GENERAL NOTES

- THE PURPOSE OF THIS PLAN IS FOR REVIEW AND APPROVAL BY CITY OF BETHLEHEM AS A PRELIMINARY/FINAL LAND DEVELOPMENT PLAN FOR TWO MULTI-FAMILY STRUCTURES CONTAINING FOUR (4) DWELLINGS PER STRUCTURE FOR A TOTAL OF EIGHT (8) DWELLINGS AND
- ACCORDING TO THE NATIONAL WETLAND INVENTORY, NO WETLANDS ARE PRESENT ON THE SUBJECT PROPERTY
- UNDERGROUND UTILITY LOCATIONS ARE APPROXIMATE AND WERE DETERMINED FROM VISIBLE LOCATION, ACT 187 UTILITY RESPONSES AND/OR BEST AVAILABLE PLAN INFORMATION. ACT 187 (PA ONE CALL) (ACELA CANNOT GUARANTEE THE EXACT LOCATION OF ANY UNDERGROUND
- MUNICIPAL ORDINANCES. IF A CONFLICT IS FOUND TO EXIST BETWEEN THE APPROVED PLANS AND THE SPECIFICATIONS OF THE AUTHORITY, MUNICIPALITY, ETC., THE CONTRACTOR SHOULD IMMEDIATELY CONTACT THE ENGINEER FOR CLARIFICATION.
- THE CONTRACTOR SHALL INSPECT EXISTING SITE/PROJECT AREA CONDITIONS AND VERIFY ALL QUANTITIES AND MATERIALS PRIOR TO THE START OF CONSTRUCTION.
- THE CONTRACTOR SHALL NOTIFY ALL APPROPRIATE UTILITIES AT LEAST 72 HOURS PRIOR TO THE START OF ANY CONSTRUCTION. ALL UTILITIES HAVE BEEN IDENTIFIED BASED ON THE BEST AVAILABLE INFORMATION AND LISTED ON THESE PLANS IN ACCORDANCE WITH ACT 187 REQUIREMENTS. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF EXISTING UTILITIES AND ALL EFFORTS SHALL BE UNDERTAKEN TO PROTECT EXISTING UTILITIES AND MAINTAIN

IMPERVIOUS COVER

2,750 SF x 2 = 5,500 SF

3,800 SF X 2 = 7,600 SF

13,100 SF (45%)

EXISTING

24,000 SF

N/A

N/A

N/A

N/A

PARKING DATA

WAIVERS REQUESTED

HUNDRED (1,500) FEET FOR LOCAL RESIDENTIAL STREETS.

MAXIMUM GRADE OF TEN (10%) PERCENT FOR DISTANCES NOT TO EXCEED FIFTEEN

DESCRIPTION

<u>PROPOSED</u>

29,250 SF

20 FT.

25 FT.

60 FT.

20 FT

< 35 FT. / 2 STORIES

2%

46% (VR)

VARIANCES GRANTED

8 UNITS * 1.5 = 12 PARKING SPACES

ZONING DATA

PERMITTED USE: MULTI-FAMILY DWELLING (2-1/2 STORIES & LESS) OR DUPLEX

REQUIRED

12,000 SF

4.000 SF/UNIT

20 FT.

25 FT.

30 FT.

20 FT.

35 FT. / 2 ½ STORIES

REQUIRED: MULTI-FAMILY DWELLINGS/ APARTMENTS 1.5 SPACES PER MULTI-FAMILY

BUILDING:

DRIVEWAY/PARKING

MINIMUM LOT SIZE

MULTI-FAMILY DWELLING

MINIMUM YARDS §1306.01(A)

ADJACENT TO RESIDENTIAL

(VR) = VARIANCE RECEIVED

SECTION

FRONT:

SIDE:

REAR:

DISTRICT: RG - MEDIUM DENSITY RESIDENTIAL

- CONTRACTOR'S EXPENSE. RESTORATION OF ALL EXISTING SURFACE IMPROVEMENTS DAMAGED OR ALTERED DURING CONSTRUCTION, INCLUDING LANDSCAPING, SHALL ALSO BE THE RESPONSIBILITY OF THE CONTRACTOR
- THE CONTRACTOR SHALL MAKE PROVISIONS FOR MAINTAINING THE SAFE FLOW OF TRAFFIC DURING CONSTRUCTION WITHIN THE SITE AND THE EXISTING ROAD RIGHT-OF-WAY WHILE ENTERING AND LEAVING THE SITE
- 10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY PERMITS RELATIVE TO THE CONSTRUCTION PROPOSED ON THIS PLAN.
- 11. ALL EXISTING STRUCTURES AND IMPERVIOUS AREAS PROPOSED FOR DEMOLITION SHALL BE REMOVED AND THE APPROPRIATE PERMITS FOR DEMOLITION SHALL BE OBTAINED
- 12. CITY OF BETHLEHEM SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION OR MAINTENANCE OF ANY AREA, IMPROVEMENT, LANDSCAPING, ETC. NOT DEDICATED FOR PUBLIC USE
- 13. ALL CONSTRUCTION SHALL MEET THE REQUIREMENTS OF THE CITY OF BETHLEHEN ORDINANCE AT THE TIME OF CONSTRUCTION.
- 14. CITY OF BETHLEHEM SHALL BE IMMEDIATELY NOTIFIED IN THE EVENT THAT SINKHOLES ARE ENCOUNTERED BEFORE, DURING, OR AFTER CONSTRUCTION. A QUALIFIED REGISTERED GEOLOGIST OR REGISTERED GEOTECHNICAL ENGINEER SHALL BE ENGAGED TO INVESTIGATE ALL SINKHOLES, DEVELOP SINKHOLE REMEDIATION/STABILIZATION PROCEDURES. DIRECT THI STABILIZATION/REMEDIATION OF ALL SINKHOLES, AND TO PREPARE RECOMMENDATIONS FOR DESIGN AND CONSTRUCTION TECHNIQUES/PROCEDURES AND PERMANENT FACILITIES TO REDUCE THE RISK FOR FURTHER SINKHOLE CREATION
- OWNER'S DEED AND THE DEED TO ANY SUBSEQUENT OWNER, SHALL NOTE THAT THE OWNER SHALL EXCEPT THE MAINTENANCE RESPONSIBILITIES. THE CITY OF BETHLEHEM SHALL BE PERMITTED TO INSPECT THE STORM WATER FACILITIES ON AT LEAST AN ANNUAL SCHEDULE TO ENSURE THAT ANY NECESSARY CORRECTIVE WORK IS PERFORMED IN A TIMELY MANNER.
- 18. CHAPTER 33 OF THE IFC "FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION" WILL BE ENFORCED FOR THE DURATION OF THE CONSTRUCTION PROJECT.
- 19. THROUGH MUTUAL AGREEMENT AND CONSENT, THE APPLICANT AND THE CITY OF BETHLEHEM HAVE DECIDED THAT A PORTION OF THE REPLACEMENT TREES SHALL BE SITUATED ON CITY-OWNED LAND.

CITY OF BETHLEHEM NOTES

- 1. BY SUBMISSION OF THESE PLANS THE ENGINEER ON RECORD CERTIFIES THAT THESE PLANS ARE IN COMPLETE CONFORMANCE WITH THE CITY OF BETHLEHEM STORM WATER
- IN ORDER TO MAINTAIN CONTINUITY BETWEEN PLAN REVISIONS, ANY CHANGES TO A PREVIOUS PLAN SUBMISSION SHALL BE FLAGGED WITH A TRIANGLE. ANY CHANGES NOT FLAGGED MAY BE MAXIMUM CONSIDERED NOT APPROVED. FLAGGED CHANGES SHALL BE REFERENCED TO THE APPROPRIATE REVISION DATE IN THE REVISION BLOCK.
- ACCURATE AS-BUILT PLANS SHALL BE KEPT UP TO DATE DURING THE CONSTRUCTION PROCESS. AT THE COMPLETION OF THE PROJECT RECORD DRAWINGS SHALL BE DEVELOPED FROM THE AS-BUILT PLANS AND SUBMITTED TO THE CITY ENGINEER'S OFFICE. ALL FINAL DRAWINGS SHALL SHOW NORTH AMERICAN DATUM (NAD) 1983 STATE PLANE COORDINATES IN FEET (PENNSYLVANIA SOUTH, FIPS ONE 3702) AND THE DIGITAL FILE SHALL BE IN STATE PLANE FEET COORDINATES AS APPLICABLE. THE HARD COPY OF THE RECORD DRAWINGS SHALL BE IN THE FORM OF A MYLAR COPY. THE ENGINEER OF RECORD SHALL CERTIFY (I.E. P.E. STAMPED AND SIGNED) THAT THE RECORD DRAWINGS COMPLY SUBSTANTIALLY WITH THE APPROVED PLAN AND THAT THEY CONFORM TO INDUSTRY STANDARDS. ALL DIGITAL FILES SHALL RESIDE ON PC COMPATIBLE CD ROM CONTAINING THE DIGITAL REPRESENTATION OF THE FINAL PLAN AS PRESENTED ON THE TWENTY-FOUR (24) INCH BY THIRTY-SIX (36) INCH SHEETS. THE DIGITAL MAP SHALL BE AUTOCAD COMPATIBLE. ALL LAYERS INCLUDED IN THE DIGITAL MAPS SHALL BE THE STANDARDIZED LAYERS PREPARED AND UTILIZED BY THE CITY OF BETHLEHEM TO ENSURE COMPATIBILITY WITH THE CITY'S EXISTING CAD STANDARDS AND AS DESCRIBED IN APPENDIX A
- OF THE CITY'S SUBDIVISION AND LAND DEVELOPMENT ORDINANCE. PRIOR TO ANY WORK WITHIN THE RIGHT-OF-WAY, PERMITS MUST BE OBTAINED FROM THE CITY PROPOSED: 14 PARKING SPACES

Y T								
<u>/3\</u>	DRAWING INDEX							
	SHEET NO.	DRA	NING	NO.	SHEET TITLE			
	TS-1	1	OF	25	TITLE SHEET			

				DIAMINO INDEX
SHEET NO.	DRA	DRAWING NO.		SHEET TITLE
TS-1	1	OF	25	TITLE SHEET
LLA-1	2	OF	25	LOT LINE ADJUSTMENT PLAN
EF-1	3	OF	25	EXISTING FEATURES & DEMOLITION PLAN
* SP-1	4	OF	25	SITE PLAN
* GP-1	5	OF	25	GRADING PLAN
GP-2	6	OF	25	GRADING PLAN
* UP-1	7	OF	25	UTILITY PLAN
PP-1	8	OF	25	ROADWAY PROFILE & PLAN
PP-2	9	OF	25	DRIVEWAY PROFILE & PLAN
PP-3	10	OF	25	STORMWATER PROFILES
SD-1	11	OF	25	STORMWATER DETAILS
SD-2	12	OF	25	STORMWATER DETAILS
SD-3	13	OF	25	STORMWATER DETAILS
LP-1	14	OF	25	LANDSCAPING PLAN
LI-1	15	OF	25	LIGHTING PLAN
ES-1	16	OF	25	EROSION & SEDIMENTATION CONTROL PLAN
ESD-1	17	OF	25	EROSION & SEDIMENTATION CONTROL DETAILS
ESD-2	18	OF	25	EROSION & SEDIMENTATION CONTROL DETAILS
ESD-3	19	OF	25	EROSION & SEDIMENTATION CONTROL DETAILS
DE-1	20	OF	25	CONSTRUCTION DETAILS
DE-2	21	OF	25	CONSTRUCTION DETAILS
DE-3	22	OF	25	CONSTRUCTION DETAILS
DE-4	23	OF	25	CONSTRUCTION DETAILS
TT-1	24	OF	25	TRUCK TURNING TEMPLATE PLAN
SS-1	25	OF	25	STEEP SLOPE PLAN

USERS (OWNERS, CONTRACTORS) OF THIS PLAN ARE ADVISED THAT ALL PLANS SHOWN IN THE ABOVE REFERENCED PLAN INDEX SHALL BE UTILIZED WHEN PREPARING ESTIMATES. MANUFACTURING STRUCTURES. AND PERFORMING CONSTRUCTION. CERTAIN PLANS MAY HAVE FEATURES (EXISTING OR PROPOSED) WHICH MAY BE HIDDEN FROM VIEW TO PROVIDE CLARITY FOR THAT PARTICULAR PLAN. ALL DRAWINGS WITHIN THIS PLAN SET SHALL BE REVIEWED AND UTILIZED.

PRELIMINARY / FINAL PLANS 818 & 1822 ELLIOT AVENUE

FOR ANR DEVELOPMENT COMPANY, INC.

CITY OF BETHLEHEM LEHIGH COUNTY, PA NOVEMBER 09, 2023

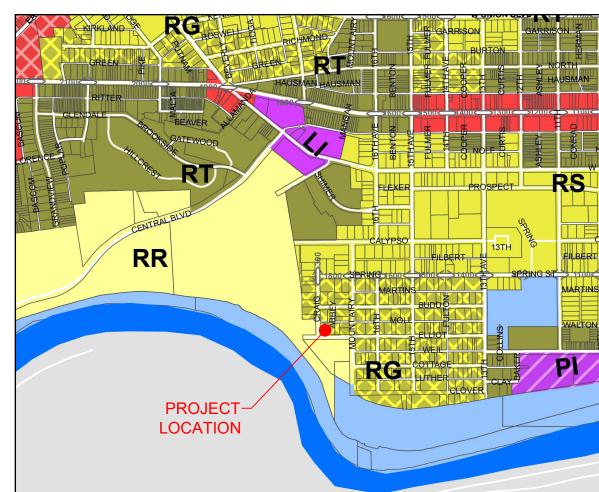
PLANS PREPARED BY:

acela

architects + engineers

acela architects + engineers, pc office: 610.365.4023 2633 Moravian Ave. Allentown, PA 18103

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



LOCATION MAP

SCALE: 1"=1.000" SOURCE: CITY OF BETHLEHEM ZONING MAP

	VAF	RIANCES GRANTED	1	SITE	DATA	
VAI	RIANCES GRANTED FROM THE ZONING HEARING BOARD			PARCEL A	PARCEL B	PARCEL C
SECTION	DESCRIPTION	CONDITIONS	1			
	MINIMUM LOT AREA AND MAXIMUM IMPERVIOUS COVERAGE IN STEEP	I. APPLICANT SHALL ACQUIRE LEGAL TITLE THE UNOPENED PORTIONS CRAIG AVENUE, MOLL STREET, AND	OWNER:	R & D HOMES LLC	R & D HOMES LLC	R & D HOMES LLC
§1316.01(c)	AREAS LOT AREA DOES NOT MEET THE 1 ACRE REQUIREMENT FOR MAXIMUM SLOPES WITHIN CONSTRUCTION AREA (15%-25% STEEP SLOPE) AND IMPERVIOUS COVER MAXIMUM = 5% IF MAXIMUM SLOPE WIDTH IN THE	ELLIOT AVENUE ABUTTING SUBJECT PROPERTY AND EXTENDING TO THE CENTER SAID UNOPENED STREETS SHALL BE ADDED TO THE SUBJECT PROPERTY TO ENSURE THAT THE TOTAL AREA OF THE SUBJECT PROPERTY 29,250 SQUARE FEET IN MANNER CONSISTENT WITH THE TESTIMONY AND EVIDENCE PRESENTED IN THIS APPEAL, AND THAT THE DEVELOPMENT OF THE SUBJECT PROPERTY SHALL OCCUR IN A MANNER	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
	CONSTRUCTION ZONE IS 35% OR GREATER.	CONSISTENT WITH THE REVISED PLAN, AND;				
		I. TO THE EXTENT THERE ARE EXISTING UTILITY, WATER AND SEWER INFRASTRUCTURE SITUATE WITHIN THE UNOPENED PORTIONS OF CRAIG AVENUE, MOLL STREET, AND ELLIOT AVENUE ABUTTING THE SUBJECT	SITE ADDRESS:	1746 ELLIOT AVE BETHLEHEM PA 18018	1742 ELLIOT AVE BETHLEHEM PA 18018	ELLIOT AVE BETHLEHEM PA 18018
	MAXIMUM 25% OF TREES WITHIN 25%± SLOPES CAN BE REMOVED. THE PROPOSED DEVELOPMENT WILL REMOVE ±79% OF TREE CANOPY IN THIS AREA.	PROPERTY, APPLICANT SHALL TAKE ALL NECESSARY STEPS AND GRANT ALL EASEMENTS, RIGHTS OF WAY OR OTHER AGREEMENTS AS MAY BE REQUIRED, REQUESTED OR RECOMMENDED BY THE CITY OF	1			
\$424C 04/b)		RETHLEHEM IN CONNECTION WITH THE SURDIVISION AND LAND DEVELOPMENT (SALDO) APPROVAL	CURRENT DEED:	2022042243	2022042243	2022042243
1 " ' '			PARCEL ID:	641786517020	641786614071	641786712041
			TOTAL AREA:	6,000 SF	12,000 SF	6,000 SF
			\$			
	MANIMUM OF 4 200 COLLARS SEET OF LOT AREA REPROMETLING UNIT	APPLICABLE MUNICIPAL ORDINANCE, OR OTHER APPLICABLE LAW.	SEWER:	PUBLIC	PUBLIC	PUBLIC
§1316.01(a)(3)	MINIMUM OF 4,000 SQUARE FEET OF LOT AREA PER DWELLING UNIT SHALL PROVIDE A MINIMUM OF 3,656.25 SQ. FT. PER DWELLING UNIT IF	I. THE DEVELOPMENT AND USE OF THE SUBJECT PROPERTY SHALL COMPLY WITH THE CONCEPT PLAN ENTERED INTO THE RECORD AS EXHIBIT A5, AND SWORN TESTIMONY AND EVIDENCE PUT INTO THE RECORD BY THE APPLICANT.	WATER:	PUBLIC	PUBLIC	PUBLIC
31212121(0)(0)	THE PORTIONS OF MOLL STREET AND CRAIG AVENUE ARE VACATED BY THE CITY IN FAVOR OF THE PROPERTY.		\			
	ALL PARKING SPACES AND ACCESS DRIVES SHALL BE 15' FEET FROM		CURRENT USE:	VACANT	VACANT	VACANT
§1322.03(II)(5)(i)	MULTI-FAMILY DWELLINGS SHALL CONSTRUCT ONSITE PARKING AND ACCESS DRIVES IN SOME		}	001100110477	1070 0400005	
	AREAS AS CLOSE AT 0' FEET FROM THE PROPOSED MULTI-FAMILY		}	CONSOLIDATED	LOTS: 24,000 SF	
L	DWELLING.	 	CRAIG AVENUE VACATED:	3,250 SF		
Λ			MOLLY STREET VACATED:	2,000 SF		
<u>/3\</u>				TOTAL LOT A	REA: 29,250 SF	

CONTACT INFORMATION

OWNER/ DEVELOPER INFORMATION

CENTER VALLEY PA 18034-8912

ENGINEER INFORMATION

JEREMIE SCHADLER, P.E.

JSCHADLER@ACELA-AE.COM

2633 MORAVIAN AVE.

ALLENTOWN PA 18103

+1 (610) 365-4023

MONTY@ANRDEVELOPMENT.COM

MONTY KALSI

2180 SPYGLASS HILL

<u>+1 (610) 694-9100</u>

I (WE) THE OWNER(S) OF 1818 & 1822 ELLIOT AVENUE, BEING DULY SWORN ACCORDING TO 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

SURVEYOR'S CERTIFICATION

MY COMMISSION EXPIRES ON

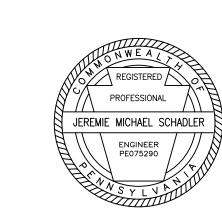
I HEREBY CERTIFY THAT THIS PLAN CORRECTLY AND ACCURATELY REPRESENTS THE LANDS OF THE OWNER AND, WHERE APPLICABLE, THE LOTS, BUILDINGS, STREETS, PARKING AREAS, WALKWAYS, AND OTHER STRUCTURES AND IMPROVEMENTS SHOWN THEREON

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.

REGISTRATION NO.



