




PREPARED FOR:
SIRHANDI ENTERPRISES, INC.
111 N. COVE TERRACE
OXON HILL, MD 20745



<u>LIST OF DRAWINGS:</u>	
<u>SHEET</u>	<u>TITLE</u>
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2	SITE PLAN
3	PROPOSED BUILDING ELEVATIONS
4	EXISTING CONDITIONS & DEMOLITION PLAN
5	SIGNAGE PLAN
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7	SIGNAGE PLAN DETAILS
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9	GRADING PLAN
10	EROSION AND SEDIMENT CONTROL PLAN
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13	STORMWATER & DRAINAGE PLAN
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19	SITE DETAILS
20	SITE DETAILS
21	SITE DETAILS
22	SITE DETAILS
23	SITE DETAILS
24	SITE DETAILS
25	SITE DETAILS
26	SITE DETAILS
27	TRUCK TURNING PLAN

CLIENT DATA



cornerstone
Consulting Engineers & Architectural, Inc.

213 West Main Street - Lansdale, PA 19446
Phone: 215-362-2600 Fax: 215-362-8400
Website: WWW.CORNERSTONENET.COM

Pennsylvania Region
215-362-2600


Lehigh Valley Region
610-820-8200

Pocono Region
570-839-1770

NO	REV	DESCRIPTION	DATE	REVISION PER TOWNSHIP COMMENTS
1			9/2/2021	

PENNSYLVANIA ONE CALL SYSTEM, INC.

925 Iwein Run Road
West Mifflin, Pennsylvania
15122 - 1078



BEFORE YOU DIG ANYWHERE IN PENNSYLVANIA! CALL 1-800-242-1776

NON-MEMBERS MUST BE CONTACTED DIRECTLY

PALM FORGETS THEIR WORKING DAYS NOTICE TO UTILITIES BEFORE YOU EXCAVATE, DRIFT, OR EARTH REMOVAL!

J.B. ANDERSON

PROFESSIONAL ENGINEER
P.E. LICENSE NO. PE-16188
PENNSYLVANIA LICENSE No. PE1055536
NORTH CAROLINA LICENSE No. 28113
NEW JERSEY LICENSE No. 246040520400
VIRGINIA LICENSE No. 0402-045725
FLORIDA LICENSE No. 75184
NEW YORK LICENSE No. 02060611

PROJECT LOCATION

"LAND DEVELOPMENT DOCUMENTS FOR SUNOCO 1451 PROVIDENCE ROAD"

PROPOSED COMMERCIAL RE-DEVELOPMENT
1451 PROVIDENCE ROAD
MEDIA, PENNSYLVANIA, 19063
DELAWARE COUNTY

PREPARED FOR
SIRHANDI ENTERPRISES, INC.

TITLE

COVER

REV	DATE	BY	DESCRIPTION
01	05-21-2021	JBA	COVER

PROJECT LOCATION

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TITLE

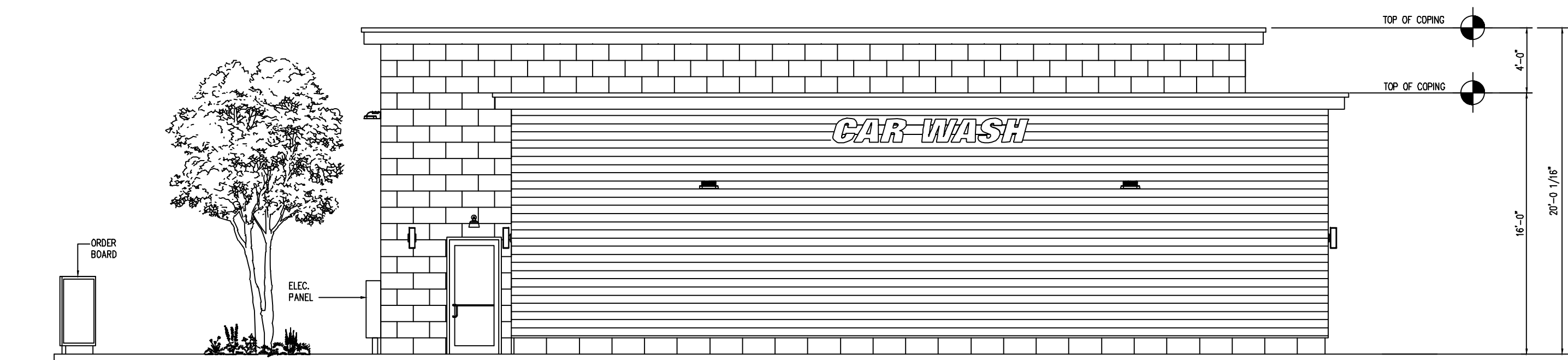
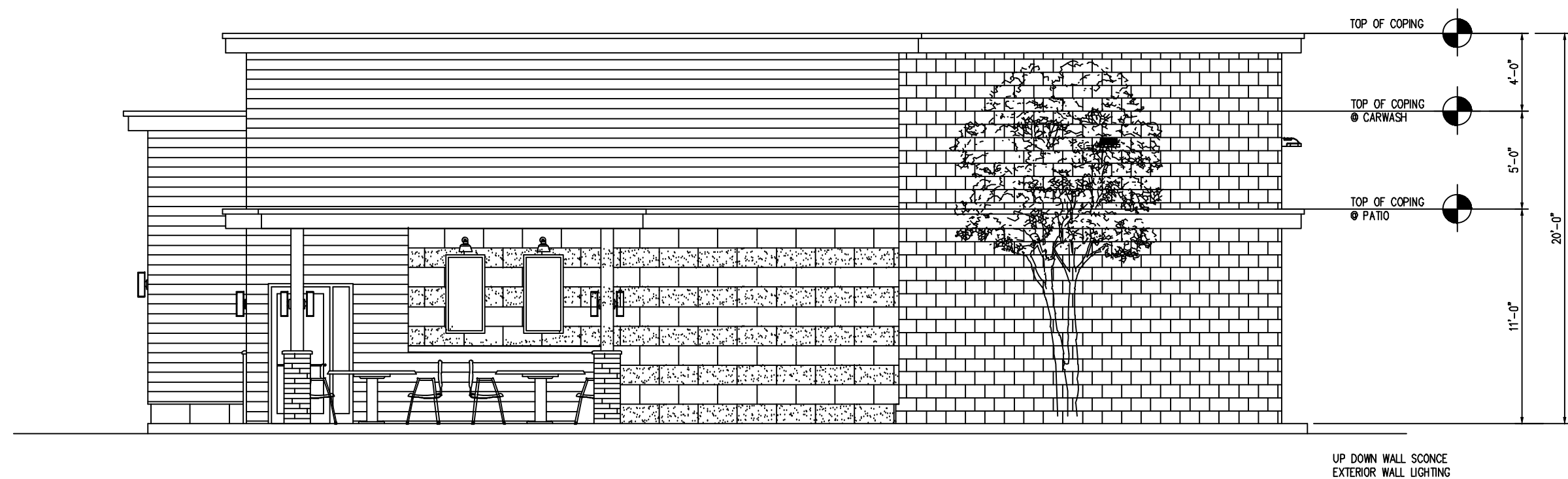
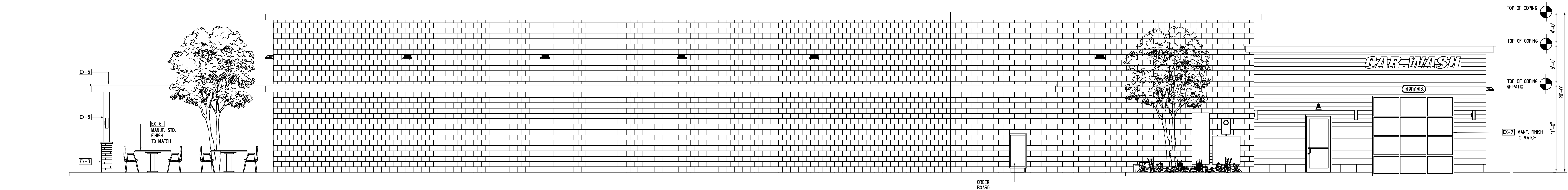
COVER

REV	DATE	BY	DESCRIPTION
01	05-21-2021	JBA	COVER

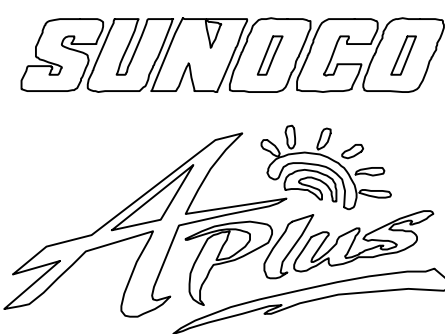
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Pocono Region
570-839-1770

Lehigh Valley Region
610-820-8200

Philadelphia Region
215-562-2600

REVISIONS			DATE	
NO	BY	DESCRIPTION		
1	DN	REVISED PER TOWNSHIP COMMENTS	9/2/2021	

PENNSYLVANIA
ONE CALL SYSTEM, INC.
925 Irwin Run Road
West Mifflin, Pennsylvania
15122-1078



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PENNSYLVANIA! CALL 1-800-242-1776

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CONTACTED DIRECTLY

PA LAW REQUIRES THREE WORKING DAYS
NOTICE TO UTILITIES BEFORE YOU EXCAVATE.
DEPT. OF TRANSPORTATION



PROJECT LOCATION

LAND DEVELOPMENT DOCUMENTS
"SUNOCO 1451 PROVIDENCE ROAD"

PROPOSED COMMERCIAL
RE-DEVELOPMENT
1451 PROVIDENCE ROAD
MEDIA, PENNSYLVANIA, 19063
DELAWARE COUNTY

PREPARED FOR
SIRHANDI ENTERPRISES, INC.

TITLE

PROPOSED BUILDING
ELEVATIONS

PROJ. # 19-0425 DATE 05-21-2021

CAD ID. 19-0425 DRN BY GTM

SCALE AS NOTED CHK BY JBA

SHEET 3 OF 27

REVISION 1

LEGEND & ABBREVIATIONS

---	PROPERTY BOUNDARY	⊕	WATER MANHOLE
---	ADJACENT BOUNDARY	⊕	UNKNOWN MANHOLE
---	RIGHT OF WAY LINE	⊕	STORM INLET
---	EXISTING FENCE	⊕	GAS METER
---	EXISTING OVERHEAD WIRE	⊕	WATER METER
---	EXISTING CURB	⊕	GAS VALVE
---	EXISTING DEPRESSED CURB (DC)	⊕	WATER VALVE
---	EXISTING SIGN	⊕	CLEAN OUT
---	EXISTING UTILITY POLE (UP)	⊕	TO BE REMOVED
---	GUY WIRE	⊕	
---	LAMP POST	⊕	
---	SEWER MANHOLE	⊕	
---	COMMUNICATION MANHOLE	⊕	
---	ELECTRIC MANHOLE	⊕	

EXISTING SIGNAGE TABLE*

FREESTANDING SIGNAGE:			
(A)	ONE (1) "SUNOCO SIGN" (5'-4 3/8" X 9'-0") 48.3 SF EA.	48.3 SF	
(B)	ONE (1) "GAS SALES INSERT" (3'-10" X 6'-0") 23.0 SF EA.	23.0 SF	
(C)	ONE (1) "OPEN INSERT" (3'-10" X 6'-0") 23.0 SF EA.	23.0 SF	
(D)	ONE (1) MIDDLE MOUNTED LIGHT POST SIGN (5'-0" X 3'-10") 19.2 SF EA.	19.2 SF	
(E)	TOTAL FREESTANDING SIGNAGE	113.5 SF	
CANOPY SIGNAGE:			
(F)	TWO (2) "SUNOCO" ID CANOPY SIGN (12'-0" X 2'-0") 24.0 SF EA.	48.0 SF	
(G)	TWO (2) "MASCAR" ID CANOPY SIGN (15'-0" X 2'-0") 22.6 SF EA.	45.2 SF	
(H)	FOUR (4) "OPEN" CANOPY SIGN (5'-0" X 1'-6") 7.6 SF EA.	30.4 SF	
(I)	TOTAL CANOPY SIGNAGE	123.6 SF	
BUILDING SIGNAGE:			
(J)	ONE (1) "NO SMOKING" SIGN FRONT OF BUILDING (0'-10" X 1'-2") 1.0 SF	1.0 SF	
(K)	TWO (2) "NO IDLING" SIGN SIDE OF BUILDING (2'-0" X 2'-0") 4.0 SF	8.0 SF	
(L)	TOTAL BUILDING SIGNAGE	9.0 SF	
(M)	TOTAL SIGNAGE	246.1 SF	

NOTES:

1. PROPERTY KNOWN AS APN #35-00-01404-00 UPPER PROVIDENCE TOWNSHIP, DELAWARE COUNTY, COMMONWEALTH OF PENNSYLVANIA.
2. AREA OF PARCEL IS 78,677 SQUARE FEET OR 1.802 ACRES.
3. REPRESENTATION OF ALL UNDERGROUND UTILITIES ARE APPROXIMATE AND ARE NOT AS-BUILT LOCATIONS. ABOVE GROUND STRUCTURES THAT WERE VISIBLE & ACCESSIBLE IN THE FIELD ARE SHOWN. ALL LOCATIONS AND SIZES ARE BASED ON UTILITY MARK-OUTS, AND THE MAPS LISTED IN THE REFERENCES AVAILABLE AT THE TIME OF THE SURVEY. BEFORE ANY EXCAVATION IS TO BEGIN, ALL UNDERGROUND UTILITIES SHOULD BE VERIFIED AS TO THEIR LOCATION, SIZE AND TYPE BY THE PROPER UTILITY COMPANIES.
4. THIS PLAN IS BASED ON INFORMATION PROVIDED BY A SURVEY PREPARED IN THE FIELD BY CORNERSTONE CONSULTING ENGINEERS AND ARCHITECTURAL, INC., AND OTHER REFERENCE MATERIAL AS LISTED HEREON. SURVEY & TOPOGRAPHIC INFORMATION SHOWN HEREON DERIVED FROM A FIELD SURVEY PERFORMED BY CORNERSTONE CONSULTING IN FEBRUARY, 2019.
5. COPYRIGHT © 2020 CORNERSTONE CONSULTING ENGINEERS AND ARCHITECTURAL, INC. ALL RIGHTS RESERVED. NO PART OF THIS DRAWING MAY BE REPRODUCED BY PHOTOCOPYING, RECORDING OR BY ANY OTHER MEANS, OR STORED, PROCESSED, OR TRANSMITTED IN OR BY ANY COMPUTER OR OTHER SYSTEMS WITHOUT THE PRIOR WRITTEN PERMISSION OF THE SURVEYOR. COPIES OF THIS PLAN WITHOUT A RAISED OR COLORED SEAL ARE NOT VALID.
6. THIS PLAN IS VALID ONLY WHEN SIGNED AND SEALED WITH A PINKED OR COLORED SEAL AND WAS PREPARED IN ACCORDANCE WITH THE MINIMUM STANDARD OF ACCURACY OF THE STATE IN WHICH THE PROJECT IS LOCATED. THE WORD "CERTIFY" OR "CERTIFICATE" AS SHOWN AND USED HEREON MEANS AN EXPRESSION OF PROFESSIONAL OPINION REGARDING THE FACTS OF THIS PLAN AND REFERENCED SURVEY AND DOES NOT CONSTITUTE A WARRANTY OR GUARANTEE, EXPRESSED OR IMPLIED.
7. DATUM BASED UPON PENNSYLVANIA STATE PLANE SOUTH ZONE 3702 USING HORIZONTAL VALUES FROM NAD83 AND VERTICAL VALUES FROM NAVD83.
8. SITE BENCHMARK IS MAG. NAL. SET. ELEVATION = 335.31 TO ENSURE THAT THERE HAS BEEN NO ALTERATION OF THE SURVEY BENCHMARK SINCE THE TIME OF THE FIELD SURVEY, IT IS RECOMMENDED THAT THE CONTRACTOR ESTABLISH A CONSTRUCTION BENCHMARK BASED ON THE SURVEY BENCHMARK AND ELEVATIONS OF OTHER EXISTING IMPROVEMENTS.
9. THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT AND SUBJECT THERETO.
10. SUBJECT TO ANY AND ALL EASEMENTS OF RECORD WHETHER SHOWN HEREON OR NOT.
11. BY GRAPHICAL PLOTTING ONLY THIS PROPERTY IS LOCATED IN FEMA FLOOD MAP - OTHER AREAS/ZONE X. (SEE MAP REFERENCE #2).
12. BOUNDARY RESOLUTION BASED ON FOUND EVIDENCE AND OTHER REFERENCE MATERIALS AS LISTED HEREON AVAILABLE AT THE TIME OF SURVEY.

REFERENCES:

1. TAX MAPS OF DELAWARE COUNTY, COMMONWEALTH OF PENNSYLVANIA.
2. MAP ENTITLED "FIRM FLOOD INSURANCE RATE MAP, DELAWARE COUNTY, PENNSYLVANIA (ALL JURISDICTIONS)," PANEL 92 OF 250, MAP NUMBER 4204SC02092, REVISED NOVEMBER, 2009.
3. MAP ENTITLED IN PART "PLAN OF PROPERTY FOR V. C. FINISORE INC.," PREPARED BY G. D. HOUTMAN & SON, DATED MAY 7, 1974.
4. MAP ENTITLED IN PART "FINAL MINOR SUBDIVISION PLAN OF PROPERTY OF CHARLES LEEDOM," PREPARED BY G. D. HOUTMAN & SON, DATED AUGUST 10, 1982.

UTILITY:

THE FOLLOWING COMPANIES WERE NOTIFIED BY THE PENNSYLVANIA POWER & LIGHT COMPANY (P&L) AND REQUESTED TO MARK OUT UNDERGROUND UTILITIES AFFECTING AND SERVING THIS SITE. THE UNDERGROUND UTILITY INFORMATION SHOWN HEREON IS BASED UPON THE UTILITY COMPANIES RESPONSE TO THIS REQUEST. SERIAL NUMBER(S): 20211243258-000

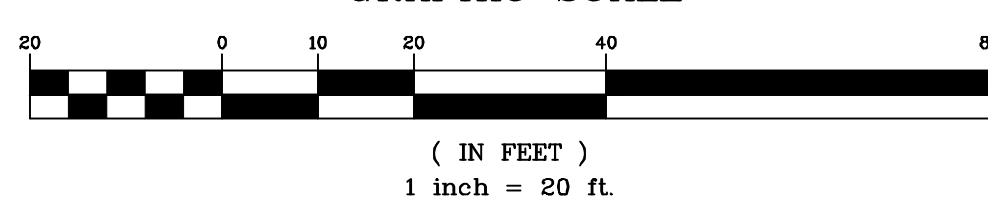
UTILITY COMPANY	PHONE NUMBER
AQUA PA SOUTHEASTERN	610-649-0400
COMCAST CABLE	800-266-2778
PECO ENERGY	215-956-3270
UPPER PROVIDENCE SEWER AUTHORITY	610-565-5376
UPPER PROVIDENCE TOWNSHIP	610-565-6044
VERIZON EASTERN	800-922-0204

76 ROSE TREE ROAD
APN #35-00-18-505
LANDS N/F
SMALL CHANGE INVESTMENTS LP
DB 4021, PG 1722
R-1 DISTRICT

78 ROSE TREE ROAD
APN #35-00-18-504
LANDS N/F
RICHARD & PRISCILLA HARTZELL
DB 1154, PG 2208
R-1 DISTRICT

1451 PROVIDENCE ROAD
APN #35-00-18-400
LANDS N/F
SUNOCO LLC
DB 5592, PG 2388

GRAPHIC SCALE



CLIENT DATA



Cornerstone
Consulting Engineers & Architectural, Inc.

213 West Main Street, Lansdale, PA 19446
Phone: 215-562-2600, Fax: 215-562-8400
WWW.CORNERSTONEINC.COM

Pocono Region
570-839-1770

Lehigh Valley Region
610-820-8200

Philadelphia Region
215-562-2600

NO.	BY	DESCRIPTION	DATE
1	DN	REVISED PER TOWNSHIP COMMENTS	9/2/2021

PENNSYLVANIA
ONE CALL SYSTEM, INC.

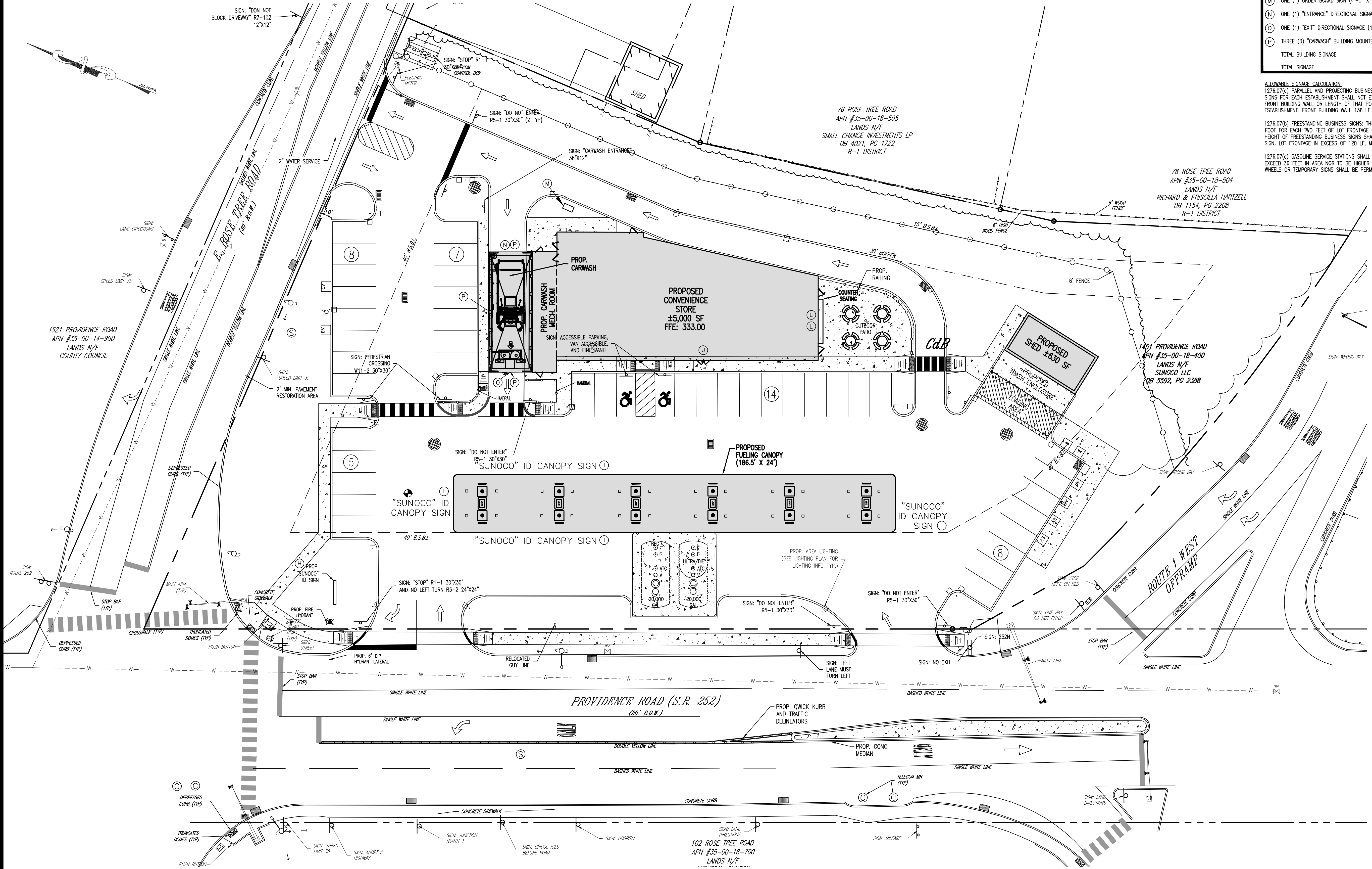
925 Irvine Run Road
West Mifflin, Pennsylvania
15122-1078

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PA LAW REQUIRES THREE WORKING DAYS NOTICE TO UTILITIES BEFORE YOU EXCAVATE.
DEBIT REASTERN PENN. 05/15/21

J.B. ANDERSON
PROFESSIONAL ENGINEER
THE PENNSYLVANIA LICENSE NO. PE015438
PENNSYLVANIA LICENSE NO. PE015556
NEW JERSEY LICENSE NO. 3615
NEW YORK LICENSE NO. 24604343400
DELETED LICENSE NO. 041504725
FLORIDA LICENSE NO. 75184
NEW YORK LICENSE NO. 95567-1

PROJECT LOCATION			
LAND DEVELOPMENT DOCUMENTS "SUNOCO 1451 PROVIDENCE ROAD"			
PROPOSED COMMERCIAL RE-DEVELOPMENT 1451 PROVIDENCE ROAD MEDIA, PENNSYLVANIA, 19063 DELAWARE COUNTY			
PREPARED FOR SIRHANDI ENTERPRISES, INC.			
TITLE			
EXISTING CONDITIONS & DEMOLITION PLAN			
PROJ. #	19-0425	DATE	05-21-2021
CAD ID.	19-0425	DRN BY	GTM
SCALE	AS NOTED	CHK BY	JBA
SHEET 4 OF 27			
REVISION 1			



PROPOSED SIGNAGE TABLE		
FREESTANDING SIGNAGE:		
ONE (1) "SUNOCO SIGN" (3'-8" X 8'-2") 29.4 SF EA. SD.	29.4 SF	
ONE (1) "GAS SALES INSERT" (4'-3" X 8'-2") 34.7 SF EA. SD.	34.7 SF	
ONE (1) "A-PLUS" (1'-11" X 8'-2") 15.9 SF EA. SD.	15.9 SF	
ONE (1) "CAR WASH" (1'-11" X 8'-2") 15.9 SF EA. SD.	15.9 SF	
TOTAL FREESTANDING SIGNAGE	96.0 SF	
CANOPY SIGNAGE:		
FOUR (4) "SUNOCO" ID CANOPY SIGN (12'-0" X 2'-0") 24.0 SF EA.	96.0 SF	
TOTAL CANOPY SIGNAGE	96.0 SF	
BUILDING SIGNAGE:		
ONE (1) "A-PLUS" SIGN FRONT OF BUILDING (5'-1" X 11'-3") 57.2 SF	57.2 SF	
ONE (1) POS BUILDING MOUNTED SIGN (4'-6" X 5'-4") 24.0 SF	24.0 SF	
TWO (2) POS BUILDING MOUNTED SIGN (4'-0" X 2'-0") 8.0 SF	16.0 SF	
ONE (1) ORDER BOARD SIGN (4'-3" X 2'-2") 9.2 SF	9.2 SF	
ONE (1) "ENTRANCE" DIRECTIONAL SIGNAGE (1'-0" X 3'-0") 3.0 SF	3.0 SF	
ONE (1) "EXIT" DIRECTIONAL SIGNAGE (1'-0" X 3'-0") 3.0 SF	3.0 SF	
THREE (3) "CARWASH" BUILDING MOUNTED SIGN (1'-5" X 12'-0") 17.0 SF	51.0 SF	
TOTAL BUILDING SIGNAGE	163.4 SF	
TOTAL SIGNAGE	355.4 SF	

ALLOWABLE SIGNAGE CALCULATION:
1276.07(a) PARALLEL AND PROJECTING BUSINESS SIGNS: THE TOTAL AREA OF ALL PARALLEL AND PROJECTING SIGNS FOR EACH ESTABLISHMENT SHALL NOT EXCEED FOUR SQUARE FEET FOR EACH FOOT OF LENGTH OF THE FRONT BUILDING WALL OR LENGTH OF THAT PORTION OF SUCH WALL WHICH IS DEVOTED TO SUCH ESTABLISHMENT. FRONT BUILDING WALL 136 LF * 4 SF = 544 SF

1276.07(b) FREESTANDING BUSINESS SIGNS: THE AREA OF ANY SUCH SIGN SHALL NOT EXCEED ONE SQUARE FOOT FOR EACH TWO FEET OF LOT FRONTAGE OR 60 SQUARE FEET, WHICHEVER IS SMALLER. THE MAXIMUM HEIGHT OF FREESTANDING BUSINESS SIGNS SHALL BE 16 FEET FROM THE CURB LEVEL TO THE TOP OF THE SIGN. LOT FRONTAGE IN EXCESS OF 120 LF, MAX SIGN AREA IS 60 SF.

1276.07(c) GASOLINE SERVICE STATIONS SHALL BE PERMITTED ONE FREESTANDING BRAND-NAME SIGN NOT TO EXCEED 36 FEET IN AREA NOR TO BE HIGHER THAN 27 FEET ABOVE THE GROUND. NO FLAGS, PENNANTS, PIN WHEELS OR TEMPORARY SIGNS SHALL BE PERMITTED.

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1	DN	REVISED PER TOWNSHIP COMMENTS	9/2/2021

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USING PLANT OR TOWNSHIP

J.B. ANDERSON
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. PE018438
PENNSYLVANIA LICENSE NO. PE105536
MAINE AND LICENSE NO. 29117
NEW JERSEY LICENSE NO. 24681853480
VIRGINIA LICENSE NO. 6102184755
FLORIDA LICENSE NO. 73184
NEW YORK LICENSE NO. 13111

PROJECT LOCATION

LAND DEVELOPMENT DOCUMENTS "SUNOCO 1451 PROVIDENCE ROAD"

PROPOSED COMMERCIAL RE-DEVELOPMENT
1451 PROVIDENCE ROAD
MEDIA, PENNSYLVANIA, 19063
DELAWARE COUNTY

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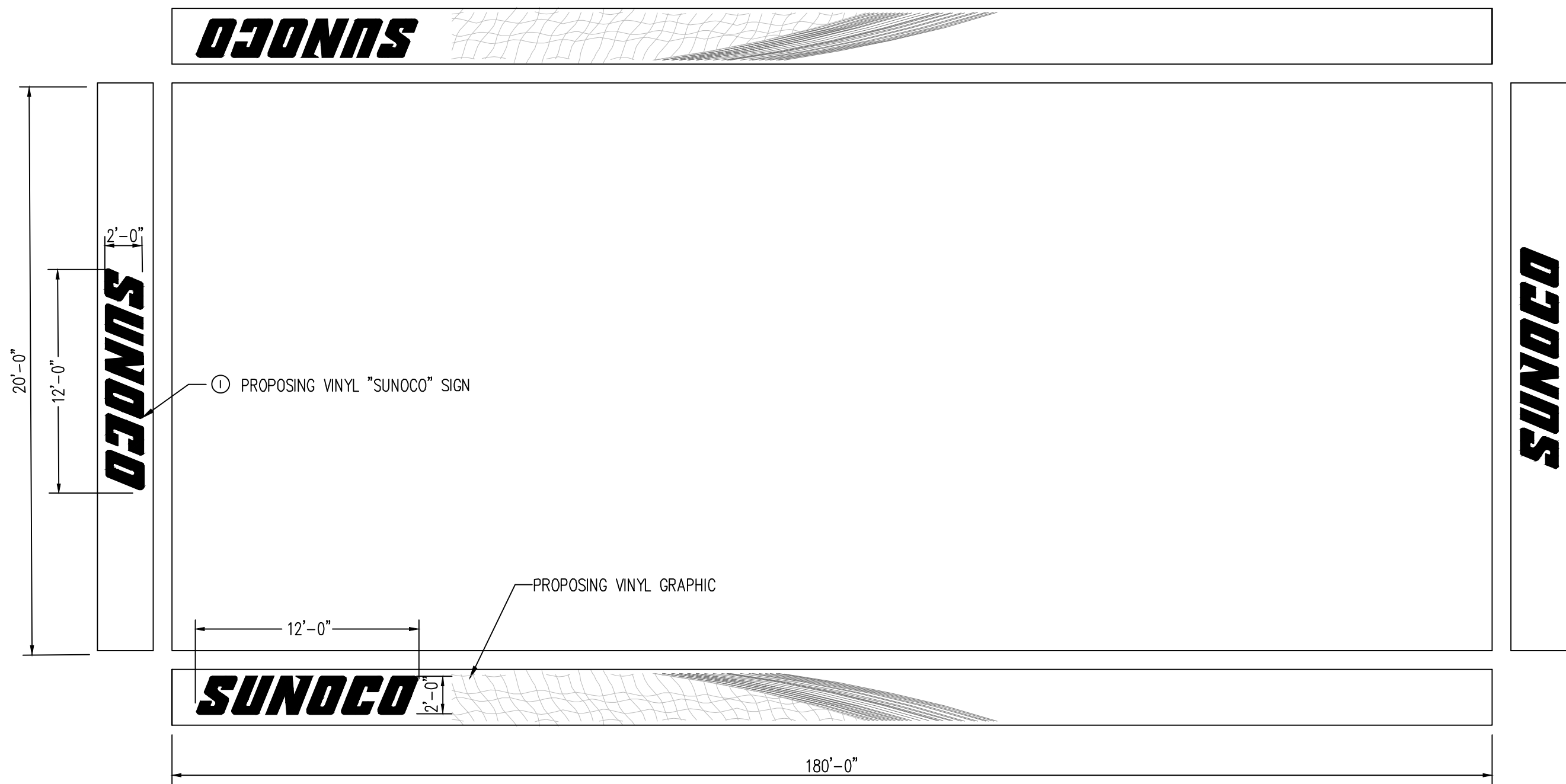
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SIGNAGE PLAN

PROJ. #	19-0425	DATE	05-21-2021
CAD ID:	19-0425	DRN BY	GTM
SCALE	AS NOTED	CHK BY	JBA

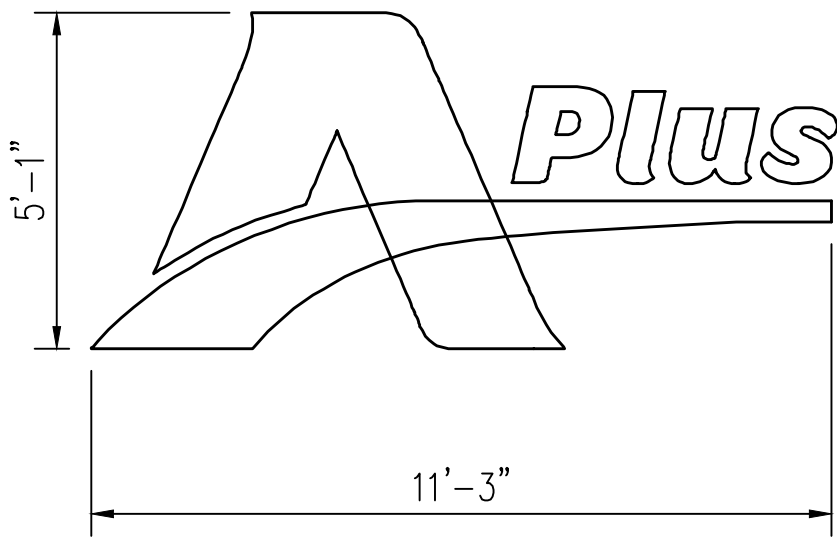
SHEET 5 OF 27

REVISION 1



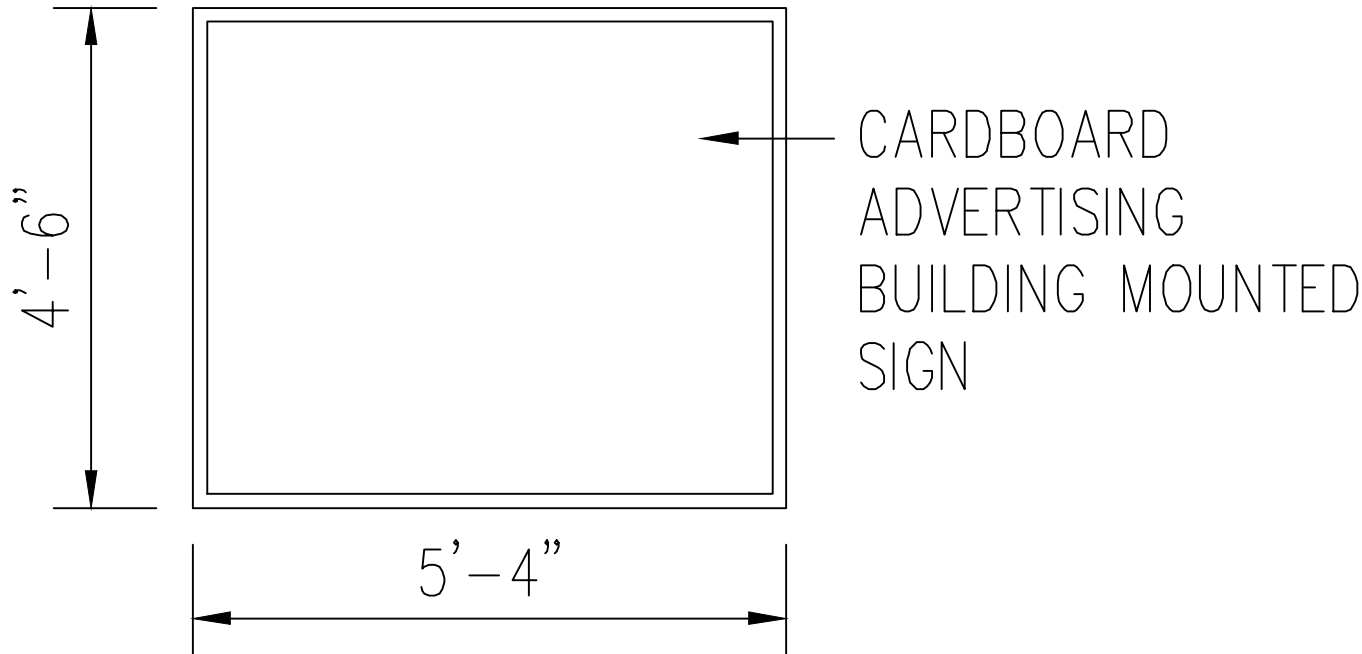
PROPOSING CANOPY SIGNAGE

N.T.S.
SIGN C & D: THE "SUNOCO" AND "NASCAR" CANOPY SIGNAGE IS INTERNALLY ILLUMINATED AND DOES NOT CHANGE MESSAGES.



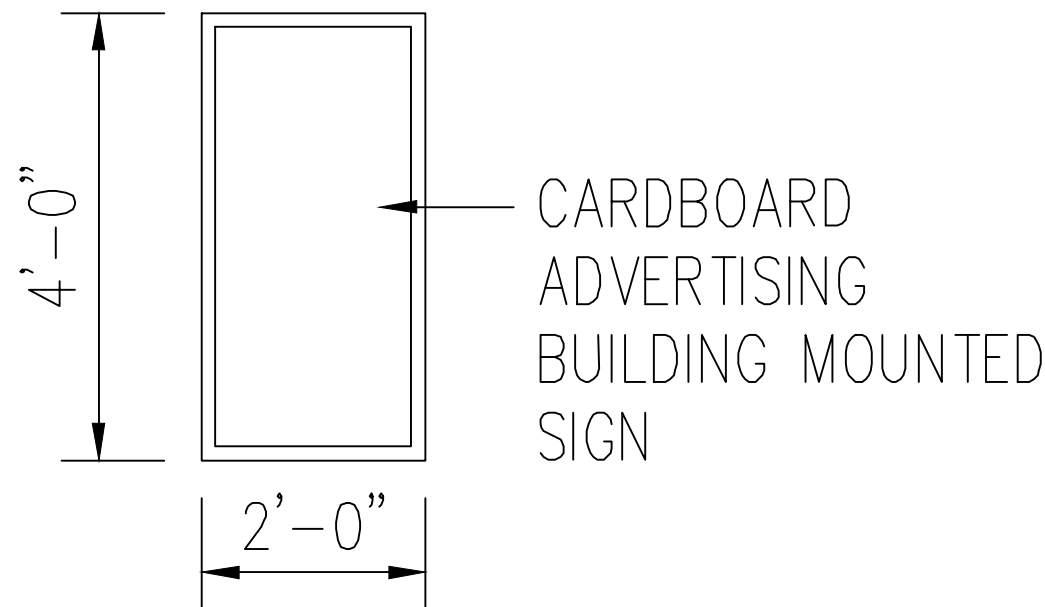
PROPOSED A-PLUS ① BUILDING SIGN

N.T.S.
SIGN J: THE SIGN IS INTERNALLY ILLUMINATED AND DOES NOT CHANGE MESSAGES.



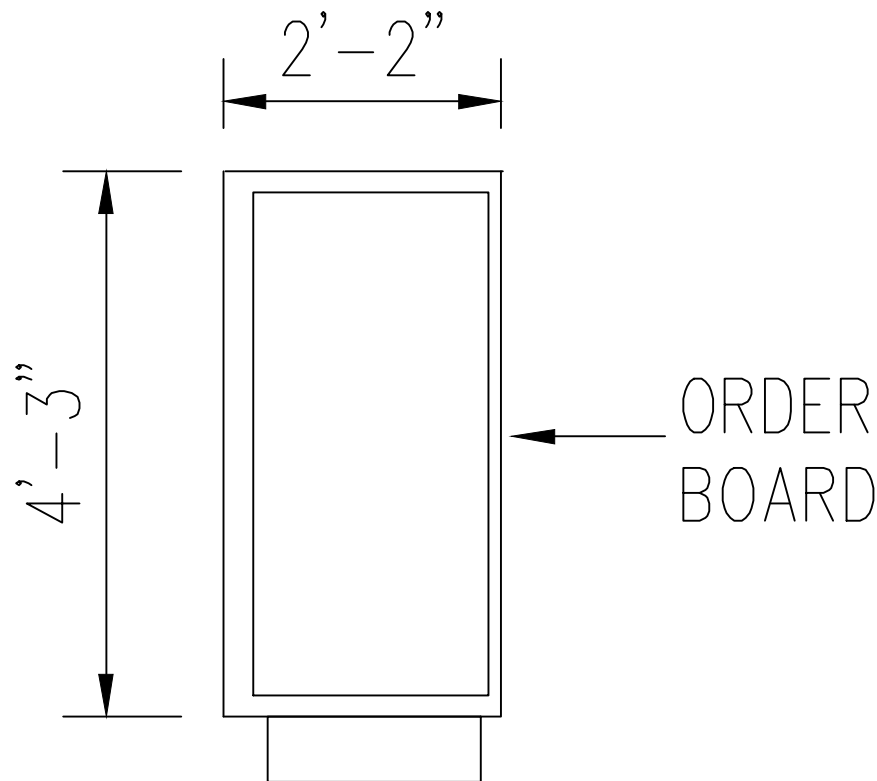
PROPOSED BUILDING MOUNTED POS SIGN ②

N.T.S.
SIGN K: THE SIGN IS INTERNALLY ILLUMINATED AND THE CARDBOARD MESSAGE CHANGES PERIODICALLY.



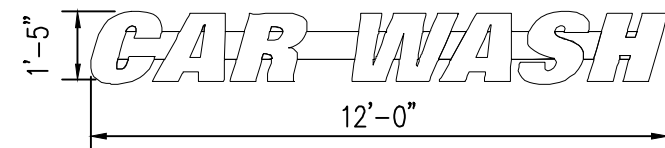
PROPOSED BUILDING MOUNTED POS SIGN ③

N.T.S.
SIGN L: THE SIGN IS INTERNALLY ILLUMINATED AND THE CARDBOARD MESSAGE CHANGES PERIODICALLY.



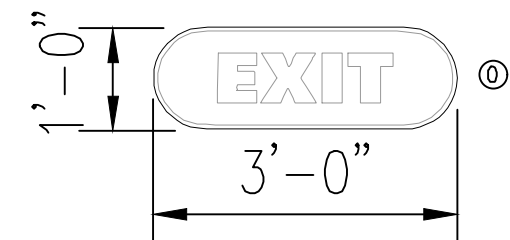
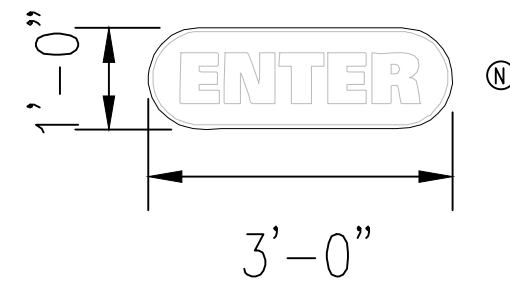
PROPOSED ORDER BOARD SIGN ④

N.T.S.
SIGN M: THE SIGN IS INTERNALLY ILLUMINATED AND THE CARDBOARD MESSAGE CHANGES PERIODICALLY.



