THE TOP THREE(3) FEET SHALL BE BACKFILLED WITH 200 CRUSHED AGGREGATE.
5. BACKFILL HOLE ABOVE EXISTING GRADE TO DIVERT SURFACE WATER.
6. WHEN SINKHOLE IS UNDER A PROPOSED UTILITY, CONCRETE IS TO BE SET 6" BELOW THE UTILITY TO ALLOW FOR A STONE BEDDING.



**General Requirements:**

**ONE COURSE (MONOLITHIC) CONSTRUCTION** FOR ALL CURB, GUTTER AND SIDEWALK CONCRETE MIX TO BE CLASS A CONCRETE 3500# 8 BAG MIX - 5.6 GAL. WATER PER BAG THROUGHOUT; USE POWER BATCH MIXER. NO SLAG.

**CURB:** 2" MINIMUM DEPTH WITH APPROVED FINISH ON TOP AND EXPOSE FACE.

**GUTTER:** 8" DEPTH - SLOPE OF GUTTER 1/2" RISE 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" ENSEI - USE WOOD FLOAT TO PRODUCE SMOOTH RESISTANCE SURFACE. OVERLAP OF 2X OR MORE PROVIDE A ROUGHER FINISH.

**EXPANSION AND CONTRACTION JOINTS:** SEE CITY CONSTRUCTION STANDARD NO. 1A.

**HANDICAP RAMPES:** REQUIRED ON ALL RAMP IN ACCORDANCE WITH CURRENT ADA REQUIREMENTS.

**DRIVEWAYS:** SEE CITY STANDARD DRIVEWAY ENTRANCE AND APRON SKECH.

**EXCAVATION IN CARTWAY:** WHEN EXCAVATING IN THE CARTWAY OF THE CITY STREET, A CLEAN, FULL DEPTH CUT-BY JACK HAMMERMING OR SAWCUTTING 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, BACKFILLING 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 TO 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.

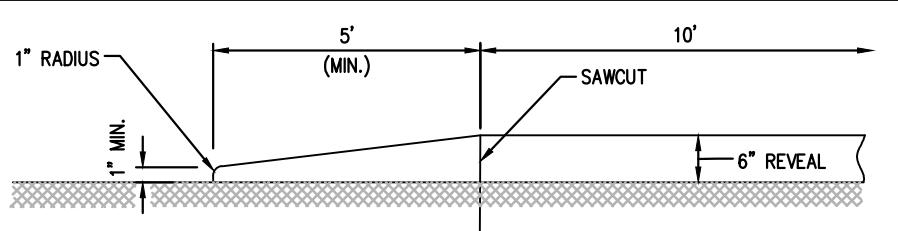
**EXCAVATION PERMIT** - PROCURED FROM THE CITY ENGINEER'S OFFICE; FOR SIDEWALK AND DRIVEWAY CONSTRUCTION

**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" COPIED ORDINANCES OF THE CITY OF BETHLEHEM, ARTICLES 903 AND 909.