CITY OF BETHLEHEM PLANNING COMMISSION

APPROVED BY THE CITY OF BETHLEHEM PLANNING COMMISSION

CHAIRMAN	DATE

LEHIGH VALLEY PLANNING COMMISSION

REVIEW BY THE LEHIGH VALLEY PLANNING COMMISSION

LVPC STAFF PERSON RESPONSIBLE FOR REVIEW

RECORDER OF DEEDS:

SECRETARY

RECORDED IN THE OFFICE OF DEEDS OF LEHIGH COUNTY, PENNSYLVANIA ON , 20, in map book volume $_{ extstyle }$

LEHIGH COUNTY RECORDER OF DEEDS

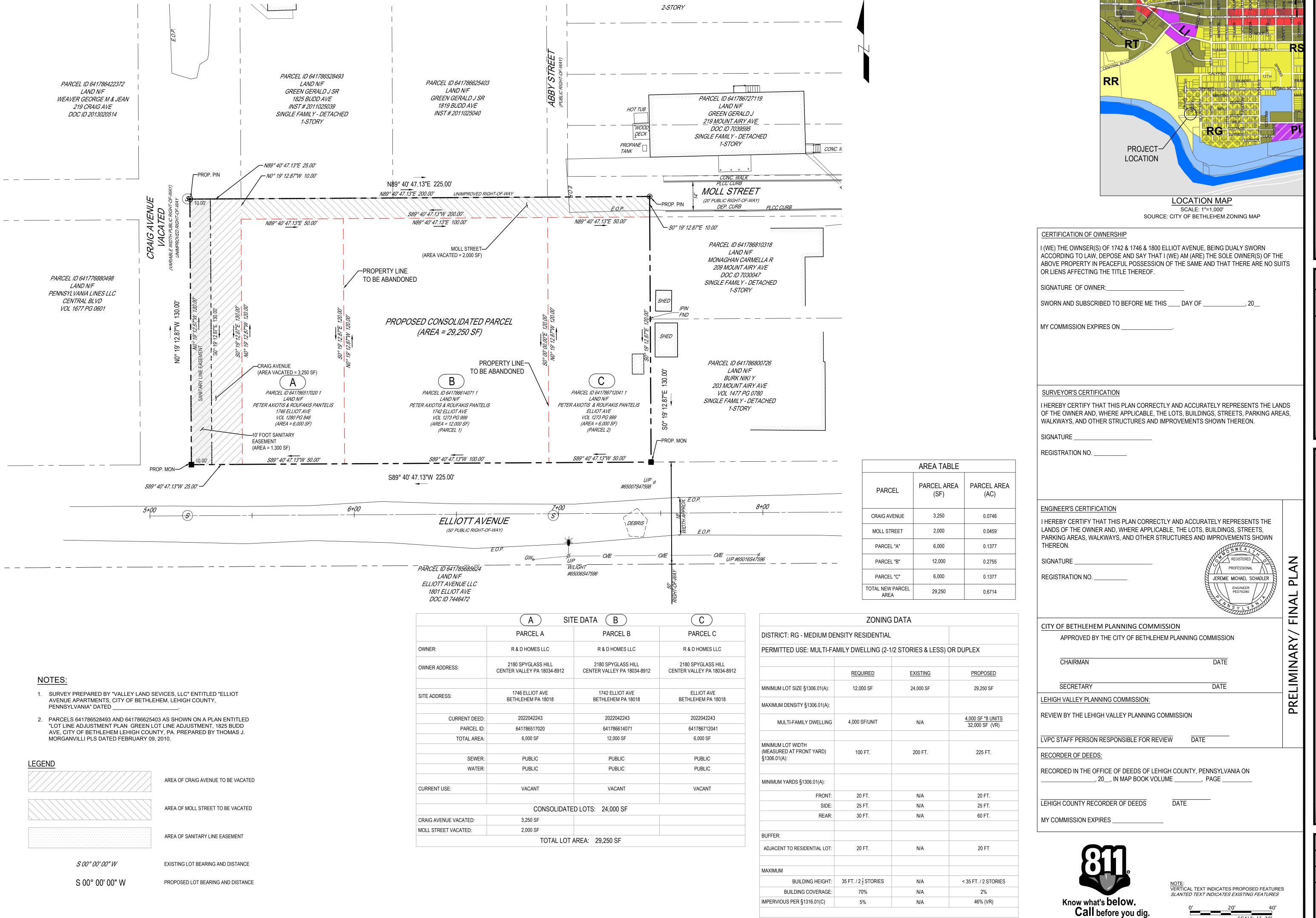
MY COMMISSION EXPIRES

Know what's **below**. **Call** before you dig

VERTICAL TEXT INDICATES PROPOSED FEATURES SLANTED TEXT INDICATES EXISTING FEATURES

11/09/2023 22-GODSC-02

SHEET: 1 OF 25



(VR) = VARIANCE RECEIVED

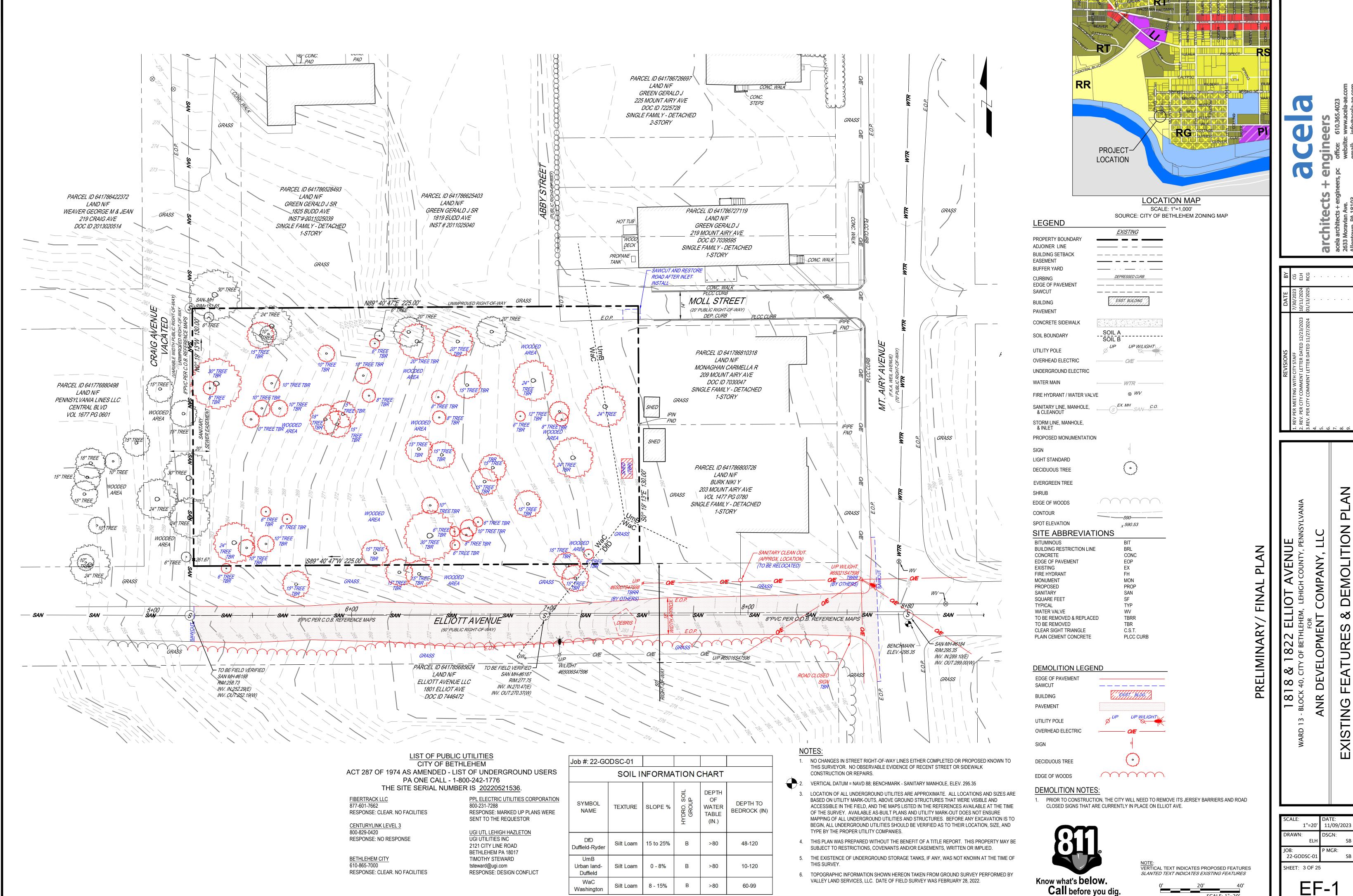
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SHEET: 2 OF 25

SCALE: 1"=20'

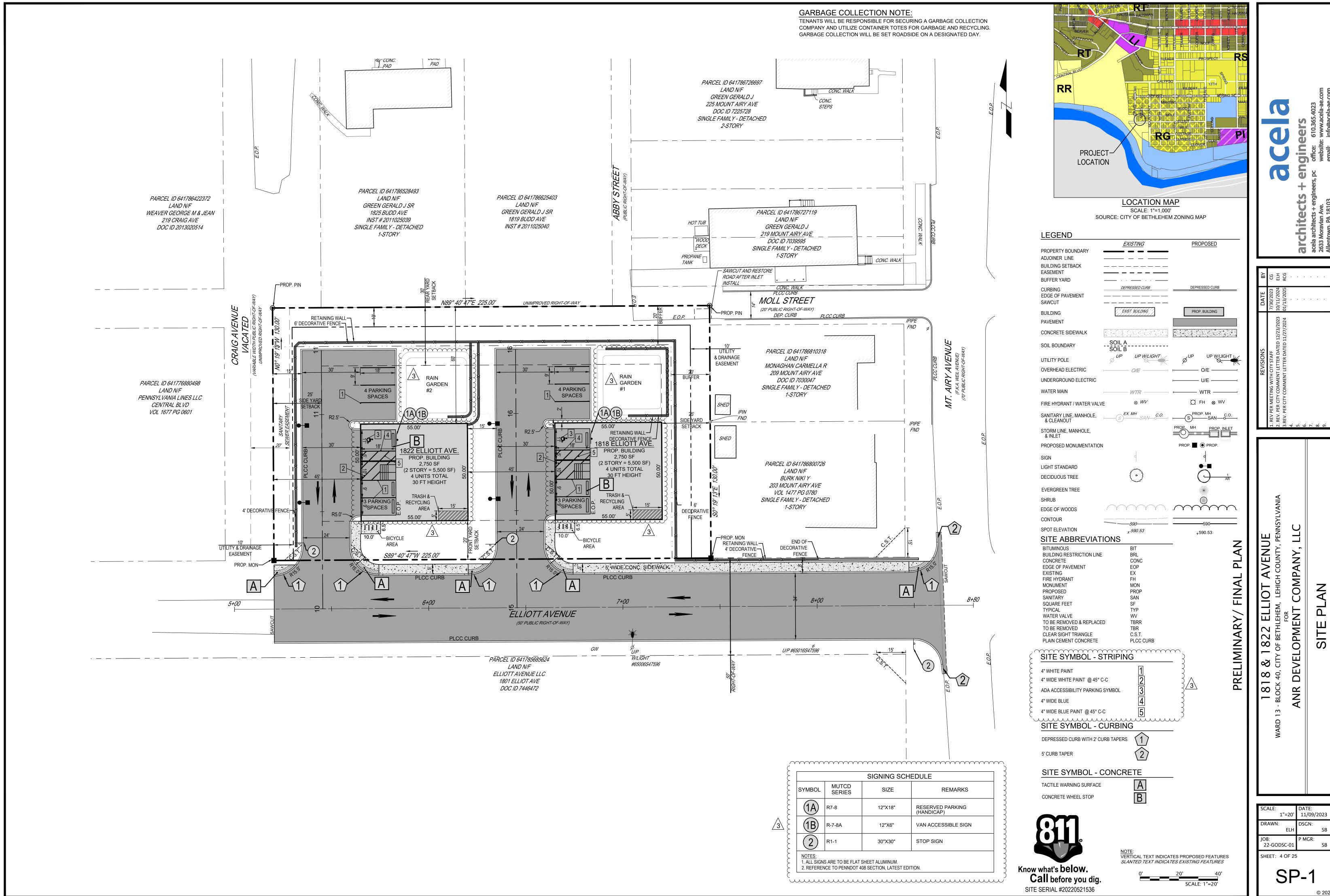
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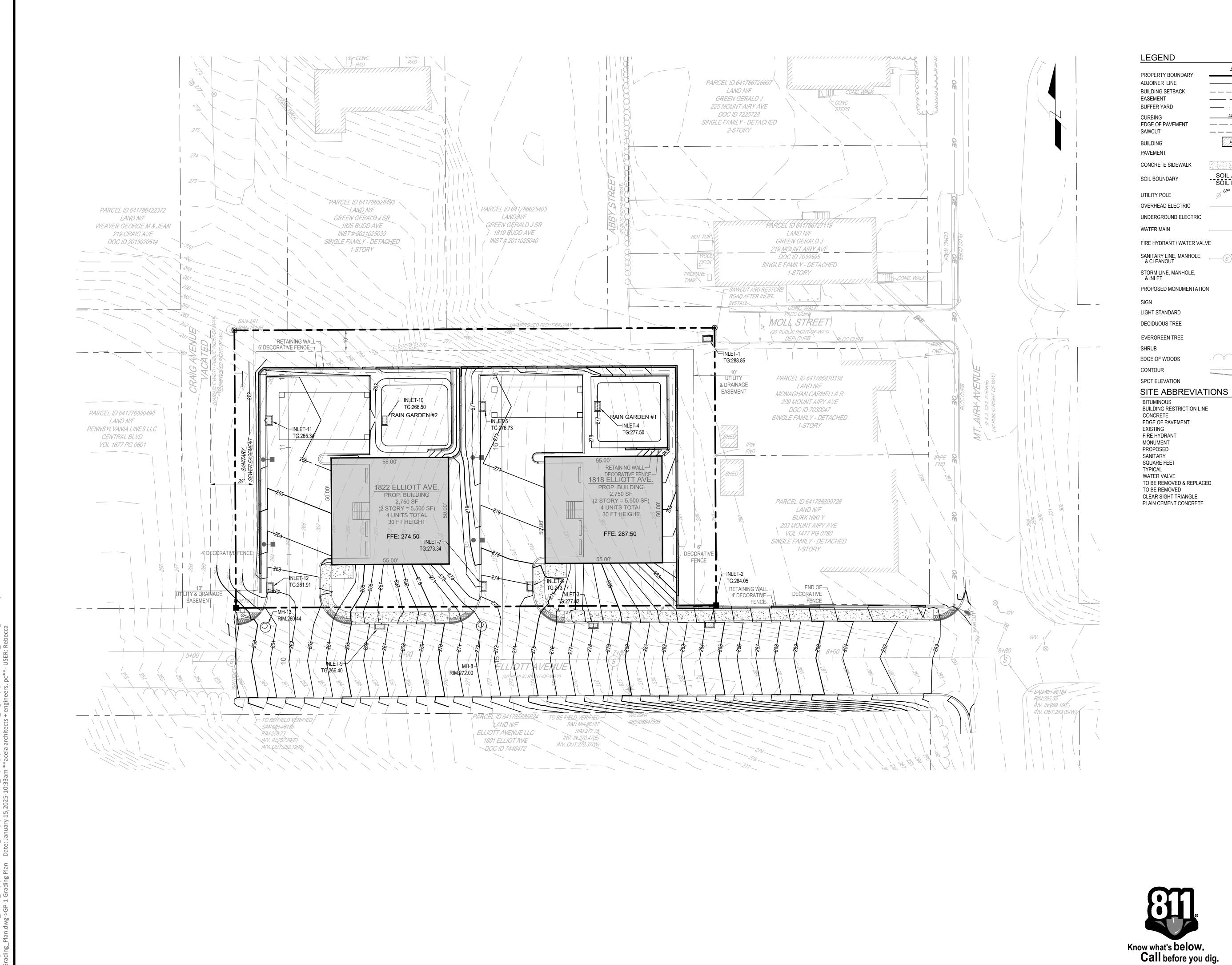
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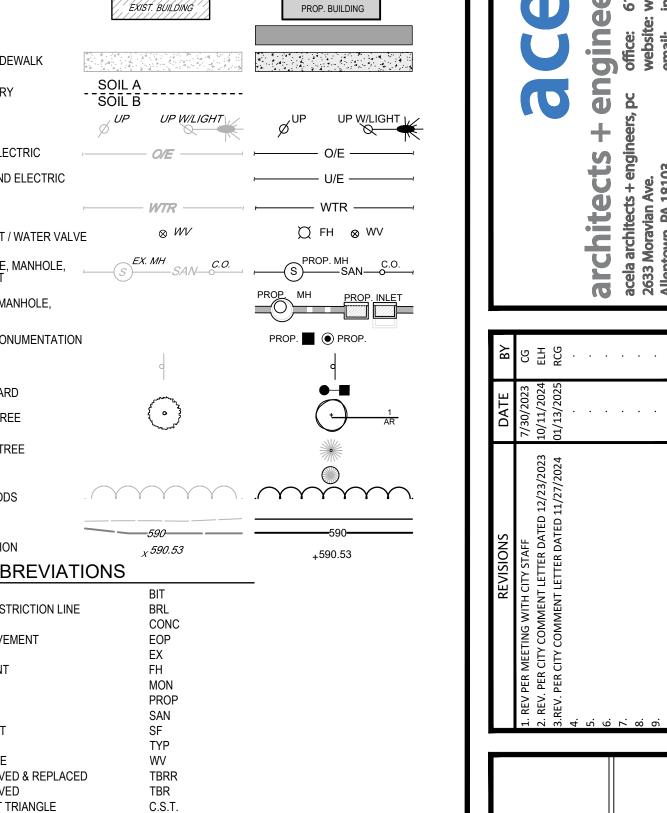


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SP-1





PROPOSED

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1818 & 1822 ELLIOT	WARD 13 - BLOCK 40, CITY OF BETHLEHEM, LEHIGH	FOR	AND DEVELODMENT CON	
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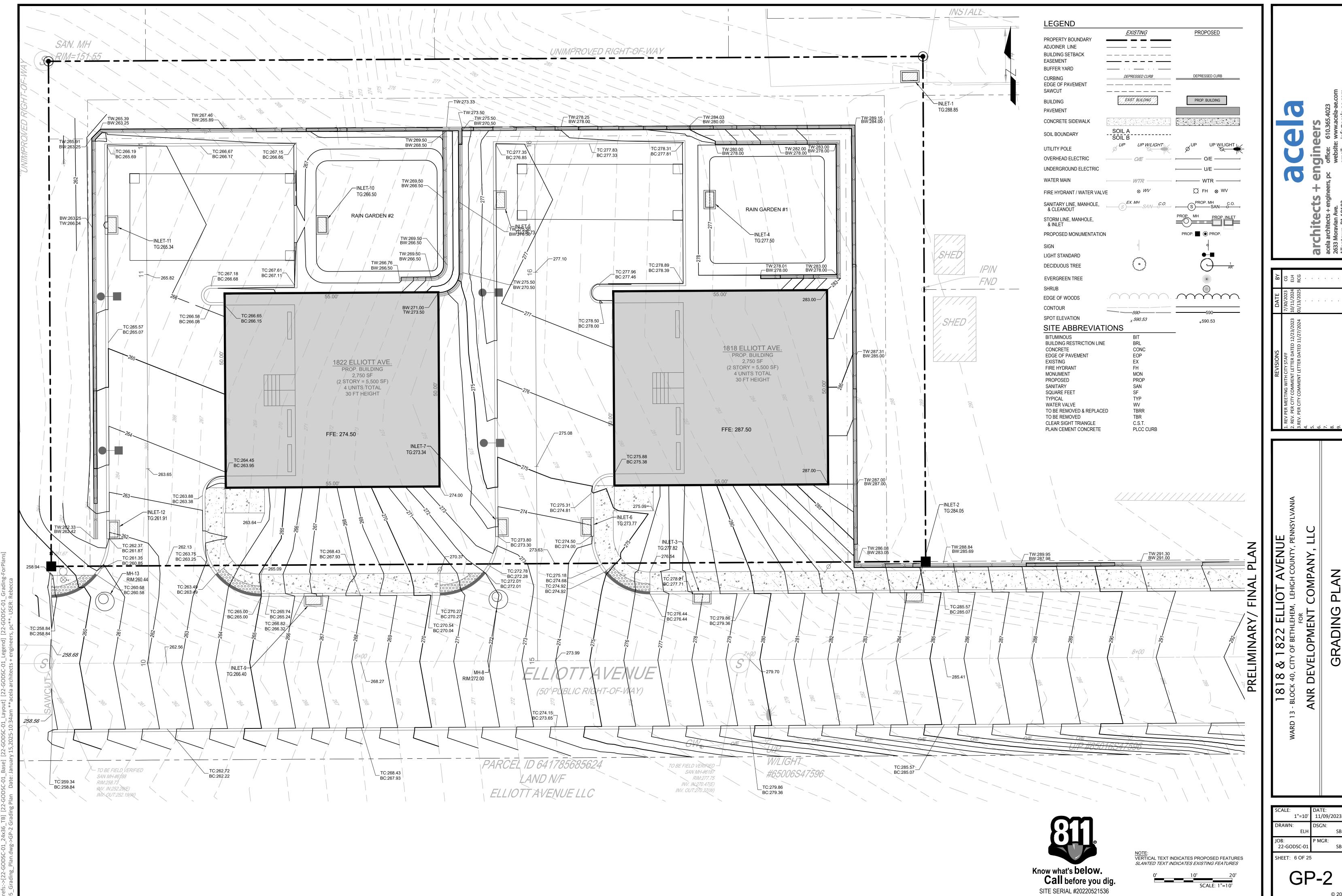
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B: 22-GODSC-01	P MGR:
IEET: 5 OF 25	5
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PLAN

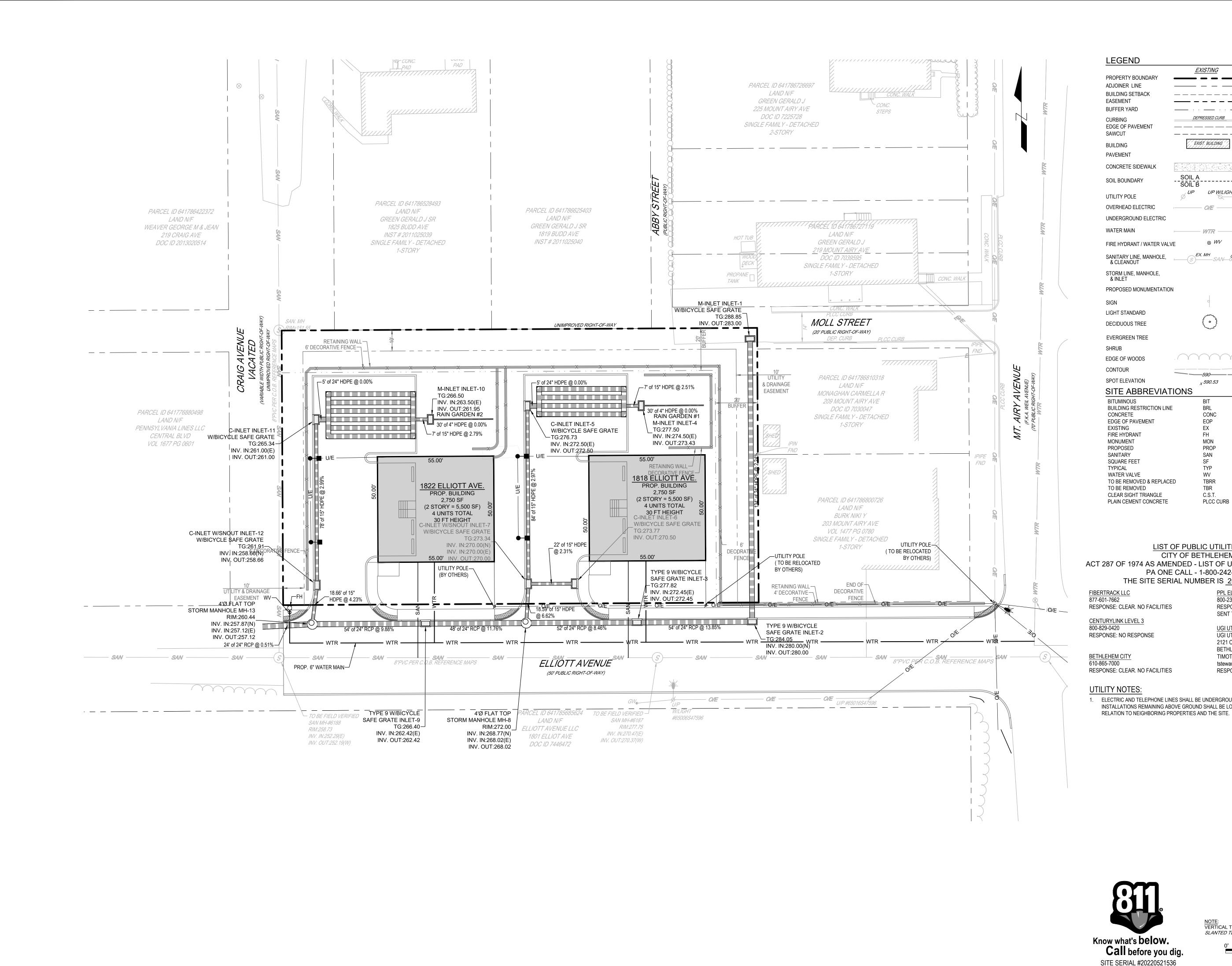
GRADING

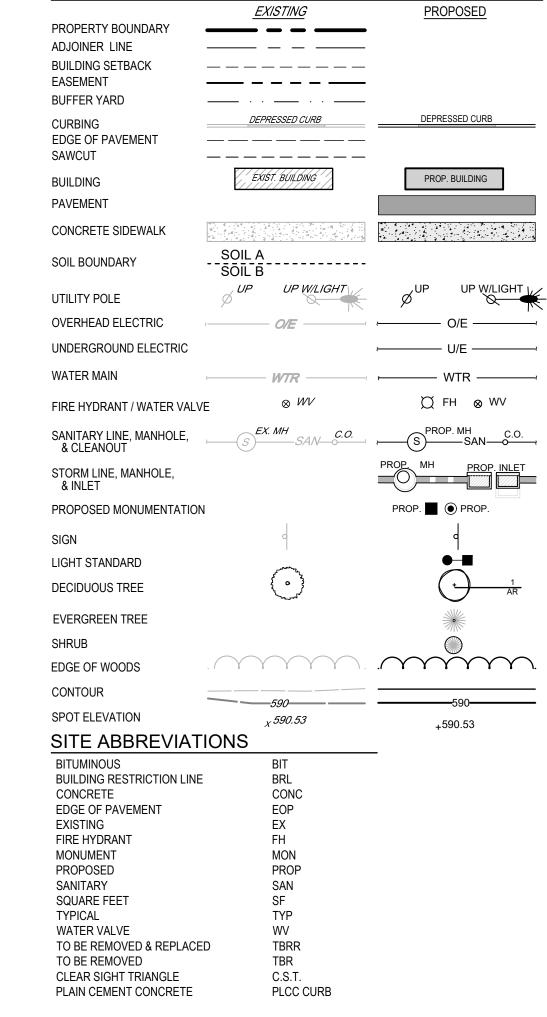


PLAN FOR LOPMENT GRADING DE

1"=10' 11/09/2023 P MGR:

