

xrefs:--[22-GODSC-01_24x36_TB] [22-GODSC-01_Lot-Line-Adjust] [22-GODSC-01_Base] [22-GODSC-01_Layout]
01_Lot_-_Consolidation_Plan.dwg->LLA-1 Lot Line Adjustment Plan Date: January 15, 2025-10:32am **acela architects + engineers, pc** - USER: Rebecca

NOTES:

- SURVEY PREPARED BY "VALLEY LAND SERVICES, LLC" ENTITLED "ELLIOT AVENUE APARTMENTS, CITY OF BETHLEHEM, LEHIGH COUNTY, PENNSYLVANIA" DATED _____.
- PARCELS 641786528493 AND 641786625403 AS SHOWN ON A PLAN ENTITLED "LOT LINE ADJUSTMENT PLAN GREEN LOT LINE ADJUSTMENT, 1825 BUDD AVE, CITY OF BETHLEHEM LEHIGH COUNTY, PA. PREPARED BY THOMAS J. MORGANVILLI PLS DATED FEBRUARY 09, 2010.

LEGEND

	AREA OF CRAIG AVENUE TO BE VACATED
	AREA OF MOLL STREET TO BE VACATED
	AREA OF SANITARY LINE EASEMENT

S 00° 00' 00" W
EXISTING LOT BEARING AND DISTANCE

S 00° 00' 00" W
PROPOSED LOT BEARING AND DISTANCE

	A	B	C
	PARCEL A	PARCEL B	PARCEL C
OWNER:	R & D HOMES LLC	R & D HOMES LLC	R & D HOMES LLC
OWNER ADDRESS:	2180 SPYGLASS HILL CENTER VALLEY PA 18034-8912	2180 SPYGLASS HILL CENTER VALLEY PA 18034-8912	2180 SPYGLASS HILL CENTER VALLEY PA 18034-8912
SITE ADDRESS:	1746 ELLIOT AVE BETHLEHEM PA 18018	1742 ELLIOT AVE BETHLEHEM PA 18018	ELLIOT AVE BETHLEHEM PA 18018
CURRENT DEED:	2022042243	2022042243	2022042243
PARCEL ID:	641786517020	641786614071	641786712041
TOTAL AREA:	6,000 SF	12,000 SF	6,000 SF
SEWER:	PUBLIC	PUBLIC	PUBLIC
WATER:	PUBLIC	PUBLIC	PUBLIC
CURRENT USE:	VACANT	VACANT	VACANT
CONSOLIDATED LOTS: 24,000 SF			
CRAIG AVENUE VACATED:	3,250 SF		
MOLL STREET VACATED:	2,000 SF		
TOTAL LOT AREA: 29,250 SF			

AREA TABLE		
PARCEL	PARCEL AREA (SF)	PARCEL AREA (AC)
CRAIG AVENUE	3,250	0.0746
MOLL STREET	2,000	0.0459
PARCEL "A"	6,000	0.1377
PARCEL "B"	12,000	0.2755
PARCEL "C"	6,000	0.1377
TOTAL NEW PARCEL AREA	29,250	0.6714

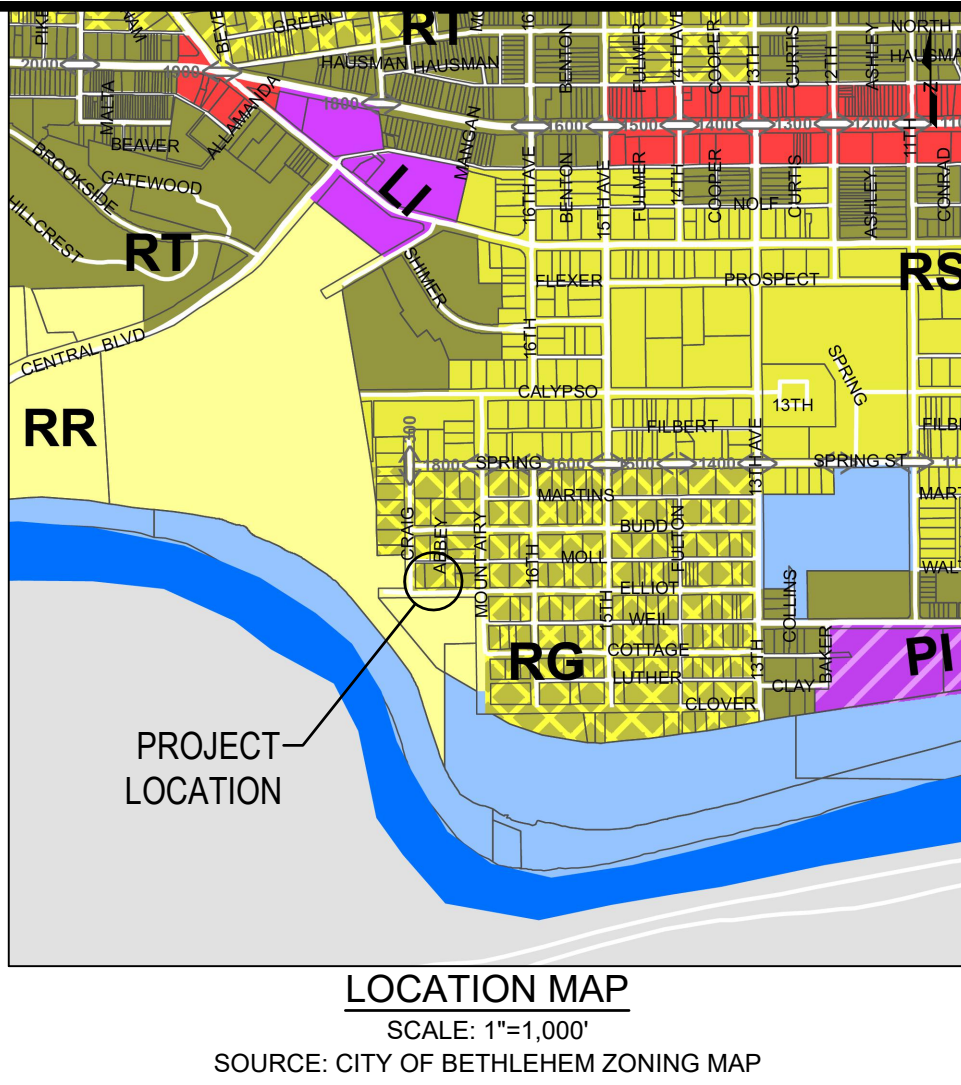
ZONING DATA

DISTRICT: RG - MEDIUM DENSITY RESIDENTIAL			
PERMITTED USE: MULTI-FAMILY DWELLING (2-1/2 STORIES & LESS) OR DUPLEX			
	REQUIRED	EXISTING	PROPOSED
MINIMUM LOT SIZE §1306.01(A):	12,000 SF	24,000 SF	29,250 SF
MAXIMUM DENSITY §1306.01(A):			
MULTI-FAMILY DWELLING	4,000 SF/UNIT	N/A	4,000 SF *8 UNITS 32,000 SF (VR)
MINIMUM LOT WIDTH (MEASURED AT FRONT YARD) §1306.01(A):	100 FT.	200 FT.	225 FT.
MINIMUM YARDS §1306.01(A):			
FRONT:	20 FT.	N/A	20 FT.
SIDE:	25 FT.	N/A	25 FT.
REAR:	30 FT.	N/A	60 FT.
BUFFER:			
ADJACENT TO RESIDENTIAL LOT:	20 FT.	N/A	20 FT
MAXIMUM			
BUILDING HEIGHT:	35 FT. / 2 1/2 STORIES	N/A	< 35 FT. / 2 STORIES
BUILDING COVERAGE:	70%	N/A	2%
IMPERVIOUS PER §1316.01(C)	5%	N/A	46% (VR)
(VR) = VARIANCE RECEIVED			

811
Know what's below.
Call before you dig.
SITE SERIAL #20220521536

NOTE:
VERTICAL TEXT INDICATES PROPOSED FEATURES
SLANTED TEXT INDICATES EXISTING FEATURES

0' 20' 40'
SCALE: 1"=20'



CERTIFICATION OF OWNERSHIP

I (WE) THE OWNERS(S) OF 1742 & 1746 & 1800 ELLIOT AVENUE, BEING DUALY 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 AFFECTING THE TITLE THEREOF.

SIGNATURE OF OWNER: _____

SWORN AND SUBSCRIBED TO BEFORE ME THIS ____ DAY OF _____, 20__

MY COMMISSION EXPIRES ON _____.

SURVEYOR'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.

SIGNATURE _____

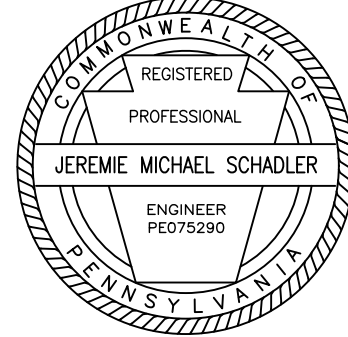
REGISTRATION NO. _____

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.

SIGNATURE _____

REGISTRATION NO. _____



CITY OF BETHLEHEM PLANNING COMMISSION

APPROVED BY THE CITY OF BETHLEHEM PLANNING COMMISSION

CHAIRMAN _____ DATE _____

SECRETARY _____ DATE _____

LEHIGH VALLEY PLANNING COMMISSION:

REVIEW BY THE LEHIGH VALLEY PLANNING COMMISSION

LVPC STAFF PERSON RESPONSIBLE FOR REVIEW _____ DATE _____

RECORDER OF DEEDS:

RECORDED IN THE OFFICE OF DEEDS OF LEHIGH COUNTY, PENNSYLVANIA ON _____, 20__, IN MAP BOOK VOLUME _____, PAGE _____

LEHIGH COUNTY RECORDER OF DEEDS _____ DATE _____

MY COMMISSION EXPIRES _____

PRELIMINARY/ FINAL PLAN

1818 & 1822 ELLIOT AVENUE
WARD 13 - BLOCK 40, CITY OF BETHLEHEM, LEHIGH COUNTY, PENNSYLVANIA

FOR
ANR DEVELOPMENT COMPANY, LLC

LOT LINE ADJUSTMENT PLAN

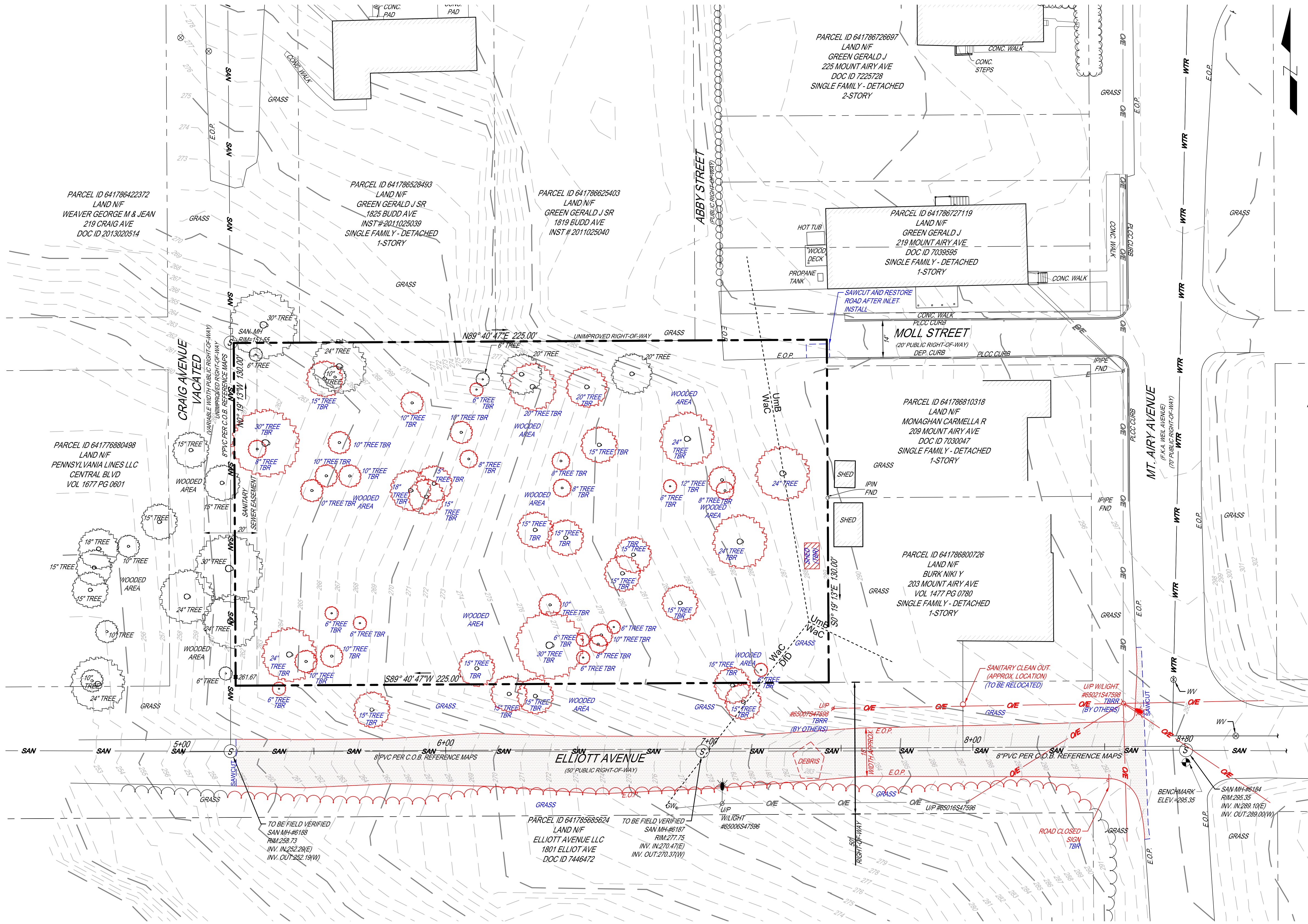
SCALE: 1"=20'
DATE: 11/09/2023
DRAWN: ELH DSGN: SB
JOB: 22-GODSC-01 P MGR: SB
SHEET: 2 OF 25

LLA-1

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architects + engineers
acela architects + engineers, pc
610.365.4023
office: 2633 Moravian Ave.
Allentown, PA 18103
website: www.acela-ae.com
email: info@acela-ae.com

xrefs:~[22-GODSC-01_Base] [22-GODSC-01_Legend_Demo] [22-GODSC-01_Soil]
03_Existing_Conditions_Plan.dwg->EF-1 Existing Features & Demolition Plan Date: January 15, 2025 10:33am **acela architects + engineers, pc** USER: Rebecca

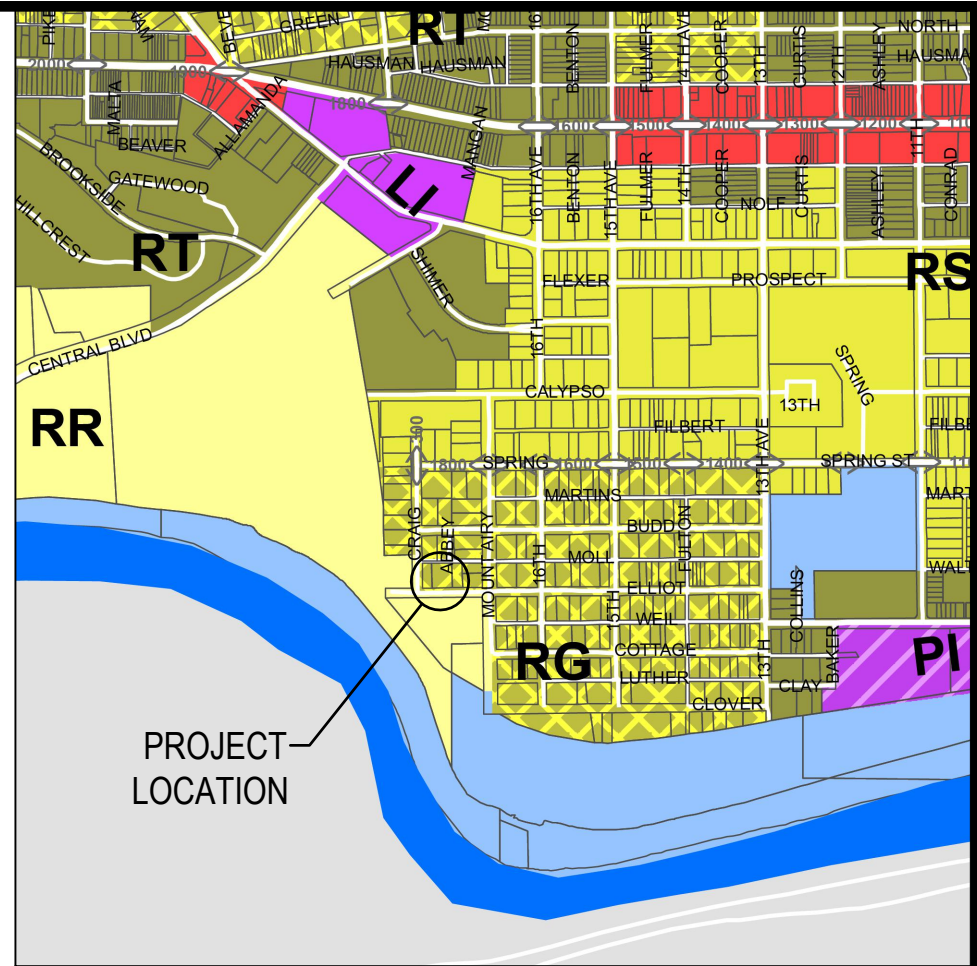


LIST OF PUBLIC UTILITIES CITY OF BETHLEHEM ACT 287 OF 1974 AS AMENDED - LIST OF UNDERGROUND USERS PA ONE CALL - 1-800-242-1776 THE SITE SERIAL NUMBER IS 20220521536.	
FIBERTRACK LLC 877-601-7662 RESPONSE: CLEAR. NO FACILITIES	PPL ELECTRIC UTILITIES CORPORATION 800-231-7288 RESPONSE: MARKED UP PLANS WERE SENT TO THE REQUESTOR
CENTURYLINK LEVEL 3 800-829-0420 RESPONSE: NO RESPONSE	UGI UTIL. LEHIGH HAZLETON UGI UTILITIES INC 2121 CITY LINE ROAD BETHLEHEM PA 18017 TIMOTHY STEWARD tsteward@ugi.com RESPONSE: DESIGN CONFLICT
BETHLEHEM CITY 610-865-7000 RESPONSE: CLEAR. NO FACILITIES	

Job #: 22-GODSC-01					
SOIL INFORMATION CHART					
SYMBOL NAME	TEXTURE	SLOPE %	HYDRO. SOIL GROUP	DEPTH OF WATER TABLE (IN.)	DEPTH TO BEDROCK (IN)
DID Duffield-Ryder	Silt Loam	15 to 25%	B	>80	48-120
UmB Urban land-Duffield	Silt Loam	0 - 8%	B	>80	10-120
Wac Washington	Silt Loam	8 - 15%	B	>80	60-99

NOTES:

- NO CHANGES IN STREET RIGHT-OF-WAY LINES EITHER COMPLETED OR PROPOSED KNOWN TO THIS SURVEYOR. NO OBSERVABLE EVIDENCE OF RECENT STREET OR SIDEWALK CONSTRUCTION OR REPAIRS.
- VERTICAL DATUM = NAVD 88. BENCHMARK - SANITARY MANHOLE, ELEV. 295.35
- LOCATION OF ALL UNDERGROUND UTILITIES ARE APPROXIMATE. ALL LOCATIONS AND SIZES ARE BASED ON UTILITY MARK-OUTS, ABOVE GROUND STRUCTURES THAT WERE VISIBLE AND ACCESSIBLE IN THE FIELD, AND THE MAPS LISTED IN THE REFERENCES AVAILABLE AT THE TIME OF THE SURVEY. AVAILABLE AS-BUILT PLANS AND UTILITY MARK-OUT DOES NOT ENSURE MAPPING OF ALL UNDERGROUND UTILITIES AND STRUCTURES. BEFORE ANY EXCAVATION IS TO BEGIN, ALL UNDERGROUND UTILITIES SHOULD BE VERIFIED AS TO THEIR LOCATION, SIZE, AND TYPE BY THE PROPER UTILITY COMPANIES.
- THIS PLAN WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT. THIS PROPERTY MAY BE SUBJECT TO RESTRICTIONS, COVENANTS AND/OR EASEMENTS, WRITTEN OR IMPLIED.
- THE EXISTENCE OF UNDERGROUND STORAGE TANKS, IF ANY, WAS NOT KNOWN AT THE TIME OF THIS SURVEY.
- TOPOGRAPHIC INFORMATION SHOWN HEREON TAKEN FROM GROUND SURVEY PERFORMED BY VALLEY LAND SERVICES, LLC. DATE OF FIELD SURVEY WAS FEBRUARY 28, 2022.



LOCATION MAP

SCALE: 1"=1,000'
SOURCE: CITY OF BETHLEHEM ZONING MAP

LEGEND

	EXISTING
PROPERTY BOUNDARY	---
ADJOINER LINE	---
BUILDING SETBACK	---
EASEMENT	---
BUFFER YARD	---
CURBING	---
EDGE OF PAVEMENT	---
SAWCUT	---
BUILDING	EXIST. BUILDING
PAVEMENT	---
CONCRETE SIDEWALK	---
SOIL BOUNDARY	---
UTILITY POLE	---
OVERHEAD ELECTRIC	---
UNDERGROUND ELECTRIC	---
WATER MAIN	---
FIRE HYDRANT / WATER VALVE	---
SANITARY LINE, MANHOLE, & CLEANOUT	---
STORM LINE, MANHOLE, & INLET	---
PROPOSED MONUMENTATION	---
SIGN	---
LIGHT STANDARD	---
DECIDUOUS TREE	---
EVERGREEN TREE	---
SHRUB	---
EDGE OF WOODS	---
CONTOUR	---
SPOT ELEVATION	---

SITE ABBREVIATIONS

BITUMINOUS	BIT
BUILDING RESTRICTION LINE	BRL
CONCRETE	CONC
EDGE OF PAVEMENT	EOP
EXISTING	EX
FIRE HYDRANT	FH
MONUMENT	MON
PROPOSED	PROP
SANITARY	SAN
SQUARE FEET	SF
TYPICAL	TYP
WATER VALVE	WV
TO BE REMOVED & REPLACED	TBR
TO BE REMOVED	TBR
CLEAR SIGHT TRIANGLE	C.S.T.
PLAIN CEMENT CONCRETE	PLCC CURB

DEMOLITION LEGEND

EDGE OF PAVEMENT	---
SAWCUT	---
BUILDING	---
PAVEMENT	---
UTILITY POLE	---
OVERHEAD ELECTRIC	---
SIGN	---
DECIDUOUS TREE	---
EDGE OF WOODS	---

DEMOLITION NOTES:

- PRIOR TO CONSTRUCTION, THE CITY WILL NEED TO REMOVE ITS JERSEY BARRIERS AND ROAD CLOSED SIGNS THAT ARE CURRENTLY IN PLACE ON ELLIOT AVE.



Know what's below.
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SITE SERIAL #20220521536

NOTE:
VERTICAL TEXT INDICATES PROPOSED FEATURES
SLANTED TEXT INDICATES EXISTING FEATURES

0' 20' 40'
SCALE: 1"=20'

PRELIMINARY/ FINAL PLAN

1818 & 1822 ELLIOT AVENUE

WARD 13 - BLOCK 40, CITY OF BETHLEHEM, LEHIGH COUNTY, PENNSYLVANIA

FOR
ANR DEVELOPMENT COMPANY, LLC

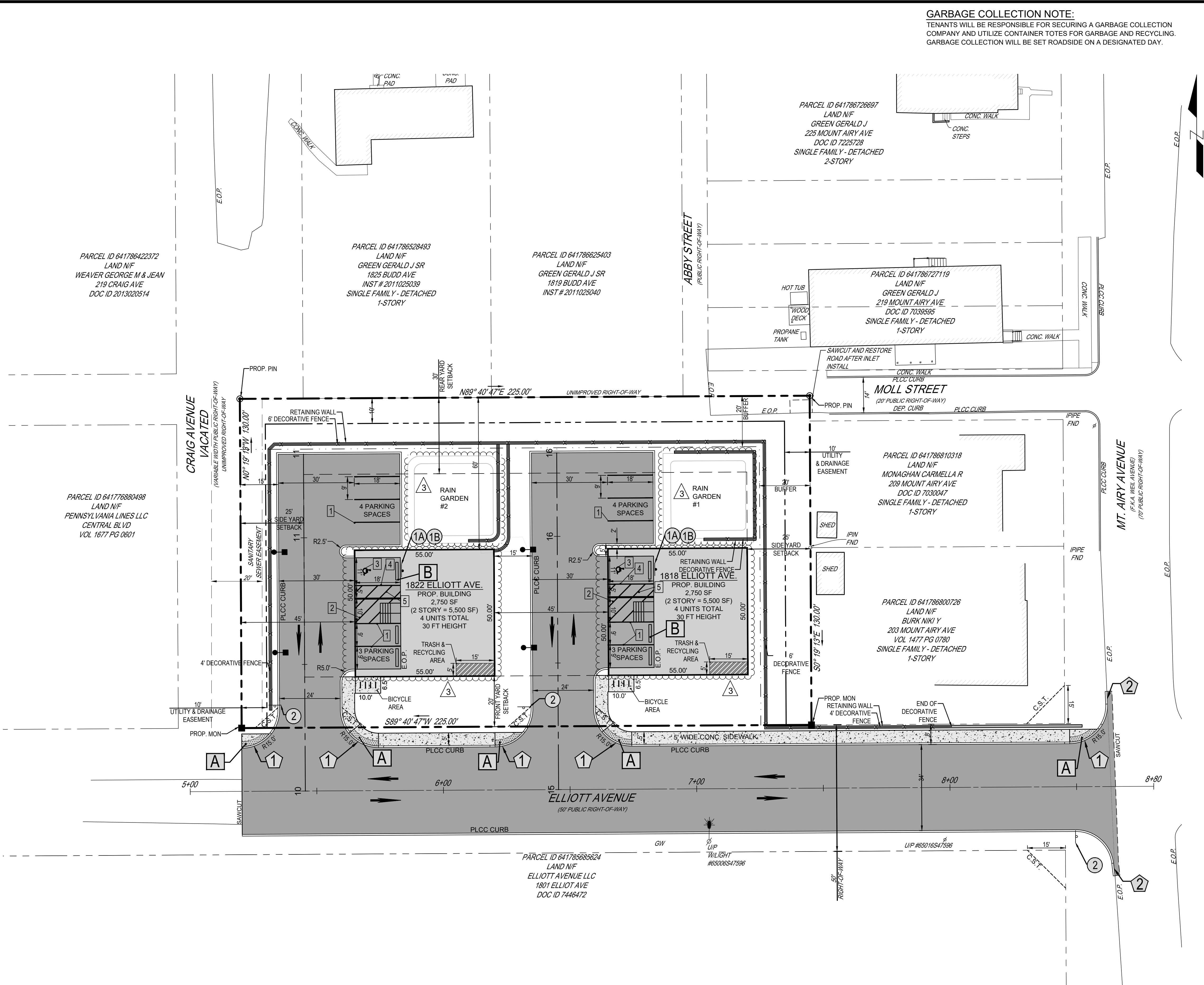
EXISTING FEATURES & DEMOLITION PLAN

SCALE: 1"=20'	DATE: 11/09/2023
DRAWN: ELH	DSGN: SB
JOB: 22-GODSC-01	P MGR: SB
SHEET: 3 OF 25	
EF-1	

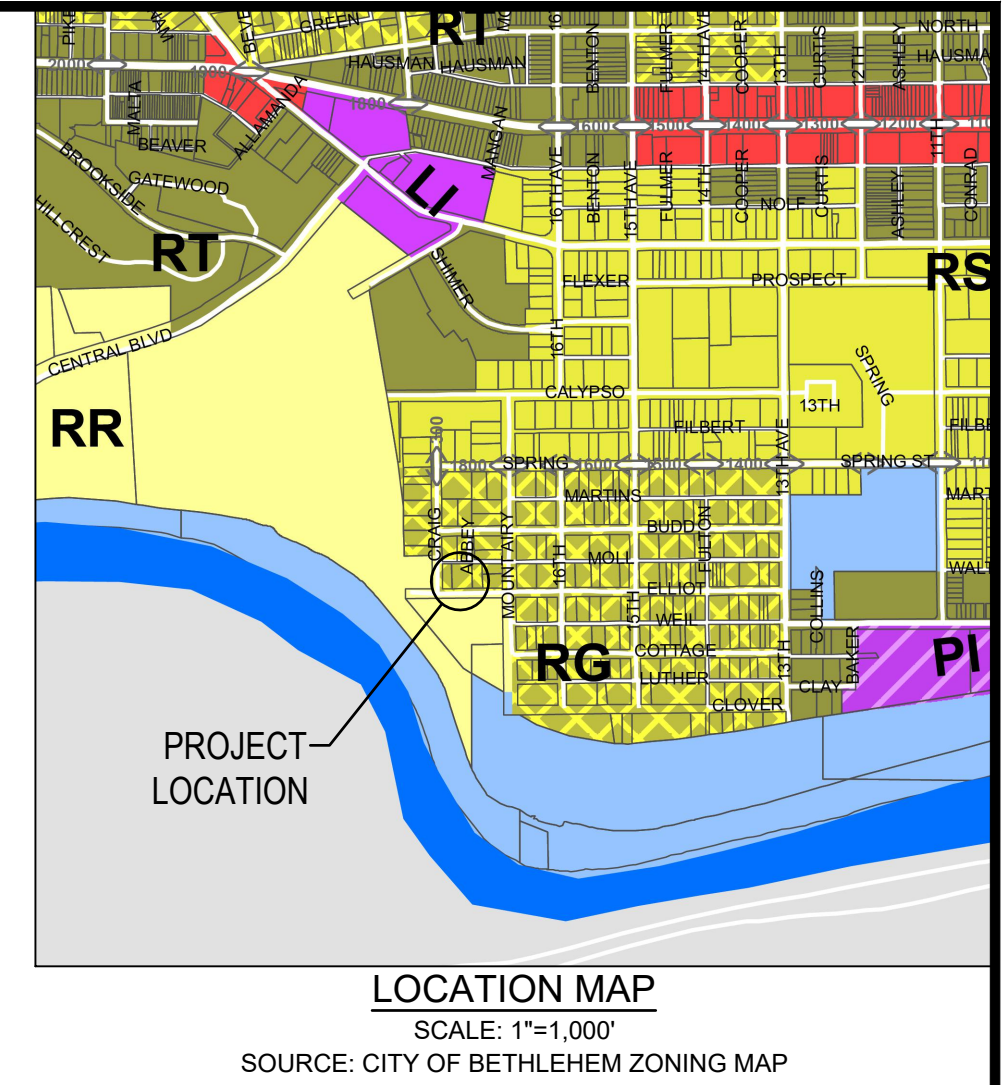
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office: 610.365.4023
website: www.acela-aec.com
email: info@acela-aec.com
2633 Moravian Ave.
Allentown, PA 18103

xrefs:--[22-GODSC-01_24x36_TB] [22-GODSC-01_Base] [22-GODSC-01_Legend] [22-GODSC-01_Layout] [22-GODSC-01_Layout]
04_Layout_Plan.dwg-->SP-1 Site Plan Date: January 15, 2025-10:33am **acela architects + engineers, pc**--USER: Rebecca



GARBAGE COLLECTION NOTE:
TENANTS WILL BE RESPONSIBLE FOR SECURING A GARBAGE COLLECTION COMPANY AND UTILIZE CONTAINER TOTES FOR GARBAGE AND RECYCLING. GARBAGE COLLECTION WILL BE SET ROADSIDE ON A DESIGNATED DAY.



LEGEND

	EXISTING	PROPOSED
PROPERTY BOUNDARY	---	---
ADJOINER LINE	---	---
BUILDING SETBACK	---	---
EASEMENT	---	---
BUFFER YARD	---	---
CURBING	---	---
EDGE OF PAVEMENT	---	---
SAWCUT	---	---
BUILDING PAVEMENT	---	---
CONCRETE SIDEWALK	---	---
SOIL BOUNDARY	---	---
UTILITY POLE	---	---
OVERHEAD ELECTRIC	---	---
UNDERGROUND ELECTRIC	---	---
WATER MAIN	---	---
FIRE HYDRANT / WATER VALVE	---	---
SANITARY LINE, MANHOLE, & CLEANOUT	---	---
STORM LINE, MANHOLE, & INLET	---	---
PROPOSED MONUMENTATION	---	---
SIGN	---	---
LIGHT STANDARD	---	---
DECIDUOUS TREE	---	---
EVERGREEN TREE	---	---
SHRUB	---	---
EDGE OF WOODS	---	---
CONTOUR	---	---
SPOT ELEVATION	---	---

SITE ABBREVIATIONS

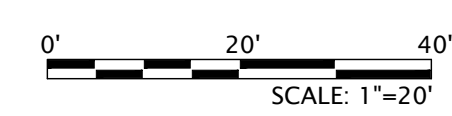
BITUMINOUS	BIT
BUILDING RESTRICTION LINE	BRL
CONCRETE	CONC
EDGE OF PAVEMENT	EOP
EXISTING	EX
FIRE HYDRANT	FH
MONUMENT	MON
PROPOSED	PROP
SANITARY	SAN
SQUARE FEET	SF
TYPICAL	TYP
WATER VALVE	WV
TO BE REMOVED & REPLACED	TBR
TO BE REMOVED	TBR
CLEAR SIGHT TRIANGLE	C.S.T.
PLAIN CEMENT CONCRETE	PLCC CURB

SIGNING SCHEDULE			
SYMBOL	MUTCD SERIES	SIZE	REMARKS
1A	R7-8	12"x18"	RESERVED PARKING (HANDICAP)
1B	R-7-8A	12"x6"	VAN ACCESSIBLE SIGN
2	R1-1	30"x30"	STOP SIGN

NOTES:
1. ALL SIGNS ARE TO BE FLAT SHEET ALUMINUM.
2. REFERENCE TO PENNDOT 408 SECTION, LATEST EDITION.



NOTE:
VERTICAL TEXT INDICATES PROPOSED FEATURES
SLANTED TEXT INDICATES EXISTING FEATURES



PRELIMINARY/ FINAL PLAN

acela
architects + engineers
610.365.4023
office: 610.365.4023
website: www.acela-ae.com
2633 Moravian Ave.
Allentown, PA 18103
email: info@acela-ae.com

BY	DATE	REVISIONS
CS	7/30/2023	1. REV PER MEETING WITH CITY STAFF
ELH	10/11/2024	2. REV PER CITY COMMENT LETTER DATED 12/23/2023
RCG	01/13/2025	3. REV PER CITY COMMENT LETTER DATED 11/27/2024

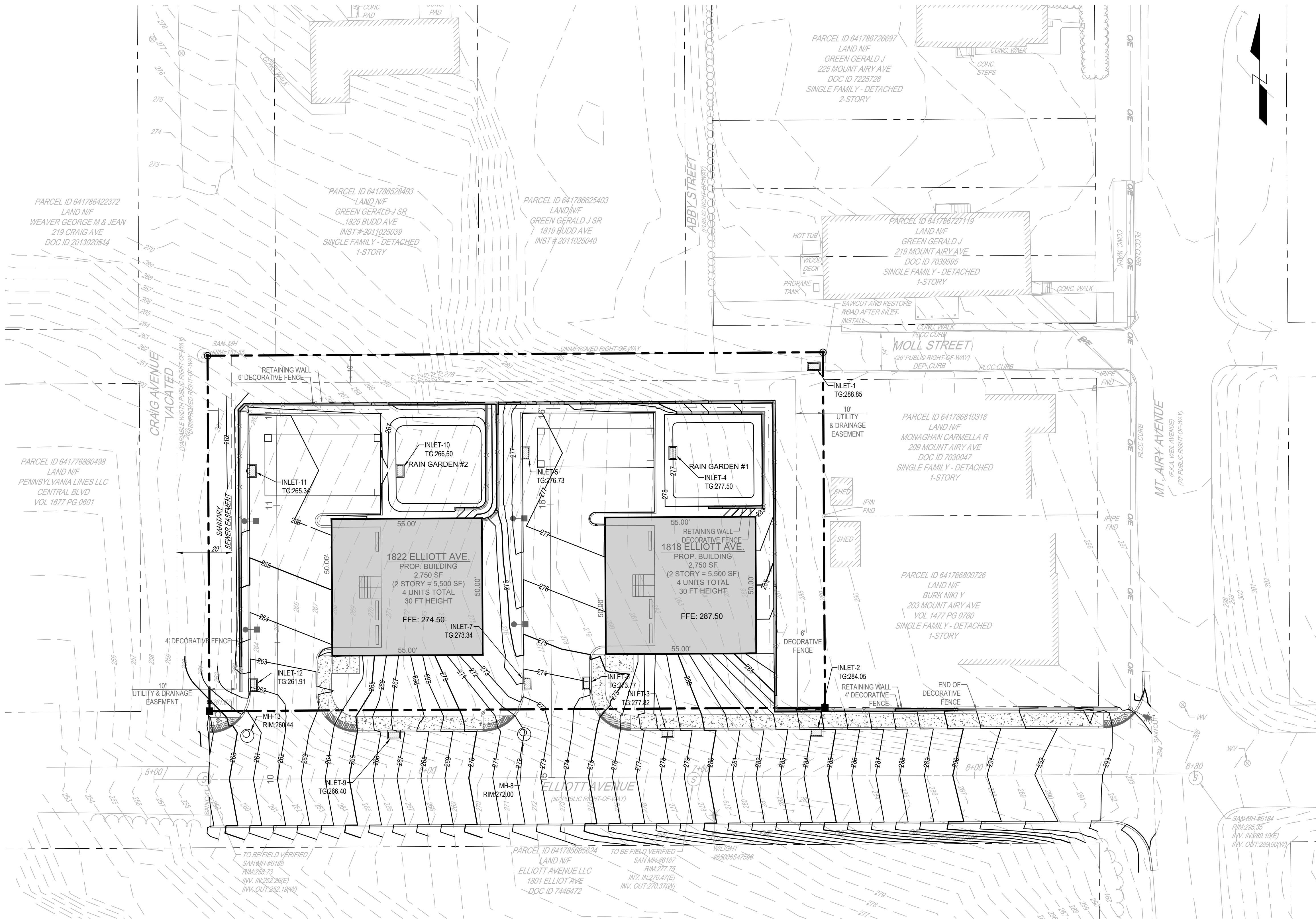
1818 & 1822 ELLIOT AVENUE
WARD 13 - BLOCK 40, CITY OF BETHLEHEM, LEHIGH COUNTY, PENNSYLVANIA
FOR
ANR DEVELOPMENT COMPANY, LLC
SITE PLAN

SCALE: 1"=20'	DATE: 11/09/2023
DRAWN: ELH	DSGN: SB
JOB: 22-GODSC-01	P MGR: SB

SHEET: 4 OF 25
SP-1
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NOT FOR CONSTRUCTION

xrefs: [22-GODSC-01_24x36_TB] [22-GODSC-01_Base] [22-GODSC-01_Layout] [22-GODSC-01_Grading-ForPlans]
05_Grading_Plan.dwg>GP-1 Grading Plan Date: January 15, 2025 10:33am **acela architects + engineers, pc** USER: Rebecca



LEGEND

EXISTING

PROPOSED

PROPERTY BOUNDARY

ADJOINER LINE

BUILDING SETBACK

EASEMENT

BUFFER YARD

CURBING

EDGE OF PAVEMENT

SAWCUT

BUILDING

PAVEMENT

CONCRETE SIDEWALK

SOIL BOUNDARY

UTILITY POLE

OVERHEAD ELECTRIC

UNDERGROUND ELECTRIC

WATER MAIN

FIRE HYDRANT / WATER VALVE

SANITARY LINE, MANHOLE, & CLEANOUT

STORM LINE, MANHOLE, & INLET

PROPOSED MONUMENTATION

SIGN

LIGHT STANDARD

DECIDUOUS TREE

EVERGREEN TREE

SHRUB

EDGE OF WOODS

CONTOUR

SPOT ELEVATION

SITE ABBREVIATIONS

EXIST. BUILDING

PROP. BUILDING

SOIL A

SOIL B

UP W/LIGHT

UP

UP W/LIGHT

OE

OE

OE

WTR

WTR

WV

FH

WV

EX MH

C.O.

PROP. MH

SAN

C.O.

PROP. MH

PROP. INLET

PROP.

PROP.

BIT

BRL

CONC

EOP

EX

FH

MON

PROP

SAN

SF

TYP

WV

TBR

TBR

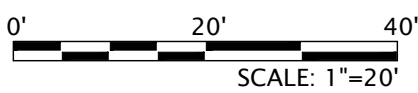
C.S.T.

