ESTATES AT MILTON CROSSING

(2019-16)

PRELIMINARY SUBDIVISION PLAT

SUSSEX COUNTY - MILTON

REYNOLDS ROAD (SCR 233), MILTON, DE 19968

SITE DATA:

1. TAX MAP NUMBER: 235-8.00 PARCELS 31.00, 26.00 & 26.03
2. OWNERS: WILLIAM T SAMMONS, SR., MARY JANE SAMMONS, WILLIAM T. SAMMONS, JR. & BONNIE VOSHELL (FORMERLY SAMMONS)
   12984 COASTAL HIGHWAY
   MILTON, DE 19968
   PARCELS 31.00 & 26.00
   DEED BOOK 2845 PAGE 285 & DEED BOOK 3065 PAGE 262
   70.78 +/- ACRES

   GRJS OUTREACH, LLC
   P.O. BOX 212
   LEWES, DE 19958
   PARCEL 26.03
   DEED BOOK 3398 PAGE 31
   31.36 +/- ACRES
3. TOTAL AREA: 102.14 +/- ACRES
4. DEVELOPER NAME: PRESTON L. DYER, GRJS OUTREACH, LLC
5. TOWN/HUNDRED/COUNTY: MILTON / BROAD KILL HUNDRED / SUSSEX
6. CURRENT ZONING: AR-1 RESIDENTIAL DISTRICT
7. PROPOSED ZONING: AR-1
8. PRESENT USE: AGRICULTURAL
9. PROPOSED USE: DETACHED SINGLE FAMILY DWELLINGS (115-20 A. (1))
10. REQUIRED SETBACKS (B.R.L.): AR-1 (115-25 C.)

DEPTH OF FRONT YARD (FEET)	30'
DEPTH OF CORNER SIDE YARD	15' (115-182 B.)
WIDTH OF SIDE YARD (FEET)	15'
DEPTH OF REAR YARD (FEET)	20'
MINIMUM LOT WIDTH	100'

11. DWELLING UNIT CALCULATIONS: (115-25 A. (2) LOW DENSITY AREA)

GROSS AREA:	102.14 AC.
LESS 25% FOR LOW DENSITY:	76.605 AC.
PERMITTED LOTS:	76.605 / 0.75 = 102.14 UNITS
PROPOSED LOTS:	87 UNITS

12. GROSS DENSITY (UNITS/AC.): 0.85
13. REQUIRED LOT SIZE (MIN.) (115-25 A. (2)):

WIDTH :	100 FT.
DEPTH :	100 FT.
AREA :	21,780 S.F. (0.50 ACRES)
PROPOSED MIN. LOT SIZE:	21,800 S.F.
PROPOSED AVERAGE LOT SIZE:	21,800 S.F.

14. WATER SUPPLIER: PRIVATE - INDIVIDUAL ON-SITE WELLS (DNERC) WATER IS SUBJECT TO THE APPROVAL OF THE DELAWARE STATE DEPARTMENTS OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL AND THE DELAWARE DIVISION OF PUBLIC HEALTH
15. SECTION 89 - SOURCE WATER PROPERTY: A. SUBJECT PROPERTY IS WITHIN AN AREA OF "FAIR" GROUNDWATER RECHARGE. B. SUBJECT PROPERTY IS NOT LOCATED IN A WELLHEAD PROTECTION AREA.
16. SANITARY SEWER PROVIDER: PRIVATE - INDIVIDUAL ON-SITE WASTEWATER DISPOSAL SYSTEM (DNREC)
17. STREETS: PRIVATE (99-18 D & E.)
18. POSTED SPEED LIMIT (REYNOLDS RD): 50 MPH
19. STATE INVESTMENT AREA: LEVEL 3
20. MAXIMUM BUILDING HEIGHT (115-25 D.): 42 FEET
21. SITE AREA AND ACREAGE:

EX FORESTED ACREAGE (APPROXIMATE):	30.11 AC
REMAINDER	AC
GROSS ACREAGE / NET DEVELOPMENT AREA:	102.14 AC
LOT AREA (87 LOTS):	45.91 AC (44.9%)
DELDOT R.O.W. DEDICATION:	0.15 AC
PRIVATE ROAD R.O.W.:	
IMPERVIOUS:	3.80 AC
GRASS	3.96 AC
OPEN SPACE:	48.32 AC
TOTAL :	**102.14 AC**

22. REQUIRED OPEN SPACE (99-21 D.): REQUIRED 0% OF GROSS AREA (0 AC)
    PROPOSED OPEN SPACE AREA (48.32 AC)
23. OPEN SPACE AREA BREAKDOWN:

LANDSCAPE BUFFER:	4.27± AC (8.8%)
ACTIVE OPEN SPACE AND SWM:	25.47± AC (52.7%)
FLOODPLAIN AREA:	18.58± AC (38.5%)
WETLAND AREA:	9.62± AC*
TOTAL OPEN SPACE AREA:	48.32± AC

*WETLAND AREA IS LOCATED WITHIN THE FLOODPLAIN AREA

24. LONGITUDE AND LATITUDE
    STATE PLANE COORDINATES: LONGITUDE: W 75°17'57.35"
    LATITUDE: N 38°48'48.44"
25. PROPOSED DISCHARGE LOCATION: PRIME HOOK CREEK WATERSHED, ULTIMATELY TO DELAWARE BAY
26. LIMIT OF DISTURBANCE: 80.11 AC. ±
27. WATERSHED: PRIME HOOK CREEK WATERSHED
28. FLOOD ZONE: THIS PROPERTY IS LOCATED ON THE FEMA FLOOD INSURANCE RATE MAP NUMBERS 10005C0160K AND 10005C0166K, MAPS REVISED MARCH 16, 2015. 100 YEAR FLOODPLAIN: ZONE AE 8 BASE FLOOD ELEVATION DETERMINED ALONG THE EASTERN PORTION OF THE PROPERTY. 100 YEAR FLOODPLAIN AREA:18.58 +/- ACRES
29. WETLANDS AREA: 9.62 +/- ACRES NON-TIDAL WETLANDS - DELINEATED BY ENVIRONMENTAL RESOURCES, INC. IN 2004. THE WETLANDS WILL BE RECERTIFIED DURING THE ENGINEERING STAGES OF THE PROJECT.
30. WETLAND AREA IMPACTED: 0 AC.
31. FLOWAGE EASEMENT: 29.3 +/- ACRES (67F) PER DEED BOOK 612 - PAGE 296 (30.65+/- ACRES MEASURED)
32. TOPOGRAPHY: NAD 83; NAVD 88 DATUM SURVEYED BY PENNONI IN OCTOBER 2020 AND WINGS AERIAL TOPOGRAPHY FOR DESIGN CONSULTANTS GROUP, LLC DATED 01/23/2004.
33. SURVEY: DESIGN CONSULTANTS GROUP, LLC BOUNDARY SURVEY AND FIELD VERIFIED IN JANUARY 2004 AND FIELD SURVEYED BY PENNONI IN OCTOBER 2020.
34. LOCAL GOVERNMENT RESPONSIBLE FOR LAND USE APPROVAL: SUSSEX COUNTY

PREPARED BY:

PENNONI ASSOCIATES INC.

18072 Davidson Drive
Milton, DE 19968
T 302.684.8030
F 302.684.8054

CALL BEFORE YOU DIG
Call Miss Utility of Delmarva
800-282-8555
Ticket Number(s):

PREPARED FOR:

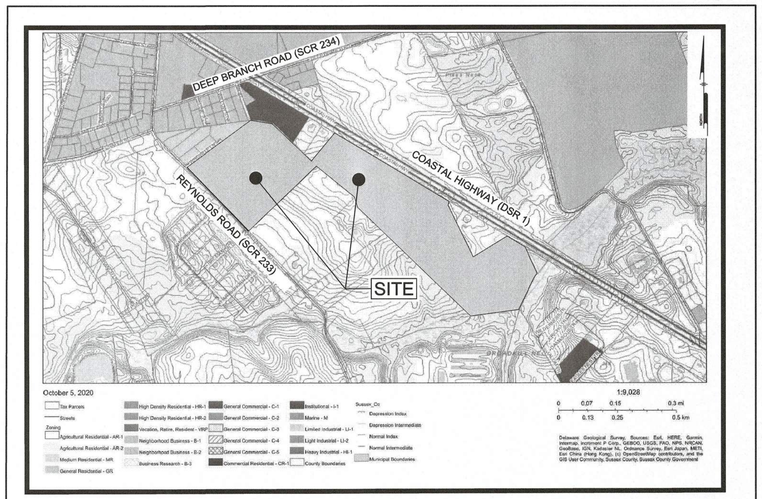
OWNER/DEVELOPER

GRJS OUTREACH, LLC

P.O. BOX 212

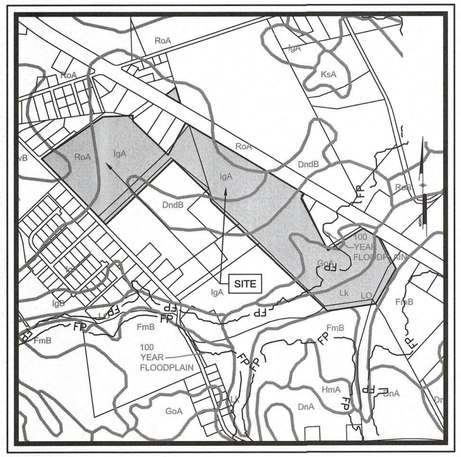
LEWES, DE 19958

(302) 644-1400



LOCATION MAP

SCALE:1"=1000'



SOILS / FEMA MAP

Scale: 1" = 1000'

SOILS		
TYPE	DESCRIPTION	HYDROLOGIC SOIL
DndB	DOWNER LOAMY SAND, 2 TO 5 PERCENT SLOPES	A
EvB	EVESBORO LOAMY SAND, 0 TO 5 PERCENT SLOPES	A
GoA	GLASSBORO SANDY LOAM, 0 TO 2 PERCENT SLOPES	A/D
IgA	INGLESIDE SANDY LOAM, 0 TO 2 PERCENT SLOPES	A
LK	LENAPE MUCKY PEAT, VERY FREQUENTLY FLOODED, TIDAL	C/D
RoA	ROSEDALE LOAMY SAND, 0 TO 2 PERCENT SLOPES	A

BASED ON THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) 10005C0160K & 10005C0166K, EFFECTIVE DATE MARCH 16, 2016, THE SUBJECT PROPERTY IS LOCATED IN FLOOD ZONE 'X', UNSHADED, WHICH IS AN AREA DETERMINED TO LIE OUTSIDE THE 500 YEAR FLOODPLAIN.
FIELD WORK CONDUCTED IN NOVEMBER 2020. SOILS REPORT PREPARED BY ACCENT ENVIRONMENTAL, LLC.

LIMIT OF DISTURBANCE: 80.11 AC.

LEGEND

EXISTING	PROPOSED	DESCRIPTION
		BUILDING
		FULL DEPTH PAVEMENT
		2" PAVEMENT OVERLAY
		CURB
		EDGE OF PAVEMENT
		EDGE OF GRAVEL
		UTILITY EASEMENT
		PERMANENT EASEMENT
		FENCE
		POWER, UTILITY POLE
		PROPERTY, LINE
		LEGAL RIGHT-OF-WAY
		PROPERTY, CORNER FOUND
		PROPERTY, ADJOINING LINED
		SITE, MAIL BOX
		SITE, TRAFFIC SIGN
		SOIL BOUNDARY
		VEGETATED SWALE
WaC		SOIL LABEL
W	W	WELL
		SOIL BORING
100.5	35.00	SPOT ELEVATION
		MARKING, HANDICAP PARKING
		LIGHT POLE
		EXISTING CONIFER TREE
		EXISTING OAK TREE
FP		100yr FLOOD PLAIN

OWNERS
WILLIAM T SAMMONS, SR., MARY JANE SAMMONS, WILLIAM T. SAMMONS, JR. & BONNIE VOSHELL (FORMERLY SAMMONS)
12984 COASTAL HIGHWAY
MILTON, DE 19968

GRJS OUTREACH, LLC
P.O. BOX 212
LEWES, DE 19958

DEVELOPER
GRJS OUTREACH, LLC
PRESTON L. DYER
P.O. BOX 212
LEWES, DE 19958

ENGINEER/SITE DESIGNER
PENNONI ASSOCIATES INC.
18072 DAVIDSON DRIVE
MILTON, DE 19968
(302) 684-8030

SURVEYOR
PENNONI ASSOCIATES, INC.

LANDSCAPE ARCHITECT
PENNONI ASSOCIATES, INC.

SCHOOL DISTRICT
CAPE HENLOPEN SCHOOL DISTRICT

FIRE DISTRICT
MILTON

POSTAL DISTRICT
MILTON (19968)

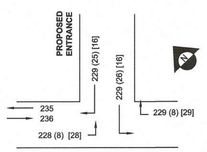
WATER UTILITY
ON-SITE WELL

SEWER UTILITY
ON-SITE DISPOSAL SYSTEM

INDEX OF SHEETS		
SHEET NUMBER	SHEET DESCRIPTION	SHEET TITLE
1	PP0001	PRELIMINARY SUBDIVISION PLAT COVER SHEET
2	PP0002	PRELIMINARY SUBDIVISION PLAT NOTES AND DETAILS
3	PP1001	PRELIMINARY SUBDIVISION PLAT
4	PP1002	PRELIMINARY SUBDIVISION PLAT

TRAFFIC GENERATION - REYNOLDS RD (SCR 233)

(FULL MOVEMENT)



TRAFFIC GENERATION DIAGRAM

ADT PEAK HOUR (A.M.), ADT PEAK HOUR [P.M.]

[1] DIRECTIONAL DISTRIBUTION PROVIDED BY DELDOT
[2] DIRECTIONAL DISTRIBUTION PROVIDED BY ITE MANUAL

DESIGN VEHICLE: WB-40 & SU-30

ROAD TRAFFIC DATA:
FUNCTIONAL CLASSIFICATION - SCR233 (REYNOLDS ROAD) - LOCAL ROAD
POSTED SPEED LIMIT - 50 MPH
AADT = 471 TRIPS (FROM 2019 DELDOT TRAFFIC SUMMARY)
DIRECTIONAL DISTRIBUTION[1]
10 YEAR PROJECTED AADT= 471 x 1.16 = 547 TRIPS
10 YEAR PROJECTED AADT + SITE ADT = 1,462 TRIPS
TRAFFIC PATTERN GROUP = 7 (FROM 2019 DELDOT TRAFFIC SUMMARY)
PEAK HOUR - 14.15% x 547 TRIPS = 78 TRIPS
TRUCK VOLUME - 13.11% X 547 = 72 TRUCKS

SITE TRAFFIC DATA:
SOURCE: ITE TRIP GENERATION MANUAL 10TH EDITION[2]

EXISTING LAND USE: FARM FIELD
TOTAL ADT FOR SITE = 0 TRIPS
PROPOSED LAND USE:
87 LOTS -SINGLE FAMILY DETACHED HOUSING (ITE 210)
87 LOTS - Ln(T)=0.92Ln(X)+2.71 = 915 TRIPS (WEEKDAY)
87 LOTS - Ln(T)=0.94Ln(X)+2.56 = 861 TRIPS (SATURDAY)

WEEKDAY PEAK HOUR BREAKDOWN:
AM: T=0.71(X)+4.80 = 67 TRIPS (WEEKDAY) [25% ENTER / 75% EXIT]
PM: Ln(T)=0.96Ln(X)+0.20 = 89 TRIPS (WEEKDAY) [63% ENTER / 37% EXIT]
T=0.84(X)+17.99 = 91 TRIPS (SATURDAY)

DIRECTIONAL DISTRIBUTION:
50% TO AND FROM THE EAST (457 TRIPS) (33)[44]
50% TO AND FROM THE WEST (458 TRIPS) (34)[45]
[SITE TRUCK TRAFFIC = 46 TRIPS (5%)]

WETLANDS CERTIFICATION:
THIS PROPERTY, TAX MAP 235-8.00, HAS BEEN EXAMINED BY KENNETH W. REDINGER ENVIRONMENTAL SERVICES FOR THE PRESENCE OF WATERS OF THE UNITED STATES, INCLUDING WETLANDS (SECTION 404 AND SECTION 10), STATE SUBAQUEOUS LANDS AND SATE REGULATED WETLANDS AS ESTABLISHED BY THE REVIEWING AGENCIES IN THE FORM OF MANUALS, POLICIES AND PROCEDURES IN PLACE AT THE TIME THAT THE INVESTIGATION WAS CONDUCTED. THE WETLAND INFORMATION CONTAINED IN THIS PLAN SET IS IN ACCORDANCE WITH THESE CRITERIA.

SIGNATURE DATE

KENNETH W. REDINGER, PROFESSIONAL WETLANDS SCIENTIST #2126
P.O. BOX 479 / HORNTOWN, VA 23395
(757) 894-7032 / EMAIL:KWREDINGER@GMAIL.COM

SUSSEX CONSERVATION DISTRICT

NAME DATE

APPROVED BY

CHAIRMAN OR SECRETARY OF PLANNING & ZONING COMMISSION DATE

PRESIDENT OF SUSSEX COUNTY COUNCIL DATE

REFERENCE #: 2019-16

OWNER/DEVELOPER CERTIFICATION:
I HEREBY CERTIFY THAT I AM THE OWNER OF THE PROPERTY DESCRIBED AS SHOWN ON THIS PLAN, THAT THE PLAN WAS MADE AT MY DIRECTION, THAT I ACKNOWLEDGE THE SAME TO BE MY ACT, AND DESIRE THE PLAN TO BE RECORDED AS SHOWN IN ACCORDANCE WITH ALL APPLICABLE LAWS AND REGULATIONS.

WILLIAM T. SAMMONS, SR. DATE
12984 COASTAL HIGHWAY
MILTON, DE 19968

OWNER/DEVELOPER CERTIFICATION:
IT IS HEREBY CERTIFIED THAT I AM THE OWNER/DEVELOPER OF THE PROPERTY DESCRIBED AND SHOWN ON THIS PLAN. THE PLAN WAS MADE AT MY DIRECTION, THAT I ACKNOWLEDGE THE SAME TO BE MY ACT. IT IS MY DESIRE TO HAVE THE PLAN RECORDED AS SHOWN AND IN ACCORDANCE WITH ALL APPLICABLE LAWS AND REGULATIONS.

SIGNATURE DATE
GRJS OUTREACH, LLC
PRESTON DYER
P.O. BOX 212
LEWES, DE 19958
(302) 644-1400

ENGINEER CERTIFICATION:
IT IS HEREBY CERTIFIED THAT I AM A REGISTERED ENGINEER IN THE STATE OF DELAWARE, THAT THE INFORMATION SHOWN HEREON HAS BEEN PREPARED UNDER MY SUPERVISION, AND TO MY BEST KNOWLEDGE COMPLIES WITH APPLICABLE STATE AND LOCAL REGULATIONS AND ORDINANCES. THE DESIGN REPRESENTS GOOD ENGINEERING PRACTICES AS REQUIRED BY THE APPLICABLE LAWS OF THE STATE OF DELAWARE.

SIGNATURE DATE
ALAN DECKTOR, PE (DE #19778)
PENNONI ASSOCIATES, INC.
18072 DAVIDSON DRIVE
MILTON, DE 19968
OFFICE (302) 684-8030 - FAX (302) 684-8054

PENNONI ASSOCIATES INC.
18072 Davidson Drive
Milton, DE 19968
T 302.684.8030 F 302.684.8054

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

ESTATES AT MILTON CROSSING
REYNOLDS ROAD (SCR 233)
MILTON, DE 19968
T. M.: 235-8.00, PARCELS 31.00, 26.00 & 26.03

PRELIMINARY SUBDIVISION PLAT COVER SHEET

GRJS OUTREACH, LLC
P.O. BOX 212
LEWES, DE 19958

NO.	REVISIONS	BY	DATE

ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON THE EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY PENNONI ASSOCIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO PENNONI ASSOCIATE; AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS PENNONI ASSOCIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

PROJECT	GRJSO19001
DATE	2020-03-11
DRAWING SCALE	AS SHOWN
DRAWN BY	TPM
APPROVED BY	AMD

PP0001

SHEET 1 OF 4

PROJECT STATUS —
PLOTSTYLE: Pennoni NCS.ctb
PLOTTED: 1/19/2021 9:26 PM, BY: Kevin Ellis
U:\Accounts\GRJSO\PUBS\019001 - Sub division Lot 87\DESIGN_SHEETS\PP0001.dwg

PARCEL CURVE TABLE						
CURVE #	RADIUS	DELTA	ARC LENGTH	TANGENT	CHORD LENGTH	CHORD BEARING
C1	1000.00'	10°06'46"	176.50'	88.48	176.27'	N 50°44'31" E
C2	250.00'	78°00'17"	340.36'	202.46	314.68'	S 85°11'58" E
C3	125.00'	86°18'41"	188.30'	117.20	171.00'	S 89°21'10" E
C4	300.00'	15°14'34"	79.81'	40.14	79.58'	S 39°52'13" W
C5	350.00'	11°33'45"	70.63'	35.44	70.51'	N 38°01'48" E
C6	25.00'	90°00'00"	39.27'	25.00	35.36'	N 01°11'19" W
C7	250.00'	28°35'11"	124.73'	63.69	123.44'	S 31°53'44" E
C8	200.00'	18°33'49"	64.80'	32.69	64.52'	S 26°53'02" E
C9	25.00'	113°03'08"	49.33'	37.81	41.71'	N 87°18'29" E
C10	53.00'	258°27'53"	239.09'	64.91	82.11'	S 19°59'14" E
C11	17.00'	78°27'47"	23.28'	13.88	21.50'	S 70°00'49" W
C12	25.00'	77°25'50"	33.79'	20.04	31.27'	S 07°56'00" E
C13	200.00'	28°26'59"	99.31'	50.70	98.29'	S 60°52'24" E
C14	25.00'	74°07'11"	32.34'	18.88	30.13'	N 67°50'31" E
C15	53.00'	256°41'30"	237.45'	67.00	83.13'	S 19°07'17" E
C16	17.00'	78°26'33"	23.27'	13.88	21.50'	S 70°00'12" W
C17	25.00'	105°52'49"	46.20'	33.10	39.90'	S 22°09'29" E
C18	17.00'	78°19'36"	23.24'	13.85	21.47'	N 65°44'18" E
C19	53.00'	253°49'43"	234.80'	70.55	84.75'	S 26°30'38" E
C20	250.00'	28°26'59"	124.14'	63.38	122.86'	N 60°52'24" W
C21	250.00'	29°02'47"	126.74'	64.76	125.39'	N 32°07'31" W
C22	200.00'	28°35'11"	99.79'	50.95	98.75'	N 31°53'44" W
C23	25.00'	90°00'00"	39.27'	25.00	35.36'	S 88°48'41" W
C24	300.00'	11°33'45"	60.54'	30.37	60.44'	S 38°01'48" W
C25	350.00'	15°14'34"	93.11'	46.83	92.84'	S 39°52'13" W
C26	175.00'	86°18'41"	263.62'	164.08	239.39'	N 89°21'10" W
C27	25.00'	87°27'48"	38.16'	23.92	34.56'	N 89°55'43" W
C28	53.00'	255°41'49"	236.53'	68.21	83.70'	N 03°05'44" W
C29	17.00'	78°24'48"	23.27'	13.87	21.49'	N 85°32'47" E
C30	25.00'	92°32'12"	40.38'	26.13	36.13'	N 00°04'17" E
C31	200.00'	78°00'17"	272.29'	161.97	251.74'	N 85°11'58" W
C32	995.00'	10°06'46"	175.62'	88.04	175.39'	S 50°44'31" W
C33	777.00'	10°06'46"	137.14'	68.75	136.96'	S 50°44'31" W
C34	468.00'	78°00'17"	637.15'	379.01	589.07'	N 85°11'58" W
C35	468.00'	28°26'59"	232.38'	118.64	230.00'	N 60°52'24" W

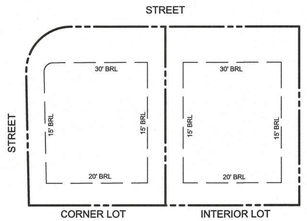
ZONING DATA TABLE - SUSSEX COUNTY

AR-1 DETACHED SINGLE FAMILY DWELLINGS

	REQUIREMENT		PROPOSED	
MIN. LOT SIZE	21,780	S.F.	21,800	S.F.
MIN. LOT WIDTH	100	FT.	100	FT.
MIN. LOT DEPTH	100	FT.	>100	FT.
MIN. FRONT YARD	30	FT.	30	FT.
MIN. CORNER FRONT YARD	15	FT.	15	FT.
MIN. SIDE YARD	15	FT.	15	FT.
MIN. REAR YARD	20	FT.	20	FT.
MAX. HEIGHT	42	FT.	42	FT.

EASEMENTS:

ALL SUBDIVISION LOTS SHALL HAVE FIVE-FOOT-WIDE EASEMENTS ALONG ALL LOT LINES FOR A TOTAL EASEMENT WIDTH OF AT LEAST 10 FEET ALONG A LOT LINE COMMON TO TWO LOTS. EASEMENTS OF GREATER WIDTH MAY BE REQUIRED ALONG LOT LINES OR ACROSS LOTS, WHERE NECESSARY. EASEMENTS ALONG PERIMETER BOUNDARIES OF THE SUBDIVISION SHALL BE NO LESS THAN 10 FEET IN WIDTH ON THE INTERIOR SIDE OF THE BOUNDARY.



LOT SETBACK DETAIL
NOT TO SCALE

FIRE MARSHAL NOTES:

1. ALL FIRE LANES, FIRE HYDRANTS, AND FIRE DEPARTMENT CONNECTIONS SHALL BE MARKED IN ACCORDANCE WITH THE STATE FIRE PREVENTION REGULATIONS.
2. NO FIRE HYDRANTS ARE LOCATED WITHIN 100' OF THIS SITE.
3. ALL ACCESS TO BUILDINGS SHALL BE CLEARED A MINIMUM OF 18' WIDE.

OPEN SPACE TABLE			
	AREA (S.F.)	AREA(ACRE)	PURPOSE
OS	2104819.20	48.32	ACTIVE, LANDSCAPE BUFFER
LOT	1999839.60	45.91	1/2 ACRE LOT

DELDOT RECORD/SITE PLAN NOTES (REVISED 3-21-2019):

1. ALL ENTRANCES SHALL CONFORM TO THE DELAWARE DEPARTMENT OF TRANSPORTATION'S (DELDOT'S) CURRENT DEVELOPMENT COORDINATION MANUAL AND SHALL BE SUBJECT TO ITS APPROVAL.
2. NO LANDSCAPING SHALL BE ALLOWED WITHIN THE RIGHT-OF-WAY UNLESS THE PLANS ARE COMPLIANT WITH SECTION 3.7 OF THE DEVELOPMENT COORDINATION MANUAL.
3. SHRUBBERY, PLANTINGS, SIGNS AND/OR OTHER VISUAL BARRIERS THAT COULD OBSTRUCT THE SIGHT DISTANCE OF A DRIVER PREPARING TO ENTER THE ROADWAY ARE PROHIBITED WITHIN THE DEFINED DEPARTURE SIGHT TRIANGLE AREA ESTABLISHED ON THIS PLAN. IF THE ESTABLISHED DEPARTURE SIGHT TRIANGLE AREA IS OUTSIDE THE RIGHT-OF-WAY OR PROJECTS ONTO AN ADJACENT PROPERTY OWNER'S LAND, A SIGHT EASEMENT SHOULD BE ESTABLISHED AND RECORDED WITH ALL AFFECTED PROPERTY OWNERS TO MAINTAIN THE REQUIRED SIGHT DISTANCE.
4. UPON COMPLETION OF THE CONSTRUCTION OF THE SIDEWALK OR SHARED-USE PATH ACROSS THIS PROJECT'S FRONTAGE AND PHYSICAL CONNECTION TO ADJACENT EXISTING FACILITIES, THE DEVELOPER, THE PROPERTY OWNERS OR BOTH ASSOCIATED WITH THIS PROJECT, SHALL BE RESPONSIBLE TO REMOVE ANY EXISTING ROAD TIE-IN CONNECTIONS LOCATED ALONG ADJACENT PROPERTIES, AND RESTORE THE AREA TO GRASS. SUCH ACTIONS SHALL BE COMPLETED AT DELDOT'S DISCRETION, AND IN CONFORMANCE WITH DELDOT'S DEVELOPMENT COORDINATION MANUAL.
5. PRIVATE STREETS CONSTRUCTED WITHIN THIS SUBDIVISION SHALL BE MAINTAINED BY THE DEVELOPER, THE PROPERTY OWNERS WITHIN THIS SUBDIVISION OR BOTH (TITLE 17 §131). DELDOT ASSUMES NO RESPONSIBILITIES FOR THE FUTURE MAINTENANCE OF THESE STREETS.
6. THE SHARED-USE PATH SHALL BE THE RESPONSIBILITY OF THE DEVELOPER, THE PROPERTY OWNERS OR BOTH WITHIN THIS SUBDIVISION. THE STATE OF DELAWARE ASSUMES NO RESPONSIBILITY FOR THE FUTURE MAINTENANCE OF THE SHARED-USE PATH.
7. ALL LOTS SHALL HAVE ACCESS FROM THE INTERNAL SUBDIVISION STREET.
8. DRIVEWAYS WILL NOT BE PERMITTED TO BE PLACED AT CATCH BASIN LOCATIONS.
9. TO MINIMIZE RUTTING AND EROSION OF THE ROADSIDE DUE TO ON-STREET PARKING, DRIVEWAY AND BUILDING LAYOUTS MUST BE CONFIGURED TO ALLOW FOR VEHICLES TO BE STORED IN THE DRIVEWAY BEYOND THE RIGHT-OF-WAY, WITHOUT INTERFERING WITH SIDEWALK ACCESS AND CLEARANCE.
10. THE DEVELOPER SHALL BE REQUIRED TO FURNISH AND PLACE RIGHT-OF-WAY MONUMENTS IN ACCORDANCE WITH DELDOT'S DEVELOPMENT COORDINATION MANUAL.
11. THE DEVELOPER SHALL BE REQUIRED TO FURNISH AND PLACE RIGHT-OF-WAY MARKERS TO PROVIDE A PERMANENT REFERENCE FOR RE-ESTABLISHING THE RIGHT-OF-WAY AND PROPERTY CORNERS ON LOCAL AND HIGHER ORDER FRONTAGE ROADS. RIGHT-OF-WAY MARKERS SHALL BE SET AND/OR PLACED ALONG THE FRONTAGE ROAD RIGHT-OF-WAY AT PROPERTY CORNERS AND AT EACH CHANGE IN RIGHT-OF-WAY ALIGNMENT IN ACCORDANCE WITH SECTION 3.2.4.2 OF THE DEVELOPMENT COORDINATION MANUAL.
12. A PERPETUAL CROSS ACCESS INGRESS/EGRESS EASEMENT IS HEREBY ESTABLISHED AS SHOWN ON THIS PLAT.
13. THIS DEVELOPMENT PROJECT HAS DIRECT FRONTAGE ALONG ROUTE 1 - COASTAL HIGHWAY, WHICH HAS A FUNCTIONAL CLASSIFICATION OF PRINCIPAL ARTERIAL AS DEFINED BY THE STATE OF DELAWARE'S DEPARTMENT OF TRANSPORTATION. PER SECTION 3.6.1 OF THE DELDOT DEVELOPMENT COORDINATION MANUAL (DCM); IT IS THE DEVELOPER'S RESPONSIBILITY TO EVALUATE NOISE LEVELS AND THEIR IMPACTS ON PROPOSED DEVELOPMENT, FOR PROJECTS ADJACENT TO EXISTING TRANSPORTATION FACILITIES WITH THIS FUNCTIONAL CLASSIFICATION. ROADWAYS WITH THIS CLASSIFICATION CAN BE EXPECTED TO GENERATE ELEVATED LEVELS OF ROAD AND TRAFFIC RELATED NOISE, SIMILAR TO WHAT CAN BE EXPECTED IN URBAN AREAS. A DETAILED NOISE ANALYSIS PER DCM 3.6 IS TYPICALLY RECOMMENDED TO HELP GAUGE THE ACTUAL IMPACTS THAT ROADWAY RELATED NOISE MAY HAVE ON VARIOUS POTENTIAL LAND-USES (SUCH AS THOSE DESCRIBED IN DCM FIGURE 3.6.3-A: NOISE ABATEMENT CRITERIA). WITH THE INCLUSION OF THIS NOTE, THE DEVELOPER IS ACKNOWLEDGING THAT THE PROPOSED SITE AND/OR BUILDING LOCATION CAN BE EXPECTED TO EXCEED THE SPECIFIC MAXIMUM NOISE LEVELS FOR CERTAIN COMMERCIAL AND NON-RESIDENTIAL USES AS SHOWN IN DCM FIGURE 3.6.3-A. THE DEVELOPER'S WAIVER OF THE NOISE ANALYSIS AND REVIEW OF POTENTIAL NOISE MITIGATION MEASURES ARE SUPPORTED BY THE INFEASIBILITY OF APPLYING NOISE MITIGATION MEASURES, BASED ON ENGINEERING CONSIDERATIONS AND FACTORS THAT WOULD LIMIT THE ABILITY TO ACHIEVE SUBSTANTIAL NOISE REDUCTION, RELATED TO THE COMMERCIAL USE OF THE SITE AND/OR BUILDINGS. THIS WAIVER ACKNOWLEDGES THAT THE DECIBEL LEVEL FOR THIS PARCEL MAY EXCEED THE APPLICABLE LIMITS FOR SOME CURRENT OR FUTURE PROPOSED USES. THE USE OF THIS NOTE SIGNIFIES THE SUBDIVISION ENGINEER'S CONCURRENCE WITH WAIVING THE DEVELOPER'S COMPLETION OF A DETAILED NOISE STUDY AND SUBSEQUENT REVIEW OF RESULTING NOISE ABATEMENT FINDINGS OR MITIGATION MEASURES. ANY FUTURE COMPLAINTS RELATING TO EXISTING OR FUTURE NOISE LEVELS IMPACTING PROPOSED USES ON THIS SITE AND ALONG THIS EXISTING TRANSPORTATION FACILITY SHALL BE THE RESPONSIBILITY OF THE DEVELOPER OR LAND OWNER OR BOTH.

CONDITIONS OF APPROVAL, (2020-02-13):

A. THERE SHALL BE NO MORE THAN 87 LOTS WITHIN THE SUBDIVISION.

B. THE DEVELOPER SHALL ESTABLISH A HOMEOWNERS ASSOCIATION RESPONSIBLE FOR THE MAINTENANCE OF STREETS, ROADS, BUFFERS, STORMWATER MANAGEMENT FACILITIES, AND OTHER COMMON AREAS.

C. THE STORMWATER MANAGEMENT SYSTEM SHALL MEET OR EXCEED THE REQUIREMENTS OF THE STATE AND COUNTY. THE FINAL SITE PLAN SHALL CONTAIN THE APPROVAL OF THE SUSSEX CONSERVATION DISTRICT FOR THE DESIGN AND LOCATION OF ALL STORMWATER MANAGEMENT AREAS AND EROSION AND SEDIMENTATION CONTROL FACILITIES.

D. THERE SHALL BE A 30 FOOT BUFFER INSTALLED ALONG ROUTE ONE, A 30 FOOT BUFFER ALONG LANDS IN AGRICULTURAL USE, AND A 20 FOOT BUFFER AROUND THE REMAINDER OF THE PERIMETER. IN EACH CASE, AT LEAST 20 FEET OF THE BUFFER AREA SHALL BE LANDSCAPED OR FORESTED, INCLUDING THE USE OF EXISTING FOREST. THE FINAL SITE PLAN SHALL CONTAIN A LANDSCAPE PLAN FOR ALL OF THESES AREAS.

E. THE DEVELOPER SHALL COMPLY WITH ALL DELDOT ENTRANCE AND ROADWAY IMPROVEMENT REQUIREMENTS. THERE SHALL NOT BE ANY ENTRANCE ONTO ROUTE ONE.

F. STREET DESIGN SHALL MEET OR EXCEED SUSSEX COUNTY STANDARDS. THERE SHALL BE SIDEWALKS ON AT LEAST ONE SIDE OF ALL STREETS IN THE DEVELOPMENT.

G. ROAD NAMING AND ADDRESSING SHALL BE SUBJECT TO THE REVIEW AND APPROVAL OF THE SUSSEX COUNTY MAPPING AND ADDRESSING DEPARTMENT.

H. CONSTRUCTION SITE WORK AND DELIVERIES SHALL ONLY OCCUR ON THE SITE BETWEEN THE HOURS OF 8:00 AM THROUGH 5:00 PM, MONDAY THROUGH SATURDAY.

I. THE APPLICANT SHALL COORDINATE WITH THE LOCAL SCHOOL DISTRICT REGARDING THE LOCATION OF A COVERED SCHOOL BUS STOP WITH OFF-STREET PARKING AREAS FOR PARENT PICK-UP. THE LOCATION AND DETAILS OF THIS AREA SHALL BE SHOWN ON THE FINAL SITE PLAN.

J. THE DEVELOPMENT SHALL BE SERVED BY ITS OWN ON-SITE AMENITIES INCLUDING A POOL AND POOL HOUSE.

K. ALL AMENITIES SHALL BE COMPLETED AND OPEN FOR USE PRIOR TO THE ISSUANCE OF THE 40TH RESIDENTIAL BUILDING PERMIT.

L. THE FINAL SITE PLAN SHALL DEPICT ALL FORESTED AREAS THAT WILL BE PRESERVED.

M. THE FINAL SITE PLAN AND THE RECORDED RESTRICTIVE COVENANTS FOR THIS DEVELOPMENT SHALL INCLUDE THE AGRICULTURAL USE PROTECTION NOTICE.

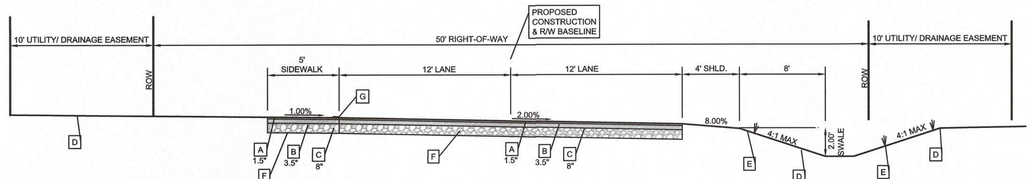
N. A REVISED PRELIMINARY SITE PLAN EITHER DEPICTING OR NOTING THESE CONDITIONS MUST BE SUBMITTED TO THE OFFICE OF PLANNING AND ZONING.

O. THE FINAL SITE PLAN SHALL BE SUBJECT TO THE REVIEW AND APPROVAL OF THE PLANNING AND ZONING COMMISSION.

GENERAL NOTES:

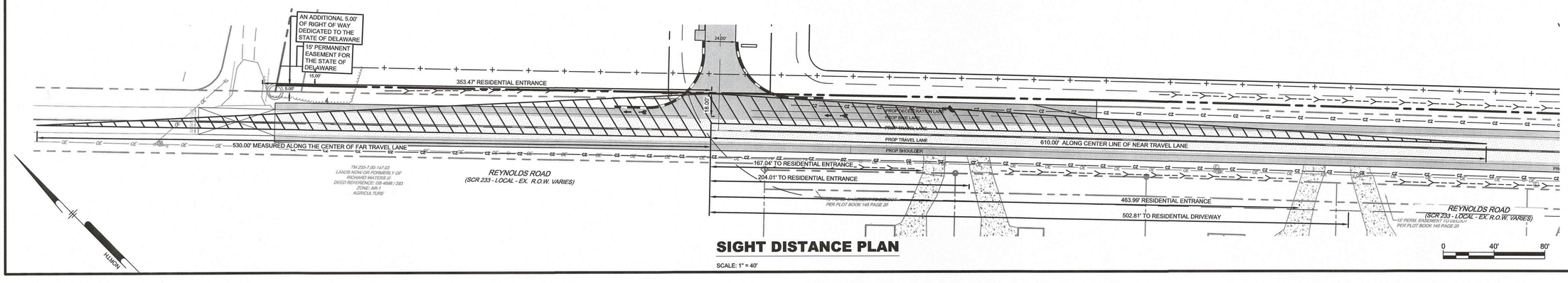
1. ALL PROPOSED ROADS SHOWN ARE PRIVATE AND ARE TO BE MAINTAINED BY THE DEVELOPER UNTIL SUCH TIME AS A HOMEOWNERS ASSOCIATION CAN PROVIDE FOR SAID MAINTENANCE. THE STATE AND COUNTY ASSUMES NO RESPONSIBILITY FOR THE FUTURE MAINTENANCE OF THESE STREETS.
2. STORMWATER SHALL BE HANDLED THROUGH THE DESIGN OF BEST MANAGEMENT PRACTICE FACILITIES THAT WILL BE LOCATED ON SITE. THE MAINTENANCE OF ALL STORMWATER MANAGEMENT FACILITIES CONSTRUCTED WITHIN THIS SITE SHALL BE THE RESPONSIBILITY OF THE DEVELOPER UNTIL SUCH TIME AS A HOMEOWNER ASSOCIATION CAN PROVIDE FOR SAID MAINTENANCE.
3. THIS PROPERTY IS LOCATED ON THE FEMA FLOOD INSURANCE RATE MAP NUMBERS 10005C0160K AND 10005C0166K, MAPS REVISED MARCH 16, 2015.
   100 YEAR FLOODPLAIN: ZONE AE 8 BASE FLOOD ELEVATION DETERMINED ALONG THE EASTERN PORTION OF THE PROPERTY.
   100 YEAR FLOODPLAIN AREA: 18.58 +/- ACRES
4. 9.62 +/- ACRES NON-TIDAL WETLANDS EXIST ON THIS SITE - DELINEATED BY ENVIRONMENTAL RESOURCES, INC. IN 2004. THE WETLANDS WILL BE RECERTIFIED DURING THE ENGINEERING STAGES OF THE PROJECT.
5. THE DEVELOPMENT WILL BE BUILT IN THREE PHASES.
6. ALL SUBDIVISION LOTS SHALL HAVE FIVE-FOOT-WIDE PUBLIC UTILITY EASEMENTS ALONG LOT LINES FOR A TOTAL EASEMENT WIDTH OF AT LEAST TEN (10) FEET ALONG A LOT LINE COMMON TO TWO LOTS. EASEMENTS ALONG PERIMETER BOUNDARIES OF THE SUBDIVISION SHALL BE TEN (10) FEET IN WIDTH ON THE INTERIOR SIDE OF THE BOUNDARY. NO BUILDING, STRUCTURE OR OTHER PERMANENT OBSTRUCTION SHALL BE PLACED ON ANY EASEMENT.
7. THE SUSSEX CONSERVATION DISTRICT RESERVES THE RIGHT TO ADD, DELETE, OR MODIFY ANY EROSION AND SEDIMENT CONTROL MEASURES AS THEY DEEM NECESSARY.
8. ALL DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, BUT NOT IN PAVEMENT, SHALL BE TOPSOILED (6" MINIMUM), FERTILIZED AND SEEDED.
9. THE PROPOSED ENTRANCES/EXITS ARE PROPOSED ONLY. AND ARE SUBJECT TO REVIEW AND APPROVAL BY THE DELAWARE DEPARTMENT OF TRANSPORTATION BEFORE A CONSTRUCTION PERMIT IS ISSUED.
10. A 72 HOUR (MINIMUM) NOTICE SHALL BE GIVEN TO THE DISTRICT PERMIT SUPERVISOR PRIOR TO STARTING ENTRANCE CONSTRUCTION.
11. MISS UTILITY SHALL BE NOTIFIED THREE (3) DAYS PRIOR TO EXCAVATION.
12. ALL SIGNING FOR MAINTENANCE OF TRAFFIC IS THE CONTRACTORS RESPONSIBILITY, AND SHALL FOLLOW THE GUIDELINES SHOWN IN LATEST EDITION OF "DELAWARE TRAFFIC CONTROLS FOR STREETS AND HIGHWAY CONSTRUCTION, MAINTENANCE, UTILITY, AND EMERGENCY OPERATIONS."
13. DESIGN, FABRICATION, AND INSTALLATION OF ALL PERMANENT SIGNING SHALL BE AS OUTLINED IN THE "GUIDE FOR FABRICATION AND INSTALLATION OF TRAFFIC CONTROL DEVICES".
14. THIS PROPERTY IS LOCATED IN THE VICINITY OF LAND USED PRIMARILY FOR AGRICULTURAL PURPOSES UPON WHICH NORMAL AGRICULTURAL USES AND ACTIVITIES HAVE BEEN AFFORDED THE HIGHEST PRIORITY USE STATUS. IT CAN BE ANTICIPATED THAT SUCH AGRICULTURAL USES AND ACTIVITIES MAY NOW OR IN THE FUTURE INVOLVE DUST, NOISE, MANURE AND OTHER ODORS, THE USE OF AGRICULTURAL CHEMICALS, AND NIGHTTIME FARMING OPERATIONS. THE USE AND ENJOYMENT OF THIS PROPERTY IS EXPRESSLY CONDITIONED ON ACCEPTANCE OF ANY ANNOYANCE OR INCONVENIENCE WHICH MAY RESULT FROM ANY SUCH AGRICULTURAL USES AND ACTIVITIES.
15. NO BUILDING PERMIT SHALL BE ISSUED UNTIL EITHER ALL REQUIRED IMPROVEMENTS HAVE BEEN INSTALLED, CONSTRUCTED, OR PLACED FOR THE LOT FOR WHICH THE PERMIT WILL BE ISSUED IN A MANNER ACCEPTABLE BY THE COUNTY AND STATE, OR UNTIL THE DEVELOPER FILES A PERFORMANCE BOND OR OTHER GUARANTEE WITH THE COUNTY FOR ANY UNCOMPLETED PUBLIC OR PRIVATE STREET OR OTHER REQUIRED IMPROVEMENT.
16. ALL PROPOSED FOREST BUFFERS ARE TO BE MAINTAINED BY THE DEVELOPER UNTIL SUCH TIME AS A HOMEOWNERS ASSOCIATION CAN PROVIDE FOR SAID MAINTENANCE.
17. ALL LOTS TO HAVE ACCESS FROM INTERNAL SUBDIVISION STREETS AND REYNOLDS ROAD AND NO DIRECT ACCESS FROM DELAWARE ROUTE ONE WILL BE PERMITTED.
18. ALL FIRE LANES, FIRE HYDRANTS AND FIRE DEPARTMENT CONNECTIONS SHALL BE MARKED IN ACCORDANCE WITH THE DELAWARE STATE FIRE PREVENTION REGULATIONS.
19. ALL SINGLE FAMILY HOMES TO BE WOOD FRAME CONSTRUCTION WITH A MAXIMUM BUILDING HEIGHT OF THREE STORIES, NOT TO EXCEED 42'.
20. COMMON AREA: AN AREA OWNED AND USED IN COMMON BY RESIDENTS OF THE SUBDIVISION FOR RECREATION, LANDSCAPING AND STORM WATER MANAGEMENT.
21. EXISTING UTILITIES ARE SHOWN IN ACCORDANCE WITH THE BEST AVAILABLE INFORMATION. COMPLETENESS OR CORRECTNESS THEREOF IS NOT GUARANTEED. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO CONTACT THE UTILITY COMPANIES INVOLVED IN ORDER TO SECURE THE MOST ACCURATE INFORMATION AVAILABLE AS TO UTILITY LOCATION AND ELEVATION. NO CONSTRUCTION AROUND OR ADJACENT TO UTILITIES SHALL BEGIN WITHOUT NOTIFYING THEIR OWNERS AT LEAST 48 HOURS IN ADVANCE. THE CONTRACTOR SHALL TAKE THE NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE AND ANY DAMAGE DONE TO THEM DUE TO HIS/HER NEGLIGENCE SHALL BE IMMEDIATELY AND COMPLETELY REPAIRED AT THE CONTRACTORS EXPENSE. TO LOCATE EXISTING UTILITIES IN THE FIELD PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL CONTACT MISS UTILITY OF DELMARVA.
22. NO EASEMENTS WERE VERIFIED PER THIS PLAT.
23. THE PROPOSED SIGN IS NOT APPROVED AS PART OF THIS SITE PLAN. A SEPARATE SUSSEX COUNTY PERMIT IS REQUIRED.
24. DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. ALL WORK MUST BE PERFORMED IN COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970, AS AMENDED AND ALL RULES AND REGULATIONS THERETO APPURTENANT.
25. ALL OPEN SPACE AREAS ON SITE ARE INTENDED FOR LANDSCAPE, RECREATION AND STORMWATER MANAGEMENT PRACTICES AND ARE THE RESPONSIBILITY OF THE DEVELOPER UNTIL A HOMEOWNER'S ASSOCIATION CAN ASSUME OWNERSHIP AND RESPONSIBILITY FOR THE OPEN SPACE.
26. TOPOGRAPHY: NAD 83; NAVD 88 DATUM SURVEYED BY PENNONI IN OCTOBER 2020 AND WINGS AERIAL TOPOGRAPHY FOR DESIGN CONSULTANTS GROUP, LLC DATED 01/23/2004.
27. DELAWARE HAS IDENTIFIED IN A(N) AREA-WIDE STUDY IN A LETTER DATED MARCH 18, 2020. THE FOLLOWING AREA-WIDE RECOMMENDATIONS ARE:
    27.1. THE PROPOSED DEVELOPMENT CONSISTS OF 87 SINGLE-FAMILY DETACHED HOUSES. PER THE 10TH EDITION OF THE INSTITUTE OF TRANSPORTATION ENGINEERS' TRIP GENERATION MANUAL, THE PROPOSED DEVELOPMENT WOULD GENERATE 915 AVERAGE DAILY TRIPS AND 89 VEHICLE TRIPS DURING THE P.M. PEAK HOUR. THE FEE IS CALCULATED AT TEN DOLLARS PER DAILY TRIP. FOR THE PROPOSED DEVELOPMENT, THE FEE WOULD BE $9,150.00.
    27.2. THE DEVELOPER SHOULD IMPROVE REYNOLDS ROAD, WITHIN THE LIMITS OF THE SITE FRONTAGE, TO PROVIDE 11-FOOT TRAVEL LANES AND 5-FOOT SHOULDERS. THE DEVELOPER SHOULD COORDINATE WITH DELDOT'S DEVELOPMENT COORDINATION SECTION ON THE DETAILS OF THIS IMPROVEMENT.

A	ITEM 401005 - SUPERPAVE TYPE C, PG 64-22
B	ITEM 401014 - SUPERPAVE TYPE B, PG 64-22
C	ITEM 301001 - GRADED AGGREGATE BASE COURSE, TYPE B
D	ITEM 908004 - TOPSOIL, 6" DEPTH OR ITEM 908010 - TOPSOILING, 6" DEPTH ITEM 908014 - PERMANENT GRASS SEEDING, DRY GROUND
E	ITEM 908020 - EROSION CONTROL BLANKET MULCH
F	PROOF ROLLED AND COMPACTED SUBGRADE TO 95% OF ASTM D1557
G	5" WIDE PAINTED STRIPE, CONTINUOUS (WHITE)



RESIDENTIAL STREET OPEN DRAINAGE (WHISTLING DUCK WAY 0+00-21+89, GREATER SCAUP COURT 60+00 - 68+27, TUNDRA DRIVE 30+00-51+98, KING EIDER COURT 70+00-74+02, TRUMPETER COURT 80+00-84+32)
NOT TO SCALE

1
PP0002



SIGHT DISTANCE PLAN
SCALE: 1" = 40'

Pennoni
PENNONI ASSOCIATES INC.
18072 Davidson Drive
Milton, DE 19968
T 302.684.8030 F 302.684.8054

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

ESTATES AT MILTON CROSSING
REYNOLDS ROAD (SCR 233)
MILTON, DE 19968
T. M.: 235-8.00, PARCELS 31.00, 26.00 & 26.03
PRELIMINARY SUBDIVISION PLAT NOTES AND DETAILS
GRJS OUTREACH, LLC
P.O. BOX 212
LEWES, DE 19958

NO.	DATE	REVISIONS	BY

ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON THE EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY PENNONI ASSOCIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO PENNONI ASSOCIATES; AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS PENNONI ASSOCIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

PROJECT	GRJSO19001
DATE	2020-03-11
DRAWING SCALE	AS SHOWN
DRAWN BY	TPM
APPROVED BY	AMD

PP0002

SHEET 2 OF 4

PLOTTED: 11/6/2020 9:28 PM, BY: Kevin Ellis PLOTSTYLE: Pennoni NCS.stb PROJECT STATUS: —
U:\Accounts\GRJS\GRJSO19001 - Sub division Lot 87\DESIGN_SHEETS\PP0002.dwg

SITE KEYED NOTES

G1	CO-POST STOP SIGN (R1-1) 36" X 36" AND STREET SIGN
G2	SCHOOL BUS STOP
G3	DEVELOPMENT SIGN
G4	COMMUNITY CENTER AND POOL, SHEET PP1002
G5	IRON PIN TO BE SET, TYP.
G6	PARKING FOR SCHOOL BUS STOP
G7	STREET LIGHTS
G8	5" WIDE PAINTED STRIPE, CONTINUOUS (WHITE)

ADJACENT PROPERTIES KEY TABLE

PROPERTY	PROPERTY INFORMATION
A	TM 235-7.00-147.12 LANDS NOW OR FORMERLY OF HORSLEY, VIRGIL A. & JENNIFER M. DEED REFERENCE: DB 4423 / 173 ZONE: AR-1 RESIDENTIAL
B	TM 235-7.00-147.11 LANDS NOW OR FORMERLY OF DYE, FRANK W. & SANDY LYNN DEED REFERENCE: DB 4423 / 173 ZONE: AR-1 RESIDENTIAL
C	TM 235-7.00-147.10 LANDS NOW OR FORMERLY OF DRAKE, TIMOTHY DEED REFERENCE: DB 4331 / 80 ZONE: AR-1 RESIDENTIAL
D	TM 235-7.00-147.09 LANDS NOW OR FORMERLY OF LOVELAND, WAYNE V. & SUSAN D. DEED REFERENCE: DB 4520/309 ZONE: AR-1 RESIDENTIAL
E	TM 235-7.00-329.00 LANDS NOW OR FORMERLY OF KRISTUNAS, DAVID F. & TUYET T. DEED REFERENCE: DB 4896 / 103 ZONE: AR-1 RESIDENTIAL
F	TM 235-7.00-369.00 LANDS NOW OR FORMERLY OF KRISTUNAS, DAVID F. & TUYET T. DEED REFERENCE: DB 5006 / 319 ZONE: AR-1 RESIDENTIAL VACANT
G	TM 235-7.00-147.08 LANDS NOW OR FORMERLY OF BUCKSON, KENT V. DEED REFERENCE: DB 4624 / 159 ZONE: AR-1 RESIDENTIAL

DELAWARE ROUTE ONE (COASTAL HIGHWAY) 175' ROW

8' HIGH BERM WITH VEGETATION REQUIRED NOISE MITIGATION PER DELDOT

A 15-FEET WIDE PERMANENT EASEMENT (28,948 SF) IS HEREBY ESTABLISHED FOR THE STATE OF DELAWARE AS PER THIS PLAT.

30-FOOT FORESTED AND/OR LANDSCAPE BUFFER | SECTION 99-6 J

20-FOOT FORESTED AND/OR LANDSCAPE BUFFER | SECTION 99-6 J

DEDICATED TO PUBLIC USE, NOT MAINTAINED BY DEPARTMENT OF TRANSPORTATION

PRIVATELY MAINTAINED

OPEN SPACE

INFILTRATION SWM POND 1 77,921 FT² 1.79 AC.

30' FOOT LANDSCAPE BUFFER / NEGOTIATED BETWEEN JEFFERSON & SAMMONS

BENCHMARK 402'± CONCRETE MONUMENT FOUND N: 236071.4353 E: 886858.1811 ELEV.: 17.81

MATCH LINE - SEE SHEET PP1002

LEGEND

- EXISTING PROPERTY LINE
- EXISTING ADJACENT PROPERTY LINE
- EXISTING EDGE OF GRAVEL
- EXISTING EDGE OF TREELINE/WOODS
- EXISTING CONTOUR LINE
- EXISTING SOIL BOUNDARY
- CLEAR ZONE LINE
- 100yr FLOOD PLAIN
- IRON PIPE FOUND
- CONCRETE MONUMENT FOUND
- IRON PIN TO BE SET
- STREET LIGHT

A 15.00' WIDE PERMANENT EASEMENT CONTAINING 19,223 S.F. IS HEREBY ESTABLISHED FOR THE STATE OF DELAWARE AS PER THIS PLAT.

AN ADDITIONAL 5.00' OF RIGHT-OF-WAY (± 6,416 S.F.) IS HEREBY DEDICATED TO THE STATE OF DELAWARE, AS PER THIS PLAT.

0 100' 200'

PENNONI ASSOCIATES INC.
18072 Davidson Drive
Milton, DE 19968
T 302.684.8030 F 302.684.8054

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REVISED PRELIMINARY SUBDIVISION PLAT

GRJS OUTREACH, LLC
P.O. BOX 212
LEWES, DE 19958

BY	REVISIONS	NO.	DATE

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PROJECT	GRJSO19001
DATE	2020-03-11
DRAWING SCALE	1"=100'
DRAWN BY	TPM
APPROVED BY	AMD

PP1001

SHEET 3 OF 4

U:\Accounts\GRJSO\GRJSO19001 - Sub division lot #7\DESIGN_SHEETS\PP1001.dwg PLOTTED: 2/17/2021 6:39 PM, BY: Kevin Ellis PLOTSTYLE: Pennoni NCS.stb PROJECT STATUS: —

SITE KEYED NOTES

G1	CO-POST STOP SIGN (R1-1) 36" X 36" AND STREET SIGN
G2	SCHOOL BUS STOP
G3	DEVELOPMENT SIGN
G4	COMMUNITY CENTER AND POOL, SHEET PP1002
G5	IRON PIN TO BE SET, TYP.
G6	PARKING FOR SCHOOL BUS STOP
G7	STREET LIGHTS
G8	5" WIDE PAINTED STRIPE, CONTINUOUS (WHITE)

WETLAND LINE TABLE		
LINE #	BEARING	DISTANCE
WL65	S 60°56'41" W	29.81'
WL66	S 68°33'02" W	90.78'
WL67	S 64°56'05" W	83.27'
WL68	S 54°23'56" W	84.59'
WL69	S 74°46'06" W	60.64'
WL70	S 60°46'31" W	125.06'
WL71	S 74°02'41" W	46.49'
WL72	S 55°27'11" W	103.24'
WL73	S 46°35'20" W	55.97'
WL74	S 60°13'35" W	59.42'
WL75	S 87°14'19" W	37.03'
WL76	S 49°21'14" W	40.09'
WL77	S 48°52'48" W	48.83'
WL78	S 41°40'08" W	54.32'
WL79	S 54°55'54" W	45.50'
WL80	S 32°00'22" W	78.94'
WL81	S 31°23'47" W	45.55'
WL82	S 07°10'35" E	50.02'
WL83	N 83°01'24" E	32.60'
WL84	S 36°17'32" E	32.35'

WETLAND LINE TABLE		
LINE #	BEARING	DISTANCE
WL85	S 08°03'56" W	38.41'
WL86	S 10°37'25" E	39.28'
WL87	S 62°12'25" E	46.41'
WL88	N 71°46'43" E	36.12'
WL89	N 55°56'12" E	24.18'
WL90	N 66°38'47" E	46.46'
WL91	N 66°24'28" E	44.56'
WL92	S 61°07'32" E	28.12'
WL93	N 77°13'58" E	28.37'
WL94	S 81°23'06" E	56.37'
WL95	S 73°57'00" E	25.88'
WL96	S 51°36'59" E	38.27'
WL97	S 52°35'55" E	40.91'
WL98	S 25°24'51" E	44.23'
WL99	S 59°23'49" E	30.55'
WL100	S 24°42'41" W	18.84'
WL101	S 57°12'11" W	32.19'
WL102	N 60°04'06" W	21.56'
WL103	N 42°01'32" W	20.96'
WL104	N 19°49'40" E	18.94'

WETLAND LINE TABLE		
LINE #	BEARING	DISTANCE
WL105	S 86°27'48" W	10.00'
WL106	N 67°30'56" W	20.31'
WL107	N 43°46'26" W	32.46'
WL108	N 52°51'11" W	34.28'
WL109	N 58°05'39" W	23.94'
WL110	S 63°47'07" W	57.14'
WL111	S 72°17'35" W	40.03'
WL112	N 72°50'19" W	17.17'
WL113	N 00°11'07" E	23.84'
WL114	N 78°16'06" E	6.97'
WL115	N 51°50'13" E	9.34'
WL116	N 00°53'14" W	16.68'
WL117	S 81°06'39" W	9.96'
WL118	S 62°52'29" W	11.72'
WL119	S 46°40'01" W	10.78'
WL120	S 11°01'33" W	11.87'
WL121	S 11°45'03" E	14.76'
WL122	S 37°36'45" W	29.65'
WL123	S 84°48'23" W	27.21'
WL124	S 71°59'02" W	66.19'

WETLAND LINE TABLE		
LINE #	BEARING	DISTANCE
WL125	N 84°06'59" W	39.64'
WL126	S 81°40'28" W	50.73'
WL127	S 75°20'20" W	27.15'
WL128	N 66°29'40" W	9.17'

NORTH

A 15-FEET WIDE PERMANENT EASEMENT (28,948 SF) IS HEREBY ESTABLISHED FOR THE STATE OF DELAWARE AS PER THIS PLAT.

8' HIGH BERM WITH VEGETATION REQUIRED NOISE MITIGATION PER DELDOT

DELAWARE ROUTE ONE (COASTAL HIGHWAY) 175' ROW

RTE 1

BENCHMARK #004 CONCRETE MONUMENT FOUND N: 285886.7609 E: 692298.4390 ELEV.: 30.43

EX. 92.7 LF 36"X18" RCP @0.75% SLOPE I.I. = 9.92 I.O. = 9.45

30-FOOT FORESTED AND/OR LANDSCAPE BUFFER | SECTION 99-6.J

235-8.00-32.00 LANDS NOW OR FORMERLY OF PATRICIA HANNAWAY DEED REFERENCE: DB 2874/120 ZONE | AR-1 RESIDENTIAL

235-8.00-33.00 LANDS NOW OR FORMERLY OF FRANK B. BURDETTE & GAIL C. SMITH-BURDETTE DEED REFERENCE: DB 4350/94 ZONE: AR-1 AGRICULTURE

235-8.00-34.00 LANDS NOW OR FORMERLY OF UNITED STATES OF AMERICA "WILDLIFE REFUGE" DEED REFERENCE: DB 2600/187 ZONE: AR-1 EXEMPT/U.S. GOVERNMENT

PARCEL 35.03 LANDS N/F OF WILLIAM T. SAMMONS, SR. & MARY JANE SAMMONS & WILLIAM T. SAMMONS, JR. DEED REF.: DB 1777, PAGE 145 AREA: 22.5± ACRES ZONE | AR-1/CU 6004 (AUGUST 16, 1994 RESOLUTION NO. R1994-35) CONDITIONAL USE: APPLICANT WILL APPLY FOR AND RECEIVE APPROVAL FROM THE UNITED STATES OF AMERICA THAT THE CONDITIONAL USE WILL NOT INTERFERE WITH THE FLOWAGE EASEMENT GRANTED DEER BRANCH FAMILY CAMPGROUND 150 CAMP SITES PARK MANAGER DWELLING (R-1-35.2) 19± ACRES

PARCEL 14.00 LANDS NOW OR FORMERLY OF VANPELT FARMS, LLC DEED REFERENCE: DB 5246/ 215 ZONE: AR-1 AGRICULTURE

UNITED STATES DEPARTMENT OF THE INTERIOR FISH AND WILDLIFE SERVICE, BUREAU OF SPORT FISHERIES AND WILDLIFE, DIVISION OF ENGINEERING

30 FOOT LANDSCAPE BUFFER / NEGOTIATED BETWEEN JEFFERSON & SAMMONS

EPHEMERAL CONSTRUCTED WETLANDS SWM POND 2 175,211 FT² 4.02 ACS.

LIMITS OF UNITED STATES DEPARTMENT OF THE INTERIOR FISH AND WILDLIFE SERVICE, BUREAU OF SPORT FISHERIES AND WILDLIFE, BRANCH OF ENGINEERING "FLOWAGE EASEMENT"

235-8.00-25.01 LANDS NOW OR FORMERLY OF RALPH E. SMITH III & SHARON LYNN DICKERSON DEED REFERENCE: DB 2211/111 ZONE: AR-1 RESIDENTIAL

235-8.00-26.00 DONALD E. & KIMBERLY J. JEFFERSON DEED REFERENCE: DB 3130/208 ZONE: AR-1 RESIDENTIAL

235-8.00-25.00 LANDS NOW OR FORMERLY OF JOHN D. DICKERSON DEED REFERENCE: DB 2845/320 ZONE: AR-1 RESIDENTIAL/ VACANT

235-8.00-24.00 LANDS NOW OR FORMERLY OF KAREN L. LINDLEY & ROSEANN JOYCE CARAWAY & HARRY J. VANPELT DEED REFERENCE: DB 2581/178 ZONE: AR-1 AGRICULTURE

233-8.00-15.10 LANDS NOW OR FORMERLY OF LEVINE BETTS AND SONS, INC. DEED REFERENCE: DB 504, PG 318 ZONE: AR-1 AGRICULTURAL / RESIDENTIAL

TM 235-8.00-31.00 LANDS NOW OR FORMERLY OF SAMMONS, WILLIAM T SR. & MARY JANE DEED REFERENCE: DB 2845 / 285 ZONE: AR-1/AGRICULTURE

FORESTED AREA TO REMAIN

OPEN SPACE

100' WELL SETBACK

50' SEPTIC SETBACK

ZONE AE8

ZONE X

100 YR FLOOD PLAIN

MATCH LINE - SEE SHEET PP1001

LEGEND

- EXISTING PROPERTY LINE
- EXISTING ADJACENT PROPERTY LINE
- EXISTING EDGE OF GRAVEL
- EXISTING EDGE OF TREELINE/WOODS
- EXISTING CONTOUR LINE
- EXISTING SOIL BOUNDARY
- CLEAR ZONE LINE
- 100yr FLOOD PLAIN
- IRON PIPE FOUND
- CONCRETE MONUMENT FOUND
- IRON PIN TO BE SET
- STREET LIGHT

0 100' 200'

PENNONI ASSOCIATES INC.
18072 Davidson Drive
Milton, DE 19968
T 302.684.8030 F 302.684.8054

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

ESTATES AT MILTON CROSSING

REYNOLDS ROAD (SCR 233)
MILTON, DE 19968
T. M.: 235-8.00, PARCELS 31.00, 26.00 & 26.03

REVISED PRELIMINARY SUBDIVISION PLAT

GRJS OUTREACH, LLC
P.O. BOX 212
LEWES, DE 19958

BY	REVISIONS	NO.	DATE

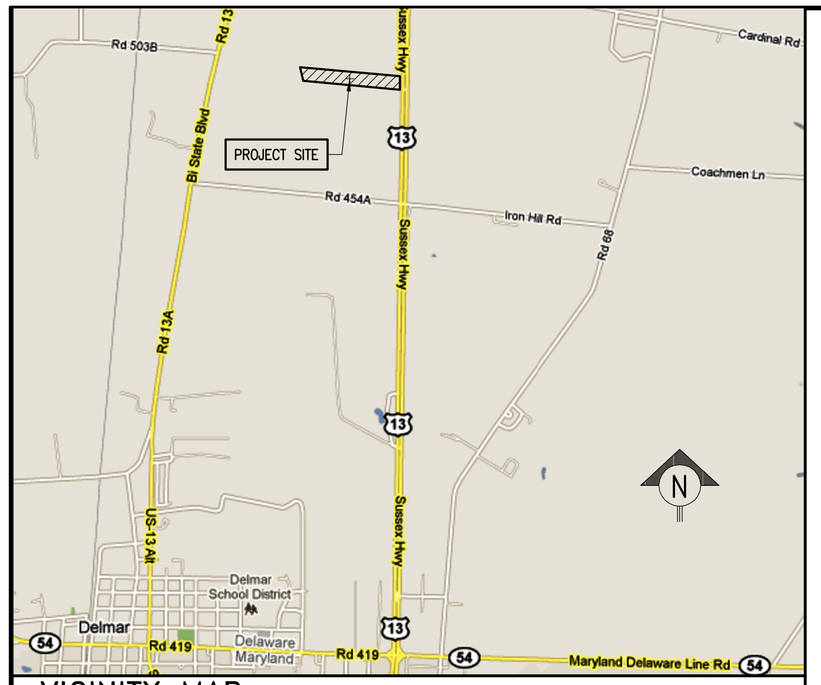
ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON THE EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY PENNONI ASSOCIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNER'S SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO PENNONI ASSOCIATES, AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS PENNONI ASSOCIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

PROJECT	GRJSO19001
DATE	2020-03-11
DRAWING SCALE	1"=100'
DRAWN BY	TPM
APPROVED BY	AMD

PP1002

SHEET 4 OF 4

U:\Accounts\GRJSO\GRJSO19001 - Sub division Lot 87\DESIGN_SHEETS\PP1002.dwg PLOTTED: 2/17/2021 4:37 PM, BY: Kevin Ellis PLOTSTYLE: Pennoni WCS.ctb PROJECT STATUS: —



VICINITY MAP SCALE: 1" = 2000'

PROJECT DATA

911 ADDRESS	36344 SUSSEX HIGHWAY DELMAR, DELAWARE 19940–3573
TAX MAP	5–32–13.00–63.04
PROJECT COORDINATES	PROJECT BENCHMARK – NORTHEAST PROPERTY CORNER 176653.7992 – NORTHING / 615709.0819 – EASTING / 48.04 – ELEVATION
LAND AREA	10.5 ACRES (457,315 SQ. FT.)
BUILDING AREA	
EXISTING	47,000 SQ. FT. [40,000 (WAREHOUSE) + 7,000 (WHOLESALE)]
PROPOSED	40,465 SQ. FT. [35,000 (PHASE I – WAREHOUSE) + 5,465 (PHASE II – WHOLESALE)]
TOTAL	87,465 SQ. FT.
PAVED AREA	
EXISTING	63,432 SQ. FT.
PROPOSED	43,897 SQ. FT. [32,030 (PHASE I – WAREHOUSE) + 11,867 (PHASE II – WHOLESALE)]
TOTAL	106,400 SQ. FT.
LIMIT OF DISTURBANCE	PHASE I 146,238 SQ. FT. (3.36 ACRES) PHASE II 42,963 SQ. FT. (0.98 ACRES) TOTAL 189,201 SQ. FT. (4.34 ACRES)
ZONING	LI–2 (LIGHT INDUSTRIAL)
BUILDING SETBACKS	50' FRONT / CHCOZ =60' (*) 20' SIDES 20' REAR (*) CHCOZ = COMBINED HIGHWAY CORRIDOR OVERLAY ZONE
BUILDING CODE	2012 IBC, 2010 ADAAG 2015 NFPA 101, & 2015 DELAWARE STATE FIRE PREVENTION REGULATIONS
CONSTRUCTION TYPE	TYPE II–B (IBC) / TYPE II–000 (NFPA 220) – PHASE I TYPE V–B (IBC) / TYPE V–000 (NFPA 220) – PHASE II
BUILDING USE GROUP	GROUP S–1 [MODERATE HAZARD STORAGE (IBC)/ STORAGE (NFPA 101)] – PHASE I MERCANTILE [IBC / NFPA 101] – PHASE II
BUILDING HEIGHT	38.16 FT. – 1 STORY (PHASE I) 30.0 FT. – 1 STORY (PHASE II)
SPRINKLER SYSTEM	FULLY SPRINKLERED SYSTEM COMPLYING WITH NFPA 13 – PHASE I AUTOMATIC FIRE SPRINKLERS ARE NOT PROPOSED FOR THIS STRUCTURE – PHASE II
WATER SUPPLIER	WELL & TANK

PHASE I PARKING SPACES	REGULAR	H/C	TOTAL
REQUIRED	13	1	14 (*)
EXISTING	46	1	47

PHASE II PARKING SPACES	REGULAR	H/C	TOTAL
REQUIRED	4	1	5 (*)
PROPOSED	4	1	5

(*) PARKING REQUIREMENT: 1 SPACE PER 2 EMPLOYEES ON LARGEST SHIFT

NO WETLANDS WERE LOCATED ON THIS PARCEL PER BOUNDARY SURVEY BY A–ES ARCHITECH (REF. BELOW IN SURVEY DATA)

EXTERIOR LIGHTING FOR BOTH PHASE I & II WILL BE MOUNTED ON THE FACE OF EXTERIOR FACING OF EACH BUILDING.

SURVEY DATA

DEED REFERENCE(S): D.B. 3821, P. 331 & D.B. 3325, P. 318

PLAT REFERENCE(S): P.B. 98, P.260

METES AND BOUNDS WERE TAKEN FROM A DRAWING BY A–ES ARCHITECH, DATED 08.22.05 (A–ES PROJECT NO. 04220). ORIGINAL SURVEY FROM A–ES DID..

TOPOGRAPHIC DATA TAKEN FROM TOPOGRAPHIC SURVEY DONE BY AWB ENGINEERS ON AUGUST 5, 2010.

PROJECT BENCHMARK (BM) IS EXISTING SANITARY SEWER MANHOLE RIM (ELEV=50.27) BASED ON NGVD 88 DATUM.

THIS PROPERTY IS SHOWN ON F.I.R.M. COMMUNITY PANEL #10005C0560L (PANEL 560 OF 660), DATED JUNE 20, 2018 AS BEING IN FLOOD ZONE X, AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.

SPECIFICATIONS

HEAVY ASPHALT PAVING SHALL CONSIST OF 10 INCHES OF CR–6 STONE OVER SUBSOIL AND BOTH COMPACTED TO 95% OF THE MODIFIED PROCTOR TEST. THIS SHALL BE OVERLAYED WITH 3 INCHES OF 19.0 MM HOT MIX ASPHALT AND A 2 INCH LAYER OF 9.5 MM HOT MIX ASPHALT.

LIGHT ASPHALT PAVING SHALL CONSIST OF 6 INCHES OF CR–6 STONE OVER SUBSOIL AND BOTH COMPACTED TO 95% OF THE MODIFIED PROCTOR TEST. THIS SHALL BE OVERLAYED WITH 2½ INCHES OF 19.0 mm HOT MIX ASPHALT AND A 1½ INCH LAYER OF 9.5 mm HOT MIX ASPHALT.

STONE STABILIZATION FOR TRUCK TRAFFIC SHALL CONSIST OF 6" OF CR–6 OVER COMPACTED STRUCTURAL FILL. COMPACT BOTH CR–6 AND FILL TO 95% OF THE APPROXIMATE STANDARD PROCTOR MAXIMUM DRY DENSITY.

ALL WALKS SHALL CONSIST OF 4 INCH THICK SLABS OF 4,000 PSI CONCRETE REINFORCED WITH 6x6–W1.4xW1.4 W.W.M. ALL EXTERIOR CONCRETE SHALL HAVE 5% ENTRAINED AIR PLUS OR MINUS 1%. PLACE EXPANSION JOINTS AT ALL RE–ENTRANT CORNERS AND AT NO MORE THAN 20 FEET CENTERS. ALL CONCRETE SLABS SHALL BE PLACED OVER SUBSOILS COMPACTED TO 95% OF THE STANDARD PROCTOR TEST.

CONCRETE PAVING SUBJECT TO TRUCK TRAFFIC SHALL CONSIST OF 8 INCH THICK, 4,000 PSI CONCRETE SLABS REINFORCED WITH #5 REBAR @ 1'–0" O.C.E.W. OVER 6" OF CR–6 AND SUBSOIL BOTH COMPACTED TO 95% OF THE STANDARD PROCTOR TEST. ALL EXTERIOR CONCRETE SHALL HAVE 5% ENTRAINED AIR PLUS OR MINUS 1%. PLACE CONTROL JOINTS AT ALL RE–ENTRANT CORNERS AND AT NO MORE THAN 20 FEET CENTERS.

DUMPSTER PAD SHALL CONSIST OF 8 INCH THICK, 4,000 PSI CONCRETE SLABS REINFORCED WITH #5 REBAR @ 1'–0" O.C.E.W. OVER 6" OF CR–6 AND SUBSOIL BOTH COMPACTED TO 95% OF THE STANDARD PROCTOR TEST. ALL EXTERIOR CONCRETE SHALL HAVE 5% ENTRAINED AIR PLUS OR MINUS 1%. PLACE CONTROL JOINTS AT ALL RE–ENTRANT CORNERS AND AT NO MORE THAN 20 FEET CENTERS.

OWNER INFORMATION

ENTERPRISES ERIN BRADLY, LLC
LAURENCE & BETH BARNES
c/o JUSTING BARNES, MBA, VICE PRESIDENT
36344 SUSSEX HIGHWAY
DELMAR, DE 19940–3573
302–846–3005 (PHONE)
jbarnes@furniturelandde.com (EMAIL)

CONSULTANT INFORMATION

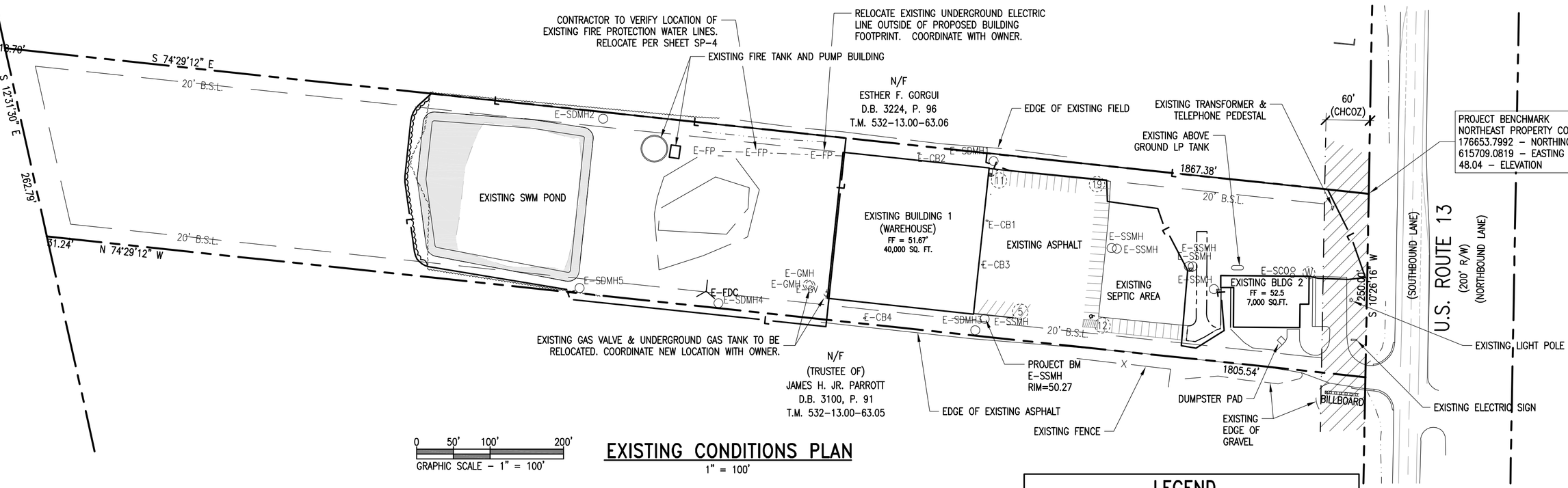
AWB ENGINEERS
JAMES E. SMITH, PE (PROJECT MANAGER)
1942 NORTHWOOD DRIVE
SALISBURY, MARYLAND 21801–7824
410–742–7299 (OFFICE)
410–742–0273 (FAX)
jsmith@awbengineers.com (EMAIL)
www.awbengineers.com (WEBSITE)

FURNITURELAND

2020 DISTRIBUTION CENTER EXPANSION

DELMAR, DELAWARE

SEDIMENT & STORMWATER PROGRAM / TAX MAP 5–32–13.00–63.04 / BUNTINGS BRANCH (WATERSHED) / BALTIMORE HUNDRED – SUSSEX COUNTY / DELMAR



0 50' 100' 200'
GRAPHIC SCALE – 1" = 100'

EXISTING CONDITIONS PLAN
1" = 100'

GENERAL NOTES

1. THE DNREC SEDIMENT AND STORMWATER PROGRAM SHALL BE NOTIFIED IN WRITING 5 DAYS PRIOR TO COMMENCING WITH CONSTRUCTION. FAILURE TO DO SO CONSTITUTES A VIOLATION OF THE APPROVED SEDIMENT AND STORMWATER MANAGEMENT PLAN.
2. REVIEW AND/OR APPROVAL OF THE SEDIMENT AND STORMWATER MANAGEMENT PLAN SHALL NOT RELIEVE THE CONTRACTOR FROM HIS OR HER RESPONSIBILITIES FOR COMPLIANCE WITH THE REQUIREMENTS OF THE DELAWARE SEDIMENT AND STORMWATER REGULATIONS, NOR SHALL IT RELIEVE THE CONTRACTOR FROM ERRORS OR COMISSIONS IN THE APPROVED PLAN.
3. IF THE APPROVED PLAN NEEDS TO BE MODIFIED, ADDITIONAL SEDIMENT AND STORMWATER CONTROL MEASURES MAY BE REQUIRED AS DEEMED NECESSARY BY DNREC OR THE DELEGATED AGENCY.
4. FOLLOWING SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED FOR ALL PERIMETER SEDIMENT CONTROLS, SOIL STOCKPILES, AND ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE WITHIN 14 CALENDAR DAYS UNLESS MORE RESTRICTIVE FEDERAL REQUIREMENTS APPLY.
5. ALL EROSION AND SEDIMENT CONTROL PRACTICES SHALL COMPLY WITH THE DELAWARE EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION.
6. AT ANY TIME A DEWATERING OPERATION IS USED, IT SHALL BE PREVIOUSLY APPROVED BY THE AGENCY CONSTRUCTION SITE REVIEWER FOR A NON–EROSIVE POINT OF DISCHARGE, AND A DEWATERING PERMIT SHOULD BE APPROVED BY THE DNREC WELL PERMITTING BRANCH.
7. APPROVED PLANS REMAIN VALID FOR 5 YEARS FROM THE DATE OF APPROVAL.
8. POST CONSTRUCTION VERIFICATION DOCUMENTS SHALL BE SUBMITTED TO THE DEPARTMENT OR DELEGATED AGENCY WITHIN 60–DAYS OF STORMWATER MANAGEMENT FACILITY COMPLETION.
9. APPROVAL OF A SEDIMENT AND STORMWATER MANAGEMENT PLAN DOES NOT GRANT OR IMPLY A RIGHT TO DISCHARGE STORMWATER RUNOFF. THE OWNER/DEVELOPER IS RESPONSIBLE FOR ACQUIRING ANY AND ALL AGREEMENTS, EASEMENTS, ETC., NECESSARY TO COMPLY WITH STATE DRAINAGE AND OTHER APPLICABLE LAWS.
10. THE NOTICE OF INTENT FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY UNDER A NPDES GENERAL PERMIT FOR THIS PROJECT IS # (TO BE FILLED IN ONCE RECEIVED). THE PERMITTEE OF RECORD SHALL NOT BE RELIEVED OF THEIR RESPONSIBILITIES UNTIL A NOTICE OF TERMINATION HAS BEEN PROCESSED BY THE DEPARTMENT.
11. THE OWNER SHALL BE FAMILIAR WITH AND COMPLY WITH ALL ASPECTS OF THE NPDES CONSTRUCTION GENERAL PERMIT.
12. THE CONTRACTOR SHALL AT ALL TIMES PROTECT AGAINST SEDIMENT OR DEBRIS LADEN RUNOFF OR WIND FROM LEAVING THE SITE. PERIMETER CONTROLS SHALL BE CHECKED DAILY AND ADJUSTED OR REPAIRED TO FULLY CONTAIN AND CONTROL SEDIMENT FROM LEAVING THE SITE. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT HAS REACHED HALF OF THE EFFECTIVE CAPACITY OF THE CONTROL. IN ADDITION, THE CONTRACTOR MAY NEED TO ADJUST OR ALTER MEASURES IN TIMES OF ADVERSE WEATHER CONDITIONS, OR AS DIRECTED BY THE AGENCY CONSTRUCTION SITE REVIEWER.
13. BEFORE ANY EARTHWORK OR EXCAVATION TAKES PLACE, THE CONTRACTOR SHOULD CALL MISS UTILITY AT 811 OR 1–800–282–8555 AT LEAST 48 HOURS PRIOR TO CONSTRUCTION, TO HAVE ALL EXISTING UTILITIES MARKED ONSITE.
14. BEST AVAILABLE TECHNOLOGY (BAT) SHALL BE EMPLOYED TO MANAGE TURBID DISCHARGES IN ACCORDANCE WITH REQUIREMENTS OF 7 DEL.C. CH. 60 AND THE CURRENT DELAWARE CONSTRUCTION GENERAL PERMIT (CGP).
15. DOCUMENTATION OF SOIL TESTING AND MATERIALS USED FOR TEMPORARY OR PERMANENT STABILIZATION INCLUDING BUT NOT LIMITED TO SOIL TEST RESULTS, SEED TAGS, SOIL AMENDMENT TAGS, ETC. SHALL BE PROVIDED TO THE DEPARTMENT OR DELEGATED AGENCY TO VERIFY THAT THE PERMANENT OR TEMPORARY STABILIZATION HAS BEEN COMPLETED IN ACCORDANCE WITH THE APPROVED PLAN.
16. THE DEPARTMENT OR DELEGATED AGENCY MAY REQUIRE ADDITIONAL SOIL TESTING AND REAPPLICATION OF PERMANENT OR TEMPORARY STABILIZATION IN ACCORDANCE WITH THE SPECIFICATIONS IN THE DELAWARE EROSION AND SEDIMENT CONTROL HANDBOOK, OR ALTERNATIVE MEASURES THAT PROVIDE FUNCTIONAL EQUIVALENCY.
17. A THIRD PARTY CCR (CERTIFIED CONSTRUCTION REVIEWER) WILL BE REQUIRED ON THIS PROJECT FOR BOTH PHASE 1 & 2.

LEGEND

	PROPERTY LINE
	LIMITS OF DISTURBANCE
B.S.L.	BUILDING SETBACK LINE
24"SW	EXISTING 24" STORMWATER PIPING
E-SW	EXISTING STORMWATER PIPING
	EXISTING ℄ SWALE
E-SDMH	EXISTING STORMDRAIN MANHOLE
E-SSMH	EXISTING SANITARY SEWER MANHOLE
E-SCO	EXISTING SITE CLEAN OUT
W	EXISTING WELL

INDEX OF DRAWINGS

CS–1	SITE COVER SHEET
CS–2	OVERALL SITE PHASING PLAN
SP–1	PHASE I AND II PRE–CONSTRUCTION SITE SWM PLAN
SP–2	PHASE I CONSTRUCTION SITE SWM PLAN
SP–3	PHASE I POST CONSTRUCTION EXTENDED DETENTION BASIN IMPROVEMENTS
SP–4	PHASE I SITE IMPROVEMENTS PLAN
SP–5	PHASE II CONSTRUCTION SITE SWM PLAN
SP–6	PHASE II SITE IMPROVEMENTS PLAN
SP–7	PHASE II PIPE PROFILES
SP–8	SITE NOTES & DETAILS
SP–9	CONSTRUCTION SITE DETAILS & NOTES
SP–10	CONSTRUCTION SITE DETAILS & NOTES
SP–11	CONSTRUCTION SITE DETAILS & NOTES
RP–1	DELDOT RECORD PLAN
ENT–1	DELDOT PRELIMINARY SITE PLAN
ENT–2	DELDOT ENTRANCE PLAN

**PHASE II IS FUTURE CONSTRUCTION UNDER SEPARATE CONTRACT

SIGNED LICENSED PROFESSIONAL CERTIFICATION: "I HEREBY CERTIFY THAT THIS PLAN HAS BEEN PREPARED UNDER MY SUPERVISION AND TO THE BEST OF MY KNOWLEDGE COMPLIES WITH THE APPLICABLE STATE AND LOCAL REGULATIONS AND ORDINANCES."

SIGNATURE — 02/08/2021 DATE

JAMES E. SMITH, PE — 410–742–7299 PHONE
NAME/TITLE PRINTED

SIGNED OWNER'S CERTIFICATION:
"I, THE UNDERSIGNED, CERTIFY THAT ALL LAND CLEARING, CONSTRUCTION AND DEVELOPMENT SHOULD BE DONE PURSUANT TO THE APPROVED PLAN AND THAT RESPONSIBLE PERSONNEL (I.E., BLUE CARD HOLDER) INVOLVED IN THE LAND DISTURBANCE WILL HAVE A CERTIFICATION OF TRAINING PRIOR TO INITIATION OF THE PROJECT, AT A DNREC SPONSORED OR APPROVED TRAINING COURSE FOR THE CONTROL OF EROSION AND SEDIMENT DURING CONSTRUCTION. IN ADDITION, I GRANT THE DNREC SEDIMENT AND STORMWATER PROGRAM AND/OR THE RELEVANT DELEGATED AGENCY THE RIGHT TO CONDUCT ONSITE REVIEWS, AND I UNDERSTAND MY RESPONSIBILITIES UNDER THE NPDES CONSTRUCTION GENERAL PERMIT, AS REFERENCED ON THIS COVERSHEET."