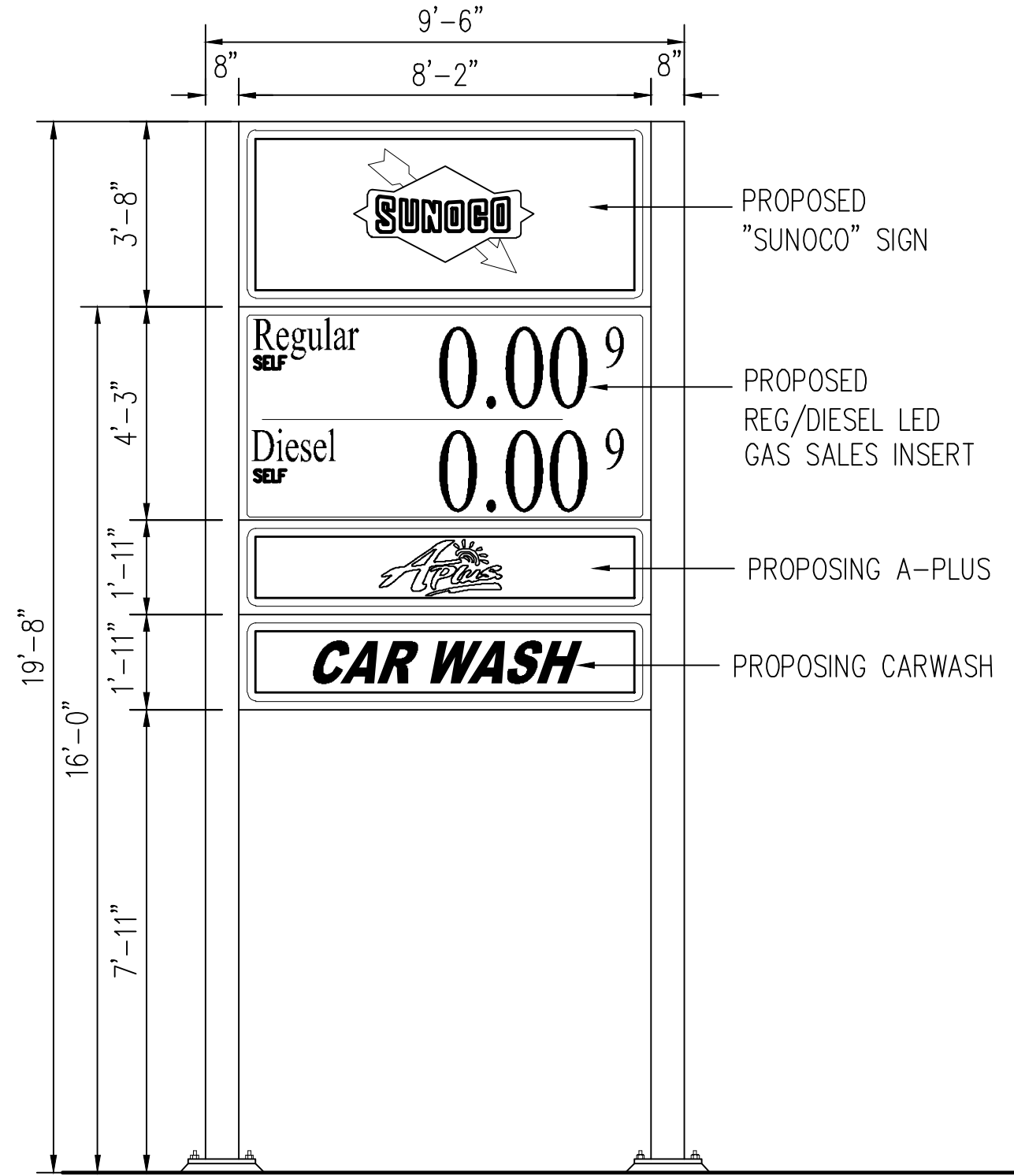
PROPOSING MOUNTED SIGN ⑤

N.T.S.



PROPOSING DIRECTIONAL SIGN

N.T.S.
SIGN N & O: THE SIGN IS INTERNALLY ILLUMINATED AND DOES NOT CHANGE MESSAGES.



PROPOSING FREESTANDING SIGN ⑥

N.T.S.
SIGN H: THE 2 PRODUCT LED INSERT IS INTERNALLY ILLUMINATED WITH A CHANGING PRICE MESSAGE. THE REMAINING INSERTS ("SUNOCO" AND "A-PLUS") ARE INTERNALLY ILLUMINATED AND WILL NOT CHANGE MESSAGES.

PROPOSED SIGNAGE TABLE			
FREESTANDING SIGNAGE:			
ONE (1) "SUNOCO SIGN" (3'-8" X 8'-2")	29.4 SF EA. SD.	29.4 SF	
ONE (1) "GAS SALES INSERT" (4'-3" X 8'-2")	34.7 SF EA. SD.	34.7 SF	
ONE (1) "A-PLUS" (1'-11" X 8'-2")	15.9 SF EA. SD.	15.9 SF	
ONE (1) "CARWASH" (1'-11" X 8'-2")	15.9 SF EA. SD.	15.9 SF	
TOTAL FREESTANDING SIGNAGE		96.0 SF	
CANOPY SIGNAGE			
FOUR (4) "SUNOCO" ID CANOPY SIGN (12'-0" X 2'-0")	24.0 SF EA.	96.0 SF	
TOTAL CANOPY SIGNAGE		96.0 SF	
BUILDING SIGNAGE:			
ONE (1) "A-PLUS" SIGN FRONT OF BUILDING (5'-1" X 11'-3")	57.2 SF	57.2 SF	
ONE (1) POS BUILDING MOUNTED SIGN (4'-6" X 5'-4")	24.0 SF	24.0 SF	
TWO (2) POS BUILDING MOUNTED SIGN (4'-0" X 2'-0")	8.0 SF	16.0 SF	
ONE (1) ORDER BOARD SIGN (4'-3" X 2'-2")	9.2 SF	9.2 SF	
ONE (1) "ENTRANCE" DIRECTIONAL SIGNAGE (1'-0" X 3'-0")	3.0 SF	3.0 SF	
ONE (1) "EXIT" DIRECTIONAL SIGNAGE (1'-0" X 3'-0")	3.0 SF	3.0 SF	
THREE (3) "CARWASH" BUILDING MOUNTED SIGN (1'-5" X 12'-0")	17.0 SF	51.0 SF	
TOTAL BUILDING SIGNAGE		163.4 SF	
TOTAL SIGNAGE		355.4 SF	

CLIENT DATA

SUNOCO

A-Plus

Cornerstone

Consulting Engineers & Architectural, Inc.

213 West Main Street · Lansdale, PA 19446

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WWW.CORNERSTONEINC.COM

Philadelphia Region

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Pocono Region

570-859-1770

REVISIONS

NO	BY	DESCRIPTION	DATE
1	DN	REVISED PER TOWNSHIP COMMENTS	9/2/2021

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J.B. ANDERSON

PROFESSIONAL ENGINEER

PENNSYLVANIA LICENSE NO. PE17458

NEW JERSEY LICENSE NO. 34C04530400

NEW YORK LICENSE NO. 040204575

FLORIDA LICENSE NO. 73184

NEW YORK LICENSE NO. 9056753

PROJECT LOCATION

LAND DEVELOPMENT DOCUMENTS "SUNOCO 1451 PROVIDENCE ROAD"

PROPOSED COMMERCIAL RE-DEVELOPMENT

1451 PROVIDENCE ROAD

MEDIA, PENNSYLVANIA, 19063

DELAWARE COUNTY

PREPARED FOR

SIRHANDI ENTERPRISES, INC.

TITLE

SIGNAGE PLAN DETAILS

PROJ. #	19-0425	DATE	05-21-2021
CAD ID.	19-0425	DRN BY	GTM
SCALE	AS NOTED	CHK BY	JBA

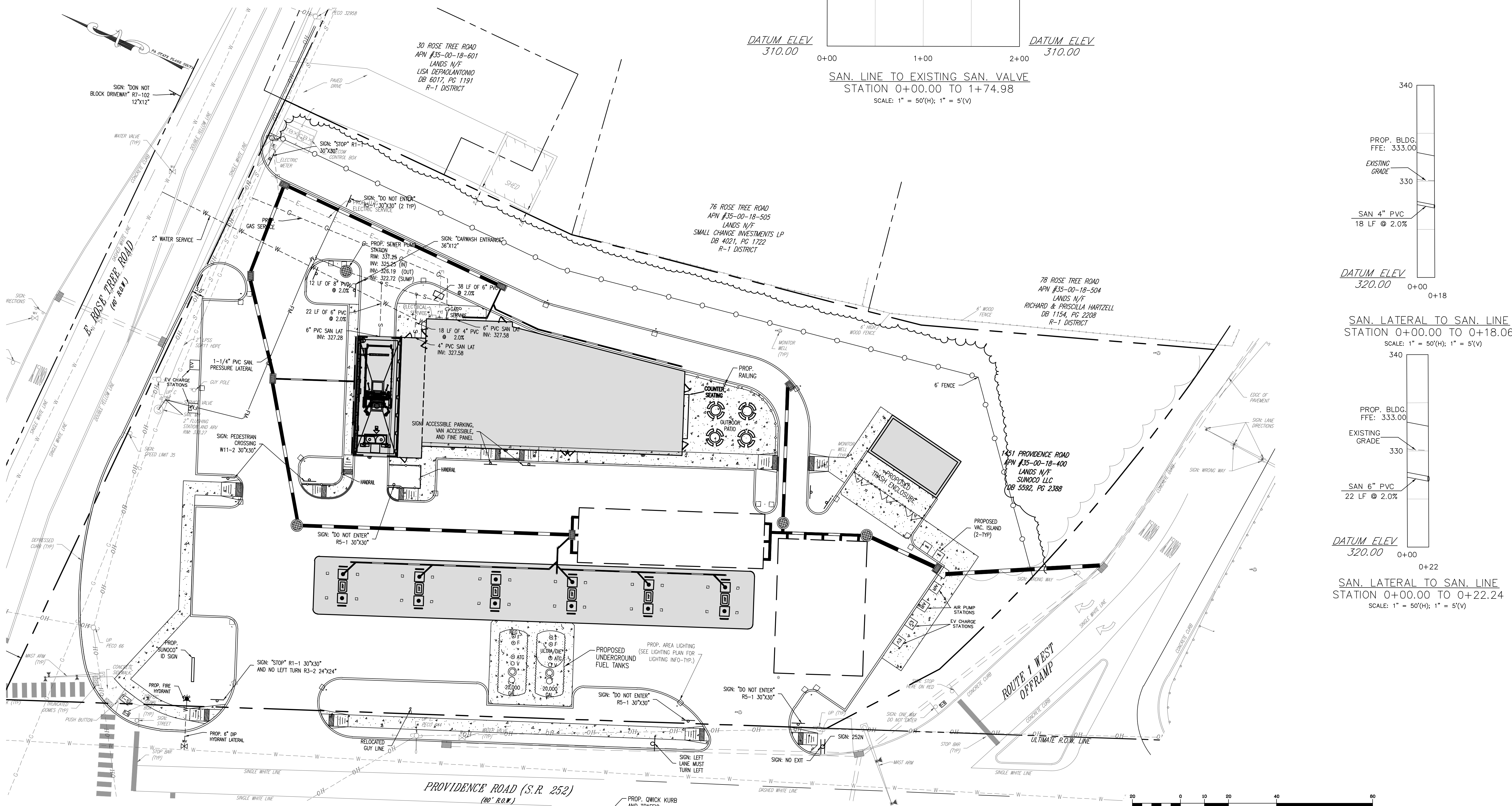
SHEET 7 OF 27

REVISION 1

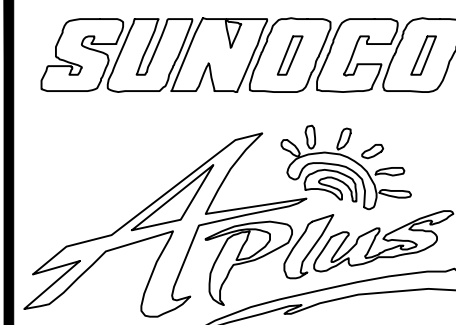
LEGEND & ABBREVIATIONS

---	PROPERTY BOUNDARY	---	EXISTING CURB	---	PROP. SEWER LATERAL
---	ADJACENT BOUNDARY	---	EXISTING DEEPENED CURB (DC)	---	PROP. WATER LATERAL
---	EXISTING CONTOUR	---	EXISTING SIGN	---	PROPOSED SANITARY
x 95	EXISTING SPOT ELEVATION	---	EXISTING UTILITY POLE (UP)	---	SEWER LATERAL W/ FFI
OH	EXISTING OVERHEAD WIRE	---	SEWER MANHOLE	---	PROPOSED ELECTRIC SERVICE
G	APPROXIMATE GAS LINE	---	COMMUNICATION MANHOLE	---	PROP. GAS SERVICE
W	APPROXIMATE WATER LINE	---	ELECTRIC MANHOLE	---	
C	APPROXIMATE CABLE LINE	---	WATER MANHOLE	---	
E	APPROXIMATE ELECTRIC LINE	---	STORM INLET	---	
---	EXISTING SEWER MAIN	---	UTILITY VALVE	---	
		---	HYDRANT	---	
		---	TREE	---	
		---		---	PROP. BUILDING AREA
		---		---	PROP. CONTOUR LINE
		---		---	PROP. STREET TREE
		---		---	PROP. YARD INLET

GRAPHIC SCALE



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PENNSYLVANIA LICENSE NO. PE014538
NEW JERSEY LICENSE NO. 30115
DELETED LICENSE NO. 04014538
FLORIDA LICENSE NO. 75184
NEW YORK LICENSE NO. 095667-1

PROJECT LOCATION

LAND DEVELOPMENT DOCUMENTS
"SUNOCO 1451 PROVIDENCE ROAD"

PROPOSED COMMERCIAL
RE-DEVELOPMENT
1451 PROVIDENCE ROAD
MEDIA, PENNSYLVANIA, 19063
DELAWARE COUNTY

PREPARED FOR
SIRHANDI ENTERPRISES, INC.

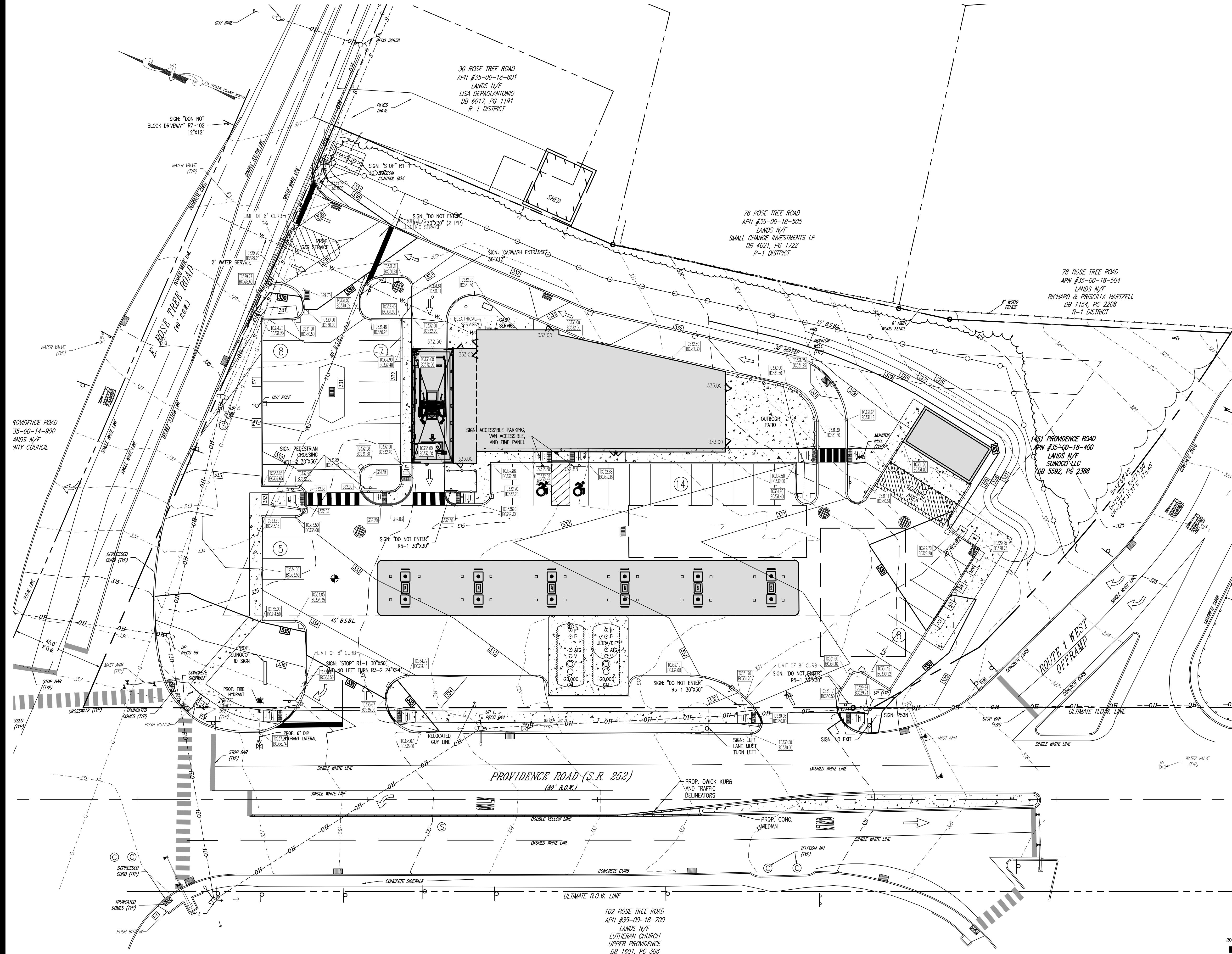
TITLE

UTILITY PLAN

PROJ. #	19-0425	DATE	05-21-2021
CAD ID.	19-0425	DRN BY	GTM
SCALE	AS NOTED	CHK BY	JBA

SHEET 8 OF 27

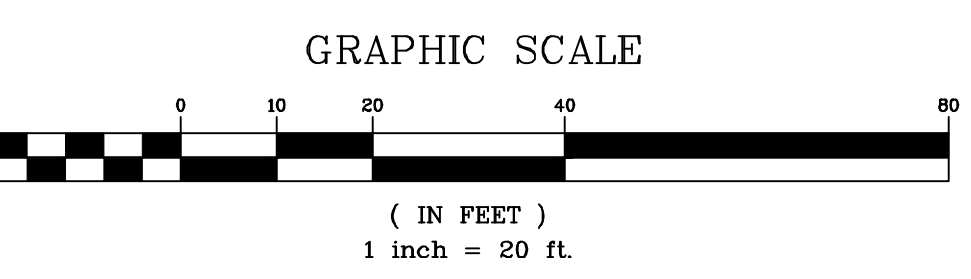
REVISION 1



- ### GRADING AND DRAINAGE NOTES
- SITE GRADING SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE SOILS REPORT REFERENCED IN THIS PLAN SET. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND REPLACING ALL SOFT, YIELDING OR UNSUITABLE MATERIALS AND REPLACING WITH SUITABLE MATERIALS AS SPECIFIED IN THE SOILS REPORT. ALL EXCAVATED OR FILLED AREAS SHALL BE COMPACTED TO 95% OF MODIFIED MOISTURE CONTENT AT TIME OF U.S.T.M. TEST D-1557 PROCTOR MAXIMUM DENSITY PER PLACEMENT SHALL NOT EXCEED 2% ABOVE NOR 3% BELOW OPTIMUM. CONTRACTOR SHALL SUBMIT A COMPACTION REPORT PREPARED BY A QUALIFIED SOILS ENGINEER, REGISTERED WITHIN THE STATE WHERE THE WORK IS PERFORMED, VERIFYING THAT ALL FILLED AREAS AND SUBGRADE AREAS WITHIN THE BUILDING PAD AREA AND AREAS TO BE PAVED HAVE BEEN COMPACTED IN ACCORDANCE WITH THESE PLANS AND SPECS AND THE RECOMMENDATIONS SET FORTH IN THE SOILS REPORT.
 - CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF EXISTING TOPOGRAPHIC INFORMATION AND UTILITY INVERT ELEVATIONS PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION. CONTRACTOR TO ENSURE 1% MIN. SLOPE AGAINST ALL ISLANDS, GUTTERS, CURBS AND 2.0% ON ALL CONCRETE SURFACES, AND 2.0% MIN. ON ASPHALT, EXCEPT AS NOTED ON PLANS. ANY DISCREPANCIES THAT MAY AFFECT THE PUBLIC SAFETY OR PROJECT COST, MUST BE IDENTIFIED TO THE ENGINEER IN WRITING IMMEDIATELY. PROCEEDING WITH CONSTRUCTION WITH DESIGN DISCREPANCIES IS DONE SO AT THE CONTRACTOR'S OWN RISK.
 - SUBBASE MATERIAL FOR SIDEWALKS, CURB, OR ASPHALT SHALL BE FREE OF ORGANICS AND OTHER UNSUITABLE MATERIALS. SHOULD SUBBASE BE DETERMINED UNSUITABLE, SUBBASE IS TO BE REMOVED AND FILL MATERIAL COMPACTED TO 95% OPTIMUM DENSITY (AS DETERMINED BY MODIFIED PROCTOR METHOD).
 - IN CASE OF DISCREPANCIES BETWEEN PLANS, THE SITE PLAN WILL SUPERCEDE IN ALL CASES. NOTIFY ENGINEER OF RECORD OF ANY CONFLICT.
 - LOCATION OF ALL EXISTING AND PROPOSED SERVICES ARE APPROXIMATE AND MUST BE CONFIRMED INDEPENDENTLY WITH LOCAL UTILITY COMPANIES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION OR EXCAVATION, SANITARY SEWER AND ALL OTHER UTILITY SERVICE CONNECTION POINTS SHALL BE CONFIRMED INDEPENDENTLY BY THE CONTRACTOR IN FIELD PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. ALL DISCREPANCIES SHALL BE REPORTED IMMEDIATELY IN WRITING TO THE ENGINEER. CONSTRUCTION SHALL COMMENCE BEGINNING AT THE LOWEST INVERT (POINT OF CONNECTION) AND PROGRESS UP GRADIENT. INTERFACE POINTS (CROSSINGS) WITH EXISTING UNDERGROUND UTILITIES SHALL BE FIELD VERIFIED BY TEST PIT PRIOR TO COMMENCEMENT OF CONSTRUCTION.
 - IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY UTILITY "ONE-CALL" NUMBER 72 HOURS PRIOR TO ANY EXCAVATION ON THIS SITE. CONTRACTOR SHALL ALSO NOTIFY LOCAL WATER AND SEWER DEPARTMENTS TO MARK OUT THEIR UTILITIES.
 - REFER TO ARCHITECTURAL DRAWINGS FOR EXACT BUILDING UTILITY CONNECTION LOCATION. WHERE CONFLICTS EXIST WITH THESE SITE PLANS, ENGINEER IS TO BE NOTIFIED PRIOR TO CONSTRUCTION TO RESOLVE SAME. SERVICE SIZES TO BE DETERMINED BY ARCHITECT.
 - ALL PAVEMENT SLOPES WITHIN HANDICAP PARKING AREAS SHALL NOT EXCEED 2% IN ANY DIRECTION AS WELL AS ON ALL SIDEWALK CROSS SLOPES.
 - ALL EXISTING CAPS, LIDS, RIMS, ETC. TO REMAIN SHALL BE RESET FLUSH WITH PROPOSED GRADE.
 - SITE IS LOCATED OUTSIDE OF THE 100 YR. AND 500 YR. FLOOD ZONE.
 - THE CONTRACTOR SHALL ADHERE TO ALL TERMS AND CONDITIONS AS OUTLINED IN THE GENERAL NPDES PERMIT FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES.
 - THE PROPOSED FINISHED GRADING SHOWN ON THIS PLAN HAS BEEN USED TO DESIGN THE STORMWATER MANAGEMENT FACILITIES. THE CONTRACTOR SHALL COMPLY WITH THE GENERAL GRADING SCHEME INDICATED UNLESS OTHERWISE APPROVED BY THE TOWNSHIP ENGINEER.
 - INLETS SHALL BE PENNDOT TYPE M, OR TYPE C, INLETS EXCEEDING 5 FT. IN DEPTH SHALL BE EQUIPPED WITH STEPS IN ACCORDANCE WITH PENNDOT PUB. 408.
 - CONTRACTOR SHALL NOT ENCRUMPH ONTO ADJOINING PROPERTIES UNLESS A TEMPORARY CONSTRUCTION EASEMENT HAS BEEN GRANTED BY THE ADJOINING PROPERTY OWNER. CONTRACTOR SHALL HAVE PROPERTY LINES CLEARLY MARKED AND SHALL CONSTRUCT SUCH BARRIERS WHICH ARE NECESSARY TO PREVENT ENCROACHMENT ONTO ADJOINING PROPERTIES.
 - NO EXCAVATION OR FILL ON LOTS SHALL BE MADE WITH A FACE STEEPER THAN THREE (3) HORIZONTAL TO ONE (1) VERTICAL (3:1). SPECIAL SLOPE REQUIREMENTS APPLY TO THE DETENTION POND. SEE APPLICABLE DETAILS.
 - ALL CONTRACTORS WORKING ON THIS PROJECT SHALL BE RESPONSIBLE FOR INSURING THAT ALL CONSTRUCTION ACTIVITIES RELATED TO THIS PROJECT ARE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE OSHA (OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION) STANDARDS.
 - THE PROPOSED CONCRETE CURB REVEAL IS 8" (INCH).
 - RAINWATER CONDUCTORS (RWC) SHALL BE HIGH DENSITY POLYETHYLENE (HDPE) FOR PIPING BEYOND PLUMBING CONTRACTOR'S LIMIT OF WORK.
 - ALL STORMPIPE SHALL BE SMOOTH BORE HIGH DENSITY POLYETHYLENE PIPE UNLESS OTHERWISE SHOWN. MINIMUM PIPE SIZE SHALL BE 18" EXCEPT FOR ROOF LEADERS.
 - CLEANOUTS AND CURB BOXES WITHIN PAVED AREAS MUST HAVE TRAFFIC LOADING FRAMES AND COVERS MEETING HS-20 LIVE LOAD.
 - CONTRACTOR SHALL NOT CONNECT PIPES INTO THE CORNER OF INLET BOXES.

LEGEND

	EXISTING CONTOURS
	EXISTING TREES
	PROPOSED CONTOURS
	EXISTING SPOT ELEVATION
	EXIST. TOP OF CURB ELEVATION
	EXIST. GUTTER ELEVATION
	EXISTING WATER MAIN
	EXISTING ELECTRICAL LINE
	EXISTING SANITARY LINE
	EXISTING GAS LINE
	EXISTING UTILITY POLE
	PROPOSED STORM SEWER
	PROPOSED SANITARY SEWER
	PROPOSED WATER LINE
	PROPOSED ELECTRICAL LINE
	PROPOSED TELEPHONE LINE
	PROPOSED SANITARY SEWER CLEANOUT
	EXISTING TREE TO REMAIN



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REVISIONS		DATE
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J.B. ANDERSON

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STATE AND LICENSE NO. 2017
NEW JERSEY LICENSE NO. 24080423040
DISTRICT LICENSE NO. 000104725
DELAWARE LICENSE NO. 75184
NEW YORK LICENSE NO. 095667-1

PROJECT LOCATION

LAND DEVELOPMENT DOCUMENTS
"SUNOCO 1451 PROVIDENCE ROAD"

PROPOSED COMMERCIAL
RE-DEVELOPMENT
1451 PROVIDENCE ROAD
MEDIA, PENNSYLVANIA, 19063
DELAWARE COUNTY

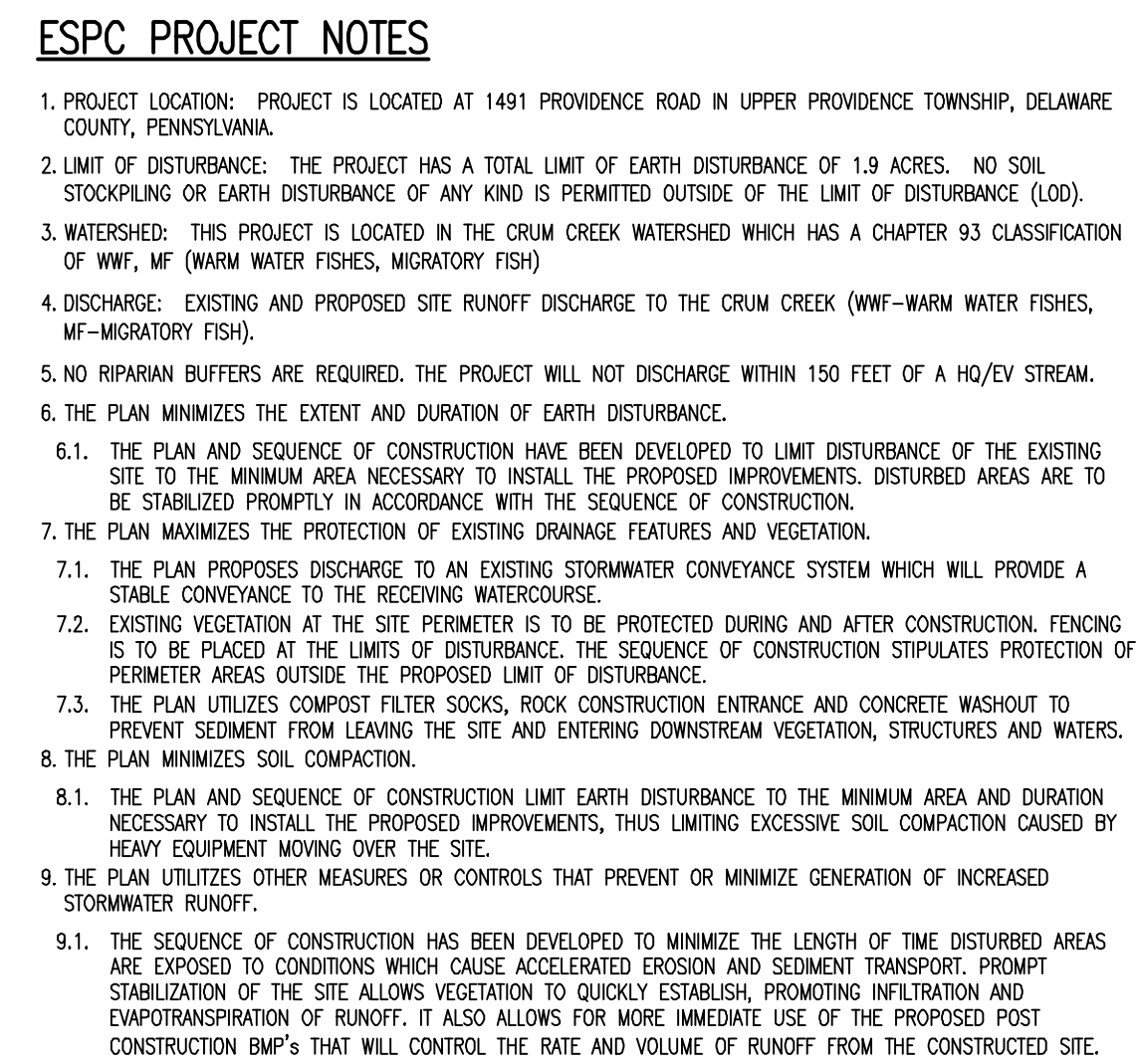
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TITLE	
GRADING PLAN	
PROJ. #	19-0425
CAD. ID.	19-0425
SCALE	AS NOTED
DATE	05-21-2021
DRN BY	GTM
CHK BY	JBA
SHEET 9 OF 27	
REVISION 1	

RESOLUTIONS FOR LIMITATIONS:

- SEASONAL GROUNDWATER = OBTAIN SOIL FROM OTHER AREA OF SITE; SELECT APPROPRIATE SEED MIXTURE; PROVIDE DRAINAGE CHANNELS OR UNDERDRAINS
- LOW DEPTH TO BEDROCK = REVISE DESIGN TO RELOCATE; EXCAVATE RIPPPABLE ROCK OR BLAST
- EROSION = IMMEDIATELY STABILIZE DISTURBED EARTH WITH EROSION CONTROL MATTING, SEED, STONE, OR OTHER MATERIAL CAPABLE OF RESISTING ACCELERATED SURFACE EROSION.

	PROPERTY BOUNDARY		EXISTING CURB		PROP. SEWER LATERAL		PROP. CONCRETE AREA
	ADJOINER BOUNDARY		EXISTING DEPRESSED CURB (DC)		PROP. WATER LATERAL		PAVEMENT
	EXISTING CONTOUR		EXISTING SIGN		PROPOSED SANITARY SEWER LATERAL W/ FAN		DRAINAGE FLOW
	EXISTING SPOT ELEVATION		EXISTING UTILITY POLE (UP)		PROPOSED ELECTRIC SERVICE		TEMPORARY CONSTRUCTION ENTRANCE
	EXISTING OVERHEAD WIRE		SEWER MANHOLE		PROP. GAS SERVICE		CFS
	APPROXIMATE GAS LINE		COMMUNICATION MANHOLE				COMPOST FILTER SOCK
	APPROXIMATE WATER LINE		ELECTRIC MANHOLE				TEMPORARY TOPSOIL STOCKPILE
	APPROXIMATE CABLE LINE		WATER MANHOLE				CONSTRUCTION FENCE
	APPROXIMATE ELECTRIC LINE		STORM INLET				PROPOSED LIMIT OF DISTURBANCE BOUNDARY LINE
	EXISTING SEWER MAIN		UTILITY VALVE				
			HYDRANT				
			TREE				



A. CONTRACTOR SHALL COORDINATE A PRE-CONSTRUCTION MEETING WITH THE DELAWARE COUNTY CONSERVATION DISTRICT (DCD), UPPER PROTECTION TOWNSHIP, PROPERTY OWNER AND/OR DEVELOPMENT REPRESENTATIVE, DESIGN ENGINEER (CCEA), AND CONSTRUCTION REVIEW PROFESSIONALS.

B. CONTRACTOR SHALL CONTACT DCCD SEVEN (7) DAYS PRIOR TO THE START OF WORK.

C. CONTRACTOR SHALL PROVIDE DCCD WITH CO-FEMITTED FORMS PRIOR TO CONSTRUCTION MEETING.

D. THE CONTRACTOR SHALL PREPARE A PPC PLAN AND PROVIDE A COPY TO THE CONSERVATION DISTRICT AND TOWNSHIP PRIOR TO START OF ANY CONSTRUCTION.

E. THE CONTRACTOR IS ADVISED TO FULLY REVIEW THE SEQUENCE OF CONSTRUCTION AND ENSURE PROPER SEQUENCING CAN BE MAINTAINED WITH THE ANTICIPATED CONTRACTOR WORK METHODS. SHOULD THE CONTRACTOR FEEL THAT MODIFICATIONS ARE DESIRED, HE SHALL PROVIDE THE MODIFIED SEQUENCE IN WRITING TO THE CONSERVATION DISTRICT FOR APPROVAL.

F. CESSATION OF ACTIVITY FOR A PERIOD OF FOUR (4) DAYS OR LONGER REQUIRES TEMPORARY STABILIZATION.

1. CONTRACTOR SHALL INSTATE CONSTRUCTION BY FENCING OFF THE DISTURBED AREA PRIOR TO ANY EARTH DISRUPTION.

2. INSTALL THE TREE PROTECTION FENCING AROUND ALL TREES AND WOODED AREAS TO REMAIN, ACCORDING TO THE EROSION AND CONTROL PLAN.

3. INSTALL INLET PROTECTION ON EXISTING INLETS.

4. INSTALL THE COMPOST FILTER SOCK AND THE ROCK CONSTRUCTION ENTRANCE.

5. REMOVE THE EXISTING STRUCTURES, PAVEMENT AND TREES SCHEDULED FOR REMOVAL. CONTINUE DEMOLITION UNTIL COMPLETED.

6. CONTRACTOR SHALL ENSURE STABILIZATION OF ALL EMPS BEFORE ANY MASS GRADING TO THE SITE OCCURS.

7. CONTRACTOR THEN CAN CONTINUE WITH ROUGH GRADING OF SITE. IN AREAS ADJACENT TO THE ROADWAY/RIGHT-OF-WAY OR EXISTING DRIVEWAYS, GRADING SHALL BE LIMITED TO THE EXISTING FINISH GRADE.

8. CONTRACTOR SHALL IMMEDIATELY REPLACE OR REPAIR ANY SOCK THAT IS DISTURBED DURING GRADING. ALL FILTER SOCKS MUST BE IN WORKING CONDITION AT THE END OF EACH WORKING DAY.

9. CONSTRUCTION OF THE STABILIZATION AND OTHER STRUCTURES CAN COMMENCE AND CONTINUE THROUGHOUT COMPLETION OF THE CONCRETE WASHOUT AS INDICATED ON THE PLAN. ALL CONCRETE TRUCKS SHALL BE DIRECTED TO THE WASHOUT PRIOR TO LEAVING THE SITE.

10. CONTRACTOR MAY INITIATE INSTALLATION OF STORM SEWER SYSTEM BY INSTALLING INLET AND MANHOLE STRUCTURES. ALL INLETS SHALL BE PROTECTED BY INLET PROTECTION UNTIL STORM SEWER INSTALLATION. STORMWATER GUTTER SHALL BE DISCONNECTED FROM THE INLETS UNTIL ALL UPSLOPE DRAINAGE AREAS HAVE BEEN STABILIZED SO THAT SEDIMENT-LADEN RUNOFF WILL NOT ENTER THE INLETS.

11. UNDERGROUND STORM CAN BE EXCAVATED AT THIS POINT IN TIME. SEE PCSM PLANS FOR ADDITIONAL INSTALLATION NOTES. THIS IS A CRITICAL DATE TO BE INSPECTED BY A DESIGN PROFESSIONAL. COMPOST SOCK SHALL BE PLACED AT THE PERIMETER OF THE BASINS TO PREVENT SEDIMENTATION OF THE EXCAVATION.

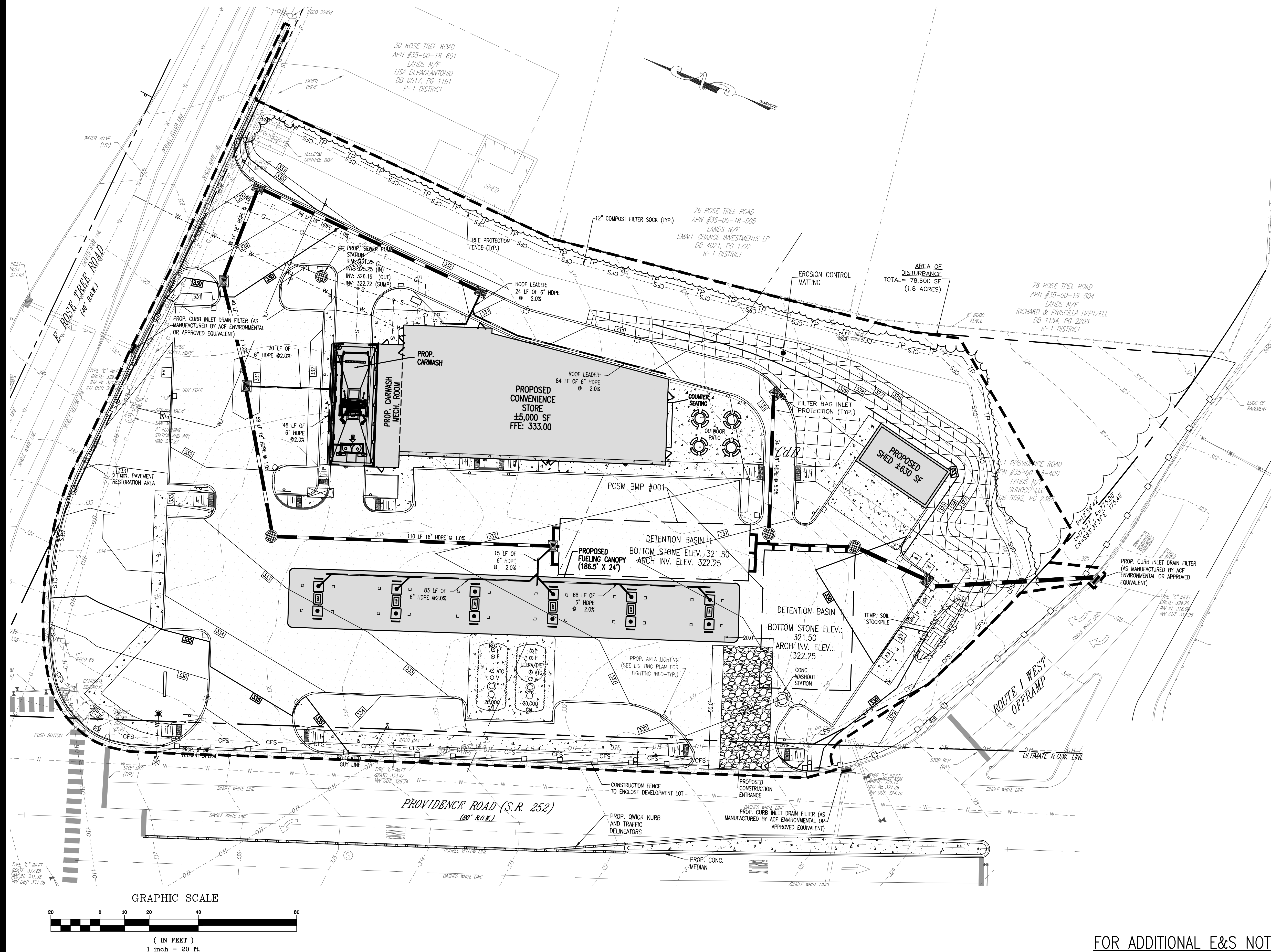
12. INSTALL UNDERGROUND BASIN 1. COVER ALL OPENINGS TO THE BASIN UNTIL PIPES ARE CONNECTED TO EXISTING STRUCTURES. THE EXISTING INLET AND INLETS LEADING TO THE BASINS SHALL BE REVEALED. A MINIMUM OF SIX (6") INCHES TO GRADE TO PREVENT SEDIMENT FROM ENTERING THE STRUCTURES UNTIL ALL CONTRIBUTORY AREAS HAVE BEEN STABILIZED. THIS IS A CRITICAL DATE TO BE INSPECTED BY THE DESIGN PROFESSIONAL. THIS INSPECTION WILL VERIFY HIGH FLOW STORMWATER CAN BE CAPTURED BY THE BASIN. THE BASIN SHALL BE COVERED WITH A MINIMUM OF SIX (6") OF THE SYSTEM. STONE CAN BE INSTALLED, BUT PIPE AND ARCHES MUST BE VISIBLE AT EACH CORNER AND THREE LOCATIONS IN THE MIDDLE OF RUNS FOR INSPECTION AND/OR SURVEY. CONTRACTOR TO SCHEDULE INSPECTION A MINIMUM THREE DAYS IN ADVANCE.

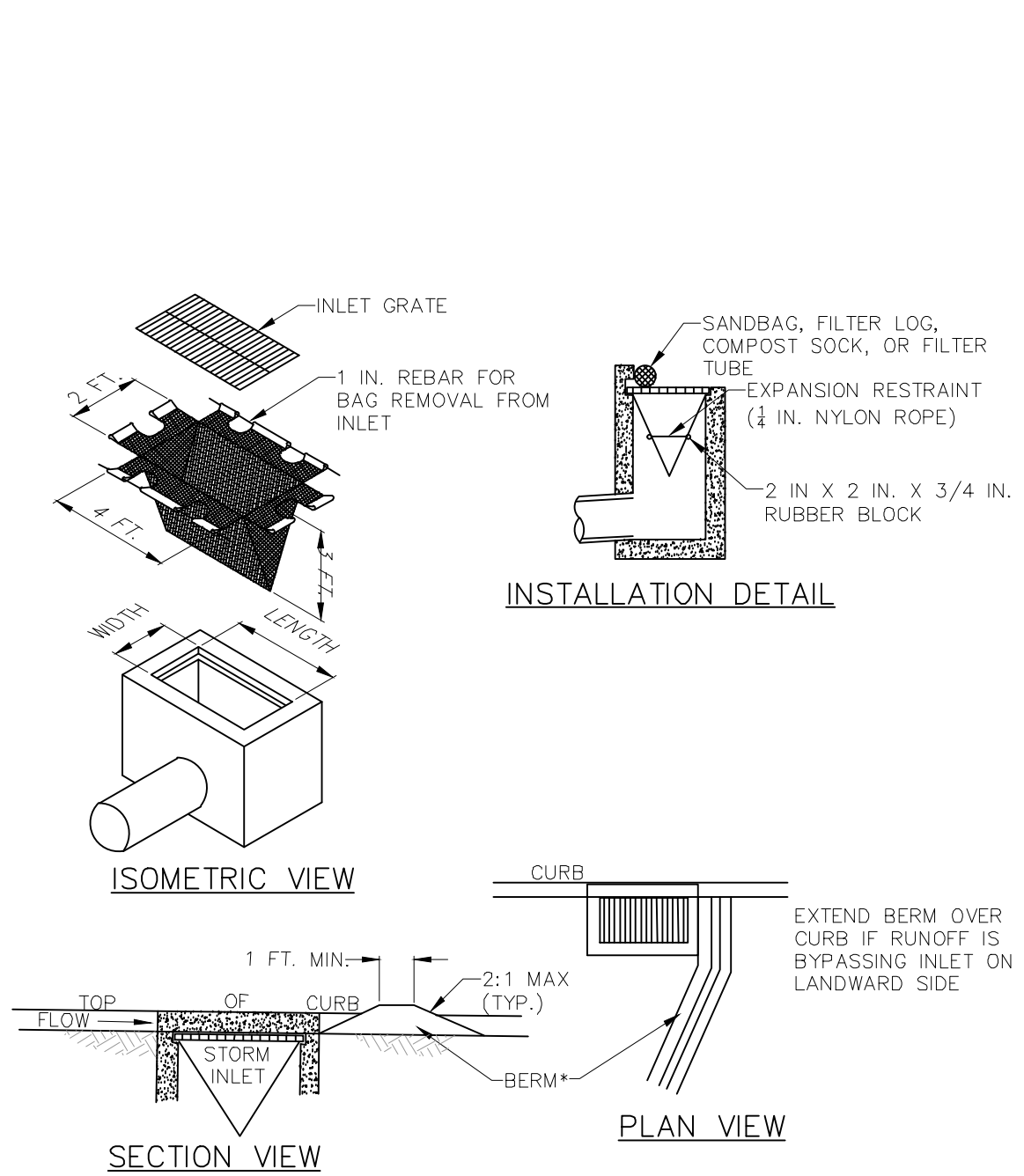
13. CONTRACTOR SHALL COMPLY WITH ALL UTILITY INSTALLATION, INCLUDING STORM SEWER, GAS LATERALS, SANITARY SEWER LATERALS, SANITARY PUMP SYSTEM, ELECTRICAL CONNECTIONS, AND WATER LATERALS. IN AREAS WHERE UTILITIES CROSS THE COMPOST FILTER SOCKS, THE CONTRACTOR IS TO IMMEDIATELY REPLACE SOCKS WHERE UTILITY TRENCING CROSSES THE LINE OF THE SOCK.

14. CONTRACTOR SHALL INSTALL STONE WITHIN PAVEMENT AREAS AS SOON AS SITE GRADING AND TRENCHING ARE COMPLETE. STONE SHALL BE INSTALLED TO PROTECT THE SUBBASE. CONTRACTOR SHALL INSTALL ASPHALT AND WALKWAYS. ANY REMAINING UTILITY LINES CAN ALSO BE INSTALLED AT THIS TIME.