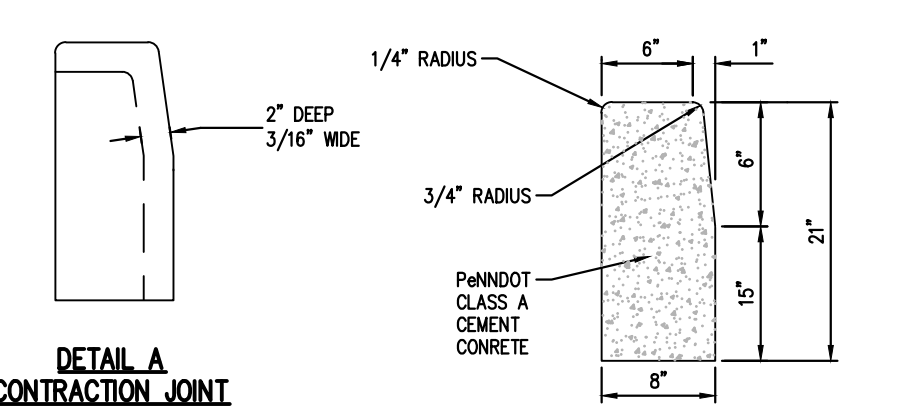
**NOTE:**

- 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**

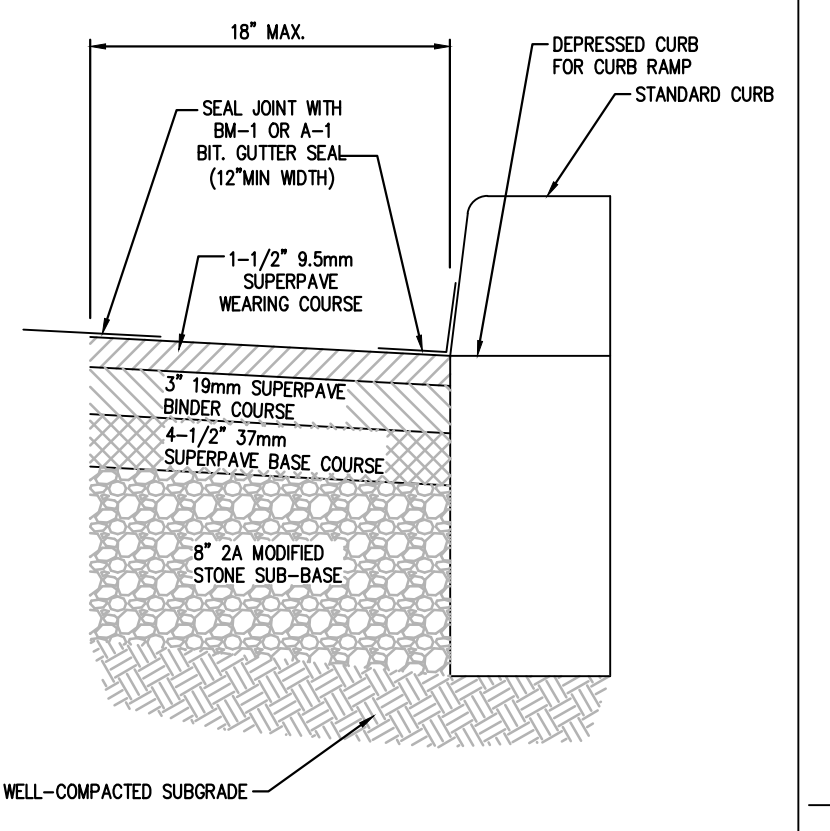


**Typical Curb Taper Detail**



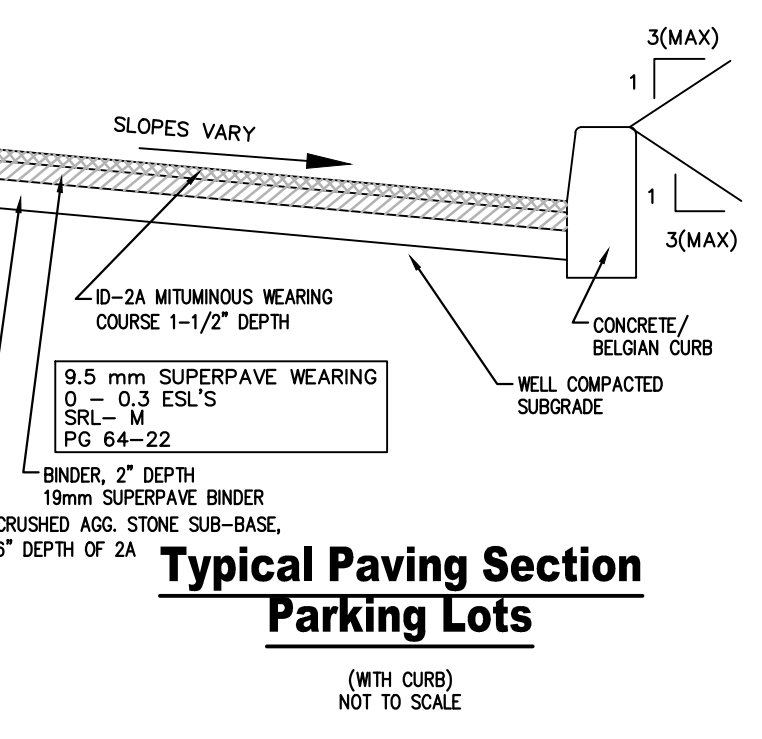
**DETAIL A CONTRACTION JOINT**

**TYPICAL CROSS SECTION**

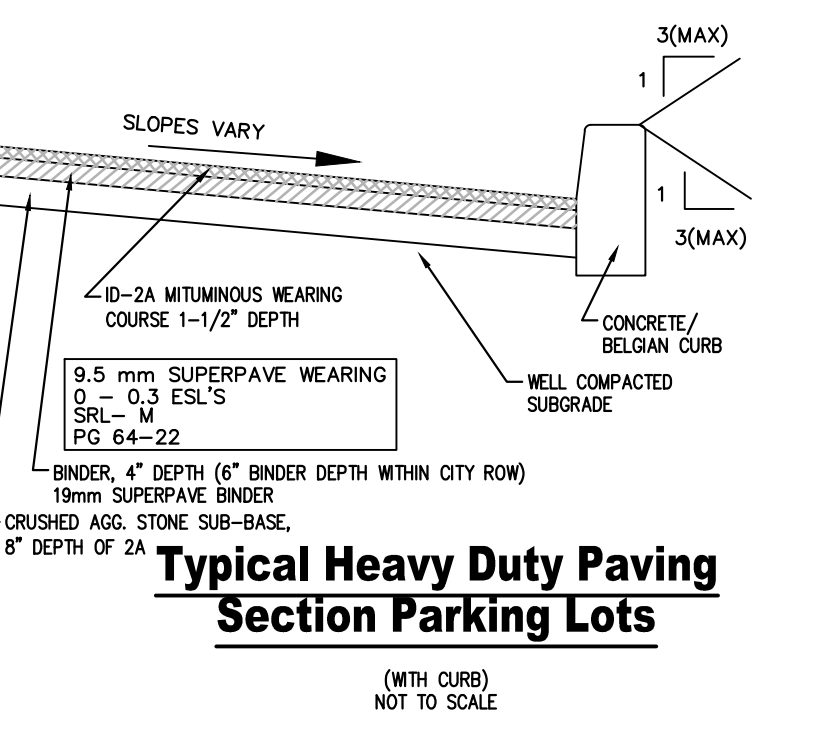


**Pavement Restoration For Curb Replacement**

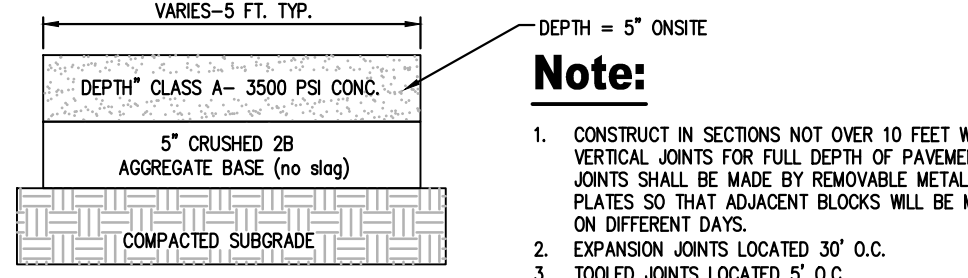
\* THE BASE COURSE AND SURFACE COURSE SHALL MATCH EXISTING DEPTHS OF PAVING



**Typical Paving Section Parking Lots**

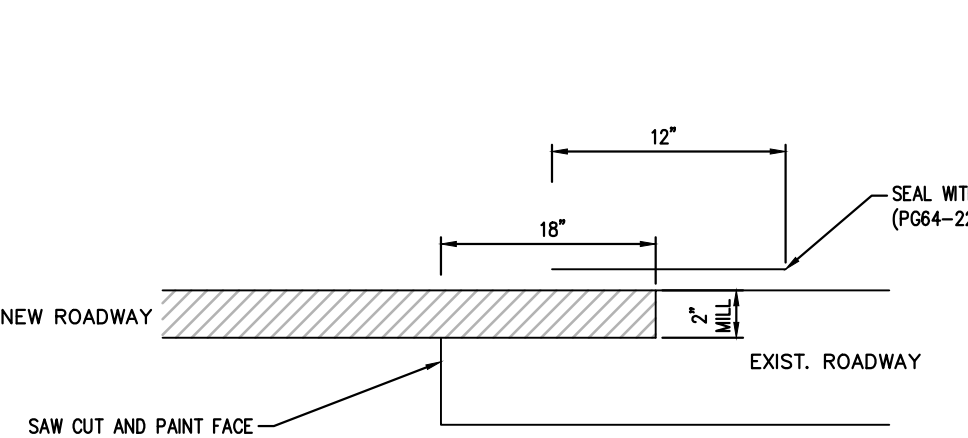


**Typical Heavy Duty Paving Section Parking Lots**



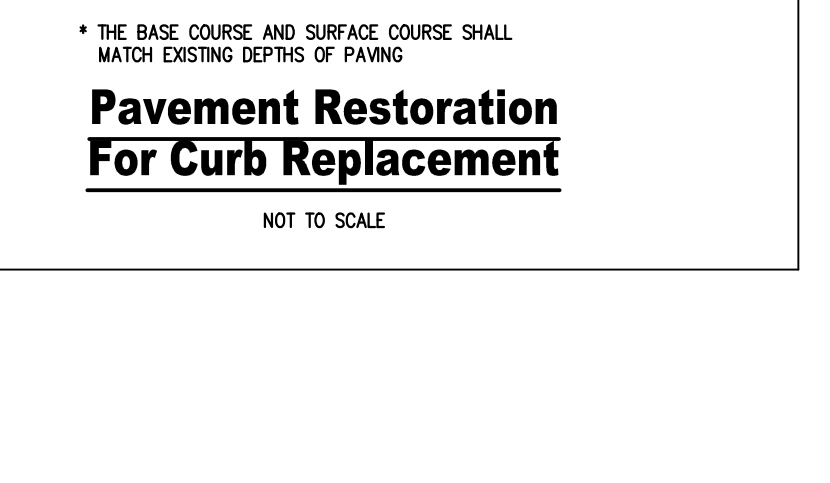
**Concrete Sidewalk Detail**

NOT TO SCALE



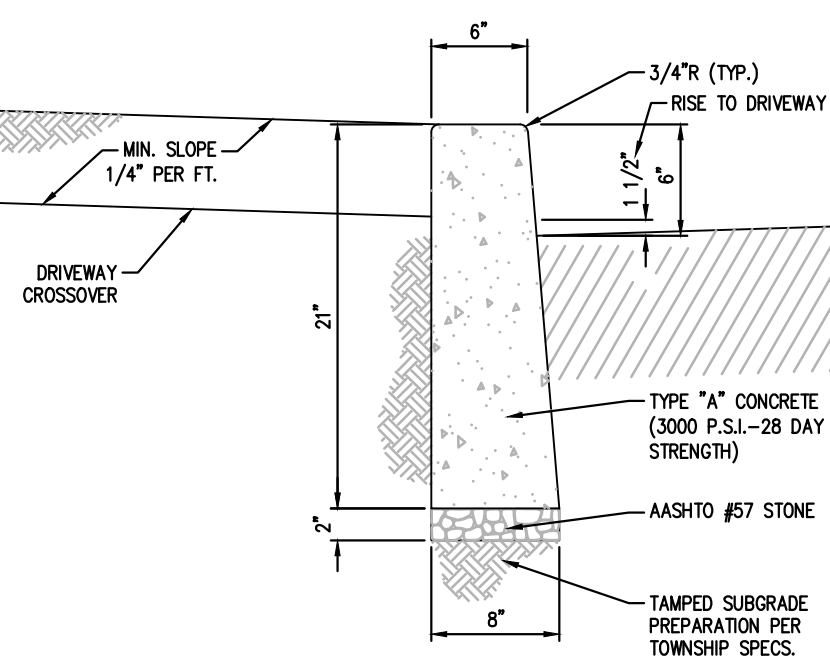
**Paving Joint Detail**

(TIE INTO EXISTING PAVEMENT) NOT TO SCALE



**Concrete Curb**

NOT TO SCALE



**Upright Curb Detail**

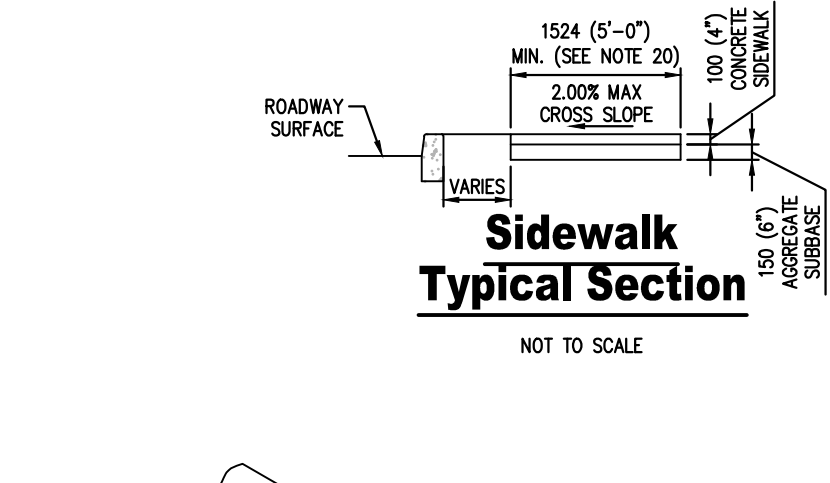
NOT TO SCALE

**Notes:**

- MATERIALS AND CONSTRUCTION SHALL MEET THE REQUIREMENTS OF PUBLICATION 408, SECTION 630.
- SPACE CONTRACTION JOINTS IN UNIFORM LENGTHS OR SECTIONS.
- PLACE 3/4" PREMOULDED 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.