SHEET: 6 OF 25 GP-2





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. PPL ELECTRIC UTILITIES CORPORATION

UGI UTILITIES INC 2121 CITY LINE ROAD BETHLEHEM PA 18017 TIMOTHY STEWARD tsteward@ugi.com RESPONSE: DESIGN CONFLICT

SENT TO THE REQUESTOR

UGI UTL LEHIGH HAZLETON

RESPONSE: MARKED UP PLANS WERE

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

PRELI

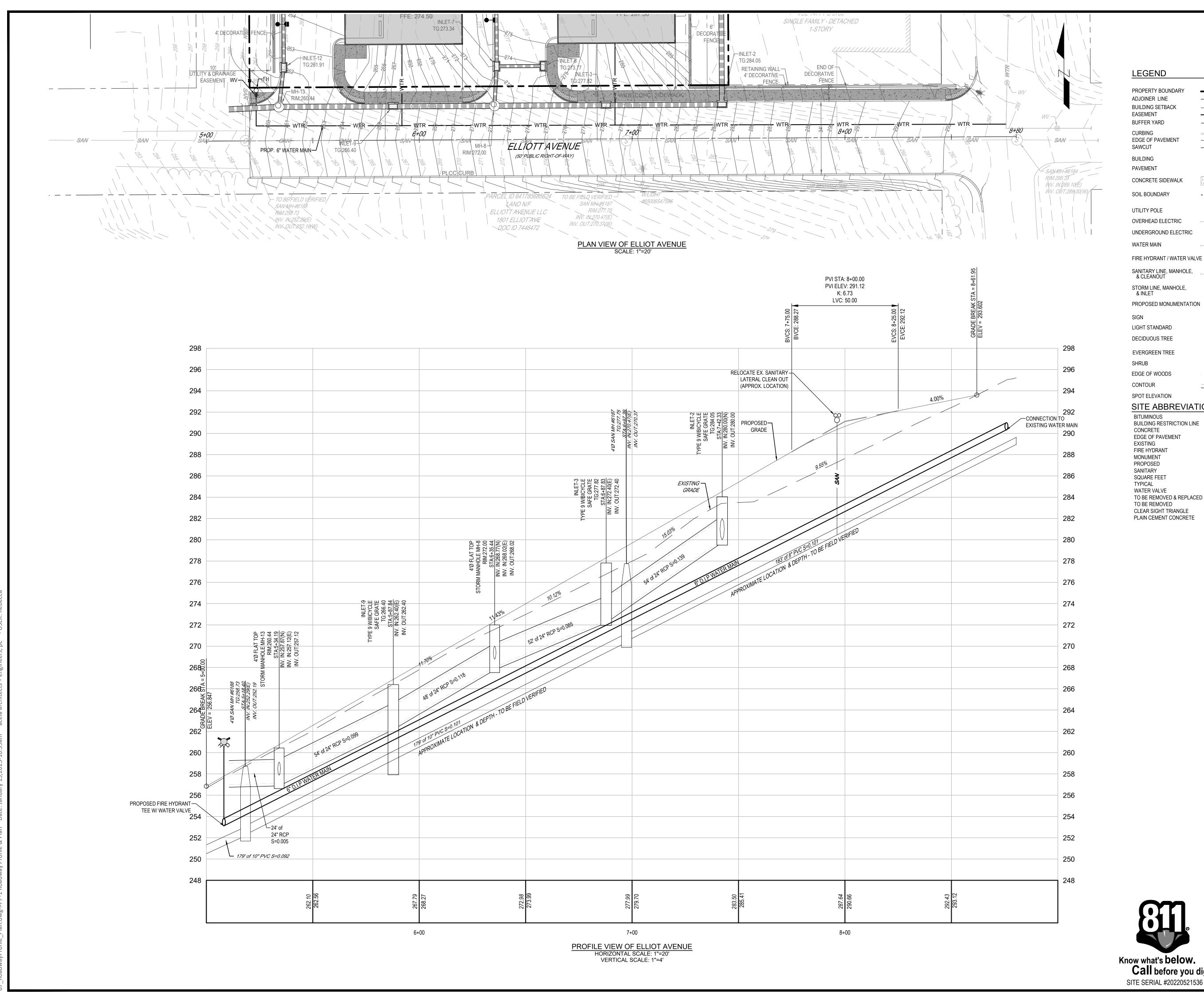
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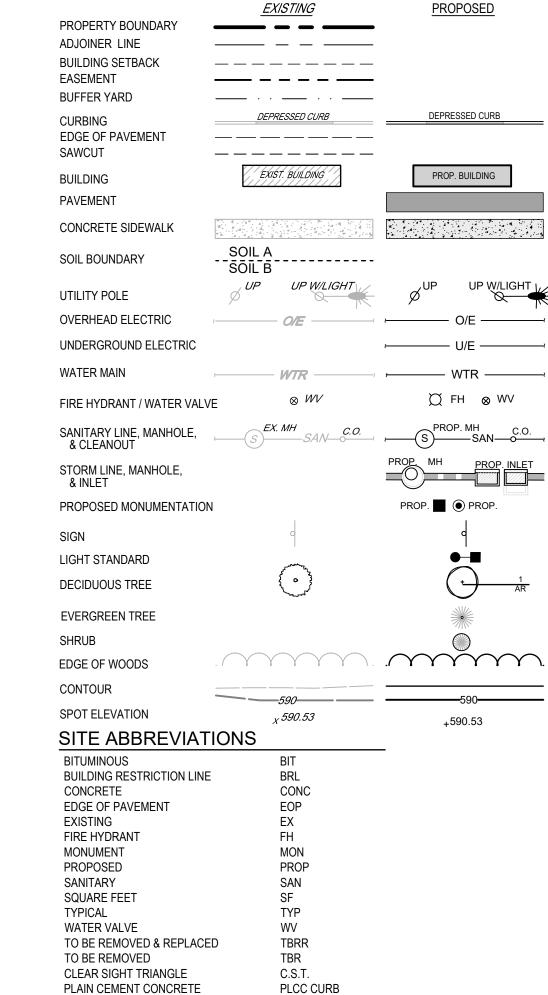
acela 2633

22-GODSC-01 SHEET: 7 OF 25

NOTE:
VERTICAL TEXT INDICATES PROPOSED FEATURES SLANTED TEXT INDICATES EXISTING FEATURES SCALE: 1"=20'

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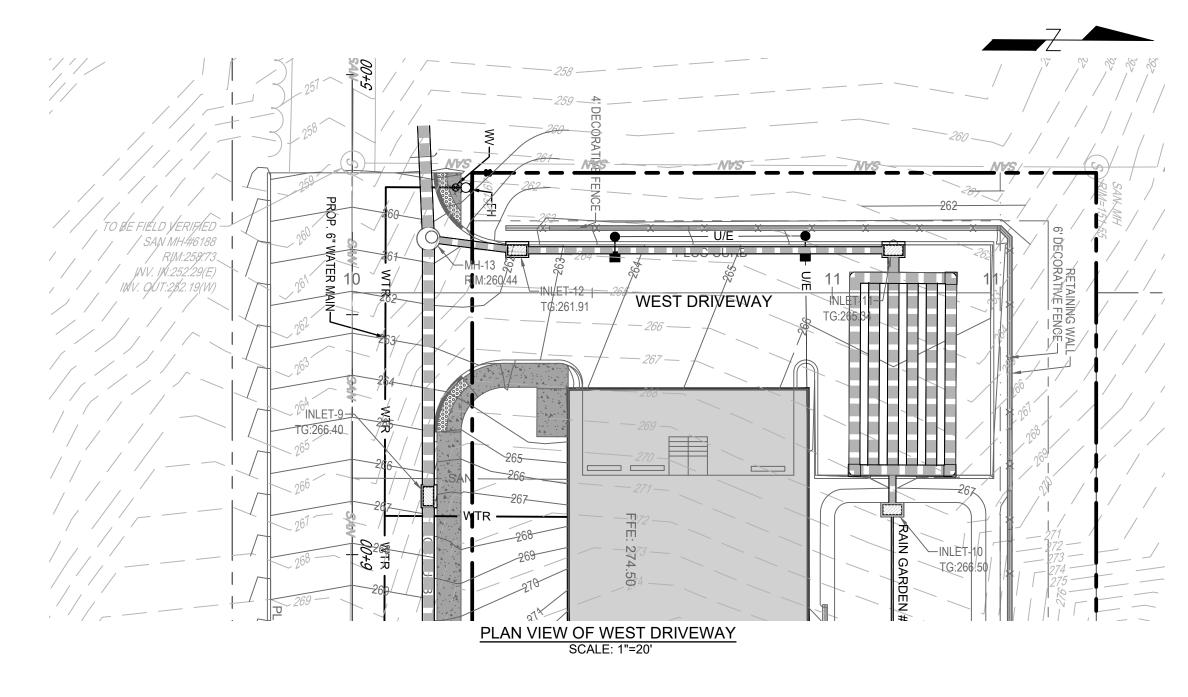
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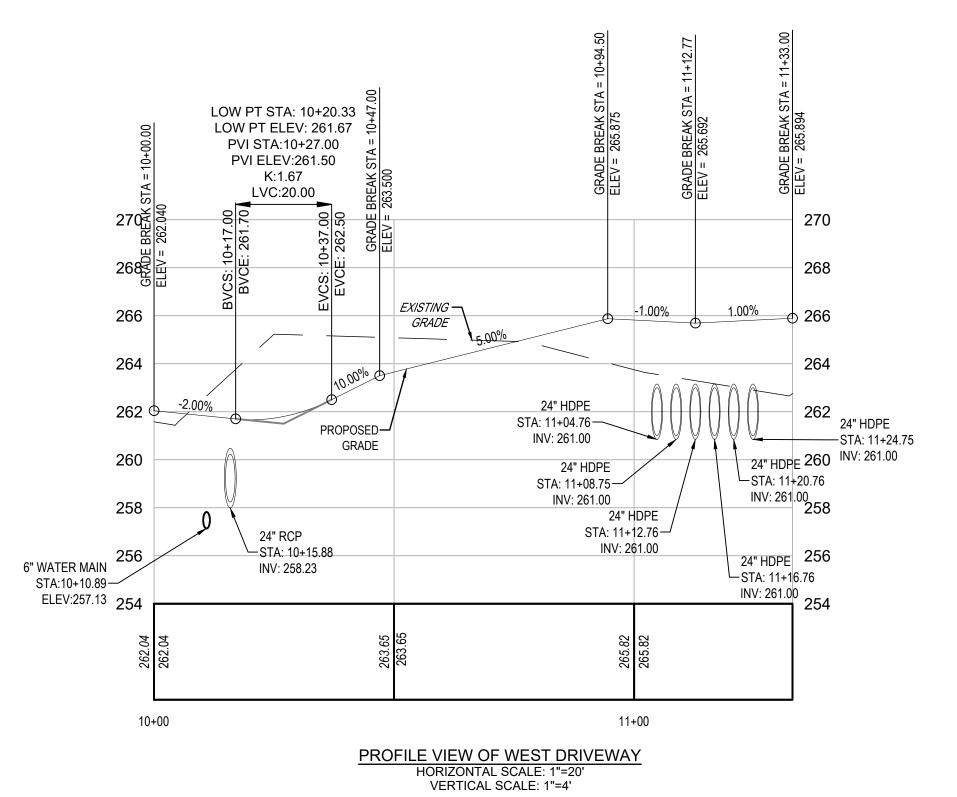
1818 & 1822 ELLIOT AVENUE WARD 13 - BLOCK 40, CITY OF BETHLEHEM, LEHIGH COUNTY, PENNSYLVANIA	ANR DEVELOPMENT COMPANY, LLC	ROADWAY PROFILE & PLAN
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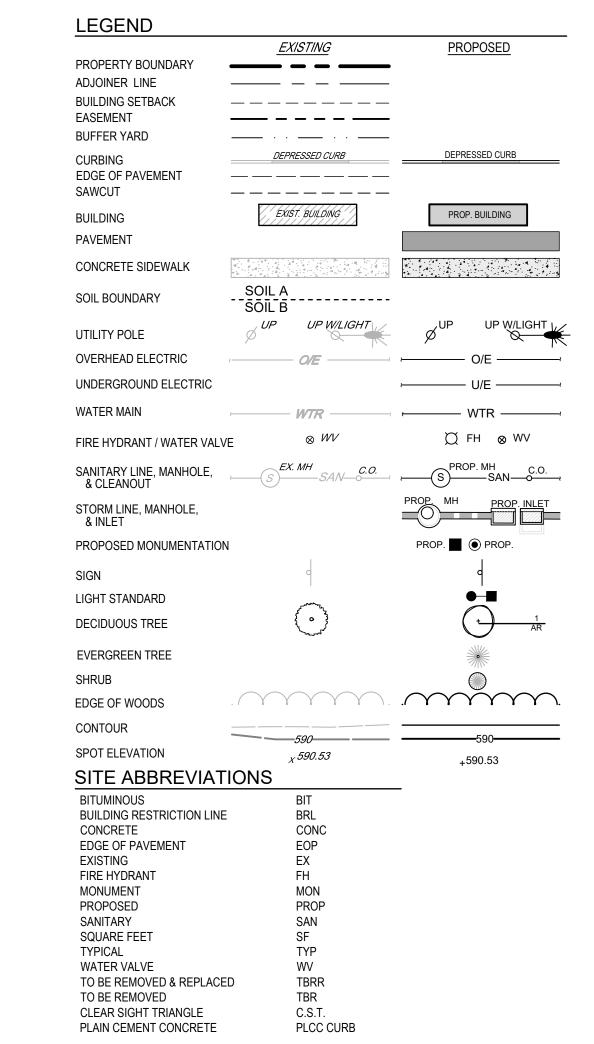
acela architects + 2633 Moravian Av

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OB: 22-GODSC-01	P MGR: SB
HEET: 8 OF 25	;

PP-1







PRELIMINARY/

NOTE: VERTICAL TEXT INDICATES PROPOSED FEATURES SLANTED TEXT INDICATES EXISTING FEATURES Know what's below.

Call before you dig. SITE SERIAL #20220521536

ANR DEVELOPMENT COMPANY
FOR
WARD 13 - BLOCK 40, CITY OF BETHLEHEM, LEHIGH COUN
1818 & 1822 ELLIOT AVE

gin

acela architects + 2633 Moravian Av

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PLAN

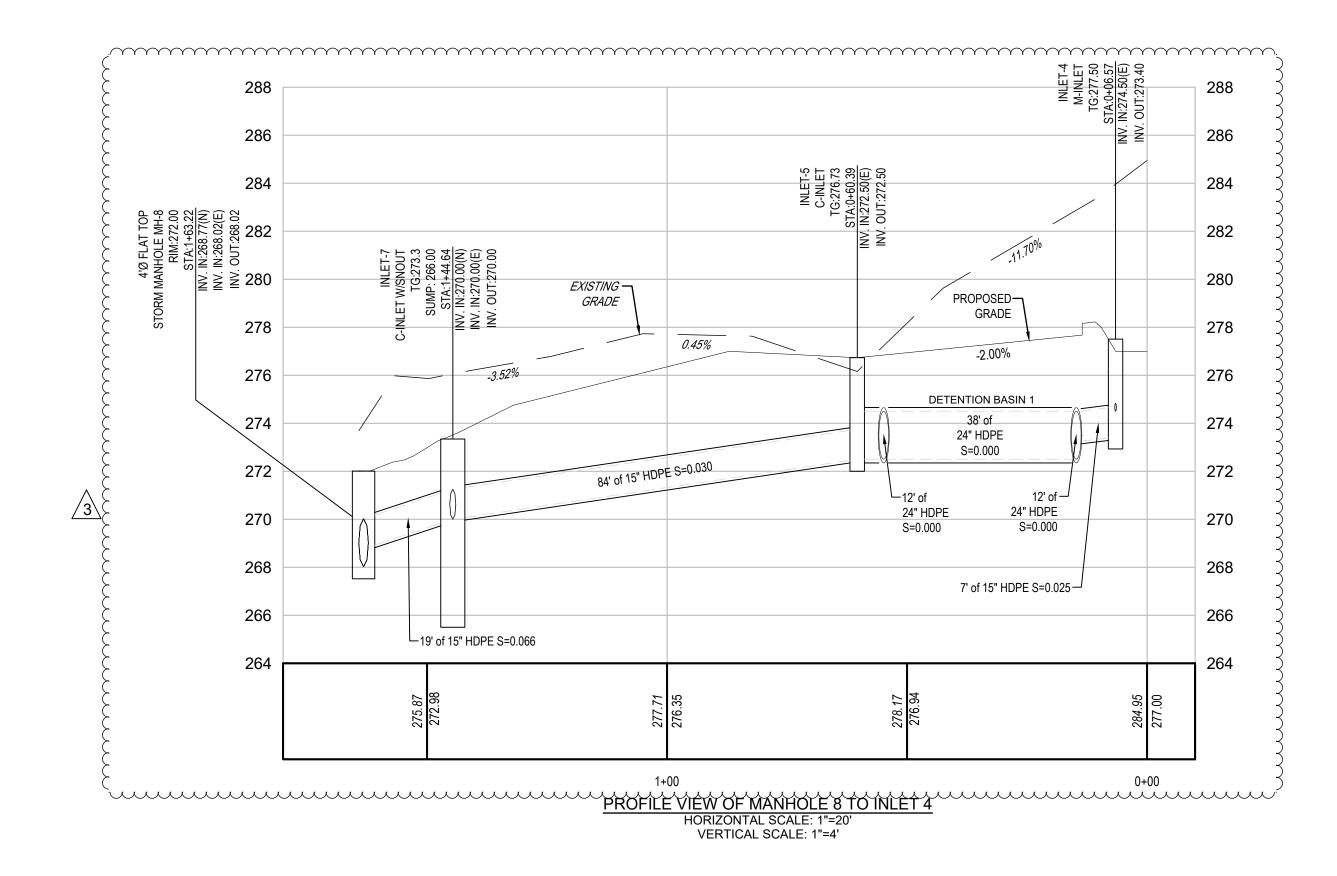
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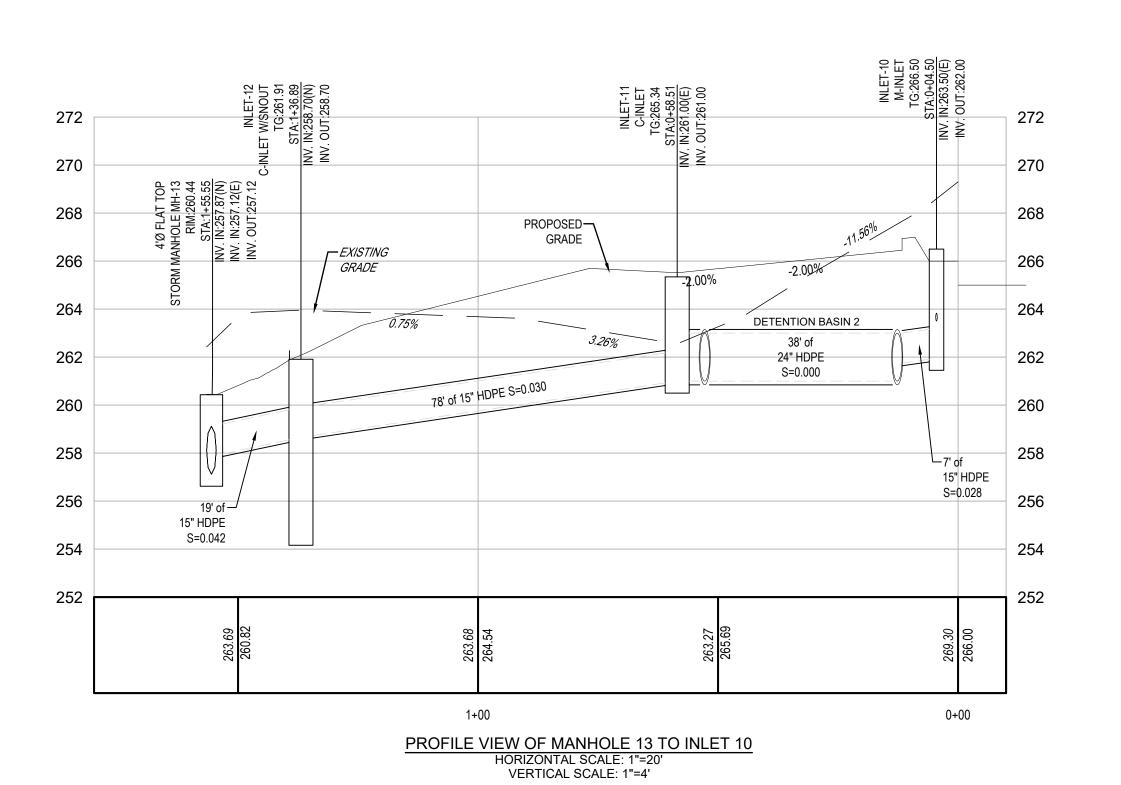
PROFILE