OWNER REPRESENTATIVE SIGNATURE — DATE

OWNER REPRESENTATIVE PRINTED NAME & TITLE

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REV	DESCRIPTION	DATE	BY
	PERMIT REVIEW	13 NOV 20	EFT
	PERMIT REVIEW – COMMENT REVISIONS	05 FEB 21	EFT

PROJECT NORTH

ENGINEERS/ARCHITECTS
1942 NORTHWOOD DRIVE SALISBURY, MARYLAND 21801–7824
PH: (410) 742–7299 FAX: (410) 742–0273
AWB ENGINEERS

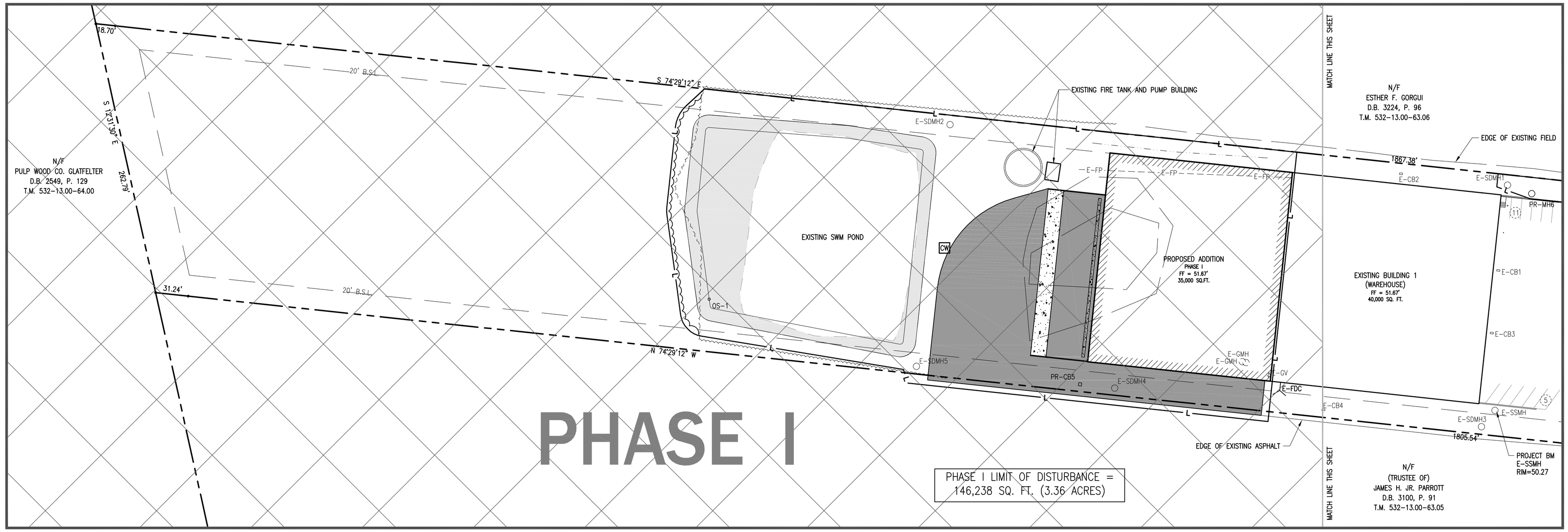
FURNITURELAND

SITE COVER SHEET

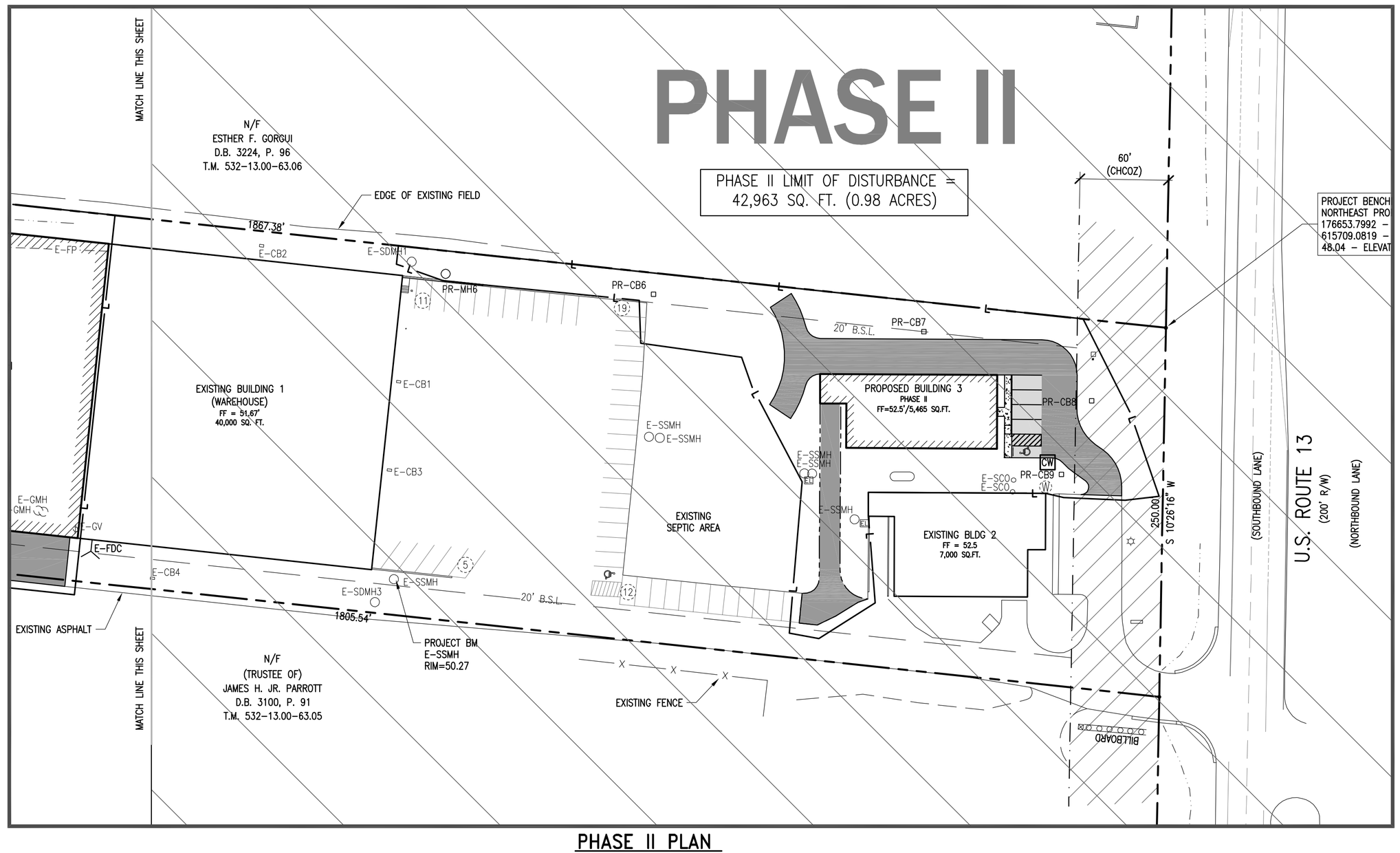
2020 DISTRIBUTION CENTER EXPANSION
DELMAR, DELAWARE

SEDIMENT & STORMWATER PROGRAM
TAX MAP 5–32–13.00–63.04
BUNTINGS BRANCH (WATERSHED)
BALTIMORE HUNDRED – SUSSEX COUNTY

SCALE	AS NOTED
DRAWN	EFT
PROJ.MGR.	LSB
JOB	200212
SHEET	CS–1



PHASE I PLAN
SCALE: 1" = 50'



PHASE II PLAN
SCALE: 1" = 50'

LEGEND

- PROPERTY LINE
- 20' B.S.L. — BUILDING SETBACK LINE
- L — LIMITS OF DISTURBANCE
- EXISTING ℄ OF SWALE
- EXISTING TREELINE
- EXISTING TREELINE TO BE REMOVED
- PROPOSED TREELINE
- E-FP — EXISTING FIRE PROTECTION LINE
- PR-W FIRE — PROPOSED FIRE PROTECTION LINE
- E-UE — EXISTING UNDERGROUND ELECTRIC
- E-SDMH — EXISTING STORMDRAIN MANHOLE
- SDMH — PROPOSED STORMDRAIN MANHOLE
- E-GMH — EXISTING GAS MANHOLE
- E-GV — EXISTING GAS VALVE
- E-CB4 — EXISTING CATCH BASIN
- PR-CB5 — PROPOSED CATCH BASIN
- E-SSMH — EXISTING SANITARY SEWER MANHOLE
- (5) — EXISTING PARKING SPACES
- (6) — PROPOSED PARKING SPACES
- HANDICAP PARKING
- PROPOSED CONCRETE
- PROPOSED HEAVY ASPHALT
- PROPOSED LIGHT ASPHALT

JAMES E. SMITH — REGISTERED — No. 12258 — DELAWARE — PROFESSIONAL ENGINEER
08 FEB 2021

INDEX OF DRAWINGS BY PHASES

PHASE I

SP-2 PHASE I CONSTRUCTION SITE SWM PLAN
SP-3 PHASE I POST CONSTRUCTION EXTENDED DETENTION BASIN IMPROVEMENTS
SP-4 PHASE I SITE IMPROVEMENTS PLAN

PHASE II

SP-5 PHASE II CONSTRUCTION SITE SWM PLAN
SP-6 PHASE II SITE IMPROVEMENTS PLAN

PHASES I & II

SP-1 PHASE I AND II PRE-CONSTRUCTION SITE SWM PLAN
SP-7 PHASE II PIPE PROFILES
SP-8 SITE NOTES & DETAILS
SP-9 CONSTRUCTION SITE DETAILS & NOTES
SP-10 CONSTRUCTION SITE DETAILS & NOTES
SP-11 CONSTRUCTION SITE DETAILS & NOTES

0 25' 50' 100'
GRAPHIC SCALE - 1" = 50'

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REV	DESCRIPTION	BY	DATE
	PERMIT REVIEW	EFT	13 NOV 20
	PERMIT REVIEW - COMMENT REVISIONS	EFT	08 FEB 21

PROJECT NORTH

ENGINEERS/ARCHITECTS
1942 NORTHWOOD DRIVE SALISBURY, MARYLAND 21801-7824
PH: (410) 742-7299 FAX: (410) 742-0273
AWB ENGINEERS

FURNITURELAND

OVERALL SITE PHASING PLAN
2020 DISTRIBUTION CENTER EXPANSION
DELMAR, DELAWARE

SCALE	1"=50'
DRAWN	EFT
PROJ.MGR.	LSB
JOB	200212
SHEET	CS-2

SEDIMENT & STORMWATER PROGRAM
TAX MAP 5-32-13.00-63.04
BUNTINGS BRANCH (WATERSHED)
BALTIMORE HUNDRED - SUSSEX COUNTY

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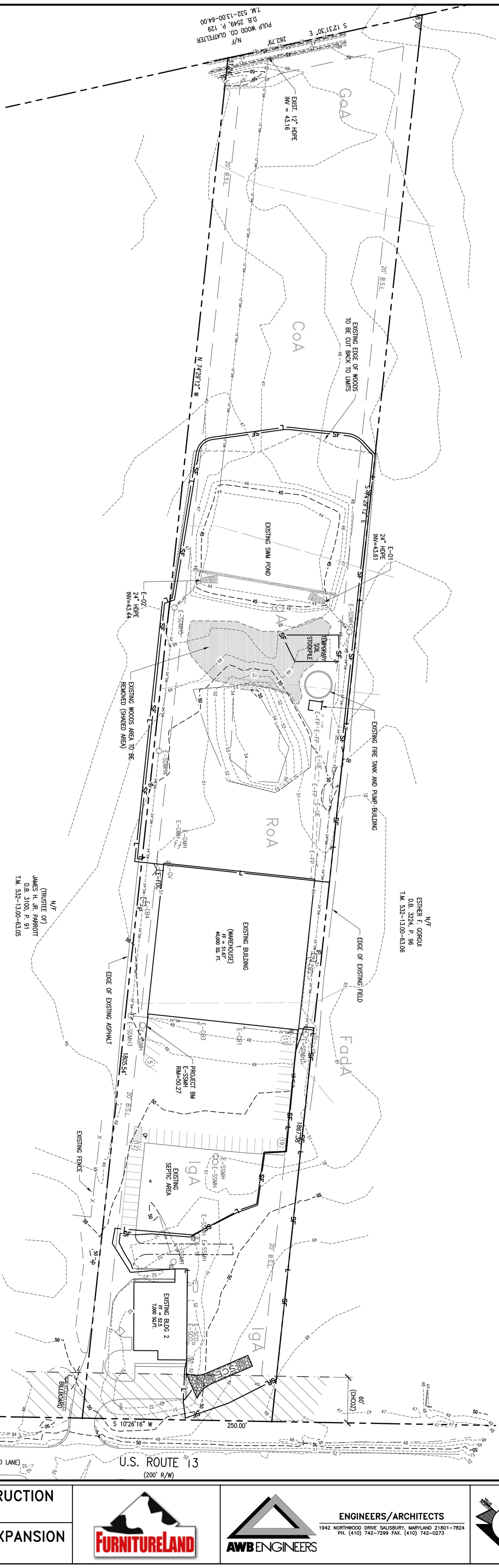

SOIL LEGEND

CoA.....CORSICA MUCKY LOAM, 0-2% SLOPE, HYDROLOGIC GROUP B/D

FadA.....FALLSINGTON SANDY LOAM, 0-2% SLOPE, HYDROLOGIC GROUP B/D

GoA.....GLASSBORO SANDY LOAM, 0-2% SLOPE, HYDROLOGIC GROUP A/D

IgA.....INGLESIDE SANDY LOAM, 0-2% SLOPE, HYDROLOGIC GROUP A

RoA.....ROSEDALE LOAMY SAND, 0-2% SLOPE, HYDROLOGIC GROUP A

LEGEND

PROPERTY LINE
BUILDING SETBACK LINE
LIMITS OF DISTURBANCE
SILT FENCE (REF: 4/SP-10)
INLET PROTECTION TYPE 2 (REF: 6/SP-11)
EXISTING CONTOUR
EXISTING ℄ OF SWALE
EXISTING TREELINE
EXISTING TREELINE TO BE REMOVED
EXISTING FIRE PROTECTION LINE
EXISTING UNDERGROUND ELECTRIC
EXISTING STORMDRAIN PIPING
EXISTING STORMDRAIN MANHOLE
EXISTING GAS MANHOLE
EXISTING GAS VALVE
EXISTING CATCH BASIN
EXISTING SANITARY SEWER MANHOLE
EXISTING PARKING SPACES

GRAPHIC SCALE - 1"=60'
0 30' 60' 120'

JAMES E. STEVENS
REGISTERED
PROFESSIONAL ENGINEER
DELAWARE
No. 12256

08 FEB 2021

SEDIMENT & STORMWATER PROGRAM
TAX MAP 5-32-13.00-63.04
BUNTINGS BRANCH (WATERSHED)
BALTIMORE HUNDRED - SUSSEX COUNTY

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PHASE I AND II PRE-CONSTRUCTION SITE SWM PLAN

2020 DISTRIBUTION CENTER EXPANSION

DELMAR, DELAWARE

FURNITURELAND

AWB ENGINEERS
ENGINEERS/ARCHITECTS
1942 NORTHWOOD DRIVE SALISBURY, MARYLAND 21801-7824
PH. (410) 742-7299 FAX. (410) 742-0273

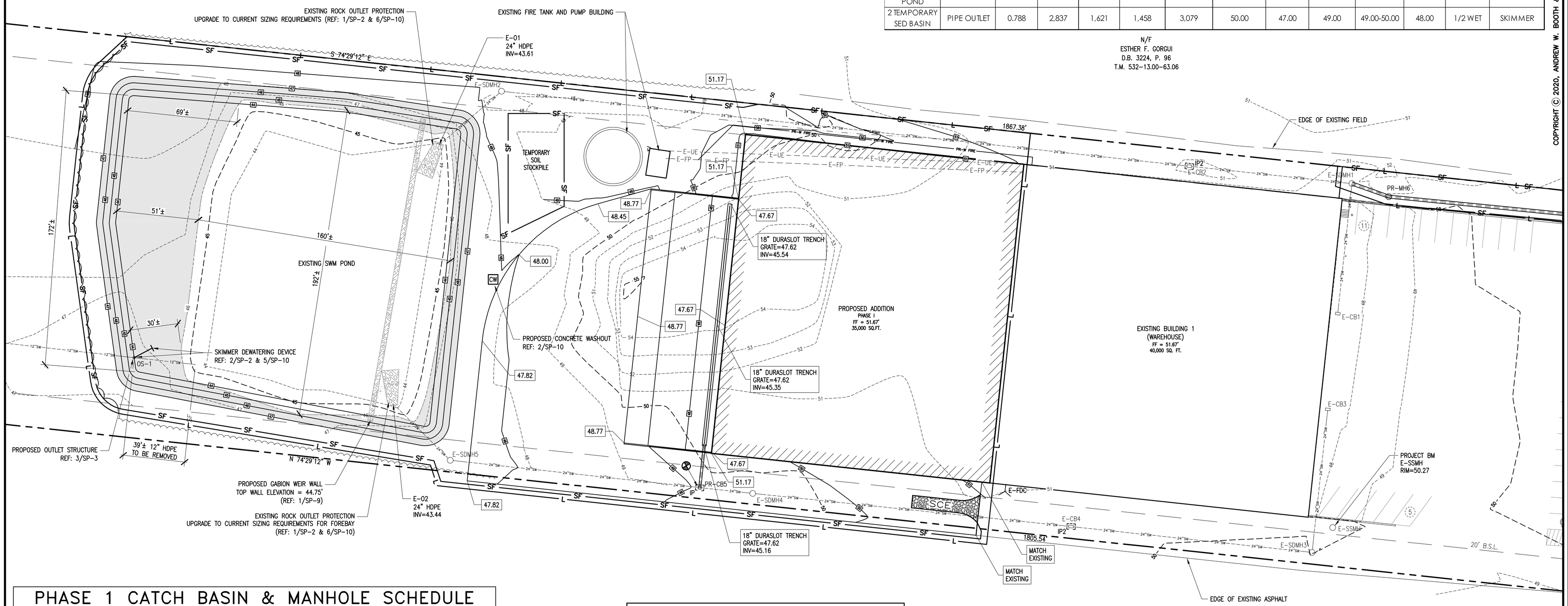
PROJECT NORTH (TRUE NORTH)

DATE	BY	DESCRIPTION	REV
13 NOV 20	EFT	PERMIT REVIEW	
08 FEB 21	EFT	PERMIT REVIEW - COMMENT REVISIONS	

SHEET SP-1
JOB 200212
PROJ.MGR. LSB
DRAWN EFT
SCALE 1"=60'

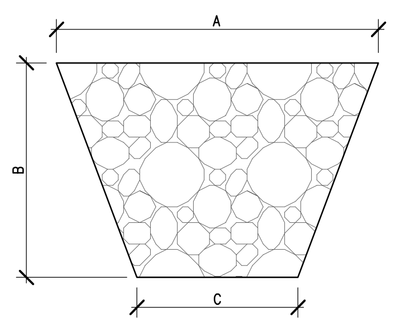
TEMPORARY SEDIMENT BASIN INFORMATION

POND/BASIN #	TYPE	DISTURBED AREA (AC)	VOLUME REQUIRED (CF)	WET VOLUME PROVIDED (CF)	DRY VOLUME PROVIDED (CF)	TOTAL VOLUME PROVIDED (CF)	TOP OF SLOPE ELEVATION FOR DRY STORAGE	BOTTOM ELEVATION	OUTLET ELEVATION	TEMPORARY STORAGE ELEVATION	CLEANOUT ELEVATION	TYPE OF BASIN	DEWATERING METHOD
1 EXISTING POND	PIPE OUTLET	1.635	5,886	26,795	28.521	55.316	45.50	44.00	44.80	44.80-45.50	44.40	1/2 WET	SKIMMER
2 TEMPORARY SED BASIN	PIPE OUTLET	0.788	2,837	1,621	1,458	3,079	50.00	47.00	49.00	49.00-50.00	48.00	1/2 WET	SKIMMER



PHASE 1 CATCH BASIN & MANHOLE SCHEDULE

FROM "A"	TO "B"	"A" RIM ELEV	"A" INVERT	A" TO B" PIPE SIZE & MATERIAL, LENGTH (FT) & SLOPE (%)	"B" RIM ELEV	"B" INVERT
E-CB1	E-SDMH1	47.56	44.85	24" HDPE, 79.14 FT, 0.08%	50.54	44.79
E-SDMH1	E-CB2	50.54	44.79	24" HDPE, 98.82 FT, 0.05%	50.86	44.74
E-CB2	E-SDMH2	50.86	44.74	24" HDPE, 429.16 FT, 0.24%	47.70	43.70
E-SDMH2	E-01	47.70	43.70	24" HDPE, 49.77 FT, 0.18%	---	43.61
E-CB3	E-SDMH3	47.62	44.87	24" HDPE, 87.32 ft, 0.01%	50.05	44.88
E-SDMH3	E-CB4	50.05	44.88	24" HDPE, 148.19 FT, 0.45%	50.33	44.21
E-CB4	E-SDMH4	50.33	44.21	24" HDPE, 196.79 FT. 0.02%	49.73	44.17
E-SDMH4	E-SDMH5	49.73	44.17	24" HDPE, 186.44 FT. 0.04%	47.88	44.10
E-SDMH5	E-02	47.88	44.10	24" HDPE, 48.32 FT. 1.36%	---	43.44
PR TR DR	PR-CB5	47.62	45.16	18" HDPE, 27.27 FT. 0.26%	49.06	45.09
PR-CB5	E-SDMH5	49.06	44.16	24" HDPE, 155.06 FT, 0.03%	47.88	44.10



RIP RAP SIZING CHART			
	A	B	C
24" HDPE PIPE	10.8'	22'	6'

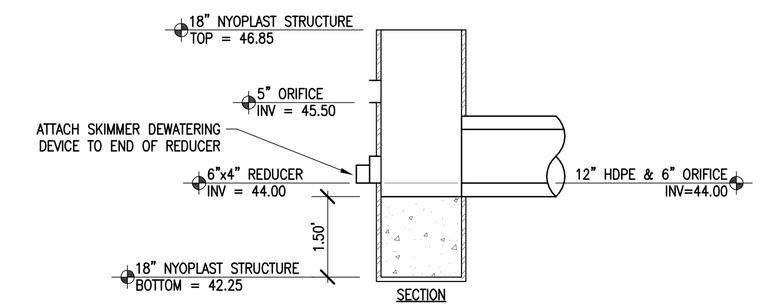
NOTES:
1. STONE SIZE $^{6}_{50}$ = 6"
2. STONE DEPTH = 18"
3. DIMENSIONS IN SIZING CHART ABOVE ARE MINIMUM SIZES.

*REFERENCE DETAIL 6/SP-10 RIPRAP OUTLET PROTECTION TYPE 2

1 / SP-2 FOREBAY RIP RAP OUTLET PROTECTION
SCALE: N.T.S.

LEGEND

- PROPERTY LINE
- 10' B.S.L. — BUILDING SETBACK LINE
- L — LIMITS OF DISTURBANCE
- SF — SILT FENCE (REF: 4/SP-10)
- IP — INLET PROTECTION TYPE I (REF: 5/SP-11)
- IP2 — INLET PROTECTION TYPE 2 (REF: 6/SP-11)
- 51 — EXISTING CONTOUR
- PROPOSED CONTOR
- 49.18 — PROPOSED SPOT ELEVATION
- EXISTING CENTERLINE OF SWALE
- EXISTING TREELINE
- EXISTING TREELINE TO BE REMOVED
- PROPOSED TREELINE
- E-FP — EXISTING FIRE PROTECTION LINE
- PR-W FIRE — PROPOSED FIRE PROTECTION LINE
- E-UE — EXISTING UNDERGROUND ELECTRIC
- 24"SW — EXISTING STORMDRAIN PIPING
- PROPOSED STORMDRAIN PIPING
- E-SDMH — EXISTING STORMDRAIN MANHOLE
- SDMH — PROPOSED STORMDRAIN MANHOLE
- E-GMH — EXISTING GAS MANHOLE
- E-GV — EXISTING GAS VALVE
- E-CB4 — EXISTING CATCH BASIN
- PR-CB5 — PROPOSED CATCH BASIN
- E-SSMH — EXISTING SANITARY SEWER MANHOLE
- (5) — EXISTING PARKING SPACES



NOTES:
1. ONCE SITE IS STABILIZED AND SEDIMENT TRAP IS NO LONGER REQUIRED REMOVE 6"x4" REDUCER.
2. 1.5' OF STRUCTURE TO BE FILLED WITH CONCRETE.

2 / SP-2 OUTLET STRUCTURE SKIMMER DEWATERING DEVICE DETAIL
SCALE: 1" = 2.0'

JAMES E. SMITH — REGISTERED — No. 12256 — DELAWARE — PROFESSIONAL ENGINEER
08 FEB 2021

GRAPHIC SCALE - 1"=30'

SEDIMENT & STORMWATER PROGRAM
TAX MAP 5-32-13.00-63.04
BUNTINGS BRANCH (WATERSHED)
BALTIMORE HUNDRED - SUSSEX COUNTY

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REV	DESCRIPTION	DATE	BY
	PERMIT REVIEW	13 NOV 20	EFT
	PRELIMINARY	01 FEB 21	EFT
	PERMIT REVIEW - COMMENT REVISIONS	08 FEB 21	EFT

PROJECT NORTH

ENGINEERS/ARCHITECTS
1942 NORTHWOOD DRIVE SALISBURY, MARYLAND 21801-7824
PH. (410) 742-7299 FAX. (410) 742-0273
AWB ENGINEERS

FURNITURELAND

PHASE I CONSTRUCTION SITE SWM PLAN
2020 DISTRIBUTION CENTER EXPANSION
DELMAR, DELAWARE

SCALE	1"=30'
DRAWN	EFT
PROJ.MGR.	LSB
JOB	200212
SHEET	SP-2

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DEVICES AND STORMWATER DIVERSION PRACTICES. ALL AREAS SURROUNDING THE POND OR BASIN THAT ARE GRADED OR DEUDED DURING CONSTRUCTION SHOULD BE PLANTED WITH TURF GRASS, NATIVE PLANTINGS, OR OTHER APPROVED METHODS OF SOIL STABILIZATION.

4. CLEAR AND STRIP THE EMBANKMENT AREA TO THE DESIGNED SUB-GRADE.

5. INSTALL THE RISER OR OUTFLOW STRUCTURE AND ENSURE THAT THE TOP INVERT OF THE OVERFLOW WEIR IS CONSTRUCTED LEVEL AT THE DESIGN ELEVATION. INSTALL THE SKIMMER DEMATERING DEVICE FOR USE IN THE SEDIMENT BASIN DURING THE CONSTRUCTION PHASE.

6. EXCAVATE BASIN TO BE USED AS SEDIMENT BASIN DURING CONSTRUCTION PHASE.

7. ONCE THE CONSTRUCTION PHASE OF THE PROJECT IS COMPLETE THE FACILITY WILL BE DEWATERED, DREDGED, AND RE-GRADED TO DESIGN DIMENSIONS AFTER THE ORIGINAL SITE CONSTRUCTION IS COMPLETE.

8. EXCAVATE/GRADE UNTIL THE APPROPRIATE ELEVATION AND DESIRED CONTOURS ARE ACHIEVED FOR THE BOTTOM AND SIDE SLOPES OF THE DRY ED BASIN. CONSTRUCT FOREBAYS AT THE PROPOSED INFLOW POINTS.

9. CONSTRUCT THE EMERGENCY SPILLWAY IN CUT OR STRUCTURALLY STABILIZED SOILS.

10. INSTALL OUTLET PIPES, INCLUDING ANY FLARED END SECTIONS, HEADWALLS, AND DOWNSTREAM RIPRAP APRON PROTECTION UNDERLAIN BY STABILIZATION GEOTEXTILE.

11. STABILIZE EXPOSED SOILS WITH THE APPROVED SEED MIXTURES IN ACCORDANCE WITH THE VEGETATIVE STABILIZATION SPECIFICATIONS ON THE APPROVED SEDIMENT AND STORMWATER MANAGEMENT PLAN.

12. PLANT THE DRY DETENTION POND OR DRY ED BASIN.

13. POST CONSTRUCTION VERIFICATION.

MAINTENANCE CRITERIA.

1. REPAIR OF CRITICAL STRUCTURAL FEATURES SUCH AS EMBANKMENTS AND RISERS SHALL BE PERFORMED BY RESPONSIBLE PERSONNEL THAT HAVE SUCCESSFULLY COMPLETED THE DEPARTMENT CONTRACTOR TRAINING PROGRAM.

2. SEDIMENT REMOVAL IN THE DRY DETENTION POND OR DRY ED BASIN PERETREATMENT PRACTICE MUST OCCUR WHEN 50% OF TOTAL FOREBAY CAPACITY HAS BEEN LOST. THE OWNER CAN PLAN FOR THIS MAINTENANCE ACTIVITY TO OCCUR EVERY 5 TO 7 YEARS.

3. EASEMENT AREAS (I.E., ACCESS, MAINTENANCE, OR OFFSITE) AND ACCESSWAYS TO STORMWATER FACILITIES SHALL HAVE REGULAR MOWING PERFORMED TO KEEP THE GRASS 10" OR LESS.

4. REMOVE WOODY SPECIES ON OR NEAR EMBANKMENT, STRUCTURAL COMPONENTS AND MAINTENANCE ACCESS AREAS AS NEEDED.

OPERATION AND MAINTENANCE NOTES:

1. THE SUSSEX CONSERVATION DISTRICT (SCD) RESERVES THE RIGHT TO ENTER PRIVATE PROPERTY FOR PURPOSES OF PERIODIC SITE REVIEW.

2. SCD SHALL BE NOTIFIED WITHIN 30 BUSINESS DAYS IF THE PROPERTY OWNERSHIP IS TRANSFERRED TO A NEW PERSON OR ENTITY.

3. SCD MAY SEEK ENFORCEMENT ACTION AGAINST ANY OWNER DEEMED NEGLIGENT IN FULFILLING THE OPERATION AND MAINTENANCE REQUIREMENTS ON THE DELAWARE SEDIMENT AND STORMWATER REGULATIONS.

4. SCD SHALL BE CONTACTED IF ANY CONCERNS ARISES REGARDING A STORMWATER MANAGEMENT FACILITY, BEFORE ANY NON-ROUTINE MAINTENANCE, OR IF MODIFICATIONS TO THE FACILITY ARE DESIRED.

5. REPAIR OF CRITICAL STRUCTURAL FEATURES (I.E. EMBANKMENTS AND RISERS) SHALL BE PERFORMED BY RESPONSIBLE PERSONNEL THAT HAVE SUCCESSFULLY COMPLETED THE DEPARTMENT CONTRACTOR TRAINING PROGRAM.

6. ANY DESIGNED MODIFICATIONS MADE TO THE STORMWATER SYSTEM SHALL REQUIRE APPROVAL OF THE PLAN(S) BY SCD.

7. EASEMENT AREAS (I.E. ACCESS, MAINTENANCE, OR OFFSITE) AND ACCESSWAYS TO STORMWATER FACILITIES SHALL HAVE REGULAR MOWING PERFORMED TO KEEP THE GRASS 10" OR LESS. NO PERMANENT STRUCTURES, (I.E. FENCES OR SHEDS) SHALL BE LOCATED WITHIN THE EASEMENT OR ACCESSWAY.

8. TREES SHALL NOT BE PLANTED, AND SHALL BE REMOVED IF FOUND GROWING, ON OR WITHIN 15 FEET OF ALL EMBANKMENTS, NO SLOPES OR WITHIN 10 FEET OF STRUCTURAL COMPONENTS.

9. WHEN THE FACILITY IS EXCAVATED TO REMOVE ACCUMULATED SEDIMENT, THE DISPOSAL AREA BE PERMANENTLY STABILIZED SO THAT IT DOES NOT REGREATE AN EROSION PROBLEM. ANY MATERIAL TAKEN OFF-SITE SHALL BE DISPOSED OF IN AN APPROVED MANNER.

10. BEFORE ANY EARTHWORK OR EXCAVATION TAKES PLACE, THE CONTRACTOR SHALL CALL MISS UTILITY AT 811 OR 1.800.282.8555 AT LEAST 48 HOURS PRIOR TO CONSTRUCTION. TO HAVE ALL EXISTING UTILITIES MARKED ONSITE.

SWM POND SECTION

SCALE: 1" = 30' (HORIZ.)
1" = 3' (VERT.)

1 SP-3

EXISTING GRADE
PROPOSED GRADE

BOTTOM POND ELEV = 44.00'

PROPOSED GRADE
EXISTING GRADE
GABION FOREBAY
TOP ELEV = 44.75'
PROVIDED VOLUME = 1,754.87 CUFT.
REQUIRED VOLUME = 4,401.70 CUFT.
RFV STORM EVENT = 44.91'
CV STORM EVENT = 45.50'
RFV STORM EVENT = 44.62'

47.6 47.45 | 43.6 44.00 | 43.7 44.00 | 43.9 44.00 | 47.2 44.00 | 47.7 47.27

0+00 0+50 1+00 1+50 2+00 2+50

40 45 50

SWM POND SECTION

SCALE: 1" = 30' (HORIZ.)
1" = 3' (VERT.)

2 SP-3

EXISTING GRADE
PROPOSED GRADE

BOTTOM POND ELEV = 44.00'

PROPOSED GRADE
EXISTING GRADE
RFV STORM EVENT = 44.62'
CV STORM EVENT = 45.50'
RFV STORM EVENT = 44.91'

45.5 44.00 | 43.9 44.00 | 43.7 44.00 | 43.7 44.00 | 47.14

0+00 0+50 1+00 1+50 2+00

40 45 50

DRY EXTENDED DETENTION BASIN NOTES

SEQUENCE OF CONSTRUCTION:

1. THE EXISTING DRY BASIN TO HAVE EXISTING PREFABMITES REMOVED AND WILL BE UTILIZED AS THE TEMPORARY SEDIMENT BASIN DURING PHASE 1 CONSTRUCTION.
2. ASSEMBLE CONSTRUCTION MATERIALS ON-SITE. MAKE SURE THEY MEET DESIGN SPECIFICATIONS, AND PREPARE ANY STAGING AREAS.
3. INSTALL EROSION AND SEDIMENT CONTROLS PRIOR TO CONSTRUCTION, INCLUDING TEMPORARY DEMATERING

EXISTING DITCH ROCK OUTLET PROTECTION
UPGRADE TO CURRENT SIZING REQUIREMENTS
(REF: 4/SP-3)

EXIST. 12" HDPE
INV = 43.16

20' B.S.L.

20' B.S.L.

PHASE 1 POST CONSTRUCTION DETENTION BASIN IMPROVEMENTS

SCALE: 1" = 30'

EXISTING ROCK OUTLET PROTECTION
UPGRADE TO CURRENT SIZING REQUIREMENTS FOR FOREBAY
(REF: 1/SP-2 & 6/SP-10)

PROPOSED GABION WEIR WALL
TOP WALL ELEVATION = 44.75'
(REF: 1/SP-9)

E-02
24" HDPE
INV=43.44

49.18

E-01
24" HDPE
INV=43.61

EXISTING SWM POND

EXISTING FIRE TANK AND PUMP BUILDING

5' DEEDED EASEMENT FOR ACCESS AND PAVEMENT

TEMPORARY SOIL STOCKPILE
MAINTENANCE SET ASIDE AREA

PR-CB5

E-SDMH5

E-SDMH7

E-FP

49.08
50.18
49.88
49.18
49.08
50.18
49.88
49.08
50.18
49.88
49.08

SF L

CW 1 SP-3

OS-1

EXISTING ROCK OUTLET PROTECTION
(REF: 1/SP-2 & 6/SP-10)

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SEDIMENT & STORMWATER PROGRAM
TAX MAP 5-32-13.00-63.04
BUNTINGS BRANCH (WATERSHED)
BALTIMORE HUNDRED – SUSSEX COUNTY

GRAPHIC SCALE – 1"=30'

0 15' 30' 60'

4 EXISTING DITCH RIP RAP OUTLET PROTECTION SP-3
SCALE: N.T.S.

REFERENCE DETAIL 6/SP-10 RIPRAP OUTLET PROTECTION TYPE 2

RIP RAP SIZING CHART

	A	B	C
12" HDPE PIPE	11'	25'	11'

NOTES:
1. STONE SIZE d_{50} = 9"
2. STONE DEPTH = 18"
3. DIMENSIONS IN SIZING CHART ABOVE ARE MINIMUM SIZES.

A
B
C

3 18" NYOPLAST OUTLET STRUCTURE DETAIL SP-3
SCALE: 1" = 2.0'

NOTE: BOTTOM 1.5' OF STRUCTURE TO BE FILLED WITH CONCRETE.

SIDE VIEW
SECTION

1.50'

18" NYOPLAST STRUCTURE BOTTOM = 42.25
6" ORIFICE & 12" HDPE INV = 44.00'
5" ORIFICE INV = 45.50'
18" NYOPLAST STRUCTURE TOP = 46.85
12" HDPE (BACKGROUND)
12" HDPE INV=44.00'

08 FEB 2021

LEGEND

PROPERTY LINE
BUILDING SETBACK LINE
LIMITS OF DISTURBANCE
SILT FENCE (REF: 4/SP-10)
INLET PROTECTION TYPE I (REF: 5/SP-11)
PROPOSED SPOT ELEVATION
PROPOSED CONTOUR
EXISTING CONTOUR
EXISTING CENTERLINE OF SWALE
EXISTING TREELINE
EXISTING TREELINE TO BE REMOVED
PROPOSED TREELINE
EXISTING FIRE PROTECTION LINE
PROPOSED FIRE PROTECTION LINE
EXISTING UNDERGROUND ELECTRIC
EXISTING STORMDRAIN PIPING
PROPOSED STORMDRAIN PIPING
EXISTING STORMDRAIN MANHOLE
PROPOSED STORMDRAIN MANHOLE
EXISTING GAS MANHOLE
EXISTING GAS VALVE
EXISTING CATCH BASIN
PROPOSED CATCH BASIN
EXISTING SANITARY SEWER MANHOLE
EXISTING PARKING SPACES

10' B.S.L.
51
49.18
24"SW
E-UE
E-FP
PR-W FIRE
SDMH
E-SDMH
PR-CB5
E-CB4
E-CV
E-GMH
E-GAS
PR-GMH
E-SSMH
5

AWB ENGINEERS

ENGINEERS/ARCHITECTS
1942 NORTHWOOD DRIVE SALISBURY, MARYLAND 21801-7824
PH. (410) 742-7299 FAX. (410) 742-0273

PROJECT NORTH

REV.	DESCRIPTION	BY	DATE
	PERMIT REVIEW	EFT	13 NOV 20
	PRELIMINARY	EFT	01 FEB 21
	PERMIT REVIEW – COMMENT REVISIONS	EFT	08 FEB 21

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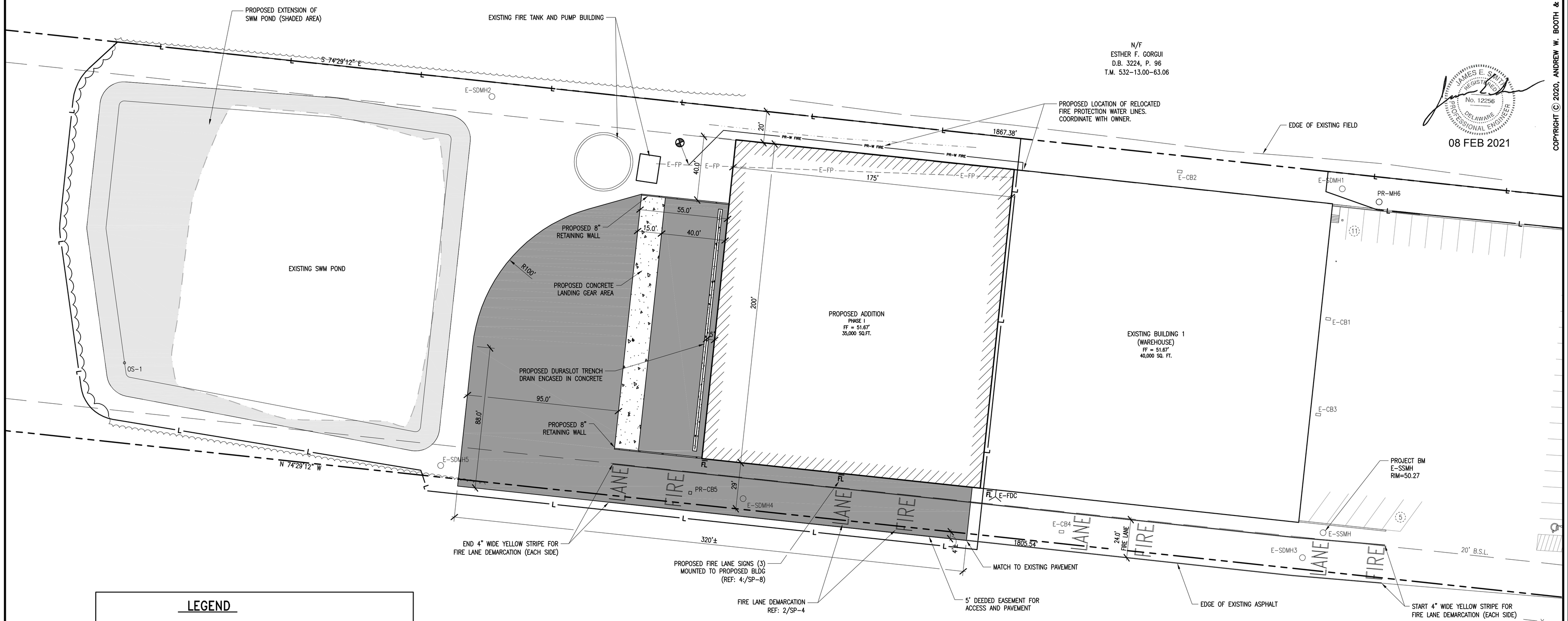
PHASE I POST CONSTRUCTION EXTENDED DETENTION BASIN IMPROVEMENTS

2020 DISTRIBUTION CENTER EXPANSION

DELMAR, DELAWARE

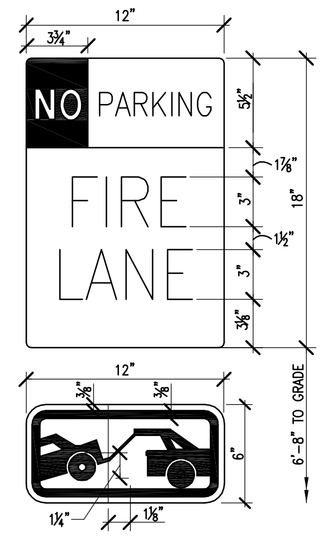
SCALE	AS NOTED
DRAWN	EFT
PROJ.MGR.	LSB
JOB	200212
SHEET	SP-3

FURNITURELAND



LEGEND

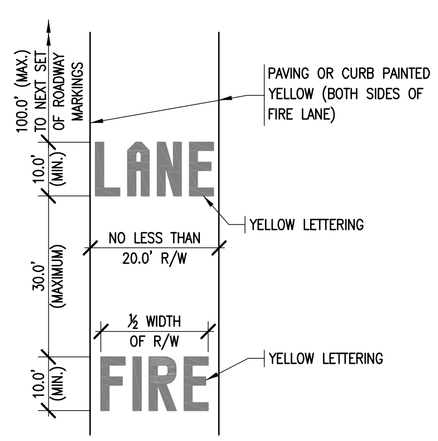
- PROPERTY LINE
- 20' B.S.L. — BUILDING SETBACK LINE
- L — LIMITS OF DISTURBANCE
- EXISTING CENTERLINE OF SWALE
- EXISTING TREELINE
- EXISTING TREELINE TO BE REMOVED
- PROPOSED TREELINE
- E-FP — EXISTING FIRE PROTECTION LINE
- PR-W FIRE — PROPOSED FIRE PROTECTION LINE
- E-UE — EXISTING UNDERGROUND ELECTRIC
- E-SDMH — EXISTING STORMDRAIN MANHOLE
- SDMH — PROPOSED STORMDRAIN MANHOLE
- E-GMH — EXISTING GAS MANHOLE
- E-GV — EXISTING GAS VALVE
- E-CB4 — EXISTING CATCH BASIN
- PR-CB5 — PROPOSED CATCH BASIN
- E-SSMH — EXISTING SANITARY SEWER MANHOLE
- E-FDC — EXISTING FIRE DEPARTMENT CONNECTION
- (5) — EXISTING PARKING SPACES
- (6) — PROPOSED PARKING SPACES
- HANDICAP PARKING
- PROPOSED CONCRETE (REF: SPECIFICATIONS/CS-1)
- PROPOSED HEAVY ASPHALT (REF: SPECIFICATIONS/CS-1)
- PROPOSED LIGHT ASPHALT (REF: SPECIFICATIONS/CS-1)



NOTES:

1. SIGNS TO BE SPACED A MAXIMUM OF 150 FEET APART.
2. MOUNT SIGN ON STEEL POST 6'-8" ABOVE GRADE.
3. FIRE LANES:
   - PROVIDE 4" PAINTED YELLOW DEMARCATION LINES PER PLANS & DE SFPR.
   - FIRE LANE DEMARCATION SHOWN IN AREAS OF CHANGE DUE TO BUILDING EXPANSION.
   - FIRE LANES IN ALL OTHER AREAS TO REMAIN THE SAME.

1 / SP-4 SIGN FOR MARKING FIRE LANES
SCALE: N.T.S.



2 / SP-4 FIRE LANE ROADWAY MARKINGS DETAIL
SCALE: N.T.S.

FIRE PROTECTION NOTES

1. "THIS STRUCTURE WILL BE PROTECTED BY AUTOMATIC SPRINKLERS IN ACCORDANCE WITH NFPA 13".
2. "LOCK BOX REQUIRED, CONTACT LOCAL FIRE CHIEF FOR ORDERING INFORMATION AND LOCATION OF BOX ON THE BUILDING"
3. "ALL FIRE LANES, FIRE HYDRANTS, AND FIRE DEPARTMENT CONNECTIONS SHALL BE MARKED IN ACCORDANCE WITH THE DELAWARE STATE FIRE PREVENTION REGULATIONS."

0 15' 30' 60'
GRAPHIC SCALE – 1"=30'

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JAMES E. SAIN REGISTERED No. 12256 DELAWARE PROFESSIONAL ENGINEER
08 FEB 2021

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AWB ENGINEERS

FURNITURELAND

PHASE I SITE IMPROVEMENTS PLAN
2020 DISTRIBUTION CENTER EXPANSION
DELMAR, DELAWARE

SEDIMENT & STORMWATER PROGRAM
TAX MAP 5-32-13.00-63.04
BUNTINGS BRANCH (WATERSHED)
BALTIMORE HUNDRED – SUSSEX COUNTY

SCALE	1"=30'
DRAWN	EFT
PROJ.MGR.	LSB
JOB	200212
SHEET	SP-4

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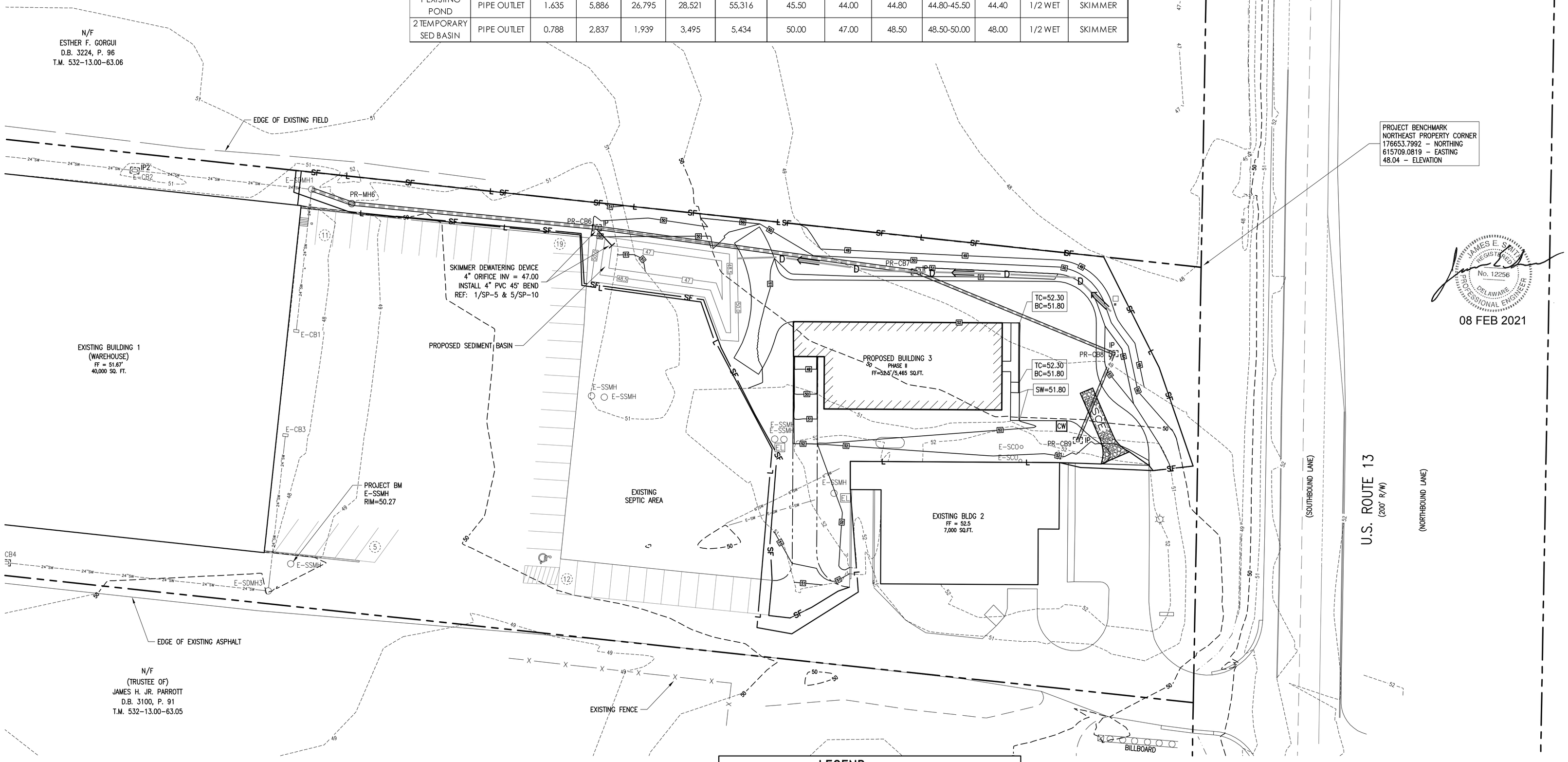
TEMPORARY SEDIMENT BASIN INFORMATION

POND/BASIN #	TYPE	DISTURBED AREA (AC)	VOLUME REQUIRED (CF)	WET VOLUME PROVIDED (CF)	DRY VOLUME PROVIDED (CF)	TOTAL VOLUME PROVIDED (CF)	TOP OF SLOPE ELEVATION FOR DRY STORAGE	BOTTOM ELEVATION	OUTLET ELEVATION	TEMPORARY STORAGE ELEVATION	CLEANOUT ELEVATION	TYPE OF BASIN	DEWATERING METHOD
1 EXISTING POND	PIPE OUTLET	1.635	5,886	26,795	28,521	55,316	45.50	44.00	44.80	44.80-45.50	44.40	1/2 WET	SKIMMER
2 TEMPORARY SED BASIN	PIPE OUTLET	0.788	2,837	1,939	3,495	5,434	50.00	47.00	48.50	48.50-50.00	48.00	1/2 WET	SKIMMER

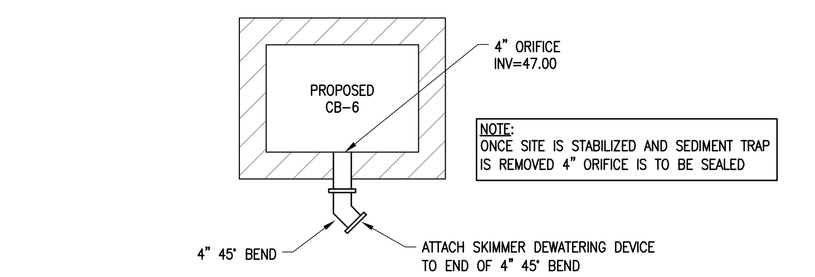


PHASE 2 CATCH BASIN & MANHOLE SCHEDULE

FROM "A"	TO "B"	"A" RIM ELEV	"A" INVERT	A" TO B" PIPE SIZE & MATERIAL, LENGTH (FT) & SLOPE (%)	"B" RIM ELEV	"B" INVERT
E-SDMH1	E-CB2	50.54	44.79	24" HDPE, 98.82 FT, 0.05%	50.86	44.74
E-CB2	E-SDMH2	50.86	44.74	24" HDPE, 429.16 FT, 0.24%	47.70	43.70
E-SDMH2	E-01	47.70	43.70	24" HDPE, 49.77 FT, 0.18%	---	43.61
PR-CB9	PR-CB8	51.25	48.20	18" HDPE, 53.90 FT, 0.50%	50.50	47.93
PR-CB8	PR-CB7	50.50	47.83	18" HDPE, 122.92 FT, 0.51%	50.50	47.20
PR-CB7	PR-CB6	50.50	46.85	24" HDPE, 184.90 FT, 0.50%	49.50	45.92
PR-CB6	PR-SDMH6	49.50	45.82	24" HDPE, 141.42 FT, 0.49%	50.60	45.12
PR-SDMH6	E-SDMH1	50.60	45.02	24" HDPE, 24.43 FT. 0.49%	50.54	44.90

LEGEND

- PROPERTY LINE
- L — LIMITS OF DISTURBANCE
- SF — SILT FENCE (REF: 4/SP-10)
- IP — INLET PROTECTION TYPE I (REF: 5/SP-11)
- 51 — EXISTING CONTOUR
- PROPOSED CONTOR
- 49.18 — PROPOSED SPOT ELEVATION
- EXISTING CENTERLINE OF SWALE
- EXISTING TREELINE
- EXISTING TREELINE TO BE REMOVED
- PROPOSED TREELINE
- 24"SW — 24"SW — EXISTING STORMDRAIN PIPING
- PROPOSED STORMDRAIN PIPING
- E-SDMH — EXISTING STORMDRAIN MANHOLE
- SDMH — PROPOSED STORMDRAIN MANHOLE
- E-GMH — EXISTING GAS MANHOLE
- E-GV — EXISTING GAS VALVE
- E-CB4 — EXISTING CATCH BASIN
- PR-CB5 — PROPOSED CATCH BASIN
- E-SSMH — EXISTING SANITARY SEWER MANHOLE
- 5 — EXISTING PARKING SPACES
- D — TEMPORARY DIVERSION (REF: 7/SP-11)



1 / SP-5 SKIMMER DEWATERING DEVICE CB-6 ATTACHMENT DETAIL

SCALE: 1" = 2.0'

GRAPHIC SCALE – 1" = 2.0'

GRAPHIC SCALE – 1"=30'

SEDIMENT & STORMWATER PROGRAM
TAX MAP 5-32-13.00-63.04
BUNTINGS BRANCH (WATERSHED)
BALTIMORE HUNDRED – SUSSEX COUNTY

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REV	DESCRIPTION	BY	DATE
	PERMIT REVIEW	EFT	13 NOV 20
	PRELIMINARY	EFT	01 FEB 21
	PERMIT REVIEW – COMMENT REVISIONS	EFT	08 FEB 21

PROJECT NORTH

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REGISTERED
No. 12256
DELAWARE
PROFESSIONAL ENGINEER

08 FEB 2021

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AWB ENGINEERS

FURNITURELAND

PHASE II CONSTRUCTION SITE SWM PLAN
2020 DISTRIBUTION CENTER EXPANSION
DELMAR, DELAWARE

SCALE	1"=30'
DRAWN	EFT
PROJ.MGR.	LSB
JOB	200212
SHEET	SP-5

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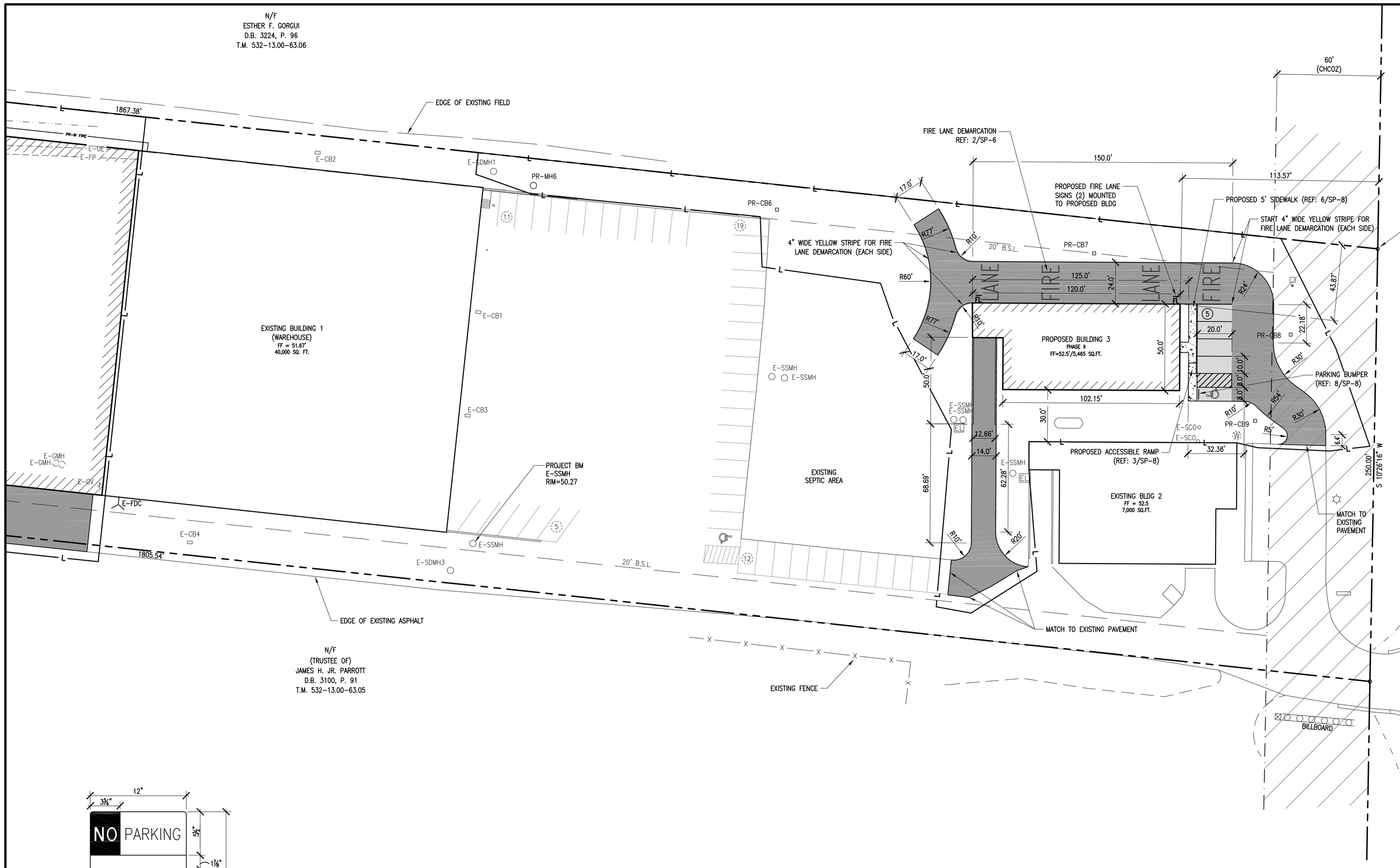
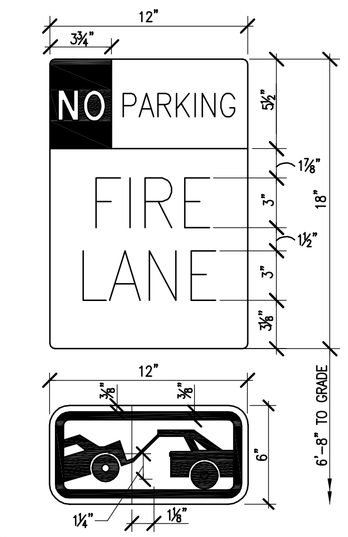
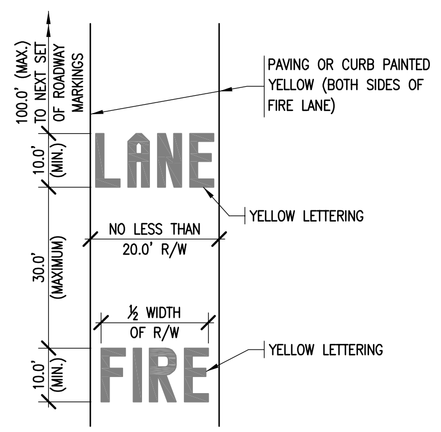




NOTES:

1. SIGNS TO BE SPACED A MAXIMUM OF 150 FEET APART.
2. MOUNT SIGN ON STEEL POST 6'-8" ABOVE GRADE.
3. FIRE LANES:
   - PROVIDE 4" PAINTED YELLOW DEMARCATION LINES PER PLANS & DE SFPR.
   - FIRE LANE DEMARCATION SHOWN IN AREAS OF CHANGE DUE TO BUILDING EXPANSION.
   - FIRE LANES IN ALL OTHER AREAS TO REMAIN THE SAME.

1 / SP-6 **SIGN FOR MARKING FIRE LANES**
SCALE: N.T.S.



2 / SP-6 **FIRE LANE ROADWAY MARKINGS DETAIL**
SCALE: N.T.S.

FIRE PROTECTION NOTES

1. "THIS STRUCTURE WILL BE PROTECTED BY AUTOMATIC SPRINKLERS IN ACCORDANCE WITH NFPA 13".
2. "LOCK BOX REQUIRED, CONTACT LOCAL FIRE CHIEF FOR ORDERING INFORMATION AND LOCATION OF BOX ON THE BUILDING"
3. "ALL FIRE LANES, FIRE HYDRANTS, AND FIRE DEPARTMENT CONNECTIONS SHALL BE MARKED IN ACCORDANCE WITH THE DELAWARE STATE FIRE PREVENTION REGULATIONS."

LEGEND

- PROPERTY LINE
- 20' B.S.L. — BUILDING SETBACK LINE
- L — LIMITS OF DISTURBANCE
- E-SDMH — EXISTING STORMDRAIN MANHOLE
- SDMH — PROPOSED STORMDRAIN MANHOLE
- E-GMH — EXISTING GAS MANHOLE
- E-GV — EXISTING GAS VALVE
- E-CB4 — EXISTING CATCH BASIN
- PR-CB5 — PROPOSED CATCH BASIN
- E-SSMH — EXISTING SANITARY SEWER MANHOLE
- (5) — EXISTING PARKING SPACES
- (6) — PROPOSED PARKING SPACES
- HANDICAP PARKING
- PROPOSED CONCRETE (REF: SPECIFICATIONS/CS-1)
- PROPOSED HEAVY ASPHALT (REF: SPECIFICATIONS/CS-1)
- PROPOSED LIGHT ASPHALT (REF: SPECIFICATIONS/CS-1)

0 15' 30' 60'
GRAPHIC SCALE - 1"=30'

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REV	DESCRIPTION	DATE	BY
	PERMIT REVIEW	13 NOV 20	EFT
	PRELIMINARY	01 FEB 21	EFT
	PERMIT REVIEW - COMMENT REVISIONS	08 FEB 21	EFT

PROJECT NORTH

JAMES E. SHEPPARD III — REGISTERED — No. 12256 — DELAWARE — PROFESSIONAL ENGINEER
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FURNITURELAND

PHASE II SITE IMPROVEMENTS PLAN
2020 DISTRIBUTION CENTER EXPANSION
DELMAR, DELAWARE

SEDIMENT & STORMWATER PROGRAM
TAX MAP 5-32-13.00-63.04
BUNTINGS BRANCH (WATERSHED)
BALTIMORE HUNDRED - SUSSEX COUNTY

SCALE	1"=30'
DRAWN	EFT
PROJ.MGR.	LSB
JOB	200212
SHEET	SP-6

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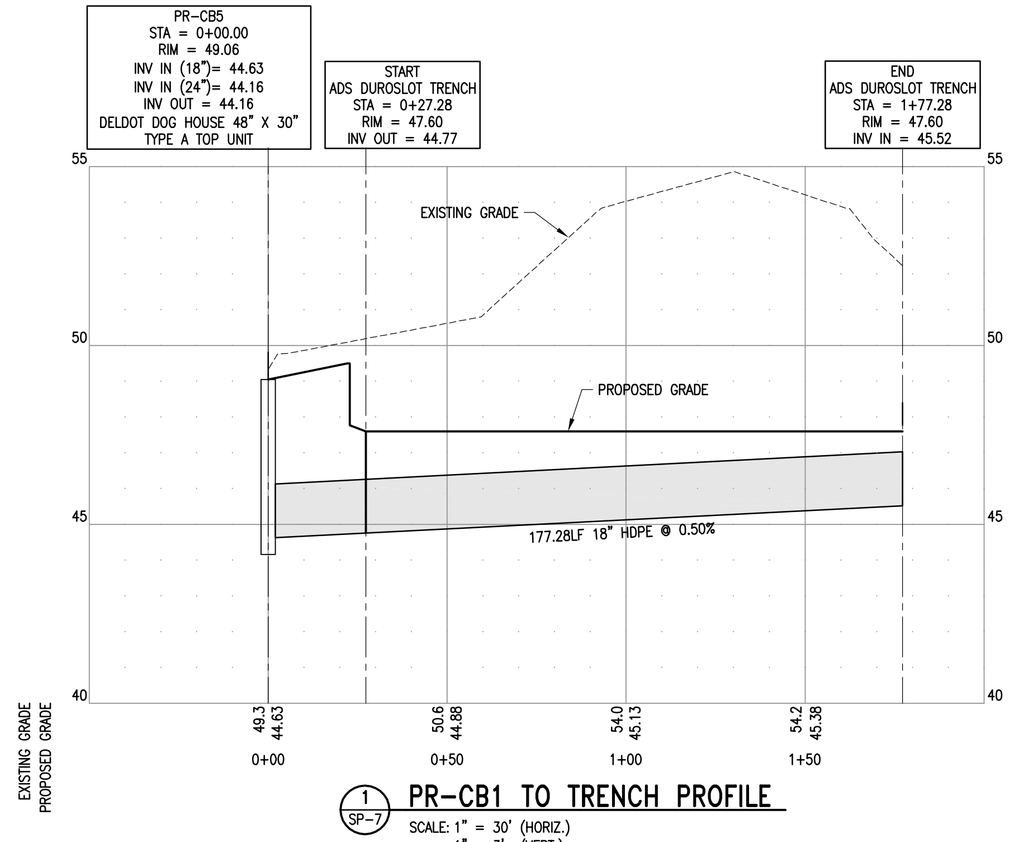
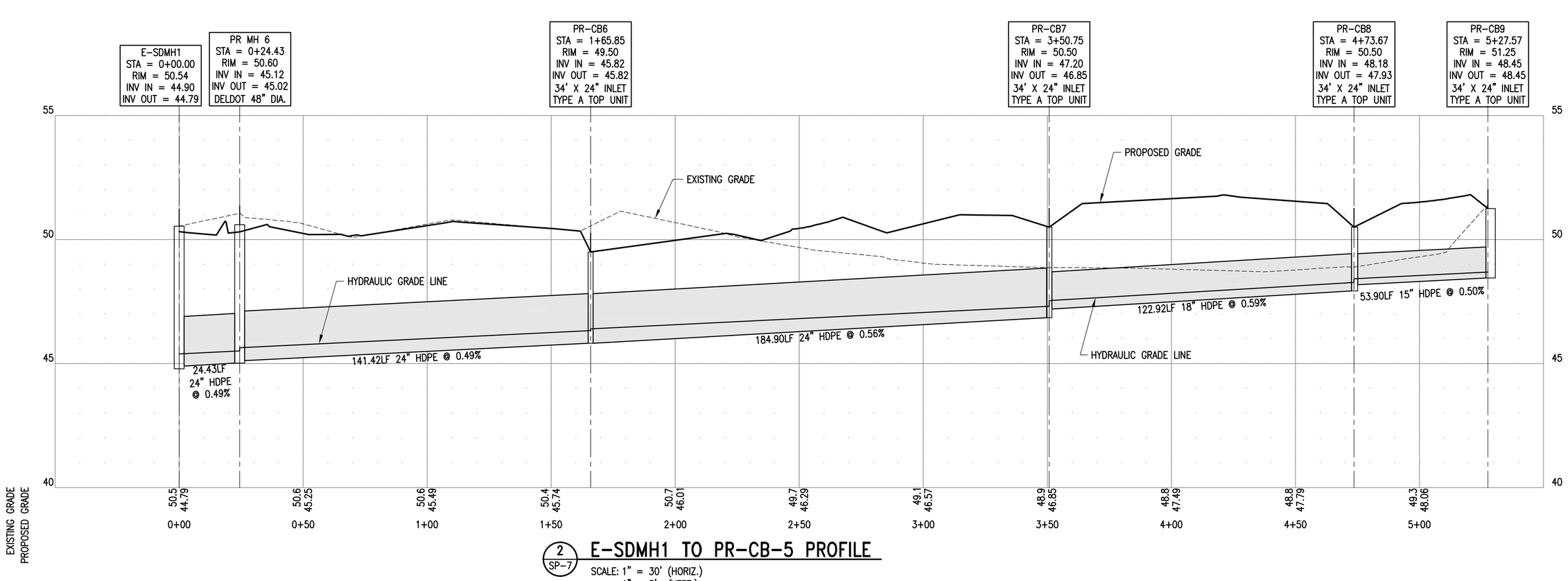


1 SP-7 **PR-CB1 TO TRENCH PROFILE**

SCALE: 1" = 30' (HORIZ.)
1" = 3' (VERT.)



2 SP-7 **E-SDMH1 TO PR-CB-5 PROFILE**

SCALE: 1" = 30' (HORIZ.)
1" = 3' (VERT.)

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REV	DESCRIPTION	BY	DATE
	PERMIT REVIEW	EFT	13 NOV 20
	PERMIT REVIEW - COMMENT REVISIONS	EFT	08 FEB 21

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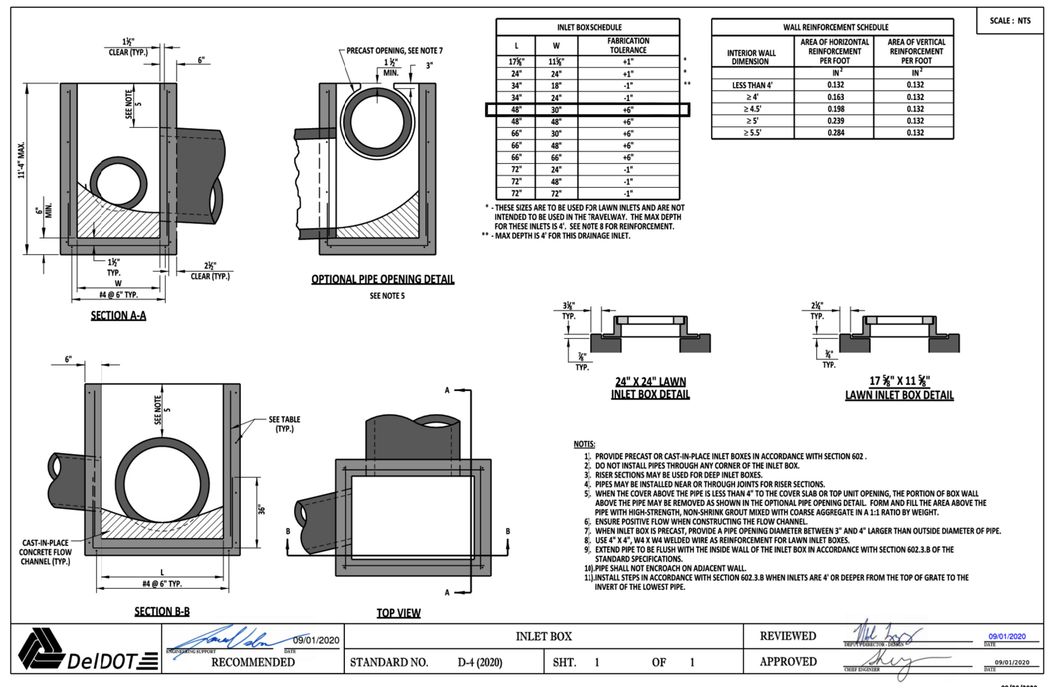
SCALE : NTS



INLET BOX SCHEDULE		
L	W	FABRICATION TOLERANCE
17⅜"	11⅜"	+1"
24"	24"	+1" *
34"	22"	-1" *
34"	24"	-1"
48"	30"	+6" **
48"	48"	+6" **
66"	30"	+6" **
66"	48"	+6" **
66"	66"	+6" **
72"	24"	-1" **
72"	48"	-1" **
72"	72"	-1" **

* - THESE SIZES ARE TO BE USED FOR LAWN INLETS AND ARE NOT INTENDED TO BE USED IN THE "RAVELWAY. THE MAX DEPTH FOR THESE INLETS IS 4'. SEE NOTE 8 FOR REINFORCEMENT.
** - MAX DEPTH IS 4' FOR THIS DRAINAGE INLET.

WALL REINFORCEMENT SCHEDULE		
INTERIOR WALL DIMENSION	AREA OF HORIZONTAL REINFORCEMENT PER FOOT IN²	AREA OF VERTICAL REINFORCEMENT PER FOOT IN²
LESS THAN 4'	0.132	0.132
≥ 4'	0.153	0.132
≥ 4.5'	0.198	0.132
≥ 5'	0.239	0.132
≥ 5.5'	0.284	0.132

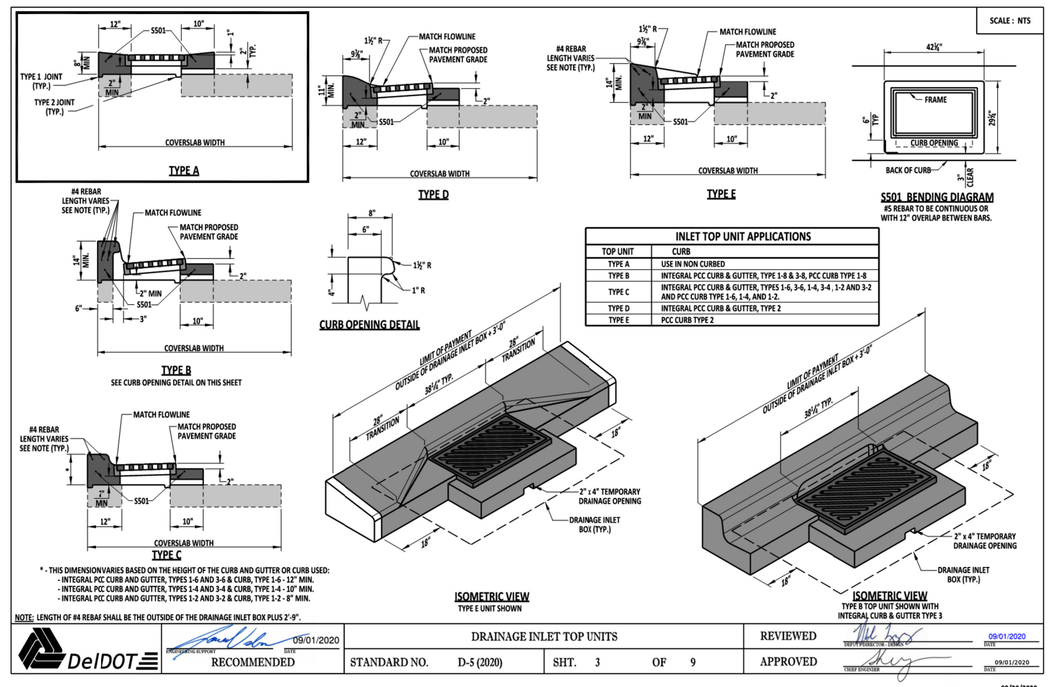
DelDOT							
	09/01/2020	INLET BOX				REVIEWED	09/01/2020
	RECOMMENDED	STANDARD NO.	D-4 (2020)	SHT. 1	OF 1	APPROVED	09/01/2020

08/20/2020

3 SP-7 **CB-5 INLET BOX DETAIL**

SCALE: NTS

SCALE : NTS



INLET TOP UNIT APPLICATIONS	
TOP UNIT	CURB
TYPE A	USE IN NON CURBED
TYPE B	INTEGRAL PCC CURB & GUTTER, TYPE 1-6 & 1-6, PCC CURB TYPE 1-6
TYPE C	INTEGRAL PCC CURB & GUTTER, TYPES 1-6, 3-6, 1-6, 3-6, 3-4, 3-4 , 1-2 AND 3-2 AND PCC CURB TYPE 1-6, 3-6, AND 1-2.
TYPE D	INTEGRAL PCC CURB & GUTTER, TYPE 2
TYPE E	PCC CURB TYPE 2

* - THIS DIMENSION VARIES BASED ON THE HEIGHT OF THE CURB AND GUTTER OR CURB USED:
- INTEGRAL PCC CURB AND GUTTER, TYPES 1-6 AND 3-6 & CURB, TYPE 1-6 - 12" MIN.
- INTEGRAL PCC CURB AND GUTTER, TYPES 1-6 AND 3-6 & CURB, TYPE 3-6 - 18" MIN.
- INTEGRAL PCC CURB AND GUTTER, TYPES 1-2 AND 3-2 & CURB, TYPE 1-2 - 9" MIN.

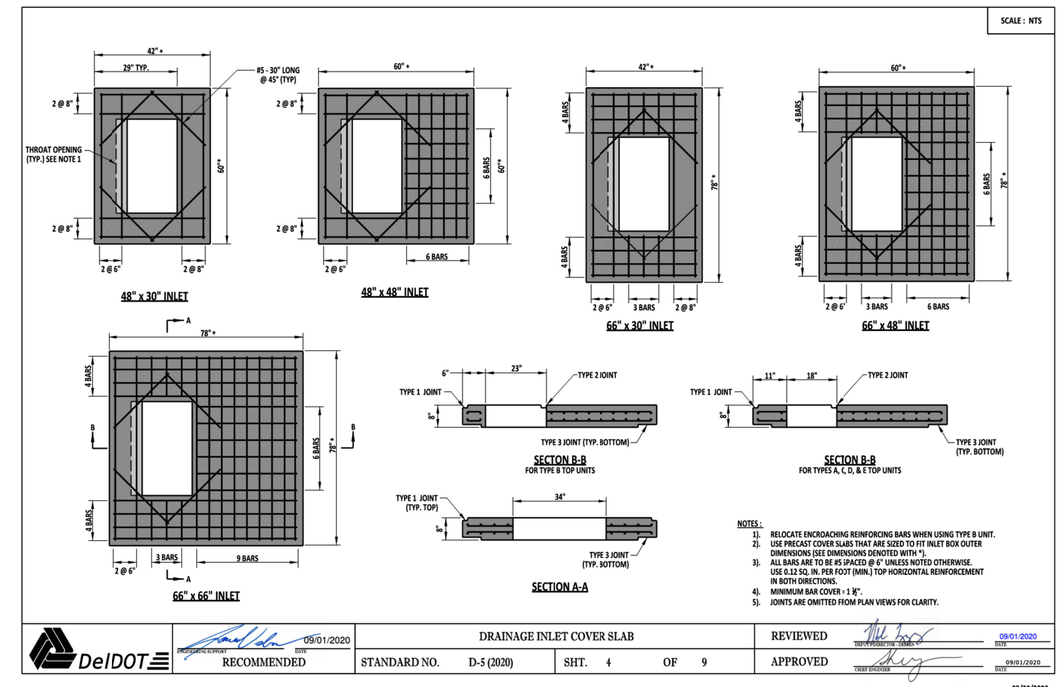
DelDOT							
	09/01/2020	DRAINAGE INLET TOP UNITS				REVIEWED	09/01/2020
	RECOMMENDED	STANDARD NO.	D-5 (2020)	SHT. 3	OF 9	APPROVED	09/01/2020

08/20/2020

4 SP-7 **CB-5 DRAINAGE INLET TOP UNIT DETAIL**

SCALE: NTS

SCALE : NTS



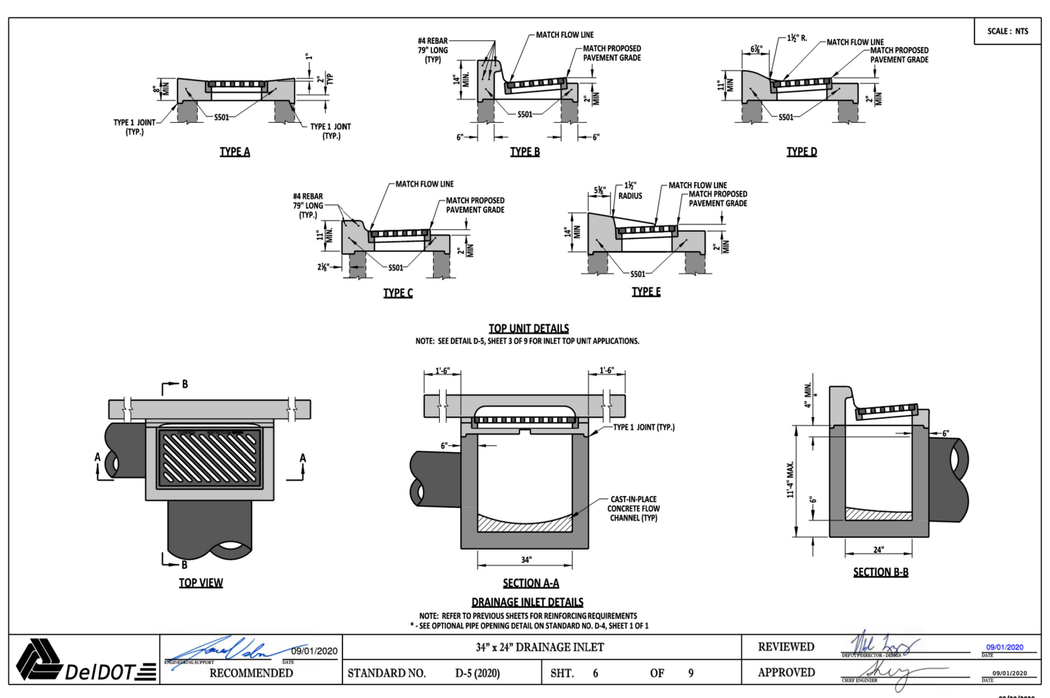
DelDOT							
	09/01/2020	DRAINAGE INLET COVER SLAB				REVIEWED	09/01/2020
	RECOMMENDED	STANDARD NO.	D-5 (2020)	SHT. 4	OF 9	APPROVED	09/01/2020

08/20/2020

5 SP-7 **CB-5 DRAINAGE INLET COVER SLAB DETAIL**

SCALE: NTS

SCALE : NTS



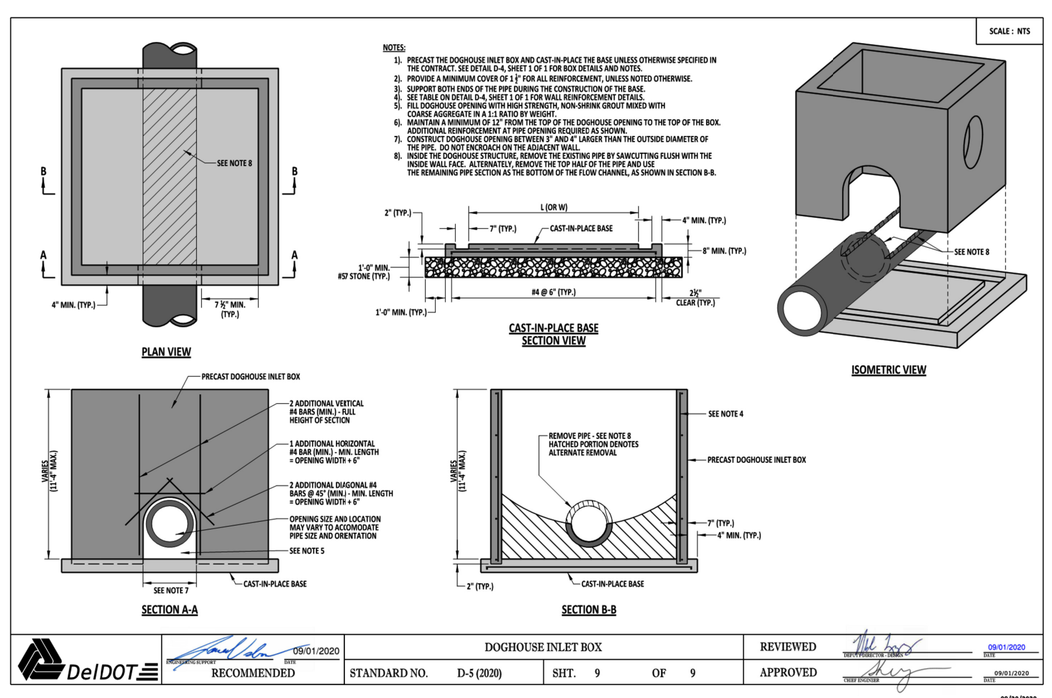
DelDOT							
	09/01/2020	34" x 24" DRAINAGE INLET				REVIEWED	09/01/2020
	RECOMMENDED	STANDARD NO.	D-5 (2020)	SHT. 6	OF 9	APPROVED	09/01/2020

08/20/2020

6 SP-7 **CB-6, CB-7, CB-8 & CB-9. 34"x24" DRAINAGE INLET DETAIL**

SCALE: NTS

SCALE : NTS



DelDOT							
	09/01/2020	DOGHOUSE INLET BOX				REVIEWED	09/01/2020
	RECOMMENDED	STANDARD NO.	D-5 (2020)	SHT. 9	OF 9	APPROVED	09/01/2020

08/20/2020

7 SP-7 **CB-5 DOGHOUSE INLET BOX DETAIL**

SCALE: NTS

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PHASE II PIPE PROFILES

2020 DISTRIBUTION CENTER EXPANSION

DELMAR, DELAWARE

SEDIMENT & STORMWATER PROGRAM
TAX MAP 5-32-13.00-63.04
BUNTINGS BRANCH (WATERSHED)
BALTIMORE HUNDRED - SUSSEX COUNTY

SCALE	AS SHOWN
DRAWN	EFT
PROJ.MGR.	LSB
JOB	200212
SHEET	SP-7

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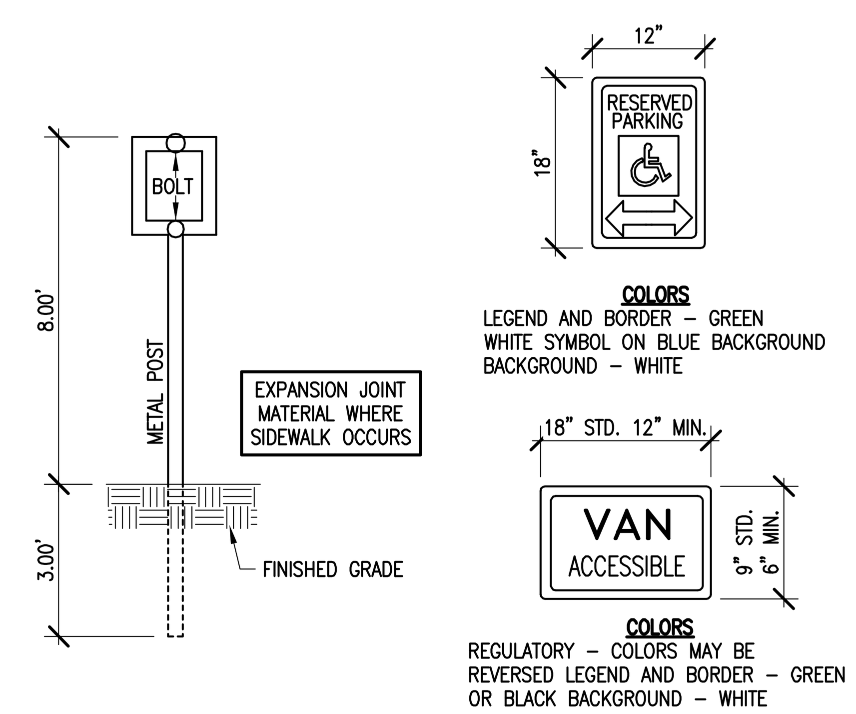
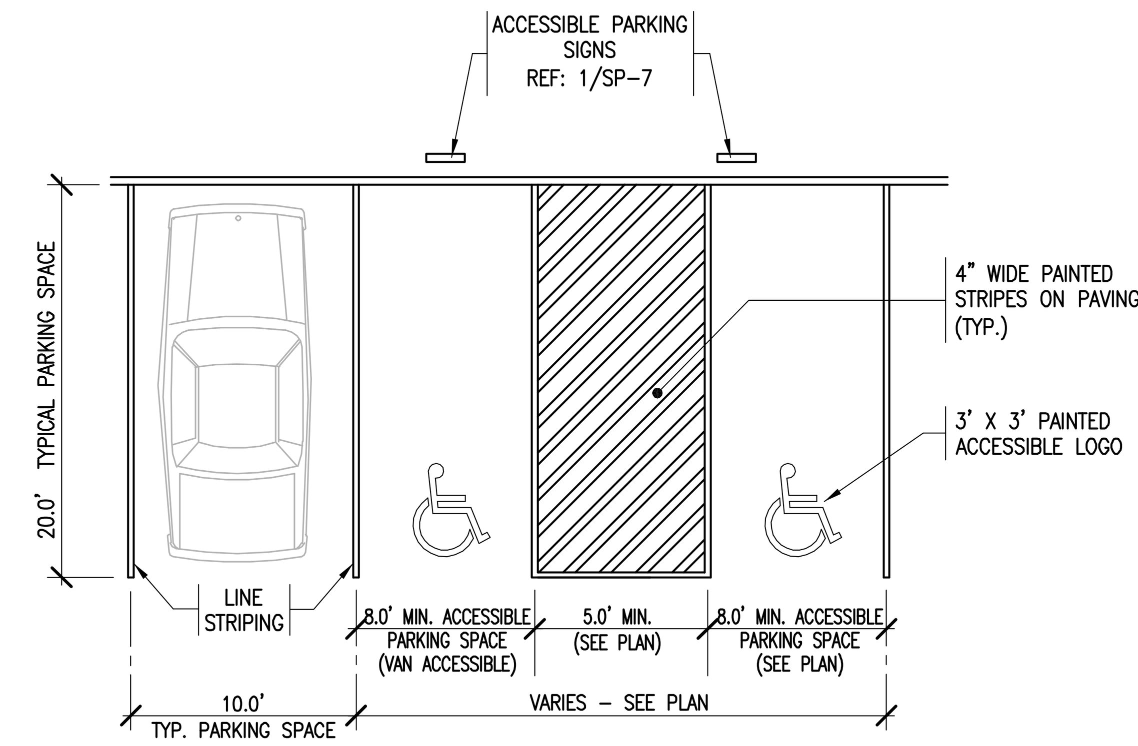
GENERAL NOTES – SITEWORK