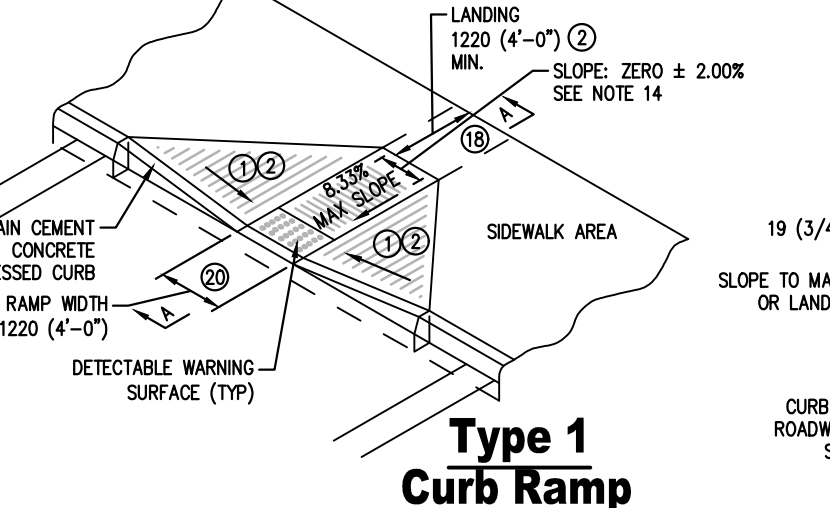
**Concrete Curb**

NOT TO SCALE



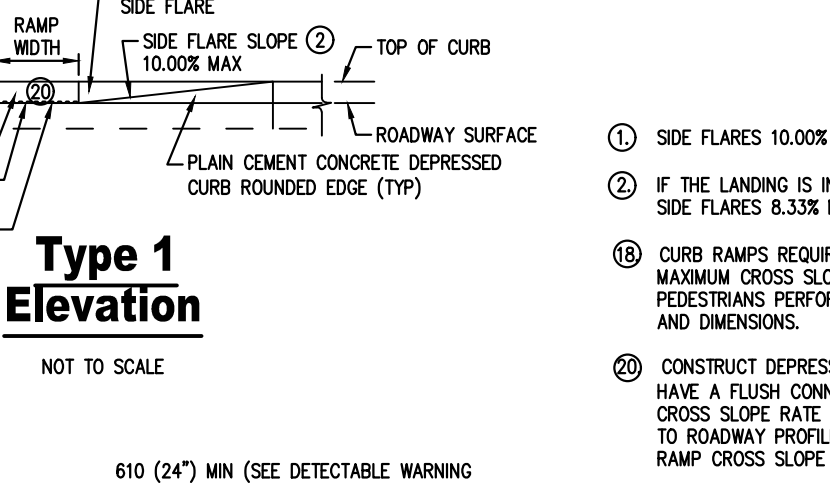
**Sidewalk Typical Section**

NOT TO SCALE



**Type 1 Curb Ramp**

NOT TO SCALE



**Type 1 Elevation**

NOT TO SCALE

**Depressed Curb For Curb Ramps**

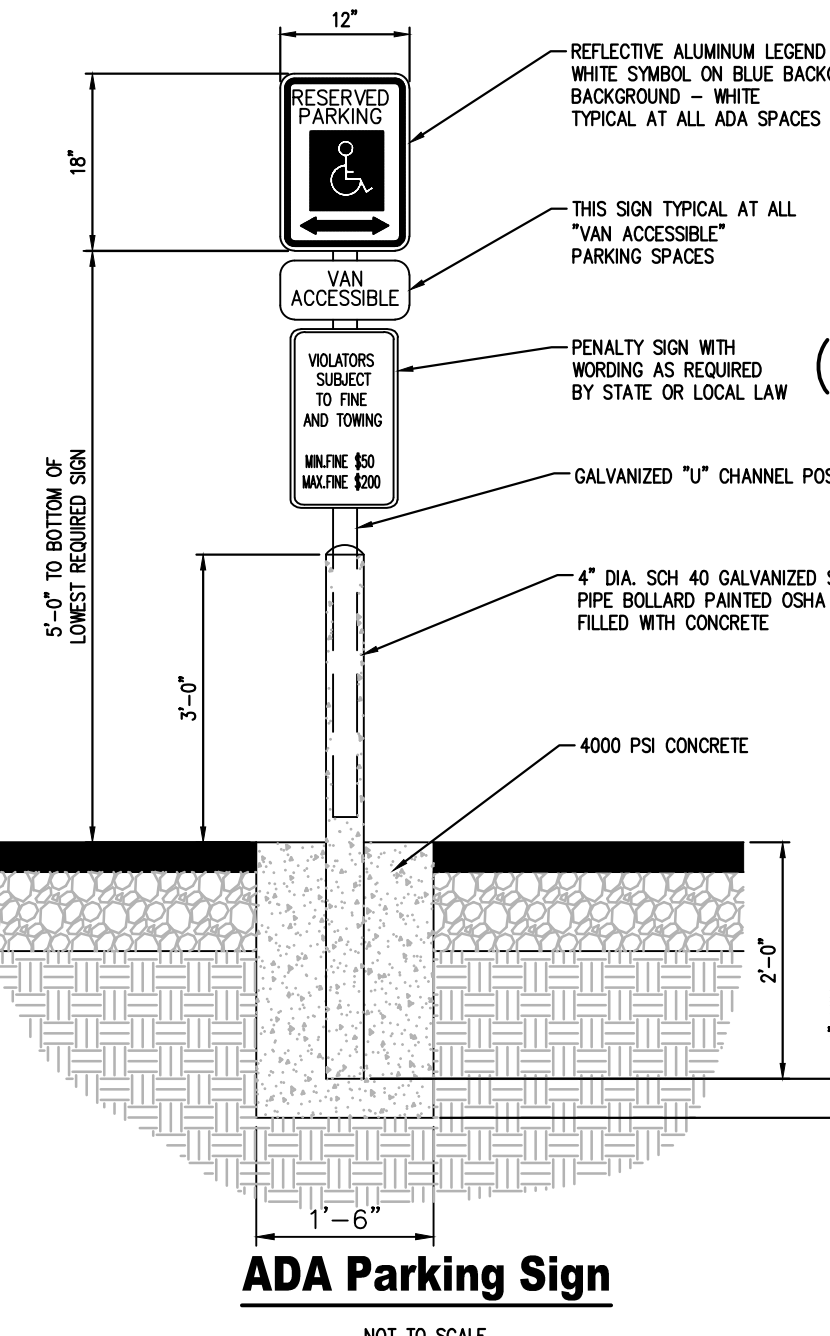
NOT TO SCALE

- SIDE FLARES 10.00% MAX. SLOPE.
- IF THE LANDING IS INDICATED TO BE LESS THAN 1220 (4'-0") CONSTRUCT SIDE FLARES 8.33% MAX. SLOPE.
- CURB RAMP REQUIRED A 1220 (4'-0") MINIMUM LANDING WITH A MAXIMUM GROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SEE DETAILS FOR LOCATION AND DIMENSIONS.
- CONSTRUCT DEPRESSED CURB TO MATCH ROADWAY PROFILE AND HAVE A FLUSH CONNECTION. DO NOT EXCEED 3.00% PER 405 (1'-0") CROSS RATE OF CHANGE TRANSITIONING FROM LEVEL LANDING TO ROADWAY PROFILE. A TECHNICALLY INFEASIBLE FORM IS REQUIRED WHEN RAMP GROSS SLOPE EXCEEDS 2.00%.

**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.

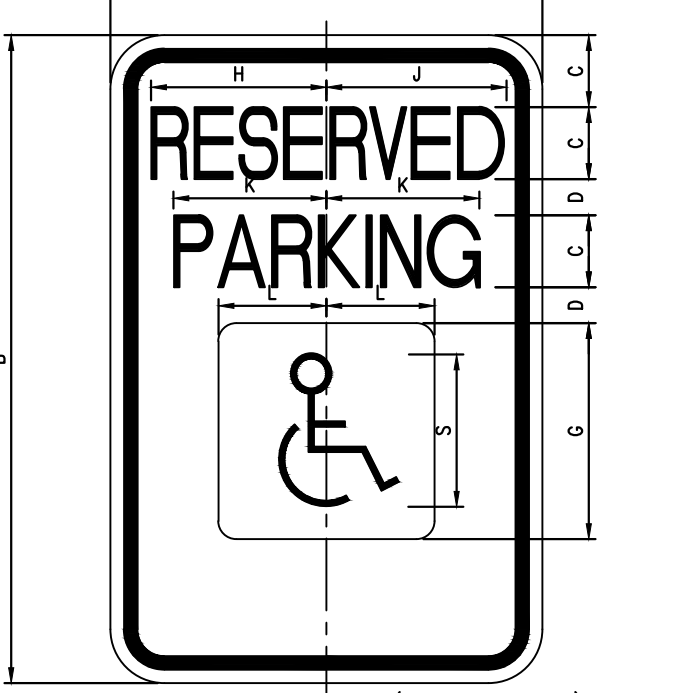


**ADA Parking Sign**

NOT TO SCALE

NOTE: ONE AT EACH ADA SPACE. WHERE ADA SPACES FACE EACH OTHER WITHOUT WALKWAY, THERE SHALL BE ONE POST WITH SIGNS MOUNTED BOTH SIDES.