PLAIN CEMENT CONCRETE



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NOTE:
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SLANTED TEXT INDICATES EXISTING FEATURES



PRELIMINARY/ FINAL PLAN

1818 & 1822 ELLIOT AVENUE
WARD 13 - BLOCK 40, CITY OF BETHLEHEM, LEHIGH COUNTY, PENNSYLVANIA
FOR
ANR DEVELOPMENT COMPANY, LLC

GRADING PLAN

SCALE: 1"=20'	DATE: 11/09/2023
DRAWN: ELH	DSGN: SB
JOB: 22-GODSC-01	P MGR: SB

SHEET: 5 OF 25

GP-1

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REVISIONS	DATE	BY
1. REV PER MEETING WITH CITY STAFF	7/30/2023	CS
2. REV. PER CITY COMMENT LETTER DATED 12/23/2023	10/11/2024	ELH
3. REV. PER CITY COMMENT LETTER DATED 11/27/2024	01/13/2025	RCG

acela

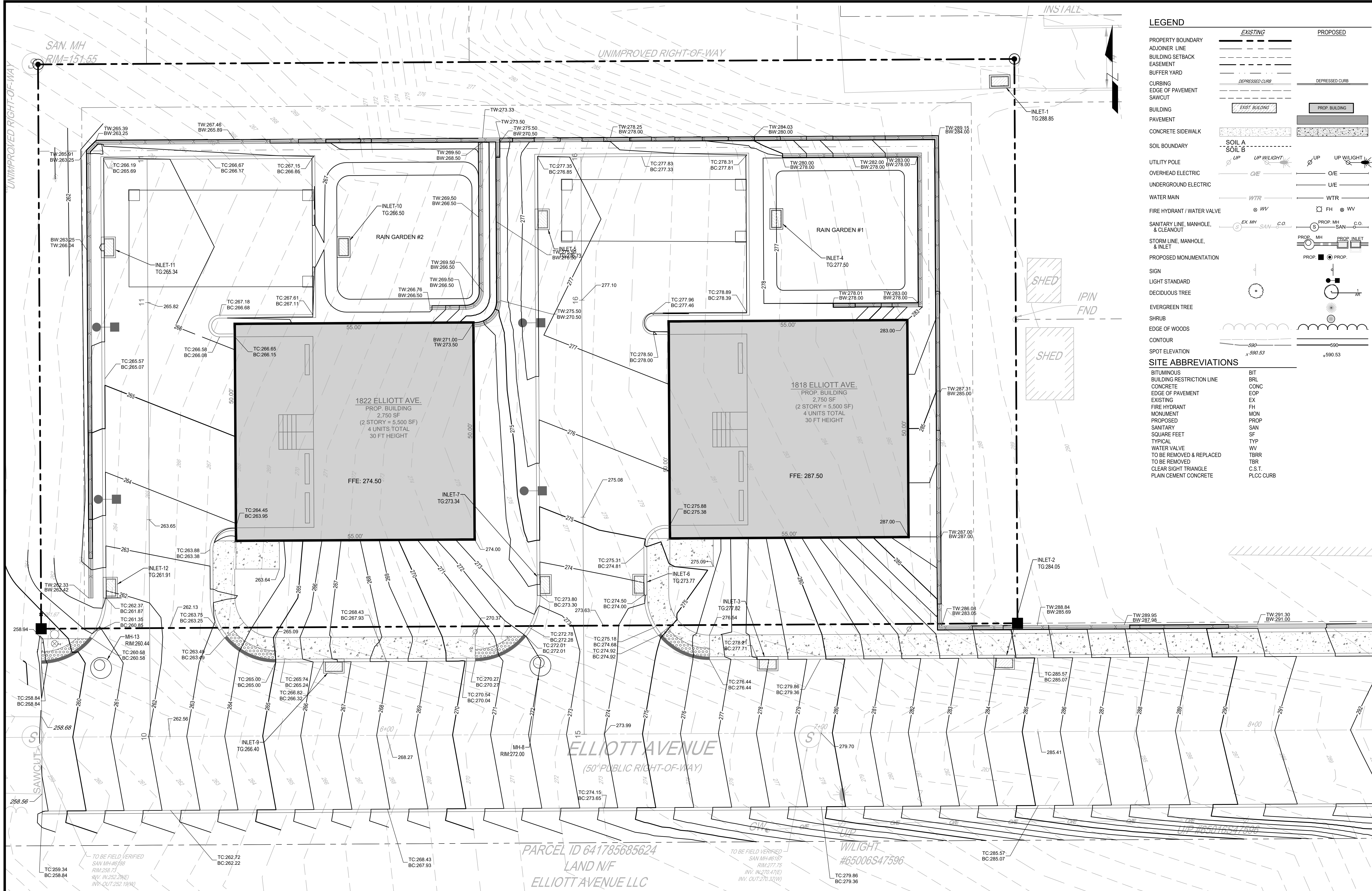
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2633 Moravian Ave.
Allentown, PA 18103

office: 610.365.4023
website: www.acela-ae.com
email: info@acela-ae.com

NOT FOR CONSTRUCTION

xrefs:--[22-GODSC-01_Base] [22-GODSC-01_Layout] [22-GODSC-01_Legend] [22-GODSC-01_Grading-ForPlans]
05_Grading_Plan.dwg-->GP-2 Grading Plan Date: January 15, 2025 10:34am **acela architects + engineers, pc** - USER: Rebecca



LEGEND

	EXISTING	PROPOSED
PROPERTY BOUNDARY	---	---
ADJOINER LINE	---	---
BUILDING SETBACK	---	---
EASEMENT	---	---
BUFFER YARD	---	---
CURBING	---	---
EDGE OF PAVEMENT	---	---
SAWCUT	---	---
BUILDING	EXIST. BUILDING	PROP. BUILDING
PAVEMENT	---	---
CONCRETE SIDEWALK	---	---
SOIL BOUNDARY	---	---
UTILITY POLE	---	---
OVERHEAD ELECTRIC	---	---
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WATER MAIN	---	---
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SANITARY LINE, MANHOLE, & CLEANOUT	---	---
STORM LINE, MANHOLE, & INLET	---	---
PROPOSED MONUMENTATION	---	---
SIGN	---	---
LIGHT STANDARD	---	---
DECIDUOUS TREE	---	---
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SHRUB	---	---
EDGE OF WOODS	---	---
CONTOUR	---	---
SPOT ELEVATION	---	---

SITE ABBREVIATIONS

BITUMINOUS	BIT
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EDGE OF PAVEMENT	EOP
EXISTING	EX
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SANITARY	SAN
SQUARE FEET	SF
TYPICAL	TYP
WATER VALVE	WV
TO BE REMOVED & REPLACED	TBR
TO BE REMOVED	TBR
CLEAR SIGHT TRIANGLE	C.S.T.
PLAIN CEMENT CONCRETE	PLOCC

1818 & 1822 ELLIOTT AVENUE
WARD 13 - BLOCK 40, CITY OF BETHLEHEM, LEHIGH COUNTY, PENNSYLVANIA
FOR
ANR DEVELOPMENT COMPANY, LLC

GRADING PLAN

SCALE: 1"=10'
DRAWN: ELH
JOB: 22-GODSC-01
SHEET: 6 OF 25

DATE: 11/09/2023
DSGN: SB
P MGR: SB

GP-2

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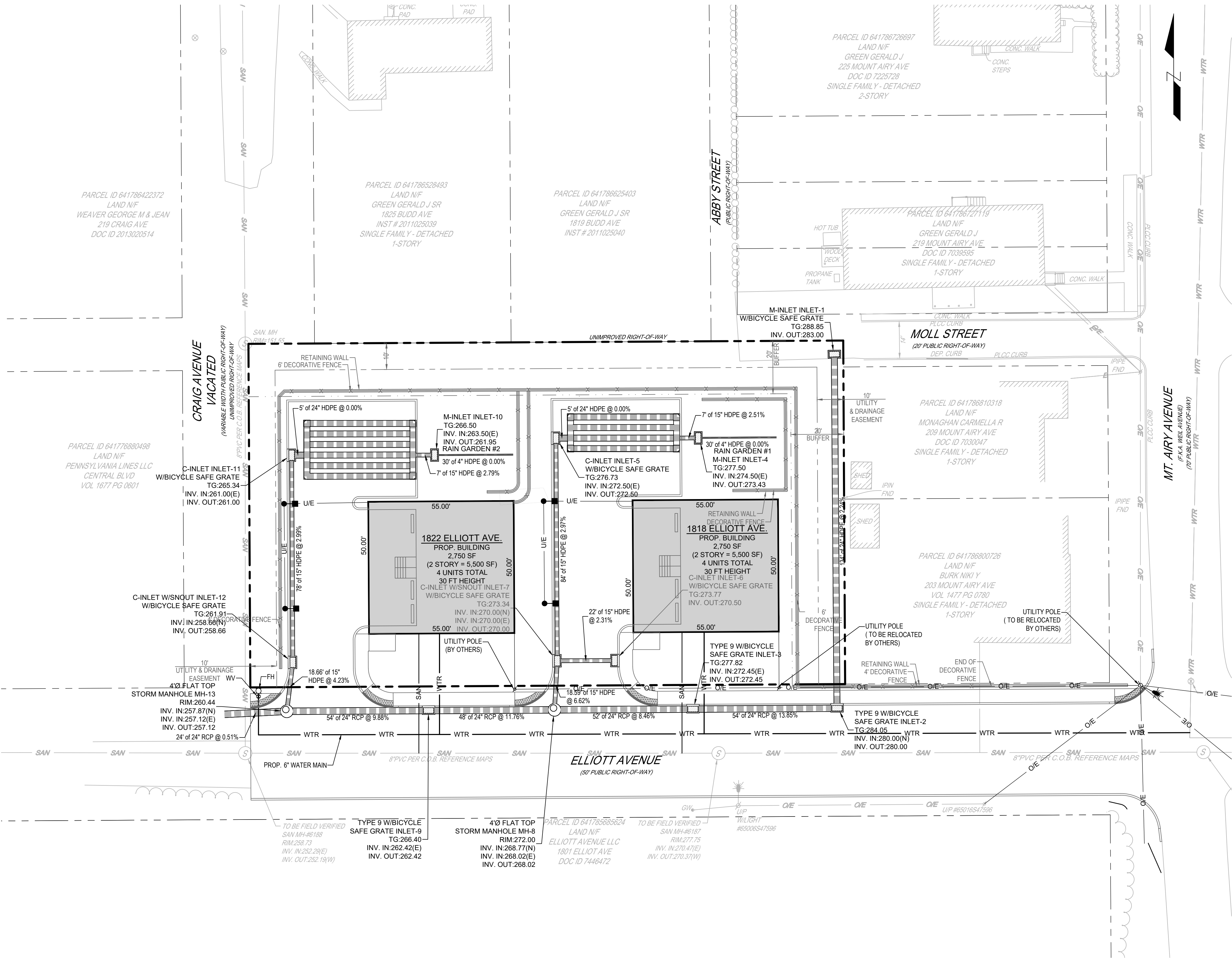


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NOTE:
VERTICAL TEXT INDICATES PROPOSED FEATURES
SLANTED TEXT INDICATES EXISTING FEATURES

0' 10' 20'
SCALE: 1"=10'

xrefs: [22-GODSC-01_24x36_TB] [22-GODSC-01_Base] [22-GODSC-01_Layout] [22-GODSC-01_Legend] [22-GODSC-01_GradingForPlans] [22-GODSC-01_Grading] 06_Utility_Plan.dwg--UP-1 Utility Plan Date: January 15, 2025-10:34am **acela architects + engineers, pc** USER: Rebecca



LEGEND

	EXISTING	PROPOSED
PROPERTY BOUNDARY		
ADJOINER LINE		
BUILDING SETBACK		
EASEMENT		
BUFFER YARD		
CURBING		
EDGE OF PAVEMENT		
SAWCUT		
BUILDING		
PAVEMENT		
CONCRETE SIDEWALK		
SOIL BOUNDARY		
UTILITY POLE		
OVERHEAD ELECTRIC		
UNDERGROUND ELECTRIC		
WATER MAIN		
FIRE HYDRANT / WATER VALVE		
SANITARY LINE, MANHOLE, & CLEANOUT		
STORM LINE, MANHOLE, & INLET		
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LIGHT STANDARD		
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EVERGREEN TREE		
SHRUB		
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SITE ABBREVIATIONS

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BUILDING RESTRICTION LINE	BRL
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FIRE HYDRANT	FH
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PROPOSED	PROP
SANITARY	SAN
SQUARE FEET	SF
TYPICAL	TYP
WATER VALVE	WV
TO BE REMOVED & REPLACED	TBR
TO BE REMOVED	TBR
CLEAR SIGHT TRIANGLE	C.S.T.
PLAIN CEMENT CONCRETE	PLCC CURB

LIST OF PUBLIC UTILITIES
CITY OF BETHLEHEM
ACT 287 OF 1974 AS AMENDED - LIST OF UNDERGROUND USERS
PA ONE CALL - 1-800-242-1776
THE SITE SERIAL NUMBER IS 20220521536.

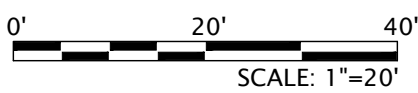
FIBERTRACK LLC 877-601-7662 RESPONSE: CLEAR. NO FACILITIES	PPL ELECTRIC UTILITIES CORPORATION 800-231-7288 RESPONSE: MARKED UP PLANS WERE SENT TO THE REQUESTOR
CENTURYLINK LEVEL 3 800-829-0420 RESPONSE: NO RESPONSE	UGI UTIL LEHIGH HAZLETON UGI UTILITIES INC 2121 CITY LINE ROAD BETHLEHEM PA 18017 TIMOTHY STEWARD tsteward@ugi.com RESPONSE: DESIGN CONFLICT
BETHLEHEM CITY 610-865-7000 RESPONSE: CLEAR. NO FACILITIES	

UTILITY NOTES:
1. ELECTRIC AND TELEPHONE LINES SHALL BE UNDERGROUND WHERE PRACTICAL. ANY UTILITY INSTALLATIONS REMAINING ABOVE GROUND SHALL BE LOCATED SO AS TO HAVE A HARMONIOUS RELATION TO NEIGHBORING PROPERTIES AND THE SITE.

811

Know what's below.
Call before you dig.
SITE SERIAL #20220521536

NOTE:
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SLANTED TEXT INDICATES EXISTING FEATURES



PRELIMINARY/ FINAL PLAN

1818 & 1822 ELLIOT AVENUE
WARD 13 - BLOCK 40, CITY OF BETHLEHEM, LEHIGH COUNTY, PENNSYLVANIA
FOR
ANR DEVELOPMENT COMPANY, LLC
UTILITY PLAN

SCALE: 1"=20'	DATE: 11/09/2023
DRAWN: ELH	DSGN: SB
JOB: 22-GODSC-01	P MGR: SB

SHEET: 7 OF 25

UP-1

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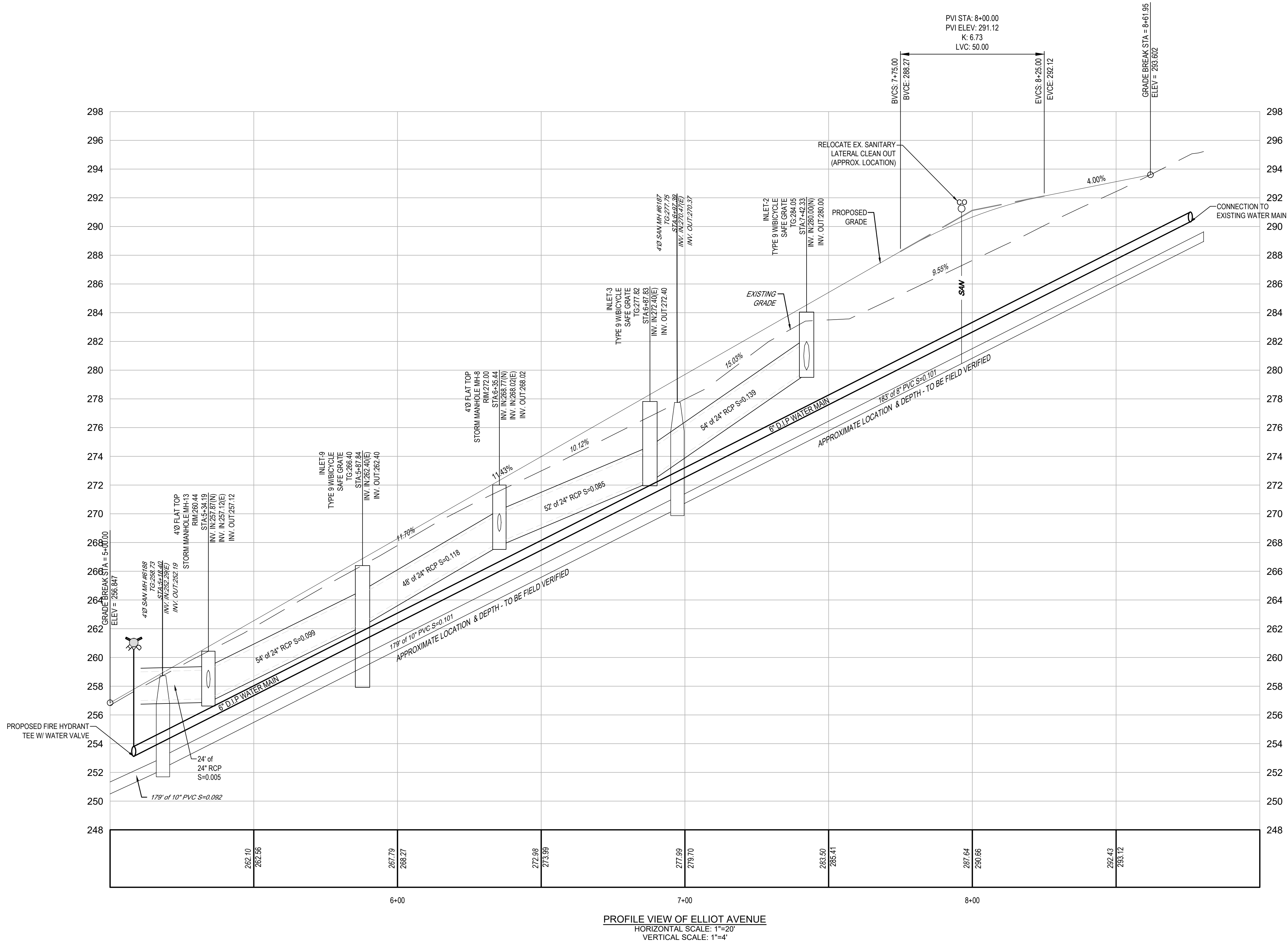
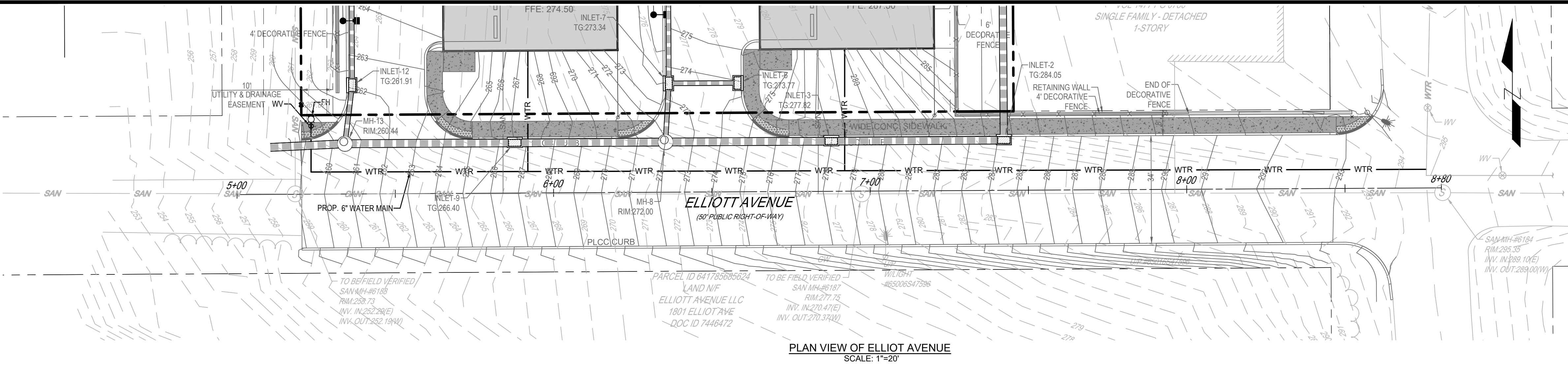
REVISIONS	DATE	BY
1. REV. PER MEETING WITH CITY STAFF	7/30/2023	CS
2. REV. PER CITY COMMENT LETTER DATED 12/23/2023	10/11/2024	ELH
3. REV. PER CITY COMMENT LETTER DATED 11/27/2024	01/13/2025	RCG

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Allentown, PA 18103
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website: www.acela-ae.com
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xrefs:-[22-GODSC-01_24x36_TB] [22-GODSC-01_Base] [22-GODSC-01_Layout] [22-GODSC-01_Legend] [22-GODSC-01_Profiles] [22-GODSC-01_Grading-forPlans]
07_RoadwayProfile_Plan.dwg->PP-1 Roadway Profile & Plan Date: January 15, 2025-10:35am **acela architects + engineers, pc** USER: Rebecca



LEGEND

EXISTING	PROPOSED
PROPERTY BOUNDARY	---
ADJOINER LINE	---
BUILDING SETBACK	---
EASEMENT	---
BUFFER YARD	---
CURBING	---
EDGE OF PAVEMENT	---
SAWCUT	---
BUILDING PAVEMENT	---
CONCRETE SIDEWALK	---
SOIL BOUNDARY	---
UTILITY POLE	---
OVERHEAD ELECTRIC	---
UNDERGROUND ELECTRIC	---
WATER MAIN	---
FIRE HYDRANT / WATER VALVE	---
SANITARY LINE, MANHOLE, & CLEANOUT	---
STORM LINE, MANHOLE, & INLET	---
PROPOSED MONUMENTATION	---
SIGN	---
LIGHT STANDARD	---
DECIDUOUS TREE	---
EVERGREEN TREE	---
SHRUB	---
EDGE OF WOODS	---
CONTOUR	---
SPOT ELEVATION	---

SITE ABBREVIATIONS

BITUMINOUS	BIT
BUILDING RESTRICTION LINE <td>BRL</td>	BRL
CONCRETE <td>CONC</td>	CONC
EDGE OF PAVEMENT <td>EOP</td>	EOP
EXISTING <td>EX</td>	EX
FIRE HYDRANT <td>FH</td>	FH
MONUMENT <td>MON</td>	MON
PROPOSED <td>PROP</td>	PROP
SANITARY <td>SAN</td>	SAN
SQUARE FEET <td>SF</td>	SF
TYPICAL <td>TYP</td>	TYP
WATER VALVE <td>WV</td>	WV
TO BE REMOVED & REPLACED <td>TBR</td>	TBR
TO BE REMOVED <td>TBR</td>	TBR
CLEAR SIGHT TRIANGLE <td>C.S.T.</td>	C.S.T.
PLAIN CEMENT CONCRETE <td>PLCC</td>	PLCC

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0' 20' 40'
SCALE: 1"=20'

PRELIMINARY/ FINAL PLAN

1818 & 1822 ELLIOT AVENUE
WARD 13 - BLOCK 40, CITY OF BETHLEHEM, LEHIGH COUNTY, PENNSYLVANIA
FOR
ANR DEVELOPMENT COMPANY, LLC
ROADWAY PROFILE & PLAN

SCALE: 1"=20' DATE: 11/09/2023
DRAWN: ELH DSGN: SB
JOB: 22-GODSC-01 P MGR: SB

SHEET: 8 OF 25

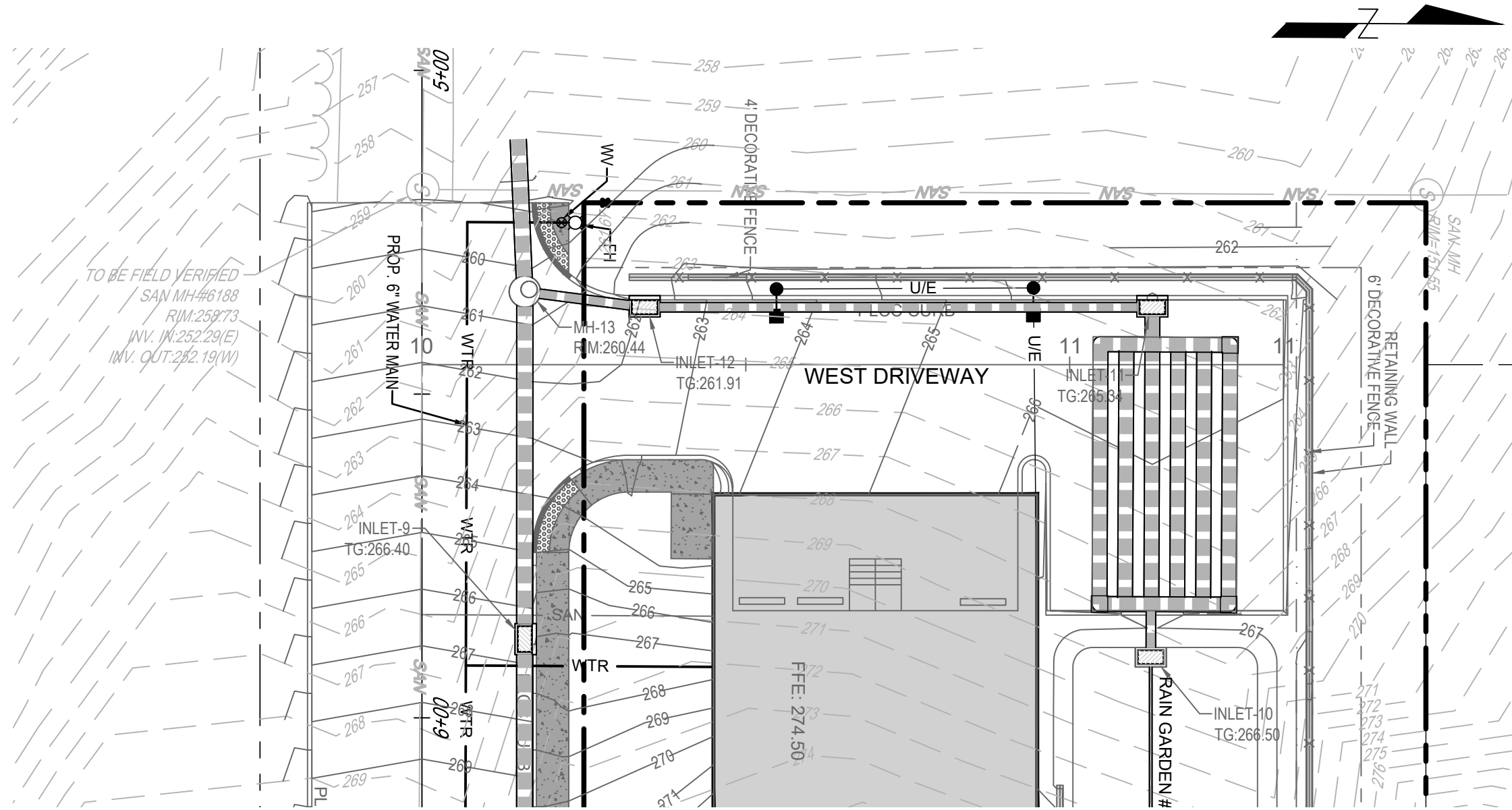
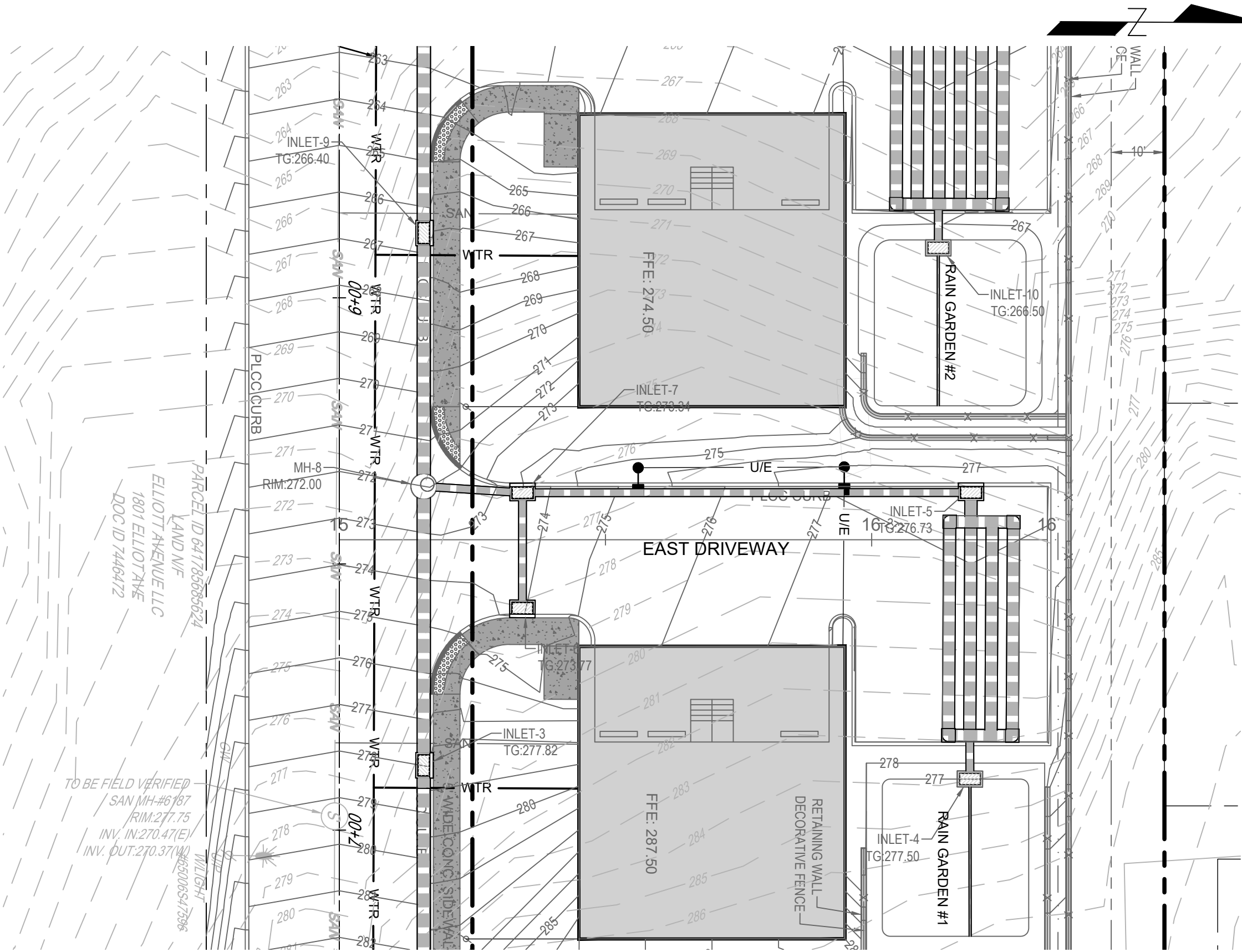
PP-1

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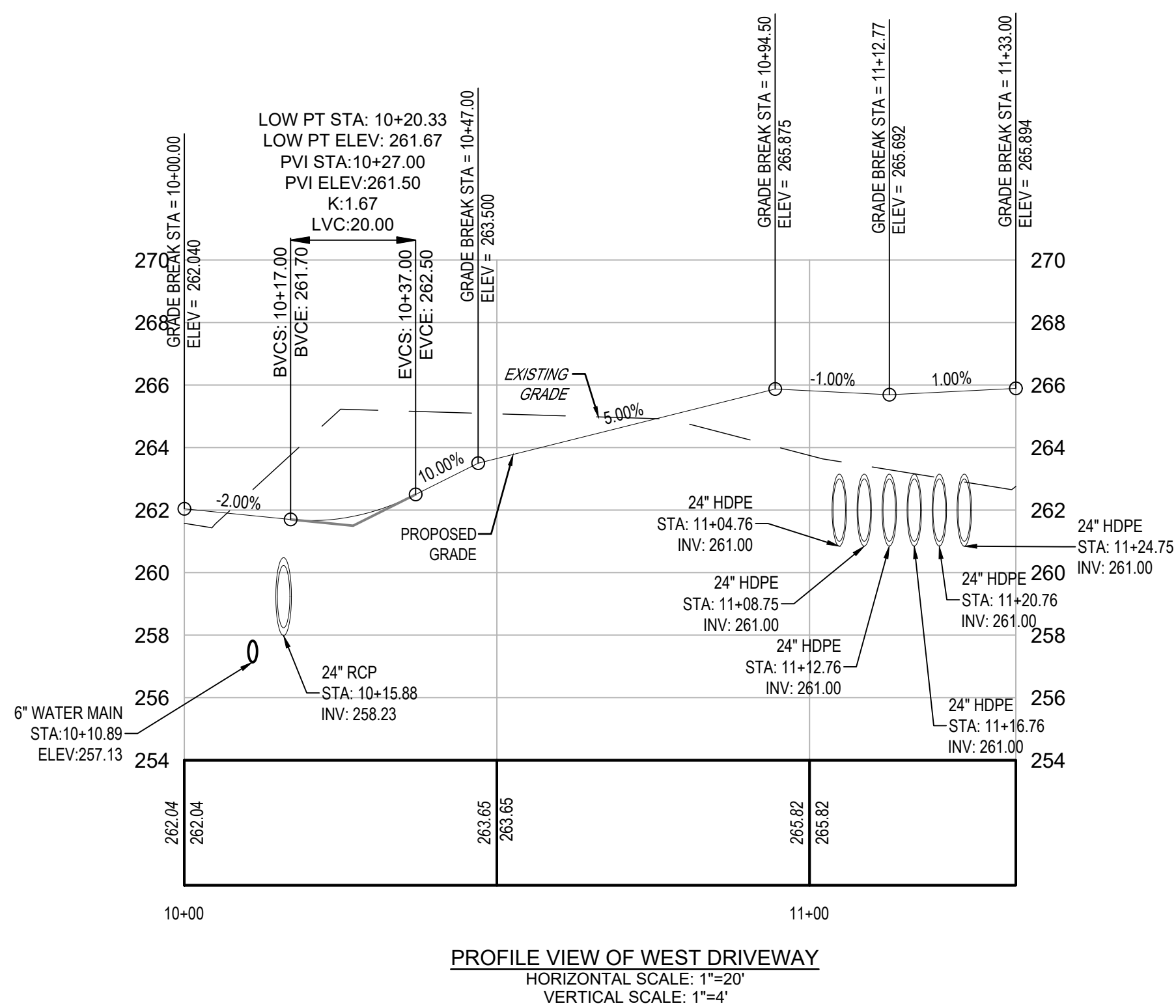
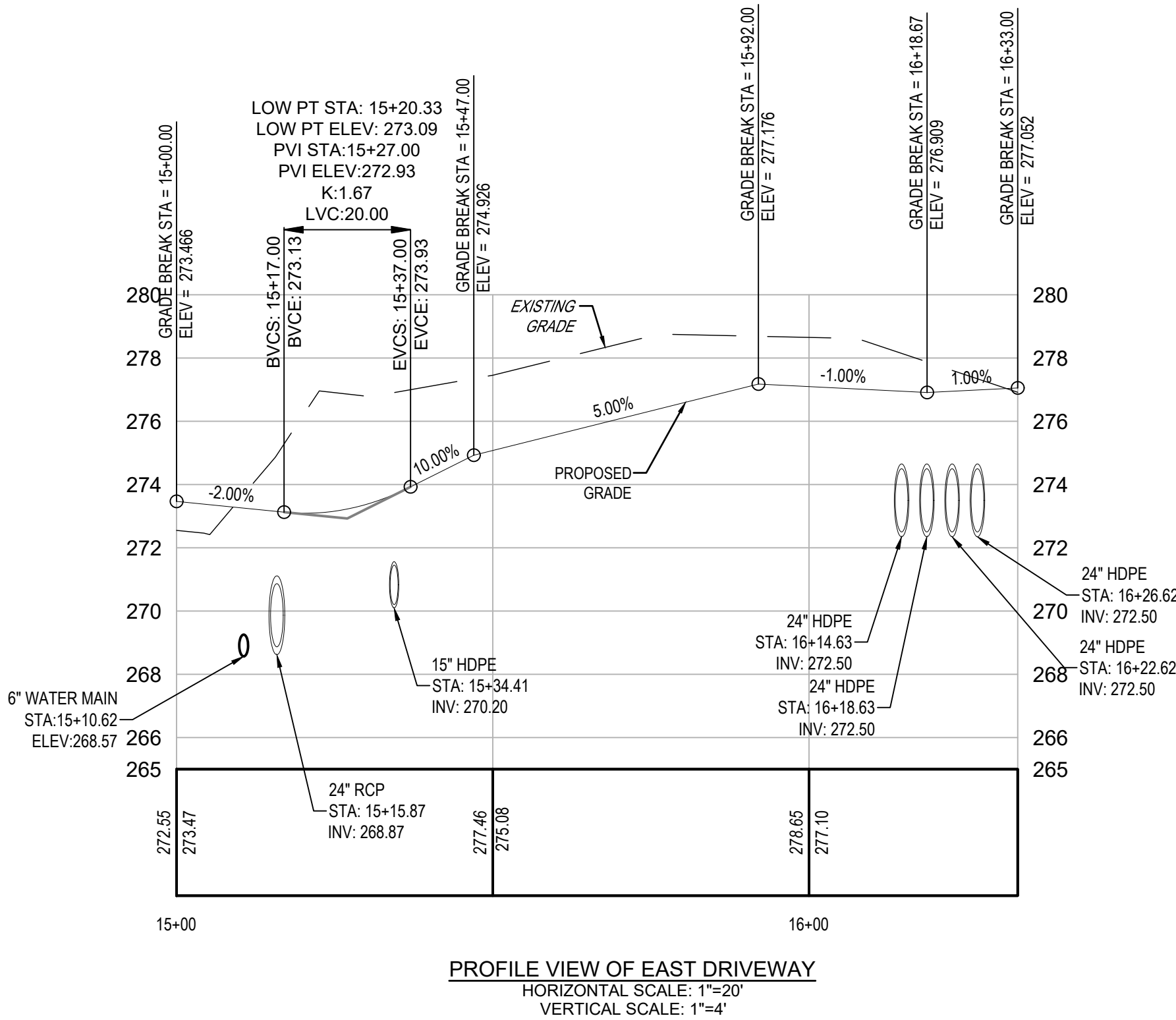
REVISIONS	DATE	BY
1. REV PER MEETING WITH CITY STAFF	7/30/2023	CS
2. REV PER CITY COMMENT LETTER DATED 12/23/2023	10/11/2024	ELH
3. REV PER CITY COMMENT LETTER DATED 11/27/2024	01/13/2025	RCG

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website: www.acela-ae.com
email: info@acela-ae.com

xrefs:--[22-GODSC-01_24x36_TB] [22-GODSC-01_Base] [22-GODSC-01_Layout] [22-GODSC-01_Profiles] [22-GODSC-01_Grading-forPlans]
07_RoadwayProfile_Plan.dwg->PP-2_Driveway Profile & Plan Date: January 15,2025-10:35am **acela architects + engineers, pc** USER: Rebecca



LEGEND	EXISTING	PROPOSED
PROPERTY BOUNDARY		
ADJOINER LINE		
BUILDING SETBACK		
EASEMENT		
BUFFER YARD		
CURBING		
EDGE OF PAVEMENT		
SAWCUT		
BUILDING		
PAVEMENT		
CONCRETE SIDEWALK		
SOIL BOUNDARY		
UTILITY POLE		
OVERHEAD ELECTRIC		
UNDERGROUND ELECTRIC		
WATER MAIN		
FIRE HYDRANT / WATER VALVE		
SANITARY LINE, MANHOLE, & CLEANOUT		
STORM LINE, MANHOLE, & INLET		
PROPOSED MONUMENTATION		
SIGN		
LIGHT STANDARD		
DECIDUOUS TREE		
EVERGREEN TREE		
SHRUB		
EDGE OF WOODS		
CONTOUR		
SPOT ELEVATION		
SITE ABBREVIATIONS		
BITUMINOUS		
BUILDING RESTRICTION LINE		
CONCRETE		
EDGE OF PAVEMENT		
EXISTING		
FIRE HYDRANT		
MONUMENT		
PROPOSED		
SANITARY		
SQUARE FEET		
TYPICAL		
WATER VALVE		
TO BE REMOVED & REPLACED		
TO BE REMOVED		
CLEAR SIGHT TRIANGLE		
PLAIN CEMENT CONCRETE		



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SITE SERIAL #20220521536

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PRELIMINARY/ FINAL PLAN

1818 & 1822 ELLIOT AVENUE
WARD 13 - BLOCK 40, CITY OF BETHLEHEM, LEHIGH COUNTY, PENNSYLVANIA
FOR
ANR DEVELOPMENT COMPANY, LLC
DRIVEWAY PROFILE & PLAN

SCALE: 1"=20'	DATE: 11/09/2023
DRAWN: ELH	DSGN: SB
JOB: 22-GODSC-01	P MGR: SB

SHEET: 9 OF 25

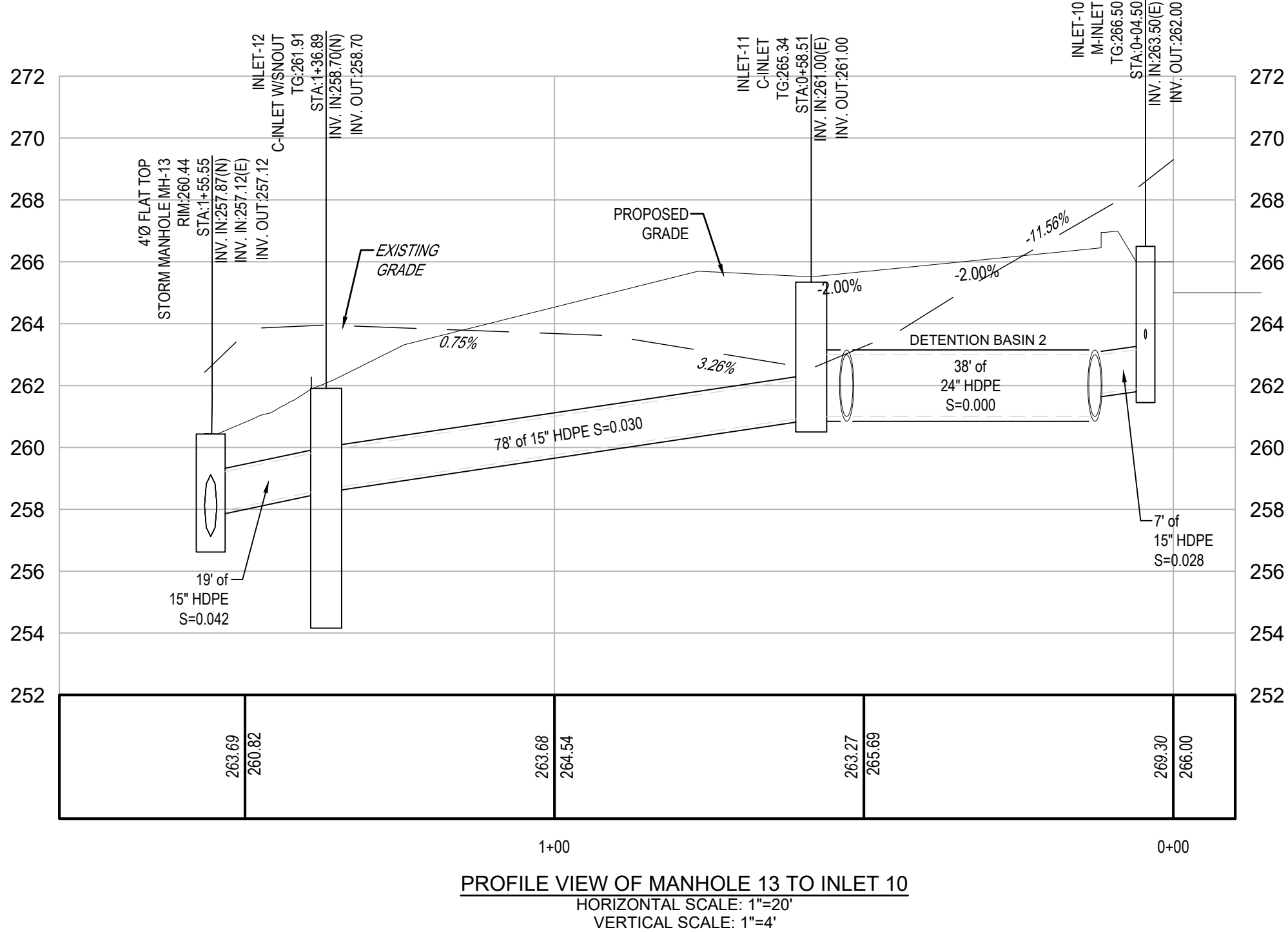
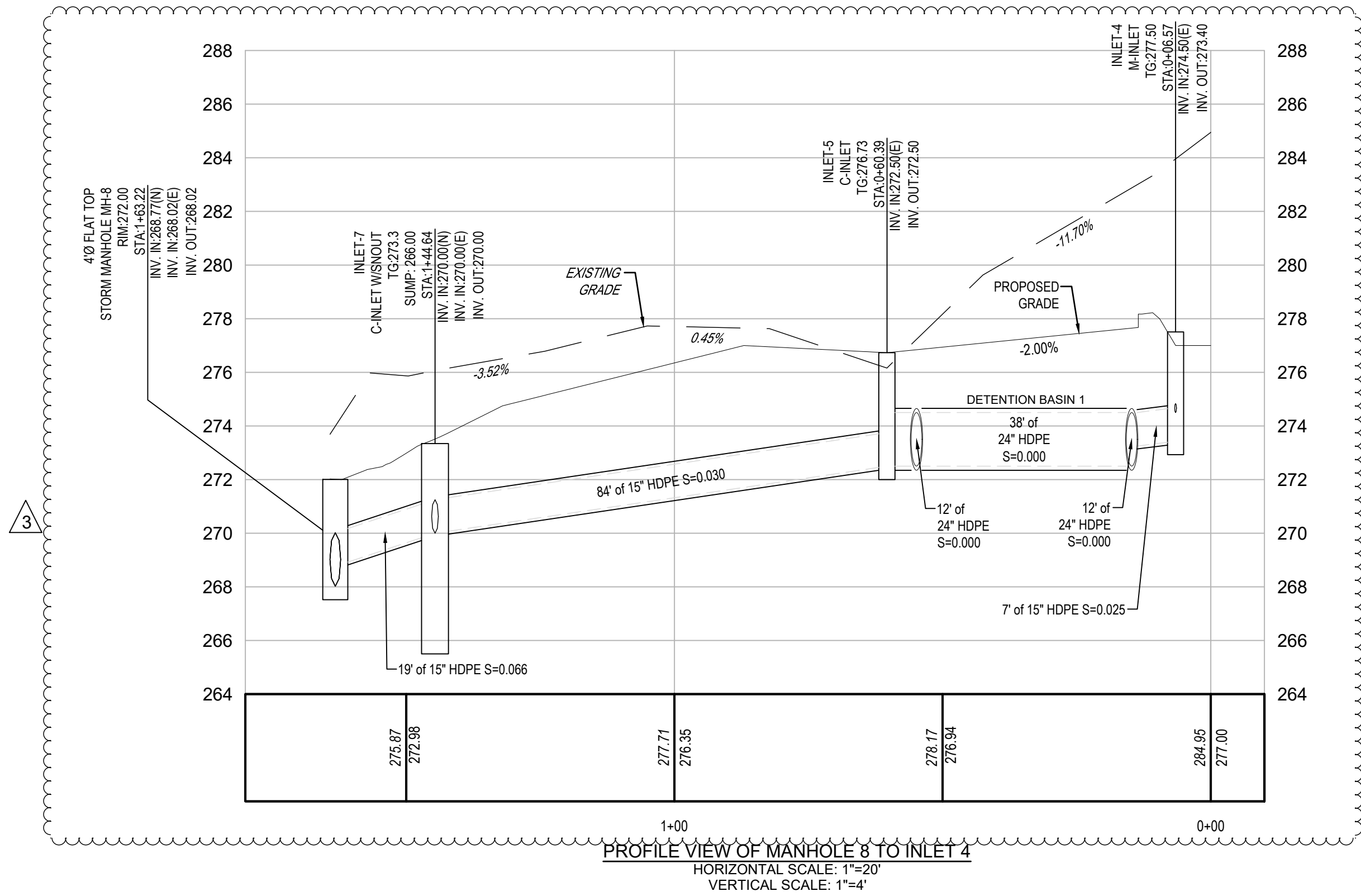
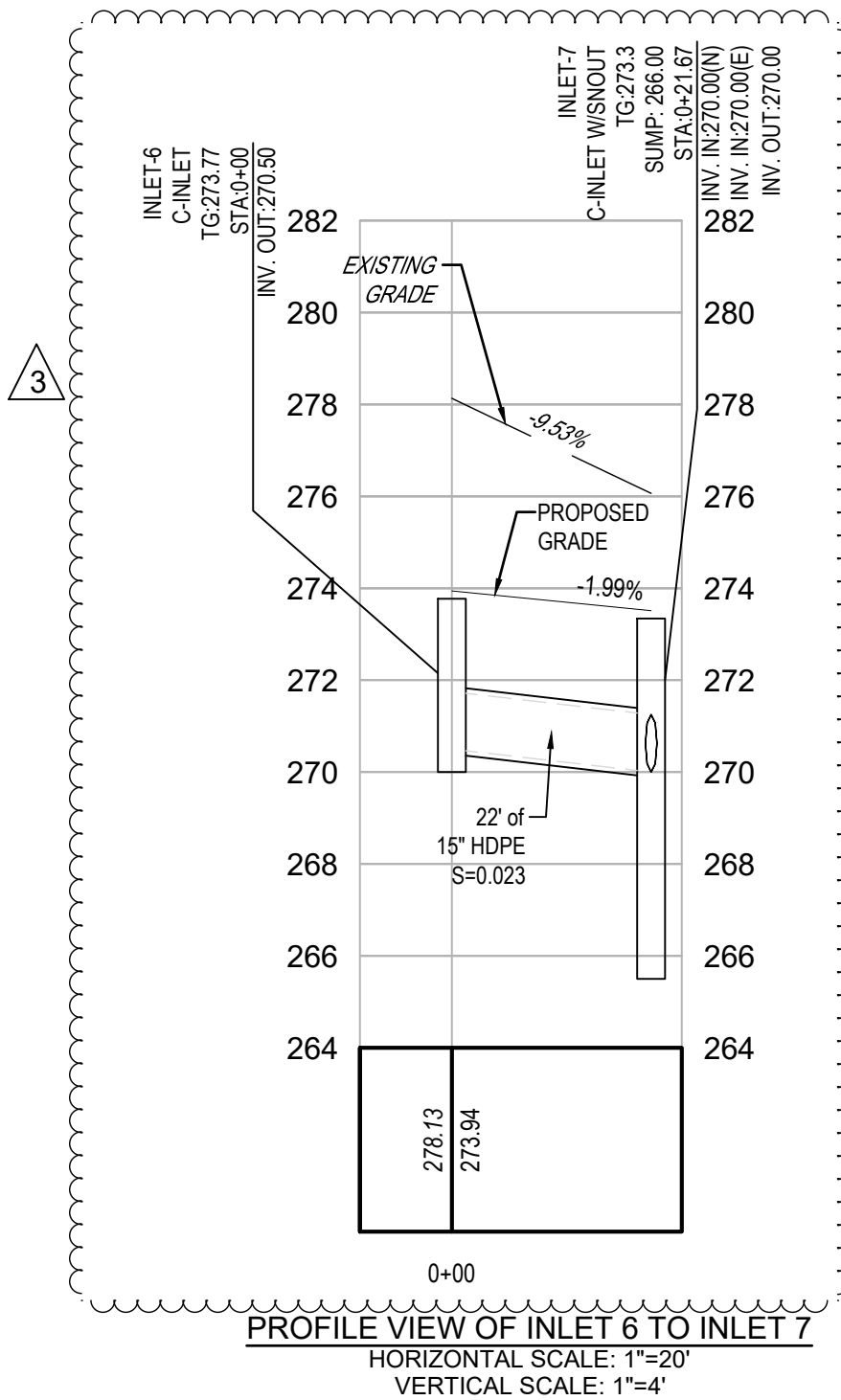
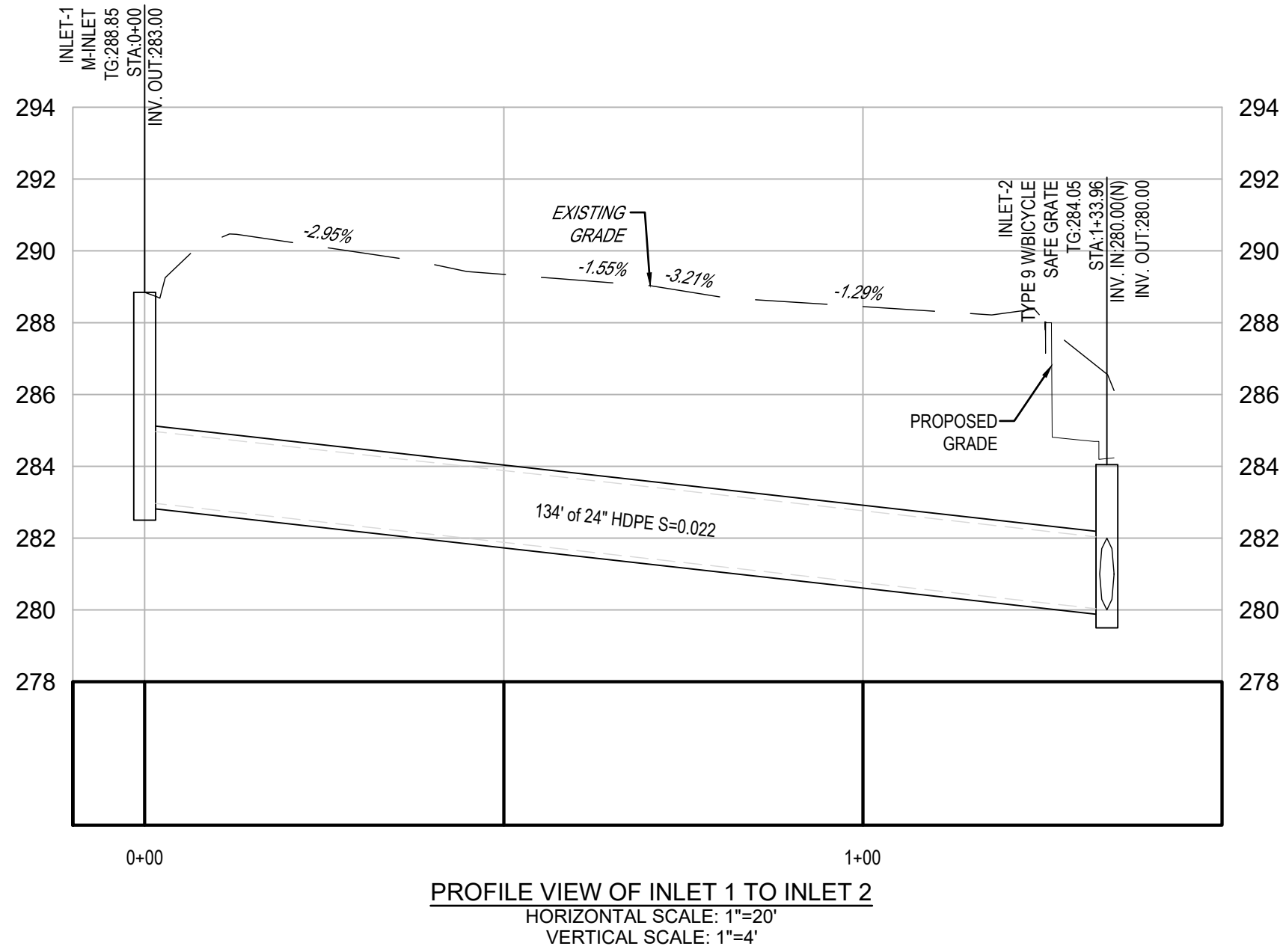
PP-2