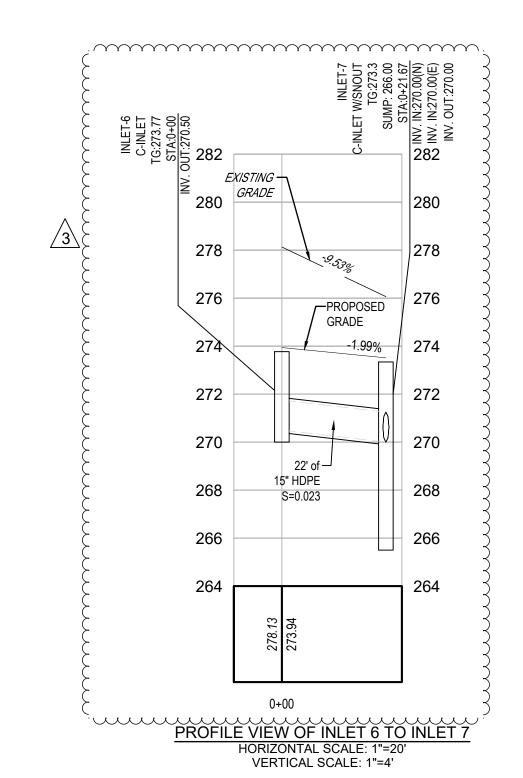
DRIVEWAY

SCALE: 1"=20'	DATE: 11/09/2023
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JOB: 22-GODSC-01	P MGR:
SHEET: 9 OF 25	5
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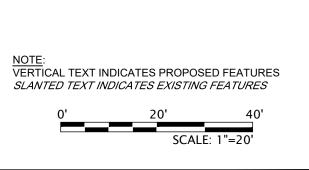
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WARD 13 - BLOCK 40, CITY OF BETHLEHEM, LEHIGH COUNTY, PEN FOR

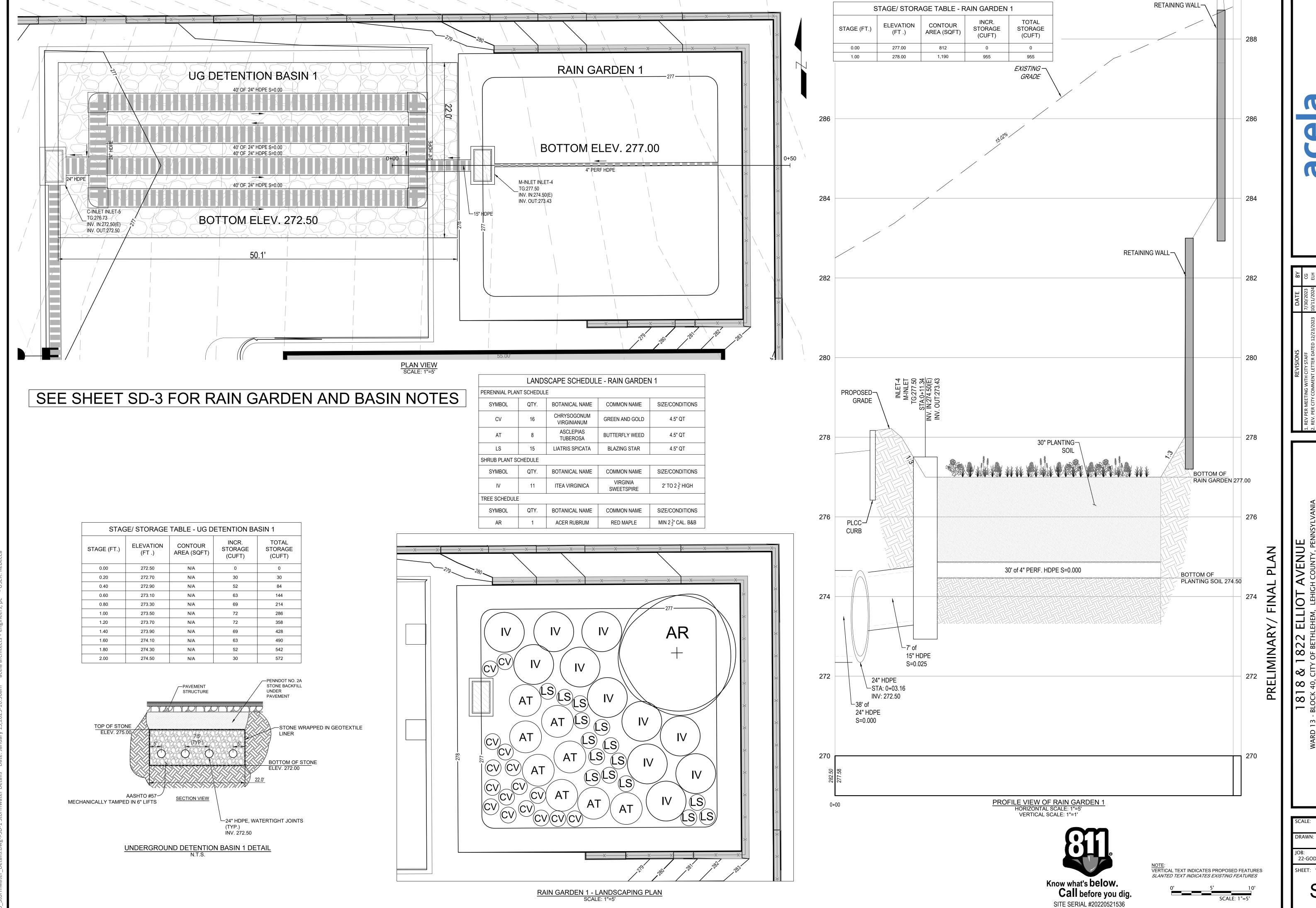
PRELIMINARY

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ANR DEVELOPN
WARD 13 - BLOCK 40, CITY OF BET
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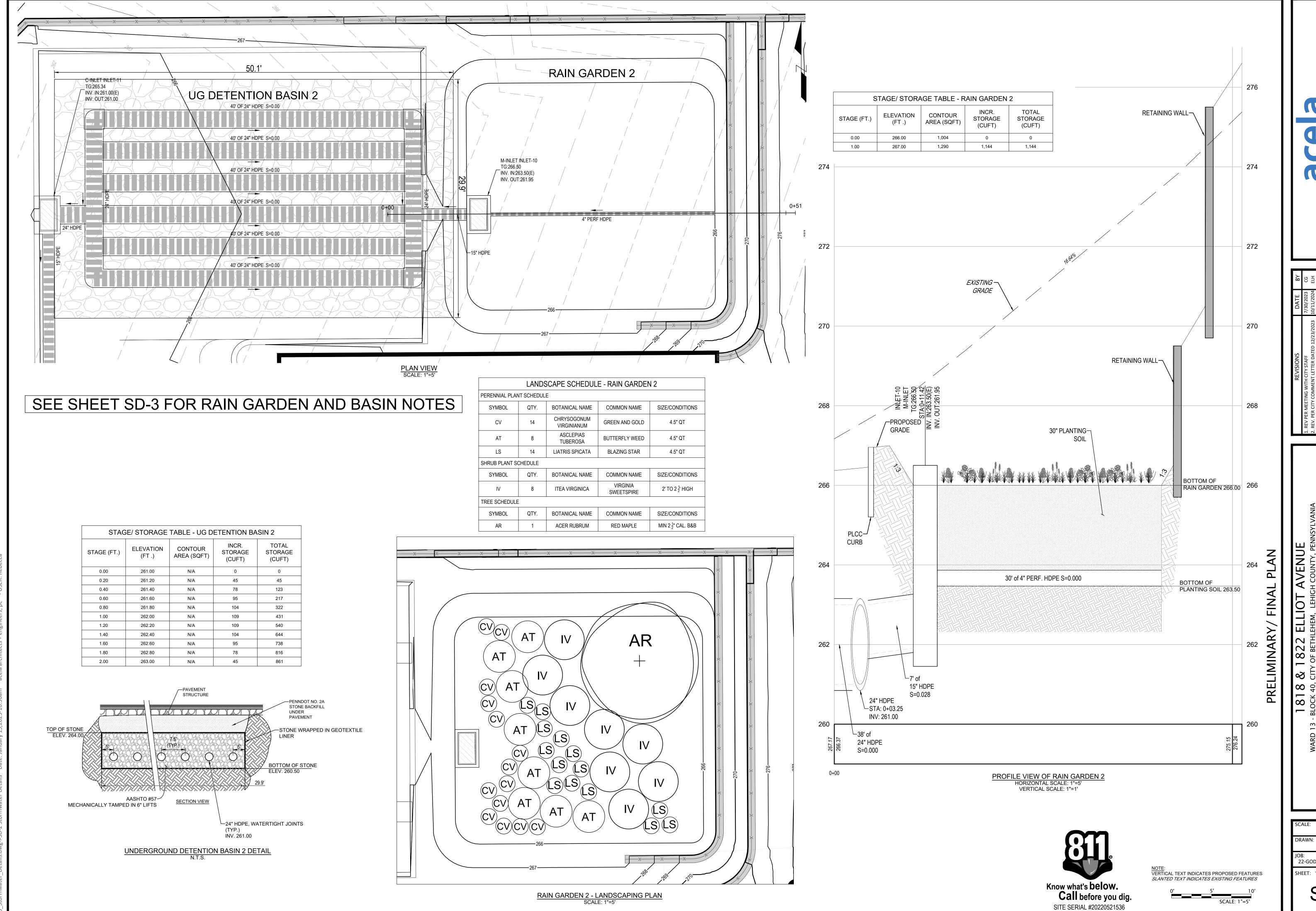
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B: 2-GODSC-01	P MGR: SB	2
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PP-3



DETAIL STORMWATE

1"=5' 11/09/2023 P MGR: 22-GODSC-01 SHEET: 11 OF 25



DETAIL STORMWATE

1"=5' 11/09/2023 P MGR: 22-GODSC-01

SHEET: 12 OF 25

- 1. THE DETENTION BASIN SURFACE AREA OF THE PROPOSED STORMWATER MANAGEMENT FACILITY SHALL BE PROTECTED FROM SEDIMENTATION AND SOIL COMPACTION DURING
- 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

- 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.

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

4.1. VERIFICATION OF STONE BACKFILL, INCLUDING PROPER COMPACTION AROUND PIPES

STABILIZATION.

- 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
- 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

- ALL BASIN STRUCTURES EXPECTED TO RECEIVE AND/OR TRAP DEBRIS AND SEDIMENT SHALL BE INSPECTED FOR CLOCVING 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
- 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 CLOCVING 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
- 5. VEHICLES SHALL NOT BE PARKED OR DRIVEN WITHIN THE INFILTRATION AREAS. CARE SHOULD BE TAKEN TO AVOID AND MINIMIZE COMPACTION DURING MAINTENANCE.
- 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

- 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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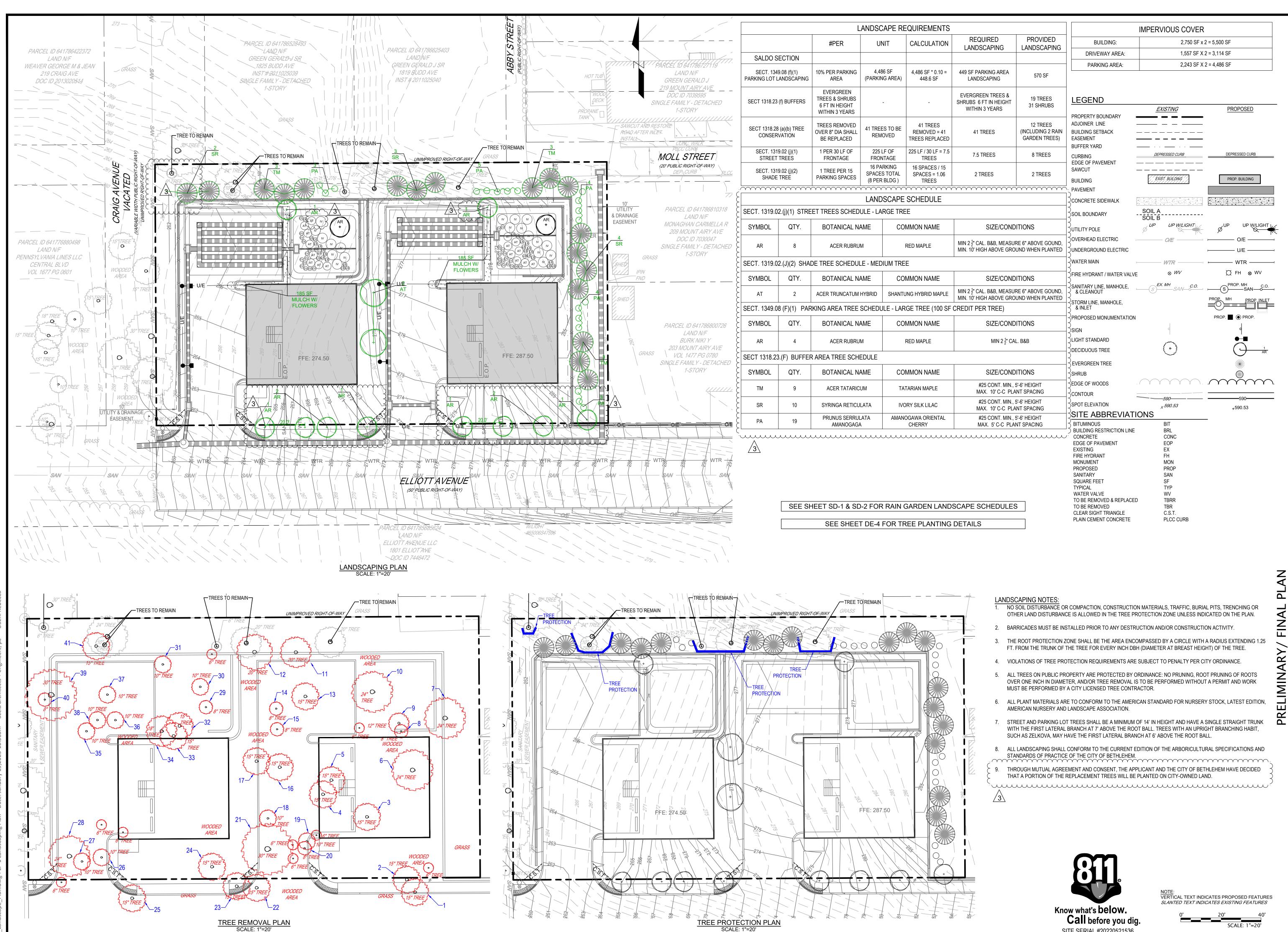
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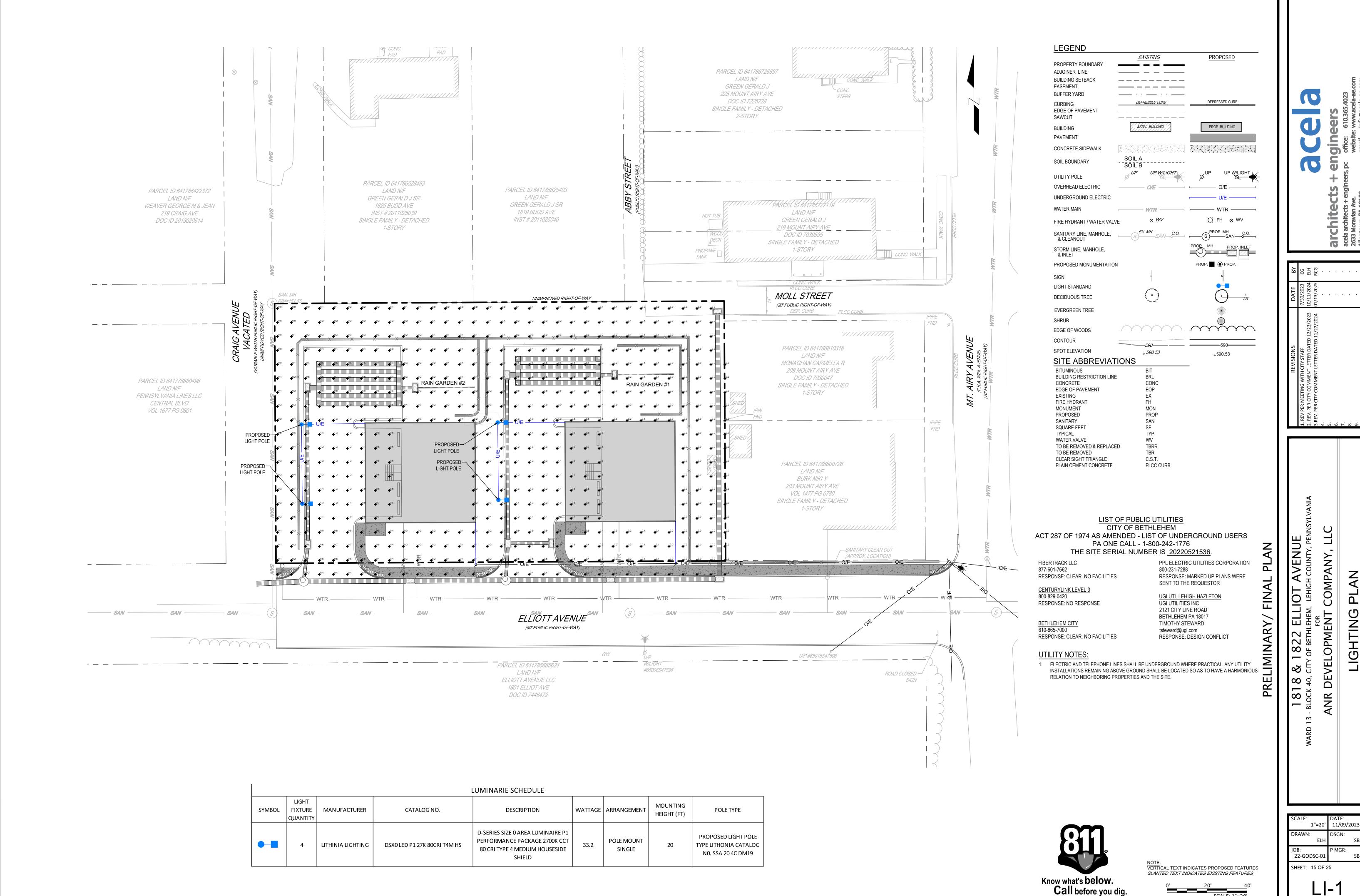
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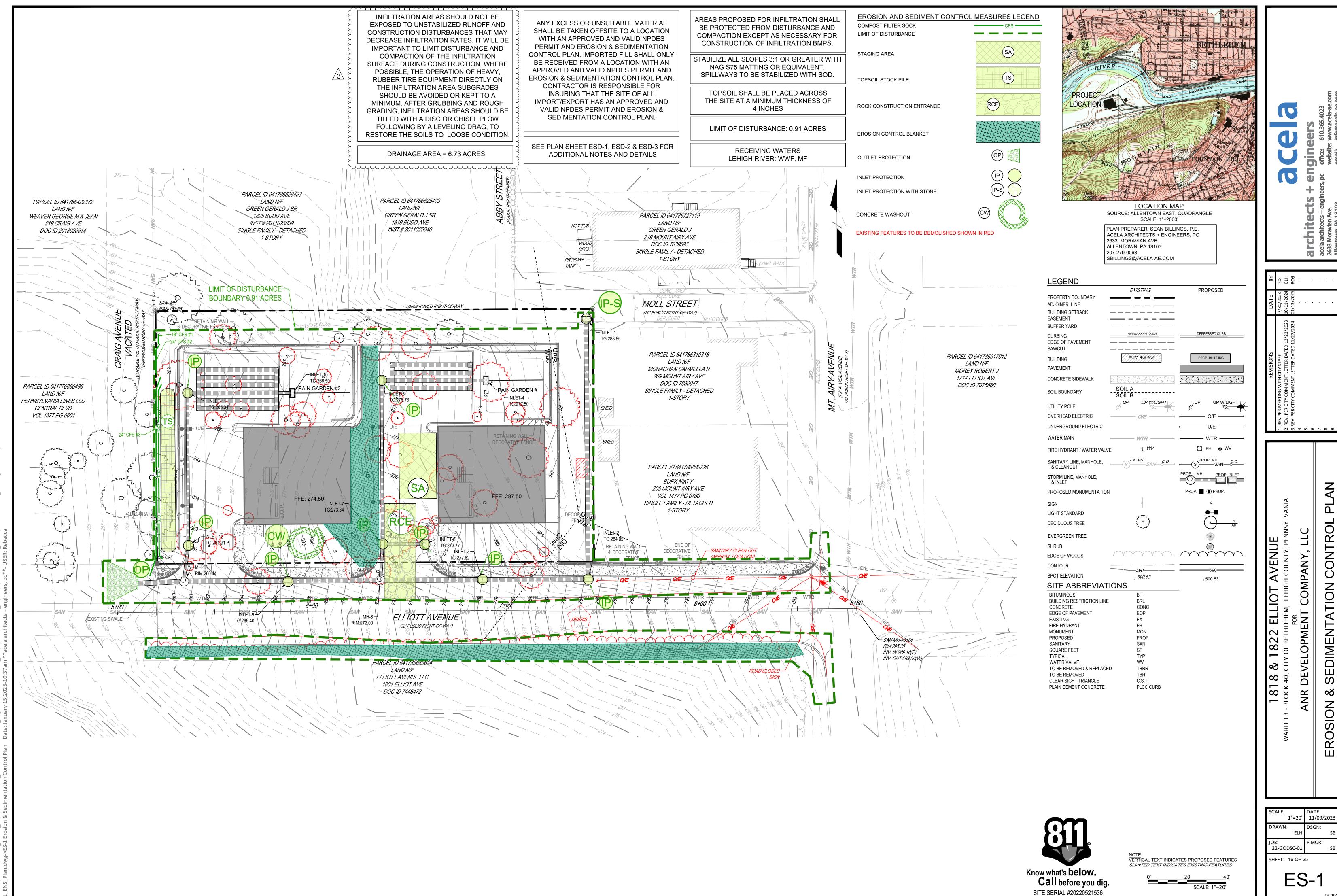
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DISCRETION.