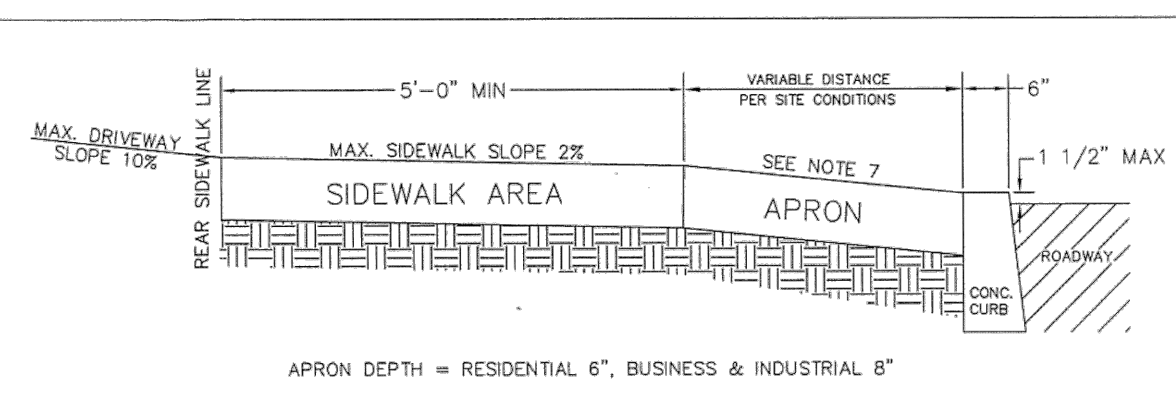
SIGN SIZE	DIMENSIONS											
	A	B	C	D	E	F	G	H	J	K	L	M
12x18	12	18	2	1	1 1/4	2 1/4	6	4 7/8	5	4 1/4	3	1/2



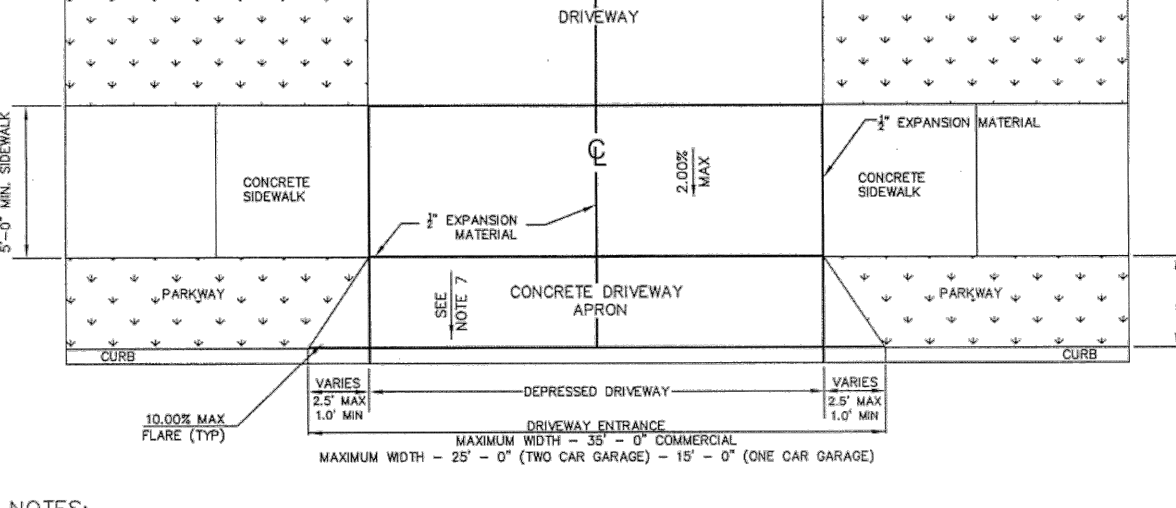
COLOR: LEGEND AND BORDER BACKGROUND GREEN (NON-REFLECTORIZED) SYMBOL WHITE (NON-REFLECTORIZED) BACKGROUND BLUE (NON-REFLECTORIZED)

**"Reserved Parking" Sign PennDOT R7-8**

NOT TO SCALE



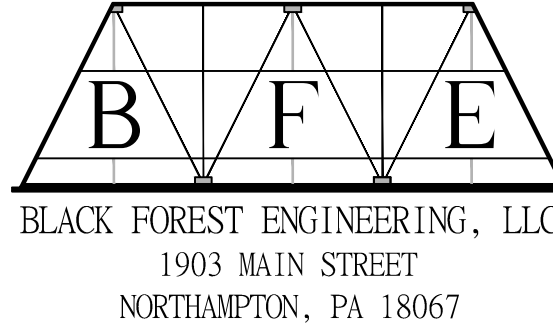
**TYPE 1 DRIVEWAY ENTRANCE AND APRON**



**NOTES:**

- No driveway allowed within 25 feet of the street line intersection.
- An off street parking area shall be at least 9' wide by 19' deep on private property.
- One driveway entrance allowed for each 100' feet of property frontage.
- Maximum slope for driveway behind public right-of-way shall be 10%.
- A monolithic driveway apron and curb may be permitted.
- 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 met in all cases.
- Desired 8% max allowable change in grade between road surface and driveway apron. 10% max grade for driveway apron.

CITY OF BETHLEHEM, PA BUREAU OF ENGINEERING



BLACK FOREST ENGINEERING, LLC  
1903 MAIN STREET  
NORTHAMPTON, PA 18067

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JOSEPH E. RENTKO, P.E. #PE080569  
2455 BLACK FOREST DRIVE  
COPLAY, PA 18037  
570-239-4499  
jrentko@bfeng.com