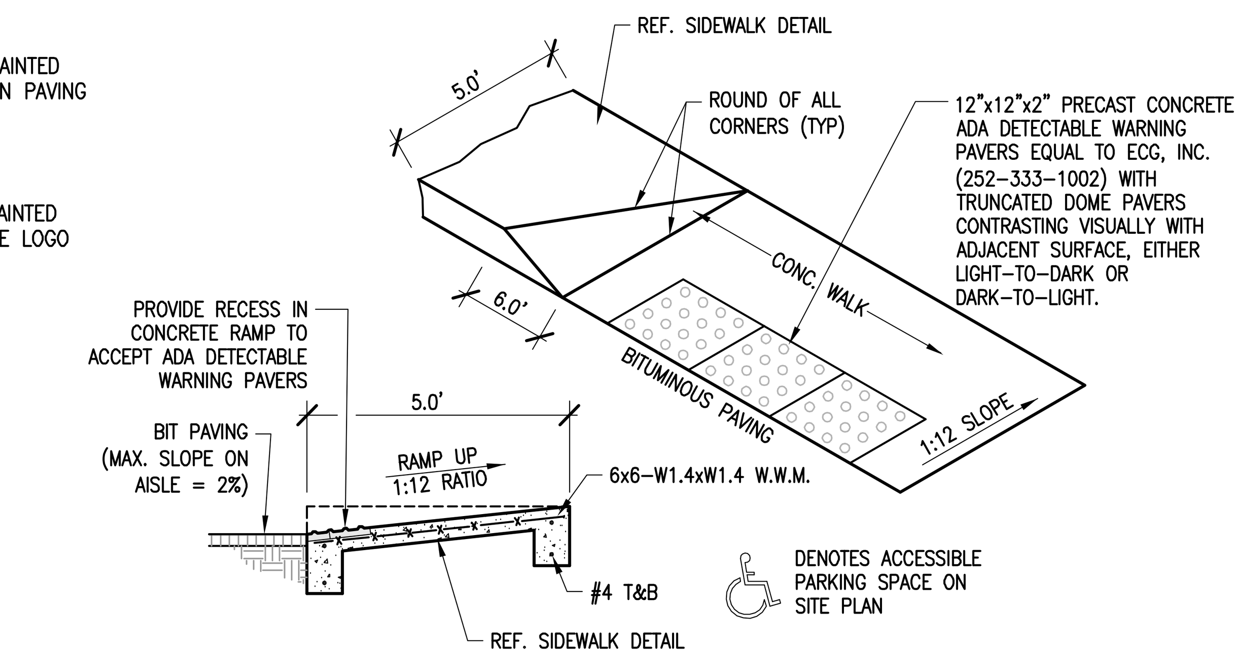
1. THE CONTRACTOR SHALL VERIFY THE LOCATION AND INVERT ELEVATION OF ALL UNDERGROUND UTILITIES, AND VERIFY PROPERTY CORNERS AND TOPO BEFORE ANY CONSTRUCTION IS BEGUN. CALL UTILITY COMPANIES BEFORE EXCAVATION TO LOCATE ALL BURIED CABLES AND UNDERGROUND UTILITIES.
2. THE CONTRACTOR SHOULD NOTIFY THE ENGINEERS FOR A REVIEW SHOULD DISCREPANCIES BE DISCOVERED AT THE SITE OR ON THE DRAWINGS BEFORE AND DURING CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE BETWEEN ALL CIVIL DRAWINGS WITH GRADING AND UTILITY CONTRACTORS IN ORDER TO AVOID PROBLEMS DURING CONSTRUCTION.
3. CONTRACTOR TO SCHEDULE A PRECONSTRUCTION MEETING WITH ALL UTILITY COMPANIES PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE ENGINEER AND UTILITY COMPANIES DURING CONSTRUCTION OF WATER AND SEWER SO PERIODIC OBSERVATIONS CAN BE MADE. CONTRACTOR WILL CERTIFY TO THE ENGINEER IN WRITING THAT WATER AND SEWER LINES HAVE BEEN TESTED AND CONSTRUCTED ACCORDING TO THE ENGINEER'S AND UTILITY COMPANY'S DRAWINGS AND SPECIFICATIONS.
4. ALL DIMENSIONS SHOWN ARE MEASURED FROM OUTSIDE FACE OF BUILDING WALL AND TO FACE OF CURB LINE.
5. EARTHWORK SHALL BE TO THE LINES AND GRADES SHOWN. PROOF ROLLING AND COMPACTION TEST SHALL BE ACCOMPLISHED IN THE FIELD TO TEST ALL AREAS. THE CONTRACTOR SHALL RETAIN THE SERVICES OF A TESTING COMPANY TO TEST ALL AREAS.
6. CONTRACTOR SHALL PROTECT ALL TREES THAT ARE TO REMAIN AS SHOWN ON THE DRAWINGS.
7. THE GRADING CONTRACTOR SHALL PROOF–ROLL THE CONSTRUCTION AREA WITH A FULLY–LOADED TANDEM–AXLE DUMP TRUCK, OR APPROVED EQUAL, BY MAKING 2 COMPLETE PASSES IN EACH OF 2 PERPENDICULAR DIRECTIONS. ALL SOFT SPOTS SHALL BE UNDERCUT AND RE–COMPACTED WITH SUITABLE STRUCTURAL FILL MATERIAL.
8. THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND WILL NOT BE LIMITED TO NORMAL WORKING HOURS. THE DUTY OF THE ENGINEER TO CONDUCT CONSTRUCTION REVIEW OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES, IN, ON, OR NEAR THE CONSTRUCTION SITE. THE CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING AND MAINTAINING ALL BARRICADES, WARNING SIGNS, FLASHING LIGHTS, AND TRAFFIC CONTROL DEVICES DURING CONSTRUCTION. THE CONTRACTOR IS TO COMPLY WILL ALL OSHA REGULATIONS, REQUIREMENTS, AND SAFETY MEETING REQUIREMENTS.
9. ALL NEW ELEVATIONS SHOWN ARE FINISH GRADE ELEVATION. THE GRADING CONTRACTOR SHALL DEDUCT THE FOLLOWING FOR SUBGRADE ELEVATION: ROAD PAVEMENT – 12"; SIDEWALKS – 4"; TURF AREA – 4".
10. THE CONTRACTOR SHALL REMOVE ALL TREES AND VEGETATION THAT INTERFERE WITH NEW CONSTRUCTION. REMOVE DEBRIS FROM SITE OR BURN IN ACCORDANCE WITH LOCAL LAWS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING NECESSARY BURNING PERMITS. PROTECT ALL TREES THAT ARE TO REMAIN.
11. TOPSOIL SHALL BE STRIPPED TO A DEPTH AS REQUIRED AND STOCKPILED AS DIRECTED BY THE OWNER'S REPRESENTATIVE.
12. THE TOP 18" OF FILL SHALL BE COMPACTED TO 98 DENSITY BY THE STANDARD PROCTOR METHOD ASTM D–698. ALL OTHER FILL SHALL BE COMPACTED TO 95% MAXIMUM DRY DENSITY.
13. ALL EXCAVATION SHALL BE "CLASSIFIED EXCAVATION". EXCAVATION SHALL BE "CLASSIFIED" AS "COMMON EXCAVATION" OR "ROCK EXCAVATION". ROCK EXCAVATION SHALL BE SUCH MATERIAL, WHICH CANNOT BE REMOVED BY MEANS OTHER THAN BY BLASTING OR WITH AN AIR HAMMER. COMMON EXCAVATION SHALL INCLUDE ALL MATERIALS THAT CAN BE RIPPED, BOULDERS, AND ALL OTHER MATERIALS THAT DO NOT FALL IN THE CATEGORY OF ROCK EXCAVATION AS DEFINED ABOVE.
14. THE CLASSIFICATION OF SOILS INCLUDE: TOPSOIL, FILL MATERIAL, UNSUITABLE MATERIAL, AND ROCK EXCAVATION. THE CLASSIFICATION OF SOILS IS THE RESPONSIBILITY OF THE OWNER'S SOIL TESTING FIRM.
15. ALL FILL MATERIAL SHALL BE FROM A SOURCE APPROVED BY THE TESTING COMPANY AND SHALL BE FREE OF ROOTS, ORGANICS AND BOULDERS LARGER THAN 1 CUBIC FOOT. FILL SHALL BE PLACED IN 8" LIFTS AND COMPACTED AS SPECIFIED.
16. ALL EXISTING SLOPES STEEPER THAN 4:1 THAT WILL RECEIVE FILL SHALL BE PLOWED AND SCARIFIED SO NEW FILL WILL BOND WITH EXISTING SURFACE.
17. CONTRACTOR SHALL SCARIFY ALL EXISTING ASPHALT PAVEMENT BEFORE PLACING FILL, UNLESS OVERLAYING ASPHALT ONTO EXISTING ASPHALT.
18. THE GRADING CONTRACTOR SHALL CONFORM TO ELEVATIONS AND DIMENSIONS SHOWN WITHIN A TOLERANCE OF PLUS OR MINUS 0.10 FEET. (FINAL GRADED SURFACE UNDER BUILDING SLABS SHALL BE WITHIN A TOLERANCE OF 3/8" WHEN MEASURED WITH A 10' STRAIGHT EDGE).
19. ALL REINFORCED CONCRETE PIPE (RCP) SHALL BE CLASS III, UNLESS NOTED ON DRAWINGS WITH BELL & SPIGOT ENDS AND SHALL CONFORM TO ALL REQUIREMENTS OF ASTM C 76, LATEST EDITION, INSTALLED WITH FLEXIBLE PLASTIC (BITUMEN) GASKETS AT ALL JOINTS. GASKETS SHALL COMPLY WITH AASHTO M–198 751, TYPE B, AND SHALL BE INSTALLED IN STRICT ACCORDANCE WITH PIPE MANUFACTURER'S RECOMMENDATIONS.
20. ALL CORRUGATED PLASTIC PIPE SHALL MEET THE REQUIREMENTS OF AASHTO M–294, TYPE S, SHALL BE SMOOTH INTERIOR WITH ANNULAR CORRUGATED EXTERIOR. HI–Q SURE–LOCK 10.8 PIPE, ADS, N–12, OR APPROVED EQUAL. ALL JOINTS SHALL BE BELL AND SPIGOT AND SHALL MEET THE REQUIREMENTS OF AASHTO M–294, SHALL BE WATERTIGHT, MEETING THE REQUIREMENTS OF ASTM D 3212. THE GASKETS SHALL BE MADE OF RUBBER MEETING THE REQUIREMENTS OF ASTM F 477. INSTALLATION SHALL CONFORM TO AASSTHO M–294, ASTM D–2321, AND MANUFACTURERS INSTALLATION PROCEDURES.
21. ANY REINFORCED CONCRETE PIPE WITH MORE THAN 15 FOOT OF COVER SHALL BE CLASS IV WITH O–RING JOINTS.
22. ALL STORM PIPE LENGTH AND ELEVATIONS (TOPS AND INVERTS) OF STORM DRAINAGE STRUCTURES SHOWN ON THE DRAWINGS ARE APPROXIMATE. CONTRACTOR MAY HAVE TO FIELD ADJUST AS NECESSARY DURING CONSTRUCTION.
23. ANY REINFORCED CONCRETE PIPE STEEPER THAN 10 PERCENT MUST HAVE CONCRETE COLLARS. CORRUGATED METAL PIPE WITH HUGGER BANDS MAY BE SUBSTITUTED. THE NUMBER OF CONCRETE COLLARS AND TYPE OF STORM PIPE WILL BE DETERMINED TOGETHER BY THE CONTRACTOR AND THE ENGINEER.
24. ALL CORRUGATED STEEL PIPE SHALL BE GALVANIZED AND BITUMINOUS COATED INSIDE AND OUT MEETING AASHTO M–36 AND M–190, 16 GAUGE FOR SIZES 24" SMALLER AND 14 GAUGE FOR SIZES 30" AND LARGER. ALL CONNECTIONS SHALL BE MADE USING HUGGER BAND WITH O–RING GASKETS. OR ALL CORRUGATED STEEL PIPE SHALL BE TYPE 2, ALUMINIZED STEEL PIPE, MEETING AASHTO M–274, 16 GAUGE FOR SIZES 24" AND SMALLER AND 14 GAUGE FOR SIZES 30" AND LARGER. ALL CONNECTIONS SHALL BE HUGGER BAND WITH O–RING GASKETS.
25. ALL SANITARY SEWER WORK SHALL BE CONSTRUCTED TO LINES AND GRADES SHOWN AND AS DETAILED ON THE DRAWINGS. ALL MANHOLE TOP ELEVATIONS ON CIVIL DRAWINGS ARE APPROXIMATE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT ALL MANHOLE TOPS ARE FLUSH WITH PAVEMENT THROUGHOUT THE PROJECT.
26. THE CONTRACTOR SHALL PROVIDE STANDARD CLEAN–OUTS OR MANHOLES AT ALL BENDS AND CHANGES IN GRADE IN SEWER LINES AND CONNECTIONS TO EXISTING SEWER LINES. PIPE BEDDING AND BACKFILL SHALL BE CAREFULLY CONTROLLED. ALL SANITARY SEWER WORK SHALL COMPLY WITH LOCAL CODES AND ORDINANCES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING WITH THE LOCAL AND STATE SEWER APPROVAL AUTHORITIES TO INSURE THAT ALL MATERIALS, INSTALLATION, TESTING, AND AS–BUILT DRAWING REQUIREMENTS WILL BE TO THE SATISFACTION OF THE LOCAL AND STATE AUTHORITIES.
27. ALL WATER LINES SHALL BE INSTALLED AS SHOWN ON THE DRAWINGS. ALL PIPES, VALVES, AND FITTINGS SHALL COMPLY WITH AWWA STANDARDS, ALL LOCAL AND STATE CODES AND ORDINANCES. PIPE BEDDING AND BACKFILL SHALL BE CAREFULLY CONTROLLED. WATER LINES SHALL BE PRESSURE TESTED, AND DISINFECTED AS REQUIRED. ALL NECESSARY AS–BUILTS SHALL BE ACCOMPLISHED TO THE SATISFACTION OF THE LOCAL AUTHORITY.
28. ALL UTILITY TRENCHES SHALL BE THOROUGHLY COMPACTED AND TESTED TO PREVENT SETTLEMENT AND DAMAGE TO FUTURE PAVEMENT AND STRUCTURES.
29. ALL AREAS NOT COVERED BY PAVEMENT SHALL RECEIVE TOPSOIL AND BE GRASSED IN ACCORDANCE WITH STATE SPECIFICATIONS (OR GRASSED IN ACCORDANCE WITH OWNER'S SPECIFICATIONS).
30. THE GRADING CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE AT ALL TIMES. CONTRACTOR SHALL BRING TO THE ATTENTION OF THE ENGINEER ANY AREAS THAT MAY NOT DRAIN PROPERLY DURING CONSTRUCTION.
31. GRADING CONTRACTOR SHALL INCLUDE IN COST ALL CUT/FILL NECESSARY FOR EARTHWORK BALANCE. CONTRACTOR SHALL INCLUDE IN COST ALL WETTING/DRYING OF SOILS NECESSARY TO ACHIEVE COMPACTION PER SPECIFICATIONS.
32. THE SEQUENCE OF WORK SHALL CONFORM TO THE EROSION CONTROL NARRATIVE.
33. THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE WHEN INSTRUCTIONS FROM REGULATORY AGENCIES ARE RECEIVED AND COMPLY WITH INSTRUCTIONS AS DIRECTED BY THE OWNER'S REPRESENTATIVE.
34. THE CONTRACTOR SHALL CAREFULLY STUDY AND COMPARE THE CONSTRUCTION DOCUMENTS AND SHALL AT ONCE REPORT TO THE ENGINEER ANY INCONSISTENCIES OR OMISSIONS DISCOVERED. THE CONTRACTOR SHALL TAKE FIELD MEASUREMENTS TO VERIFY THAT ALL LOCATIONS ARE CORRECT PRIOR TO COMMENCING CONSTRUCTION.
35. THE CONTRACTOR SHALL NOT PERFORM ANY WORK ON ANY UTILITIES OR IN ANY PUBLIC RIGHT–OF–WAYS UNTIL HE HAS OBTAINED COPIES OF ALL NECESSARY ENCROACHMENT AND CONSTRUCTION PERMITS.
36. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RELOCATING ANY EXISTING UTILITIES NECESSARY FOR SITE CONSTRUCTION INCLUDING ALL PERMITS AND FEES.
37. THE CONTRACTOR SHALL VERIFY BENCH MARK LOCATION AND ELEVATION WITH SURVEYOR BEFORE BEGINNING CONSTRUCTION.
38. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL EASEMENTS ON THE SITE BEFORE PROCEEDING WITH CONSTRUCTION.
39. IN THE CASE OF A CONFLICT IN SPECIFICATIONS, NOTES, OR DETAILS, THE STRICTER SHALL GOVERN.
40. AREAS NOTED FOR TOPSOIL STORAGE ARE TO BE USED FOR TOPSOIL AND FILL STORAGE. THESE MATERIALS SHALL BE SEPARATED.
41. ANY MOISTURE CONTROL AT THE SITE INCLUDING DUST CONTROL, WETTING/DRYING SOILS, PUMPING OF GROUNDWATER OUT FOR PONDS/UTILITY TRENCHES IS THE RESPONSIBILITY OF THE CONTRACTOR.



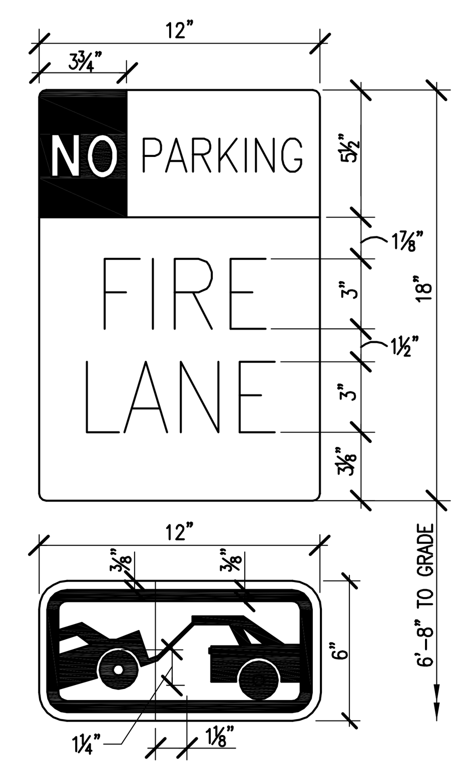
1 SP-8 ACCESSIBLE SIGN & MOUNTING POST DETAIL
SCALE: N.T.S.



2 SP-8 ACCESSIBLE PARKING SPACES DETAIL
SCALE: N.T.S.



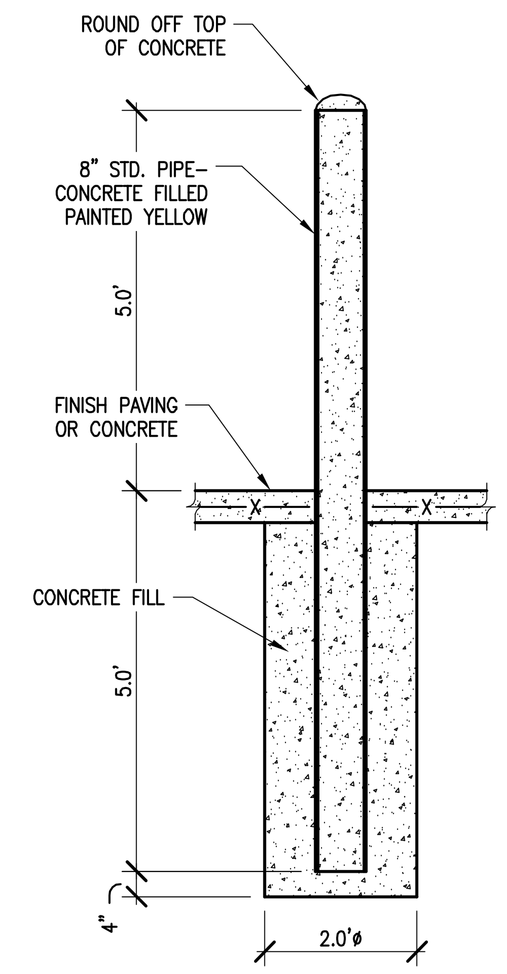
3 SP-8 ACCESSIBLE RAMP CONCRETE SIDEWALK DETAIL
SCALE: N.T.S.



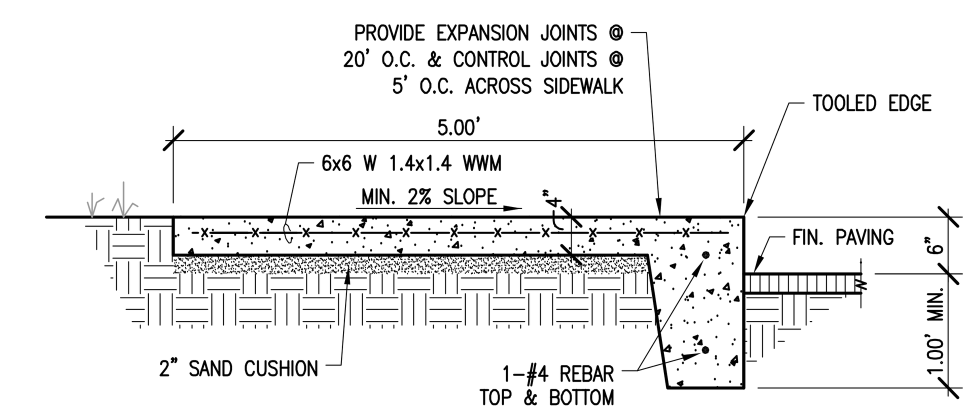
NOTES:

1. SIGNS TO BE SPACED A MAXIMUM OF 150 FEET APART.
2. MOUNT SIGN ON STEEL POST 6'-8" ABOVE GRADE.
3. FIRE LANES:
   - PROVIDE 4" PAINTED YELLOW DEMARCATION LINES PER PLANS & DE SFPR.
   - FIRE LANE DEMARCATION SHOWN IN AREAS OF CHANGE DUE TO BUILDING EXPANSION.
   - FIRE LANES IN ALL OTHER AREAS TO REMAIN THE SAME.

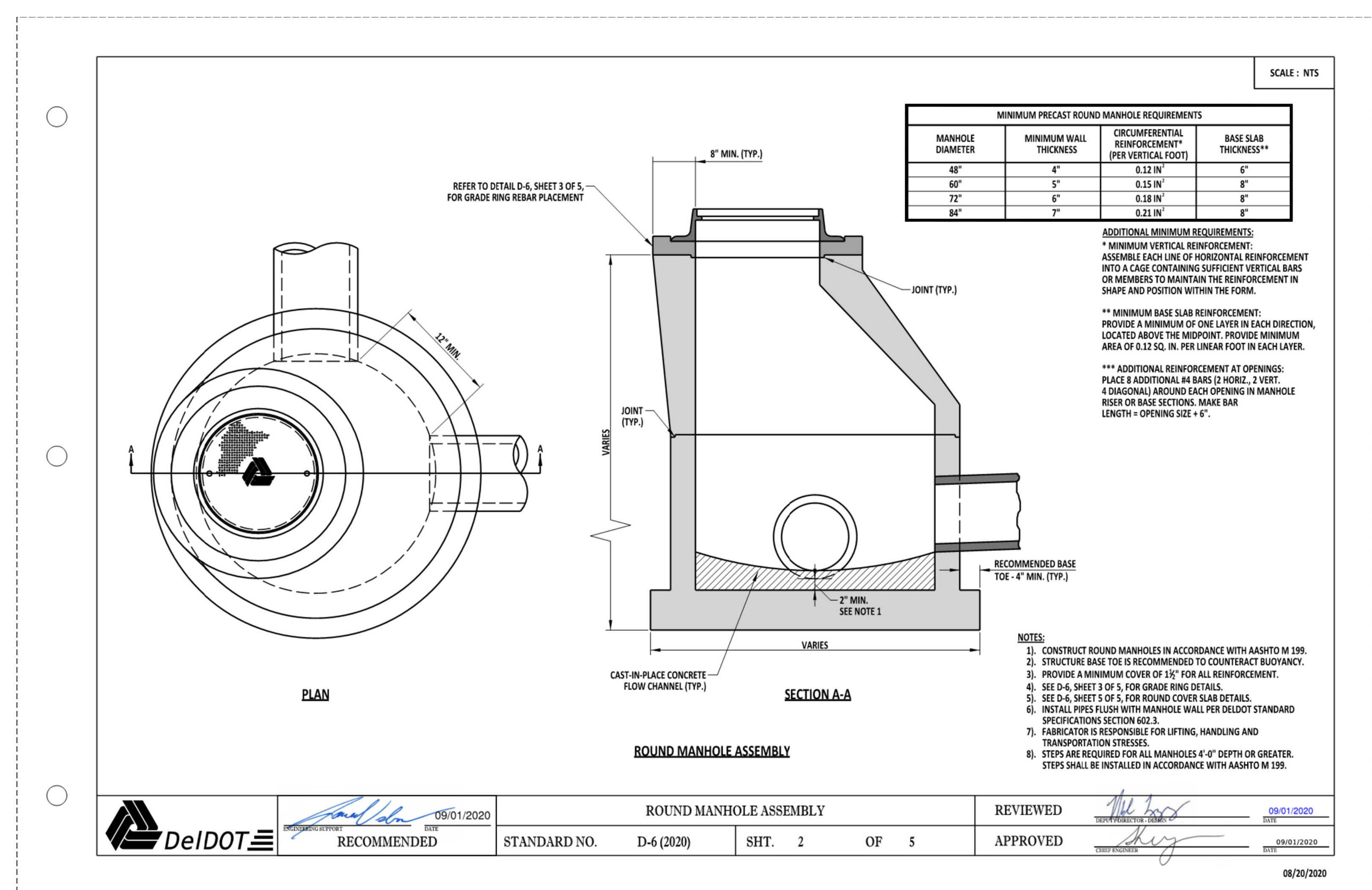
4 SP-8 SIGN FOR MARKING FIRE LANES
SCALE: N.T.S.



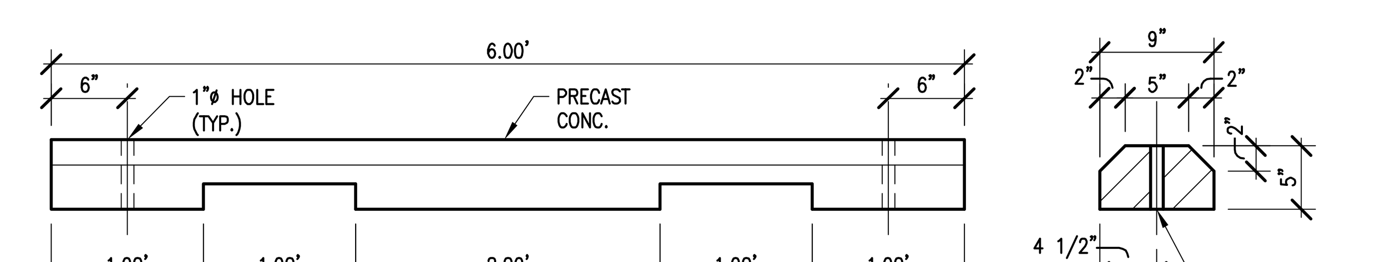
5 SP-8 EXTERIOR PIPE BOLLARD DETAIL
SCALE: ½" = 1'-0"



6 SP-8 SIDEWALK DETAIL
SCALE: N.T.S.



7 SP-8 48" MANHOLE SECTION
SCALE: 3/4" = 1'-0"



8 SP-8 PARKING BUMPER DETAIL
SCALE: 1"=1'-0"

JAMES E. SMITH REGISTERED PROFESSIONAL ENGINEER DELAWARE No. 12256
08 FEB 2021

SEDIMENT & STORMWATER PROGRAM
TAX MAP 5-32-13.00-63.04
BUNTINGS BRANCH (WATERSHED)
BALTIMORE HUNDRED – SUSSEX COUNTY

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DATE	BY	DESCRIPTION	REV
13 NOV 20	HJR	PERMIT REVIEW	
08 FEB 21	EFT	PERMIT REVIEW – COMMENT REVISIONS	

AWB ENGINEERS
ENGINEERS/ARCHITECTS
1942 NORTHWOOD DRIVE SALISBURY, MARYLAND 21801-7824
PH. (410) 742-7299 FAX. (410) 742-0273

FURNITURELAND

SITE NOTES & DETAILS
2020 DISTRIBUTION CENTER EXPANSION
DELMAR, DELAWARE

SCALE: AS SHOWN
DRAWN: HJR
PROJ.MGR.: LSB
JOB: 200212
SHEET: SP-8

SEDIMENT CONTROL NOTES

ALL EROSION AND SEDIMENT CONTROLS MEASURES MUST BE IN PLACE BEFORE ANY EARTHMOVING OPERATIONS MAY START. THE ABOVE SCHEDULE IS AN ENGINEER'S ESTIMATE AND MAY VARY DUE TO THE ELEMENTS, ETC.

ONCE PERVIOUS CONCRETE IS INSTALLED MEASURES SHOULD BE TAKEN TO KEEP TRAFFIC AND SEDIMENTS AWAY FROM PERVIOUS CONCRETE UNTIL AFTER FINAL STABILIZATION.

PRIOR TO COMMENCING A NEW PHASE OF CONSTRUCTION, THE CONTRACTOR SHALL RECEIVE APPROVAL FROM THE AGENCY CONSTRUCTION SITE REVIEWER THAT THE PREVIOUS PHASE HAS BEEN SUFFICIENTLY STABILIZED.

ALL PERIMETER CONTROLS ARE TO BE REVIEWED BY THE AGENCY CONSTRUCTION SITE REVIEWER AND APPROVED PRIOR TO PROCEEDING WITH FURTHER SITE DISTURBANCE OR CONSTRUCTION.

NOTIFY THE PERSON RESPONSIBLE FOR STORMWATER SYSTEM CONSTRUCTION REVIEW AT LEAST 3 DAYS PRIOR TO THE START OF THE STORMWATER SYSTEM CONSTRUCTION; STORMWATER FACILITIES MUST BU REVIEWED THROUGHOUT THEIR CONSTRUCTION.

REVIEW AND/OR APPROVAL OF THE SEDIMENT AND STORMWATER MANAGEMENT PLAN SHALL NOT RELIEVE THE CONTRACTOR FROM HIS OR HER RESPONSIBILITIES FOR COMPLIANCE WITH THE REQUIREMENTS OF THE DELAWARE SEDIMENT AND STORMWATER REGULATIONS, NOR SHALL IT RELIEVE THE CONTRACTOR FROM ERRORS OR OMISSIONS IN THE APPROVED PLAN.

IF THE APPROVED PLAN NEEDS TO BE MODIFIED, ADDITIONAL SEDIMENT AND STORMWATER CONTROL MEASURES MAY BE REQUIRED AS DEEMED NECESSARY BY DNREC OR THE DELEGATED AGENCY.

FOLLOWING SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED FOR ALL PERIMETER SEDIMENT CONTROLS, SOIL STOCKPILES, AND ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE WITHIN 14 CALENDAR DAYS UNLESS MORE RESTRICTIVE FEDERAL REQUIREMENTS APPLY.

ALL EROSION AND SEDIMENT CONTROL PRACTICES SHALL COMPLY WITH THE DELAWARE EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION.

AT ANY TIME A DEWATERING OPERATION IS USED, IT SHALL BE PREVIOUSLY APPROVED BY THE AGENCY CONSTRUCTION SITE REVIEWER FOR A NON-EROSIVE
POINT OF DISCHARGE, AND A DEWATERING PERMIT SHOULD BE APPROVED BY THE DNREC WELL PERMITTING BRANCH.

THE TERMINATION OF THE CONSTRUCTION GENERAL PERMIT WILL REQUIRE SUBMISSION AND ACCEPTANCE OF THE POST CONSTRUCTION VERIFICATION DOCUMENTS, INCLUDING FINAL STABILIZATION THROUGHOUT THE SITE, ALL ELEMENTS OF THE SEDIMENT AND STORMWATER MANAGEMENT PLAN IMPLEMENTED, AND ACCEPTANCE OF THE FINAL OPERATION AND MAINTENANCE PLAN.

APPROVAL OF A SEDIMENT AND STORMWATER MANAGEMENT PLAN DOES NOT GRANT OR IMPLY A RIGHT TO DISCHARGE STORMWATER RUNOFF. THE OWNER/DEVELOPER IS RESPONSIBLE FOR ACQUIRING ANY AND ALL AGREEMENTS, EASEMENTS, ETC., NECESSARY TO COMPLY WITH STATE DRAINAGE AND OTHER APPLICABLE LAWS.

THE CONTRACTOR SHALL AT ALL TIMES PROTECT AGAINST SEDIMENT OR DEBRIS LADEN RUNOFF OR WIND FROM LEAVING THE SITE. PERIMETER CONTROLS SHALL BE CHECKED DAILY AND ADJUSTED OR REPAIRED TO FULLY CONTAIN AND CONTROL SEDIMENT FROM LEAVING THE SITE. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT HAS REACHED HALF OF THE EFFECTIVE CAPACITY OF THE CONTROL. IN ADDITION, THE CONTRACTOR MAY NEED TO ADJUST OR ALTER MEASURES IN TIMES OF ADVERSE WEATHER CONDITIONS, OR AS DIRECTED BY THE AGENCY CONSTRUCTION SITE REVIEWER.

BEST AVAILABLE TECHNOLOGY (BAT) SHALL BE EMPLOYED TO MANAGE TURBID DISCHARGES IN ACCORDANCE WITH REQUIREMENTS OF 7. DEL C. CH 60, REGULATIONS GOVERNING THE CONTROL OF WATER POLLUTION, SECTION 9.1.02, KNOWN AS SPECIAL CONDITIONS FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES, AND DNREC POLICIES, PROCEDURES, AND GUIDANCE.

THE SUSSEX CONSERVATION DISTRICT RESERVES THE RIGHT TO ENTER PRIVATE PROPERTY FOR PURPOSES OF PERIODIC SITE INSPECTION.

THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN AND REPAIR ALL EROSION AND SEDIMENT CONTROL AND STORMWATER MANAGEMENT PRACTICES DURING CONSTRUCTION.

OWNER SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL STORMWATER MANAGEMENT FACILITIES AFTER ALL CONSTRUCTION ACTIVITIES ARE COMPLETE.

APPROVED PLANS REMAIN VALID FOR 5 YEARS FROM THE DATE OF AN APPROVAL.

AS-BUILT SURVEYS AND DRAWINGS ARE TO BE SUBMITTED TO THE DISTRICT WITHIN 60 DAYS OF STORMWATER MANAGEMENT FACILITY COMPLETION.

APPROVAL OF A SEDIMENT AND STORMWATER PLAN DOES NOT GRANT OR IMPLY A RIGHT TO DISCHARGE STORMWATER RUNOFF. THE OWNER/DEVELOPER IS RESPONSIBLE FOR ACQUIRING ANY AND ALL AGREEMENTS, EASEMENTS, ETC., NECESSARY TO COMPLY WITH STATE DRAINAGE AND OTHER APPLICABLE LAWS.

ALL EROSION AND SEDIMENT CONTROLS MEASURES MUST BE IN PLACE BEFORE ANY EARTHMOVING OPERATIONS MAY START. ALL SEDIMENTS SHALL BE REMOVED FROM THE POND WHEN CONVERTING IT FROM A TEMPORARY SEDIMENT BASIN TO PERMANENT POND.

EROSION AND SEDIMENT CONTROL DEVICES TO BE REMOVED ONLY AFTER WORK IN AN AREA HAS BEEN COMPLETED AND STABILIZED, WITH WRITTEN APPROVAL FROM THE AGENCY CONSTRUCTION SITE REVIEWER.

THE SITE CONTRACTOR WILL SUBMIT A GEOTECHNICAL REPORT REGARDING POND EMBANKMENT CONSTRUCTION TO THE DISTRICT UPON COMPLETION.

STABILIZATION

FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, TEMPORARY OR PERMANENT STABILIZATION WITH SEED AND MULCH SHALL BE COMPLETED WITHIN 14 DAYS TO TECH SURFACE OF ALL DISTURBED AREAS NOT ACTIVELY UNDER CONSTRUCTION.

SPECIFIC STABILIZATION RECOMMENDATIONS MAY BE FOUND IN THE DELAWARE EROSION AND SEDIMENT CONTROL HANDBOOK 1989.

SWALES OR OTHER AREAS THAT TRANSPORT CONCENTRATED FLOW WILL BE STABILIZED WITH EROSION CONTROL MATTING OR SOD. DOWNSPOUTS WILL BE PROTECTED BY SPLASHBLOCKS, SOD OR OTHER MEANS OF ADEQUATE PROTECTION TO PREVENT EROSION.

TEMPORARY VEGETATION: ALL DISTURBED AREAS REQUIRING TEMPORARY VEGETATION SHALL BE SEEDED AS FOLLOWS:

SEED = RYEGRASS @ 1 LB./1,000 SQ.FT.
FERTILIZER = 10-10-10 @ 14 LBS./1,000 SQ.FT.
STRAW MULCH = @ 70-90 LBS./1,000 SQ.FT
LIME = @ 46 LBS./1,000 SQ.FT.

STRAW MULCH WITH ANCHORAGE AS REQUIRED BY ONE OF THE FOLLOWING METHODS:
MULCH ANCHORING TOOL, "TRACKING", OR LIQUID MULCH BINDERS, USING APPROVED PROCEDURES AND RATES. ASPHALT MULCH BINDER IS UNACCEPTABLE. A SYNTHETIC BINDER IS RECOMMENDED.

PERMANENT VEGETATION

AFTER ALL FINAL GRADING IS COMPLETE, ALL AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL BE SEEDED BY APPROVED METHODS. MINIMUM SEEDING SHALL BE AS FOLLOWS ON 4" MINIMUM TOP SOIL. CONTRACTOR MAY OBTAIN A SOIL TEST THRU THE COOP. EXTENSION SERVICE TO DETERMINE LIME & FERTILIZER REQUIRED IN LIEU OF THE BELOW RECOMMENDATIONS.

SEED = DELAWARE MIX NO. 7
TALL FESQUE 3.5#/1,000 SQ. FT.
KENTUCKY BLUEGRASS 0.46#/1,000 SQ. FT.
PERENNIAL RYEGRASS 0.46#/1,000 SQ. FT.
FERTILIZER = 10-10-10 @ 33 LBS./1,000 SQ.FT.
STRAW MULCH = @ 92 LBS./1,000 SQ.FT
LIME = @ 92 LBS./1,000 SQ.FT.

STRAW MULCH WITH ANCHORAGE AS REQUIRED BY ONE OF THE FOLLOWING METHODS:
MULCH ANCHORING TOOL, "TRACKING", OR LIQUID MULCH BINDERS, USING APPROVED PROCEDURES AND RATES. ASPHALT MULCH BINDER IS UNACCEPTABLE. A SYNTHETIC BINDER IS RECOMMENDED.

GRADING

INITIAL EARTH DISTURBANCE WILL BE LIMITED TO THAT AREA NECESSARY TO INSTALL SEDIMENT CONTROL MEASURES.

THE EXISTING DRIVEWAY OR ENTRANCE LOCATION SHALL BE USED AS THE STABILIZED CONSTRUCTION ENTRANCE. TWO INCH STONE SHALL BE PLACED 6 INCHES DEEP, FIFTY FEET LONG AND AS WIDE AS NECESSARY TO ACCOMMODATE ALL CONSTRUCTION VEHICLES.

AT ANY LOCATION WHERE SEDIMENT LADEN RUN-OFF MAY EXIT THE PROPERTY, PERIMETER CONTROLS WILL BE INSTALLED TO PREVENT SEDIMENT FROM BEING TRANSPORTED OFF-SITE.

ANY SEDIMENT TRANSPORTED OFF-SITE TO ROADS OR ROAD RIGHTS OF WAY INCLUDING DITCHES SHALL BE REMOVED. ANY DAMAGE TO DITCHES SHALL BE REPAIRED AND STABILIZED TO ORIGINAL CONDITION.

GRADING SHALL NOT IMPAIR SURFACE DRAINAGE, CREATE AN EROSION HAZARD OR CREATE A SOURCE OF SEDIMENT TO ANY ADJACENT WATERCOURSE OR PROPERTY OWNER.

LOCAL GRADING REQUIREMENTS MAN SUPPLEMENT THESE GRADING CONDITIONS.

PROPOSED SEQUENCE OF CONSTRUCTION PHASE I

NOTIFY THE DNREC SEDIMENT AND STORMWATER PROGRAM [OR RELEVANT DELEGATED AGENCY] IN WRITING AT LEAST FIVE (5) DAYS PRIOR TO START OF CONSTRUCTION. FAILURE TO DO SO CONSTITUTES A VIOLATION OF THE APPROVED SEDIMENT AND STORMWATER MANAGEMENT PLAN.

PRIOR TO ANY CLEARING, INSTALLATION OF SEDIMENT CONTROL MEASURES OR GRADING, A PRE-CONSTRUCTION MEETING SHALL BE SCHEDULED AND CONDUCTED WITH THE AGENCY CONSTRUCTION SITE REVIEWER. THE LANDOWNER/DEVELOPER, CONTRACTOR AND CERTIFIED CONSTRUCTION REVIEWER ARE REQUIRED TO BE IN ATTENDANCE AT THE PRE-CONSTRUCTION MEETING; THE DESIGNER IS RECOMMENDED TO ATTEND.

	START	COMPLETE
CLEARING AND GRUBBING AREAS USED AS PERIMETER CONTROLS	DAY 1	DAY 5
CONSTRUCTION OF PERIMETER CONTROLS. EXISTING EXTENDED DETENTION BASIN TO FUNCTION AS SEDIMENT BASIN WITH SKIMMER DEVICE INSTALLED AT LOW FLOW ORIFICE.	DAY 5	DAY 15
ROUGH GRADE AREA FOR BUILDING PAD.	DAY 5	DAY 20
INSTALL BUILDING PAD.	DAY 21	DAY 50
ROUGH GRADE TRUCK DOCK AND AREA OF PROPOSED CONCRETE AND ASPHALT. INSTALL TRENCH DRAIN AND CATCH BASIN. INSTALL STONE BASE.	DAY 50	DAY 65
CONSTRUCT BUILDING AND INSTALL UTILITIES.	DAY 65	DAY 150
INSTALL HEAVY PAVEMENT AND CONCRETE IN TRUCK DOCKS DRIVE AISLES.	DAY 150	DAY 170
PERMANENT VEGETATION	DAY 170	DAY 185
REMOVAL OF CONTROLS & STABILIZE ONCE APPROVED TO DO SO BY THE SUSSEX CONSERVATION DISTRICT	DAY 185	DAY 190

NOTE:

1. ALL EROSION AND SEDIMENT CONTROLS MEASURES MUST BE IN PLACE BEFORE ANY EARTHMOVING OPERATIONS MAY START. THE ABOVE SCHEDULE IS AN ENGINEER'S ESTIMATE AND MAY VARY DUE TO THE ELEMENTS, ETC.
2. THE EXISTING EXTENDED DETENTION BASIN WILL BE UTILIZED AS THE SEDIMENT BASIN. ONCE PHASE I IS STABILIZED THE BASIN WILL BE CONVERTED TO FINAL DRY EXTENDED DETENTION BASIN DESIGN.
3. PRIOR TO MOVING TO PHASE II CONSTRUCTION PHASE I SHOULD BE STABILIZED AND AS-BUILTS SUBMITTED AND APPROVED BY THE SUSSEX CONSERVATION DISTRICT.

PROPOSED SEQUENCE OF CONSTRUCTION PHASE II (FUTURE)

NOTIFY THE DNREC SEDIMENT AND STORMWATER PROGRAM [OR RELEVANT DELEGATED AGENCY] IN WRITING AT LEAST FIVE (5) DAYS PRIOR TO START OF CONSTRUCTION. FAILURE TO DO SO CONSTITUTES A VIOLATION OF THE APPROVED SEDIMENT AND STORMWATER MANAGEMENT PLAN.

PRIOR TO ANY CLEARING, INSTALLATION OF SEDIMENT CONTROL MEASURES OR GRADING, A PRE-CONSTRUCTION MEETING SHALL BE SCHEDULED AND CONDUCTED WITH THE AGENCY CONSTRUCTION SITE REVIEWER. THE LANDOWNER/DEVELOPER, CONTRACTOR AND CERTIFIED CONSTRUCTION REVIEWER ARE REQUIRED TO BE IN ATTENDANCE AT THE PRE-CONSTRUCTION MEETING; THE DESIGNER IS RECOMMENDED TO ATTEND.

	START	COMPLETE
CLEARING AND GRUBBING AREAS USED AS PERIMETER CONTROLS	DAY 1	DAY 5
CONSTRUCTION OF PERIMETER CONTROLS. INSTALL MH6 AND CB-6. INSTALL SEDIMENT BASIN WITH SKIMMER DEVICE INSTALLED TO CB-6.	DAY 5	DAY 15
ROUGH GRADE AREA FOR BUILDING PAD.	DAY 5	DAY 20
INSTALL BUILDING PAD.	DAY 21	DAY 50
ROUGH GRADE TRUCK DOCK AND AREA OF PROPOSED CONCRETE AND ASPHALT. INSTALL TRENCH DRAIN AND CATCH BASIN. INSTALL STONE BASE.	DAY 50	DAY 65
CONSTRUCT BUILDING AND INSTALL UTILITIES.	DAY 65	DAY 150
INSTALL PAVEMENT AND CONCRETE IN TRUCK DOCKS DRIVE AISLES.	DAY 150	DAY 170
PERMANENT VEGETATION	DAY 170	DAY 185
REMOVAL OF CONTROLS & STABILIZE ONCE APPROVED TO DO SO BY THE SUSSEX CONSERVATION DISTRICT	DAY 185	DAY 190

NOTE:

1. ALL EROSION AND SEDIMENT CONTROLS MEASURES MUST BE IN PLACE BEFORE ANY EARTHMOVING OPERATIONS MAY START. THE ABOVE SCHEDULE IS AN ENGINEER'S ESTIMATE AND MAY VARY DUE TO THE ELEMENTS, ETC.
2. STORMWATER MANAGEMENT FEATURES NEED TO HAVE ASBUILT SURVEYS COMPLETED AND SUBMITTED TO SUSSEX CONSERVATION FOR APPROVAL.

PROPOSED GRADING AND EARTH DISTURBANCE

LIMIT OF DISTURBANCE	PHASE I	146,238 SQ. FT. (3.36 ACRES)
	PHASE II	42,963 SQ. FT. (0.98 ACRES)
	TOTAL	189,201 SQ. FT. (4.34 ACRES)

THE DOMINANT SOIL TYPES ON THIS PROJECT ARE HURLOCK LOAMY (0 TO 2 PERCENT SLOPES) AND EVESBORO LOAMY (0 TO 5 PERCENT SLOPES). HYDROLOGIC GROUP A FOR BOTH SOIL TYPES.

ALL EXCESS SOILS ARE TO BE REMOVED FROM THE SITE.

MISCELLANEOUS NOTES

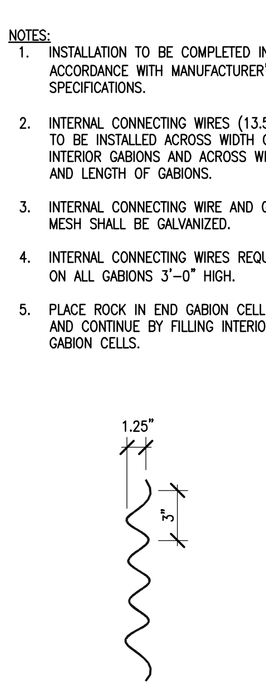
FILTER CLOTH TO BE MIRAFI 600X OR APPROVED EQUAL. TYPAR 3401 OR EQUIVALENT.

IF DUST CONTROL BECOMES A PROBLEM; USE WATER, OR PELLETED CALCIUM CHLORIDE TO PREVENT DUST EROSION.

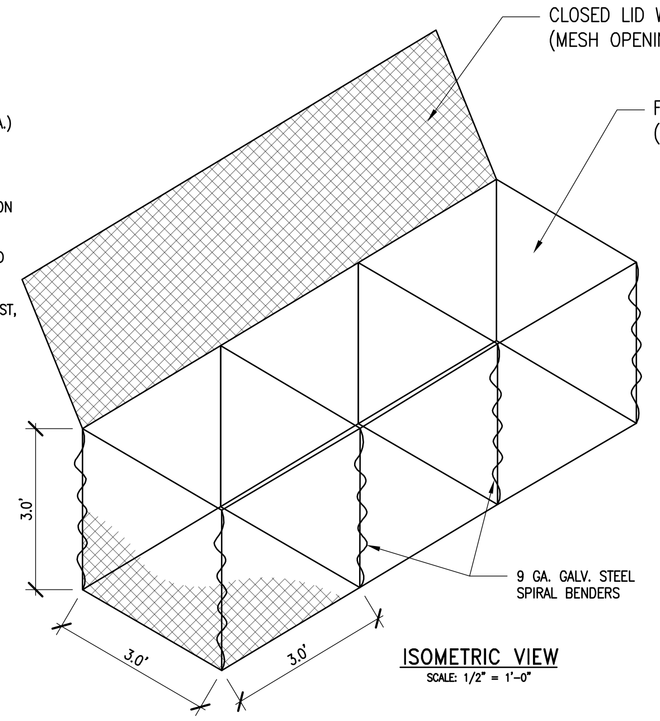
THE GENERAL CONTRACTOR WILL MAINTAIN AND REPAIR ANY EROSION AND SEDIMENT CONTROL DEVICE DAMAGED DURING UTILITY INSTALLATION.

ALL EROSION CONTROL MATTING SHALL BE BIODEGRADABLE. USE NORTH AMERICAN GREEN S75BN OR EQUIVALENT FOR ALL SLOPES 3:1 OR FLATTER.

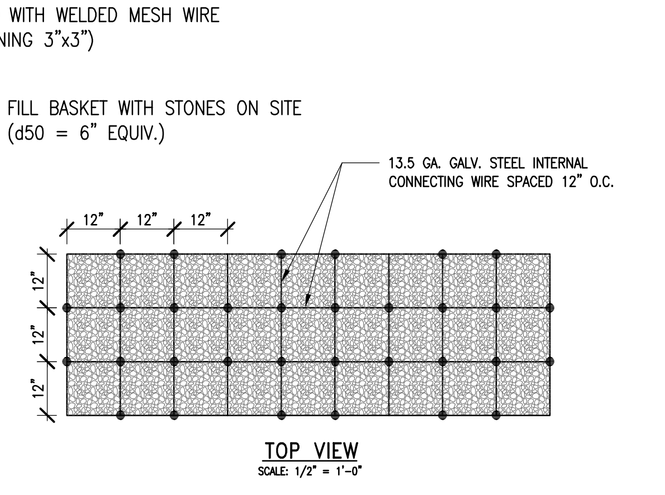
NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. INTERNAL CONNECTING WIRES (13.5-GA.) TO BE INSTALLED ACROSS WIDTH OF INTERIOR GABIONS AND ACROSS WIDTH AND LENGTH OF GABIONS.
3. INTERNAL CONNECTING WIRE AND GABION MESH SHALL BE GALVANIZED.
4. INTERNAL CONNECTING WIRES REQUIRED ON ALL GABIONS 3'-0" HIGH.
5. PLACE ROCK IN END GABION CELL FIRST, AND CONTINUE BY FILLING INTERIOR GABION CELLS.



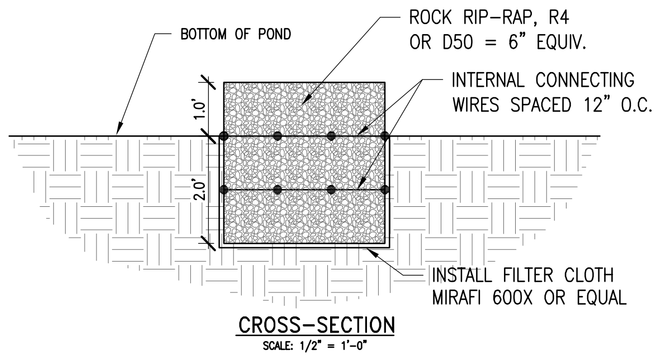
SPIRAL BENDER DETAIL
SCALE: N.T.S.



ISOMETRIC VIEW
SCALE: 1/2" = 1'-0"



TOP VIEW
SCALE: 1/2" = 1'-0"



CROSS-SECTION
SCALE: 1/2" = 1'-0"

1 SP-9 GABION WALL DETAIL
SCALE: AS NOTED

JAMES E. SMITH
REGISTERED
No. 12256
DELAWARE
PROFESSIONAL ENGINEER

08 FEB 2021

SEDIMENT & STORMWATER PROGRAM
TAX MAP 533-16.15-PARCELS [PHASE 1]
40.00, 40.01, 122.00 & [PHASE 2] 55.01
BUNTINGS BRANCH (WATERSHED)
BALTIMORE HUNDRED - SUSSEX COUNTY

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REV	DESCRIPTION	DATE	BY
	PERMIT REVIEW	13 NOV 20	EFT
	PERMIT REVIEW - COMMENT REVISIONS	08 FEB 21	EFT

ENGINEERS/ARCHITECTS
1942 NORTHWOOD DRIVE SALISBURY, MARYLAND 21801-7824
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AWB ENGINEERS

FURNITURELAND

CONSTRUCTION SITE DETAILS & NOTES

2020 DISTRIBUTION CENTER EXPANSION
DELMAR, DELAWARE

SCALE	AS SHOWN
DRAWN	EFT
PROJ.MGR.	LSB
JOB	200212
SHEET	SP-9

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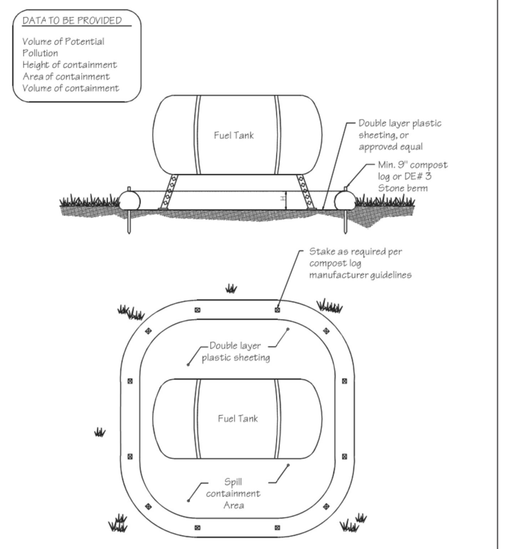
Standard Detail & Specifications
Construction Site Waste Mgt & Spill Control



Source:	Symbol:	Detail No.
Delaware ESC Handbook		**DE-ESC-3.6.1** Sheet 1 of 5 Effective FEB 2019

Standard Detail & Specifications
Construction Site Waste Mgt & Spill Control

Pollution Prevention – Spill Prevention

1. Fueling should only take place in signed designated areas, away from downstream drainage facilities and watercourses.
2. Fueling must be with nozzles equipped with automatic shut-off to control drips. Do not top off.
3. Protect the areas where equipment or vehicles are being repaired, maintained, fueled or parked from storm water run-on and runoff.
4. Use barriers such as berms to prevent storm water run-on and runoff, and to contain spills.
5. Place a "fueling Area" sign next to each fueling area.
6. Store hazardous materials such as fuel, solvents, oil and chemicals in secondary containment.
7. Inspect vehicles and equipment for leaks on each day of use. Repair fluid and oil leaks immediately.
8. Absorbent spill clean-up materials and spill kits must be available in fueling areas and on fuel trucks.
9. If fueling s to take place at night, make sure the fueling area is sufficiently illuminated.
10. Properly dispose of used oil, fluids, lubricants and spill clean-up materials.

CLEAN UP SPILLS

1. If it is safe to do so, immediately contain and clean up any chemical and/or hazardous material spills.
2. Properly dispose of used oil, fluids, lubricants and spill clean-up materials.
3. Do not bury spills or wash them down with water.

LEAKS AND DRIPS

1. Use drip pans or absorbent pads at all times. Place under and around leaky equipment.
2. Do not alow oil, grease, fuel or chemicals to drip onto the ground.
3. Have spill kits and clean up material on-site.
4. Repair leaky equipment promptly or remove problem vehicles and equipment from the site. Clean up contaminated soil immediately.
5. Store contaminated waste in sealed containers constructed of suitable material. Label these containes properly.
6. Clean up all spills and leaks. Promptly dispose of waste and spent clean up materials.

Source:	Symbol:	Detail No.
Delaware ESC Handbook		**DE-ESC-3.6.1** Sheet 2 of 5 Effective FEB 2019

Standard Detail & Specifications
Construction Site Waste Mgt & Spill Control

Notes:

The Construction Site Pollution Prevention Plan should include the following elements:

1. **Material Inventory**

   Document the storage and use of the following materials:

   a. Concrete
   b. Detergents
   c. Paints (enamel and latex)
   d. Cleaning solvents
   e. Pesticides
   f. Wooc scraps
   g. Fertilizers
   h. Petroleum based products

2. **Good housekeeping practices**
   a. Store only enough product required to do the job.
   b. All materials shall be stored in a neat, orderly manner in their original labeled containers and covered.
   c. Substances shall not be mixed.
   d. When possible, all of a product shall be used up prior to disposal of the container.
   e. Manufacturers' instructions for disposal shall be strictly adhered to.
   f. The site foreman shall designate someone to inspect all BMPs daily.

3. **Waste management practices**
   a. All wcste materials shall be collected and stored in securely lidded dumpsters in a location that does not drain to a waterbody.
   b. Waste materials shall be salvaged and/or recycled whenever possible.
   c. The dumpsters shall be emptied a minimum of twice per week, or more if necessary. The licensed trash hauler is responsible for cleaning out dumpsters.

Source:	Symbol:	Detail No.
Adapted from USEPA Pub. 840-B-92-002		**DE-ESC-3.6.1** Sheet 3 of 5 Effective FEB 2019

Standard Detail & Specifications
Construction Site Waste Mgt & Spill Control

Notes (cont.)

d. Trash shall be disposed of in accordance with all applicable Delaware laws.
e. Trash cans shall be placed at all lunch spots and littering is strictly prohibited. Recycle bins shall be placed near the construction trailer.
f. If fertilizer bags can not be stored in a weather-proof location, they shall be kept on a pallet and covered with plastic sheeting which is overlapped and anchored.

4. **Equipment maintenance practices**
   a. If possible, equipment should be taken to off-site commercial facilities for washing and maintenance.
   b. If performed on-site, vehicles shall be washed with high-pressure water spray without detergents in an area contained by an impervious berm.
   c. Drip pans shall be used for all equipment maintenance.
   d. Equipment shall be inspected for leaks on a daily basis.
   e. Washout from concrete trucks shall be disposed of in a temporary pit for hardening and proper disposal.
   f. Fuel nozzles shall be equipped with automatic shut-off valves.
   g. All used products such as oil, antifreeze, solvents and tires shall be disposed of in accordance with manufacturers' recommendations and local, state and federal laws and regulations.

5. **Spill prevention practices**
   a. Potential spill areas shall be identified and contained in covered areas with no connection to the storm drain system.
   b. Warning signs shall be posted in hazardous material storage areas.
   c. Preventive maintenance shall be performed on all tanks, valves, pumps, pipes and other equipment as necessary.
   d. Low or non-toxic substances shall be prioritized for use.

Source:	Symbol:	Detail No.
Adapted from USEPA Pub. 840-B-92-002		**DE-ESC-3.6.1** Sheet 4 of 5 Effective FEB 2019

Standard Detail & Specifications
Construction Site Waste Mgt & Spill Control

Notes (cont.)

e. Contoct information for reporting spills through the DNREC 24-Hour Toll Free Number shall be prominently posted.

6. **Education**
   a. Best management practices for construction site pollution control shall be a part of regular progress meetings.
   b. Information regarding waste management, equipment maintenance and spill prevention shall be prominently posted in the construction trailer.

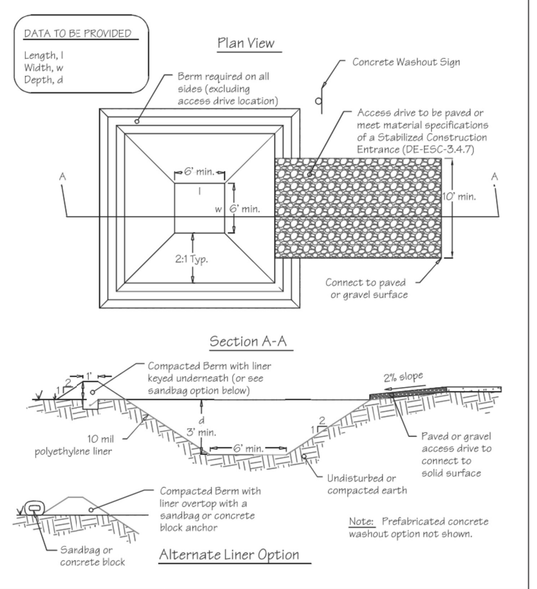
CONTACT INFORMATION

DNREC 24-Hour Toll Free Number	**800-662-8802**
DNREC Solid & Hazardous Waste Management Section	**302-739-9403**

Source:	Symbol:	Detail No.
Adapted from USEPA Pub. 840-B-92-002		**DE-ESC-3.6.1** Sheet 5 of 5 Effective FEB 2019

1 SP-10 SITE POLLUTION PREVENTION
SCALE: N.T.S.

Standard Detail & Specifications
Concrete Washout



Source:	Symbol:	Detail No.
Adapted from Colorado Urban Storm Drainage Criteria Manual, Vol 3	CW	**DE-ESC-3.6.2** Sheet 1 of 2 Effective FEB 2019

Standard Detail & Specifications
Concrete Washout

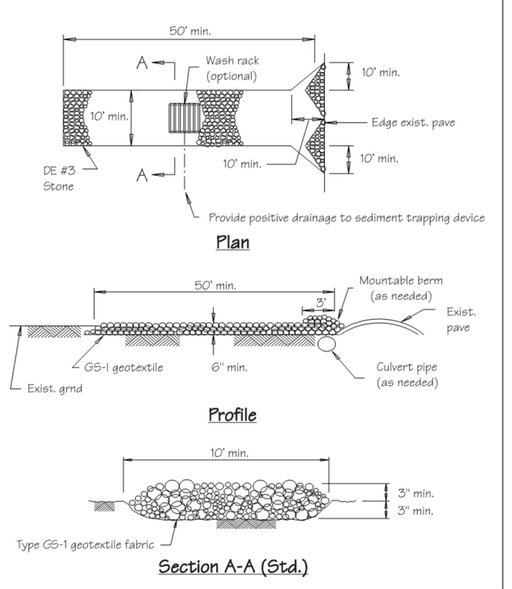
Construction Notes:

1. Locate washout area a minimum of 50 feet from open channels, stormdrain inlets, wetlands or waterbodies.
2. Locate washout area so that it is accessible to concrete equipment (service with a minimum 10 foot wide gravel accessway), but so it is not in a highly active construction area causing accidental damage.
3. Minimum dimensions for prefabricated units are 4 feet by 4 feet by 1 foot deep with a minimum 4mil polyethylene plastic liner. Minimum dimensions for constructed concrete washout areas are 6 feet by 6 feet by 3 feet deep, with a minimum 10mil polyethylene liner, 2:1 side slopes, and a 1 foot high by 1 foot wide compacted fill berm.
4. The liner must be free of tears or holes and placed over smooth surfaces to prevent puncturing. For excavated washouts, anchor the liner underneath the berm or overtop with sandbags or concrete blocks to hold in place.
5. Provide a sign designating the washout area, and for large construction sites, provide signs throughout directing traffic to its location.
6. Allow washed out concrete mixture to harden through evaporation of the wastewater. Once the facility has reached 75 percent of its capacity, remove the hardened concrete by reusing the broken aggregate onsite, recycling, or disposing of offsite. The hardened material can be buried on site with minimum of 1 foot of clean, compacted fill.
7. Apply a new liner before reusing the station for additional washouts after maintenance has occurred.

Source:	Symbol:	Detail No.
Adapted from Colorado Urban Storm Drainage Criteria Mcnual, Vol 3	CW	**DE-ESC-3.6.2** Sheet 2 of 2 Effective FEB 2019

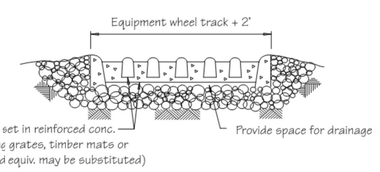
2 SP-10 CONCRETE WASHOUT DETAIL
SCALE: N.T.S.

Standard Detail & Specifications
Stabilized Construct. Entrance



Source:	Symbol:	Detail No.
Adapted from VA ESC Handbook	SCE	**DE-ESC-3.4.7** Sheet 1 of 2 Effective FEB 2019

Standard Detail & Specifications
Stabilized Construct. Entrance



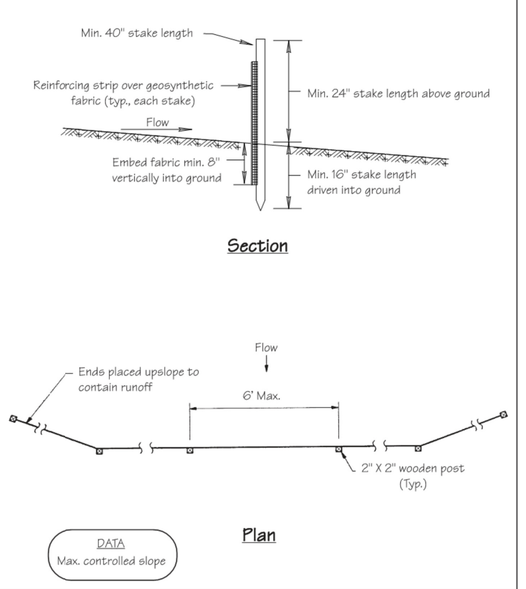
Construction Notes:

1. Stone size - Use DE #3 stone.
2. Length - As required, but not less than 50 feet (except on a single residence lot where a 30 foot minimum length would apply).
3. Thickness - Not less than size (6) inches.
4. Width - Ten (10) foot minimum, but not less than the full width at points where ingress or egress occurs.
5. Geotextile - Type GS-I, placed over the entire area prior to placing of stone.
6. Surface Water - All surface water flowing or diverted toward construction entrances shall be piped across the entrance. If piping is impractical, a mountable berm with 5:1 slopes will be permitted.
7. Maintenance - The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately.
8. Washing - Vehicle wheels shall be cleaned to remove sediment prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device.
9. Inspection - Periodic inspection and needed maintenance shall be provided after each rain.

Source:	Symbol:	Detail No.
Adapted from VA ESC Handbook	SCE	**DE-ESC-3.4.7** Sheet 2 of 2 Effective FEB 2019

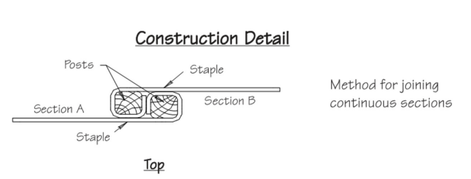
3 SP-10 SCE DETAIL
SCALE: N.T.S.

Standard Detail & Specifications
Silt Fence



Source:	Symbol:	Detail No.
Adapted form MD Stds. & Specs. for ESC	SF	**DE-ESC-3.1.2.1** Sheet 1 of 2 Effective FEB 2019

Standard Detail & Specifications
Silt Fence



Construction Notes:

1. Geosynthetic fabric to be fastened securely to fence posts with wire ties or staples.
2. When two sections of filter cloth adjoin each other they shall be overlapped by six inches and folded.
3. Maintenance shall be performed as needed and material removed when "bulges" develop in the silt fence.

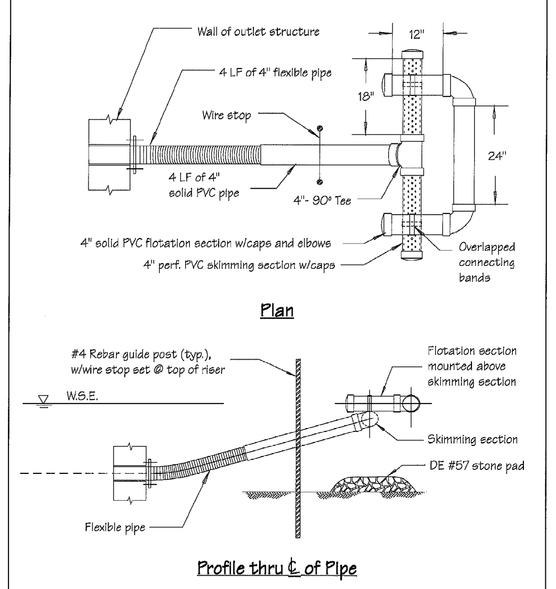
Materials:

1. Stakes: Steel (either T or U) or 2" x 2" hardwood
2. Geosynthetic Fabric: Type GD-I
3. Reinforcing strip: Wooden lath or plastic strip

Source:	Symbol:	Detail No.
Adapted from MD Stds. & Specs. for ESC	SF	**DE-ESC-3.1.2.1** Sheet 2 of 2 Effective FEB 2019

4 SP-10 SILT FENCE DETAIL
SCALE: N.T.S.

Standard Detail & Specifications
Skimmer Dewatering Device



Source:	Symbol:	Detail No.
Adapted from drawing by Vandemark & Lynch, Inc.	SDD	**DE-ESC-3.2.3.1** Sheet 1 of 2 Effective FEB 2019

Standard Detail & Specifications
Skimmer Dewatering Device

Construction Notes:

1. Pipe flotation section shall be solvent welded to ensure an airtight assembly. Contractor to conduct a test to check for leaks prior to installation.
2. Skimmer section shall have (12) rows of 1/2" dia. holes, 1-1/4" on center. If additional filtration is necessary, the filtering media shall consist of a Type GD-II geotextile fabric wrapped around the perforated portion of the skimmer and attached with plastic snap ties, bands, etc.
3. Flexible pipe shall be inserted into solid pipe and fastened with (2) #8 wood screws.
4. At a minimum, the structure shall be inspected after each rain and repairs made as needed. If vandalism is a problem, more frequent inspection may be necessary.
5. Construction operations shall be carried out in such a manner that erosion and water pollution are minimized.
6. The structure shall only be removed when the contributing drainage area has been properly stabilized.

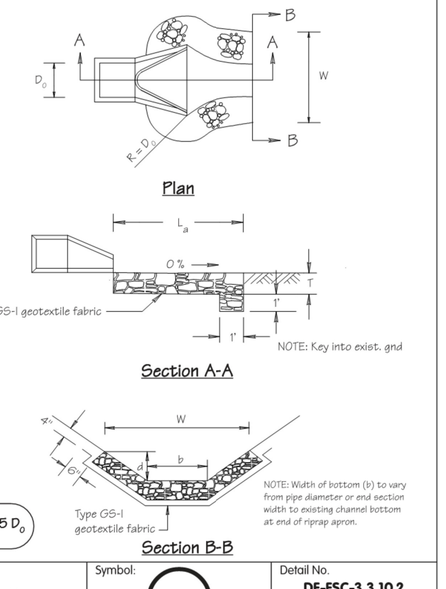
Materials:

1. Solid pipe - 4" Sched. 40 PVC
2. Perforated pipe - 4" Sched. 40 PVC
3. 90° Tee (1 ea.) - 4" Sched. 40 PVC
4. 90° Elbow (2 ea.) - 4" Sched. 40 PVC
5. Cap (4 ea.) - 4" Sched. 40 PVC, solid
6. Flexible pipe - 4" corrugated plastic tubing (non-perforated)

Source:	Symbol:	Detail No.
Delaware ESC Handbook	SDD	**DE-ESC-3.2.3.1** Sheet 2 of 2 Effective FEB 2019

5 SP-10 SKIMMER DETAIL
SCALE: N.T.S.

Standard Detail & Specifications
Riprap Outlet Protection - 2



Source:	Symbol:	Detail No.
Adapted from MD E&S Manual	ROP-2	**DE-ESC-3.3.10.2** Sheet 1 of 2

Effective February 2019

Standard Detail & Specifications
Riprap Outlet Protection - 2

DATA
Pipe diameter (D_o)
Apron length (L_a)
Apron width (W)
Bottom width (b)
Riprap depth (d)
Riprap size (K No.)
Riprap thickness (T)

Construction Notes:

1. The subgrade for the riprap shall be prepared to the required lines and grades as shown on the plan. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.
2. The riprap shall conform to the grading limits as shown on the plan.
3. Filter cloth shall be protected from punching, cutting or tearing. Any damage other than an occasional small hole shall be repaired by placing another piece of cloth over the damaged area. All connecting joints should overlap a minimum of 1 ft. If the damage is extensive, replace the entire filter cloth.
4. Stone for the riprap or gabion outlets may be placed by equipment. Riprap shall be placed in a manner to prevent damage to the filter cloth. Hand placement will be required to the extent necessary to prevent damage to the conduits, structures, etc.

Source:	Symbol:	Detail No.
Adapted from MD E&S Manual	ROP-2	**DE-ESC-3.3.10.2** Sheet 2 of 2

Effective February 2019

6 SP-10 RIRRAP OUTLET PROECTION 2 DETAIL
SCALE: N.T.S.

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REV	DESCRIPTION	BY	DATE
	PERMIT REVIEW	EFT	13 NOV 20
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2020 DISTRIBUTION CENTER EXPANSION
DELMAR, DELAWARE

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BUNTINGS BRANCH (WATERSHED)
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SHEET	SP-10

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Standard Detail & Specifications
Vegetative Stabilization

TEMPORARY SEEDING BY RATES, DEPTHS AND DATES											
Mix #	Species[6]	Seeding Rate		Optimum Seeding Dates [1] O = Optimum Planting Period; A = Acceptable Planting Period							Planting Depth[3]
				Coastal Plain			Piedmont			All	
	Certified Seed	lb/Ac[5]	lb/1000 sq.ft.	2/1-4/30	[2] 5/1-8/14	8/15-10/31	3/1-4/30	[2] 5/1-7/31	8/1-10/31	10/31-2/1	
1	Barley	125	4	O	A	O	O	A	O		1-2 inches 2-3" sandy soils
2	Oats	125	4	O	A	A	O	A	A		1-2 inches 2-3" sandy soils
3	Rye	125	4	O	A	O	O	A	O	A	1-2 inches 2-3" sandy soils
4	Perennial Ryegrass	125	4	O	A	O	O	A	O		0.5 inches 1-2" sandy soils
5	Annual Ryegrass	125	4	O	A	O	O	A	O	A	0.5 inches 1-2" sandy soils
6	Winter Wheat	125	4	O	A	O	O	A	O	A	1-2 inches 2-3" sandy soils
7	Foxtail Millet	30 PLS	0.7		O			O			0.5 inches 1-2" sandy soils
8	Pearl Millet	20 PLS	0.5		O			O			0.5 inches 1-2" sandy soils

1. Winter seeding requires 3 tons per acre of straw mulch for proper stabilization.
2. May be planted throughout summer if soil moisture is adequate or seeded area can be irrigated.
3. Applicable on slopes 3:1 or less.
4. Fifty pounds per acre of Annual Lespedeza may be added to 1/2 the seeding rate of any of the above species.
5. Use varieties currently recommended for Delaware. Contact a County Extension Office for information.
6. Warm season grasses such as Millet or Weeping Lovegrass may be used between 5/1 and 9/1 if desired. Seed at 3-5 lbs. per acre. Good on low fertility and acid areas. Seed after frost through summer at a depth of 0.5".

NOTE: Alternative seed mixes may be used with prior approval from the Department or Delegated Agency.

Source: Delaware ESC Handbook | Symbol: | Detail No. DE-ESC-3.4.3 Sheet 1 of 4 Effective FEB 2019

Standard Detail & Specifications
Vegetative Stabilization

PERMANENT SEEDING AND SEEDING DATES											
Seeding Mixtures		Seeding Rate[1]		Optimum Seeding Dates [2] O = Optimum Planting Period A = Acceptable Planting Period							Remarks
Mix No.	Certified Seed[3]			Coastal Plain			Piedmont			All[4]	
	Well Drained Soils	lb/Ac	lb/1000 sq.ft.	2/1-4/30	5/1-8/14	8/15-10/31	3/1-4/30	5/1-7/31	8/1-10/31	10/31-2/1	
1	Tall Fescue Weeping Lovegrass	140 10	3.2 0.23	A	O	A	A	O	A	Add 100 lbs./ac Winter Rye	Good erosion control mix Tolerant of low fertility soils Lovegrass very difficult to mow; Germinates only in hot weather
2	Deertongue Sheep Fescue Common Lespedeza[5] Inoculated	30 30 15	0.69 0.69 0.35	A	O	A	A	O	A	Add 100 lbs./ac Winter Rye	Good erosion control mix Tolerant of low fertility soils Good wildlife cover and food
3	Tall Fescue (Turf-type) **or** Strong Creeping Red Fescue **or** Perennial Ryegrass **plus** Flatpea[5]	50 50 50 15	1.15 1.15 1.15 0.34	O	A	O	O	A	O	Add 100 lbs./ac. Winter Rye	Good erosion control mix Tall Fescue for droughty conditions. Creeping Red Fescue for heavy shade. Flatpea to suppress woody vegetation.
4	Strong Creeping Red Fescue Kentucky Bluegrass Perennial Ryegrass **or** Redtop **plus** White Clover[5]	100 70 15 5 3	2.3 1.61 0.35 0.11 0.07	O	A	O	O	A	O	Add 100 lbs./ac. Winter Rye	Suitable waterway mix. Canada Bluegrass more drought tolerant. Use Redtop for increased drought tolerance.
5	Switchgrass[6,7] **or** Coastal Panicgrass Big Bluestem Little Bluestem Indian Grass	10 10 5 5 5	0.23 0.23 0.11 0.11 0.1		O			O			Native warm-season mixture. Tolerant of low fertility soils. Drought tolerant. Poor shade tolerance. N fertilizer discouraged - weeds
6	Tall Fescue (turf-type) (Blend of 3 cultivars)	150	3.5	O	A	O	O	A	O		Managed filter strip for nutrient uptake.
7	Tall Fescue Ky. Bluegrass (Blend) Perennial Ryegrass	150 20 20	3.5 0.46 0.46	O	A	O	O	A	O		Three cultivars of Kentucky Bluegrass. Traffic tolerant.
8	Big Bluestem[7] Indian Grass[7] Little Bluestem[7] Creeping Red Fescue **plus one of:** Partridge Pea Bush Clover Wild Indigo Showy Tick-Trefoil	10 10 8 30 5 3 3 2	0.23 0.23 0.18 0.69 0.11 0.07 0.07 0.05	O	A		O	A			All species are native. Indian Grass and Bluestem have fluffy seeds. Plant with a specialized native seed drill. Creeping Red Fescue will provide erosion protection while the warm season grasses get established.

NOTE: Alternative seed mixes may be used with prior approval from the Department or Delegated Agency.

Source: Delaware ESC Handbook | Symbol: | Detail No. DE-ESC-3.4.3 Sheet 2 of 4 Effective FEB 2019

Standard Detail & Specifications
Vegetative Stabilization

PERMANENT SEEDING AND SEEDING DATES (cont.)											
Seeding Mixtures		Seeding Rate[1]		Optimum Seeding Dates [2] O = Optimum Planting Period A = Acceptable Planting Period							Remarks
Mix No.	Certified Seed[3]			Coastal Plain			Piedmont			All[4]	
	Poorly Drained Soils	lb/Ac	lb/1000 sq.ft.	2/1-4/30	5/1-8/14	8/15-10/31	3/1-4/30	5/1-7/31	8/1-10/31	10/31-2/1	
9	Redtop Creeping Bentgrass Sheep Fescue Rough Bluegrass	75 35 30 45	1.72 0.8 0.69 1	O	A	O	O	A	O	Add 100 lbs./ac. Winter Rye	Quick stabilization of disturbed sites and waterways
10	Reed Canarygrass[6]	10	0.23	A		O	A		O		Good erosion control, wildlife cover and wetland revegetation.
	Residential Lawns										
11	Tall Fescue Perennial Ryegrass Kentucky Bluegrass Blend	100 25 30	2.3 0.57 0.69	O	A	O	O	A	O		High value, high maintenance, light traffic, irrigation necessary. Well drained soils, full sun.
12	Tall Fescue Perennial Ryegrass Sheep Fescue	100 25 25	2.3 0.57 0.57	O	A	O	O	A	O		Moderate value, low maintenance, traffic tolerant
13	Creeping Red Fescue Chewings Fescue Rough Bluegrass Kentucky Bluegrass	50 50 20 20	1.15 1.15 0.4 0.4	O	A	O	O	A	O		Shade tolerant, moderate traffic tolerance, moderate maintenance.
14	Creeping Red Fescue Rough Bluegrass **or** Chewings Fescue	50 90	1.15 2.1	O	A	O	O	A	O		Shade tolerant, moisture tolerant.
15	K-31 Tall Fescue	150	3.5	O	A	O	O	A	O		Monoculture, but performs well alone in lawns. Discouraged.

1. When hydroseeding is the chosen method of application, the total rate of seed should be increased by 25%.
2. Winter seeding requires 3 tons per acre of straw mulch. Planting dates listed above are average for Delaware. These dates may require adjustment to reflect local conditions.
3. All seed shall meet the minimum purity and minimum germination percentages recommended by the Delaware Department of Agriculture. The maximum % of weed seeds shall be in accordance with Section 1, Chapter 24, Title 3 of the Delaware Code.
4. Cool season species may be planted throughout summer if soil moisture is adequate or seeded area can be irrigated.
5. All leguminous seed must be inoculated.
6. Warm season grass mix and Reed Canary Grass cannot be mowed more than 4 times per year.
7. Warm season grasses require a soil temperature of at least 50 degrees in order to germinate, and will remain dormant until then.

NOTE: Alternative seed mixes may be used with prior approval from the Department or Delegated Agency.

Source: Delaware ESC Handbook | Symbol: | Detail No. DE-ESC-3.4.3 Sheet 3 of 4 Effective FEB 2019

Standard Detail & Specifications
Vegetative Stabilization

Construction Notes:

1. Site Preparation
   a. Prior to seeding, install needed erosion and sediment control practices such as diversions, grade stabilization structures, berms, dikes, grassed waterways, and sediment basins.
   b. Final grading and shaping is not necessary for temporary seedings.
2. Seedbed Preparation

   It is important to prepare a good seedbed to insure the success of establishing vegetation. The seedbed should be well prepared, loose, uniform, and free of large clods, rocks, and other objectionable material. The soil surface should not be compacted or crusted.
3. Soil Amendments
   a. Lime - Apply liming materials based on the recommendations of a **soil test** in accordance with the approved nutrient management plan. If a nutrient management plan is not required, apply dolomitic limestone at the rate of 1 to 2 tons per acre. Apply limestone uniformly and incorporate into the top 4 to 6 inches of soil.
   b. Fertilizer - Apply fertilizer based on the recommendations of a **soil test** in accordance with the approved nutrient management plan. If a nutrient management plan is not required, apply a formulation of 10-10-10 at the rate of 600 pounds per acre. Apply fertilizer uniformly and incorporate into the top 4 to 6 inches of soils.
4. Seeding
   a. For **temporary stabilization**, select a mixture from **Sheet 1**. For a **permanent stabilization**, select a mixture from **Sheet 2** or **Sheet 3** depending on the conditions. Alternative seed mixes may be used with prior approval from the Department or Delegated Agency.
   b. Apply seed uniformly with a broadcast seeder, drill, cultipacker seeder or hydroseeder. All seed will be applied at the recommended rate and planting depth.
   c. Seed that has been broadcast should be covered by raking or dragging and then lightly tamped into place using a roller or cultipacker. If hydroseeding is used and the seed and fertilizer is mixed, they will be mixed on site and the seeding shall be done immediately and without interruption.
5. Mulching

   All mulching shall be done in accordance with detail **DE-ESC-3.4.5**.

Source: Delaware ESC Handbook | Symbol: | Detail No. DE-ESC-3.4.3 Sheet 4 of 4 Effective FEB 2019

1 (SP-11) PERMANENT VEGITATIVE STABILIZATION
SCALE: N.T.S.

TEMPORARY SEEDING BY RATES, DEPTHS AND DATES											
Mix #	Species[6]	Seeding Rate		Optimum Seeding Dates [1] O = Optimum Planting Period; A = Acceptable Planting Period							Planting Depth[3]
				Coastal Plain			Piedmont			All	
	Certified Seed	lb/Ac[5]	lb/1000 sq.ft.	2/1-4/30	[2] 5/1-8/14	8/15-10/31	3/1-4/30	[2] 5/1-7/31	8/1-10/31	10/31-2/1	
1	Barley	125	4	O	A	O	O	A	O		1-2 inches 2-3" sandy soils
2	Oats	125	4	O	A	A	O	A	A		1-2 inches 2-3" sandy soils
3	Rye	125	4	O	A	O	O	A	O	A	1-2 inches 2-3" sandy soils
4	Perennial Ryegrass	125	4	O	A	O	O	A	O		0.5 inches 1-2" sandy soils
5	Annual Ryegrass	125	4	O	A	O	O	A	O	A	0.5 inches 1-2" sandy soils
6	Winter Wheat	125	4	O	A	O	O	A	O	A	1-2 inches 2-3" sandy soils
7	Foxtail Millet	30 PLS	0.7		O			O			0.5 inches 1-2" sandy soils
8	Pearl Millet	20 PLS	0.5		O			O			0.5 inches 1-2" sandy soils

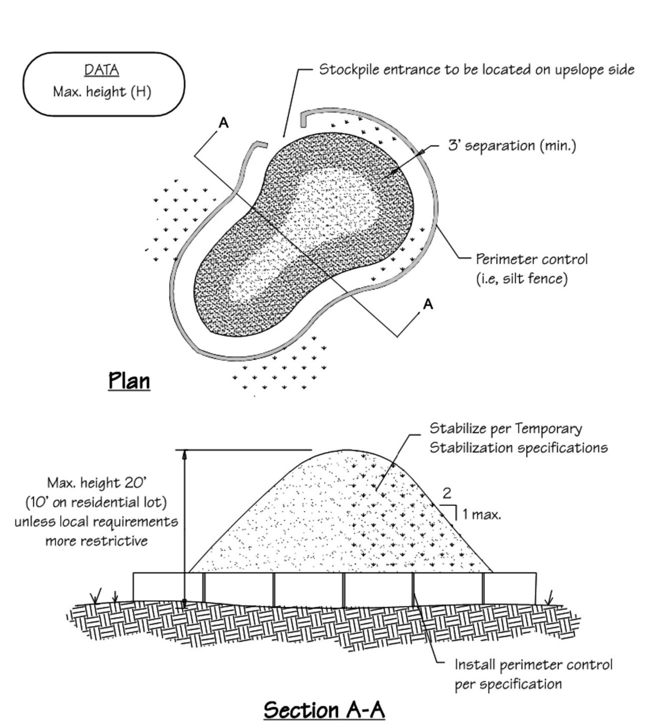
1. Winter seeding requires 3 tons per acre of straw mulch for proper stabilization.
2. May be planted throughout summer if soil moisture is adequate or seeded area can be irrigated.
3. Applicable on slopes 3:1 or less.
4. Fifty pounds per acre of Annual Lespedeza may be added to 1/2 the seeding rate of any of the above species.
5. Use varieties currently recommended for Delaware. Contact a County Extension Office for information.
6. Warm season grasses such as Millet or Weeping Lovegrass may be used between 5/1 and 9/1 if desired. Seed at 3-5 lbs. per acre. Good on low fertility and acid areas. Seed after frost through summer at a depth of 0.5".

Figure 3.4.3.2a Temporary seeding guidelines

3.4.3 - 7 Effective February 2019

4 (SP-11) TEMPORARY SEEDING DETAIL
SCALE: N.T.S.

Standard Detail & Specifications
Soil Stockpile



Source: Adapted from Colorado Urban Storm Drainage Criteria Manual, Vol 3 | Symbol: SP | Detail No. DE-ESC-3.7.3 Sheet 1 of 2

Effective February 2019

Standard Detail & Specifications
Soil Stockpile

Construction Notes:

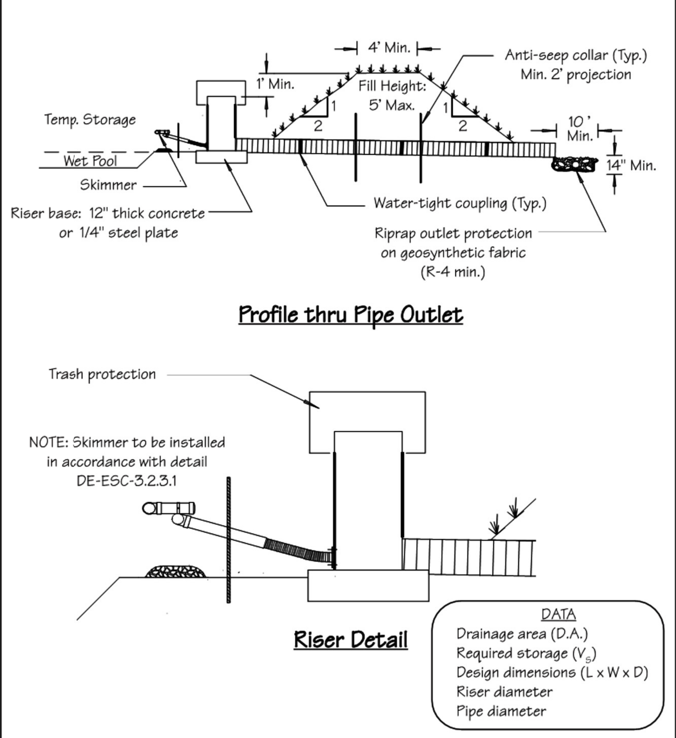
1. Locate stockpiles so that they are 50 feet from any storm drain inlet, open channel, wetland or waterbody. Redirect any concentrated flow around the stockpile using an approved erosion and sediment control measure.
2. Secure the perimeter of the stockpile with an approved erosion and sediment control perimeter device.
3. If stockpile is to remain inactive for more than 14 calendar days, the stockpile must be vegetated. Follow the temporary vegetation specifications. The vegetation chosen shall last the duration of the stockpile; the stockpile shall be restabilized if the temporary vegetation dies or erosion results.

Source: Adapted from Colorado Urban Storm Drainage Criteria Manual, Vol 3 | Symbol: SP | Detail No. DE-ESC-3.7.3 Sheet 2 of 2

Effective February 2019

2 (SP-11) SOIL STOCKPILE DETAIL
SCALE: N.T.S.