- 2. 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 PRECONSTRUCTION MEETING.
- 3. AT LEAST 3 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, OR EXPANDING INTO AN AREA PREVIOUSLY UNMARKED, THE PENNSYLVANIA ONE CALL SYSTEM INC. SHALL BE NOTIFIED AT 1-800-242-1776 FOR THE LOCATION OF EXISTING UNDERGROUND UTILITIES.
- 4. ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE PROVIDED ON THE PLAN DRAWINGS. DEVIATION FROM THAT SEQUENCE MUST BE APPROVED IN WRITING FROM THE LOCAL CONSERVATION DISTRICT OR BY THE DEPARTMENT PRIOR TO
- 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.
- 7. AT NO TIME SHALL CONSTRUCTION VEHICLES BE ALLOWED TO ENTER AREAS OUTSIDE THE LIMIT OF DISTURBANCE BOUNDARIES SHOWN ON THE PLAN MAPS. THESE AREAS MUST BE CLEARLY MARKED AND FENCED OFF BEFORE CLEARING AND GRUBBING OPERATIONS BEGIN
- 8. TOPSOIL REQUIRED FOR THE ESTABLISHMENT OF VEGETATION SHALL BE STOCKPILED AT THE LOCATION(S) SHOWN ON THE PLAN MAPS(S) IN THE AMOUNT NECESSARY TO COMPLETE THE FINISH GRADING OF ALL EXPOSED AREAS THAT ARE TO BE STABILIZED BY VEGETATION. EACH STOCKPILE SHALL BE PROTECTED IN THE MANNER SHOWN ON THE PLAN DRAWINGS. STOCKPILE HEIGHTS SHALL NOT EXCEED 35 FEET. STOCKPILE SLOPES SHALL BE 2H:1V OR FLATTER
- 9. IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION. THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO MINIMIZE THE POTENTIAL FOR EROSION AND SEDIMENT POLLUTION AND NOTIFY THE LOCAL CONSERVATION DISTRICT AND/OR THE REGIONAL OFFICE OF THE DEPARTMENT.
- 10. ALL BUILDING MATERIALS AND WASTES SHALL BE REMOVED FROM THE SITE AND RECYCLED OR DISPOSED OF IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 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.
- 11. ALL OFF-SITE WASTE AND BORROW AREAS MUST HAVE AN E&S PLAN APPROVED BY THE LOCAL CONSERVATION DISTRICT OR THE DEPARTMENT FULLY IMPLEMENTED PRIOR TO BEING ACTIVATED.
- 12. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ANY MATERIAL BROUGHT ON SITE IS CLEAN FILL. FORM FP-001 MUST BE RETAINED BY THE PROPERTY OWNER FOR ANY FILL MATERIAL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE BUT QUALIFYING AS CLEAN FILL DUE TO ANALYTICAL TESTING.
- 13. ALL PUMPING OF WATER FROM ANY WORK AREA SHALL BE DONE ACCORDING TO THE PROCEDURE DESCRIBED IN THIS PLAN, OVER UNDISTURBED VEGETATED AREAS. 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.
- 14. VEHICLES AND EQUIPMENT SHALL ENTER AND EXIT THE SITE ONLY AT THE ROCK CONSTRUCTION ENTRANCE AS SHOWN ON THE PLANS.
- 15. 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.
- 16. 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.
- 17. SEDIMENT TRACKED ONTO ANY PUBLIC ROADWAY OR SIDEWALK SHALL BE RETURNED TO THE CONSTRUCTION SITE BY THE END OF EACH WORK DAY AND DISPOSED IN THE MANNER DESCRIBED IN THIS PLAN. IN NO CASE SHALL THE SEDIMENT BE WASHED, SHOVELED, OR SWEPT INTO ANY ROADSIDE DITCH, STORM SEWER, OR SURFACE WATER.
- 18. 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.
- 19. AREAS WHICH ARE TO BE TOPSOILED SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 3 TO 5 INCHES — 6 TO 12 INCHES ON COMPACTED SOILS — PRIOR TO PLACEMENT OF TOPSOIL. AREAS TO BE VEGETATED SHALL HAVE A MINIMUM 4 INCHES OF TOPSOIL IN PLACE PRIOR TO SEEDING AND MULCHING. FILL OUTSLOPES SHALL HAVE A MINIMUM OF 2 INCHES OF TOPSOIL.
- 20. 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
- 21. ALL EARTHEN FILLS SHALL BE PLACED IN COMPACTED LAYERS NOT TO EXCEED 9 INCHES IN
- 22. 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
- 23. FROZEN MATERIALS OR SOFT, MUCKY, OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED INTO FILLS.
- 24. FILL SHALL NOT BE PLACED ON SATURATED OR FROZEN SURFACES. 25. SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE HANDLED IN ACCORDANCE

SHALL BE BLANKETED ACCORDING TO THE STANDARDS OF THIS PLAN.

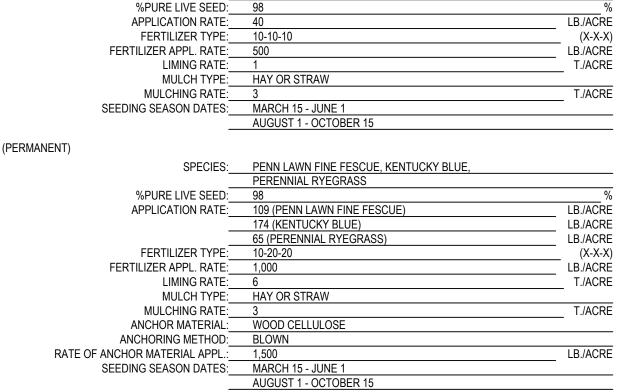
- WITH THE STANDARD AND SPECIFICATION FOR SUBSURFACE DRAIN OR OTHER APPROVED METHOD. 26. ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY UPON REACHING FINISHED GRADE. CUT SLOPES IN COMPETENT BEDROCK AND ROCK FILLS NEED NOT BE VEGETATED. SEEDED AREAS WITHIN 50 FEET OF A SURFACE WATER, OR AS OTHERWISE SHOWN ON THE PLAN DRAWINGS,
- 27. 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.
- 28. PERMANENT STABILIZATION IS DEFINED AS A MINIMUM UNIFORM, PERENNIAL 70% VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED EROSION. CUT AND FILL SLOPES SHALL BE CAPABLE OF RESISTING FAILURE DUE TO SLUMPING, SLIDING, OR OTHER MOVEMENTS.
- 29. 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.
- 30. 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.

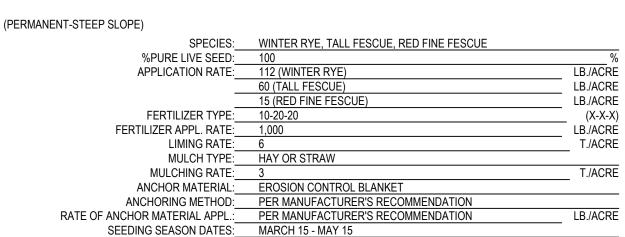
- 31. AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED. TEMPORARY EROSION AND SEDIMENT BMPS MUST BE REMOVED OR CONVERTED TO PERMANENT POST CONSTRUCTION STORMWATER MANAGEMENT BMPS. AREAS DISTURBED DURING REMOVAL OR CONVERSION OF THE BMPS SHALL BE STABILIZED IMMEDIATELY. IN ORDER TO ENSURE RAPID REVEGETATION OF DISTURBED AREAS, SUCH REMOVAL/CONVERSIONS ARE TO BE DONE ONLY DURING THE GERMINATING SEASON.
- 32. 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
- 33. FAILURE TO CORRECTLY INSTALL E&S BMPS, FAILURE TO PREVENT SEDIMENT-LADEN RUNOFF FROM LEAVING THE CONSTRUCTION SITE, OR FAILURE TO TAKE IMMEDIATE CORRECTIVE ACTION TO RESOLVE FAILURE OF E&S BMPS MAY RESULT IN ADMINISTRATIVE, CIVIL, AND/OR CRIMINAL PENALTIES BEING INSTITUTED BY THE DEPARTMENT AS DEFINED IN SECTION 602 OF THE 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.
- 34. 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.
- 35. THE OPERATOR SHALL ASSURE THAT THE APPROVED EROSION AND SEDIMENT CONTROL PLAN IS PROPERLY AND COMPLETELY IMPLEMENTED.
- 36. 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
- 37. 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.)
- 38. ALL WETLANDS MUST BE DELINEATED AND PROTECTED WITH ORANGE SAFETY FENCE PRIOR TO ANY EARTHMOVING ACTIVITY.
- 39. STRAW MULCH SHALL BE APPLIED IN LONG STRANDS, NOT CHOPPED OR FINELY BROKEN.
- 40. 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.
- 41. 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.
- 42. 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.
- 43. 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.
- 44. 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.
- 45. 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

TEMPORARY AND PERMANENT SEEDING SPECIFICATIONS

SPECIES:

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, LIMING 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)

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

AUGUST 16 - OCTOBER 15

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 OF 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 & DISPOSAI

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

- 1. 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.
- 6. UTILITY CONSTRUCTION GENERALLY SHALL BE DONE FROM DOWNSTREAM TO UPSTREAM TO LIMIT DISTURBANCE. RESTORATION/STABILIZATION SHALL BE CONCURRENTLY.

CLEAN FILL / ENVIRONMENTAL DUE DILIGENCE NOTES:

1. 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)

2. 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.

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:

a. PROJECT ENGINEER: 610-365-4023 b. MUNICIPAL ENGINEER: c. PA ONE CALL: 1-800-242-1776

- 2. THE CONTRACTOR SHALL CONTACT THE DESIGN ENGINEER AT LEAST FORTY-EIGHT HOURS (48 HOURS) IN ADVANCE OF EROSION CONTROL FACILITIES COMPONENT INSTALLATIONS.
- PRIOR TO REMOVAL OF TOPSOIL, REFER TO THE ESPC PLAN SHEET FOR LOCATION OF SOIL STOCKPILES. TEMPORARY AND PERMANENT SEEDING SHALL BE IN ACCORDANCE WITH REQUIREMENTS LISTED AND AS NOTED IN THE PROJECT NARRATIVE AND AS LISTED ON THE ESPC PLAN SHEET. COMPOST FILTER SOCK SHALL BE INSTALLED DOWNSLOPE OF ALL TOPSOIL STOCKPILES. a. PRIOR TO ANY SEEDING AND LIME AND FERTILIZER APPLICATION, A SOIL TEST SHALL BE PERFORMED TO DETERMINE
- THE PH FACTOR. ADDITIONAL LIME AND FERTILIZER MAY BE REQUIRED. 4. 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.
- 7. 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.
- 8. PERFORM EXCAVATION REQUIRED IN ORDER TO CONSTRUCT BUILDING PAD AND GRADING AND IMMEDIATELY INSTALL EROSION CONTROL MATTING AND STABILIZE AREA.
- 9. BEGIN PLACING FILL FOR PARKING AREAS AND BUILDING PAD.
- 10. INSTALL CONCRETE WASHOUT FACILITY AS CALLED OUT ON PLANS.
- 11. INSTALL STORM SEWER COLLECTION SYSTEM FROM ENDWALL 14 TO MANHOLE 13. IMMEDIATELY PLACE OUTLET PROTECTION AT ENDWALL 14.
- 12. INSTALL STORM SEWER COLLECTION SYSTEM FROM MANHOLE 13 TO INLET 9. IMMEDIATELY PLACE INLET PROTECTION AT INLET
- 13. 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. 14. INSTALL STORM SEWER COLLECTION SYSTEM FROM INLET 3 TO INLET 2. IMMEDIATELY PLACE INLET PROTECTION AT INLET 2.
- 15. INSTALL STORM SEWER COLLECTION SYSTEM FROM INLET 2 TO INLET 1.
- 16. INSTALL STORM SEWER COLLECTION SYSTEM FROM MANHOLE 8 TO INLET 7 AND INLET 6. IMMEDIATELY PLACE INLET
- PROTECTION AT INLET 6 AND 7. 17. 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. 18. INSTALL STORM SEWER COLLECTION SYSTEM FROM MANHOLE 13 TO INLET 12. IMMEDIATELY PLACE INLET PROTECTION AT INLET
- 19. 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.
- 21. INSTALL ROOF LEADER PIPES FROM INLET 4 TO BUILDING 1. CONNECT BUILDING ROOF LEADER PIPES AS THEY ARE CONSTRUCTED.
- 22. INSTALL RAIN GARDEN 1. IMMEDIATELY STABILIZE RAIN GARDEN SIDES WITH NORTH AMERICAN GREEN S-75 EROSION CONTROL MATTING.
- 24. INSTALL ROOF LEADER PIPES FROM INLET 10 TO BUILDING 2. CONNECT BUILDING ROOF LEADER PIPES AS THEY ARE CONSTRUCTED.

STRUCTURE. BACKFILL AND STABILIZE AREAS OF DISTURBANCE. THE ROCK CONSTRUCTION ENTRANCE SHOULD BE

- 25. INSTALL RAIN GARDEN 2. IMMEDIATELY STABILIZE RAIN GARDEN SIDES WITH NORTH AMERICAN GREEN S-75 EROSION CONTROL MATTING. 26. INSTALL SANITARY SEWER, ELECTRIC, AND WATER SERVICE UTILITY LINES FROM EXISTING LOCATIONS TO PROPOSED
- IMMEDIATELY REPAIRED OR REINSTALLED UPON COMPLETION OF THE UTILITY INSTALLATION. 27. INSTALL RETAINING WALLS.

20. CONSTRUCT BUILDING 1.

23. CONSTRUCT BUILDING 2.

- 28. INSTALL ALL CONCRETE CURBING AND SIDEWALK. ALL DISTURBANCE GENERATED DURING SIDEWALK AND CURB INSTALLATION
- SHOULD BE IMMEDIATELY STABILIZED. 29. PLACE SUBBASE STONE AGGREGATE FOR ALL AREAS TO BE PAVED.
- 30. PAVE ALL PARKING AND ROADWAY AREAS AND LINE STRIPE PARKING FACILITIES.
- 31. FINE GRADE THE SITE AND PERFORM LAWN RESTORATION.
- 32. 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.
- 33. 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

Mixture Seeding Rate -Pure Live Seed Number Adverse Sites Spring oats (spring), or Annual ryegrass (spring or fall), or Winter wheat (fall), or Winter rve (fall) Tall fescue, or Fine fescue, or Kentucky bluegrass, plus Perennial ryegrass Birdsfoot trefoil, plu Tall fescue Birdsfoot trefoil, plus Reed canarygrass Crownvetch, plus Tall fescue, or Perennial ryegrass Crownvetch, plus 6 5, 8 Annual ryegrass Birdsfoot trefoil, plus Crownvetch, plus Tall fescue Flatpea, plus Tall fescue, or Perennial ryegrass Serecia lespedeza, plus Tall fescue, plus Tall fescue, plus Fine fescue Deertongue, plus Birdsfoot trefoil Switchgrass , or Big Bluestem, plus Birdsfoot trefoil Orchard grass, or Smooth bromegrass, plus Birdsfoot trefoil

TABLE 11.4

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 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.

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. . 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

AS WEEPING LOVEGRASS AND REDTOP, DILUTE WITH DRY SAWDUST, SAND, RICE HULLS,

PER POIND AND ARE VERY COMPETITIVE. TO SEED SMALL QUANTITIES OF SMALL SEEDS SUCH

- 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. SERECIA 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.

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.

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		
	Nurse	Seed Mixture
Site Condition	Crop	(Select one mixture)
Slopes and Banks (not mowed)	· ·	
Well-drained '	1 plus	3, 5, 8 , or12 ¹
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	1 plus	3, 5, 7, or12 ¹
Erosion Control Facilities (B M Ps)		
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 2		
Non-mowed areas		
Pure crownvetch ³	1	5 or6
Well-drained	plus	5, 7 , 8 , 9, or10
Variable drained	1	3 or7
Poorly drained	plus	3 or4
Areas mowed several times per year	1	2, 3, or10
Utility Right-of-way		
Well-drained	1 plus	5, 8 , or12 ¹
Variable drained	1 plus	3 or7
Well-drained areas for grazing/hay	1 plus	2, 3, or13
Effluent Disposal Areas	1 plus	3 or4
Sanitary Landfills	1 plus	3, 5, 7 , 11 ¹ , or12 ¹
Surface mines		
Spoils, mine wastes, fly ash, slag, settling basin		
Residues and other severely disturbed areas	1 plus	3, 4, 5, 7, 8, 9, 11 ¹ , or12 ¹
(lime to soil test)	1	
Severely disturbed areas for grazing/hay	1 plus	3 or13

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
- 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.

SOILS CHART

Job #: 22-GODSC-01

	SOIL INFORMATION CHART				
SYMBOL NAME	TEXTURE	SLOPE %	HYDRO. SOIL GROUP	DEPTH OF WATER TABLE (IN.)	DEPTH TO BEDROCK (IN)
DfD Duffield-Ryder	Silt Loam	15 to 25%	В	>80	48-120
UmB Urban land- Duffield	Silt Loam	0 - 8%	В	>80	10-120
WaC Washington	Silt Loam	8 - 15%	В	>80	60-99

1. 2. 3. 3. 7. 9. 9. 9. 9. 9.

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N.T.S. 11/09/2023 P MGR: 22-GODSC-01 SHEET: 17 OF 25

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

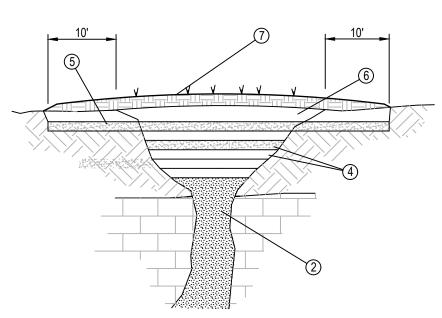
RUNOFF SHALL BE DIVERTED FROM ROADWAY TO A SUITABLE SEDIMENT REMOVAL BMP PRIOR TO ENTERING ROCK CONSTRUCTION ENTRANCE.

MOUNTABLE BERM SHALL BE INSTALLED WHEREVER OPTIONAL CULVERT PIPE IS USED AND PROPER PIPE COVER AS SPECIFIED BY MANUFACTURER IS NOT OTHERWISE PROVIDED. PIPE SHALL BE SIZED APPROPRIATELY FOR SIZE OF DITCH BEING CROSSED.

MAINTENANCE: ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK, A STOCKPILE SHALL BE MAINTAINED ON SITE FOR THIS PURPOSE, ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE IMMEDIATELY. IF EXCESSIVE AMOUNTS OF SEDIMENT ARE BEING DEPOSITED ON ROADWAY, EXTEND LENGTH OF ROCK CONSTRUCTION ENTRANCE BY 50 FOOT INCREMENTS UNTIL CONDITION IS ALLEVIATED OR INSTALL WASH RACK. WASHING THE ROADWAY OR SWEEPING THE DEPOSITS INTO ROADWAY DITCHES, SEWERS, CULVERTS, OR OTHER DRAINAGE COURSES IS NOT ACCEPTABLE.

STANDARD CONSTRUCTION DETAIL #3-1 ROCK CONSTRUCTION ENTRANCE

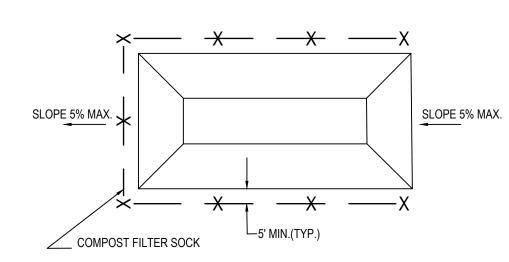
SOURCE: PADEP EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL

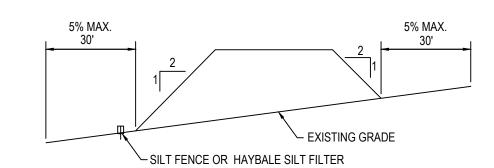


1. OVER EXCAVATE SINKHOLE THROAT TO REMOVE ALL SOIL AND LOOSE ROCK.

- 2. SHOULD SINKHOLE THROAT OR FRACTURED BEDROCK BE ENCOUNTERED IN BOTTOM OF EXCAVATION, HIGH SLUMP LEAN CONCRETE OR FLOWABLE FILL SHOULD BE PLACED IN HOLE SUFFICIENT TO PLUG THROAT OR
- 3. IF NO THROAT OR BEDROCK IS ENCOUNTERED EXCAVATE UNTIL FIRM SOIL IS ENCOUNTERED ON ALL SIDES AND BOTTOM OF EXCAVATION.
- 4. AFTER LEAN CONCRETE OR GROUT CURES, PLACE BENTONITE CLAY/SOIL (1 TO 2 LBS./S.F., 8" LIFT, 95% MOD. PROCTOR). PLACE COMPACTED FINE-GRAINED NATIVE CLAY FILL (8" LIFTS, 95% MOD. PROCTOR) EVERY OTHER LIFT TO 12" BELOW FINAL GRADE.
- 5. INSTALL BENTONITE CLAY/SOIL CAP 10' BEYOND THE EXCAVATION AS SHOWN.
- 6. GRADE NATIVE CLAY TO DRAIN AWAY FROM THE AREA. 7. PLACE 4" OF TOPSOIL, RESEED OR SOD TO STABILIZE.
- 8. ALL STABILIZATION WORK SHOULD BE DONE UNDER SUPERVISION OF A PA LICENSED PROFESSIONAL GEOLOGIST OR PROFESSIONAL ENGINEER EXPERIENCED WITH KARST GEOLOGY AND FAMILIAR WITH SITE AND FOUNDATION CONDITIONS.