15. CONTRACTOR SHALL COMPLY WITH THE PCSM PLANS. THIS IS A CRITICAL DATE TO BE INSPECTED BY THE DESIGN PROFESSIONAL. CONTRACTOR TO SCHEDULE INSPECTION A MINIMUM OF THREE DAYS IN ADVANCE.

16. INSTALL PROPOSED LANDSCAPING AND SEEDING MATERIAL AND CLEAR ANY UNWANTED DEBRIS AND MISCELLANEOUS MATERIALS WHICH WOULD BE AN OBSTACLE TO THE SEEDING AND SOIL COVER OR IF NOT YET COMPLETE, IT CAN BE REMOVED TO FINAL GRADES. CUT AND FILL SLOPES SHALL BE CAPABLE OF RESISTING FAILURE DUE TO SLUMPING, SLIDING, OR OTHER MOVEMENTS. UNTIL SUCH TIME THAT THE ENTIRE AREA HAS ACHIEVED THIS STANDARD, INTERIM STABILIZATION MEASURES SHALL BE MAINTAINED TO PREVENT EROSION AND SEDIMENT CONTROL FEATURES THAT ARE USED TO TREAT PROJECT RUNOFF MAY NOT BE REMOVED.





NOTES:

MAXIMUM DRAINAGE AREA = 1/2 ACRE.

INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS NOT WITHIN THE PUBLIC RIGHT-OF-WAY. 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. BERMS SHALL NOT BE INSTALLED IN THE PUBLIC RIGHT-OF-WAY.

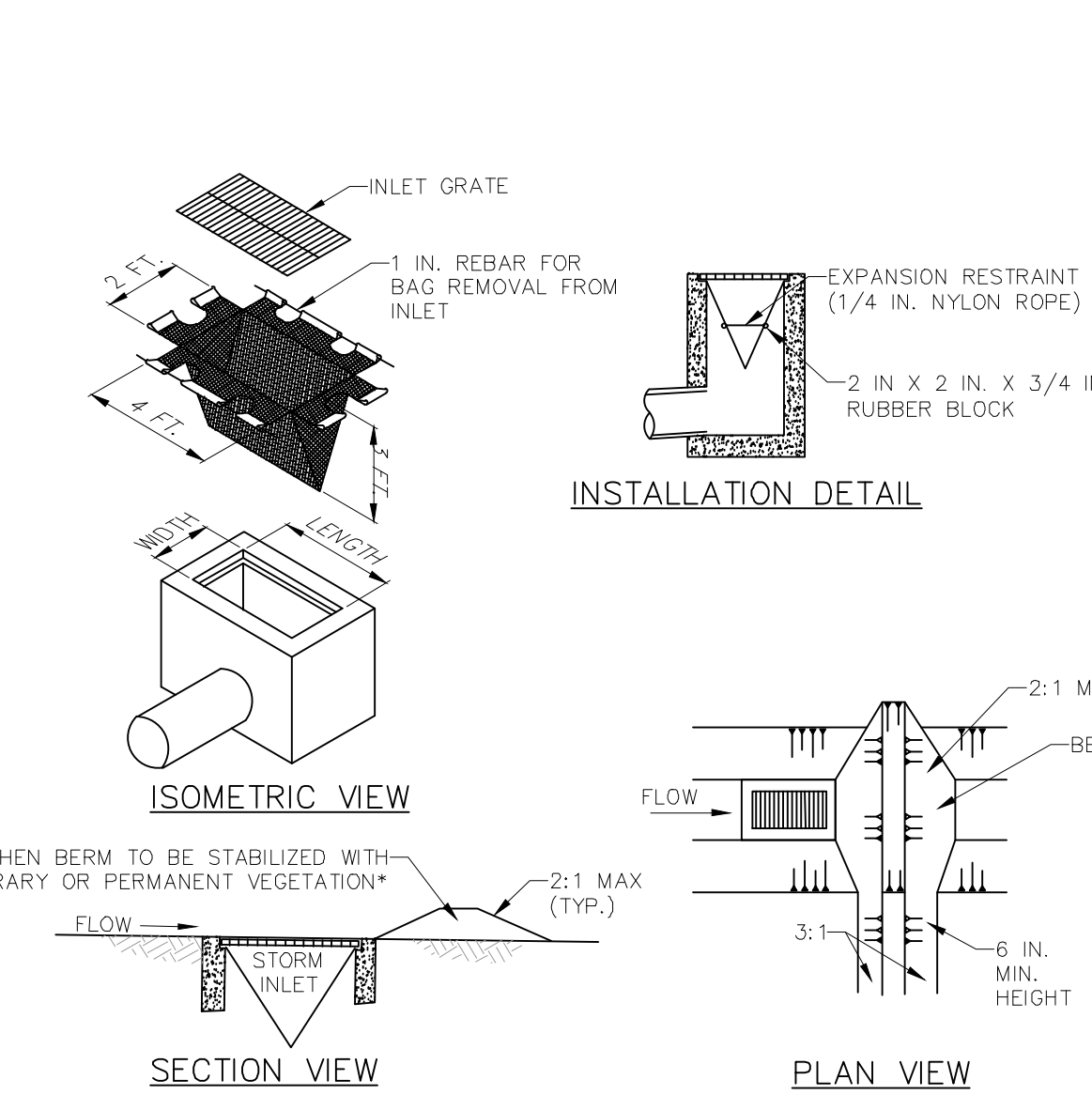
AT A MINIMUM, THE FABRIC SHALL HAVE A MINIMUM GRAB TENSILE STRENGTH OF 120 LBS, A MINIMUM BURST STRENGTH OF 200 PSI, AND A MINIMUM TRAPEZOIDAL TEAR STRENGTH OF 50 LBS. FILTER BAGS SHALL BE CAPABLE OF TRAPPING ALL PARTICLES NOT PASSING A NO. 40 SIEVE.

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.

* BERMS SHALL NOT BE PLACED WITHIN THE PUBLIC RIGHT-OF-WAY.

STANDARD CONSTRUCTION DETAIL #4-15 FILTER BAG INLET PROTECTION - TYPE C INLET



NOTES:

MAXIMUM DRAINAGE AREA = 1/2 ACRE.

INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS NOT WITHIN THE PUBLIC RIGHT-OF-WAY. 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. BERMS SHALL NOT BE INSTALLED IN THE PUBLIC RIGHT-OF-WAY.

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.

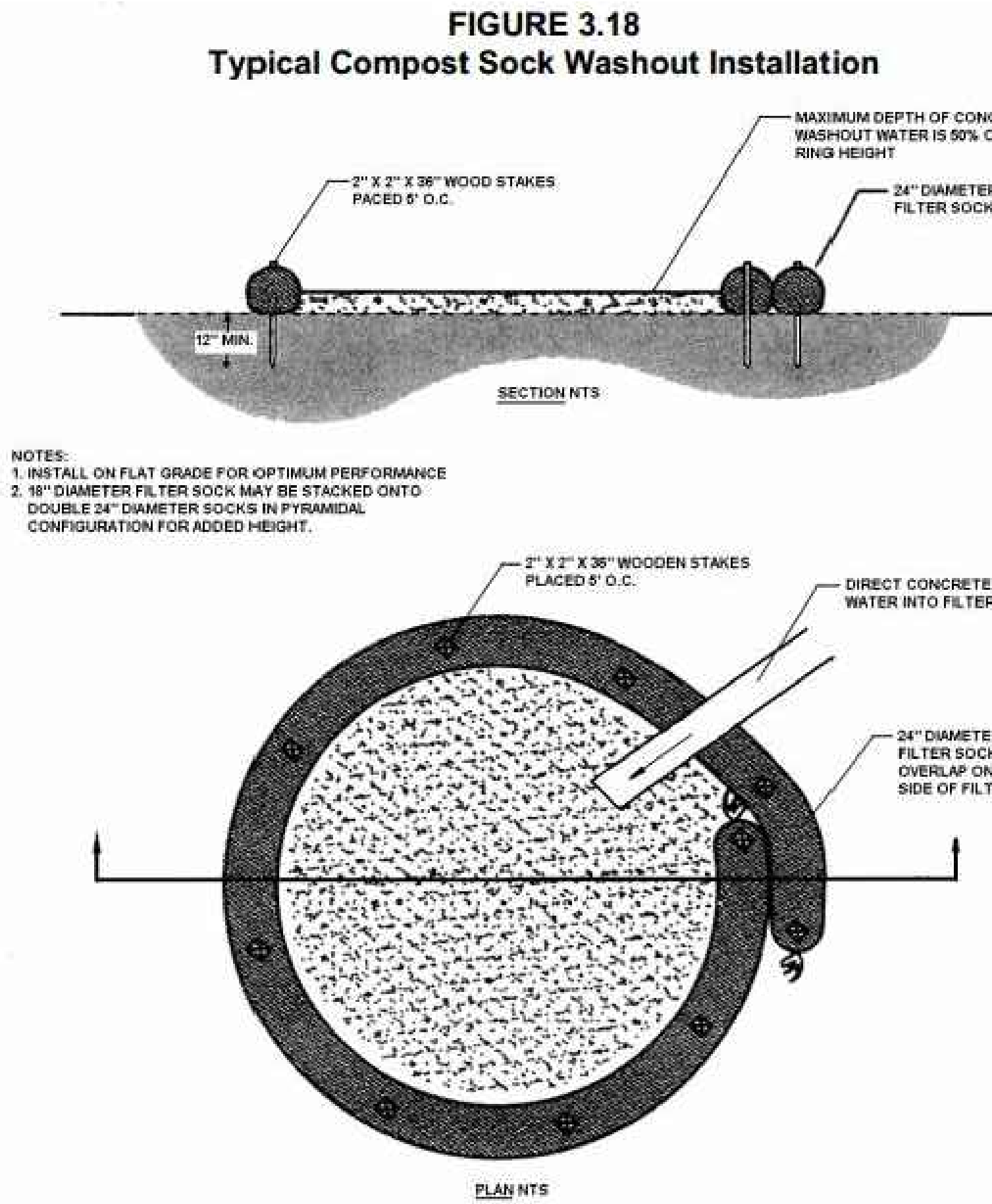
INLET FILTER BAGS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. BAGS SHALL BE EMPTIED AND RINSED OR REPLACED WHEN HALF FULL OR WHEN FLOW CAPACITY HAS BEEN REDUCED SO AS TO CAUSE FLOODING OR BYPASSING OF THE INLET. DAMAGED OR CLOGGED BAGS SHALL BE REPLACED. A SUPPLY SHALL BE MAINTAINED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

* BERMS SHALL NOT BE PLACED WITHIN THE PUBLIC RIGHT-OF-WAY.

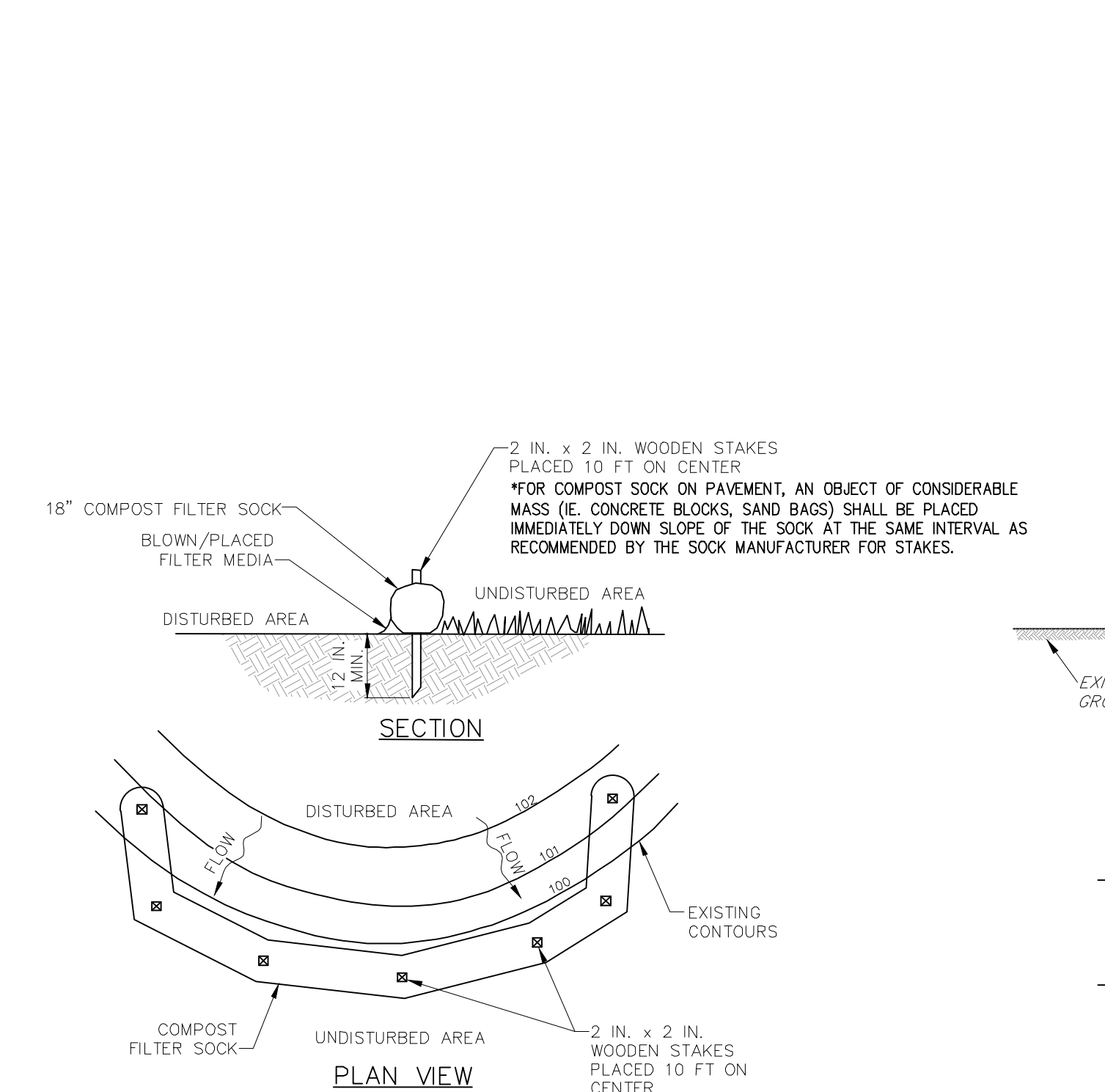
STANDARD CONSTRUCTION DETAIL #4-16 FILTER BAG INLET PROTECTION - TYPE M INLET

NOT TO SCALE



1. A SUITABLE IMPERVIOUS GEOMEMBRANE SHALL BE PLACED AT THE LOCATION OF THE WASHOUT PRIOR TO INSTALLING THE SOCKS.
2. ALL CONCRETE WASHOUT FACILITIES SHOULD BE INSPECTED DAILY. DAMAGED OR LEAKING WASHOUTS SHOULD BE DEACTIVATED AND REPAIRED OR REPLACED IMMEDIATELY.
3. ACCUMULATED MATERIALS SHOULD BE REMOVED WHEN THEY REACH 75% CAPACITY.
4. PLASTIC LINERS SHOULD BE REPLACED WITH EACH CLEANING OF THE WASHOUT FACILITY.

CONCRETE WASHOUT DETAIL



NOTES:

SOCK FABRIC SHALL MEET STANDARDS OF TABLE 4.1 OF THE PA DEP EROSION CONTROL MANUAL. COMPOST SHALL MEET THE STANDARDS OF TABLE 4.2 OF THE PA DEP EROSION CONTROL MANUAL.

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 SOCKS.

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.

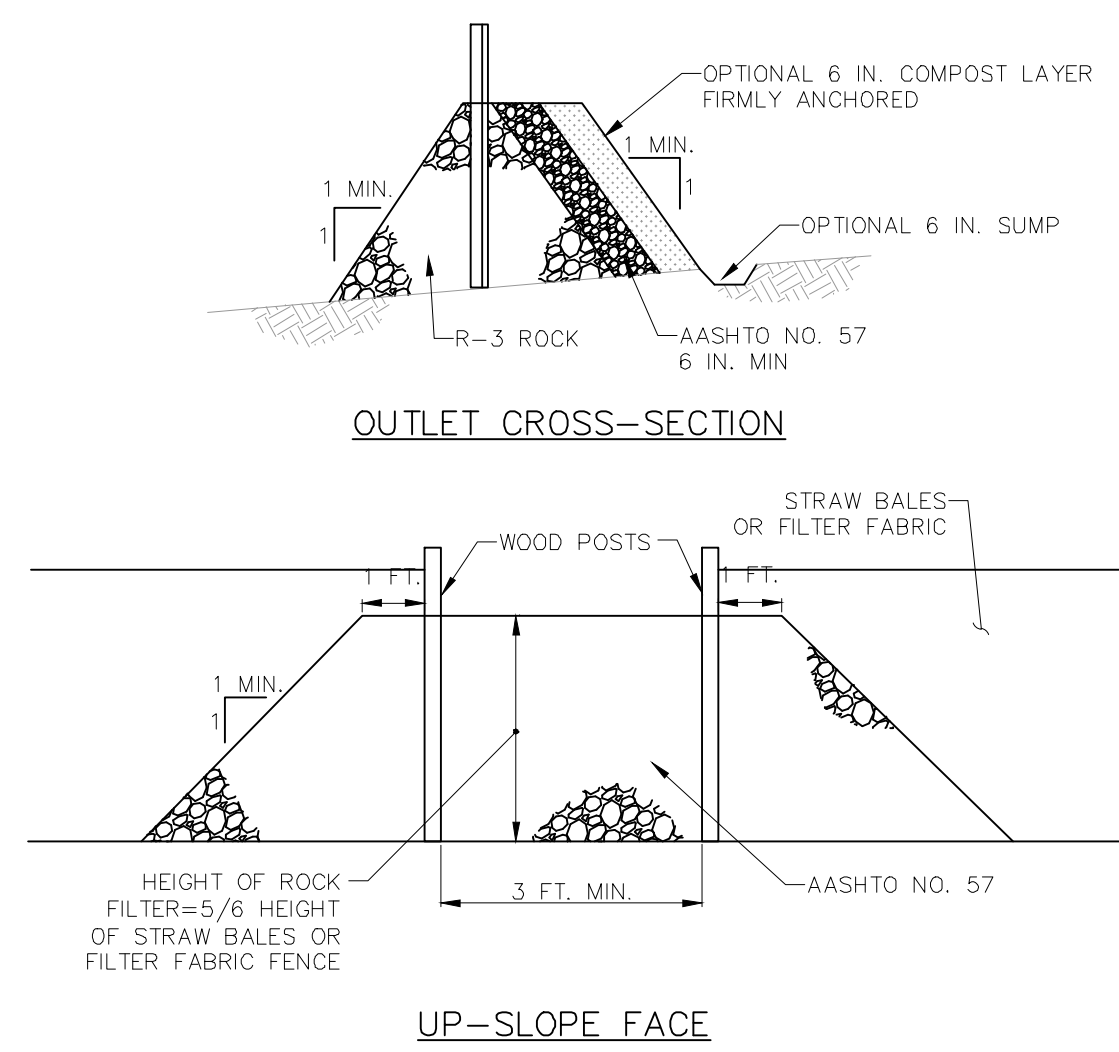
COMPOST FILTER SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.

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.

STANDARD CONSTRUCTION DETAIL #4-1 COMPOST FILTER SOCK

NOT TO SCALE



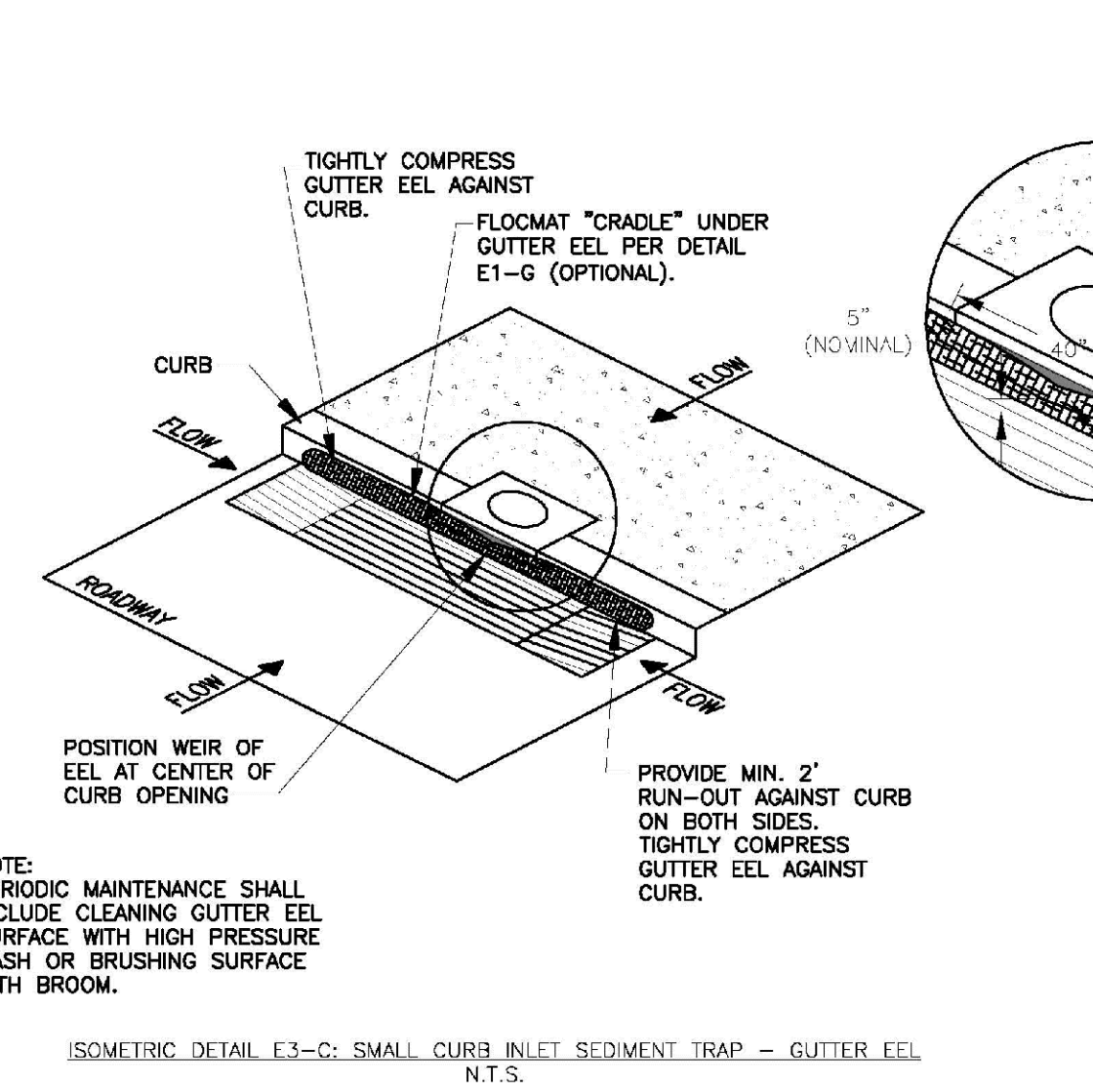
NOTES:

A ROCK FILTER OUTLET SHALL BE INSTALLED WHERE FAILURE OF A SILT FENCE OR STRAW BALE BARRIER HAS OCCURRED DUE TO CONCENTRATED FLOW. ANCHORED COMPOST LAYER SHALL BE USED ON UPSLOPE FACE IN HQ AND EV WATERSHEDS.

SEDIMENT SHALL BE REMOVED WHEN ACCUMULATIONS REACH 1/3 THE HEIGHT OF THE OUTLET.

STANDARD CONSTRUCTION DETAIL #4-6 ROCK FILTER OUTLET

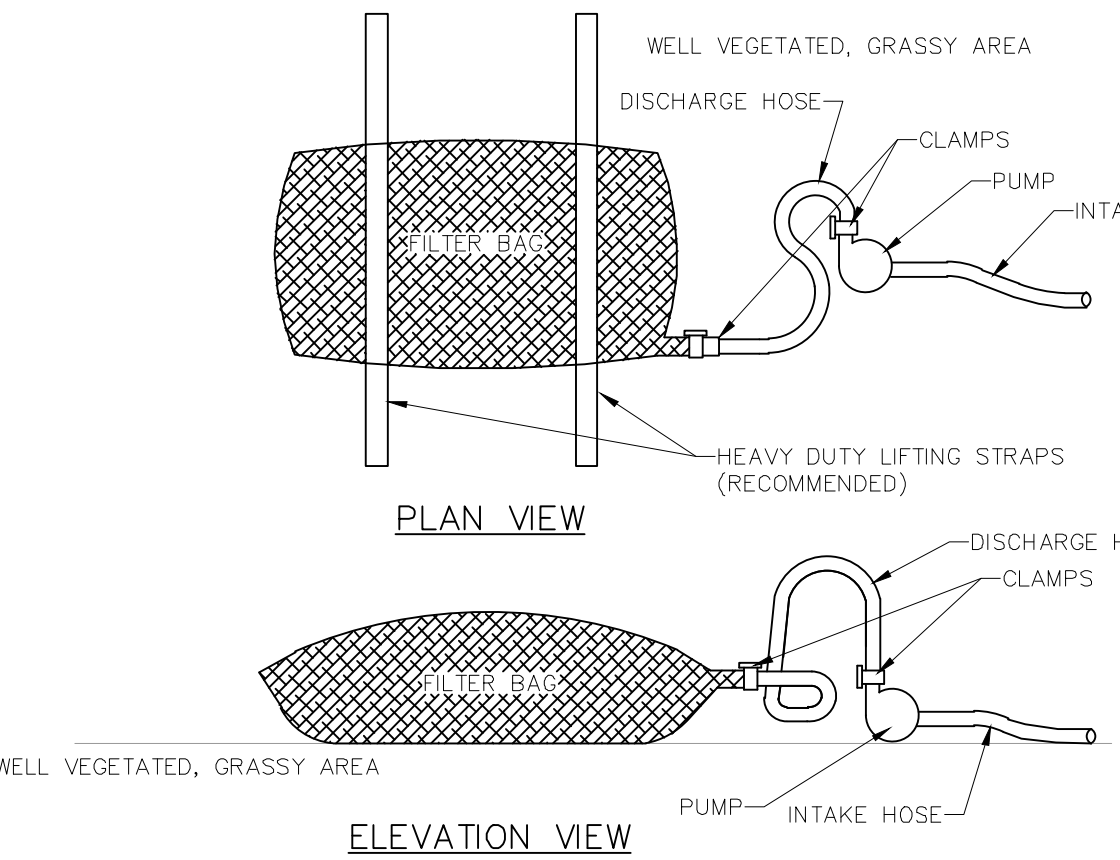
NOT TO SCALE



1. Install the GutterEEL™ in front of the curb inlet opening. Each end of the GutterEEL™ should overlap the curb inlet approximately 12".
2. Overflow weir should be centered on curb inlet. If more than 1 unit is required, units should be placed with each end flush against each other.
3. The GutterEEL™ should be cleaned if a visual inspection shows silt and debris build up in front of the unit.
4. The GutterEEL™ is reusable. Once the construction project is complete and it is no longer needed for sediment control, remove, clean and store out of the sunlight.
5. Ponding is possible if sediment is not removed regularly. Inspection of GutterEEL™ should be on a regular basis and immediately after major storm events.

ACF ENVIRONMENTAL GUTTER EEL

NOT TO SCALE



NOTES:

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-4832	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.

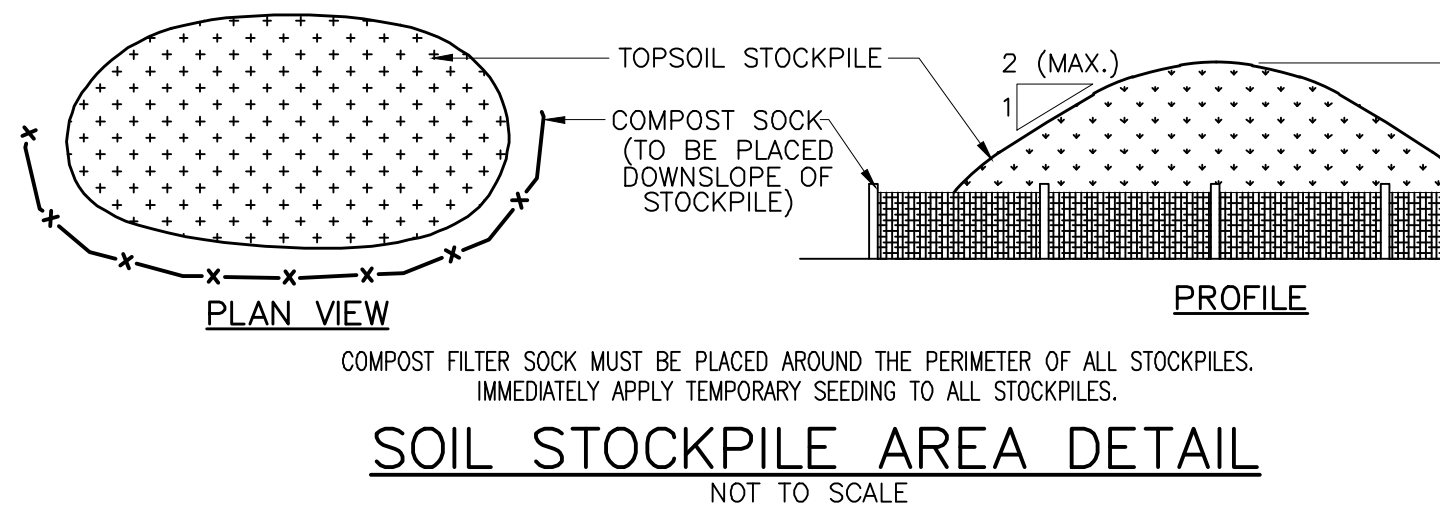
THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED. A PIECE OF PVC PIPE IS RECOMMENDED FOR THIS PURPOSE.

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 THE PROBLEM IS CORRECTED.

STANDARD CONSTRUCTION DETAIL #3-16 PUMPED WATER FILTER BAG

NOT TO SCALE

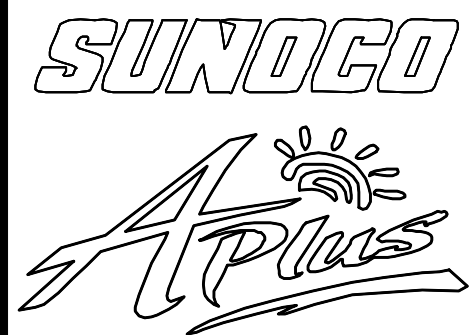


COMPOST FILTER SOCK MUST BE PLACED AROUND THE PERIMETER OF ALL STOCKPILES. IMMEDIATELY APPLY TEMPORARY SEEDING TO ALL STOCKPILES.

SOIL STOCKPILE AREA DETAIL

NOT TO SCALE

CLIENT DATA



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J.B. ANDERSON
PROFESSIONAL ENGINEER
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MONTANA LICENSE NO. 29913
NEW JERSEY LICENSE NO. 34604520400
VIRGINIA LICENSE NO. 600164725
FLORIDA LICENSE NO. 75184
NEW YORK LICENSE NO. 0056674

PROJECT LOCATION

LAND DEVELOPMENT DOCUMENTS
"SUNOCO 1451 PROVIDENCE ROAD"

PROPOSED COMMERCIAL
RE-DEVELOPMENT
1451 PROVIDENCE ROAD
MEDIA, PENNSYLVANIA, 19063
DELAWARE COUNTY

PREPARED FOR
SIRHANDI ENTERPRISES, INC.

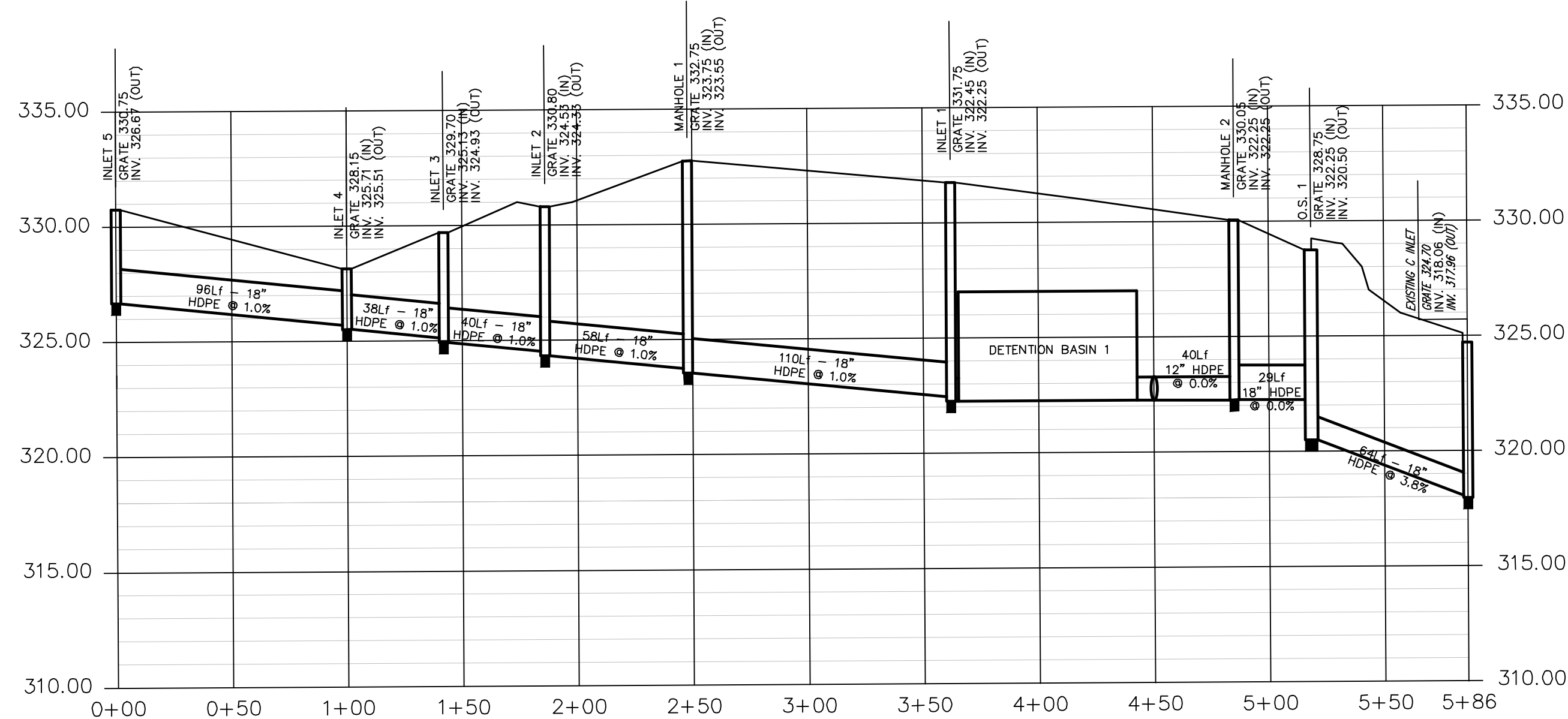
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EROSION & SEDIMENT
CONTROL DETAILS

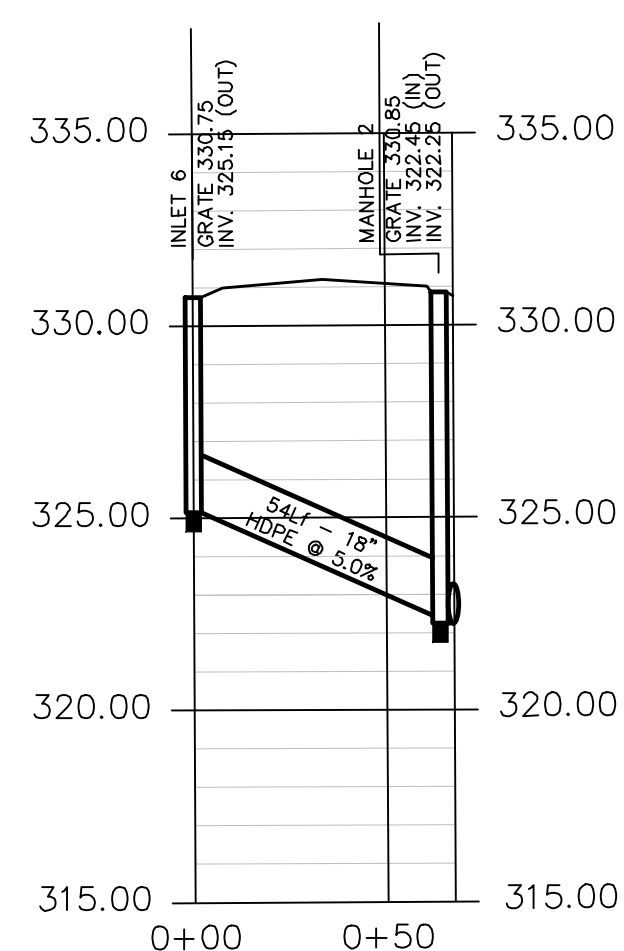
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CAD ID.	19-0425	DRN BY	GTM
SCALE	AS NOTED	CHK BY	JBA

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REVISION I



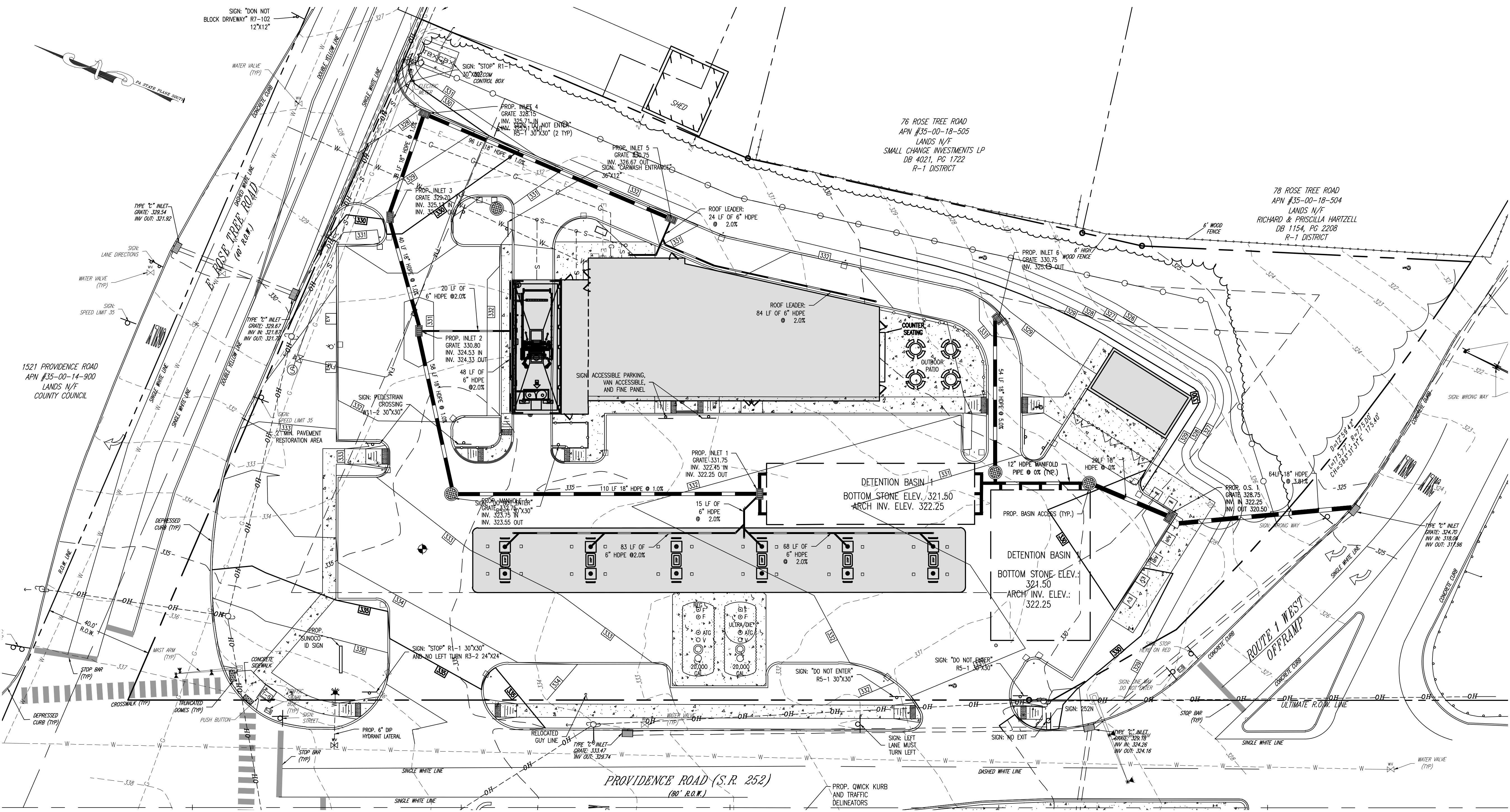
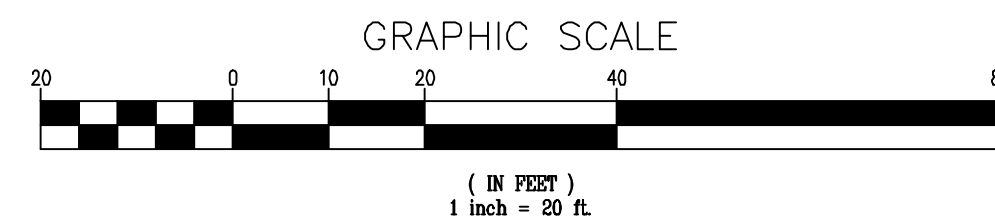
INLET 5 TO EXISTING C INLET
SCALE: 1"=50' (H) 1"=5' (V)



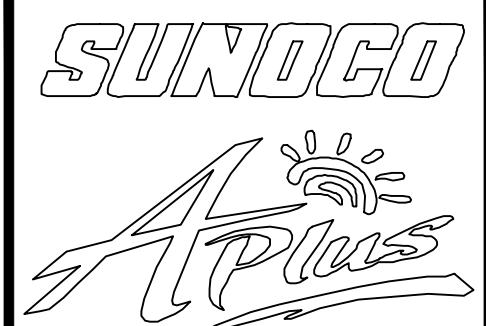
INLET 6 TO DETENTION BASIN 1
SCALE: 1"=50' (H) 1"=5' (V)

UTILITY NOTES:

1. IN CASE OF DISCREPANCIES BETWEEN PLANS, THE SITE PLAN WILL SUPERCEDE IN ALL CASES. NOTIFY ENGINEER OF RECORD OF ANY CONFLICT.
2. LOCATION OF ALL EXISTING AND PROPOSED SERVICES ARE APPROXIMATE AND MUST BE CONFIRMED INDEPENDENTLY WITH LOCAL UTILITY COMPANIES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION OR EXCAVATION. SANITARY SEWER AND ALL OTHER UTILITY SERVICE CONNECTION POINTS SHALL BE CONFIRMED INDEPENDENTLY BY THE CONTRACTOR IN FIELD PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. ALL DISCREPANCIES SHALL BE REPORTED IMMEDIATELY IN WRITING TO THE ENGINEER.
3. CONSTRUCTION SHALL COMMENCE BEGINNING AT THE LOWEST INVERT (POINT OF CONNECTION) AND PROGRESS UP GRADIENT. INTERFACE POINTS (CROSSINGS) WITH EXISTING UNDERGROUND UTILITIES SHALL BE FIELD VERIFIED BY TEST PIT PRIOR TO COMMENCEMENT OF CONSTRUCTION.
4. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT BUILDING UTILITY CONNECTION LOCATION. WHERE CONFLICTS EXIST WITH THESE SITE PLANS, ENGINEER IS TO BE NOTIFIED PRIOR TO CONSTRUCTION TO RESOLVE SAME. SERVICE SIZES TO BE DETERMINED BY ARCHITECT.
5. ALL EXISTING CAPS, LIDS, RIMS, ETC., TO REMAIN SHALL BE RESET FLUSH WITH PROPOSED GRADE.
6. PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE TO MAKE SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS BY ALL OF THE PERMITTING AUTHORITIES.
7. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE REQUIREMENTS AND STANDARDS OF THE LOCAL GOVERNING AUTHORITY.
8. ALL DIMENSIONS SHOWN ON THE PLANS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY ENGINEER IF ANY DISCREPANCIES EXIST PRIOR TO PROCEEDING WITH CONSTRUCTION FOR NECESSARY PLAN CHANGES. NO EXTRA COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR WORK HAVING TO BE REDONE DUE TO DIMENSIONS OR GRADES SHOWN INCORRECTLY ON THESE PLANS IF SUCH NOTIFICATION HAS NOT BEEN GIVEN.
9. SOLID WASTE TO BE DISPOSED OF BY CONTRACTOR IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.
10. CONTRACTOR IS RESPONSIBLE FOR ALL SHORING REQUIRED DURING EXCAVATION AND SHALL BE PERFORMED IN ACCORDANCE WITH CURRENT OSHA STANDARDS, AS WELL AS ADDITIONAL PROVISIONS TO ASSURE STABILITY OF CONTIGUOUS STRUCTURES, AS FIELD CONDITIONS DICTATE.
11. CONTRACTOR SHALL PROVIDE A PLAN MARK-UP SHOWING AS-BUILT CONDITIONS OF SCOPE ITEMS COMPLETED FOR SUNOCO. CAD FILES CAN BE PROVIDED AS LONG AS A PDF FILE OF THE PLAN, LAYERING SYSTEM AND THE FILE DATED BACK TO AUTOCAD 2018 IS PROVIDED.
12. CONTRACTOR IS TO THOROUGHLY REVIEW AND UNDERSTAND THE SUNOCO SCOPE OF WORK PROVIDED BY SUNOCO. ANY DEVIATIONS BETWEEN THE SUNOCO SCOPE OF WORK AND THESE PLANS SHALL BE IDENTIFIED BY THE CONTRACTOR TO OUR OFFICE AND THE SUNOCO CONSTRUCTION MANAGER PRIOR TO THE START OF CONSTRUCTION TO ENSURE PROPER COORDINATION WITH THE SUNOCO CONSTRUCTION MANAGER BEFORE CONSTRUCTION BEGINS.
13. CONTRACTOR, AND THEIR SUB-CONSULTANTS, SHALL RETAIN A COPY OF THE STANDARD SUNOCO DRAWINGS FOR REFERENCE AND SPECIFICATION OF SUNOCO WORK ITEMS AT THE JOB SITE.
14. CONTRACTOR SHALL REFER TO SUNOCO SCOPE OF WORK DOCUMENT
15. CLEANOUT LID, GRATE ASSEMBLIES LOCATED IN PAVEMENT AREAS SHALL BE TRAFFIC RATED.