PROJECT TITLE:  
**APARTMENTS AT 1405 NORTH BLVD**

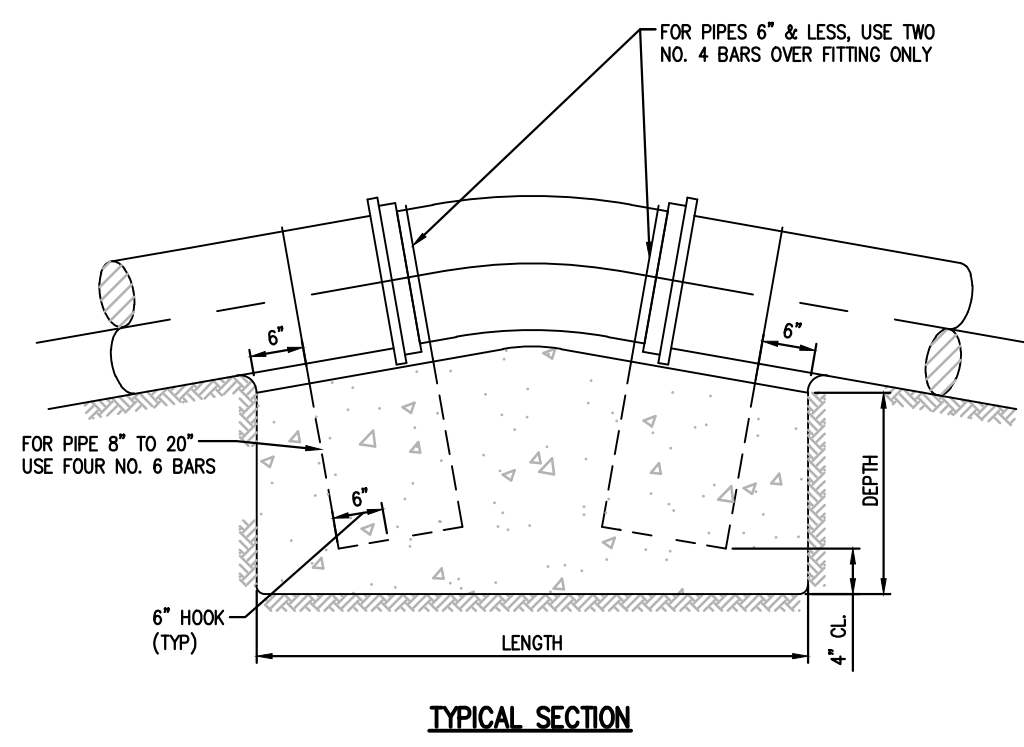
PROJECT OWNER:  
DOMENIC VILLANI  
930 WAFFORD LANE  
BETHLEHEM PA 18017-3892

PROJECT LOCATION:  
CITY OF BETHLEHEM  
WARD 14; BLOCK 90  
NORTHAMPTON COUNTY  
PENNSYLVANIA

**DETAILS**

SCALE:	DATE:	DRAWN:	CHECKED:
1"=20'	5/8/26	JER	JER
PROJECT NO.	DRAWING NO.	REVISION:	
002	5 OF 6	00	

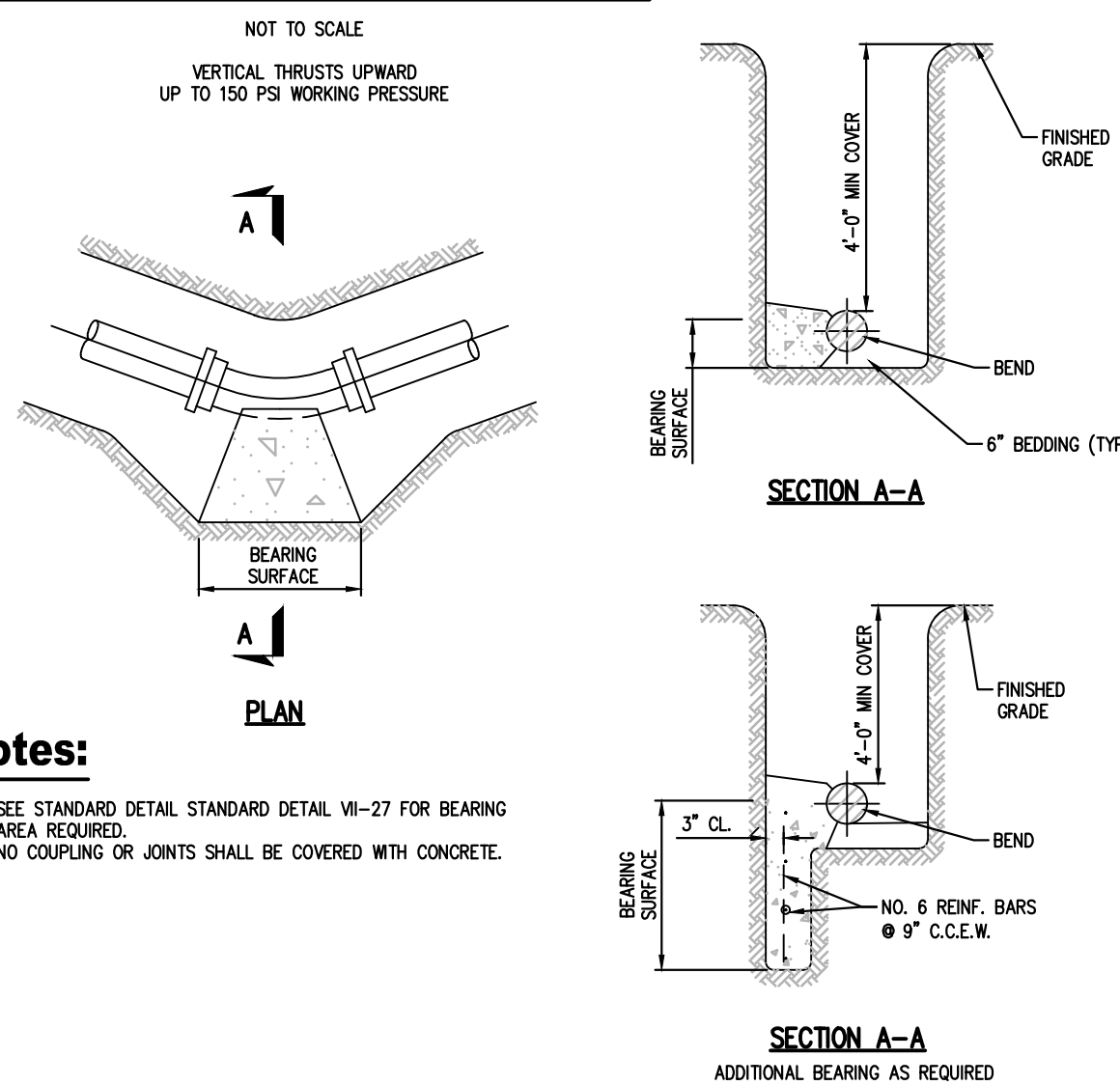
- MOUNT ALL SIGNS ON PENNDOT STD. 2.25 LB. BREAKAWAY CHANNEL BAR POSTS, UNLESS NOTED OTHERWISE.
- MARK ALL PARKING SPACES WITH 4" WIDE SOLID WHITE LINES.



PIPE SIZES (inches)	DIMENSIONS OF CONCRETE BLOCKING								
	LENGTH		WIDTH		DEPTH				
4 & SMALLER	2'	4'	4'	1.5"	3"	3"	1'	2'	3"
6 & 8	3'	4'	6'	3"	3"	3"	2'	3'	4'
10 & 12	4.5'	6'	8'	3"	3"	4'	3.5'	4.5'	5'
14 & 16	6'	8'	11'	3.5"	3.5"	5'	3.5"	5'	5'
18 & 20	7'	9'	13'	4"	5"	5.5'	4'	5'	6'

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

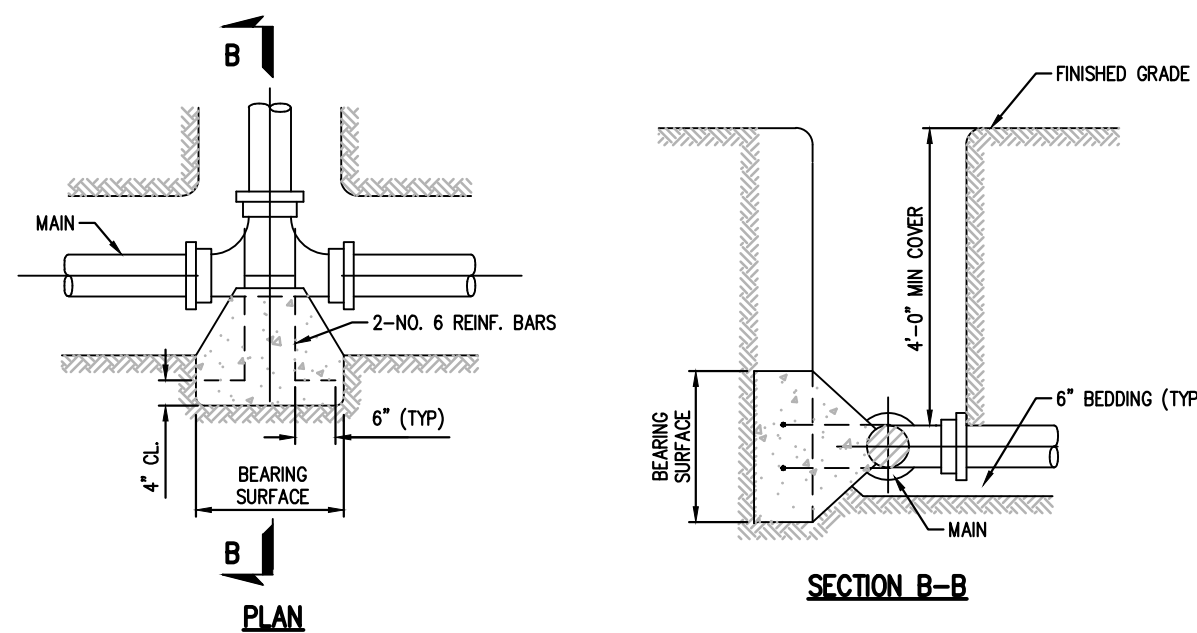
**Thrust Blocking - Vertical Thrusts**



- 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 VII-27 FOR BEARING AREA REQUIRED.
  - NO COUPLING OR JOINTS SHALL BE COVERED WITH CONCRETE.
  - REINFORCING BAR STRIPS 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