Standard Detail & Specifications
Pipe Outlet Sediment Trap



Source: DE ESC Handbook | Symbol: PST | Detail No. DE-ESC-3.1.3.1 Sheet 1 of 2

Effective February 2019

Standard Detail & Specifications
Pipe Outlet Sediment Trap

Construction Notes

1. The area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.
2. The fill material for the embankment shall be free of roots or other woody vegetation as well as oversized stones, rocks, organic material, or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed.
3. All fill slopes shall be 2:1 or flatter; cut slopes 1:1 or flatter.
4. All pipe connections shall be watertight.
5. Fill material around the pipe spillway shall be hand compacted in four (4) inch layers. A minimum of two (2) feet of hand-compacted backfill shall be placed over the pipe spillway before crossing it with construction equipment.
6. The riser shall be anchored with either a concrete base or steel plate base to prevent flotation. Concrete bases shall be 12 inches thick with the riser embedded nine (9) inches. Steel plate bases will be 1/4 inch minimum thickness attached to the riser by a continuous weld around the bottom to form a watertight connection. The plate shall have 2.5 feet of stone, gravel or tamped earth placed on it.
7. Volume of temporary storage shall be 3,600 cubic feet per acre of drainage area. Wet pool storage should be provided whenever practicable, but shall not be used to fulfill the temporary storage volume requirement.
8. Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to 1/2 the design depth of the trap. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.
9. The structure shall be inspected after each rain and repairs made as needed.
10. **A skimmer dewatering device shall be considered an integral part of the trap. Any additional dewatering operations for the wet pool shall be conducted in accordance with any and all regulatory requirements.**
11. Construction operations shall be carried out in such a manner that erosion and water pollution are minimized. Disturbed areas shall be stabilized in accordance with the Standards and Specifications for Vegetative Stabilization contained in this Handbook.
12. The structure shall be removed and area stabilized when the drainage area has been properly stabilized.

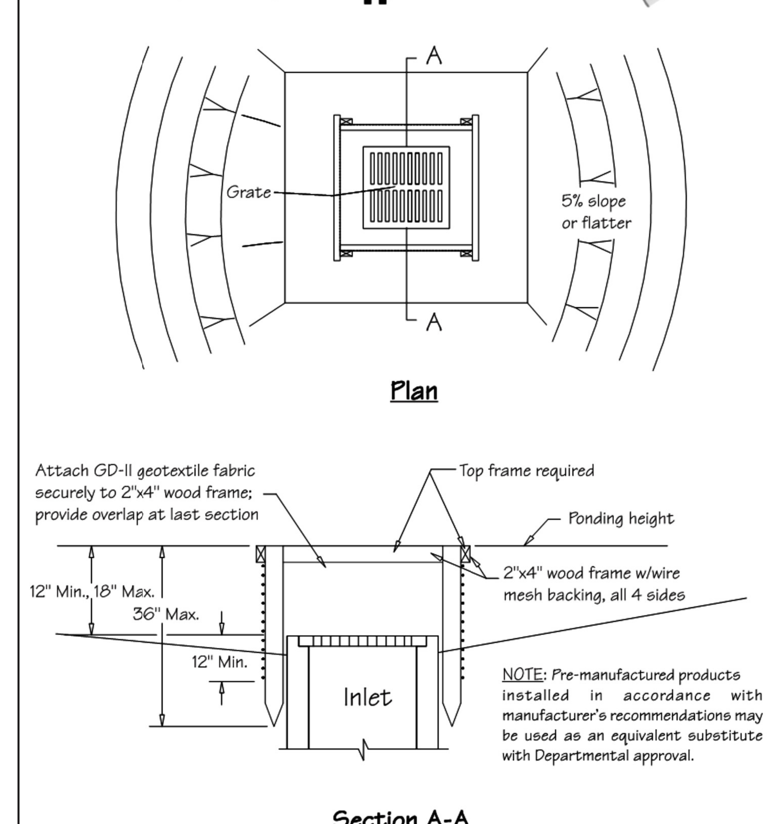
MAXIMUM DRAINAGE AREA: 5 ACRES

Source: DE ESC Handbook | Symbol: PST | Detail No. DE-ESC-3.1.3.1 Sheet 2 of 2

Effective February 2019

3 (SP-11) PIPE OUTLET SEDIMENT TRAP DETAIL
SCALE: N.T.S.

Standard Detail & Specifications
Inlet Protection - Type 1



Source: Adapted from Erosion Draw Manual J. McCullah & Assoc. | Symbol: IP-1 | Detail No. DE-ESC-3.1.5.1 Sheet 1 of 2 Effective FEB 2019

Standard Detail & Specifications
Inlet Protection - Type 1

Construction Notes:

1. Excavate completely around inlet to a depth of 18" below grate elevation.
2. Drive 2" x 4" post 1' into ground at four corners of inlet. Place nail strips between posts on ends of inlet. Assemble top portion of 2" x 4" frame using overlap joint shown. Top of frame (weir) must be 6" below edge of roadway adjacent to inlet.
3. Stretch wire mesh tightly around frame and fasten securely. Ends must meet at post.
4. Stretch geotextile fabric tightly over wire mesh, the cloth must extend from top of frame to 18" below inlet grate elevation. Fasten securely to frame. Ends must meet at post, be overlapped and folded, then fastened down.
5. Backfill around inlet in compacted 6" layers until at least 12" of geotextile fabric is buried.
6. If the inlet is not in a low point, construct a compacted earth dike in the ditchline below it. The top of this dike is to be at least 6" higher than the top of frame (weir).
7. This structure must be inspected frequently and the filter fabric replaced when clogged.

Materials:

1. Wooden frame is to be constructed of 2" x 4" construction grade lumber.
2. Wire mesh must be of sufficient strength to support filter fabric with water fully impounded against it.
3. Geotextile fabric: Type GD-II

Source: Adapted from Erosion Draw Manual J. McCullah & Assoc. | Symbol: IP-1 | Detail No. DE-ESC-3.1.5.1 Sheet 2 of 2 Effective FEB 2019

5 (SP-11) INLET PROTECTION DETAIL – TYPE 1
SCALE: N.T.S.

Standard Detail & Specifications
Inlet Protection - Type 2

Notes:

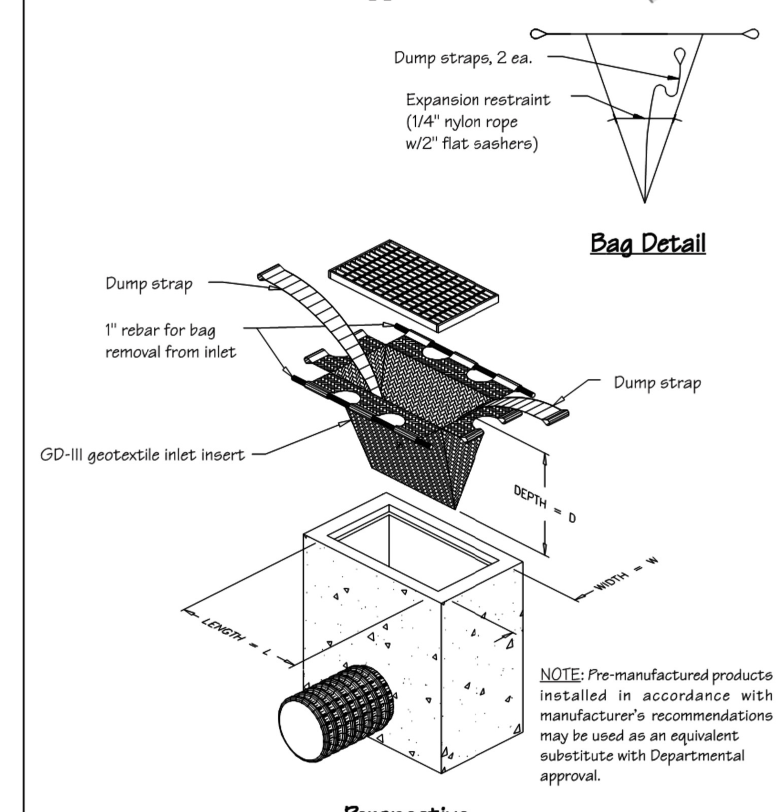
1. This practice shall only be used in situations in which Inlet Protection - Type 1 cannot be used due to site constraints. These include, but are not limited to partially completed parking areas, streets, roads, etc.
2. It may be necessary to transition from Type 1 to Type 2 Inlet Protection as construction proceeds.
3. For areas where there is a concern for oil run-off or spills, insert shall meet one of the above specifications with an oil-absorbant pillow or shall be made completely from an oil-absorbant material with a woven pillow.

Materials:

The geotextile inlet insert shall meet or exceed the specifications of Type GD-III geotextile in accordance with Appendix A-3 of the Delaware Erosion & Sediment Control Handbook.

Source: Adapted from ACF Products, Inc. | Symbol: IP-2 | Detail No. DE-ESC-3.1.5.2 Sheet 2 of 2 Effective FEB 2019

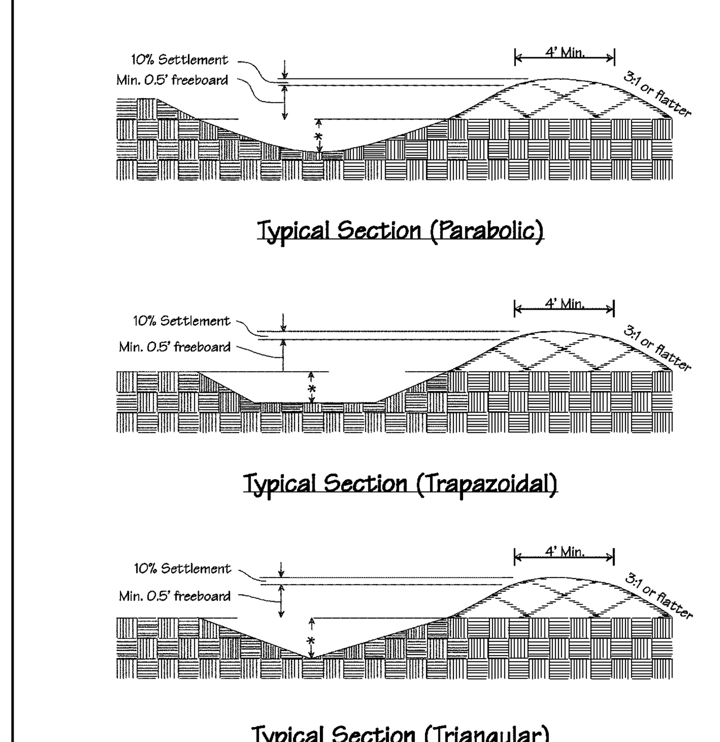
Standard Detail & Specifications
Inlet Protection - Type 2



Source: Adapted from ACF Products, Inc. | Symbol: IP-2 | Detail No. DE-ESC-3.1.5.2 Sheet 1 of 2 Effective FEB 2019

6 (SP-11) INLET PROTECTION DETAIL – TYPE 2
SCALE: N.T.S.

Standard Detail & Specifications
Diversion



*Flow section to be designed and constructed in accordance with Standard & Specification for Vegetated Channel or Lined Channel. (See separate detail.)

Source: Adapted from VA ESC Handbook | Symbol: —(VC/LC)- (P/T)→ —D→ | Detail No. DE-ESC-3.3.5 Sheet 1 of 2 Date: 12/03

Standard Detail & Specifications
Diversion

Construction Notes

1. All trees, brush, stumps, obstructions, and other objectionable material shall be removed and disposed of so as not to interfere with the proper functioning of the diversion.
2. The diversion shall be excavated or shaped to line, grade, and cross section as required to meet the criteria specified herein, and be free of irregularities which will impede normal flow.
3. Fills shall be compacted as needed to prevent unequal settlement that would cause damage in the completed diversion.
4. All earth removed and not needed in construction shall be spread or disposed of so that it will not interfere with the functioning of the diversion.
5. Flow section shall be installed in accordance with the Standard and Specifications for Vegetated Channel or Lined Channel, as appropriate.
6. Stabilization shall be done according to the appropriate Standard and Specifications for Vegetative Stabilization.

Source: Adapted from VA ESC Handbook | Symbol: —(VC/LC)- (P/T)→ —D→ | Detail No. DE-ESC-3.3.5 Sheet 2 of 2 Date: 12/03

7 (SP-11) DIVERSION DETAIL
SCALE: N.T.S.

JAMES E. SMITH REGISTERED PROFESSIONAL ENGINEER No. 12256 DELAWARE
08 FEB 2021

SEDIMENT & STORMWATER PROGRAM
TAX MAP 5-32-13.00-63.04
BUNTINGS BRANCH (WATERSHED)
BALTIMORE HUNDRED – SUSSEX COUNTY

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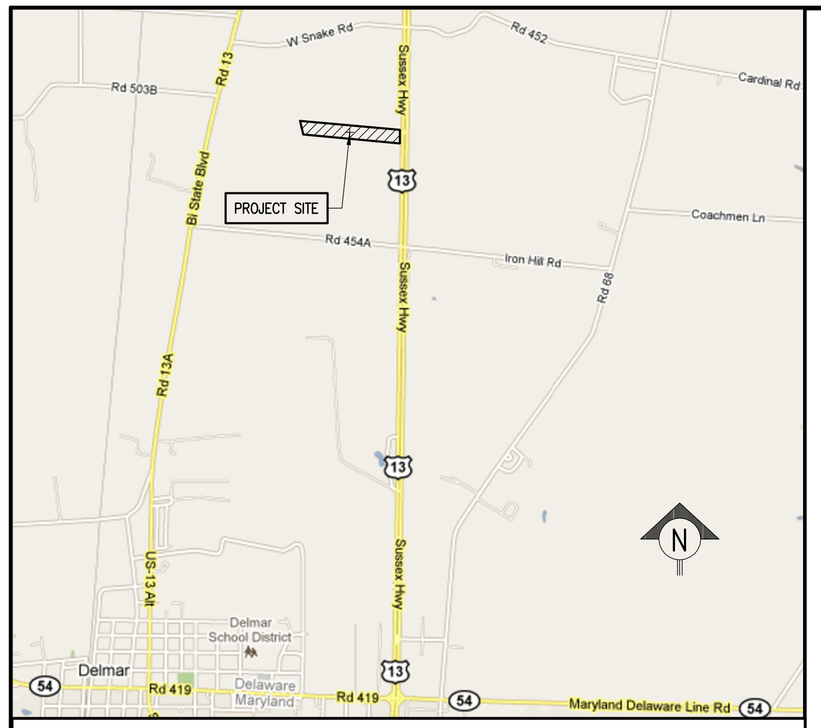
DATE	BY	DESCRIPTION	REV
13 NOV 20	HJR	PERMIT REVIEW	
08 FEB 21	EFT	PERMIT REVIEW – COMMENT REVISIONS	

AWB ENGINEERS
ENGINEERS/ARCHITECTS
1942 NORTHWOOD DRIVE SALISBURY, MARYLAND 21801-7824
PH. (410) 742-7299 FAX. (410) 742-0273

FURNITURELAND

CONSTRUCTION SITE DETAILS & NOTES
2020 DISTRIBUTION CENTER EXPANSION
DELMAR, DELAWARE

SCALE: AS SHOWN
DRAWN: HJR
PROJ.MGR.: LSB
JOB: 200212
SHEET: SP-11



VICINITY MAP

SCALE: 1" = 2000'

OWNER INFORMATION

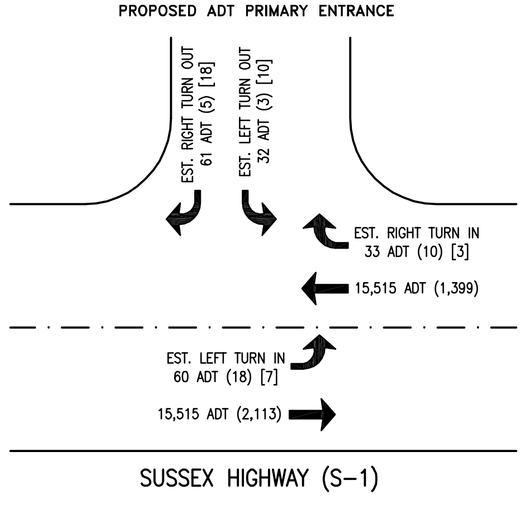
ENTERPRISES ERIN BRADLY, LLC
c/o LAURENCE & BETH BARNES
36344 SUSSEX HIGHWAY
DELMAR, DE 19940-3573
302-846-3005 (PHONE)

CONSULTANT INFORMATION

AWB ENGINEERS
JAMES E. SMITH, PE (PROJECT MANAGER)
1942 NORTHWOOD DRIVE
SALISBURY, MARYLAND 21801-7824
410-742-7299 (OFFICE)
410-742-0273 (FAX)
jsmith@awbengineers.com (EMAIL)
www.awbengineers.com (WEBSITE)

TRAFFIC GENERATION - SUSSEX HIGHWAY (S-1)

(FULL MOVEMENT)



TRAFFIC GENERATION DIAGRAM

N.T.S.

NOTE: ADT (AM PEAK HOUR) [PM PEAK HOUR]

ROAD TRAFFIC DATA:

SOURCE: DelDOT VEHICLE VOLUME SUMMARY
FUNCTIONAL CLASSIFICATION - SC-1 (SUSSEX HIGHWAY) - OTHER PRINCIPAL ARTERIAL
POSTED SPEED LIMIT - ACTUAL SPEED FROM ROADWAY - GOOGLE EARTH: 55 mph
AADT = 26,746 TRIPS (FROM 2017 DELDOT TRAFFIC SUMMARY)
10 YEAR PROJECTED AADT = 1.16 AADT: 1.16 x 26,746 = 31,029
TRAFFIC PATTERN GROUP - 5 (FROM 2017 DELDOT TRAFFIC SUMMARY)
10 YEAR PROJECT AADT + SITE ADT = 31,029 + 186 = 31,215 TRIPS
DESIGN HOURLY VOLUME = K-FACTOR x 10 YEAR ADT: 11.32% x 31,029 = 3,512 TRIPS
TRUCK % = 9.79% x 31,029 = 3,038 TRIPS
DIRECTIONAL DISTRIBUTION - D FACTOR - 60.17% / 39.83% = 2,113 / 1,399

SITE TRAFFIC DATA:

SOURCE: INSTITUTE OF TRANSPORTATION ENGINEERS (ITE), TRIP GENERATION, 10TH EDITION

LAND USE GROUP - 150

EXISTING	WAREHOUSE	= 40,100 SQ. FT.
	WHOLESALE MARKET	= 7,091 SQ. FT.
	TOTAL	= 47,191 SQ. FT.
PROPOSED	WAREHOUSE	= 35,060 SQ. FT.
	WHOLESALE MARKET	= 5,463 SQ. FT.
	TOTAL	= 40,523 SQ. FT.
EXISTING & PROPOSED TOTAL		= 87,714 SQ. FT.

ONE EXISTING ENTRANCE - FULL MOVEMENT

DAILY ADT = 186 TRIPS (93 IN/93 OUT)
AM PEAK = 36 TRIPS (28 IN/8 OUT)
PM PEAK = 38 TRIPS (10 IN/28 OUT)

PER DELDOT GUIDANCE FOR THIS PROJECT, THE ITE TRIP GENERATION LAND USE GROUP CODE 150 AND GROSS FLOOR AREA FOR EACH BUILDING, EXISTING AND PROPOSED, WAS USED TO CALCULATE ITE TRIP GENERATION DATA SHOWN ABOVE.

PROJECT DATA

911 ADDRESS	36344 SUSSEX HIGHWAY DELMAR, DELAWARE 19940-3573
TAX MAP	5-32-13.00-63.04
PROJECT COORDINATES	LAT - 38 29.091 LONG - 75 33.647
LAND AREA	10.5 ACRES (457,315 SQ. FT.)
BUILDING AREA	
EXISTING	47,000 SQ. FT. [40,000 (WAREHOUSE) + 7,000 (WHOLESALE)]
PROPOSED	40,465 SQ. FT. [35,000 (PHASE I - WAREHOUSE) + 5,465 (PHASE II - WHOLESALE)]
TOTAL	87,465 SQ. FT.
PAVED AREA	
EXISTING	63,432 SQ. FT.
PROPOSED	43,897 SQ. FT. [32,030 (PHASE I - WAREHOUSE) + 11,867 (PHASE II - WHOLESALE)]
TOTAL	106,400 SQ. FT.
LIMIT OF DISTURBANCE	PHASE I 146,238 SQ. FT. (3.36 ACRES)
	PHASE II 42,963 SQ. FT. (0.98 ACRES)
	TOTAL 189,201 SQ. FT. (4.34 ACRES)
ZONING	LI-2 (LIGHT INDUSTRIAL)
BUILDING SETBACKS	50' FRONT / CHCOZ =60' (*) 20' SIDES 20' REAR (*) CHCOZ = COMBINED HIGHWAY CORRIDOR OVERLAY ZONE
BUILDING CODE	2012 IBC, 2010 ADAAG 2015 NFPA 101, & 2015 DELAWARE STATE FIRE PREVENTION REGULATIONS
CONSTRUCTION TYPE	TYPE II-B (IBC) / TYPE II-000 (NFPA 220) - PHASE I TYPE V-B (IBC) / TYPE V-000 (NFPA 220) - PHASE II
BUILDING USE GROUP	GROUP S-1 [MODERATE HAZARD STORAGE (IBC)/ STORAGE (NFPA 101)] - PHASE I MERCANTILE [IBC / NFPA 101] - PHASE II
BUILDING HEIGHT	38.16 FT. - 1 STORY (PHASE I) 30.0 FT. - 1 STORY (PHASE II)
SPRINKLER SYSTEM	FULLY SPRINKLERED SYSTEM COMPLYING WITH NFPA 13 - PHASE I AUTOMATIC FIRE SPRINKLERS ARE NOT PROPOSED FOR THIS STRUCTURE - PHASE II
WATER SUPPLIER	WELL & TANK

PHASE I PARKING SPACES	REGULAR	H/C	TOTAL
REQUIRED	13	1	14 (*)
EXISTING	46	1	47

PHASE II PARKING SPACES	REGULAR	H/C	TOTAL
REQUIRED	4	1	5 (*)
PROPOSED	4	1	5

(*) PARKING REQUIREMENT: 1 SPACE PER 2 EMPLOYEES ON LARGEST SHIFT

NO WETLANDS WERE LOCATED ON THIS PARCEL PER BOUNDARY SURVEY BY A-ES ARCHITECH (REF. BELOW IN SURVEY DATA)

EXTERIOR LIGHTING FOR BOTH PHASE I & II WILL BE MOUNTED ON THE FACE OF EXTERIOR FACING OF EACH BUILDING.

SURVEY DATA

DEED REFERENCE(S): D.B. 3821, P. 331 & D.B. 3325, P. 318

PLAT REFERENCE(S): P.B. 98, P.260

METES AND BOUNDS WERE TAKEN FROM A DRAWING BY A-ES ARCHITECH, DATED 08.22.05 (A-ES PROJECT NO. 04220). ORIGINAL SURVEY FROM A-ES DID..

TOPOGRAPHIC DATA TAKEN FROM TOPOGRAPHIC SURVEY DONE BY AWB ENGINEERS ON AUGUST 5, 2010.

PROJECT BENCHMARK (BM) IS EXISTING SANITARY SEWER MANHOLE RIM (ELEV=50.27) BASED ON NGVD 88 DATUM.

THIS PROPERTY IS SHOWN ON F.I.R.M. COMMUNITY PANEL #10005C0575L (PANEL 575 OF 660), DATED JUNE 20, 2018 AS BEING IN FLOOD ZONE X, AREA OF MINIMAL FLOODING.

SPECIFICATIONS

HEAVY ASPHALT PAVING SHALL CONSIST OF 10 INCHES OF CR-6 STONE OVER SUBSOIL AND BOTH COMPACTED TO 95% OF THE MODIFIED PROCTOR TEST. THIS SHALL BE OVERLAYED WITH 3 INCHES OF 19.0 MM HOT MIX ASPHALT AND A 2 INCH LAYER OF 9.5 MM HOT MIX ASPHALT.

LIGHT ASPHALT PAVING SHALL CONSIST OF 6 INCHES OF CR-6 STONE OVER SUBSOIL AND BOTH COMPACTED TO 95% OF THE MODIFIED PROCTOR TEST. THIS SHALL BE OVERLAYED WITH 2½ INCHES OF 19.0 mm HOT MIX ASPHALT AND A 1½ INCH LAYER OF 9.5 mm HOT MIX ASPHALT.

STONE STABILIZATION FOR TRUCK TRAFFIC SHALL CONSIST OF 6" OF CR-6 OVER COMPACTED STRUCTURAL FILL. COMPACT BOTH CR-6 AND FILL TO 95% OF THE APPROXIMATE STANDARD PROCTOR MAXIMUM DRY DENSITY.

ALL WALKS SHALL CONSIST OF 4 INCH THICK SLABS OF 4,000 PSI CONCRETE REINFORCED WITH 6x6-W1.4xW1.4 W.W.M. ALL EXTERIOR CONCRETE SHALL HAVE 5% ENTRAINED AIR PLUS OR MINUS 1%. PLACE EXPANSION JOINTS AT ALL RE-ENTRANT CORNERS AND AT NO MORE THAN 20 FEET CENTERS. ALL CONCRETE SLABS SHALL BE PLACED OVER SUBSOILS COMPACTED TO 95% OF THE STANDARD PROCTOR TEST.

CONCRETE PAVING SUBJECT TO TRUCK TRAFFIC SHALL CONSIST OF 8 INCH THICK, 4,000 PSI CONCRETE SLABS REINFORCED WITH #5 REBAR @ 1'-0" O.C.E.W. OVER 6" OF CR-6 AND SUBSOIL BOTH COMPACTED TO 95% OF THE STANDARD PROCTOR TEST. ALL EXTERIOR CONCRETE SHALL HAVE 5% ENTRAINED AIR PLUS OR MINUS 1%. PLACE CONTROL JOINTS AT ALL RE-ENTRANT CORNERS AND AT NO MORE THAN 20 FEET CENTERS.

DUMPSTER PAD SHALL CONSIST OF 8 INCH THICK, 4,000 PSI CONCRETE SLABS REINFORCED WITH #5 REBAR @ 1'-0" O.C.E.W. OVER 6" OF CR-6 AND SUBSOIL BOTH COMPACTED TO 95% OF THE STANDARD PROCTOR TEST. ALL EXTERIOR CONCRETE SHALL HAVE 5% ENTRAINED AIR PLUS OR MINUS 1%. PLACE CONTROL JOINTS AT ALL RE-ENTRANT CORNERS AND AT NO MORE THAN 20 FEET CENTERS.

GENERAL NOTES

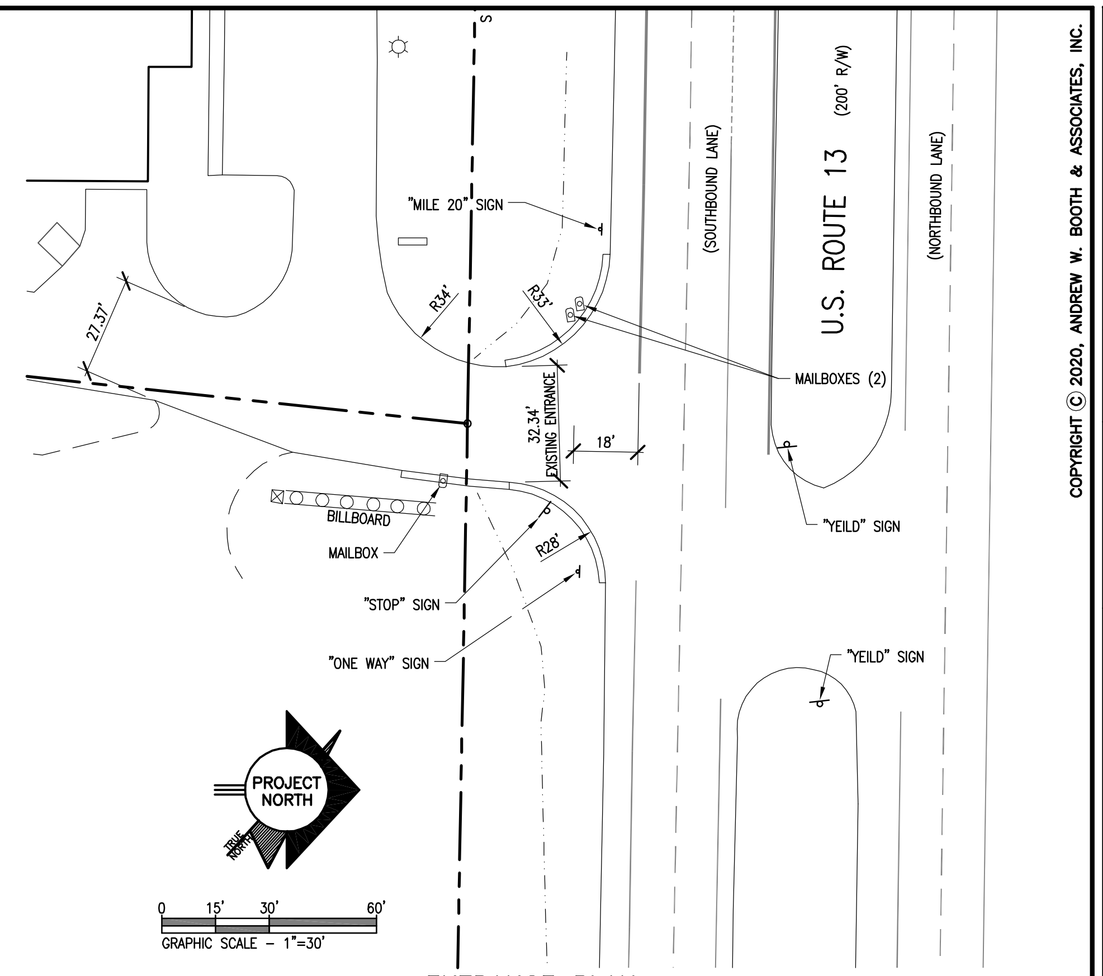
1. ALL ENTRANCES SHALL CONFORM TO THE DELAWARE DEPARTMENT OF TRANSPORTATION'S (DELDOT'S) CURRENT DEVELOPMENT COORDINATION MANUAL AND SHALL BE SUBJECT TO ITS APPROVAL.
2. UPON COMPLETION OF THE CONSTRUCTION OF THE SIDEWALK OR SHARED-USE PATH ACROSS THIS PROJECT'S FRONTAGE AND PHYSICAL CONNECTION TO ADJACENT EXISTING FACILITIES, THE DEVELOPER, THE PROPERTY OWNERS OR BOTH ASSOCIATED WITH THIS PROJECT, SHALL BE RESPONSIBLE TO REMOVE ANY EXISTING ROAD TIE-IN CONNECTIONS LOCATED ALONG ADJACENT PROPERTIES, AND RESTORE THE AREA TO GRASS. SUCH ACTIONS SHALL BE COMPLETED AT DELDOT'S DISCRETION, AND IN CONFORMANCE WITH DELDOT'S DEVELOPMENT COORDINATION MANUAL.
3. TO MINIMIZE RUTTING AND EROSION OF THE ROADSIDE DUE TO ON-STREET PARKING, DRIVEWAY AND BUILDING LAYOUTS MUST BE CONFIGURED TO ALLOW FOR VEHICLES TO BE STORED IN THE DRIVEWAY BEYOND THE RIGHT-OF-WAY, WITHOUT INTERFERING WITH SIDEWALK ACCESS AND CLEARANCE.
4. AT THE DISCRETION OF THE PUBLIC WORKS INSPECTOR, ANY DAMAGED OR MISSING CURB OR SIDEWALK FOUND ON SITE WILL NEED TO BE REPAIRED OR REPLACED TO MEET CURRENT DELDOT STANDARDS.

LEGEND

- PROPERTY LINE
- 20' B.S.L. BUILDING SETBACK LINE
- L LIMITS OF DISTURBANCE
- EXISTING CENTERLINE OF SWALE
- E-SDMH EXISTING STORMDRAIN MANHOLE
- SDMH PROPOSED STORMDRAIN MANHOLE
- E-GMH EXISTING GAS MANHOLE
- E-GV EXISTING GAS VALVE
- E-CB4 EXISTING CATCH BASIN
- PR-CB5 PROPOSED CATCH BASIN
- E-SSMH EXISTING SANITARY SEWER MANHOLE
- (5) EXISTING PARKING SPACES
- (6) PROPOSED PARKING SPACES
- HANDICAP PARKING

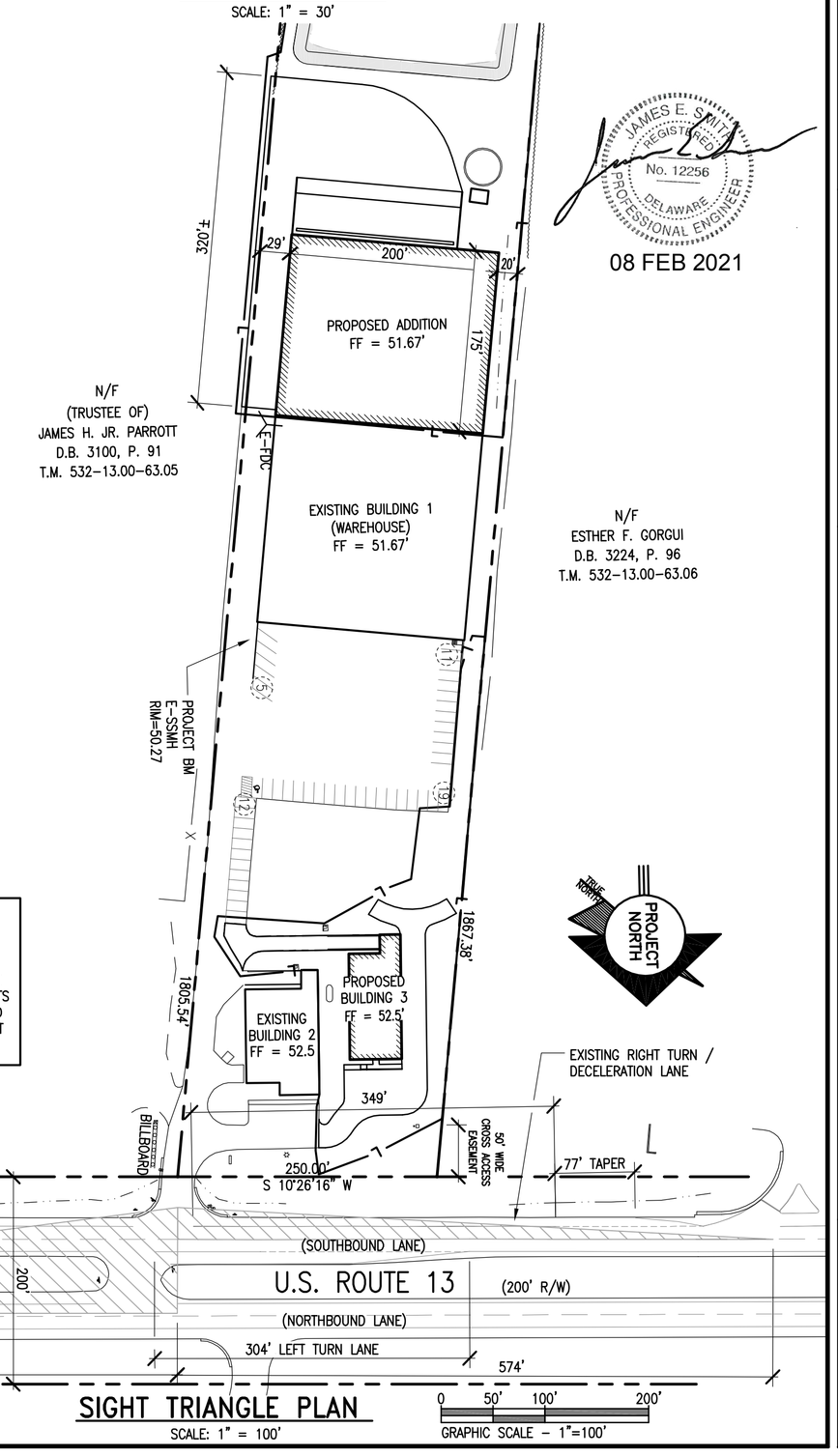
INTERSECTION SIGHT DISTANCE NOTE:

SHRUBBERY, PLANTINGS, SIGNS, AND/OR OTHER VISUAL BARRIERS THAT COULD OBSTRUCT THE SIGHT DISTANCE OF A DRIVER PREPARING TO ENTER THE ROADWAY ARE PROHIBITED WITHIN THE DEFINED DEPARTURE SITE TRIANGLE AREA ESTABLISHED ON THIS PLAN. IF THE ESTABLISHED DEPARTURES SITE TRIANGLE IS OUTSIDE OF THE RIGHT-OF-WAY OR PROJECTS ONTO AN ADJACENT PROPERTY OWNER'S LAND, A SIGHT EASEMENT SHALL BE ESTABLISHED AND RECORDED WITH ALL AFFECTED PROPERTY OWNERS TO MAINTAIN THE REQUIRED SIGHT DISTANCE.



ENTRANCE PLAN

SCALE: 1" = 30'



SIGHT TRIANGLE PLAN

SCALE: 1" = 100'

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REV	DESCRIPTION	BY	DATE
	DELDOT LONG REVIEW	EFT	18 NOV 20
	PERMIT REVIEW - COMMENT REVISIONS	EFT	08 FEB 21

ENGINEERS/ARCHITECTS
1942 NORTHWOOD DRIVE SALISBURY, MARYLAND 21801-7824
PH: (410) 742-7299 FAX: (410) 742-0273
AWB ENGINEERS

FURNITURELAND

DELDOT RECORD PLAN

2020 DISTRIBUTION CENTER EXPANSION

DELMAR, DELAWARE

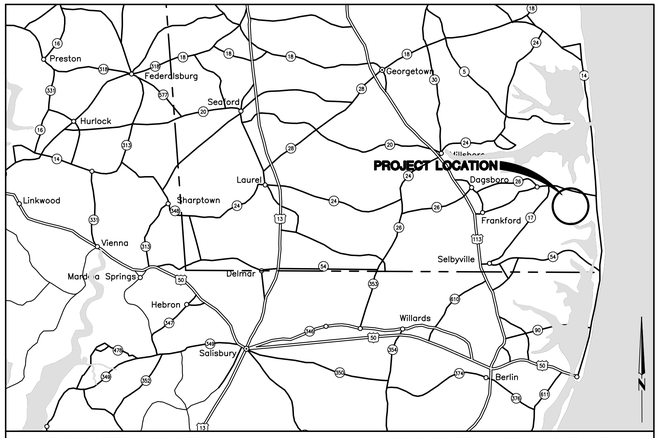
SCALE	1"=30'
DRAWN	EFT
PROJ.MGR.	LSB
JOB	200212
SHEET	RP-1

S:\200212.2 Furnitureland\200212RP1.dwg, 2/8/2021 4:01:58 PM, PDF995, Autocad 2020, EFT

WINDMILL WOODS

WINDMILL ROAD

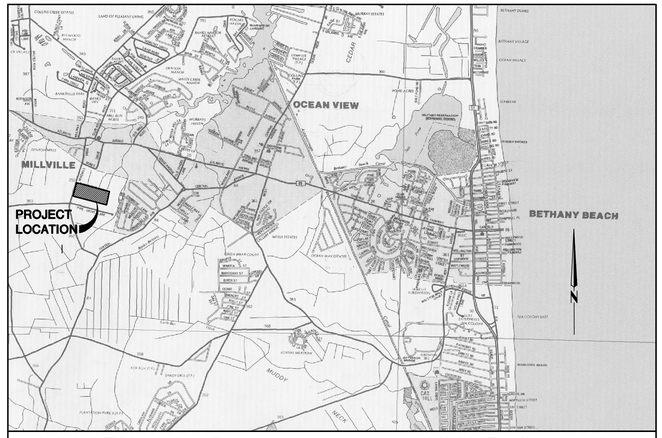
SUSSEX COUNTY, DELAWARE



VICINITY MAP SCALE: 1"=6 MILES

GENERAL NOTES

1. CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT (1-800-282-8555) AT LEAST (3) WORKING DAYS PRIOR TO EXCAVATION, TO HAVE EXISTING UNDERGROUND UTILITIES LOCATED AND MARKED.
2. ALL MATERIALS & WORKMANSHIP SHALL MEET THE STATE OF DELAWARE STANDARDS & SPECIFICATIONS.
3. ALL MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS, AND PROJECT SPECIFICATIONS.
4. THE CONTRACTOR SHALL NOTIFY THE FOLLOWING TWO WEEKS PRIOR TO THE START OF CONSTRUCTION AND SHALL APPRISE AND COORDINATE DURING ALL PHASES OF CONSTRUCTION:
   WINDMILL VENTURES, LLC 302-228-5383
   SUSSEX COUNTY ENGINEERING DEPARTMENT 302-855-7718
   DAVIS, BOWEN & FRIEDEL, INC. 410-543-9091
   SUSSEX CONSERVATION DISTRICT 302-856-2105
5. CONTRACTOR SHALL DETERMINE THE LOCATION OF ALL RIGHT-OF-WAY LINES AND PROPERTY LINES TO HIS OWN SATISFACTION. ALL PROPOSED UTILITIES ARE TO BE CONSTRUCTED WITHIN THE ROADWAY OR EASEMENT RIGHT-OF-WAY. ANY DISTURBED AREAS BEYOND THE EASEMENT LINES SHALL BE RESTORED IMMEDIATELY TO THEIR ORIGINAL CONDITION.
6. AERIAL TOPOGRAPHY BY AXIS GEOSPATIAL, LLC., 8903 GLEBE PARK DRIVE, EASTON, MD., ADDITIONAL TOPO PERFORMED BY LAND TECH. LLC. ROUTE 1, BOX 17-B 118 ATLANTIC AVENUE, OCEAN VIEW, DE.
7. EXISTING UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE BASED UPON THE BEST AVAILABLE INFORMATION AND ARE SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. NO GUARANTEE IS MADE OR IMPLIED REGARDING THE ACCURACY OR COMPLETENESS THEREOF. CONTRACTOR IS RESPONSIBLE FOR THE VERIFICATION OF DEPTH, SIZE AND MATERIAL OF ALL UNDERGROUND UTILITIES TO HIS OWN SATISFACTION BEFORE BEGINNING ANY EXCAVATION OR UTILITY INSTALLATION. THE OWNER AND ENGINEER DISCLAIM ANY RESPONSIBILITY FOR THE ACCURACY OR COMPLETENESS OF SAID INFORMATION. IF THE CONTRACTOR RELIES ON SAID INFORMATION, HE DOES SO AT HIS OWN RISK. THE GIVING OF THE INFORMATION ON THE PLANS WILL NOT RELIEVE THE CONTRACTOR OF HIS OBLIGATIONS TO SUPPORT AND PROTECT ALL SHOWN OR NOT SHOWN EXISTING UTILITIES AND APPURTENANCES. SHOULD ANY EXISTING UTILITIES BE DAMAGED BY THE CONTRACTOR, THE CONTRACTOR SHALL REPAIR THE DAMAGE CAUSED TO THE UTILITY OWNER'S SATISFACTION, AT THE CONTRACTOR'S EXPENSE.
8. DRAWINGS DO NOT INCLUDE THE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. ALL CONSTRUCTION MUST BE PERFORMED IN COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970, AS AMENDED AND ALL RULES AND REGULATIONS THERETO APPURTENANT.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF TRAFFIC IN ALL WORK AREAS.
10. ROUGH GRADING SHALL BE COMPLETE PRIOR TO THE CONSTRUCTION OF WATER & SEWER SYSTEMS.
11. USE ONLY SUITABLE AND APPROVED GRANULAR MATERIAL FOR BACKFILLING TRENCHES.
12. CONTRACTOR SHALL ADJUST TO FINISH GRADE AS NECESSARY ANY VALVE BOXES, MANHOLES, CATCH BASINS ETC., PRIOR TO PLACING PAVING.
13. CONTRACTOR SHALL PROVIDE STAKEOUT NECESSARY FOR THE INSTALLATION OF UTILITIES, STORMDRAINS, PAVING AND ALL OTHER SITE WORK INCLUDED IN THESE PLANS. ALL STAKEOUT WORK IS TO BE PERFORMED UNDER THE DIRECT SUPERVISION OF A PROFESSIONAL LAND SURVEYOR REGISTERED IN THE STATE OF DELAWARE.
14. CONTRACTOR TO MAINTAIN MINIMUM OF 4 FEET OF COVER OVER ALL NEW WATER LINES AS MEASURED FROM TOP OF PIPE TO FINISHED GRADE, UNLESS OTHERWISE NOTED.
15. SEWER LINES SHALL HAVE MINIMUM VERTICAL CLEARANCE OF 18 INCHES FROM WATER MAINS AT CROSSINGS. MAINTAIN A 10 FOOT MINIMUM PLAN SEPARATION BETWEEN SEWER AND WATER MAINS. SEWER LINES SHALL HAVE A MINIMUM VERTICAL CLEARANCE OF 6 INCHES FROM OTHER UTILITIES. IF THESE CLEARANCES CANNOT BE MAINTAINED, THEN PROVISIONS FOR PROPERLY ENCASING THE PIPE IN CONCRETE MUST BE PROVIDED.
16. LATERALS SERVING TOWNHOMES COMPRISED OF MORE THAN 4 UNITS SHALL BE 8 INCHES IN DIAMETER, WITH VERTICAL CLEANOUTS 8 INCHES IN DIAMETER. ALL OTHER LATERALS TO BE 6 INCHES IN DIAMETER, WITH VERTICAL CLEANOUTS OF 6 INCHES IN DIAMETER. ALL LATERALS TO HAVE A MINIMUM OF 3 FEET OF COVER FROM SUSSEX COUNTY CLEANOUT TO MAIN LINE.
17. ALL GRAVITY SEWER PIPES SHALL BE PVC SDR 35. FOR PIPE SLOPES SEE SANITARY SEWER PROFILES.
18. MATERIAL OF CONSTRUCTION FOR SEWER FORCE MAINS SHALL BE AS NOTED ON THE DRAWINGS. FORCE MAIN SHALL BE INSTALLED AS PROFILED TO PREVENT FORMATION OF UNANTICIPATED HIGH POINTS IN THE INSTALLATION.
19. ALL SEWER LINES MUST BE SUCCESSFULLY TESTED, PRIOR TO FINAL ACCEPTANCE.
20. ALL SANITARY SEWER SYSTEM CONSTRUCTION PERFORMED SHALL BE IN ACCORDANCE WITH SUSSEX COUNTY ORDINANCE 38, THESE PLANS AND ALL APPLICABLE CONSTRUCTION PERMITS.
21. ALL DROP MANHOLES TO BE 5'-0" IN DIAMETER.
22. FITTINGS SHOWN ON THE PLANS ILLUSTRATE ANTICIPATED ANGLE OF DEFLECTION. THIS INFORMATION IS SHOWN FOR GENERAL INFORMATION AND IS NOT GUARANTEED. ACTUAL ANGLE MAY VARY DUE TO FIELD CONDITIONS. USE OF ADDITIONAL FITTINGS SHALL BE AUTHORIZED BY THE ENGINEER.
23. THE CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY FOR ANY DEVIATION FROM THESE PLANS UNLESS WRITTEN APPROVAL HAS BEEN PROVIDED BY THE ENGINEER.
24. ALL WATER MAINS 6" AND LARGER SHALL BE C-909 CL 235 PVC.
25. UNITS 67-73 WILL BE SERVED WITH A DUAL WYE.



LOCATION MAP SCALE: 1"=1,000'

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INDEX OF DRAWINGS:

T	PROJECT TITLE SHEET
S1	SITE KEY MAP
S2-5	SITE & GRADING PLAN
S6-8	SITE DETAILS
ST1-6	STREET PLAN & PROFILE
SD1-3	STORMDRAIN PROFILES
U1	UTILITY KEY MAP
U2-6	UTILITY PLAN
U7-11	UTILITY PROFILES
U12-13	UTILITY DETAILS
L1-2	LANDSCAPE & LIGHTING PLAN
L3	LANDSCAPE NOTES & DETAILS
ESC1	EROSION & SEDIMENT CONTROL KEY PLAN
ESC2-3	EROSION & SEDIMENT CONTROL PLANS
ESC4-5	EROSION & SEDIMENT CONTROL DETAILS
SWM1	PRE-DEVELOPMENT S.W.M. KEY PLAN
SWM2-3	PRE-DEVELOPMENT S.W.M. PLANS
SWM4	POST-DEVELOPMENT S.W.M. KEY PLAN
SWM5-6	POST-DEVELOPMENT S.W.M. PLANS
SWM7-9	S.W.M. BASIN PLANS & SECTIONS

SITE DATA

OWNER / DEVELOPER:	WINDMILL WOODS LLC 32996 LIGHT HOUSE ROAD SELBYVILLE, DELAWARE 19975 PHONE: 302-436-5124 FAX: 302-436-4668 CONTACT: COLEMAN BUNTING
TAX MAP, PARCEL NUMBER:	SUSSEX CO. MAP #1-34-12, PARCEL #388.00
SITE AREA:	34.09 ACRES
STATE WETLANDS:	0 ACRES
"404" WETLANDS:	9.23 ACRES
TOTAL STREET AREA:	2.89 ACRES
NET LAND AREA WITHOUT STREETS:	31.20 ACRES
NET DENSITY WITHOUT STREETS:	2.34 UNITS/ACRES
GROSS DENSITY:	2.14 UNITS/ACRE
WETLAND ENCROACHMENT:	3.14 ACRE
EXISTING FORESTED AREA:	34.09 ACRES
RETAINED FORESTED AREA:	16.36 ACRES
ZONING DISTRICT:	MR MEDIUM DENSITY RESIDENTIAL WITH SINGLE FAMILY, DUPLEX AND TOWNHOUSE CONDITIONAL USE
PROPOSED USE:	MULTI-FAMILY RESIDENTIAL COMMUNITY
SETBACKS:	FRONT YARD - 40' SIDE YARD - 20' (40' MIN. BETWEEN BUILDINGS) REAR YARD - 40'
UNITS PROPOSED:	16 THREE STORY TOWNHOUSES (LESS THAN 40' IN HIEGHT) 51 SINGLE FAMILY UNITS 6 DUPLEX UNITS 73 TOTAL UNITS
NET DEVELOPMENT AREA:	34.09 ACRES
REQUIRED PARKING:	20 SPACES (3 SPACES PER TOWNHOUSE UNIT & 1 SPACE/200 S.F.)
PROVIDED PARKING:	34 SPACES PROVIDED
APPROVED WETLAND DELINEATION PERFORMED BY:	ENVIRONMENTAL CONSULTING SERVICES, INC. 100 SOUTH CASS STREET MIDDLETOWN, DE 19709 PHONE: 302-378-9893 FAX: 302-378-9107 CONTACT: DOUG POTTS
U.S. ARMY CORPS OF ENGINEERS	PROJECT NUMBER CENAP-OP-R-200202479-26(JD)

FLOOD PLAIN: ZONE X - SITE IS ENTIRELY OUTSIDE 100 YEAR FLOOD PLAIN
SOURCE: FEMA FLOOD MAP #10005C0511J, DATED JANUARY 6, 2005.

JANUARY 2021

PROJECT NO. 003E001.H

DAVIS, BOWEN & FRIEDEL, INC.
ARCHITECTS ENGINEERS SURVEYORS
ONE PLAZA EAST, SUITE 200, P.O. BOX 93
SALISBURY, MARYLAND 21803-0093
PHONE: 410-543-9091, FAX: 410-543-4172

OWNER'S CERTIFICATION

SIGNATURE: _____ _____
COLEMAN BUNTING DATE
WINDMILL WOODS, LLC.

ENGINEER'S STATEMENT

I, RING W. LARDNER, HEREBY STATE THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF DELAWARE.

SIGNATURE: _____ _____
RING W. LARDNER, P.E. DATE

SUSSEX COUNTY ENGINEERING DEPARTMENT
APPROVED BY:

_____
NAME TITLE

AGREEMENT NO. 476-1

WETLANDS CERTIFICATION

I, CHARLES C. MILLER, HEREBY STATE THAT THE FEDERAL WETLANDS BOUNDARIES DELINEATED UPON THIS PLAN ARE ACCURATELY SHOWN, AND THAT THE DELINEATION WAS PERFORMED UNDER MY SUPERVISION AND IN ACCORDANCE WITH THE APPROPRIATE STATE OR FEDERAL STANDARD FOR IDENTIFYING OR DELINEATING JURISDICTIONAL WETLANDS.

_____ _____
CHARLES C. MILLER DATE
WETLANDS CONSULTANT

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P:\0003\003E001.H\current working folder\dwgs\00 TS.dwg, Jan 21, 2021 - 3:31pm

Conditional Use No. 1502 is subject to the following conditions
As adopted by County Council (Ordinance #1647, December 16, 2003):

This Ordinance was adopted subject to the following conditions:

1. The maximum number of residential units shall not exceed 106.
2. All entrance, intersection, roadway and multi-modal improvements required by DelDOT shall be completed by the applicant in accordance with DelDOT's determination.
3. Recreational facilities and amenities shall be constructed and open to use by residents of the development within two years of the issuance of the first residential building permit. These amenities shall include a swimming pool and clubhouse.
4. The development shall be served as part of the Ocean View expansion of the Bethany Beach Sanitary Sewer District in accordance with Sussex County Engineering Department specifications.
5. The development shall be served by a public central water system providing adequate drinking water and fire protection as required by applicable regulations.
6. Stormwater management and erosion and sediment control shall be constructed in accordance with applicable State and County requirements. BMP's shall be incorporated into the system design to minimize any environmental impact.
7. Site plan review for each phase of development shall be subject to approval of the Planning and Zoning Commission.
8. The interior street design shall be in accordance with or exceed Sussex County street design requirements and/or specifications.
9. The applicant shall submit as part of the site plan review a landscape plan showing the proposed tree and shrub landscape design.
10. No site preparation, site disturbance, site excavation or other site construction shall be commenced until all permits required by all other laws, ordinances, rules and regulations shall have been issued and the approved final site plan is recorded, except site work for which a permit has been issued by the Sussex Conservation District. The site work authorized by the Sussex Conservation District permit may be commenced upon submission of copies of the application for permits from the Sussex County Engineering Department and DelDOT to the Director of Planning and Zoning and submission of a bond in an amount equal to 125% of the cost of the site work authorized by the Sussex Conservation District and in a form acceptable to the County Attorney. The Bond shall be released upon the issuance of all other permits and the filing of an approved master plan or final site plan.
11. Construction, site work, grading and deliveries of construction materials, landscape materials and fill, on, off or to the property, shall only occur between the hours of 7:00 a.m. and 6:00 p.m., Monday through Saturday.
12. A 30 foot forested buffer shall be provided on the southerly and northerly boundaries of the development. A 50 foot forested buffer shall be provided along the easterly boundary of the development.
13. Addressing and street naming shall be reviewed and approved by the Sussex County Mapping and Addressing Division.
14. Landscape and lawn maintenance shall be the responsibility of the Condominium Association. Best management practices will be utilized to minimize any environmental impact.
15. Sidewalk and streetlighting shall be provided.

LEGEND

EXISTING		PROPOSED
	PROPERTY LINE OR RIGHT-OF-WAY LINE	
	EASEMENTS	
X	FENCE	X
24	CONTOUR	24
×24.24 ×24.74 TC 24.24	SPOT ELEVATIONS: SURFACE, TOP OF CURB / BOTTOM OF CURB	24.24 / 24.74 T.C. 24.24 B.C.
	SWALE	
	EDGE OF WOODS, LIMITS OF CLEARING LINE	
E	UNDERGROUND ELECTRIC LINE	
OH/E	OVERHEAD ELECTRIC LINE	
T	UNDERGROUND TELEPHONE LINE	
G	UNDERGROUND GAS LINE	
	SEWER MAIN, MANHOLE, AND CLEANOUT	c.o.
	WATER MAIN, HYDRANT, VALVE, AND METER	
	STORMDRAIN, MANHOLE, AND INLET	
	CURB, CURB AND GUTTER	
	CONCRETE SIDEWALK, CONCRETE PAD, OR CONCRETE PAVING	
	BITUMINOUS PAVING	
	BUILDING	
	ITEMS TO BE DEMOLISHED	
	DECIDUOUS TREE, EVERGREEN TREE, AND SHRUBS	
	ROAD SIGN, MAIL BOX	
	TRAFFIC SIGNAL POLE	
	UTILITY POLE WITH GUY WIRES	

SITE DATA

OWNER / DEVELOPER:	WINDMILL WOODS LLC 32996 LIGHT HOUSE ROAD SELBYVILLE, DELAWARE 19975 PHONE: 302-436-5124 FAX: 302-436-4668 CONTACT: COLEMAN BUNTING
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U.S. ARMY CORPS OF ENGINEERS PROJECT NUMBER CENAP-OP-R-200202479-26(JD)

FLOOD PLAIN: ZONE X – SITE IS ENTIRELY OUTSIDE 100 YEAR FLOOD PLAIN
SOURCE: FEMA FLOOD MAP #10005C0511J, DATED JANUARY 6, 2005.

APPROVED BY:

DELAWARE STATE GRID SYSTEM NAD-83

_____ _____
CHAIRMAN OF PLANNING COMMISSION DATE

_____ _____
PRESIDENT OF SUSSEX COUNTY COUNCIL DATE

OWNER'S CERTIFICATION

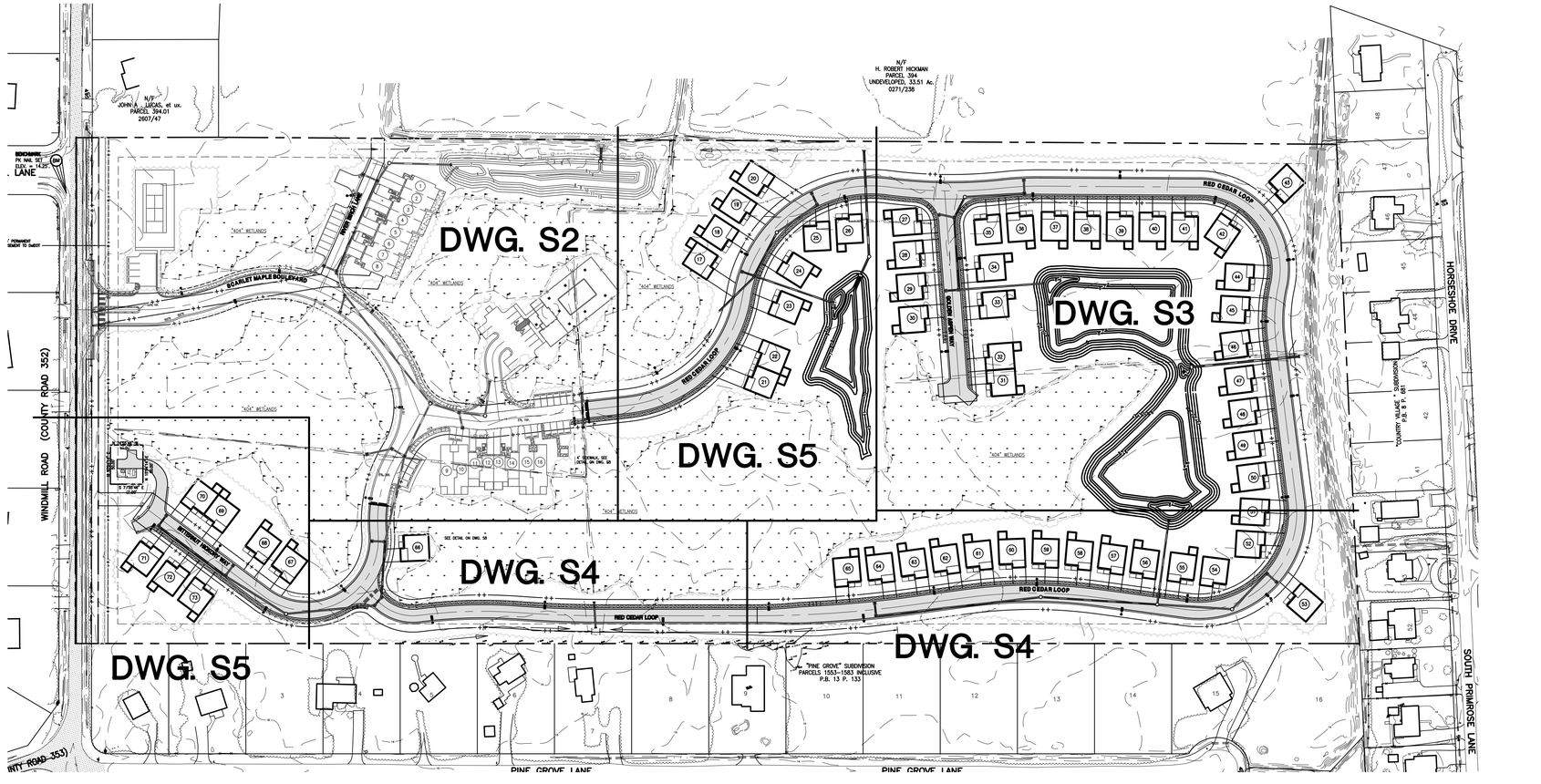
I, WINDMILL WOODS, LLC, HEREBY CERTIFY THAT I AM THE OWNER OF THE PROPERTY DESCRIBED AND SHOWN ON THIS PLAN, THAT THE PLAN WAS MADE AT OUR DIRECTION, AND THAT WE ACKNOWLEDGE THE SAME TO BE MY ACT AND DESIRE THE PLAN TO BE RECORDED AS SHOWN IN ACCORDANCE WITH ALL APPLICABLE LAWS AND REGULATIONS.

SIGNATURE: _____ _____
WINDMILL WOODS, LLC. DATE
COLEMAN BUNTING – MEMBER

ENGINEER'S STATEMENT

I, RANDY B. DUPLECHAIN, HEREBY STATE THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF DELAWARE, LICENSE NO. 9959, EXPIRATION DATE: 06/30/18.

SIGNATURE: _____ _____
RANDY B. DUPLECHAIN, P.E. DATE



WINDMILL WOODS
WINDMILL ROAD
SUSSEX COUNTY, DELAWARE

SITE KEY MAP

DAVIS, BOWEN & FRIEDEL, INC.
ARCHITECTS ENGINEERS SURVEYORS
SALISBURY, MARYLAND (410) 543-9091
MILFORD, DELAWARE (302) 424-1441

Revisions:

Date:	JANUARY 2021
Scale:	1" = 100'
Dwn.By:	AKB
Proj.No.:	003E001.H
Dwg.No.:	S1

P:\0003\0003E001.H\current working folder\dwgs\S1-S SITE.dwg Jan 21, 2021 - 3:32pm

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N/F
JOHN A. LUCAS, et ux.
PARCEL 394.01
2607/47

N 75°09'47" W 218.59'
193.59'
25.00'
1/2" I.P.F.
3/4" I.P.F.

BENCHMARK
PK NAIL SET
ELEV. = 14.25'.
BM

L LANE

25' PERMANENT
EASEMENT TO DelDOT

NOTE:
PROPOSED AMENITIES AREA, BY OTHERS.
SEE 'TENNIS COURT AREA' SITE PLANS
FOR CONSTRUCTION DETAILS.

"404" WETLANDS
INTEGRAL P.C.C.
CURB AND GUTTER
TYPE 2, TYP.

RIVER BIRCH LANE

SCARLET MAPLE BOULEVARD

30' TREE BUFFER

DELAWARE STATE GRID SYSTEM NAD 83

STORMWATER MANAGEMENT
POND #3

POOL

PROPOSED 341.49 S.F. WATERS
OF THE U.S. FILL AREA

NOTE:
PROPOSED AMENITIES AREA, BY OTHERS.
SEE 'CLUBHOUSE & POOL AREA' SITE
PLANS FOR CONSTRUCTION DETAILS.

"404" WETLANDS

PROPOSED 2,046.15 S.F.
WETLAND FILL AREA

PROPOSED 2197.65 S.F.
WETLAND FILL AREA

PROPOSED 1,659.58 S.F.
WETLAND FILL AREA

10' WIDE BITUMINOUS
MULTI-PURPOSE PATH, SEE
DETAIL DWG. EN2

40' TREE BUFFER

INTEGRAL P.C.C.
CURB AND GUTTER
TYPE 2, TYP.

"404" WETLANDS

MATCH LINE SEE DRAWING S5

PUMP STATION,
ALREADY CONSTRUCTED

UPLANDS

4' SIDEWALK, SEE
DETAIL ON DWG. S8

INTEGRAL P.C.C.
CURB AND GUTTER
TYPE 2, TYP.

PROPOSED 582.86 S.F. WATERS
OF THE U.S. FILL AREA

MATCH LINE SEE DRAWING S4

5' CONCRETE SIDEWALK, TYP.
SEE DETAIL ON DWG. S8

MATCH LINE SEE DRAWING S3

WINDMILL ROAD (COUNTY ROAD 352)

S 15°04'14" W 775.64'
N 15°04'14" E 775.71'

BITTERNUT

0' 30' 60' 90'

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P:\0003\0003E001.H\current working folder\dwgs\S1-5 SITE.dwg Jan 21, 2021 - 3:32pm

DAVIS, BOWEN & FRIEDEL, INC.
ARCHITECTS ENGINEERS SURVEYORS
SALISBURY, MARYLAND (410) 543-9091
MILFORD, DELAWARE (302) 424-1441

SITE & GRADING PLAN

WINDMILL WOODS
WINDMILL ROAD
SUSSEX COUNTY, DELAWARE

Revisions:

Date:	JANUARY 2021
Scale:	1" = 30'
Dwn.By:	ADM
Proj.No.:	003E001.H
Dwg.No.:	S2

EARTH BERM

5' CONCRETE SIDEWALK, TYP.
SEE DETAIL ON DWG. S8

EARTH BERM

RED CEDAR LOOP

GOLDEN ASPEN WAY

MATCH LINE SEE DRAWING S5

MATCH LINE SEE DRAWING S4

"404" WETLANDS

STORMWATER MANAGEMENT
POND 1

3/4" I.P.S.

DELAWARE STATE GRID SYSTEM NAD-83

2-RAIL WOOD
FENCE; 60 LF

766.26'

N 12°20'23" E

"COUNTRY VILLAGE" SUBDIVISION
P.B. 8 P. 681

TREE BUFFER

EARTH BERM

0' 30' 60' 90'

DAVIS, BOWEN & FRIEDEL, INC.
ARCHITECTS ENGINEERS SURVEYORS
SALISBURY, MARYLAND (410) 543-9091
MILFORD, DELAWARE (302) 424-1441

WINDMILL WOODS
WINDMILL ROAD
SUSSEX COUNTY, DELAWARE

SITE & GRADING PLAN

Revisions:

Date:	JANUARY 2021
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Dwg.No.:	S3

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P:\0003\003E001.H\current working folder\dwgs\S1-5 SITE.dwg Jan 21, 2021 - 3:32pm

MATCH LINE SEE DRAWING S5

MATCH LINE SEE DRAWING S3

MATCH LINE SEE THIS DRAWING

RED CEDAR LOOP

DELAWARE STATE GRID SYSTEM NAD-83

EARTH BERM

30' TREE BUFFER

EXISTING 2' TALL EARTH BERM (TO REMAIN)

LIMIT OF BERM REMOVED

REMOVE APPROXIMATELY 460 LF OF EXISTING EARTH BERM

42 LF SWALE AT 0.5%

SLOPE FROM PROPERTY LINE TO BACK OF CURB

82 LF SWALE AT 0.5%

"PINE GROVE" SUBDIVISION
PARCELS 1553-1583 INCLUSIVE
P.B. 13 P. 133

3/4" I.P.F.

TYPE 2, TYP.

MATCH LINE SEE DRAWING S2

404 WETLANDS

MATCH LINE SEE DRAWING S5

5' CONCRETE SIDEWALK TYP.
SEE DETAIL ON DWG. S8

LIMIT OF BERM REMOVED

RED CEDAR LOOP

EXISTING 2' TALL EARTH BERM (TO REMAIN)

125 LF SWALE AT 0.35%

171 LF SWALE AT 0.5%

REMOVE APPROXIMATELY 175 LF OF EARTH BERM

133 LF SWALE AT 0.5%

REMOVE APPROXIMATELY 460 LF OF EARTH BERM

N 75°00'29" W 1043.57'

1968.57'

82 LF SWALE

DELAWARE STATE GRID SYSTEM NAD-83

0' 30' 60' 90'

DAVIS, BOWEN & FRIEDEL, INC.
ARCHITECTS ENGINEERS SURVEYORS
SALISBURY, MARYLAND (410) 543-9091
MILFORD, DELAWARE (302) 424-1441

SITE & GRADING PLAN

WINDMILL WOODS
WINDMILL ROAD
SUSSEX COUNTY, DELAWARE

Revisions:
12/22/2020-REMOVAL OF BERM
ADDITION OF SWALE

Date: JANUARY 2021
Scale: 1" = 30'
Dwn.By: ADM
Proj.No.: 003E001.H
Dwg.No.: S4

P:\0003\0003E001.H\current working folder\dwgs\S1-5 SITE.dwg Jan 21, 2021 - 3:32pm

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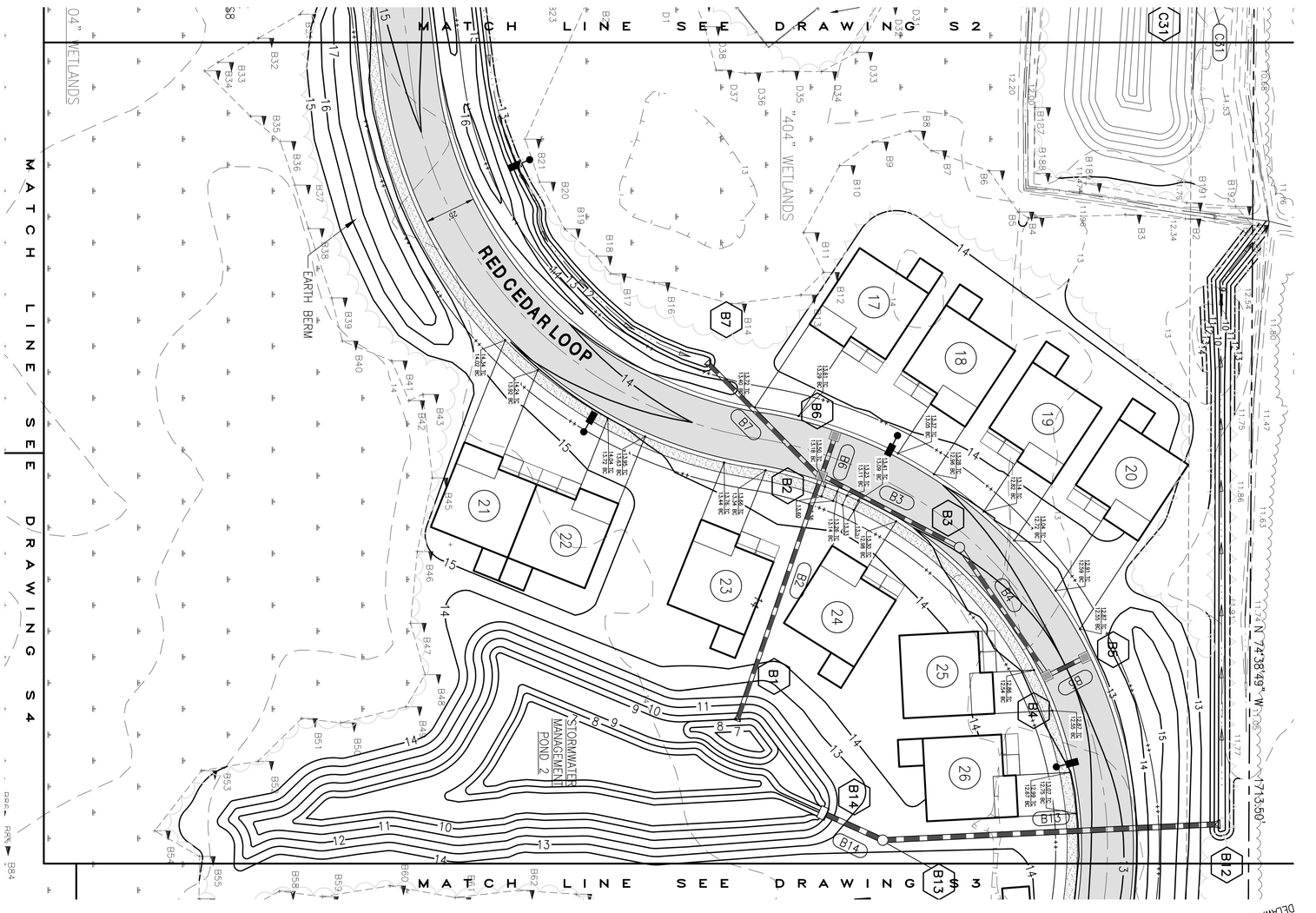

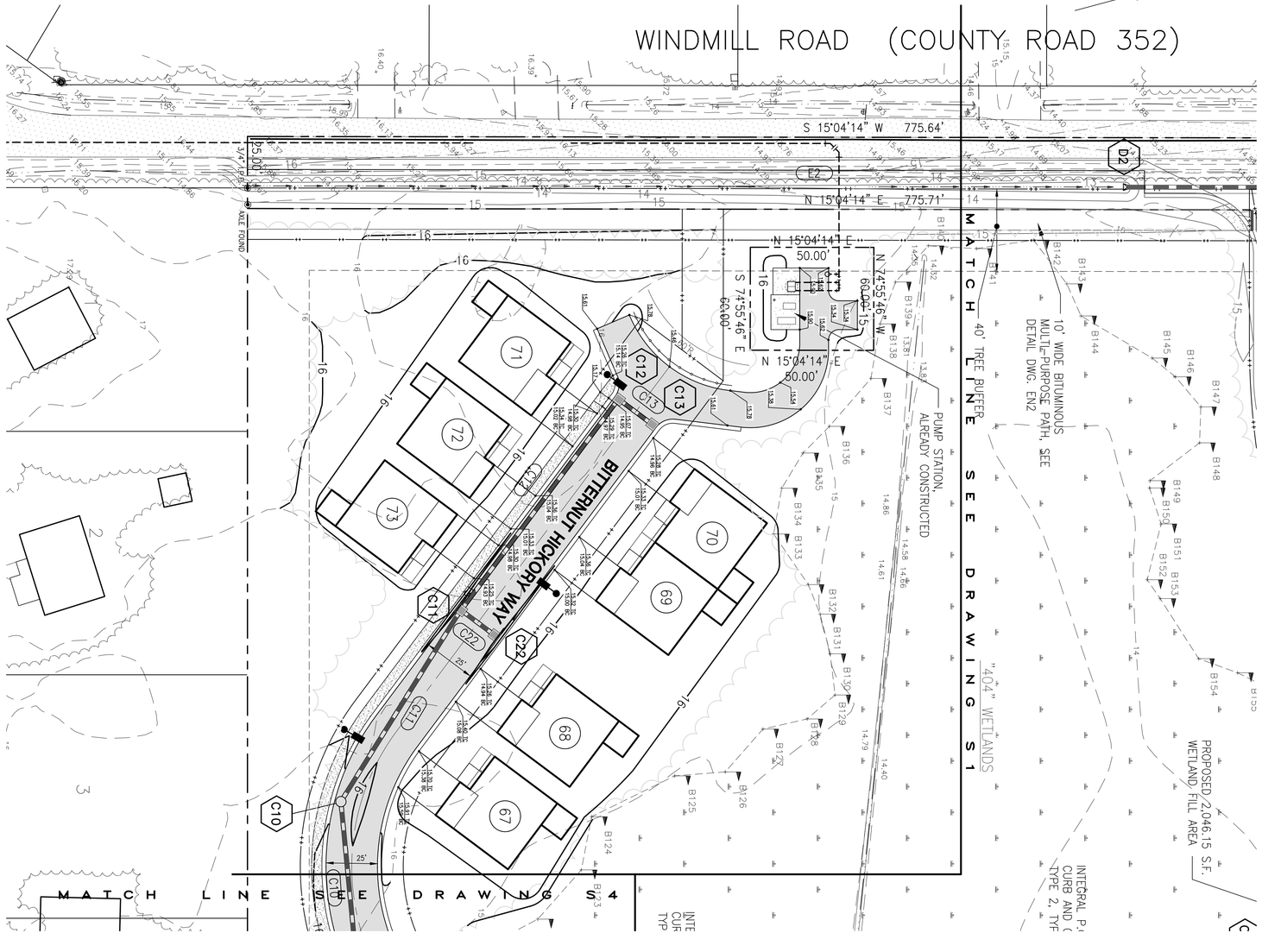

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0' 30' 60' 90'

S5

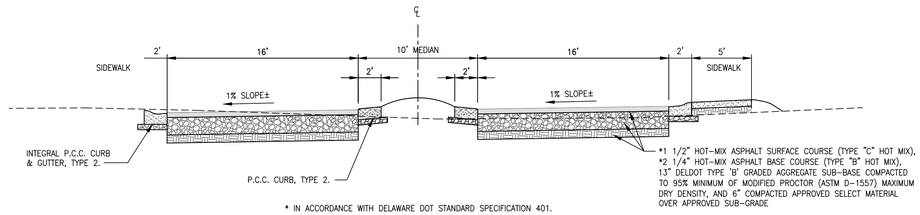
Date: JANUARY 2021
Scale: 1" = 30'
Dwn.By: ADM
Proj.No.: 0003E001.H
Dwg.No.:

Revisions:

WINDMILL WOODS
WINDMILL ROAD
SUSSEX COUNTY, DELAWARE

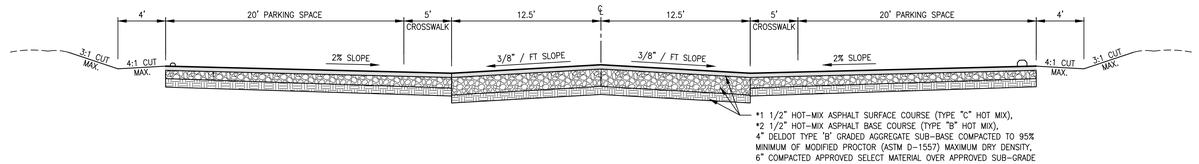
DAVIS, BOWEN & FRIEDEL, INC.
ARCHITECTS ENGINEERS SURVEYORS
SALISBURY, MARYLAND (410) 543-9091
MILFORD, DELAWARE (302) 424-1441

SITE & GRADING PLAN



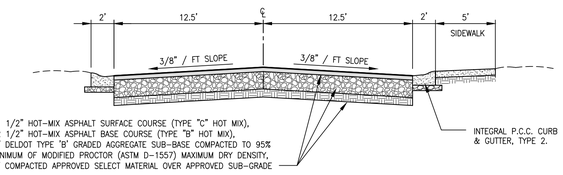
* IN ACCORDANCE WITH DELAWARE DOT STANDARD SPECIFICATION 401.

ENTRANCE SECTION SCARLET MAPLE BOULEVARD STA. 0+27.00 TO 0+98.26



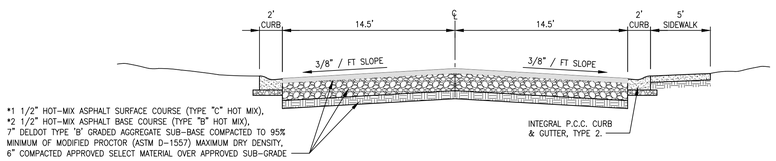
* IN ACCORDANCE WITH DELAWARE DOT STANDARD SPECIFICATION 401.

TYPICAL ROAD SECTION W/ ADJACENT PARKING



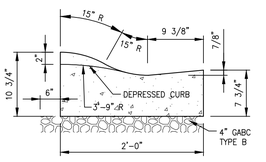
* IN ACCORDANCE WITH DELAWARE DOT STANDARD SPECIFICATION 401.

TYPICAL ROAD SECTION

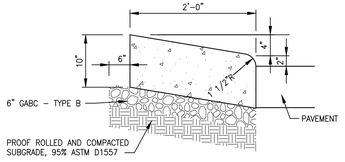


* IN ACCORDANCE WITH DELAWARE DOT STANDARD SPECIFICATION 401.

SCARLET MAPLE BOULEVARD SECTION STA. 1+70.33 TO 5+82.06



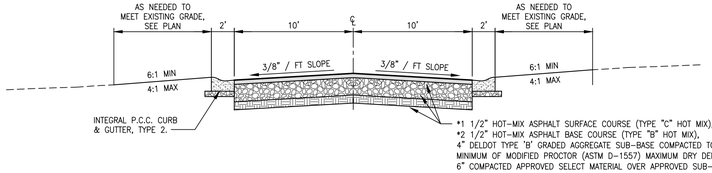
INTEGRAL P.C.C. CURB & GUTTER TYPE 2



P.C.C. CURB TYPE 2

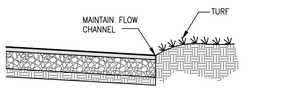
CURB DETAILS

DEL. D.O.T. STD. C-1 (2001)

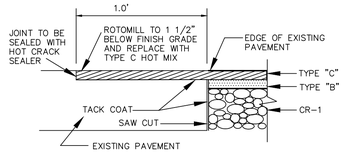


* IN ACCORDANCE WITH DELAWARE DOT STANDARD SPECIFICATION 401.

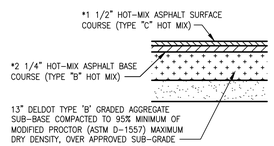
RED CEDAR LOOP SECTION STA. 28+50 TO 34+67.02



SECTION IN FRONT OF TOWNHOMES

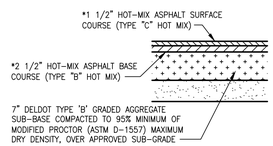


TYPICAL PAVEMENT TIE-IN



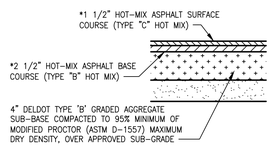
REQUIRED STRUCTURAL NUMBER SN-3.20
DESIGNED STRUCTURAL NUMBER SN-3.20

WINDMILL ROAD (COUNTY ROAD 352) HIGHWAY PAVEMENT & SCARLET MAPLE BOULEVARD ENTRANCE PAVEMENT STATION 0+00 TO STATION 1+00



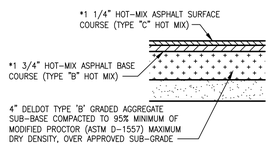
REQUIRED STRUCTURAL NUMBER SN-3.20
DESIGNED STRUCTURAL NUMBER SN-3.20

SCARLET MAPLE BOULEVARD PAVEMENT STATION 1+00 TO STATION 6+32.06



REQUIRED STRUCTURAL NUMBER SN-2.42
DESIGNED STRUCTURAL NUMBER SN-3.06

TYPICAL INTERIOR STREETS PAVEMENT



PARKING SPACES AND DRIVEWAY PAVEMENT

NOTES:

1. *HOT-MIX SHALL BE IN ACCORDANCE WITH DELAWARE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION SECTION 401.
2. PAVEMENT MATERIALS AND CONSTRUCTION TO BE IN ACCORDANCE WITH THE DELAWARE DEPARTMENT OF TRANSPORTATION ROAD AND BRIDGE SPECIFICATIONS, LATEST EDITION.
3. ALL PAVEMENT SUB-GRADE TO BE INSPECTED, PROOF ROLLED AND TESTED BY THE GEOTECHNICAL ENGINEER.

PAVING SECTIONS

STORMWATER STRUCTURE AND PIPE SCHEDULE

STRUCTURES (A1)									PIPES (A2)						
No.	Type	Rim/Grate Elev.	Invert In	Invert In	Invert In	Invert Out	Location	Centerline Station	Remarks	No.	Size & Type	Length	Slope %	Upstream Invert	Downstream Invert
A1	24" HDPE END SECTION	–	7.90	–	–	–	GOLDEN ASPEN WAY	STA. 1+52.92 L=139.29'	–	–	–	–	–	–	–
A2	72"X48" INLET	13.15	8.10 (24")	10.40 (15")	–	8.05	GOLDEN ASPEN WAY	STA. 1+52.92 L=10.16	TYPE A TOP UNIT	A2	24" HDPE	129'	0.12	8.05	7.90
A3	48"X48" INLET	12.59	8.75 (18")	9.90 (15")	–	8.25	GOLDEN ASPEN WAY	STA. 0+42.20 L=10.12	TYPE C TOP UNIT	A3	24" RCP	111'	0.14	8.25	8.10
A4	BOX MANHOLE	12.47	8.90	–	–	8.85	GOLDEN ASPEN WAY	STA. 0+11.39 L=10.15	–	A4	18" RCP	25'	0.29	8.85	8.75
A5	72"X48" INLET	11.98	9.39	–	–	9.14	RED CEDAR LOOP	STA. 11+00.00 R=12.50	TYPE A TOP UNIT	A5	18" RCP	91'	0.26	9.14	8.90
A6	72"X24" INLET	11.98	–	–	–	9.49	RED CEDAR LOOP	STA. 11+00.00 L=12.50	TYPE A TOP UNIT	A6	15" RCP	25'	0.40	9.49	9.39
A7	72"X24" INLET	13.15	–	–	–	10.50	GOLDEN ASPEN WAY	STA. 1+52.92 R=12.50	TYPE A TOP UNIT	A7	15" RCP	23'	0.44	10.50	10.40
A8	48"X30" INLET	12.48	–	–	–	10.00	GOLDEN ASPEN WAY	STA. 0+35.95 R=10.19	TYPE C TOP UNIT	A8	15" RCP	25'	0.40	10.00	9.90
A9	24" HDPE END SECTION	–	8.50	–	–	–	RED CEDAR LOOP	STA. 22+40.58 R=129.88'	–	–	–	–	–	–	–
A10	4' DIA. MANHOLE	14.49	9.75 (15")	9.35 (18")	–	8.85	RED CEDAR LOOP	STA. 22+40.58 R=1.72	–	A10	24" RCP	128'	0.27	8.85	8.50
A11	BOX MANHOLE	13.76	10.30	–	–	10.25	RED CEDAR LOOP	STA. 21+26.42 L=6.73	–	A11	15" RCP	115'	0.44	10.25	9.75
A12	72"X24" INLET	13.33	10.70	–	–	10.65	RED CEDAR LOOP	STA. 20+49.77 R=10.12	TYPE C TOP UNIT	A12	15" RCP	77'	0.46	10.65	10.30
A13	72"X24" INLET	13.33	–	–	–	10.80	RED CEDAR LOOP	STA. 20+49.77 L=10.19	TYPE C TOP UNIT	A13	15" RCP	25'	0.40	10.80	10.70
A14	4' DIA. MANHOLE	14.56	9.80	–	–	9.75	RED CEDAR LOOP	STA. 24+19.96 L=5.96	–	A14	18" RCP	179'	0.22	9.75	9.35
A15	72"X48" INLET	13.81	10.70	–	–	10.45	RED CEDAR LOOP	STA. 26+75.02 L=10.19	TYPE C TOP UNIT	A15	18" RCP	254'	0.26	10.45	9.80
A16	72"X24" INLET	13.81	–	–	–	10.80	RED CEDAR LOOP	STA. 26+75.02 R=12.50	TYPE A TOP UNIT	A16	15" RCP	25'	0.40	10.80	10.70
A17	19"X30" ERCP END SECTION	–	7.35	–	–	–	RED CEDAR LOOP	STA. 17+02.64 L=32.95'	–	–	–	–	–	–	–
A18	P.W. - B.D. 4 OUTFALL	10.85	9.00	–	–	7.85	RED CEDAR LOOP	STA. 16+98.87 R=133.39	FROM POND 1	A18	19"X30" ERCP	164'	0.30	7.85	7.35
B1	18" HDPE END SECTION	–	8.75	–	–	–	RED CEDAR LOOP	STA. 6+17.69 R=74.78	–	–	–	–	–	–	–
B2	48"X48" INLET	13.27	9.25 (15")	10.65 (15")	11.00 (15")	9.00	RED CEDAR LOOP	STA. 6+17.69 R=12.50	TYPE A TOP UNIT	B2	18" HDPE	121'	0.21	9.00	8.75
B3	BOX MANHOLE	13.07	9.60	–	–	9.55	RED CEDAR LOOP	STA. 6+96.35 R=6.25	–	B3	15" RCP	75'	0.40	9.55	9.25
B4	72"X24" INLET	12.61	10.00	–	–	9.95	RED CEDAR LOOP	STA. 7+74.56 R=12.50	TYPE A TOP UNIT	B4	15" RCP	75'	0.47	9.95	9.60
B5	72"X24" INLET	12.61	–	–	–	10.10	RED CEDAR LOOP	STA. 7+74.56 L=12.50	TYPE A TOP UNIT	B5	15" RCP	25'	0.40	10.10	10.00
B6	48"X30" INLET	13.27	–	–	–	10.75	RED CEDAR LOOP	STA. 6+17.69 L=12.50	TYPE A TOP UNIT	B6	15" RCP	25'	0.40	10.75	10.65
B7	14"x23" ARCP END SECTION	–	–	–	–	11.25	RED CEDAR LOOP	STA. 5+49.05 L=29.02	–	B7	14"x23" ARCP	79'	0.32	11.25	11.00
B8	13 $\frac{1}{2}$"X22" ARCP END SECTION	–	12.36	–	–	–	RED CEDAR LOOP	STA. 2+52.85 L=25.09	–	–	–	–	–	–	–
B9	13 $\frac{1}{2}$"X22" ARCP END SECTION	–	–	–	–	12.41	RED CEDAR LOOP	STA. 2+20.20 R=25.09	–	B9	13 $\frac{1}{2}$"X22" ARCP	50'	0.10	12.41	12.36
B10	11"X18" ARCP END SECTION	–	13.14	–	–	–	RED CEDAR LOOP	STA. 31+46.47 R=19.23	–	–	–	–	–	–	–
B11	11"X18" ARCP END SECTION	–	–	–	–	13.35	RED CEDAR LOOP	STA. 31+44.03 L=16.80	–	B11	18"x11" ARCP	36'	0.58	13.35	13.14
B12	18"X28.5" ARCP END SECTION	–	9.50	–	–	–	RED CEDAR LOOP	STA. 8+56.62 L=54.56	–	–	–	–	–	–	–
B13	BOX MANHOLE	13.08	9.83	–	–	9.88	RED CEDAR LOOP	STA. 8+57.39 R=108.44	–	B13	18"X28 $\frac{1}{2}$" ARCP	161'	0.21	9.83	9.50
B14	P.W. - B.D. 4 OUTFALL	11.85	10.00	–	–	9.94	RED CEDAR LOOP	STA. 8+13.84 R=135.14	FROM POND 2	B14	18"X28 $\frac{1}{2}$" ARCP	32'	0.19	9.94	9.88
C0	30" HDPE END SECTION	–	7.20	–	–	–	RIVER BIRCH LANE	STA. 2+58.19 R=104.19	–	–	–	–	–	–	–
C1	4' DIA. MANHOLE	13.00	7.35	–	–	7.30	RIVER BIRCH LANE	STA. 2+21.19 R=12.50	–	C1	30" HDPE	99'	0.10	7.30	7.20
C2	48"X48" INLET	12.81	7.95 (24")	9.60 (15")	–	7.45	RIVER BIRCH LANE	STA. 1+91.19 L=12.50	TYPE A TOP UNIT	C2	30" RCP	30'	0.33	7.45	7.35
C3	48"X48" INLET	12.57	8.40 (24")	9.95 (15")	–	8.35	RIVER BIRCH LANE	STA. 0+38.94 R=10.16	TYPE C TOP UNIT	C3	24" RCP	152'	0.26	8.35	7.95
C4	72"X48" INLET	12.65	8.55 (24")	10.00 (15")	–	8.50	SCARLET MAPLE BOULEVARD	STA. 4+17.28 L=12.96	TYPE D TOP UNIT	C4	24" HDPE	39'	0.26	8.50	8.40
C5	BOX MANHOLE	13.74	10.35 (18")	9.35 (18")	–	8.85	RED CEDAR LOOP	STA. 0+14.45 L=18.36	–	C5	24" RCP	211'	0.14	8.85	8.55
C6	48"X30" INLET	13.92	10.80 (18")	11.00 (15")	–	10.75	BITTERNUT HICKORY WAY	STA. 0+67.30 L=10.13	TYPE C TOP UNIT	C6	18" RCP	90'	0.44	10.75	10.35
C7	72"X48" INLET	14.02	11.15 (18")	11.45 (15")	–	11.10	BITTERNUT HICKORY WAY	STA. 2+10.00 L=10.19	TYPE C TOP UNIT	C7	18" RCP	135'	0.22	11.10	10.80
C8	48"X30" INLET	14.36	11.35	–	–	11.30	RED CEDAR LOOP	STA. 34+43.89 R=7.63	TYPE C TOP UNIT	C8	18" RCP	86'	0.17	11.30	11.15
C9	72"X48" INLET	14.36	11.50	–	–	11.45	RED CEDAR LOOP	STA. 34+43.89 L=7.63	TYPE C TOP UNIT	C9	18" RCP	18'	0.55	11.45	11.35
C10	BOX MANHOLE	15.78	11.70	–	–	11.65	BITTERNUT HICKORY WAY	STA. 4+8.09 L=9.50	–	C10	18" RCP	134'	0.11	11.65	11.50
C11	72"X48" INLET	14.98	12.10 (15")	12.38 (15")	–	11.85	BITTERNUT HICKORY WAY	STA. 5+15.00 L=12.47	TYPE A TOP UNIT	C11	18" RCP	110'	0.14	11.85	11.70
C12	72"X24" INLET	14.98	12.38	–	–	12.33	BITTERNUT HICKORY WAY	STA. 6+70.00 L=12.50	TYPE A TOP UNIT	C12	15" RCP	128'	0.18	12.33	12.10
C13	72"X24" INLET	14.98	–	–	–	12.48	BITTERNUT HICKORY WAY	STA. 6+70.00 R=10.13	TYPE C TOP UNIT	C13	15" RCP	25'	0.40	12.48	12.38
C14	48"X48" INLET	12.81	9.75	–	–	9.70	RIVER BIRCH LANE	STA. 1+91.19 L=10.13	TYPE C TOP UNIT	C14	15" RCP	23'	0.44	9.70	9.60
C15	72"X24" INLET	12.51	9.90	–	–	9.85	TULIP POPLAR WAY	STA. 4+46.13 L=10.19	TYPE C TOP UNIT	C15	15" RCP	21'	0.48	9.85	9.75
C16	72"X24" INLET	12.51	–	–	–	10.00	TULIP POPLAR WAY	STA. 4+46.13 R=10.13	TYPE C TOP UNIT	C16	15" RCP	20'	0.49	10.00	9.90
C17	48"X30" INLET	12.57	–	–	–	10.05	RIVER BIRCH LANE	STA. 0+38.55 L=10.16	TYPE C TOP UNIT	C17	15" RCP	20'	0.49	10.05	9.95
C18	72"X24" INLET	12.65	–	–	–	10.10	SCARLET MAPLE BOULEVARD	STA. 4+25.01 R=12.91	TYPE D TOP UNIT	C18	15" RCP	27'	0.37	10.10	10.00
C19	48"X30" INLET	13.92	11.15	–	–	11.10	BITTERNUT HICKORY WAY	STA. 0+67.30 R=10.19	TYPE C TOP UNIT	C19	15" RCP	20'	0.49	11.10	11.00
C20	LAWN INLET	12.90	–	–	–	11.25	BITTERNUT HICKORY WAY	STA. 0+90.35 R=39.54	–	C20	15" HDPE	38'	0.26	11.25	11.15
C21	72"X24" INLET	14.02	–	–	–	11.55	BITTERNUT HICKORY WAY	STA. 2+10.00 R=10.13	TYPE C TOP UNIT	C21	15" RCP	25'	0.40	11.55	11.45
C22	72"X24" INLET	14.98	–	–	–	12.48	BITTERNUT HICKORY WAY	STA. 5+15.00 R=12.50	TYPE A TOP UNIT	C22	15" RCP	25'	0.40	12.48	12.38
C23	48"X30" INLET	13.58	9.50 (18")	11.00 (15")	–	9.45	RED CEDAR LOOP	STA. 0+60.00 L=10.13	TYPE C TOP UNIT	C23	18" RCP	46'	0.22	9.45	9.35
C24	BOX MANHOLE	14.01	9.65	–	–	9.60	RED CEDAR LOOP	STA. 1+1.68 L=8.72	–	C24	18" RCP	40'	0.25	9.60	9.50
										C25	18" RCP STUB	54'	0.12	9.71	9.65
C29	48"X30" INLET	13.58	–	–	–	11.10	RED CEDAR LOOP	STA. 0+67.28 R=10.19	TYPE C TOP UNIT	C29	15" RCP	22'	0.46	11.10	11.00
C30	19"X30" ERCP END SECTION	–	8.75	–	–	–	RED CEDAR LOOP	STA. 6+63.01 L=288.29	–	–	–	–	–	–	–
C31	P.W. - B.D. 4 OUTFALL	11.35	–	9.00	–	9.00	RED CEDAR LOOP	STA. 6+55.22 L=278.28	FROM POND 3	C31	19"X30" ERCP	19'	1.33	9.00	8.75
D1	11"X18" ARCP END SECTION	–	11.69	–	–	–	RED CEDAR LOOP	STA. 6+63.01 L=288.29	–	–	–	–	–	–	–
D2	11"X18" ARCP END SECTION	–	–	–	–	12.26	RED CEDAR LOOP	STA. 6+55.22 L=278.28	–	D2	18"X11" ARCP	168'	0.34	12.26	11.69
E1	11"X18" ARCP END SECTION	–	12.78	–	–	–	RED CEDAR LOOP	STA. 6+63.01 L=288.29	–	–	–	–	–	–	–
E2	11"X18" ARCP END SECTION	–	–	–	–	12.91	RED CEDAR LOOP	STA. 6+55.22 L=278.28	–	E2	18"X11" ARCP	38'	0.34	12.91	12.78

* ALL RCP TO BE CLASS III.
* ALL HDPE TO BE DUAL WALL SMOOTH INTERIOR.