CLIENT DATA



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Lehigh Valley Region
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PENNSYLVANIA LICENSE NO. PE14538
NEW JERSEY LICENSE NO. 24604052400
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NEW YORK LICENSE NO. 095567-1

PROJECT LOCATION

LAND DEVELOPMENT DOCUMENTS
"SUNOCO 1451 PROVIDENCE ROAD"

PROPOSED COMMERCIAL
RE-DEVELOPMENT
1451 PROVIDENCE ROAD
MEDIA, PENNSYLVANIA, 19063
DELAWARE COUNTY

PREPARED FOR
SIRHANDI ENTERPRISES, INC.

TITLE

STORMWATER &
DRAINAGE PLAN

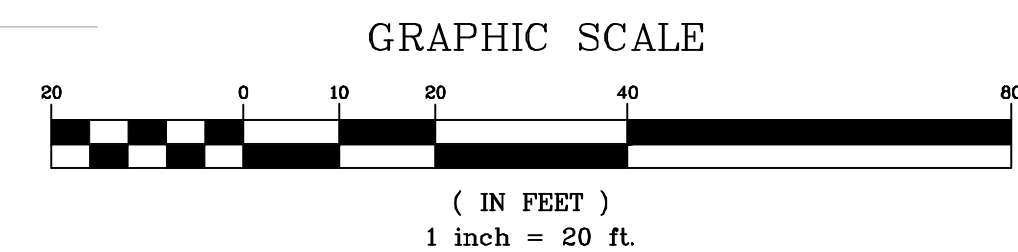
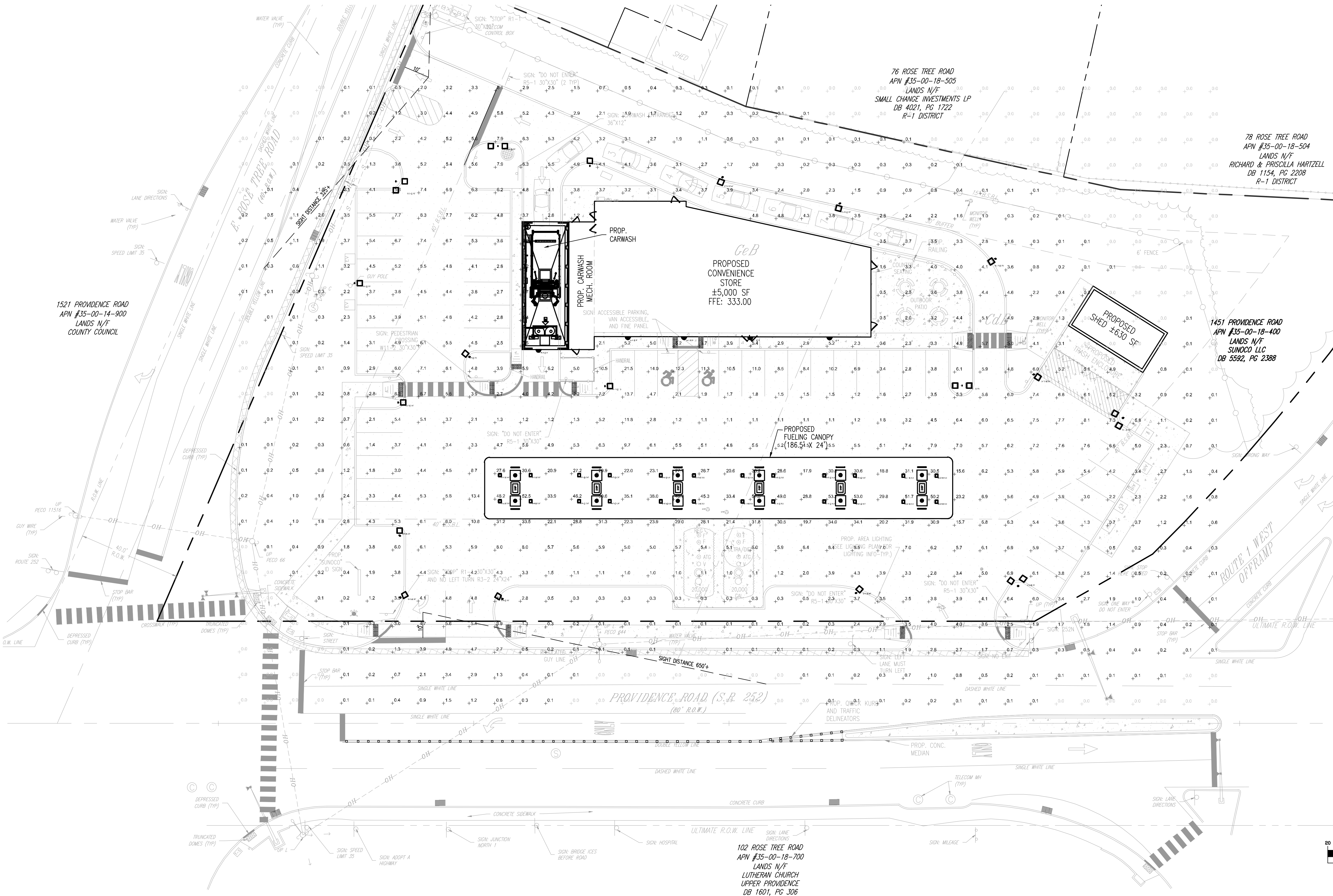
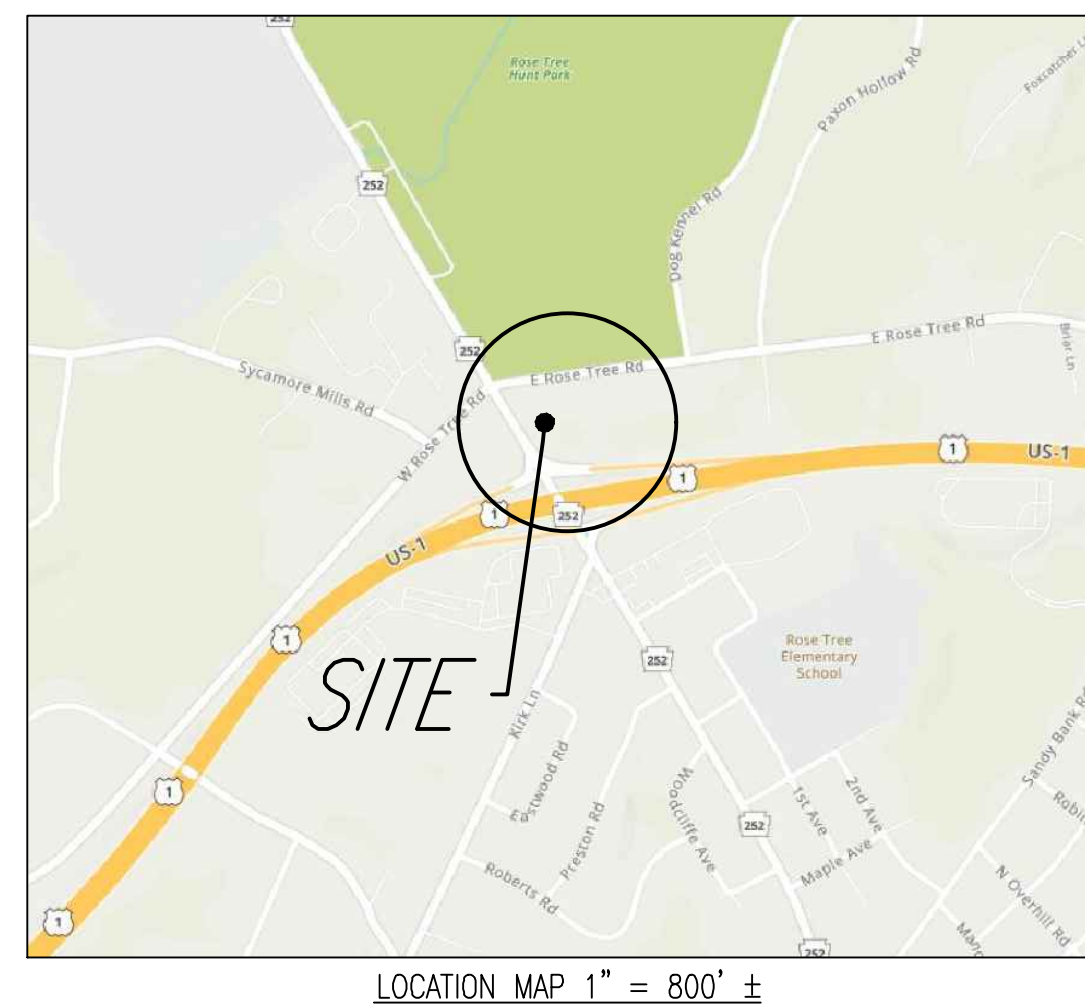
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CAD ID.	19-0425	DRN BY	GTM
SCALE	AS NOTED	CHK BY	JBA
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REVISION 1			

LEGEND & ABBREVIATIONS

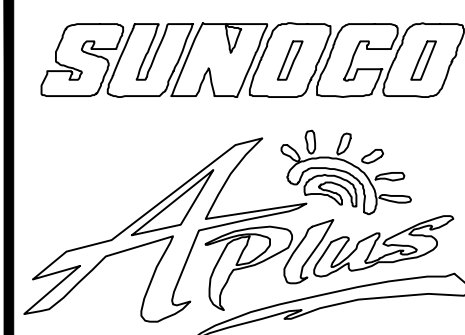
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- - -	ADJACENT BOUNDARY	⊕	UNKNOWN MANHOLE
---	RIGHT OF WAY LINE	⊕	STORM INLET
---	EXISTING FENCE	⊕	GAS METER
---	EXISTING OVERHEAD WIRE	⊕	WATER METER
---	EXISTING CURB	⊕	GAS VALVE
---	EXISTING DEPRESSED CURB (DC)	⊕	WATER VALVE
---	EXISTING SIGN	⊕	CLEAN OUT
---	EXISTING UTILITY POLE (UP)	⊕	TO BE REMOVED
---	GUY WIRE	⊕	PROP. BLDG. AREA
---	LAMP POST	⊕	PROP. CONCRETE
---	SEWER MANHOLE	⊕	PROP. FULL DEPTH PAVEMENT
---	COMMUNICATION MANHOLE	⊕	
---	ELECTRIC MANHOLE	⊕	
---		---	LIMIT OF DISTURBANCE BOUNDARY

Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Lamp	Lumens Per Lamp	Light Loss Factor	Wattage
□	B	24	LSI INDUSTRIES, INC.	SCV-LED-10L-SC-30	LSI - SCOTTSDALE VERTEX (SCV) 3000K, 10,000 LUMENS		10315	0.85	67
□	D	13	LSI INDUSTRIES, INC.	SLM-LED-09L-SIL-2-30-70CRI-IH	LSI - SLICE MEDIUM (PKSLM) 3000K, 9,000 LUMENS		7455	1	63
□	A	2	LSI INDUSTRIES, INC.	SLM-LED-09L-SIL-2-30-70CRI-IH	LSI - SLICE MEDIUM (PKSLM) 3000K, 9,000 LUMENS		7455	1	126
□	C	3	LSI INDUSTRIES, INC.	SLM-LED-09L-SIL-2-30-70CRI-IH	LSI - SLICE MEDIUM (PKSLM) 3000K, 9,000 LUMENS		7455	1	126
□	E	5	EATON - MCGRAW-EDISON (FORMER COOPER LIGHTING)	GWC-AF-01-LED-E1-T3-7030	GALLEON WALL LUMINAIRE (1) 70 CRI, 3000K, 1050mA LIGHTSQUARE WITH 16 LEDS EACH AND TYPE III OPTICS		352	1	59

Description	Symbol	Avg	Max	Min
Overall Calc	+	4.2 fc	53.2 fc	0.0 fc



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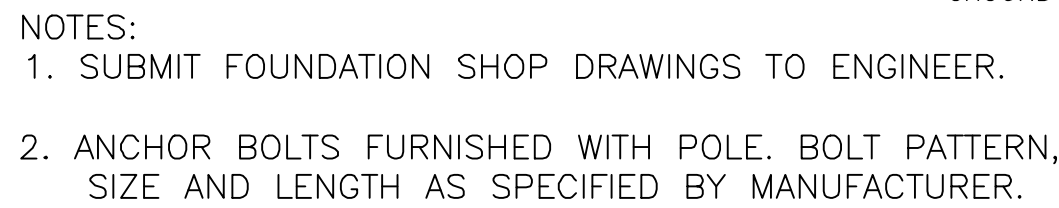
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LIGHTING PLAN

PROJ. #	19-0425	DATE	05-21-2021
CAD ID.	19-0425	DRN BY	GTM
SCALE	AS NOTED	CHK BY	JBA

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REVISION 1

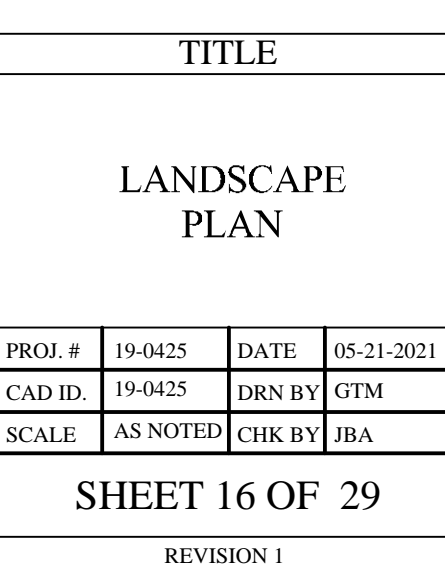


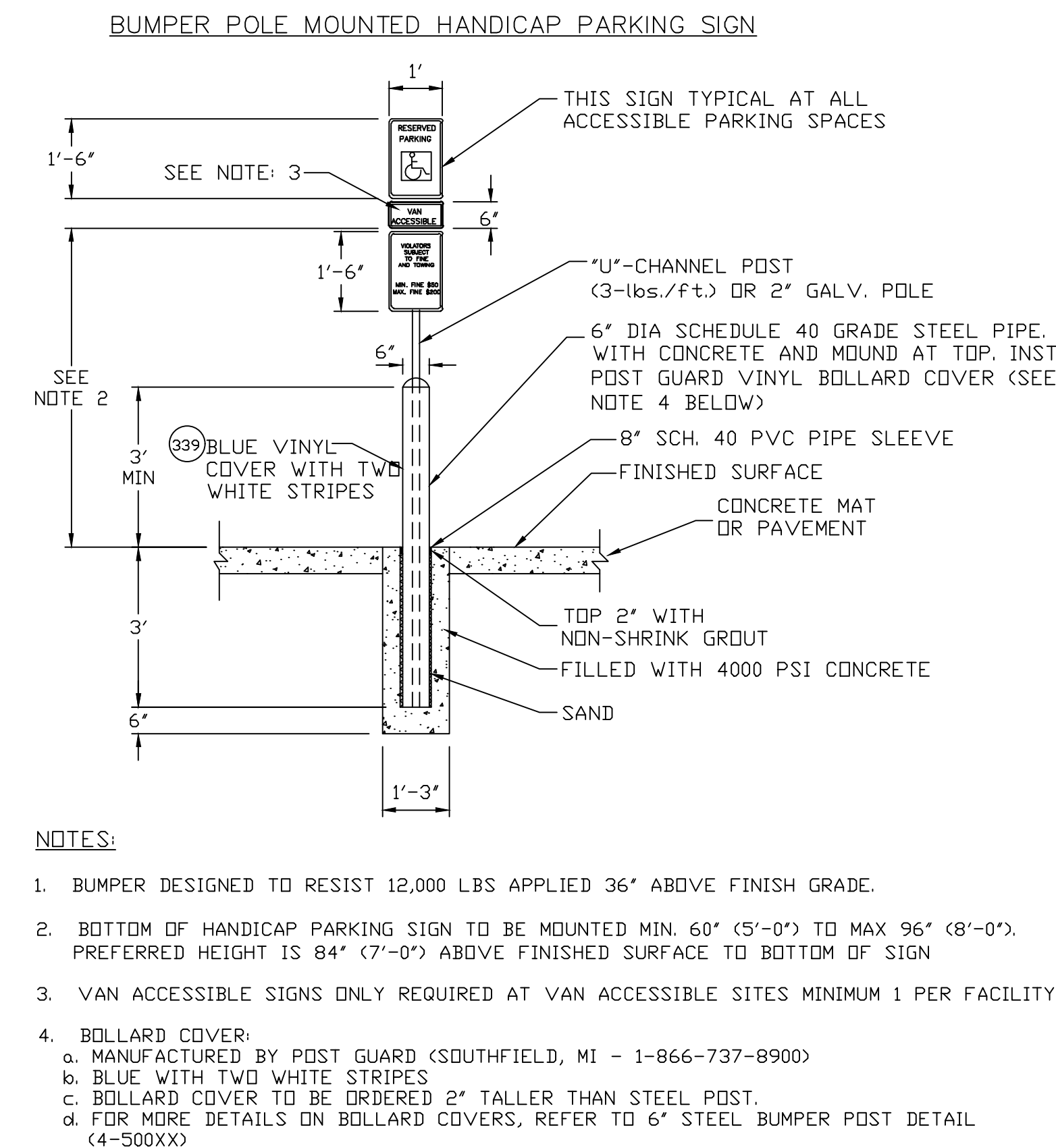
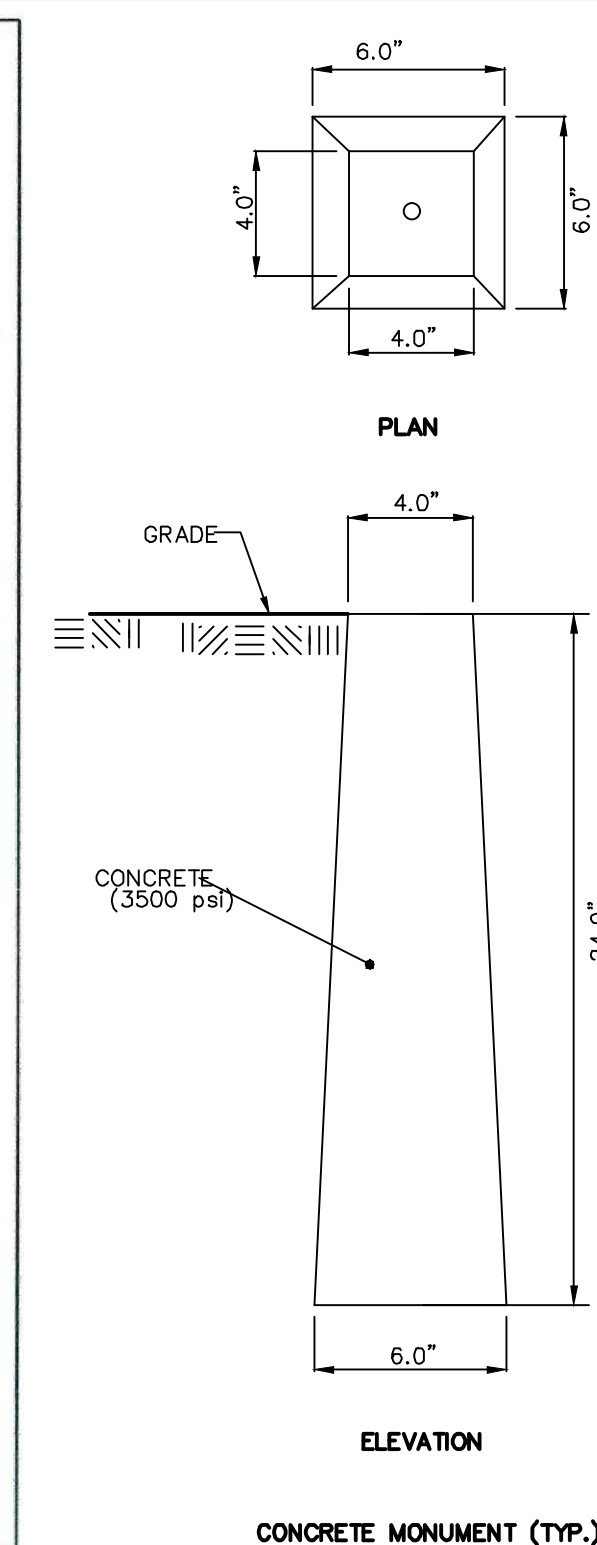
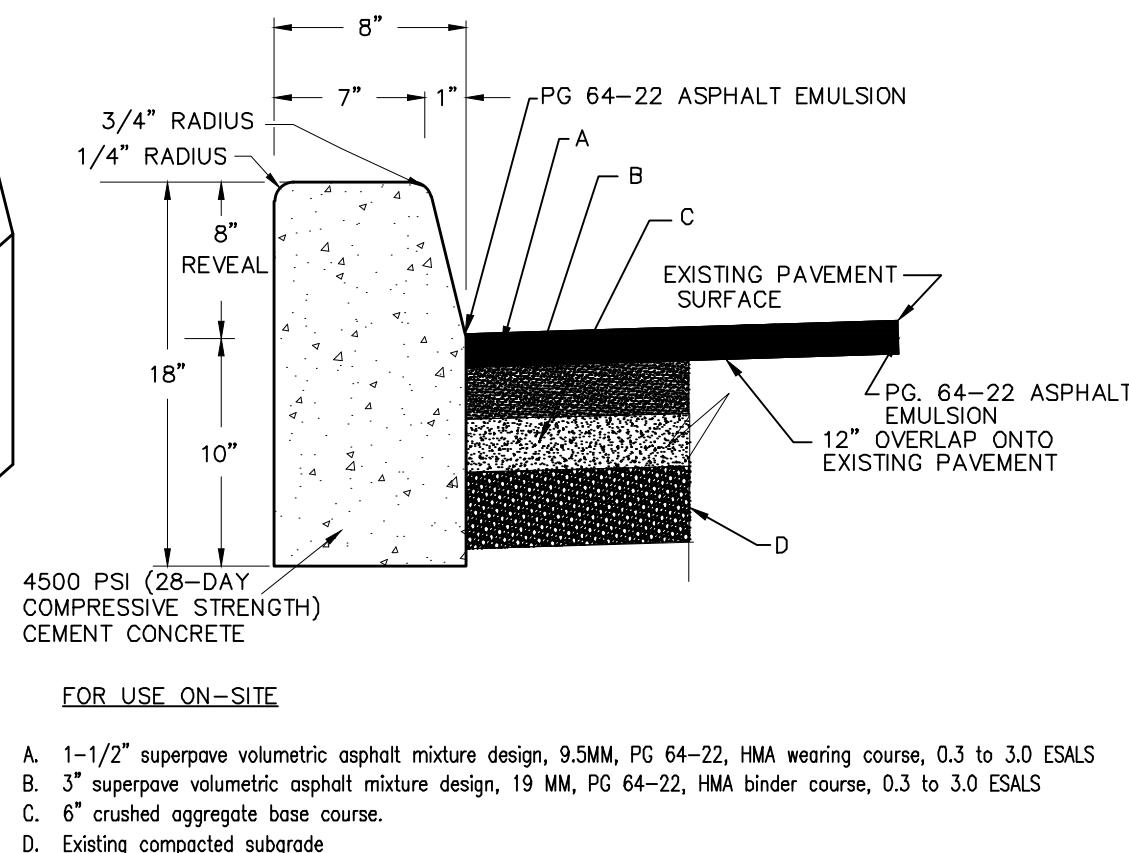
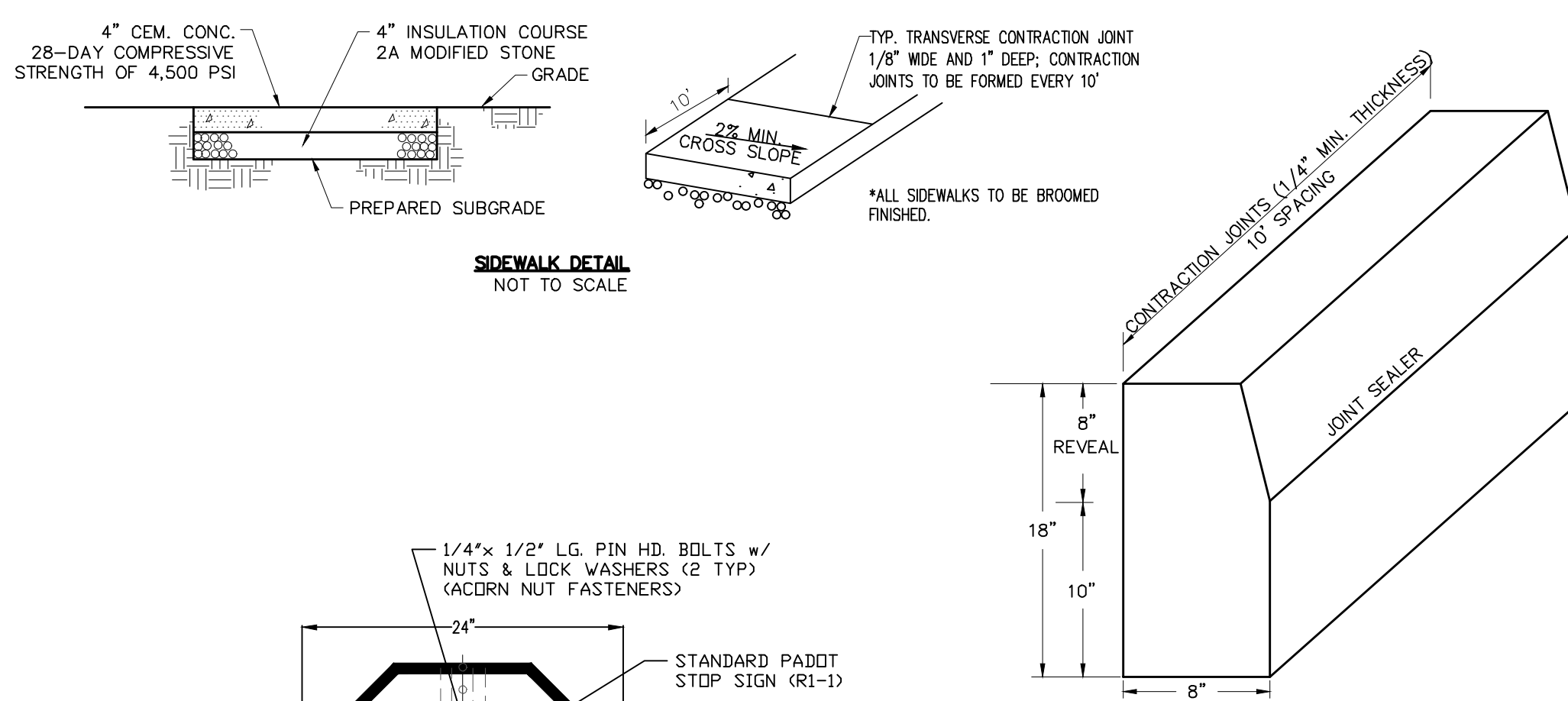
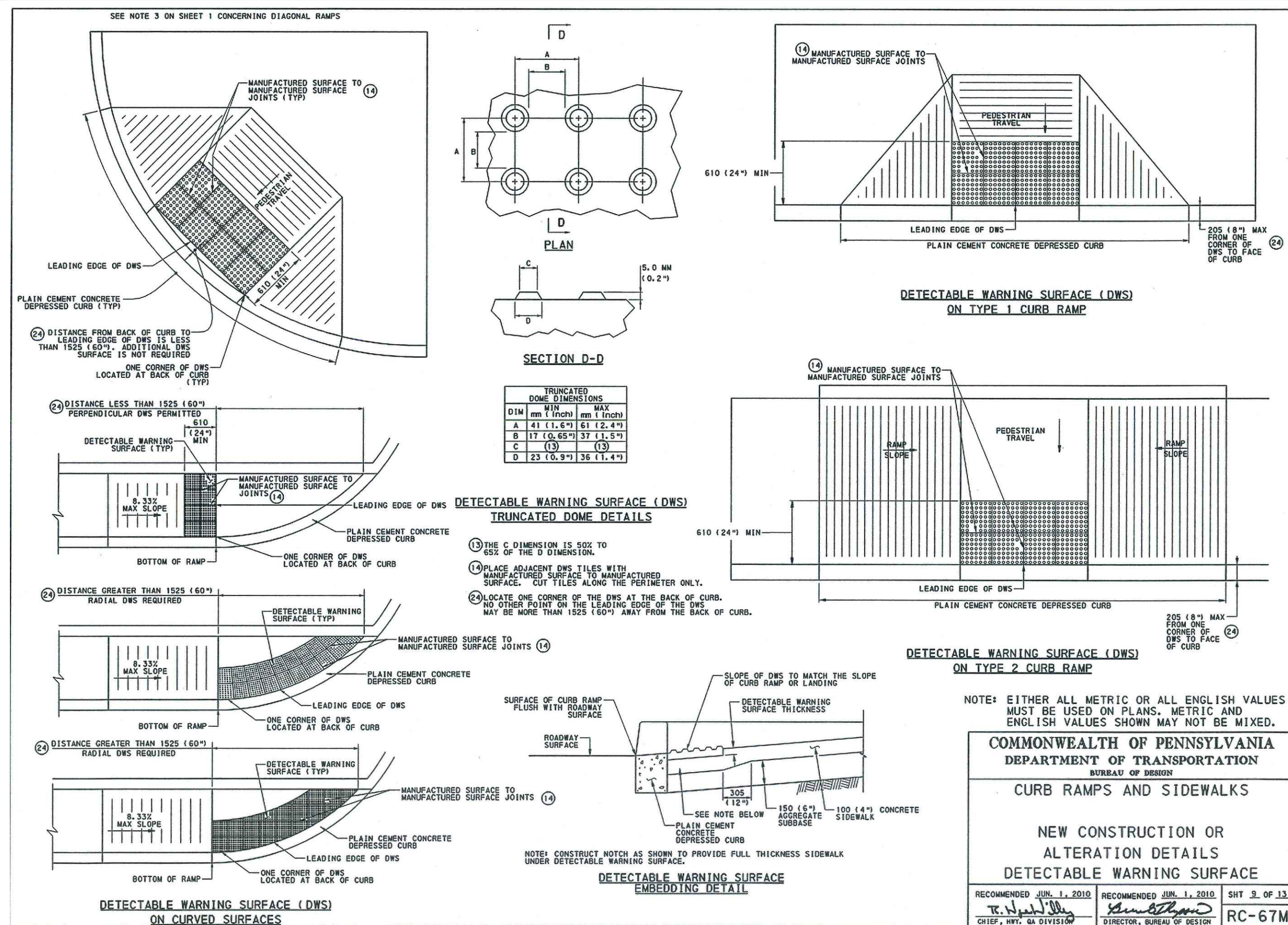
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April 12, 2021 1:55 PM

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REVISION 1



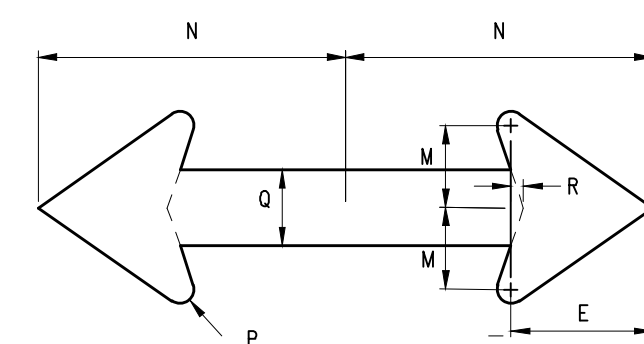
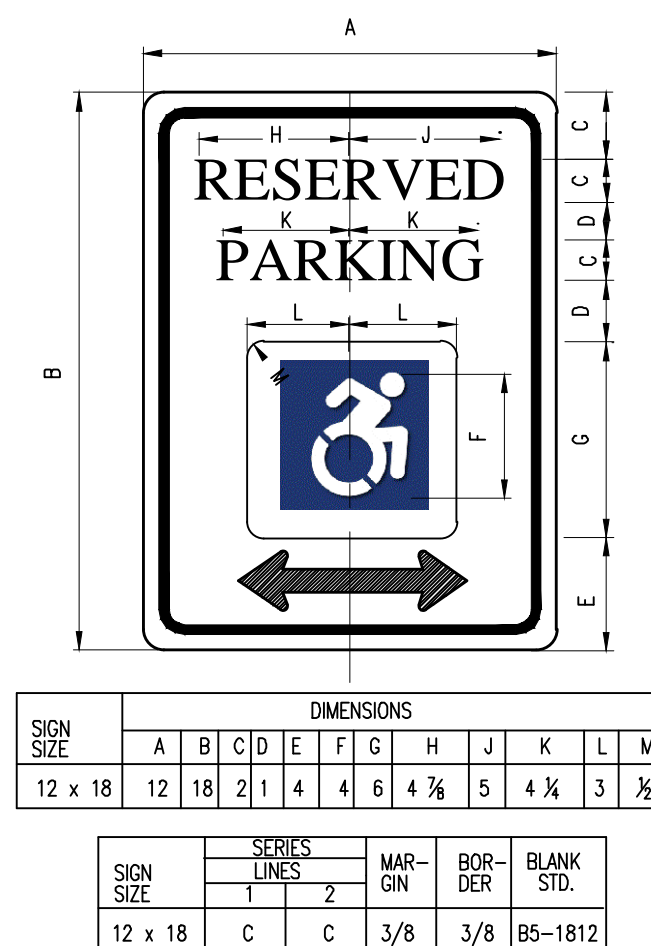
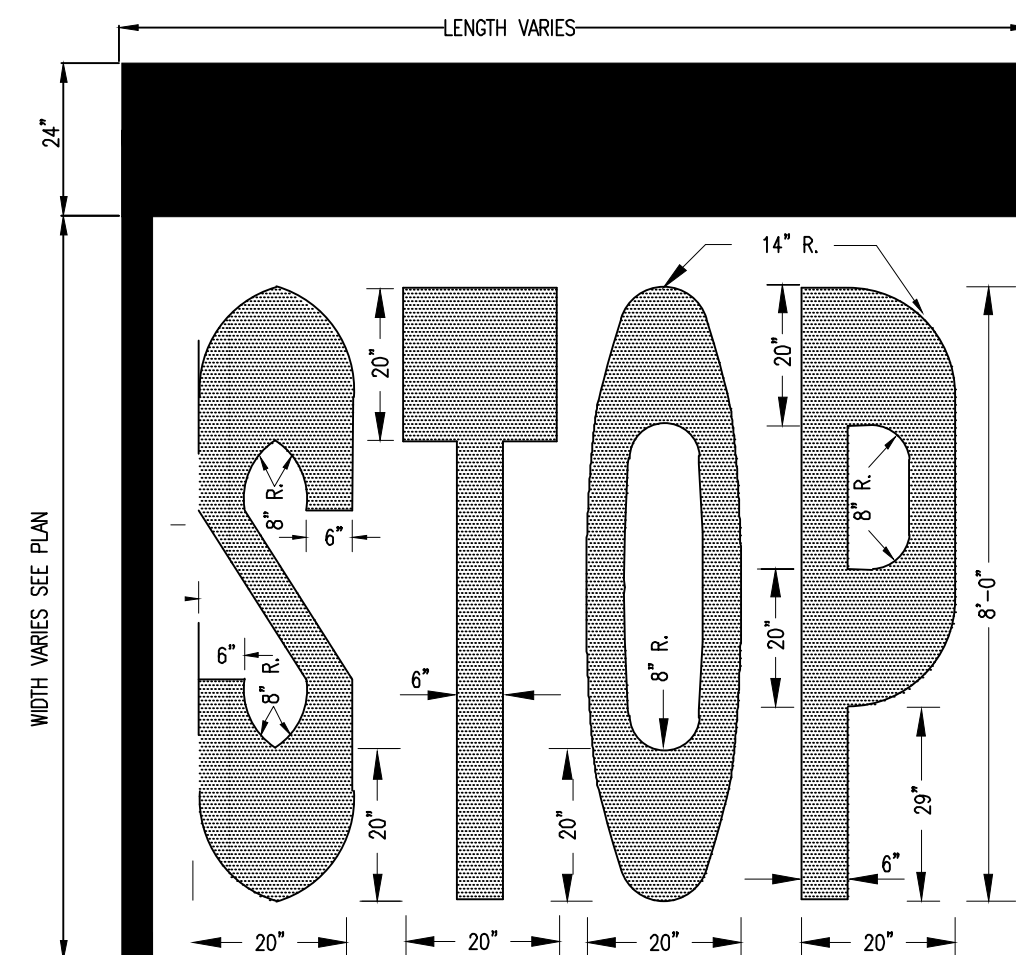
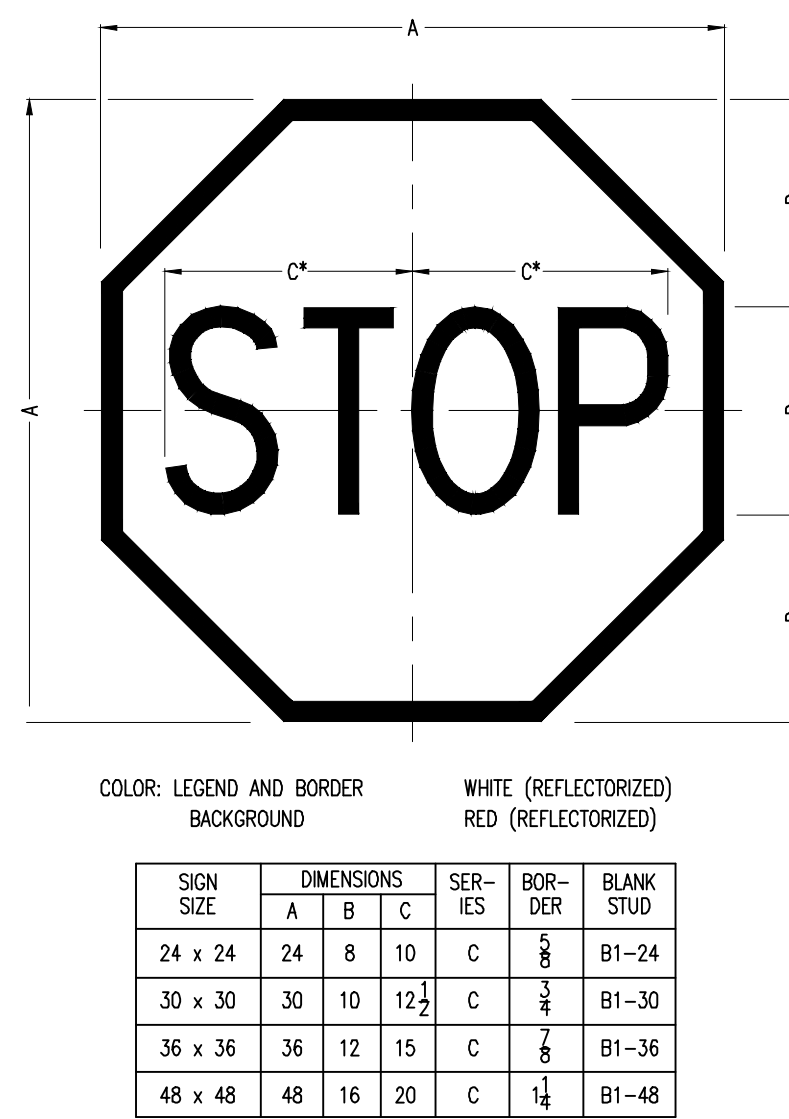
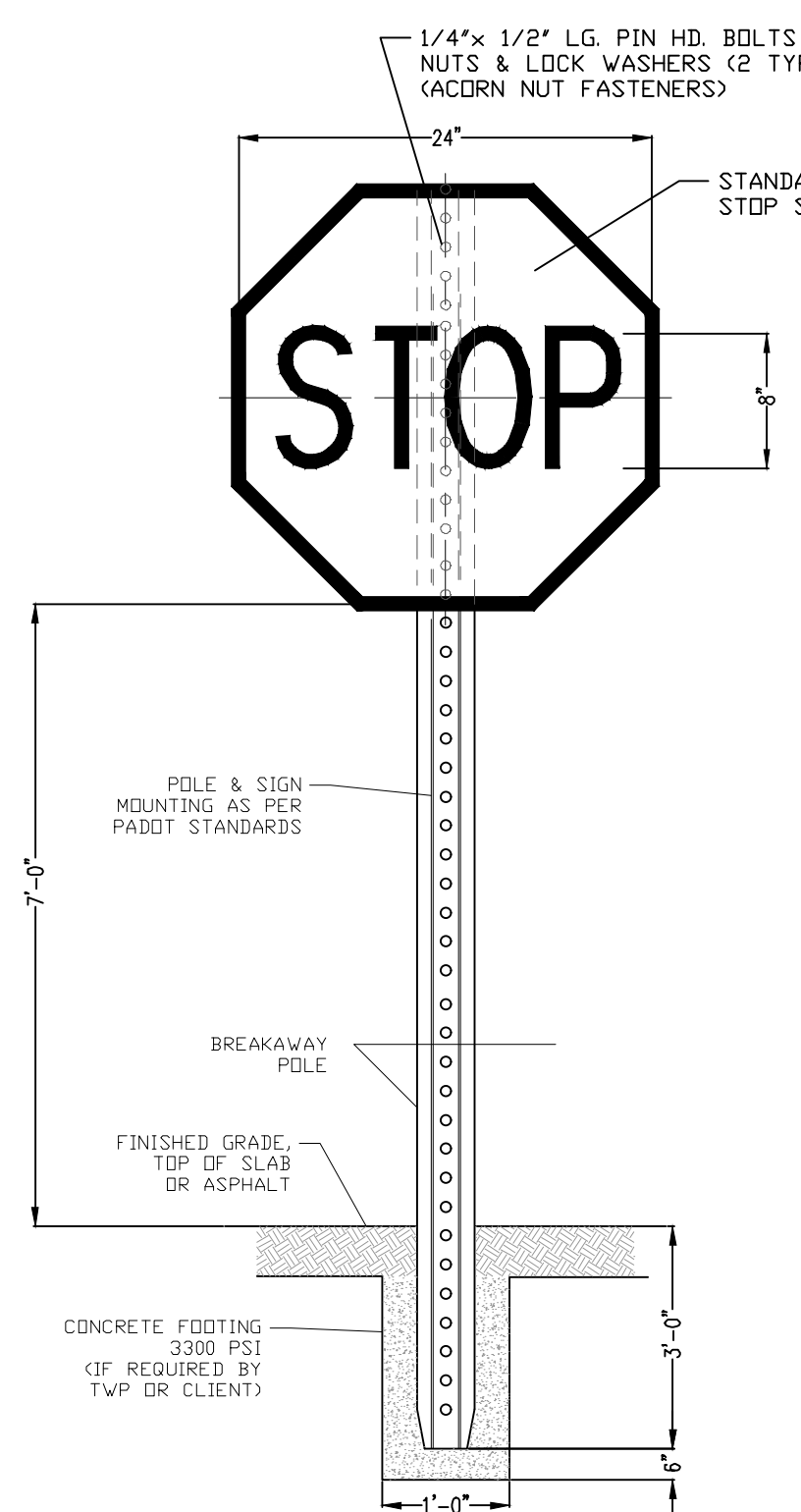
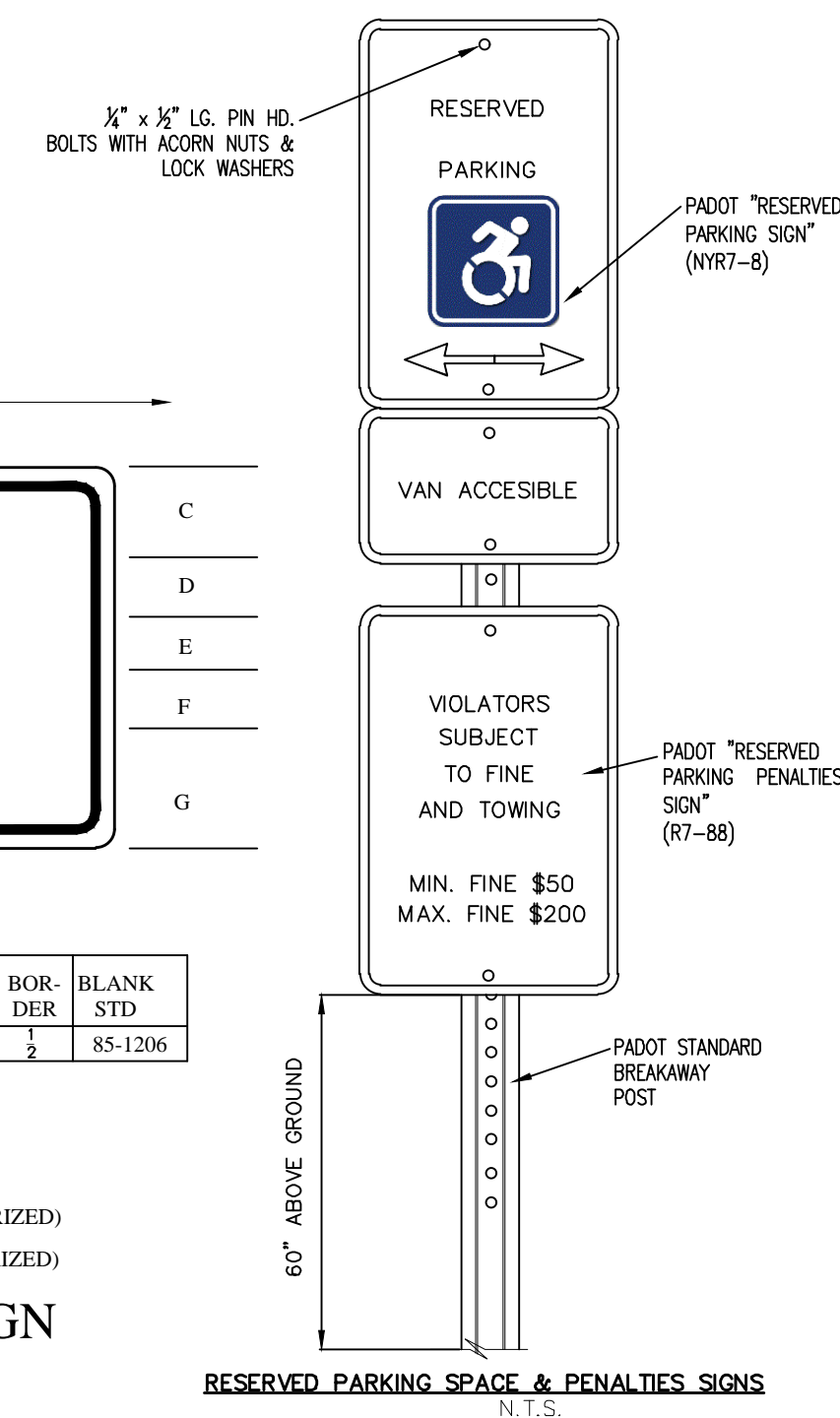
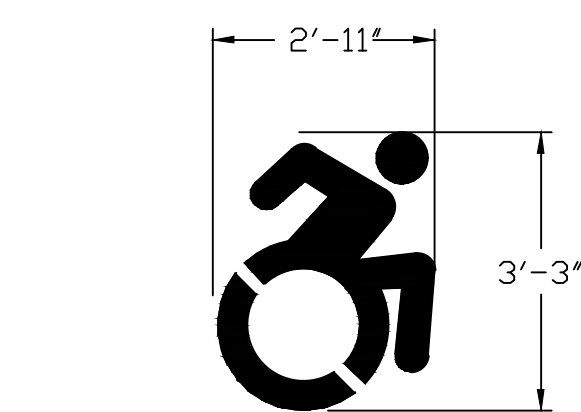
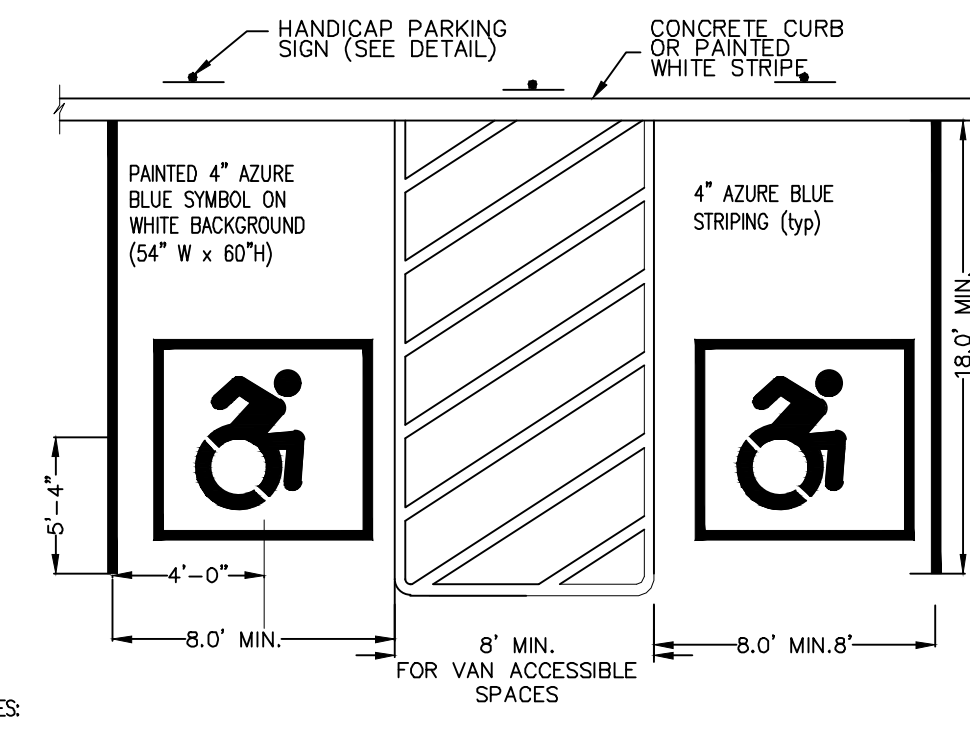