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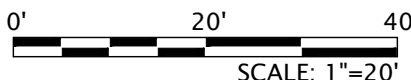
REVISIONS	DATE	BY
1. REV PER MEETING WITH CITY STAFF	7/30/2023	CS
2. REV PER CITY COMMENT LETTER DATED 12/23/2023	10/11/2024	ELH
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xrefs:-[22-GODSC-01_24x36_TB] [22-GODSC-01_Base] [22-GODSC-01_Layout] [22-GODSC-01_Profiles] [22-GODSC-01_Grading-ForPlans]
08_Profiles.dwg->PP-3 Stormwater Profiles Date: January 15, 2025-10:35am **acela architects + engineers, pc** USER: Rebecca



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PRELIMINARY/ FINAL PLAN

1818 & 1822 ELLIOT AVENUE
WARD 13 - BLOCK 40, CITY OF BETHLEHEM, LEHIGH COUNTY, PENNSYLVANIA
FOR
ANR DEVELOPMENT COMPANY, LLC
STORMWATER PROFILES

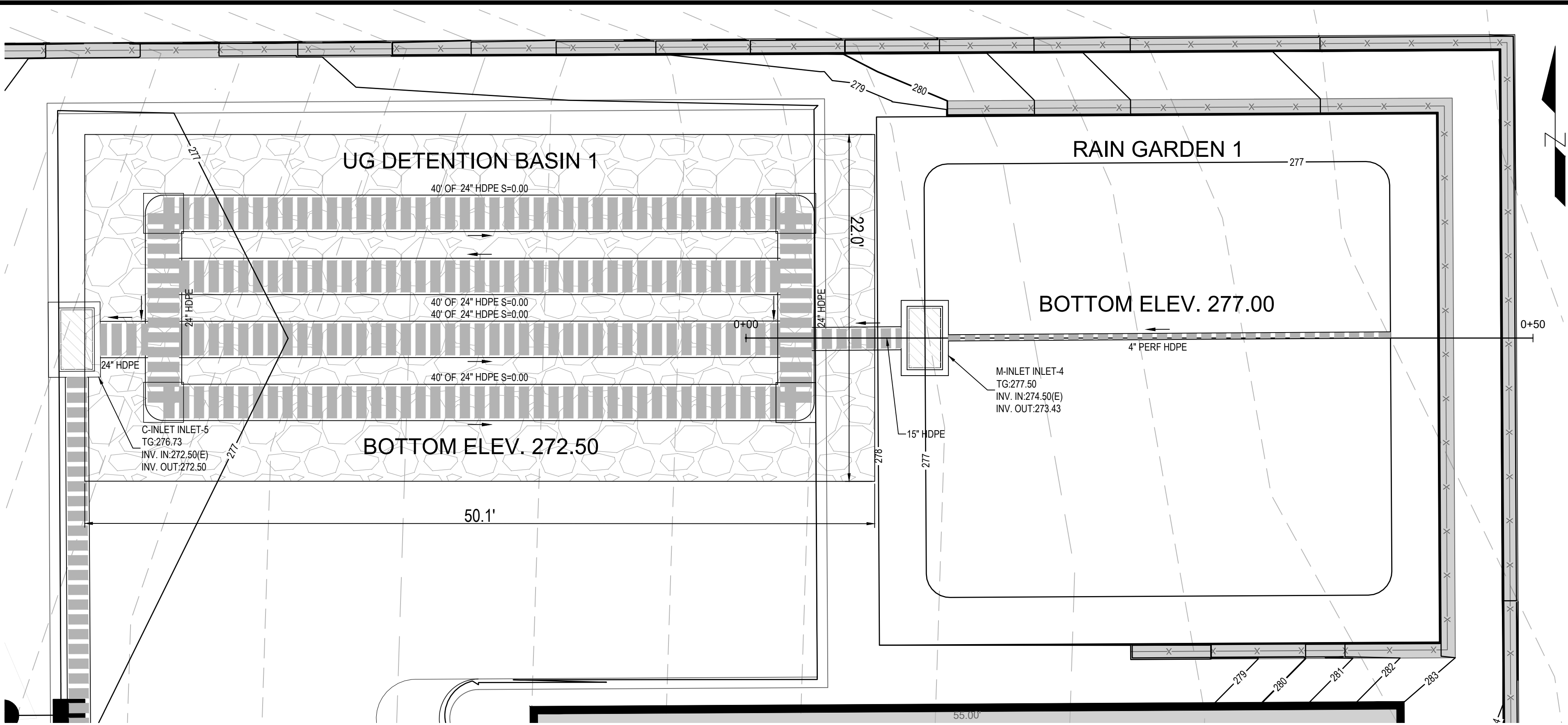
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DRAWN: ELH	DSGN: SB
JOB: 22-GODSC-01	P MGR: SB
SHEET: 10 OF 25	
PP-3	

REVISIONS	DATE	BY
1. REV PER MEETING WITH CITY STAFF	7/30/2023	CG
2. REV PER CITY COMMENT LETTER DATED 12/23/2023	10/11/2024	ELH
3. REV PER CITY COMMENT LETTER DATED 11/27/2024	01/13/2025	RCG
4.		
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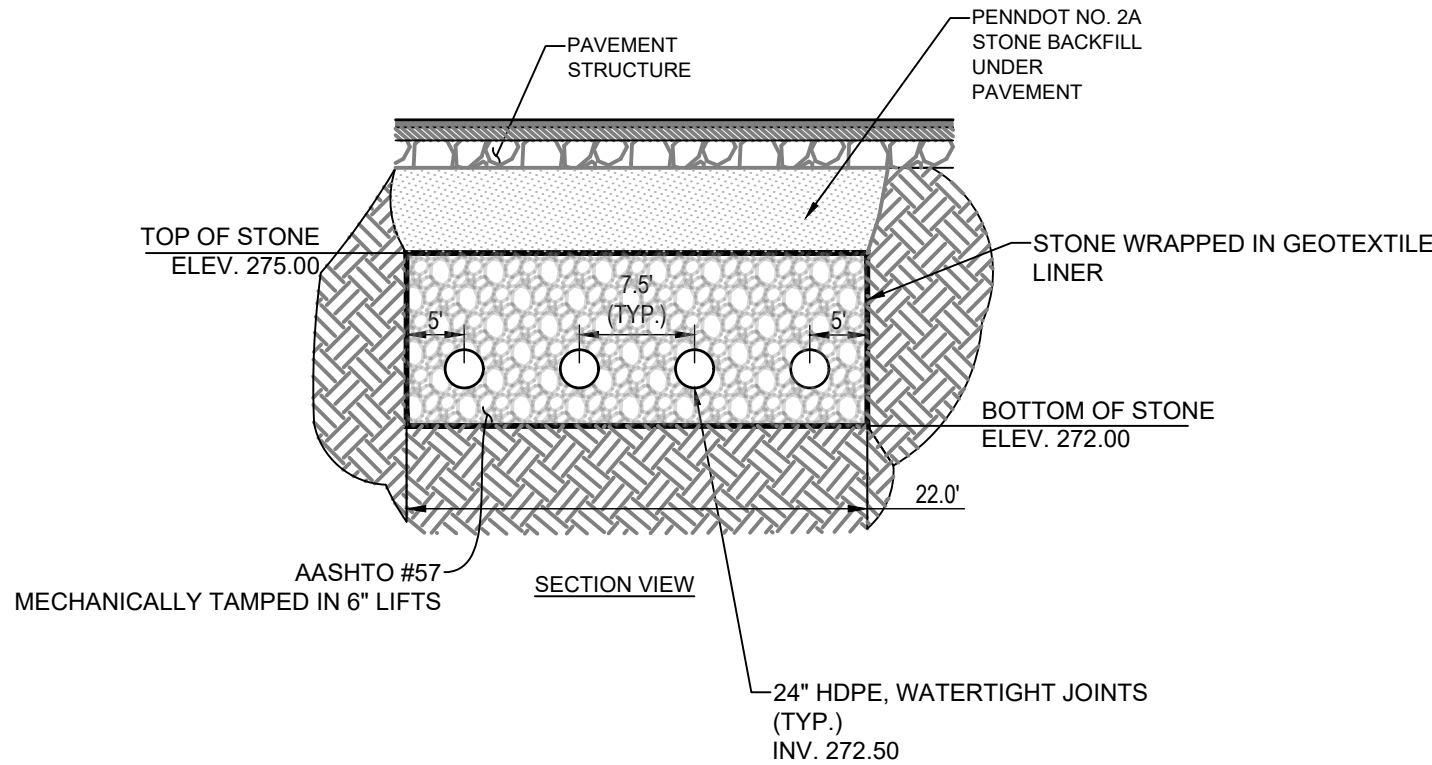
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15_Stormwater_Details.dwg>SD-1 Stormwater Details Date: January 15, 2025-10:36am **acela architects + engineers, pc** USER: Rebecca



PLAN VIEW
SCALE: 1"=5'

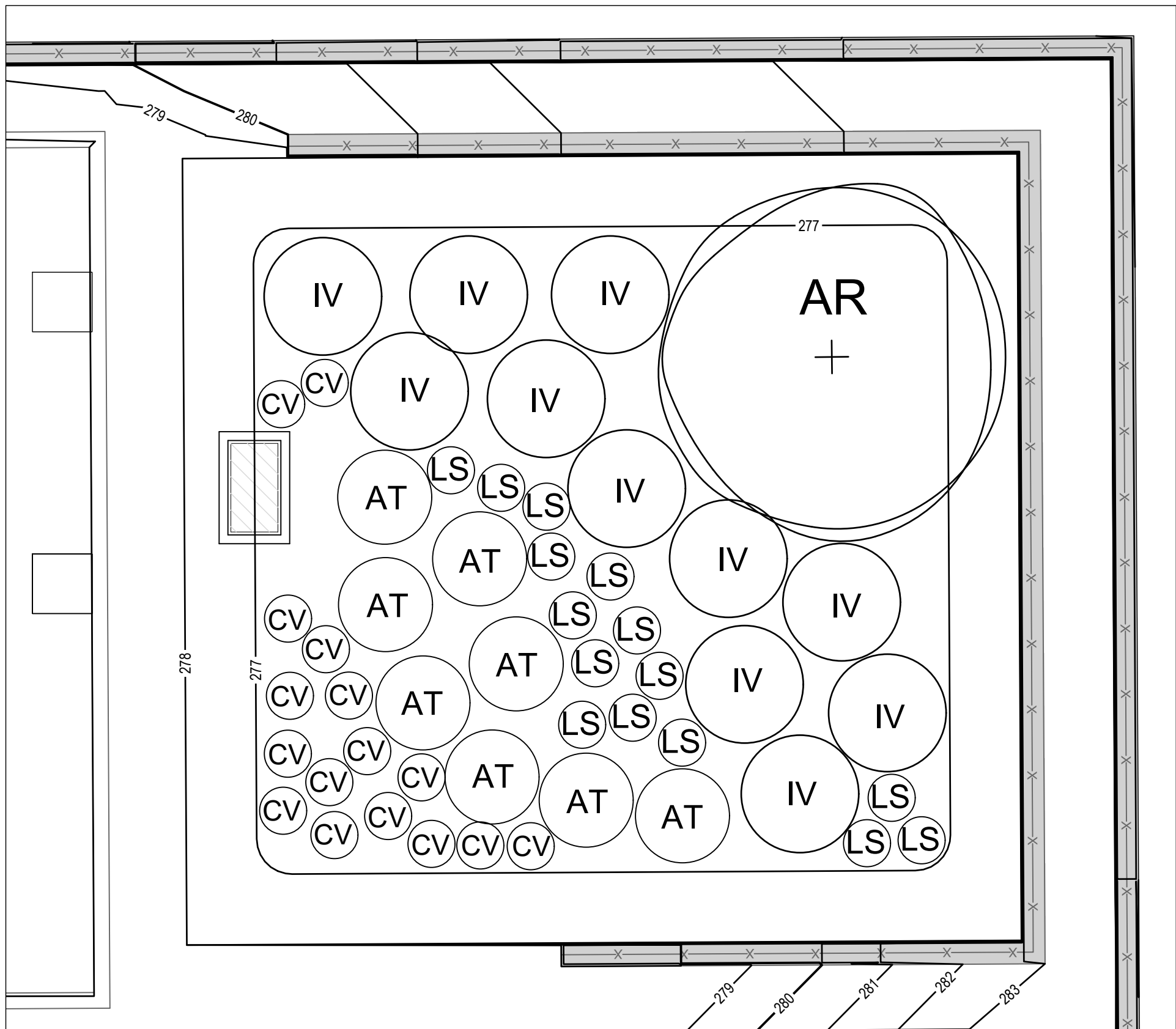
SEE SHEET SD-3 FOR RAIN GARDEN AND BASIN NOTES

STAGE/ STORAGE TABLE - UG DETENTION BASIN 1				
STAGE (FT.)	ELEVATION (FT.)	CONTOUR AREA (SQFT)	INCR. STORAGE (CUFT)	TOTAL STORAGE (CUFT)
0.00	272.50	N/A	0	0
0.20	272.70	N/A	30	30
0.40	272.90	N/A	52	84
0.60	273.10	N/A	63	144
0.80	273.30	N/A	69	214
1.00	273.50	N/A	72	286
1.20	273.70	N/A	72	358
1.40	273.90	N/A	69	428
1.60	274.10	N/A	63	490
1.80	274.30	N/A	52	542
2.00	274.50	N/A	30	572



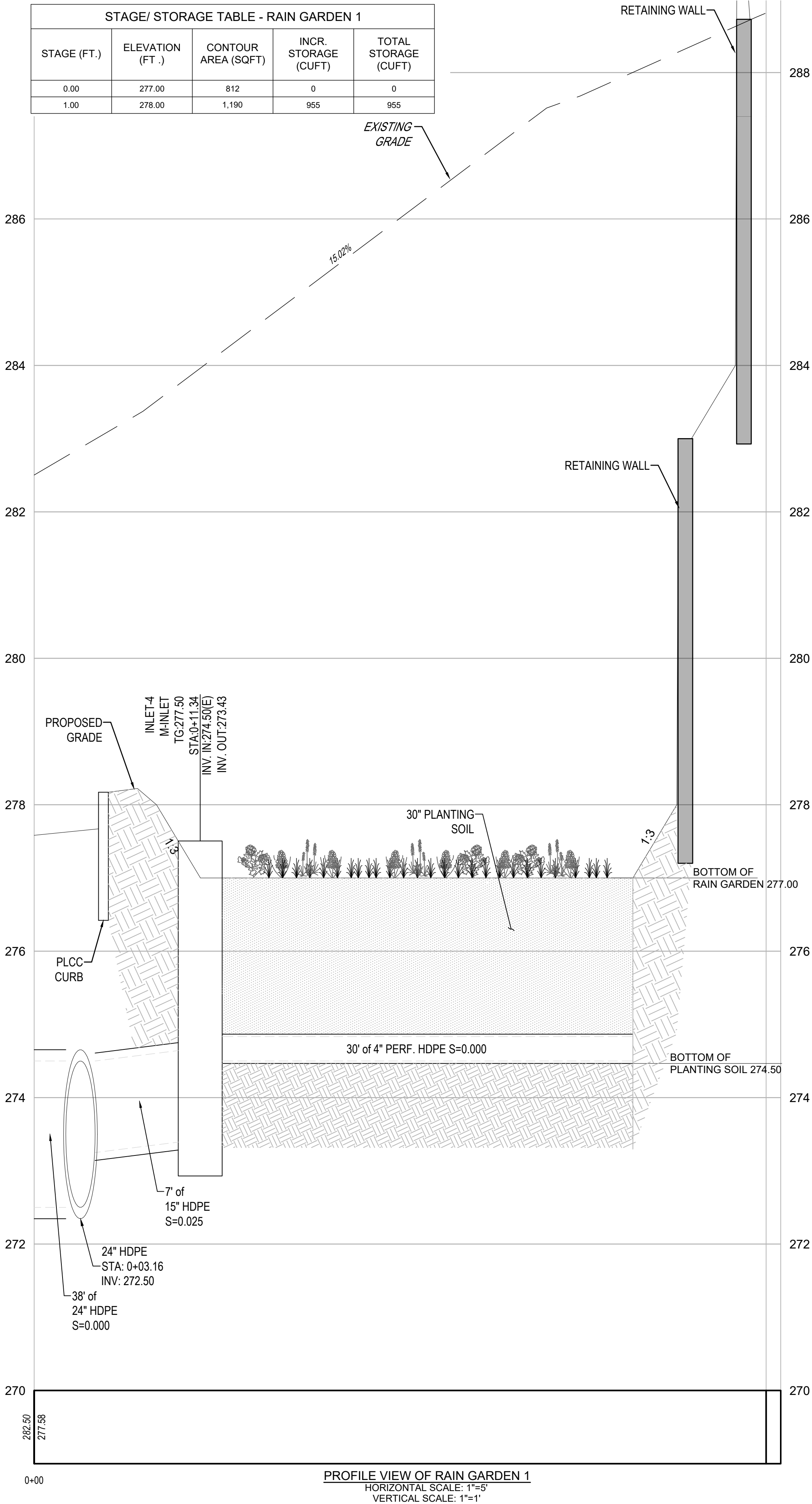
UNDERGROUND DETENTION BASIN 1 DETAIL
N.T.S.

LANDSCAPE SCHEDULE - RAIN GARDEN 1				
PERENNIAL PLANT SCHEDULE				
SYMBOL	QTY.	BOTANICAL NAME	COMMON NAME	SIZE/CONDITIONS
CV	16	CHRYSOGONUM VIRGINIANUM	GREEN AND GOLD	4.5" QT
AT	8	ASCLEPIAS TUBEROSA	BUTTERFLY WEED	4.5" QT
LS	15	LIATRIS SPICATA	BLAZING STAR	4.5" QT
SHRUB PLANT SCHEDULE				
SYMBOL	QTY.	BOTANICAL NAME	COMMON NAME	SIZE/CONDITIONS
IV	11	ITEA VIRGINICA	VIRGINIA SWEETSPIRE	2' TO 2 1/2' HIGH
TREE SCHEDULE				
SYMBOL	QTY.	BOTANICAL NAME	COMMON NAME	SIZE/CONDITIONS
AR	1	ACER RUBRUM	RED MAPLE	MIN 2 1/2" CAL. B&B



RAIN GARDEN 1 - LANDSCAPING PLAN
SCALE: 1"=5'

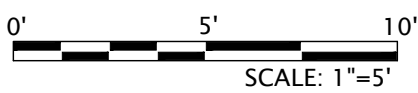
STAGE/ STORAGE TABLE - RAIN GARDEN 1				
STAGE (FT.)	ELEVATION (FT.)	CONTOUR AREA (SQFT)	INCR. STORAGE (CUFT)	TOTAL STORAGE (CUFT)
0.00	277.00	812	0	0
1.00	278.00	1,190	955	955



PROFILE VIEW OF RAIN GARDEN 1
HORIZONTAL SCALE: 1"=5'
VERTICAL SCALE: 1"=1'



NOTE:
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SLANTED TEXT INDICATES EXISTING FEATURES



PRELIMINARY/ FINAL PLAN

1818 & 1822 ELLIOT AVENUE
WARD 13 - BLOCK 40, CITY OF BETHLEHEM, LEHIGH COUNTY, PENNSYLVANIA
FOR
ANR DEVELOPMENT COMPANY, LLC

STORMWATER DETAILS

SCALE: 1"=5'	DATE: 11/09/2023
DRAWN: ELH	DSGN: SB
JOB: 22-GODSC-01	P MGR: SB

SHEET: 11 OF 25

SD-1

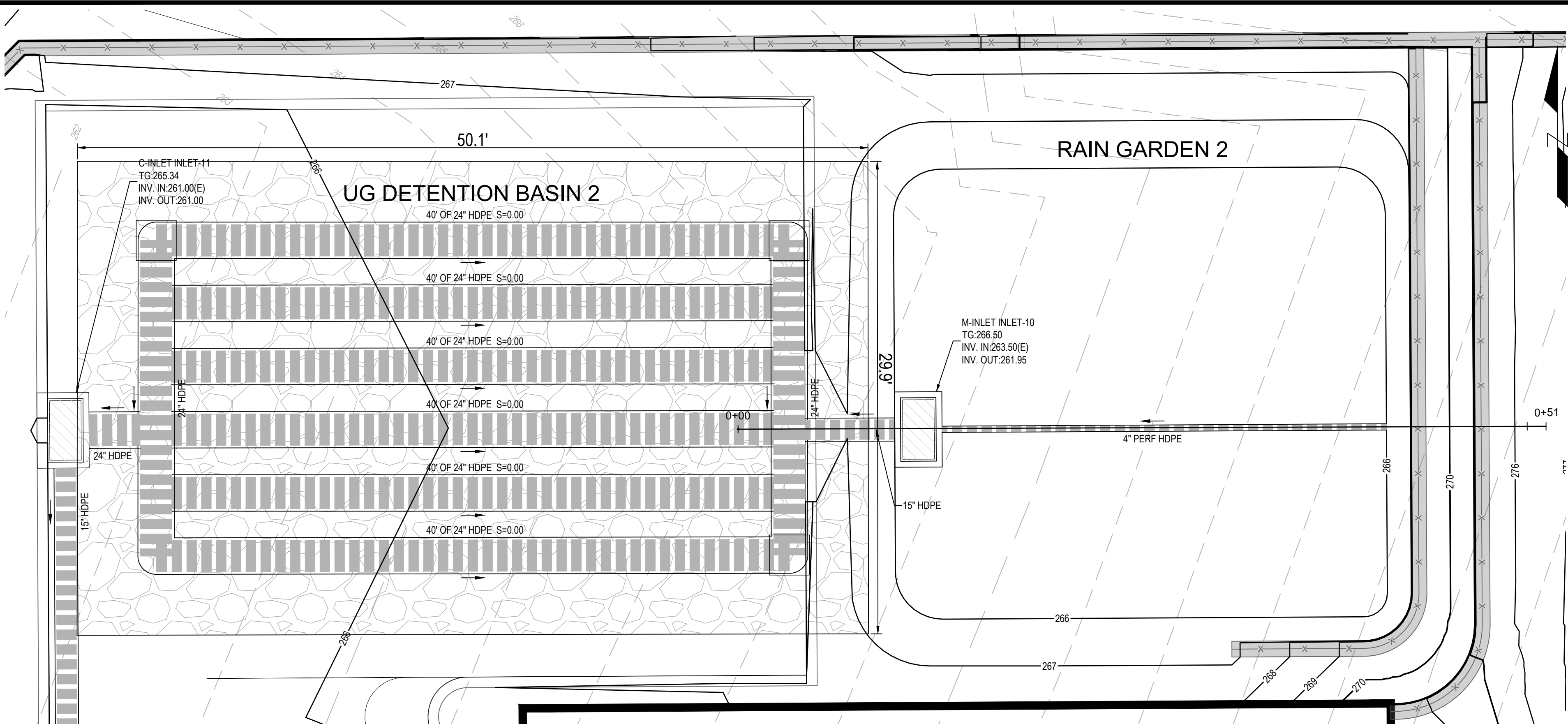
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REVISIONS	DATE	BY
	DATE	BY
1. REV PER MEETING WITH CITY STAFF	7/30/2023	CS
2. REV PER CITY COMMENT LETTER DATED 12/23/2023	10/11/2024	ELH
3. REV PER CITY COMMENT LETTER DATED 11/27/2024	01/13/2025	RCG
4.		
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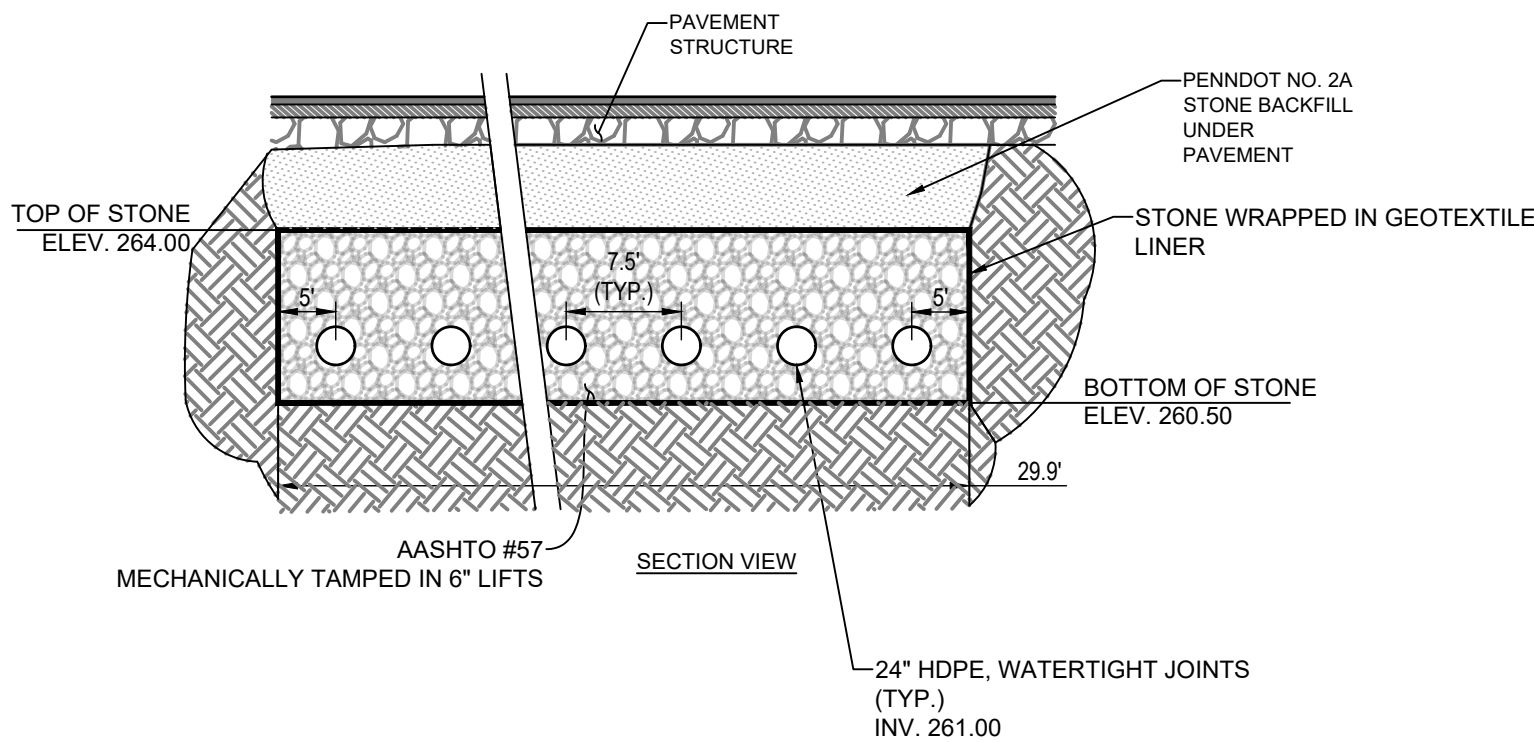
xrefs:~\22-GODSC-01_24x36_TB\ 22-GODSC-01_Base\ 22-GODSC-01_Grading-forPlans\ 22-GODSC-01_Stormwater-Details\ 15_Stormwater_Details.dwg~SD-2 Stormwater Details Date: January 15, 2025-10:36am **acela architects + engineers, pc** USER: Rebecca



PLAN VIEW
SCALE: 1"=5'

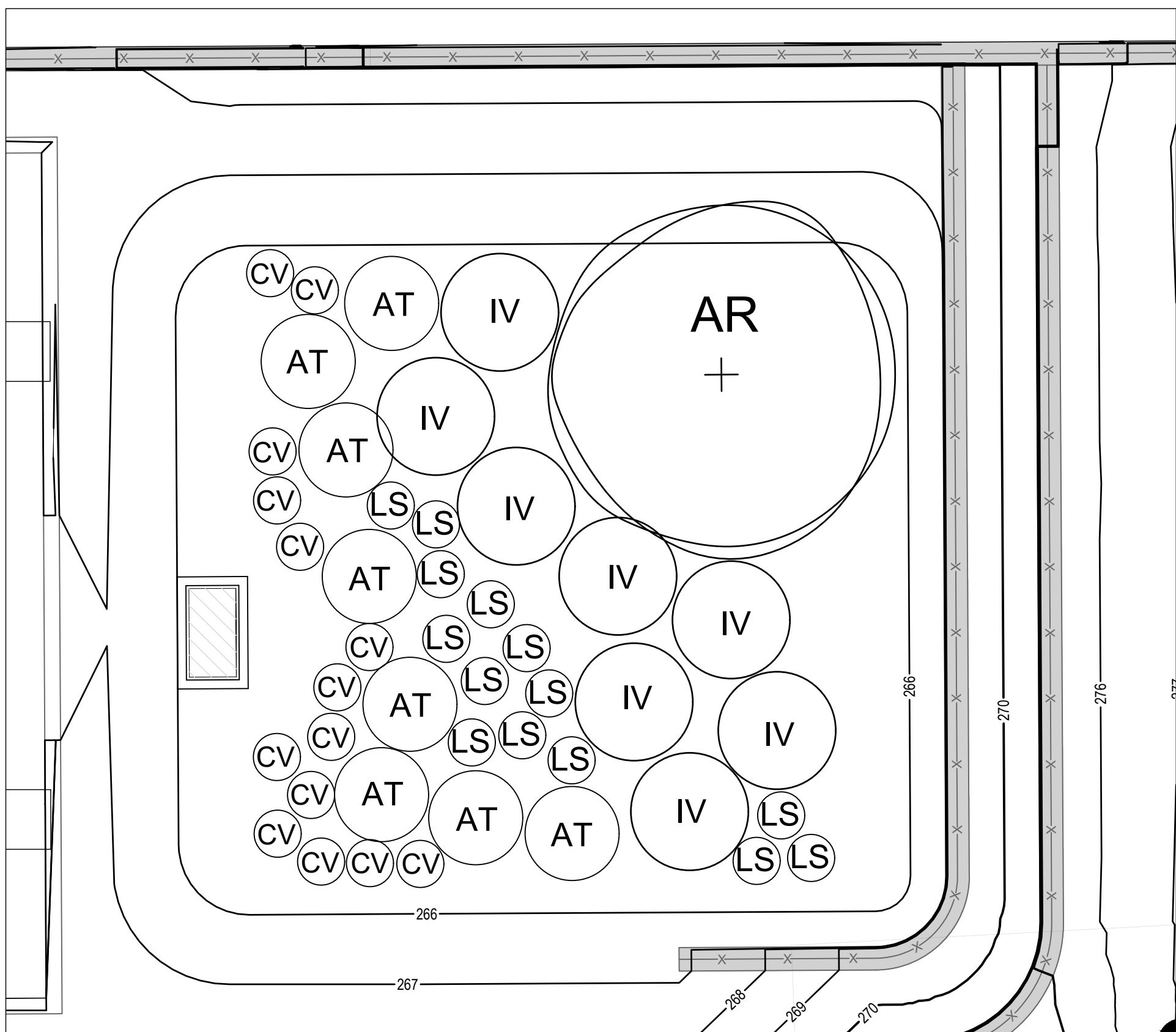
SEE SHEET SD-3 FOR RAIN GARDEN AND BASIN NOTES

STAGE/ STORAGE TABLE - UG DETENTION BASIN 2				
STAGE (FT.)	ELEVATION (FT.)	CONTOUR AREA (SQFT)	INCR. STORAGE (CUFT)	TOTAL STORAGE (CUFT)
0.00	261.00	N/A	0	0
0.20	261.20	N/A	45	45
0.40	261.40	N/A	78	123
0.60	261.60	N/A	95	217
0.80	261.80	N/A	104	322
1.00	262.00	N/A	109	431
1.20	262.20	N/A	109	540
1.40	262.40	N/A	104	644
1.60	262.60	N/A	95	738
1.80	262.80	N/A	78	816
2.00	263.00	N/A	45	861



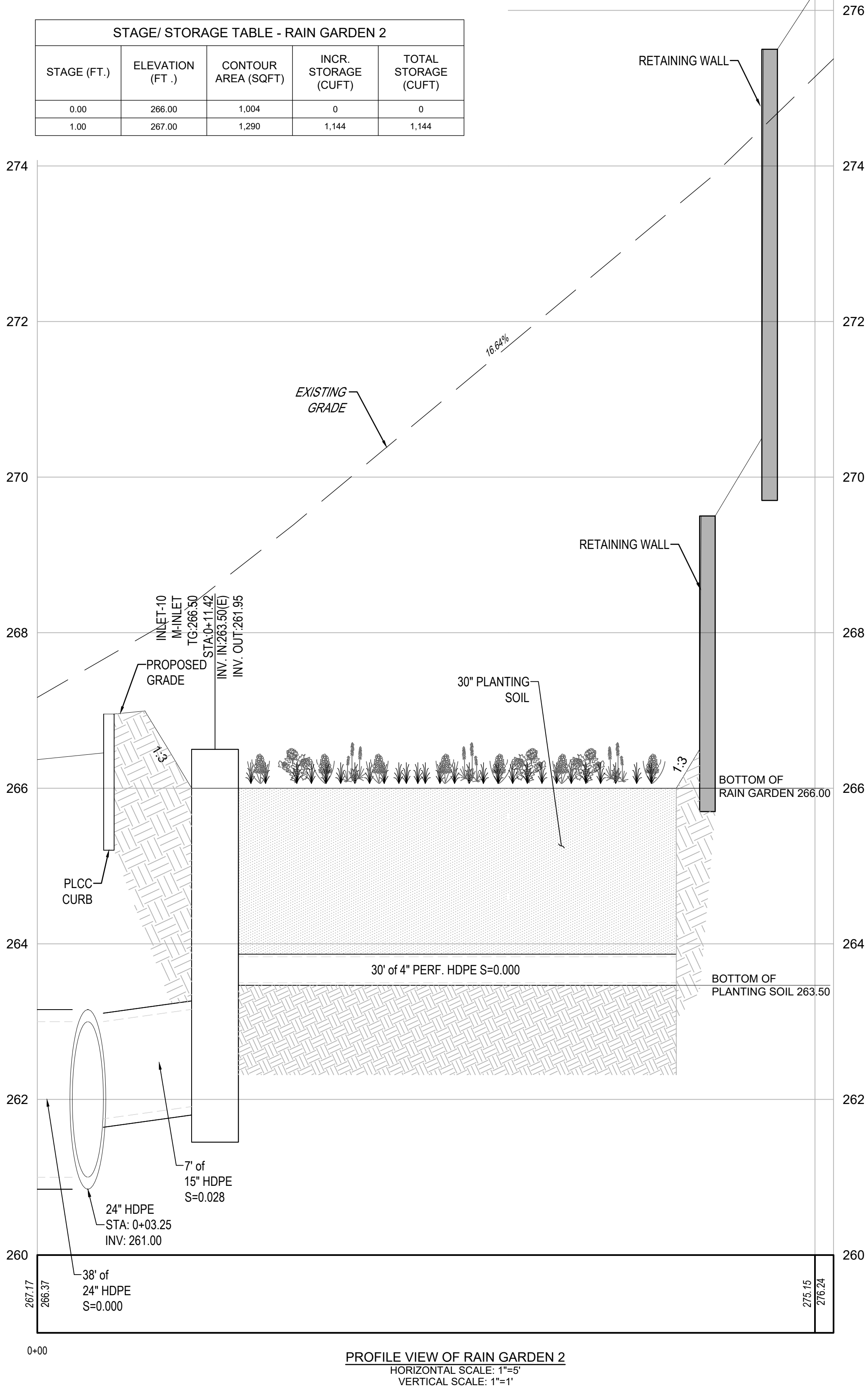
UNDERGROUND DETENTION BASIN 2 DETAIL
N.T.S.

LANDSCAPE SCHEDULE - RAIN GARDEN 2				
PERENNIAL PLANT SCHEDULE				
SYMBOL	QTY.	BOTANICAL NAME	COMMON NAME	SIZE/CONDITIONS
CV	14	CHRYSOGONUM VIRGINIANUM	GREEN AND GOLD	4.5" QT
AT	8	ASCLEPIAS TUBEROSA	BUTTERFLY WEED	4.5" QT
LS	14	LIATRIS SPICATA	BLAZING STAR	4.5" QT
SHRUB PLANT SCHEDULE				
SYMBOL	QTY.	BOTANICAL NAME	COMMON NAME	SIZE/CONDITIONS
IV	8	ITEA VIRGINICA	VIRGINIA SWEETSPIRE	2' TO 2 1/2' HIGH
TREE SCHEDULE				
SYMBOL	QTY.	BOTANICAL NAME	COMMON NAME	SIZE/CONDITIONS
AR	1	ACER RUBRUM	RED MAPLE	MIN 2 1/2" CAL. B&B



RAIN GARDEN 2 - LANDSCAPING PLAN
SCALE: 1"=5'

STAGE/ STORAGE TABLE - RAIN GARDEN 2				
STAGE (FT.)	ELEVATION (FT.)	CONTOUR AREA (SQFT)	INCR. STORAGE (CUFT)	TOTAL STORAGE (CUFT)
0.00	266.00	1,004	0	0
1.00	267.00	1,290	1,144	1,144

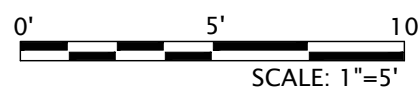


PROFILE VIEW OF RAIN GARDEN 2
HORIZONTAL SCALE: 1"=5'
VERTICAL SCALE: 1"=1'



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PRELIMINARY/ FINAL PLAN

1818 & 1822 ELLIOT AVENUE
WARD 13 - BLOCK 40, CITY OF BETHLEHEM, LEHIGH COUNTY, PENNSYLVANIA
FOR
ANR DEVELOPMENT COMPANY, LLC
STORMWATER DETAILS

SCALE: 1"=5'	DATE: 11/09/2023
DRAWN: ELH	DSGN: SB
JOB: 22-GODSC-01	P MGR: SB

SHEET: 12 OF 25

SD-2

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REVISIONS	BY		DATE	CS	ELH	RCG
1. REV. PER MEETING WITH CITY STAFF			7/30/2023			
2. REV. PER CITY COMMENT LETTER DATED 12/23/2023			10/11/2024			
3. REV. PER CITY COMMENT LETTER DATED 11/27/2024			01/13/2025			
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xrefs:-[22-GODSC-01_24x36_TB] [22-GODSC-01_Base] [22-GODSC-01_Layout] [22-GODSC-01_Grading-forPlans] [22-GODSC-01_Stormwater-Details]
15_Stormwater_Details.dwg->SD-3 Stormwater Details Date: January 15,2025-10:36am **acela architects + engineers, pc** - USER: Rebecca

UNDERGROUND DETENTION BASIN NOTES:

- GENERAL
1. THE DETENTION BASIN SURFACE AREA OF THE PROPOSED STORMWATER MANAGEMENT FACILITY SHALL BE PROTECTED FROM SEDIMENTATION AND SOIL COMPACTION DURING CONSTRUCTION.
 2. EXISTING SUBGRADE WITHIN DETENTION BASIN AREAS SHALL NOT BE COMPACTED OR SUBJECT TO EXCESSIVE CONSTRUCTION EQUIPMENT TRAFFIC.
 3. EXCAVATION OF DETENTION BASIN AREAS SHALL BE COMPLETED FROM THE PERIMETER OF THE BASIN WHERE POSSIBLE TO AVOID COMPACTION BY EQUIPMENT TRAFFICKING. INITIAL EXCAVATION MAY BE PERFORMED DURING ROUGH SITE GRADING BUT SHALL NOT BE CARRIED TO WITHIN ONE (1) FOOT OF THE FINAL BOTTOM ELEVATION. THE FINAL ONE (1) FOOT OF MATERIAL SHALL BE EXCAVATED WITH A HOE OR SIMILAR EQUIPMENT. FINAL EXCAVATION SHALL NOT TAKE PLACE UNTIL ALL DISTURBED AREAS IN THE DRAINAGE AREA HAVE BEEN STABILIZED.
 4. THE USE OF LOW GROUND PRESSURE (LGP) MACHINES IS ALLOWED AS LONG AS THE SPECIFICATIONS OF THE MACHINE TO BE USED ARE PROVIDED AT THE PRE-CONSTRUCTION MEETING AND IT IS VERIFIED PRIOR TO EXCAVATION THAT THE PROPOSED MACHINE IS A LGP MACHINE.

- SEQUENCE OF CONSTRUCTION
1. INSTALL AND MAINTAIN ALL TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES DURING CONSTRUCTION, PER THE APPROVED EROSION AND SEDIMENTATION POLLUTION CONTROL PLANS. INFILTRATION AREAS SHALL BE PROTECTED FROM SEDIMENTATION AND COMPACTION AT ALL TIMES DURING CONSTRUCTION. HAY BALES, DIVERSION BERMS, AND/OR OTHER APPROPRIATE MEASURES SHALL BE USED AT THE TOE OF SLOPES THAT ARE ADJACENT TO THE DETENTION AREAS TO PREVENT SEDIMENT FROM WASHING INTO THIS AREA DURING SITE DEVELOPMENT.
 2. THE AREA PROPOSED FOR DETENTION SHALL BE FENCED TO PROTECT THE AREA FROM COMPACTION DURING CONSTRUCTION. THE EXISTING SUBGRADE UNDER THE DETENTION AREAS SHALL NOT BE COMPACTED OR SUBJECT TO EXCESSIVE CONSTRUCTION EQUIPMENT TRAFFIC.
 3. EXCAVATE DETENTION BED TO BOTTOM OF STONE AND SCARIFY THE EXISTING SOIL SURFACE. WHERE EROSION OF SUBGRADE HAS CAUSED ACCUMULATION OF FINE MATERIALS AND/OR SURFACE PONDING IN THE GRADED BOTTOM, THIS MATERIAL SHALL BE REMOVED WITH LIGHT EQUIPMENT AND THE UNDERLYING SOILS SCARIFIED TO A MINIMUM DEPTH OF 6 INCHES WITH A YORK RAKE OR EQUIVALENT, OR BY LGP MACHINE. HALT EXCAVATION AND NOTIFY ENGINEER IMMEDIATELY IF EVIDENCE OF SINKHOLE ACTIVITY OR PINNACLES OF CARBONATE BEDROCK ARE ENCOUNTERED WITHIN DETENTION AREA.
 4. INSTALL 6" STONE BED IMMEDIATELY AFTER APPROVAL OF SUBGRADE.
 5. INSTALL HDPE PIPES, INLETS, AND ALL OTHER NECESSARY STORMWATER, INCLUDING INFLOW AND OUTFLOW STRUCTURES.
 6. CLEAN WASHED UNIFORMLY GRADED AGGREGATE SHOULD BE PLACED IN BED IN MAXIMUM LIFTS OF EIGHT (8) INCHES. EACH LAYER SHOULD BE LIGHTLY COMPACTED WITH CONSTRUCTION EQUIPMENT KEPT OFF THE BED BOTTOM AS MUCH AS POSSIBLE. CONTINUE WITH AGGREGATE INSTALLATION UNTIL DESIGN DEPTH IS ACHIEVED.
 7. BACKFILL WITH PENNDOT 2A STONE IN MAXIMUM 6" LIFTS TO PAVEMENT STRUCTURE.
 8. DO NOT REMOVE INLET PROTECTION OR OTHER EROSION CONTROL MEASURES UNTIL CONTRIBUTORY AREA IS FULLY STABILIZED.