SINKHOLE MITIGATION DETAIL





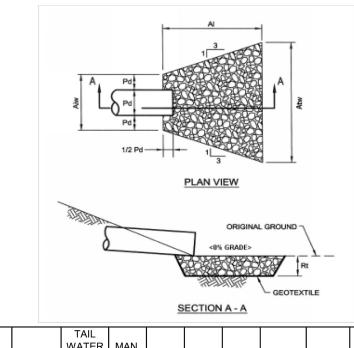
1. PLACE STOCKPILES AT LOCATIONS SHOWN ON PLAN. 2. STOCKPILE TO BE SEEDED WITH A TEMPORARY SEED MIXTURE IF PERIOD OF EXPOSURE IS

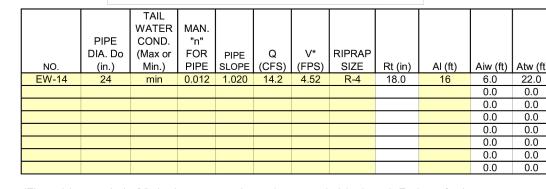
EXPECTED TO EXCEED 20 DAYS. 3. SIDE SLOPES SHALL NOT EXCEED 1' VERTICAL TO 2' HORIZONTAL. 4. MAXIMUM TOPSOIL STOCKPILE HEIGHT NOT TO EXCEED 35'.

ALL APRONS SHALL BE CONSTRUCTED TO THE DIMENSIONS SHOWN. TERMINAL WIDTHS SHALL BE ADJUSTED AS NECESSARY TO MATCH RECEIVING CHANNELS. ALL APRONS SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EACH RUNOFF EVENT. DISPLACED RIPRAP WITHIN THE APRON SHALL BE REPLACED IMMEDIATELY. EXTEND RIPRAP ON BACK SIDE OF APRON TO AT LEAST 1/2 DEPTH OF PIPE ON BOTH SIDES TO PREVENT SCOUR AROUND THE PIPE. ORIGINAL GROUND-SECTION A-A

> Riprap Apron Outlet Protection 1818 & 1822 Elliott Avenue City of Bethlehem

STANDARD E&S WORKSHEET #20

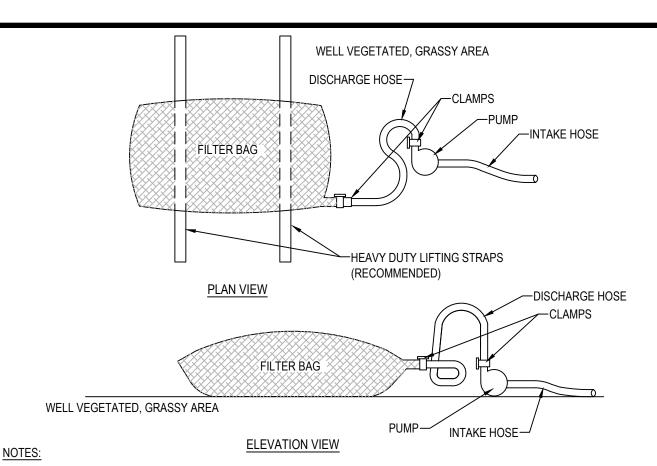




*The anticipated velocity (V) should not exceed the maximum permissible shown in Table 6.6 for the proposed riprap protection. Adjust for less SEE TABLE 9, March 2000 E&S PROGAM MANUAL velocity for pipe slopes \geq 0.05 ft/ft.

> MODIFIED CONSTRUCTION DETAIL #9-2 RIPRAP APRON AT PIPE OUTLET - NO FLARED ENDWALL

SOURCE: PADEP EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL



LOW VOLUME FILTER BAGS SHALL BE MADE FROM NON-WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH, DOUBLE STITCHED "J" TYPE SEAMS. THEY SHALL BE CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS. HIGH VOLUME FILTER BAGS SHALL BE MADE FROM WOVEN GEOTEXTILES THAT MEET THE FOLLOWING STANDARDS:

PROPERTY	TEST METHOD	MINIMUM STANDARD
AVG. WIDE WIDTH STRENGTH	ASTM D-4884	60 LB/IN
GRAB TENSILE	ASTM D-4632	205 LB
PUNCTURE	ASTM D-4833	110 LB
MULLEN BURST	ASTM D-3786	350 PSI
UV RESISTANCE	ASTM D-4355	70%
AOS % RETAINED	ASTM D-4751	80 SIEVE

A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES SHALL BE PROVIDED. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME 1/2 FULL OF SEDIMENT. SPARE BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED. BAGS SHALL BE PLACED ON STRAPS TO FACILITATE REMOVAL UNLESS BAGS COME WITH LIFTING STRAPS ALREADY ATTACHED.

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

NO DOWNSLOPE SEDIMENT BARRIER IS REQUIRED FOR MOST INSTALLATIONS. COMPOST BERM OR COMPOST FILTER SOCK SHALL BE INSTALLED BELOW BAGS LOCATED IN HQ OR EV WATERSHEDS, WITHIN 50 FEET OF ANY RECEIVING SURFACE WATER OR WHERE GRASSY AREA IS NOT AVAILABLE.

THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED. A PIECE OF PVC PIPE IS RECOMMENDED FOR THIS PURPOSE.

THE PUMPING RATE SHALL BE NO GREATER THAN 750 GPM OR 1/2 THE MAXIMUM SPECIFIED BY THE MANUFACTURER, WHICHEVER IS LESS. PUMP INTAKES SHALL BE FLOATING AND SCREENED.

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

STANDARD CONSTRUCTION DETAIL #3-16 PUMPED WATER FILTER BAG

SOURCE: PADEP EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL

MAXIMUM DEPTH OF CONCRETE – 2"X2"X36" WOODEN WASHOUT WATER IS 60% OF STAKES PLACED 5' FILTER RING HEIGHT O.C. - 24" DIAMETER COMPOST FILTER SOCK IMPERMEABLE LINER <u>SECTION</u> 1. INSTALL ON FLAT GRADE FOR – 2"X2"X36" WOODEN OPTIMUM PERFORMANCE. STAKES PLACED 5' O.C. DIRECT CONCRETE 2. 18" DIAMETER FILTER SOCK MAY WASHOUT WATER INTO BE STACKED ONTO DOUBLE 24" FILTER RING DIAMETER SOCKS IN PYRAMIDAL CONFIGURATION FOR ADDED - 24" DIAMETER COMPOST HEIGHT. FILTER SOCK. 4' MIN. OVERLAP ON UPSLOPE SIDE OF FILTER RING

> A SUITABLE IMPERVIOUS GEOMEMBRANE SHALL BE PLACED AT THE LOCATION OF THE WASHOUT PRIOR TO THE INSTALLING SOCKS.

CONCRETE WASHOUT NOTES

- 1. FOR ANY PROJECT ON WHICH CONCRETE WILL BE POURED OR OTHERWISE FORMED ON SITE, A SUITABLE WASHOUT FACILITY MUST BE PROVIDED FOR THE CLEANING OF CHUTES, MIXERS, AND HOPPERS OF THE DELIVERY VEHICLES UNLESS SUCH A FACILITY WILL BE USED AT THE SOURCE OF THE CONCRETE. UNDER NO CIRCUMSTANCES MAY WASH WATER FROM THESE VEHICLES BE ALLOWED TO ENTER ANY SURFACE WATERS. PROPER SIGNAGE SHALL BE PROVIDED TO DRIVERS SO THAT THEY ARE AWARE OF THE PRESENCE OF WASHOUT FACILITIES.
- 2. CONCRETE WASHOUT SHALL NOT BE PLACED WITHIN 50 FEET OF ANY STORM DRAIN, OPEN DITCH, OR SURFACE WATERS.
- 3. WHEREVER POSSIBLE, CONCRETE WASHOUT SHALL BE PLACED ON SLOPES NOT EXCEEDING A 2% GRADE.
- . WHEREVER COMPOST SOCK WASHOUTS ARE USED, A SUITABLE IMPERVIOUS GEOMEMBRANE SHOULD BE PLACED AT THE LOCATION OF THE WASHOUT. COMPOST SOCKS SHOULD BE STAKED IN THE MANNER RECOMMENDED BY THE MANUFACTURER AROUND PERIMETER OF THE GEOMEMBRANE SO AS TO FORM A RING WITH THE ENDS OF THE SOCK LOCATED AT THE UPSLOPE CORNER (SEE DETAIL). CARE SHOULD BE TAKEN TO ENSURE CONTINUOUS CONTACT OF THE SOCK WITH THE GEOMEMBRANE AT ALL LOCATIONS. WHERE NECESSARY, SOCKS MAY BE STACKED AND STAKED SO AS TO FORM A TRIANGULAR CROSS-SECTION.
- 5. WASH WATER SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS.

MODIFIED CONSTRUCTION DETAIL #3-18 COMPOST SOCK WASHOUT DETAIL

SOURCE: PADEP EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL

FILTREXX & JMD

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EXISTING CONTOURS

-2 IN. x 2 IN. WOODEN

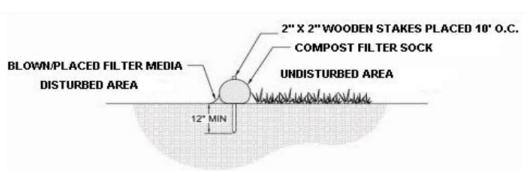
STAKES PLACED

10 FT ON CENTER

STANDARD E&S WORKSHEET #1 **Compost Filter Socks**

PROJECT: 1818 & 1822 Elliott Avenue LOCATION: City of Bethlehem COUNTY: LEHIGH

JOB# 22-GODSC-01 DATE: 10/5/23 REVISED: 10/5/2023



BARRIER NO.	LOCATION	SLOPE %	SLOPE LENGTH ABOVE BARRIER (FT)
CFS-1 (18")	Western Side of Project	25	12
		21	34
		11	75
		23	13
CFS-2 (24")	Western Side of Project	10	40
		16	116
		35	17
		7	28
CFS-3 (24")	Western Side of Project	10	31
		13	38
		17	41
		11	35

COMPOST FILTER SOCK-

BLOWN/PLACED

COMPOST

FILTER SOCK-

FILTER MEDIA-

DISTURBED AREA

DISTURBED AREA

UNDISTURBED AREA

COMPOST FILTER SOCK

PLAN VIEW

STANDARD CONSTRUCTION DETAIL #4-1

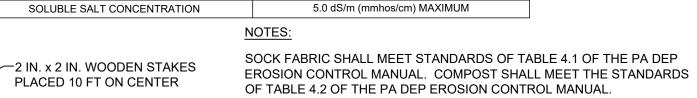
SOURCE: PADEP EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL

	COMPOS	TAB ST SOCK FABRIC	LE 4.1 MINIMUM SPEC	FICATIONS	_
MATERIAL TYPE	3 MIL HDPE	5 MIL HDPE	5 MIL HDPE	MULT-FILAMENT POLYPROPYLENE (MFPP)	HEAVY DUTY MULT-FILAMENT POLYPROPYLENE (HDMFPP)
MATERIAL CHARACTERISTICS	PHOTO- DEGRADABLE	PHOTO- DEGRADABLE	BIO- DEGRADABLE	PHOTO- DEGRADABLE	PHOTO- DEGRADABLE
SOCK DIAMETERS	12" 18"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 24" 32"
MESH OPENING	3/8"	3/8"	3/8"	3/8"	1/8"
TENSILE STRENGTH		26 PSI	26 PSI	44 PSI	202 PSI
ULTRAVIOLET STABILITY % ORIGINAL STRENGTH (ASTM G-155)	23% AT 1000 HR.	23% AT 1000 HR.		100% AT 1000 HR.	100% AT 1000 HR.
MINIMUM FUNCTIONAL LONGEVITY	6 MONTHS	9 MONTHS	6 MONTHS	1 YEAR	2 YEARS
		TWO-PL	SYSTEMS		
	HDPE BIAXIAL NET				

	HDPE BIAXIAL NET	
INNER CONTAINMENT NETTING	CONTINUOUSLY WOUND	
	FUSION-WELDED JUNCTURES	
	3/4" X 3/4" MAX. APERTURE SIZE	
	COMPOSITE POLYPROPYLENE FABRIC	
OUTER FILTRATION MESH	(WOVEN LAYER AND NO-WOVEN FLEECE	
	MECHANICALLY FUSED VIA NEEDLE PUNCH)	
	3/16"APERTURE SIZE	
SOCK FABRICS COMPOSED OF BURLAP MAY BE USED ON PROJECTS LASTING 6 MONTHS OR LESS		

TABLE 4.2

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



COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE BARRIER SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN BARRIER ALIGNMENT. MAXIMUM SLOPE LENGTH ABOVE ANY BARRIER SHALL NOT EXCEED THAT SPECIFIED FOR THE SIZE OF THE SOCK AND THE SLOPE OF ITS TRIBUTARY AREA.

TRAFFIC SHALL NOT BE PERMITTED TO CROSS COMPOST FILTER

ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE ABOVE GROUND HEIGHT OF THE BARRIER AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.

COMPOST FILTER SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.

BIODEGRADABLE COMPOST FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES SHALL BE REMOVED. THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IN THE LATTER CASE, THE MESH SHALL BE

CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT.

P MGR: 22-GODSC-01 SHEET: 18 OF 25

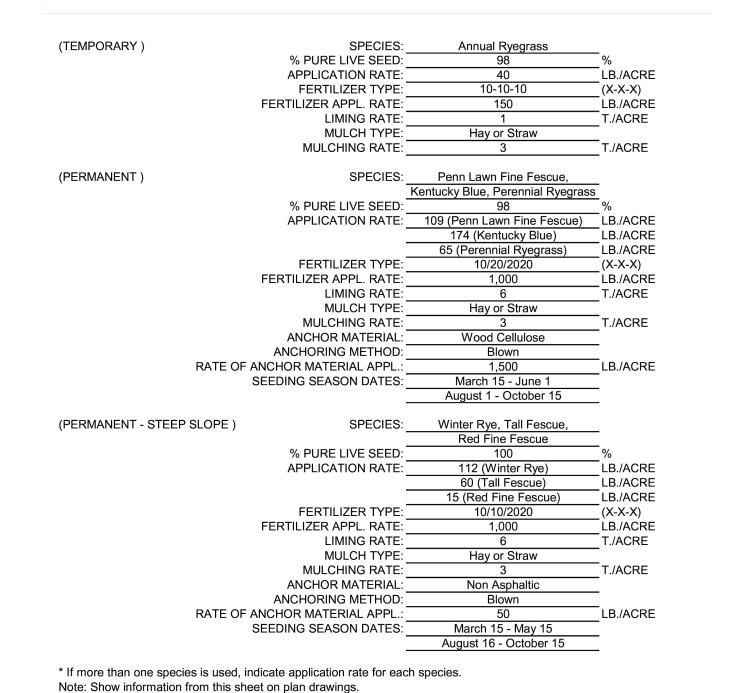
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STANDARD WORK SHEET #21

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

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

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:



BLANKET EDGES STAPLED AND OVERLAPPED (4 IN. MIN.) **INSTALL BEGINNING OF ROLL** STARTING AT TOP OF IN 6 IN. x 6 IN. ANCHOR SLOPE, ROLL BLANKETS TRENCH, STAPLE, BACKFILL IN DIRECTION OF WATER AND COMPACT SOIL PREPARE SEED BED PRIOR TO BLANKET

(INCLUDING APPLICATION OF LIME, FERTILIZER AND SEED) INSTALLATION THE BLANKET OVERLAP BLANKET ENDS 6 IN. MIN. REFER TO MANUF. SHOULD NOT BE WITH THE UPSLOPE BLANKED RECOMMENDED STAPLING

NOTES:

CONTACT

STRETCHED; IT MUST

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.

OVERLYING THE DOWNSLOPE

MAINTAIN GOOD SOIL BLANKET (SHINGLE STYLE). STAPLE

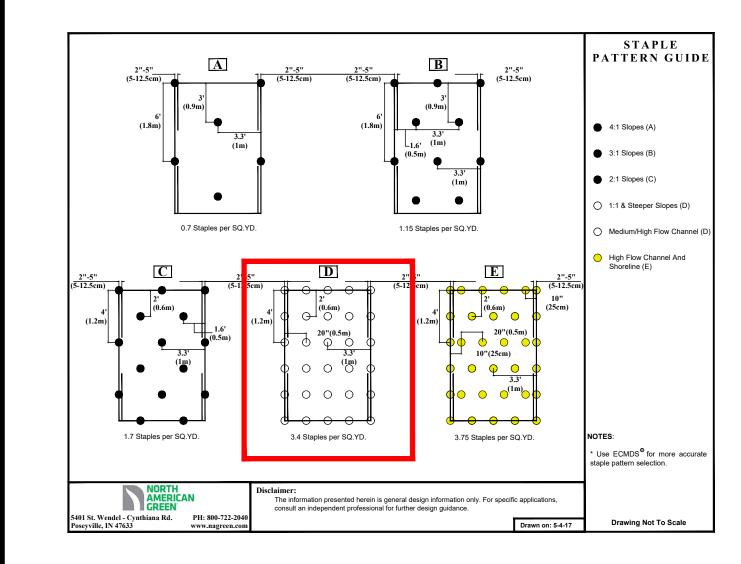
SECURELY.

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**

SOURCE: PADEP EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL

-INLET GRATE -SANDBAG, FILTER LOG, COMPOST SOCK, OR FILTER TUBE 1 IN. REBAR FOR EXPANSION RESTRAINT BAG REMOVAL FROM $\binom{1}{4}$ IN. NYLON ROPE) −2 IN X 2 IN. X 3/4 IN. RUBBER BLOCK INSTALLATION DETAIL EXTEND BERM OVER CURB IF RUNOFF IS BYPASSING INLET ON LANDWARD SIDE PLAN VIEW SECTION VIEW

PATTERN FOR STEEPNESS AND

LENGTH OF SLOPE BEING

BLANKETED

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.

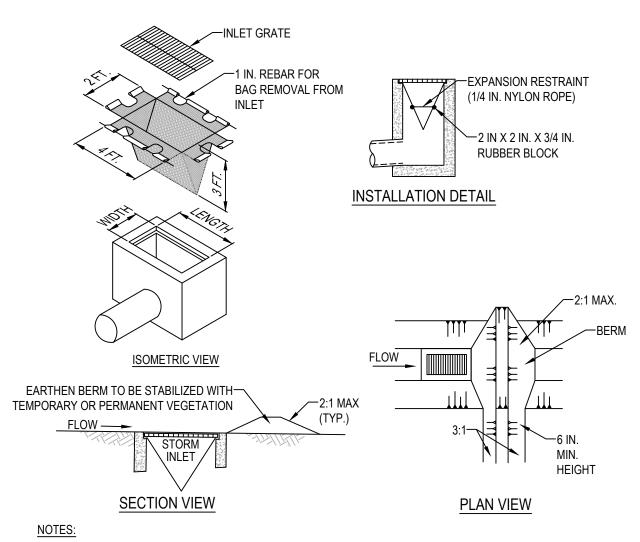
ROLLED EARTHEN BERM SHALL BE MAINTAINED UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. SIX INCH MINIMUM HEIGHT ASPHALT BERM SHALL BE MAINTAINED UNTIL ROADWAY SURFACE RECEIVES FINAL COAT. AT A MINIMUM, THE FABRIC SHALL HAVE A MINIMUM GRAB TENSILE STRENGTH OF 120 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

SOURCE: PADEP EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL



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.