HANDICAP PARKING SIGNAGE GUIDELINES

- ## HANDICAP PARKING NOTES

- 1) MAX CROSS SLOPE = 2% (1:50)
- 2) MAX RUNNING SLOPE = 2% (1:50)
- 3) FOR CONCRETE PARKING, USE CONCRETE SEAL COAT PER MARKETING ENGINEERING SPECIFICATION (SECTION 03001)
- 4) STATE SPECIFIC REQUIREMENTS FOR HANDICAP PARKING MAY VARY FROM SUNOCO'S GENERAL GUIDELINES

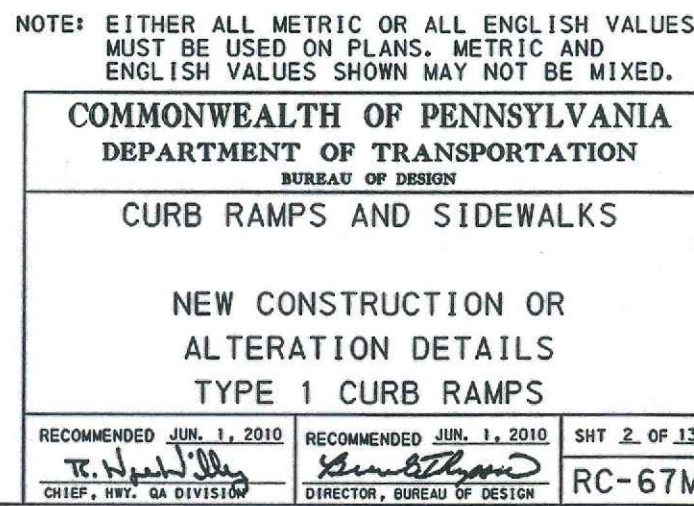
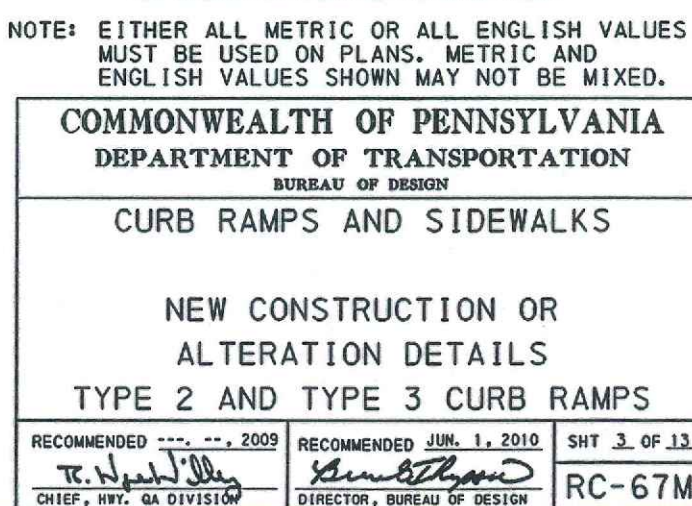
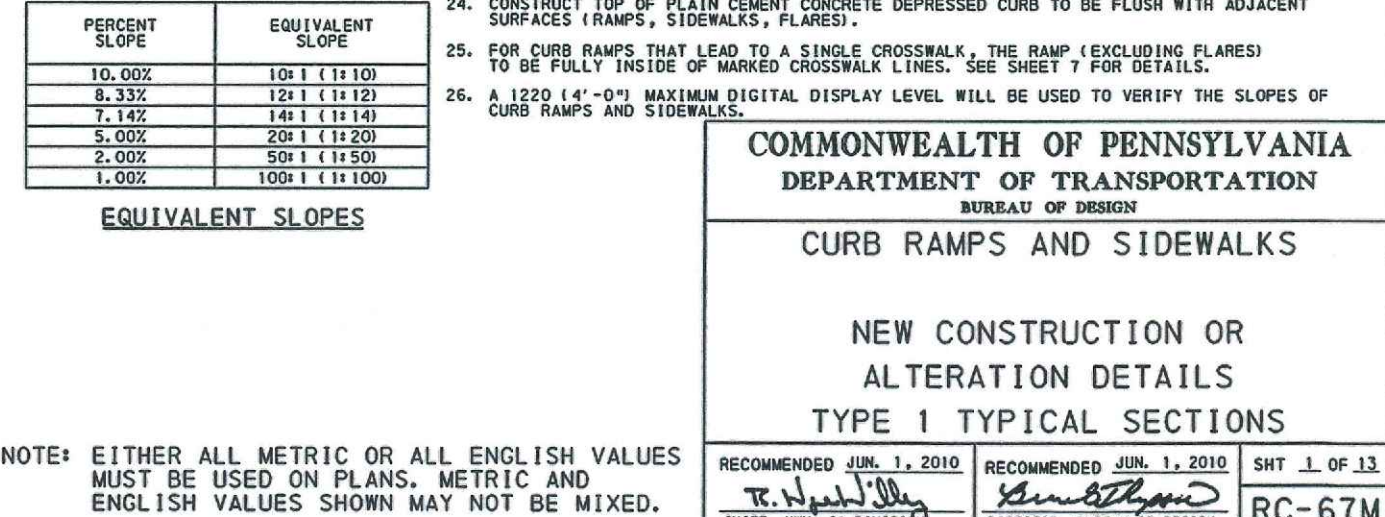
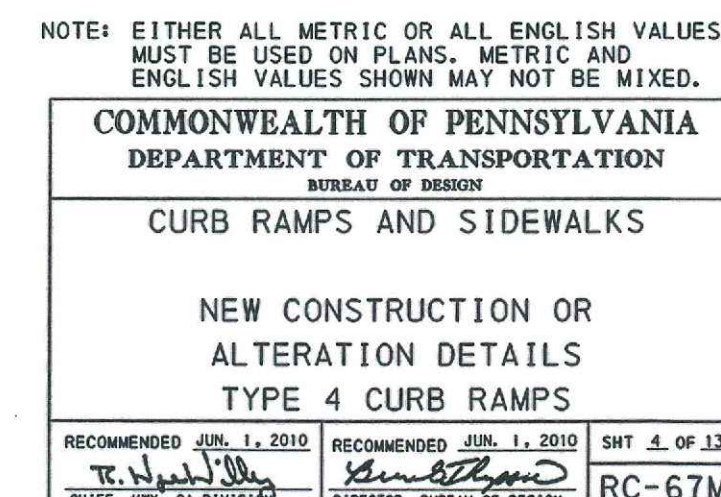
- ## HANDICAP MARKING PAINT SPEC. & NOTES
- 1) LINE STRIPING
 - A) SHERWIN WILLIAMS INDUSTRIAL
(SET FAST ACRYLIC WATERBORNE)
COLOR = BLUE (TM2133)
 - B) ALL LINE STRIPING TO BE 4" WIDE
 - C) THE DISTANCE FROM CENTERLINE TO CENTERLINE OF EACH ADJACENT HATCH MARK IS TO BE 2'-4".
 - D) ALL LINE STRIPING TO BE TWO COATS ON NEW SEALED OR UNSEALED ASPHALT. ONE COAT, TWO IF NECESSARY, ON SEALED ASPHALT. ONLY ONE COAT REQUIRED FOR CONCRETE.
 - 2) HC MARKING
 - A) SHERWIN WILLIAMS INDUSTRIAL
(SET FAST ACRYLIC WATERBORNE)
COLOR = BLUE (TM2133)
 - B) STROKE WIDTH MIN/STANDARD TO BE 3"
 - C) ALL LINE STRIPING TO BE TWO COATS ON NEW SEALED OR UNSEALED ASPHALT. ONE COAT, TWO IF NECESSARY, ON SEALED ASPHALT. ONLY ONE COAT REQUIRED FOR CONCRETE.
 - 3) STENCIL ORDERING INFO:
 - A) <http://store.parkinglotplanet.com/>
 - B) PHONE: (903) 566-5499
 - C) FAX: (866) 821-0552
-CUSTOMER SERVICE & TELEPHONE SALES
HOURS: MON. - FRI. 9:00am TO 5:00pm CST
 - D) PARKING LOT PLANET
2817 ROANOKE LN. #100
TYLER, TX 75701



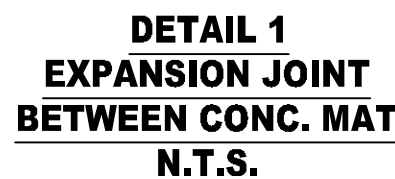
SIGN SIZE	DIMENSIONS(INCHES)								SERIES LINES		MAR- GIN	BOR- DER	BLANK STD
	A	B	C	D	E	F	G	H	1	2			
12X6	12	6	1 1/2	1 1/2	2 1/2	1	2 1/2	4	D*	D	1 1/2	1 1/2	85-1206

VAN ACCESSIBLE SIGN

<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: center;"> </div> <div style="text-align: right;"> CLIENT DATA </div> </div>															
<div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> </div> <div style="width: 60%;"> <p>Cornerstone Consulting Engineers & Architectural, Inc.</p> <p>213 West Main Street, Lansdale, PA 19446 Phone: 215-362-2600 Fax: 215-362-8400 WWW.CORNERSTONE1.COM</p> <p>Philadelphia Region 215-362-2600</p> <p>Lehigh Valley Region 610-820-8200</p> <p>Pocono Region 570-839-1770</p> </div> </div>															
<div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <p>REVISIONS</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>NO</th> <th>BY</th> <th>DESCRIPTION</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>DN</td> <td>REVISED PER TOWNSHIP COMMENTS</td> <td>9/2/2021</td> </tr> </tbody> </table> </div> <div style="width: 70%;"></div> </div>				NO	BY	DESCRIPTION	DATE	1	DN	REVISED PER TOWNSHIP COMMENTS	9/2/2021				
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<div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <p>PENNSYLVANIA ONE CALL SYSTEM, INC.</p> <p>925 Iron Run Road West Mifflin, Pennsylvania (512) 21-1078</p> </div> <div style="width: 70%; text-align: center;"> <p>BEFORE YOU DIG ANYWHERE IN PENNSYLVANIA! CALL 1-800-242-1776</p> <p>NON-MEMBERS MUST BE CONTACTED DIRECTLY PA-ANY BUSINESS THRU 1 WORKING DAYS NOTICE TO CITY/PLANS BEFORE YOU EXCAVATE! (HIT) (HIT) (HIT) (HIT) (HIT) (HIT)</p> </div> </div>															
<div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <p>J.B. ANDERSON</p> <p><i>(Signature)</i></p> <p>PROFESSIONAL ENGINEER PENNSYLVANIA LICENSE NO. PE165536 NEW JERSEY LICENSE NO. 25911 NEW JERSEY LICENSE NO. 24604520400 GEORGIA LICENSE NO. 001210572 FLORIDA LICENSE NO. 75184 NEW YORK LICENSE NO. 021667-1</p> </div> <div style="width: 70%;"></div> </div>															
<p style="text-align: center;">PROJECT LOCATION</p>															
<p>LAND DEVELOPMENT DOCUMENTS "SUNOCO 1451 PROVIDENCE ROAD"</p>															
<p style="text-align: center;">PROPOSED COMMERCIAL RE-DEVELOPMENT 1451 PROVIDENCE ROAD MEDIA, PENNSYLVANIA, 19063 DELAWARE COUNTY</p>															
<p style="text-align: center;">PREPARED FOR SIRHANDI ENTERPRISES, INC.</p>															
<p style="text-align: center;">TITLE</p>															
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SCALE	AS NOTED	CHK BY	JBA												
<p style="text-align: center;">SHEET 18 OF 27</p>															
<p style="text-align: center;">REVISION 1</p>															



1. ISLAND FORM IS STAINLESS STEEL, MANUFACTURED BY BURTCO.
2. SLOPE TOP OF ISLAND AWAY FROM DISPENSER AT 1/8" FEET FOR DRAINAGE.
3. FORMS ARE TO BE MADE SECURE & PROPERLY BRACED PRIOR TO CONCRETE POUR.
4. DISPENSER SUMPS ARE TO BE SUPPORTED BY ANGLED IRON BRACES (2 SUPPLIED WITH EACH FORM)
(SUMP HEIGHT IS PREDETERMINED TO PROVIDE SLOPE FOR DRAINAGE, SEE NOTE 2)



1. FOR WIRE MESH, SEE GENERAL NOTE #5
2. FOR WIRE MESH CHAIRS, SEE GENERAL NOTE #6



1/2" WIDE TYPE 2
EXPANSION JOINT,
RECESS JOINT
MATERIAL: 1/2"
FROM SURFACE;
ADD SELF
LEVELING SEALANT.
(SEE EXPANSION
JOINT NOTES).

1/4"
RADIUS

STEEL Dowel
SLEEVE
MFG. BY: GREENSTRAK
PART #: PSD09/#5TX
DR EQUAL

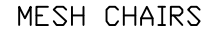
4" 4" 4" 4"

9" 9"

#5 DOWELS X 18" LONG
@ 12" OC. DRILL 3/4"
HOLE INTO EXISTING SLAB
THEN EPOXY BAR IN PLACE
WITH Sika HIGH MOD GEL
DR EQUAL.



1. FOR WIRE MESH, SEE GENERAL NOTE #5
2. FOR WIRE MESH CHAIRS, SEE GENERAL NOTE #6



DETAIL 2A
D KEY. JOINT SECTION
SCALE: NTS

1. KEY JOINTS:
 - A) DAYTON SUPERIOR G-33 SCREED KEY JOINT
(FOR 4", 5", & 6" SLABS)
 - B) DAYTON SUPERIOR G-34 LOAD KEY JOINT
(8" & 10" SLABS)
 - C) ALABAMA METALS VULCAN SCREED KEY
 - D) "FORM-A-KEY" KEY LDC
 - 7 1/2" KEY FOR 8" SLAB
 - 5 1/2" KEY FOR 6" SLAB
 - 1/2" KEY FOR 4" SLAB
 - E) FOR NYC ONLY USE KEY JOINT SUITABLE
FOR 9" THICK MAT

2. RECESS KEY JOINT 1/4" FROM SURFACE TO TOP OF PLASTIC CAP ON KEY JOINT. TOOL CONCRETE EDGES 1/4" RADIUS
3. USE PLASTIC CAP STRIP (DAYTON SUPERIOR G-38); REMOVE CAP AFTER CONCRETE POUR.
4. INSTALL SELF LEVELING SEALANT USED FOR EXPANSION JOINTS, SEE EXPANSION JOINT NOTES (NOTE C).



1. FOR WIRE MESH, SEE GENERAL NOTE #5
2. FOR WIRE MESH CHAIRS, SEE GENERAL NOTE #6

DETAIL 3
SECTION OF CONC. SLAB ADJOINING BITUMINOUS
N.T.S.



1. STORE FRONT PROTECTION:

- TO BE LOCATED IN FRONT OF FULL HEIGHT STORE FRONT GLASS AND VESTIBULES.
- SPACING FOR PROPER PROTECTION FROM VEHICLE CONTACT IS 5 FEET CENTER TO CENTER.
- POSTS TO BE INSTALLED 9 INCHES FROM EDGE OF CONCRETE WALK.
- HEIGHT IS TO BE 36 INCHES ABOVE GRADE.
- PIPE TO BE 6 INCH DIAMETER, SCHEDULE 40.
- BOLLARDS ARE TO BE INSTALLED IN AN 8 INCH, SCHEDULE 40 PVC SLEEVE. PACK WITH SAND AND NON-SHRINK GROUT TOP 2 INCHES.
- STEEL TO BE PRIME COATED PRIOR TO INSTALLING VINYL COVER.
- VINYL BOLLARD COVERS TO BE INSTALLED ON ALL MANUFACTURED BY POST GUARD - SMITHFIELD MI ITEM 338.
- COLORS: GRAY WITH WHITE STRIPES-GENERAL
- BLUE WITH WHITE STRIPES-ADA PARKING.

2. VENT PIPING, PROPANE TANKS AND EQUIPMENT PROTECTION:

- SPACING FOR PROPER PROTECTION FROM VEHICLE CONTACT IS 5 FEET CENTER TO CENTER.
- POSTS ARE TO BE INSTALLED NO FURTHER THAN 3 FEET FROM PROTECTED OBJECT.
- HEIGHT IS TO BE 36 INCHES ABOVE GRADE.
- PIPE TO BE 4 INCH DIAMETER, SCHEDULE 40.
- BOLLARDS ARE TO BE INSTALLED IN A 6 INCH, SCHEDULE 40 PVC SLEEVE, PACK WITH SAND AND NON-SHRINK GROUT TOP 2 INCHES.
- STEEL TO BE PRIME COATED PRIOR TO INSTALLING VINYL COVER..

1. CONCRETE WORK AND MATERIALS TO CONFORM TO ALL REQUIREMENTS OF THE LATEST REVISIONS OF CODES ACI 301 & ACI 318.
2. USE 4000 PSI CONCRETE (READY-MIXED ASTM C-94 OR MIXED-ON-JOB ACI 304), (SLUMP 2"-4"; MIN WATER / CEMENT RATIO IS 0.4 TO 1, AIR CONTENT SHALL BE 4.5 % MIN AND 7.5% MAX).
3. ANCHOR BOLTS TO BE ASTM A-307 STEEL.
4. REINFORCING STEEL TO BE ASTM A-615 GRADE 60 KSI, DEFORMED BILLET STEEL BARS.
5. WIRE MESH TO BE ASTM A-185 ELECTRIC WELDED WIRE FABRIC (6" x 6"-W2.9 x W2.9). MESH IS TO BE OVERLAPPED 6" AND TO BE EXTENDED TO WITHIN 3" OF JOINTS AND EDGE OF MAT (WIRE MESH TO BE IN FLAT SHEETS, NOT ROLLS).
6. FOR SUPPORT OF ALL WIRE MESH IN SLABS USE 2" WIRE MESH CHAIRS (WAS-CON OR EQUAL), SPACED AT 4 FT INTERVALS.
7. UNSATISFACTORY SUB-GRADE MATERIAL MUST BE REMOVED
8. &
9. FILL MATERIAL MUST MEET SPECIFICATION ASTM M-33 FOR CRUSHED STONE. FILL UNDER CURBS, WALKS, DRIVEWAYS TRASH ENCLOSURE AND ISLAND MATS. SHALL BE 6" (MINIMUM) OF CRUSHED STONE.
10. CONCRETE PLACEMENT NOT PERMITTED WHEN TEMPERATURE IS BELOW 40°F AND FALLING OR BELOW 30°F AND RISING. DO NOT POUR CONCRETE IF BACKFILL IS FROZEN.
11. TEMPORARY FORMS TO REMAIN IN PLACE FROM 24 TO 72 HOURS.
12. CONSTRUCTION LOADS NOT PERMITTED BEFORE 7 DAYS WITHOUT OWNER APPROVAL.
13. &
14. THE ONLY OWNER APPROVED USE OF CONCRETE PRIOR TO 7 DAYS DURING THE USE OF HIGH EARLY STRENGTH CONCRETE (4000 PSI WITH ASTM C-150 TYPE III PORTLAND CEMENT) FOR SLABS SPECIFICALLY DESIGNATED AT OPERATING LOCATIONS FOR VEHICULAR TRAFFIC AFTER 72 HOURS.
15. TOP OF ISLANDS, WALKS, & SLABS TO RECEIVE A FINE BROOM FINISH AND BE SEALED PER SPECIFICATIONS.
16. &
17. USE HYDRAULIC CEMENT "5-Star GROUT" OR APPROVED EQUAL FOR BASE PLATE GROUT (NON-SHRINK) AND BUMPER POST.
18. REINFORCING WIRE MESH MINIMUM COVER IS 2".
19. SLOPE TANK MATS AND ISLAND MATS IN ACCORDANCE WITH PLOT PLAN. TANK MATS AND ISLAND MATS SHALL BE SURFACED SUCH THAT LIQUID WILL FLOW AWAY FROM MAINWAYS, SPILL CONTAINERS AND ISLANDS AND WILL NOT ALLOW PONDING. OVERALL FLATNESS SHALL BE A MIN. 1/8" / FT SLOPE ON CONC.
20. EXPOSED CORNERS ON CONCRETE FOOTINGS SHALL BE CHAMFERED 3/4 ".
21. VOIDS ON ANY FORMED CONCRETE SURFACES ARE TO BE POINTED-UP WITH 1:2 CEMENT MORTAR MIX AND ALL SURFACES WETTED AND RUBBED WITH CARBONUDRUM BRICK OR OTHER ABRASIVE UNTIL UNIFORM COLOR AND TEXTURE IS PRODUCED.

22. CONCRETE SEALER

- ALL HORIZONTAL CONCRETE SHOULD BE SEALED WITH V-SEAL 102 EXCEPT STAMPED CONCRETE
- ALL HORIZONTAL STAMPED CONCRETE SHOULD BE SEALED WITH V-SEAL 101
- MR. MEADOWS VOCOM-30 WILL BE REPLACED BY V-SEAL 102 FOR ALL CONCRETE SEALING APPLICATIONS
- V-SEAL SHOULD BE APPLIED ACCORDING TO THE ATTACHED APPLICATION SPECIFICATIONS.

NEW CONCRETE:

- APPLY V-SEAL 102 AS A CURING AGENT AFTER ALL BLEED WATER IS GONE, FINISHING IS COMPLETE, AND CONCRETE CAN WITHSTAND THE WEIGHT OF A PERSON WITHOUT MARRING BROWED SURFACE. (DEPENDING ON ATMOSPHERIC CONDITIONS CURING CAN VARY FROM 3-12 HOURS FROM FINAL FINISHING.) NEVER POURED CONCRETE SHOULD NOT BE SUBJECTED TO RAIN OR OTHER SOURCES OF WATER PRIOR TO OBTAINING SURFACE HARNESS. APPLY UNIFORMLY USING A LOW PRESSURE SPRAYER. COVERAGE RATE OF POROSITY OF CONCRETE. THE PRODUCT SHOULD PRODUCE AN EVEN WEET SHEET WITH NO PUDDLES. PUDDLES SHOULD BE IMMEDIATELY DISPERSED WITH LIGHT ROLLING, BEING CAREFUL NOT TO MARK SURFACE. PRODUCT SHOULD BE COMPLETELY ABSORBED IN APPROXIMATELY 1 MINUTE LEAVING A CLEAR FINISH. SURFACE SHOULD BE DRY TO THE TOUCH IN 1-3 HOURS, BUT SHOULD NOT BE WALKED ON FOR AT LEAST 6 HOURS.
- A SECOND COAT OF V-SEAL 102 SHOULD BE APPLIED WITHIN 7 TO 10 DAYS OF THE FIRST COAT USING A LOW PRESSURE SPRAYER AND BACK ROLLING FOR BETTER ABSORPTION. CONCRETE SHOULD BE DRY TO THE TOUCH AFTER 3 HOURS AND CAN BE OPENED TO TRAFFIC IN 6-12 HOURS (DEPENDING ON ABSORPTION AND DRYING RATE).

EXISTING CONCRETE:

- ENSURE SURFACE IS CLEAN AND FREE OF DIRT, OIL, WAXEN, PAINT, AND TOPICAL COATINGS. ALSO ENSURE THAT SURFACE IS DRY. APPLY V-SEAL 102 USING A LOW PRESSURE SPRAYER. SPECIFIC COVERAGE RATE IS BASED UPON SUBSTRATE POROSITY. THE PRODUCT SHOULD PRODUCE AN EVEN WEET SHEET WITH NO PUDDLES. PUDDLES SHOULD BE IMMEDIATELY DISPERSED WITH LIGHT ROLLING. PRODUCT SHOULD BE COMPLETELY ABSORBED IN APPROXIMATELY 1 MINUTE LEAVING A CLEAR FINISH. CONCRETE SHOULD BE DRY TO THE TOUCH AFTER 3 HOURS AND CAN BE OPENED TO TRAFFIC IN 6-12 HOURS (DEPENDING ON ABSORPTION AND DRYING RATE).

A) TYPE 1 FLEXIBLE FLOW EXPANSION JOINT CERAMAR AS MFG. BY W.R. MEADOWS OR EQUIVALENT USED TO FOLLOW CURB OF ISLAND FORM AND COLUMNS RECESS EXP JOINT. 1/4" FROM SURFACE

B) TYPE 2 FIBER EXPANSION JOINT COMPOSED OF CELLULAR FIBERS BONDED WITH ASPHALT AS MFG. BY W.R. MEADOWS OR EQUIVALENT. (SEALTIGHT FIBERS EXPANSION JOINT FILLER CAPPED WITH W.R. MEADOWS SNAP CAP 1/2" SIZE) RECESS EXP JOINT, 1/4" FROM SURFACE.

C) SEALANT USED FOR EXPANSION JOINTS TYPE 1 AND TYPE 2 ARE SPECIFIED AS: "THE" 900/901 MANUFACTURED BY TREMCO SEALTIGHT CARDOW MANUFAC BY W.R. MEADOWS SGA SINGLE COMPONENT URETHANE SEALANT "1A" IS RESISTANT TO OIL AND GAS, AND IS SELF LEVELING AND COLORABLE NON-SAGGY TYPE. (COLOR: GRAY)

The Sunoco Plus logo, featuring the word "SUNOCO" in a bold, italicized, sans-serif font above the word "Plus" in a stylized, cursive script font. A small sunburst icon is positioned above the "i" in "Plus".

Cornerstone
Consulting Engineers & Architectural, Inc.

213 West Main Street, Lansdale, PA 19446
Phone: 215-362-2600, Fax: 215-362-8400
WWW.CORNERSTONENET.COM

Lehigh Valley Region
610-820-8200

Philadelphia Region
215-362-2600

Lehigh Valley Region
610-820-8200

[illegible]

PENNSYLVANIA
ONE CALL SYSTEM, INC.



BEFORE YOU DIG ANYWHERE IN
PENNSYLVANIA! CALL 1-800-242-1776

NON-MEMBERS MUST BE
CONTACTED DIRECTLY
PA LAW REQUIRES THREE WORKING DAYS
NOTICE TO UTILITIES BEFORE YOU EXCAVATE
DRILL, BLAST OR DEMOLISH

J.B. ANDERSON
PROFESSIONAL ENGINEER
DELAWARE LICENSE No. PE 15438
PENNSYLVANIA LICENSE No. PE 055536
MARYLAND LICENSE No. 29313
NEW JERSEY LICENSE No. 24GE04520400
VIRGINIA LICENSE No. 0402 045725
FLORIDA LICENSE No. 75184
NEW YORK LICENSE No. 093667 1

LAND DEVELOPMENT DOCUMENTS
"SUNOCO 1451 PROVIDENCE ROAD"

PROPOSED COMMERCIAL
RE-DEVELOPMENT
1451 PROVIDENCE ROAD
MEDIA, PENNSYLVANIA, 19063
DELAWARE COUNTY

PREPARED FOR
SIRHANDI ENTERPRISES, INC

SITE DETAILS

PROJ. #	19-0425	DATE	05-21-2021
CAD ID.	19-0425	DRN BY	GTM
STATUS	AS NOTED	WWW.EPA	ETC

SHEET 20 OF 27

REVISION 1

NO	BY	DESCRIPTION	DATE	REVISIONS									
				REVISED PER TOWNSHIP COMMENTS									
1	DN		9/2/2021										

PENNSYLVANIA
ONE CALL SYSTEM, INC.923 Irwin Run Road
West Mifflin, Pennsylvania
15122-1678BEFORE YOU DIG ANYWHERE IN
PENNSYLVANIA! CALL 1-800-242-1776NON-MEMBERS MUST BE
CONTACTED DIRECTLY
PALAY! REQUIRES THREE WORKING DAYS
NOTICE TO UTILITIES BEFORE YOU EXCAVATE.
(DIRECT READING IS REQUIRED)

J.B. ANDERSON
PROFESSIONAL ENGINEER
PENNSYLVANIA LICENSE No. PE 05838
PENNSYLVANIA LICENSE No. PE 05536
PAINT AND LICENSE No. 29113
NEW JERSEY LICENSE No. JAGEM520400
VIRGINIA LICENSE No. 660106725
FLORIDA LICENSE No. 75184
NEW YORK LICENSE No. 093667-1

PROJECT LOCATION

LAND DEVELOPMENT DOCUMENTS
"SUNOCO 1451 PROVIDENCE ROAD"PROPOSED COMMERCIAL
RE-DEVELOPMENT
1451 PROVIDENCE ROAD
MEDIA, PENNSYLVANIA, 19063
DELAWARE COUNTYPREPARED FOR
SIRHANDI ENTERPRISES, INC.

TITLE

SITE DETAILS

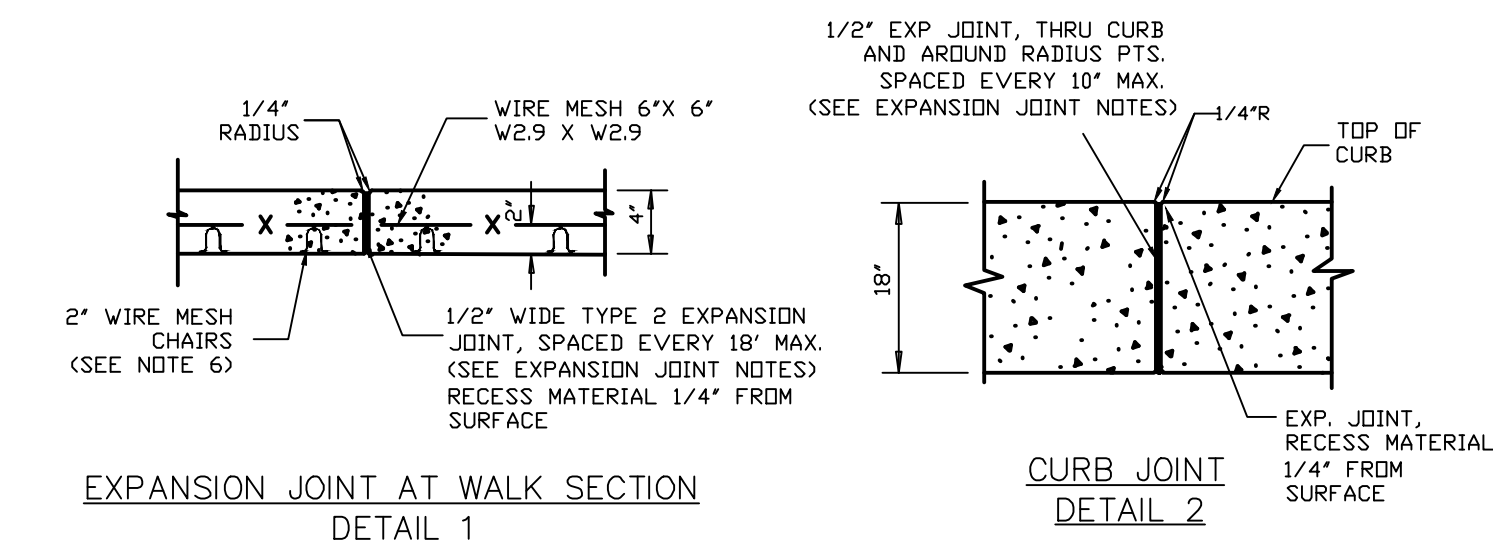
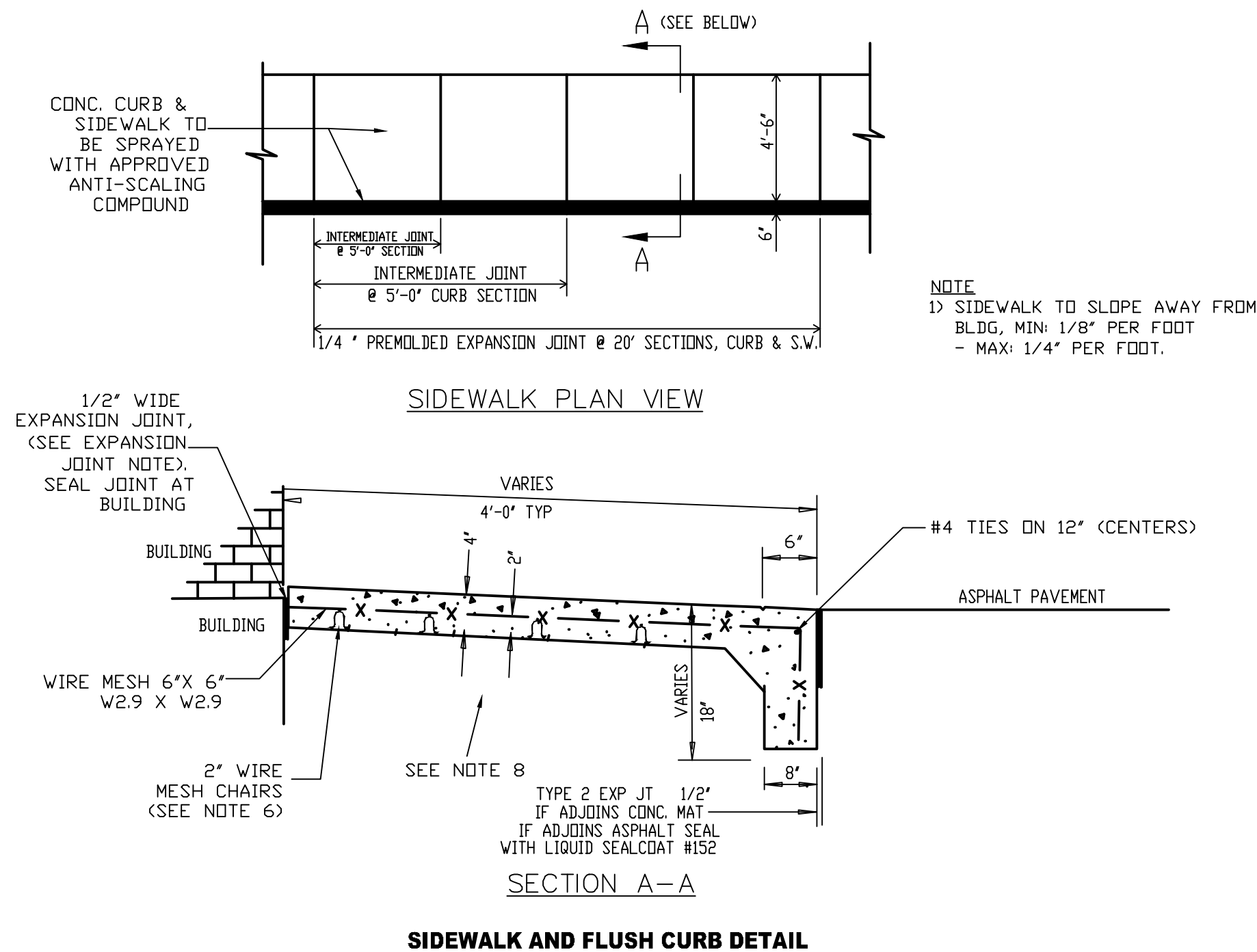
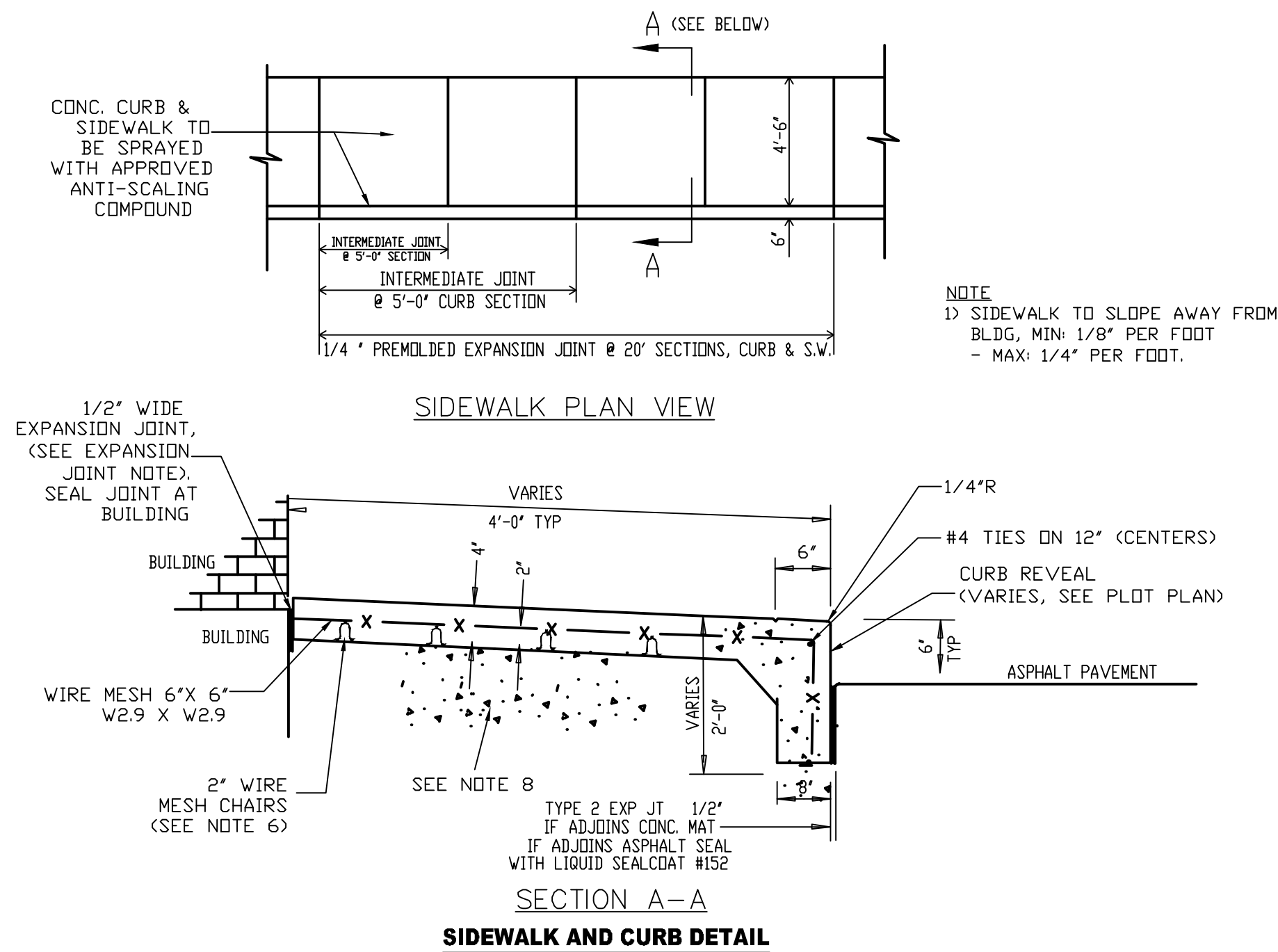
PROJ. #	19-0425	DATE	05-21-2021
CAD ID	19-0425	DRN BY	GTM
SCALE	AS NOTED	CHK BY	JBA

SHEET 21 OF 27

REVISION I

GENERAL NOTES:

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- CONSTRUCTION LOADS NOT PERMITTED BEFORE 7 DAYS WITHOUT OWNER APPROVAL.
- THE ONLY OWNER APPROVED USE OF CONCRETE PRIOR TO 7 DAYS CURING IS THE USE OF HIGH EARLY STRENGTH CONCRETE (4000 PSI WITH ASTM C-150 TYPE III PORTLAND CEMENT) FOR SLABS SPECIFICALLY DESIGNATED AT OPERATING LOCATIONS FOR VEHICULAR TRAFFIC AFTER 72 HOURS.
- TOP OF ISLANDS, WALKS, & SLABS TO RECEIVE A FINE BROOM FINISH AND BE SEALED PER SPECIFICATIONS.
- USE HYDRAULIC CEMENT "5-STAR GROUT" OR APPROVED EQUAL FOR BASE PLATE GROUT (NON-SHRINK) AND AND BUMPER POST.
- REINFORCING WIRE MESH MINIMUM COVER IS 2".
- SLOPE TANK MATS AND ISLAND MATS IN ACCORDANCE WITH PLOT PLAN. TANK MATS AND ISLAND MATS SHALL BE SURFACED SUCH THAT LIQUID WILL FLOW AWAY FROM MANWAYS, SPILL CONTAINERS AND ISLANDS AND WILL NOT ALLOW PONDING. OVERALL FLATNESS SHALL BE A MIN. 1/8" / FT SLOPE ON CONE.
- EXPOSED CORNERS ON CONCRETE FOOTINGS SHALL BE CHAMFERED 3/4".
- VOIDS ON ANY FORMED CONCRETE SURFACES ARE TO BE POINTED-UP WITH 1:2 CEMENT MORTAR MIX AND ALL SURFACES WETTED AND RUBBED WITH CARBORUNDUM BRICK OR OTHER ABRASIVE UNTIL UNIFORM COLOR AND TEXTURE IS PRODUCED.
- FOR CANDPY, TANK MATS, CONCRETE PARKING, AND CONCRETE SIDEWALKS, SEAL COAT WITH W.R. MEADOWS VDCOMP-30 PER MANUFACTURER'S INSTALLATION PROCEDURES.
A) FOR NEW CANDPY, TANK MATS, AND CONCRETE PARKING, 2 COATS ARE REQUIRED. FOR WALKWAYS, ONLY 1 COAT IS REQUIRED.
B) FOR EXISTING CONCRETE SEALER INSTALLATION, CONCRETE MUST BE CLEAN AND DRY (REMOVE ALL OIL, GREASE, AND DUST) PRIOR TO INSTALLATION.
C) APPLY W.R. MEADOWS VDCOMP-30 WHEN THE SURFACE WATER HAS DISAPPEARED AND THE CONCRETE SURFACE WILL NOT BE MARRED BY WALKING WORKMAN, FIRST COAT WITHIN 72 HOURS, SECOND COAT WITHIN 2 WEEKS.
- ASPHALT PAVEMENT GUIDELINES: ALL INSTALLATIONS PROCEDURES AND MATERIALS USED ARE TO BE IN ACCORDANCE WITH LOCAL STATE HIGHWAY DEPARTMENT (LSH) SPECIFICATIONS. REVIEW INSTALLATION PROCEDURES WITH SUNOCO FIELD ENGINEER.
A) BASE COURSE MATERIALS: SOUND ANGULAR CRUSHED STONE, CRUSHED GRAVEL, RECYCLED CONCRETE, SAND, OR STONE SCREENINGS, PER LSH SPECIFICATIONS.
B) BINDER COURSE: 3.5%-8% OF ASPHALT CEMENT BY WEIGHT MIXTURE. MIX GRADIENT (1-1/2" MAX) PER LSH SPECIFICATIONS.
C) WEARING COURSE: 4.5%-9.5% OF ASPHALT CEMENT BY WEIGHT MIXTURE. MIX GRADIENT (3/4" MAX) PER LSH SPECIFICATIONS.
D) DIMENSIONS SHOWN IN DETAILS 7A & 7B ARE COMPACTED DIMENSIONS.
E) DO NOT PLACE ASPHALT WHEN AMBIENT OR BASE SURFACE TEMPERATURE IS LESS THAN 40°F, OR BASE IS WET OR FROZEN.
F) FOR RE-SURFACING INSTALL A TACK COAT TO EXISTING SURFACE IMMEDIATELY PRIOR TO PAVING. WEARING COURSE IS TO BE A COMPACTED THICKNESS OF 1-1/2". INSTALLATION PROCEDURES IN ACCORDANCE WITH LSH SPECIFICATIONS.
G) NOTES ON TYPE 2 EXPANSION JOINTS:
1) TYPE 2 FIBER EXPANSION JOINT COMPOSED OF CELLULAR FIBERS BONDED WITH ASPHALT AS MANUFACTURED BY W.R. MEADOWS OR EQUIVALENT. SEALTIGHT FIBERS EXPANSION JOINT FILLER CAPPED WITH W.R. MEADOWS SNAP CAP 1/2" SIZE. RECESS EXP. JOINT 1/4" FROM SURFACE.
2) SEALANT USED FOR EXPANSION JOINT TYPE 2 ARE SPECIFIED AS "THC" 900/901 MANUFACTURED BY TREMCO SEALTIGHT GARDOLX MANUFACTURED BY W.R. MEADOWS Sika SINGLE COMPONENT URETHANE SEALANT "1A" IS RESISTANT TO OIL AND GAS, AND IS SELF-LEVELING AND GUNABLE NON-SAGGING TYPE. COLOR: GRAY.