CRITICAL STAGES
A LICENSED PROFESSIONAL OR DESIGNEE SHALL BE PRESENT FOR THE FOLLOWING CRITICAL STAGES OF CONSTRUCTION FOR THE SULSURFACE INFILTRATION BED.

1. SUBGRADE PREPARATION
 - 1.1. VERIFICATION OF EXCAVATION TO PROPOSED INVERT DEPTH
 - 1.2. VERIFICATION OF NONCOMPACTION
2. BACKFILLING OF ENGINEERED SOIL LAYER
 - 2.1. VERIFICATION OF ENGINEERED SOIL
 - 2.2. VERIFICATION OF DEPTH OF ENGINEERED SOIL LAYER
 - 2.3. VERIFICATION OF ACCEPTABLE INFILTRATION RATES
3. BED CONSTRUCTION
 - 3.1. VERIFICATION OF GEOGRID AND GEOTEXTILE
 - 3.2. VERIFICATION OF STONE SUBBASE
 - 3.3. VERIFICATION OF PERFORATED PIPE
 - 3.4. VERIFICATION OF ALL STORM STRUCTURES
4. BACKFILL
 - 4.1. VERIFICATION OF STONE BACKFILL, INCLUDING PROPER COMPACTION AROUND PIPES

- RESPONSIBLE PARTY
1. DURING CONSTRUCTION AND ESTABLISHMENT OF PERMANENT VEGETATION, THE CONTRACTOR IS RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF THE DETENTION BASIN, INCLUDING CONTROL AND TREATMENTS OF INVASIVE SPECIES AND WEED SPECIES NOT IN THE SEED MIXTURE(S) USED FOR TEMPORARY AND PERMANENT SOIL STABILIZATION.
 2. ONCE ALL CONSTRUCTION HAS BEEN COMPLETED, PERMANENT VEGETATION IS ESTABLISHED, AND THE SITE IS TURNED OVER TO THE PROPERTY OWNER, THE PROPERTY OWNER SHALL BECOME RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF THE DETENTION BASIN.

- OPERATION AND MAINTENANCE SCHEDULE
1. ALL BASIN STRUCTURES EXPECTED TO RECEIVE AND/OR TRAP DEBRIS AND SEDIMENT SHALL BE INSPECTED FOR CLOVING AND EXTENSIVE DEBRIS AND SEDIMENT ACCUMULATION AT LEAST FOUR TIMES PER YEAR, AS WELL AS AFTER EVERY RUNOFF PRODUCING STORM EVENT. INSPECTIONS AND MAINTENANCE SHALL INCLUDE ALL PIPES, ACCESS STRUCTURES, INLET STRUCTURES, AND OUTLET CONTROL STRUCTURE.
 2. SEDIMENT REMOVAL SHALL BE CONDUCTED WHEN THE BASIN IS COMPLETELY DRY. SEDIMENT SHALL BE DISPOSED OF PROPERLY.
 3. IF INFILTRATION WITHIN THE DESIGNATED AREA STOPS, OR THE BED FAILS TO COMPLETELY DEWATER WITHIN 72 HOURS, THE ORIGINAL CROSS SECTION AND INFILTRATION RATE SHALL BE RESTORED.

RAIN GARDEN NOTES:

- GENERAL
1. THE INFILTRATION SURFACE OF THE PROPOSED STORMWATER MANAGEMENT FACILITY SHALL BE PROTECTED FROM SEDIMENTATION AND SOIL COMPACTION DURING CONSTRUCTION.
 2. EXISTING SUBGRADE WITHIN INFILTRATION AREAS SHALL NOT BE COMPACTED OR SUBJECT TO EXCESSIVE CONSTRUCTION EQUIPMENT TRAFFIC.
 3. EXCAVATION OF INFILTRATION AREAS SHALL BE COMPLETED FROM THE PERIMETER OF THE BASIN WHERE POSSIBLE TO AVOID COMPACTION BY EQUIPMENT TRAFFICKING. INITIAL EXCAVATION MAY BE PERFORMED DURING ROUGH SITE GRADING BUT SHALL NOT BE CARRIED TO WITHIN ONE (1) FOOT OF THE FINAL BOTTOM ELEVATION. THE FINAL ONE (1) FOOT OF MATERIAL SHALL BE EXCAVATED WITH A HOE OR SIMILAR EQUIPMENT. FINAL EXCAVATION SHALL NOT TAKE PLACE UNTIL ALL DISTURBED AREAS IN THE DRAINAGE AREA HAVE BEEN STABILIZED.
 4. THE USE OF LOW GROUND PRESSURE (LGP) MACHINES IS ALLOWED AS LONG AS THE SPECIFICATIONS OF THE MACHINE TO BE USED ARE PROVIDED AT THE PRE-CONSTRUCTION MEETING AND IT IS VERIFIED PRIOR TO EXCAVATION THAT THE PROPOSED MACHINE IS A LGP MACHINE.

- SEQUENCE OF CONSTRUCTION
1. INSTALL AND MAINTAIN PROPER EROSION AND SEDIMENT CONTROL MEASURES DURING CONSTRUCTION, PER THE APPROVED EROSION AND SEDIMENTATION CONTROL PLANS. INFILTRATION AREAS SHALL BE PROTECTED FROM SEDIMENTATION AND COMPACTION AT ALL TIMES DURING CONSTRUCTION. HAY BALES, DIVERSION BERMS AND/OR OTHER APPROPRIATE MEASURES SHALL BE USED AT THE TOE OF SLOPES THAT ARE ADJACENT TO THE INFILTRATION AREAS TO PREVENT SEDIMENT FROM WASHING INTO THIS AREA DURING SITE DEVELOPMENT.
 2. THE AREA PROPOSED FOR INFILTRATION SHALL BE FENCED TO PROTECT THE AREA FROM COMPACTION DURING CONSTRUCTION. THE EXISTING SUBGRADE UNDER THE INFILTRATION AREAS SHALL NOT BE COMPACTED OR SUBJECT TO EXCESSIVE CONSTRUCTION EQUIPMENT TRAFFIC.
 3. EXCAVATE RAIN GARDEN TO PROPOSED INVERT DEPTH AND SCARIFY THE EXISTING SOIL SURFACE. DO NOT COMPACT IN-SITU SOILS. WHERE EROSION OF SUBGRADE HAS CAUSED ACCUMULATION OF FINE MATERIALS AND/OR SURFACE PONDING IN THE GRADED BOTTOM, THIS MATERIAL SHALL BE REMOVED WITH LIGHT EQUIPMENT AND THE UNDERLYING SOILS SCARIFIED TO A MINIMUM DEPTH OF 6 INCHES WITH A YORK RAKE OR EQUIVALENT, OR BY LGP MACHINE. HALT EXCAVATION AND NOTIFY ENGINEER IMMEDIATELY IF EVIDENCE OF SINKHOLE ACTIVITY OR PINNACLES OF CARBONATE BEDROCK ARE ENCOUNTERED WITHIN INFILTRATION AREA.
 4. BACKFILL RAIN GARDEN WITH 30 INCHES OF PLANTING SOIL, AS SHOWN IN THE CROSS SECTION. OVERFILLING IS RECOMMENDED TO ACCOUNT FOR SETTLEMENT. LIGHT HAND TAMPING IS ACCEPTABLE IF NECESSARY. BOTTOM OF THE INFILTRATION AREA SHALL BE AT LEVEL GRADE TO PROMOTE EVEN INFILTRATION ACROSS THE ENTIRE SURFACE. THE INFILTRATION AREA AND PLANT GROWTH AREAS SHALL BE LOOSE AND FRIABLE, HIGH IN ORGANIC MATTER AND COMPLETED WITHOUT COMPACTION FROM HEAVY EQUIPMENT.
 5. COMPLETE FINAL GRADING TO ACHIEVE PROPOSED DESIGN ELEVATIONS.
 6. PRESOAK THE PLANTING SOIL PRIOR TO PLANTING VEGETATION TO AID IN SETTLEMENT.
 7. INSTALL RAIN GARDEN PLANTINGS PER THE RAIN GARDEN PLANTING PLAN AND SCHEDULE. PLANTING SHALL BEGIN IMMEDIATELY UPON COMPLETION OF THE GRADING WHILE THE SOIL IS STILL FRIABLE AND BEFORE INVASIVE WEEDS EMERGE. PLAN PLANTING BEFORE THE BASIN IS FLOODED OR ALLOW THE BASIN TO DRAIN PRIOR TO PLANTING.
 8. A MAXIMUM OF 2-3 INCHES OF SHREDDED MULCH OR LEAF COMPOST SHALL BE UNIFORMLY APPLIED IMMEDIATELY AFTER TREES AND SHRULS ARE PLANTED TO PREVENT EROSION, ENHANCE METALS REMOVAL, AND SIMULATE LEAF LITTER.
 9. INSTALL PERMANENT EROSION PROTECTION.
 10. WHEN THE SITE IS FULLY VEGETATED AND THE SOIL MANTLE IS STABILIZED THE PLAN DESIGNER SHALL BE NOTIFIED AND SHALL INSPECT THE BASIN DRAINAGE AREA AT HIS/HER DISCRETION BEFORE THE STORMWATER BASIN IS BROUGHT ONLINE (I.E., STORMWATER IS DIRECTED INTO IT) AND SEDIMENT CONTROL DEVICES ARE REMOVED.

CRITICAL STAGES
A LICENSED PROFESSIONAL OR DESIGNEE SHALL BE PRESENT FOR THE FOLLOWING CRITICAL STAGES OF CONSTRUCTION FOR A BIORETENTION BASIN.

1. SUBGRADE PREPARATION
 - A. VERIFICATION OF EXCAVATION TO PROPOSED INVERT DEPTH
 - B. VERIFICATION OF NONCOMPACTION
2. BACKFILLING OF SOIL
 - A. VERIFICATION OF PLANTING SOIL PLACEMENT
 - C. VERIFICATION OF BACKFILLING TO PROPOSED INVERT DEPTH
3. INSTALLATION OF EMERGENCY SPILLWAY
 - A. VERIFICATION OF EMERGENCY SPILLWAY INVERT AND WIDTH
4. ESTABLISHMENT OF VEGETATION
 - A. VERIFICATION OF PLANTING AND STABILIZATION

RESPONSIBLE PARTY

1. DURING CONSTRUCTION AND ESTABLISHMENT OF PERMANENT VEGETATION, THE CONTRACTOR IS RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF THE INFILTRATION BASIN, INCLUDING CONTROL AND TREATMENTS OF INVASIVE SPECIES AND WEED SPECIES NOT IN THE SEED MIXTURE(S) USED FOR TEMPORARY AND PERMANENT SOIL STABILIZATION.
2. ONCE ALL CONSTRUCTION HAS BEEN COMPLETED AND PERMANENT VEGETATION IS ESTABLISHED, THE PROPERTY OWNER SHALL BECOME RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF THE INFILTRATION BASIN.

OPERATION AND MAINTENANCE SCHEDULE

1. ALL BASIN STRUCTURES EXPECTED TO RECEIVE AND/OR TRAP DEBRIS AND SEDIMENT SHALL BE INSPECTED FOR CLOVING AND EXTENSIVE DEBRIS AND SEDIMENT ACCUMULATION AT LEAST FOUR TIMES PER YEAR, AS WELL AS AFTER EVERY RUNOFF PRODUCING STORM EVENT. INSPECTIONS AND MAINTENANCE SHALL INCLUDE BASIN BOTTOM, TRASH RACKS, OUTLET CONTROL STRUCTURE, INLET STRUCTURES, OUTLET STRUCTURE, RIPRAP AND DOWNSTREAM AREAS RECEIVING STORMWATER DISCHARGE.
2. SEDIMENT REMOVAL SHALL BE CONDUCTED WHEN THE BASIN IS COMPLETELY DRY. SEDIMENT SHALL BE DISPOSED OF PROPERLY, AND ONCE SEDIMENT IS REMOVED ALL DISTURBED AREAS NEED TO BE IMMEDIATELY STABILIZED AND REVEGETATED.
3. WATER INFILTRATION BASIN AREAS AS NEEDED, ESPECIALLY DURING PERIODS OF EXTENDED DROUGHT.
4. AFTER RUNOFF EVENTS INSPECT FOR PROPER DRAINAGE AND INFILTRATION. IF NECESSARY, RESTORE ORIGINAL INFILTRATION RATE TO ENSURE RUNOFF DRAINS DOWN WITHIN 72 HOURS.
5. VEHICLES SHALL NOT BE PARKED OR DRIVEN WITHIN THE INFILTRATION AREAS. CARE SHOULD BE TAKEN TO AVOID AND MINIMIZE COMPACTION DURING MAINTENANCE.
6. MOWING AND/OR TRIMMING OF VEGETATION SHOULD BE PERFORMED STRICTLY PER THE MANUFACTURERS RECOMMENDATIONS, AS LISTED BELOW.
7. INFILTRATION AREAS SHALL BE INSPECTED ANNUALLY FOR EROSION AND UNWANTED GROWTH OF EXOTIC/INVASIVE SPECIES.
8. VEGETATIVE COVER SHOULD BE MAINTAINED AT A MINIMUM OF 95 PERCENT. IF VEGETATIVE COVER HAS BEEN REDUCED BY 10% VEGETATION SHOULD BE REESTABLISHED.
9. IF INFILTRATION WITHIN THE INFILTRATION BASIN AREAS STOPS, OR THE BASIN FAILS TO COMPLETELY DEWATER WITHIN 72 HOURS, THE ORIGINAL CROSS SECTION AND INFILTRATION RATE SHALL BE RESTORED.

RAIN GARDEN PLANTING SPECIFICATIONS

1. THE AREA WITHIN THE PROPOSED RAIN GARDENS SHALL BE PLANTED WITH THE TREES AND SHRULS PER THE PLANTING PLAN AND SCHEDULE, OR APPROVED EQUAL.
2. A MAXIMUM OF 2-3 INCHES OF SHREDDED MULCH OR LEAF COMPOST SHALL BE UNIFORMLY APPLIED IMMEDIATELY AFTER TREES AND SHRULS ARE PLANTED TO PREVENT EROSION, ENHANCE METALS REMOVAL, AND SIMULATE LEAF LITTER.

RAIN GARDEN PLANTING SOIL SPECIFICATIONS

1. 30 INCHES OF PLANTING SOIL SHALL BE PROVIDED IN EACH RAIN GARDEN. THE PLANTING SOIL SHALL BE A LOAM SOIL CAPABLE OF SUPPORTING A HEALTHY VEGETATIVE COVER. THE SOIL SHALL CONSIST OF 20-30% ORGANIC MATERIAL (COMPOST) AND 70-80% SOIL BASE (PREFERABLY TOPSOIL).



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NOTE:
VERTICAL TEXT INDICATES PROPOSED FEATURES
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PRELIMINARY// FINAL PLAN

1818 & 1822 ELLIOT AVENUE
WARD 13 - BLOCK 40, CITY OF BETHLEHEM, LEHIGH COUNTY, PENNSYLVANIA
FOR
ANR DEVELOPMENT COMPANY, LLC
STORMWATER DETAILS

SCALE:	N.T.S.	DATE:	11/09/2023
DRAWN:	ELH	DSGN:	SB
JOB:	22-GODSC-01	P MGR:	SB

SHEET: 13 OF 25

SD-3

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REVISIONS	DATE	BY
1. REV PER MEETING WITH CITY STAFF	7/30/2023	CS
2. REV PER CITY COMMENT LETTER DATED 12/23/2023	10/11/2024	ELH
3. REV PER CITY COMMENT LETTER DATED 11/27/2024	01/13/2025	RCG
4.		
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6.		
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9.		

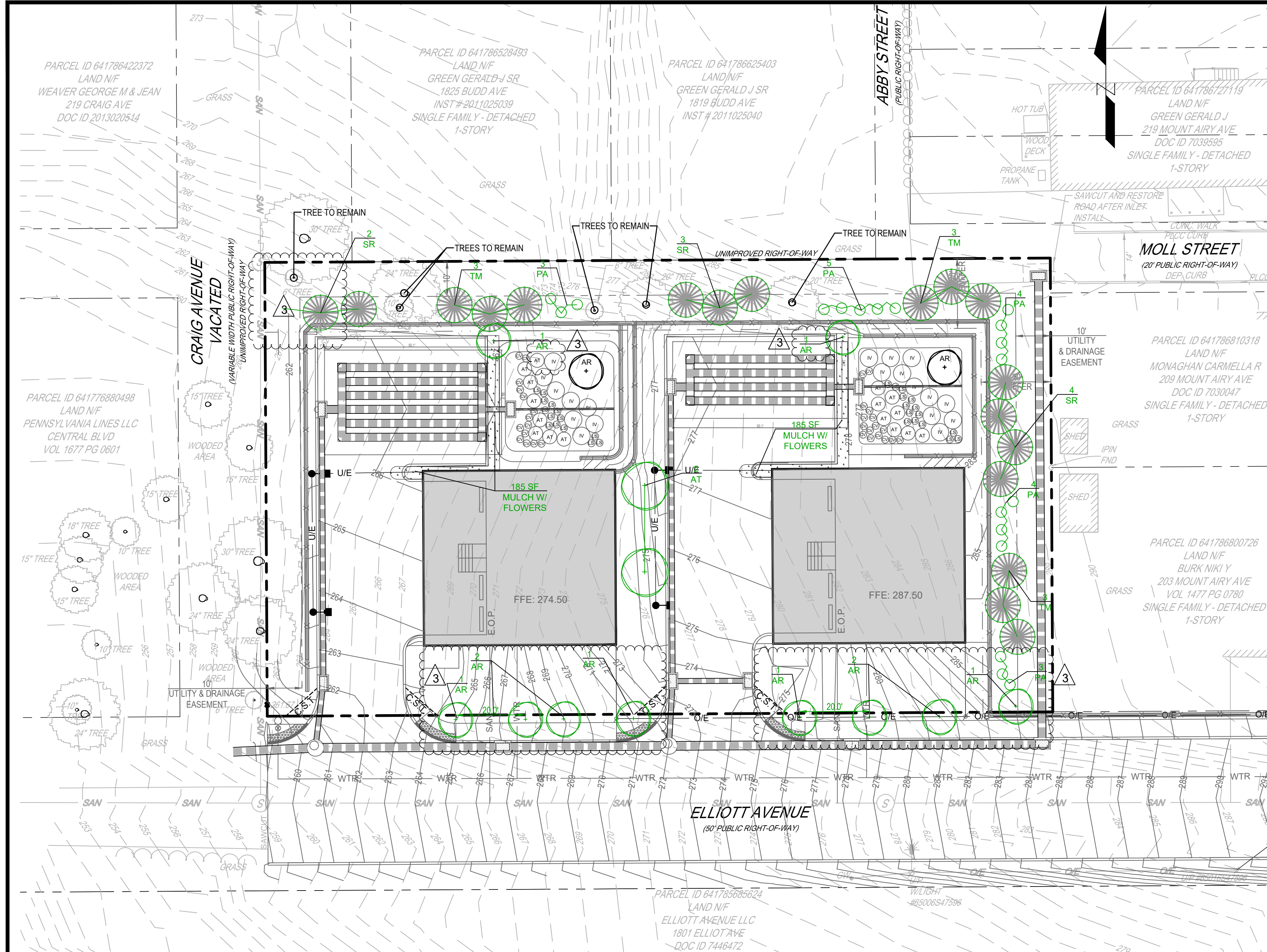
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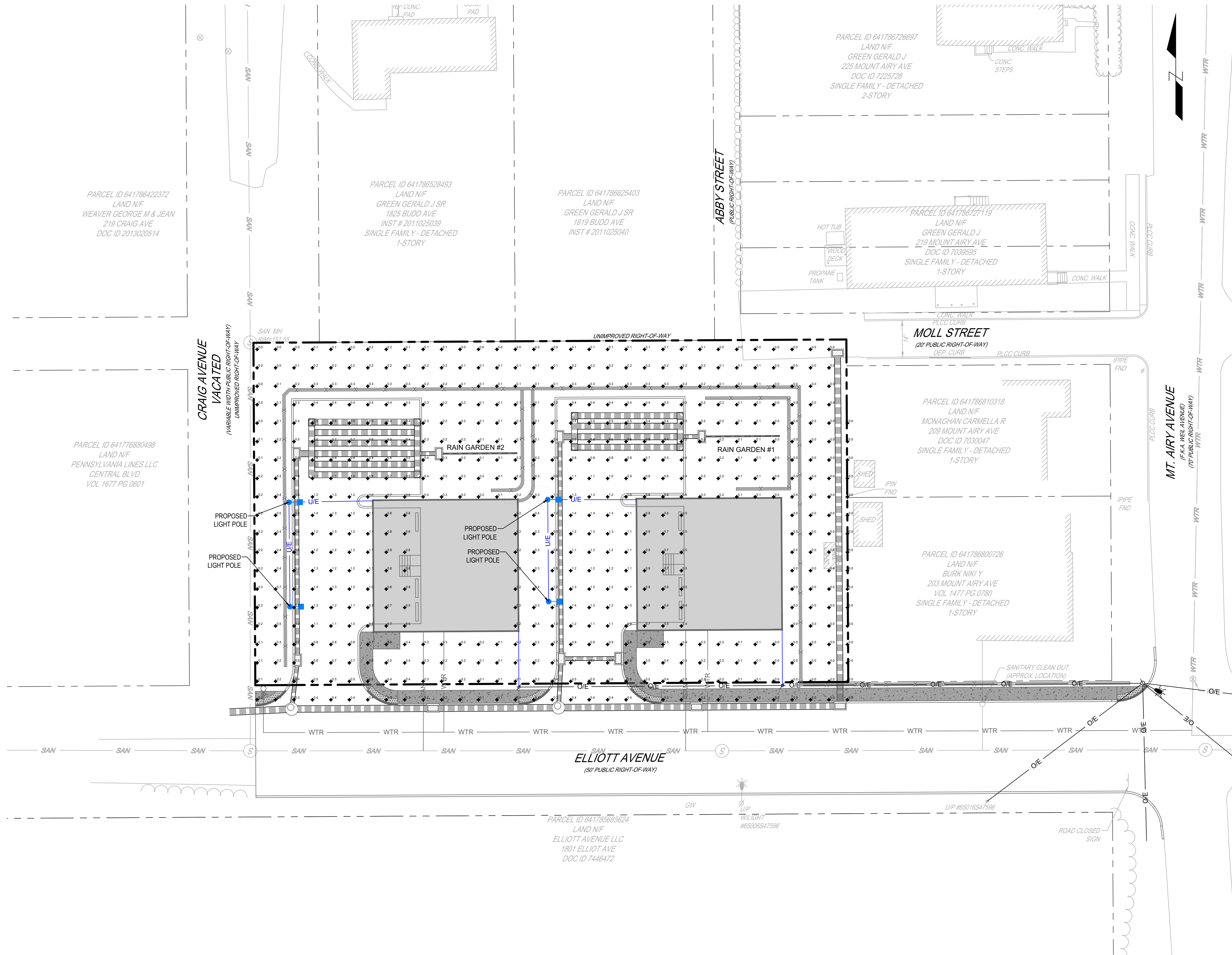
acela architects + engineers, pc
2633 Moravian Ave.
Allentown, PA 18103

office: 610.365.4023
website: www.acela-ae.com
email: info@acela-ae.com

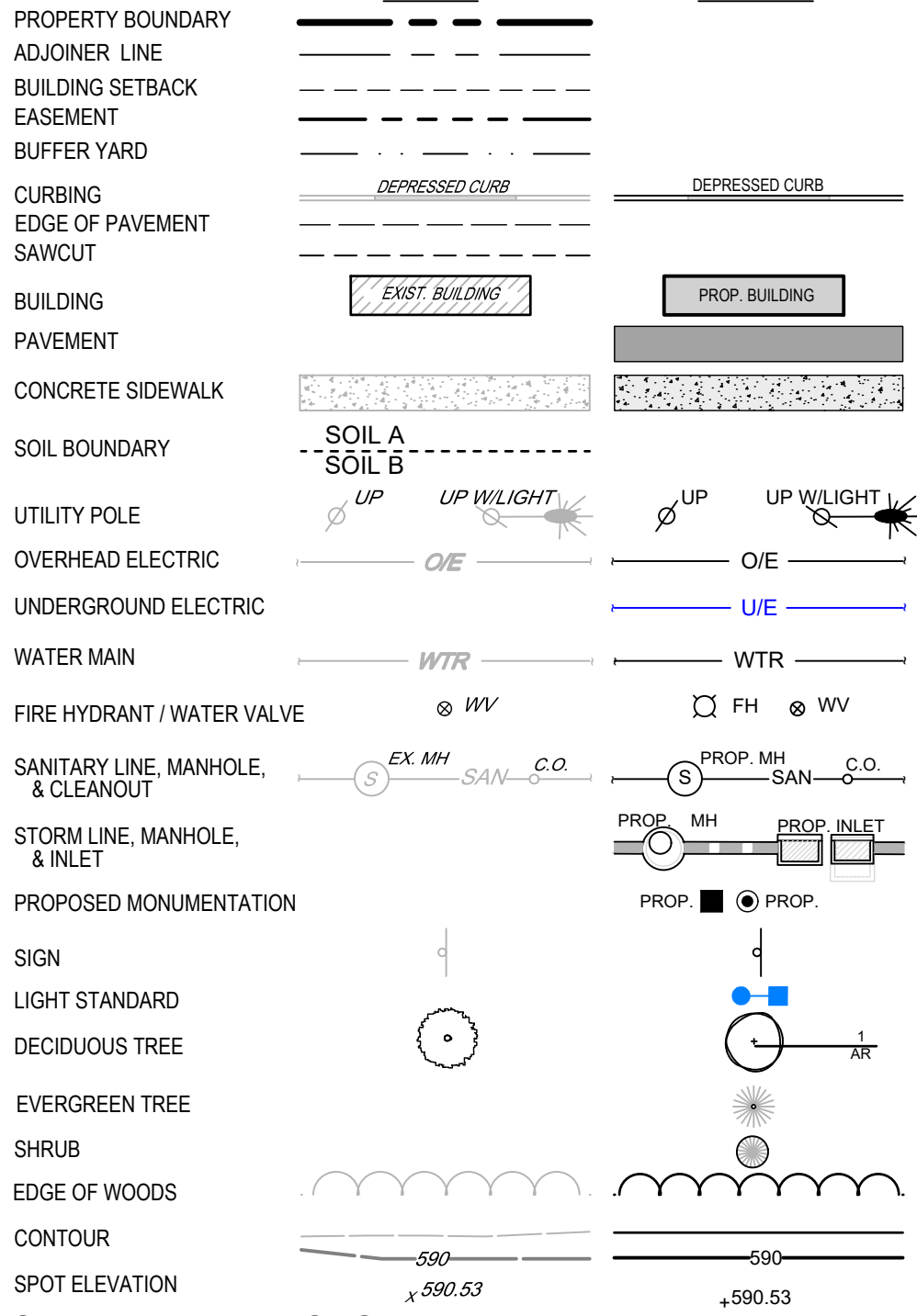
NOT FOR CONSTRUCTION



xrefs:-[22-GODSC-01_24x36_TB] [22-GODSC-01_Base] [22-GODSC-01_Legend] [22-GODSC-01_Grading-ForPlans] [22-GODSC-01_Layout_Visual_Lighting - Updated]
10_Lighting_Plan.dwg->U-1 Lighting Plan Date: January 15, 2025-10:37am **acela architects + engineers, pc** USER: Rebecca



LEGEND



SITE ABBREVIATIONS

BITUMINOUS	BIT
BUILDING RESTRICTION LINE	BRL
CONCRETE	CONC
EDGE OF PAVEMENT	EOP
EXISTING	EX
FIRE HYDRANT	FH
MONUMENT	MON
PROPOSED	PROP
SANITARY	SAN
SQUARE FEET	SF
TYPICAL	TYP
WATER VALVE	WV
TO BE REMOVED & REPLACED	TBR
TO BE REMOVED	TBR
CLEAR SIGHT TRIANGLE	C.S.T.
PLAIN CEMENT CONCRETE	PLCC

LIST OF PUBLIC UTILITIES
CITY OF BETHLEHEM
ACT 287 OF 1974 AS AMENDED - LIST OF UNDERGROUND USERS
PA ONE CALL - 1-800-242-1776
THE SITE SERIAL NUMBER IS 20220521536.

FIBERTRACK LLC 877-601-7662 RESPONSE: CLEAR. NO FACILITIES	PPL ELECTRIC UTILITIES CORPORATION 800-231-7288 RESPONSE: MARKED UP PLANS WERE SENT TO THE REQUESTOR
CENTURYLINK LEVEL 3 800-829-0420 RESPONSE: NO RESPONSE	UGI UTIL LEHIGH HAZLETON UGI UTILITIES INC 2121 CITY LINE ROAD BETHLEHEM PA 18017 TIMOTHY STEWARD tsteward@ugi.com RESPONSE: DESIGN CONFLICT

UTILITY NOTES:

- ELECTRIC AND TELEPHONE LINES SHALL BE UNDERGROUND WHERE PRACTICAL. ANY UTILITY INSTALLATIONS REMAINING ABOVE GROUND SHALL BE LOCATED SO AS TO HAVE A HARMONIOUS RELATION TO NEIGHBORING PROPERTIES AND THE SITE.

LUMINARIE SCHEDULE

SYMBOL	LIGHT FIXTURE QUANTITY	MANUFACTURER	CATALOG NO.	DESCRIPTION	WATTAGE	ARRANGEMENT	MOUNTING HEIGHT (FT)	POLE TYPE
	4	LITHINIA LIGHTING	DSX0 LED P1 27K 80CRI T4M HS	D-SERIES SIZE 0 AREA LUMINAIRE P1 PERFORMANCE PACKAGE 2700K CCT 80 CRI TYPE 4 MEDIUM HOUSESIDE SHIELD	33.2	POLE MOUNT SINGLE	20	PROPOSED LIGHT POLE TYPE LITHONIA CATALOG NO. SSA 20 4C DM19



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PRELIMINARY/ FINAL PLAN

1818 & 1822 ELLIOT AVENUE
WARD 13 - BLOCK 40, CITY OF BETHLEHEM, LEHIGH COUNTY, PENNSYLVANIA
FOR
ANR DEVELOPMENT COMPANY, LLC
LIGHTING PLAN

SCALE: 1"=20'	DATE: 11/09/2023
DRAWN: ELH	DSGN: SB
JOB: 22-GODSC-01	P MGR: SB

SHEET: 15 OF 25

LI-1

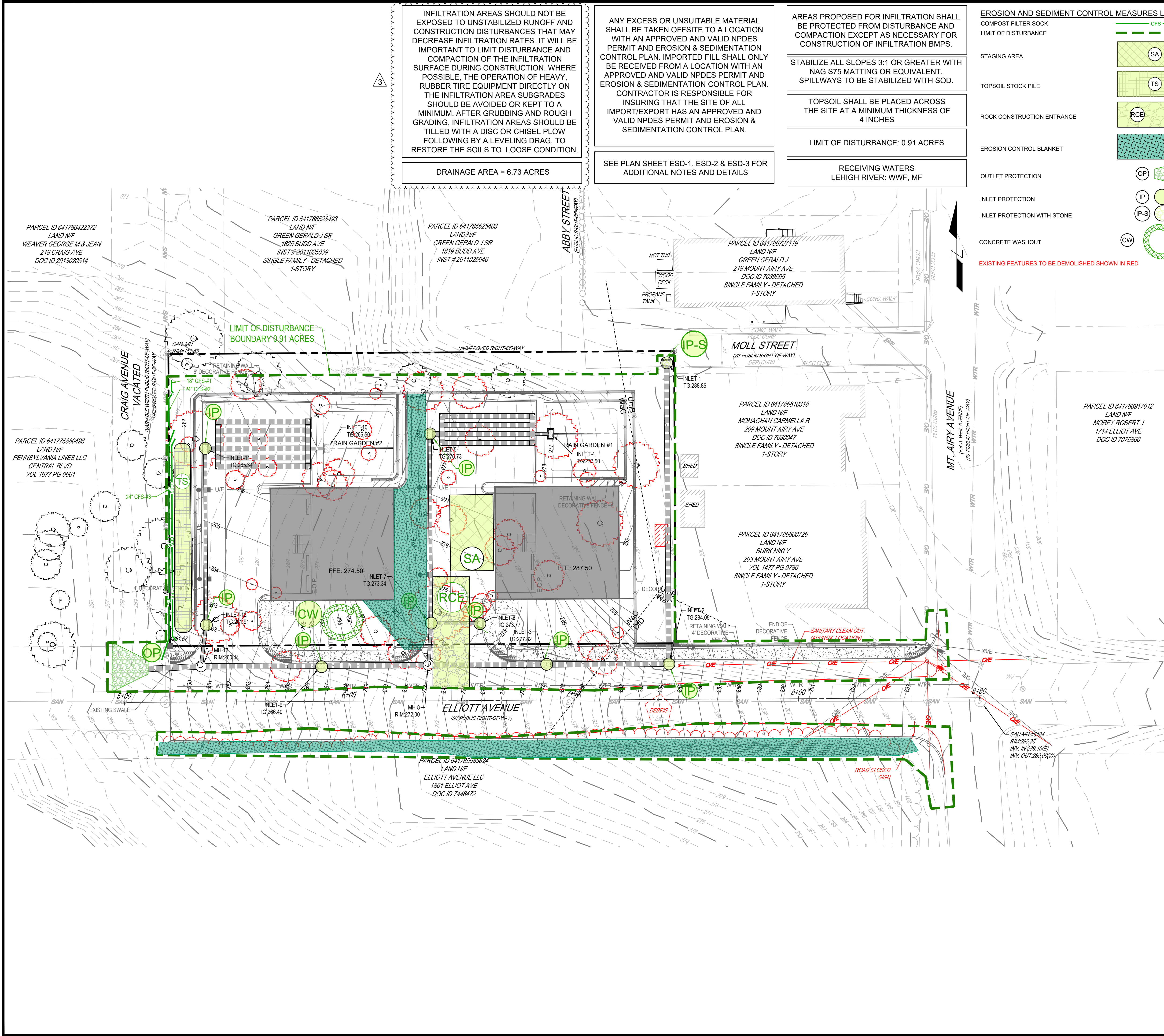
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architects + engineers
acela architects + engineers, pc
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Allentown, PA 18103
website: info@acela-ae.com
email: info@acela-ae.com

REVISIONS	DATE	BY
1. REV PER MEETING WITH CITY STAFF	7/30/2023	CS
2. REV PER CITY COMMENT LETTER DATED 12/23/2023	10/11/2024	ELH
3. REV PER CITY COMMENT LETTER DATED 11/27/2024	01/13/2025	RCG

xrefs:--[22-GODSC-01_24x36_TB] [22-GODSC-01_Base] [22-GODSC-01_Legend] [22-GODSC-01_Layout] [22-GODSC-01_ENS] [22-GODSC-01_Grading-ForPlans]
11_ENS_Plan.dwg-->ES-1 Erosion & Sedimentation Control Plan Date: January 15, 2025 10:37am **acela architects + engineers, pc** USER: Rebecca



INFILTRATION AREAS SHOULD NOT BE EXPOSED TO UNSTABILIZED RUNOFF AND CONSTRUCTION DISTURBANCES THAT MAY DECREASE INFILTRATION RATES. IT WILL BE IMPORTANT TO LIMIT DISTURBANCE AND COMPACTION OF THE INFILTRATION SURFACE DURING CONSTRUCTION. WHERE POSSIBLE, THE OPERATION OF HEAVY, RUBBER TIRE EQUIPMENT DIRECTLY ON THE INFILTRATION AREA SUBGRADES SHOULD BE AVOIDED OR KEPT TO A MINIMUM. AFTER GRUBBING AND ROUGH GRADING, INFILTRATION AREAS SHOULD BE FILLED WITH A DISC OR CHISEL PLOW FOLLOWING BY A LEVELING DRAG, TO RESTORE THE SOILS TO LOOSE CONDITION.

DRAINAGE AREA = 6.73 ACRES

ANY EXCESS OR UNSUITABLE MATERIAL SHALL BE TAKEN OFFSITE TO A LOCATION WITH AN APPROVED AND VALID NPDES PERMIT AND EROSION & SEDIMENTATION CONTROL PLAN. IMPORTED FILL SHALL ONLY BE RECEIVED FROM A LOCATION WITH AN APPROVED AND VALID NPDES PERMIT AND EROSION & SEDIMENTATION CONTROL PLAN. CONTRACTOR IS RESPONSIBLE FOR INSURING THAT THE SITE OF ALL IMPORT/EXPORT HAS AN APPROVED AND VALID NPDES PERMIT AND EROSION & SEDIMENTATION CONTROL PLAN.

SEE PLAN SHEET ESD-1, ESD-2 & ESD-3 FOR ADDITIONAL NOTES AND DETAILS

AREAS PROPOSED FOR INFILTRATION SHALL BE PROTECTED FROM DISTURBANCE AND COMPACTION EXCEPT AS NECESSARY FOR CONSTRUCTION OF INFILTRATION BMPs.

STABILIZE ALL SLOPES 3:1 OR GREATER WITH NAG S75 MATTING OR EQUIVALENT. SPILLWAYS TO BE STABILIZED WITH SOD.

TOPSOIL SHALL BE PLACED ACROSS THE SITE AT A MINIMUM THICKNESS OF 4 INCHES

LIMIT OF DISTURBANCE: 0.91 ACRES

RECEIVING WATERS
LEHIGH RIVER: WWF, MF

EROSION AND SEDIMENT CONTROL MEASURES LEGEND

COMPOST FILTER SOCK
LIMIT OF DISTURBANCE

STAGING AREA

TOPSOIL STOCK PILE

ROCK CONSTRUCTION ENTRANCE

EROSION CONTROL BLANKET

OUTLET PROTECTION

INLET PROTECTION

INLET PROTECTION WITH STONE

CONCRETE WASHOUT

EXISTING FEATURES TO BE DEMOLISHED SHOWN IN RED

LOCATION MAP

SOURCE: ALLENTOWN EAST, QUADRANGLE
SCALE: 1"=2000'

PLAN PREPARED: SEAN BILLINGS, P.E.
ACELA ARCHITECTS + ENGINEERS, PC
2633 MORAVIAN AVE.
ALLENTOWN, PA 18103
207-279-0063
SBILLINGS@ACELA-AE.COM

LEGEND

PROPERTY BOUNDARY
ADJOINER LINE
BUILDING SETBACK
EASEMENT
BUFFER YARD
CURBING
EDGE OF PAVEMENT
SAWCUT
BUILDING PAVEMENT
CONCRETE SIDEWALK
SOIL BOUNDARY
UTILITY POLE
OVERHEAD ELECTRIC
UNDERGROUND ELECTRIC
WATER MAIN
FIRE HYDRANT / WATER VALVE
SANITARY LINE, MANHOLE, & CLEANOUT
STORM LINE, MANHOLE, & INLET
PROPOSED MONUMENTATION
SIGN
LIGHT STANDARD
DECIDUOUS TREE
EVERGREEN TREE
SHRUB
EDGE OF WOODS
CONTOUR
SPOT ELEVATION

SITE ABBREVIATIONS

BITUMINOUS
BUILDING RESTRICTION LINE
CONCRETE
EDGE OF PAVEMENT
EXISTING
FIRE HYDRANT
MONUMENT
PROPOSED
SANITARY
SQUARE FEET
TYPICAL
WATER VALVE
TO BE REMOVED & REPLACED
TO BE REMOVED
CLEAR SIGHT TRIANGLE
PLAIN CEMENT CONCRETE

811

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0' 20' 40'
SCALE: 1"=20'

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email: info@acela-ae.com

1818 & 1822 ELLIOT AVENUE
WARD 13 - BLOCK 40, CITY OF BETHLEHEM, LEHIGH COUNTY, PENNSYLVANIA
FOR
ANR DEVELOPMENT COMPANY, LLC
EROSION & SEDIMENTATION CONTROL PLAN

BY: CS
DATE: 7/30/2023
1. REV PER MEETING WITH CITY STAFF
2. REV PER CITY COMMENT LETTER DATED 12/23/2023
3. REV PER CITY COMMENT LETTER DATED 11/27/2024
4. REV PER CITY COMMENT LETTER DATED 11/27/2024

SCALE: 1"=20'
DATE: 11/09/2023
DRAWN: ELH
DSGN: SB
JOB: 22-GODSC-01
P MGR: SB
SHEET: 16 OF 25

ES-1
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xrefs:-\22-GODSC-01_24x36_Tbl12_15_Details.dwg->ESD-1 Erosion & Sedimentation Control Details Date: January 15, 2025-10:37am **acela architects + engineers, pc** USER: Rebecca

STANDARD EROSION AND SEDIMENT CONTROL PLAN NOTES

- ALL EARTH DISTURBANCES, INCLUDING CLEARING AND GRUBBING AS WELL AS CUTS AND FILLS SHALL BE DONE IN ACCORDANCE WITH THE APPROVED E&S PLAN. A COPY OF THE APPROVED DRAWINGS (STAMPED, SIGNED AND DATED BY THE REVIEWING AGENCY) MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES. THE REVIEWING AGENCY SHALL BE NOTIFIED OF ANY CHANGES TO THE APPROVED PLAN PRIOR TO IMPLEMENTATION OF THOSE CHANGES. THE REVIEWING AGENCY MAY REQUIRE A WRITTEN SUBMITTAL OF THOSE CHANGES FOR REVIEW AND APPROVAL AT ITS DISCRETION.
- AT LEAST 7 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, INCLUDING CLEARING AND GRUBBING, THE OWNER AND/OR OPERATOR SHALL INVITE ALL CONTRACTORS, THE LANDOWNER, APPROPRIATE MUNICIPAL OFFICIALS, THE E&S PLAN PREPARER, THE LICENSED PROFESSIONAL RESPONSIBLE FOR OVERSIGHT OF CRITICAL STAGES OF IMPLEMENTATION OF THE E&S PLAN, AND A REPRESENTATIVE FROM THE LOCAL CONSERVATION DISTRICT TO AN ON-SITE PRE-CONSTRUCTION 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 E&S BMPs SPECIFIED BY THE BMP SEQUENCE FOR THAT STAGE OR PHASE HAVE BEEN INSTALLED AND ARE FUNCTIONING AS DESCRIBED IN THIS E&S PLAN.
- AT NO TIME SHALL CONSTRUCTION VEHICLES BE ALLOWED TO ENTER AREAS OUTSIDE THE LIMIT OF DISTURBANCE BOUNDARIES SHOWN ON THE PLAN MAPS. THESE AREAS MUST BE CLEARLY MARKED AND FENCED OFF BEFORE CLEARING AND GRUBBING OPERATIONS BEGIN.
- TOPSOIL REQUIRED FOR THE ESTABLISHMENT OF VEGETATION SHALL BE STOCKPILED AT THE LOCATION(S) SHOWN ON THE PLAN MAPS(S) IN THE AMOUNT NECESSARY TO COMPLETE THE FINISH GRADING OF ALL EXPOSED AREAS THAT ARE TO BE STABILIZED BY VEGETATION. EACH STOCKPILE SHALL BE PROTECTED IN THE MANNER SHOWN ON THE PLAN DRAWINGS. STOCKPILE HEIGHTS SHALL NOT EXCEED 35 FEET. STOCKPILE SLOPES SHALL BE 2H:1V OR FLATTER.
- IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO MINIMIZE THE POTENTIAL FOR EROSION AND SEDIMENT POLLUTION AND NOTIFY THE LOCAL CONSERVATION DISTRICT AND/OR THE REGIONAL OFFICE OF THE DEPARTMENT.
- ALL BUILDING MATERIALS AND WASTES SHALL BE REMOVED FROM THE SITE AND RECYCLED OR DISPOSED OF IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ., 271.1, AND 287.1 ET. SEQ. NO BUILDING MATERIALS OR WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURNED, BURIED, DUMPED, OR DISCHARGED AT THE SITE.
- ALL OFF-SITE WASTE AND BORROW AREAS MUST HAVE AN E&S PLAN APPROVED BY THE LOCAL CONSERVATION DISTRICT OR THE DEPARTMENT FULLY IMPLEMENTED PRIOR TO BEING ACTIVATED.
- THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ANY MATERIAL BROUGHT ON SITE IS CLEAN FILL. FILLER MUST BE IDENTIFIED BY THE PROJECT MAPS. FILLER MUST BE 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 SHALL ENTER AND EXIT THE SITE ONLY AT THE ROCK CONSTRUCTION ENTRANCE AS SHOWN ON THE PLANS.
- 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 RUNOFF EVENT AND ON A WEEKLY BASIS. THE OPERATOR WILL MAINTAIN AND MAKE AVAILABLE TO NORTHAMPTON COUNTY CONSERVATION DISTRICT COMPLETE, WRITTEN INSPECTION LOGS OF ALL THOSE INSPECTIONS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING AND RENETTING MUST BE PERFORMED IMMEDIATELY. IF THE E&S BMPs FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMPs, OR MODIFICATIONS OF THOSE INSTALLED WILL BE REQUIRED.
- A LOG SHOWING DATES THAT E&S BMPs WERE INSPECTED AS WELL AS ANY DEFICIENCIES FOUND AND THE DATE THEY WERE CORRECTED SHALL BE MAINTAINED ON THE SITE AND BE MADE AVAILABLE TO REGULATORY AGENCY OFFICIALS AT THE TIME OF INSPECTION.
- 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 NOT BE VEGETATED SHALL HAVE A MINIMUM 4 INCHES OF TOPSOIL. IN PLACE PRIOR TO SEEDING AND MULCHING. FILL OUTSLOPES SHALL HAVE A MINIMUM OF 2 INCHES OF TOPSOIL.
- 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, SOD, 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 SUBSURFACE DRAIN OR OTHER APPROVED METHOD.
- ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY UPON REACHING FINISHED GRADE. CUT SLOPES IN COMPETENT BEDROCK AND ROCK FILLS NEED NOT BE VEGETATED. SEEDED AREAS WITHIN 50 FEET OF A SURFACE WATER, OR AS OTHERWISE SHOWN ON THE PLAN DRAWINGS, SHALL BE BLANKETED ACCORDING TO THE STANDARDS OF THIS PLAN.
- IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE IN ANY AREA OR SUBAREA OF THE PROJECT, THE OPERATOR SHALL STABILIZE ALL DISTURBED AREAS. DURING NON-GERMINATING MONTHS, MULCH OR PROTECTIVE BLANKETING SHALL BE APPLIED AS DESCRIBED IN THE PLAN. AREAS NOT AT FINISHED GRADE, WHICH WILL BE REACTIVATED WITHIN 1 YEAR, MAY BE STABILIZED IN ACCORDANCE WITH THE TEMPORARY STABILIZATION SPECIFICATIONS. THOSE AREAS WHICH WILL NOT BE REACTIVATED WITHIN 1 YEAR SHALL BE STABILIZED IN ACCORDANCE WITH THE PERMANENT STABILIZATION SPECIFICATIONS.
- PERMANENT STABILIZATION IS DEFINED AS A MINIMUM UNIFORM, PERENNIAL 70% VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED EROSION, CUT AND SLOPES SHALL BE CAPABLE OF RESISTING FAILURE DUE TO SLUMPING, SLIDING, OR OTHER MOVEMENTS.
- E&S BMPs SHALL REMAIN FUNCTIONAL AS SUCH UNTIL ALL AREAS TRIBUTARY TO THEM ARE PERMANENTLY STABILIZED OR UNTIL THEY ARE REPLACED BY ANOTHER BMP APPROVED BY THE LOCAL CONSERVATION DISTRICT OR 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 E&S BMPs.

- AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENT BMPs MUST BE REMOVED OR CONVERTED TO PERMANENT POST CONSTRUCTION STORMWATER MANAGEMENT BMPs. AREAS DISTURBED DURING REMOVAL OR CONVERSION OF THE BMPs SHALL BE STABILIZED IMMEDIATELY. IN ORDER TO ENSURE RAPID REVEGETATION OF DISTURBED AREAS, SUCH REMOVAL/CONVERSIONS ARE TO BE DONE ONLY DURING THE GERMINATING 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 E&S BMPs, FAILURE TO PREVENT SEDIMENT-LADEN RUNOFF FROM LEAVING THE CONSTRUCTION SITE, OR FAILURE TO TAKE IMMEDIATE CORRECTIVE ACTION TO RESOLVE FAILURE OF E&S BMPs MAY RESULT IN ADMINISTRATIVE, CIVIL, AND/OR CRIMINAL PENALTIES BEING INSTITUTED BY THE DEPARTMENT AS DEFINED IN SECTION 802 OF THE PENNSYLVANIA CLEAN STREAMS LAW. THE CLEAN STREAMS LAW PROVIDES FOR UP TO \$10,000 PER DAY IN CIVIL PENALTIES, UP TO \$10,000 IN SUMMARY CRIMINAL PENALTIES, AND UP TO \$25,000 IN MISDEMEANOR CRIMINAL PENALTIES FOR EACH VIOLATION.
- IN THE EVENT OF SINKHOLE DISCOVERY A PROFESSIONAL GEOLOGIST OR ENGINEER WILL BE CONTACTED CONCERNING MITIGATION. ADDITIONALLY, THE NORTHAMPTON COUNTY CONSERVATION DISTRICT AND THE UPPER SAUCON TOWNSHIP GEOTECHNICAL CONSULTANT 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 C, PROTECTION OF NATURAL RESOURCES, ARTICLE III, WATER RESOURCES, CHAPTER 102, EROSION CONTROL.
- THE E&S 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.)
- ALL WETLANDS MUST BE DELINEATED AND PROTECTED WITH ORANGE SAFETY FENCE PRIOR TO ANY EARTHMOVING ACTIVITY.
- STRAW MULCH SHALL BE APPLIED IN LONG STRANDS, NOT CHOPPED OR FINELY BROKEN.
- CONCRETE WASH WATER SHALL BE HANDLED IN THE MANNER DESCRIBED ON THE PLAN DRAWINGS. IN NO CASE SHALL IT BE ALLOWED TO ENTER ANY SURFACE WATERS OR GROUNDWATER SYSTEMS.
- ALL CHANNELS SHALL BE KEPT FREE OF OBSTRUCTIONS INCLUDING BUT NOT LIMITED TO FILL, ROCKS, LEAVES, WOODY DEBRIS, ACCUMULATED SEDIMENT, EXCESS VEGETATION, AND CONSTRUCTION MATERIAL/WASTES.
- UNDERGROUND UTILITIES CUTTING THROUGH ANY ACTIVE CHANNEL SHALL BE IMMEDIATELY BACKFILLED AND THE CHANNEL RESTORED TO ITS ORIGINAL CROSS-SECTION AND PROTECTIVE LINING. ANY BASE FLOW WITHIN THE CHANNEL SHALL BE CONVEYED PAST THE WORK AREA IN THE MANNER DESCRIBED IN THIS PLAN UNTIL SUCH RESTORATION IS COMPLETE.
- UPON REQUEST, THE APPLICANT OR HIS CONTRACTOR SHALL PROVIDE AN AS-BUILT (RECORD DRAWING) FOR ANY SEDIMENT BASIN OR TRAP TO THE MUNICIPAL INSPECTOR, LOCAL CONSERVATION DISTRICT OR THE DEPARTMENT.
- EROSION CONTROL BLANKETING SHALL BE INSTALLED ON ALL SLOPES 3H:1V OR STEEPER WITHIN 50 FEET OF A SURFACE WATER AND ON ALL OTHER DISTURBED AREAS SPECIFIED ON THE PLAN MAPS AND/OR DETAIL SHEETS.
- FILL MATERIAL FOR EMBANKMENTS SHALL BE FREE OF ROOTS, OR OTHER WOODY VEGETATION, ORGANIC MATERIAL, LARGE STONES, AND OTHER OBJECTIONABLE MATERIALS. THE EMBANKMENT SHALL BE COMPACTED IN MAXIMUM 8" LAYERED LIFTS AT 95% DENSITY.

CLEAN FILL AND ENVIRONMENTAL DUE DILIGENCE:

- IF THE SITE WILL HAVE EXCESS FILL THAT WILL NEED TO BE EXPORTED TO AN OFF SITE LOCATION, THE RESPONSIBILITY OF CLEAN FILL DETERMINATION AND ENVIRONMENTAL DUE DILIGENCE RESTS ON THE APPLICANT. IF ALL CUT AND FILL MATERIALS WILL BE USED ON THE SITE, A CLEAN FILL DETERMINATION IS NOT REQUIRED BY THE OPERATOR UNLESS THERE IS A BELIEF THAT A SPILL OR RELEASE OF A REGULATED SUBSTANCE OCCURRED ON THE SITE.
- ALL FILL MATERIAL MUST BE USED IN ACCORDANCE WITH PA DEP'S POLICY "MANAGEMENT OF FILL" DOCUMENT NUMBER 258-2182-773.
- CLEAN FILL IS DEFINED AS: UNCONTAMINATED, NON-WATER SOLUBLE, NON-DECOMPOSABLE, INERT, SOLID MATERIAL. THE TERM INCLUDES SOIL, ROCK, STONE, DREDGED MATERIAL, USED ASPHALT (NOT INCLUDING MILLED ASPHALT OR ASPHALT THAT HAS BEEN PROCESSED FOR RE-USE), AND BRICK, BLOCK OR CONCRETE FROM CONSTRUCTION AND DEMOLITION ACTIVITIES THAT IS SEPARATE FROM OTHER WASTE AND IS RECOGNIZABLE AS SUCH. THE TERM DOES NOT INCLUDE MATERIALS PLACED IN OR ON THE WATERS OF THE COMMONWEALTH UNLESS OTHERWISE AUTHORIZED.
- ENVIRONMENTAL DUE DILIGENCE IS DEFINED AS: INVESTIGATIVE TECHNIQUES, INCLUDING BUT NOT LIMITED TO, VISUAL PROPERTY INSPECTIONS, ELECTRONIC DATA BASE SEARCHES, REVIEW OF PROPERTY OWNERSHIP, REVIEW OF PROPERTY USE HISTORY, SANBORN MAPS, ENVIRONMENTAL QUESTIONNAIRES, TRANSACTION SCREENS, ANALYTICAL TESTING, ENVIRONMENTAL ASSESSMENTS OR AUDITS. ANALYTICAL TESTING IS NOT A REQUIRED PART OF DUE DILIGENCE UNLESS VISUAL INSPECTIONS AND/OR REVIEW OF THE PAST LAND USE AND THE PROPERTY INDICATES THAT THE FILL MAY HAVE BEEN SUBJECTED TO A SPILL OR RELEASE OF REGULATED SUBSTANCE.
- FILL THAT DOES NOT QUALIFY AS CLEAN FILL IS REGULATED FILL. REGULATED FILL IS WASTE AND MUST BE MANAGED IN ACCORDANCE WITH PA DEP'S MUNICIPAL OR RESIDENTIAL WASTE REGULATIONS BASED ON 25 PA CODE CHAPTERS 287 RESIDUAL WASTE MANAGEMENT OR 271 MUNICIPAL WASTE MANAGEMENT, WHICHEVER IS APPLICABLE.

RECYCLING & DISPOSAL

PROCEDURES, WHICH ENSURE THAT THE PROPER MEASURES FOR THE RECYCLING OR DISPOSAL OF MATERIALS ASSOCIATED WITH OR FROM THE PROJECT SITE, WILL BE UNDERTAKEN IN ACCORDANCE WITH DEPARTMENT REGULATIONS. INDIVIDUALS RESPONSIBLE FOR EARTH DISTURBANCE ACTIVITIES MUST ENSURE THAT PROPER MECHANISMS ARE IN PLACE TO CONTROL WASTE MATERIALS. CONSTRUCTION WASTES INCLUDE, BUT ARE NOT LIMITED TO, EXCESS SOIL, MATERIALS, BUILDING MATERIALS, CONCRETE WASH WATER, SANITARY WASTES, ETC. THAT COULD ADVERSELY IMPACT WATER QUALITY. THE CONTRACTOR SHALL PLAN AND IMPLEMENT MEASURES FOR HOUSEKEEPING, MATERIALS MANAGEMENT, AND LITTER CONTROL DURING CONSTRUCTION. WHEREVER POSSIBLE, RECYCLING OF EXCESS MATERIALS IS PREFERRED, RATHER THAN DISPOSAL. DISPOSAL OF CONSTRUCTION WASTES SHALL BE IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL GUIDELINES AND REGULATIONS.

SEDIMENT REMOVAL/DISPOSAL NOTE

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.

UTILITY LINE TRENCH EXCAVATION/DISTURBANCE

- LIMIT ADVANCE CLEARING AND OPERATIONS TO A DISTANCE EQUAL TO TWO TIMES THE LENGTH OF PIPE INSTALLATION THAT CAN BE COMPLETED IN ONE DAY.
- LIMIT DAILY TRENCH EXCAVATION TO THE LENGTH OF PIPE PLACEMENT AND BACKFILLING THAT CAN BE COMPLETED THE SAME DAY (EIGHT HOURS). ALL EXCAVATED MATERIAL MUST BE STOCKPILED UPSLOPE OF TRENCH. DAILY BACKFILLING MAY BE DELAYED A MAXIMUM OF SIX DAYS IF PRESSURE TESTING IS REQUIRED.
- ANY WATER WHICH ACCUMULATES IN THE OPEN TRENCH SHALL BE COMPLETELY REMOVED BY PUMPING INTO A PUMP FILTER BAG (OR OTHER SEDIMENT REMOVAL FACILITY).
- ON THE DAY FOLLOWING PIPE PLACEMENT AND TRENCH BACKFILLING, THE DISTURBED AREA WILL BE GRADED TO FINAL CONTOURS. STRAWBALE BARRIERS SHALL BE INSTALLED ACROSS THE TRENCH DISTURBANCE AREA AS DEEMED NECESSARY.
- STABILIZATION OF ALL DISTURBED AREAS SHALL BE DONE IMMEDIATELY.
- UTILITY CONSTRUCTION GENERALLY SHALL BE DONE FROM DOWNSTREAM TO UPSTREAM TO LIMIT DISTURBANCE. RESTORATION/STABILIZATION SHALL BE CONCURRENTLY.

CLEAN FILL / ENVIRONMENTAL DUE DILIGENCE NOTES:

- CONTRACTOR IS RESPONSIBLE FOR PROVIDING CLEAN FILL AND PERFORMING ENVIRONMENTAL DUE DILIGENCE. CLEAN FILL IS DEFINED AS UNCONTAMINATED, NONWATER-SOLUBLE, NONDECOMPOSABLE INERT SOLID MATERIAL USED TO LEVEL AN AREA OR BRING THE AREA TO GRADE. THE TERM DOES NOT INCLUDE MATERIALS PLACED IN OR ON THE WATERS OF THE COMMONWEALTH. THE TERM DOES INCLUDE THE FOLLOWING MATERIALS: SOIL, ROCK, STONE, DREDGED MATERIAL, USED ASPHALT, AND BRICK, BLOCK OR CONCRETE FROM CONSTRUCTION AND DEMOLITION ACTIVITIES THAT IS SEPARATE FROM OTHER WASTE AND RECOGNIZABLE AS SUCH. (25 PA. CODE §§ 287.1, 271.1)
- ENVIRONMENTAL DUE DILIGENCE IS DEFINED AS: INVESTIGATIVE TECHNIQUES, INCLUDING, BUT NOT LIMITED TO, VISUAL PROPERTY INSPECTIONS, ELECTRONIC DATA BASE SEARCHES, REVIEW OF OWNERSHIP AND USE HISTORY OF PROPERTY, SANBORN MAPS, ENVIRONMENTAL QUESTIONNAIRES, TRANSACTION SCREENS, ENVIRONMENTAL ASSESSMENTS AND AUDITS.

TEMPORARY AND PERMANENT SEEDING SPECIFICATIONS

SPECIFICATIONS: THE DEPARTMENT RECOMMENDS THE USE OF THE PENN STATE PUBLICATION, "EROSION CONTROL AND CONSERVATION PLANTINGS ON NONCROPLAND," AS THE STANDARD TO USE FOR SELECTION OF SPECIES, SEED SPECIFICATIONS, MIXTURES, LIVING AND FERTILIZING TIME OF SEEDING, AND SEEDING METHODS. SPECIFICATIONS FOR THESE ITEMS MAY ALSO BE OBTAINED FROM PENN DOT'S PUBLICATION # 408, SECTION 804 OR BY CONTACTING THE APPLICABLE COUNTY CONVERSATION DISTRICT. UPON SELECTION OF A REFERENCE, THAT REFERENCE SHOULD BE USED TO PROVIDE ALL SPECIFICATIONS FOR SEEDING, MULCHING, AND SOIL AMENDMENTS. THE FOLLOWING SPECIFICATION WILL BE USED FOR THIS PROJECT:

(TEMPORARY)	
SPECIES:	ANNUAL RYEGRASS
%PURE LIVE SEED:	98
APPLICATION RATE:	40
FERTILIZER TYPE:	10-10-10
FERTILIZER APPL. RATE:	500
LIMING RATE:	1
MULCH TYPE:	HAY OR STRAW
MULCHING RATE:	3
SEEDING SEASON DATES:	MARCH 15 - JUNE 1
	AUGUST 1 - OCTOBER 15
(PERMANENT)	
SPECIES:	PENN LAWN FINE FESCUE, KENTUCKY BLUE, PERENNIAL RYEGRASS
%PURE LIVE SEED:	98
APPLICATION RATE:	109 (PENN LAWN FINE FESCUE)
	174 (KENTUCKY BLUE)
	65 (PERENNIAL RYEGRASS)
FERTILIZER TYPE:	10-20-20
FERTILIZER APPL. RATE:	1,000
LIMING RATE:	6
MULCH TYPE:	HAY OR STRAW
MULCHING RATE:	3
ANCHOR MATERIAL:	WOOD CELLULOSE
ANCHORING METHOD:	BLOWN
RATE OF ANCHOR MATERIAL APPL.:	1,500
SEEDING SEASON DATES:	MARCH 15 - JUNE 1
	AUGUST 1 - OCTOBER 15

(PERMANENT-STEEP SLOPE)	
SPECIES:	WINTER RYE, TALL FESCUE, RED FINE FESCUE
%PURE LIVE SEED:	100
APPLICATION RATE:	112 (WINTER RYE)
	60 (TALL FESCUE)
	15 (RED FINE FESCUE)
FERTILIZER TYPE:	10-20-20
FERTILIZER APPL. RATE:	1,000
LIMING RATE:	6
MULCH TYPE:	HAY OR STRAW
MULCHING RATE:	3
ANCHOR MATERIAL:	EROSION CONTROL BLANKET
ANCHORING METHOD:	PER MANUFACTURER'S RECOMMENDATION
RATE OF ANCHOR MATERIAL APPL.:	PER MANUFACTURER'S RECOMMENDATION
SEEDING SEASON DATES:	MARCH 15 - MAY 15
	AUGUST 16 - OCTOBER 15

NOTE:

- IF ANY REVISIONS TO THE SEEDING SPECIFICATIONS ARE REQUIRED, THE CONTRACTOR SHALL CONTACT THE CONSERVATION DISTRICT TO OBTAIN GUIDANCE ON ALTERNATIVE SEEDING SPECIFICATIONS.
- REFER TO STANDARD EROSION AND SEDIMENT CONTROL PLAN NOTES #19 FOR SCARIFICATION AND TOPSOIL REQUIREMENTS.

CONSTRUCTION SEQUENCE

- SCHEDULE A PRE-CONSTRUCTION CONFERENCE AND PROVIDE AT LEAST SEVEN (7) WORKING DAYS' NOTICE TO THE FOLLOWING AGENCIES PRIOR TO COMMENCEMENT OF SITE GRADING WORK:
 - PROJECT ENGINEER: 610-365-4023
 - MUNICIPAL ENGINEER:
 - PA ONE CALL: 1-800-242-1776
- THE CONTRACTOR SHALL CONTACT THE DESIGN ENGINEER AT LEAST FORTY- EIGHT HOURS (48 HOURS) IN ADVANCE OF EROSION CONTROL FACILITIES COMPONENT INSTALLATIONS.
- PRIOR TO REMOVAL OF TOPSOIL, REFER TO THE ESPC PLAN SHEET FOR LOCATION OF SOIL STOCKPILES. TEMPORARY AND PERMANENT SEEDING SHALL BE IN ACCORDANCE WITH REQUIREMENTS LISTED AND AS NOTED IN THE PROJECT NARRATIVE AND AS LISTED ON THE ESPC PLAN SHEET. COMPOST FILTER SOCK SHALL BE INSTALLED DOWNSLOPE OF ALL TOPSOIL STOCKPILES.
 - 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.
- DISTURBED AREAS SHALL NOT BE STRIPPED OF TOPSOIL FOR MORE THAN FOUR (4) DAYS WITHOUT TEMPORARY STABILIZATION.
- INSTALL ROCK CONSTRUCTION ENTRANCE AS SHOWN ON THE PLANS. ALL CONSTRUCTION TRAFFIC IS TO ENTER THERE. ALTERNATE ENTRANCES ARE PROHIBITED.
- INSTALL COMPOST FILTER SOCKS 1-3.
- STRIP TOPSOIL AND PLACE AT TEMPORARY STOCKPILE AT LOCATION SHOWN ON THE PLAN IF NECESSARY. PLACE COMPOST FILTER SOCK 4 DOWNSLOPE OF STOCKPILE. IMMEDIATELY STABILIZE MATERIAL.
- PERFORM EXCAVATION REQUIRED IN ORDER TO CONSTRUCT BUILDING PAD AND GRADING AND IMMEDIATELY INSTALL EROSION CONTROL MATTING AND STABILIZE AREA.
- BEGIN PLACING FILL FOR PARKING AREAS AND BUILDING PAD.
- INSTALL CONCRETE WASHOUT FACILITY AS CALLED OUT ON PLANS.
- INSTALL STORM SEWER COLLECTION SYSTEM FROM ENDWALL 14 TO MANHOLE 13. IMMEDIATELY PLACE OUTLET PROTECTION AT ENDWALL 14.
- INSTALL STORM SEWER COLLECTION SYSTEM FROM MANHOLE 13 TO INLET 9. IMMEDIATELY PLACE INLET PROTECTION AT INLET 9.
- INSTALL STORM SEWER COLLECTION SYSTEM FROM INLET 9 TO MANHOLE 8 AND FROM MANHOLE 8 TO INLET 3. IMMEDIATELY PLACE INLET PROTECTION AT INLET 3.
- INSTALL STORM SEWER COLLECTION SYSTEM FROM INLET 3 TO INLET 2. IMMEDIATELY PLACE INLET PROTECTION AT INLET 2.
- INSTALL STORM SEWER COLLECTION SYSTEM FROM INLET 2 TO INLET 1.
- INSTALL STORM SEWER COLLECTION SYSTEM FROM MANHOLE 8 TO INLET 7 AND INLET 6. IMMEDIATELY PLACE INLET PROTECTION AT INLET 6 AND 7.
- INSTALL STORM SEWER COLLECTION SYSTEM FROM INLET 7 TO INLET 5 AND CONSTRUCT UNDERGROUND DETENTION BASIN 1 INCLUDING INLET 4. IMMEDIATELY PLACE INLET PROTECTION AT INLET 5 AND INLET 4.
- INSTALL STORM SEWER COLLECTION SYSTEM FROM MANHOLE 13 TO INLET 12. IMMEDIATELY PLACE INLET PROTECTION AT INLET 12.
- INSTALL STORM SEWER COLLECTION SYSTEM FROM INLET 12 TO INLET 11 AND CONSTRUCT UNDERGROUND DETENTION BASIN 2 INCLUDING INLET 10. IMMEDIATELY PLACE INLET PROTECTION AT INLET 11 AND INLET 10.
- CONSTRUCT BUILDING 1.
- INSTALL ROOF LEADER PIPES FROM INLET 4 TO BUILDING 1. CONNECT BUILDING ROOF LEADER PIPES AS THEY ARE CONSTRUCTED.
- INSTALL RAIN GARDEN 1. IMMEDIATELY STABILIZE RAIN GARDEN SIDES WITH NORTH AMERICAN GREEN S-75 EROSION CONTROL MATTING.
- CONSTRUCT BUILDING 2.
- INSTALL ROOF LEADER PIPES FROM INLET 10 TO BUILDING 2. CONNECT BUILDING ROOF LEADER PIPES AS THEY ARE CONSTRUCTED.
- INSTALL RAIN GARDEN 2. IMMEDIATELY STABILIZE RAIN GARDEN SIDES WITH NORTH AMERICAN GREEN S-75 EROSION CONTROL MATTING.
- INSTALL SANITARY SEWER, ELECTRIC, AND WATER SERVICE UTILITY LINES FROM EXISTING LOCATIONS TO PROPOSED STRUCTURE. BACKFILL AND STABILIZE AREAS OF DISTURBANCE. THE ROCK CONSTRUCTION ENTRANCE SHOULD BE IMMEDIATELY REPAIRED OR REINSTALLED UPON COMPLETION OF THE UTILITY INSTALLATION.
- INSTALL RETAINING WALLS.
- INSTALL ALL CONCRETE CURBING AND SIDEWALK. ALL DISTURBANCE GENERATED DURING SIDEWALK AND CURB INSTALLATION SHOULD BE IMMEDIATELY STABILIZED.
- PLACE SUBBASE STONE AGGREGATE FOR ALL AREAS TO BE PAVED.
- PAVE ALL PARKING AND ROADWAY AREAS AND LINE STRIPE PARKING FACILITIES.
- FINE GRADE THE SITE AND PERFORM LAWN RESTORATION.
- ONCE SITE STABILIZATION HAS BEEN ACHIEVED, REMOVE ALL EROSION CONTROLS. ALL AREAS DISTURBED DURING THE REMOVAL OF THE EROSION CONTROL BMPs SHOULD BE IMMEDIATELY REPAIRED AND PERMANENTLY STABILIZED.
- NO SOIL IS TO BE HAULED OFF-SITE WITHOUT SEPARATE EROSION AND SEDIMENTATION POLLUTION CONTROL PLAN REVIEWED BY THE DESIGN ENGINEER. AN AREA SHALL BE CONSIDERED TO HAVE ACHIEVED FINAL STABILIZATION WHEN IT HAS A UNIFORM MINIMUM 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.

NOTE: MODIFICATIONS TO THIS SEQUENCE ARE ACCEPTABLE PROVIDED THAT ALL DISTURBANCES HAVE AN EROSION CONTROL BMP DOWNSLOPE.

TABLE 11.4 Recommended Seed Mixtures				
Mixture Number	Species	Seeding Rate -Pure Live Seed	Most Sites	Adverse Sites
1 2	Spring oats (spring), or Annual ryegrass (spring or fall), or Winter wheat (fall), or Winter rye (fall)	64 10 90 56	96 15 120 112	
	Tall fescue, or Fine fescue, or Kentucky bluegrass, plus Redtop, or Perennial ryegrass	60 35 25 3	75 40 30 3	
	Birdsfoot trefoil, plus Tall fescue,	30	25	
	Birdsfoot trefoil, plus Reed canarygrass	6	10	
3	Crownvetch, plus Tall fescue, or Perennial ryegrass	10 20	15 25	
4	Crownvetch, plus Tall fescue, or Perennial ryegrass	10 20	15 25	
5a	Birdsfoot trefoil, plus Crownvetch, plus Annual ryegrass	6 10 10	10 15 25	
6 a	Birdsfoot trefoil, plus Crownvetch, plus Tall fescue,	6 10 20	10 15 30	
7 a	Flatpea, plus Tall fescue, or Perennial ryegrass	20 20 20	30 30 30	
8	Sericea lespedeza, plus Tall fescue, plus Redtop	10 20 3	20 25 3	
9 a	Tall fescue, plus Fine fescue	40 10	60 15	
10	Deerfodrage, plus Birdsfoot trefoil	15 6	20 10	
11	Switchgrass, or Big Bluestem, plus Birdsfoot trefoil	15 15 6	20 20 30	
12 7	Orchard grass, or Smooth bromegrass, plus Birdsfoot trefoil	20 25 6	30 35 10	
13				

PENN STATE, "EROSION CONTROL AND CONSERVATION PLANTINGS ON NONCROPLAND"

- PLS IS THE PRODUCT OF THE PERCENTAGE OF PURE LIVE SEED TIMES PERCENTAGE GERMINATIONS DIVIDED BY 100. FORS EXAMPLE, TO SECURE THE ACTUAL PLANTING RATE FOR SWITCHGRASS, DIVIDE 12 POUNDS PLS SHOWN ON THE SEED TAG. THUS, IF THE PLS CONTENT OF A GIVEN SEED LOT IS 35%, DIVIDE 12 PLS BY 0.35 TO OBTAIN 34.3 POUNDS OF SEED REQUIRED TO PLANT ONE ACRE. ALL MIXTURES IN THIS TABLE ARE SHOWN IN TERMS OF PLS.
- IF HIGH-QUALITY SEED IS USED, FOR MOST SITES SEED SPRING OATS AT A RATE OF 2 BUSHELS PER ACRE, WINTER WHEAT AT 11.5 BUSHELS PER ACRE, AND WINTER RYE AT 1 BUSHEL PER ACRE. IF GERMINATION IS BELOW 90%, INCREASE THESE SUGGESTED SEEDING RATES BY 0.5 BUSHEL PER ACRE.
- THIS MIXTURE IS SUITABLE FOR FREQUENT MOWING. DO NOT CUT SHORTER THAN 4 INCHES.
- KEEP SEEDING RATE TO THAT RECOMMENDED IN TABLE. THESE SPECIES HAVE MANY SEEDS PER POUND AND ARE VERY COMPETITIVE. TO SEED SMALL QUANTITIES OF SMALL SEEDS SUCH AS WEEPING LOVEGRASS AND REDTOP, DILUTE WITH DRY SAWDUST, SAND, RICE HULLS, BUSSWHEAT OR OTHER INERT MATERIAL.
- USE FOR HIGHWAY SLOPES AND SIMILAR SITES WHERE THE DESIRED SPECIES AFTER ESTABLISHED IS CROWN VETCH.
- USE ONLY IN EXTREME SOUTHEASTERN OR EXTREME SOUTHWESTERN PENNSYLVANIA. SERICIA LESPEDEZA IS NOT WELL ADAPTED TO MOST OF PA.
- DO NOT MOW SHORTER THAN 9 TO 10 INCHES.
- SEED MIXTURES CONTAINING CROWN VETCH SHOULD NOT BE USED IN AREAS ADJACENT TO WETLANDS OR STREAM CHANNELS DUE TO THE INVASIVE NATURE OF THE SPECIES.

TEMPORARY MULCHING

CLEAN OUT OR WHEAT STRAW SHALL BE FREE FROM MATURE SEED-BEARING STALKS OR ROOTS OF PROHIBITED OR NOXIOUS WEEDS AS DEFINED BY THE PENNSYLVANIA SEED ACT OF 1947. APPLY AT A RATE 3 TONS PER ACRE. PRECAUTIONS SHALL BE TAKEN TO STABILIZE THE MULCH UNTIL THE VEGETATIVE COVER IS ESTABLISHED.

PERMANENT MULCHING

MULCH OF LONG STEW STRAW SHALL BE APPLIED AT EVEN APPLICATION OF 3 TONS PER ACRE WITH A SURFACE COVERAGE OF 80-90%.

TABLE 11.5 Recommended Seed Mixtures for Stabilizing Disturbed Areas				
Site Condition	Nurse Crop	Seed Mixture (Select one mixture)		
Slopes and Banks (not mowed)				
Well-drained	1 plus	3, 5, 8, or12'		
Variable drainage	1 plus	3 or7'		
Slopes and Banks (mowed)				
Well-drained	1 plus	2 or10		
Slopes and Banks (grazed/hay)				
Well-drained	1 plus	2, 3, or13'		
Gullies and Eroded Areas				
Well-drained	1 plus	3, 5, 7, or12'		
Erosion Control Facilities (8 M P's)				
Sod waterways, spillways, frequent water flow areas	1 plus	2, 3, or4		
Drainage ditches				
Shallow, less than 3 feet deep	1 plus	2, 3, or4		
Deep, not mowed	1 plus	5 or7'		
Pond banks, dikes, levees, dams, diversion channels, And occasional water flow areas				
Mowed areas	1 plus	2 or3		
Non-mowed areas	1 plus	5 or7'		
For hay or silage on diversion channels and Occasional water flow areas				
1 plus	3 or13'			
Highways				
Non-mowed areas				
Pure straw/mulch ^h	1 plus	5 or6		
Well-drained	1 plus	5, 7, 8, 9, or10		
Variable drainage	1 plus	3 or7'		
Poorly drained	1 plus	3 or4		
Areas mowed several times per year	1 plus	2, 3, or10		
Utility Right-of-Way				
Well-drained	1 plus	5, 8, or12'		
Variable drainage	1 plus	3 or7'		
Well-drained areas for grazing/hay	1 plus	2, 3, or13'		
Effluent Disposal Areas				
Well-drained	1 plus	3, 5, 7, 8, 9, 11, or12'		
Sanitary Landfills				
Well-drained	1 plus	3, 5, 7, 8, 9, 11, or12'		
Variable drainage	1 plus	3 or7'		
Well-drained areas for grazing/hay	1 plus	2, 3, or13'		
Surface mines				
Soils: mine wastes, fly ash, slag, settling basin Residues, and other severely disturbed areas (not in salt soil)	1 plus	3, 4, 5, 7, 8, 9, 11, or12'		
Severely disturbed areas for grazing/hay	1 plus	3 or13'		

EROSION AND SEDIMENT POLLUTION CONTROL

STANDARD WORK SHEET # 21
TEMPORARY AND PERMANENT SEEDING SPECIFICATIONS

PROJECT:	1818 & 1822 Elliott Avenue	JOB #	22-GODSC-01
LOCATION:	City of Bethlehem	DATE:	10/5/23
COUNTY:	LEHIGH	REVISED:	10/5/2023

SPECIFICATIONS :

The Department recommends the use of the Penn State publication "EROSION CONTROL & Conservation Plantings on Noncroplands" as the standard to use for the selection of species, seed specifications, mixtures, liming and fertilizing, time of seeding and seeding methods. Specifications for these items may also be obtained from PennDOT's publication # 408, Section 800 or by contacting the applicable county conservation district. Upon selection of a reference, that reference must be used to provide all specifications for seeding, mulching, and soil amendments. The following specification will be used for this project:

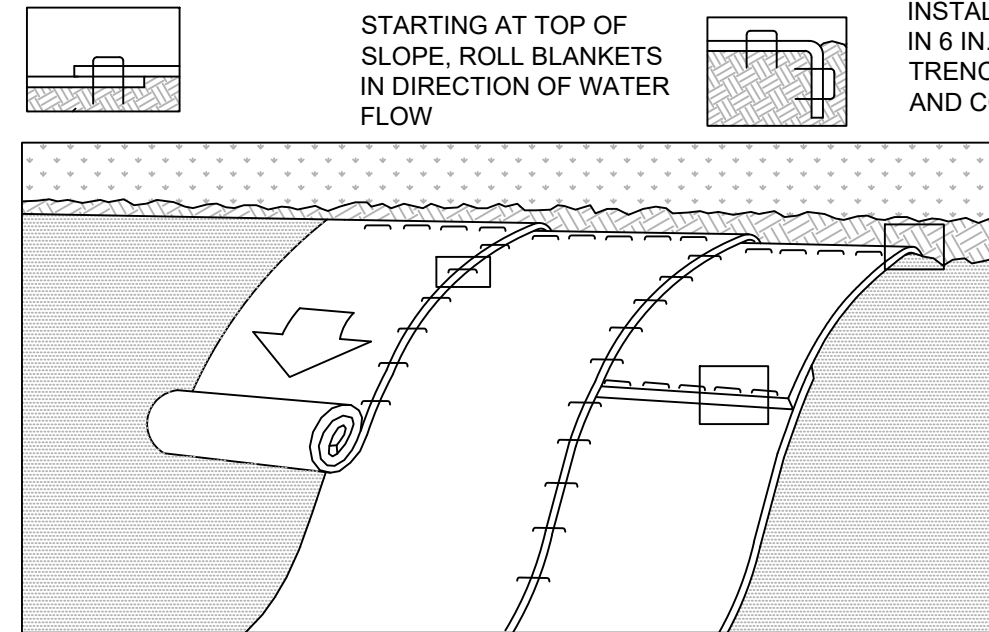
(TEMPORARY)	SPECIES:	Annual Ryegrass	
	% PURE LIVE SEED:	98	%
	APPLICATION RATE:	40	LB./ACRE
	FERTILIZER TYPE:	10-10-10	(X-X-X)
	FERTILIZER APPL. RATE:	150	LB./ACRE
	LIMING RATE:	1	T./ACRE
	MULCH TYPE:	Hay or Straw	
(PERMANENT)	SPECIES:	Penn Lawn Fine Fescue,	
		Kentucky Blue, Perennial Ryegrass	
	% PURE LIVE SEED:	98	%
	APPLICATION RATE:	109 (Penn Lawn Fine Fescue)	LB./ACRE
		174 (Kentucky Blue)	LB./ACRE
		65 (Perennial Ryegrass)	LB./ACRE
	FERTILIZER TYPE:	10/20/20/20	(X-X-X)
(PERMANENT - STEEP SLOPE)	FERTILIZER APPL. RATE:	1,000	LB./ACRE
	LIMING RATE:	6	T./ACRE
	MULCH TYPE:	Hay or Straw	
	MULCHING RATE:	3	T./ACRE
	ANCHOR MATERIAL:	Wood Cellulose	
	ANCHORING METHOD:	Blown	
	RATE OF ANCHOR MATERIAL APPL.:	1,500	LB./ACRE
(PERMANENT - STEEP SLOPE)	SEEDING SEASON DATES:	March 15 - June 1	
		August 1 - October 15	
	SPECIES:	Winter Rye, Tall Fescue,	
		Red Fine Fescue	
	% PURE LIVE SEED:	100	%
	APPLICATION RATE:	112 (Winter Rye)	LB./ACRE
		60 (Tall Fescue)	LB./ACRE
(PERMANENT - STEEP SLOPE)		15 (Red Fine Fescue)	LB./ACRE
	FERTILIZER TYPE:	10/10/20/20	(X-X-X)
	FERTILIZER APPL. RATE:	1,000	LB./ACRE
	LIMING RATE:	6	T./ACRE
	MULCH TYPE:	Hay or Straw	
	MULCHING RATE:	3	T./ACRE
	ANCHOR MATERIAL:	Non Asphaltic	
(PERMANENT - STEEP SLOPE)	ANCHORING METHOD:	Blown	
	RATE OF ANCHOR MATERIAL APPL.:	50	LB./ACRE
	SEEDING SEASON DATES:	March 15 - May 15	
		August 16 - October 15	

* If more than one species is used, indicate application rate for each species.
Note: Show information from this sheet on plan drawings.

22-GODSC-01_ES-Worksheets.xls - WS-21

3

BLANKET EDGES STAPLED
AND OVERLAPPED
(4 IN. MIN.)



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

OVERLAP BLANKET ENDS 6 IN. MIN. WITH THE UPSLOPE BLANKED OVERLYING THE DOWNSLOPE BLANKET (SHINGLE STYLE), STAPLE SECURELY.

REFER TO MANUF. RECOMMENDED STAPLING PATTERN FOR STEEPNESS AND LENGTH OF SLOPE BEING BLANKETED

NOTES:

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

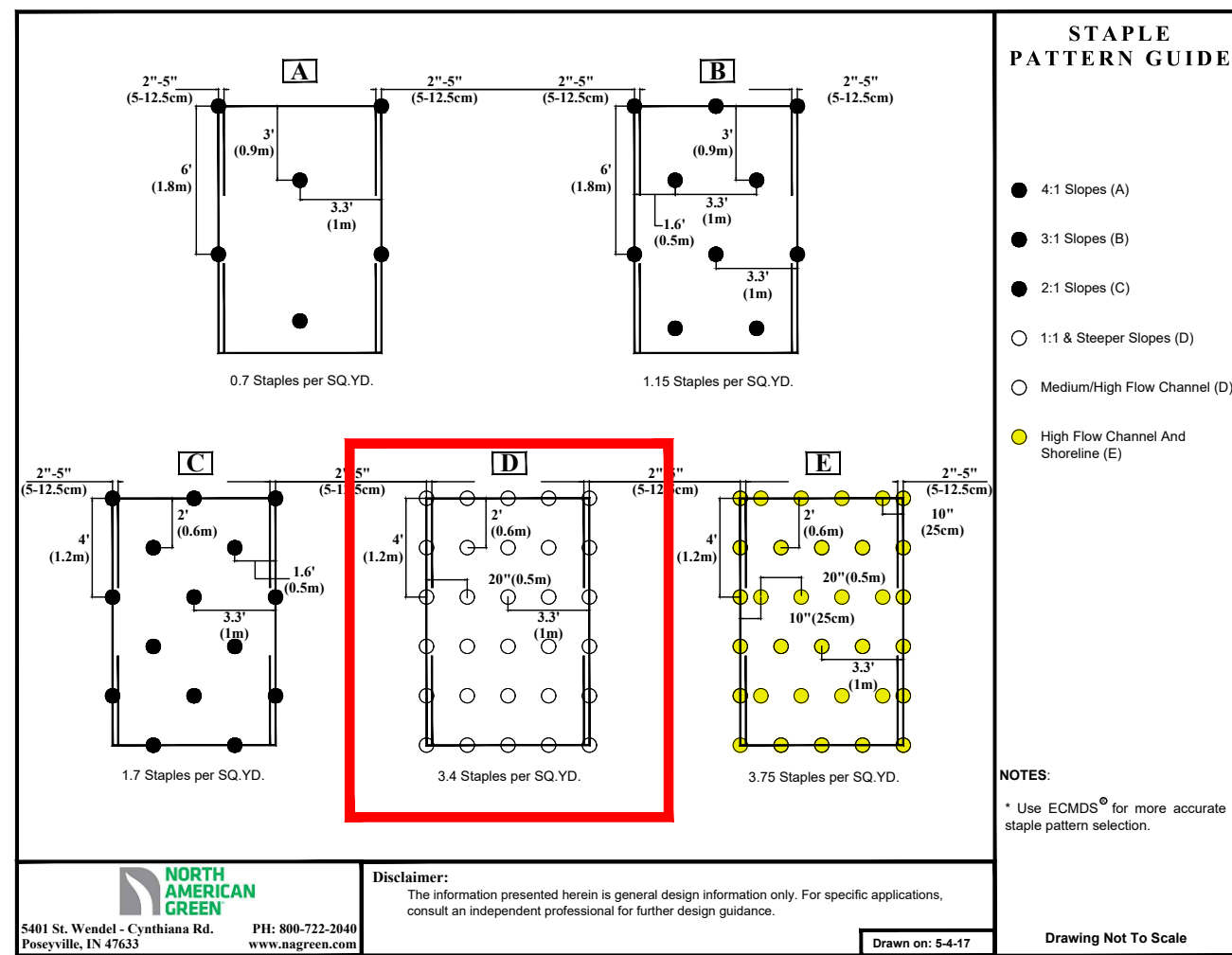
PROVIDE ANCHOR TRENCH AT TOE OF SLOPE IN SIMILAR FASHION AS AT TOP OF SLOPE.

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

BLANKET SHALL HAVE GOOD CONTINUOUS CONTACT WITH UNDERLYING SOIL THROUGHOUT ENTIRE LENGTH. LAY BLANKET LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH SOIL. DO NOT STRETCH BLANKET.

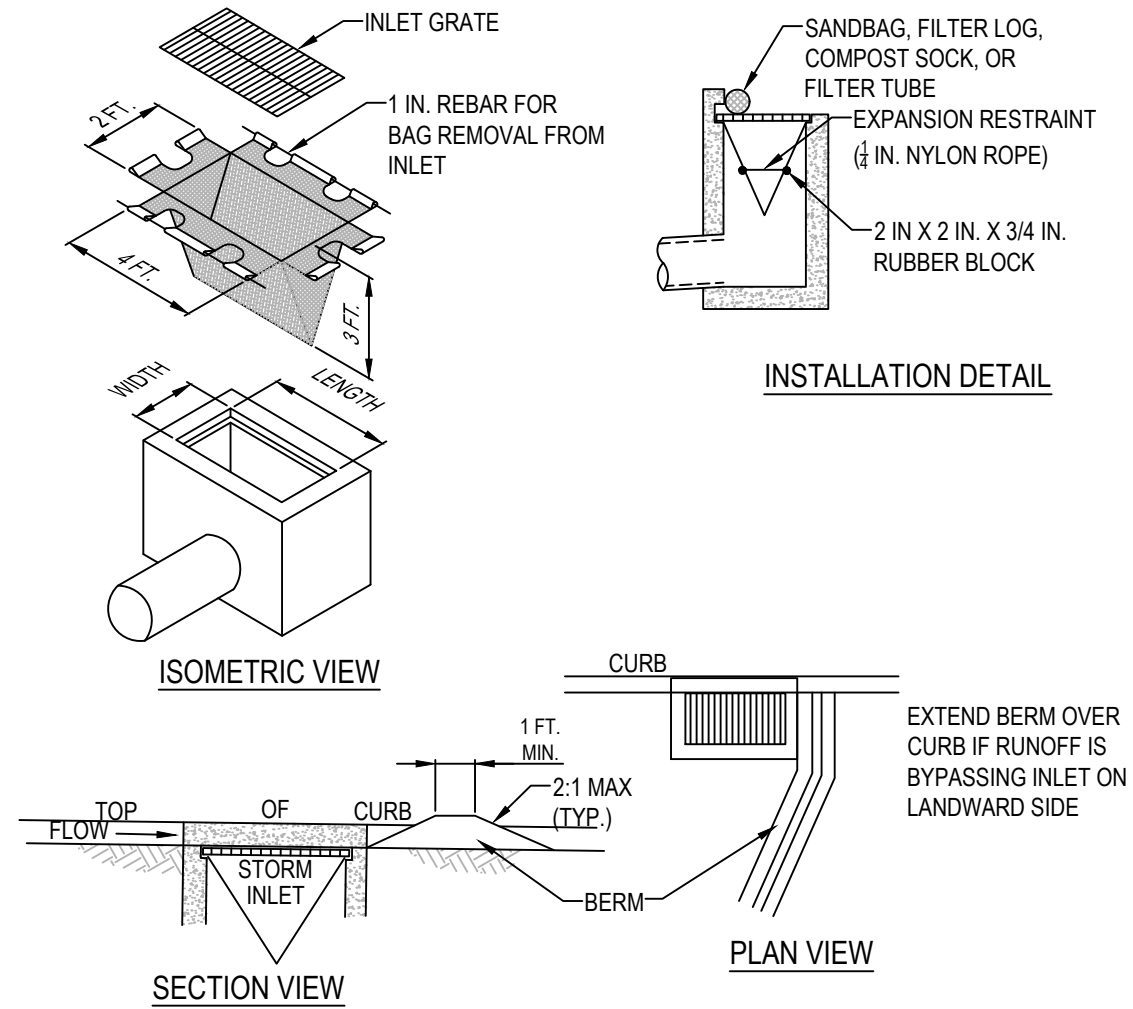
THE BLANKET SHALL BE STAPLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

BLANKETED AREAS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT UNTIL PERENNIAL VEGETATION IS ESTABLISHED TO A MINIMUM UNIFORM 70% COVERAGE THROUGHOUT THE BLANKETED AREA. DAMAGED OR DISPLACED BLANKETS SHALL BE RESTORED OR REPLACED WITHIN 4 CALENDAR DAYS.