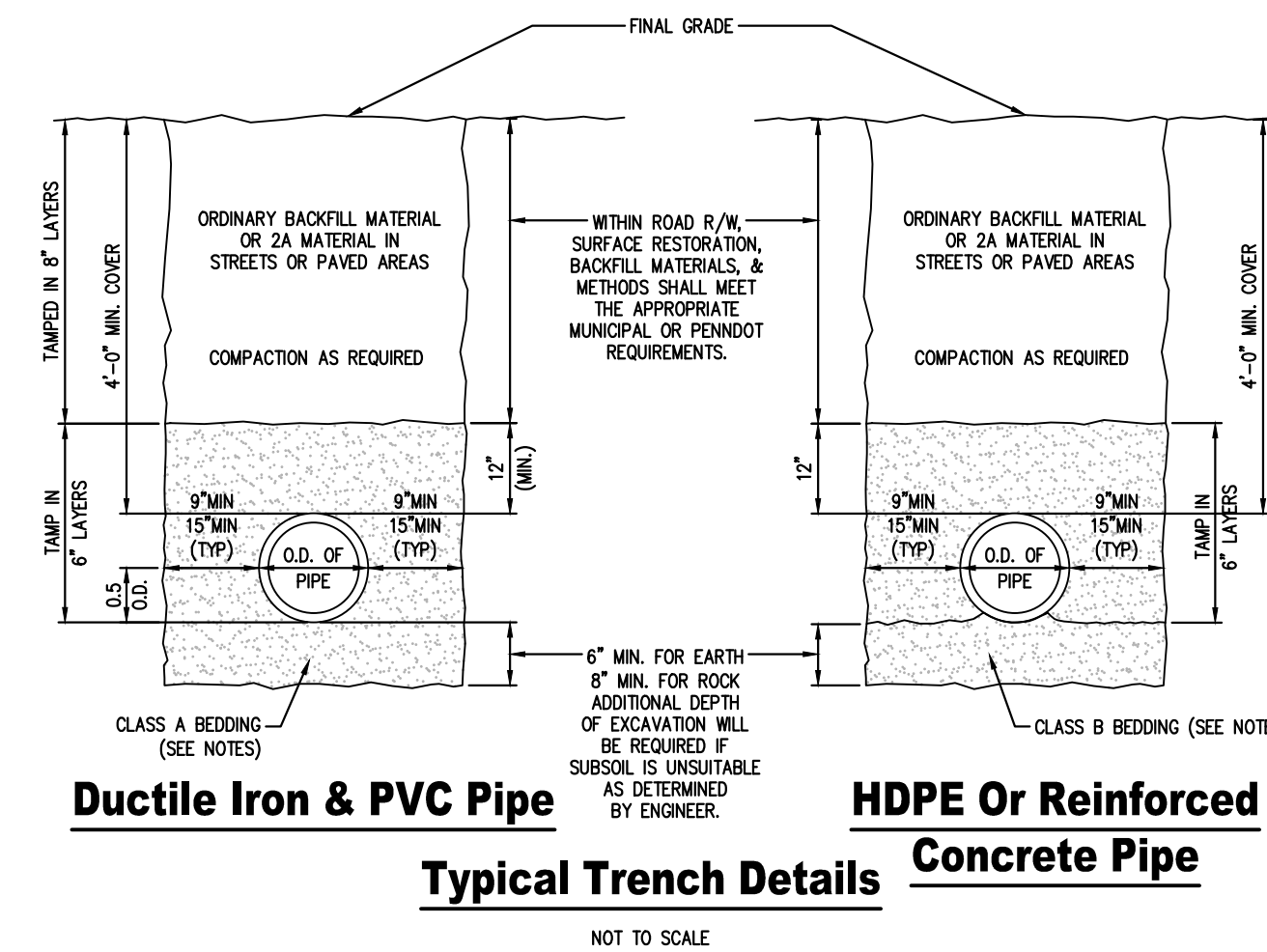
BEARING AREA REQUIRED, SQUARE FEET

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	2.0	2.7	4.0	1.5	3.0	6.0	10.0	
ROCK - 10,000	1.0	1.0	1.0	1.0	1.0	1.2	2.0	1.0	

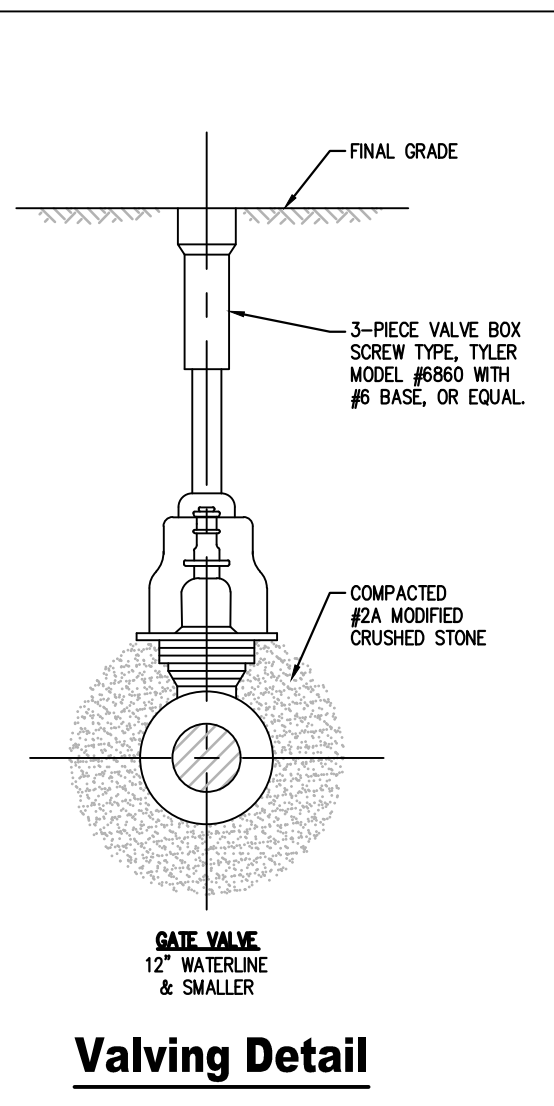
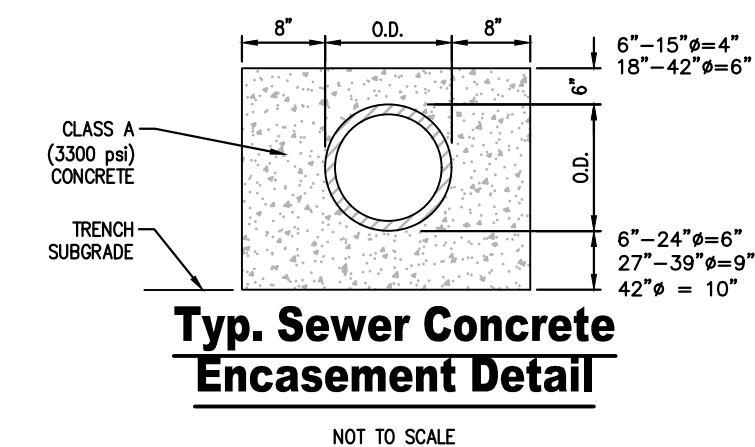
BEARING AREA REQUIRED, SQUARE FEET

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

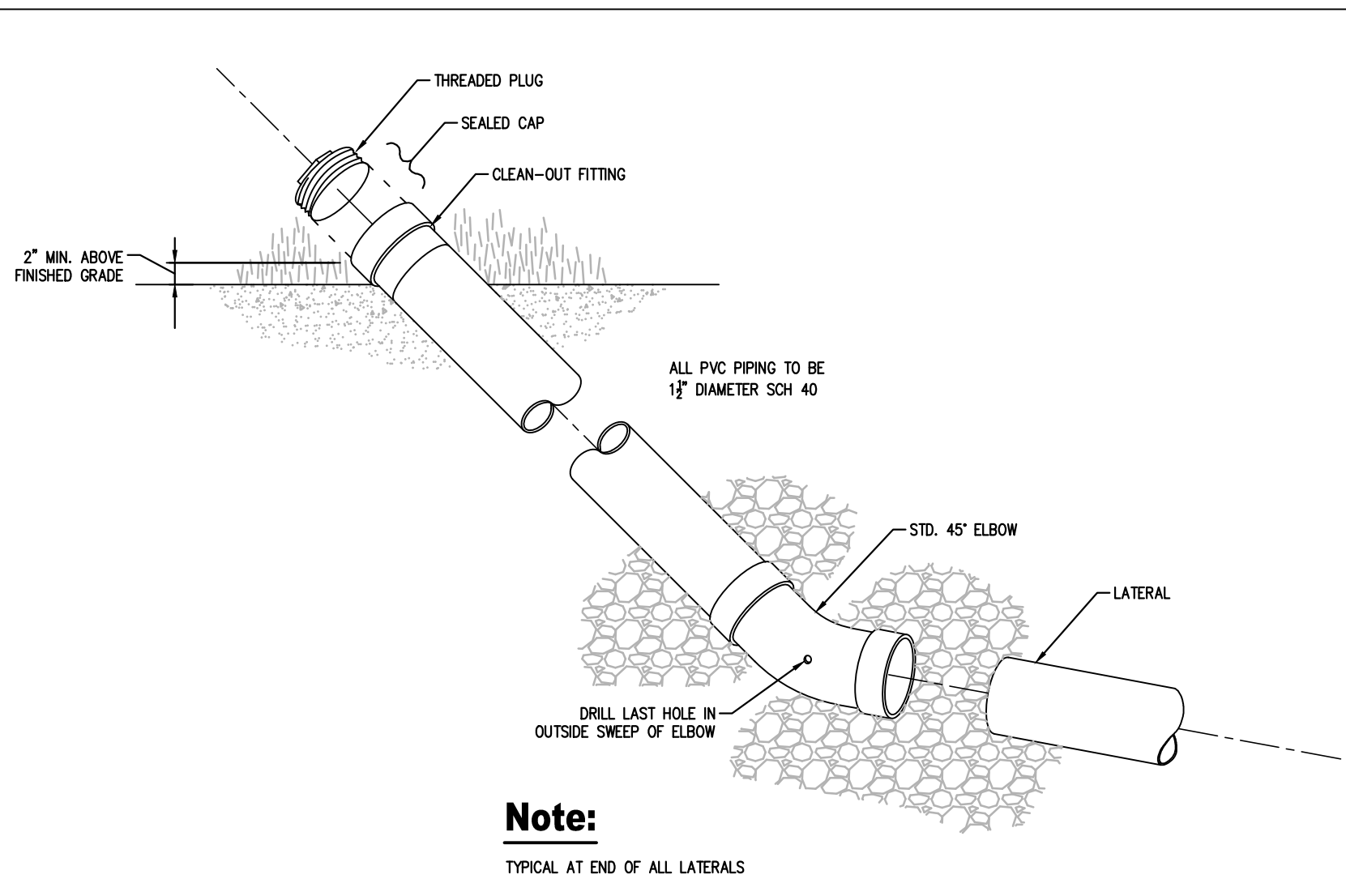
- Notes:**
- THRUST BLOCKING FOR TEES SHALL HAVE THE SAME BEARING AREA AS 90° BENDS OF THE PIPE SIZE OF THE OUTLET. DEAD ENDS SHALL HAVE THE SAME BEARING AS 90° BENDS.
- Thrust Blocking Schedule**
- NOT TO SCALE  
SCHEDULE OF DIMENSIONS UP TO 150 PSI WORKING PRESSURE