GENERAL NOTES:

- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. U.S. CUSTOMARY UNITS IN () PARANTHESIS.
- METRIC UNITS INDICATED ARE SOFT CONVERTED FROM U.S. CUSTOMARY UNITS.
- DESIGN SPECIFICATIONS AND REQUIREMENTS:
 - ASHTO LRFD BRIDGE DESIGN SPECIFICATIONS AND AS SUPPLEMENTED BY THE DESIGN MANUAL, PART 4, STRUCTURES.
 - DESIGN IS IN ACCORDANCE WITH THE LOAD AND RESISTANCE FACTOR DESIGN METHOD (LRFD).
 - INLET BOXES ARE DESIGNED FOR AN ALLOWABLE FOUNDATION PRESSURE EQUAL TO 0.150 MPa (2.0 TONS/SQ. FT.) AT THE SERVICE LIMIT STATE.
- CONSTRUCTION SPECIFICATIONS:
 - PROVIDE MATERIALS AND PERFORM WORK IN ACCORDANCE WITH THE CURRENT VERSION OF THE PENNSYLVANIA DEPARTMENT OF TRANSPORTATION PUBLICATION 408 AND THE CONTRACT SPECIAL PROVISIONS.
- SHOP DRAWINGS FOR INLET BOXES, TOP SLABS, AND TRANSITION SLABS ARE NOT REQUIRED IF THE ITEM IS CONSTRUCTED/FABRICATED IN ACCORDANCE WITH THIS STANDARD.
- THIS STANDARD DEPICTS THE DIMENSIONS REQUIRED FOR UNIFORMITY AND INTERCHANGEABILITY. IT DOES NOT INCLUDE DETAILS REQUIRED FOR FABRICATION OR MANUFACTURING. FOR DEVIATIONS OR NOTIFICATIONS OF THE STANDARDS, SUBMIT SHOP DRAWINGS TO THE BUREAU OF DESIGN HIGHWAY QUALITY ASSURANCE DIVISION CHIEF FOR REVIEW AND ACCEPTANCE.
- THE DESIGNER IS RESPONSIBLE FOR DETERMINING THE TYPE OF INLET BOX REQUIRED BASED ON THE REQUIRED PIPE SIZE(S) AND PIPE OPENING(S). REFER TO TABLES A AND B ON SHEET 45 FOR ADDITIONAL INFORMATION. THE DESIGNER IS ALSO RESPONSIBLE TO DETERMINE THE REQUIRED PAY ITEM FOR AN INSTALLATION BASED ON THE OVERALL INSTALLATION HEIGHT.
- THE SELECTION OF COMPONENTS TO ACHIEVE A SPECIFIED INLET ASSEMBLY IS THE CONTRACTOR'S RESPONSIBILITY, UNLESS OTHERWISE INDICATED ON THE CONTRACT DOCUMENTS.
- THE SIZE OF THE INLET TOP UNITS, PER RC-45M, ARE BASED ON THE MINIMUM DIMENSIONS INDICATED FOR THE STANDARD INLET BOX.
- MINIMUM PIPE DIAMETERS (INSIDE):
 - FILL HEIGHT LESS THAN OR EQUAL TO 7600 mm (25') ± 450 mm (18") FOR CIRCULAR PIPE (OR EQUIVALENT SIZE PIPE ARROUND)
 - FILL HEIGHTS GREATER THAN 7600 mm (25') ± 600 mm (24")
- INLET INLET BOX DIMENSIONS ARE BASED ON PROVIDING A PIPE OPENING TO ACCOMMODATE A MINIMUM 450 mm (18") PIPE TO A MAXIMUM 2438 mm (98") PIPE. IF A LARGER PIPE SIZE IS REQUIRED, THE DESIGNER IS RESPONSIBLE FOR PROVIDING DESIGN AND DETAILS IN ACCORDANCE WITH PENNDOT REQUIREMENTS.
- INLETS THAT EXCEED THE MAXIMUM HEIGHT INDICATED REQUIRE SPECIAL DESIGN AND DETAILS. DESIGNER IS RESPONSIBLE FOR PROVIDING DESIGN AND DETAILS IN ACCORDANCE WITH PENNDOT REQUIREMENTS.
- SHOW ORIENTATION OF INLET BOXES ON THE CONTRACT DRAWINGS.
- THE TOP SLAB IS NOT PERMITTED TO BE POURED MONOLITHICALLY WITH THE ADJACENT BOX SECTION.
- PROVIDE 50 mm (2") DIAMETER WEEPHOLES IN THE WALLS WHEN THE DEPTH BETWEEN THE FINISHED GRADE ELEVATION AND THE TOP OF BOTTOM SLAB ELEVATION IS GREATER THAN 3048 mm (10'-0").
 - VERTICAL PLACEMENT: 1500 mm (5'-0") MAXIMUM SPACING
 - HORIZONTAL PLACEMENT: PLACE WEEPHOLES IN THE SIDE WALLS THAT ARE PERPENDICULAR TO TRAFFIC.
 - LOCATE WEEPHOLES A MINIMUM OF 150 mm (6") FROM PIPE OPENINGS OR JOINTS.
 - LOCATE WEEPHOLES A MINIMUM OF 305 mm (1'-0") ABOVE OUTLET PIPE INVERT.
- PROVIDE MANHOLE STEPS WHEN THE DEPTH BETWEEN THE FINISHED GRADE ELEVATION AND THE TOP OF BOTTOM SLAB ELEVATION IS GREATER THAN 1500 mm (5'-0"). SHALLOW RECESSES, ON THE INSIDE FACE OF THE INLET, NOT GREATER THAN 10 mm (3/8") IN DEPTH, FORMED BY MAGNETIC FIELD FORMERS ARE ACCEPTABLE AND DO NOT REQUIRE PATCHING. FOR DETAILS, REFER TO RC-59M.
- IF A REQUIRED DETAIL IS NOT FOUND IN THIS STANDARD OR ON THE CONTRACT DRAWINGS A SPECIAL SUBMISSION REQUESTING ACCEPTANCE FOR SPECIFIC DETAILS MUST BE MADE TO THE BUREAU OF DESIGN HIGHWAY QUALITY ASSURANCE DIVISION CHIEF.
- FOR INLET TOPS, GRATES, GRADE ADJUSTMENT RINGS AND FRAMES, REFER TO RC-45M.

MATERIAL NOTES:

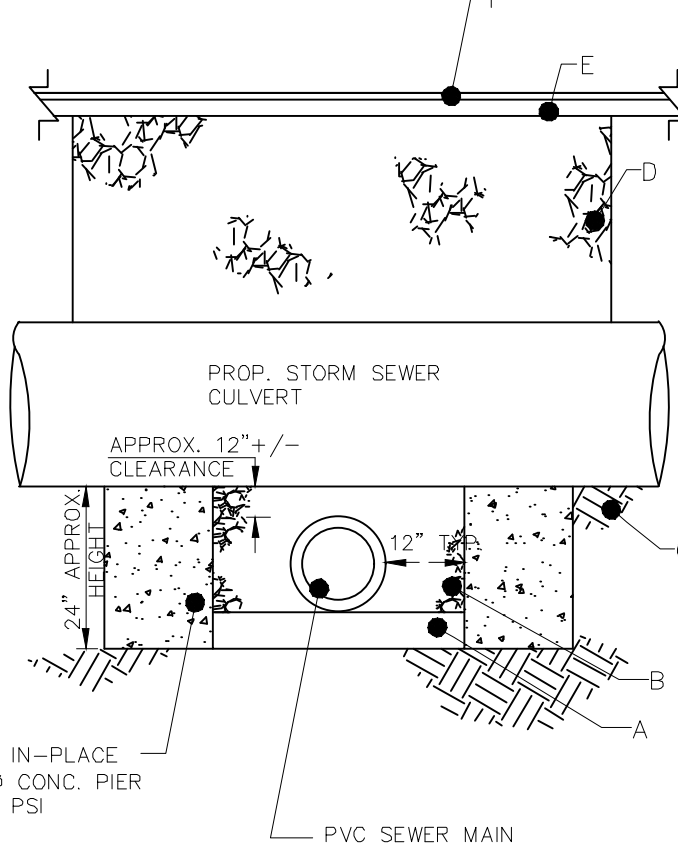
- PROVIDE THE FOLLOWING CONCRETE CLASS:
 - CAST-IN-PLACE CLASS A CEMENT CONCRETE
 - DESIGN COMPRESSIVE STRENGTH, f'_{ci} = 21 MPa (3,000 PSI)
 - PRECAST CLASS A CEMENT CONCRETE, MODIFIED
 - DESIGN COMPRESSIVE STRENGTH, f'_{ci} = 28 MPa (4,000 PSI)
- A HIGHER STRENGTH OF CONCRETE MAY BE SUBSTITUTED FOR A LOWER STRENGTH OF CONCRETE AT NO ADDITIONAL COST TO THE DEPARTMENT. SUBMIT MIX DESIGN TO THE DEPARTMENT FOR REVIEW AND ACCEPTANCE.
- REINFORCEMENT STEEL:
 - PROVIDE GRADE 400 (GRADE 60) DEFORMED REINFORCEMENT BARS THAT MEET THE REQUIREMENTS OF ASTM A615M (A615) OR ASTM A706M (A706). DO NOT WELD REINFORCEMENT BARS WITHOUT A PENNDOT APPROVED WELDING PROCEDURE.
 - ALL REINFORCEMENT BARS SHOWN ARE SOFT CONVERTED METRIC SIZES.
 - PROVIDE MINIMUM LAP AND EMBEDMENT LENGTH FOR REINFORCING BARS OF 30 DIAMETERS IN ACCORDANCE WITH THE CURRENT ASHTO SPECIFICATIONS AS MODIFIED BY THE DESIGN MANUAL PART 4, WHICHEVER IS GREATER. (REFER TO TABLE ON SHEET 3)
 - BAR SPACING:
 - MINIMUM SPACING = 102 mm (4")
 - MAXIMUM SPACING = 305 mm (1'-0") OR 1.5 MEMBER THICKNESS
 - PERMITTED BAR SIZES:
 - INLET BOXES: #10 (#3), #13 (#4), #16 (#5), #19 (#6)
 - LARGER BAR SIZES ARE PERMITTED IN THE TOP SLABS AND TRANSITION SLABS.
 - MINIMUM AREA OF STEEL REQUIREMENTS FOR REINFORCEMENT BARS:
 - WALLS = 318 mm²/m (0.15 in²/ft) EACH WAY
 - TOP MAT = 424 mm²/m (0.20 in²/ft) EACH WAY
 - BOTTOM MAT = 424 mm²/m (0.20 in²/ft) EACH WAY
- WELDED WIRE FABRIC (WFF):
 - PROVIDE GRADE 400 (GRADE 60) PLAIN WELDED WIRE FABRIC THAT MEET THE REQUIREMENTS OF ASTM A185 OR GRADE 480 (GRADE 70) DEFORMED WELDED WIRE FABRIC THAT MEET THE REQUIREMENTS OF ASTM A497.
 - ALL WELDED WIRE FABRIC SHOWN IS SOFT CONVERTED METRIC SIZES.
 - PROVIDE MINIMUM LAP SPACES FOR WELDED WIRE FABRIC EQUAL TO THE LARGER OF TWO GRID SPACINGS OR 305 mm (12").
 - WIRE SPACING:
 - MINIMUM SPACING = 51 mm (2")
 - MAXIMUM SPACING = 305 mm (1'-0") OR 1.5 MEMBER THICKNESS
 - PERMITTED WIRE SIZES:
 - MINIMUM WIRE SIZE = MW25 (#4) (MW26 (D4))
 - MAXIMUM WIRE SIZE = MW29 (#5) (MW29 (D5))
 - WFF IS NOT PERMITTED IN THE CAST-IN-PLACE INLET BOXES.
 - MINIMUM AREA OF STEEL REQUIREMENTS FOR WFF:
 - WALLS = 259 mm²/m (0.12 in²/ft) EACH WAY
 - TOP MAT = 424 mm²/m (0.20 in²/ft) EACH WAY
 - BOTTOM MAT = 424 mm²/m (0.20 in²/ft) EACH WAY
- NON-SHRINK GROUT:
 - PROVIDE NON-SHRINK GROUT IN ACCORDANCE WITH PUBLICATION 408, SECTION 1001.21(c).
- EPOXY BONDING COMPOUND:
 - PROVIDE EPOXY BONDING COMPOUND IN ACCORDANCE WITH PUBLICATION 408, SECTION 706.1.
- MORTAR:
 - PROVIDE MORTAR IN ACCORDANCE WITH PUBLICATION 408, SECTION 705.7(b).
- CAULKING COMPOUND:
 - PROVIDE CAULKING COMPOUND IN ACCORDANCE WITH PUBLICATION 408, SECTION 705.8(c).
- GASKETS:
 - PROVIDE GASKETS IN ACCORDANCE WITH PUBLICATION 408, SECTION 705.5(b).
- MANHOLE STEPS:
 - PROVIDE MANHOLE STEPS IN ACCORDANCE WITH PUBLICATION 408, SECTION 605.21(c).
- SUBBASE MATERIAL AND PREPARATION:
 - SECTION 705.2 AND COMPACT IN ACCORDANCE WITH PUBLICATION 408, SECTION 350.31(c).
 - PLACE AND COMPACT IN 100 (4") MAXIMUM LAYERS.
 - PROVIDE A 300 mm (1'-0") MINIMUM DEPTH.

FIELD CONSTRUCTION NOTES:

- CONSTRUCT OR PLACE INLET BOXES LEVEL, UNLESS OTHERWISE INDICATED OR DIRECTED.
- CONSTRUCT OR PLACE INLET BOXES ON A SUBBASE CONSTRUCTED OF COMPACTED NO. 2A COARSE AGGREGATE. PLACE AND COMPACT IN 100 mm (4") LAYERS TO PROVIDE A 300 mm (1'-0") MINIMUM DEPTH.
- LOCATE PIPE OR PIPES AS INDICATED OR DIRECTED.
- CONNECT PIPES TO INLET BOXES WITH MORTAR OR WATERTIGHT RUBBER FLEXIBLE CONNECTORS.
- FORM BOTTOM OF INLET, USING CLASS A CEMENT CONCRETE, TO CHANNEL THE FLOW TOWARD THE OUTLET PIPE. PROVIDE #13 (#4) REINFORCEMENT BARS SPACED AT 300 mm (12") CENTER TO CENTER MAXIMUM WHEN THE THICKNESS EXCEEDS 15 mm (3/8").
- BACKFILL EXCAVATED SPACES AROUND THE STRUCTURE WITH ACCEPTABLE EMBANKMENT MATERIAL.
- THE FOLLOWING ITEMS ARE INCIDENTAL TO THE COST OF THE INLET BOX PAY ITEM EXCAVATION, COMPACTED NO. 2A COARSE AGGREGATE, INLET BOX, CLASS A CEMENT CONCRETE TO CHANNEL FLOW, TRANSITION SLAB, TOP SLAB, BACKFILL AND ANY OTHER MISCELLANEOUS ITEMS REQUIRED FOR THE CONSTRUCTION OF THE INLET BOX.

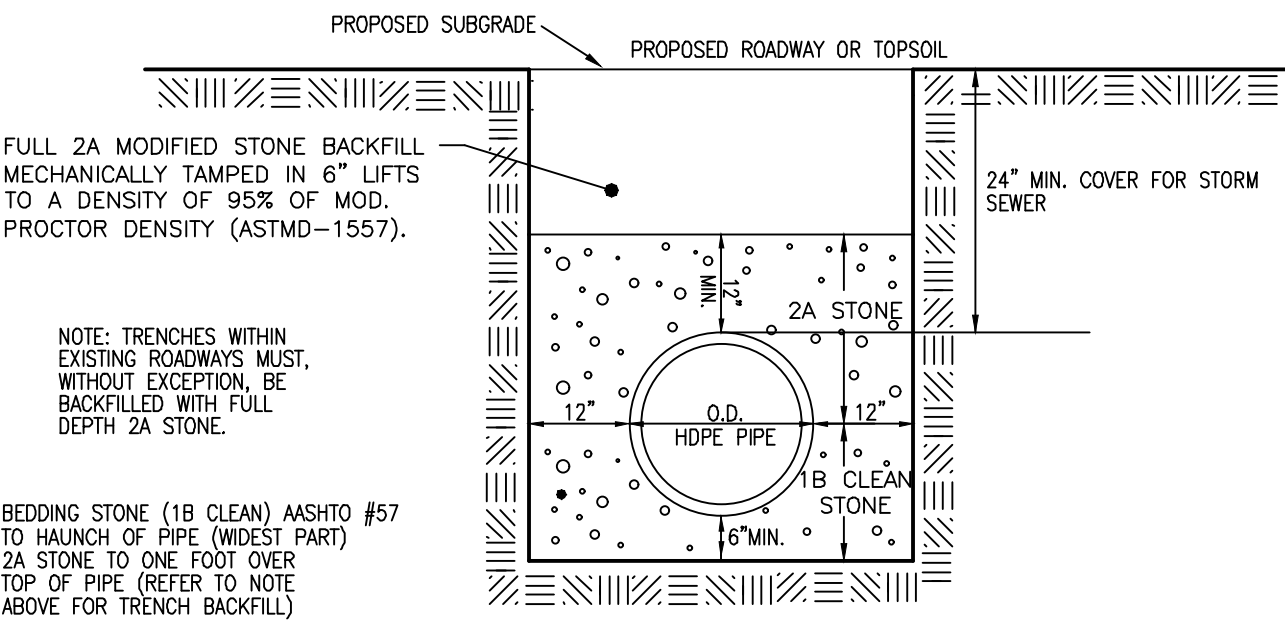
PRECAST CONCRETE INLET BOX NOTES:

- CONSTRUCT INLET BOXES IN ACCORDANCE WITH THE REQUIREMENTS OF PUBLICATION 408, SECTION 714.
- PROVIDE PRECAST CONCRETE INLET BOXES SUPPLIED BY A MANUFACTURER LISTED IN BULLETIN 15.
- PROVIDE A TOP SLAB TO SUPPORT THE INLET TOP UNITS M, S, C AND C ALTERNATE WHEN A STANDARD INLET BOX IS NOT SPECIFIED. PROVIDE OPENING TO ACCOMMODATE THE STANDARD TOP COMPONENTS. PROVIDE A TOP SLAB WITH A ROUND OPENING FOR MANHOLE COVER WHEN SPECIFIED ON THE CONTRACT DRAWINGS.
- PROVIDE A TRANSITION SLAB BETWEEN TWO SEPARATE INLET BOX SIZES, WHEN TWO SEPARATE INLET BOX SIZES ARE USED. (SEE TRANSITION SLAB NOTES.)
- CLEAR COVER FOR STEEL:
 - FOOTINGS (BOTTOM SLAB):
 - TOP COVER: 50 mm (2")
 - BOTTOM COVER: 38 mm (1 1/2")
 - SIDE COVER: 38 mm (1 1/2")
 - TOP AND TRANSITION SLABS (TOP AND BOTTOM): 38 mm (1 1/2")
- MINIMUM SLAB AND WALL THICKNESS:
 - MINIMUM TOP SLAB THICKNESS: 203 mm (8")
 - MINIMUM WALL THICKNESS: 152 mm (6")
 - MINIMUM BOTTOM SLAB THICKNESS: 178 mm (7")
- THICKNESS OF WALL IS PERMITTED TO VARY FROM SECTION TO SECTION. INSIDE FACE OF WALLS MUST ALIGN BETWEEN SECTIONS.
- FABRICATOR IS RESPONSIBLE FOR LIFTING, HANDLING AND TRANSPORTATION STRESSES.
- LIFTING DEVICES:
 - PROVIDE GALVANIZED STEEL OR PLASTIC LIFTING DEVICES FOR HANDLING AND INSTALLATION.
 - FILL LIFTING DEVICES WITH NON-SHRINK GROUT AFTER INSTALLATION.
 - PROVIDE LIFTING DEVICES WITH A MINIMUM CAPACITY OF AT LEAST FOUR TIMES THE CALCULATED LOAD ON THE DEVICE.
- TAPERS MAY BE PROVIDED ON THE INSIDE AND/OR OUTSIDE VERTICAL FACES OF THE INLET BOXES TO FACILITATE FORM STRIPPING. TAPERS MAY RESULT IN INTERNAL BOTTOM DIMENSIONS THAT VARY 20 mm (3/4") PER SIDE TO A MAXIMUM OF 25 mm (1") PER SIDE.
- KEYED JOINTS MAY BE CONSTRUCTED UPWARDS OR DOWNWARDS. CLEAN JOINTS AND KEYS THOROUGHLY BEFORE PLACING NEXT SEGMENT. PLACE MORTAR OR CAULKING COMPOUND BETWEEN JOINTS IN ACCORDANCE WITH THIS STANDARD.
- PROVIDE EITHER A SHIPLAP OR KEYED JOINT BETWEEN THE BOTTOM OF THE TOP SLAB AND THE TOP OF THE BOX.
- PROVIDE EITHER A SHIPLAP OR KEYED JOINT BETWEEN THE TRANSITION SLAB AND THE ADJACENT TOP AND BOTTOM SECTIONS.
- PROVIDE EITHER A SHIPLAP OR KEYED JOINT BETWEEN PRECAST SECTIONS.
- SEGMENT HEIGHTS:
 - MINIMUM HEIGHT:
 - RISEN SECTIONS = 305 mm (1'-0")
 - BASE SECTIONS = 610 mm (2'-0")
 - MAXIMUM HEIGHT = 2438 mm (8'-0")



- A. SUBBASE (NO. 2A) 6" DEPTH (MIN.) TO BE FURNISHED BEFORE PIPES ARE SET.
- B. SUBBASE (NO. 2A) TO BE FURNISHED AFTER PIPES ARE SET. COMPACTED TO SAME AS SUBBASE.
- C. SUBGRADE
- D. SUBBASE (NO. 2A) DEPTH VARIES FOR SLOPE OF PIPE (APPROX. 24")
- E. PAVEMENT BASE COURSE
- F. PAVEMENT WEARING COURSE

UTILITY PIPE CROSSING CONCRETE PIER SUPPORT DETAIL

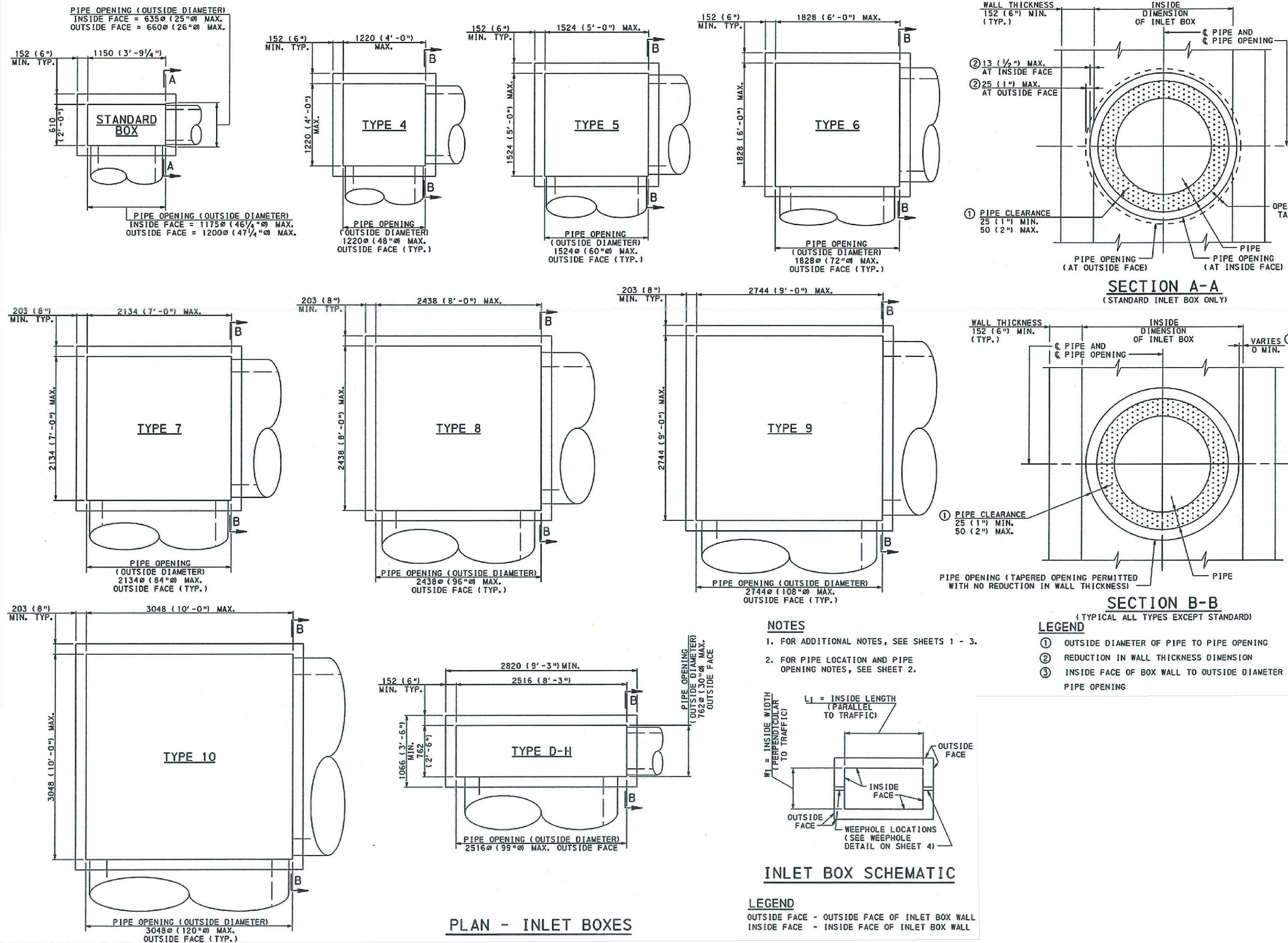


NOTE: TRENCHES WITHIN EXISTING ROADWAYS MUST, WITHOUT EXCEPTION, BE BACKFILLED WITH FULL 2A STONE.

BEDDING STONE (18 CLEAN) ASHTO #57 TO HAUNCH OF PIPE (WIDEST PART) 2A STONE TO ONE FOOT OVER TOP OF PIPE (REFER TO NOTE ABOVE FOR TRENCH BACKFILL)

NOTE: ALL UTILITY TRENCHES WITHIN EXISTING ROADWAYS, PROPOSED ROADWAYS, ALL RIGHT OF WAYS, EASEMENTS, PROPOSED DRIVEWAYS, APRONS AND SIDEWALKS MUST, WITHOUT EXCEPTION, BE BACKFILLED WITH FULL DEPTH 2A STONE AFTER TOP SCREENING. ALL UTILITY TRENCHES MUST BE COMPACTED (MECHANICALLY TAMPED) IN 6" LIFTS.

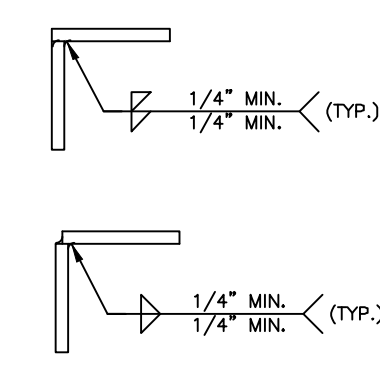
TYPICAL HDPE PIPE TRENCH DETAIL



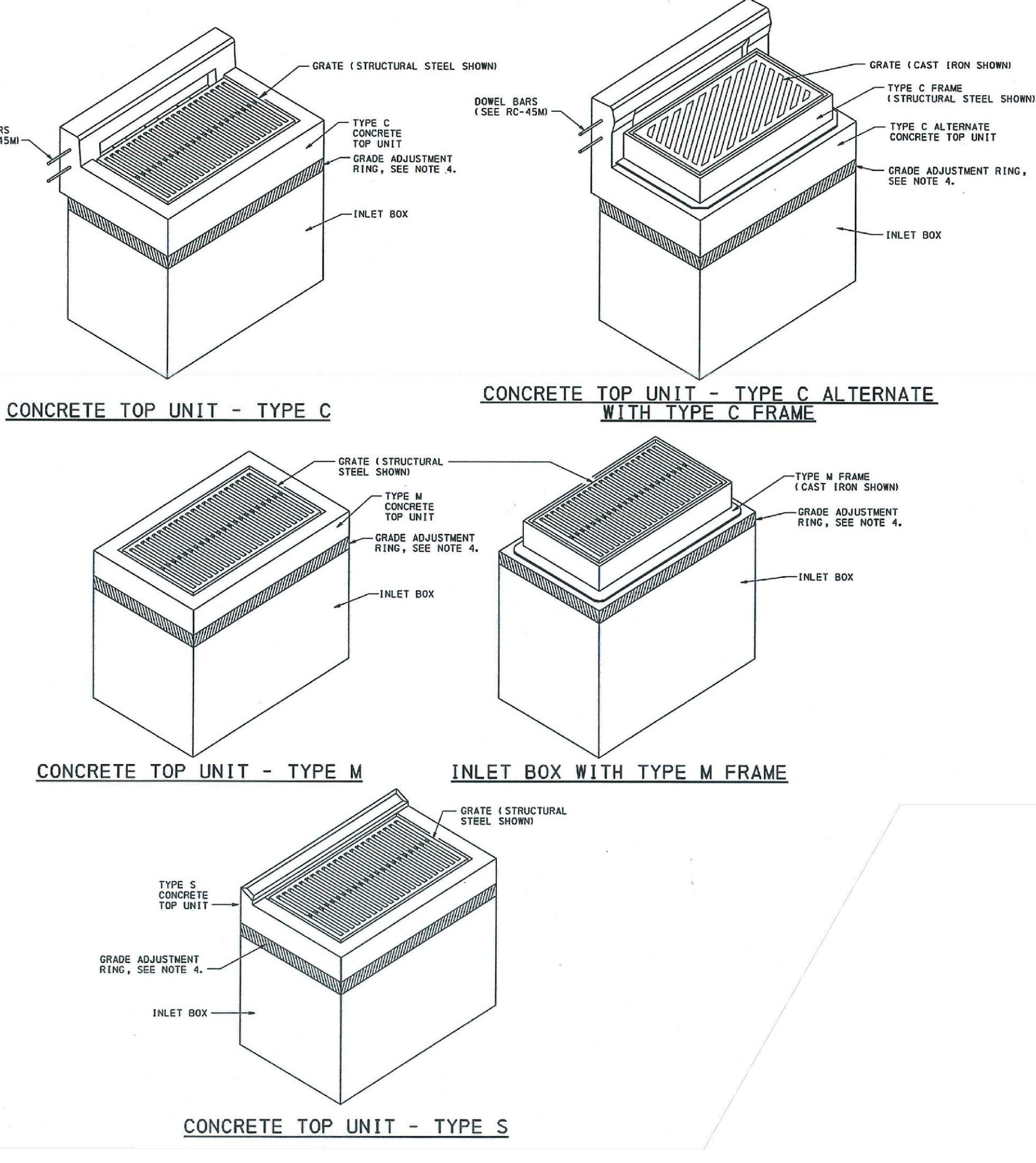
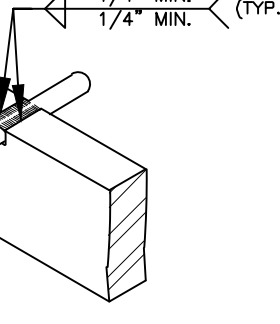
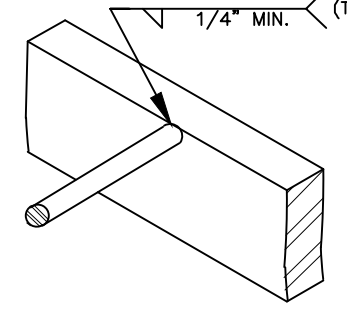
STRUCTURAL STEEL GRATE BICYCLE SAFE

- NOTES:
- THIS SHEET DEPICTS THE DIMENSIONS REQUIRED FOR UNIFORMITY AND INTERCHANGEABILITY. IT DOES NOT INCLUDE DETAILS REQUIRED FOR FABRICATION OR MANUFACTURING. ONLY GRATES SUPPLIED BY A MANUFACTURER LISTED IN BULLETIN 15 SHALL BE PERMITTED. FOR A BULLETIN 15 LISTING, SUBMIT A 22"x36" REPRODUCIBLE SHOP DRAWING TO THE BUREAU OF CONSTRUCTION AND MATERIALS. MATERIALS AND TESTING DIVISION FOR REVIEW AND APPROVAL.
 - WELD STRUCTURAL STEEL GRATES IN ACCORDANCE WITH THE REQUIREMENTS OF PUBLICATION 408, SECTION 1105.03(b).
 - PROVIDE TRANSVERSE BARS, MEETING THE REQUIREMENTS OF PUB. 408.
 - PROVIDE BICYCLE SAFE, STRUCTURAL STEEL OR CAST IRON VANE GRATES FOR INSTALLATION ONLY WHERE BICYCLE TRAFFIC IS ANTICIPATED, SUCH AS CURBED ROADWAYS IN URBAN AREAS OR ROADWAYS SPECIFICALLY ESTABLISHED AND SIGNED AS BIKEWAYS OR HAVING BIKE LANES. ALTERNATE BICYCLE - SAFE GRATE DESIGNS SHALL REQUIRE A SHOP DRAWING SUBMISSION, AS SPECIFIED IN NOTE 1, AND SHALL CONFORM TO THE DIMENSIONAL REQUIREMENTS FOR PROPER INSTALLATION WITH THE CURRENT CONCRETE TOP UNITS.
 - FABRICATE SLOTS BY BURNING, DRILLING, SHEARING OR PUNCHING. HAVE THE BOTTOM OF ALL BURNED OR DRILLED SLOTS CONFORM TO THE SHAPE OF THE ROD.
 - PROVIDE STRUCTURAL STEEL GRATES WITH THE GRATE SPACERS LOCATED FLUSH ALONG THE TOP SURFACE OF THE GRATE.
 - DO NOT USE CAST IRON GRATES WITHIN THE TRAVEL LANES. THESE GRATES ARE PERMITTED AT THE EDGE OF OUTSIDE SHOULDER, SHOULDS, WITH WIDE MEDIAN SWALES AND INFIELD AREAS THAT ARE OUTSIDE THE TRAVEL LANES OR CURB TO CURB ROADWAYS.
 - COAT STRUCTURAL STEEL FRAMES AND GRATES WITH BITUMINOUS PAINT. AS AN ALTERNATIVE TO BITUMINOUS PAINT, HOT DIP GALVANIZE STRUCTURAL STEEL GRATES AND FRAMES IN ACCORDANCE WITH SECTION 1105.02(b).

BAR AND ROD SPACING DETAIL

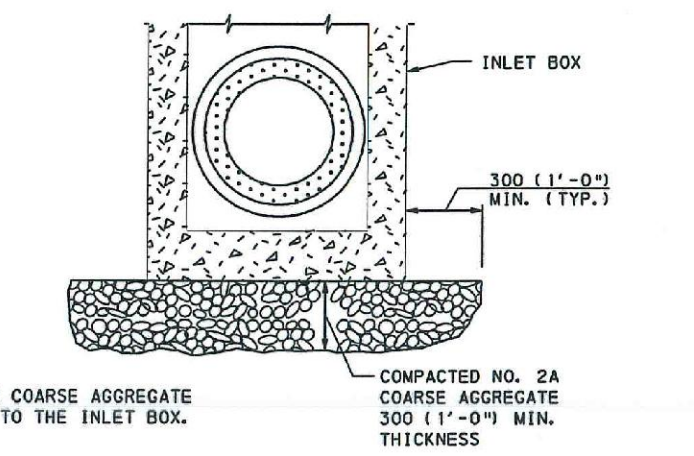


TYPICAL CORNER DETAILS

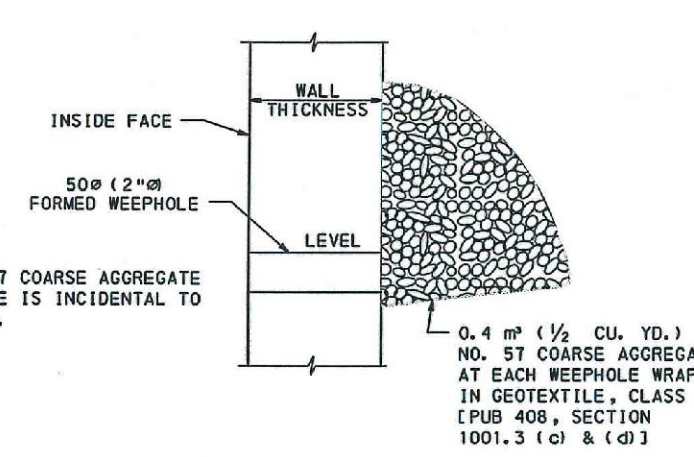


INLET BOX SUBBASE PREPARATION DETAIL

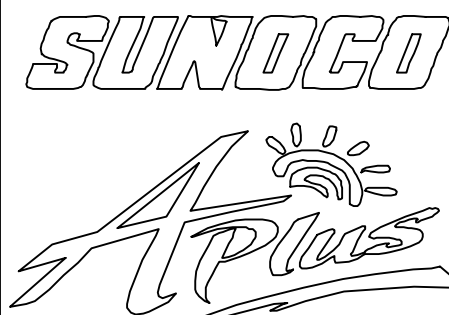
- NOTES:
- FOR ADDITIONAL NOTES, SEE SHEETS 1 - 3.
 - STANDARD INLET BOXES SHOWN, PROVIDE TOP SLABS FOR OTHER INLET BOX TYPES.
 - SEE RC-45M FOR DETAILS FOR THE CONCRETE TOP UNITS, FRAMES, AND GRATES.
 - PROVIDE GRADE ADJUSTMENT RINGS WHEN REQUIRED. SEE RC-45M FOR DETAILS.



WEEPHOLE DETAIL



CLIENT DATA



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Consulting Engineers & Architectural, Inc.