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SITE DETAILS

WINDMILL WOODS
WINDMILL ROAD
SUSSEX COUNTY, DELAWARE

Revisions:

Date: JANUARY 2021
Scale: NONE
Dwn.By: VLT
Proj.No.: 003E001.H
Dwg.No.: S6

P:\0003\003E001.H\current working folder\dwgs\S8-9 SITE DETAILS.dwg Jan 21, 2021 - 3:32pm

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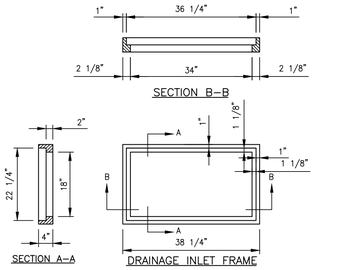
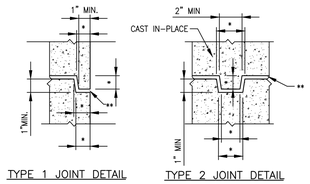
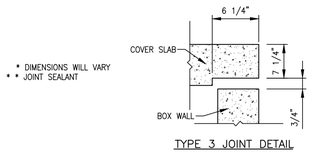
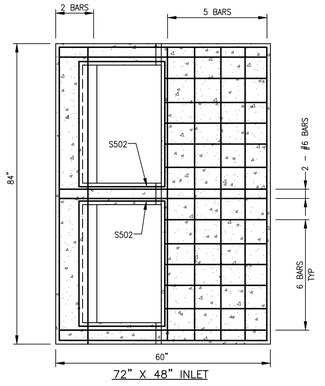


DRAINAGE INLET FRAME & GRATE DETAILS

DEL. D.O.T. STD. D–5 (2002)

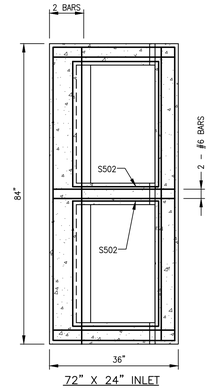


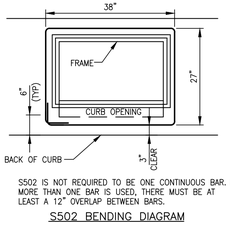




NOTES

1. 4" THROAT IS FOR TYPE C UNIT ONLY.
2. RELOCATE ENCROACHING REINFORCING BARS WHEN USING TYPE C TOP UNIT.
3. COVER SLABS ARE TO BE PRE–CAST AND MUST BE SIZED TO FIT INLET BOX DIMENSIONS.
4. ALL BARS ARE TO BE #5 (#16) SPACED @ 6"± UNLESS NOTED OTHERWISE.
5. MINIMUM BAR COVER = 1 1/2".



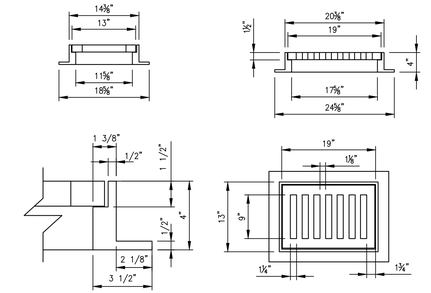


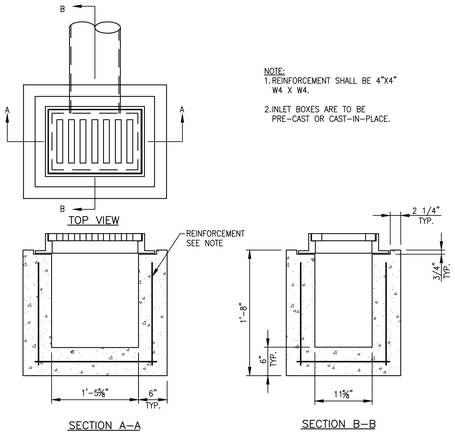
S502 IS NOT REQUIRED TO BE ONE CONTINUOUS BAR. IF MORE THAN ONE BAR IS USED, THERE MUST BE AT LEAST A 12" OVERLAP BETWEEN BARS.

S502 BENDING DIAGRAM

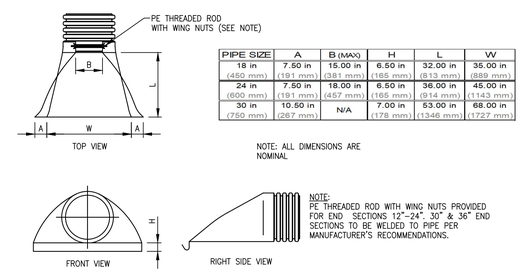
DRAINAGE INLET COVER SLAB DETAILS

DEL. D.O.T. STD. D–5 (2002)





NOTE:
1. REINFORCEMENT SHALL BE 4"x4" W4 X W4.
2. INLET BOXES ARE TO BE PRE–CAST OR CAST–IN–PLACE.

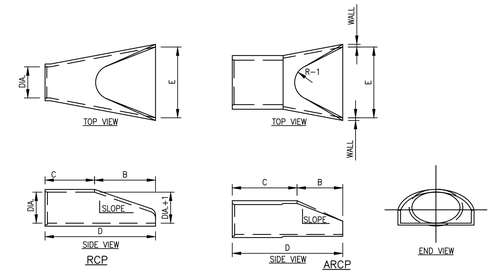


PIPE SIZE	A	B (MAX)	H	L	W
18 in (450 mm)	7.50 in (191 mm)	15.00 in (381 mm)	6.50 in (165 mm)	32.00 in (813 mm)	35.00 in (889 mm)
24 in (600 mm)	7.50 in (191 mm)	18.00 in (457 mm)	6.50 in (165 mm)	36.00 in (914 mm)	45.00 in (1143 mm)
30 in (750 mm)	10.50 in (267 mm)	N/A	7.00 in (178 mm)	53.00 in (1346 mm)	68.00 in (1727 mm)

NOTE: ALL DIMENSIONS ARE NOMINAL

NOTE:
PE THREADED ROD WITH WING NUTS PROVIDED FOR END SECTIONS 12"–24", 30" & 36" END SECTIONS TO BE WELDED TO PIPE PER MANUFACTURER'S RECOMMENDATIONS.

HDPE END SECTION DETAILS

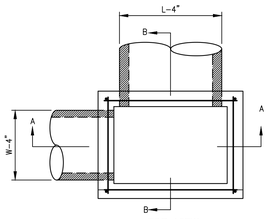


PIPE	SLOPE	WALL THICKNESS	B	C	D	E	R-1	UNIT WEIGHT
15	3:1	2 1/4	27	46	73	30	–	910
18	3:1	2 1/2	27	46	73	36	–	1190
24	3:1	3	42	31 1/2	73 1/2	48	–	1770
11X18	3:1	2 1/4	21	51	72	30	–	1090

NOTE:
ALL DIMENSIONS ARE NOMINAL
ALL MEASUREMENT ARE IN INCHES
ALL WEIGHTS ARE IN lbs.

RCP END SECTION DETAILS

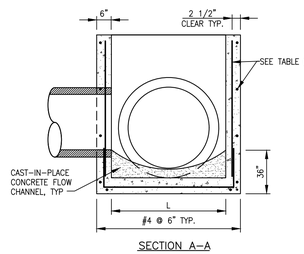
JOINT DETAILS

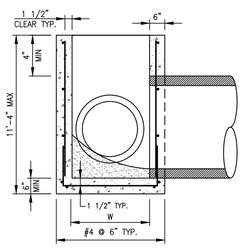


NOTES:

1. INLET BOXES SHALL BE PRE–CAST OR CAST–IN–PLACE.
2. OUTSIDE OF PIPE MUST FIT INTO THE INTERIOR OF THE BOX.
3. STEPS ARE TO BE INSTALLED IN BACK WALL AS PER SPECIFICATIONS.
4. NO PIPES WITH AN OUTSIDE DIAMETER LARGER THAN 11" WILL BE PERMITTED TO ENTER THE BACK WALL OF THE DRAINAGE INLET OR MANHOLE TO ACCOMMODATE STEPS IF REQUIRED. A LARGER BOX MAY BE USED IN ORDER TO FIT THE STEPS AND A LARGER PIPE IN THE BACK WALL, IF NECESSARY

WALL REINFORCEMENT SCHEDULE		
INTERIOR WALL DIMENSION	AREA OF HORIZONTAL REINFORCEMENT PER FOOT	AREA OF HORIZONTAL REINFORCEMENT PER FOOT
	IN	IN
LESS THAN 4'	0.132	0.132
4' TO 4.5'	0.163	0.132
5.5' TO 6'	0.284	0.132

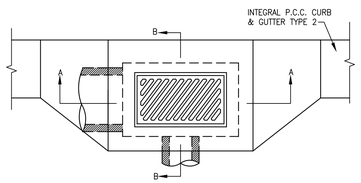


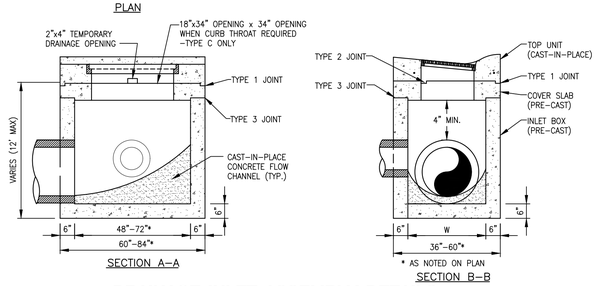


INLET BOX DETAIL

DEL. D.O.T. STD. D–4 (2002)

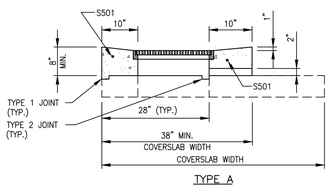
INLET BOX SCHEDULE			
L	W	L MAX	W MAX
48"	30"	54"	36"
48"	48"	54"	54"
72"	24"	72"	30"
72"	48"	72"	54"

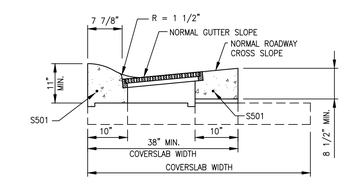




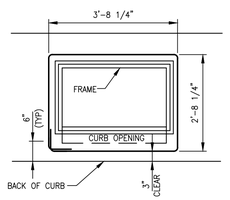
DRAINAGE INLET ASSEMBLY DETAILS

DEL. D.O.T. STD. D–5 (2002)





NOTE:
TOP UNIT IS TO BE CAST–IN–PLACE TO GRADE AS SPECIFIED ON PLAN SHEETS OR AS DIRECTED BY ENGINEER.



S501 IS NOT REQUIRED TO BE ONE CONTINUOUS BAR. IF MORE THAN ONE BAR IS USED, THERE MUST BE AT LEAST A 12" OVERLAP BETWEEN BARS.

S501 BENDING DIAGRAM

DRAINAGE INLET TOP UNIT DETAILS

DEL. D.O.T. STD. D–5 (2002)

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SITE DETAILS

WINDMILL WOODS
WINDMILL ROAD
SUSSEX COUNTY, DELAWARE

Revisions:

Date: JANUARY 2021
Scale: NONE
Dwn.By: JSB
Proj.No.: 003E001.H
Dwg.No.:

S7

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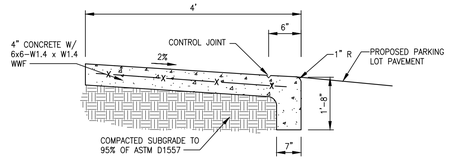
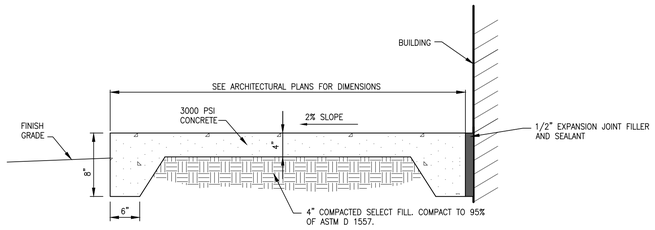
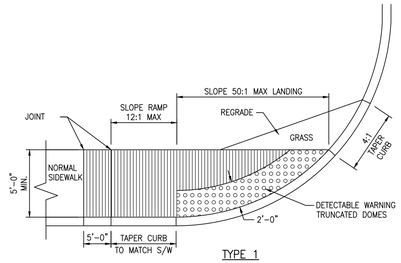


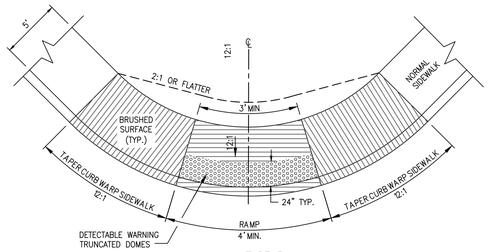
MONOLITHIC CURB AND SIDEWALK DETAIL



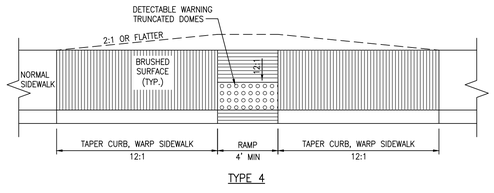
CONCRETE PAD



TYPE 1



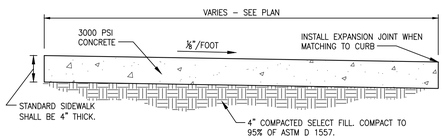
TYPE 3



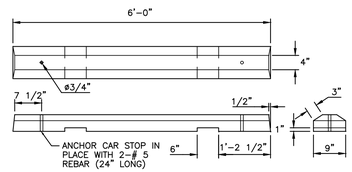
TYPE 4

HANDICAP RAMP DETAILS

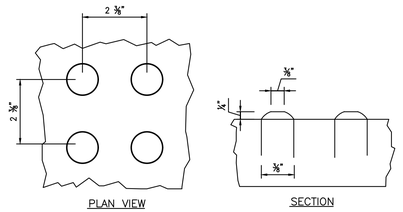
DEL. D.O.T. STD. C-2 (2012)



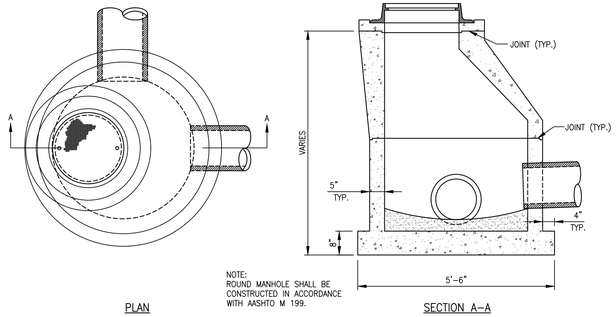
SIDEWALK DETAIL



CONCRETE CAR STOP DETAIL



DETECTABLE WARNINGS - TRUNCATED DOME DETAILS

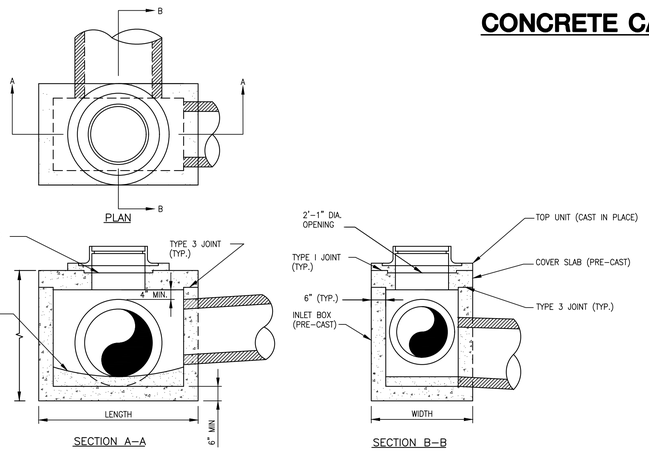


PLAN

SECTION A-A

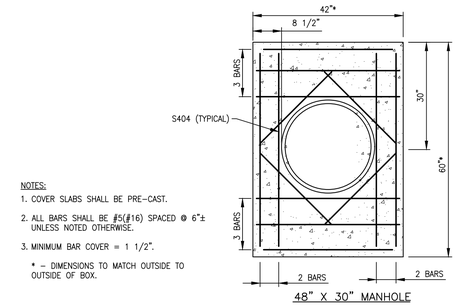
ROUND MANHOLE ASSEMBLY

DEL. D.O.T. STD. D-6 (2001)



BOX MANHOLE ASSEMBLY DETAILS

DEL. D.O.T. STD. D-6 (2009)

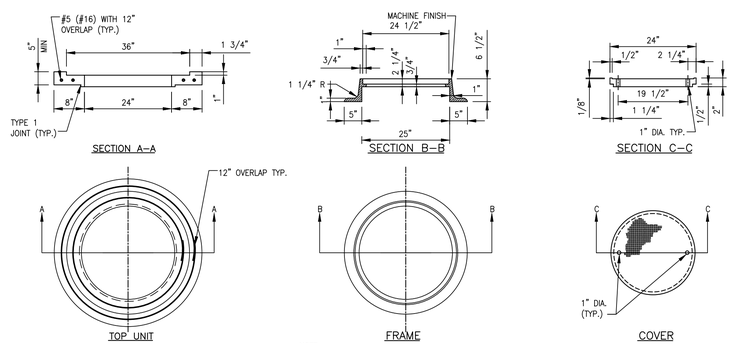


NOTES:
1. COVER SLABS SHALL BE PRE-CAST.
2. ALL BARS SHALL BE #5(#16) SPACED @ 6"± UNLESS NOTED OTHERWISE.
3. MINIMUM BAR COVER = 1 1/2".

* - DIMENSIONS TO MATCH OUTSIDE TO OUTSIDE OF BOX.

BOX MANHOLE COVER SLAB DETAILS

DEL. D.O.T. STD. D-6 (2007)



NOTE:
TOP UNIT TO BE CAST IN PLACE TO GRADE AS SPECIFIED ON PLAN SHEETS OR AS DIRECTED BY ENGINEER.

ROUND MANHOLE TOP UNIT, FRAME & COVER DETIALS

DEL. D.O.T. STD. D-6 (2001)

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SITE DETAILS

WINDMILL WOODS
WINDMILL ROAD
SUSSEX COUNTY, DELAWARE

Revisions:

Date: JANUARY 2021
Scale: NONE
Dwn.By: JSB
Proj.No.: 003E001.H
Dwg.No.:

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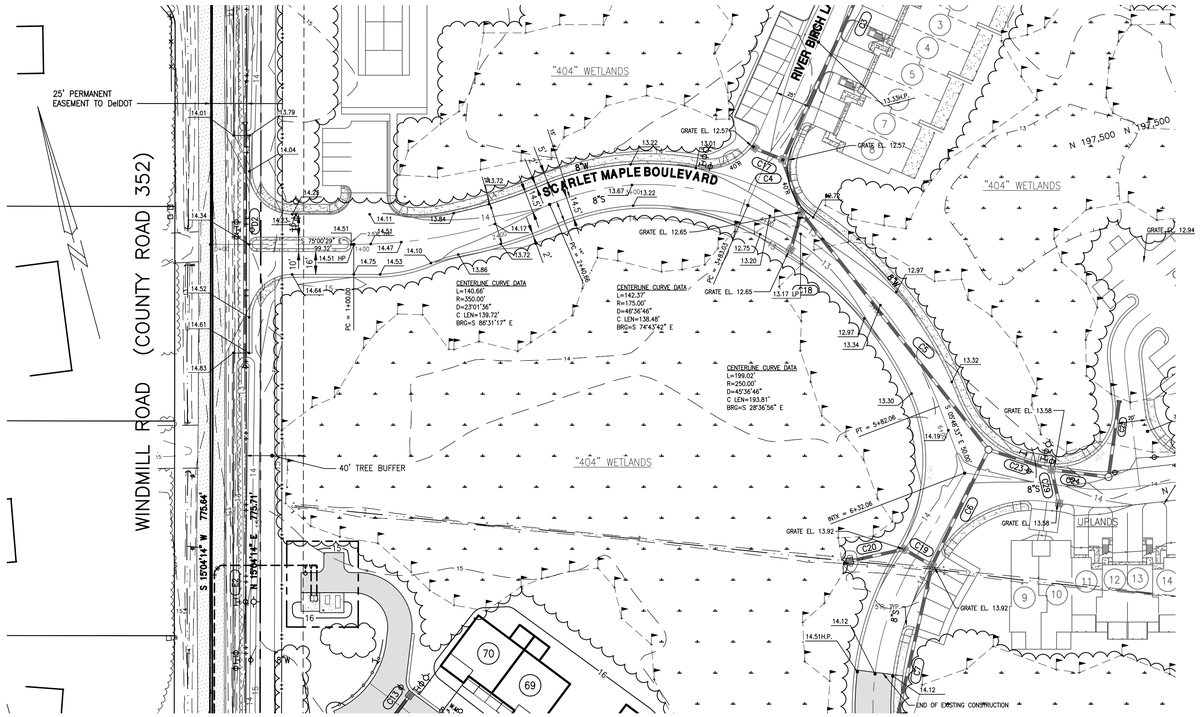
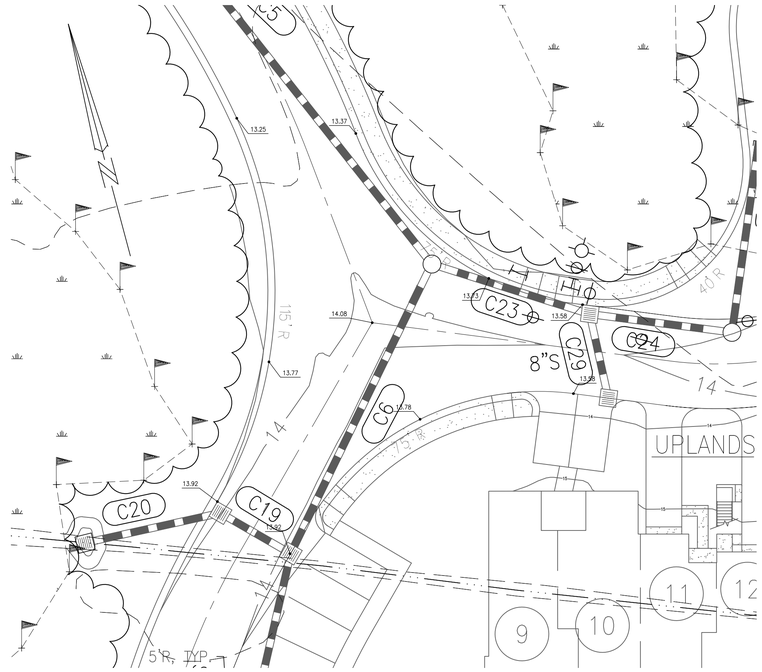
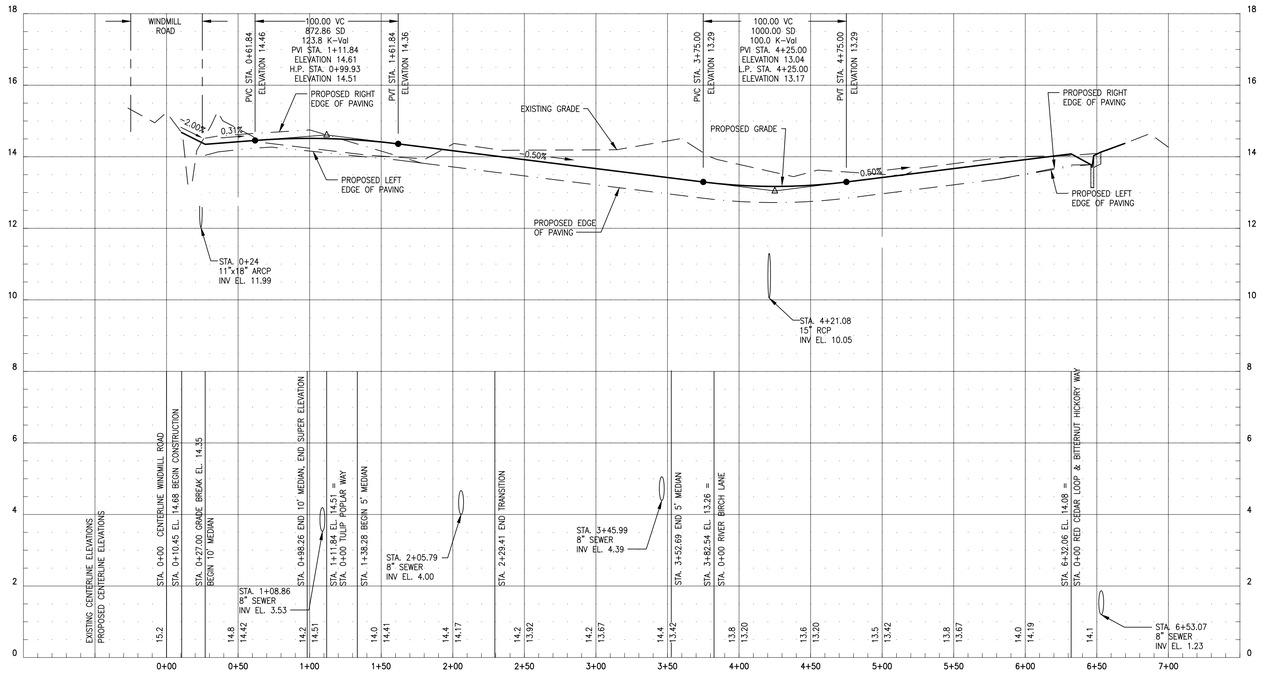


SCARLET MAPLE PLAN
1"=50'



THREE WAY INTERSECTION ENLARGEMENT
1"=20'

NOTE:
1. PLAN & PROFILE PROVIDED FOR REFERENCE ONLY; SCARLET MAPLE BOULEVARD AND THE THREEWAY INTERSECTION ARE ALREADY CONSTRUCTED.
2. SPOT ELEVATIONS SHOWN DEPICT THE CENTERLINE AND EDGE OF PAVING ELEVATIONS ONLY. SEE TYPICAL STREET SECTIONS ON DRAWING NO. S6 FOR MORE INFORMATION.



SCARLET MAPLE BOULEVARD PROFILE
SCALE: 1"=50' HORIZ.
1"= 2' VERT.

0' 50' 100' 150'

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STREET PLAN & PROFILE

WINDMILL WOODS
WINDMILL ROAD
SUSSEX COUNTY, DELAWARE

Revisions:

Date: JANUARY 2021
Scale: AS SHOWN
Dwn.By: VLT/JDF
Proj.No.: 003E001.H
Dwg.No.: ST1

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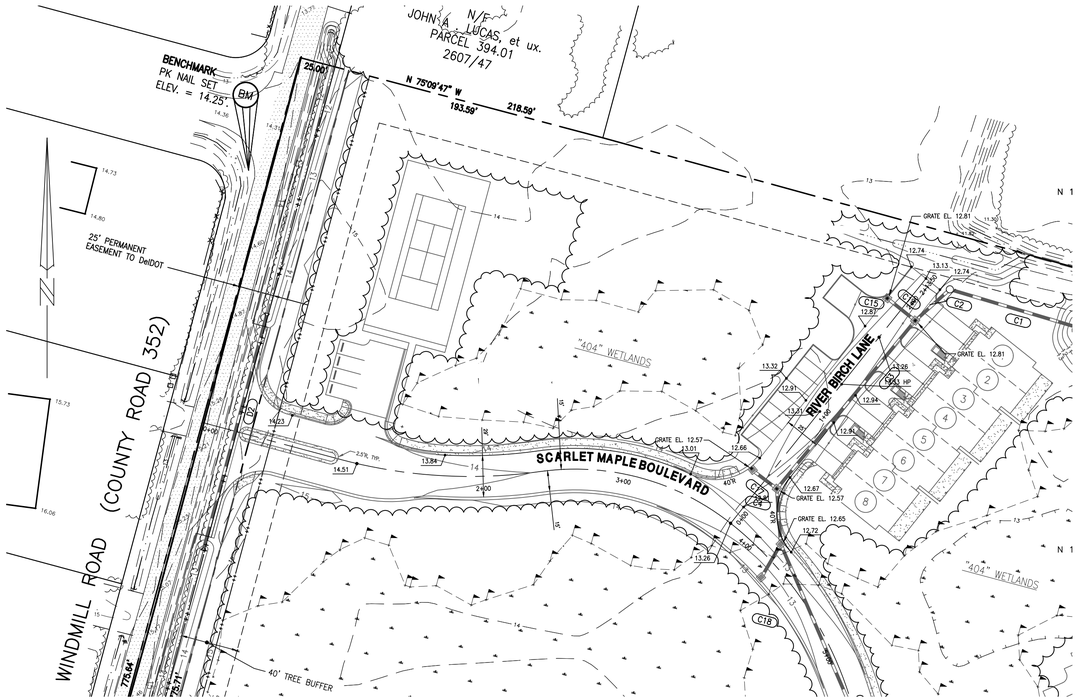
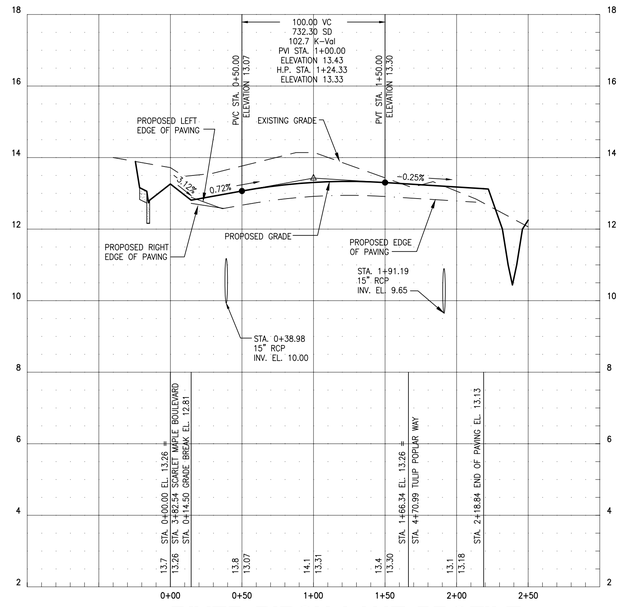


RIVER BIRCH LANE PLAN
1"=50'

NOTE:
1. PLAN AND PROFILE PROVIDED FOR REFERENCE ONLY; RIVER BIRCH LANE IS ALREADY CONSTRUCTED.
2. SPOT ELEVATIONS SHOWN DEPICT THE CENTERLINE AND EDGE OF PAVING ELEVATIONS ONLY. SEE TYPICAL STREET SECTIONS ON DRAWING NO. S6 FOR MORE INFORMATION.



RIVER BIRCH LANE PROFILE
SCALE: 1"=50' HORIZ.
1"= 2' VERT.

0' 50' 100' 150'

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STREET PLAN & PROFILE

WINDMILL WOODS
WINDMILL ROAD
SUSSEX COUNTY, DELAWARE

Revisions:

Date: JANUARY 2021
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Dwn.By: VLT/EFT
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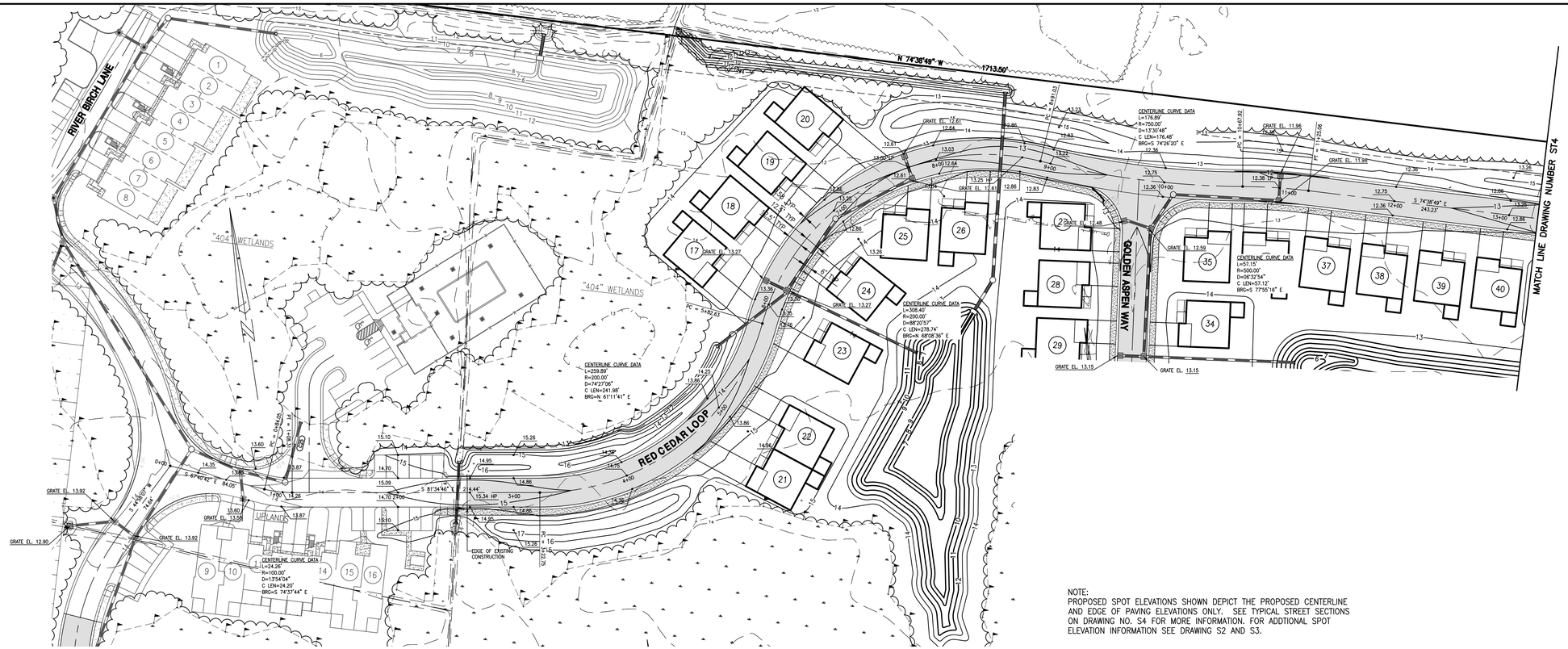
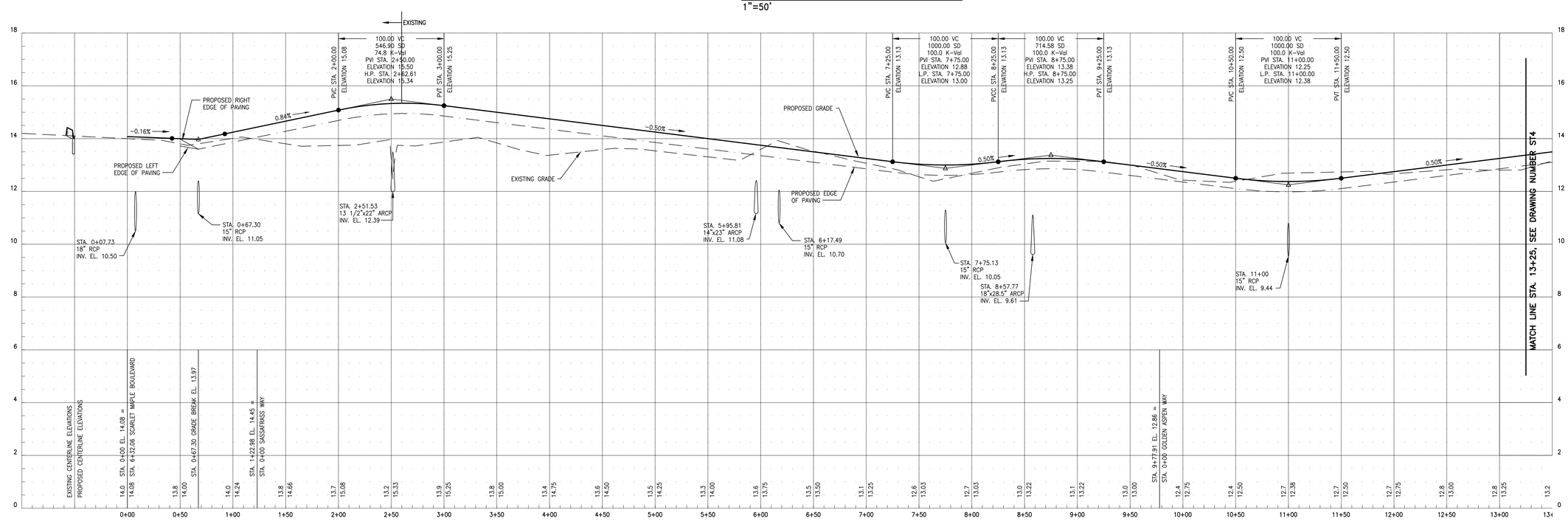


RED CEDAR LOOP PLAN
1"=50'

NOTE:
PROPOSED SPOT ELEVATIONS SHOWN DEPICT THE PROPOSED CENTERLINE AND EDGE OF PAVING ELEVATIONS ONLY. SEE TYPICAL STREET SECTIONS ON DRAWING NO. S4 FOR MORE INFORMATION. FOR ADDTIONAL SPOT ELEVATION INFORMATION SEE DRAWING S2 AND S3.



RED CEDAR LOOP PROFILE
SCALE: 1"=50' HORIZ.
1"= 2' VERT.

0' 50' 100' 150'

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STREET PLAN & PROFILE

WINDMILL WOODS
WINDMILL ROAD
SUSSEX COUNTY, DELAWARE

Revisions:

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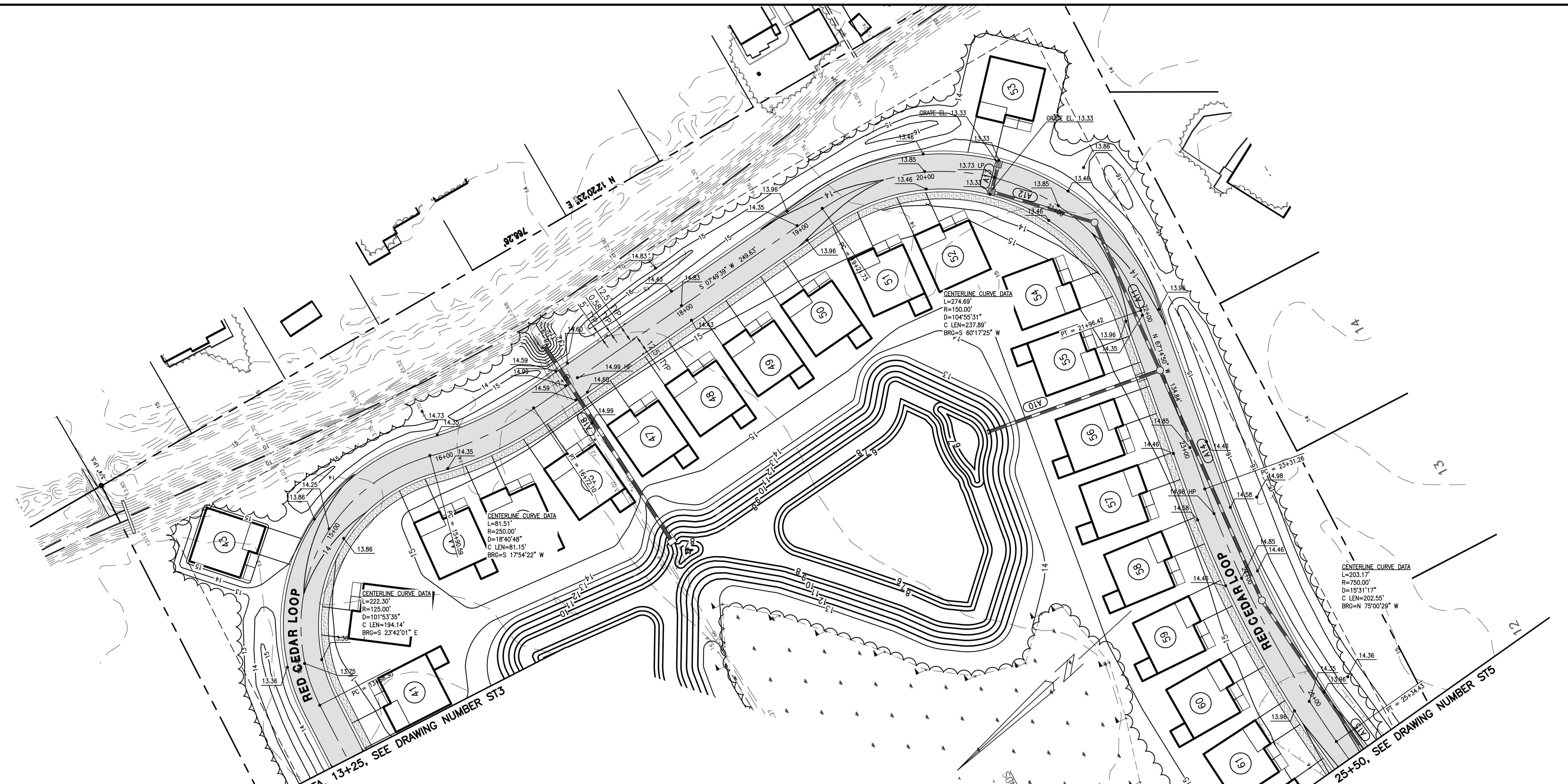

RED CEDAR LOOP PLAN

1"=50'

NOTE:
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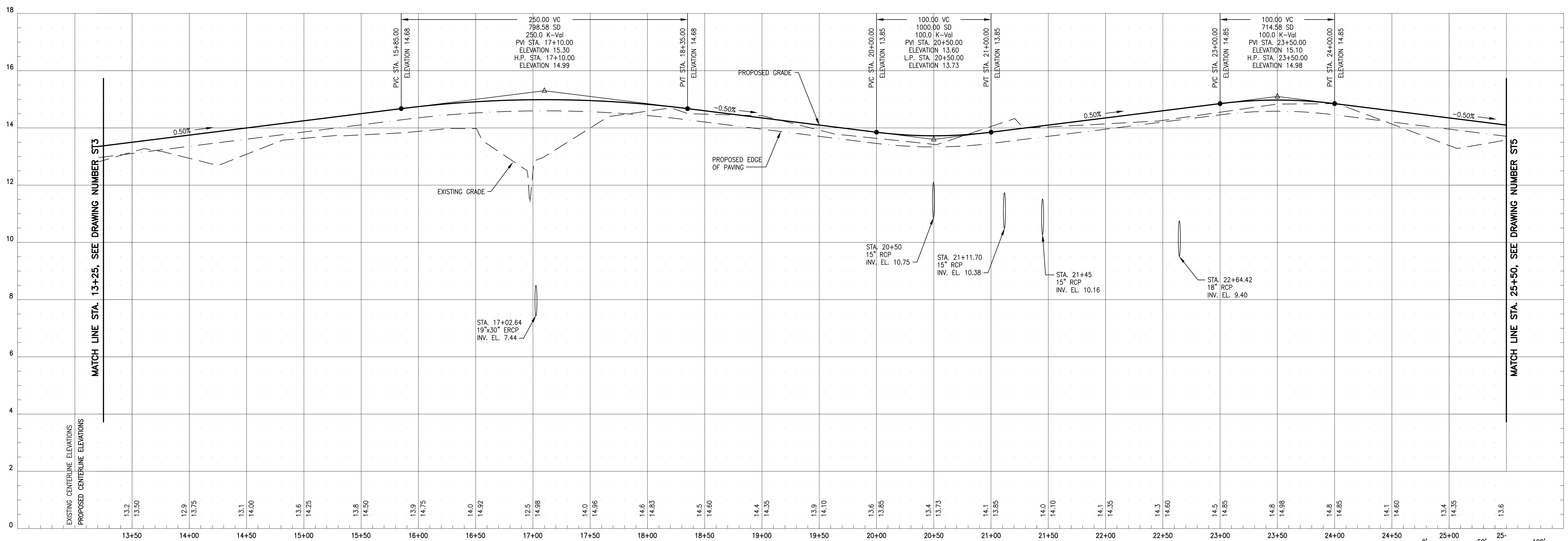

RED CEDAR LOOP PROFILE

SCALE: 1"=50' HORIZ.
1"= 2' VERT.

0' 50' 100' 150'

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STREET PLAN & PROFILE

WINDMILL WOODS

WINDMILL ROAD

SUSSEX COUNTY, DELAWARE

Revisions:

Date:	JANUARY 2021
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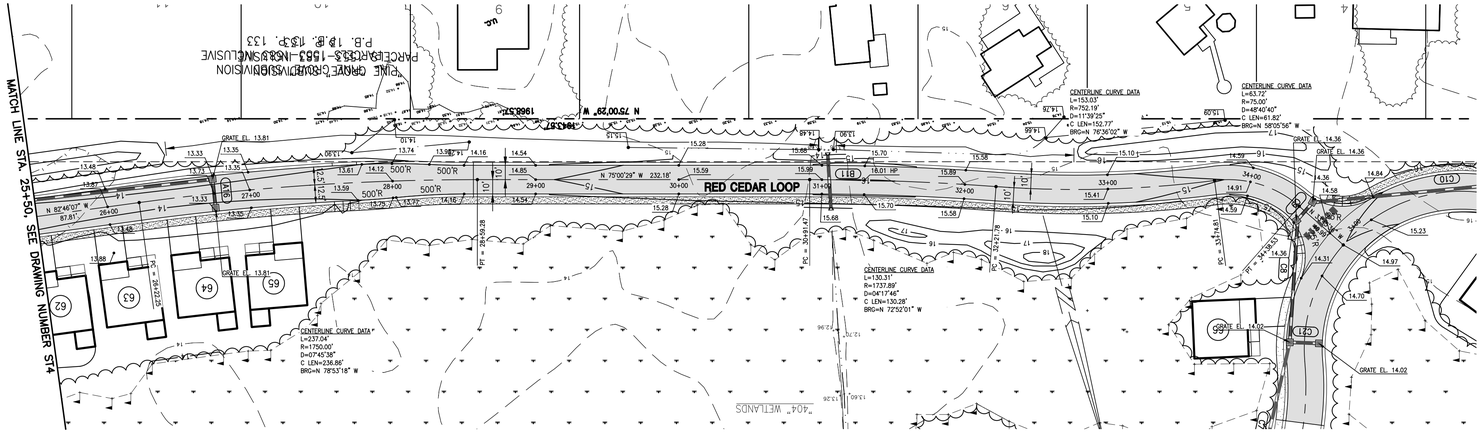
NOTE:
1. PLAN & PROFILE PROVIDED FOR REFERENCE ONLY; SASSAFRASS WAY IS ALREADY CONSTRUCTED.
2. AMENITIES AREA, BY OTHERS. SEE 'CLUBHOUSE & POOL AREA' SITE PLANS FOR CONSTRUCTION DETAILS.
3. SPOT ELEVATIONS SHOWN DEPICT THE CENTERLINE AND EDGE OF PAVING ELEVATIONS ONLY. SEE TYPICAL STREET SECTIONS ON DRAWING NO. S6 FOR MORE INFORMATION.



RED CEDAR LOOP PLAN
1"=50'

NOTE:
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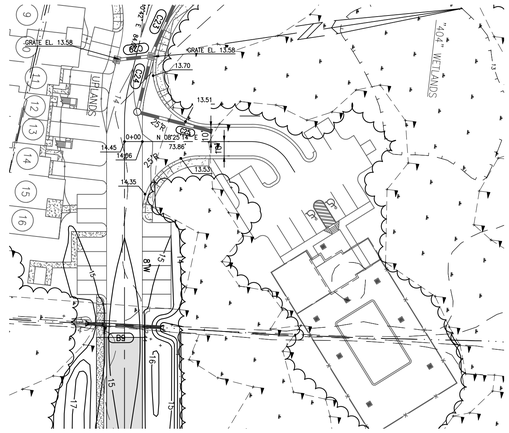
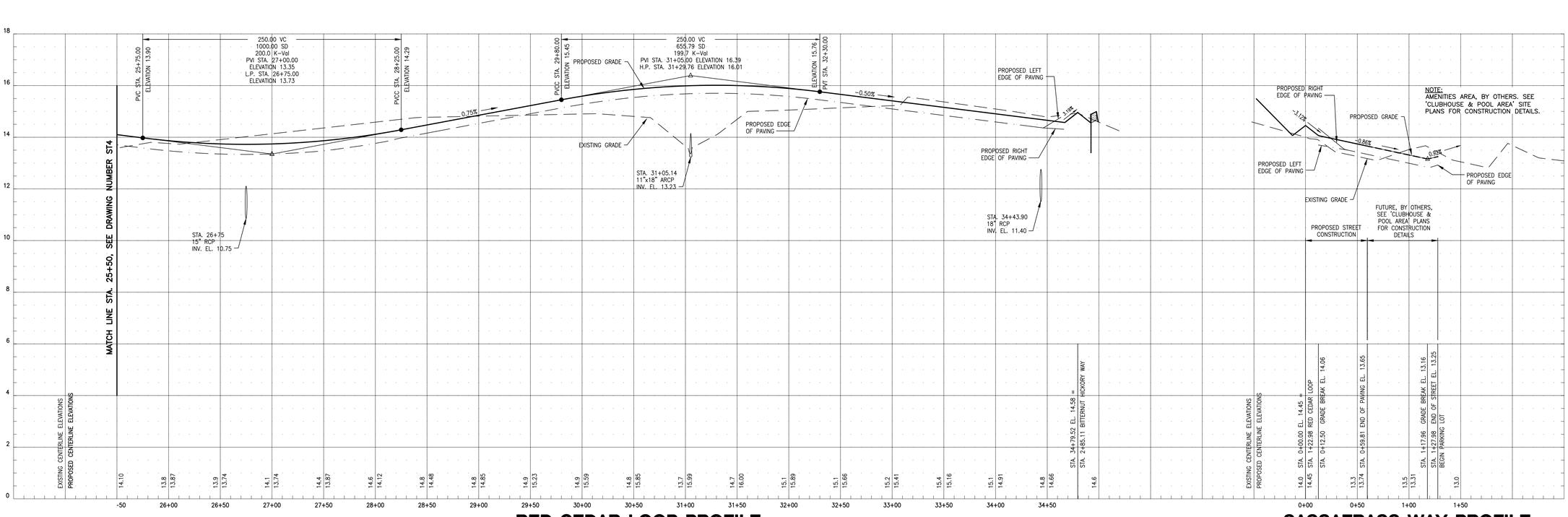


SASSAFRASS WAY PLAN
1"=50'



RED CEDAR LOOP PROFILE
SCALE: 1"=50' HORIZ.
1"= 2' VERT.

SASSAFRASS WAY PROFILE
SCALE: 1"=50' HORIZ.
1"= 2' VERT.

0' 50' 100' 150'

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STREET PLAN & PROFILE

WINDMILL WOODS
WINDMILL ROAD
SUSSEX COUNTY, DELAWARE

Revisions:

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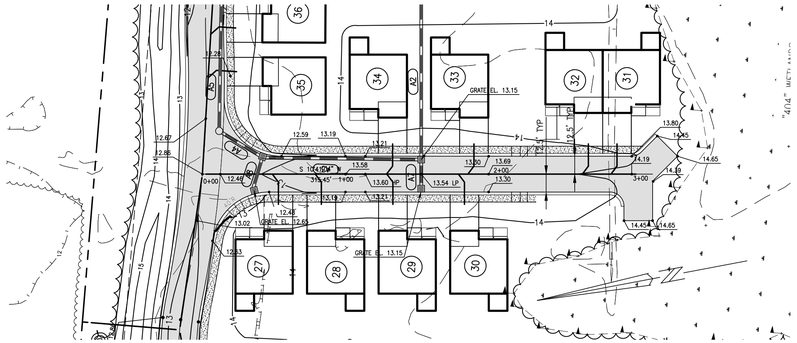


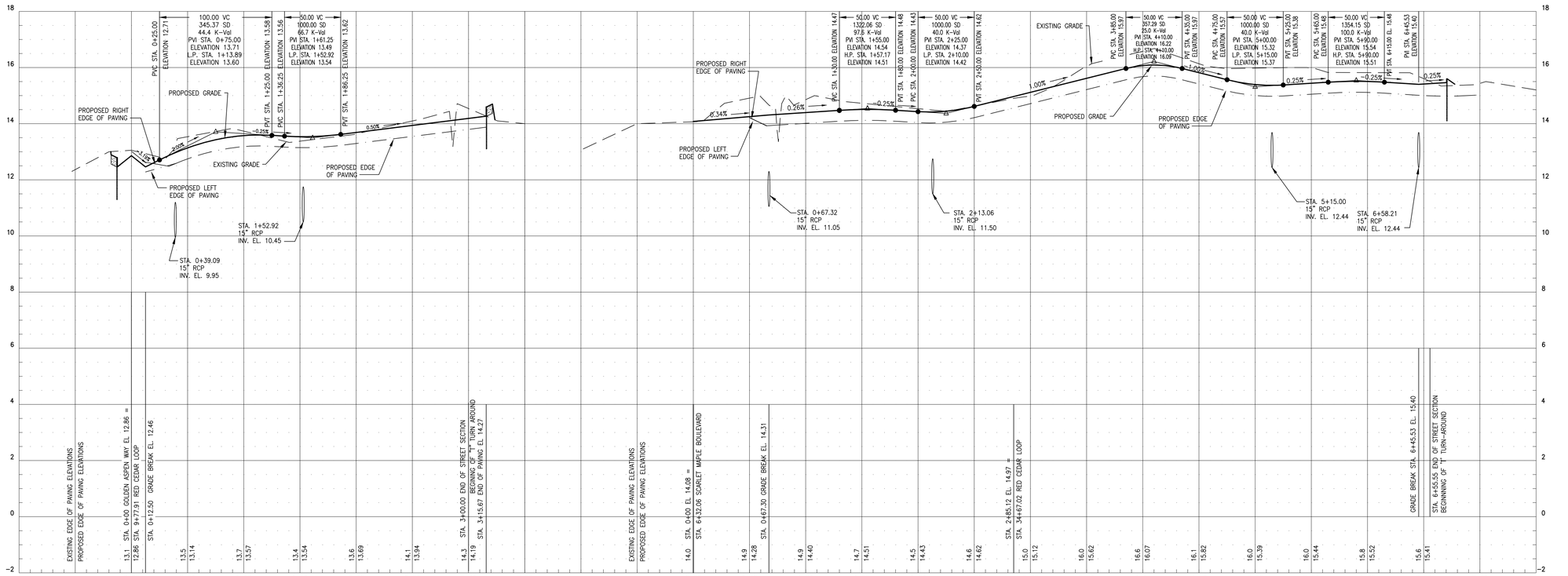
GOLDEN ASPEN WAY PLAN

1"=50'

BITTERNUT HICKORY WAY PLAN

1"=50'

NOTE:
PROPOSED SPOT ELEVATIONS SHOWN DEPICT THE PROPOSED CENTERLINE AND EDGE OF PAVING ELEVATIONS ONLY. SEE TYPICAL STREET SECTIONS ON DRAWING NO. S4 FOR MORE INFORMATION.



GOLDEN ASPEN WAY PROFILE

SCALE: 1"=50' HORIZ.
1"= 2' VERT.

BITTERNUT HICKORY WAY PROFILE

SCALE: 1"=50' HORIZ.
1"= 2' VERT.

0' 50' 100' 150'

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STREET PLAN & PROFILE

WINDMILL WOODS
WINDMILL ROAD
SUSSEX COUNTY, DELAWARE

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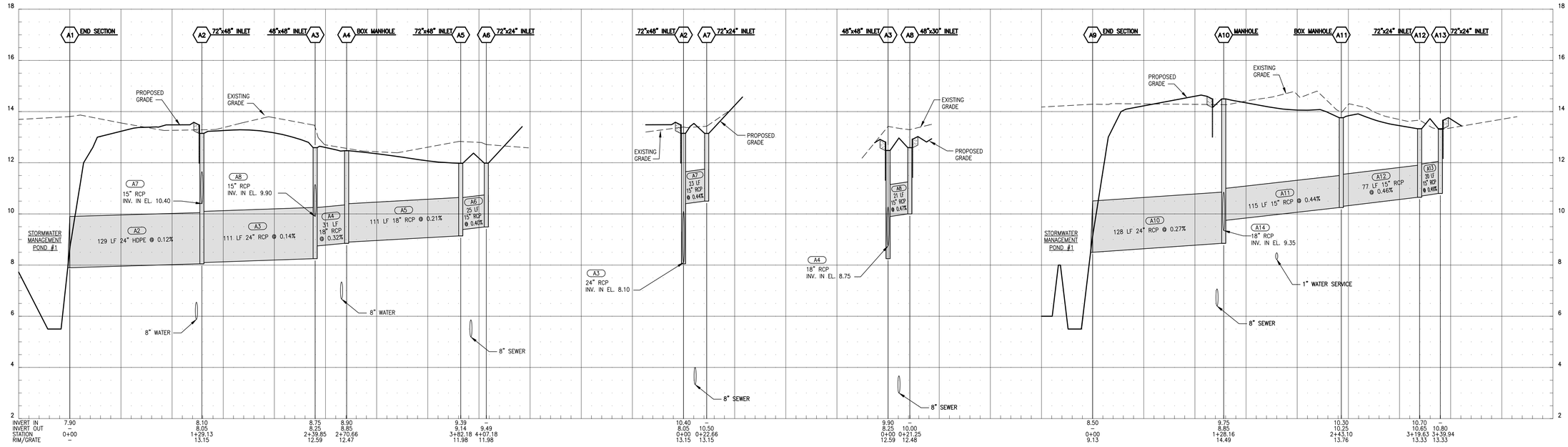

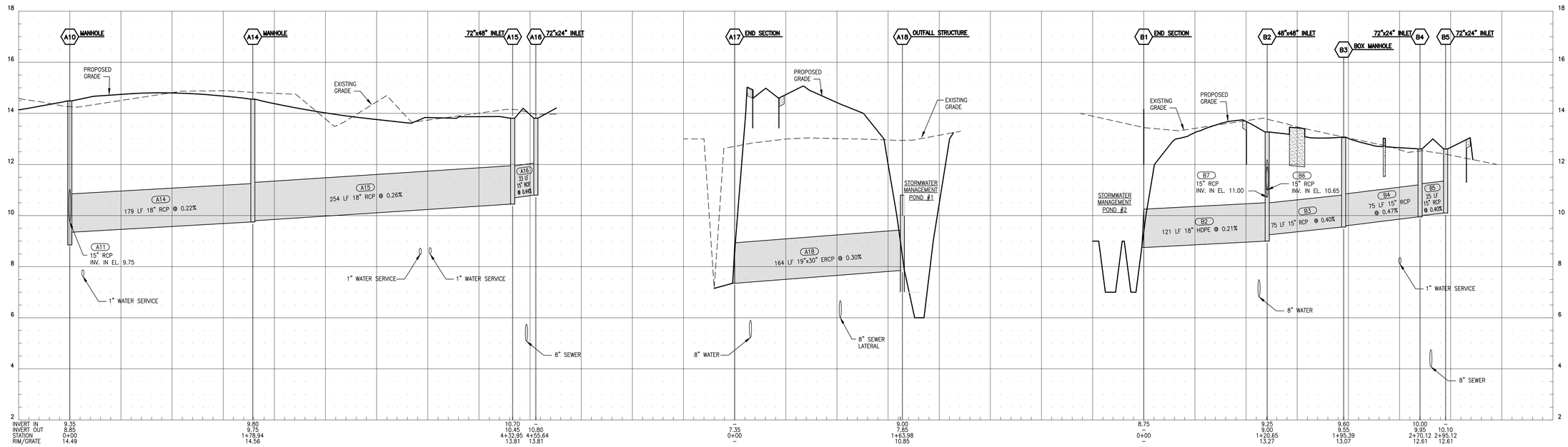

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STORMDRAIN PROFILES

WINDMILL WOODS
WINDMILL ROAD
SUSSEX COUNTY, DELAWARE

Revisions:

Date: JANUARY 2021
Scale: 1"=50' HORIZ. 1"=2' VERT.
Dwn.By: NMB/VLT
Proj.No.: 003E001.H
Dwg.No.: SD1

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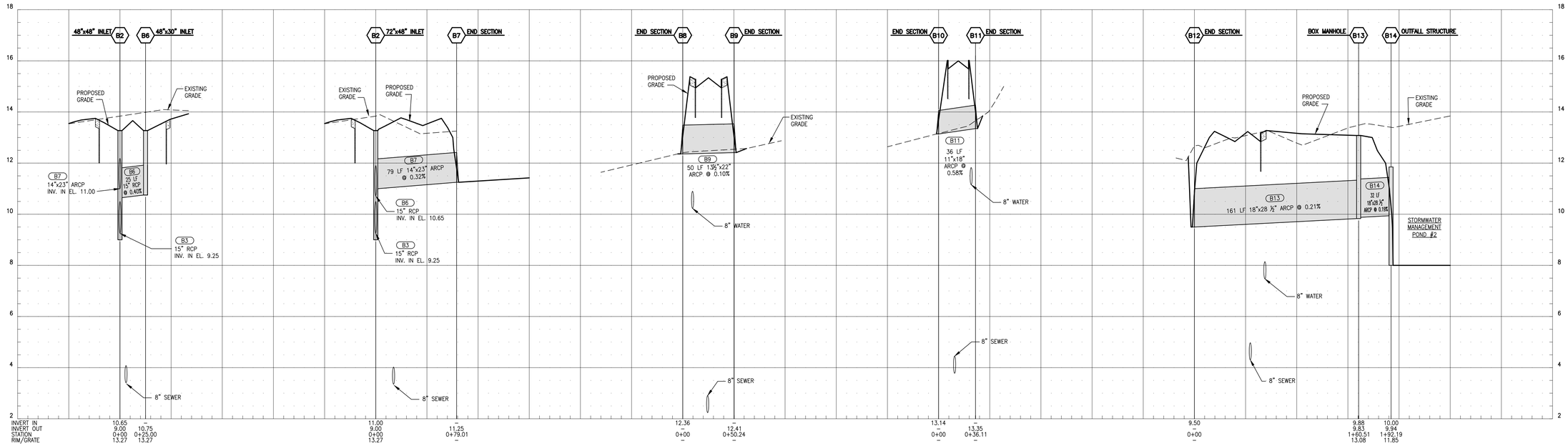

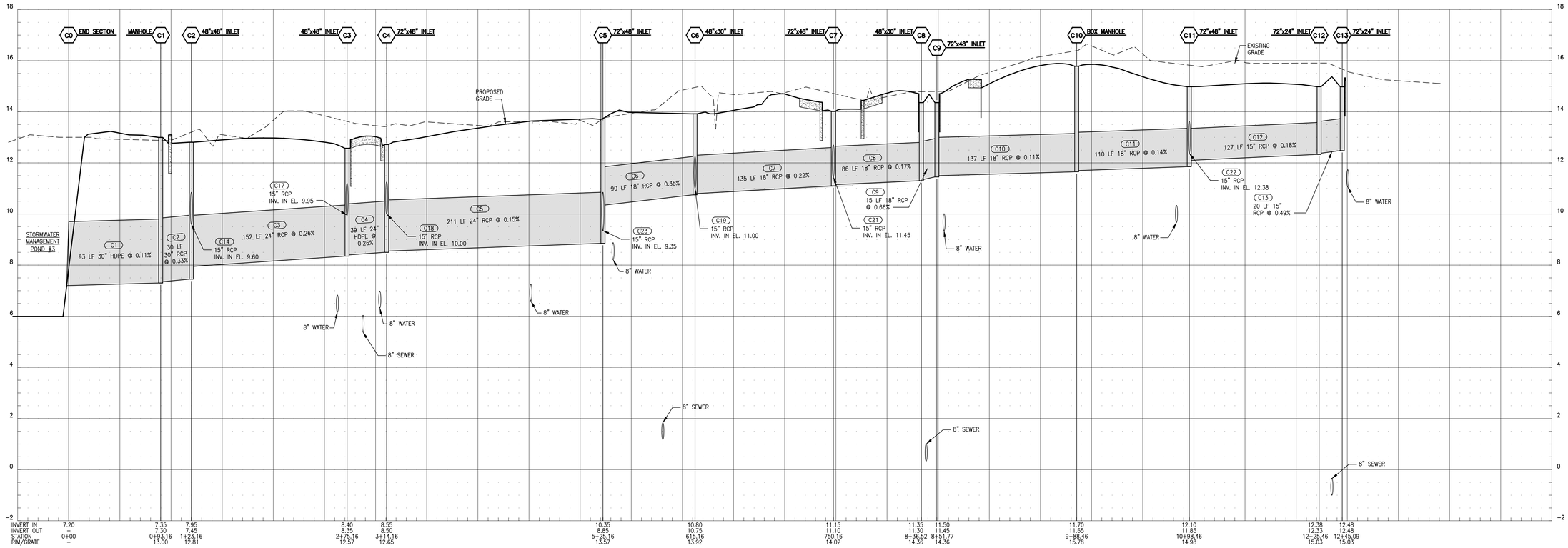

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STORMDRAIN PROFILES

WINDMILL WOODS
WINDMILL ROAD
SUSSEX COUNTY, DELAWARE

Revisions:

Date: JANUARY 2021
Scale: 1"=50' HORIZ. 1"=2' VERT.
Dwn.By: NMB/VLT
Proj.No.: 003E001.H
Dwg.No.:

SD2

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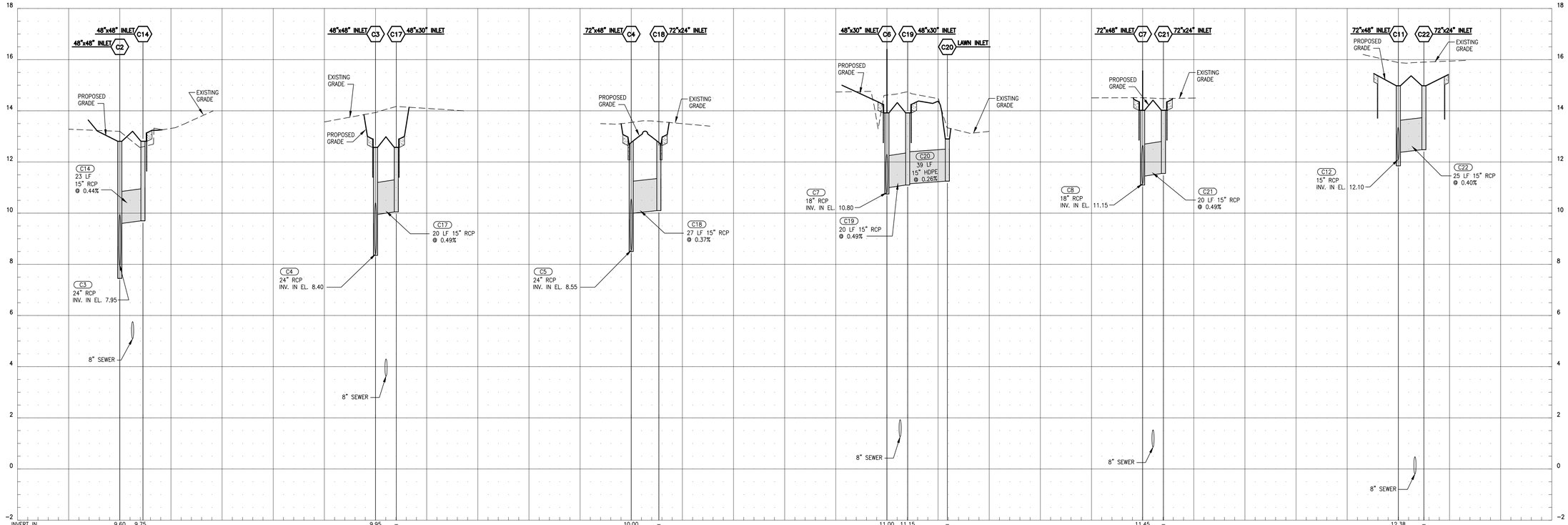

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STORMDRAIN PROFILES

WINDMILL WOODS
WINDMILL ROAD
SUSSEX COUNTY, DELAWARE

Revisions:

Date: JANUARY 2021
Scale: 1"=50' HORIZ. 1"=2' VERT.
Dwn.By: NMB/VLT
Proj.No.: 003E001.H
Dwg.No.:

SD3

2HR FIRE SEPARATION WALL DETAIL

N.T.S.

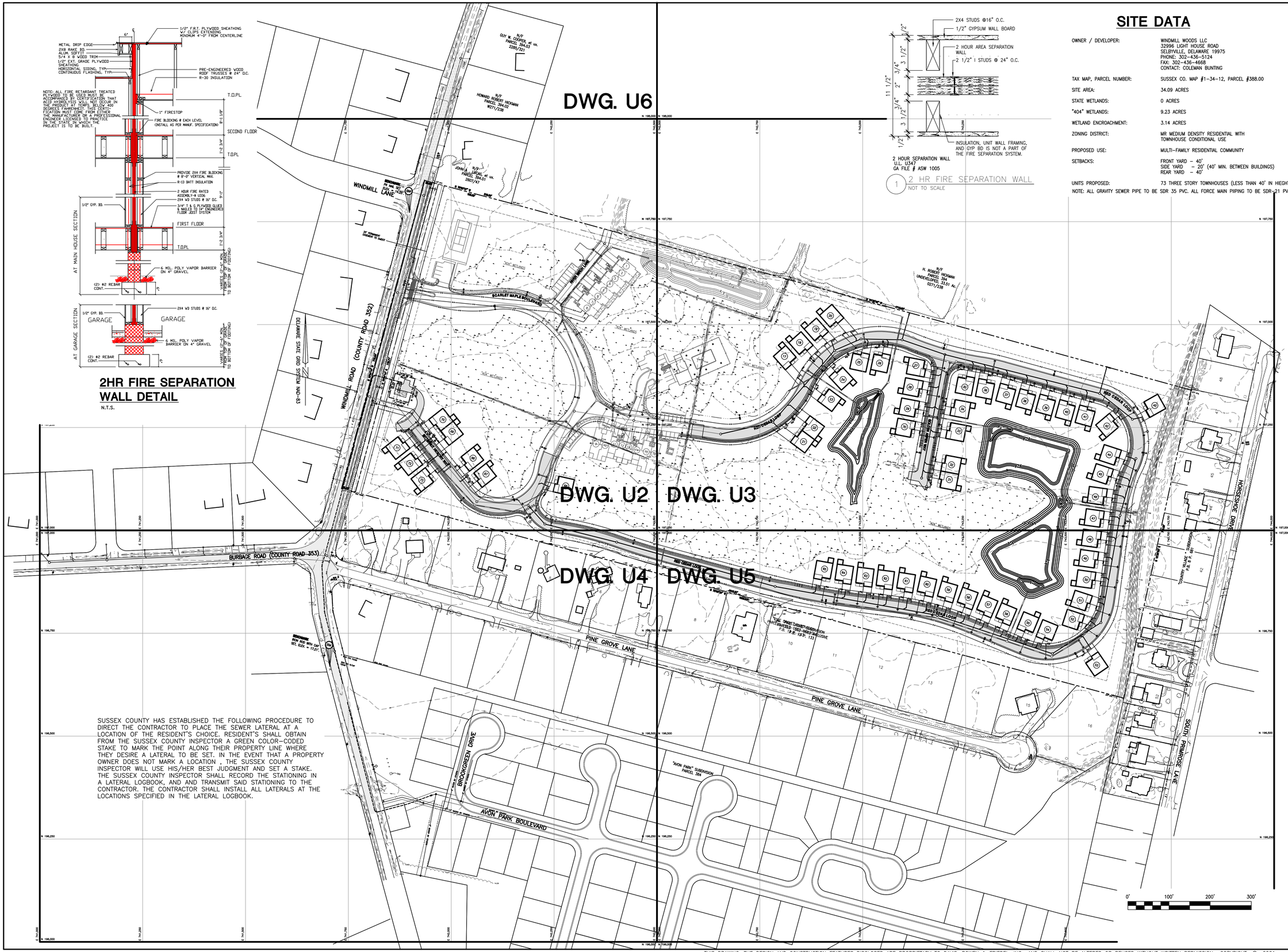
2 HOUR SEPARATION WALL
U.L. U347
GA FILE # ASW 1005

1 2 HR FIRE SEPARATION WALL
NOT TO SCALE

SITE DATA

OWNER / DEVELOPER:	WINDMILL WOODS LLC 32996 LIGHT HOUSE ROAD SELBYVILLE, DELAWARE 19975 PHONE: 302-436-5124 FAX: 302-436-4668 CONTACT: COLEMAN BUNTING
TAX MAP, PARCEL NUMBER:	SUSSEX CO. MAP #1-34-12, PARCEL #388.00
SITE AREA:	34.09 ACRES
STATE WETLANDS:	0 ACRES
"404" WETLANDS:	9.23 ACRES
WETLAND ENCROACHMENT:	3.14 ACRES
ZONING DISTRICT:	MR MEDIUM DENSITY RESIDENTIAL WITH TOWNHOUSE CONDITIONAL USE
PROPOSED USE:	MULTI-FAMILY RESIDENTIAL COMMUNITY
SETBACKS:	FRONT YARD – 40' SIDE YARD – 20' (40' MIN. BETWEEN BUILDINGS) REAR YARD – 40'
UNITS PROPOSED:	73 THREE STORY TOWNHOUSES (LESS THAN 40' IN HIEGHT)

NOTE: ALL GRAVITY SEWER PIPE TO BE SDR 35 PVC. ALL FORCE MAIN PIPING TO BE SDR-21 PVC.



SUSSEX COUNTY HAS ESTABLISHED THE FOLLOWING PROCEDURE TO DIRECT THE CONTRACTOR TO PLACE THE SEWER LATERAL AT A LOCATION OF THE RESIDENT'S CHOICE. RESIDENT'S SHALL OBTAIN FROM THE SUSSEX COUNTY INSPECTOR A GREEN COLOR-CODED STAKE TO MARK THE POINT ALONG THEIR PROPERTY LINE WHERE THEY DESIRE A LATERAL TO BE SET. IN THE EVENT THAT A PROPERTY OWNER DOES NOT MARK A LOCATION , THE SUSSEX COUNTY INSPECTOR WILL USE HIS/HER BEST JUDGMENT AND SET A STAKE. THE SUSSEX COUNTY INSPECTOR SHALL RECORD THE STATIONING IN A LATERAL LOGBOOK, AND AND TRANSMIT SAID STATIONING TO THE CONTRACTOR. THE CONTRACTOR SHALL INSTALL ALL LATERALS AT THE LOCATIONS SPECIFIED IN THE LATERAL LOGBOOK.

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UTILITY KEY MAP

WINDMILL WOODS
WINDMILL ROAD
SUSSEX COUNTY, DELAWARE

Revisions:

Date:	JANUARY 2021
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Dwn.By:	JDF
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Dwg.No.:	U1

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WINDMILL WOODS
WINDMILL ROAD
SUSSEX COUNTY, DELAWARE

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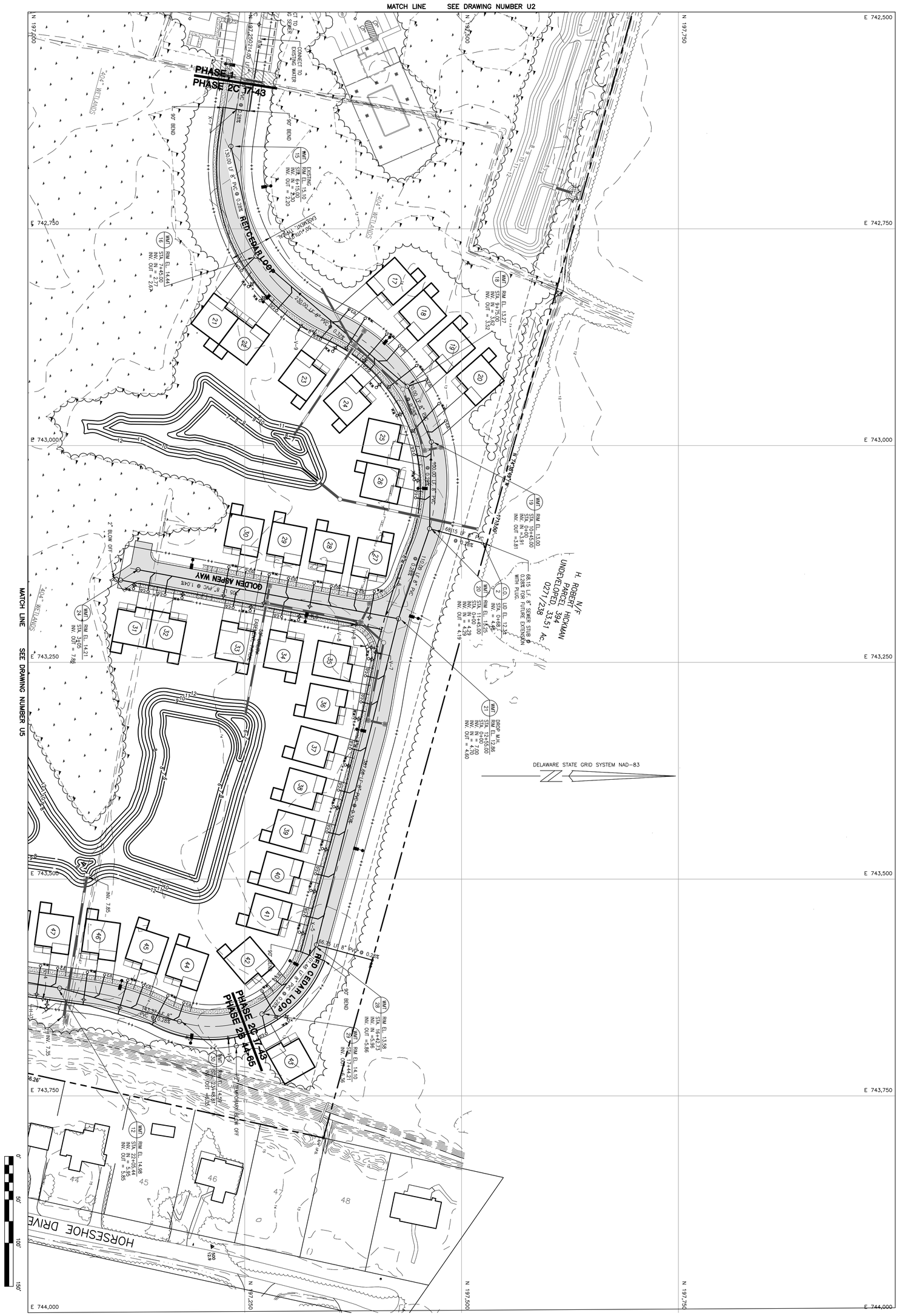
UTILITY PLAN



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U3

Date: JANUARY 2021
Scale: 1" = 50'
Dwn.By: VLT/JDF
Proj.No.: 0003E001.H
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WINDMILL WOODS
WINDMILL ROAD
SUSSEX COUNTY, DELAWARE

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UTILITY PLAN

MATCH LINE SEE DRAWING NUMBER U2

FUTURE, RESTORE DRIVEWAY AS NEEDED DUE TO PROPOSED SEWER INSTALLATION PER DETAIL DRAWING NUMBER U10, TYP, BY OTHERS.