STANDARD CONSTRUCTION DETAIL #11-1
EROSION CONTROL BLANKET INSTALLATION

N.T.S.
SOURCE: PADEP EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL



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.

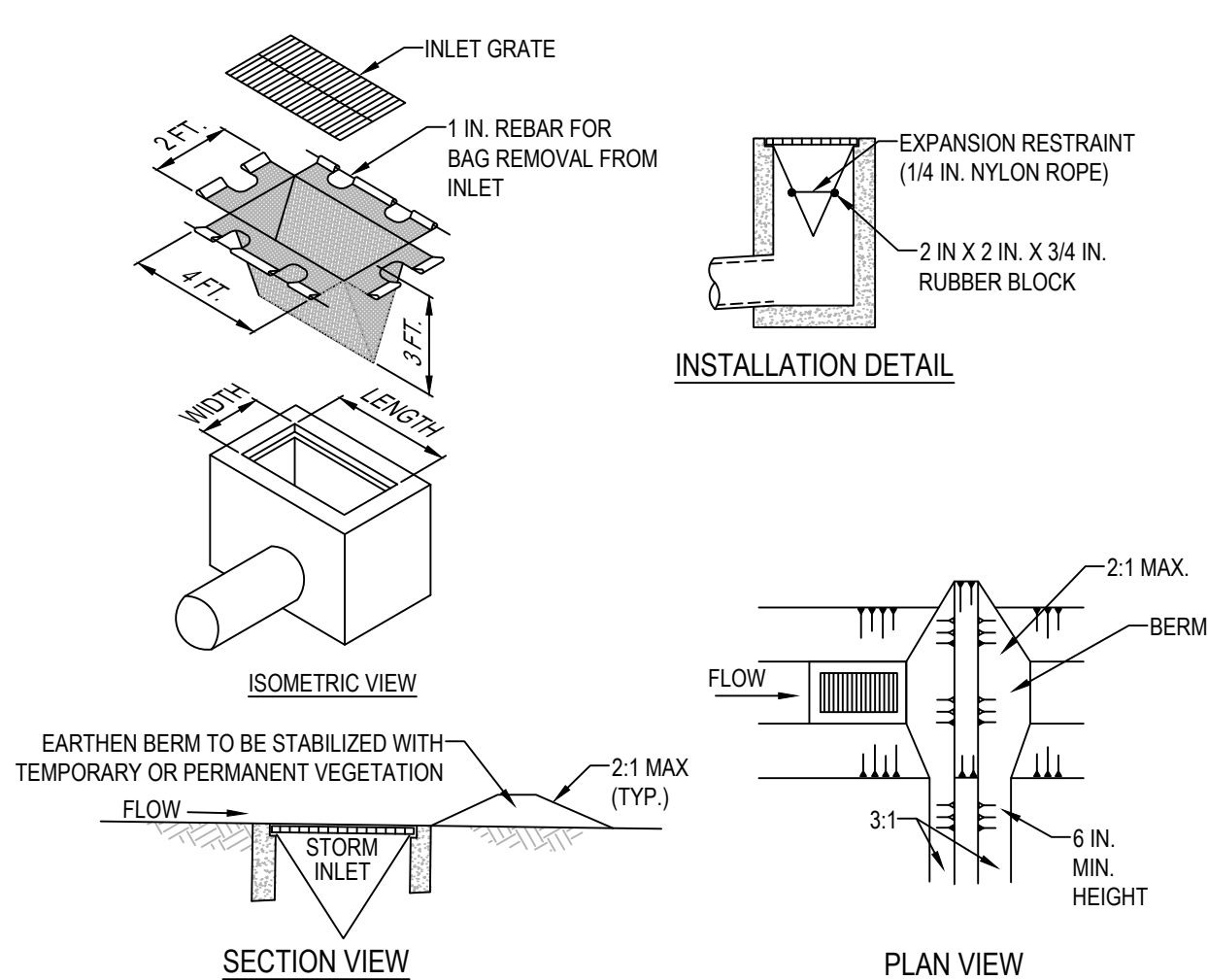
ROLLED EARTHEN BERM SHALL BE MAINTAINED UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. SIX INCH MINIMUM HEIGHT ASPHALT BERM SHALL BE MAINTAINED UNTIL ROADWAY SURFACE RECEIVES FINAL COAT.
AT A MINIMUM, THE FABRIC SHALL HAVE A MINIMUM GRAB TENSILE STRENGTH OF 120 LBS, A MINIMUM BURST STRENGTH OF 200 PSI, AND A MINIMUM TRAPEZOIDAL TEAR STRENGTH OF 50 LBS. FILTER BAGS SHALL BE CAPABLE OF TRAPPING ALL PARTICLES NOT PASSING A NO. 40 SIEVE.

INLET FILTER BAGS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. BAGS SHALL BE EMPTIED AND RINSED OR REPLACED WHEN HALF FULL OR WHEN FLOW CAPACITY HAS BEEN REDUCED SO AS TO CAUSE FLOODING OR BYPASSING OF THE INLET. DAMAGED OR CLOGGED BAGS SHALL BE REPLACED. A SUPPLY SHALL BE MAINTAINED ON SITE FOR REPLACEMENT OF BAGS. ALL NEEDED REPAIRS SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION. DISPOSE OF 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 #4-15
FILTER BAG INLET PROTECTION - TYPE C INLET

N.T.S.
SOURCE: PADEP EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL



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 IN ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM ON ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. EARTHEN BERM IN CHANNEL SHALL BE MAINTAINED UNTIL PERMANENT STABILIZATION IS COMPLETED OR REMAIN PERMANENTLY.

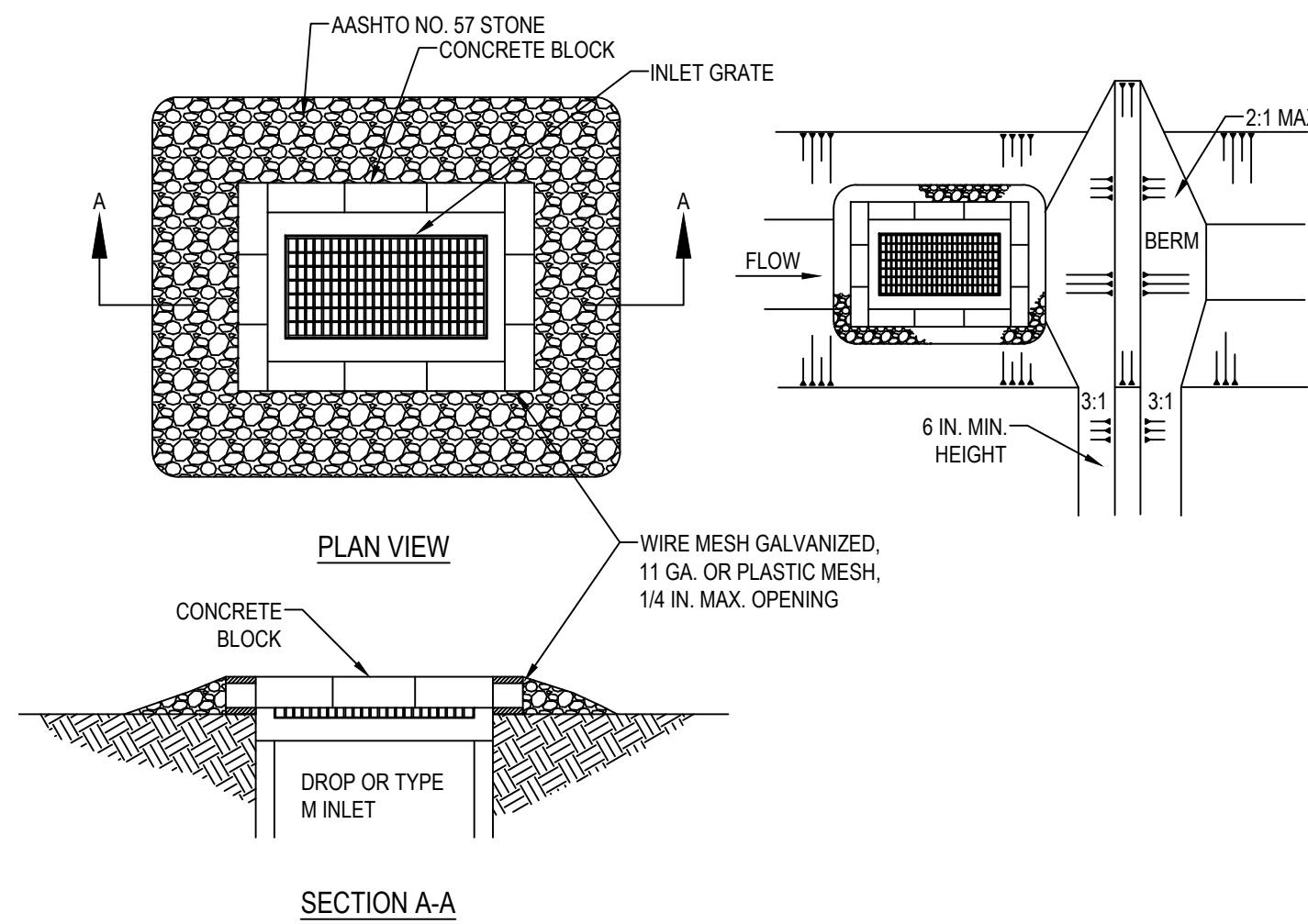
AT A MINIMUM, THE FABRIC SHALL HAVE A MINIMUM GRAB TENSILE STRENGTH OF 120 LBS, A MINIMUM BURST STRENGTH OF 200 PSI, AND A MINIMUM TRAPEZOIDAL TEAR STRENGTH OF 50 LBS. FILTER BAGS SHALL BE CAPABLE OF TRAPPING ALL PARTICLES NOT PASSING A NO. 40 SIEVE.

INLET FILTER BAGS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. BAGS SHALL BE EMPTIED AND RINSED OR REPLACED WHEN HALF FULL OR WHEN FLOW CAPACITY HAS BEEN REDUCED SO AS TO CAUSE FLOODING OR BYPASSING OF THE INLET. DAMAGED OR CLOGGED BAGS SHALL BE REPLACED. A SUPPLY SHALL BE MAINTAINED ON SITE FOR REPLACEMENT OF BAGS. ALL NEEDED REPAIRS SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION. DISPOSE ACCUMULATED SEDIMENT AS WELL AS ALL USED BAGS ACCORDING TO THE PLAN NOTES.

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

STANDARD CONSTRUCTION DETAIL #4-16
FILTER BAG INLET PROTECTION - TYPE M INLET

N.T.S.
SOURCE: PADEP EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL



NOTES:

MAXIMUM DRAINAGE AREA = 1 ACRE.

INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS NOT LOCATED AT A LOW POINT.

ROLLED EARTHEN BERM IN ROADWAY SHALL BE PROVIDED AND MAINTAINED IMMEDIATELY DOWN GRADIENT OF THE PROTECTED INLET UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM ON ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. EARTHEN BERM IN CHANNEL SHALL BE MAINTAINED UNTIL PERMANENT STABILIZATION IS COMPLETED OR TO REMAIN PERMANENTLY.

TOP OF BLOCK SHALL BE AT LEAST 6 INCHES BELOW ADJACENT ROADS IF PONDED WATER WOULD POSE A SAFETY HAZARD TO TRAFFIC.

SEDIMENT SHALL BE REMOVED WHEN IT REACHES HALF THE HEIGHT OF THE STONE. DAMAGED OR CLOGGED INSTALLATIONS SHALL BE REPAIRED OR REPLACED IMMEDIATELY.

FOR SYSTEMS DISCHARGING TO HQ OR EV SURFACE WATER, A 6 INCH THICK COMPOST LAYER SHALL BE SECURELY ANCHORED ON OUTSIDE AND OVER TOP OF STONE. COMPOST SHALL MEET THE STANDARDS IN TABLE 4.2 OF THE PA DEP EROSION CONTROL MANUAL.

STANDARD CONSTRUCTION DETAIL #4-18
STONE AND CONCRETE BLOCK INLET PROTECTION -TYPE M
N.T.S.
SOURCE: PADEP EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL

1818 & 1822 ELLIOT AVENUE
WARD 13 - BLOCK 40, CITY OF BETHLEHEM, LEHIGH COUNTY, PENNSYLVANIA
FOR
ANR DEVELOPMENT COMPANY, LLC
EROSION & SEDIMENTATION CONTROL DETAILS

SCALE:	N.T.S.	DATE:	11/09/2023
DRAWN:	ELH	DSGN:	SB
JOB:	22-GODSC-01	P MGR:	SB

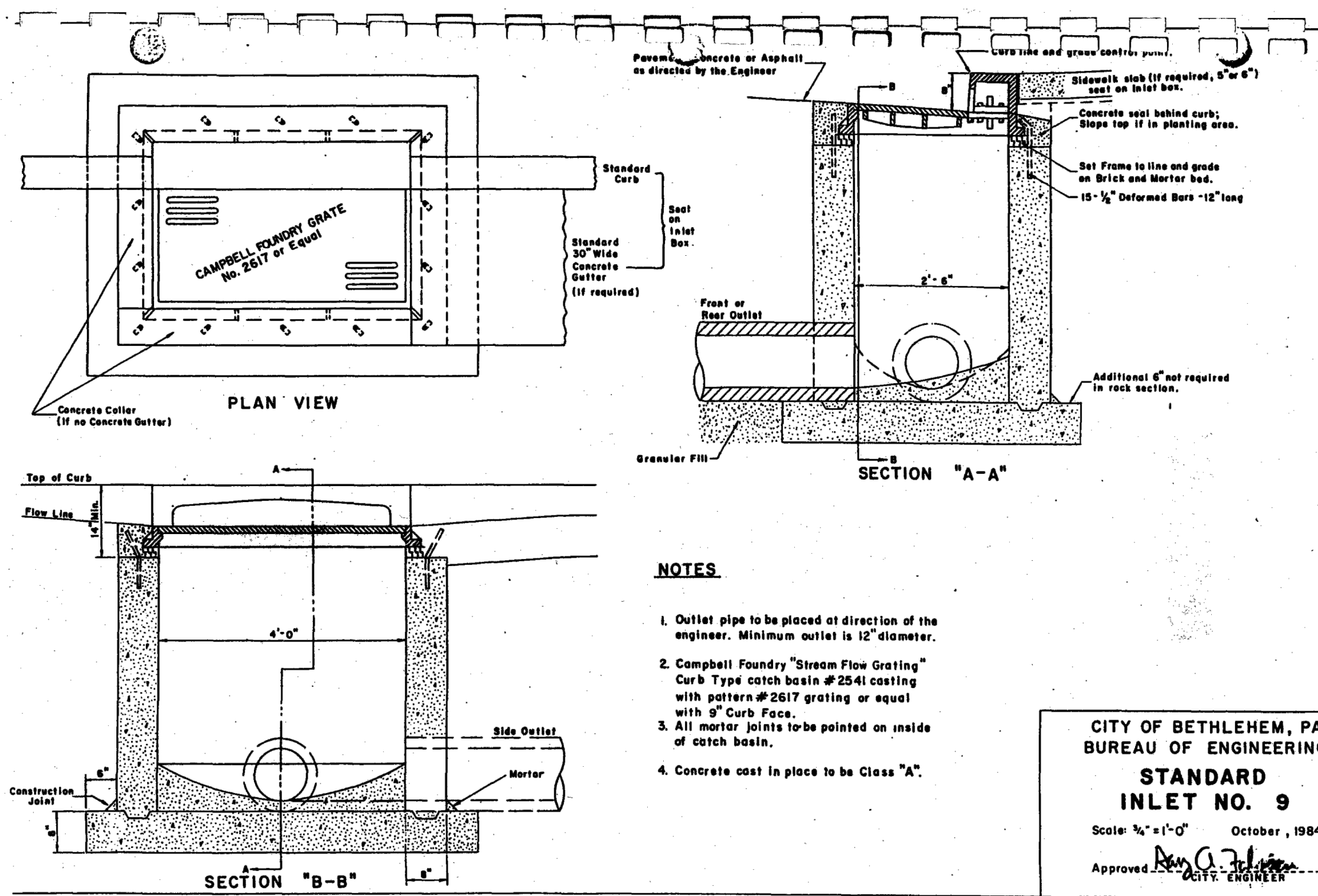
SHEET: 19 OF 25

ESD-3

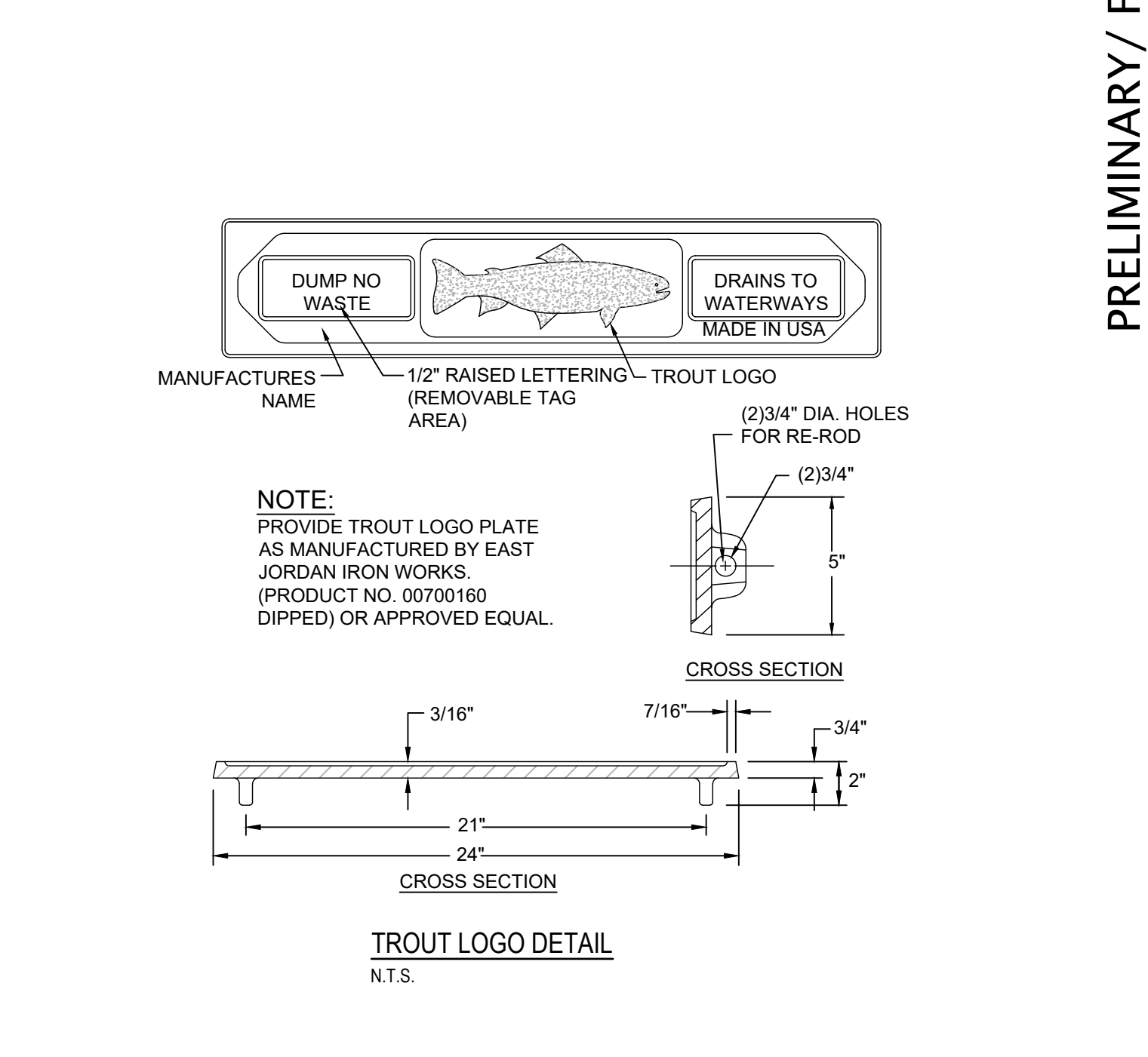
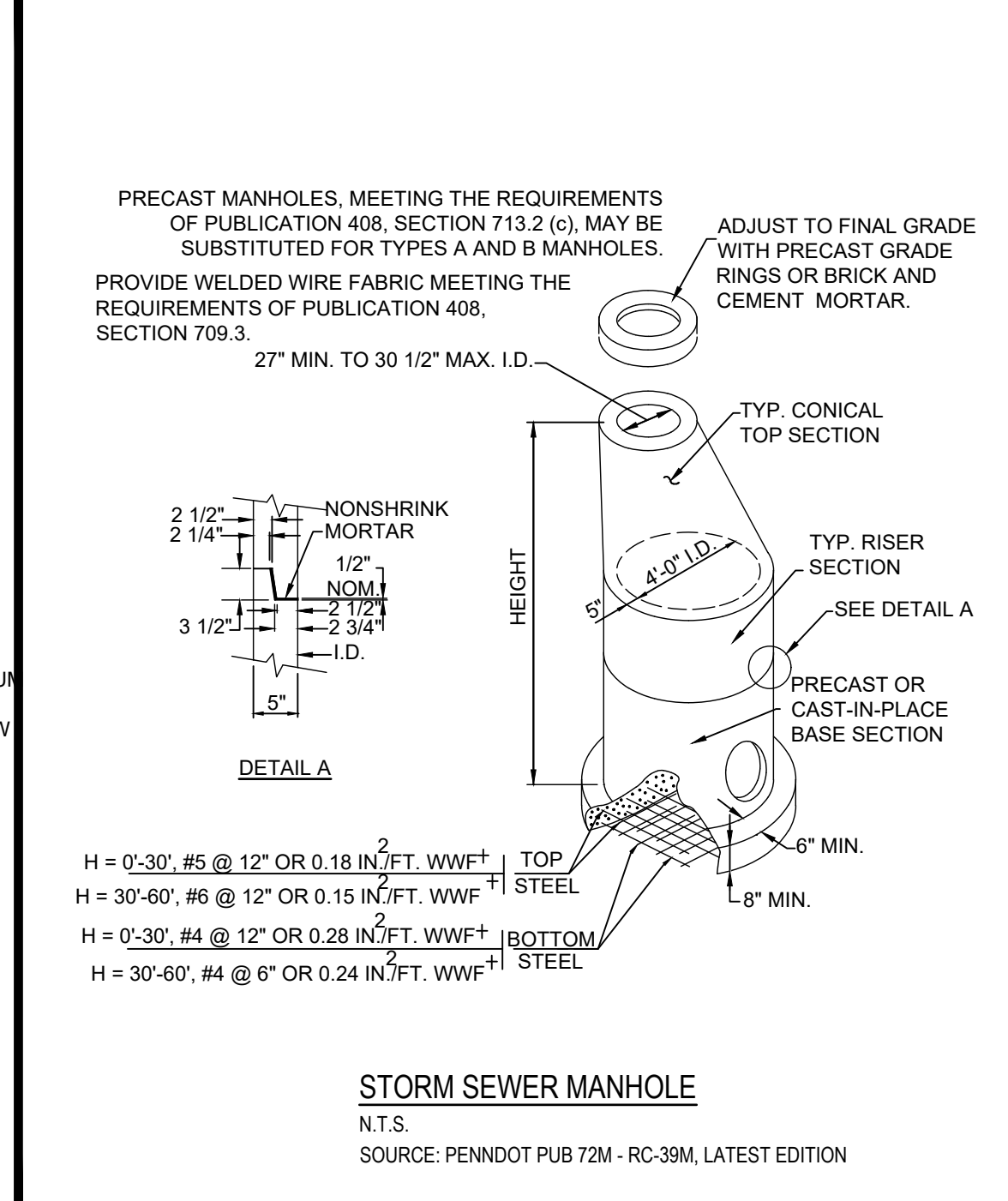
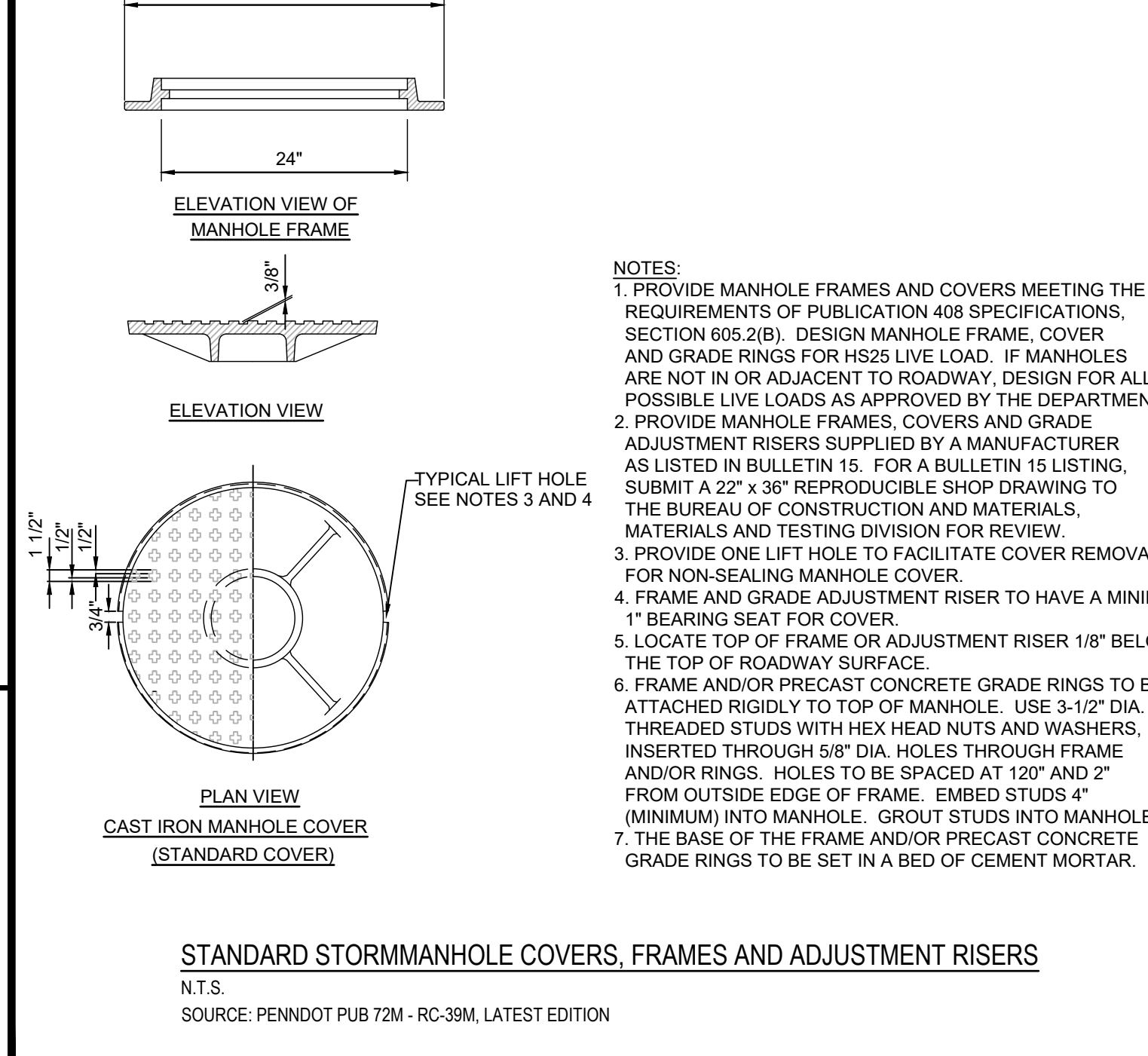
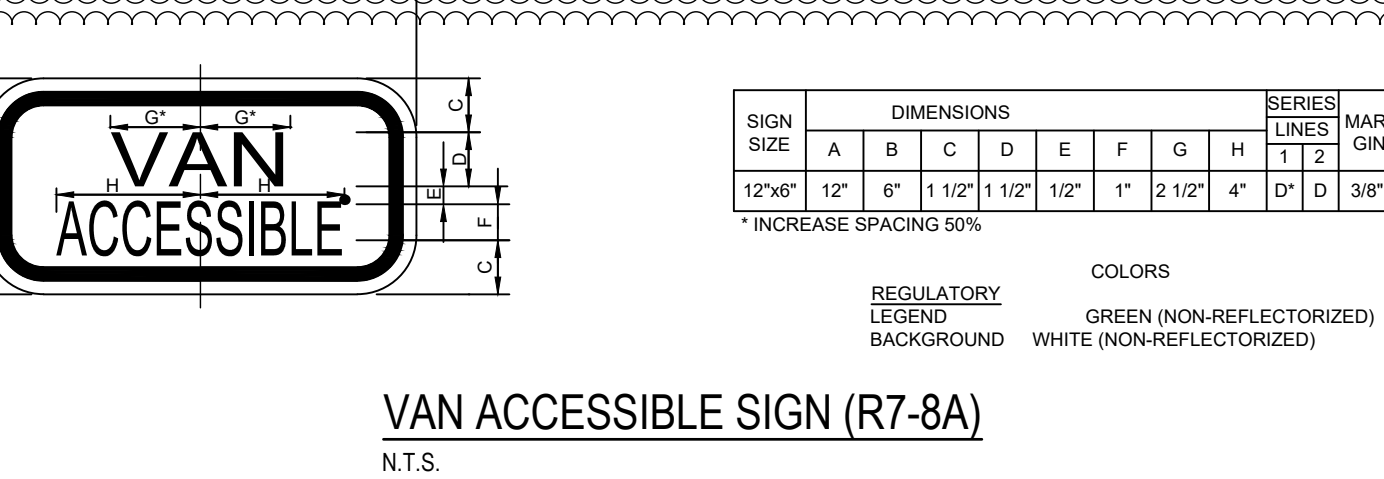
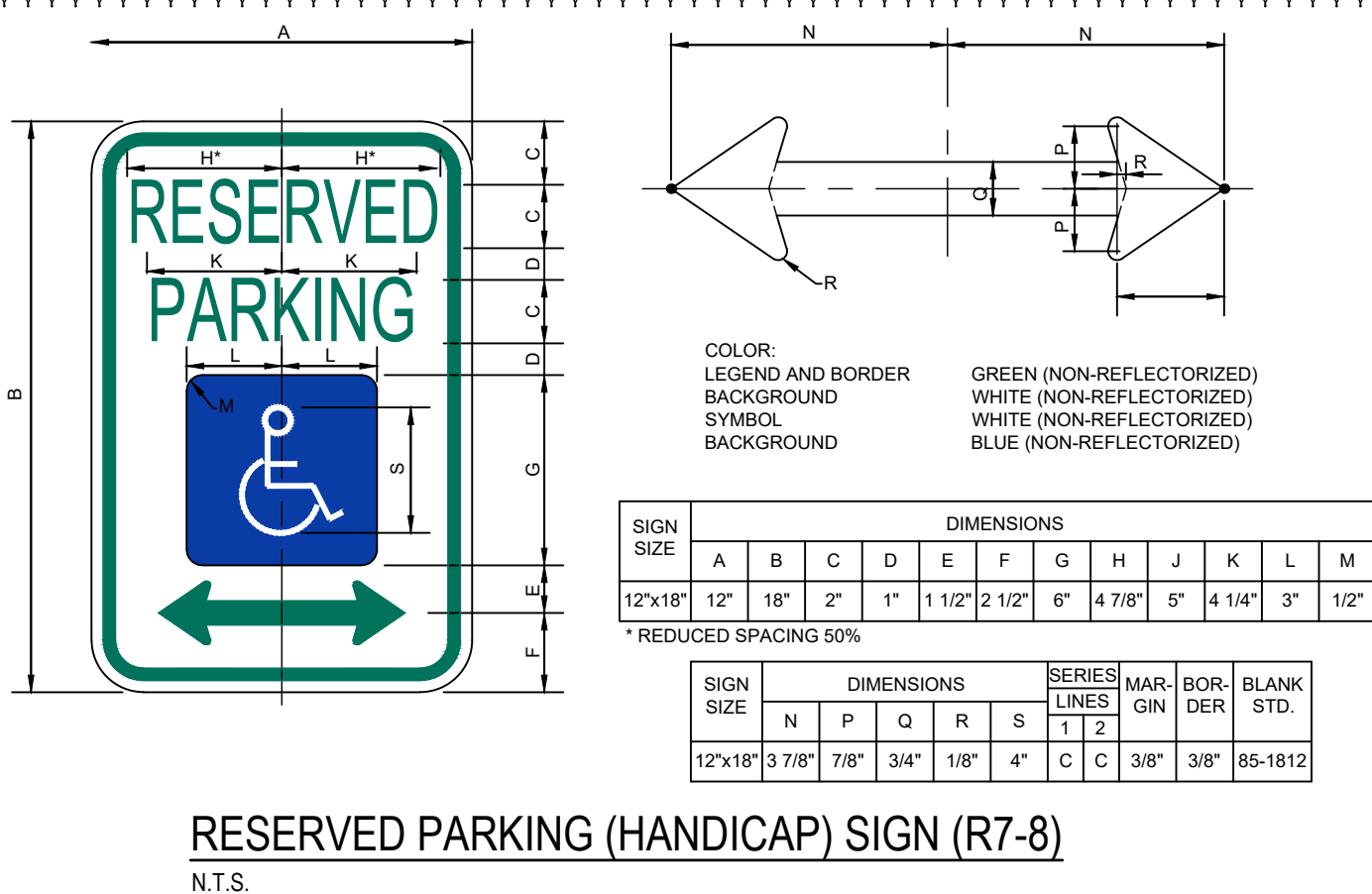
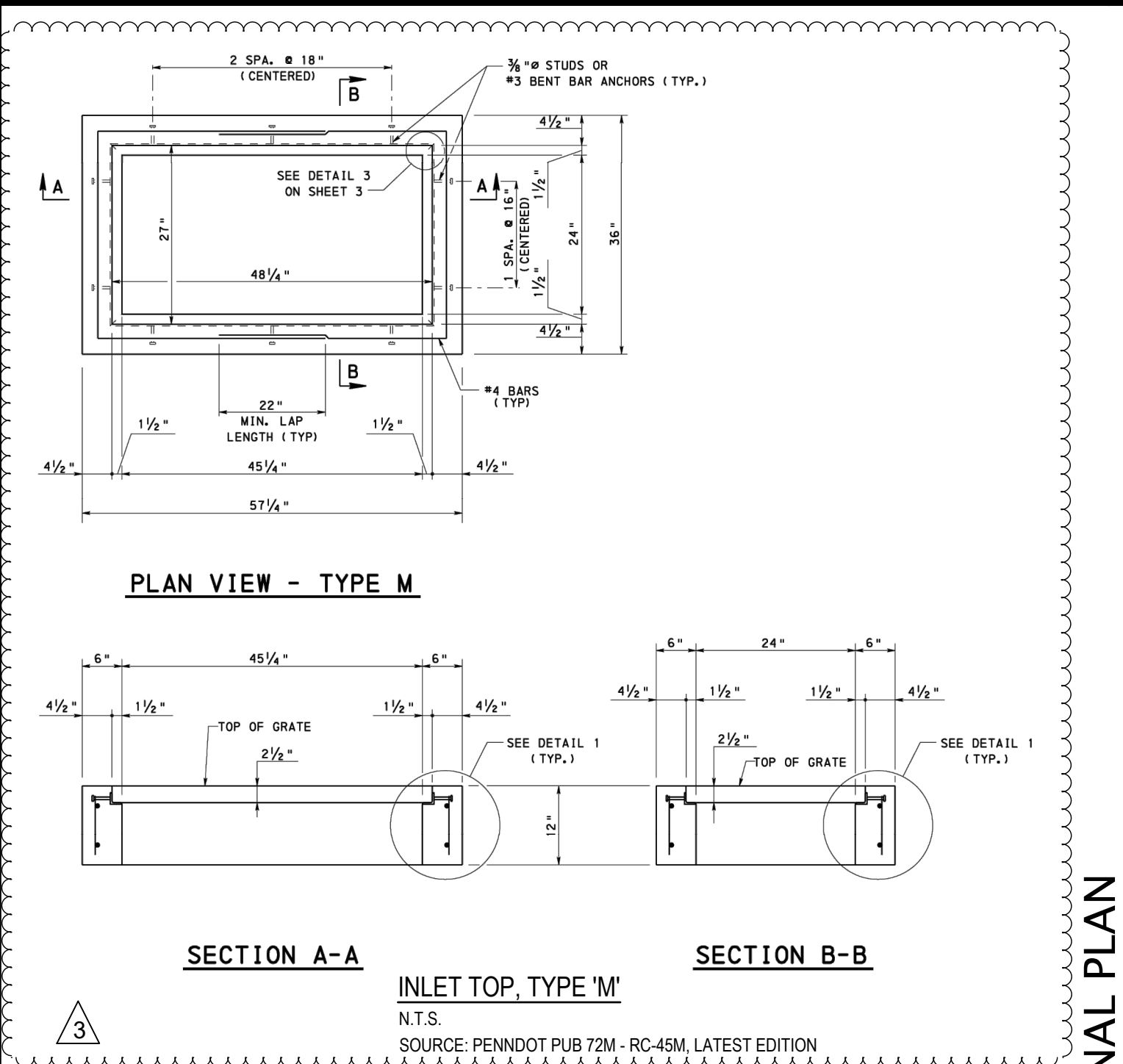
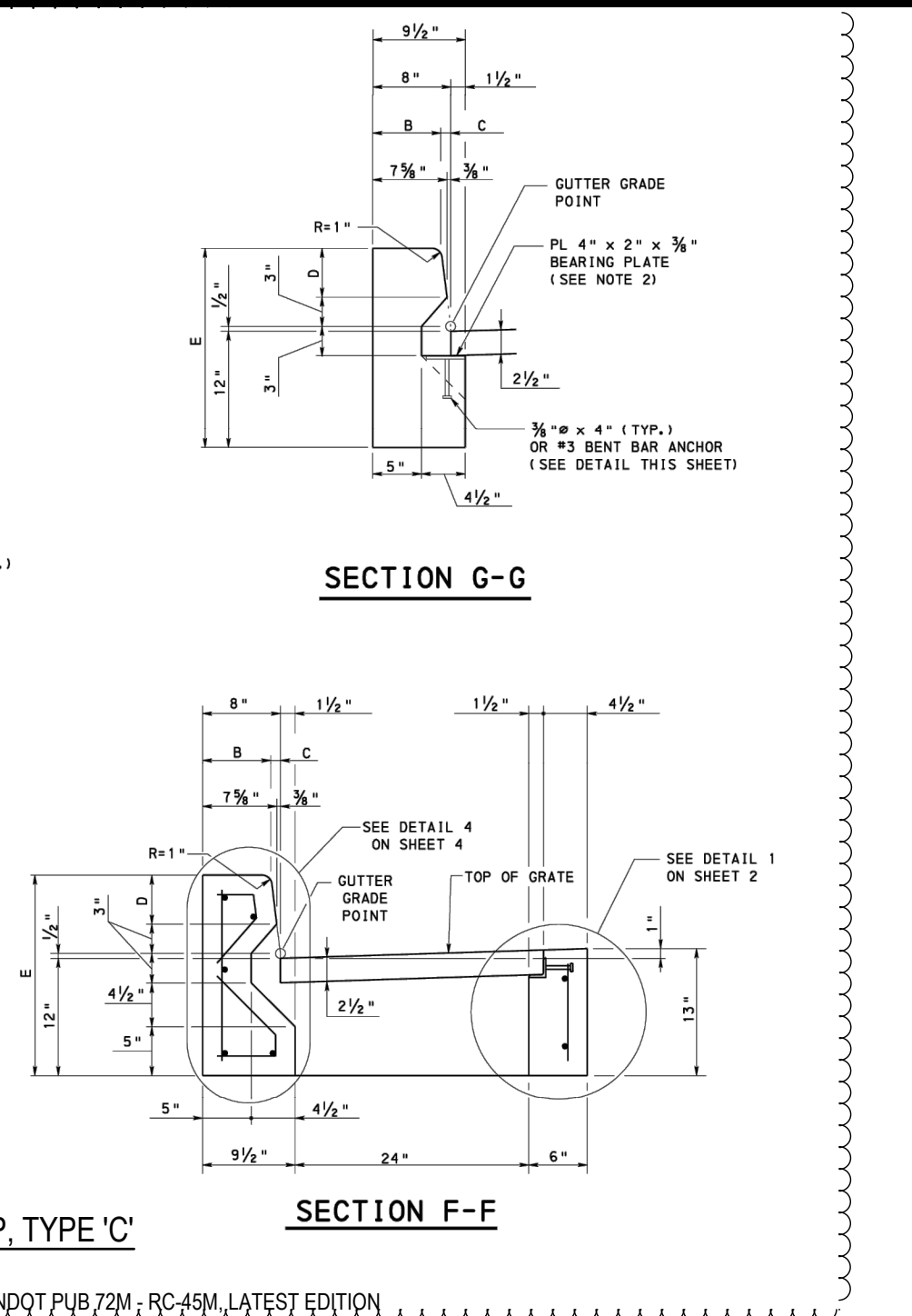
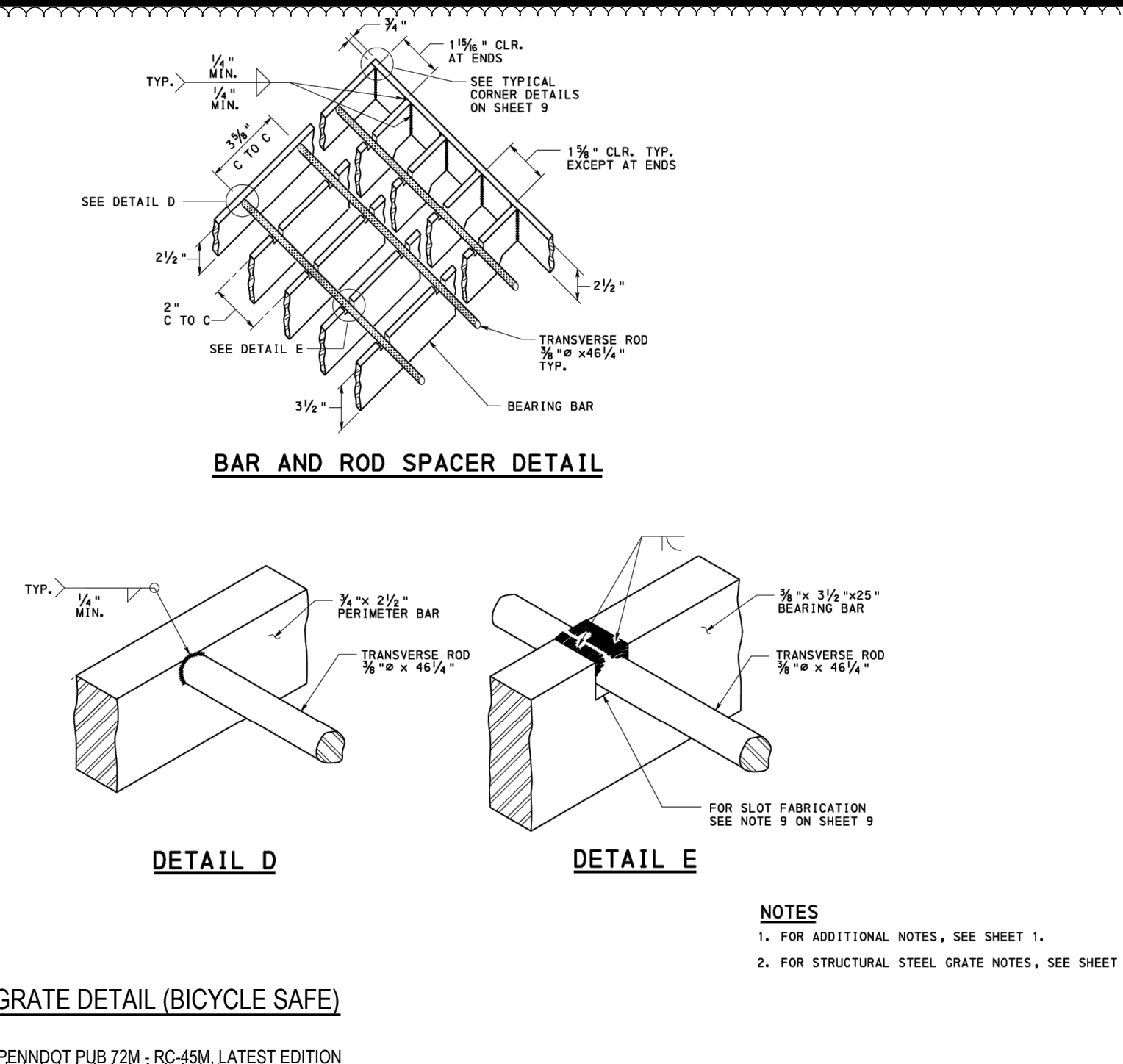
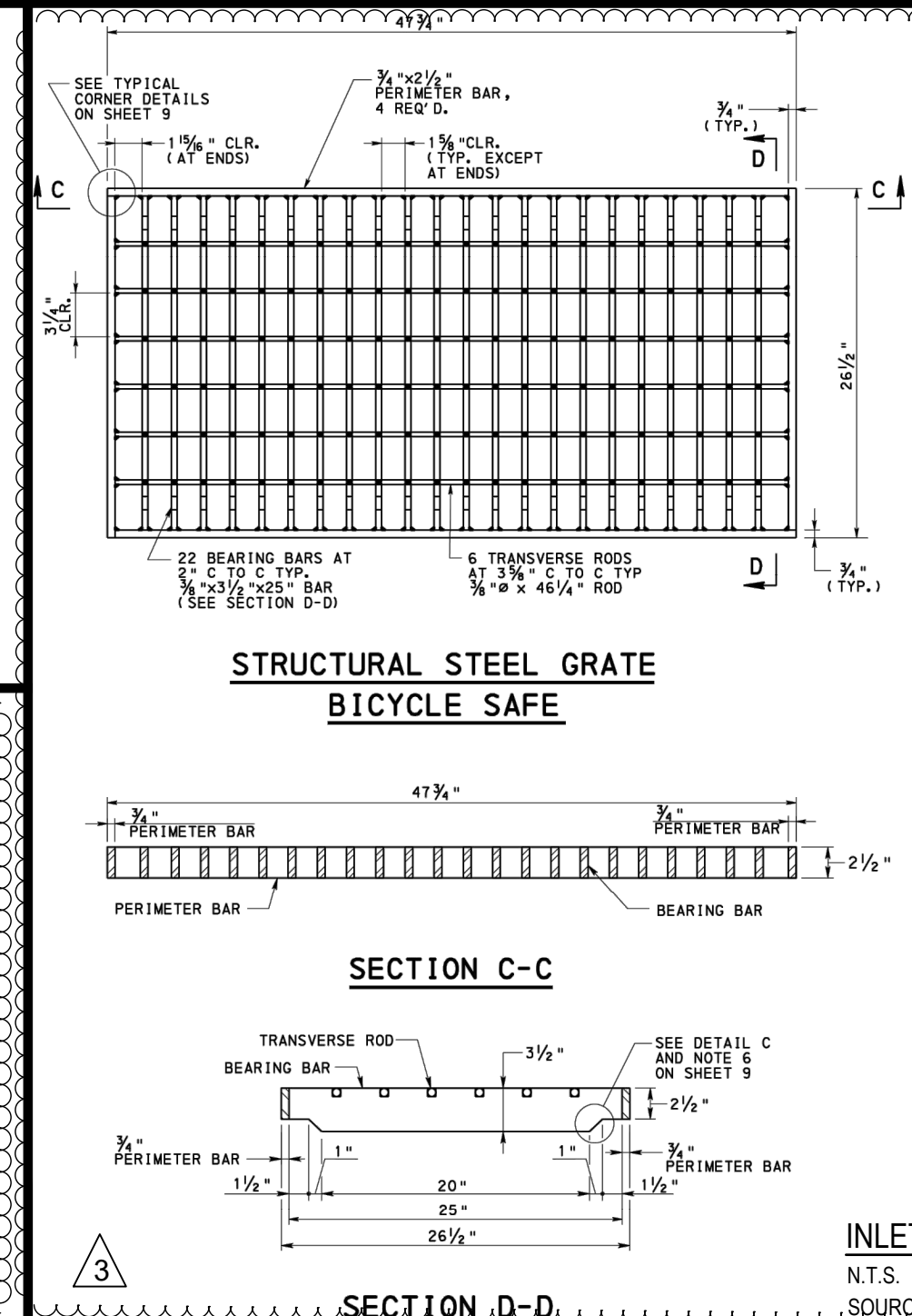
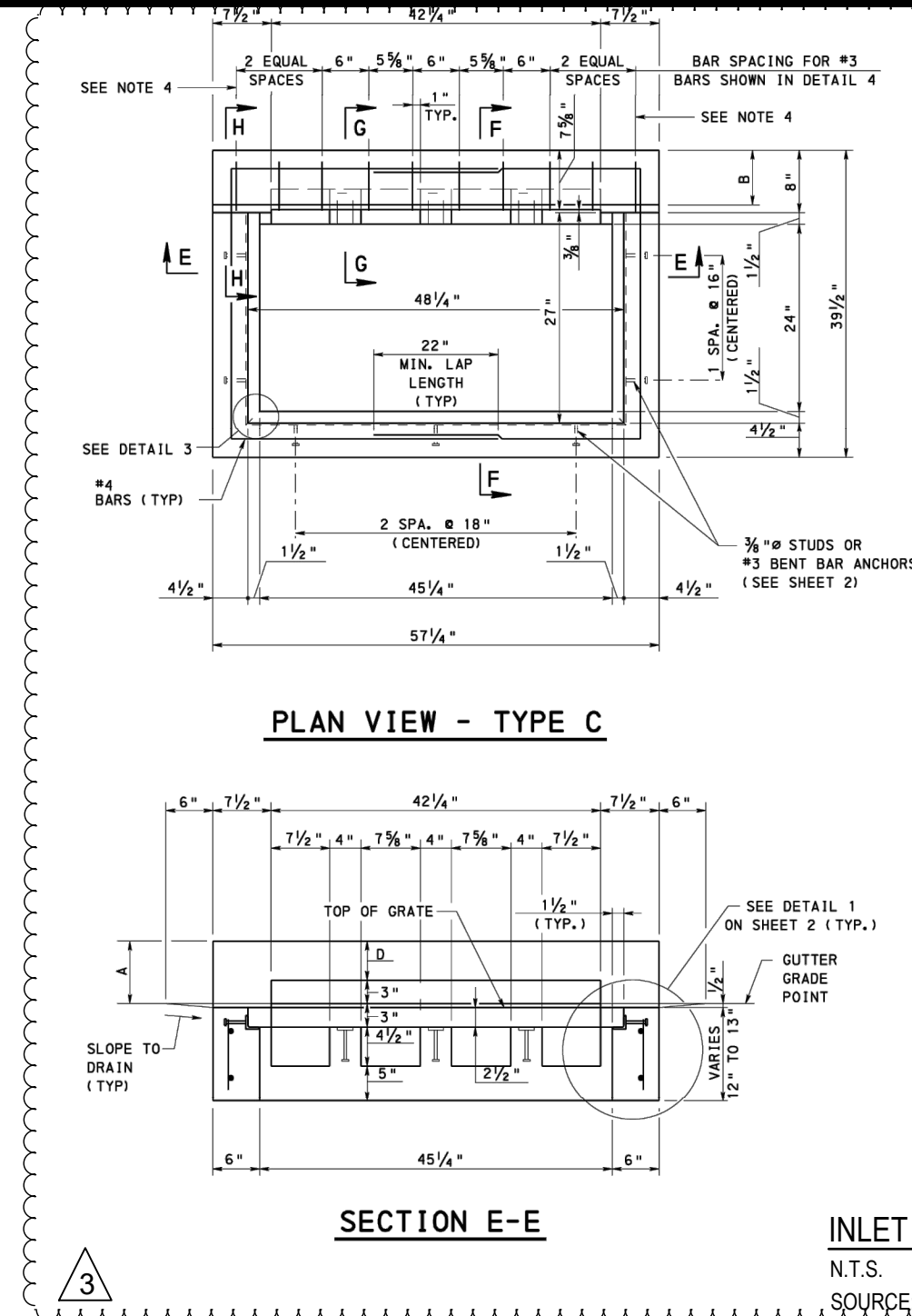
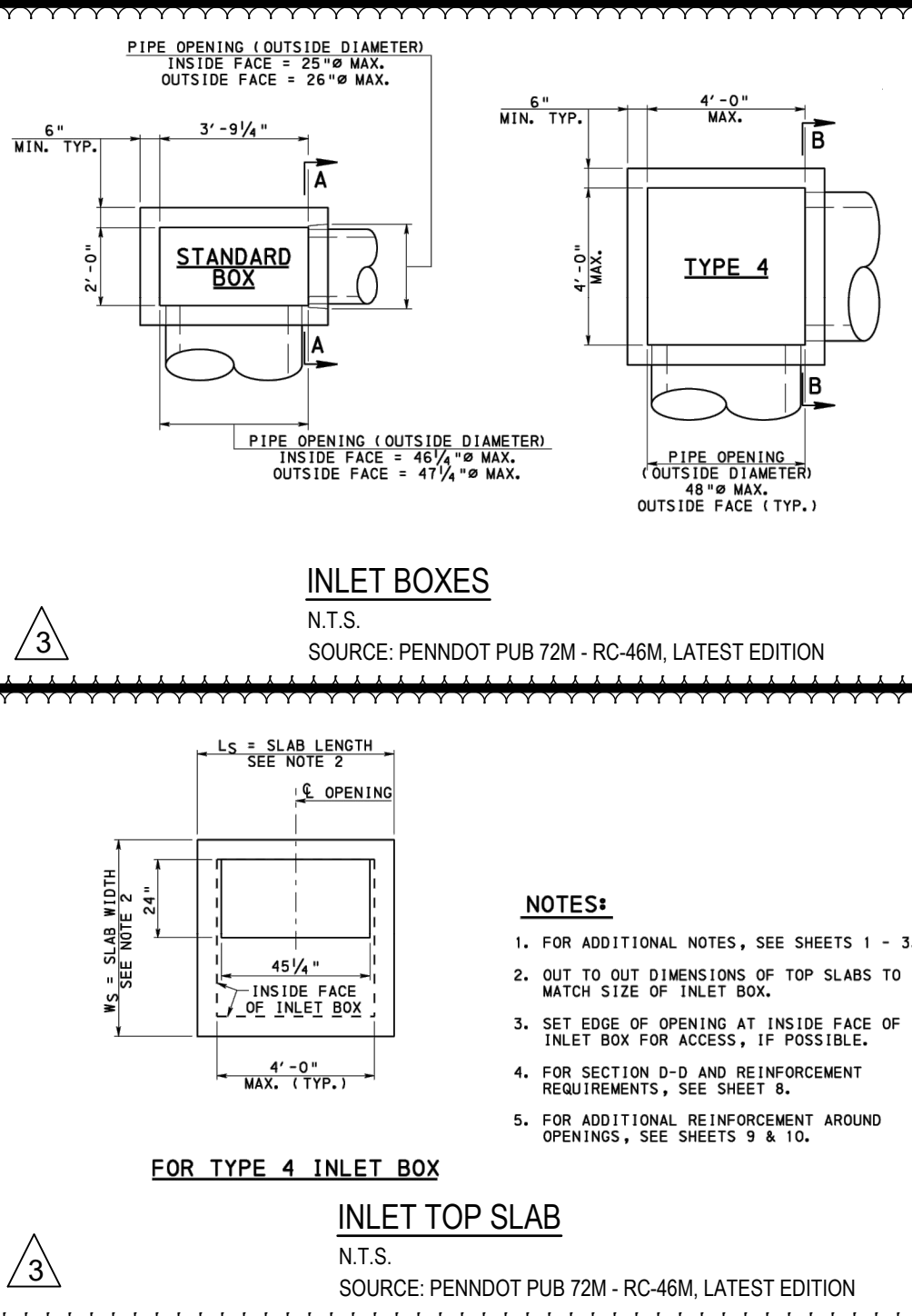
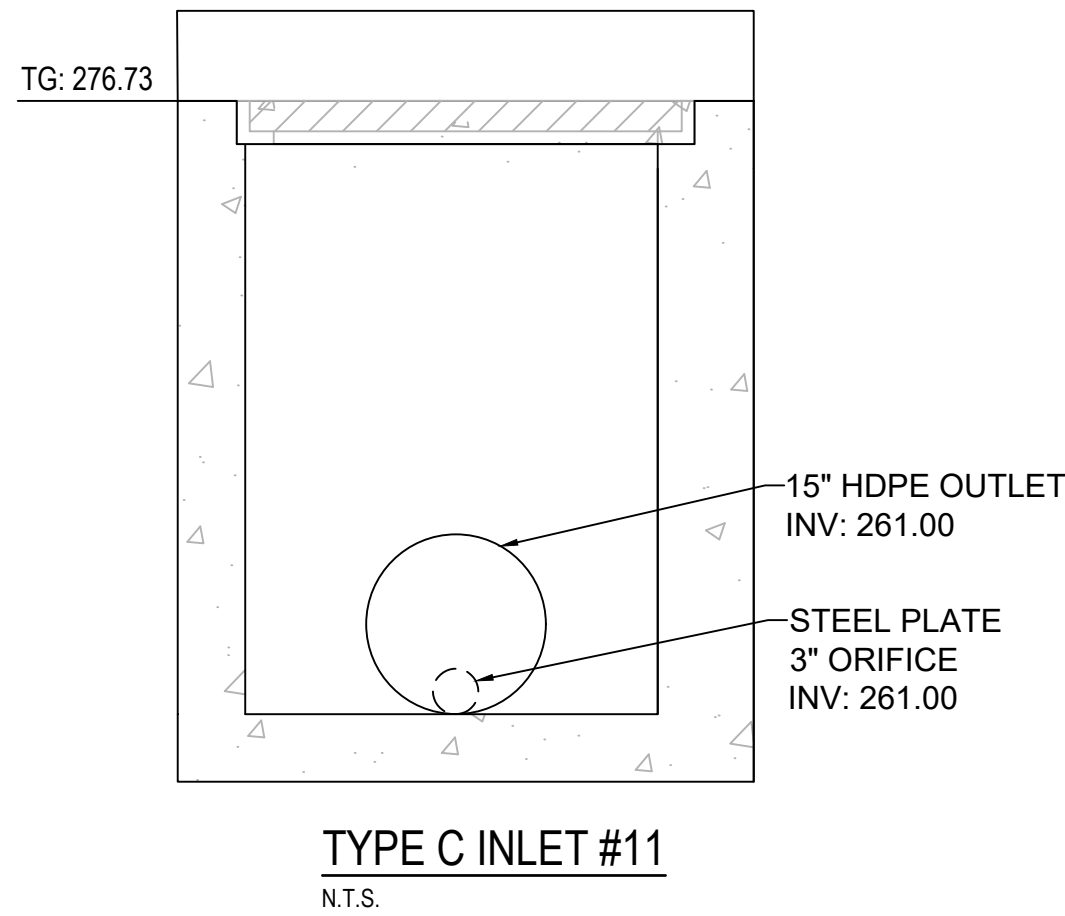
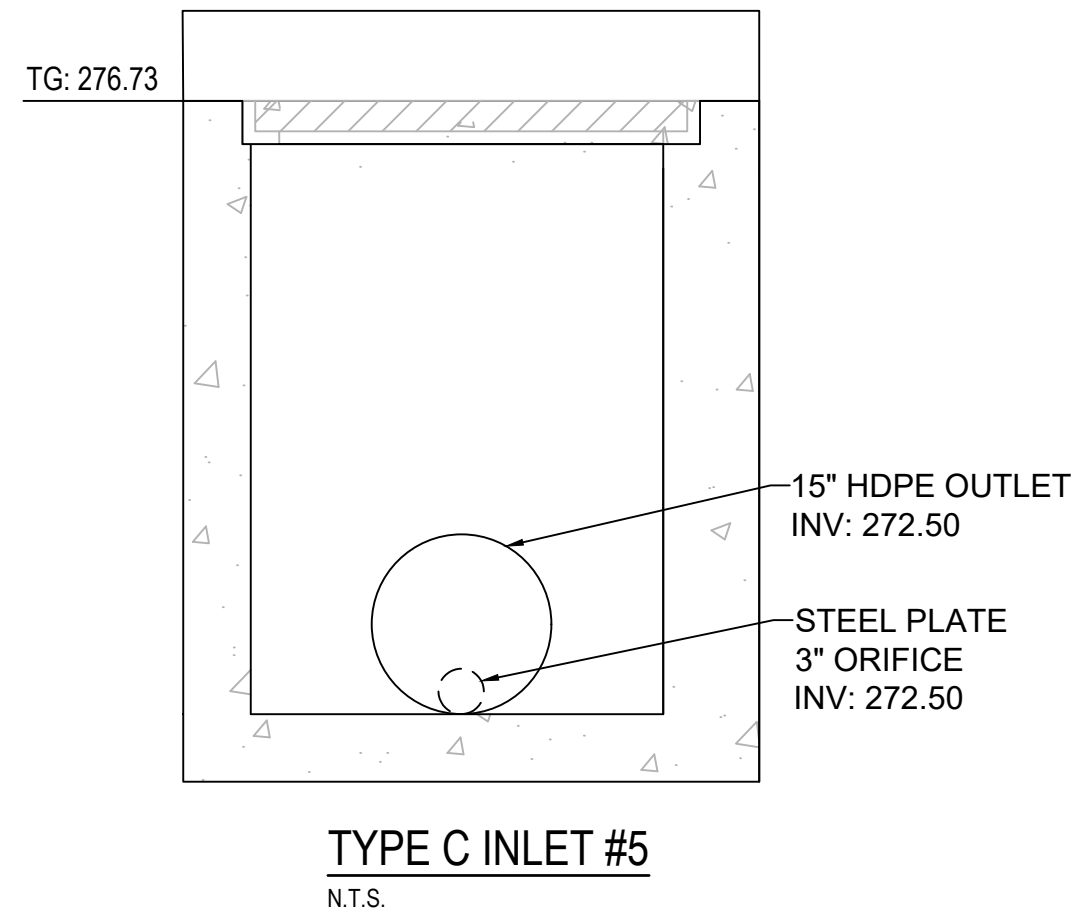
acela
architects + engineers
office: 610.365.4023
website: www.acela-ae.com
2633 Moravian Ave.
Allentown, PA 18103
email: info@acela-ae.com