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PENNSYLVANIA LICENSE NO. PE-05536
DELAWARE LICENSE NO. 2011
NEW JERSEY LICENSE NO. 2469852040
FLORIDA LICENSE NO. 75184
NEW YORK LICENSE NO. 0936671

PROJECT LOCATION

LAND DEVELOPMENT DOCUMENTS
"SUNOCO 1451 PROVIDENCE ROAD"

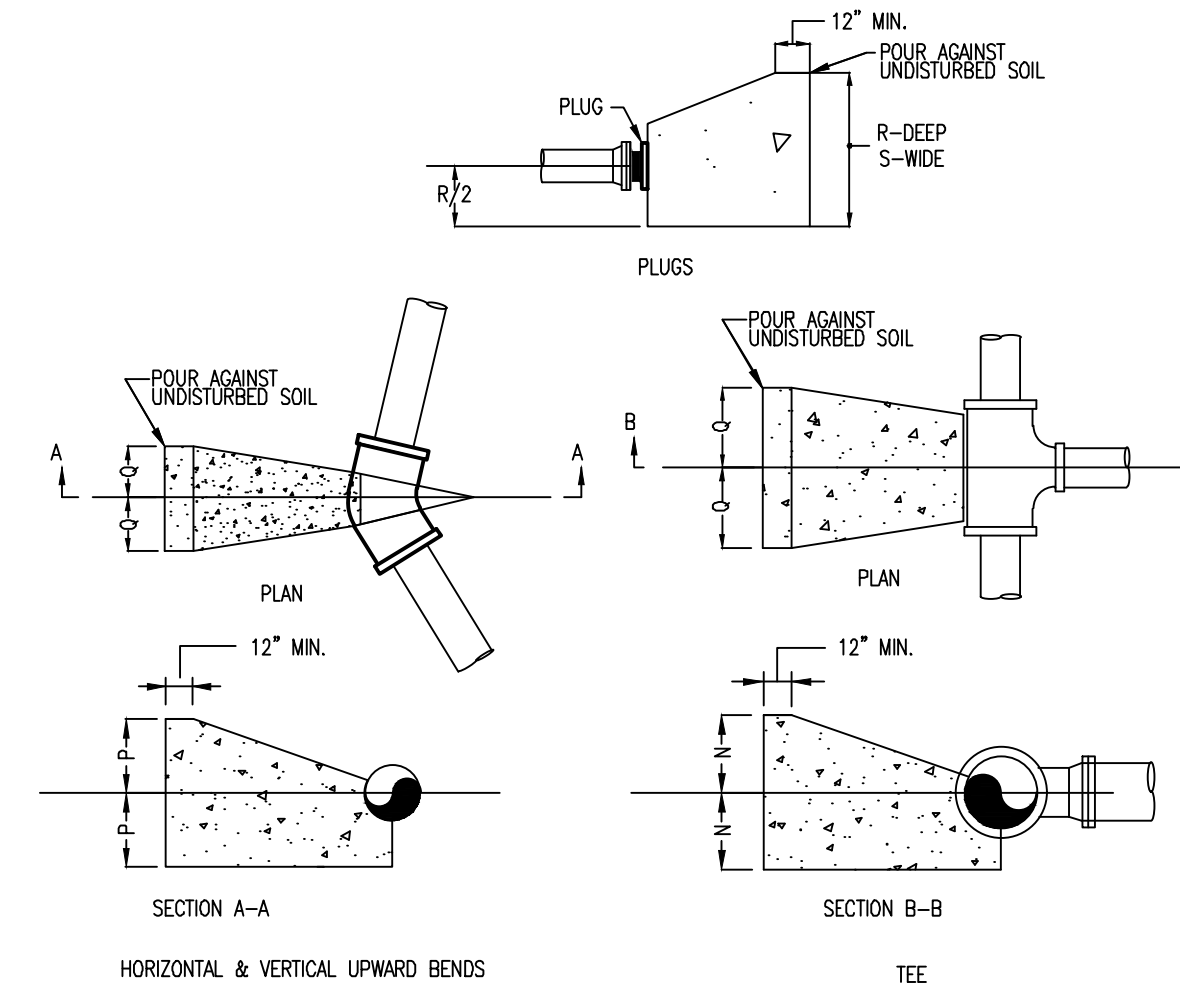
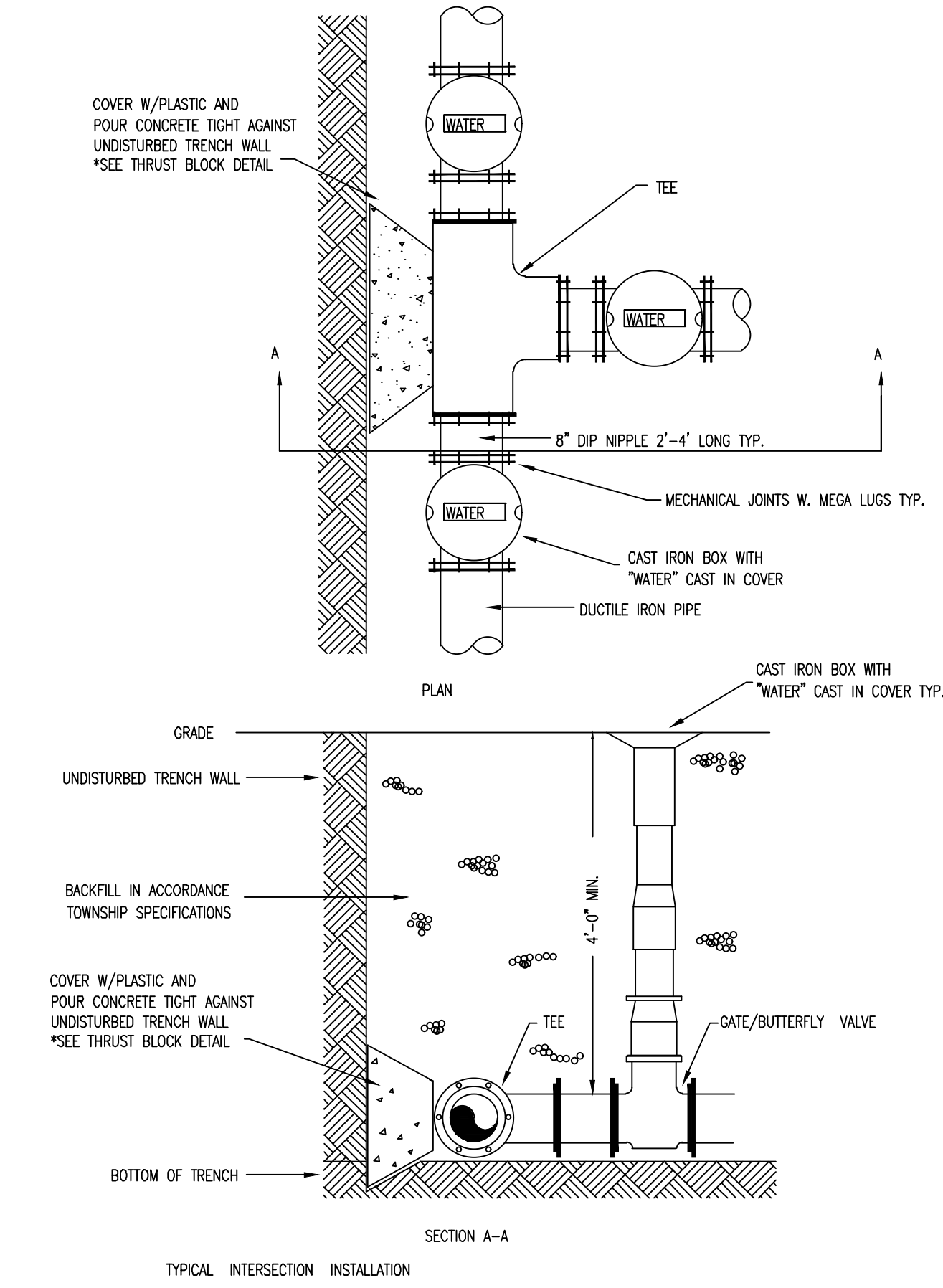
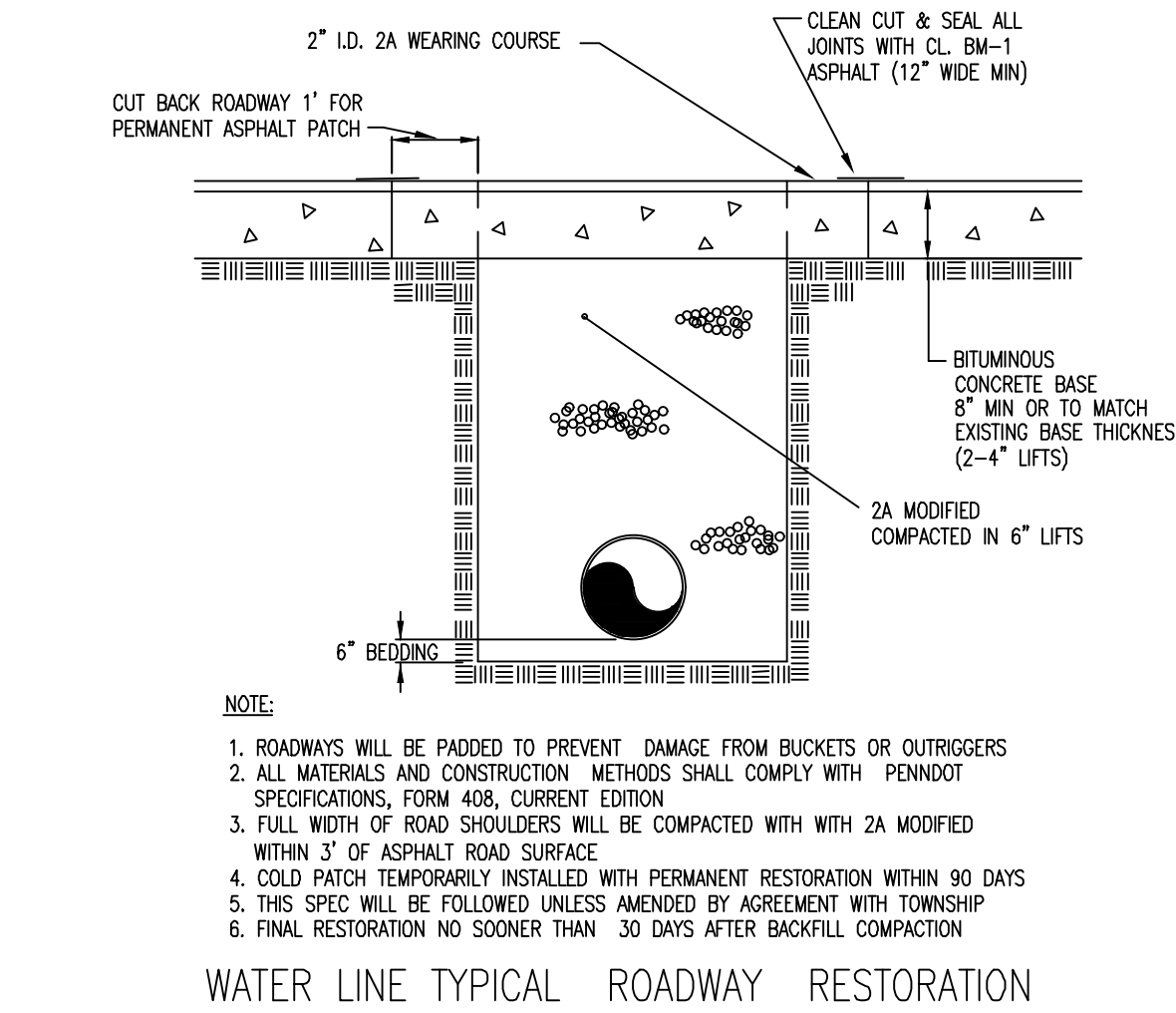
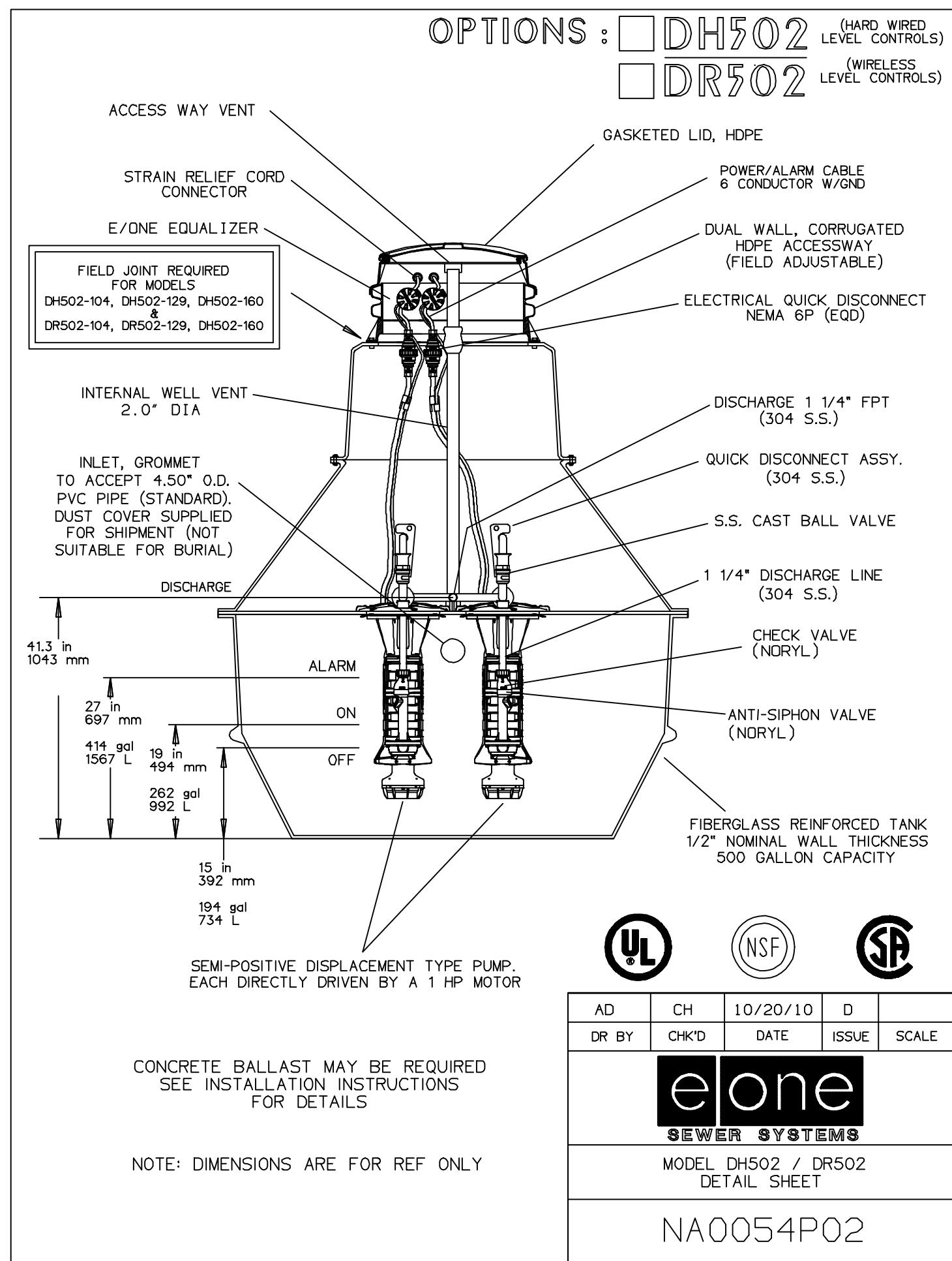
PROPOSED COMMERCIAL
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MEDIA, PENNSYLVANIA, 19063
DELAWARE COUNTY

PREPARED FOR
SIRHANDI ENTERPRISES, INC.

TITLE

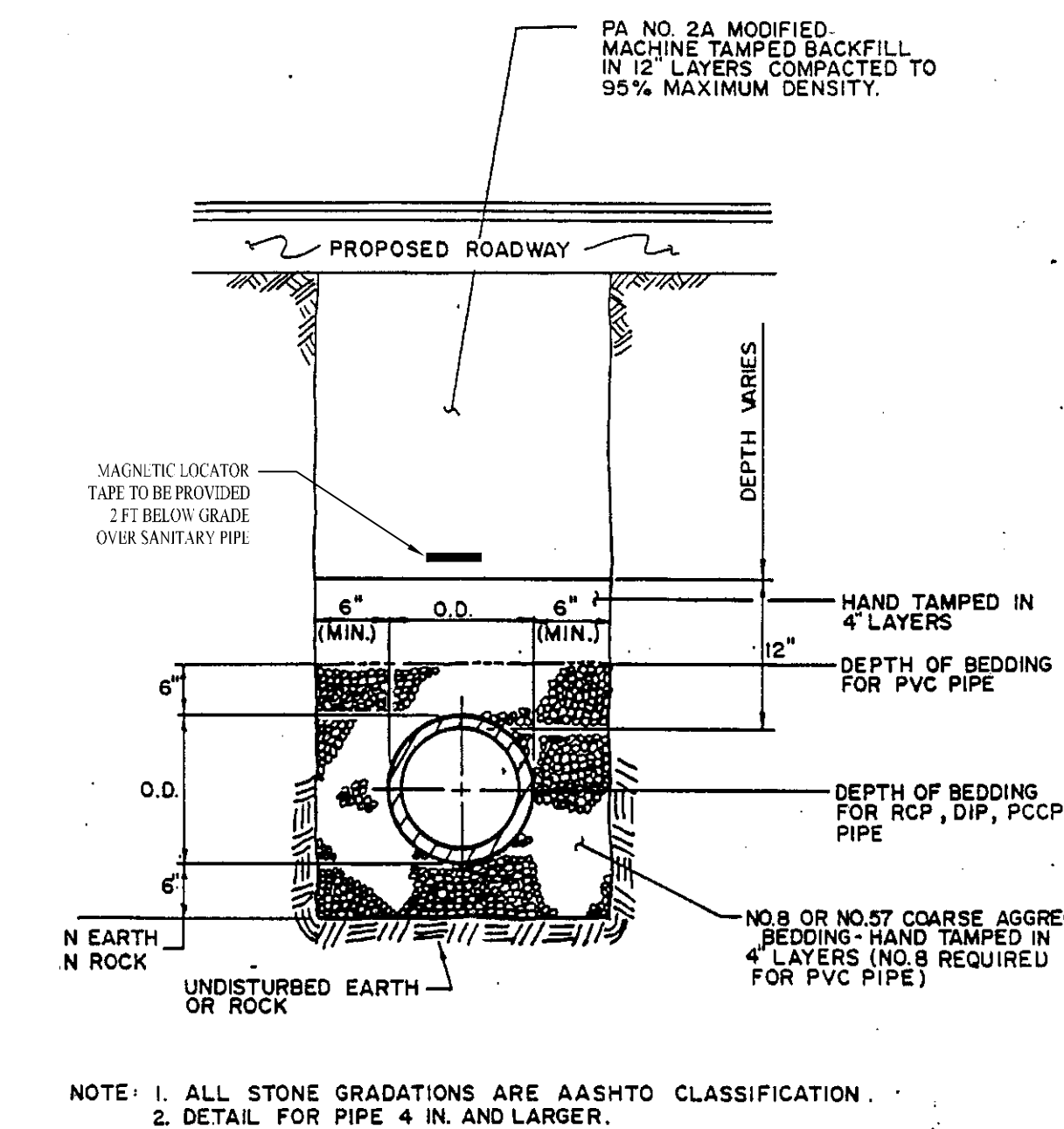
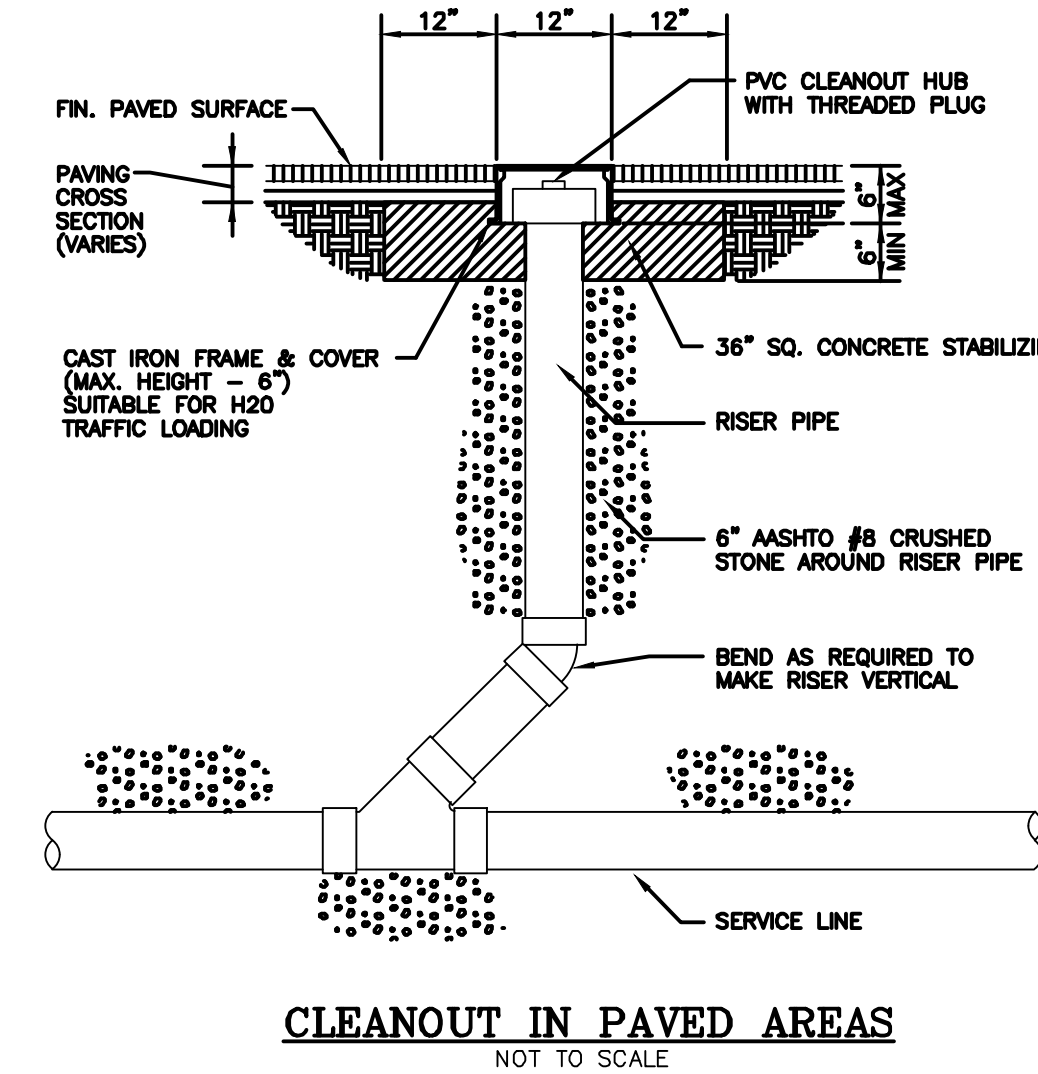
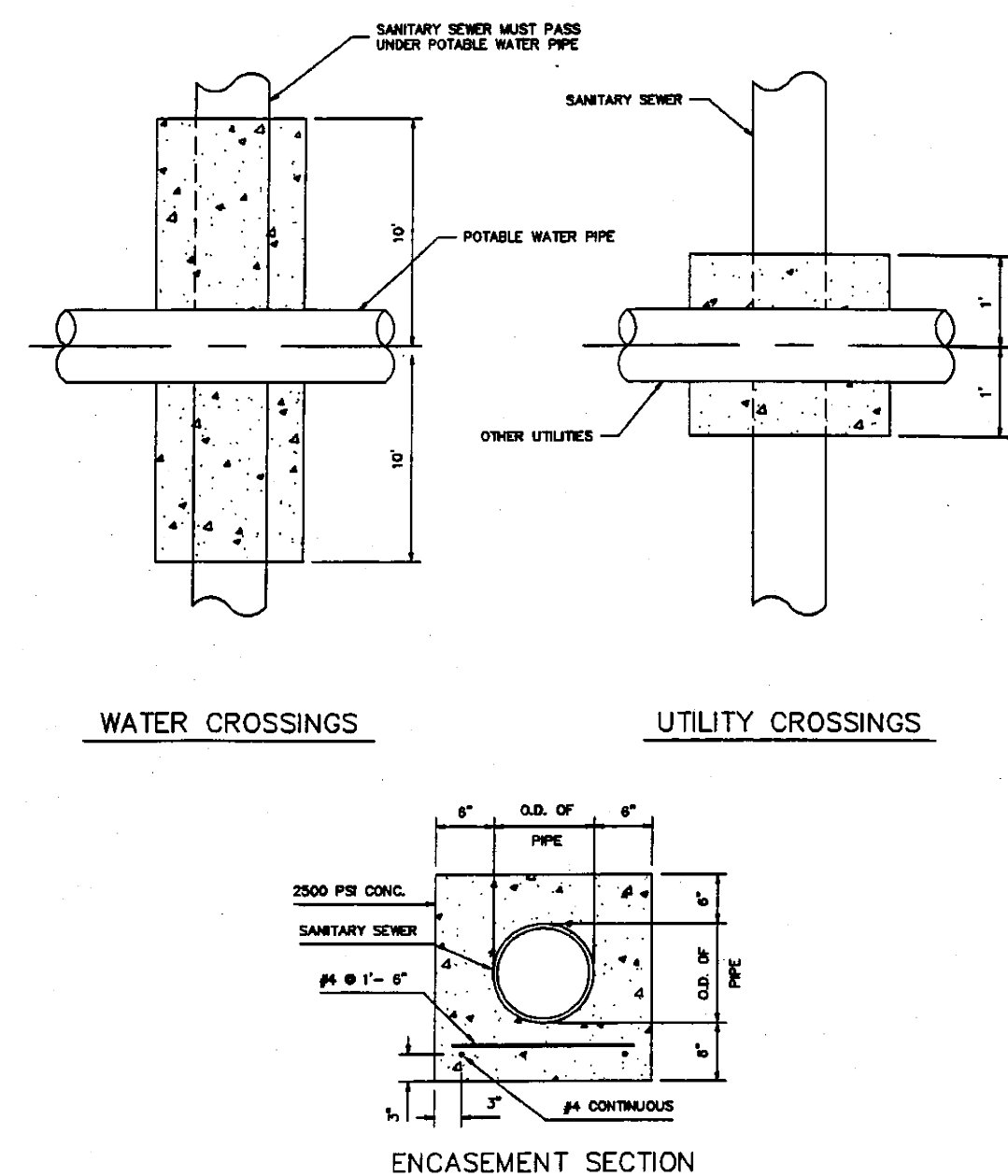
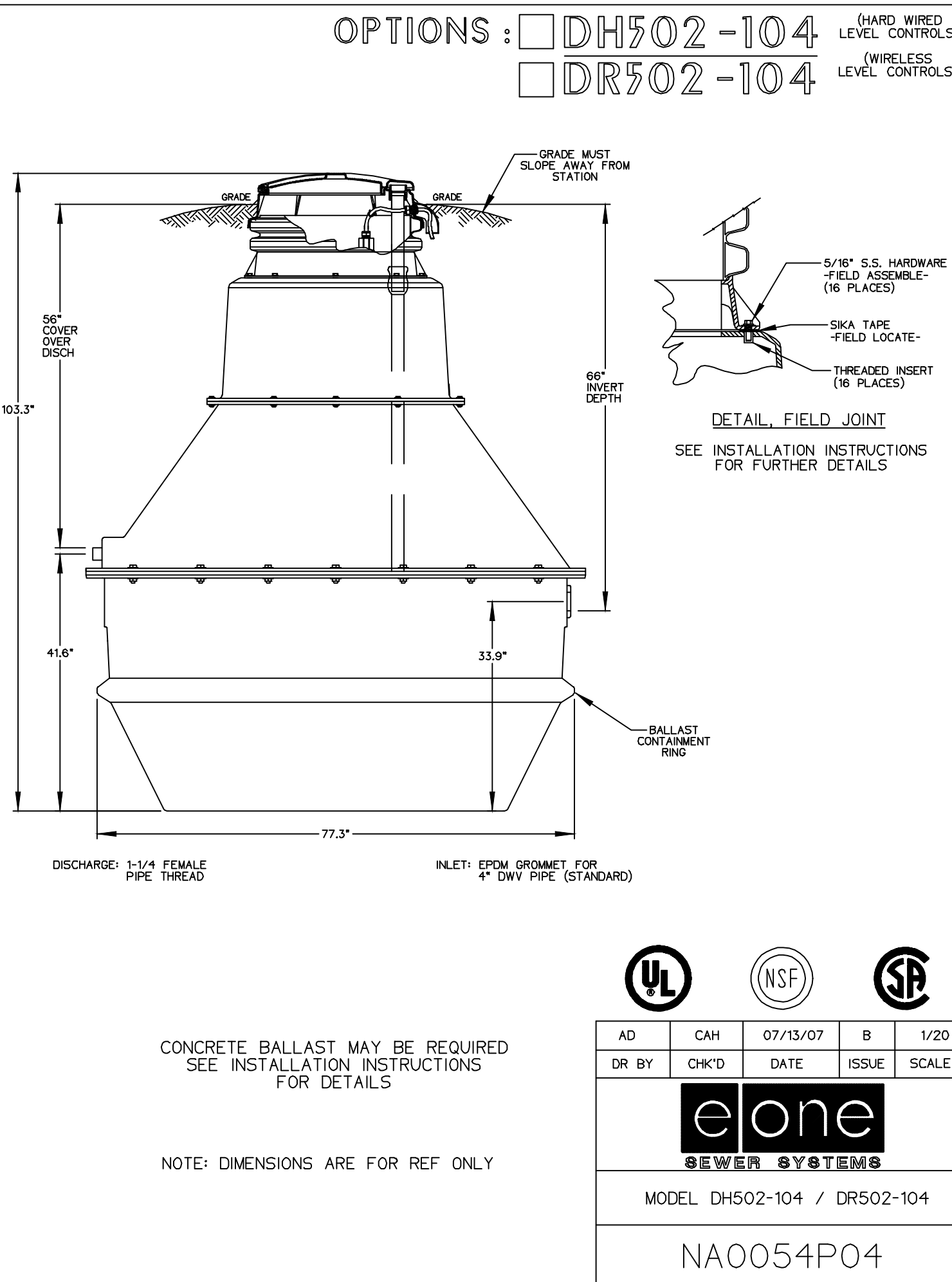
SITE DETAILS

PROJ. #	19-0425	DATE	05-21-2021
CAD. ID.	19-0425	DRN BY	GTM
SCALE	AS NOTED	CHK. BY	JBA
SHEET 23 OF 27			
REVISION 1			



THRUST BLOCKS FOR TEES, HORIZ. & VERTICAL BENDS AND PLUGS		DIMENSION				
DESCRIPTION	DISCREPTION	6"	8"	10"	12"	16"
		N	O	P	Q	R
TEES	N	0'-10"	1'-2"	1'-5"	1'-5"	2'-1"
	O	0'-10"	1'-2"	1'-5"	1'-5"	2'-1"
90° BENDS	P	1'-0"	1'-4"	1'-8"	1'-11"	2'-1"
	Q	1'-0"	1'-4"	1'-8"	1'-11"	2'-1"
45° BENDS	P	0'-8"	1'-0"	1'-3"	1'-8"	1'-6"
	Q	0'-8"	1'-0"	1'-3"	1'-8"	1'-6"
22 1/2° BENDS	P	0'-7"	0'-9"	0'-11"	1'-0"	1'-3"
	Q	0'-7"	0'-9"	0'-11"	1'-0"	1'-3"
11 1/4° BENDS	P	0'-5"	0'-6"	0'-8"	0'-8"	1'-0"
	Q	0'-5"	0'-6"	0'-8"	0'-8"	1'-0"
PLUGS	R	1'-8"	2'-4"	2'-10"	3'-4"	4'-1"
	S	1'-8"	2'-4"	2'-10"	3'-4"	4'-1"

THRUST BLOCKS DESIGNED FOR 200 LBS. PER SQ. IN. TEST PRESSURE AND 2000 LBS. PER SQ. FT. SOIL PRESSURE
 WRAP ALL FITTINGS IN PLASTIC BEFORE POURING CONCRETE.
 THRUST BLOCK DETAIL



NOTE: PROVIDE REINFORCEMENT AT UTILITY CROSSINGS OR AS DIRECTED BY THE AUTHORITY'S ENGINEER

CONCRETE ENCASEMENT DETAIL

CLIENT DATA

SUNOCO
 Aplus

Cornerstone Consulting Engineers & Architectural, Inc.
 213 West Main Street, Lansdale, PA 19446
 Phone: 215-362-2600, Fax: 215-362-8400
 WWW.CORNERSTONEINC.COM

Pennaco Region
 570-839-1770

Lehigh Valley Region
 610-820-8200

Philadelphia Region
 215-362-2600

REVISIONS

NO	BY	DESCRIPTION	DATE
1	DN	REVISED PER TOWNSHIP COMMENTS	9/2/2021

PENNSYLVANIA ONE CALL SYSTEM, INC.
 975 Iron Run Road
 West Mifflin, Pennsylvania 15122-1978

BEFORE YOU DIG ANYWHERE IN PENNSYLVANIA! CALL 1-800-242-1776

NON-MEMBERS MUST BE CONTACTED DIRECTLY
 PA LAW REQUIREMENT: WORKING DAYS
 NOTICE TO UTILITIES BEFORE YOU EXCAVATE, DRILL, OR MAKE ANY OTHER DISTURBANCE

J.B. ANDERSON
 PROFESSIONAL ENGINEER
 PENNSYLVANIA LICENSE NO. PE003458
 PENNSYLVANIA LICENSE NO. PE003536
 MARYLAND LICENSE NO. 3031
 NEW JERSEY LICENSE NO. 2468455040
 NEW YORK LICENSE NO. 401045725
 DELAWARE LICENSE NO. 75184
 NEW YORK LICENSE NO. 095657-1

PROJECT LOCATION

LAND DEVELOPMENT DOCUMENTS "SUNOCO 1451 PROVIDENCE ROAD"

PROPOSED COMMERCIAL RE-DEVELOPMENT
 1451 PROVIDENCE ROAD
 MEDIA, PENNSYLVANIA, 19063
 DELAWARE COUNTY

PREPARED FOR
 SIRHANDI ENTERPRISES, INC.

TITLE

SITE DETAILS

PROJ. #	19-0425	DATE	05-21-2021
CAD ID	19-0425	DRN BY	GTM
SCALE	AS NOTED	CHK BY	JBA

SHEET 24 OF 27

REVISION 1

MC-3500 STORMTECH CHAMBER SPECIFICATIONS

- CHAMBERS SHALL BE STORMTECH MC-3500.
- CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418-16a, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 45x76 DESIGNATION SS.
- CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
- THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
- CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
- REQUIREMENTS FOR HANDLING AND INSTALLATION:
 - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
 - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
 - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 500 LBS/IN²IN. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
- ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
 - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
 - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.35 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD. THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
 - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
- CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF MC-3500 CHAMBER SYSTEM

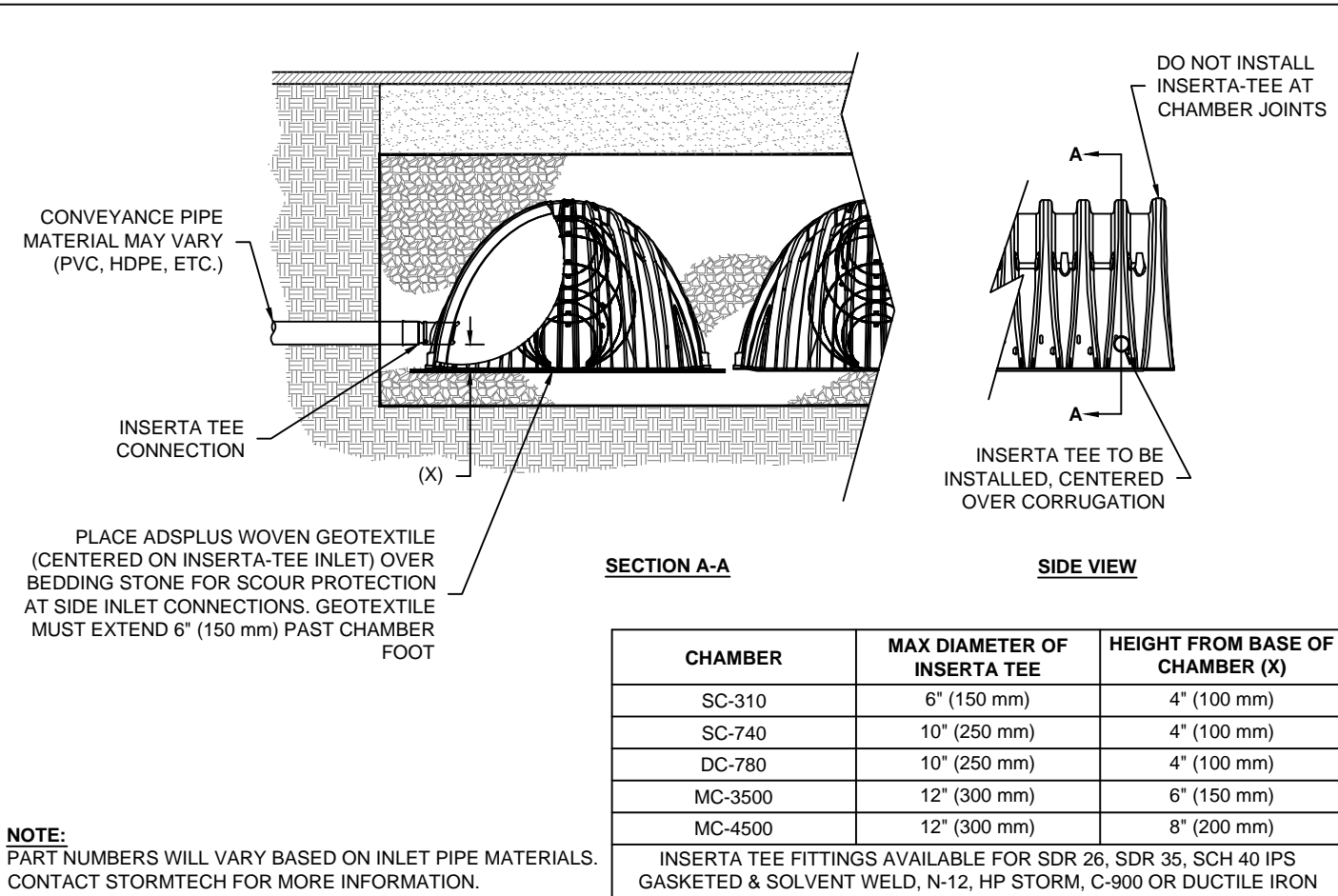
- STORMTECH MC-3500 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLER.
- STORMTECH MC-3500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
- CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
 - STONESHOOTER LOCATED OFF THE CHAMBER BED.
 - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
 - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
- THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
- JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
- MAINTAIN MINIMUM SPACING BETWEEN THE CHAMBER ROWS.
- INLET AND OUTLET MANIFOLDS MUST BE INSERTED A MINIMUM OF 12" (300 mm) INTO CHAMBER END CAPS.
- EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE MEETING THE AASHTO M43 DESIGNATION OF #3 OR #4.
- STONE MUST BE PLACED ON THE TOP CENTER OF THE CHAMBER TO ANCHOR THE CHAMBERS IN PLACE AND PRESERVE ROW SPACING.
- THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
- ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

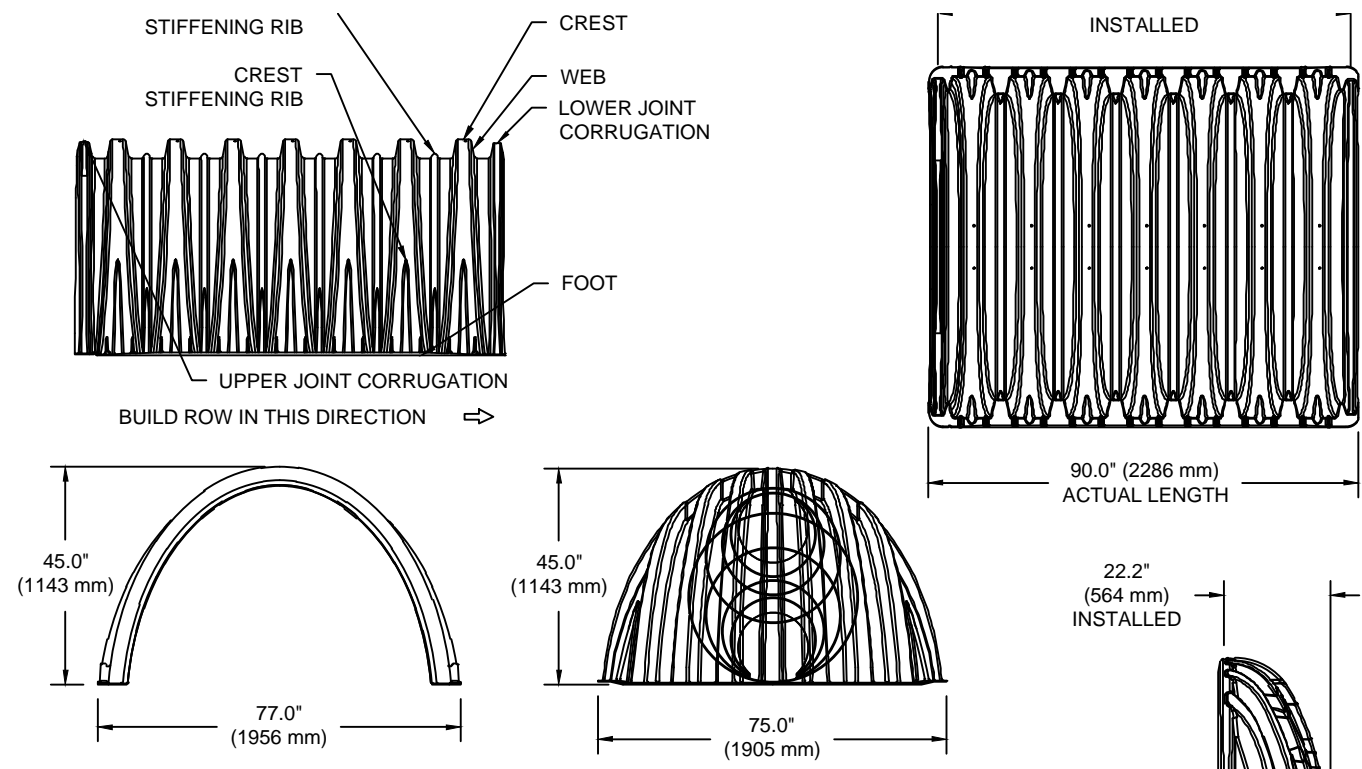
- STORMTECH MC-3500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
- THE USE OF EQUIPMENT OVER MC-3500 CHAMBERS IS LIMITED:
 - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
 - NO RUBBER Tired LOADER, DUMP TRUCK, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
 - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
- FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY USING THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-888-892-2684 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.



NOTE: PART NUMBERS WILL VARY BASED ON INLET PIPE MATERIALS. CONTACT STORMTECH FOR MORE INFORMATION.



NOMINAL CHAMBER SPECIFICATIONS		77.0" X 45.0" X 86.0"	(1956 mm X 1143 mm X 2184 mm)
SIZE (W X H X INSTALLED LENGTH)			
CHAMBER STORAGE		108.9 CUBIC FEET	(3.11 m³)
MINIMUM INSTALLED STORAGE*		175.0 CUBIC FEET	(4.96 m³)
WEIGHT		134 lbs.	(60.8 kg)

NOMINAL END CAP SPECIFICATIONS		75.0" X 45.0" X 22.2"	(1905 mm X 1143 mm X 564 mm)
SIZE (W X H X INSTALLED LENGTH)			
END CAP STORAGE		14.9 CUBIC FEET	(0.42 m³)
MINIMUM INSTALLED STORAGE*		45.1 CUBIC FEET	(1.28 m³)
WEIGHT		49 lbs.	(22.2 kg)

*ASSUMES 12" (305 mm) STONE ABOVE, 9" (229 mm) STONE FOUNDATION, 6" (152 mm) STONE BETWEEN CHAMBERS, 6" (152 mm) STONE PERIMETER IN FRONT OF END CAPS AND 40% STONE POROSITY.

PARTIAL CUT HOLES AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH 'B' PARTIAL CUT HOLES AT TOP OF END CAP FOR PART NUMBERS ENDING WITH 'T' END CAPS WITH A PREFABRICATED WELDED STUB END WITH "W" END CAPS WITH A WELDED CROWN PLATE END WITH "C"

PART #	STUB	B	C
MC3500IEPP06T	6" (150 mm)	33.21" (844 mm)	---
MC3500IEPP06B	---	---	0.66" (17 mm)
MC3500IEPP08T	8" (200 mm)	31.16" (791 mm)	0.81" (21 mm)
MC3500IEPP08B	---	29.04" (738 mm)	---
MC3500IEPP10T	10" (250 mm)	---	0.93" (24 mm)
MC3500IEPP10B	---	26.36" (670 mm)	---
MC3500IEPP12T	12" (300 mm)	---	1.35" (34 mm)
MC3500IEPP12B	---	23.39" (594 mm)	---
MC3500IEPP15T	15" (375 mm)	---	1.50" (38 mm)
MC3500IEPP15B	---	20.03" (509 mm)	---
MC3500IEPP18T	18" (450 mm)	---	1.77" (45 mm)
MC3500IEPP18TW	---	---	---
MC3500IEPP18BC	---	---	---
MC3500IEPP18BW	---	---	---
MC3500IEPP24T	24" (600 mm)	14.48" (368 mm)	---
MC3500IEPP24TW	---	---	---
MC3500IEPP24BC	---	---	---
MC3500IEPP24BW	---	---	---
MC3500IEPP30BC	30" (750 mm)	---	2.75" (70 mm)

NOTE: ALL DIMENSIONS ARE NOMINAL.

CUSTOM PARTIAL CUT INVERTS ARE AVAILABLE UPON REQUEST. INVENTORIED MANIFOLDS INCLUDE 12-24" (300-600 mm) SIZE ON SIZE AND 15-48" (375-1200 mm) ECCENTRIC MANIFOLDS. CUSTOM INVERT LOCATIONS ON THE MC-3500 END CAP CUT IN THE FIELD ARE NOT RECOMMENDED FOR PIPE SIZES GREATER THAN 10" (250 mm). THE INVERT LOCATION IN COLUMN 'B' ARE THE HIGHEST POSSIBLE FOR THE PIPE SIZE.

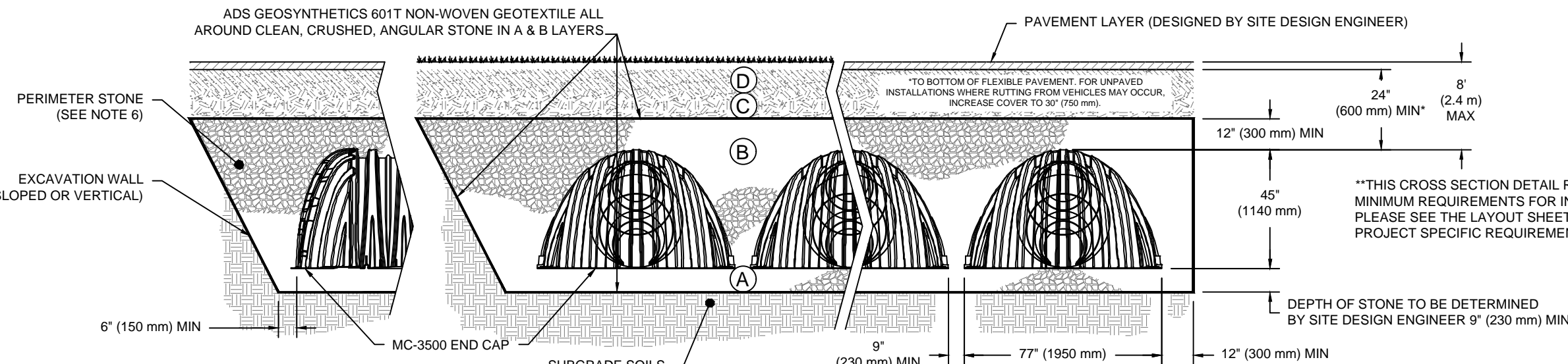
6 INSERTA-TEE SIDE INLET DETAIL

2 MC-3500 TECHNICAL SPECIFICATIONS

ACCEPTABLE FILL MATERIALS: STORMTECH MC-3500 CHAMBER SYSTEMS

MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	AASHTO M145 ¹ A-1, A-2-4, A-3 OR AASHTO M43 ³ 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
B	EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	AASHTO M43 ³ 3, 4	NO COMPACTION REQUIRED.
A	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	AASHTO M43 ³ 3, 4	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. ^{2,3}

- PLEASE NOTE:
- THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
 - STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (230 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
 - WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
 - ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



NOTES:

- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418-16a, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 45x76 DESIGNATION SS.
- MC-3500 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
- PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
- REQUIREMENTS FOR HANDLING AND INSTALLATION:
 - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
 - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
 - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 500 LBS/IN²IN. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

MC-3500 CROSS SECTION DETAIL

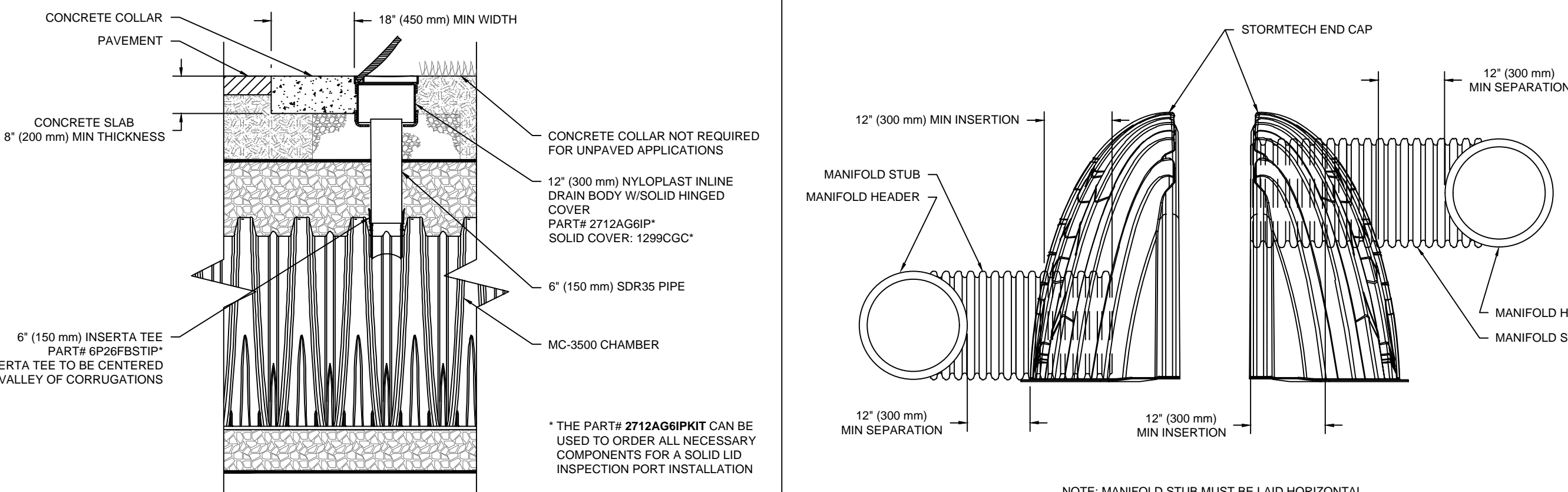
INSPECTION & MAINTENANCE

- STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- INSPECTION PORTS (IF PRESENT)
 - REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
 - REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
 - LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
 - IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR ROW PLUS ROWS
- REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
 - USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
 - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
 - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
 - IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45° (1.1 m) OR MORE IS PREFERRED
 - APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
 - VACUUM STRUCTURE SUMP AS REQUIRED
- STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.
- STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

- INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
- CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

MC-3500 ISOLATOR ROW PLUS DETAIL



MC-3500 6" (150 mm) INSPECTION PORT DETAIL

NTS

MC-SERIES END CAP INSERTION DETAIL

1

CLIENT DATA



Cornerstone
Consulting Engineers & Architectural, Inc.