SU 2 — FUTURE, BY OTHERS
RIM EL. 16.3±
STA. 9+99.46
STA. 0+00
INV. IN = 8.80
INV. IN = 8.80
INV. OUT = 8.70

T.C. 15 — FUTURE, BY OTHERS
RIM EL. 16.3±
STA. 0+35.00
INV. OUT = 8.90

FUTURE 140.00 LF 8" PVC @ 1.16% BY OTHERS

SU 1 — FUTURE, BY OTHERS
RIM EL. 16.2±
STA. 11+39.46
INV. IN = 10.53
INV. OUT = 10.43

FUTURE, FULL WIDTH RESTORATION PER DETAIL DWG U10, BY OTHERS

SU 3 — FUTURE, BY OTHERS
RIM EL. 16.9±
STA. 5+99.46
INV. IN = 7.58
INV. OUT = 7.48

FUTURE, 400.00 LF 8" PVC @ 0.28% BY OTHERS

T.C. 16 — EXISTING
RIM EL. 17.0±
STA. 5+07.12
INV. OUT = 4.73

FUTURE, 92.34 LF 8" PVC @ 2.97% BY OTHERS

SU 4 — EXISTING
RIM EL. 16.4±
STA. 4+64.54
STA. 0+00
INV. IN = 3.47
INV. OUT = 3.47

EXISTING HYDRANT

22 1/2° BEND

T.C. 14 — EXISTING
RIM EL. 16.9±
STA. 0+42.00
INV. OUT = 3.59

11 1/4° BEND

BENCHMARK
IRON ROD WITH CAP SET, ELEV. = 17.21'

AR 1 — RIM EL. 17.7±
STA. 7+36.32

IRON PIPE FOUND
IRON ROD W/CAP FOUND
IRON BAR FOUND

EXISTING MANHOLE BY OTHERS
9F 1 — RIM. EL. 15.73
INV. IN 11.53 (STUB)
INV. IN 11.53
INV. OUT 11.45
(FIELD VERIFED 11-01-04)

22°

2" BLOWOFF

FULL WIDTH RESTORATION PER DETAIL DWG U10

REMOVE CAP & CONNECT TO EXISTING SEWER STUB WITH 10"x6" REDUCER AS SHOWN

2-45° BENDS

WMT 5 — RIM EL. 15.80
STA. 7+05.44
INV. IN = 1.15
INV. OUT = 1.05

180.00 LF 8" PVC @ 0.30%

TRANSMISSION MAIN

AVON PARK SUBDIVISION

8" WATER BY OTHERS

8" SEWER BY OTHERS

10" SEWER BY OTHERS

12" WATER BY OTHERS

SEWER BY OTHERS

MATCH LINE SEE DRAWING NUMBER U5

DELAWARE STATE GRID SYSTEM NAD-83

N 197,000
N 196,750
N 196,500
N 196,250
N 196,000
E 741,250
E 741,500
E 741,750
E 742,000
E 742,250
E 742,500

0' 50' 100' 150'

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UTILITY PLAN

WINDMILL WOODS
WINDMILL ROAD
SUSSEX COUNTY, DELAWARE

Revisions:

Date: JANUARY 2021
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UTILITY PLAN

WINDMILL WOODS
WINDMILL ROAD
SUSSEX COUNTY, DELAWARE

Revisions:

Date:	JANUARY 2021
Scale:	1" = 50'
Dwn.By:	VLT/JDF
Proj.No.:	003E001.H
Dwg.No.:	U5

P:\0003\0003E001.H\current working folder\dwgs\U2-6 UTIL.dwg Jan 21 , 2021 - 3:34pm

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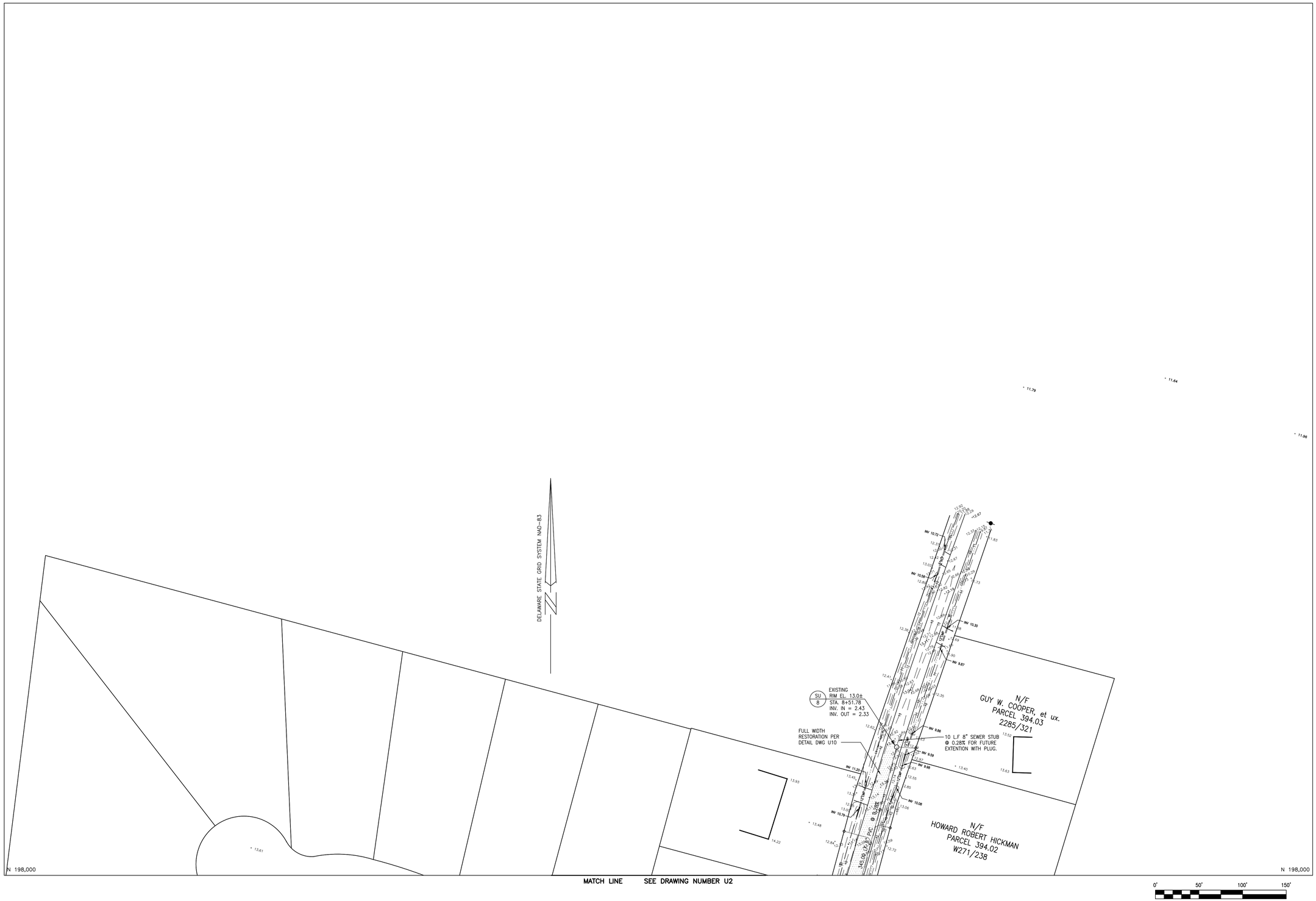

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ARCHITECTS ENGINEERS SURVEYORS
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MILFORD, DELAWARE (302) 424-1441

UTILITY PLAN

WINDMILL WOODS
WINDMILL ROAD
SUSSEX COUNTY, DELAWARE

Revisions:

Date:	JANUARY 2021
Scale:	1" = 50'
Dwn.By:	VLT/JDF
Proj.No.:	003E001.H
Dwg.No.:	U6

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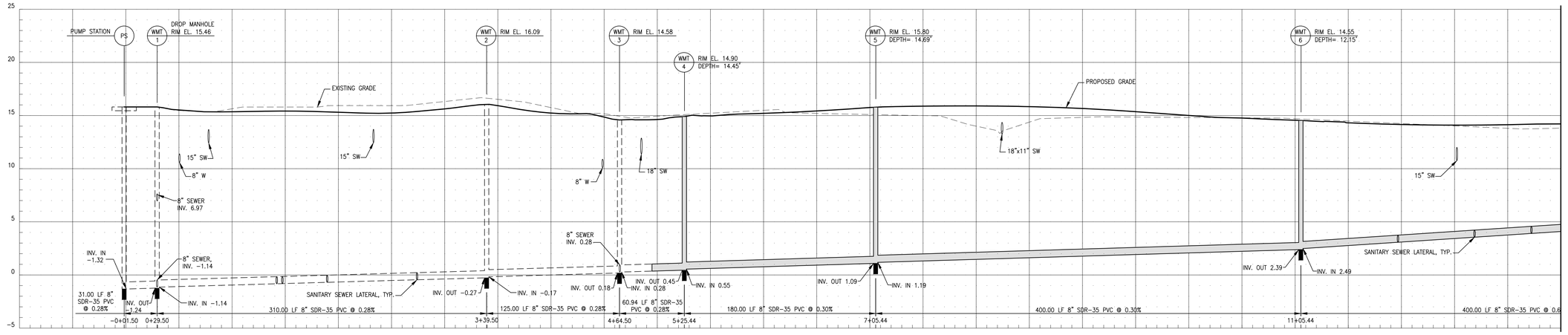
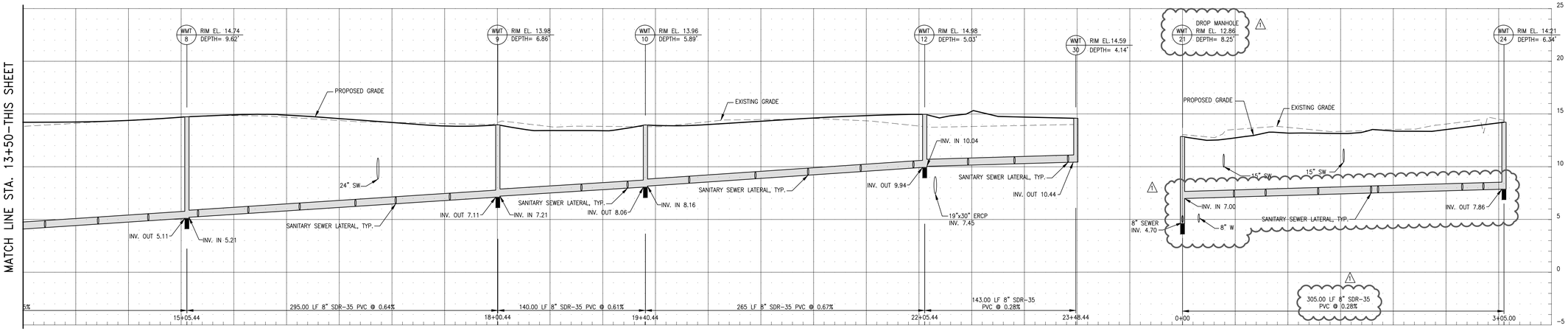


MATCH LINE STA. 13+50-THIS SHEET

SEWER MAIN PROFILE

SCALE: 1"=50' HORIZ.
1"= 5' VERT.



MATCH LINE STA. 13+50-THIS SHEET

SEWER MAIN PROFILE

SCALE: 1"=50' HORIZ.
1"= 5' VERT.

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UTILITY PROFILES

WINDMILL WOODS
WINDMILL ROAD
SUSSEX COUNTY, DELAWARE

Revisions:
⚠1 8/16/18 - REVISED SLOPE

Date: JANUARY 2021
Scale: AS SHOWN
Dwn.By: VLT/JDF
Proj.No.: 003E001.H
Dwg.No.: U7

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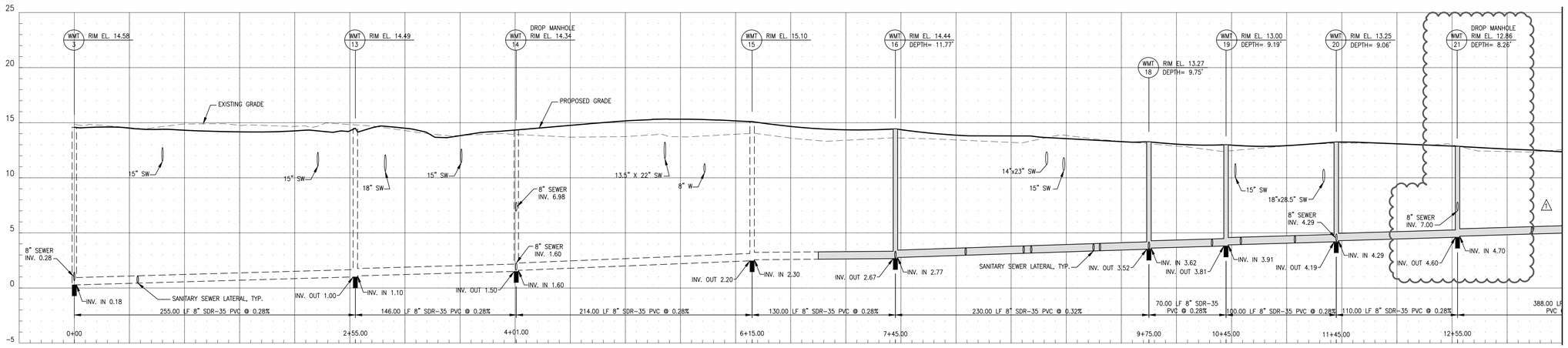

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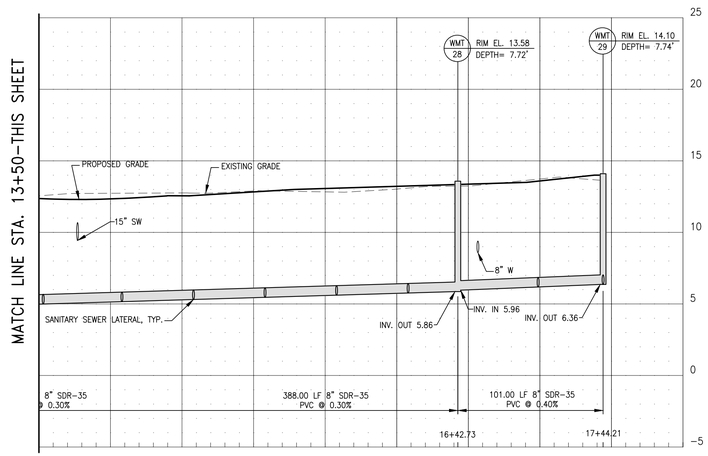

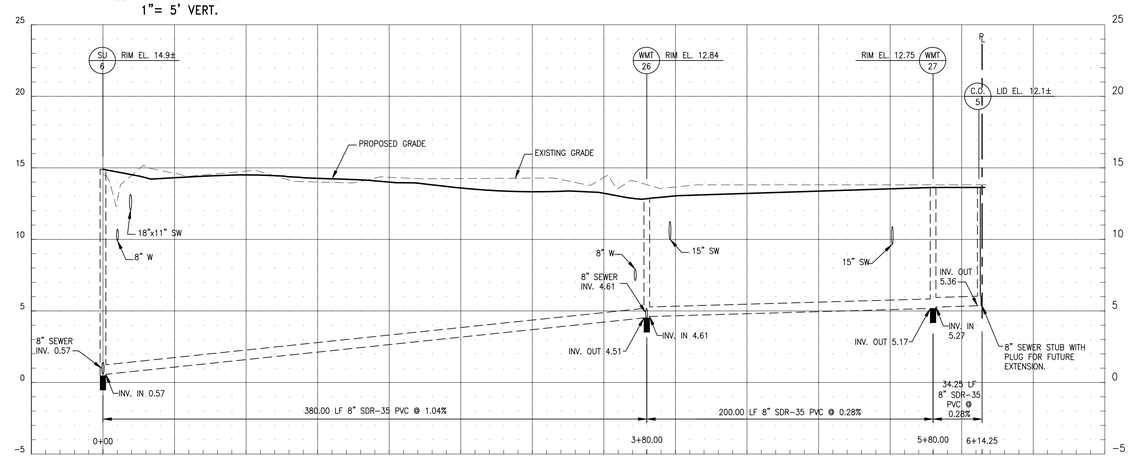

SEWER MAIN PROFILE

SCALE: 1"=50' HORIZ.
1"= 5' VERT.

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UTILITY PROFILES

WINDMILL WOODS
WINDMILL ROAD
SUSSEX COUNTY, DELAWARE

Revisions:
⚠ 8/16/18 - REVISED SLOPE

Date: JANUARY 2021
Scale: AS SHOWN
Dwn.By: VLT/JDF
Proj.No.: 003E001.H
Dwg.No.: U8

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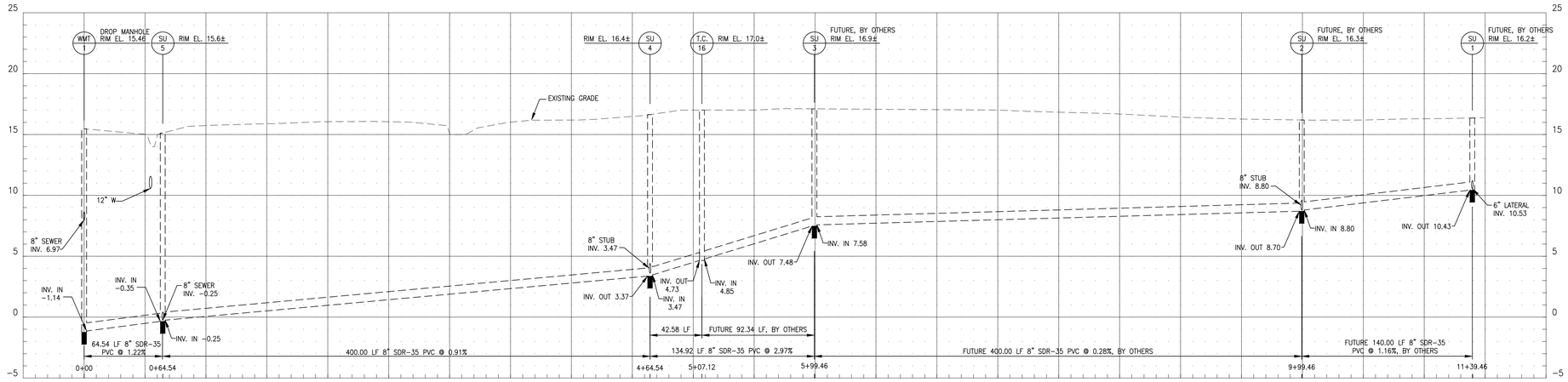
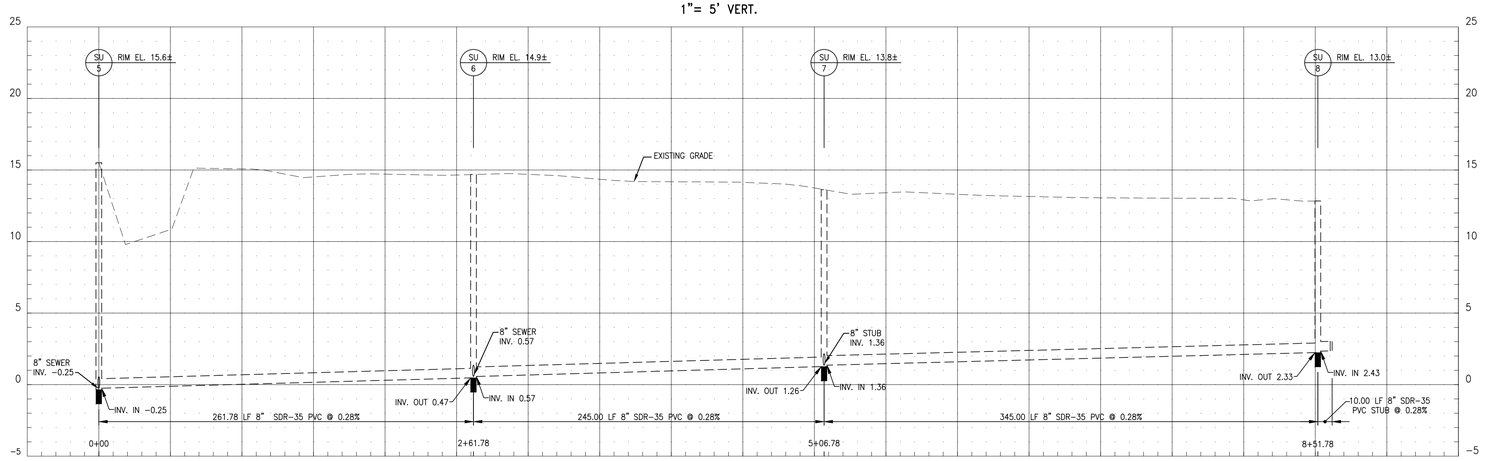


CONSTRUCTED SEWER MAIN PROFILE

SCALE: 1"=50' HORIZ.
1"= 5' VERT.



CONSTRUCTED SEWER MAIN PROFILE

SCALE: 1"=50' HORIZ.
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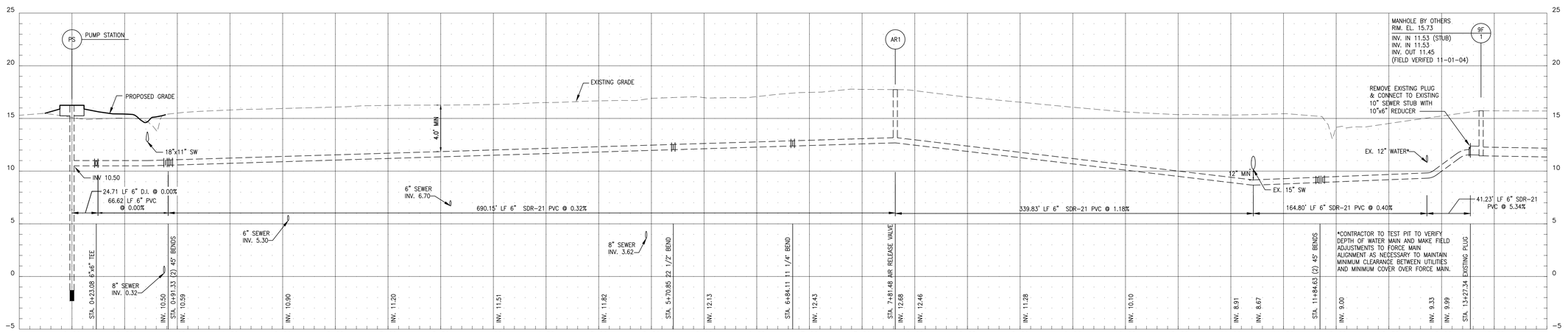

CONSTRUCTED FORCE MAIN PROFILE

SCALE: 1"=50' HORIZ.
1"= 5' VERT.

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UTILITY PROFILES

WINDMILL WOODS
WINDMILL ROAD
SUSSEX COUNTY, DELAWARE

Revisions:

Date: JANUARY 2021
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Dwn.By: VLT/JDF
Proj.No.: 003E001.H
Dwg.No.:

U9

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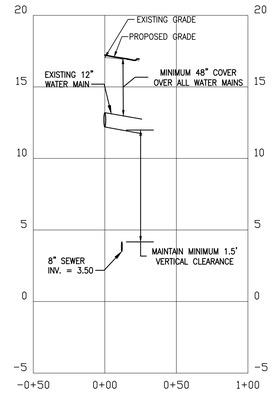
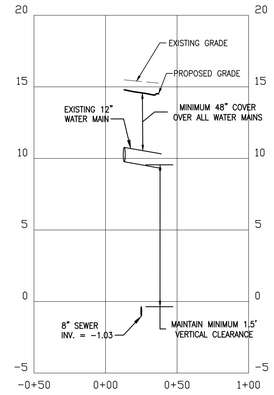


WATER CROSSING 1

SCALE: 1"=50' HORIZ.
1"= 5' VERT.



WATER CROSSING 2

SCALE: 1"=50' HORIZ.
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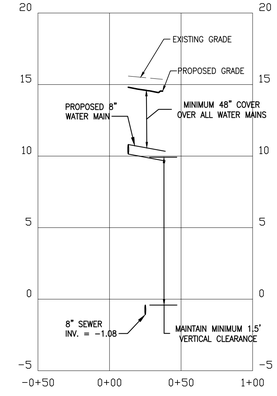
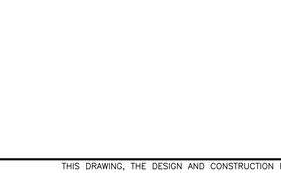


WATER CROSSING 3

SCALE: 1"=50' HORIZ.
1"= 5' VERT.

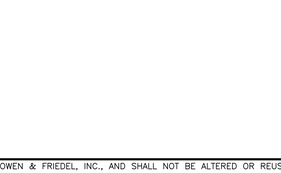
WATER CROSSING 4

SCALE: 1"=50' HORIZ.
1"= 5' VERT.



WATER CROSSING 5

SCALE: 1"=50' HORIZ.
1"= 5' VERT.



WATER CROSSING 6

SCALE: 1"=50' HORIZ.
1"= 5' VERT.

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UTILITY PROFILES

WINDMILL WOODS

WINDMILL ROAD

SUSSEX COUNTY, DELAWARE

Revisions:

Date: JANUARY 2021
Scale: AS SHOWN
Dwn.By: VLT/JDF
Proj.No.: 003E001.H
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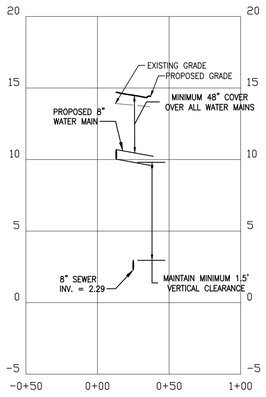
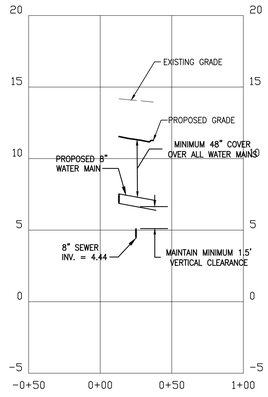


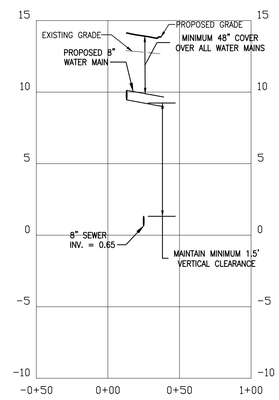
WATER CROSSING 7

SCALE: 1"=50' HORIZ.
1"= 5' VERT.



WATER CROSSING 8

SCALE: 1"=50' HORIZ.
1"= 5' VERT.



WATER CROSSING 9

SCALE: 1"=50' HORIZ.
1"= 5' VERT.

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UTILITY PROFILES

WINDMILL WOODS
WINDMILL ROAD
SUSSEX COUNTY, DELAWARE

Revisions:

Date:	JANUARY 2021
Scale:	AS SHOWN
Dwn.By:	VLT/JDF
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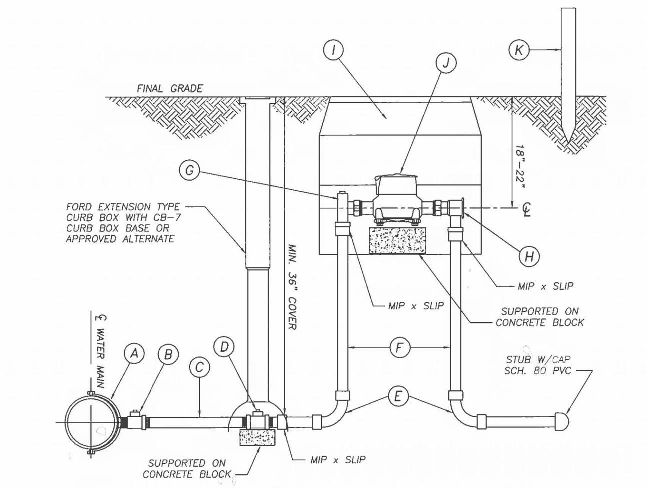
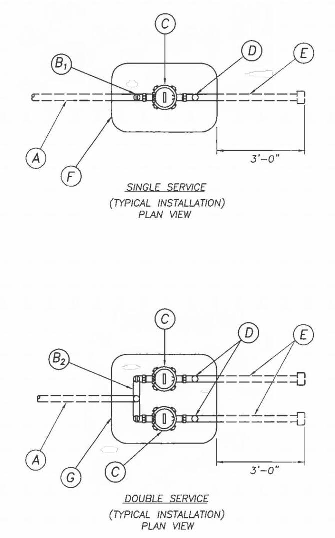


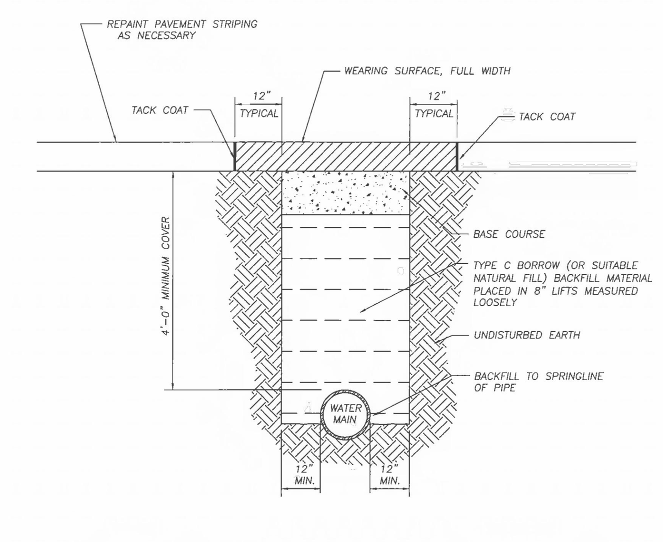
DESIGNATION	DESCRIPTION	MANUFACTURER	SERVICE TYPE	MODEL NUMBER	SIZE
A	SERVICE SADDLE	FORD	SINGLE	FS202-979 x IP7	
B	CORP. STOP	FORD	SINGLE	FB1700-7	
C	2" x 6" BRASS NIPPLE				
D	CURB STOP	FORD	SINGLE	B11-777	
E	90° ELBOW (SLIP x SLIP)		SINGLE	PVC SCHED. 80	
F	PIPE		SINGLE	PVC SCHED. 80/ PE	
G	90° ANGLE METER VALVE	FORD	SINGLE	FV13-777	
H	90° ANGLE CHECK VALVE	FORD	SINGLE	HFA31-777	
I	36" METER PIT EXTENSION	AMETEK	SINGLE		
J	2" METER	SCHLUMBERGER	SINGLE	NEPTUNE T-10	
K	GROUND MARKER DEPICTING THE LOCATION OF THE END OF EACH STUB. THE GROUND MARKER IS TO BE A WOOD OR STEEL STAKE/SPIKE PAINTED BLUE TO CLEARLY MARK THE LOCATION OF THE STUB.				

TIDEWATER UTILITIES INC. A Middlesex Water Company Affiliate, 1100 South Little Creek Road, Dover, Delaware 19901
TYPICAL DESIGN DETAILS — 2" OUTSIDE SERVICE CONNECTION DETAIL — A-2
1 1.16.06 CHANGED METER DEPTH TO 18"-22" CGH DSL; 0 2.04.05 INITIAL RELEASE CGH DSL
DATE: 10.04.02 DRAWN BY: AC — SCALE: N.T.S. — 2/19



DESIGNATION	DESCRIPTION	MANUFACTURER	SERVICE TYPE	MODEL NUMBER	SIZE
A	TUBING		SINGLE/DOUBLE	POLYETHYLENE	1"
B1	ANGLE METER VALVE	FORD	SINGLE	KV43-341	1" COMP. x 5/8" THRD.
B2	BRANCH VALVE ASSEMBLY	FORD	DOUBLE	UV43-41	1" COMP. x 5/8" THRD.
C	METER	SENSUS	SINGLE/DOUBLE	SRII	5/8"
	METER	SENSUS	SINGLE/DOUBLE	SRII	3/4"
	METER	SENSUS	SINGLE/DOUBLE	SRII	1"
D	ANGLE CHECK VALVE	FORD	SINGLE/DOUBLE	HA31-313	5/8" x 3/4" THRD.
E	STUB PIPING		SINGLE/DOUBLE	PVC SCHED. 40	3/4" SOCKET WLD.
F	STANDARD METER BOX	AMETEK	SINGLE		SINGLE SERVICE
G	JUMBO METER BOX	AMETEK	DOUBLE		DOUBLE SERVICE

TIDEWATER UTILITIES INC.
TYPICAL DESIGN DETAILS — METER PIT DETAIL PLAN — A-3
3 12.6.13 REMOVED LOCATION DETAIL SAH GLC; 2 2.21.13 CHANGED METER PIT LOCATION SAH GLC; 1 2.19.10 CHANGED METER MANF/MODEL SAH MJH
DATE: 10.04.02 DRAWN BY: AC — SCALE: N.T.S. — 3/19

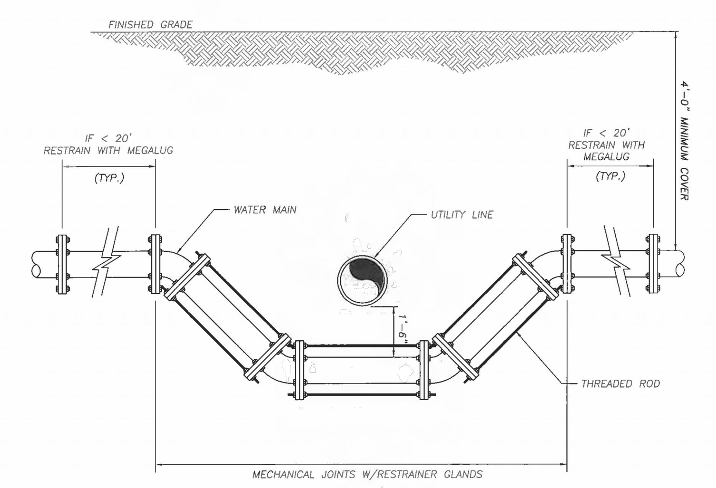


NOTE: IN UNPAVED AREAS PROVIDE 6" OF TOPSOIL AND MULCH

RESTORATION	BASE COURSE	WEARING SURFACE/OVERLAY
* CONCRETE DRIVEWAY REPAVING	6" GRADED AGGREGATE	6" CLASS B CONRETE
* HOT-MIX DRIVEWAY REPAVING	6" GRADED AGGREGATE	2" INCHES HOT-MIX, HOT-LAID BITUMINOUS CONCRETE, TYPE C
TEMPORARY REPAVING	8" INCHES GRADED AGGREGATE	2" INCHES HOT-MIX, HOT-LAID BITUMINOUS CONCRETE, TYPE B OR C OR 2" COLD LAID, BITUMINOUS CONCRETE
LANDSCAPED/UNPAVED AREAS	COMPACTED SUBGRADE	SEEDING AND MULCHING OR STRAW AS REQUIRED

*IF A GREATER CROSS SECTION EXISTS, MATCH EXISTING.

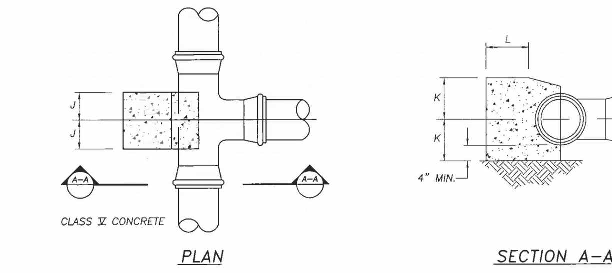
TIDEWATER UTILITIES INC.
TYPICAL DESIGN DETAILS — TEMPORARY PAVEMENT, DRIVEWAY AND TRENCH DETAIL — A-9
1 3.16.2016 INITIAL RELEASE SAH GLC
DATE: 3.16.2016 DRAWN BY: SAH — SCALE: N.T.S. — 9/19



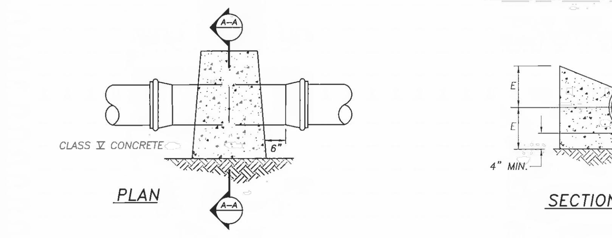
TIDEWATER UTILITIES INC.
TYPICAL DESIGN DETAILS — WATER MAIN CROSSING UTILITY DETAIL — A-10
2 2.06.06 ADDED 20' MIN. FOR MEGALUGS CGH DSL; 1 1.05.06 ADDED THREADED RODS CGH DSL; 0 2.04.05 INITIAL RELEASE CGH DSL
DATE: 10.04.02 DRAWN BY: AC — SCALE: N.T.S. — 10/19

NOTES
1. PORTLAND CEMENT CONCRETE FOR BUTRESSES SHALL BE 3000 P.S.I. MINIMUM.
2. BUTTRESS DIMENSIONS SHOWN ARE MINIMUM DIMENSIONS BASED UPON A SOIL BEARING CAPACITY OF 3000 P.S.F. AND STATIC WATER PRESSURE OF 150 P.S.I.
3. MODIFICATIONS TO BUTTRESS DIMENSIONS IS TO BE AT THE SOLE DISCRETION OF TIDEWATER UTILITIES, INC. AND ANY CHANGES TO BUTTRESS DIMENSIONS SHALL BE APPROVED BY TIDEWATER UTILITIES, INC. BEFORE ANY CHANGE IS PERFORMED.
4. ALL CONCRETE TO MEET UNDISTURBED EARTH.
5. FITTINGS TO BE WRAPPED IN 3 MIL. PLASTIC WHERE CONCRETE IS PRESENT.

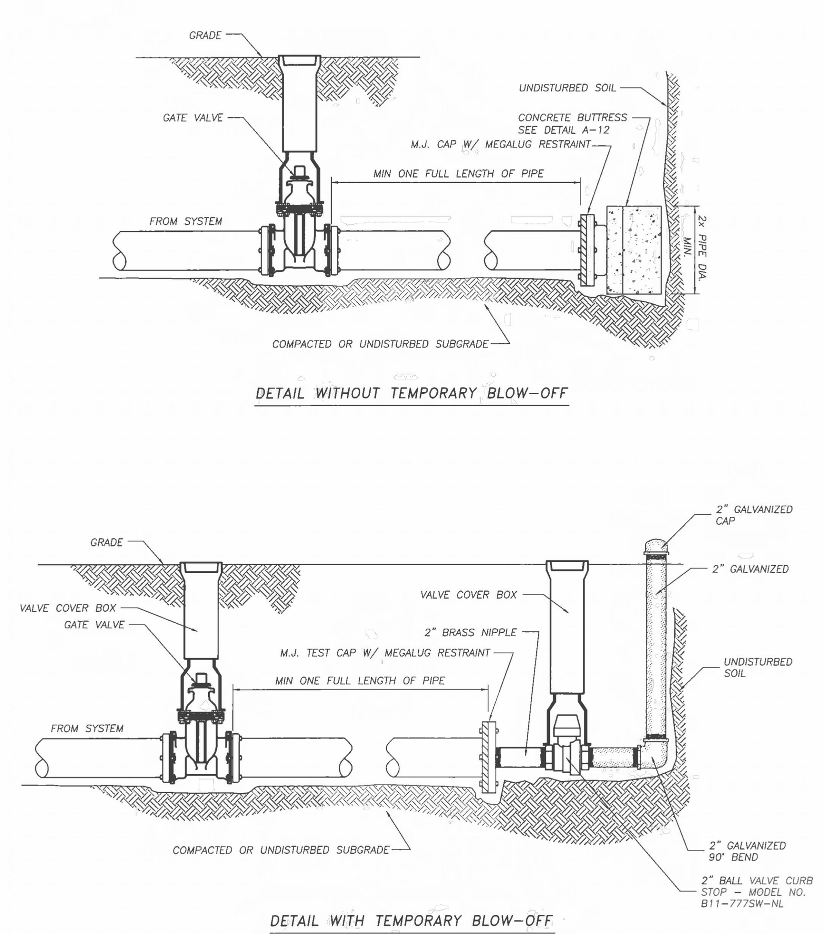
SIZE	4"	6"	8"	10"	12"
J	4"	6"	8"	11"	13"
K	8"	10"	13"	16"	19"
L	8"	8"	8"	10"	12"



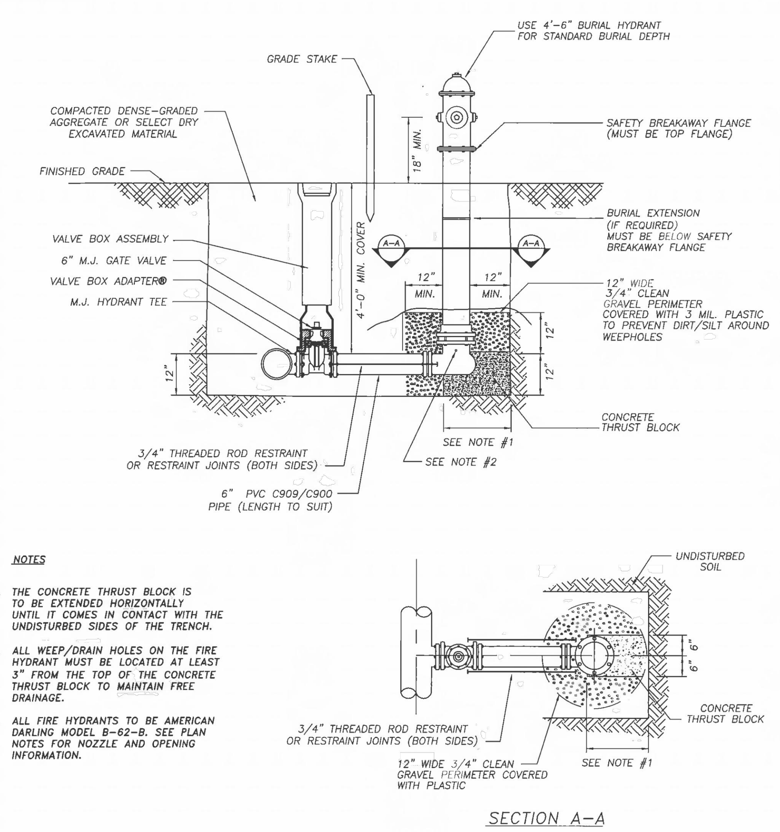
SIZE		4"	6"	8"	10"	12"
90°	D	1'-8"	2'-0"	2'-3"	3'-0"	3'-4"
	E	5"	7"	9"	1' 1/2"	1'-3"
45°	D	1'-0"	1'-3"	1'-10"	2'-4"	3'-0"
	E	4"	6"	8"	10"	12"
22 1/2°	D	9"	11"	1'-2"	1'-6"	1'-10"
	E	4"	4"	6"	7"	9"
11 1/4°	D	*	*	*	1'-0"	1'-2"
	E	*	*	*	6"	7"



TIDEWATER UTILITIES INC.
TYPICAL DESIGN DETAILS — THRUST BLOCK DETAIL — A-12
0 2.04.05 INITIAL RELEASE CGH DSL
DATE: 10.04.02 DRAWN BY: AC — SCALE: N.T.S. — 12/19



TIDEWATER UTILITIES INC.
TYPICAL DESIGN DETAILS — END CAP DETAIL — A-5
1 12.5.13 REVISED TO SHOW BLOW OFF DETAIL SAH GLC; 0 2.04.05 INITIAL RELEASE CGH DSL
DATE: 10.04.02 DRAWN BY: AC — SCALE: N.T.S. — 5/19



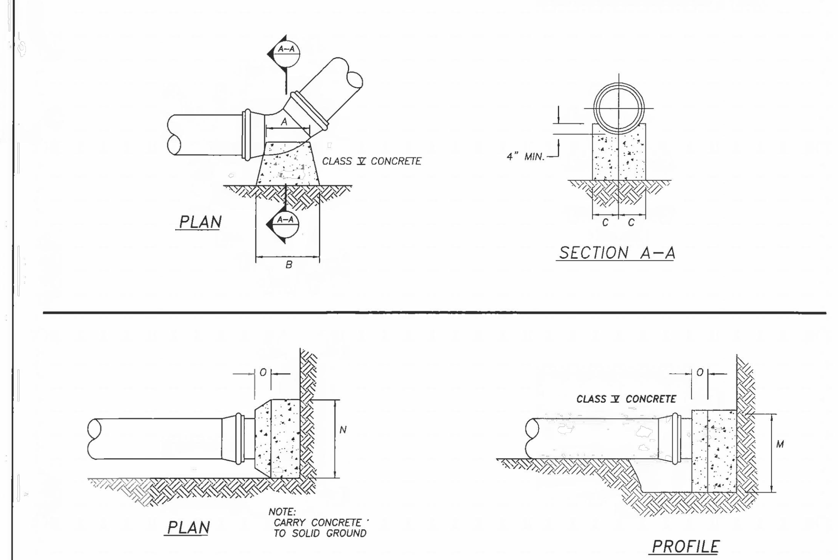
NOTES
1. THE CONCRETE THRUST BLOCK IS TO BE EXTENDED HORIZONTALLY UNTIL IT COMES IN CONTACT WITH THE UNDISTURBED SIDES OF THE TRENCH.
2. ALL WEEP/DRAIN HOLES ON THE FIRE HYDRANT MUST BE LOCATED AT LEAST 3" FROM THE TOP OF THE CONCRETE THRUST BLOCK TO MAINTAIN FREE DRAINAGE.
3. ALL FIRE HYDRANTS TO BE AMERICAN DARLING MODEL B-62-B. SEE PLAN NOTES FOR NOZZLE AND OPENING INFORMATION.

TIDEWATER UTILITIES INC.
TYPICAL DESIGN DETAILS — FIRE HYDRANT ASSEMBLY DETAIL — A-7
1 5.26.09 ADDED VAYLE BOX ADAPTER SAH DSL; 0 2.04.05 INITIAL RELEASE CGH DSL
DATE: 10.04.02 DRAWN BY: AC — SCALE: N.T.S. — 7/19

NOTES
1. PORTLAND CEMENT CONCRETE FOR BUTRESSES SHALL BE 3000 P.S.I. MINIMUM.
2. BUTTRESS DIMENSIONS SHOWN ARE MINIMUM DIMENSIONS BASED UPON A SOIL BEARING CAPACITY OF 3000 P.S.F. AND STATIC WATER PRESSURE OF 150 P.S.I.
3. MODIFICATIONS TO BUTTRESS DIMENSIONS IS TO BE AT THE SOLE DISCRETION OF TIDEWATER UTILITIES, INC. AND ANY CHANGES TO BUTTRESS DIMENSIONS SHALL BE APPROVED BY TIDEWATER UTILITIES, INC. BEFORE ANY CHANGE IS PERFORMED.
4. ALL CONCRETE TO MEET UNDISTURBED EARTH.
5. FITTINGS TO BE WRAPPED IN 3 MIL. PLASTIC WHERE CONCRETE IS PRESENT.

VERTICLE BENDS

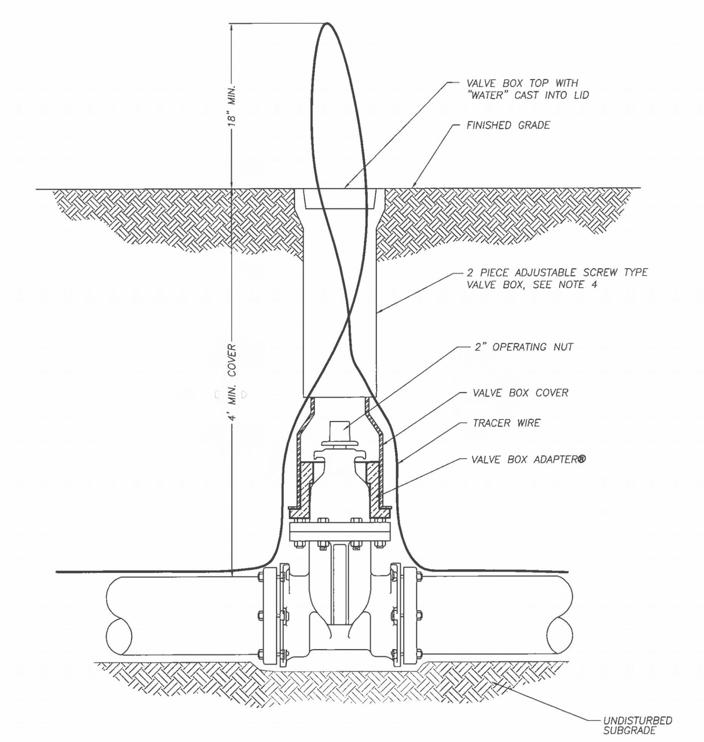
SIZE		4"	6"	8"	10"	12"
45°	A	6"	6"	6"	6"	6"
	B	14"	17"	22"	27"	2'-10"
	C	5"	6"	9"	11"	13"
22 1/2°	A	6"	6"	6"	6"	6"
	B	9"	11"	14"	18"	22"
	C	4"	4"	6"	8"	10"
11 1/4°	A	*	*	*	6"	6"
	B	*	*	*	14"	17"
	C	*	*	*	7"	9"



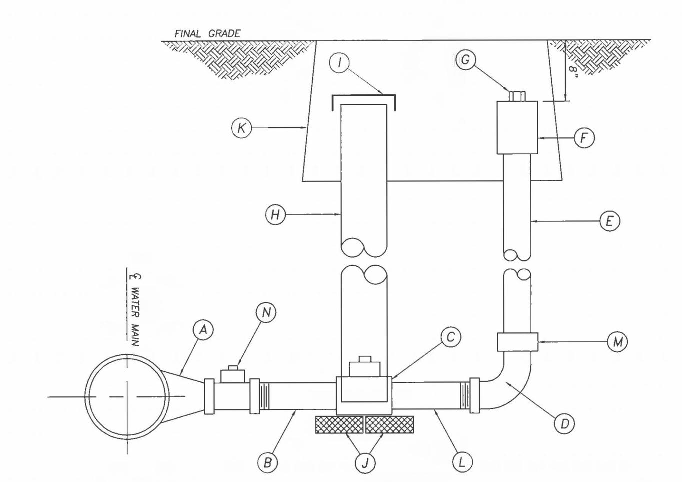
PLUGS

SIZE	4"	6"	8"	10"	12"
M	10"	13"	16"	19"	21"
N	10"	19"	2'-2"	2'-8"	3'-2"
O	5"	7"	9"	11"	13"

TIDEWATER UTILITIES INC.
TYPICAL DESIGN DETAILS — THRUST BLOCK DETAIL — A-13
0 2.04.05 INITIAL RELEASE CGH DSL
DATE: 10.04.02 DRAWN BY: AC — SCALE: N.T.S. — 13/19

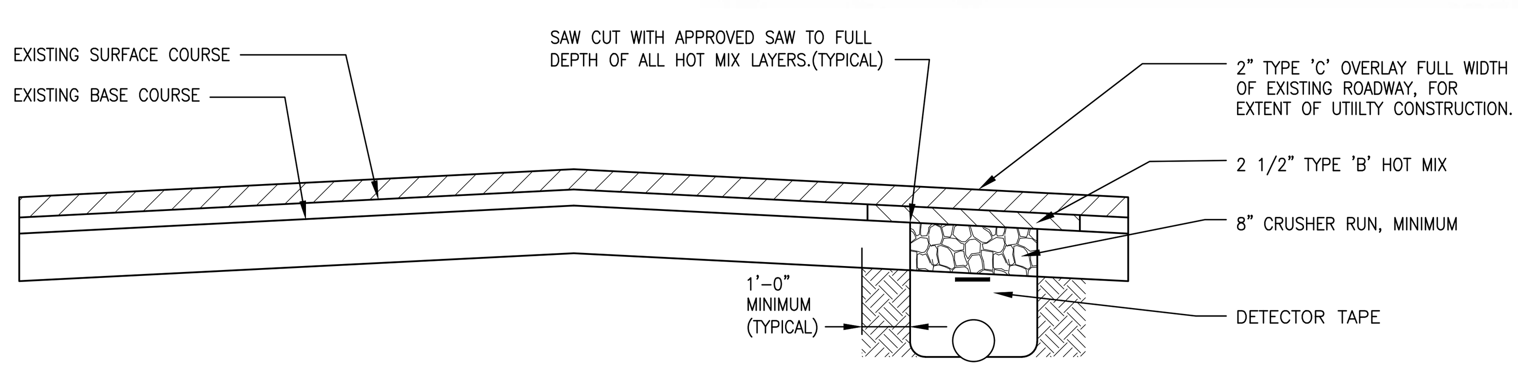


TIDEWATER UTILITIES INC.
TYPICAL DESIGN DETAILS — TRACER WIRE & VALVE BOX DETAIL — A-18
0 5.26.09 INITIAL RELEASE SAH DSL
DATE: 12/5/08 DRAWN BY: SAH — SCALE: N.T.S. — 18/19

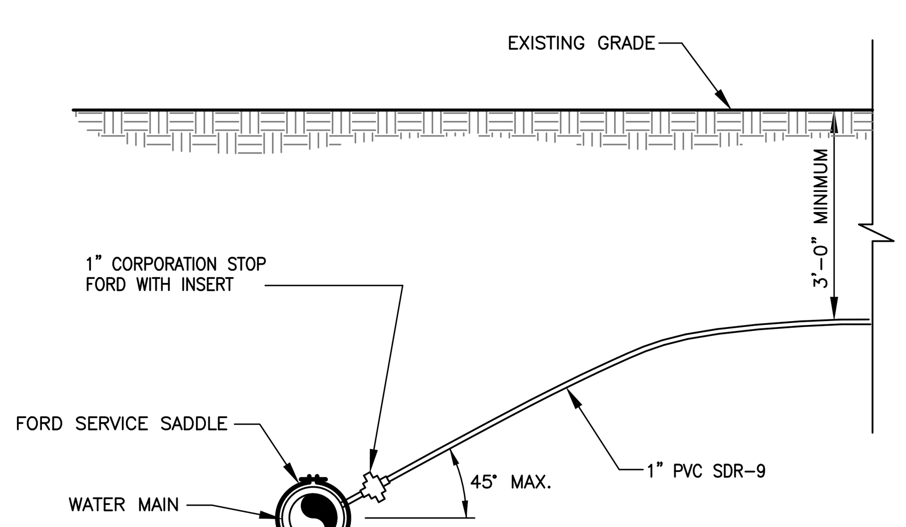


DESIGNATION	MAIN SIZE	DESCRIPTION	MANUFACTURER	MODEL NUMBER	SIZE
A	4"	SADDLE	FORD	FS202-526-IP7	2"
	6"	SADDLE	FORD	FS202-760-IP7	2"
	8"	SADDLE	FORD	FS202-979-IP7	2"
B		BRASS NIPPLE			2" x 6"
C	UP TO 8"	CURB STOP	FORD	B11-777	2"
D		90° ELBOW		BRASS	2"
E		PIPE		PVC SCHED. 80	2"
F		FEMALE ADAPTER		PVC SCHED. 80	2"
G		DWV PLUG		PVC SCHED. 80	2"
H	6"	PIPE		SDR-35	
I	6"	CAP (SLIP)		SDR-35	
J		CEMENT BRICK			
K		ENCLOSURE			
L		BRASS NIPPLE			2" x 6"
M		MALE ADAPTER		PVC SCHED. 80	2"
N		CORP STOP	FORD	FB1700-7	2"

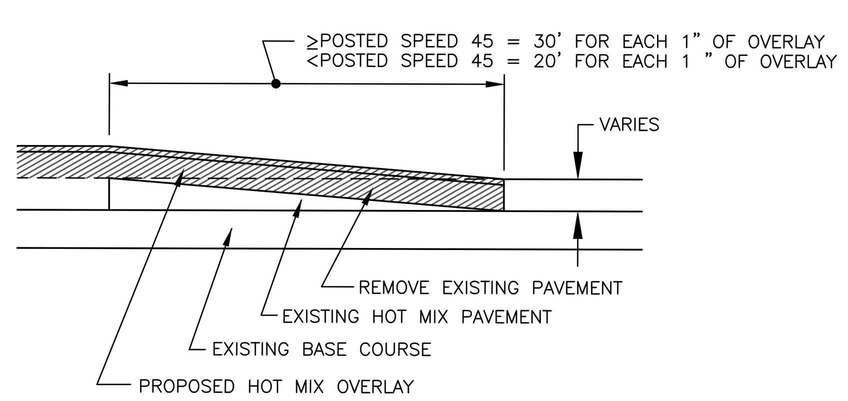
TIDEWATER UTILITIES INC.
TYPICAL DESIGN DETAILS — 4" - 8" BLOW OFF DETAIL — A-4
4 6.03.09 REV. MAT. & TO SHOW 6" NIPPLE SAH DSL; 2 2.06.06 ADDED N CGH DSL; 1 1.05.06 ADDED L & M, MODIFIED D CGH DSL; 0 2.04.05 INITIAL RELEASE CGH DSL
DATE: 10.04.02 DRAWN BY: AC — SCALE: N.T.S. — 4/19



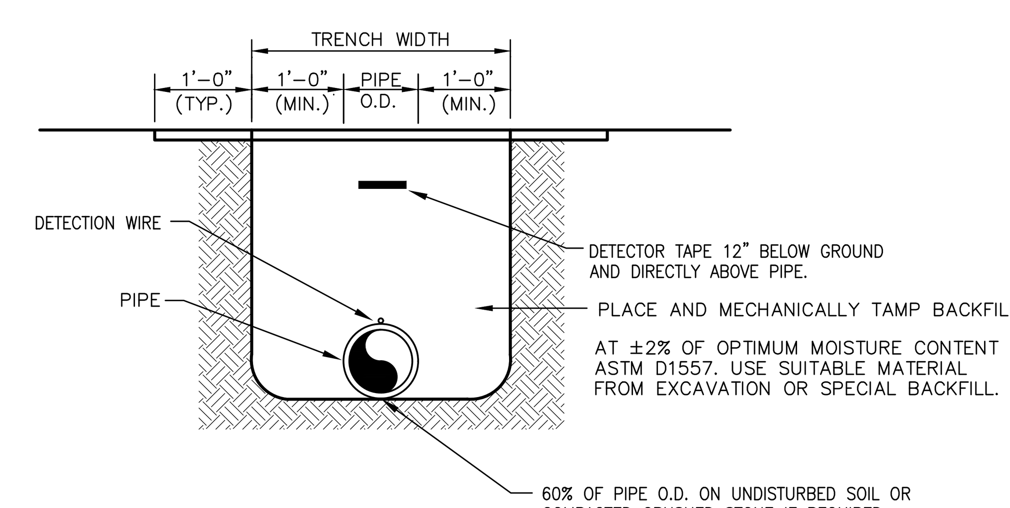
PAVEMENT RESTORATION



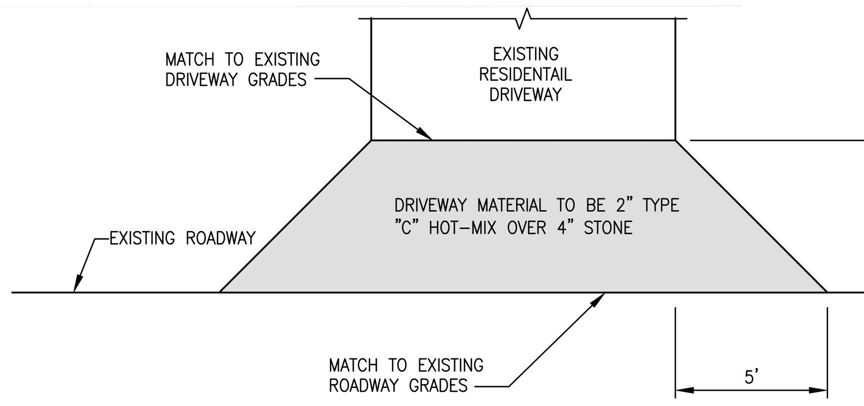
WATER SERVICE TAP DETAIL



BUTT JOINT DETAIL



FORCE MAIN TRENCH DETAIL



DRIVEWAY RESTORATION DETAIL

FIRE PROTECTION NOTES:

1. PROJECT LOCATION: WINDMILL DRIVE, MILLVILLE, DE 19970
2. WATER SUPPLY BY TIDEWATER UTILITIES, INC. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH TIDEWATER UTILITIES, INC. STANDARDS AND SPECIFICATIONS.
3. MAX ALLOWABLE BUILDING HEIGHT: 40'-0"
4. ALL FIRE LANES, FIRE HYDRANTS, AND FIRE DEPARTMENT CONNECTIONS SHALL BE MARKED IN ACCORDANCE WITH THE STATE FIRE PREVENTION REGULATIONS.
5. BUILDING INTENDED USE: SINGLE FAMILY RESIDENTIAL
6. BUILDINGS WILL NOT BE SPRINKLERED BUT WILL CONTAIN A 2HR FIRE WALL RATING IN ACCORDANCE WITH THE DELAWARE STATE FIRE PREVENTION REGULATIONS.
7. PROPOSED BUILDING CONSTRUCTION IS NFPA TYPE V, 3 STORY WOOD FRAME.

P:\0003\0003E001.H\current working folder\dwgs\U12-U15 UTIL DETAILS.dwg Jan 21 , 2021 - 3:35pm

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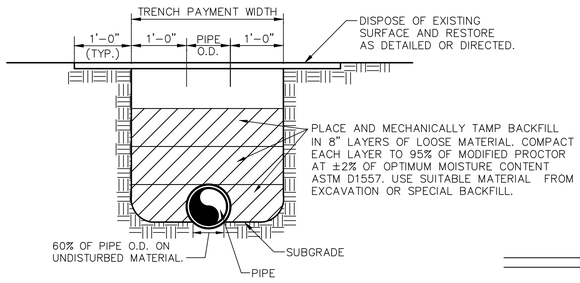
UTILITY DETAILS

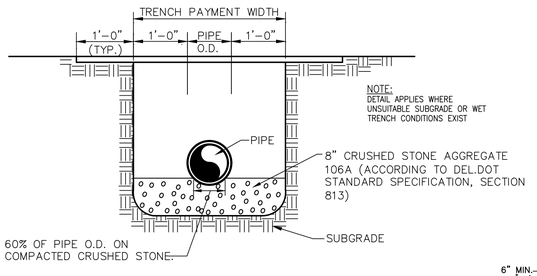
WINDMILL WOODS
WINDMILL ROAD
SUSSEX COUNTY, DELAWARE

Revisions:

Date: JANUARY 2021
Scale: NONE
Dwn.By: JDF
Proj.No.: 003E001.H
Dwg.No.: U12

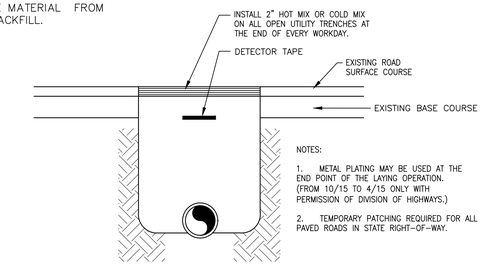


TRENCH BACKFILL

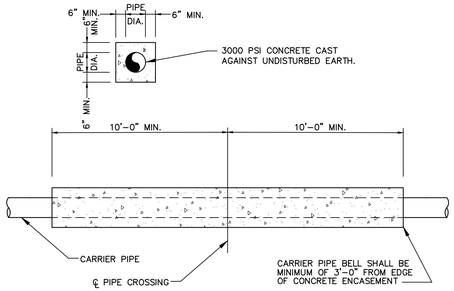


CRUSHED STONE BEDDING

TRENCH BACKFILL & PIPE BEDDING DETAIL

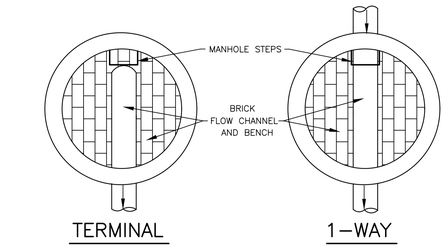


TEMPORARY CROSS ROAD AND LONGITUDINAL PATCH DETAIL

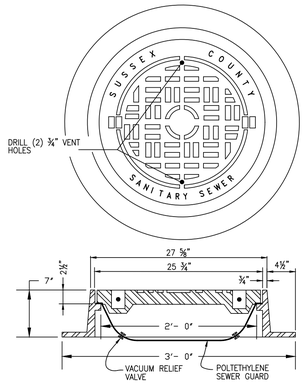


NOTE:
1. WHEN CONCRETE ENCASEMENT OF WATER MAIN IS REQUIRED, USE DUCTILE IRON PIPE FOR FULL LENGTH OF ENCASEMENT PLUS 3'-0" ON EACH SIDE. ENCASEMENT OF PVC WATER MAIN IS UNACCEPTABLE.
2. FOR ENCASEMENT OF SEWER MAIN WHICH CROSSES UNDER UTILITES OTHER THAN WATER, ENCASEMENT LENGTH SHALL BE REDUCED TO 5 FEET ON EITHER SIDE OF THE UTILITY CROSSING.

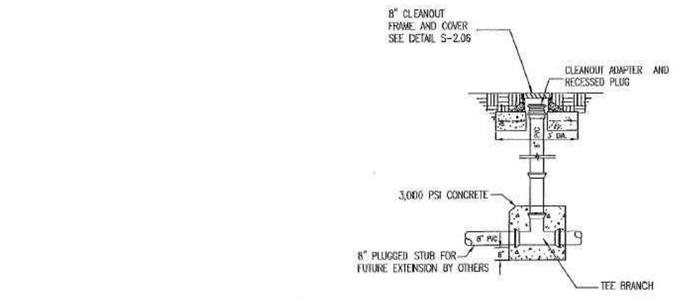
CONCRETE ENCASEMENT DETAIL



FLOW CHANNEL DETAIL

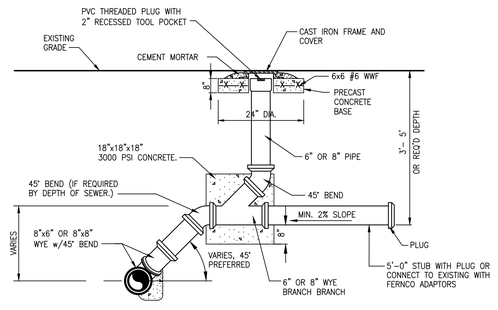


MANHOLE FRAME & COVER



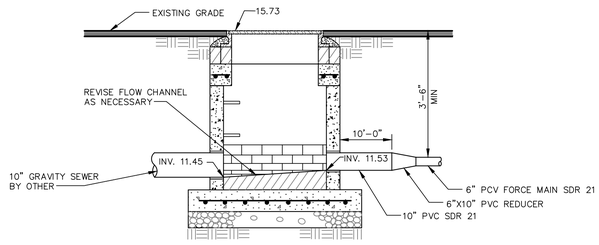
NOTES:
1. A MINIMUM OF 3" CLEARANCE SHALL BE PROVIDED BETWEEN CLEANOUT COVER AND CLEANOUT TOP.
2. ALL INVERTS OF TEE-WYE CONNECTIONS SHALL BE FIELD SURVEYED FOR FINAL AS-BUILTS.

TEE CLEANOUT FOR SEWER EXTENSIONS

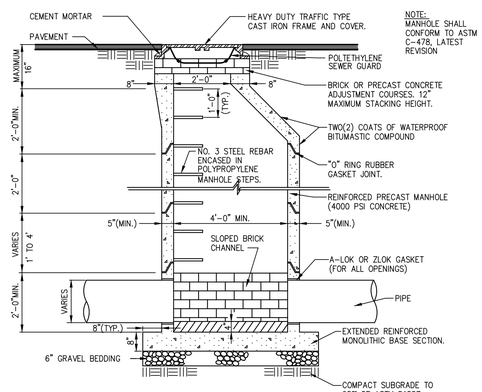


NOTES:
1. CLEANOUT NOT TO BE IN DITCH, SWALE, ETC.
2. MAINTAIN 10' MIN. SEPERATION BETWEEN WATER AND SEWER LINES.
3. 3000 PSI CONCRETE BUTTRESS FOR HEAVY TRAFFIC AREAS AT INSPECTORS DISCRETION.
4. 8" CLEANOUT WOULD REQUIRE A 9" OPENING IN CONCRETE BASE.
5. TOWNHOMES WITH MORE THAN 4 UNITS SHALL USE A MINIMUM 8" DIAMETER LATERAL.

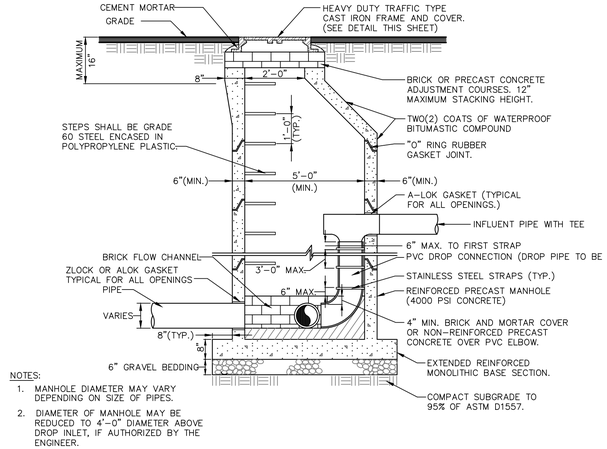
SEWER LATERAL CLEANOUT DETAIL



FORCE MAIN DISCHARGE INTO MANHOLE BY OTHERS



PRECAST CONCRETE MANHOLE DETAIL



NOTES:
1. MANHOLE DIAMETER MAY VARY DEPENDING ON SIZE OF PIPES.
2. DIAMETER OF MANHOLE MAY BE REDUCED TO 4'-0" DIAMETER ABOVE DROP INLET, IF AUTHORIZED BY THE ENGINEER.

INSIDE DROP MANHOLE DETAIL

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UTILITY DETAILS

WINDMILL WOODS
WINDMILL ROAD
SUSSEX COUNTY, DELAWARE

Revisions:

Date: JANUARY 2021
Scale: NONE
Dwn.By: EFT
Proj.No.: 003E001.H
Dwg.No.:

U13

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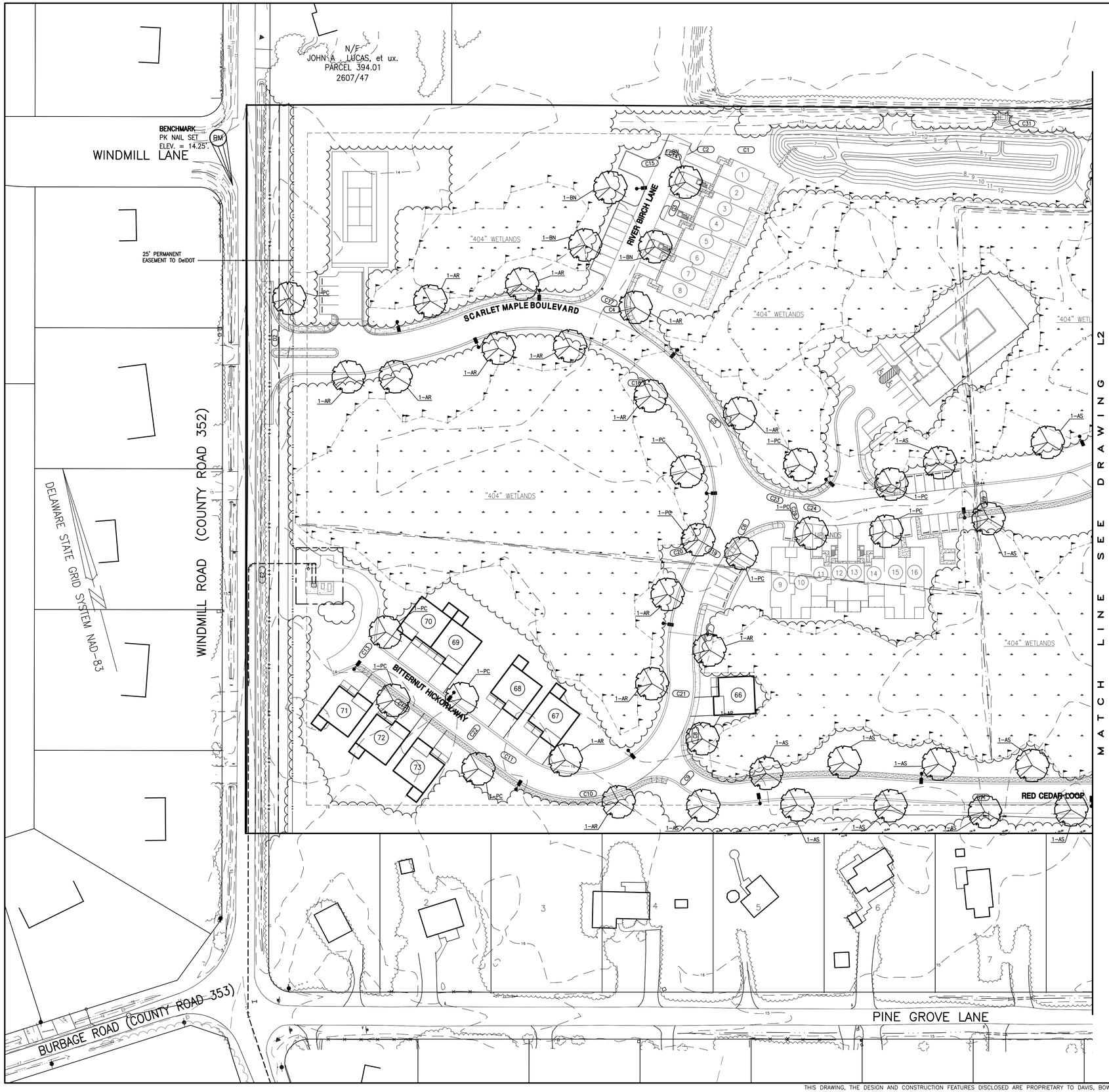

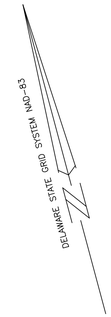

LIGHTING LEGEND

POLE LAMP, 12' FIXTURE MOUNTING HEIGHT HADCO TYPE V MODEL P-2065 POLE WITH MODEL R51BCNG2ANNG150RG GLOBE, 150 WATT, H.P.S. STREET LAMP @ 100' O.C., STAGGERED.

0' 50' 100' 150'

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LANDSCAPE & LIGHTING PLAN

WINDMILL WOODS
WINDMILL ROAD
SUSSEX COUNTY, DELAWARE

Revisions:

Date:	JANUARY 2021
Scale:	1" = 50'
Dwn.By:	VLT/EFT
Proj.No.:	003E001.H
Dwg.No.:	L1

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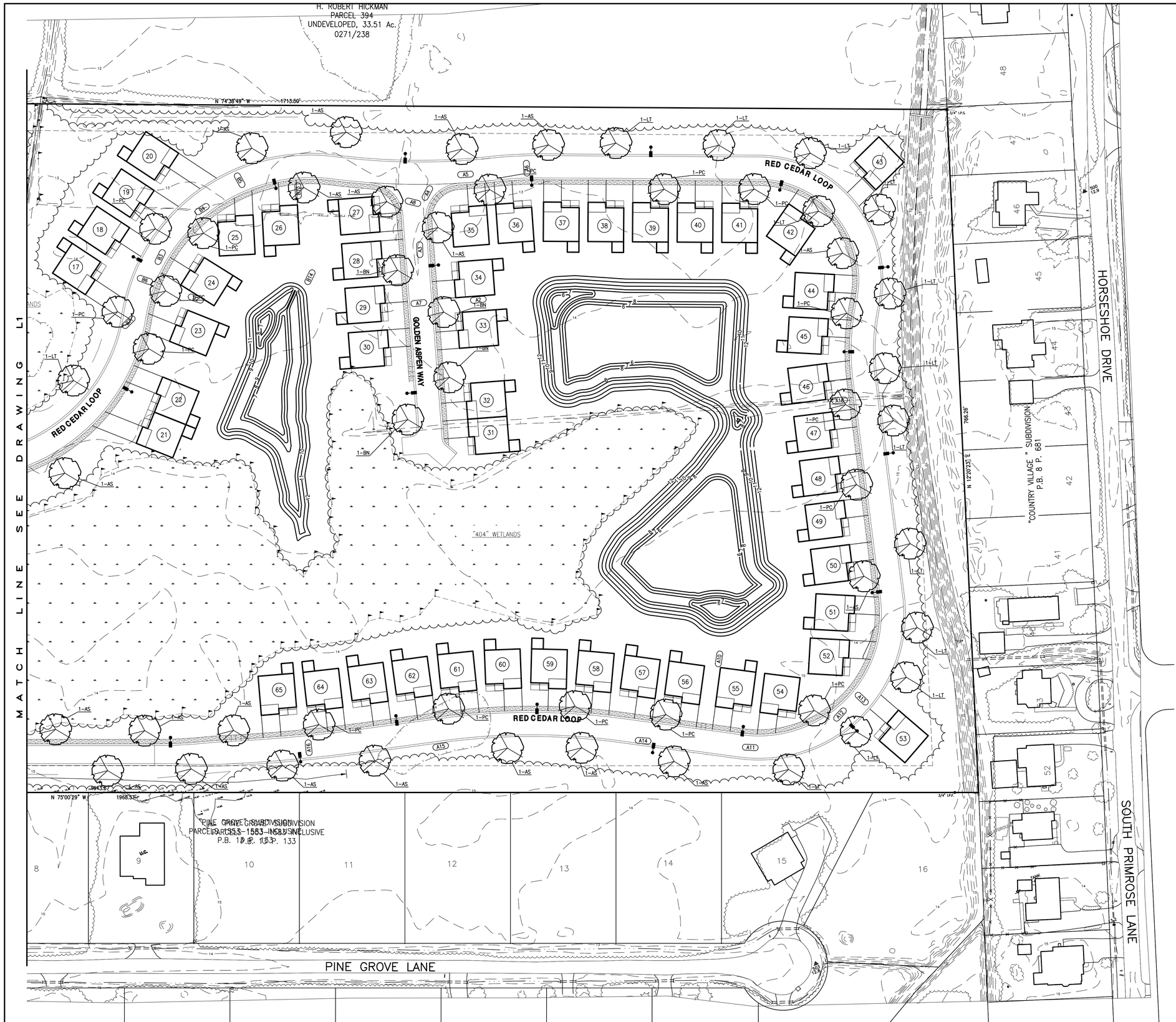

LIGHTING LEGEND

POLE LAMP, 12' FIXTURE MOUNTING HEIGHT HADCO TYPE V MODEL P-2065 POLE WITH MODEL R51BCNG2ANNG150RG GLOBE, 150 WATT, H.P.S. STREET LAMP @ 100' O.C., STAGGERED.

0' 50' 100' 150'

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LANDSCAPE & LIGHTING PLAN

WINDMILL WOODS
WINDMILL ROAD
SUSSEX COUNTY, DELAWARE

Revisions:

Date:	JANUARY 2021
Scale:	1" = 50'
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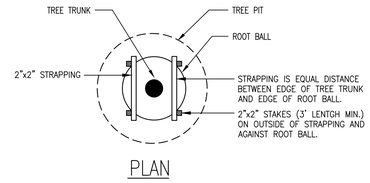
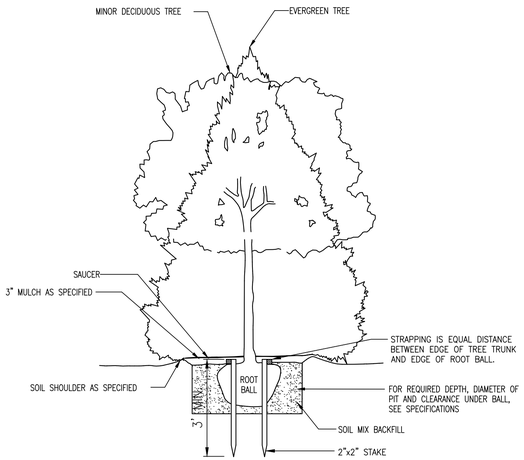


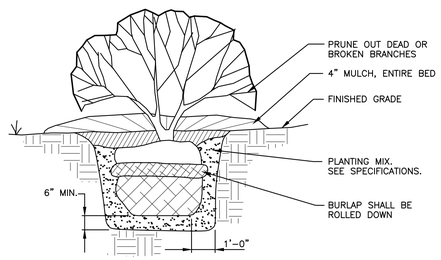
PLAN



SECTION

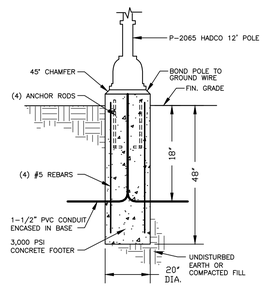
TREE STAKING DETAIL

NOT TO SCALE



SHRUB PLANTING DETAIL

NOT TO SCALE



TYPE: MODEL R51BCNG2ANNG150RG GLOBE
MANUFACTURER: HADCO

LAMPS: 150 WATT HIGH PRESSURE SODIUM
MOUNTINGS: CONCRETE ANCHOR BASE

REMARKS: VICTORIAN LUMINAIR WITH POLYACRYL REFRACTOR GLOBE, SPUN ALUMINIUM ROOF, SPECULAR ALUMINIUM REFLECTOR. CAST ALUMINUM WATERPROOF BALLAST ENCLOSURE LOW TEMPERATURE BALLAST, TYPE III LIGHT DISTRIBUTION, PHOTOCELL, AND BLACK FINISH. LUMINAR MOUNTED ON 12'-0" CAST ALUMINUM POST WITH BLACK FINISH.

LIGHT STANDARD BASE DETAIL

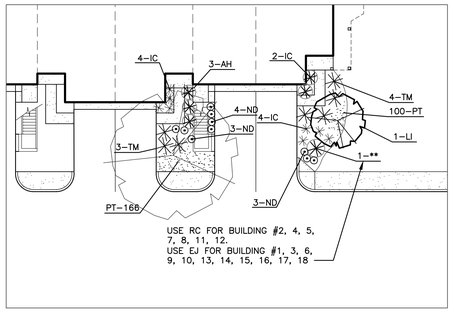
NOT TO SCALE

GENERAL LANDSCAPE NOTES

1. QUALITY AND SIZE OF PLANTS, SPREAD OF ROOTS, AND SIZE OF BALLS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS OF THE AMERICAN ASSOCIATION OF NURSERYMEN "AMERICAN STANDARDS FOR NURSERY STOCK".
2. CONTRACTOR SHALL BE REQUIRED TO GUARANTEE ALL PLANT MATERIALS FOR A PERIOD OF ONE YEAR AFTER INSTALLATION IS COMPLETE AND FINAL ACCEPTANCE OF PHASE I SITE WORK HAS BEEN GIVEN. AT THE END OF ONE YEAR ALL PLANT MATERIAL WHICH IS DEAD OR DYING SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE AS ORIGINALLY SPECIFIED.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO UTILITIES AND MAY MAKE MINOR ADJUSTMENTS IN SPACING AND/OR LOCATION OF PLANT MATERIALS. CONTRACTOR TO VERIFY "AS BUILT" LOCATION OF ALL UTILITIES.
4. NO SUBSTITUTIONS SHALL BE MADE WITHOUT APPROVAL OF THE OWNER.
5. ALL AREAS NOT STABILIZED IN PAVING OR PLANT MATERIALS SHOULD BE SEEDED AND MULCHED. (SEE EROSION & SEDIMENT CONTROL PLAN.)
6. EVERGREEN TREES SHALL HAVE A FULL, WELL-BRANCHED, CONICAL FORM TYPICAL OF THE SPECIES.
7. ALL DECIDUOUS SHADE TREES SHALL BRANCH A MINIMUM OF 8'-0" ABOVE GROUND LEVEL. TREES SHALL BE PLANTED AND STAKED IN ACCORDANCE WITH THE STAKING DETAIL SHOWN.
8. THE FULL EXTENT OF ALL PLANTING BEDS SHALL RECEIVE 4" OF TOPSOIL AND 3" OF BARK MULCH PER SPECIFICATIONS.
9. THE CONTRACTOR SHALL SUPPLY ALL PLANT MATERIALS IN QUANTITIES SUFFICIENT TO COMPLETE THE PLANTINGS SHOWN ON THIS DRAWING AND AS SPECIFIED.
10. ALL PLANTS SHALL BEAR THE SAME RELATIONSHIP TO FINISHED GRADE AS THE PLANT'S ORIGINAL GRADE BEFORE DIGGING.
11. THE CONTRACTOR SHALL WATER ALL PLANTS THOROUGHLY TWICE DURING THE FIRST 24-HOUR PERIOD AFTER PLANTING, AND THEN WEEKLY OR MORE OFTEN, IF NECESSARY, DURING THE FIRST GROWING SEASON.
12. LANDSCAPE BEDS NOT DEFINED BY CURBS, SIDEWALKS, WALLS OR OTHER STRUCTURES SHALL BE ENCLOSED BY ALUMINUM EDGING UNLESS OTHERWISE INDICATED.

LANDSCAPE PLANT SCHEDULE

SYMBOL	KEY	BOTANICAL NAME	COMMON NAME	SIZE	QUANTITY
		LARGE DECIDUOUS TREES			
	AR	ACER rubrum 'OCTOBER GLORY'	OCTOBER GLORY RED MAPLE	2 1/2-3" Cal., B&B	15
	AS	ACER saccharum "GREEN MOUNTAIN"	GREEN MOUNTAIN SUGAR MAPLE	2 1/2-3" Cal., B&B	33
	BN	BETULA nigra	RIVER BIRCH (CLUMP FORM)	10-12" Ht, B&B	10
	PC	PYRUS calleryana 'REDSPIRE'	REDSPIRE PEAR	2 1/2-3" Cal., B&B	27
	LT	LIRIODENDRON Tulipifera	TULIP POPLAR	2 1/2-3" Cal., B&B	19
		*TOTAL QUANTITY OF LARGE DECIDUOUS TREES.			104*
		SMALL DECIDUOUS TREES			
	LI	LAGERSTROEMIA indica 'TUSCARORA'	TUSCARORA CRAPE MYRTLE	6-7' Ht., B&B	36
		*TOTAL QUANTITY OF SMALL DECIDUOUS TREES.			36*
		EVERGREEN SHRUBS			
	AH	AZALEA 'HINO CRIMSON'	HINO CRIMSON AZALEA	15-18", Cont.	108
	EJ	EUONYMUS japonicus 'SILVER KING'	SILVER KING EUONYMUS	24-30", Cont.	22
	IC	ILEX crenata 'GREEN LUSTER'	GREEN LUSTER HOLLY	15-18", B&B	396
	RC	RHODODENDRON catawbiense 'P.J.M. WHITE'	WHITE P.J.M. RHODODENDRON	24-30", Cont.	14
	TM	TAXUS x media 'SEBIAN'	SEBIAN YEW	18-24", B&B	252
		*TOTAL QUANTITY OF EVERGREEN SHRUBS.			792*
		DECIDUOUS SHRUBS			
	ND	NANDINA domestica 'FIRE POWER'	FIRE POWER NANDINA	12-15", Cont.	360
		*TOTAL QUANTITY OF DECIDUOUS SHRUBS.			360*
		GROUND COVERS			
	PT	PACHYSANDRA terminalis	PACHYSANDRA	2 1/4"	9576
		*TOTAL QUANTITY OF GROUND COVERS.			9576*



TYPICAL TOWNHOME LANDSCAPE PLAN

SCALE: 1"=20'

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LANDSCAPE DETAILS

WINDMILL WOODS
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Revisions:

Date: JANUARY 2021
Scale: AS SHOWN
Dwn.By: EFT
Proj.No.: 003E001.H
Dwg.No.:

L3

P:\0003\0003E001.H\current working folder\dwgs\L- LANDSCAPE DETAILS.dwg Jan 21, 2021 - 3:38pm

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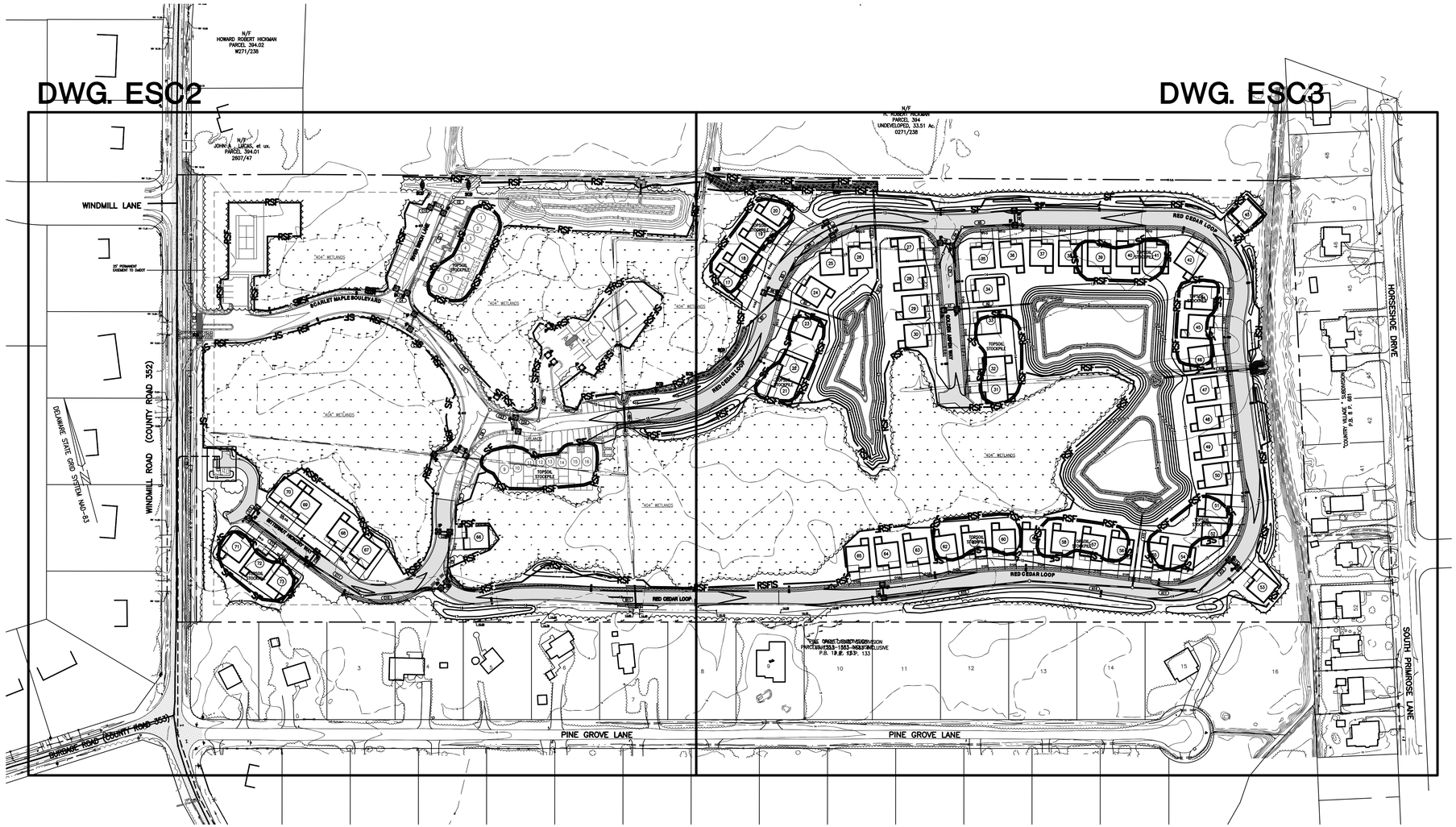


EROSION & SEDIMENT CONTROL LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS (43)
- 100-YEAR FLOODPLAIN
- LIMIT OF DISTURBANCE
- SILT FENCE
- REINFORCED SILT FENCE (RSF)
- STORMWATER PIPE & CATCH BASIN
- STABILIZED CONSTRUCTION ENTRANCE
- OUTLET PROTECTION
- SOILS BOUNDARY
- I.P. — INLET PROTECTION
- SCD — STONE CHECK DAM

NOTE: – ALL F.F ELEVATIONS ARE MINIMUM.
– VOLUME OF FILL FOR SITE IS 25,000 C.F.

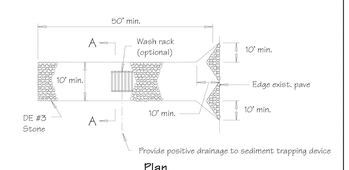
SOIL CLASSIFICATIONS

Fa	FALLSINGTON SANDY LOAM
Kl	KLEJ LOAMY SAND
Pm	POCOMOKE SANDY LOAM
Wo	WOODSTOWN SANDY LOAM

SOURCE: SOIL SURVEY – SUSSEX COUNTY, DELAWARE by U.S.D.A. SOIL CONSERVATION SERVICE

Standard Detail & Specifications

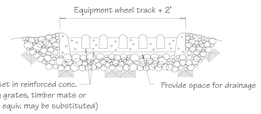
Stabilized Construct. Entrance



Source:	Symbol:	Detail No.
Adapted from VA ESC Handbook	SCE	DE-ESC-3.4.7 Sheet 1 of 2
		Date: 12/03

Standard Detail & Specifications

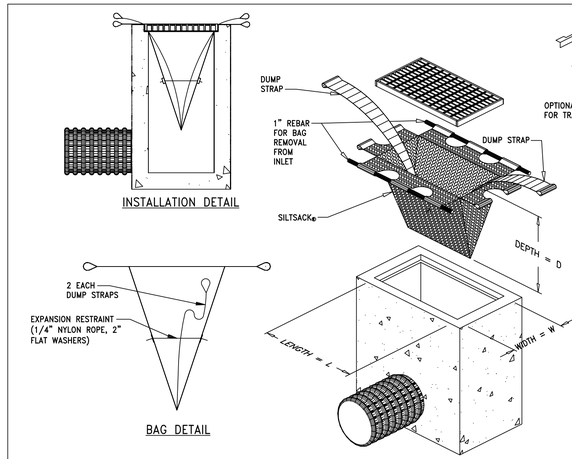
Stabilized Construct. Entrance



Construction Notes:

1. Stone size - Use DE #3 stone.
2. Length - As required, but not less than 50 feet (except on a single residence lot where a 30 foot minimum length would apply).
3. Thickness - Not less than size (6) inches.
4. Width - Ten (10) foot minimum, but not less than the full width at points where ingress or egress occurs.
5. Geotextile - Type GS-I, placed over the entire area prior to placing of stone.
6. Surface Water - All surface water flowing or diverted toward construction entrances shall be piped across the entrance. If piping is impractical, a mountable berm with 5:1 slopes will be permitted.
7. Maintenance - The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately.
8. Washing - Vehicle wheels shall be cleaned to remove sediment prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device.
9. Inspection - Periodic inspection and needed maintenance shall be provided after each rain.

Source:	Symbol:	Detail No.
Adapted from VA ESC Handbook	SCE	DE-ESC-3.4.7 Sheet 2 of 2
		Date: 12/03



SILTSACK® SPECIFICATIONS

NOTE: THE SILTSACK WILL BE MANUFACTURED FROM A WOVEN POLYPROPYLENE FABRIC THAT MEETS OR EXCEEDS THE FOLLOWING SPECIFICATIONS.