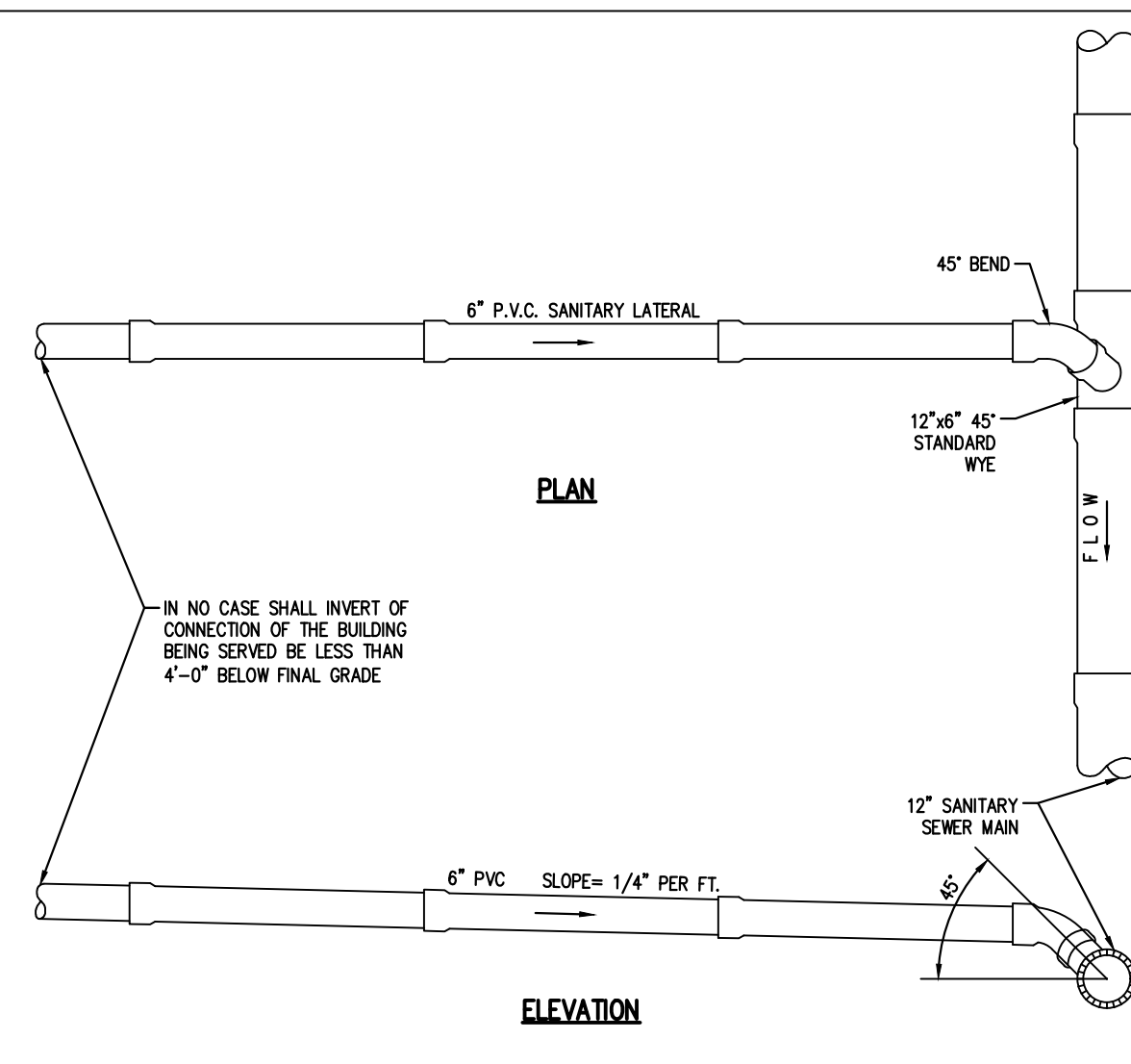
- Notes:**
- ALL BACKFILL MATERIAL IS SUBJECT TO CITY APPROVAL OR UGI APPROVAL FOR GAS MAIN.
  - CLASS A BEDDING: APPROVED SCREENINGS TO 12" ABOVE PIPE.
  - CLASS B BEDDING: FINE AGGREGATE
  - SELECT BACKFILL: CLEAN DRY EARTH WITH A MAXIMUM STONE SIZE 3-INCHES.
  - ORDINARY BACKFILL: CLEAN DRY EARTH WITH A MAXIMUM STONE SIZE 6-INCHES.
  - SLAG MATERIAL IS PERMITTED ABOVE THE 12 INCHES OF INTAL 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 THAN 15' DEEP. FOR SANITARY SEWER RUNS GREATER THAN 15' IN DEPTH, SDR 26 SHALL BE USED.



- 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.

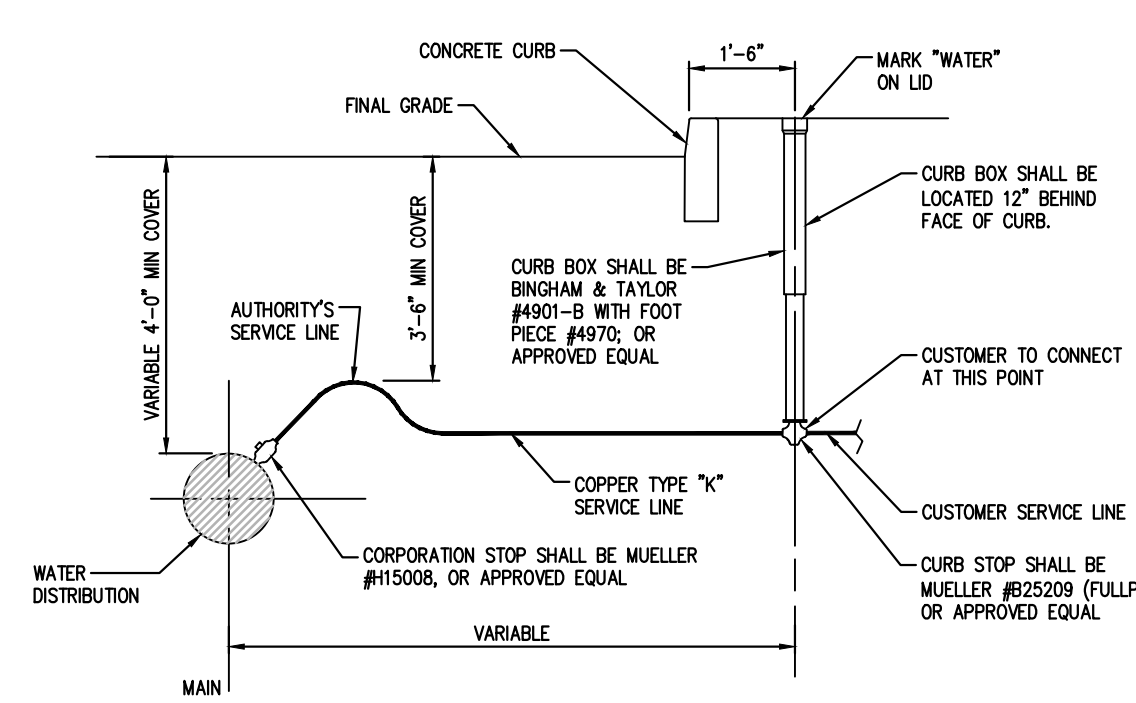


- Note:**
- TYPICAL AT END OF ALL LATERALS
- Lateral Clean-out**
- NOT TO SCALE



**Typical Sanitary Sewer Lateral Connection**

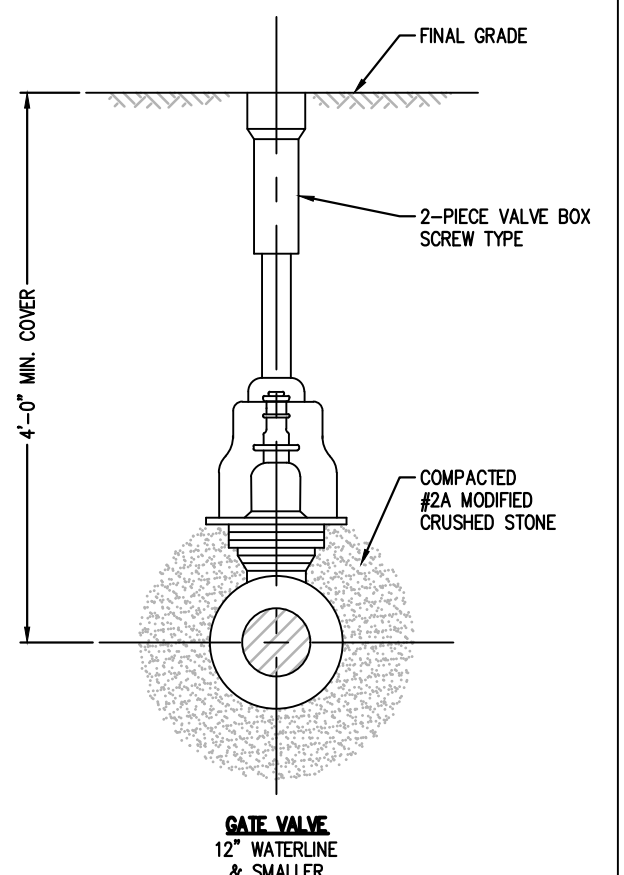
NOT TO SCALE



- 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.