213 West Main Street, Lansdale, PA 19446
Phone: 215-562-2600, Fax: 215-562-8400
WWW.CORNERSTONEINC.COM

Pennsylvania Region
570-839-1770

Lehigh Valley Region
610-820-5200

Philadelphia Region
215-562-2600

REVISIONS

NO	BY	DESCRIPTION	DATE
1	DN	REVISED PER TOWNSHIP COMMENTS	9/2/2021

PENNSYLVANIA ONE CALL SYSTEM, INC.

975 Iowa Run Road
West Mifflin, Pennsylvania
(412) 777-1978

BEFORE YOU DIG ANYWHERE IN PENNSYLVANIA! CALL 1-800-242-1776

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PA LAW REQUIREMENTS: WORKING DAYS
NOTICE TO UTILITIES BEFORE YOU EXCAVATE,
DRILL, OR PLACE A SIGN IN THE GROUND

J.B. ANDERSON
PROFESSIONAL ENGINEER
PENNSYLVANIA LICENSE NO. PE003458
PENNSYLVANIA LICENSE NO. PE003536
NEW JERSEY LICENSE NO. 2460453040
NEW YORK LICENSE NO. 040104725
NEW YORK LICENSE NO. 093651-J

PROJECT LOCATION

LAND DEVELOPMENT DOCUMENTS
"SUNOCO 1451 PROVIDENCE ROAD"

PROPOSED COMMERCIAL
RE-DEVELOPMENT
1451 PROVIDENCE ROAD
MEDIA, PENNSYLVANIA, 19063
DELAWARE COUNTY

PREPARED FOR
SIRHANDI ENTERPRISES, INC.

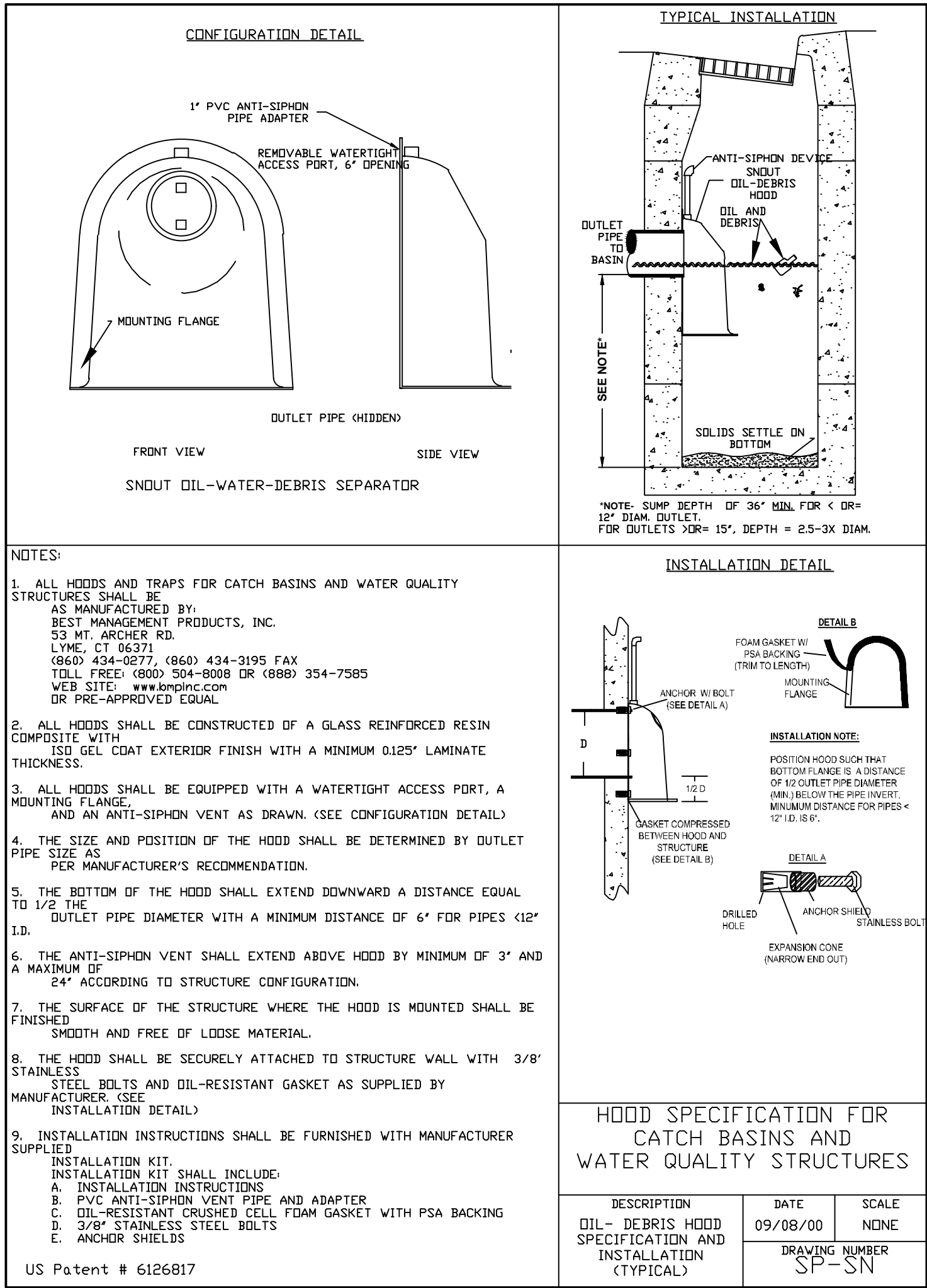
TITLE

SITE DETAILS

PROJ. #	19-0425	DATE	05-21-2021
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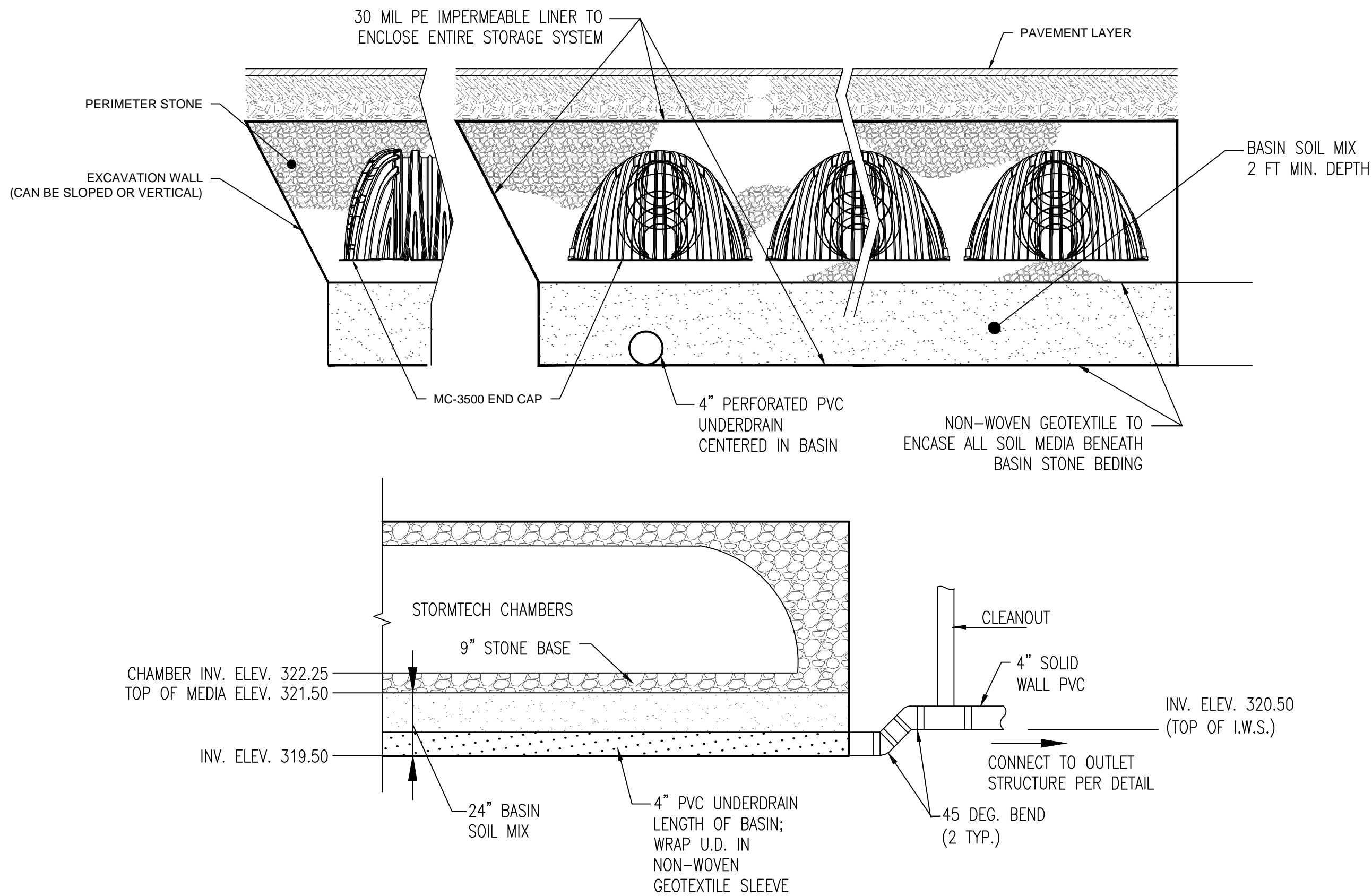
SHEET 25 OF 27

REVISION 1



PROPOSED SNOUT DETAIL (BMP 004)

N.T.S.



DETENTION BASIN 1 SECTION DETAIL

NO SCALE

SOIL AMENDMENT CONSTRUCTION SEQUENCE BMP 002

ALL LANDSCAPE AREAS ON THE SUBJECT PROPERTY SHALL BE SUBJECT TO SOIL AMENDMENT TO INCREASE INFILTRATION THROUGHOUT THE DEVELOPMENT. SOIL AMENDMENT AREAS SHALL HAVE THE SURFACE SOILS MODIFIED IN ORDER TO MINIMIZE COMPACTION AND PROVIDE ORGANIC MATERIAL. CONTRACTOR SHALL REFER TO THE GENERAL SEQUENCE AND ADDITIONAL NOTES BELOW.

GENERAL SEQUENCE:

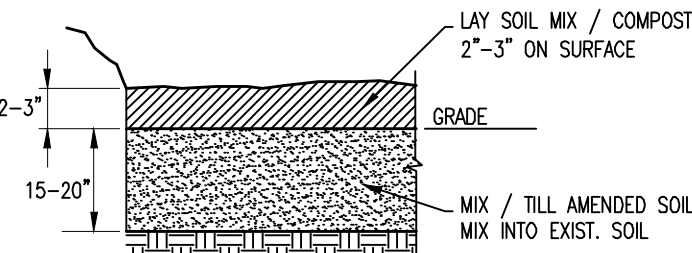
- SOIL AMENDMENT AREAS SHALL BE COVERED WITH 2 TO 3-INCHES OF COMPOST.
- THE AREA SHALL THEN BE TILLED (SUBSOILING PROCESS) TO A DEPTH BETWEEN 15 AND 20-INCHES TO MIX THE COMPOST INTO THE SOIL.
- AN ADDITIONAL 2 TO 3 INCHES OF COMPOST SHALL BE PLACED ON THE SURFACE. THE AREA SHALL BE LEVELED SO THERE ARE NO RILLS OR OPPORTUNITIES FOR EROSION.
- THE AREA SHALL BE SEEDED AND STABILIZED IN ACCORDANCE WITH THE EROSION AND SEDIMENT CONTROL PLANS.

SOIL AMENDMENT NOTES:

- SOIL RESTORATION SHOULD NOT TAKE PLACE WITHIN THE DRIP LINE OF A TREE TO AVOID DAMAGING THE ROOT SYSTEM.
- ON-SITE SOILS WITH AN ORGANIC CONTENT OF AT LEAST 5 PERCENT CAN BE PROPERLY STOCKPILED (TO MAINTAIN ORGANIC CONTENT) AND REUSED.
- ROTOTILL, OR RIP THE SUBGRADE, REMOVE ROCKS, DISTRIBUTE/MIX THE COMPOST (2-3 INCHES), SPREAD THE NUTRIENTS, ROTOTILL AGAIN.
- ADDITIONAL 2-3 INCHES OF COMPOST WILL BE APPLIED AFTER TILLING, STABILIZE IN ACCORDANCE WITH EAS PLANS.
- SUBSOILED AREAS SHALL BE LOOSENEED TO LESS THAN 200 PSI TO A DEPTH OF 15-20 INCHES BELOW FINAL TOPSOIL GRADE. WHEN DIRECTED BY THE OWNER'S REPRESENTATIVE, THE CONTRACTOR SHALL VERIFY THAT THE SUB-SOILING WORK CONFORMS TO THE SPECIFIED DEPTH.
- SOIL MUST BE DRY DURING SUBSOILING PROCESS.
- RIPPING, SUBSOILING, AND/OR SCARIFICATION OF THE SUBSOIL SHOULD BE PERFORMED WHERE SUBSOIL HAS BECOME COMPACTED BY EQUIPMENT OPERATION, DRIED OUT AND CRUSTED, OR WHERE NECESSARY TO DELIBERATE EROSION RILLS.
- RIPPING (SUBSOILING) SHOULD BE PERFORMED BEFORE COMPOST IS PLACED USING A SOLID-SHANK RIPPER TO A DEPTH OF 15-20 INCHES.

COMPOST MATERIALS:

- ONLY COMPOST PRODUCTS THAT MEET ALL APPLICABLE STATE AND FEDERAL REGULATIONS PERTAINING TO ITS PRODUCTION AND DISTRIBUTION MAY BE USED IN THIS APPLICATION. APPROVED COMPOST PRODUCTS MUST MEET RELATED STATE AND FEDERAL CHEMICAL CONTAMINANT (E.G., HEAVY METALS, PESTICIDES, ETC.) AND PATHOGEN LIMIT STANDARDS PERTAINING TO THE FEEDSTOCKS (SOURCE MATERIALS) IN WHICH IT IS DERIVED.
- VERY COARSE COMPOST SHOULD BE AVOIDED FOR SOIL AMENDMENT AS IT WILL MAKE PLANTING AND CROP ESTABLISHMENT MORE DIFFICULT.



SOIL AMENDMENT DETAIL (BMP 002)

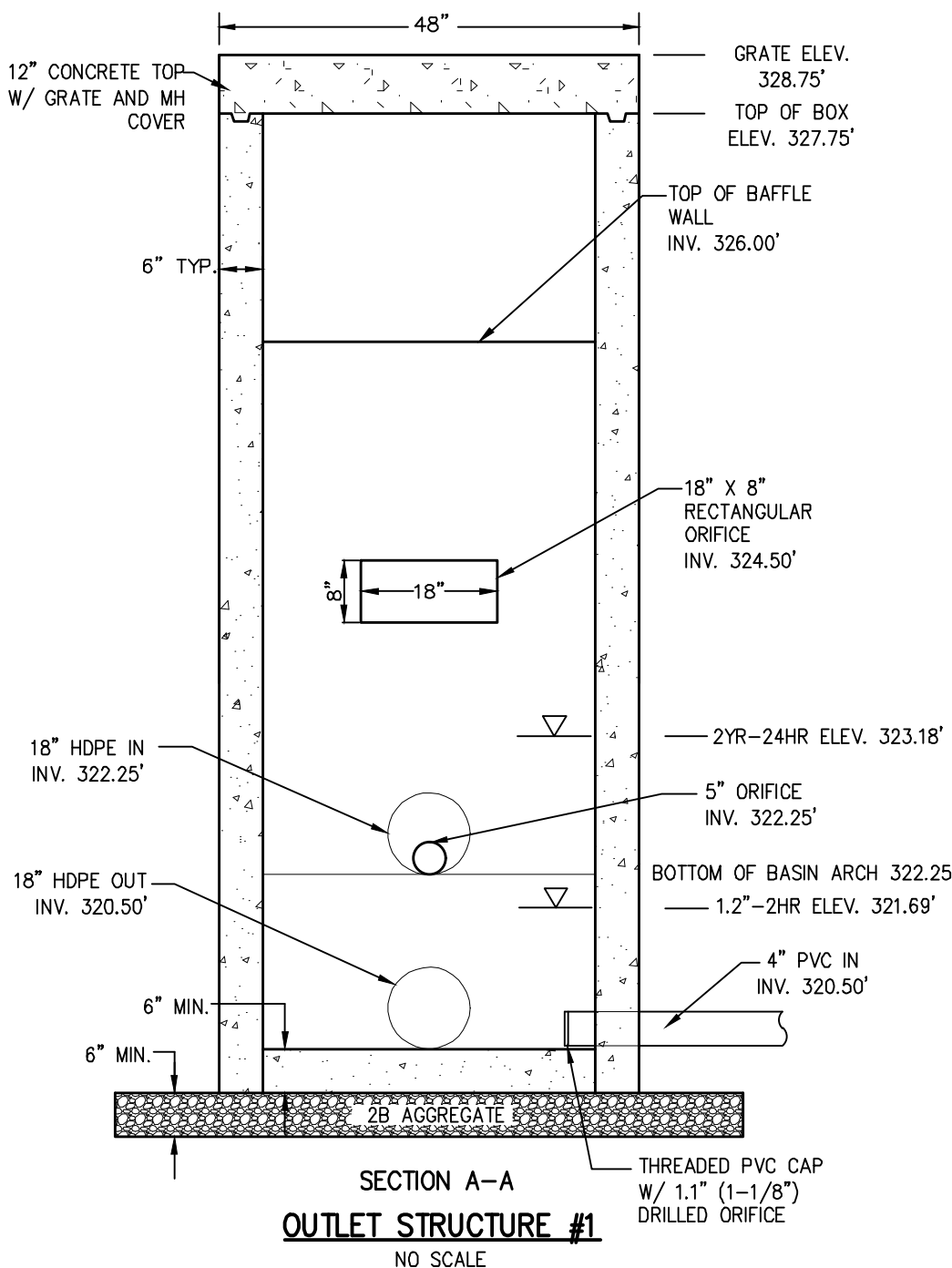
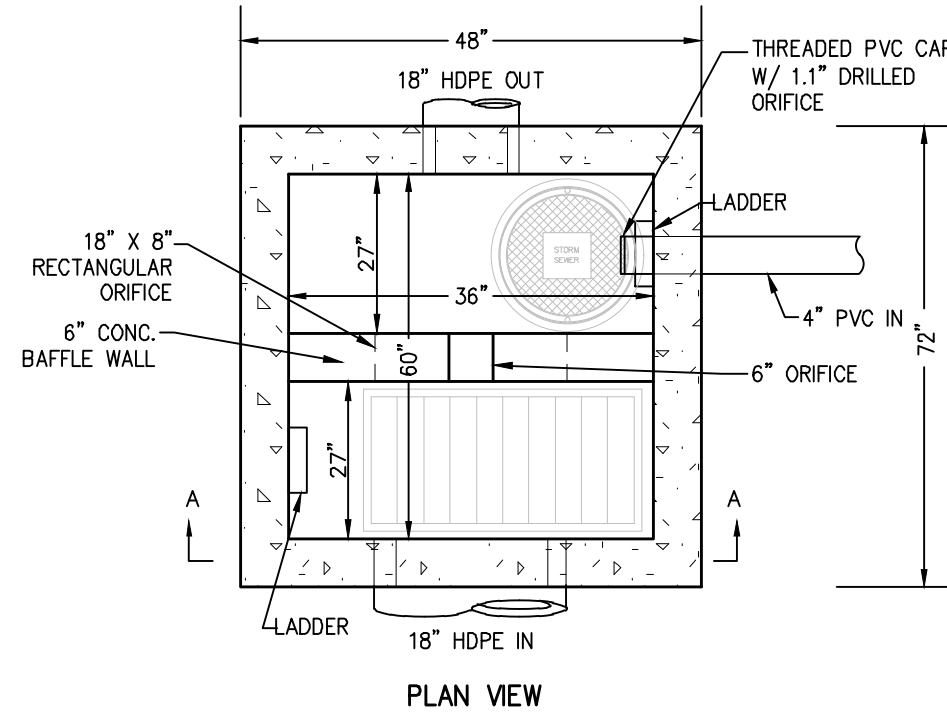
NOT TO SCALE

REVEGETATE/REFOREST DISTURBED AREAS CONSTRUCTION SEQUENCE:

- THE REQUIRED PLANT MATERIAL AS SHOWN ON THE LANDSCAPE PLAN SHALL BE MAINTAINED FOR THE LIFE OF THE PROJECT TO ACHIEVE THE REQUIRED VISUAL EFFECT OF THE BUFFER OR SCREEN. IT SHALL BE THE ULTIMATE RESPONSIBILITY OF THE SUCCESSIVE PROPERTY OWNERS TO ENSURE THAT THE REQUIRED PLANTINGS ARE PROPERLY MAINTAINED. DEAD OR DISEASED PLANT MATERIALS SHALL BE REMOVED PROMPTLY BY THE PROPERTY OWNER AND REPLACED IMMEDIATELY OR AT A TIME AS DIRECTED BY THE TOWNSHIP ZONING OFFICER.
- THE LOCATION, DIMENSIONS AND SPACING OF REQUIRED PLANTINGS SHOULD BE ADEQUATE FOR THEIR PROPER GROWTH AND MAINTENANCE, TAKING INTO THE ACCOUNT THE SIZES OF SUCH PLANTINGS AT MATURITY AND THEIR PRESENT AND FUTURE ENVIRONMENTAL REQUIREMENTS, SUCH AS WIND, SOIL, MOISTURE, AND SUNLIGHT.
- ALL PLANT MATERIAL SHALL BE HARDY WITHIN THE UNITED STATES DEPARTMENT OF AGRICULTURE (USDA) HARDINESS ZONE 5b, APPLICABLE TO PALMER TOWNSHIP.
- CANOPY TREES SHALL REACH A MINIMUM HEIGHT AND SPREAD OF 30 FEET AT MATURITY AS DETERMINED BY THE ANLA STANDARDS AND SHALL BE DECIDUOUS. NEW TREES SHALL HAVE A MINIMUM CALIPER OF 2 1/2 INCHES AT PLANTING.
- ORNAMENTAL TREES OR LARGE SHRUBS SHALL REACH A TYPICAL MINIMUM HEIGHT OF 10 FEET AT MATURITY BASED ON ANLA STANDARDS. TREES AND SHRUBS MAY BE DECIDUOUS OR EVERGREEN AND SHALL HAVE A MINIMUM HEIGHT OF 6 FEET OR A 2 1/2 CALIPER. NEW LARGE SHRUBS SHALL HAVE A MINIMUM SIZE OF 2 1/2 TO 3 FEET AT TIME OF PLANTING.
- SMALL SHRUBS MAY BE EVERGREEN OR DECIDUOUS AND SHALL HAVE A MINIMUM HEIGHT AT MATURITY OF 4 FEET BASED ON ANLA STANDARDS FOR THAT SPECIES. NEW SHRUBS SHALL HAVE A MINIMUM SIZE OF 18 INCHES AT TIME OF PLANTING.
- EVERGREEN TREES SHALL REACH A TYPICAL MINIMUM HEIGHT OF 20 FEET AT MATURITY BASED ON ANLA STANDARDS FOR THAT SPECIES AND SHALL REMAIN EVERGREEN THROUGHOUT THE YEAR. NEW EVERGREENS SHALL HAVE A MINIMUM HEIGHT OF 6 FEET AT PLANTING.
- MAINTENANCE GUIDELINES FOR THE PLANTINGS ARE ENCOURAGED TO BE PUBLISHED BY THE PLANTING PLAN DESIGNER, TO BE USED BY THE GROUNDS MAINTENANCE PERSONNEL, TO ENSURE THE DESIGNS VISUAL BUFFERING AND SCREENING CONCEPTS ARE CONTINUED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PLANTING AT CORRECT GRADES AND ALIGNMENTS.
- PLANTS SHALL BE TYPICAL OF THEIR SPECIES AND VARIETY; HAVE NORMAL GROWTH HABITS; WELL DEVELOPED BRANCHES, DENSELY FOULATED; VIGOROUS ROOT SYSTEMS, AND BE FREE FROM DEFECTS AND INJURIES.
- CONTRACTOR SHALL REPORT ANY SOIL OR DRAINAGE CONDITIONS CONSIDERED DETRIMENTAL TO THE GROWTH OF THE PLANT MATERIAL.
- ALL PLANT MATERIAL SHALL BE GUARANTEED BY THE CONTRACTOR TO BE IN VIGOROUS GROWING CONDITION. PROVISIONS SHALL BE MADE FOR A GUARANTEE OF AT LEAST EIGHTEEN (18) MONTHS FOR TREES AND A MINIMUM OF TWO (2) SEASONS FOR SHRUBS. REPLACEMENTS SHALL BE MADE AT THE BEGINNING OF THE FIRST SUCCEEDING PLANTING SEASON. ALL REPLACEMENTS SHALL HAVE A GUARANTEE EQUAL TO THAT STATED ABOVE.
- IN SO FAR AS IT IS PRACTICABLE, PLANT MATERIALS SHALL BE PLANTED ON THE DAY OF DELIVERY. IN THE EVENT THIS IS NOT POSSIBLE, THE CONTRACTOR SHALL PROTECT STOCK NOT PLANTED. PLANTS SHALL NOT REMAIN UNPLANTED FOR LONGER THAN A THREE (3) DAY PERIOD AFTER DELIVERY.
- QUALITY AND SIZE OF PLANTS, SPREAD OF ROOTS, AND SIZE OF BALLS SHALL BE IN ACCORDANCE WITH ANSI Z80 (REVISED 1980) "AMERICAN STANDARD FOR NURSERY STOCK" AS PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERMAN, INC.
- ALL PLANTS SHALL BE PLANTED IN TOPSOIL THAT IS THOROUGHLY WATERED AND TAMPED AS BACKFILLING PROGRESSES. NOTHING BUT SUITABLE TOPSOIL, FREE OF SOD, STIFF CLAY, LITTER, ETC. SHALL BE USED FOR PLANTING.
- PLANTING OPERATIONS SHALL BE PERFORMED DURING PERIODS WITHIN THE PLANTING SEASON WHEN WEATHER AND SOIL CONDITIONS ARE SUITABLE AND IN ACCORDANCE WITH THE ACCEPTED LOCAL PRACTICE.
- SET ALL PLANTS PLUMB AND STRAIGHT. SET AT SUCH A LEVEL THAT, AFTER SETTLEMENT, A NORMAL OR NATURAL RELATIONSHIP TO THE CROWN OF THE PLANT WITH THE GROUND SURFACE WILL BE ESTABLISHED. LOCATE PLANT IN THE CENTER OF THE PIT.

PCSM NOTES -- REVEGETATE/REFOREST

- PLANTINGS SHOWN ON THE LANDSCAPE PLAN AND IN THE LANDSCAPE SCHEDULE HAVE BEEN CREDITED FOR STORMWATER MANAGEMENT TO MEET THE CONDITIONS OF THE MPODES PERMIT UNDER BMP 5.6.3. RE-VEGETATE/RE-FOREST.
- TREES SHALL BE A MINIMUM OF 2" CALIPER AND 6 FEET HIGH AT PLANTING.
- TREES SHALL BE MAINTAINED AND PROTECTED FOR THE LIFE OF THE PROJECT (50 YR) OR UNTIL REDEVELOPMENT OCCURS. DEAD TREES SHALL BE REPLACED WITHIN 6 MONTHS.
- ANY DEVIATION FROM THE LANDSCAPE PLAN MUST BE APPROVED BY THE MUNICIPALITY AND PA DEP.
- ALL PLANTINGS MUST COMPLY WITH THE SPECIFICATIONS DESCRIBED IN THE PLANS.



NOTE

ALL OUTLET STRUCTURE JOINTS SHALL BE WATER-TIGHT.

SUBSURFACE DETENTION BASIN CONSTRUCTION SEQUENCE

- INSTALL AND MAINTAIN ADEQUATE EROSION AND SEDIMENT CONTROL MEASURES (AS PER THE PA E&SPC PROGRAM MANUAL) DURING CONSTRUCTION. RUNOFF SHALL NOT BE PERMITTED TO ENTER THE BASIN UNTIL SUCH TIME AS THE ENTIRE CONTRIBUTORY DRAINAGE AREA HAS ACHIEVED FINAL STABILIZATION PER DEP STANDARDS.
- INSTALL UPSTREAM AND DOWNSTREAM CONTROL STRUCTURES, PIPING, AND ALL OTHER NECESSARY STORMWATER STRUCTURES INCIDENTAL TO THE BASIN.
- EXCAVATE BASIN. INSTALL IMPERMEABLE PVC LINER SYSTEM IN ACCORDANCE WITH SHOP DRAWINGS AND MANUFACTURER'S INSTALLATION STANDARDS.
- INSTALL BASIN SOIL MIX AND UNDERDRAIN IN ACCORDANCE WITH PLAN DETAILS.
- UPON APPROVAL OF SOIL MIX, UNDERDRAIN, AND LINING INSTALLATION, ARCH CHAMBER DETENTION SYSTEM CAN BE INSTALLED AND BACKFILLED.
- CLEAN-WASHED, UNIFORMLY GRADED AGGREGATE BACKFILL SHOULD BE PLACED, TO THE WIDTH AND DEPTH INDICATED, IN MAXIMUM 8-INCH LIFTS. EACH LAYER SHOULD BE LIGHTLY COMPACTED.
- APPROVED BACKFILL SHOULD BE PLACED OVER BASIN IN MAXIMUM 6-INCH LIFTS.
- DO NOT REMOVE INLET PROTECTION OR OTHER EROSION AND SEDIMENT CONTROL MEASURES UNTIL SITE IS FULLY STABILIZED.

BASIN SOIL MIX SPECIFICATION

- SOIL MIX SHALL CONSIST OF THE FOLLOWING AND MEET THE FOLLOWING REQUIREMENTS:
 - 30% TOPSOIL, 70% COARSE SAND
 - LESS THAN 5% FINES PASSING THE #200 SIEVE
 - 24" MINIMUM SOIL MIX DEPTH

CLIENT DATA



Cornerstone
Consulting Engineers & Architectural, Inc.

213 West Main Street, Lansdale, PA 19446
Phone: 215-562-2600, Fax: 215-562-8400
WWW.CORNERSTONEINC.COM

Pennco Region
570-839-1770

Lehigh Valley Region
610-820-5200

Philadelphia Region
215-562-2600

NO	BY	DATE	DESCRIPTION
1	DN	9/2/2021	REVISED PER TOWNSHIP COMMENTS

PENNSYLVANIA
ONE CALL SYSTEM, INC.
975 Inver Run Road
West Mifflin, Pennsylvania
(412) 777-1978

BEFORE YOU DIG ANYWHERE IN
PENNSYLVANIA CALL 1-800-242-1776

NON-MEMBERS MUST BE
CONTACTED DIRECTLY

J.B. ANDERSON
PROFESSIONAL ENGINEER
P.E. LICENSE NO. PE000458
PENNSYLVANIA LICENSE NO. PE000458
NEW JERSEY LICENSE NO. 24604550400
DELAWARE LICENSE NO. 440145575
GEORGIA LICENSE NO. 75184
NEW YORK LICENSE NO. 091667

PROJECT LOCATION

LAND DEVELOPMENT DOCUMENTS
"SUNOCO 1451 PROVIDENCE ROAD"

PROPOSED COMMERCIAL
RE-DEVELOPMENT
1451 PROVIDENCE ROAD
MEDIA, PENNSYLVANIA, 19063
DELAWARE COUNTY

PREPARED FOR
SIRHANDI ENTERPRISES, INC.

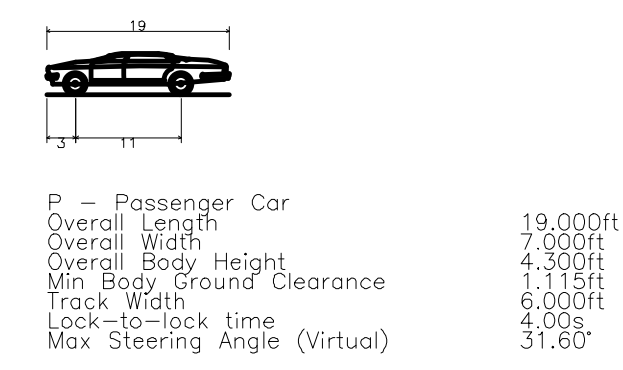
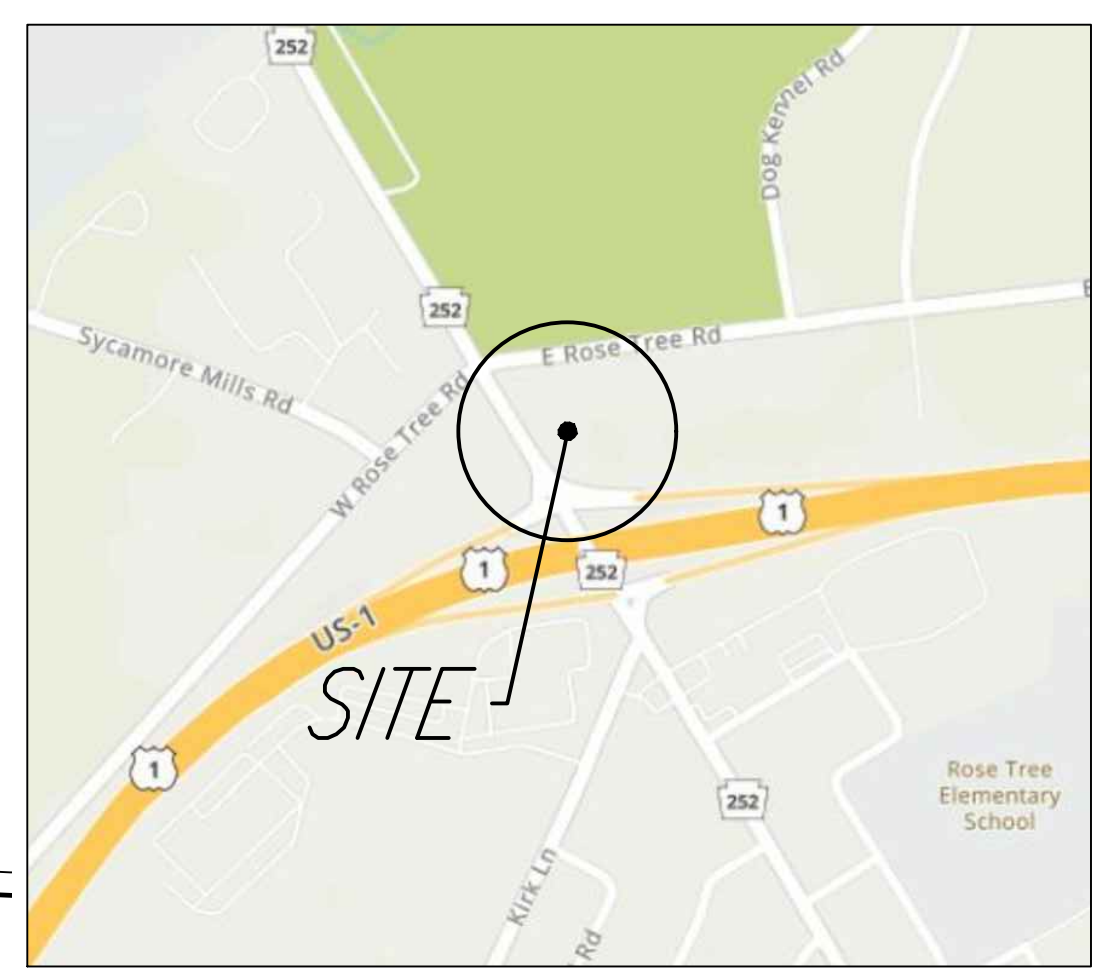
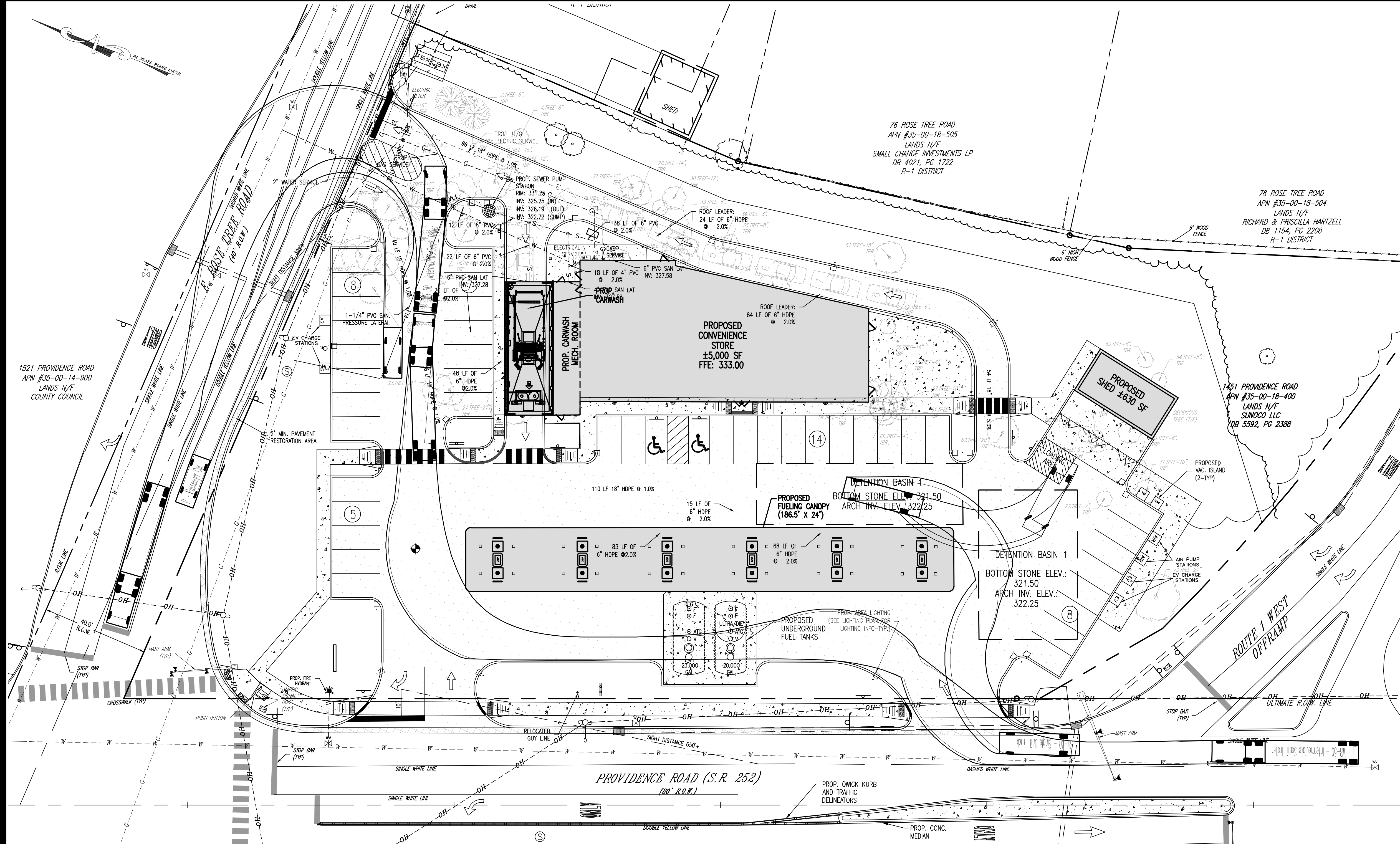
TITLE

SITE DETAILS

PROJ. #	19-0425	DATE	05-21-2021
CAD ID	19-0425	DRN BY	GTM
SCALE	AS NOTED	CHK BY	JBA

SHEET 26 OF 27

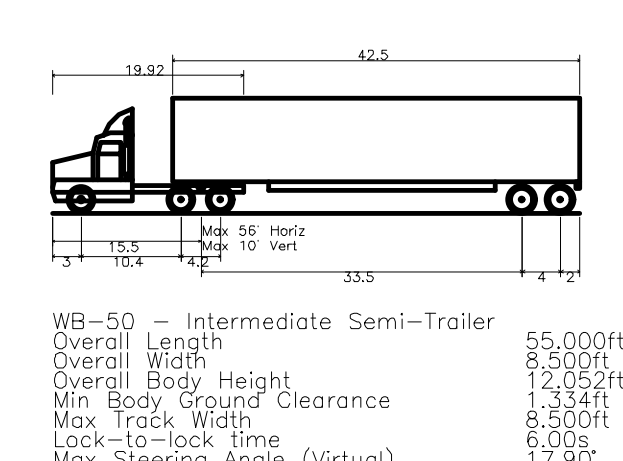
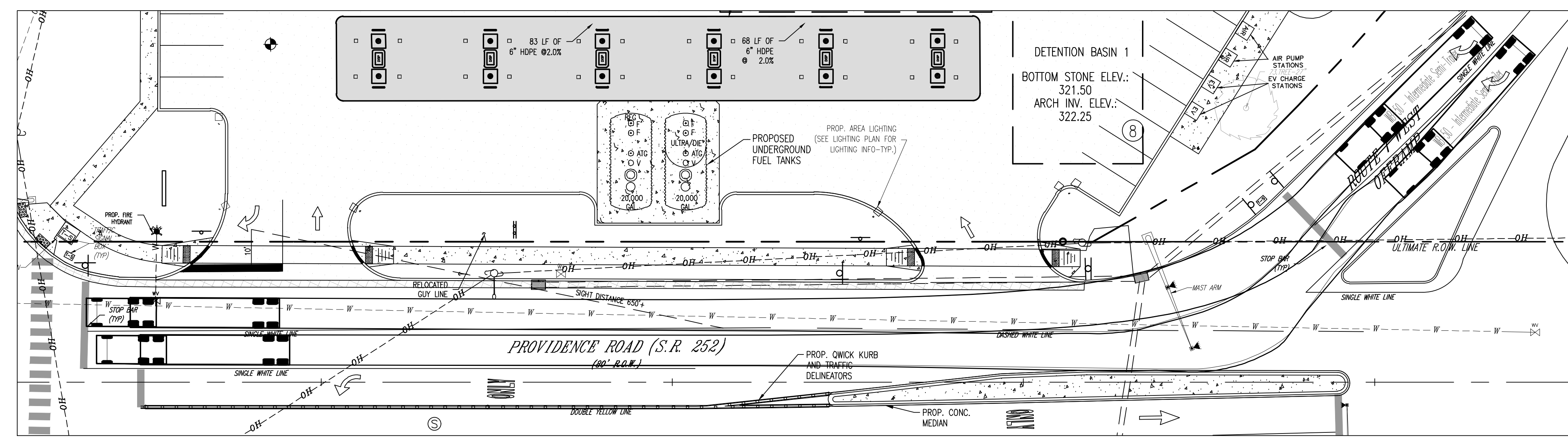
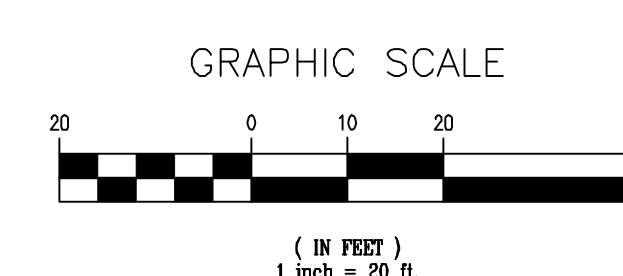
REVISION 1



P - Passenger Car	19.000ft
Overall Length	4.000ft
Overall Width	1.115ft
Min Body Ground Clearance	6.000ft
Track Width	4.000ft
Lock-to-lock time	31.60°
Max Steering Angle (Virtual)	

SU-30 - Single Unit Truck	30.000ft
Overall Length	12.000ft
Overall Width	1.115ft
Min Body Ground Clearance	6.000ft
Track Width	4.000ft
Lock-to-lock time	31.60°
Max Steering Angle (Virtual)	

WB-50 - Intermediate Semi-Trailer	55.000ft
Overall Length	12.052ft
Overall Width	1.115ft
Min Body Ground Clearance	6.000ft
Track Width	4.000ft
Lock-to-lock time	31.60°
Max Steering Angle (Virtual)	



WB-50 - Intermediate Semi-Trailer	55.000ft
Overall Length	12.052ft
Overall Width	1.115ft
Min Body Ground Clearance	6.000ft
Track Width	4.000ft
Lock-to-lock time	31.60°
Max Steering Angle (Virtual)	

CLIENT DATA

cornerstone
Consulting Engineers & Architectural, Inc.

Pocono Region
570-839-1770

Philadelphia Region
215-562-2600

NO	BY	DESCRIPTION	DATE
1	DN	REVISED PER TOWNSHIP COMMENTS	9/2/2021

J.B. ANDERSON
PROFESSIONAL ENGINEER
PENNSYLVANIA LICENSE NO. PE014538
NEW JERSEY LICENSE NO. 2460433400
NEW YORK LICENSE NO. 040104725
FLORIDA LICENSE NO. 75184
NEW YORK LICENSE NO. 095567-1

PROJECT LOCATION

LAND DEVELOPMENT DOCUMENTS
"SUNOCO 1451 PROVIDENCE ROAD"

PROPOSED COMMERCIAL
RE-DEVELOPMENT
1451 PROVIDENCE ROAD
MEDIA, PENNSYLVANIA, 19063
DELAWARE COUNTY

PREPARED FOR
SIRHANDI ENTERPRISES, INC.

TITLE	
TRUCK TURNING PLAN	
PROJ. #	19-0425
CAD ID.	19-0425
SCALE	AS NOTED
DATE	05-21-2021
DRN BY	GTM
CHK BY	JBA
SHEET 27 OF 27	
REVISION 1	