REGULAR FLOW SILTSACK ®
(FOR AREAS OF LOW TO MODERATE PRECIPITATION AND RUN-OFF)

PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	300 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20%
PUNCTURE	ASTM D-4833	120 LBS
MULLEN BURST	ASTM D-3786	800 PSI
TRAPEZOID TEAR	ASTM D-4533	120 LBS
UV RESISTANCE	ASTM D-4355	80%
APPARENT OPENING SIZE	ASTM D-4751	40 US SIEVE
FLOW RATE	ASTM D-4491	40 GAL/MIN/SQ. FT.
PERMITTIVITY	ASTM D-4491	0.55 SEC $^{-1}$

HI-FLOW SILTSACK ®
(FOR AREAS OF MODERATE TO HEAVY PRECIPITATION AND RUN-OFF)

PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	265 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20%
PUNCTURE	ASTM D-4833	135 LBS
MULLEN BURST	ASTM D-3786	420 PSI
TRAPEZOID TEAR	ASTM D-4533	45 LBS
UV RESISTANCE	ASTM D-4355	90%
APPARENT OPENING SIZE	ASTM D-4751	20 US SIEVE
FLOW RATE	ASTM D-4491	200 GAL/MIN/SQ. FT.
PERMITTIVITY	ASTM D-4491	1.5 SEC $^{-1}$

OIL-ABSORBANT SILTSACK®
(FOR AREAS WHERE THERE IS A CONCERN FOR OIL RUN-OFF OR SPILLS)

DEPENDING ON YOUR PARTICULAR APPLICATION, THE SILTSACK® CAN BE MADE FROM EITHER ONE OF THE ABOVE FABRICS WITH AN OIL-ABSORBANT PILLOW INSERT OR, MADE COMPLETELY FROM AN OIL-ABSORBANT SILTSACK®, WITH A WOVEN PILLOW INSERT.

INLET PROTECTION - TYPE 4

0' 100' 200' 300'

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ARCHITECTS ENGINEERS SURVEYORS
SALISBURY, MARYLAND (410) 543-9091
MILFORD, DELAWARE (302) 424-1441

EROSION & SEDIMENT CONTROL KEY PLAN

WINDMILL WOODS
WINDMILL ROAD
SUSSEX COUNTY, DELAWARE

Revisions:

Date: JANUARY 2021
Scale: 1" = 100'
Dwn.By: LMD
Proj.No.: 003E001.H
Dwg.No.:

ESC1

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SEDIMENT BASIN DATA
PIPE OUTLET SEDIMENT BASIN (ST-I)
WITH DEWATERING DEVICE - II
DRAINAGE AREA = 10.76 ACRES
VOLUME REQUIRED = 38,736 C.F.
VOLUME PROVIDED = 47,464 C.F.
BOTTOM ELEV. TO OUTLET ELEVATION
ELEV. 6.0 TO 11.35
CLEANOUT @ ELEV. 9.4
TOP OF SLOPE: 12.0

P300 PERMANENT TURF REINFORCEMENT MATTING AS MANUFACTURED BY NORTH AMERICAN GREEN OR APPROVED EQUAL

REINFORCED SILT FENCE, TYP. SEE DETAIL ON ESC4

6" D_{50} ROCK OUTLET PROTECTION-2 L=12', W=8', t=14" SEE DETAIL ON ESC5

25' WIDE EMERGENCY SPILLWAY @ ELEV. 11.75

EROSION CONTROL MATTING ON ALL SLOPES 3:1 OR STEEPER, TYP.; SEE DETAIL ON ESC5

6" D_{50} ROCK OUTLET PROTECTION-2 L=9', W=6', t=14" SEE DETAIL ON ESC5

LIMITS OF SILT FENCE

LIMITS OF REINFORCED SILT FENCE

N/F
JOHN A. LUCAS, et ux.
PARCEL 394.01
2607/47

WINDMILL LANE

6" D_{50} ROCK OUTLET PROTECTION-2 L=6', W=4', t=14" SEE DETAIL ON ESC5

"404" WETLANDS

REINFORCED SILT FENCE, TYP. SEE DETAIL ON ESC4

RIVER BIRCH LANE

TOPSOIL STOCKPILE

SCARLET MAPLE BOULEVARD

INLET PROTECTION, TYP. SEE DETAIL ON ESC1

STABILIZED CONSTRUCTION ENTRANCE - SEE DETAIL ON ESC4

WINDMILL ROAD (COUNTY ROAD 352)

RED CEDAR LOOP

MATCH LINE ESC3

6" D_{50} ROCK OUTLET PROTECTION-2 L=8', W=6', t=14" SEE DETAIL ON ESC5

STONE CHECK DAM, TYP. SEE DETAIL ON ESC5

UPLANDS

BITTERNUT HICKORY WAY

INLET PROTECTION, TYP. SEE DETAIL ON ESC1

6" D_{50} ROCK OUTLET PROTECTION-2 L=6', W=4', t=14" SEE DETAIL ON ESC5

ROAD (COUNTY ROAD 353)

PINE GROVE LANE

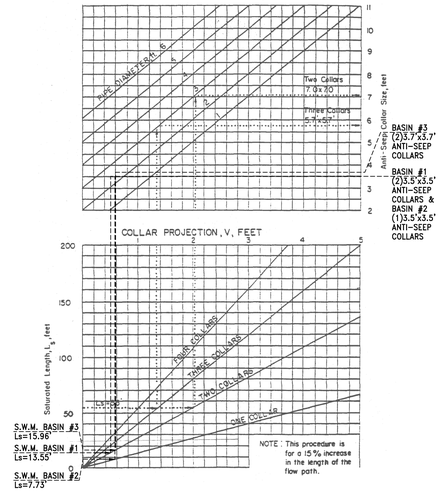
EROSION & SEDIMENT CONTROL LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- 100-YEAR FLOODPLAIN
- LIMIT OF DISTURBANCE
- SILT FENCE
- REINFORCED SILT FENCE
- STORMWATER PIPE & CATCH BASIN
- STABILIZED CONSTRUCTION ENTRANCE
- OUTLET PROTECTION
- SOILS BOUNDARY
- I.P. INLET PROTECTION
- SCD STONE CHECK DAM

NOTE: - ALL F.F ELEVATIONS ARE MINIMUM.

Table 16

ANTI-SEEP COLLAR DESIGN



NOTE: This procedure is for a 15% increase in the length of the flow path.

SOIL CLASSIFICATIONS

Fa	FALLSINGTON SANDY LOAM
Kl	KLEJ LOAMY SAND
Pm	POCOMOKE SANDY LOAM
Wo	WOODSTOWN SANDY LOAM

SOURCE: SOIL SURVEY - SUSSEX COUNTY, DELAWARE by U.S.D.A. SOIL CONSERVATION SERVICE

0' 50' 100' 150'

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ARCHITECTS ENGINEERS SURVEYORS
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MILFORD, DELAWARE (302) 424-1441

EROSION & SEDIMENT CONTROL PLAN

WINDMILL WOODS
WINDMILL ROAD
SUSSEX COUNTY, DELAWARE

Revisions:
1. SCD COMMENTS 08-23-2004
2. SCD COMMENTS 10-06-2004
3. 02-01-05 REVIEW COMMENTS
4. REPLACED TOWNHOUSE UNITS WITH TENNIS COURTS

Date: JANUARY 2021
Scale: 1" = 50'
Dwn.By: LMD
Proj.No.: 003E001.H
Dwg.No.: ESC2

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N/F
H. ROBERT HICKMAN
PARCEL 394
UNDEVELOPED, 33.51 Ac.
0271/238

SEDIMENT BASIN DATA
PIPE "OUTLET" SEDIMENT BASIN (ST-I)
WITH DEWATERING DEVICE – II
DRAINAGE AREA = 10.76 ACRES
VOLUME REQUIRED = 38,736 C.F.
VOLUME PROVIDED = 47,464 C.F.
BOTTOM ELEV. TO OUTLET ELEVATION
ELEV. 6.0 TO 11.35
CLEANOUT @ ELEV. 9.4
TOP OF SLOPE: 12.0

EROSION CONTROL MATTING ON ALL SLOPES 3:1 OR STEEPER, TYP.; SEE DETAIL ON ESC5

6" D_{50} ROCK OUTLET PROTECTION–2 L=9', W=6', t=14" SEE DETAIL ON ESC5

REINFORCED SILT FENCE, TYP. SEE DETAIL ON ESC4

EROSION CONTROL MATTING ON ALL SLOPES 3:1 OR STEEPER, TYP.; SEE DETAIL ON ESC5

STONE CHECK DAM, TYP. SEE DETAIL ON ESC5

6" D_{50} ROCK OUTLET PROTECTION–2 L=9', W=6', t=14" SEE DETAIL ON ESC5

N 74°38'49" W 1713.50'

LIMITS OF DISTURBANCE 20.815 ACRES±

INLET PROTECTION, TYP. SEE DETAIL ON ESC1

5' CONCRETE SIDEWALK, TYP. SEE DETAIL ON DWG. S8

SILT FENCE, TYP. SEE DETAIL ON ESC4

EARTH BERM

RED CEDAR LOOP

GOLDEN ASPEN WAY

TOPSOIL STOCKPILE

LIMITS OF REINFORCED SILT FENCE

6" D_{50} ROCK OUTLET PROTECTION–1 L=9', W=6', t=14" SEE DETAIL ON ESC5

6" D_{50} ROCK OUTLET PROTECTION–2 L=8', W=6', t=14" SEE DETAIL ON ESC5

"404" WETLANDS

INLET PROTECTION, TYP. SEE DETAIL ON ESC1

STONE CHECK DAM, TYP. SEE DETAIL ON ESC5

EROSION CONTROL MATTING ON ALL SLOPES 3:1 OR STEEPER, TYP.; SEE DETAIL ON ESC5

REINFORCED SILT FENCE, TYP. SEE DETAIL ON ESC4

SEDIMENT BASIN DATA
PIPE "OUTLET" SEDIMENT BASIN (ST-II)
WITH DEWATERING DEVICE – II
DRAINAGE AREA = 7.65 ACRES
VOLUME REQUIRED = 27,540 C.F.
VOLUME PROVIDED = 96,343 C.F.
BOTTOM ELEV. TO OUTLET ELEVATION
ELEV. 7.0 TO 11.85
CLEANOUT @ ELEV. 9.55
TOP OF SLOPE: 12.5

SEDIMENT BASIN DATA
PIPE OUTLET SEDIMENT BASIN (ST-I)
WITH DEWATERING DEVICE – II
DRAINAGE AREA = 12.23 ACRES
VOLUME REQUIRED = 44,028 C.F.
VOLUME PROVIDED = 194,442 C.F.
BOTTOM ELEV. TO OUTLET ELEVATION
ELEV. 6.0 TO 10.85
CLEANOUT @ ELEV. 6.90
TOP OF SLOPE: 12.0

6" D_{50} ROCK OUTLET PROTECTION–1 L=9', W=6', t=14" SEE DETAIL ON ESC5

6" D_{50} ROCK OUTLET PROTECTION–2 L=4', W=4', t=14" SEE DETAIL ON ESC5

Z-RAIL WOOD FENCE, 60 LF

6" D_{50} ROCK OUTLET PROTECTION–2 L=9', W=6', t=14" SEE DETAIL ON ESC5

"COUNTRY VILLAGE" SUBDIVISION P.B. 8 P. 681

N 12°03'33" E

INLET PROTECTION, TYP. SEE DETAIL ON ESC1

SILT FENCE, TYP. SEE DETAIL ON ESC4

EARTH BERM

REMOVE APPROXIMATELY 460 LF OF EARTH BERM

133 LF SWALE AT 0.5%

82 LF SWALE AT 0.5%

N 75°00'29" W 1968.33'

"PINE GROVE" SUBDIVISION
PARCEL 253 – 1583 – INCLUSIVE
P.B. 19 P. 133

SLOPE FROM PROPERTY LINE TO BACK OF CURB

REMOVE APPROXIMATELY 460 LF OF EXISTING EARTH BERM

LIMIT OF BERM REMOVED

EXISTING 2' TALL EARTH BERM (TO REMAIN)

PINE GROVE LANE

EROSION & SEDIMENT CONTROL LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- 100-YEAR FLOODPLAIN
- LIMIT OF DISTURBANCE
- SILT FENCE
- REINFORCED SILT FENCE
- STORMWATER PIPE & CATCH BASIN
- STABILIZED CONSTRUCTION ENTRANCE
- OUTLET PROTECTION
- SOILS BOUNDARY
- I.P. INLET PROTECTION
- SCD STONE CHECK DAM

NOTE: – ALL F.F ELEVATIONS ARE MINIMUM.

SOIL CLASSIFICATIONS

Fa	FALLSINGTON SANDY LOAM
Kl	KLEJ LOAMY SAND
Pm	POCOMOKE SANDY LOAM
Wo	WOODSTOWN SANDY LOAM

SOURCE: SOIL SURVEY – SUSSEX COUNTY, DELAWARE by U.S.D.A. SOIL CONSERVATION SERVICE

0' 50' 100' 150'

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EROSION & SEDIMENT CONTROL PLAN

WINDMILL WOODS
WINDMILL ROAD
SUSSEX COUNTY, DELAWARE

Revisions:

Date: JANUARY 2021
Scale: 1" = 50'
Dwn.By: LMD
Proj.No.: 003E001.H
Dwg.No.: ESC3

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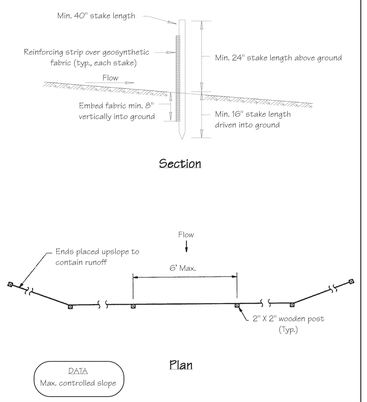
Standard Detail & Specifications

Silt Fence



Section

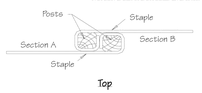
Plan

Source:	Symbol:	Detail No.
Adapted form MD Stds. & Specs. for ESC	SF	DE-ESC-3.1.2.1 Sheet 1 of 2
		Date: 6/05

Standard Detail & Specifications

Silt Fence

Construction Detail



Method for joining continuous sections

Top

Construction Notes:

1. Geosynthetic fabric to be fastened securely to fence posts with wire ties or staples.
2. When two sections of filter cloth adjoin each other they shall be overlapped by six inches and folded.
3. Maintenance shall be performed as needed and material removed when "bulges" develop in the silt fence.

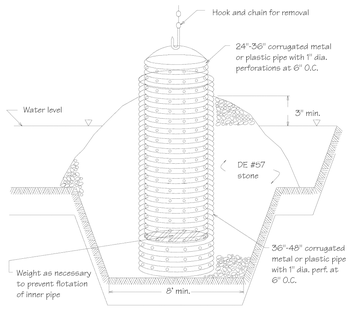
Materials:

1. Stakes: Steel (either T or U) or 2" x 2" hardwood
2. Geosynthetic Fabric: Type GD-I
3. Reinforcing strip: Wooden lath, plastic strip or other approved equivalent
4. Prefabricated Unit: Geofab, Envirofence, or approved equivalent

Source:	Symbol:	Detail No.
Adapted from MD Stds. & Specs. for ESC	SF	DE-ESC-3.1.2.1 Sheet 2 of 2
		Date: 6/05

Standard Detail & Specifications

Pumping Pit - Type 2



Section

Source:	Symbol:	Detail No.
Adapted from MD Stds. & Specs. for ESC	PP-2	DE-ESC-3.2.2.2 Sheet 1 of 2
		Date: 12/03

SEQUENCE OF CONSTRUCTION

1. NOTIFY SUSSEX CONSERVATION DISTRICT OF INTENT TO BEGIN CONSTRUCTION AND SCHEDULE A PRE-CONSTRUCTION MEETING. SCD MUST BE NOTIFIED IN WRITING FIVE (5) DAYS PRIOR TO COMMENCING WITH CONSTRUCTION. FAILURE TO DO SO CONSTITUTES A VIOLATION OF THE APPROVED SEDIMENT AND STORMWATER MANAGEMENT PLAN.
2. CONDUCT PRE-CONSTRUCTION MEETING. CERTIFIED CONSTRUCTION REVIEWER (CCR) REQUIRED THROUGHOUT CONSTRUCTION.
3. CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE AT LOCATION SHOWN ON EROSION CONTROL PLAN. CLEAR AND GRUB ONLY THOSE AREAS NECESSARY FOR THE INSTALLATION OF PERIMETER CONTROLS. INSTALL PERIMETER CONTROLS.
4. CLEAR AND GRUB IN SWM BASIN AREAS AND SWALES.
5. CONSTRUCT SWM BASIN DISCHARGE PIPES.
6. STRIP TOPSOIL IN SWM BASIN AREAS & SWALES AND PLACE IN SOIL STOCKPILE AREA WITHIN PERIMETER SILT FENCE.
7. EXCAVATE SWM BASINS, DEWATERING AS NECESSARY EITHER USING A SUMP PIT OR A REMOVABLE PUMPING STATION. IF DEWATERING IS TO BE DONE WITHOUT THE PUMPING PIT, THE DISCHARGE IS TO BE DONE WITHOUT THE PUMPING PIT, THE DISCHARGE MUST BE PUMPED THROUGH A DIRT BAG. STABILIZE BASINS AND INSTALL DEWATERING DEVICES AT DISCHARGE PIPES TO UTILIZE AS TEMPORARY SEDIMENT TRAPS. GENERAL CONSTRUCTION OF AREAS TRIBUTARY TO SWM BASINS SHALL NOT BEGIN UNTIL BASINS ARE STABILIZED, UNLESS PRIOR APPROVAL FROM CONSERVATION DISTRICT IS OBTAINED.
8. CLEAR, GRUB AND STRIP AREAS READY FOR IMMEDIATE CONSTRUCTION AND STOCKPILE.
9. ROUGH GRADE ROADWAYS TO SUBGRADE, INSTALL STORM DRAINS WITH INLET PROTECTION AND INSTALL UTILITIES. FINE GRADE SUBGRADE, PLACE AGGREGATE BASE, CONSTRUCT CURBING. PAVE ROADWAYS AND CONSTRUCT LOTS. GRADE REMAINDER OF SITE AS SHOWN ON PLANS.
10. STABILIZE DISTURBED AREAS PER EROSION CONTROL NOTES.
11. FLUSH STORM DRAINS, REMOVE ACCUMULATED SEDIMENTS, PROVIDE FINAL STABILIZATION WITH INSPECTOR'S CONCURRENCE, REMOVE TEMPORARY SEDIMENT CONTROL DEVICES. REMOVE ALL UNUSED STOCKPILED MATERIALS FROM SITE.
12. CONTINUE TO MONITOR STABILIZED AREAS. RESEED AREAS AS NECESSARY OR DIRECTED WHERE PERMANENT VEGETATION HAS NOT BEEN FULLY ESTABLISHED.
13. PROVIDE SUSSEX CONSERVATION DISTRICT WITH AS-BUILT DRAWING OF SWM BASIN.

SEDIMENT AND STORMWATER NOTES

1. THE SUSSEX CONSERVATION DISTRICT MUST BE NOTIFIED IN WRITING FIVE (5) DAYS PRIOR TO COMMENCING WITH CONSTRUCTION TO SCHEDULE A PRE-CONSTRUCTION MEETING. FAILURE TO DO SO CONSTITUTES A VIOLATION OF THE APPROVED SEDIMENT AND STORMWATER MANAGEMENT PLAN.
2. REVIEW AND APPROVAL OF THE SEDIMENT AND STORMWATER MANAGEMENT PLAN SHALL NOT RELIEVE THE CONTRACTOR FROM HIS OR HER RESPONSIBILITIES FOR COMPLIANCE WITH THE REQUIREMENTS OF THE SEDIMENT AND STORMWATER REGULATIONS, NOR SHALL IT RELIEVE THAT CONTRACTOR FROM ERRORS OR OMISSIONS IN APPROVED PLAN.
3. IF THE APPROVED PLAN NEEDS TO BE MODIFIED, ADDITIONAL SEDIMENT AND STORMWATER CONTROL MEASURES MAY BE REQUIRED AS DEEMED NECESSARY BY THE SUSSEX CONSERVATION DISTRICT.
4. THE SUSSEX CONSERVATION DISTRICT RESERVES THE RIGHT TO ENTER PRIVATE PROPERTY FOR PURPOSES OF PERIODIC SITE INSPECTION.
5. FOLLOWING SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN 14 CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER SEDIMENT CONTROLS, TOPSOIL STOCKPILES, AND ALL OTHER DISTURBED OR GRADED AREAS ON THE PROPOSED SITE.
6. ALL EROSION AND SEDIMENT CONTROL PRACTICES SHALL COMPLY WITH THE DELAWARE EROSION AND SEDIMENT CONTROL HANDBOOK 1989 OR LATEST EDITION.
7. THE SITE CONTRACTOR, UNDER THE DIRECTION OF THE OWNER, SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND REPAIR TO ALL THE SEDIMENT CONTROL AND STORMWATER MANAGEMENT PRACTICES DURING SITE CONSTRUCTION ACTIVITIES INCLUDING UTILITY INSTALLATION.
8. THE OWNER/DEVELOPER CERTIFIES THE RIGHT OF THE SUSSEX CONSERVATION DISTRICT OR ANY OTHER DELEGATED INSPECTION AGENCY TO CONDUCT ON-SITE INSPECTIONS.
9. THE HOMEOWNER'S ASSOCIATION SHALL BE RESPONSIBLE FOR ALL MAINTENANCE OF ALL STORMWATER MANAGEMENT DEVICES FOR THE LIFE OF THIS FACILITY.
10. OWNER'S CERTIFICATION
    I, THE UNDERSIGNED, CERTIFY THAT ALL LAND CLEARING, CONSTRUCTION AND DEVELOPMENT SHALL BE DONE PURSUANT TO THE APPROVED PLAN AND THAT RESPONSIBLE PERSONNEL (I.E., BLUE CARD HOLDER) INVOLVED IN THE LAND DISTURBANCE WILL HAVE A CERTIFICATION OF TRAINING PRIOR TO INITIATION OF THE PROJECT, AT A DNREC SPONSORED OR APPROVED TRAINING COURSE FOR THE CONTROL OF EROSION AND SEDIMENT DURING CONSTRUCTION. IN ADDITION, I GRANT THE DNREC SEDIMENT AND STORMWATER PROGRAM AND/OR THE RELEVANT DELEGATED AGENCY THE RIGHT TO CONDUCT ON-SITE REVIEWS, AND I UNDERSTAND MY RESPONSIBILITIES UNDER THE NPDES CONSTRUCTION GENERAL PERMIT, AS REFERENCED ON THIS COVERSHEET.

_____ _____
COLEMAN BUNTING DATE

WINDMILL WOODS LLC
32996 LIGHTHOUSE ROAD
SELBYVILLE, DELAWARE 19975
PHONE: 302-436-5124
FAX: 302-436-4668

11. APPROVED PLANS REMAIN VALID FOR 3 YEARS FROM THE DATE OF APPROVAL.
12. AS-BUILT SURVEYS AND DRAWINGS ARE TO BE SUBMITTED TO THE DISTRICT WITHIN 60-DAYS OF THE STORMWATER MANAGEMENT FACILITY COMPLETION.
13. APPROVAL OF A SEDIMENT AND STORMWATER PLAN DOES NOT GRANT OR IMPLY A RIGHT TO DISCHARGE STORMWATER RUNOFF. THE OWNER/DEVELOPER IS RESPONSIBLE FOR ACQUIRING ANY AND ALL AGREEMENTS, EASEMENTS, ETC., NECESSARY TO COMPLY WITH STATE DRAINAGE AND OTHER APPLICABLE LAWS.
14. SUSSEX CONSERVATION DISTRICT RESERVES THE RIGHT TO ADD, MODIFY, OR DELETE ANY SEDIMENT CONTROL MEASURES AS IT DEEMS NECESSARY.
15. A PERIODIC MAINTENANCE OF ALL SEDIMENT CONTROL MEASURES SHALL BE REQUIRED TO INSURE EFFECTIVE SEDIMENT CONTROL. INSPECTION OF ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL BE MADE WEEKLY AND AFTER EACH RAINFALL.
16. SEDIMENTS REMOVED FROM STORMWATER MANAGEMENT STRUCTURES DURING THE COURSE OF REGULAR MAINTENANCE SHALL BE DEPOSITED DIRECTLY INTO LINED DUMP TRUCKS AND TRANSPORTED TO AN APPROVED DISPOSAL SITE.
17. USE OF EROSION CONTROL MATTING IS REQUIRED IN ALL AREAS OF CONCENTRATED FLOW AND ALL SLOPES 3:1 OR STEEPER.
18. TEMPORARY VEGETATIVE COVER, MULCHING AND/OR SPRINKLING WATER SHALL BE THE METHODS USED AS NECESSARY TO CONTROL DUST.
19. ALL AREAS NOT COVERED BY BUILDING OR PAVEMENT WILL BE SEEDED USING PERMANENT SEED MIXTURE SHOWN ON THIS PLAN.
20. SEEDING (PERMANENT):

    A. OPTIMUM SEEDING PERIODS: FEBRUARY 1 – APRIL 30 OR AUGUST 15 – OCTOBER 31.

    B. SEED BED PREPARATION: APPLY 23 LBS. OF 10-10-10 FERTILIZER PER 1000 SQ. FT.; HARROW OR DISC INTO SOIL TO A DEPTH OF 3 TO 4 INCHES; APPLY DOLOMITIC LIMESTONE AT 92 LBS. PER 1000 SQ. FT.

    C. SEEDING: APPLY 5.0 LBS. PER 1000 SQ. FT. OF KENTUCKY 31 TALL FESCUE ON A MOIST SEED BED WITH SUITABLE EQUIPMENT. MINIMUM COVERAGE ¼ INCH.

    D. MULCHING: IMMEDIATELY AFTER SEEDING, UNIFORMLY MULCH ENTIRE AREA WITH UNWEATHERED SMALL GRAIN STRAW AT A RATE OF 92 LBS. PER 1000 SQ. FT. MULCH TO BE ANCHORED WITH MULCH ANCHORING TOOL ON THE CONTOUR.

21. TEMPORARY STABILIZATION:

    A. SEED BED PREPARATION: APPLY 14 LBS. OF 10-10-10 FERTILIZER PER 1000 SQ. FT.; HARROW OR DISC INTO SOIL TO A DEPTH OF 3 TO 4 INCHES.; APPLY DOLOMITIC LIMESTONE AT 46 TO 92 LBS. PER 1000 SQ. FT.

    B. SEEDING: APPLY 3.2 LBS. PER 1000 SQ. FT. OF RYE GRASS. OPTIMUM SEEDING PERIOD: FEBRUARY 1 TO APRIL 30 OR AUGUST 15 TO OCTOBER 31.

    C. MULCH: STRAW SHALL BE UNROTTED SMALL GRAIN STRAW APPLIED AT THE RATE OF 1½ TO 2 TONS PER ACRE, OR 70 TO 90 LBS. (TWO BALES) PER 1000 SQ. FT. SPREAD UNIFORMLY BY HAND OR MECHANICALLY. MULCH TO BE ANCHORED WITH MULCH ANCHORING TOOL ON THE CONTOUR.

22. IF TEMPORARY STABILIZATION IS REQUESTED, PERMANENT SEEDING SHALL BE PERFORMED DURING THE NEXT APPLICABLE PERIOD PER PARAGRAPH 20 (A) ABOVE.
23. ALL FILL SLOPE AREAS SHOWN HEREON ARE TO BE STABILIZED PER PARAGRAPHS 20 OR 21 ABOVE IMMEDIATELY AFTER COMPLETION OF GRADING OPERATIONS FOR THESE SLOPES.
24. ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL FINAL STABILIZATION IS ESTABLISHED.

Standard Detail & Specifications

Pumping Pit - Type 2

Construction Notes:

1. Pit shall have a minimum bottom width of 8'.
2. The inside standpipe should be constructed by perforating a 24" to 36" diameter corrugated or PVC pipe. The perforations shall be 1/2" X 6" slits or 1" diameter holes 6" on center.
3. The outside pipe shall be at least 12" larger in diameter than the inside pipe.
4. After installing the standpipes, the pit surrounding the standpipes should then be backfilled with DE #57 aggregate. The height of the stone shall be a min. 3" above the design high water elevation in the trap or basin.
5. The standpipes should extend 12" to 18" above the design high water elevation in the trap or basin.

NOTE: If discharge will be pumped directly to a storm drainage system, the standpipe must be wrapped with Type GD-II geotextile fabric before installation. If desired, 1/2" hardware cloth may be placed around the standpipe, prior to attaching the geotextile fabric. This will increase the rate of water seepage into the pipe.

Source:	Symbol:	Detail No.
Adapted from MD Stds. & Specs. for ESC	PP-2	DE-ESC-3.2.2.2 Sheet 2 of 2
		Date: 12/03

Standard Detail & Specifications

Reinforced Silt Fence

Construction Notes:

1. Welded wire fabric to be fastened securely to the fence posts with wire ties or staples.
2. Filter cloth to be fastened securely to woven wire fence with ties spaced every 24 inches at top and mid-section.
3. When two sections of fabric adjoin each other, they shall be overlapped by six inches and folded.
4. Maintenance shall be performed as needed and material removed when "bulges" develop in the silt fence.

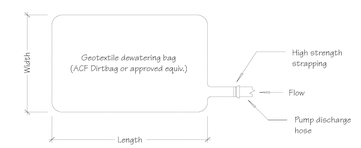
Materials:

1. Posts: Steel either T or U or 2" x 2" hardwood
2. Geotextile Fabric: Type GD-I
3. Prefabricated Unit: Geofab, Envirofence, or approved equivalent
4. Backing: Woven welded wire, 14 Ga., 2" X 4" mesh opening

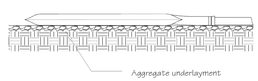
Source:	Symbol:	Detail No.
Adapted from Transco, Inc.	RSF	DE-ESC-3.1.2.2 Sheet 2 of 2
		Date: 6/05

Standard Detail & Specifications

Geotextile Dewatering Bag



Plan



Profile

Source:	Symbol:	Detail No.
Adapted from ACF Products, Inc.	GB	DE-ESC-3.2.1.2 Sheet 1 of 2
		Date: 12/03

Standard Detail & Specifications

Geotextile Dewatering Bag

Construction Notes:

1. The dewatering bag should be placed so the incoming water flows into and through the bag, and then flow off the site without creating more erosion. The neck should be tied off tightly to stop the water from flowing out of the bag without going through the walls. The dewatering bag should be placed on a gravel bed to allow water to flow in all directions.
2. The dewatering bag is considered full and should be disposed when it is impractical for the bag to filter the sediment out at a reasonable flow rate. At this point, it should be replaced with a new bag.
3. Disposal may be accomplished as directed by the construction reviewer. If the site allows, the bag may be buried on site and seeded, visible fabric removed and seeded or removed from site to a proper disposal area.

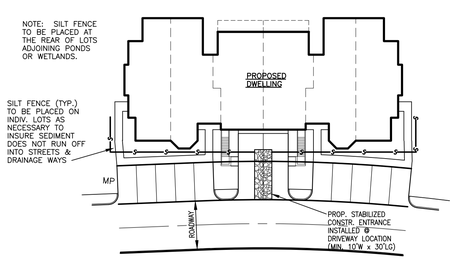
Materials:

1. The geotextile fabric shall be a Type GD-IV.
2. The dewatering bag shall be sewn with a double needle machine using high strength thread. All structural seams will be sewn with high strength, double stitched "J" type. Seam strength test will have the following minimum average roll values:

Type	TEST METHOD	TEST RESULT
Heavy duty	ASTM D-4884	100 lb / in

3. The dewatering bag shall have an opening large enough to accommodate a four (4) inch discharge hose with attached strap to tie off the hose to prevent the pumped water from escaping from the bag without being filtered.

Source:	Symbol:	Detail No.
Adapted from ACF Products, Inc.	GB	DE-ESC-3.2.1.2 Sheet 2 of 2
		Date: 12/03



EROSION & SEDIMENT CONTROL PLAN FOR TYPICAL TOWNHOUSE LOT

OWNER/DEVELOPER
WINDMILL VENTURES, L.L.C.
P.O. BOX 538
BETHANY BEACH, DE 19930
PHONE: (302) 228-5383
FAX: (302) 436-5105

ENGINEER
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DAVIS, BOWEN & FRIEDEL, INC.
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SALISBURY, MARYLAND (410) 543-9091
MILFORD, DELAWARE (302) 424-1441

EROSION & SEDIMENT CONTROL DETAILS

WINDMILL WOODS
WINDMILL ROAD
SUSSEX COUNTY, DELAWARE

Revisions:

Date: JANUARY 2021
Scale: NONE
Dwn.By: LMD
Proj.No.: 003E001.H
Dwg.No.: ESC4

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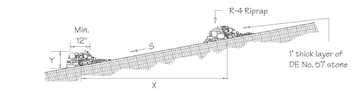
Standard Detail & Specifications
Stone Check Dam



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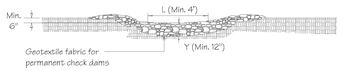

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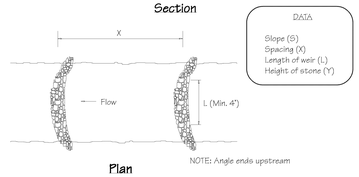


Plan

Source:	Symbol:	Detail No.
Adapted from MD Stds. & Specs. for ESC	SCD	DE-ESC-3.3.6 Sheet 1 of 2
		Date: 6/05

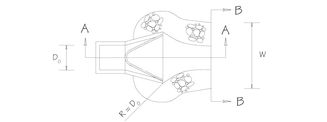
Standard Detail & Specifications
Stone Check Dam

Construction Notes:

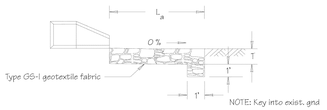
1. Swales and channels shall be prepared in accordance with the construction specifications described in the **Standards and Specifications for Temporary Berm**, **Temporary Swale**, **Vegetated Channel**, or **Diversions**.
2. The check dam shall be constructed of 4" to 8" riprap. The riprap shall be placed so that it completely covers the width of the channel.
3. The top of the check dam shall be constructed so that the center is approximately 6" lower than the outer edges, forming a weir that the water can flow across. The minimum length of weir shall be 4'.
4. The maximum height of the check dam at the center of the weir must not exceed two (2) feet.
5. Maximum spacing between dams should be the distance in the channel where the toe of the upstream dam is at the same elevation as the top of the downstream dam. (See **Standard & Specifications for Check Dams** for design chart.)

Source:	Symbol:	Detail No.
Adapted from MD Stds. & Specs. for ESC	SCD	DE-ESC-3.3.6 Sheet 2 of 2
		Date: 6/05

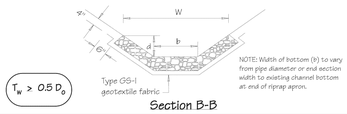
Standard Detail & Specifications
Riprap Outlet Protection - 2



Plan



Section A-A



$T_w > 0.5\ D_o$

Section B-B

Source:	Symbol:	Detail No.
Adapted from MD E&S Manual	ROP-2	DE-ESC-3.3.10.2 Sheet 1 of 2
		Date: 12/03

Standard Detail & Specifications
Riprap Outlet Protection - 2

DATA
Pipe diameter (D_o)
Apron length (L_a)
Apron width (W)
Bottom width (b)
Riprap depth (d)
Riprap size (R No.)
Riprap thickness (T)

Construction Notes:

1. The subgrade for the riprap shall be prepared to the required lines and grades as shown on the plan. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.
2. The riprap shall conform to the grading limits as shown on the plan.
3. Filter cloth shall be protected from punching, cutting or tearing. Any damage other than an occasional small hole shall be repaired by placing another piece of cloth over the damaged area. All connecting joints should overlap a minimum of 1 ft. If the damage is extensive, replace the entire filter cloth.
4. Stone for the riprap or gabion outlets may be placed by equipment. Riprap shall be placed in a manner to prevent damage to the filter cloth. Hand placement will be required to the extent necessary to prevent damage to the conduits, structures, etc.

Source:	Symbol:	Detail No.
Adapted from MD E&S Manual	ROP-2	DE-ESC-3.3.10.2 Sheet 2 of 2
		Date: 12/03

Standard Detail & Specifications
Site Pollution Prevention

Notes:

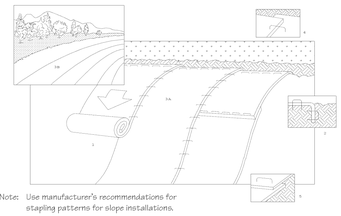
The Construction Site Pollution Prevention Plan should include the following elements:

1. **Material Inventory**

   Document the storage and use of the following materials:
   a. Concrete
   b. Detergents
   c. Paints (enamel and latex)
   d. Cleaning solvents
   e. Pesticides
   f. Wood scraps
   g. Fertilizers
   h. Petroleum based products
2. **Good housekeeping practices**
   a. Store only enough product required to do the job.
   b. All materials shall be stored in a neat, orderly manner in their original labeled containers and covered.
   c. Substances shall not be mixed.
   d. When possible, all of a product shall be used up prior to disposal of the container.
   e. Manufacturers' instructions for disposal shall be strictly adhered to.
   f. The site foreman shall designate someone to inspect all BMPs daily.
3. **Waste management practices**
   a. All waste materials shall be collected and stored in securely lidded dumpsters in a location that does not drain to a waterbody.
   b. Waste materials shall be salvaged and/or recycled whenever possible.
   c. The dumpsters shall be emptied a minimum of twice per week, or more if necessary. The licensed trash hauler is responsible for cleaning out dumpsters.

Source:	Symbol:	Detail No.
Adapted from USEPA Pub. 840-B-92-002		DE-ESC-3.6.1 Sheet 1 of 3
		Date: 6/05

Standard Detail & Specifications
Stabilization Matting - Slope



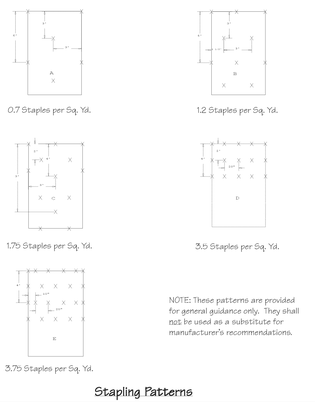
Perspective

Construction Notes:

1. Prepare soil before installing matting, including application of lime, fertilizer, and seed.
2. Begin at the top of the slope by anchoring the mat in a 6" deep X 6" wide trench. Backfill and compact trench after stapling.
3. Roll the mats (A) down or (B) horizontally across the slope.
4. The edges of parrallel mats must be stapled with approx. 2" overlap.
5. When mats must be spliced down the slope, place mats end over end (shingle style) with approx. 4" overlap. Staple through overlapped area, approx. 12" apart.

Source:	Symbol:	Detail No.
Adapted from North American Green, Inc.	SM-S	DE-ESC-3.4.6.1 Sheet 1 of 2
		Date: 6/05

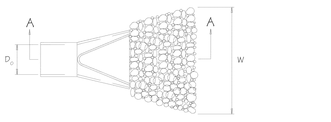
Standard Detail & Specifications
Stabilization Matting - Slope



Stapling Patterns

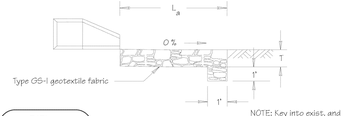
Source:	Symbol:	Detail No.
Adapted from North American Green, Inc.	SM-S	DE-ESC-3.4.6.1 Sheet 2 of 2
		Date: 6/05

Standard Detail & Specifications
Riprap Outlet Protection - 1



Plan

NOTE: Depress centerline of apron slightly to prevent edge-cutting



DATA
Pipe diameter (D_o)
Apron length (L_a)
Apron width (W)
Riprap size (R No.)
Riprap thickness (T)

Section A-A

$T_w < 0.5\ D_o$

Source:	Symbol:	Detail No.
Adapted from MD Stds. & Specs. for ESC	ROP-1	DE-ESC-3.3.10.1 Sheet 1 of 2
		Date: 6/05

Standard Detail & Specifications
Riprap Outlet Protection - 1

Construction Notes:

1. The subgrade for the riprap shall be prepared to the required lines and grades as shown on the plan. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.
2. The riprap shall conform to the grading limits as shown on the plan.
3. Filter cloth shall be protected from punching, cutting or tearing. Any damage other than an occasional small hole shall be repaired by placing another piece of cloth over the damaged area. All connecting joints should overlap a minimum of 1 ft. If the damage is extensive, replace the entire filter cloth.
4. Stone for the riprap or gabion outlets may be placed by equipment. Riprap shall be placed in a manner to prevent damage to the filter cloth. Hand placement will be required to the extent necessary to prevent damage to the conduits, structures, etc.

Source:	Symbol:	Detail No.
Adapted from MD Stds. & Specs. for ESC	ROP-1	DE-ESC-3.3.10.1 Sheet 2 of 2
		Date: 6/05

Standard Detail & Specifications
Site Pollution Prevention

Notes (cont.)

   d. Trash shall be disposed of in accordance with all applicable Delaware laws.
   e. Trash cans shall be placed at all lunch spots and littering is strictly prohibited. Recycle bins shall be placed near the construction trailer.
   f. If fertilizer bags can not be stored in a weather-proof location, they shall be kept on a pallet and covered with plastic sheeting which is overlapped and anchored.
4. **Equipment maintenance practices**
   a. If possible, equipment should be taken to off-site commercial facilities for washing and maintenance.
   b. If performed on-site, vehicles shall be washed with high-pressure water spray without detergents in an area contained by an impervious berm.
   c. Drip pans shall be used for all equipment maintenance.
   d. Equipment shall be inspected for leaks on a daily basis.
   e. Washout from concrete trucks shall be disposed of in a temporary pit for hardening and proper disposal.
   f. Fuel nozzles shall be equipped with automatic shut-off valves.
   g. All used products such as oil, antifreeze, solvents and tires shall be disposed of in accordance with manufacturers' recommendations and local, state and federal laws and regulations.
5. **Spill prevention practices**
   a. Potential spill areas shall be identified and contained in covered areas with no connection to the storm drain system.
   b. Warning signs shall be posted in hazardous material storage areas.
   c. Preventive maintenance shall be performed on all tanks, valves, pumps, pipes and other equipment as necessary.
   d. Low or non-toxic substances shall be prioritized for use.

Source:	Symbol:	Detail No.
Adapted from USEPA Pub. 840-B-92-002		DE-ESC-3.6.1 Sheet 2 of 3
		Date: 6/05

Standard Detail & Specifications
Site Pollution Prevention

Notes (cont.)

   e. Contact information for reporting spills through the DNREC 24-Hour Toll Free Number shall be prominently posted.
6. **Education**
   a. Best management practices for construction site pollution control shall be a part of regular progress meetings.
   b. Information regarding waste management, equipment maintenance and spill prevention shall be prominently posted in the construction trailer.

CONTACT INFORMATION

DNREC 24-Hour Toll Free Number	**800-662-8802**
DNREC Solid & Hazardous Waste Branch	**302-739-9403**

Source:	Symbol:	Detail No.
Adapted from USEPA Pub. 840-B-92-002		DE-ESC-3.6.1 Sheet 3 of 3
		Date: 6/05

DAVIS, BOWEN & FRIEDEL, INC.
ARCHITECTS ENGINEERS SURVEYORS
SALISBURY, MARYLAND (410) 543-9091
MILFORD, DELAWARE (302) 424-1441

EROSION & SEDIMENT CONTROL DETAILS

WINDMILL WOODS
WINDMILL ROAD
SUSSEX COUNTY, DELAWARE

Revisions:

Date: JANUARY 2021
Scale: NONE
Dwn.By: LMD
Proj.No.: 003E001.H
Dwg.No.:

ESC5

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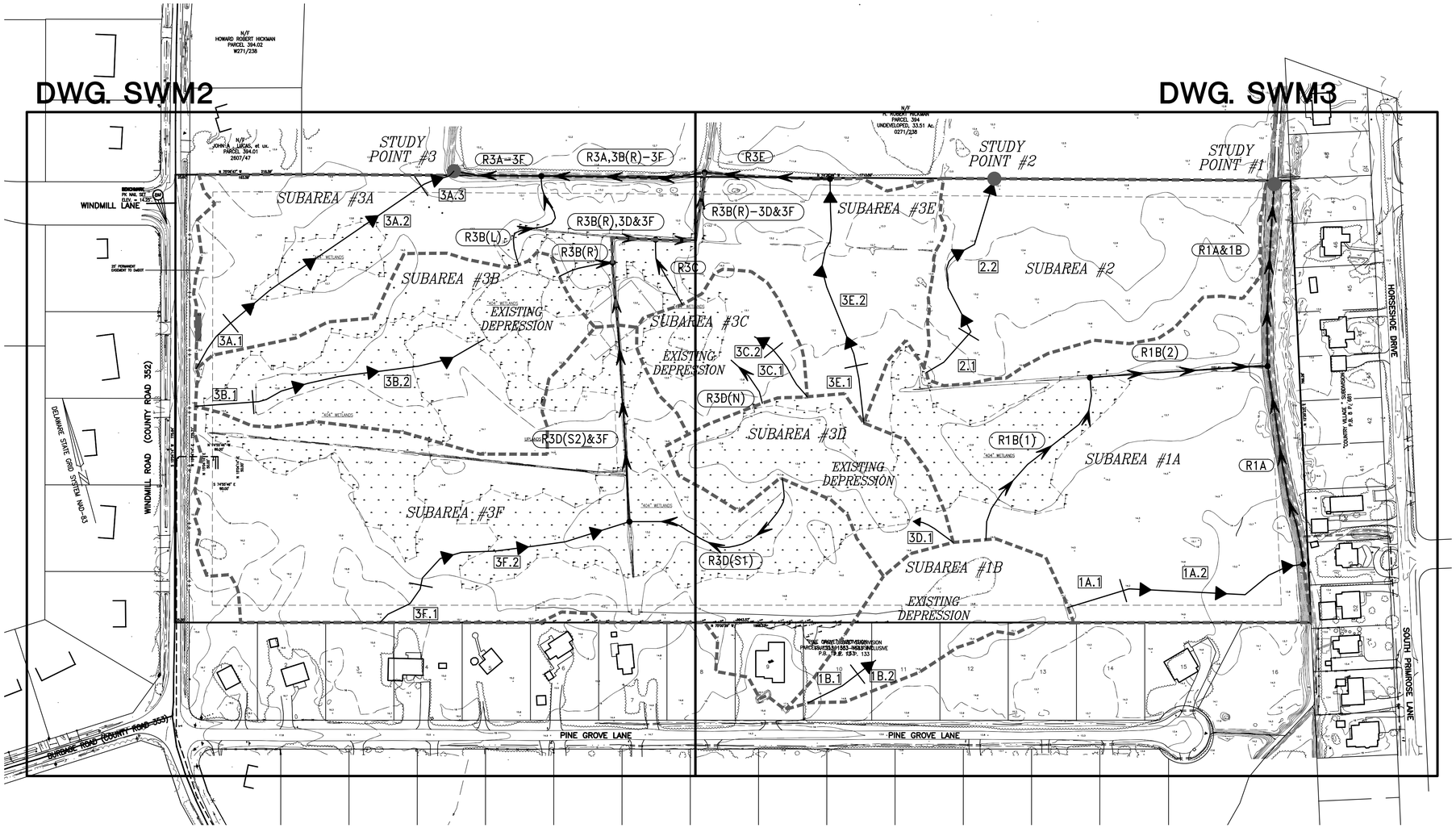
PRE-DEVELOPMENT STORMWATER MANAGEMENT DATA

DRAINAGE AREA NUMBER	COVER DESCRIPTION	SOILS TYPE B SOILS	C SOILS	D SOILS	TOTAL WATERSHED
1A	WOODS	5.24 ACRES	N/A	1.31 ACRES	6.55 ACRES
1B	OPEN SPACE	0.01 ACRES	N/A	N/A	0.01 ACRES
	WOODS	1.54 ACRES	N/A	N/A	1.54 ACRES
2	WOODS	3.69 ACRES	N/A	N/A	3.69 ACRES
3A	WOODS	1.51 ACRES	2.38 ACRES	0.08 ACRES	3.97 ACRES
3B	WOODS	0.07 ACRES	3.32 ACRES	N/A	3.39 ACRES
3C	WOODS	0.92 ACRES	N/A	0.34 ACRES	1.26 ACRES
3D	WOODS	0.54 ACRES	N/A	1.21 ACRES	1.75 ACRES
3E	WOODS	2.70 ACRES	0.11 ACRES	0.23 ACRES	3.04 ACRES
3F	WOODS	3.71 ACRES	0.29 ACRES	2.32 ACRES	6.32 ACRES



SUMMARY OF TIME OF CONCENTRATION SEGMENTS

SUBAREA	SEGMENT NO.	DESCRIPTION
1A	1	100 L.F. SHEET FLOW @ 0.0075
	2	328 L.F. SHALLOW CONC'D. FLOW @ 0.0023
1B	1	100 L.F. SHEET FLOW @ 0.0065
	2	39 L.F. SHALLOW CONC'D. FLOW @ 0.0065
2	1	100 L.F. SHEET FLOW @ 0.0185
	2	310 L.F. SHALLOW CONC'D. FLOW @ 0.0052
3A	1	100 L.F. SHEET FLOW @ 0.0067
	2	407 L.F. SHALLOW CONC'D. FLOW @ 0.0043
	3	63 L.F. SHALLOW CONC'D. FLOW @ 0.0159
3B	1	100 L.F. SHEET FLOW @ 0.0060
	2	420 L.F. SHALLOW CONC'D. FLOW @ 0.0021
3C	1	100 L.F. SHEET FLOW @ 0.0078
	2	40 L.F. SHALLOW CONC'D. FLOW @ 0.0078
3D	1	80 L.F. SHEET FLOW @ 0.0056
3E	1	100 L.F. SHEET FLOW @ 0.0037
	2	337 L.F. SHALLOW CONC'D. FLOW @ 0.0068
3F	1	100 L.F. SHEET FLOW @ 0.0103
	2	394 L.F. SHALLOW CONC'D. FLOW @ 0.0058

SUMMARY OF REACH INFORMATION

REACH LABEL	INVERTS UPSTREAM	INVERTS DOWNSTREAM	LENGTH (FEET)	BOTTOM* OR TOP* WIDTH	SIDE SLOPES LEFT	SIDE SLOPES RIGHT
R1A	7.25	7.15	349	0'	1.8:1	1.9:1
R1B(1)	14.50	13.30	354	175'	P	P
R1B(2)	12.71	11.00	308	0'	2.2:1	3.4:1
R1A&1B	7.15	6.60	316	0'	1.8:1	1.9:1
R3A,3B(R)-3F	8.90	8.58	284	0'	2.0:1	2.3:1
R3A-3F	8.58	8.33	152	0'	2.3:1	2.3:1
R3B(L)	13.20	12.00	213	40.3'	P	P
R3B(R)	13.30	11.68	96	85.09'	P	P
R3B(R),3D&3F	11.10	10.51	119.1	0'	3.8:1	3.6:1
R3B(R)-3D&3F	10.51	8.90	187.5	0'	6.5:1	3.2:1
R3C	13.30	10.51	125	37.5'	P	P
R3D(N)	14.10	13.30	94.3	37.1'	P	P
R3D(S1)	14.10	13.10	351	93.3'	P	P
R3D(S2)&3F	12.15	11.10	450	0'	2.0:1	2.0:1
R3E	10.26	8.90	218	0'	1.8:1	2.0:1

T - DENOTES A TRAPEZOIDAL CHANNEL
P - DENOTES A PARABOLIC CHANNEL

STORMWATER MANAGEMENT LEGEND

- PRE-DEVELOPMENT DRAINAGE AREA BOUNDARY
- PRE-DEVELOPMENT TIME OF CONCENTRATION
- 3D.1 — PRE-DEVELOPMENT TIME OF CONCENTRATION SEGMENT LABEL
- PRE-DEVELOPMENT REACH LENGTH
- R3B(L) — PRE-DEVELOPMENT REACH LABEL
- SOIL CLASSIFICATION BOUNDARY
- 45 — EXISTING CONTOURS

SOIL CLASSIFICATIONS

Fa	FALLSINGTON SANDY LOAM
Kl	KLEJ LOAMY SAND
Pm	POCOMOKE SANDY LOAM
Wo	WOODSTOWN SANDY LOAM

SOURCE: SOIL SURVEY - SUSSEX COUNTY, DELAWARE by U.S.D.A. SOIL CONSERVATION SERVICE

0' 100' 200' 300'

DAVIS, BOWEN & FRIEDEL, INC.
ARCHITECTS ENGINEERS SURVEYORS
SALISBURY, MARYLAND (410) 543-9091
MILFORD, DELAWARE (302) 424-1441

PRE-DEVELOPMENT S.W.M. KEY PLAN

WINDMILL WOODS
WINDMILL ROAD
SUSSEX COUNTY, DELAWARE

Revisions:

Date: JANUARY 2021
Scale: 1" = 100'
Dwn.By: LMD
Proj.No.: 003E001.H
Dwg.No.: SWM1

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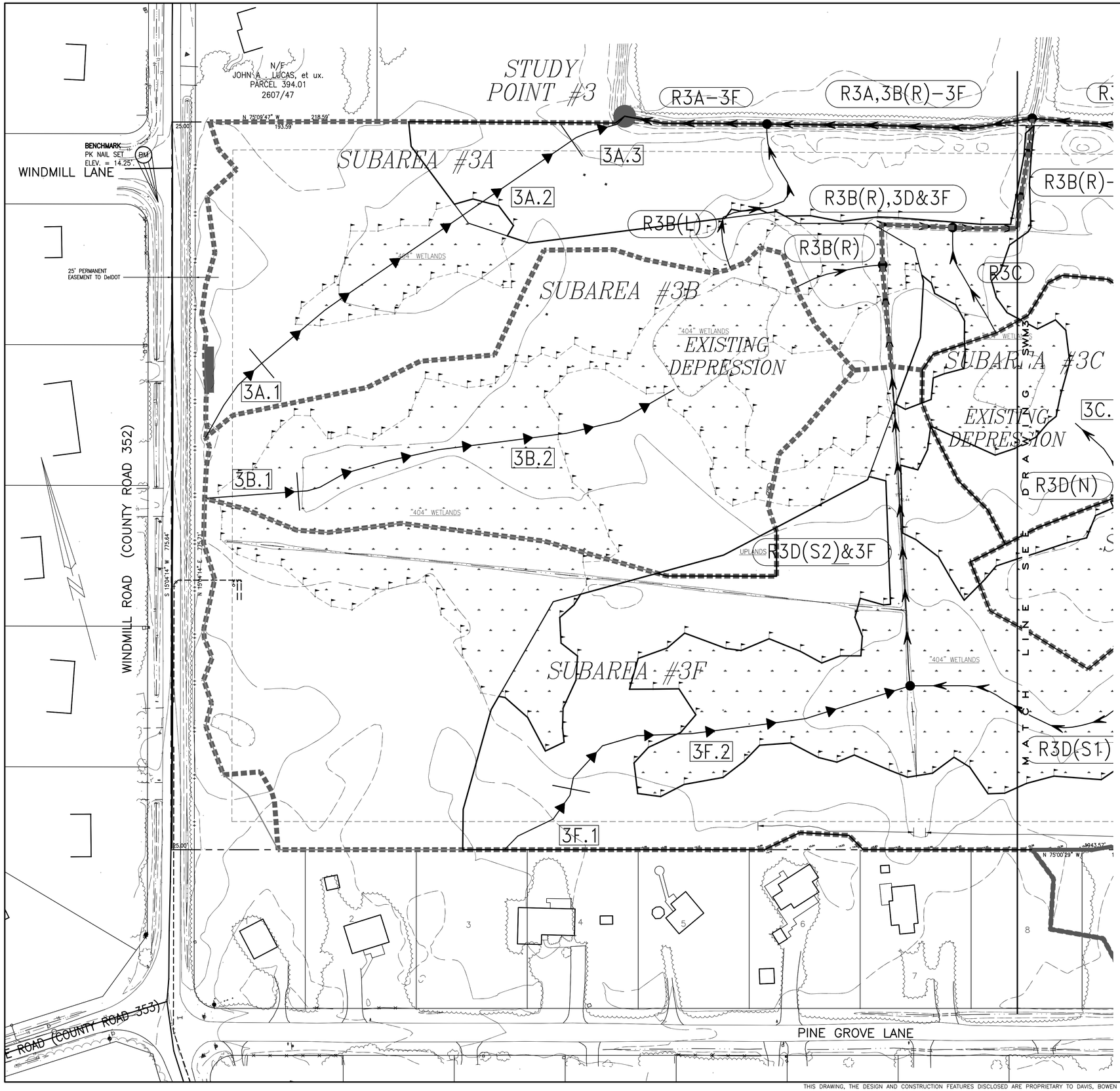

PRE-DEVELOPMENT STORMWATER MANAGEMENT DATA

DRAINAGE AREA NUMBER	COVER DESCRIPTION	SOILS TYPE B SOILS	C SOILS	D SOILS	TOTAL WATERSHED
1A	WOODS	5.24 ACRES	N/A	1.31 ACRES	6.55 ACRES
1B	OPEN SPACE	0.01 ACRES	N/A	N/A	0.01 ACRES
	WOODS	1.54 ACRES	N/A	N/A	1.54 ACRES
2	WOODS	3.69 ACRES	N/A	N/A	3.69 ACRES
3A	WOODS	1.51 ACRES	2.38 ACRES	0.08 ACRES	3.97 ACRES
3B	WOODS	0.07 ACRES	3.32 ACRES	N/A	3.39 ACRES
3C	WOODS	0.92 ACRES	N/A	0.34 ACRES	1.26 ACRES
3D	WOODS	0.54 ACRES	N/A	1.21 ACRES	1.75 ACRES
3E	WOODS	2.70 ACRES	0.11 ACRES	0.23 ACRES	3.04 ACRES
3F	WOODS	3.71 ACRES	0.29 ACRES	2.32 ACRES	6.32 ACRES

SUMMARY OF TIME OF CONCENTRATION SEGMENTS

SUBAREA	SEGMENT NO.	DESCRIPTION
1A	1	100 L.F. SHEET FLOW @ 0.0075
	2	328 L.F. SHALLOW CONC'D. FLOW @ 0.0023
1B	1	100 L.F. SHEET FLOW @ 0.0065
	2	39 L.F. SHALLOW CONC'D. FLOW @ 0.0065
2	1	100 L.F. SHEET FLOW @ 0.0185
	2	310 L.F. SHALLOW CONC'D. FLOW @ 0.0052
3A	1	100 L.F. SHEET FLOW @ 0.0067
	2	407 L.F. SHALLOW CONC'D. FLOW @ 0.0043
	3	63 L.F. SHALLOW CONC'D. FLOW @ 0.0159
3B	1	100 L.F. SHEET FLOW @ 0.0060
	2	420 L.F. SHALLOW CONC'D. FLOW @ 0.0021
3C	1	100 L.F. SHEET FLOW @ 0.0078
	2	40 L.F. SHALLOW CONC'D. FLOW @ 0.0078
3D	1	80 L.F. SHEET FLOW @ 0.0056
3E	1	100 L.F. SHEET FLOW @ 0.0037
	2	337 L.F. SHALLOW CONC'D. FLOW @ 0.0068
3F	1	100 L.F. SHEET FLOW @ 0.0103
	2	394 L.F. SHALLOW CONC'D. FLOW @ 0.0058

SUMMARY OF REACH INFORMATION

REACH LABEL	INVERTS UPSTREAM	INVERTS DOWNSTREAM	LENGTH (FEET)	BOTTOM* OR TOP* WIDTH	SIDE SLOPES LEFT	SIDE SLOPES RIGHT
R1A	7.25	7.15	349	0'	1.8:1	1.9:1
R1B(1)	14.50	13.30	354	175'	P	P
R1B(2)	12.71	11.00	308	0'	2.2:1	3.4:1
R1A&1B	7.15	6.60	316	0'	1.8:1	1.9:1
R3A,3B(R)-3F	8.90	8.58	284	0'	2.0:1	2.3:1
R3A-3F	8.58	8.33	152	0'	2.3:1	2.3:1
R3B(L)	13.20	12.00	213	40.3'	P	P
R3B(R)	13.30	11.68	96	85.09'	P	P
R3B(R),3D&3F	11.10	10.51	119.1	0'	3.8:1	3.6:1
R3B(R)-3D&3F	10.51	8.90	187.5	0'	6.5:1	3.2:1
R3C	13.30	10.51	125	37.5'	P	P
R3D(N)	14.10	13.30	94.3	37.1'	P	P
R3D(S1)	14.10	13.10	351	93.3'	P	P
R3D(S2)&3F	12.15	11.10	450	0'	2.0:1	2.0:1
R3E	10.26	8.90	218	0'	1.8:1	2.0:1

T - DENOTES A TRAPEZOIDAL CHANNEL
P - DENOTES A PARABOLIC CHANNEL

STORMWATER MANAGEMENT LEGEND

- PRE-DEVELOPMENT DRAINAGE AREA BOUNDARY
- PRE-DEVELOPMENT TIME OF CONCENTRATION
- 3D.1 — PRE-DEVELOPMENT TIME OF CONCENTRATION SEGMENT LABEL
- PRE-DEVELOPMENT REACH LENGTH
- R3B(L) — PRE-DEVELOPMENT REACH LABEL
- SOIL CLASSIFICATION BOUNDARY
- 65 — EXISTING CONTOURS

SOIL CLASSIFICATIONS

Fa	FALLSINGTON SANDY LOAM
Kl	KLEJ LOAMY SAND
Pm	POCOMOKE SANDY LOAM
Wo	WOODSTOWN SANDY LOAM

SOURCE: SOIL SURVEY - SUSSEX COUNTY, DELAWARE by U.S.D.A. SOIL CONSERVATION SERVICE

0' 50' 100' 150'

DAVIS, BOWEN & FRIEDEL, INC.
ARCHITECTS ENGINEERS SURVEYORS
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MILFORD, DELAWARE (302) 424-1441

PRE-DEVELOPMENT S.W.M. PLAN

WINDMILL WOODS
WINDMILL ROAD
SUSSEX COUNTY, DELAWARE

Revisions:

Date: JANUARY 2021
Scale: 1" = 50'
Dwn.By: LMD
Proj.No.: 003E001.H
Dwg.No.: SWM2

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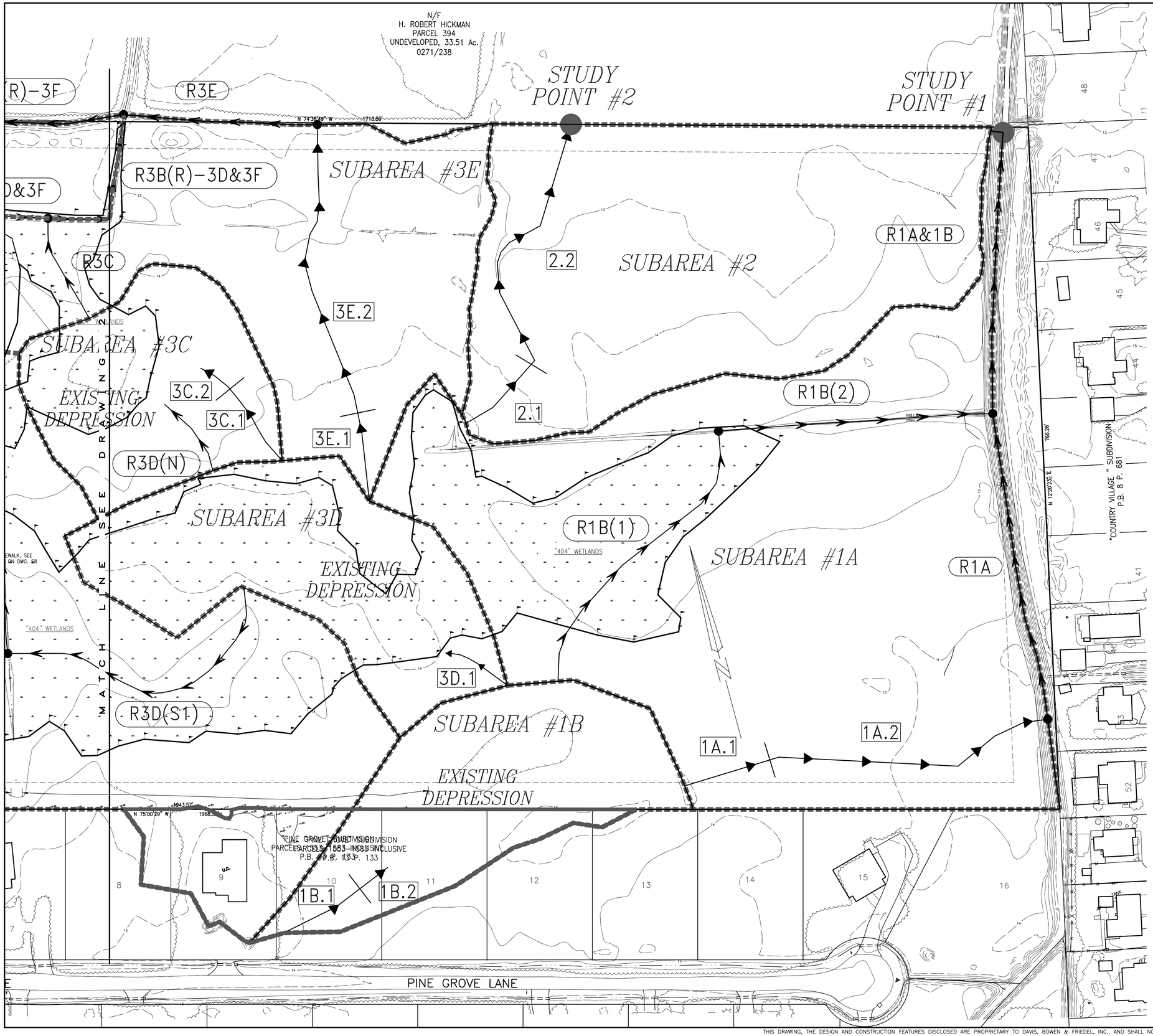

PRE-DEVELOPMENT STORMWATER MANAGEMENT DATA

DRAINAGE AREA NUMBER	COVER DESCRIPTION	SOILS TYPE B SOILS	C SOILS	D SOILS	TOTAL WATERSHED
1A	WOODS	5.24 ACRES	N/A	1.31 ACRES	6.55 ACRES
1B	OPEN SPACE	0.01 ACRES	N/A	N/A	0.01 ACRES
	WOODS	1.54 ACRES	N/A	N/A	1.54 ACRES
2	WOODS	3.69 ACRES	N/A	N/A	3.69 ACRES
3A	WOODS	1.51 ACRES	2.38 ACRES	0.08 ACRES	3.97 ACRES
3B	WOODS	0.07 ACRES	3.32 ACRES	N/A	3.39 ACRES
3C	WOODS	0.92 ACRES	N/A	0.34 ACRES	1.26 ACRES
3D	WOODS	0.54 ACRES	N/A	1.21 ACRES	1.75 ACRES
3E	WOODS	2.70 ACRES	0.11 ACRES	0.23 ACRES	3.04 ACRES
3F	WOODS	3.71 ACRES	0.29 ACRES	2.32 ACRES	6.32 ACRES

SUMMARY OF TIME OF CONCENTRATION SEGMENTS

SUBAREA	SEGMENT NO.	DESCRIPTION
1A	1	100 L.F. SHEET FLOW @ 0.0075
	2	328 L.F. SHALLOW CONC'D. FLOW @ 0.0023
1B	1	100 L.F. SHEET FLOW @ 0.0065
	2	39 L.F. SHALLOW CONC'D. FLOW @ 0.0065
2	1	100 L.F. SHEET FLOW @ 0.0185
	2	310 L.F. SHALLOW CONC'D. FLOW @ 0.0052
3A	1	100 L.F. SHEET FLOW @ 0.0067
	2	407 L.F. SHALLOW CONC'D. FLOW @ 0.0043
	3	63 L.F. SHALLOW CONC'D. FLOW @ 0.0159
3B	1	100 L.F. SHEET FLOW @ 0.0060
	2	420 L.F. SHALLOW CONC'D. FLOW @ 0.0021
3C	1	100 L.F. SHEET FLOW @ 0.0078
	2	40 L.F. SHALLOW CONC'D. FLOW @ 0.0078
3D	1	80 L.F. SHEET FLOW @ 0.0056
3E	1	100 L.F. SHEET FLOW @ 0.0037
	2	337 L.F. SHALLOW CONC'D. FLOW @ 0.0068
3F	1	100 L.F. SHEET FLOW @ 0.0103
	2	394 L.F. SHALLOW CONC'D. FLOW @ 0.0058

SUMMARY OF REACH INFORMATION

REACH LABEL	INVERTS UPSTREAM	INVERTS DOWNSTREAM	LENGTH (FEET)	BOTTOM* OR TOP* WIDTH	SIDE SLOPES LEFT	SIDE SLOPES RIGHT
R1A	7.25	7.15	349	0'	1.8:1	1.9:1
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R1B(2)	12.71	11.00	308	0'	2.2:1	3.4:1
R1A&1B	7.15	6.60	316	0'	1.8:1	1.9:1
R3A,3B(R)-3F	8.90	8.58	284	0'	2.0:1	2.3:1
R3A-3F	8.58	8.33	152	0'	2.3:1	2.3:1
R3B(L)	13.20	12.00	213	40.3'	P	P
R3B(R)	13.30	11.68	96	85.09'	P	P
R3B(R),3D&3F	11.10	10.51	119.1	0'	3.8:1	3.6:1
R3B(R)-3D&3F	10.51	8.90	187.5	0'	6.5:1	3.2:1
R3C	13.30	10.51	125	37.5'	P	P
R3D(N)	14.10	13.30	94.3	37.1'	P	P
R3D(S1)	14.10	13.10	351	93.3'	P	P
R3D(S2)&3F	12.15	11.10	450	0'	2.0:1	2.0:1
R3E	10.26	8.90	218	0'	1.8:1	2.0:1

T - DENOTES A TRAPEZOIDAL CHANNEL
P - DENOTES A PARABOLIC CHANNEL

STORMWATER MANAGEMENT LEGEND

- PRE-DEVELOPMENT DRAINAGE AREA BOUNDARY
- PRE-DEVELOPMENT TIME OF CONCENTRATION
- 3D.1 — PRE-DEVELOPMENT TIME OF CONCENTRATION SEGMENT LABEL
- PRE-DEVELOPMENT REACH LENGTH
- R3B(L) — PRE-DEVELOPMENT REACH LABEL
- SOIL CLASSIFICATION BOUNDARY
- EXISTING CONTOURS

SOIL CLASSIFICATIONS

Fa	FALLSINGTON SANDY LOAM
Kl	KLEJ LOAMY SAND
Pm	POCOMOKE SANDY LOAM
Wo	WOODSTOWN SANDY LOAM

SOURCE: SOIL SURVEY - SUSSEX COUNTY, DELAWARE by U.S.D.A. SOIL CONSERVATION SERVICE

0' 50' 100' 150'

DAVIS, BOWEN & FRIEDEL, INC.
ARCHITECTS ENGINEERS SURVEYORS
SALISBURY, MARYLAND (410) 543-9091
MILFORD, DELAWARE (302) 424-1441

PRE-DEVELOPMENT S.W.M. PLAN

WINDMILL WOODS
WINDMILL ROAD
SUSSEX COUNTY, DELAWARE

Revisions:

Date: JANUARY 2021
Scale: 1" = 50'
Dwn.By: LMD
Proj.No.: 003E001.H
Dwg.No.: SWM3

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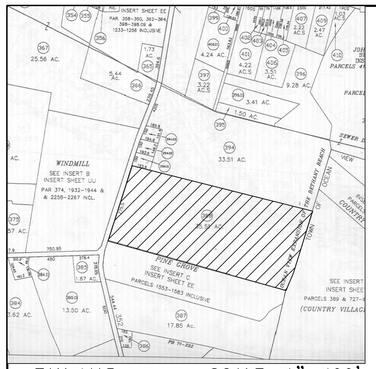


TAX MAP SCALE: 1"=400'

STORMWATER MANAGEMENT LEGEND

- POST-DEVELOPMENT DRAINAGE AREA BOUNDARY
- POST-DEVELOPMENT TIME OF CONCENTRATION
- 3D.1 — POST-DEVELOPMENT TIME OF CONCENTRATION SEGMENT LABEL
- POST-DEVELOPMENT REACH LENGTH
- R3B(L) — POST-DEVELOPMENT REACH LABEL
- SOIL CLASSIFICATION BOUNDARY
- 45 — EXISTING CONTOURS
- 43 — PROPOSED CONTOURS

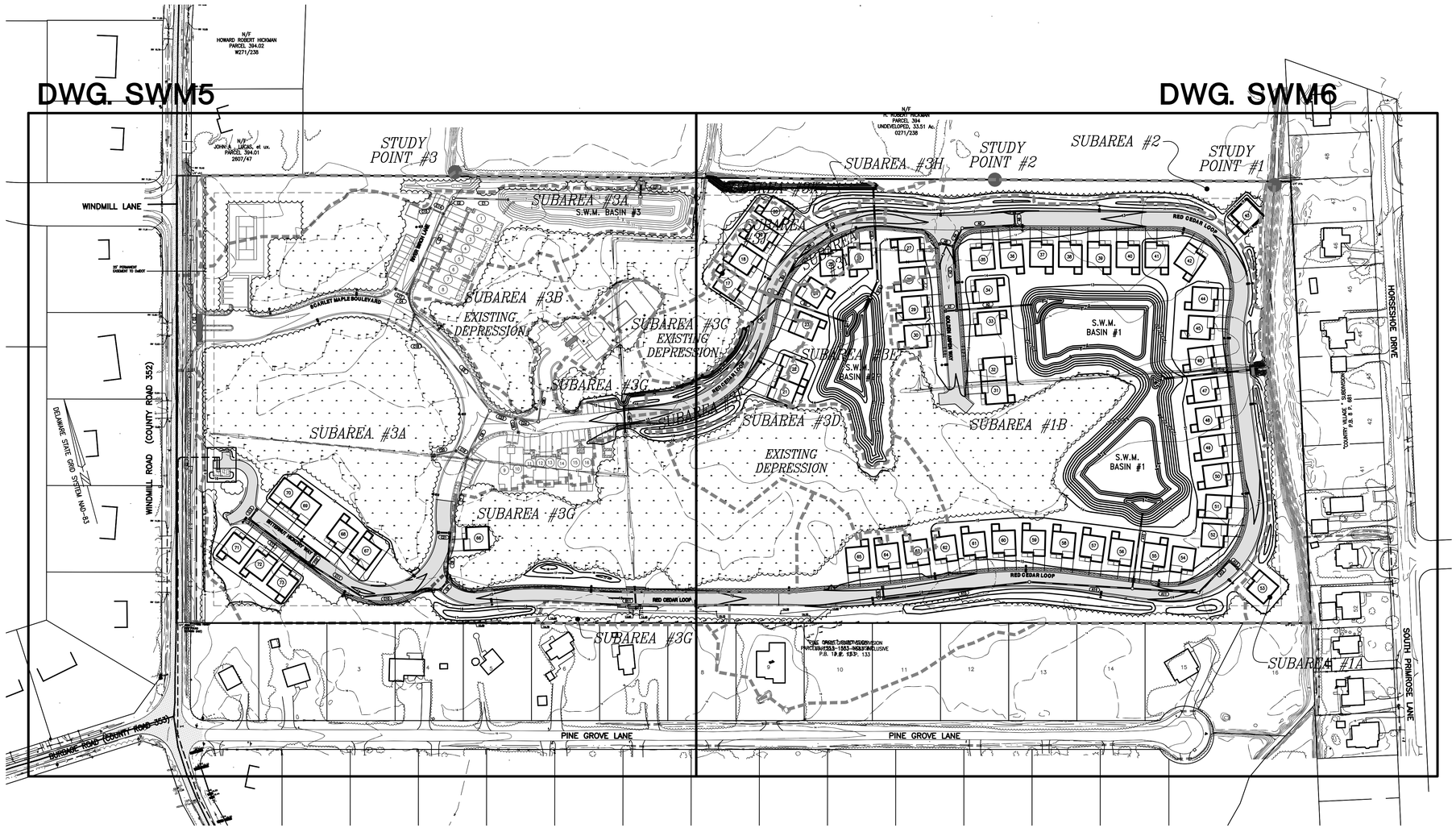
POST-DEVELOPMENT STORMWATER MANAGEMENT DATA

DRAINAGE AREA NUMBER	COVER DESCRIPTION	SOILS TYPE B SOILS	C SOILS	D SOILS	TOTAL WATERSHED
1A	OPEN SPACE	0.01 ACRES	N/A	N/A	0.01 ACRES
	WOODS	0.65 ACRES	N/A	N/A	0.65 ACRES
1B	IMPERVIOUS	5.71 ACRES	N/A	N/A	5.71 ACRES
	OPEN SPACE	2.40 ACRES	N/A	N/A	2.40 ACRES
	WOODS	1.48 ACRES	N/A	1.50 ACRES	2.98 ACRES
	½-ACRE LOTS	1.14 ACRES	N/A	N/A	1.14 ACRES
2	WOODS	0.63 ACRES	N/A	N/A	0.63 ACRES
3A	IMPERVIOUS	4.11 ACRES	N/A	N/A	4.11 ACRES
	OPEN SPACE	0.71 ACRES	0.71 ACRES	N/A	1.42 ACRES
	WOODS	0.46 ACRES	3.76 ACRES	0.20 ACRES	4.42 ACRES
3B	WOODS	N/A	0.81 ACRES	N/A	0.81 ACRES
3C	OPEN SPACE	0.02 ACRES	N/A	N/A	0.02 ACRES
	WOODS	0.12 ACRES	N/A	0.34 ACRES	0.46 ACRES
3D	OPEN SPACE	0.06 ACRES	N/A	N/A	0.06 ACRES
	WOODS	0.21 ACRES	N/A	1.21 ACRES	1.42 ACRES
3E	IMPERVIOUS	0.42 ACRES	N/A	N/A	0.42 ACRES
	OPEN SPACE	0.54 ACRES	N/A	N/A	0.54 ACRES
	WOODS	0.30 ACRES	N/A	0.01 ACRES	0.31 ACRES
3F	IMPERVIOUS	0.37 ACRES	N/A	N/A	0.37 ACRES
	OPEN SPACE	0.08 ACRES	N/A	N/A	0.08 ACRES
	WOODS	0.02 ACRES	N/A	N/A	0.02 ACRES
3G	IMPERVIOUS	0.14 ACRES	N/A	N/A	0.14 ACRES
	OPEN SPACE	0.50 ACRES	0.06 ACRES	0.01 ACRES	0.57 ACRES
	WOODS	0.55 ACRES	0.12 ACRES	2.09 ACRES	2.76 ACRES
3H	IMPERVIOUS	0.24 ACRES	N/A	N/A	0.24 ACRES
	OPEN SPACE	0.02 ACRES	N/A	N/A	0.02 ACRES
3I	IMPERVIOUS	0.23 ACRES	N/A	N/A	0.23 ACRES
	OPEN SPACE	0.03 ACRES	N/A	N/A	0.03 ACRES
3J	IMPERVIOUS	0.39 ACRES	N/A	N/A	0.39 ACRES
	OPEN SPACE	0.05 ACRES	N/A	N/A	0.05 ACRES
3K	IMPERVIOUS	0.06 ACRES	N/A	N/A	0.06 ACRES
	OPEN SPACE	0.13 ACRES	0.18 ACRES	N/A	0.31 ACRES
	WOODS	0.92 ACRES	0.37 ACRES	0.26 ACRES	1.55 ACRES

SUMMARY OF TIME OF CONCENTRATION SEGMENTS		
SUBAREA	SEGMENT NO.	DESCRIPTION
1A	1	100 L.F. SHEET FLOW @ 0.0045
	2	49 L.F. SHALLOW CONC'D. FLOW @ 0.0045
1B	1	100 L.F. SHEET FLOW @ 0.0065
	2	194 L.F. SHALLOW CONC'D. FLOW @ 0.0044
	3	86 L.F. SHALLOW CONC'D. FLOW @ 0.0050
	4	254 L.F. PIPE FLOW @ 0.0026 (PIPE A15/A14)
	5	179 L.F. PIPE FLOW @ 0.0022 (PIPE A14/A10)
	6	132 L.F. PIPE FLOW @ 0.0027 (PIPE A10/A9)
2	1	100 L.F. SHEET FLOW @ 0.0185
	2	462 L.F. SHALLOW CONC'D. FLOW @ 0.0025
3A	1	100 L.F. SHEET FLOW @ 0.0060
	2	336 L.F. SHALLOW CONC'D. FLOW @ 0.0030
	3	78 L.F. SHALLOW CONC'D. FLOW @ 0.0050
	4	28 L.F. PIPE FLOW @ 0.0036 (PIPE C18/C4)
	5	39 L.F. PIPE FLOW @ 0.0026 (PIPE C4/C3)
	6	152 L.F. PIPE FLOW @ 0.0026 (PIPE C3/C2)
	7	30 L.F. PIPE FLOW @ 0.0033 (PIPE C2/C1)
	8	100 L.F. PIPE FLOW @ 0.0010 (PIPE C1/C0)
3B	1	91 L.F. SHEET FLOW @ 0.0022
3C	1	41 L.F. SHEET FLOW @ 0.0073
3D	1	58 L.F. SHEET FLOW @ 0.0017
3E	1	100 L.F. SHEET FLOW @ 0.0035
	2	66 L.F. SHALLOW CONC'D. FLOW @ 0.0152
3F	1	77 L.F. SHEET FLOW @ 0.0070
	2	25 L.F. SHEET FLOW @ 0.0200
	3	157 L.F. SHALLOW CONC'D. FLOW @ 0.0050
3G	1	100 L.F. SHEET FLOW @ 0.0040
	2	222 L.F. SHALLOW CONC'D. FLOW @ 0.0063
	3	156 L.F. CHANNEL FLOW @ 0.0023
	4	54 L.F. PIPE FLOW @ 0.0019 (PIPE B9/B8)
3H	1	9 L.F. SHEET FLOW @ 0.0025
	2	334 L.F. SHALLOW CONC'D. FLOW @ 0.0050
3I	1	20 L.F. SHEET FLOW @ 0.0200
	2	140 L.F. SHALLOW CONC'D. FLOW @ 0.0050
	3	DIRECT ENTRY, TO GET TO 6 MINUTE MINIMUM
3J	1	20 L.F. SHEET FLOW @ 0.0200
	2	27 L.F. SHEET FLOW @ 0.0200
	3	147 L.F. SHALLOW CONC'D. FLOW @ 0.0050
	4	DIRECT ENTRY, TO GET TO 6 MINUTE MINIMUM
3K	1	42 L.F. SHEET FLOW @ 0.0048
	2	10 L.F. SHEET FLOW @ 0.1466
	3	147 L.F. SHALLOW CONC'D. FLOW @ 0.0032
	4	390 L.F. SHALLOW CONC'D. FLOW @ 0.0077

DWG. SWM5

DWG. SWM6



SUMMARY OF REACH INFORMATION						
REACH LABEL	INVERTS UPSTREAM	INVERTS DOWNSTREAM	LENGTH (FEET)	BOTTOM* OR TOP* WIDTH	SIDE SLOPES LEFT	SIDE SLOPES RIGHT
R1A	7.25	7.15	354	0'	1.8:1	1.9:1
R1A&1B	7.15	6.60	325	0'	1.8:1	1.9:1
R3A-3J	8.78	8.33	324	0'	2.3:1	2.3:1
R3B(R1)	13.30	11.68	96	85.09'	P	P
R3B(R2)	11.10	10.51	119.1	0'	3.8:1	3.6:1

SUMMARY OF REACH INFORMATION (CONT'D.)						
REACH LABEL	INVERTS UPSTREAM	INVERTS DOWNSTREAM	LENGTH (FEET)	BOTTOM* OR TOP* WIDTH	SIDE SLOPES LEFT	SIDE SLOPES RIGHT
R3B(R)-C	10.51	8.90	187.5	0'	6.5:1	3.2:1
R3B-3J	8.90	8.78	112	0'	2.0:1	2.3:1
R3C	13.30	10.51	125	37.5'	P	P
R3D(S1)	14.10	13.10	351	93.3'	P	P
R3D(S2)	12.15	11.79	156	0'	2.0:1	2.0:1

SUMMARY OF REACH INFORMATION (CONT'D.)						
REACH LABEL	INVERTS UPSTREAM	INVERTS DOWNSTREAM	LENGTH (FEET)	BOTTOM* OR TOP* WIDTH	SIDE SLOPES LEFT	SIDE SLOPES RIGHT
R3D(S3)	11.79	11.69	54	*	N/A	N/A
R3E	9.50	8.90	300	0'	2.0:1	2.0:1

T – DENOTES A TRAPEZOIDAL CHANNEL
P – DENOTES A PARABOLIC CHANNEL
* – 18" RCP CULVERT

SOIL CLASSIFICATIONS

Fa	FALLSINGTON SANDY LOAM
Kl	KLEJ LOAMY SAND
Pm	POCOMOKE SANDY LOAM
Wo	WOODSTOWN SANDY LOAM

SOURCE: SOIL SURVEY – SUSSEX COUNTY, DELAWARE by U.S.D.A. SOIL CONSERVATION SERVICE

0' 100' 200' 300'

DAVIS, BOWEN & FRIEDEL, INC.
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MILFORD, DELAWARE (302) 424-1441

POST-DEVELOPMENT S.W.M. KEY PLAN

WINDMILL WOODS
WINDMILL ROAD
SUSSEX COUNTY, DELAWARE

Revisions:

Date: JANUARY 2021
Scale: 1" = 100'
Dwn.By: LMD
Proj.No.: 003E001.H
Dwg.No.: SWM4

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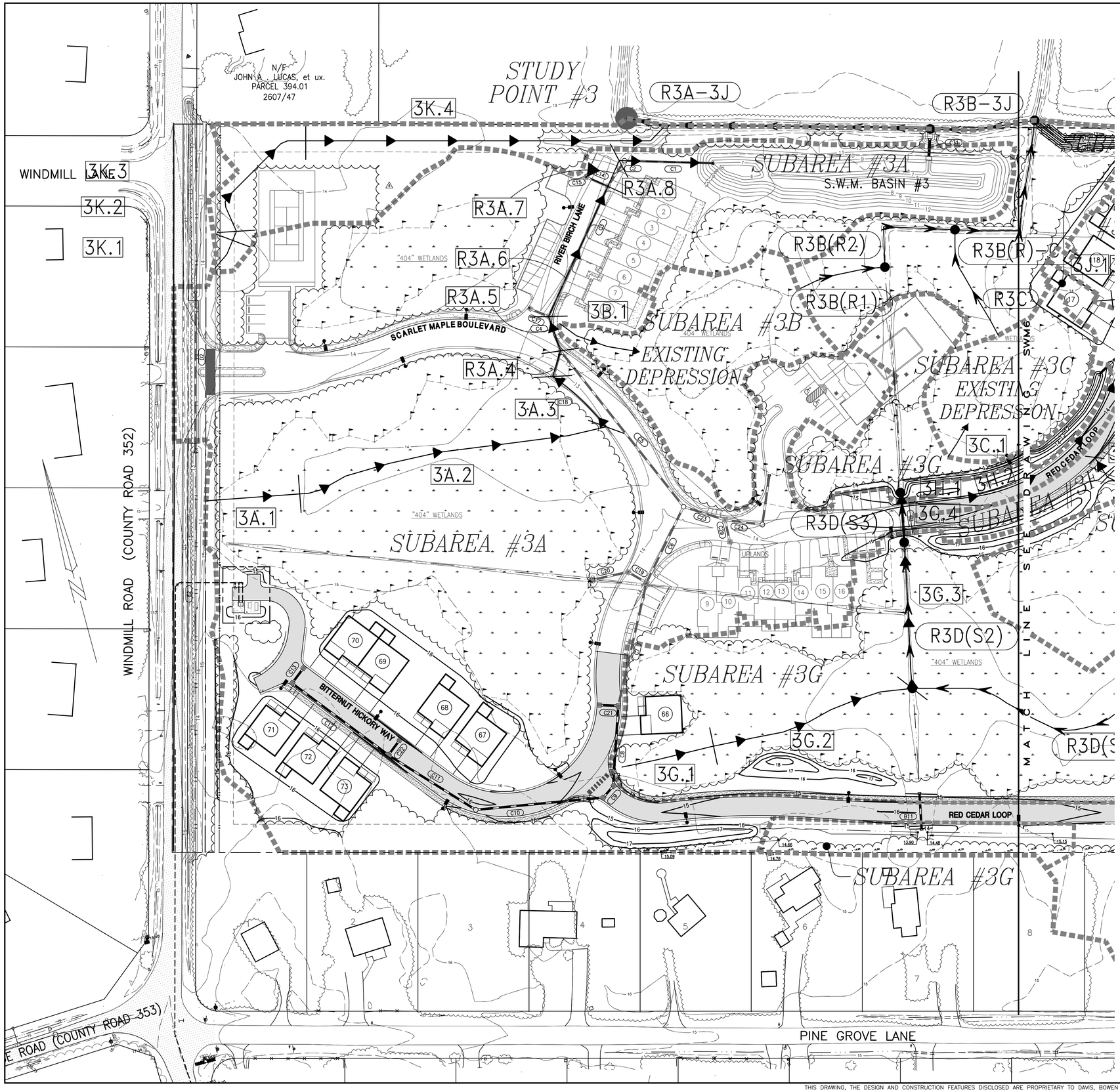

STORMWATER MANAGEMENT LEGEND

- POST-DEVELOPMENT DRAINAGE AREA BOUNDARY
- POST-DEVELOPMENT TIME OF CONCENTRATION
- 3D.1 — POST-DEVELOPMENT TIME OF CONCENTRATION SEGMENT LABEL
- POST-DEVELOPMENT REACH LENGTH
- R3B(L) — POST-DEVELOPMENT REACH LABEL
- SOIL CLASSIFICATION BOUNDARY
- EXISTING CONTOURS
- PROPOSED CONTOURS

SOIL CLASSIFICATIONS

Fa	FALLSINGTON SANDY LOAM
Kl	KLEJ LOAMY SAND
Pmn	POCOMOKE SANDY LOAM
Wo	WOODSTOWN SANDY LOAM

SOURCE: SOIL SURVEY – SUSSEX COUNTY, DELAWARE by U.S.D.A. SOIL CONSERVATION SERVICE

0' 50' 100' 150'

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ARCHITECTS ENGINEERS SURVEYORS
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MILFORD, DELAWARE (302) 424-1441

POST-DEVELOPMENT S.W.M. PLAN

WINDMILL WOODS
WINDMILL ROAD
SUSSEX COUNTY, DELAWARE

Revisions:
- 1 SCD COMMENTS 08-23-2004
- 2 SCD COMMENTS 10-06-2004
- 3 02-01-05 REVIEW COMMENTS
- 4 REPLACED TOWNHOUSE UNITS WITH TENNIS COURTS

12/22/2020-REMOVAL OF BERM ADDITION OF SWALE

Date: JANUARY 2021
Scale: 1" = 50'
Dwn.By: LMD
Proj.No.: 003E001.H
Dwg.No.: SWM5

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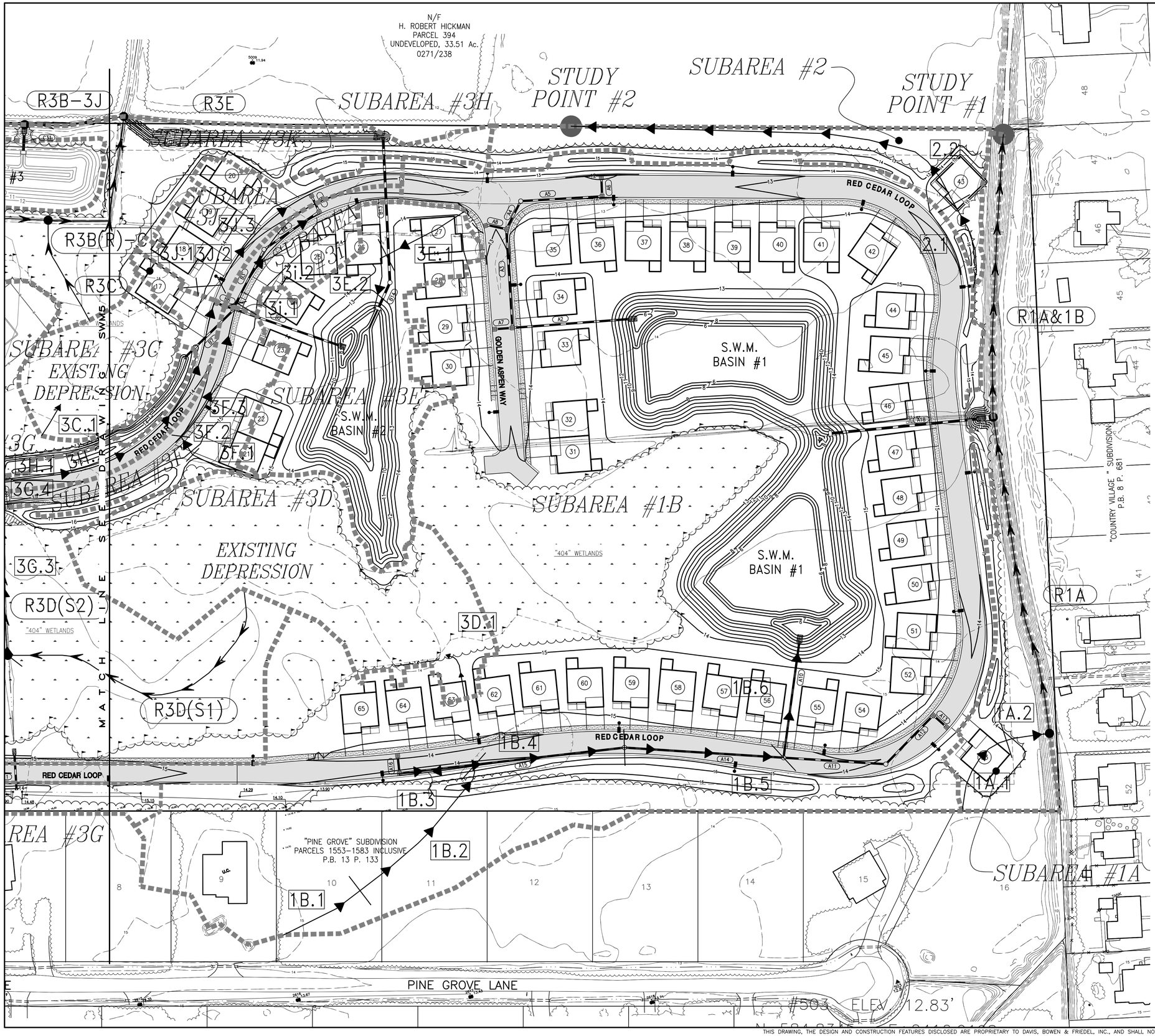

STORMWATER MANAGEMENT LEGEND

- POST-DEVELOPMENT DRAINAGE AREA BOUNDARY
- POST-DEVELOPMENT TIME OF CONCENTRATION
- 3D.1 — POST-DEVELOPMENT TIME OF CONCENTRATION SEGMENT LABEL
- POST-DEVELOPMENT REACH LENGTH
- R3B(L) — POST-DEVELOPMENT REACH LABEL
- SOIL CLASSIFICATION BOUNDARY
- EXISTING CONTOURS
- PROPOSED CONTOURS

SOIL CLASSIFICATIONS

Fa	FALLSINGTON SANDY LOAM
Kl	KLEJ LOAMY SAND
Pm	POCOMOKE SANDY LOAM
Wo	WOODSTOWN SANDY LOAM

SOURCE: SOIL SURVEY – SUSSEX COUNTY, DELAWARE by U.S.D.A. SOIL CONSERVATION SERVICE

0' 50' 100' 150'

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POST-DEVELOPMENT S.W.M. PLAN

WINDMILL WOODS
WINDMILL ROAD
SUSSEX COUNTY, DELAWARE

Revisions:
12/22/2020-REMOVAL OF BERM
ADDITION OF SWALE

Date: JANUARY 2021
Scale: 1" = 50'
Dwn.By: LMD
Proj.No.: 003E001.H
Dwg.No.: SWM6

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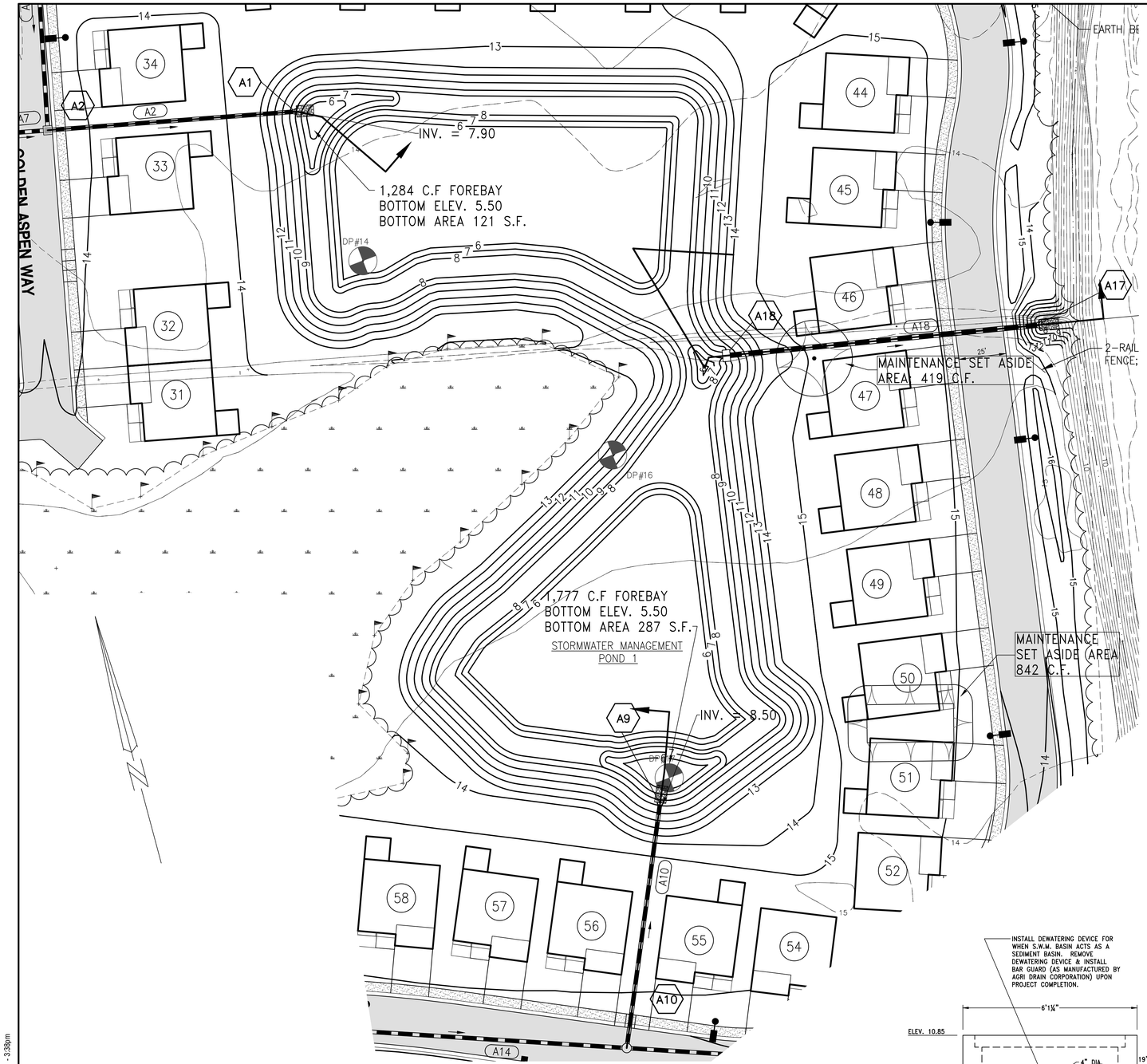
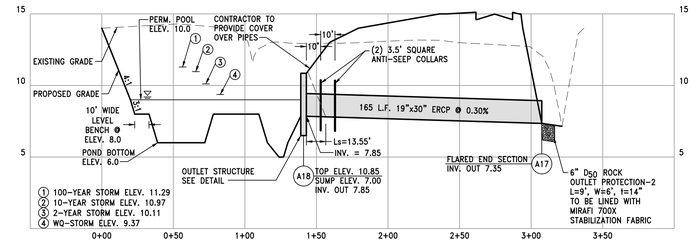


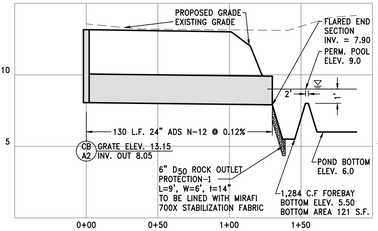
S.W.M. BASIN #1 PLAN VIEW

SCALE: 1" = 30'



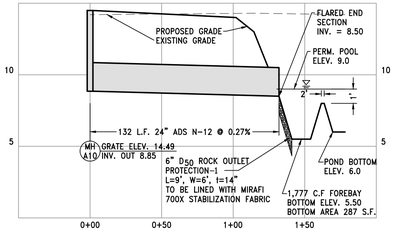
S.W.M. BASIN #1 CROSS SECTION

SCALE: 1" = 50' HORIZ.
1" 5' VERT.