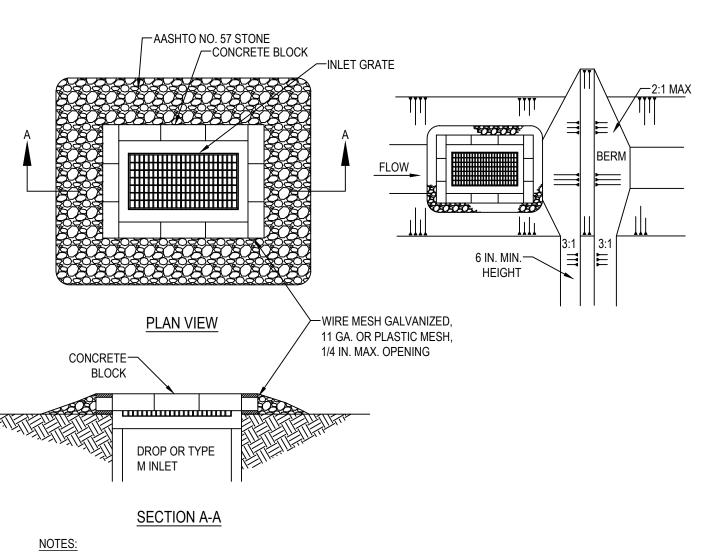
INLET FILTER BAGS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. BAGS SHALL BE EMPTIED AND RINSED OR REPLACED WHEN HALF FULL OR WHEN FLOW CAPACITY HAS BEEN REDUCED SO AS TO CAUSE FLOODING OR BYPASSING OF THE INLET. DAMAGED OR CLOGGED BAGS SHALL BE REPLACED. A SUPPLY SHALL BE MAINTAINED 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

SOURCE: PADEP EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL



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

SOURCE: PADEP EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL

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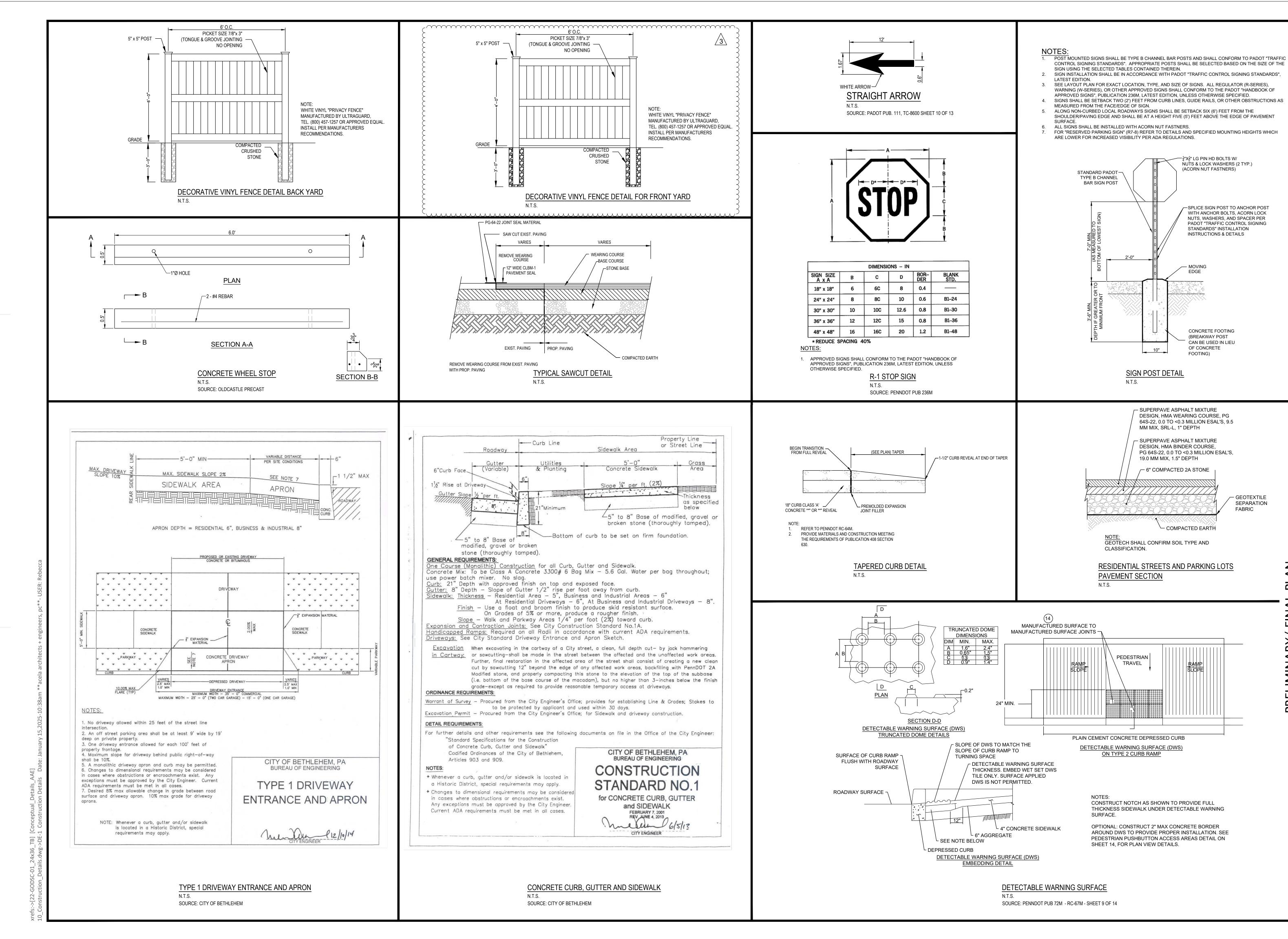
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> 11/09/2023 N.T.S DSGN: P MGR: 22-GODSC-01

SHEET: 20 OF 25 DE-1

LIGHTING HANDHOLE DETAIL

--PROPOSED AREA LUMINAIRE AS SPECIFIED (SEE LUMINAIRE SCHEDULE) (25'-0" TOTAL MOUNTING HEIGHT) 5" SQUARE 17'-6" HT. STEEL TUBE POLE W/ BASE PLATE AND ANCHOR BOLTS REMOVE PAINT & SECURELY ATTACH COPPER — GROUND LUG WITH 3/16" STOVE BOLT INSIDE POLE TO POLE BODY, OR HANDHOLE REINFORCING RING. -6" STRANDED BARE COPPER WIRE, (DO NOT GROUND TO COVER FASTENERS) ATTACH TO LUG AND CLAMP -HANDHOLE W/COVER COPPER GROUND CLAMP ATTACHED TO CONDUIT-WHEN POLES ARE EQUIPPED W/ BASE PLATE — COVER, THE COVERS TO HAVE FINISH TO MATCH POLE -LEVELING NUTS 1-2" CHAMFER ON TOP EDGE OF CONCRETE— ANCHOR BOLTS PER POLE-MANUFACUTURER RIGID CONDUIT (SIZED AS NEEDED) 24 " MIN. BELOW FINISHED GRADE REINFORCEMENT-AS REQUIRED 1. THIS DETAIL IS FOR BID AND BUDGETARY PURPOSE ONLY. CONTRACTOR SHALL ENSURE DESIGN IS PREPARED BY A QUALIFIED STRUCTURAL ENGINEER, CONSIDERING LIGHTING MANUFACTURING REQUIREMENTS, LOCAL WIND LOADS, SITE SPECIFIC SOILS PARAMETERS. 2. SOME SITE LOCATIONS AND/OR CONDITIONS MAY REQUIRE VIBRATION DAMPENING MEASURES AS DETERMINED BY A STRUCTURAL ENGINEER. 3. THE STRUCTURAL ENGINEER SHALL BE NOTIFIED OF THE INTENT TO MOUNT ANYTHING ASIDE FROM THE LIGHTING FIXTURE INCLUDING (BUT NOT LIMITED TO) CAMERAS, BANNERS, FLAGS, SIGNAGE, ETC. AS IT WILL IMPACT THE POLE AND FOUNDATION DESIGN. 4. ALL REBAR SHALL HAVE A YIELD STRENGTH OF 60KSI, AND MAINTAIN A 3" MIN. CLEARANCE FROM SURFACES. 5. SET POLES 2' MIN FROM BACK OF CURB OR PAVEMENT. 6. 4,000 PSI MIN 28 DAY COMPRESSIVE STRENGTH CONCRETE WITH GRADE 60 REINFORCING STEEL (GALVANIZED)

LITHONIA LIGHTING®

FEATURES & SPECIFICATIONS

INTENDED USE — These specifications are for USA standards only. Square Straight Aluminum is a general purpose light pole for up to 35-foot mounting heights. This pole provides a lighter and naturally corrosion-resistant option for mounting area light fixtures and floodlights. CONSTRUCTION —

Pole Shaft: The pole shaft is of uniform wall thickness and is made of extruded 6000 series aluminum alloy tubing that is heat treated to a T6 temper to provide maximum strength. The shaft is uniformly square in cross-section with flat sides, small corner radii and excellent torsional qualities. Available shaft widths are

Pole Top: Options include tenon top, drilled for side mount fixture, tenon with drilling (includes extra handhole) and open top. A removable cast aluminum top cap with set screws is provided for all poles that will

receive drilling patterns for side-mount luminaire arm assemblies or when ordered with open top (PT) option. The top cap resists intrusion of moisture and environmental contaminants. **Handhole:** A handhole opening with grounding provision is provided near the base. Standard positioning varies with shaft width as follows: 4" shaft, handhole at 12"; 5" shaft, handhole at 14"; 6" and 6.75" shaft, handhole at 18". Positioning the handhole lower than standard may not be possible and requires engineering review: consult Tech Support-Outdoor for further information. Standard and extra handholes come with

dimension of 2" x 4"; the handhole for a pole specified with a 6" or 6.75" width has a nominal dimension of 2.63" x 5". Standard and extra handholes come with cover and attachment hardware. Bolt Caps/Base Cover: Pole base plate utilizes cast aluminum A365 nut cover discs to cover anchor bolt and

cover and attachment hardware. The handhole for a pole specified with a 4" or 5" shaft width has a nominal

nut assembly. 2 piece, spun aluminum base cover available as an option. Anchor Base/Bolts: Anchor base is cast from A356 alloy aluminum. Anchor bolts are manufactured to ASTM F1554 Standards Grade 55, (55 KSI minimum yield strength and tensile strength of 75-95 KSI). Upper portion of anchor bolt is galvanized per ASTM A-153; bolts have an "L" bend on bottom end and are galvanized a minimum of 12" on the threaded end.

HARDWARE — All structural and non-structural fasteners are stainless-steel.

FINISH — Extra durable painted finish is coated with TGIC (Triglycidyl Isocyanurate) Polyester powder that meets 5A and 5B classifications of ASTM D3359. Standard powder-coat finishes include Dark Bronze, White, Black, and Natural Aluminum colors. Other finishes include Brushed Aluminum, and Anodized Dark Bronze, Anodized Natural Aluminum and Anodized Black. Architectural Colors and Special Finishes are available by quote and include, but are not limited to RAL Colors, Custom Colors and Extended Warranty Finishes. **GROUNDING:** Grounding provision is located in handhole near the base. Grounding hardware is not included (provided by others).

INSTALLATION — **Do not** erect poles without having fixtures installed. Factory-supplied templates must be used when setting anchor bolts. Lithonia Lighting will not accept claim for incorrect anchorage placement due to failure to use Lithonia Lighting factory templates. If poles are stored outside, all protective wrapping must be removed immediately upon delivery to prevent finish damage. Lithonia Lighting is not responsible for the foundation design.

WARRANTY — 1-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: <u>www.acuitybrands.com/support/warranty/terms-and-conditions</u> **NOTE**: Actual performance may differ as a result of end-user environment and application. Specifications subject to change without notice.

OUTDOOR

Anchor Base Poles

SQUARE STRAIGHT ALUMINUM

SSA Square Straight Aluminum Poles

SSA								
Series	Nominal fixture mounting height	Nominal shaft base size/wall thickness ¹	Mounting ²					
SSA	8'-35' (for 1/2 ft increments, add -6 to the pole height. Ex: 20-6 equals 20ft 6in.) (See technical information table for complete ordering information.)	4C 4" (0.125") 4G 4" (0.188") 5G 5" (0.188") 6G 6" (0.188") 6J 6" (0.250") 7J 7" (0.250") (See technical information table for complete ordering information.)	DM19 DM28 DM28PL DM29 DM39 DM49	Open top 2-3/8" O.D. (2" NPS) 2-7/8" O.D. (2-1/2" NPS) 3-1/2" O.D. (3" NPS) ³ 4" O.D. (3-1/2" NPS) ³ SE/KSF/KVR/KVF Drill mounting ⁴ 1 at 90° 2 at 180° 2 at 180° with one side plugged 2 at 90° 3 at 90° 4 at 90° SX/AERIS™/OMERO™/HLA/KAX Drill mounting ⁴ 1 at 90° 2 at 180° 2 at 180° 4 at 90° 4 at 90°	DM29RAD 2 at DM39RAD 3 at DM49RAD 4 at ESX Drill mountin DM19ESX 1 at	90° 180° 90° 90° 90° 180° 180° 90° 180° 90° 180°	DM28AST 2 at DM29AST 2 at DM39AST 3 at DM49AST 4 at <u>OMERO™ Suspend d</u> DM19MRT 1 at DM28MRT 2 at DM29MRT 2 at DM39MRT 3 at	t 90° t 180° t 90° t 90° t 90°

Options	Finish ¹¹
L/AB Less anchor bolts (Include when anchor bolts are not needed) VD Vibration damper TP Tamper proof HAxy Horizontal arm bracket (1 fixture) ^{6,7} FDLxy Festoon outlet less electrical ^{6,8} CPL12/xy 1/2" I.D. coupling ⁶ CPL34/xy 3/4" I.D. coupling ⁶ CPL1/xy 1" I.D. coupling ⁶ NPL12/xy 1/2" O.D. threaded nipple ⁶ NPL34/xy 3/4" O.D. threaded nipple ⁶ NPL14/xy 1" O.D. threaded nipple ⁶ NPL1/xy 1" O.D. threaded nipple ⁶ EHHxy Extra handhole ^{6,9} BAA Buy America(n) Act Compliant ¹⁰ UL UL listed with label (Includes NEC compliant cover) NEC NEC 410.30 compliant gasketed handhole (Not UL Labeled) FBC Full base cover (spun aluminum)	Super durable paint colors DDBXD Dark bronze DBLXD Black DNAXD Natural aluminum DWHXD White DDBTXD Textured dark bronze DBLBXD Textured black DNATXD Textured natural aluminum DWHGXD Textured white Brushed finish BA Brushed aluminum Class 1 architectural anodized ABL Black ADB Dark bronze ANA Natural Architectural colors (powder finish) Duranodic Anodize, Paint over Duranodic Anodize, RAL Colors, Custom Colors and Extended Warranty Finishes available.

Accessories: Order as separate catalog number. PL DT20 Plugs for ESX drillings PL DT8 Plugs for DMxxAS drillings

- 1. Wall thickness will be signified with a "C", "G" or a "J" in nomenclature. "C" - 0.125 | "G" - 0.188 | "J" - 0.250. 2. PT open top poles include top cap. When ordering tenon mounting and
- 3. 3-1/2" and 4" 0.D. tenons available on 5" and 6" shafts only. ${\bf 4.} \quad \text{Refer to the fixture spec sheet for the correct drilling template pattern and} \\$ orientation compatibility. 5. Insert "1" or "2" to designate fixture size; e.g. DM19AST2.

combination includes a required extra handhole.

- For "x": Specify the height in feet above base of pole. Example: 5tt = 5 and 20ft, 3in = 20-3

 For "y": Specify orientation from handhole (A,B,C,D) Refer to the Handhole Orientation diagram below.

 Example: 1/2" coupling at 5'8", orientation C = CPL12/5-8C
- 7. Horizontal arm is 18" x 2-3/8" O.D. tenon standard, with radius curve providing 12" rise and 2-3/8" 0.D. If ordering two horizontal arm at the same height, specify with HAxyy. Example: HA20BD drill mounting for the same pole, follow this example: DM28/T20. The
 - FDL does not come with additional covering. Festoons must be a minimum of 3ft (36in) from the base in any orientation. Distance between any toon and/or hand hole must be at least 1ft and 6in (18in) apart in any 9. Combination of tenon-top and drill mount includes extra handhole. Extra Handholes must be a minimum of 3ft (36in) from the base in any orienta
 - and 6in (18in) apart in any orientation. 10. Use when mill certifications are required. Some configurations may be excluded, consult factory.

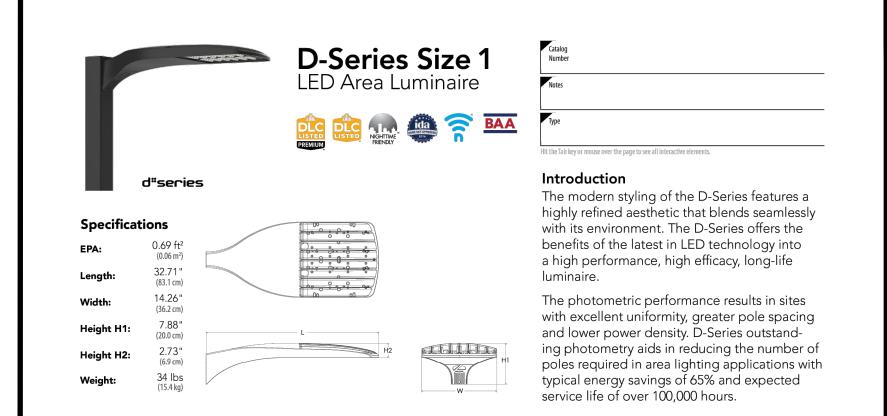
POLE-SSA

11. Finish must be specified. Additional colors available; see Architectural

A LITHONIA LIGHTING®

OUTDOOR: One Lithonia Way Conyers, GA 30012 Phone: 1-800-705-SERV (7378) www.lithonia.com

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DSX1 LED						
Series	LEDs	Color temperature ²	Color Rendering Index ²	Distribution	Voltage	Mounting
DSX1 LED	Forward optics P1 P6 P2 P7 P3 P8 P4 P9 P5 Rotated optics P101 P121 P111 P131	(this section 70CRI only) 30K 3000K 40K 4000K 50K 5000K (this section 80CRI only, extended lead times apply) 27K 2700K 30K 3000K 35K 3500K 40K 4000K 50K 5000K	70CRI 70CRI 70CRI 80CRI 80CRI 80CRI 80CRI 80CRI	AFR Automotive front row T1S Type I short T2M Type II medium T3M Type III medium T3LG Type III low glare³ T4M Type IV medium T4LG Type IV low glare³ TFTM Forward throw medium T4CO Right corner cutoff³ RCCO Right corner cutoff³	MVOLT (120V-277V) ⁴ HVOLT (347V-480V) ^{5,6} XVOLT (277V - 480V) ^{7,8} 120 ^{16, 26} 208 ^{16, 26} 240 ^{16, 26} 277 ^{16, 26} 347 ^{16, 26} 480 ^{16, 26}	Shipped included SPA Square pole mounting (#8 drilling) RPA Round pole mounting (#8 drilling) SPA5 Square pole mounting #5 drilling 9 RPA5 Round pole mounting #5 drilling 9 SPA8N Square narrow pole mounting #8 drilling WBA Wall bracket 10 MA Mast arm adapter (mounts on 2.3 /8 0.00

EXAMPLE: DSX1 LED P7 40K 70CRI T3M MVOLT SPA NLTAIR2 PIRHN DDBXD

Control options				Other opti		Finish (requ	
Shipped install NLTAIR2 PIRHN PIR PER PER5	nLight AIR gen 2 enabled with bi-level motion / ambient sensor, 8-40' mounting height, ambient sensor enabled at 2fc. 13, 12, 20, 21 High/low, motion/ambient sensor, 8-40' mounting height, ambient sensor enabled at 2fc. 13, 20, 21 NEMA twist-lock receptacle only (controls ordered separate) 14 Five-pin receptacle only (controls ordered separate) 14, 21	PER7 FAO BL30 BL50 DMG DS	Seven-pin receptacle only (controls ordered separate) ^{14,21} Field adjustable output ^{15,21} Bi-level switched dimming, 30% ^{16,21} Bi-level switched dimming, 50% ^{16,21} 0–10v dimming wires pulled outside fixture (for use with an external control, ordered separately) ¹⁷ Dual switching ^{18,19,21}	Shipped i SPD20KV HS L90 R90 CCE HA BAA SF DF Shipped s EGSR	nstalled 20KV surge protection Houseside shield (black finish standard) ²² Left rotated optics ¹ Right rotated optics ¹ Coastal Construction ²³ 50°C ambient operation ²⁴ Buy America(n) Act Compliant Single fuse (120, 277, 347V) ²⁶ Double fuse (208, 240, 480V) ²⁶ separately External Glare Shield (reversible, field install required, matches housing finish) Bird Spikes (field install required)	DDBXD DBLXD DNAXD DWHXD DDBTXD DBLBXD DNATXD DWHGXD	Dark Bronze Black Natural Aluminum White Textured dark bronze Textured black Textured natural aluminu Textured white



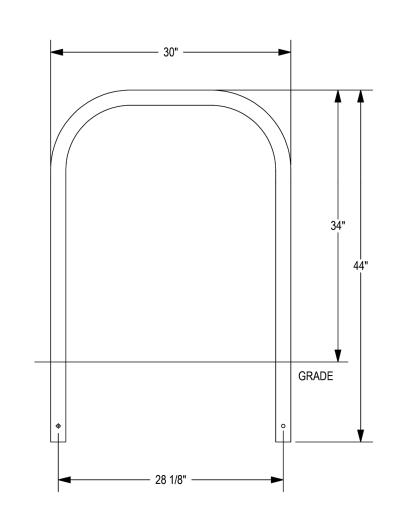
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DSX1-LED Rev. 09/05/23

TYPICAL MULTIPLE BIKE RACK LAYOUT DETAIL N.T.S.

 $\bigcirc \frac{\text{TYPICAL SINGLE BIKE RACK LAYOUT DETAIL}}{\text{N.T.S.}}$

BIKE RACK DETAIL

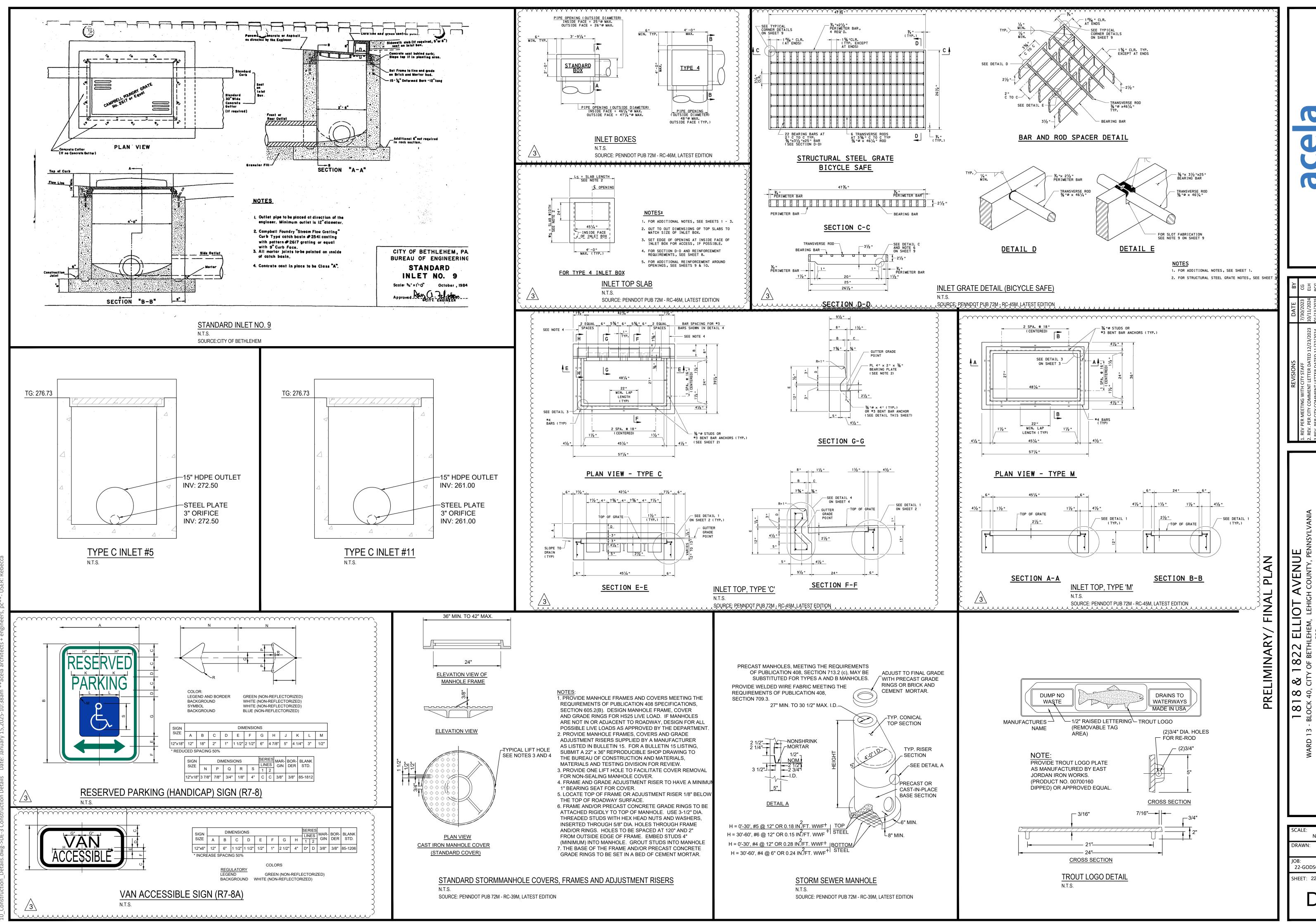


☐ IN GROUND MOUNT (IG)

PRODUCT: UX190-IG(SF)
DESCRIPTION: 'U' BIKE RACK
2 BIKE, SURFACE OR IN GROUND MOUNT CONFIDENTIAL DRAWING AND INFORMATION IS NOT TO BE COPIED OR DISCLOSED TO OTHERS WITHOUT THE CONSENT OF GRABER MANUFACTURING, INC. SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.