REVISIONS	DATE	BY
1. REV PER MEETING WITH CITY STAFF	7/30/2023	CS
2. REV PER CITY COMMENT LETTER DATED 12/23/2023	10/11/2024	ELH
3. REV PER CITY COMMENT LETTER DATED 11/27/2024	01/13/2025	RCG
4.		
5.		
6.		
7.		
8.		
9.		

xrefs->[22-GODSC-01_24x36_TB] [Conceptual_Details_AAE]
10_Construction_Details.dwg->DE-3 Construction Details Date: January 15, 2025 10:38am **acela architects + engineers, pc** - USER: Rebecca



STANDARD INLET NO. 9
N.T.S.
SOURCE: CITY OF BETHLEHEM



PRELIMINARY/ FINAL PLAN

acela
architects + engineers
office: 610.365.4023
website: www.acela-ae.com
email: info@acela-ae.com

2633 Moravian Ave.
Allentown, PA 18103

DATE	BY	REVISIONS
7/30/2023	CG	1. REV PER MEETING WITH CITY STAFF
10/11/2024	EH	2. REV PER CITY COMMENT LETTER DATED 12/13/2023
01/13/2025	RCG	3. REV PER CITY COMMENT LETTER DATED 11/7/2024
		4. S. 5. 6. 7. 8. 9.

1818 & 1822 ELLIOT AVENUE
WARD 13 - BLOCK 40, CITY OF BETHLEHEM, LEHIGH COUNTY, PENNSYLVANIA

FOR
ANR DEVELOPMENT COMPANY, LLC

CONSTRUCTION DETAILS

SCALE: N.T.S. DATE: 11/09/2023

DRAWN: ELH DSGN: SB

JOB: 22-GODSC-01 P MGR: SB

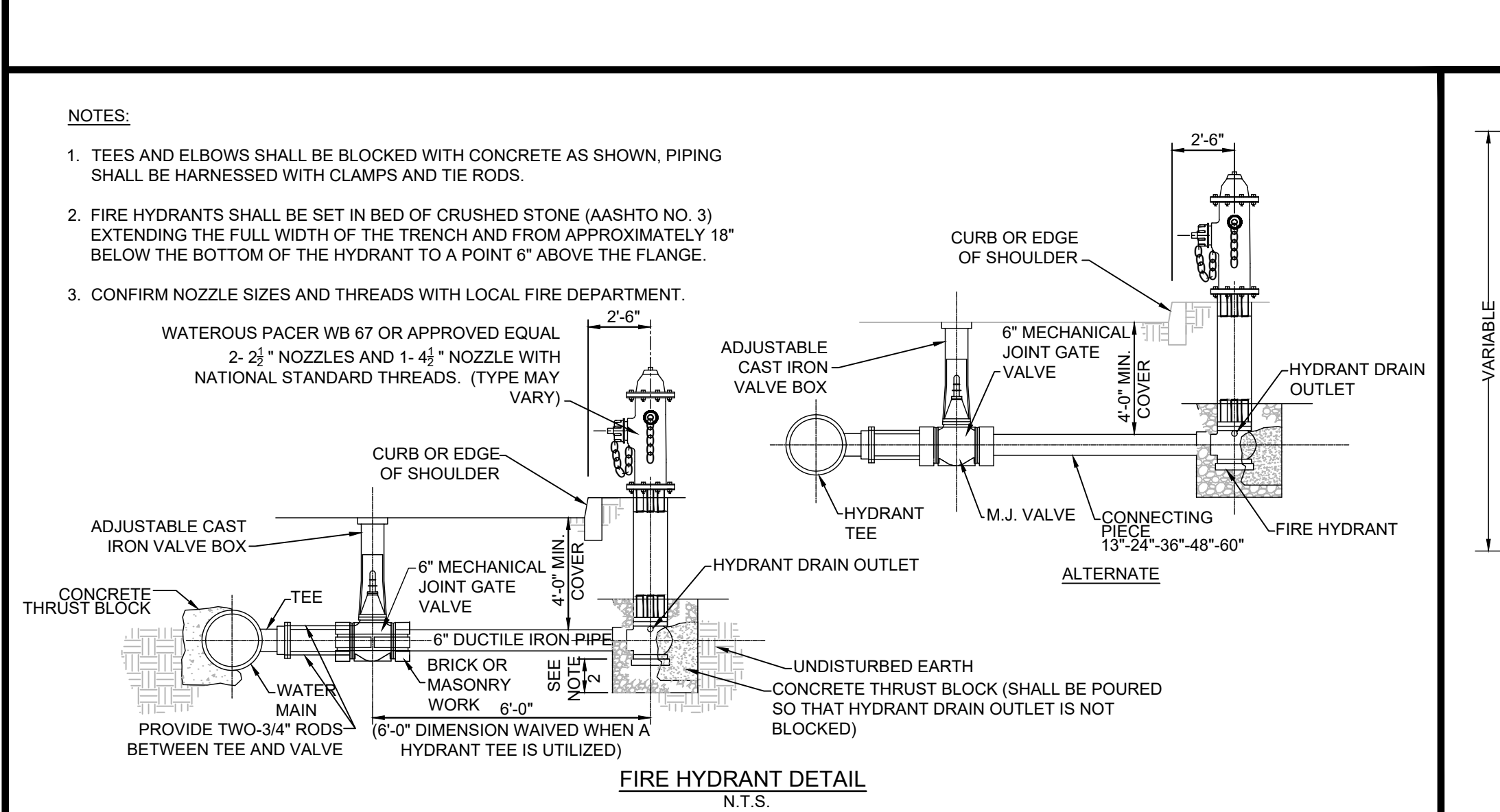
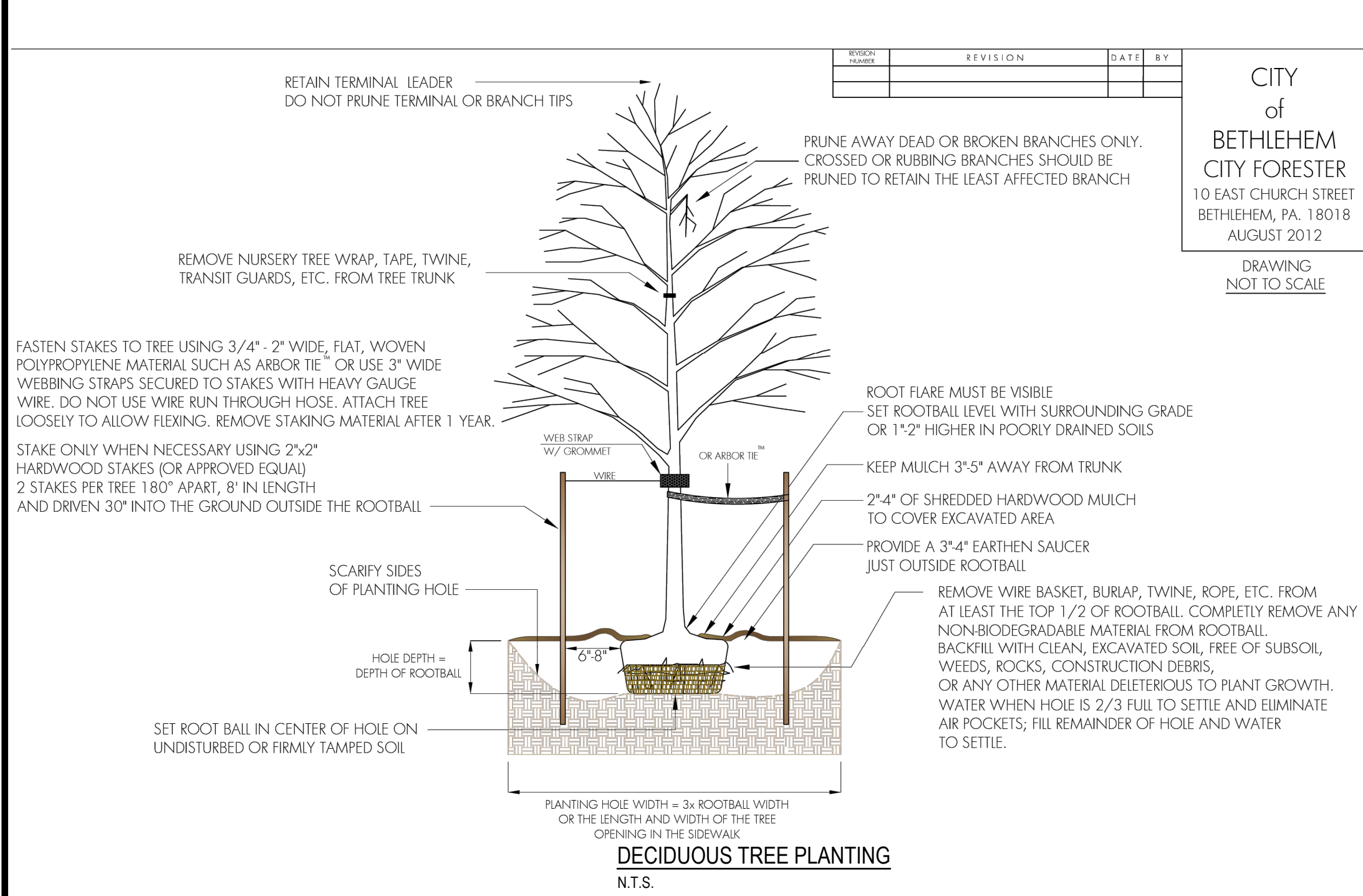
SHEET: 22 OF 25

DE-3

NOT FOR CONSTRUCTION

TABLE 11.4 Recommended Seed Mixtures				
Mixture Number	Species	Seeding Rate - Pure Live Seed	Most Sites	Adverse Sites
1 ²	Spring oats (spring), or Annual ryegrass (spring or fall), or Winter wheat (fall), or Winter rye (fall)	64	96	
		10	15	
		90	120	
2 ³	Tall fescue, or Fine fescue, or Kentucky bluegrass, plus Redtop ⁴ , or Perennial ryegrass	60	7.5	
		35	40	
		25	30	
3	Birdsfoot trefoil, plus Tall fescue	15	20	
		30	35	
4	Birdsfoot trefoil, plus Reed canarygrass	6	10	
		10	15	
5 ⁶	Crownvetch, plus Tall fescue, or Perennial ryegrass	20	25	
		10	15	
6 ^{8,9}	Crownvetch, plus Birdsfoot trefoil, plus Crownvetch, plus Tall fescue	6	10	
		10	15	
7 ⁸	Flatpea, plus Tall fescue, or Perennial ryegrass	20	30	
		20	30	
8	Sericea lespedeza, plus Tall fescue, plus Redtop ⁴	10	20	
		20	25	
9 ⁸	Tall fescue, plus Fine fescue	40	60	
		10	15	
10	Deerfongue, plus Birdsfoot trefoil	15	20	
		6	10	
11	Switchgrass, or Big Bluestem, plus Birdsfoot trefoil	15	20	
		15	20	
12 ⁷	Orchard grass, or Smooth bromegrass, plus Birdsfoot trefoil	6	10	
		20	30	
13	Smooth bromegrass, plus Birdsfoot trefoil	25	35	
		6	10	

PENN STATE: "EROSION CONTROL AND CONSERVATION PLANTINGS ON NONCROPLAND"
1. PLS IS THE PRODUCT OF THE PERCENTAGE OF PURE SEED TIMES PERCENTAGE GERMINATIONS DIVIDED BY 100. FOR EXAMPLE, TO SECURE THE ACTUAL PLANTING RATE FOR SWITCHGRASS, DIVIDE 12 POUNDS PLS SHOWN ON THE SEED TAG, THUS, IF THE PLS CONTENT OF A GIVEN SEED LOT IS 38%, DIVIDE 12 PLS BY 0.38 TO OBTAIN 34.3 POUNDS OF SEED REQUIRED TO PLANT ONE ACRE. ALL MIXTURES IN THIS TABLE ARE SHOWN IN TERMS OF PLS.
2. IF HIGH-QUALITY SEED IS USED, FOR MOST SITES SEED SPRING OATS AT A RATE OF 2 BUSHELS PER ACRE, WINTER WHEAT AT 11.5 BUSHELS PER ACRE, AND WINTER RYE AT 1 BUSHEL PER ACRE. IF GERMINATION IS BELOW 90%, INCREASE THESE SUGGESTED SEEDING RATES BY 0.5 BUSHEL PER ACRE.
3. THIS MIXTURE IS SUITABLE FOR FREQUENT MOWING. DO NOT CUT SHORTER THAN 4 INCHES.
4. KEEP SEEDING RATE TO THAT RECOMMENDED IN TABLE. THESE SPECIES HAVE MANY SEEDS PER POUND AND ARE VERY COMPETITIVE. TO SEED SMALL QUANTITIES OF SMALL SEEDS SUCH AS WEEPING LOVEGRASS AND REDTOP, DILUTE WITH DRY SAND, SILT, SAND, RICE HULLS, BUCKWHEAT HULLS, ETC.
5. USE FOR HIGHWAY SLOPES AND SIMILAR SITES WHERE THE DESIRED SPECIES AFTER ESTABLISHED IS CROWN VETCH.
6. USE ONLY IN EXTREME SOUTHEASTERN OR EXTREME SOUTHWESTERN PENNSYLVANIA. SERICEA LESPEDEZA IS NOT WELL ADAPTED TO MOST OF PA.
7. DO NOT MOW SHORTER THAN 9 TO 10 INCHES.
8. SEED MIXTURES CONTAINING CROWN VETCH SHOULD NOT BE USED IN AREAS ADJACENT TO WETLANDS OR STREAM CHANNELS DUE TO THE INVASIVE NATURE OF THE SPECIES.



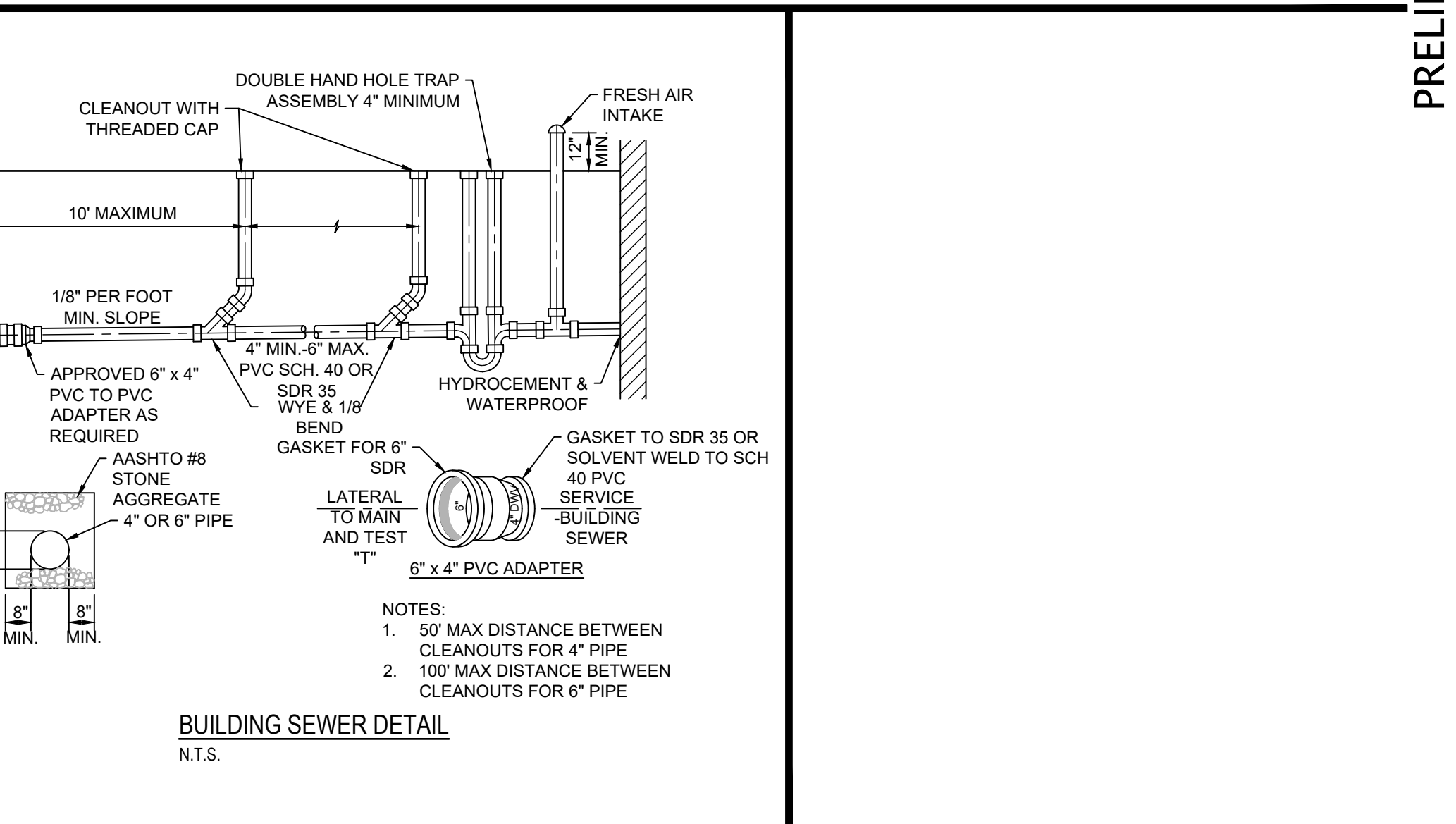
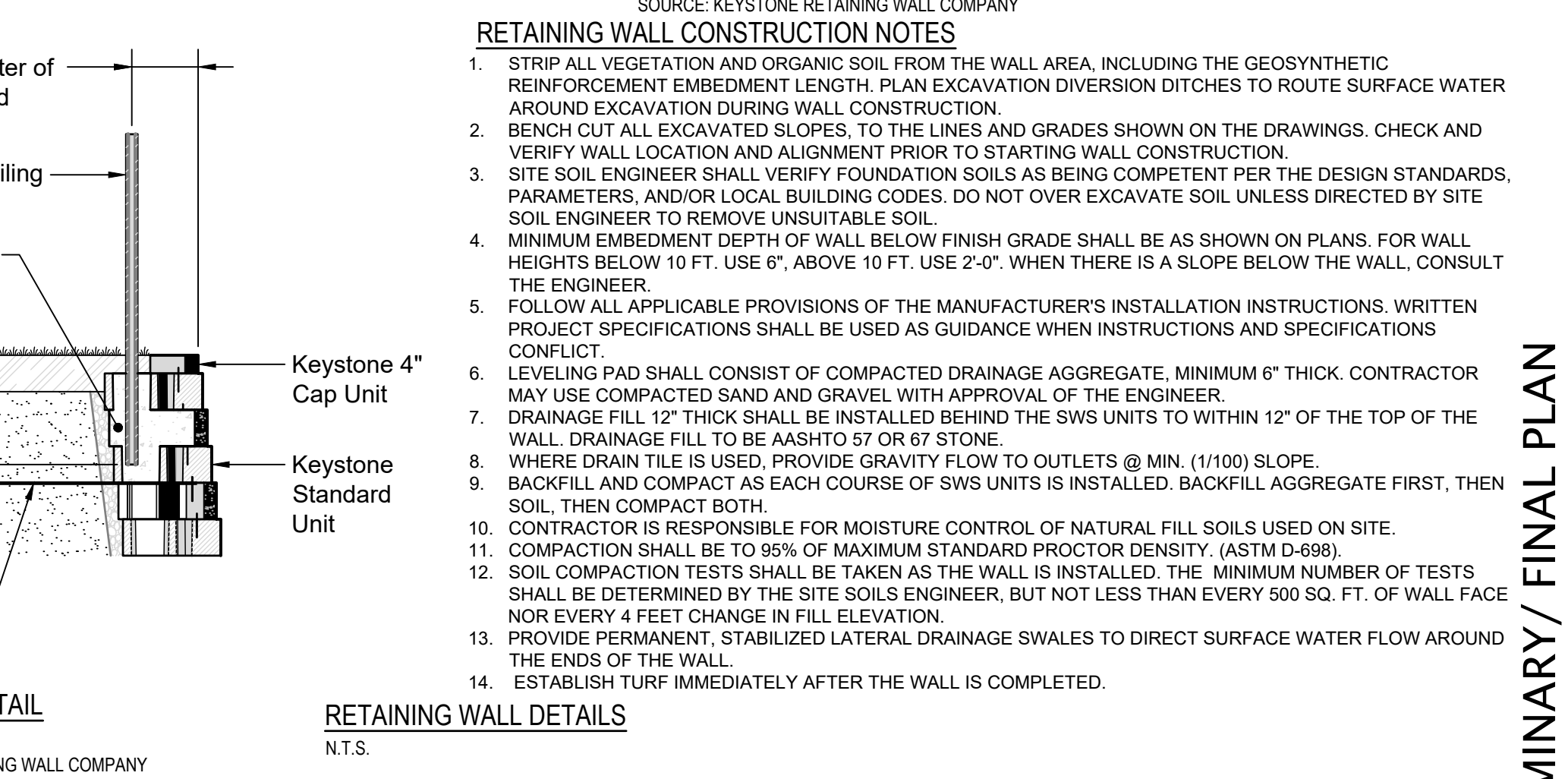
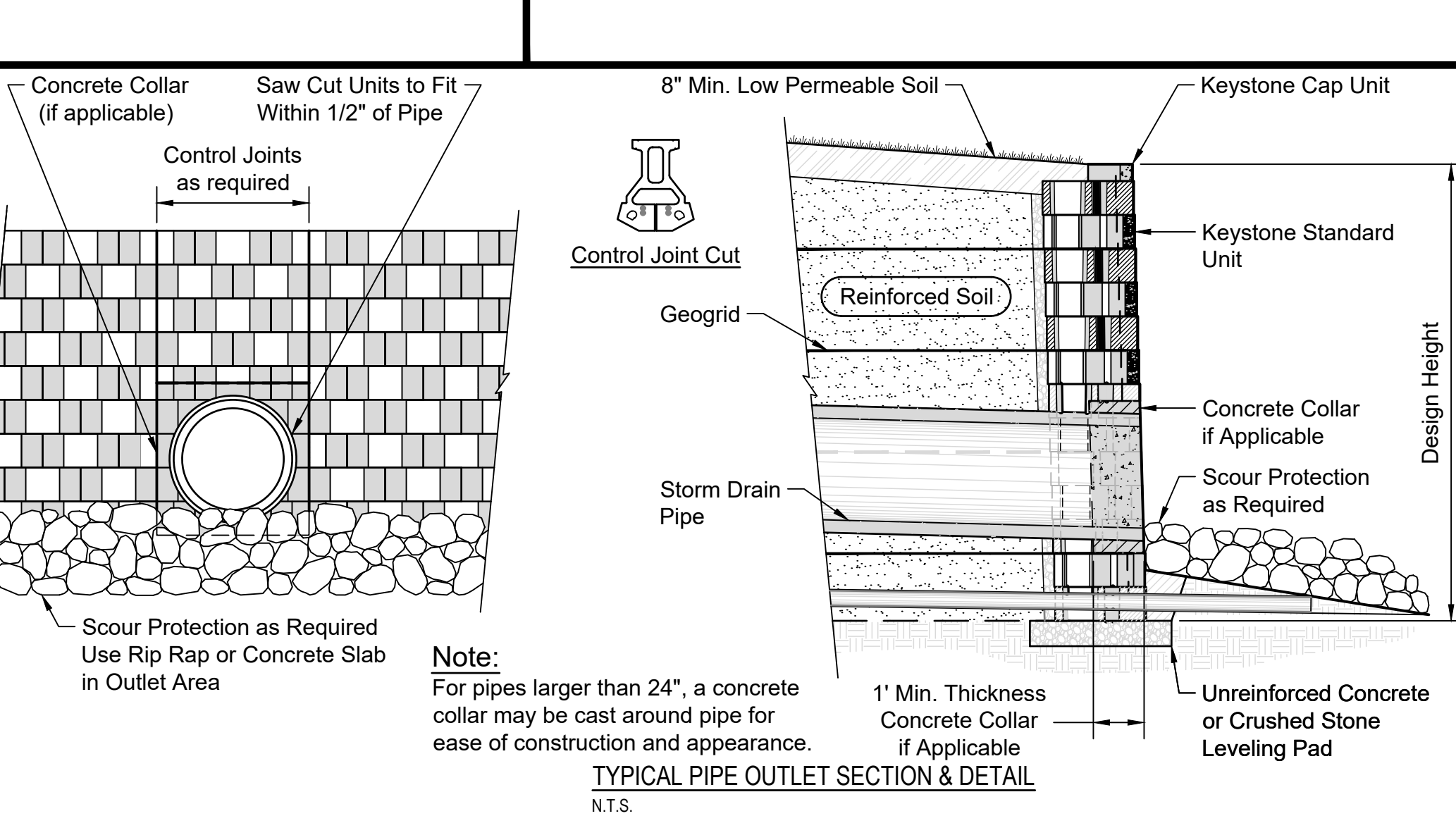
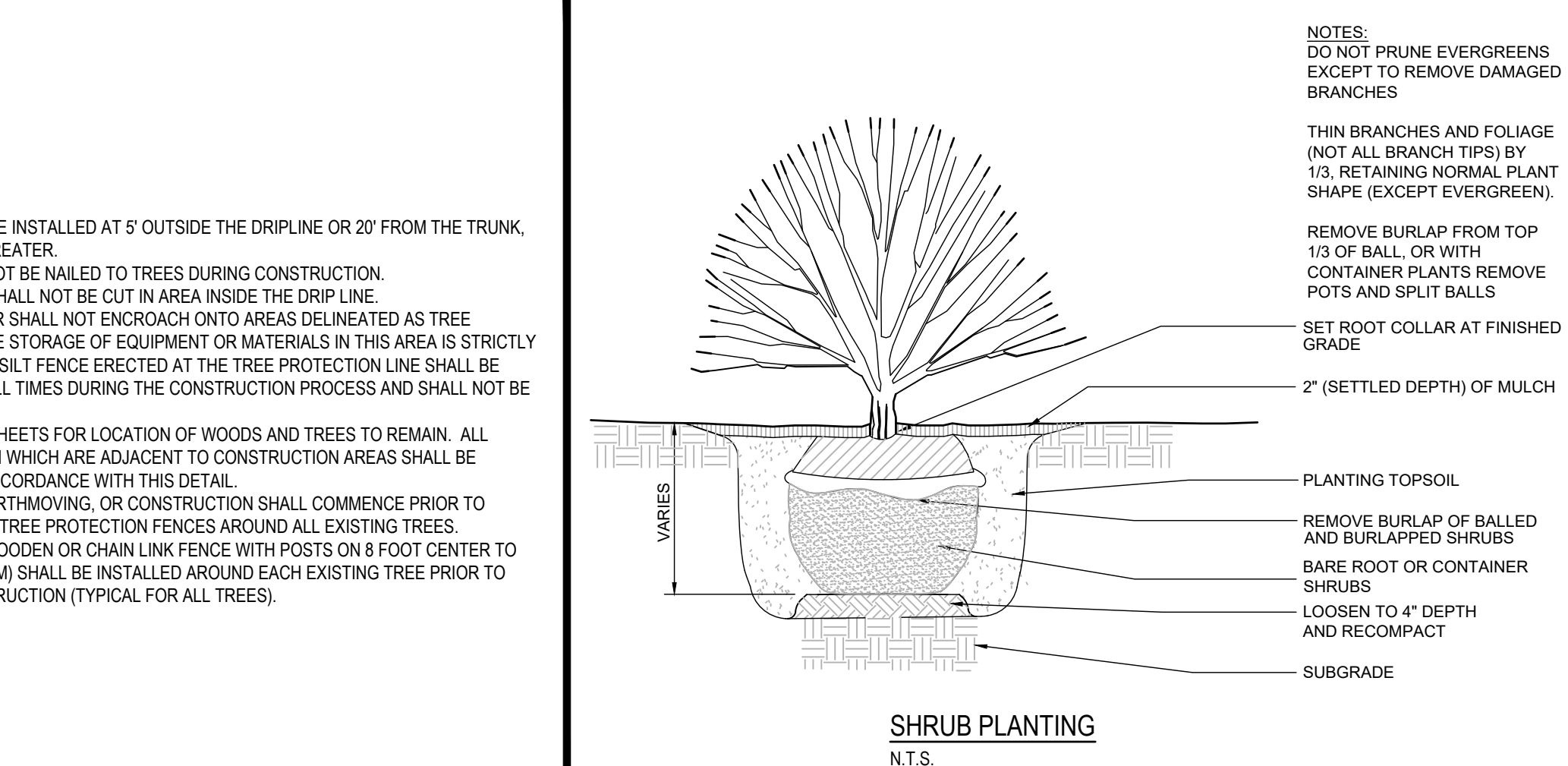
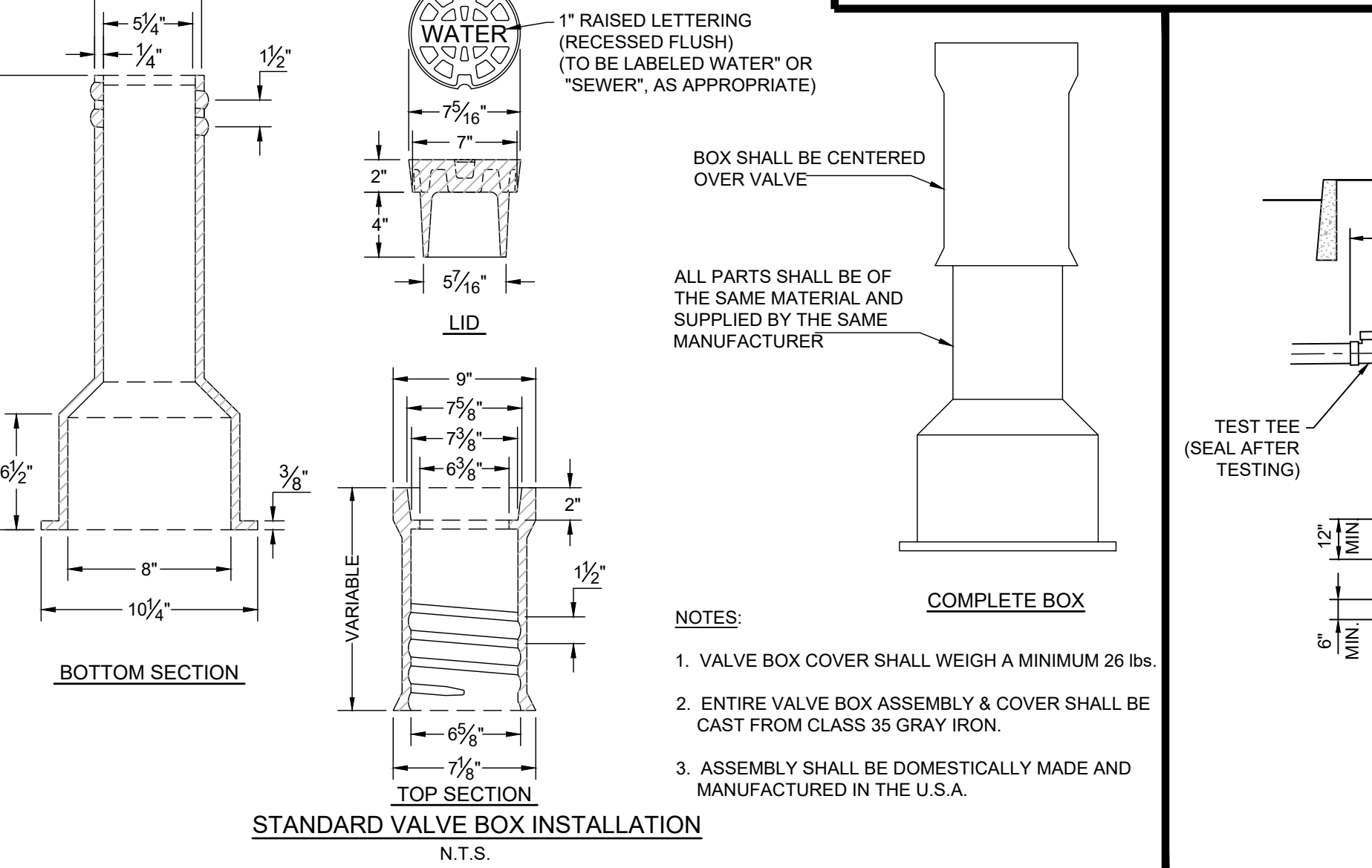
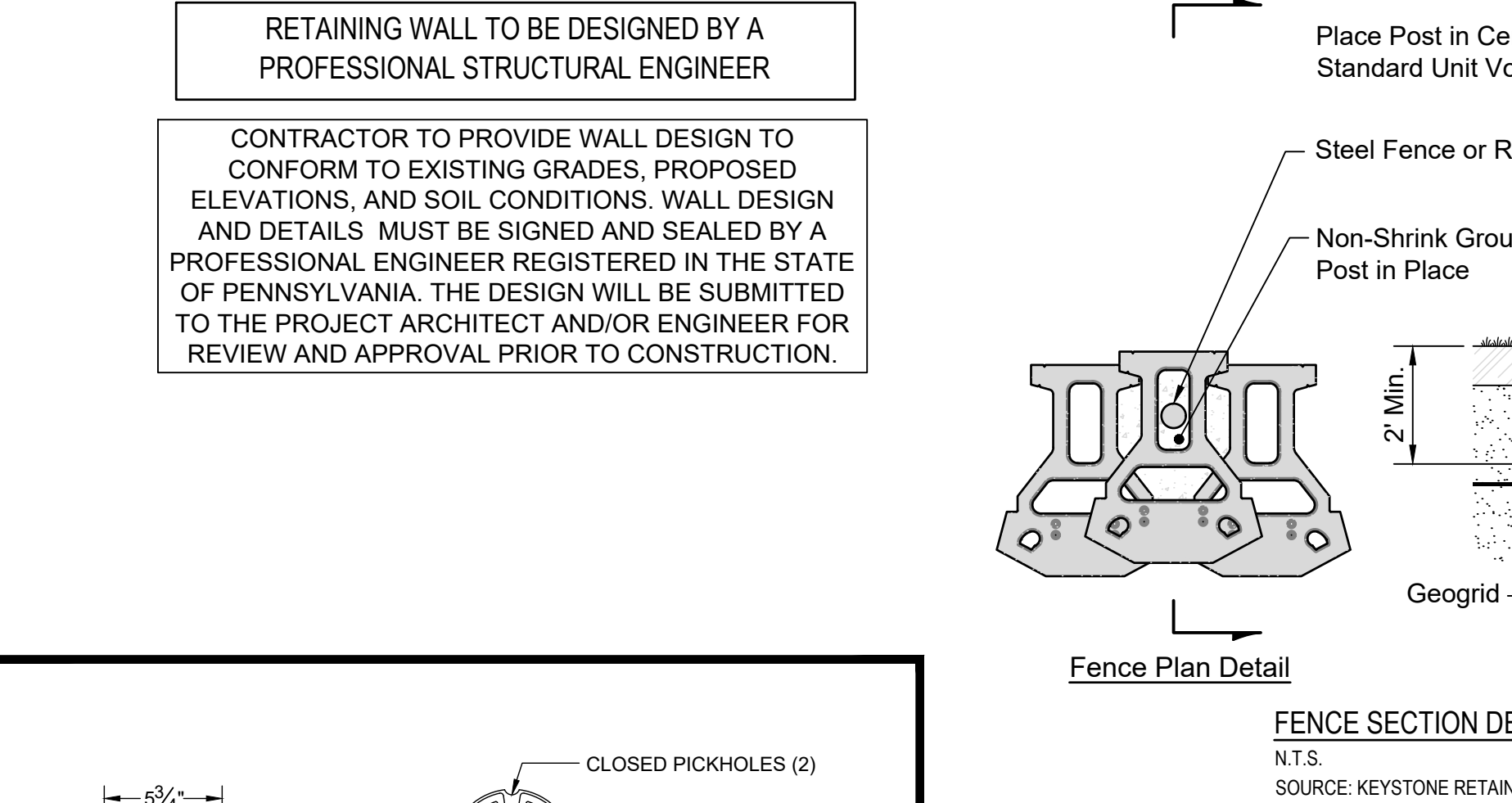
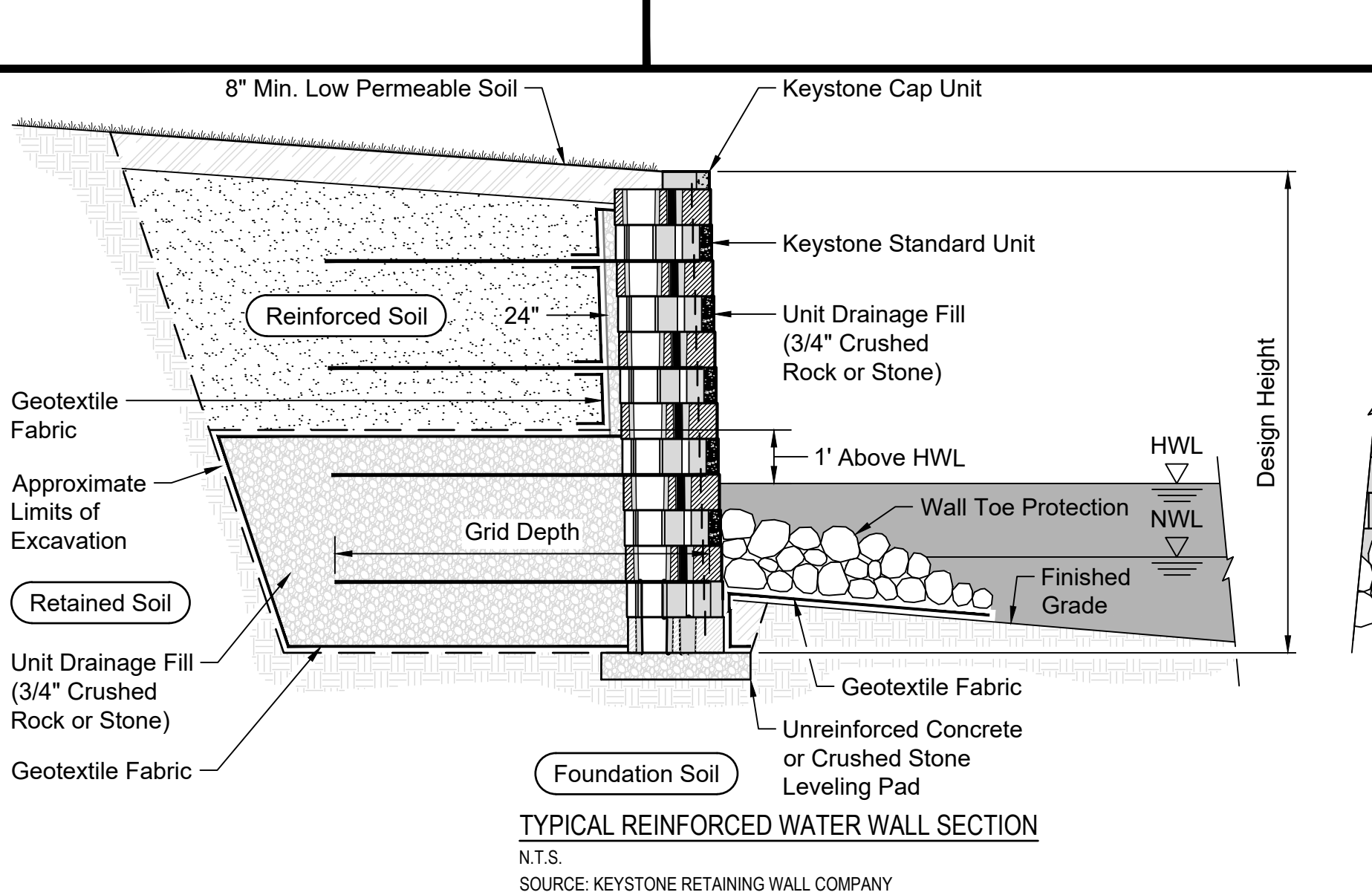
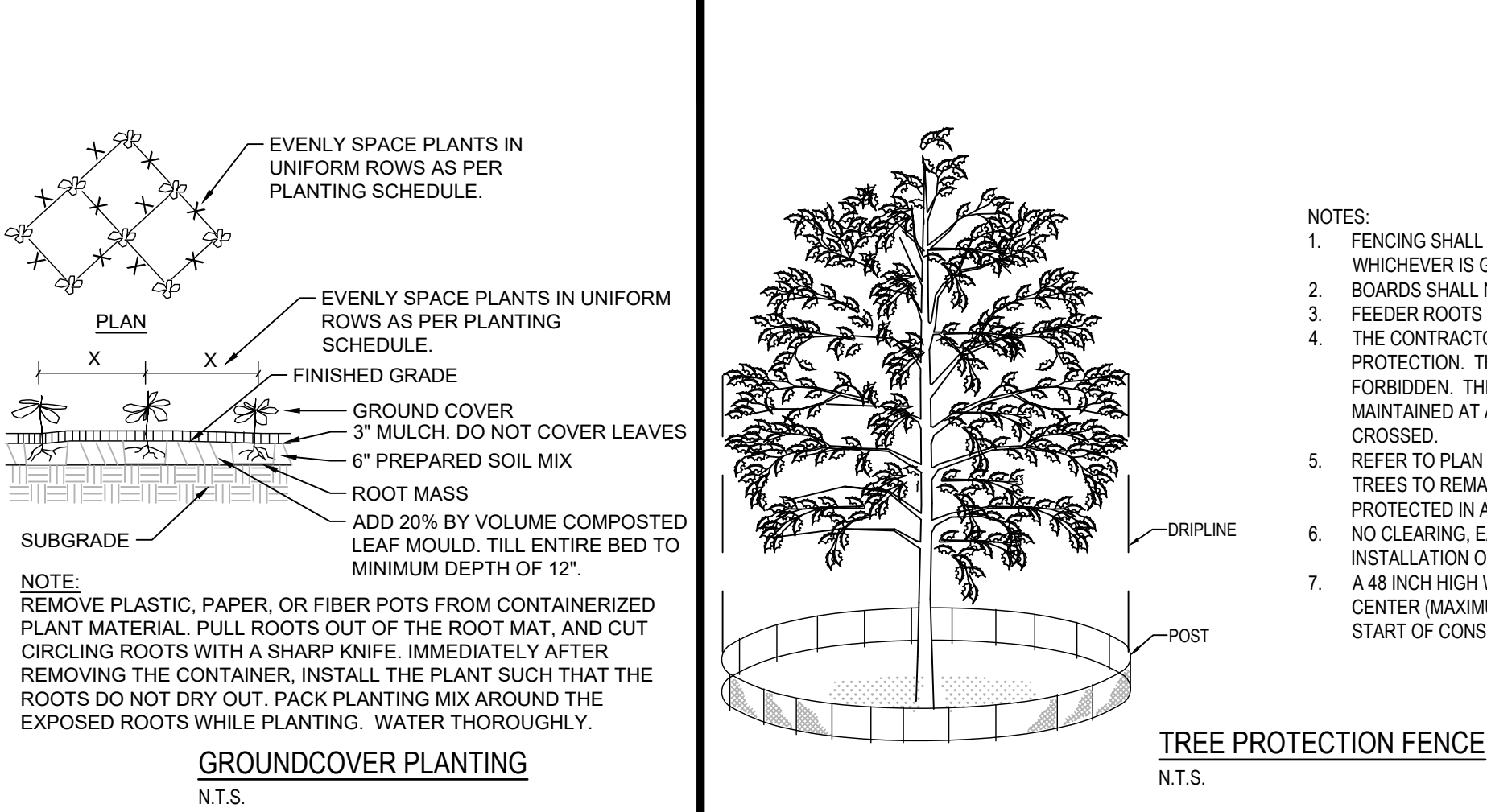
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10_Construction_Details.dwg->DE-4_Construction_Details