**Water Lateral Small Service Connection**

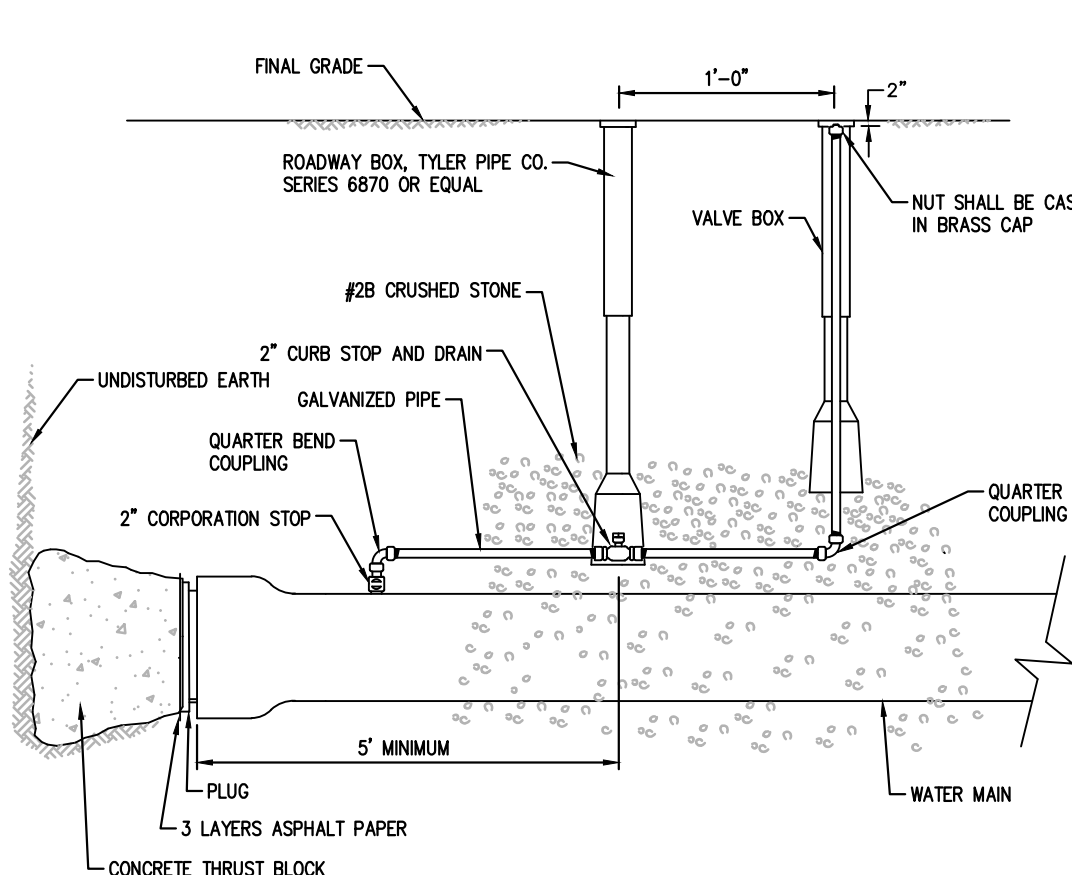
NOT TO SCALE



- 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.

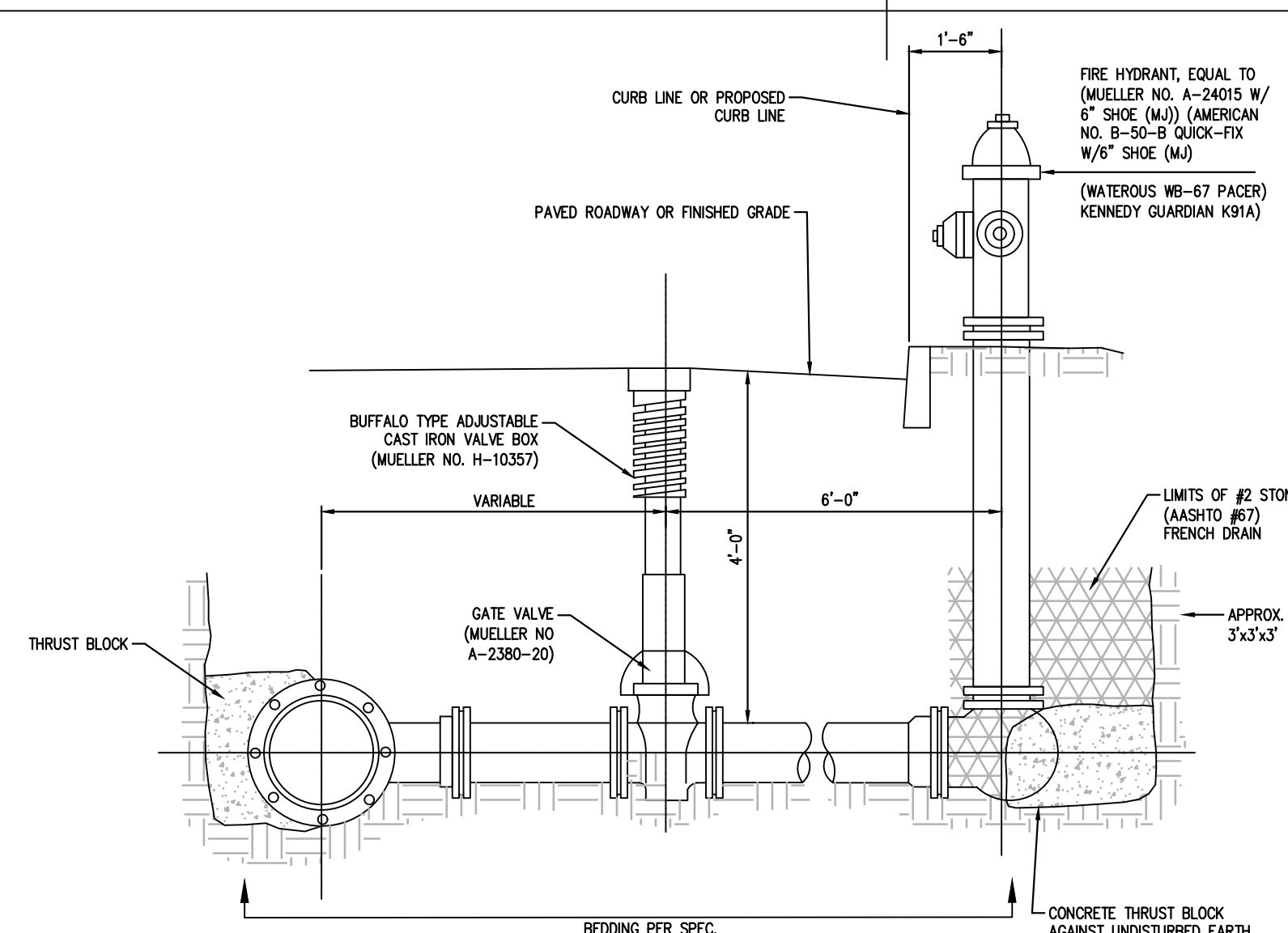
**Gate Valve Detail**

NOT TO SCALE



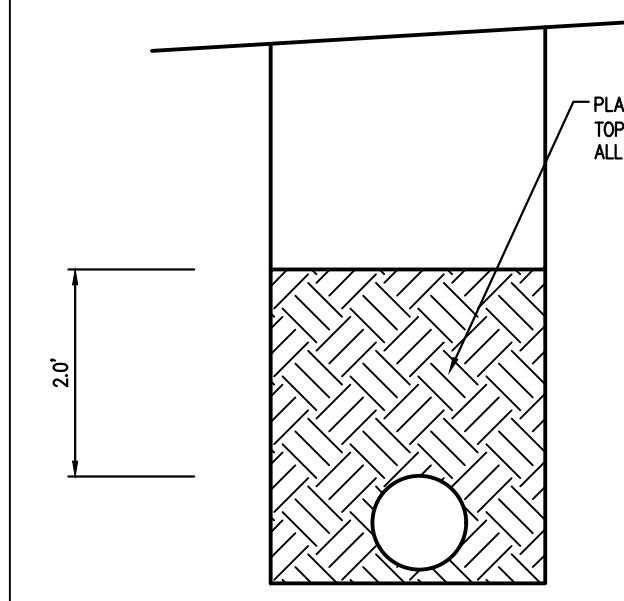
**2" Surface Blowoff**

NOT TO SCALE



**Typical Fire Hydrant Detail**

NOT TO SCALE



**Typical Trench Plug**

NOT TO SCALE

**B F E**

BLACK FOREST ENGINEERING, LLC  
1903 MAIN STREET  
NORTHAMPTON, PA 18067

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SEAL:

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2455 BLACK FOREST DRIVE  
COXLEY, PA 18037  
570-239-4499  
jrentko@bfeeng.com

REV:	DESCRIPTION:	BY:	DATE:
PROJECT TITLE:	APARTMENTS AT 1405 NORTH BLVD		
PROJECT OWNER:	DOMENIC VILLANI 930 WAFFORD LANE BETHLEHEM PA 18017-3892		
PROJECT LOCATION:	CITY OF BETHLEHEM WARD 14; BLOCK 90 NORTHAMPTON COUNTY PENNSYLVANIA		
PLAN TITLE:	DETAILS		
SCALE:	DATE:	DRAWN:	CHECKED:
1"=20'	5/8/26	JER	JER
PROJECT NO.	DRAWING NO.	REVISION:	
002	6 OF 6	00	