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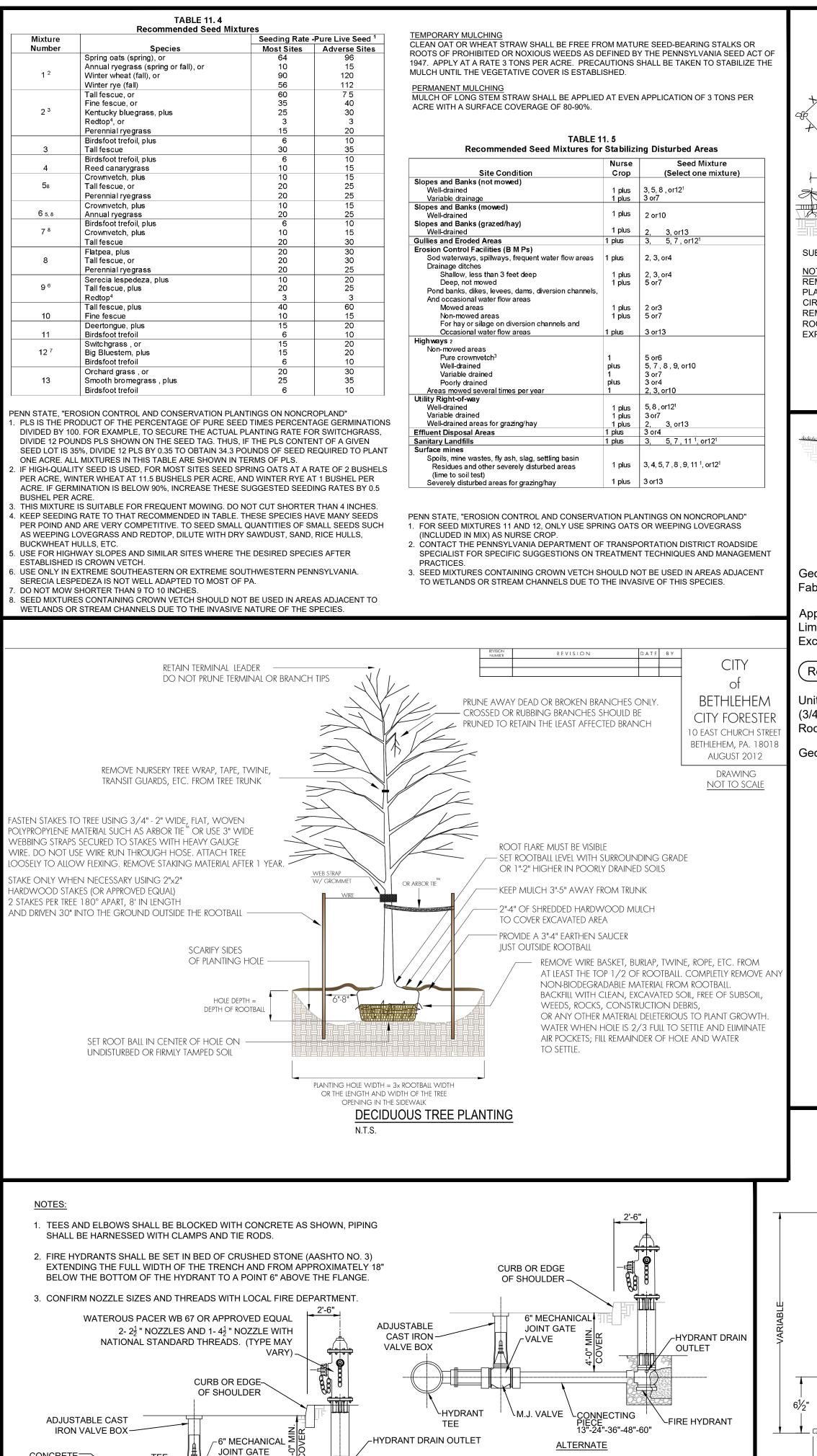
11/09/2023 22-GODSC-01 SHEET: 21 OF 25



DE ANR

11/09/2023 P MGR: 22-GODSC-01 SHEET: 22 OF 25

DE-3



-UNDISTURBED EARTH

BLOCKED)

-CONCRETE THRUST BLOCK (SHALL BE POURED

SO THAT HYDRANT DRAIN OUTLET IS NOT

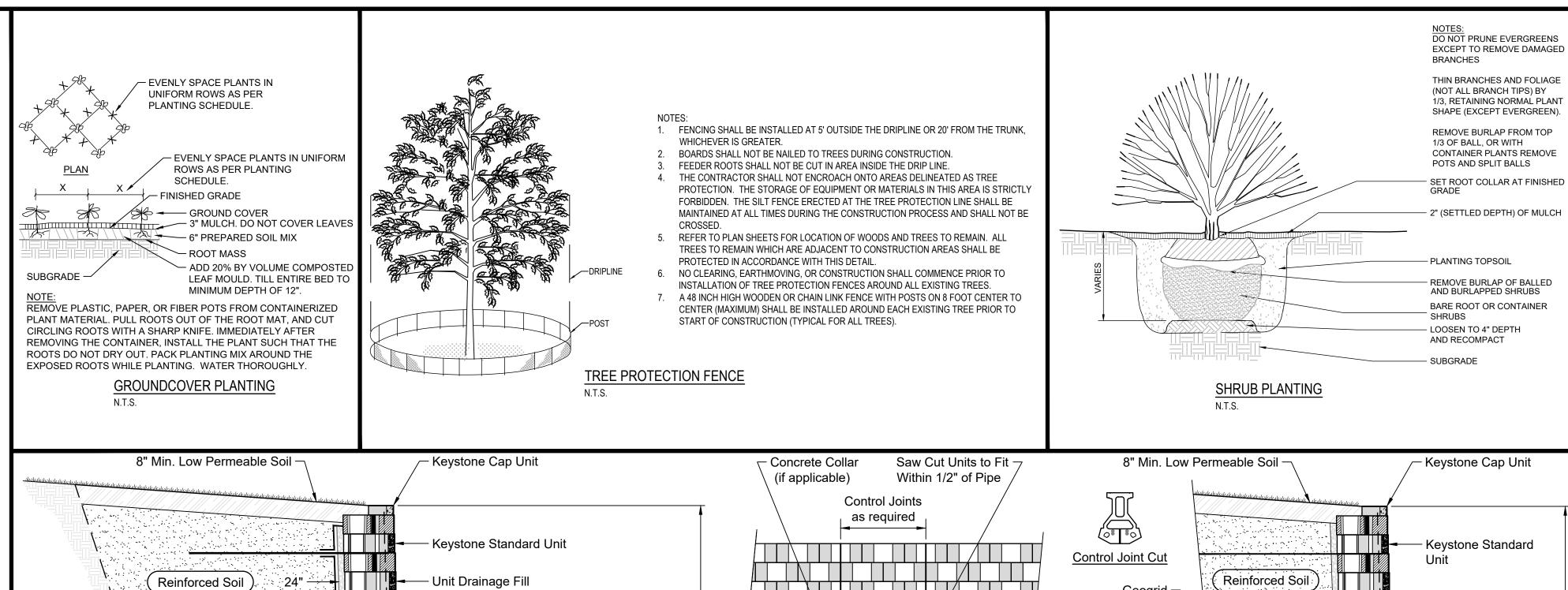
BRICK OR

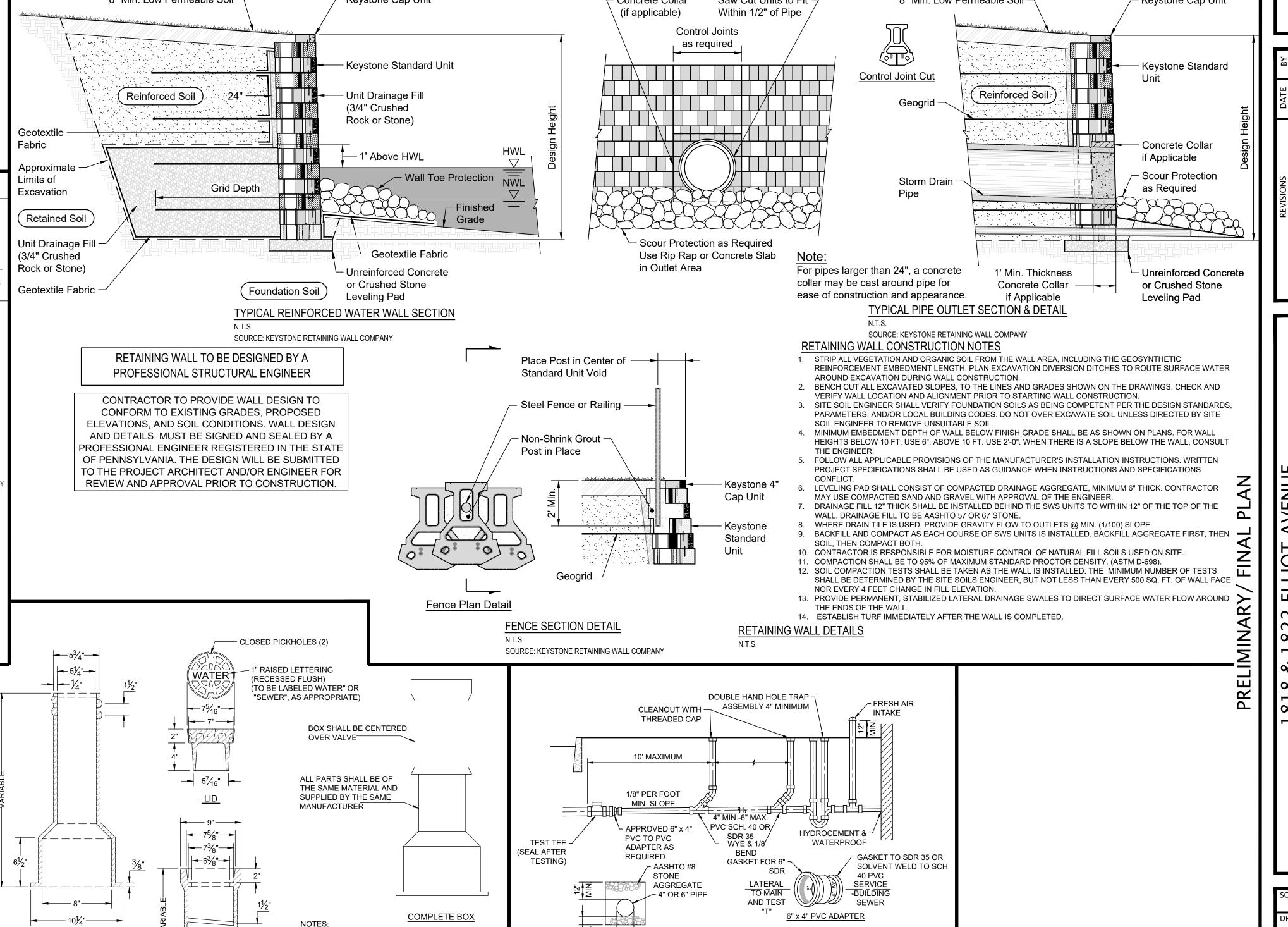
-MASONRY

HYDRANT TEE IS UTILIZED)

PROVIDE TWO-3/4" RODS (6'-0" DIMENSION WAIVED WHEN A

BETWEEN TEE AND VALVE





1. 50' MAX DISTANCE BETWEEN

CLEANOUTS FOR 4" PIPE

2. 100' MAX DISTANCE BETWEEN

CLEANOUTS FOR 6" PIPE

BUILDING SEWER DETAIL

1. VALVE BOX COVER SHALL WEIGH A MINIMUM 26 lbs

2. ENTIRE VALVE BOX ASSEMBLY & COVER SHALL BE

3. ASSEMBLY SHALL BE DOMESTICALLY MADE AND

CAST FROM CLASS 35 GRAY IRON.

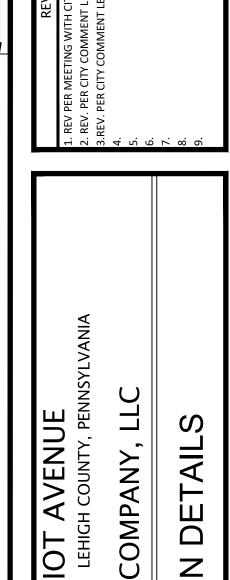
MANUFACTURED IN THE U.S.A.

BOTTOM SECTION

-65/8"-

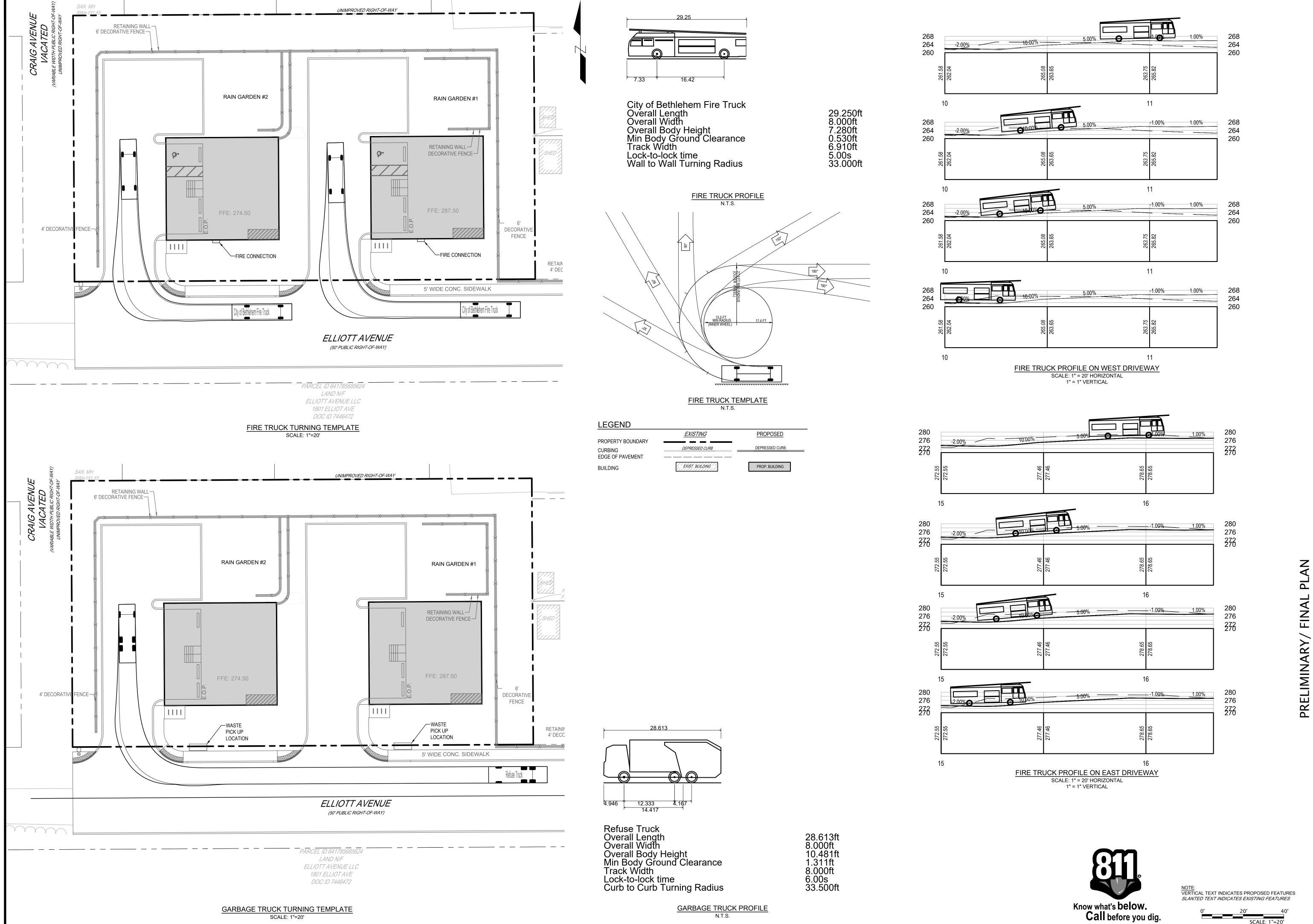
TOP SECTION

STANDARD VALVE BOX INSTALLATION



Z R 11/09/2023

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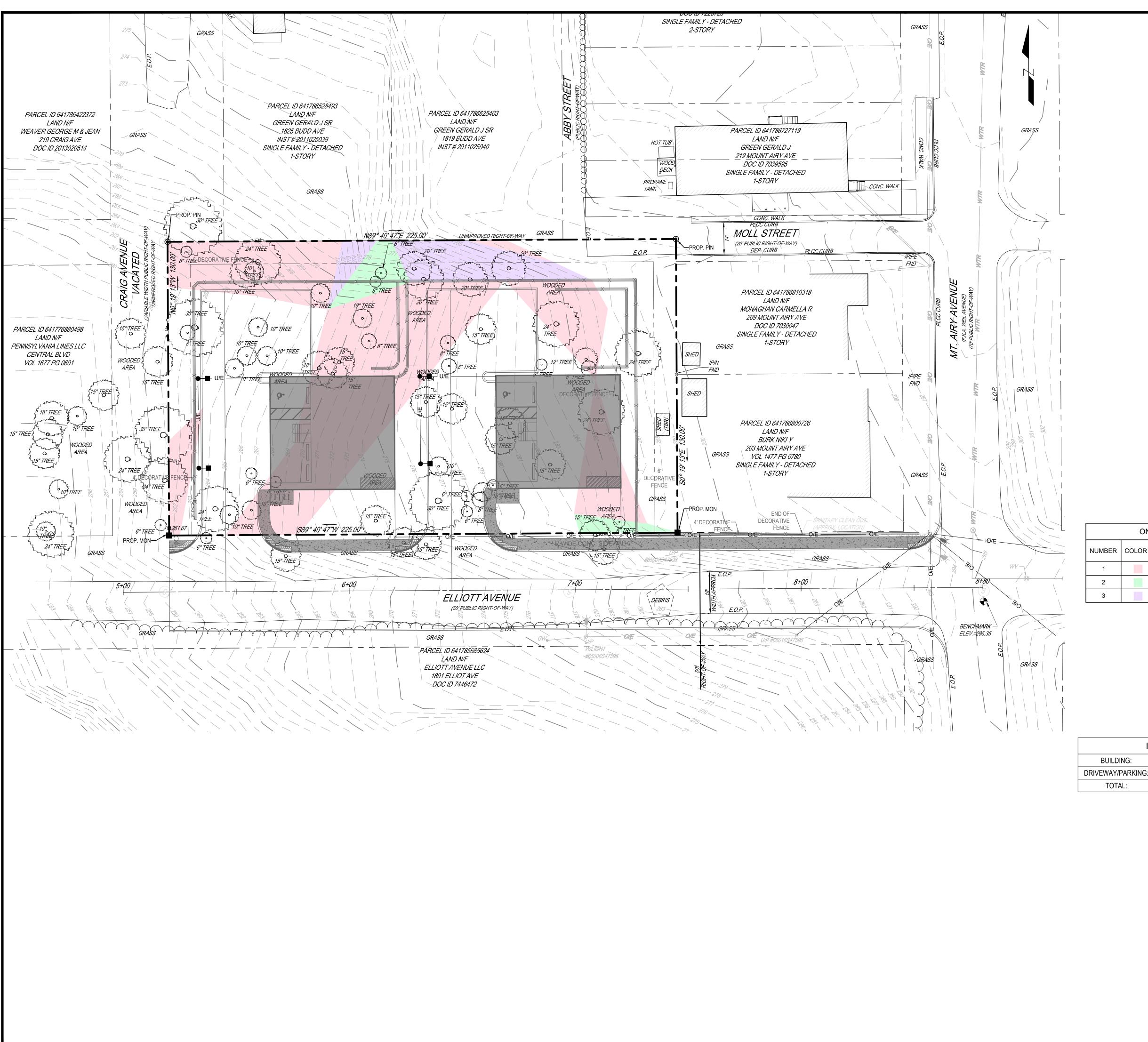
1. REV 2. REV. 3. 3. REV. 5. 5. 9.

TEMPL TURNING **818** OCK 40, TRUCK

22-GODSC-01

SITE SERIAL #20220521536

1"=20' 11/09/2023 SHEET: 24 OF 25



	ON	-SITE SL					
UMBER	COLOR	MIN. SLOPE	MAX. SLOPE	AREA (SQFT)	AREA (ACRES)	AREA TO BE DISTURBED (SF)	AREA TO BE DISTURBED (AC)
1		15.00%	25.00%	9,427	0.22	8,142 (86%)	0.19
2		25.00%	35.00%	711	0.02	587 (83%)	0.01
3		35.00%	+	1,343	0.03	1,027 (76%)	0.02

IMPERVIOUS COVER

2,750 SF x 2 = 5,500 SF

3,800 SF X 2 = 7,600 SF 13,100 SF (45%)

Know what's below.

Call before you dig.

SITE SERIAL #20220521536

PRELIMINARY

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

DEVEL 1818 BLOCK 40,

PLAN

SLOPE

1. REV 2. REV 3. REV. 5. 7. 9.

STEEP

22-GODSC-01 SHEET: 25 OF 25

1"=20' 11/09/2023

SS-1