TEMPORARY MULCHING
CLEAN OAT OR WHEAT STRAW SHALL BE FREE FROM MATURE SEED-BEARING STALKS OR ROOTS OF PROHIBITED OR NOXIOUS WEEDS AS DEFINED BY THE PENNSYLVANIA SEED ACT OF 1947. APPLY AT A RATE 3 TONS PER ACRE. PRECAUTIONS SHALL BE TAKEN TO STABILIZE THE MULCH UNTIL THE VEGETATIVE COVER IS ESTABLISHED.

PERMANENT MULCHING
MULCH OF LONG STEM STRAW SHALL BE APPLIED AT EVEN APPLICATION OF 3 TONS PER ACRE WITH A SURFACE COVERAGE OF 80-90%.

TABLE 11.5 Recommended Seed Mixtures for Stabilizing Disturbed Areas			
Site Condition	Nurse Crop	Seed Mixture (Select one mixture)	
Slopes and Banks (not mowed)			
Well-drained	1 plus	3, 5, 8, or 12	
Variable drainage	1 plus	3 or 7	
Slopes and Banks (mowed)			
Well-drained	1 plus	2 or 10	
Slopes and Banks (grazed/hay)			
Well-drained	1 plus	2, 3, or 13	
Gullies and Eroded Areas	1 plus	3, 5, 7, or 12	
Erosion Control Facilities (B M P's)			
Sod waterways, spillways, frequent water flow areas	1 plus	2, 3, or 4	
Drainage ditches			
Shallow, less than 3 feet deep	1 plus	2, 3, or 4	
Deep, not mowed	1 plus	5 or 7	
Pond banks, dikes, levees, dams, diversion channels, and occasional water flow areas			
Mowed areas	1 plus	2 or 3	
Non-mowed areas	1 plus	5 or 7	
For hay or silage on diversion channels and Occasional water flow areas	1 plus	3 or 13	
Highways :			
Non-mowed areas			
Pure crownvetch ¹	1	5 or 6	
Well-drained	1 plus	5, 7, 8, 9, or 10	
Variable drained	1	3 or 7	
Poorly drained	plus	3 or 4	
Areas mowed several times per year	1	2, 3, or 10	
Utility Right-of-way			
Well-drained	1 plus	5, 8, or 12	
Variable drained	1 plus	3 or 7	
Well-drained areas for grazing/hay	1 plus	2, 3, or 13	
Effluent Disposal Areas	1 plus	3 or 4	
Sanitary Landfills	1 plus	3, 5, 7, 11, or 12	
Surface mines			
Spills, mine wastes, fly ash, slag, settling basin	1 plus	3, 4, 5, 7, 8, 9, 11, or 12	
Residues and other severely disturbed areas (line to soil test)	1 plus	3 or 13	
Severely disturbed areas for grazing/hay	1 plus	3 or 13	

PENN STATE: "EROSION CONTROL AND CONSERVATION PLANTINGS ON NONCROPLAND"
1. FOR SEED MIXTURES 11 AND 12, ONLY USE SPRING OATS OR WEEPING LOVEGRASS (INCLUDED IN MIX) AS NURSE CROP.
2. CONTACT THE PENNSYLVANIA DEPARTMENT OF TRANSPORTATION DISTRICT ROADSIDE SPECIALIST FOR SPECIFIC SUGGESTIONS ON TREATMENT TECHNIQUES AND MANAGEMENT PRACTICES.
3. SEED MIXTURES CONTAINING CROWN VETCH SHOULD NOT BE USED IN AREAS ADJACENT TO WETLANDS OR STREAM CHANNELS DUE TO THE INVASIVE OF THIS SPECIES.



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REVISIONS	DATE	BY
1. REV PER MEETING WITH CITY STAFF	7/30/2023	CG
2. REV PER CITY COMMENT LETTER DATED 12/13/2023	10/11/2024	EH
3. REV PER CITY COMMENT LETTER DATED 11/27/2024	01/13/2025	RCG
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PRELIMINARY/ FINAL PLAN

1818 & 1822 ELLIOT AVENUE
WARD 13 - BLOCK 40, CITY OF BETHLEHEM, LEHIGH COUNTY, PENNSYLVANIA
FOR
ANR DEVELOPMENT COMPANY, LLC

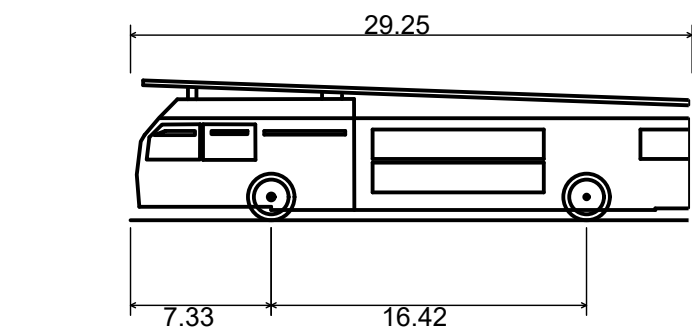
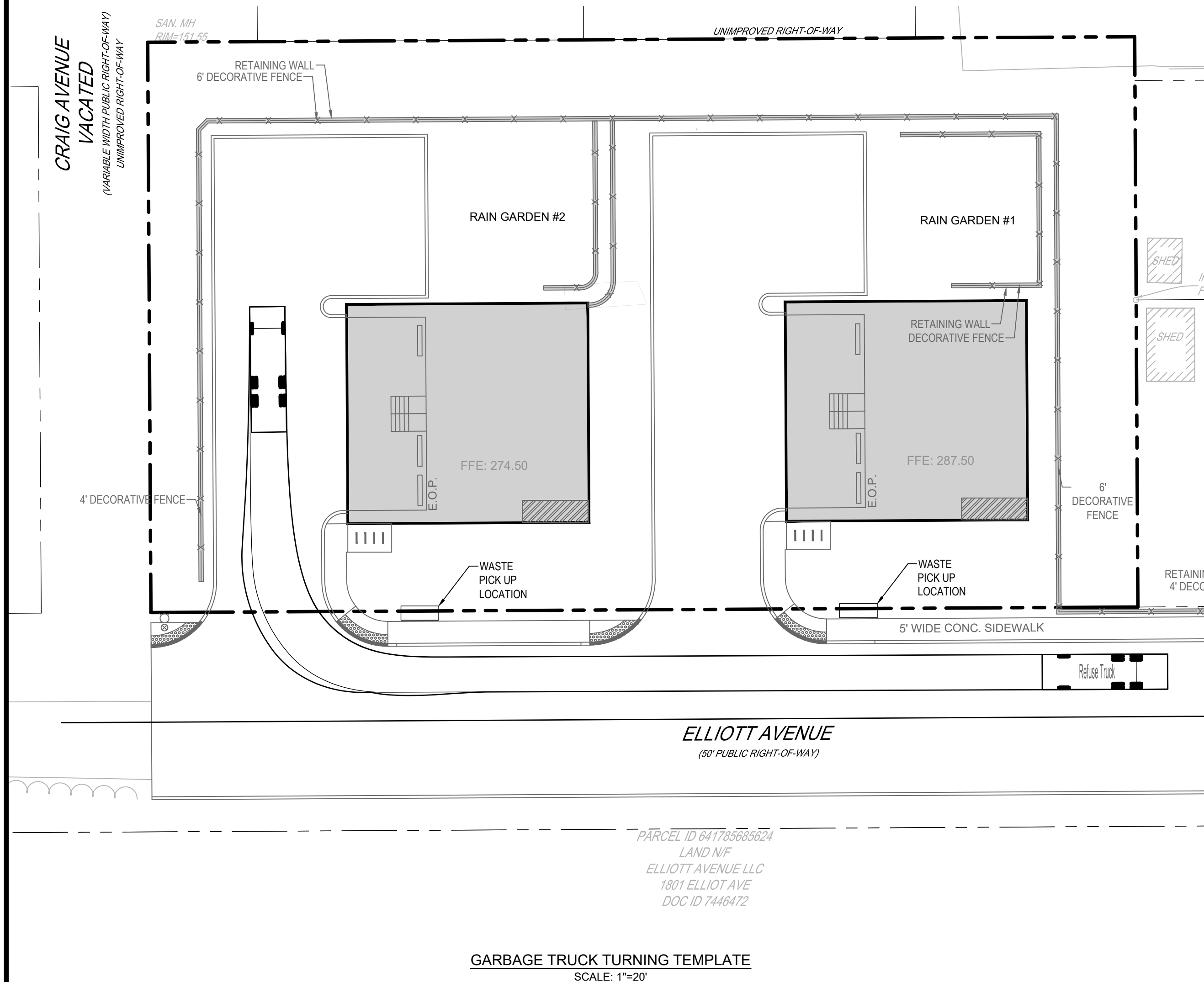
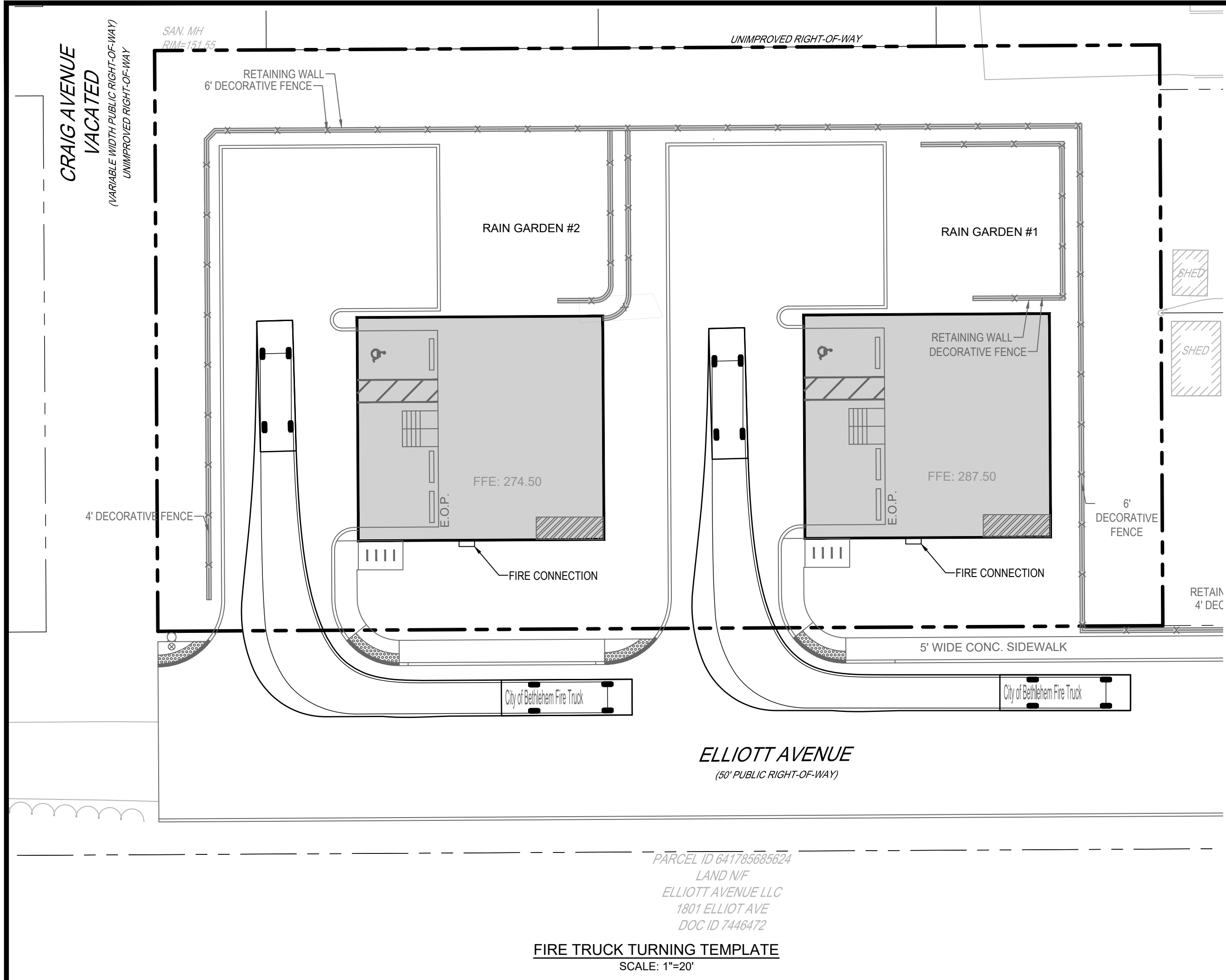
CONSTRUCTION DETAILS

SCALE: N.T.S.	DATE: 11/09/2023
DRAWN: ELH	DSGN: SB
JOB: 22-GODSC-01	P MGR: SB
SHEET: 23 OF 25	

DE-4

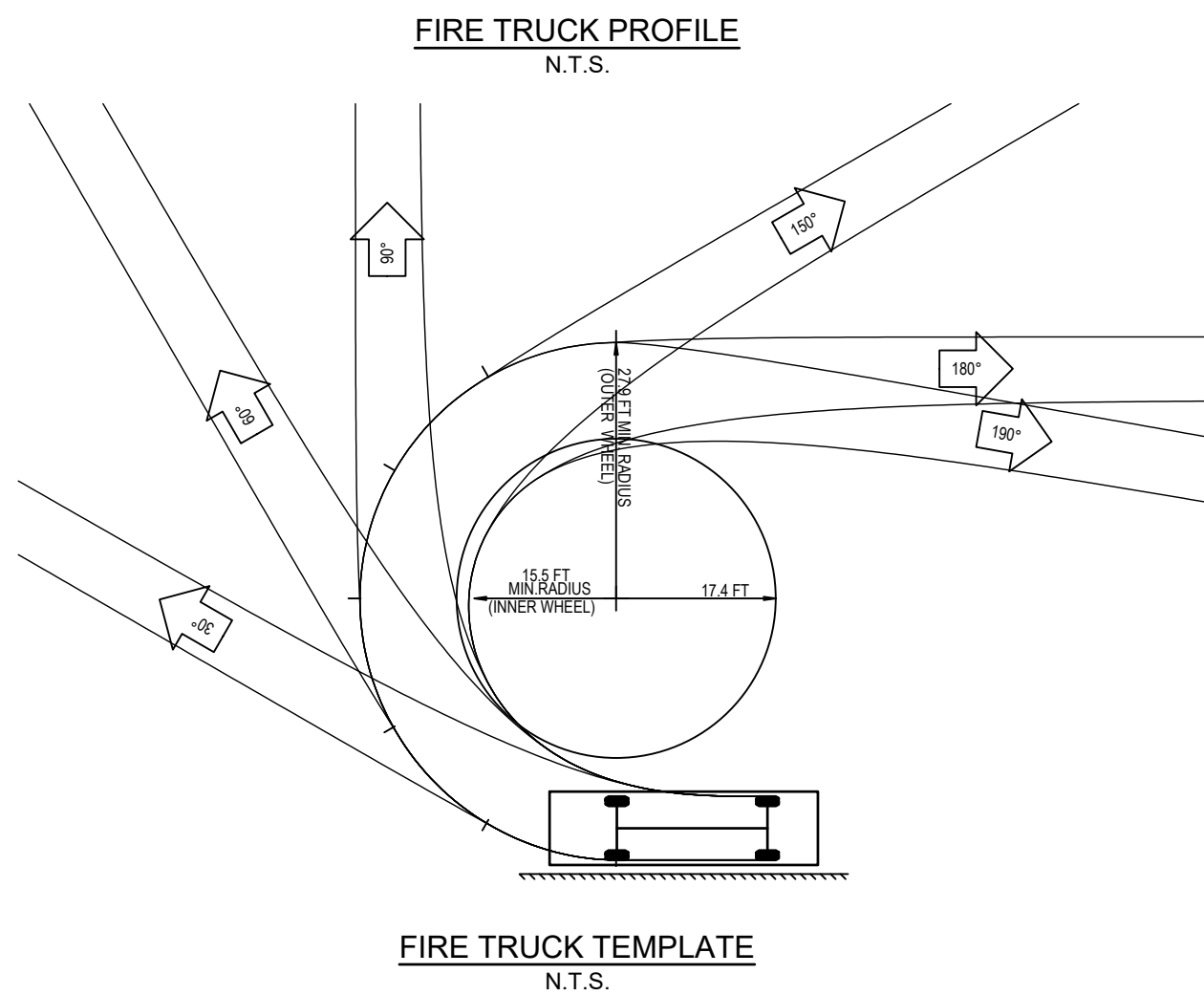
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xrefs: \\22-GODSC-01_24x36_TB [22-GODSC-01_Base] [22-GODSC-01_Layout] [22-GODSC-01_Legend] [22-GODSC-01_Grading-ForPlans] [22-GODSC-01_Fire Truck Bottom] 13_TruckTurning_Plan.dwg->TT-1_TruckTurning Template Plan Date: January 15, 2025 10:39am **acela architects + engineers, pc** - USER: Rebecca



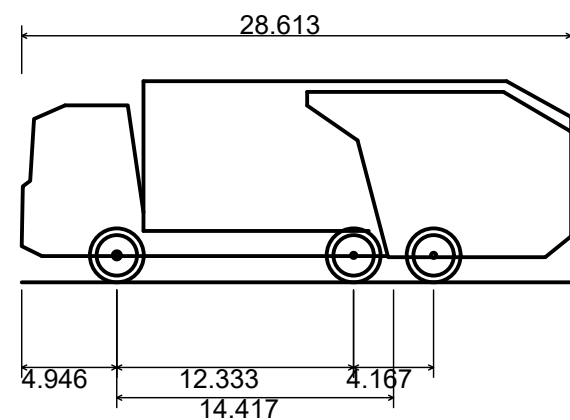
City of Bethlehem Fire Truck
Overall Length
Overall Width
Overall Body Height
Min Body Ground Clearance
Track Width
Lock-to-lock time
Wall to Wall Turning Radius

29.250ft
8.000ft
7.280ft
0.530ft
6.910ft
5.00s
33.000ft



LEGEND

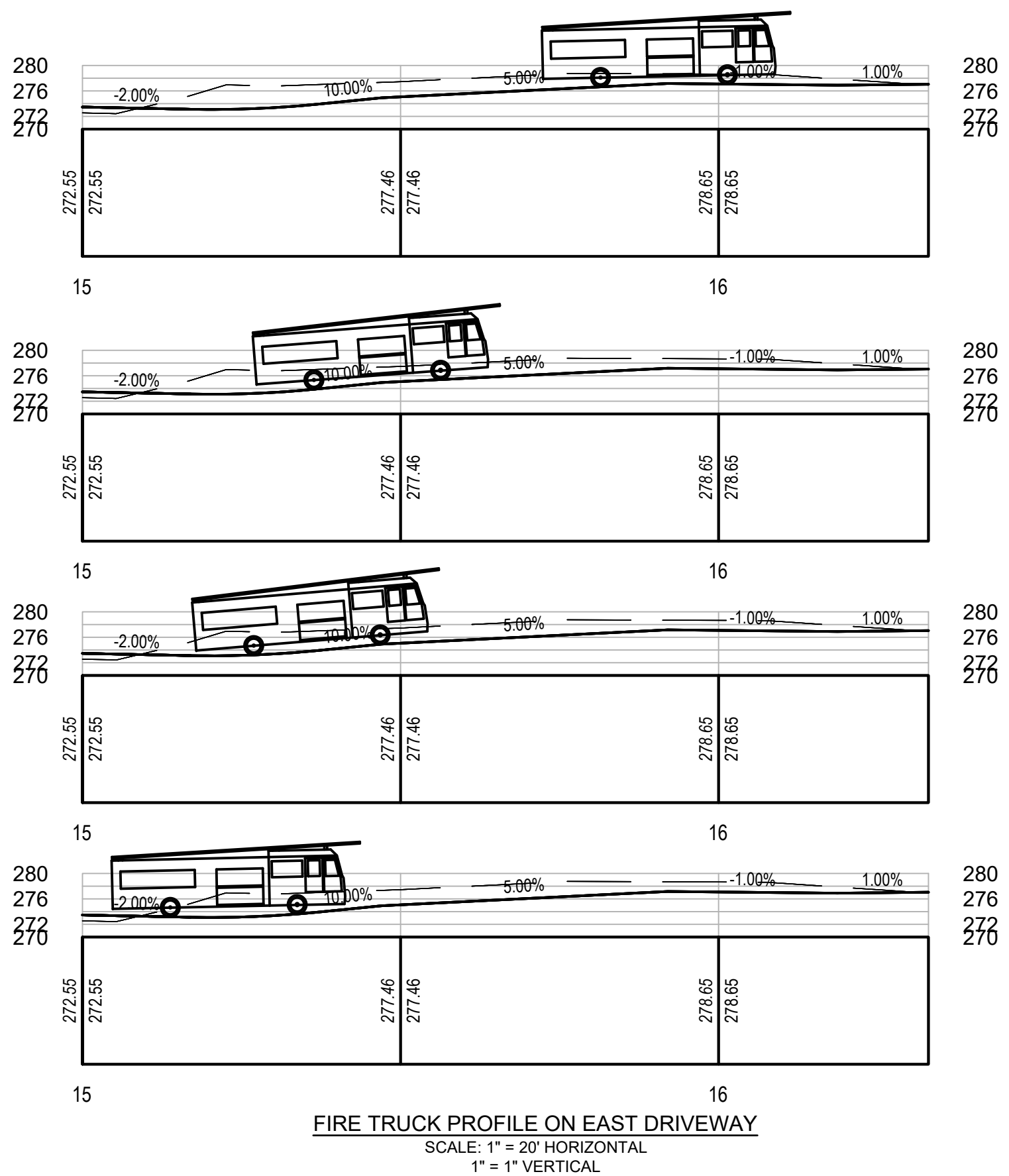
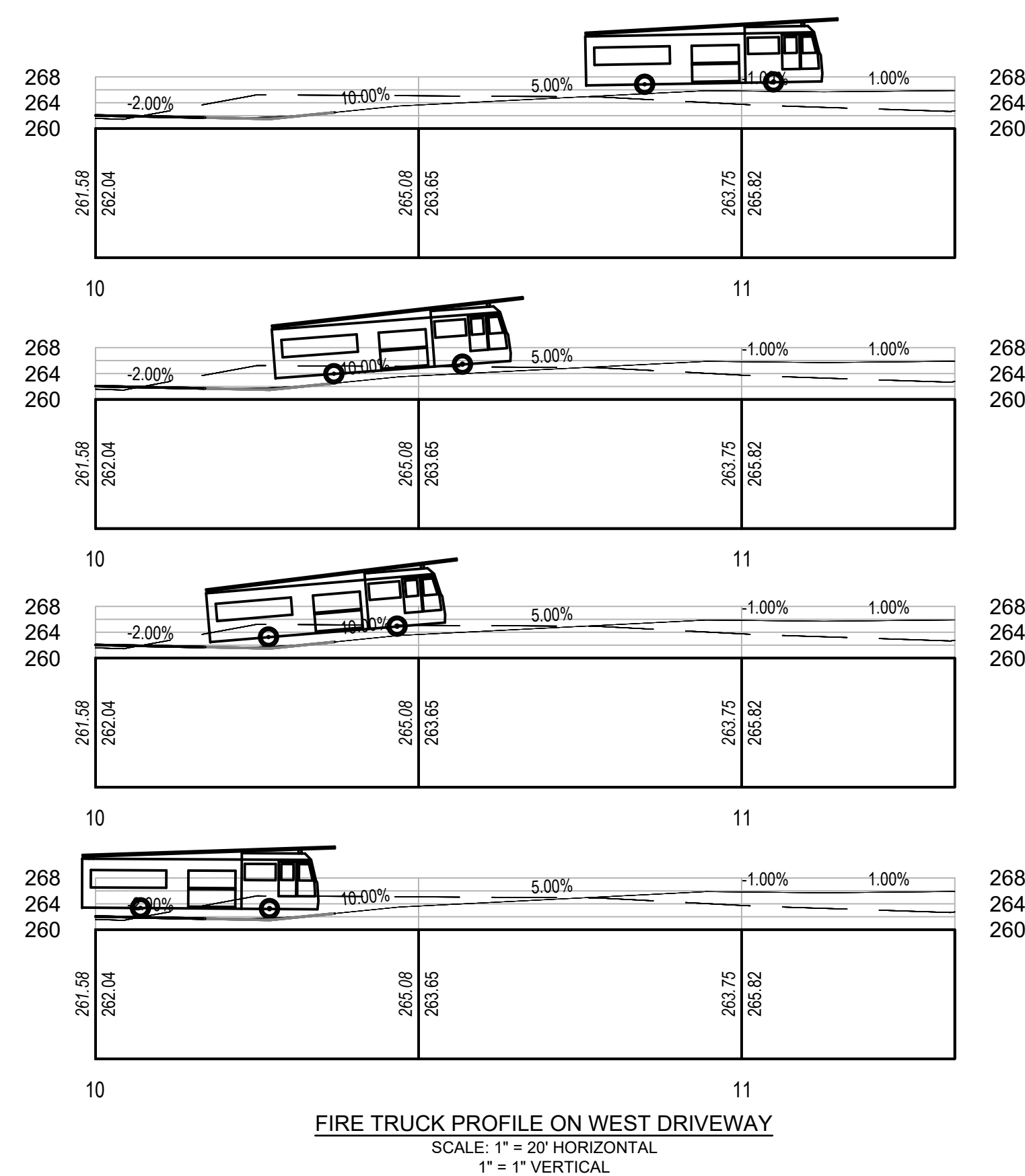
PROPERTY BOUNDARY	EXISTING	PROPOSED
CURBING	DEPRESSED CURB	DEPRESSED CURB
EDGE OF PAVEMENT		
BUILDING	EXIST. BUILDING	PROP. BUILDING



Refuse Truck
Overall Length
Overall Width
Overall Body Height
Min Body Ground Clearance
Track Width
Lock-to-lock time
Curb to Curb Turning Radius

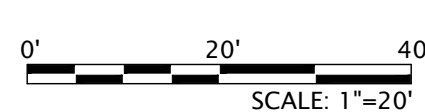
28.613ft
8.000ft
10.481ft
1.311ft
8.000ft
6.00s
33.500ft

GARBAGE TRUCK PROFILE
N.T.S.



Know what's below.
Call before you dig.
SITE SERIAL #20220521536

NOTE:
VERTICAL TEXT INDICATES PROPOSED FEATURES
SLANTED TEXT INDICATES EXISTING FEATURES



PRELIMINARY/ FINAL PLAN

1818 & 1822 ELLIOT AVENUE
WARD 13 - BLOCK 40, CITY OF BETHLEHEM, LEHIGH COUNTY, PENNSYLVANIA
FOR
ANR DEVELOPMENT COMPANY, LLC
TRUCK TURNING TEMPLATE PLAN

SCALE: 1"=20'	DATE: 11/09/2023
DRAWN: ELH	DSGN: SB
JOB: 22-GODSC-01	P MGR: SB

SHEET: 24 OF 25

TT-1

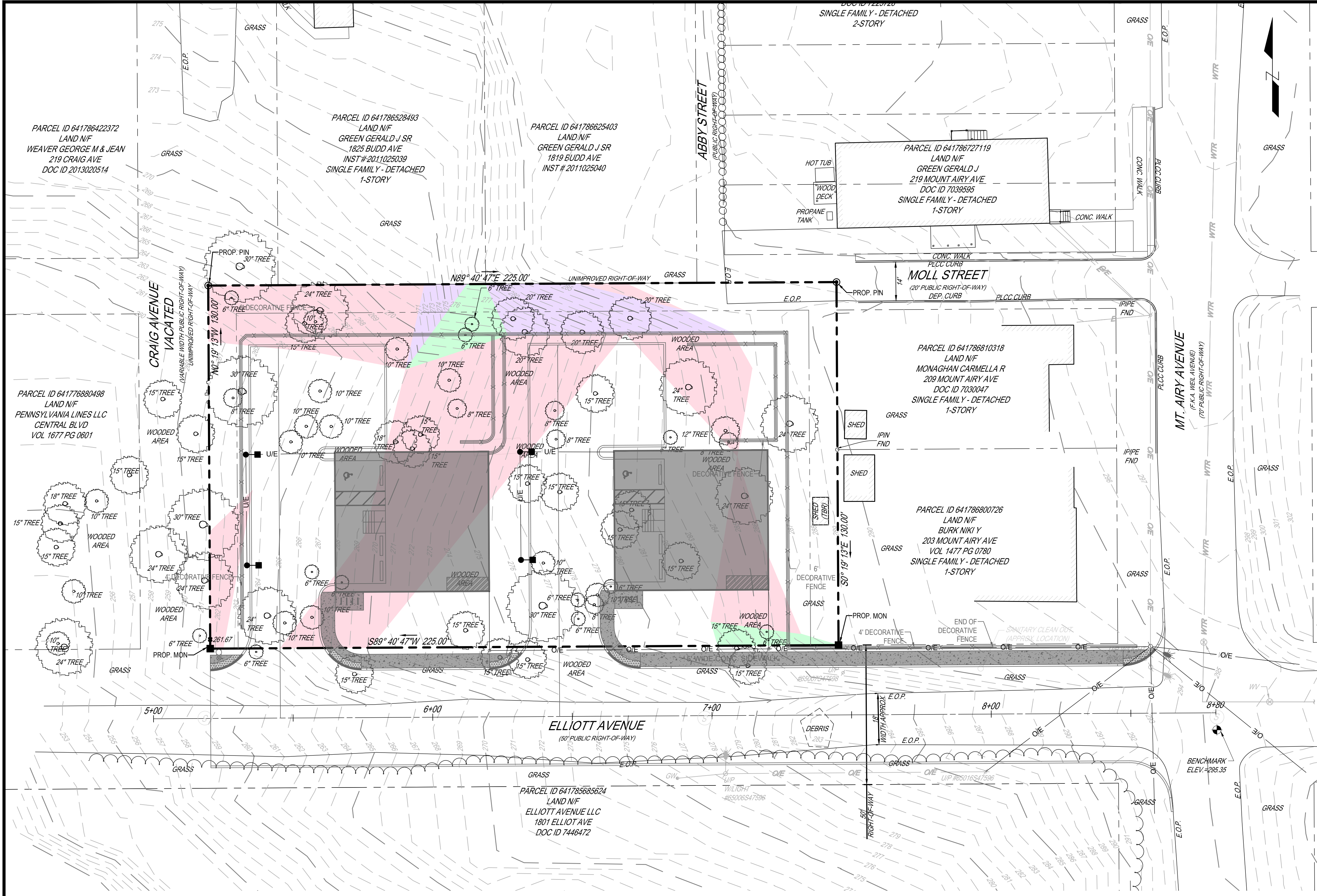
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REVISIONS	BY	DATE
1. REV PER MEETING WITH CITY STAFF	CS	7/30/2023
2. REV PER CITY COMMENT LETTER DATED 12/23/2023	ELH	10/11/2024
3. REV PER CITY COMMENT LETTER DATED 11/27/2024	RCG	01/13/2025

NOT FOR CONSTRUCTION

xrefs:-[22-GODSC-01_24x36_TB] [22-GODSC-01_Base] [22-GODSC-01_Layout]
14_SteepSlopesPlan.dwg->SS-1 Steep Slope Plan Date: January 15, 2025-10:39am **acela architects + engineers, pc** USER: Rebecca



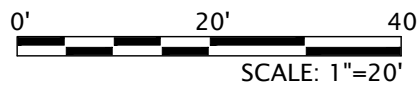
ON-SITE SLOPES TABLE						
NUMBER	COLOR	MIN. SLOPE	MAX. SLOPE	AREA (SQFT)	AREA (ACRES)	AREA TO BE DISTURBED (SF)
1		15.00%	25.00%	9,427	0.22	8,142 (86%)
2		25.00%	35.00%	711	0.02	587 (83%)
3		35.00%	+	1,343	0.03	1,027 (76%)

IMPERVIOUS COVER	
BUILDING:	2,750 SF x 2 = 5,500 SF
DRIVEWAY/PARKING:	3,800 SF x 2 = 7,600 SF
TOTAL:	13,100 SF (45%)



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PRELIMINARY/ FINAL PLAN

1818 & 1822 ELLIOT AVENUE
WARD 13 - BLOCK 40, CITY OF BETHLEHEM, LEHIGH COUNTY, PENNSYLVANIA
FOR
ANR DEVELOPMENT COMPANY, LLC

STEEP SLOPE PLAN

SCALE: 1"=20'	DATE: 11/09/2023
DRAWN: ELH	DSGN: SB
JOB: 22-GODSC-01	P MGR: SB

SHEET: 25 OF 25

SS-1

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