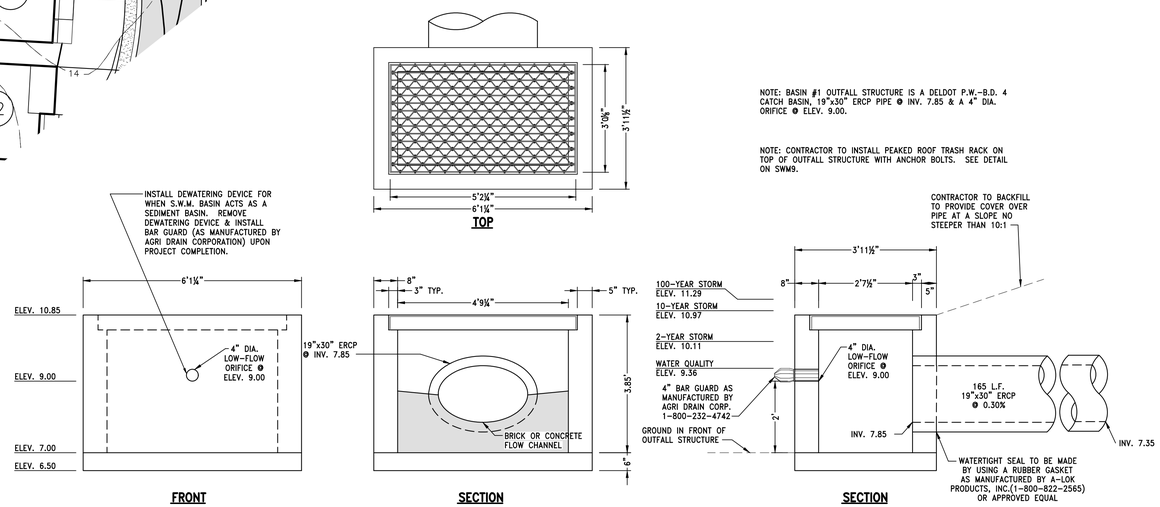
A2/A1 PROFILE

SCALE: 1" = 50' HORIZ.
1" 5' VERT.



A10/A9 PROFILE

SCALE: 1" = 50' HORIZ.
1" 5' VERT.



S.W.M. BASIN #1 OUTFALL STRUCTURE DETAIL

SCALE: 1"=2'

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MILFORD, DELAWARE (302) 424-1441

S.W.M. BASIN #1 PLAN & SECTIONS

WINDMILL WOODS
WINDMILL ROAD
SUSSEX COUNTY, DELAWARE

Revisions:

Date: JANUARY 2021
Scale: AS SHOWN
Dwn.By: LMD
Proj.No.: 003E001.H
Dwg.No.: SWM7

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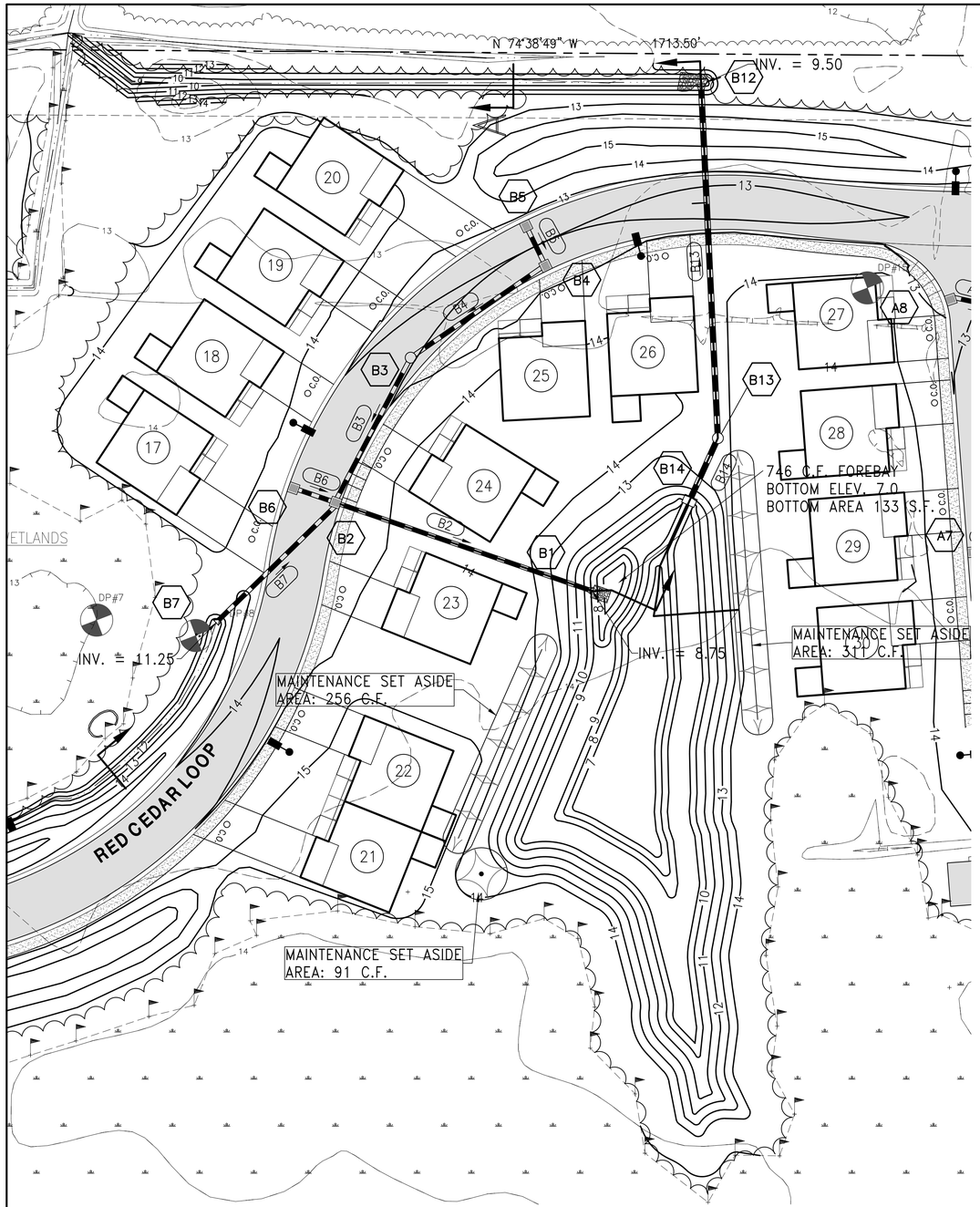
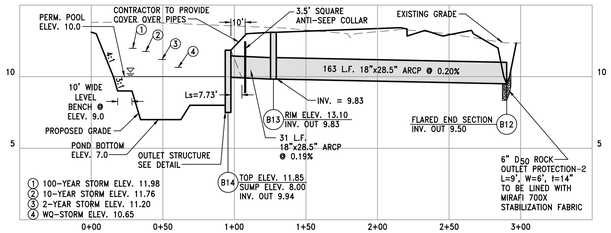


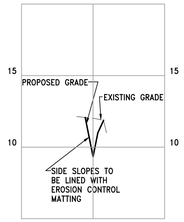
S.W.M. BASIN #2 PLAN VIEW

SCALE: 1" = 30'



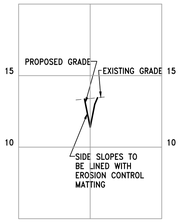
S.W.M. BASIN #2 CROSS SECTION

SCALE: 1" = 50' HORIZ.
1" 5' VERT.



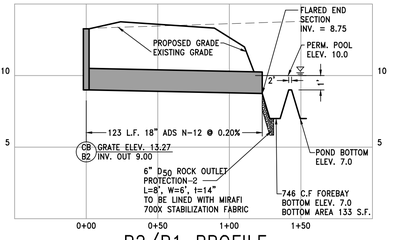
DITCH SECTION SECTION A

SCALE: 1"=50' HORIZ.
1"=5' VERT.



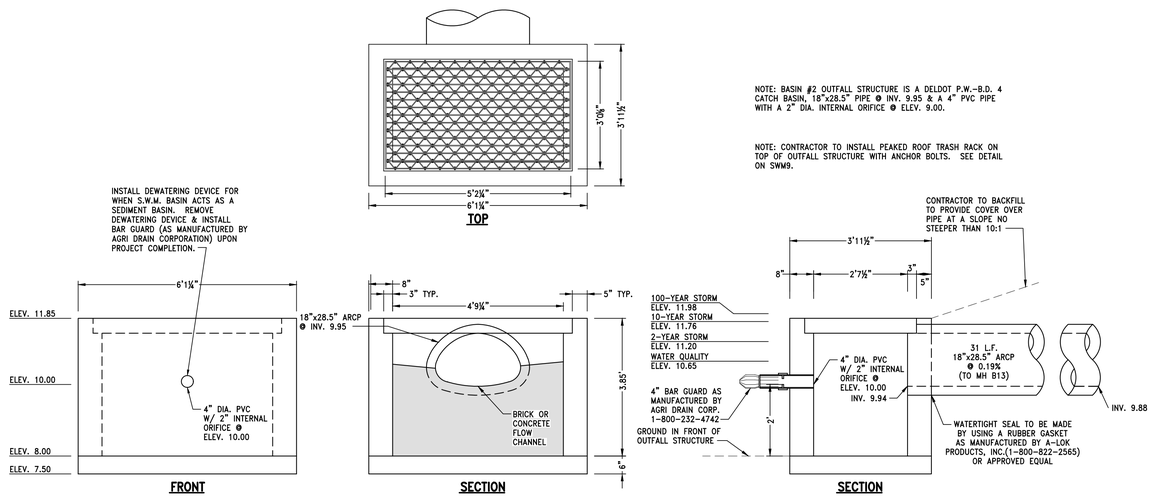
DITCH SECTION SECTION C

SCALE: 1"=50' HORIZ.
1"=5' VERT.



B2/B1 PROFILE

SCALE: 1" = 50' HORIZ.
1" 5' VERT.



S.W.M. BASIN #2 OUTFALL STRUCTURE DETAIL

SCALE: 1"=2'

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S.W.M. BASIN #2 PLAN & SECTIONS

WINDMILL WOODS
WINDMILL ROAD
SUSSEX COUNTY, DELAWARE

Revisions:

Date:	JANUARY 2021
Scale:	AS SHOWN
Dwn.By:	LMD
Proj.No.:	003E001.H
Dwg.No.:	SWM8

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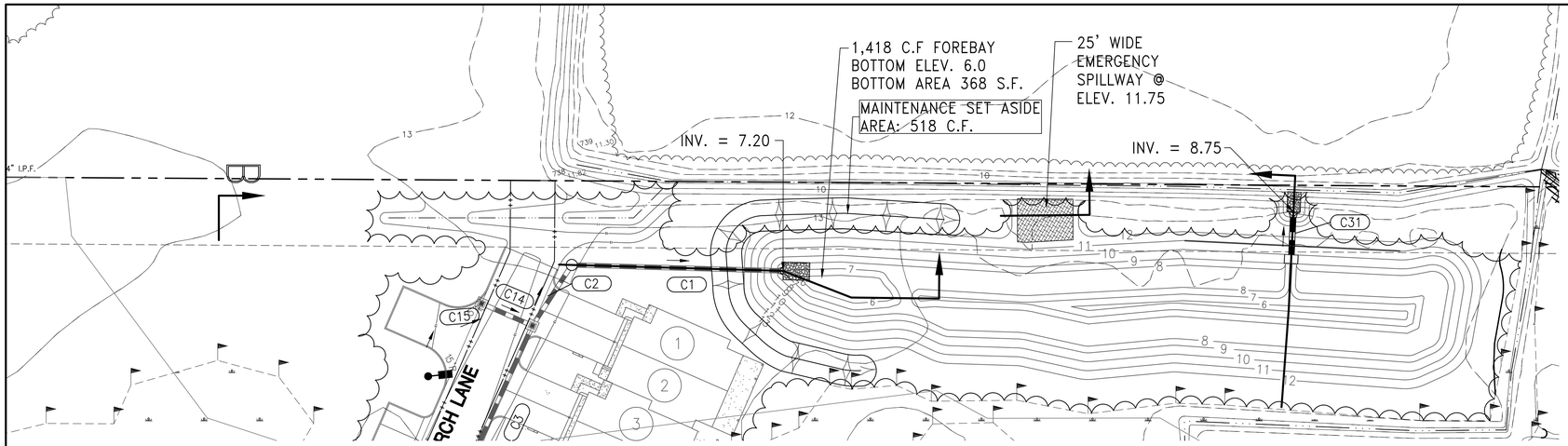
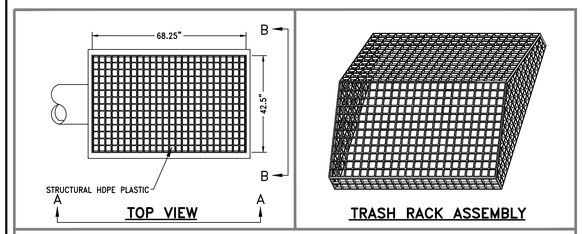


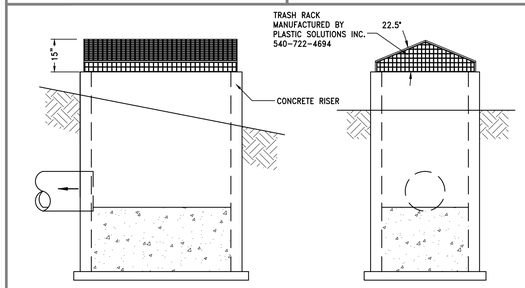
S.W.M. BASIN #3 PLAN VIEW

SCALE: 1" = 30'



TOP VIEW

TRASH RACK ASSEMBLY



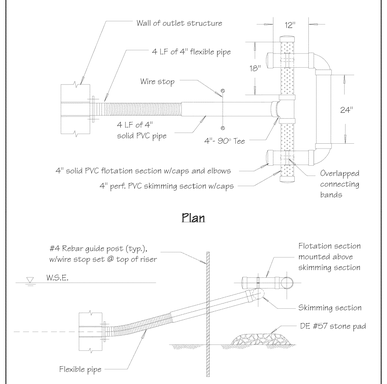
PEAKED ROOF TRASH RACK

PLASTIC SOLUTIONS INC.
240 McGhee Road
P.O. Box 4386
Winchester VA 22604
540-722-4694
www.plastic-solution.com

Standard Detail & Specifications

Skimmer Dewatering Device

DELAWARE EROSION & SEDIMENT CONTROL HANDBOOK



Source:	Symbol:	Detail No.
Adapted from drawing by Vandemark & Lynch, Inc.	SDD	DE-ESC-3.2.3.1 Sheet 1 of 2
		Date: 12/03

Standard Detail & Specifications

Skimmer Dewatering Device

DELAWARE EROSION & SEDIMENT CONTROL HANDBOOK

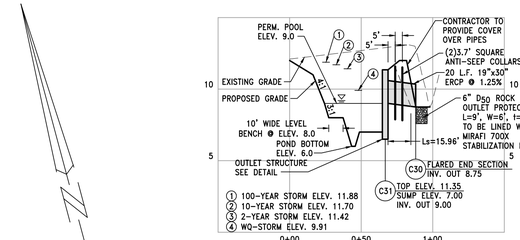
Construction Notes:

1. Pipe flotation section shall be solvent welded to ensure an airtight assembly. Contractor to conduct a test to check for leaks prior to installation.
2. Skimmer section shall have (12) rows of 1/2" dia. holes, 1-1/4" on center. If additional filtration is necessary, the filtering media shall consist of a Type GD-II geotextile fabric wrapped around the perforated portion of the skimmer and attached with plastic snap ties, bands, etc.
3. Flexible pipe shall be inserted into solid pipe and fastened with (2) #8 wood screws.
4. At a minimum, the structure shall be inspected after each rain and repairs made as needed. If vandalism is a problem, more frequent inspection may be necessary.
5. Construction operations shall be carried out in such a manner that erosion and water pollution are minimized.
6. The structure shall only be removed when the contributing drainage area has been properly stabilized.

Materials:

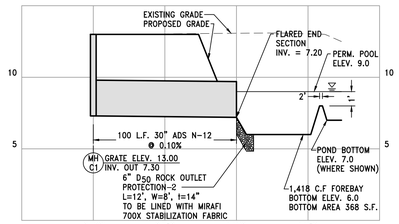
1. Solid pipe - 4" Sched. 40 PVC
2. Perforated pipe - 4" Sched. 40 PVC
3. 90° Tee (1 ea.) - 4" Sched. 40 PVC
4. 90° Elbow (2 ea.) - 4" Sched. 40 PVC
5. Cap (4 ea.) - 4" Sched. 40 PVC, solid
6. Flexible pipe - 4" corrugated plastic tubing (non-perforated)

Source:	Symbol:	Detail No.
Delaware ESC Handbook	SDD	DE-ESC-3.2.3.1 Sheet 2 of 2
		Date: 12/03



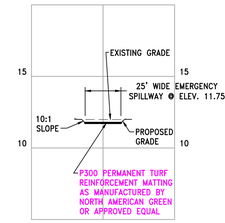
S.W.M. BASIN #3 CROSS SECTION

SCALE: 1" = 50' HORIZ.
1" 5' VERT.



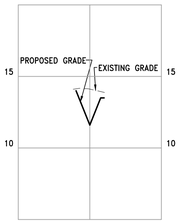
C1/C0 PROFILE

SCALE: 1" = 50' HORIZ.
1" 5' VERT.



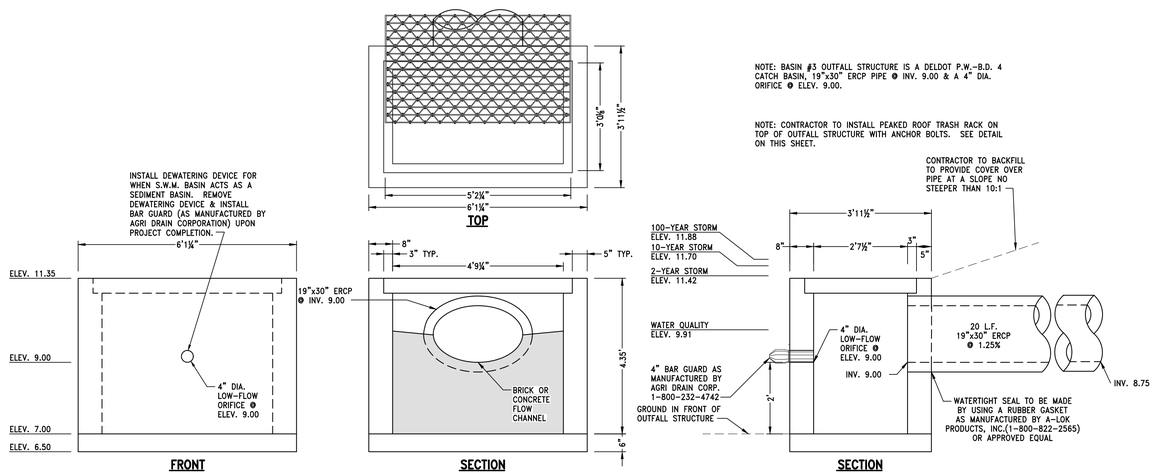
EMERGENCY SPILLWAY SECTION

SCALE: 1"=50' HORIZ.
1"=5' VERT.



DITCH SECTION SECTION B

SCALE: 1"=50' HORIZ.
1"=5' VERT.



S.W.M. BASIN #3 OUTFALL STRUCTURE DETAIL

SCALE: 1"=2'

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ARCHITECTS ENGINEERS SURVEYORS
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MILFORD, DELAWARE (302) 424-1441

S.W.M. BASIN #3 PLAN & SECTIONS

WINDMILL WOODS
WINDMILL ROAD
SUSSEX COUNTY, DELAWARE

Revisions:

Date:	JANUARY 2021
Scale:	AS SHOWN
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Dwg.No.:	SWM9

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Windmill Woods COA

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Douglass, Jeffrey		259 Glen Mills Road Glen Mills PA 19342	Unit 11

1-13-2021 JD

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Lord, Amy	aelord33999@gmail.com	36618 Red Cedar Loop Ocean View DE 19970	Unit 25
Love, David & Deborah	info@lovesoulstyle.com, dwlove@ft.newyorklife.com	14521 South Hills Ct Centreville VA 20120	Unit 21
Manfredi, Richard & Alexandra NPNE	rjmanfredi@live.com,richsand2@verizon.net	3010 Rickert Road Perkasie PA 18944	Unit 29
McCreary, Nancy & Fred	abigail41@verizon.net	36754 Red Cedar Loop Ocean View DE 19970	Unit 47

Mcintyre, Kelly YPYE	kmcintyre40@gmail.com	36680 Red Cedar Loop Ocean View DE 19970	Unit 38
Mecca, Lana & Andrew	lanamecca@yahoo.com	36850 Red Cedar Loop Ocean View DE 19970	Unit 59
Michalski, Deborah M. YPYE	debmichalski@verizon.net	38618 Bitternut Hickory Way Ocean View DE 19970	Unit 69
Miller, Mike & Margarita YPYE	michaelmiller661@gmail.com,margarita.miller@cox.net	6535 Novak Woods Court Burke VA 22015	Unit 10
Mitchell, Laurence & Antoinette YPYE	lmitchell603@yahoo.com	31551 Golden Aspen Way Ocean View DE 19970	Lot 32
Moyer, Wesley & Katherine NPNE	wwyeeha@yahoo.com,kwm8887@yahoo.com	31545 Golden Aspen Way #33 Ocean View DE 19970	Unit 33
Murphy, Kristi YPYE	kristilm999@gmail.com	31542 Golden Aspen Way Ocean View DE 19970	Unit 28
Nance, Ginger	ganance@aol.com	36686 Red Cedar Loop Ocean View DE 19970	Unit 39
Neikirk, Suzanne YPYE	neikirksr@comcast.net,texcamp@verizon.net	36734 Red Cedar Loop Ocean View DE 19970	Unit 44
Ogurcak, Bob & Amy NPNE		1354 Wicklow Drive York PA 17404	Unit 16
Paone, Anthony& Cecilia YPYE	ajpaone@verizon.net	31540 Golden Aspen Way Ocean View DE 19970	Unit 27
Pasker, Susan YPYE	suepa2018@gmail.com	36606 Red Cedar Loop Ocean View DE 19970	Unit 24
Reese, Kevin & Rena YPYE	renareese@verizon.net,gdc500k@icloud.com	11010 Lamplighter Ln Potomac MD 20854	Unit 12
Richardson, Denise & Lance	ldpgrichardson@yahoo.com	530 Kennersley Farm Lane Church Hill MD 21623	Unit 66

	Richmond, Nicolette	niccirichmond1@gmail.com	38614 Bitternut Hickory Way Ocean View DE 19970	Unit 68
	Risse/Ferro NPNE	risseanna@gmail.com,elaineferro63@gmail.com	36658 Red Cedar Loop Ocean View DE 19970	Unit 35
	Roemer, Joseph & Kathleen YPYE	joeroem41@gmail.com	38617 Bitternut Hickory Way Ocean View DE 19970	Unit 73
	Scott, Charles & Dianne	scottysgirl1987@gmail.com,bebopscotty@aol.com	36596 Red Cedar Loop Ocean View DE 19970	Unit 23
	Scurachio, Drew & Ellen	drewscurachio@verizon.net,escurachio@icloud.com	2315 Ridge Tree Court Ellicott City MD 21042	Unit 6
	Seeley, Brian & Sue	bpseeley1@verizon.net, sseeley37502@gmail.com	37502 River Birch Lane Ocean View DE 19970	Unit 5
	Sistek, David & Florence NPNE	thesisteks@gmail.com	6018 Morgan Court Alexandria VA 22312-5512	Unit 34
1-13-2021	Smith, Jarrod & Christy YPYE	smithfamilyschoolva@gmail.com,jarrad.smith@fmr.com	17518 Mosby's Overlook Lane Leesburg VA 20175	Unit 13
	Sprague, Carol & Jeffrey YPYE	cjksprague@gmail.com,magicb6321@gmail.com	300 Sunset Rd Rotonda West FL 33947	Unit 52
	Toigo, Theresa Ann	ttoigo2006@comcast.net	13916 Castaway Drive Rockville MD 20853	Unit 7
	Torregrosa, Arthur & Julie	ajttress@msn.com	265 Peekskill Hollow Rd Putnam Valley NY 10579	Unit 63
	Ulrich, Allen & Dorothea YPYE	aulrich1956@verizon.net	36830 Red Cedar Loop Ocean View DE 19970	Unit 56
	Usilton, William & Danielle YPYE	branpaig@comcast.net	36611 Red Cedar Loop Ocean View DE 19970	Unit 19
	Warble/Harkleroad YPYE	newcarole5166@msn.com	8108 Eleanor Terrace Baltimore MD 21222	Unit 26

	Weselsky, Bruce & Tammi	tammiweselsky@att.net	1751 Wildwood Road Ukiah CA 95482	Unit 53
	White, James & Kelley YPYE	kelleyB402@aol.com,jameswhi@nationalgypsum.com	1196 Annis Squam Harbour Pasadena MD 21122	Unit 36
	Willens, Jonathan NPNE	jon.willens@gmail.com	36716 Red Cedar Loop Ocean View DE 19970	Unit 42
	Wycoff, Carl & Virginia	ginnywycoff1122@gmail.com,tomwycoff1@gmail.com	36774 Red Cedar Loop Ocean View DE 19970	Unit 50
	Zaika, Ellen & David	zaikaellen@gmail.com,david.zaika@fema.dhs.gov	3401 Queensborough Drive Olney MD 20832	Unit 49

December 22, 2020

Mr. Coleman Bunting
Windmill Woods LLC
32996 Lighthouse Road
Selbyville, DE 19975

RE: Windmill Woods Drainage Revision

Dear Mr. Bunting,

A Sediment and Stormwater Management Plan Revision has been reviewed for compliance with the Sediment and Stormwater Regulations and is approved with conditions (see attached). Enclosed herein please find a revision to the approved plans dated March 22, 1018. **Your plans will expire on March 22, 2023**. Please retain a copy for your use and provide the contractor with a copy to be retained onsite at all times. Failure to keep an approved plan onsite is a violation of the approved plan.

Approval of a Sediment and Stormwater Plan does not grant or imply a right to discharge stormwater runoff. The owner/developer is responsible for acquiring any and all agreements, easements, etc., necessary to comply with State drainage and other applicable laws.

This plan approval pertains to compliance with the *Delaware Sediment and Stormwater Regulations*. Please understand that the approval of this plan does not relieve you from complying with any and all federal, state, county, or municipal laws and regulations.

As of January 1, 2014, the Sussex Conservation District began collecting financial guarantees to ensure the construction of stormwater management practices is accomplished in accordance with the approved sediment and stormwater plan. Please refer to the SCD Policy on Bonds located on our website at *Sussexconservation.org*. If you have any questions concerning the aforementioned, please do not hesitate to call 302 856-7219.

Sincerely,

Jessica Watson

Jessica Watson
Program Manager

CONDITIONS OF APPROVAL

NOTIFICATION

1. This approved plan will remain valid for 5 years from the date of this approval. If construction does not begin within five years, the approved plan will be considered to have expired, and must be resubmitted to the District for a new review. In addition, if work is not completed within the five-year timeframe, the District must be contacted and a request for an extension submitted. Depending on regulation changes, a new plan may need to be submitted to ensure that all stormwater management facilities are constructed to the most recent standards.
2. Submittal of the Notice of Intent (NOI) for Storm Water Discharges Associated with Construction Activities together with this approval of the detailed Sediment and Stormwater Plan provide this project with Federal permit coverage to be authorized to discharge storm water associated with construction activities. It is the owner's responsibility to ensure that permit coverage remains valid throughout construction by submitting the NOI fee annually as requested. The developer is responsible for weekly self-inspection reporting to be retained onsite.
3. Notify the Sussex Conservation District Sediment and Stormwater Management Section of your intent to begin construction in writing five (5) days prior to commencing. Failure to do so constitutes a violation of the approved plan.

CHANGES

4. This project is to be undertaken in accordance with the plans submitted and as approved. If changes are necessary at any time during the completion of the project, submit revised plans, prior to further construction, to the Sussex Conservation District Sediment and Stormwater Program for review and approval of the revision.
5. Should ownership change during the construction period, a revised plan must be submitted for approval showing the new owner's signature on the owner's certification. In addition, a Transfer of Authorization form must be submitted to DNREC to transfer Federal permit coverage to the new owner.

CONSTRUCTION AND CLOSEOUT

6. A pre-construction meeting must take place before any land disturbing activity begins. The meeting may take place on site and be attended by the owner, contractor, design consultant, Certified Construction Reviewer and Sussex Conservation District Sediment and Stormwater Program Construction Reviewer. The owner or the owner's designee shall contact the Sussex Conservation Construction Reviewer to schedule the pre-construction meeting.
7. Keep available onsite, during all phases of construction, a copy of the approved Sediment and Stormwater Management Plan.
8. Keep available onsite, during all phases of constriction, copies of the Developers weekly self-inspection reports and/or the CCR Reports.
9. Any sediment transported off-site to roads or road rights-of-way including ditches shall be removed. Any damage to ditches shall be repaired and stabilized to original condition.
10. Grading shall not impair surface drainage, create an erosion hazard, or create a source of sediment to any adjacent watercourse or property owner.
11. Failure to implement the permanent stormwater management practices as mentioned herein constitutes a violation of the conditions of this plan approval; it may result in the suspension or revocation of building permits or grading permits issued by the local jurisdiction; and it may result in legal action by the DNREC to bring the site into compliance with the approved Sediment and Stormwater Management Plan and the *Delaware Sediment and Stormwater Regulations*.
12. The permanent stormwater management facility or facilities must be constructed and accepted by the Sussex Conservation District Sediment and Stormwater Program prior to final closeout of the project site. Post construction verification documentation of the stormwater management facility or facilities must be completed as soon as construction of the facility or facilities is complete so that any necessary modifications may be made during the construction period.

Conditional Use No. 1502 is subject to the following conditions
As adopted by County Council (Ordinance #1647, December 16, 2003):

This Ordinance was adopted subject to the following conditions:

1. The maximum number of residential units shall not exceed 106.
2. All entrance, intersection, roadway and multi-modal improvements required by DelDOT shall be completed by the applicant in accordance with DelDOT's determination.
3. Recreational facilities and amenities shall be constructed and open to use by residents of the development within two years of the issuance of the first residential building permit. These amenities shall include a swimming pool and clubhouse.
4. The development shall be served as part of the Ocean View expansion of the Bethany Beach Sanitary Sewer District in accordance with Sussex County Engineering Department specifications.
5. The development shall be served by a public central water system providing adequate drinking water and fire protection as required by applicable regulations.
6. Stormwater management and erosion and sediment control shall be constructed in accordance with applicable State and County requirements. BMP's shall be incorporated into the system design to minimize any environmental impact.
7. Site plan review for each phase of development shall be subject to approval of the Planning and Zoning Commission.
8. The interior street design shall be in accordance with or exceed Sussex County street design requirements and/or specifications.
9. The applicant shall submit as part of the site plan review a landscape plan showing the proposed tree and shrub landscape design.
10. No site preparation, site disturbance, site excavation or other site construction shall be commenced until all permits required by all other laws, ordinances, rules and regulations shall have been issued and the approved final site plan is recorded, except site work for which a permit has been issued by the Sussex Conservation District. The site work authorized by the Sussex Conservation District permit may be commenced upon submission of copies of the application for permits from the Sussex County Engineering Department and DelDOT to the Director of Planning and Zoning and submission of a bond in an amount equal to 125% of the cost of the site work authorized by the Sussex Conservation District and in a form acceptable to the County Attorney. The Bond shall be released upon the issuance of all other permits and the filing of an approved master plan or final site plan.
11. Construction, site work, grading and deliveries of construction materials, landscape materials and fill, on, off or to the property, shall only occur between the hours of 7:00 a.m. and 6:00 p.m., Monday through Saturday.
12. A 30 foot forested buffer shall be provided on the southerly and northerly boundaries of the development. A 50 foot forested buffer shall be provided along the easterly boundary of the development.
13. Addressing and street naming shall be reviewed and approved by the Sussex County Mapping and Addressing Division.
14. Landscape and lawn maintenance shall be the responsibility of the Condominium Association. Best management practices will be utilized to minimize any environmental impact.
15. Sidewalk and streetlighting shall be provided.

LEGEND

EXISTING		PROPOSED
	PROPERTY LINE OR RIGHT-OF-WAY LINE	
++	EASEMENTS	++
X	FENCE	X
24	CONTOUR	24
×24.24 ×24.74 TC 24.24	SPOT ELEVATIONS: SURFACE, TOP OF CURB BOTTOM OF CURB	24.24 24.74 T.C. 24.24 B.C.
	SWALE	
	EDGE OF WOODS, LIMITS OF CLEARING LINE	
E	UNDERGROUND ELECTRIC LINE	
OH/E	OVERHEAD ELECTRIC LINE	
T	UNDERGROUND TELEPHONE LINE	
G	UNDERGROUND GAS LINE	
	SEWER MAIN, MANHOLE, AND CLEANOUT	C.O.
	WATER MAIN, HYDRANT, VALVE, AND METER	
	STORMDRAIN, MANHOLE, AND INLET	
	CURB, CURB AND GUTTER	
	CONCRETE SIDEWALK, CONCRETE PAD, OR CONCRETE PAVING	
	BITUMINOUS PAVING	
	BUILDING	
	ITEMS TO BE DEMOLISHED	
	DECIDUOUS TREE, EVERGREEN TREE, AND SHRUBS	
	ROAD SIGN, MAIL BOX	
	TRAFFIC SIGNAL POLE	
	UTILITY POLE WITH GUY WIRES	

SITE DATA

OWNER / DEVELOPER:	WINDMILL WOODS LLC 32996 LIGHT HOUSE ROAD SELBYVILLE, DELAWARE 19975 PHONE: 302-436-5124 FAX: 302-436-4668 CONTACT: COLEMAN BUNTING
TAX MAP, PARCEL NUMBER:	SUSSEX CO. MAP #1-34-12, PARCEL #388.00
SITE AREA:	34.09 ACRES
STATE WETLANDS:	0 ACRES
"404" WETLANDS:	9.23 ACRES
TOTAL STREET AREA:	2.89 ACRES
NET LAND AREA WITHOUT STREETS:	31.20 ACRES
NET DENSITY WITHOUT STREETS:	2.34 UNITS/ACRES
GROSS DENSITY:	2.14 UNITS/ACRE
WETLAND ENCROACHMENT:	3.14 ACRE
EXISTING FORESTED AREA:	34.09 ACRES
RETAINED FORESTED AREA:	16.36 ACRES
ZONING DISTRICT:	MR MEDIUM DENSITY RESIDENTIAL WITH SINGLE FAMILY, DUPLEX AND TOWNHOUSE CONDITIONAL USE
PROPOSED USE:	MULTI-FAMILY RESIDENTIAL COMMUNITY
SETBACKS:	FRONT YARD – 40' SIDE YARD – 20' (40' MIN. BETWEEN BUILDINGS) REAR YARD – 40'
UNITS PROPOSED:	16 THREE STORY TOWNHOUSES (LESS THAN 40' IN HIEGHT) 51 SINGLE FAMILY UNITS 6 DUPLEX UNITS 73 TOTAL UNITS
NET DEVELOPMENT AREA:	34.09 ACRES
REQUIRED PARKING:	20 SPACES (3 SPACES PER TOWNHOUSE UNIT & 1 SPACE/200 S.F.)
PROVIDED PARKING:	34 SPACES PROVIDED
APPROVED WETLAND DELINEATION PERFORMED BY:	ENVIRONMENTAL CONSULTING SERVICES, INC. 100 SOUTH CASS STREET MIDDLETOWN, DE 19709 PHONE: 302-378-9893 FAX: 302-378-9107 CONTACT: DOUG POTTS

U.S. ARMY CORPS OF ENGINEERS PROJECT NUMBER CENAP-OP-R-200202479-26(JD)

FLOOD PLAIN: ZONE X – SITE IS ENTIRELY OUTSIDE 100 YEAR FLOOD PLAIN
SOURCE: FEMA FLOOD MAP #10005C0511J, DATED JANUARY 6, 2005.

APPROVED BY:

CHAIRMAN OF PLANNING COMMISSION — DATE 3/23/17

PRESIDENT OF SUSSEX COUNTY COUNCIL — DATE 3/28/17

OWNER'S CERTIFICATION

I, WINDMILL WOODS, LLC, HEREBY CERTIFY THAT I AM THE OWNER OF THE PROPERTY DESCRIBED AND SHOWN ON THIS PLAN, THAT THE PLAN WAS MADE AT OUR DIRECTION, AND THAT WE ACKNOWLEDGE THE SAME TO BE MY ACT AND DESIRE THE PLAN TO BE RECORDED AS SHOWN IN ACCORDANCE WITH ALL APPLICABLE LAWS AND REGULATIONS.

SIGNATURE: _____ DATE 3/15/17
WINDMILL WOODS, LLC.
COLEMAN BUNTING – MEMBER

ENGINEER'S STATEMENT

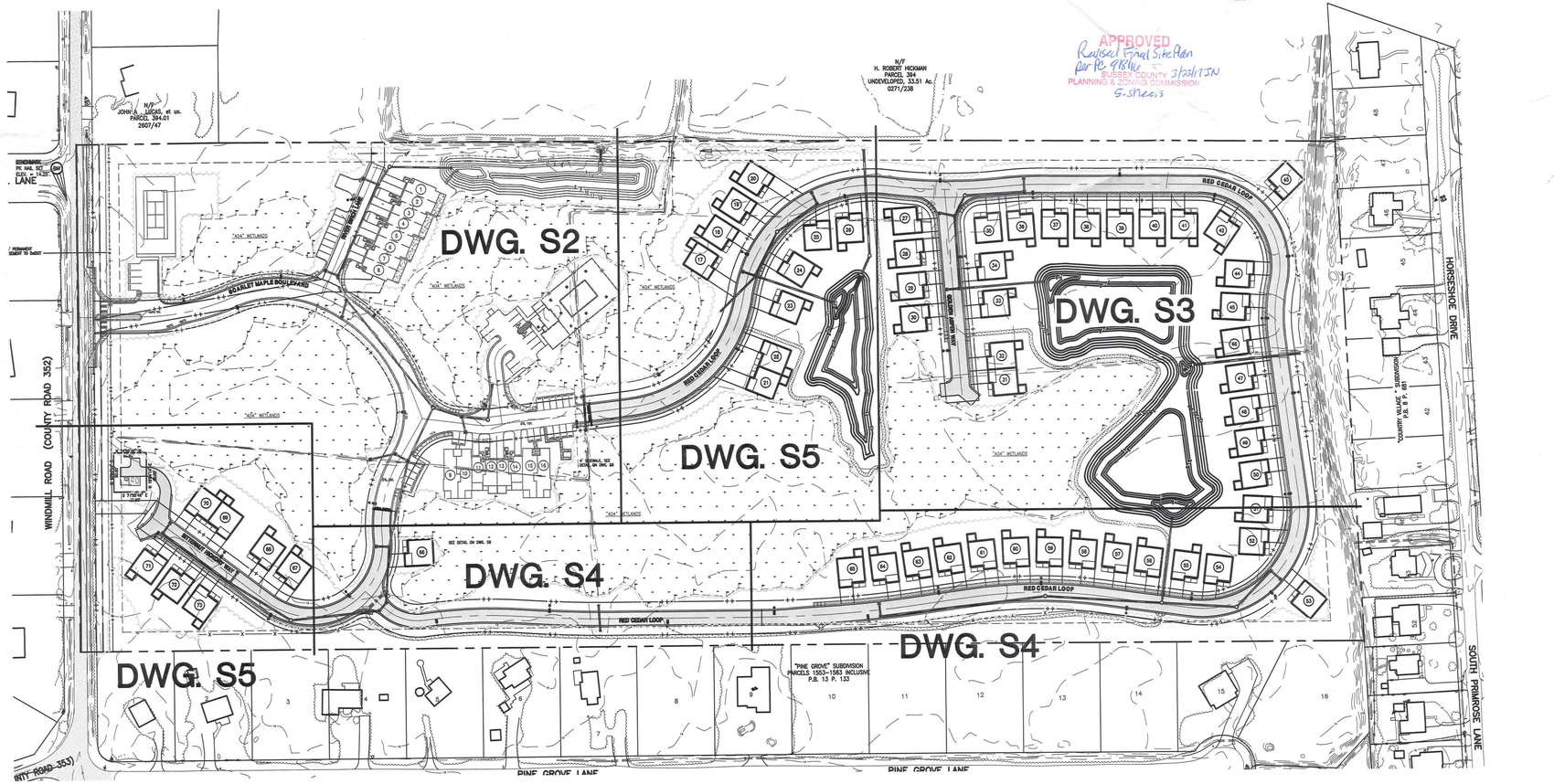
I, RANDY B. DUPLECHAIN, HEREBY STATE THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF DELAWARE, LICENSE NO. 9959, EXPIRATION DATE 06/30/18.

SIGNATURE: _____ DATE 3/14/17
RANDY B. DUPLECHAIN, P.E.

RANDY B. DUPLECHAIN LICENSE No. 9959 DELAWARE PROFESSIONAL ENGINEER

APPROVED
Revised Final Site Plan
Per Rs. 9181U
SUSSEX COUNTY 3/23/17 JN
PLANNING & ZONING COMMISSION
S-51-26-15

DELAWARE STATE GRID SYSTEM NAD-83



DAVIS, BOWEN & FRIEDEL, INC.
ARCHITECTS ENGINEERS SURVEYORS
SALISBURY, MARYLAND (410) 543-9091
MILFORD, DELAWARE (302) 424-1441

SITE KEY MAP

WINDMILL WOODS
WINDMILL ROAD
SUSSEX COUNTY, DELAWARE

Revisions:

Date:	OCTOBER 2016
Scale:	1" = 100'
Dwn.By:	AKB
Proj.No.:	003E001.H
Dwg.No.:	S1

P:\0003\003E001.H\current working folder\dwgs\S1-S SITE.dwg Mar 14, 2017 - 5:00pm

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N/F
JOHN A. LUCAS, et ux.
PARCEL 394.01
2607/47

N 75°09'47" W 218.59'
193.59'
25.00'
1/2" I.P.F.
3/4" I.P.F.

BENCHMARK
PK NAIL SET
ELEV. = 14.25'.
BM

L LANE

25' PERMANENT
EASEMENT TO DelDOT

NOTE:
PROPOSED AMENITIES AREA, BY OTHERS.
SEE 'TENNIS COURT AREA' SITE PLANS
FOR CONSTRUCTION DETAILS.

"404" WETLANDS

INTEGRAL P.C.C.
CURB AND GUTTER
TYPE 2, TYP.

RIVER BIRCH LANE

SCARLET MAPLE BOULEVARD

PROPOSED 2,046.15 S.F.
WETLAND FILL AREA

INTEGRAL P.C.C.
CURB AND GUTTER
TYPE 2, TYP.

10' WIDE BITUMINOUS
MULTI-PURPOSE PATH, SEE
DETAIL DWG. EN2

40' TREE BUFFER

"404" WETLANDS

MATCH LINE SEE DRAWING S5

PUMP STATION,
ALREADY CONSTRUCTED

WINDMILL ROAD (COUNTY ROAD 352)

S 15°04'14" W 775.64'
N 15°04'14" E 775.71'

INTEGRAL P.C.C.
CURB AND GUTTER
TYPE 2, TYP.

MATCH EXISTING

MATCH LINE SEE DRAWING S4

5' CONCRETE SIDEWALK, TYP.
SEE DETAIL ON DWG. S8

30' TREE BUFFER

DELAWARE STATE GRID SYSTEM (NAD 83)

STORMWATER MANAGEMENT
POND 3

POOL

PROPOSED 341.49 S.F. WATERS
OF THE U.S. FILL AREA

NOTE:
PROPOSED AMENITIES AREA, BY OTHERS.
SEE 'CLUBHOUSE & POOL AREA' SITE
PLANS FOR CONSTRUCTION DETAILS.

"404" WETLANDS

PROPOSED 2197.65 S.F.
WETLAND FILL AREA

PROPOSED 1,659.58 S.F.
WETLAND FILL AREA

UPLANDS

4' SIDEWALK, SEE
DETAIL ON DWG. S8

PROPOSED 582.86 S.F. WATERS
OF THE U.S. FILL AREA

MATCH LINE SEE DRAWING S4

MATCH LINE SEE DRAWING S5

0' 30' 60' 90'

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P:\0003\0003E001\Hcurrent working folder\dwgs\S1-5 SITE.dwg DEIDL, 2017 - 1:05am

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SALISBURY, MARYLAND (410) 543-9091

WINDMILL WOODS

WINDMILL ROAD

Revisions:

Date: OCTO
Scale: 1"
Dwn.By:
Proj.No.: 00
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WINDMILL WOODS

Revisions:

Date: OCT
Scale: 1
Dwn.By:
Proj.No.: 00
Dwg.No.:

S5

DELAWARE STATE GRID SYSTEM NAD-83

"COUNTRY VILLAGE " SUBDIVISION
P.B. 8 P. 681

N 12°20'23" E 766.26'

4' PRIVACY FENCE (FOR SHIELDING OF HEADLIGHT), SEE DETAIL DWG. S8

TREE BUFFER

OCEAN

3/4" I.P.S.

RED CEDAR LOOP

GOLDEN ASPEN WAY

STORMWATER MANAGEMENT POND 1

5' WOOD CHIP BIKE AND HIKE TRAIL, SEE DETAIL S8.

5' CONCRETE SIDEWALK, TYP. SEE DETAIL ON DWG. S8

"404" WETLANDS

MATCH LINE SEE DRAWING S4

MATCH LINE SEE DRAWING S5

0' 30' 60' 90'

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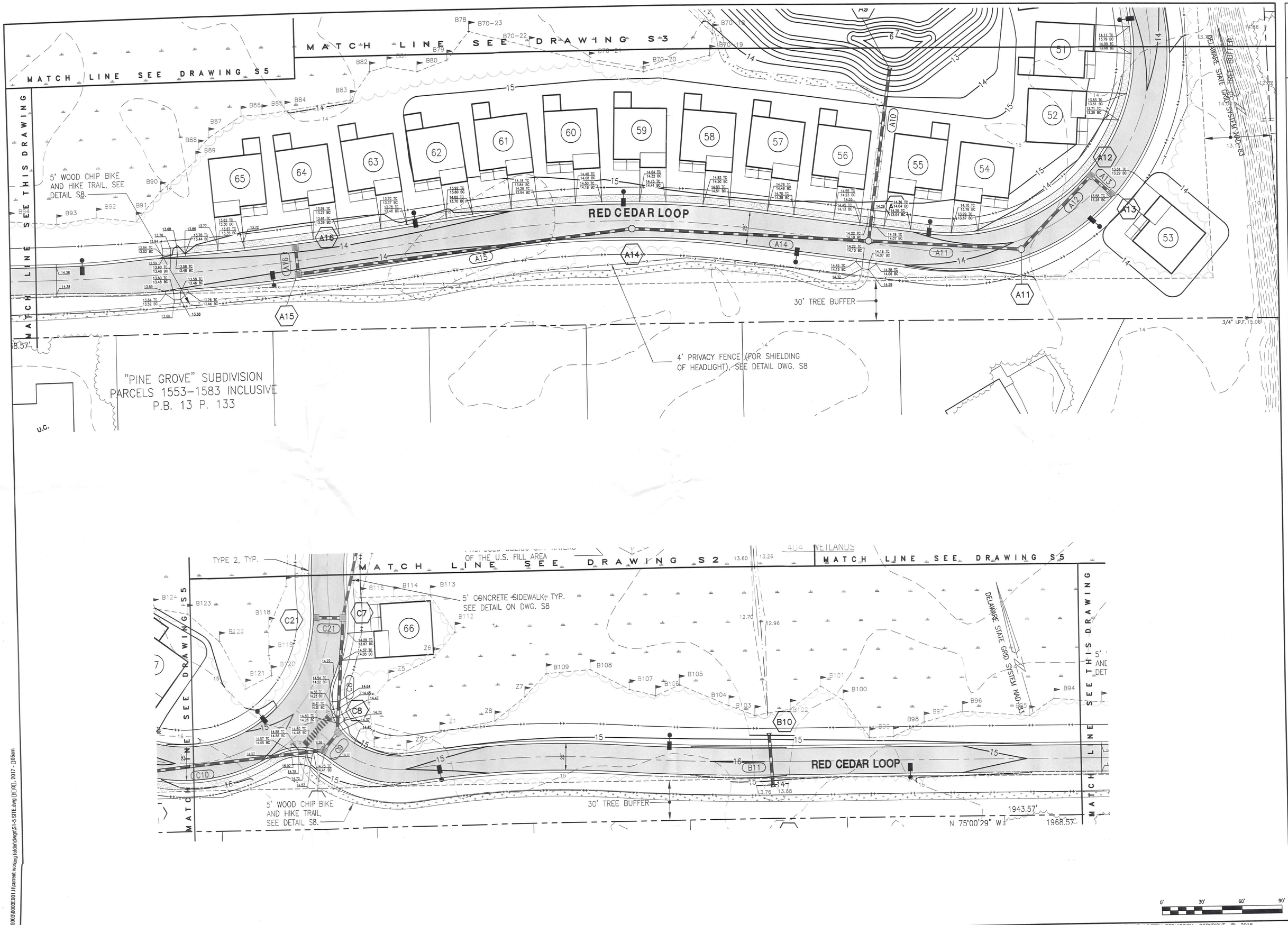

DAVIS, BOWEN & FRIEDEL, INC.

WINDMILL WOODS

Revisio

Date:

Scale:

Dwn.B

Proj.N

Dwg.N

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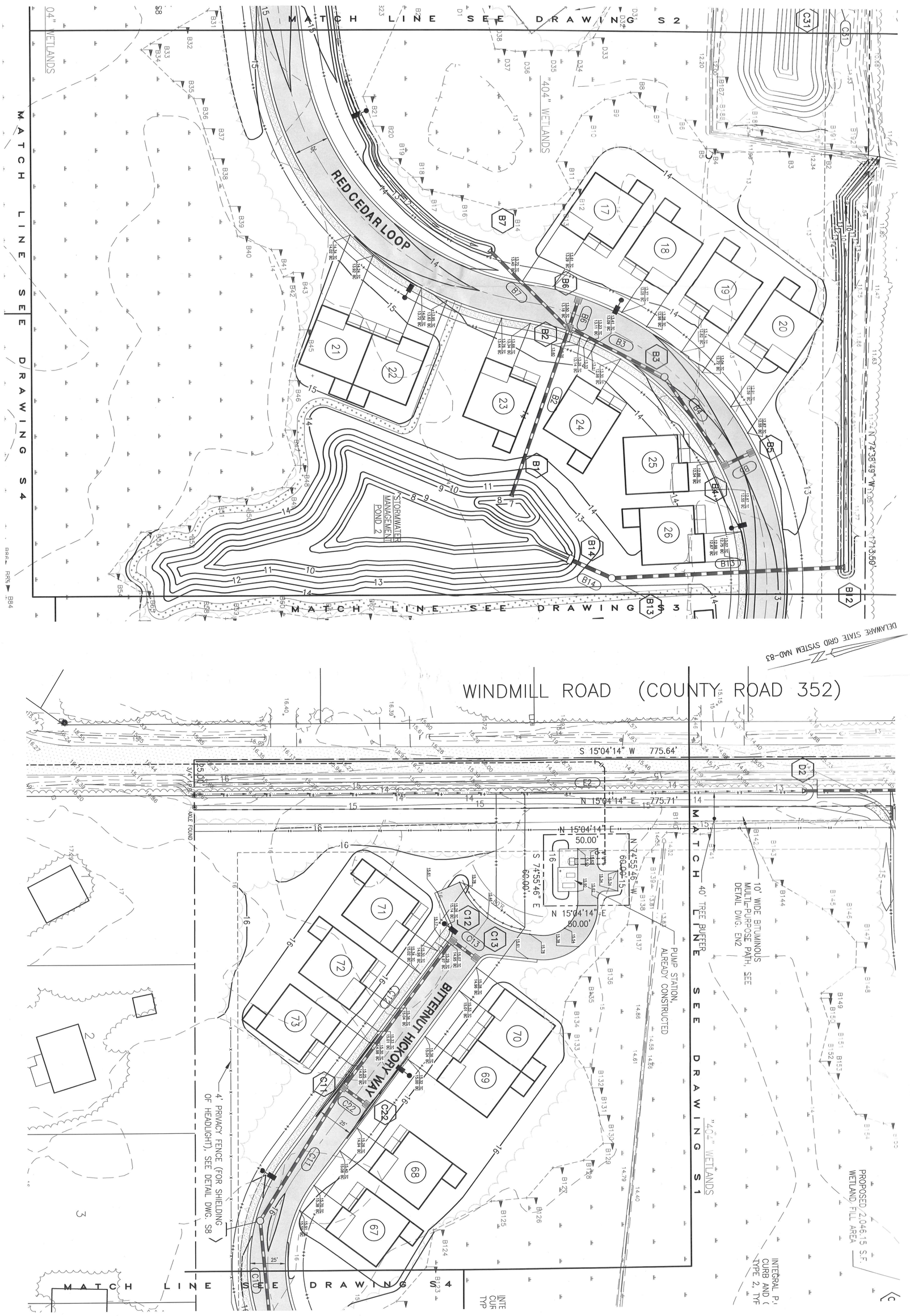

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Revisions:

Date: OCTOBE

Scale: 1" =

Dwn.By: AD

Proj.No.: 003E

Dwg.No.: S4

WINDMILL WOODS

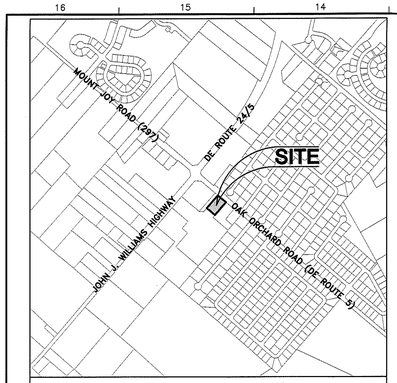
WINDMILL ROAD

DAVIS, BOWEN & FRIEDEL, INC.
ARCHITECTS ENGINEERS SURVEYORS
SALISBURY, MARYLAND (410) 543-9091
MILFORD, DELAWARE (302) 424-1441

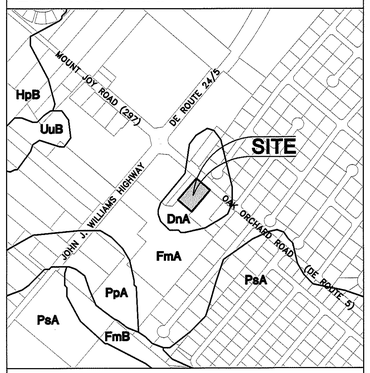
RANDY B. DUPLECHAIN
DELAWARE
PROFESSIONAL ENGINEER

BOYS & GIRLS CLUBS OF DELAWARE

PRELIMINARY SITE PLAN
OAK ORCHARD ROAD
INDIAN RIVER HUNDRED
SUSSEX COUNTY, DELAWARE
DECEMBER, 2020
DBF PROJECT #3636A001

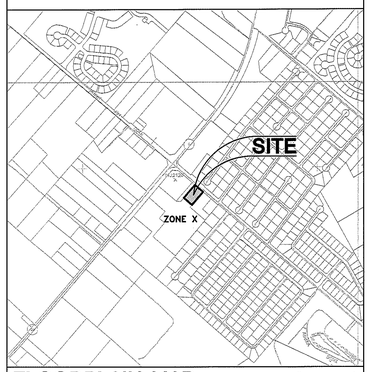


LOCATION MAP SCALE: 1" = 1000'

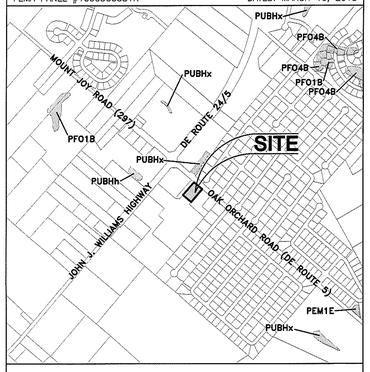


SOIL MAP SCALE: 1" = 600'

DnA DOWNER LOAMY SAND, 0-2% SLOPES (A)



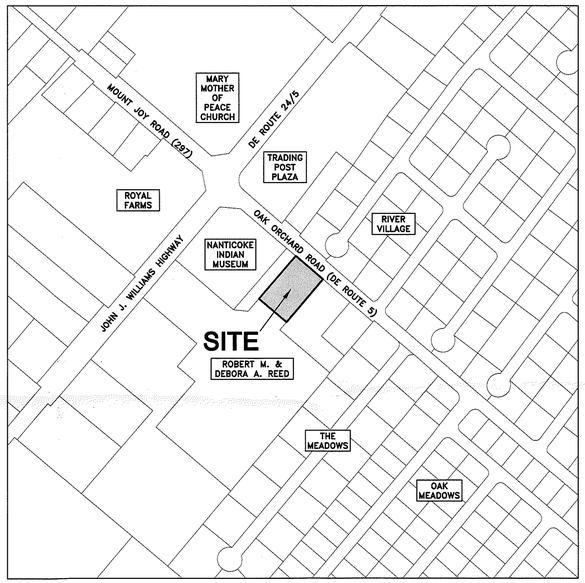
FLOODPLAIN MAP SCALE: 1" = 1000'
FEMA PANEL #10005C0351K DATED: MARCH 16, 2015



WETLAND MAP SCALE: 1" = 1000'

GENERAL NOTES:

1. HORIZONTAL AND VERTICAL CONTROL SURVEY BY DAVIS, BOWEN & FRIEDEL, INC. OF MILFORD, DELAWARE. VERTICAL/HORIZONTAL DATUM – N.A.V.D. 88 / NAD 83 RESPECTIVELY.
2. EXISTING UNDERGROUND UTILITIES SHOWN ON THE PLANS, INCLUDING TELEPHONE, ELECTRIC, CABLE TV, GAS, TRAFFIC, SIGNAL, WATER, SEWER, FORCE MAINS AND STORM DRAINAGE ARE BASED UPON THE BEST AVAILABLE INFORMATION AND ARE SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. NO GUARANTEE IS MADE OR IMPLIED REGARDING THE ACCURACY OR COMPLETENESS THEREOF. CONTRACTOR IS RESPONSIBLE FOR THE VERIFICATION OF THE LOCATION, DEPTH, SIZE AND MATERIAL OF ALL UNDERGROUND UTILITIES TO HIS OWN SATISFACTION BEFORE BEGINNING ANY EXCAVATION OR PIPE LAYING. THE COUNTY, OWNER AND ENGINEER DISCLAIM ANY RESPONSIBILITY FOR THE ACCURACY OR COMPLETENESS OF SAID INFORMATION. IF THE CONTRACTOR RELIES ON SAID INFORMATION, HE DOES SO AT HIS OWN RISK. THE GIVING OF THE INFORMATION ON THE PLANS WILL NOT RELIEVE THE CONTRACTOR OF HIS OBLIGATIONS TO SUPPORT AND PROTECT ALL SHOWN OR NOT SHOWN EXISTING UTILITIES AND APPURTENANCES. SHOULD ANY EXISTING UTILITIES BE DAMAGED BY THE CONTRACTOR, THEN THE CONTRACTOR SHALL REPAIR THE DAMAGE CAUSED TO THE TOWN'S SATISFACTION, AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL MAKE HIS OWN INVESTIGATION AND TEST PIT EXISTING UTILITIES AS REQUIRED.
3. CONTRACTOR SHALL NOTIFY "MISS UTILITY" (1-800-282-8555 IN DE) & (1-800-441-8355 OUTSIDE OF DE) AT LEAST 3 CONSECUTIVE WORKING DAYS PRIOR TO EXCAVATION TO HAVE EXISTING UNDERGROUND UTILITIES LOCATED AND MARKED.
4. ALL MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
5. USE ONLY SUITABLE AND APPROVED GRANULAR MATERIAL FOR BACK FILLING TRENCHES.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF TRAFFIC IN ALL WORK AREAS IN ACCORDANCE WITH TOWN REQUIREMENTS. ANY PAVEMENT MARKINGS OR PAINTED LINES DISTURBED OR REMOVED DURING CONSTRUCTION SHALL BE REPLACED IN KIND AFTER COMPLETION OF PAVEMENT RESTORATION.
7. CONTRACTOR SHALL DETERMINE THE LOCATION OF ALL RIGHT-OF-WAY LINES AND PROPERTY LINES TO HIS OWN SATISFACTION. ALL PROPOSED UTILITIES ARE TO BE CONSTRUCTED WITHIN THE STREET RIGHT-OF-WAY OR EASEMENT AREAS PROVIDED. ANY DISTURBED AREAS BEYOND THE RIGHT-OF-WAY OR EASEMENT LINES SHALL BE RESTORED IMMEDIATELY TO THEIR ORIGINAL CONDITION. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE COST OF ITEMS BID.
8. CONTRACTOR SHALL PROVIDE STAKEOUT SURVEY NECESSARY FOR THE PARKING LOT CONSTRUCTION, THE INSTALLATION OF UTILITY WORK AND APPURTENANCES, AND DETERMINATION OF RIGHT-OF-WAY.
9. CONTRACTOR SHALL EXERCISE CAUTION AND TAKE MEASURES NECESSARY TO PROTECT TREES DURING CONSTRUCTION ACTIVITIES. DAMAGED TREES TO BE REPLACED, IN KIND, AT THE CONTRACTOR'S EXPENSE.
10. ALL ROADWAYS ARE TO BE SWEPT FREE OF SEDIMENT ON A DAILY BASIS.
11. THE CONTRACTOR SHALL REMOVE AND IMMEDIATELY REPLACE, RELOCATE, RESET OR RECONSTRUCT ALL OBSTRUCTIONS IN THE WORK AREA, INCLUDING, BUT NOT LIMITED TO, MAILBOXES, SIGNS, LANDSCAPING, LIGHTING, PLANTERS, CULVERTS, DRIVEWAYS, PARKING AREAS, CURBS, GUTTERS, FENCES, OR OTHER NATURAL OR MAN-MADE OBSTRUCTIONS. TRAFFIC CONTROL REGULATORY, WARNING, AND INFORMATIONAL SIGNS SHALL REMAIN FUNCTIONAL AND VISIBLE TO THE APPROPRIATE LANES OF TRAFFIC AT ALL TIMES, WITH THEIR RELOCATION KEPT TO A MINIMUM DISTANCE. THE COST SHALL BE INCLUDED IN THE COST OF ITEMS BID.
12. ALL EXISTING REGULATORY AND WARNING TYPE TRAFFIC SIGNS, AND ALL STREET NAME SIGNS OCCURRING WITHIN THE PROPOSED PROJECT LIMITS SHALL BE REMOVED AND IMMEDIATELY REPLACED AS DIRECTED BY THE TOWN.
13. CONTRACTOR SHALL GRADE, TOPSOIL, SEED AND MULCH ALL DISTURBED AREAS OF CONSTRUCTION, INCLUDING PIPE INSTALLATION OR DITCH CONSTRUCTION. EROSION CONTROL MATTING SHALL BE PROVIDED ON ALL SLOPES GREATER THAN 3:1.
14. DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. ALL CONSTRUCTION MUST BE DONE IN COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970, AS AMENDED AND ALL RULES AND REGULATIONS THERETO APPURTENANT.
15. PARKING SPACES RESERVED FOR USE BY THE HANDICAPPED AND RELATED ACCESSIBLE ROUTES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE AMERICAN NATIONAL STANDARDS INSTITUTE GUIDELINES ENTITLED "ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES" (REFERENCE: ANSI A117.1-1998).
16. THE SITE IS NOT LOCATED IN AN AREA DESIGNATED AS AN EXCELLENT GROUNDWATER RECHARGE AREA.
17. THE SITE IS WITHIN A WELLHEAD PROTECTION AREA; HOWEVER, IT IS NOT WITHIN AN AREA CLASSIFIED AS A SAFE ZONE.
18. THE CONTRACTOR SHALL NOTIFY THE FOLLOWING TWO WEEKS PRIOR TO THE START OF CONSTRUCTION AND SHALL APPRAISE AND COORDINATE DURING ALL PHASES OF CONSTRUCTION:
    DAVIS, BOWEN & FRIEDEL, INC. – (302) 424-1441
    SUSSEX CONSERVATION DISTRICT – (302) 856-2105



INSET MAP
1" = 300'

SHEET INDEX

PRELIMINARY – TITLE SHEET	PL-01
PRELIMINARY – SITE PLAN	PL-02

DATA COLUMN

TAX MAP NUMBER:	02-34-29.00-69.06
DATUM:	
VERTICAL:	NAVD 88
HORIZONTAL:	NAD 83 (DE STATE PLANE)
LOCAL LAND USE AGENCY:	SUSSEX COUNTY
EXISTING ZONING:	AR-1
PROPOSED ZONING:	AR-1
EXISTING USE:	RECREATIONAL YOUTH CENTER
PROPOSED USE:	RECREATIONAL YOUTH CENTER

AR-1 REQUIREMENTS	REQUIRED	PROPOSED
MINIMUM LOT SIZE:	32,670 SQFT.	35,756 SQFT.
MINIMUM LOT FRONTAGE:	100 FT.	150 FT.
MINIMUM LOT DEPTH:	100 FT.	236 FT.
FRONT YARD SETBACK:	40 FT.	40 FT.
SIDE YARD SETBACK:	15 FT.	15 FT.
REAR YARD SETBACK:	20 FT.	20 FT.
MAXIMUM BUILDING HEIGHT:	42 FT.	LESS THAN 42 FT.

* ON DECEMBER 14, 2020, SUSSEX COUNTY PLANNING AND ZONING BOARD OF ADJUSTMENT APPROVED A VARIANCE (CASE NO. 12492) ALLOWING STEPS FROM A SECOND FLOOR TO ENCROACH 1.42' INTO THE SIDE YARD SETBACK REAR OF THE BUILDING TO ENCROACH 3.04' INTO THE REAR YARD SETBACK AND A 80 SF SHED TO BE PLACED 1.06' FROM THE SIDE YARD SETBACK.

PARKING

REQUIRED:
– DAY NURSERIES, DAY-CARE CENTERS OR PRIVATE PRESCHOOLS OR KINDERGARTENS:
1 PER 1,000 S.F. * 7,069 S.F. = 7 SPACES
PLUS 1 PER EMPLOYEE * 10 = 10 SPACES
TOTAL = 17 SPACES

PROVIDED: 32 SPACES

FLOOD HAZARD MAP: THE SITE IS NOT LOCATED IN THE FEMA 100-YR FLOOD PLAIN PER FEMA MAP #10005C0477K, DATED 03/16/2015.

WETLANDS: WETLANDS DO NOT EXIST ON SITE

EXISTING IMPERVIOUS AREA (TOTAL):	67.97%
PROPOSED IMPERVIOUS AREA (TOTAL):	69.10%

UTILITIES:

SANITARY SEWER:	SUSSEX COUNTY
WATER SUPPLY:	TIDEWATER UTILITIES, INC.
POSTED SPEED LIMITS: OAK ORCHARD ROAD	50 MPH
STATE STRATEGIES INVESTMENT LEVEL:	LEVEL 2
PROXIMITY TO TRANSPORTATION IMPROVEMENT DISTRICT:	NONE

THERE IS AN ACTIVE CONDITIONAL USE FOR THE OPERATIONS OF THIS CLUB. THIS IS CONDITIONAL USE NO. 1417 (BOYS & GIRLS CLUB OF DELAWARE) WHICH WAS ADOPTED BY THE COUNTY COUNCIL ON OCTOBER 16, 2001 THROUGH ORDINANCE NO. 1494.

THIS ORDINANCE WAS ADOPTED SUBJECT TO THE FOLLOWING CONDITIONS:

1. FENCING OR A HEDGE SHALL BE PROVIDED ALONG THE ADJOINING PROPERTIES TO THE NORTH AND SOUTH TO SCREEN THE PARKING LOT.
2. THE SITE PLAN SHALL BE SUBJECT TO REVIEW AND APPROVAL BY THE PLANNING AND ZONING COMMISSION.

OWNERS
BOYS AND GIRLS CLUBS OF DELAWARE, INC.
669 S. UNION ST,
WILMINGTON, DE 19805
CONTACT: ERICA KENNEDY

ENGINEER/SURVEYOR
DAVIS, BOWEN & FRIEDEL, INC.
1 PARK AVENUE
MILFORD, DELAWARE 19963
302-424-1441
CONTACT: RING W. LARDNER, P.E.

LEGEND

EXISTING	PROPOSED
BOUNDARY LINE	6' CHAIN LINK FENCE
ADJACENT PROPERTY OWNER	BUILDING FOOTPRINT
CATCH BASIN, STORM PIPE	CONCRETE PAD
UTILITY POLE	DEMOLITION
SIGN	
TREE	
TREE LINE	
PAVEMENT	
CONCRETE PAD	
6' CHAIN LINK FENCE	
SWALE	

ENGINEER'S STATEMENT

I, RING W. LARDNER, P.E., HEREBY STATE THAT I AM A REGISTERED ENGINEER IN THE STATE OF DELAWARE, THAT THE INFORMATION SHOWN HEREON HAS BEEN PREPARED UNDER MY SUPERVISION AND TO MY BEST KNOWLEDGE AND BELIEF REPRESENTS GOOD ENGINEERING PRACTICES AS REQUIRED BY THE APPLICABLE LAWS OF THE STATE OF DELAWARE.

DAVIS, BOWEN & FRIEDEL, INC.
by RING W. LARDNER, P.E.

OWNER'S STATEMENT

I, THE UNDERSIGNED, HEREBY STATE THAT I AM THE OWNER OF THE PROPERTY DESCRIBED AND SHOWN ON THIS PLAN, THAT THE PLAN WAS MADE AT MY DIRECTION, AND THAT I ACKNOWLEDGE THE SAME TO BE MY ACT AND DESIRE THE PLAN TO BE CONSTRUCTED ACCORDING TO SUSSEX COUNTY CODE.

BOYS & GIRLS CLUBS OF DELAWARE L.L.C. DATE

PRINT NAME TITLE

DAVIS, BOWEN & FRIEDEL, INC.
ARCHITECTS ENGINEERS SURVEYORS
SALISBURY, MARYLAND (410) 543-2091
MILFORD, DELAWARE (302) 424-1441
EASTON, MARYLAND (410) 770-4744

PRELIMINARY – TITLE SHEET

BOYS & GIRLS CLUBS OF DELAWARE
OAK ORCHARD ROAD
INDIAN RIVER HUNDRED, SUSSEX COUNTY, DELAWARE

Revisions:
2021-02-02
P&Z COMMENTS

Date: DECEMBER, 2020
Scale: AS NOTED
Dwn.By: ACM
Proj.No.: 3636A001
Dwg.No.: PL-01

P:\Boys and Girls Club\3636A001 - Oak Orchard (Boys and Girls Club)\Design\Prelim\3636A001 - PL - PRELIMINARY - TITLE SHEET.dwg Feb 02, 2021 - 5:06pm mila

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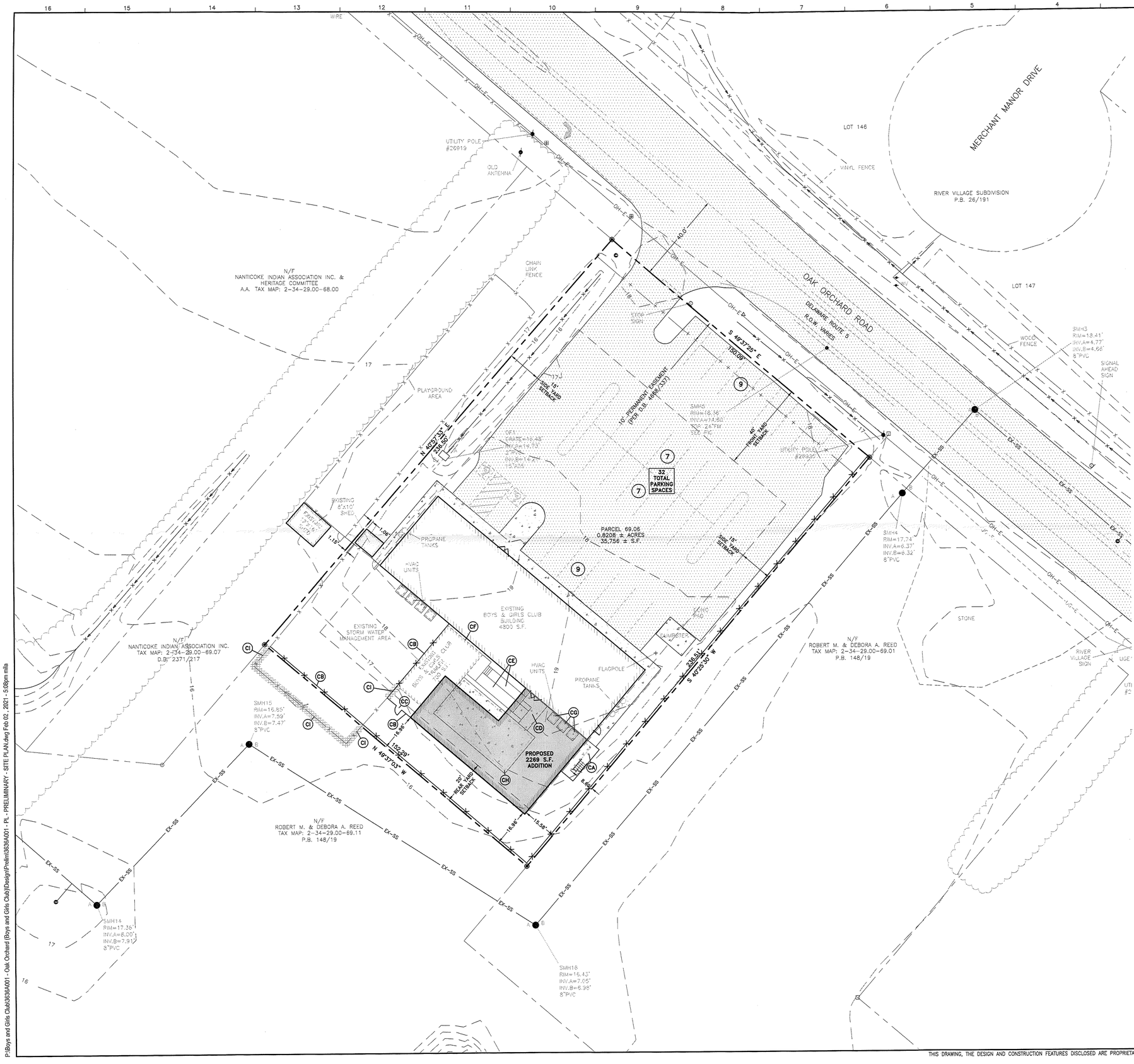

LEGEND

EXISTING

- BOUNDARY LINE
- ADJACENT PROPERTY OWNER
- CATCH BASIN, STORM PIPE
- UTILITY POLE
- SIGN
- TREE
- TREE LINE
- PAVEMENT
- CONCRETE PAD
- 6' CHAIN LINK FENCE
- SWALE

PROPOSED

- 6' CHAIN LINK FENCE
- BUILDING FOOTPRINT
- CONCRETE PAD
- DEMOLITION

KEY LEGEND

LABEL	DESCRIPTION
CA	PROPOSED CONCRETE PAD/SIDEWALK
CB	PROPOSED 6' CHAIN LINK FENCE
CC	PROPOSED CHAIN LINK FENCE GATE
CD	EXISTING CONCRETE SIDEWALK (TO BE REMOVED BY OWNER)
CE	EXISTING ADA RAMP, WOODEN WALKWAY (TO BE REMOVED BY OWNER)
CF	EXISTING TRAILER (TO BE REMOVED BY OWNER)
CG	EXISTING HVAC UNITS AND PADS (TO BE REMOVED BY OWNER)
CH	EXISTING PAVILION AND CONCRETE PAD (TO BE REMOVED BY OWNER)
CI	EXISTING 6' CHAIN LINK FENCE (TO BE REMOVED BY OWNER)

0 20 40 60

DAVIS, BOWEN & FRIEDEL, INC.
ARCHITECTS ENGINEERS SURVEYORS
SALISBURY, MARYLAND (410) 543-9091
MILFORD, DELAWARE (302) 424-1441
EASTON, MARYLAND (410) 770-4744

PRELIMINARY – SITE PLAN

BOYS & GIRLS CLUBS OF DELAWARE
OAK ORCHARD ROAD
INDIAN RIVER HUNDRED, SUSSEX COUNTY, DELAWARE

Revisions:
2021-02-02
P&Z COMMENTS

Date: DECEMBER, 2020
Scale: 1" = 20'
Dwn.By: ACM
Proj.No.: 3636A001
Dwg.No.: PL-02

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DAVIS BOWEN & FRIEDEL, INC.

ARCHITECTS • ENGINEERS • SURVEYORS

Michael R. Wigley, AIA, LEED AP
W. Zachary Crouch, P.E.
Michael E. Wheedleton, AIA, LEED GA
Jason P. Loar, P.E.
Ring W. Lardner, P.E.
Jamie L. Sechler, P.E.

February 5, 2021

Sussex County Administrative Building
Planning and Zoning Department
2 The Circle
P.O. Box 589
Georgetown, Delaware 19947

Attn: Mr. Chase Phillips

RE: Oak Orchard Boys & Girls Club
Final Site Plan
Tax Parcel No.: 234-29.00-69.06
DBF #3636A001.B01

Dear Mr. Phillips,

On behalf of our client, Boys & Girls Club of Delaware, we are pleased to submit a revised preliminary site plan per your letter dated January 15, 2021. We offer the following item-by-item response:

Revised Final Site Plan
Chapter 89 – Source Water Protection

a. *This site is not located in an area designated as an Excellent Groundwater Recharge Area. Please insert a note on sheet PL-01 that confirms this.* **Note 16 of the General Notes addresses this item.**

b. *This site is within a Wellhead Protection Area; however, it is not within an area classified as a safe zone. Please state this on sheet PL-01.* **Note 17 of the General Notes addresses this item.**

c. *Please list the existing and proposed percentage of the site that is impervious.* **The existing and proposed impervious percentages have been added.**

d. *It is assumed that the proposed impervious surface cover is between 35% and 60%. Given this threshold, an environmental assessment report that addresses pre-development and post-development recharge quantity will be required.* **We will prepare and provide the report during the construction document preparation and plan approval process.**

e. *If impervious surface cover is >60%, roof drains that guide discharge into permeable areas will need to be proposed.* **We will prepare and provide the report during the**

construction document preparation and plan approval process.

f. *Please note that the requirements of this chapter may be implemented by Sussex County, but the oversight of all stormwater management will be governed by the Sussex Conservation District (SCD).* **We will work with both Sussex County Engineering and Sussex Conservation District on compliance with this Chapter.**

Chapter 115 – Zoning Code

a. *There is an active Conditional Use for the operations of this club. This is Conditional Use No. 1417 (Boys & Girls Club of Delaware) which was adopted by the County Council on October 16, 2001 through Ordinance No. 1494. Please list the Conditional Use number as well as all conditions of approval on the site plan. These conditions can be referenced in the Ordinance which is attached [enclosed e-mail attachment].* **The Conditional Use number and conditions have been placed on the plan.**

b. *Condition "1" requires a fence or hedge to be placed around the northern and southern faces of the property in order to screen the parking lot. What is the current status of this fence or hedge? If one does not exist, where may they be proposed?* **We have added a whit vinyl fence to be located along Parcel 2-34-29.00-69.00 and 69.11. The Club is discussing a fence with the Nanticoke Indians as each group uses the others property. If the Nanticoke Indians prefer not to have a fence we will request an amendment to the Conditional Use. Otherwise, a fence will be provided and shown on the final site plan.**

c. *Please state the Case number with the variance. This is Case No. 12492.* **The case number has been added to the plans.**

d. *As regulated by Sussex County, the rear yard setback is 20.00 ft. rather than 15.00 ft. Please amend the Data Column.* **The data column has been amended.**

e. *Please list the proposed height of the addition, if applicable or known. If this attribute is unknown, no changes are needed.* **The building height is unknown at this time and will be updated at time of final site plan approval.**

f. *If the site is to be utilized at night, lighting in the parking lot must be proposed if it does not already exist. Please comment on how this requirement may or may not apply.* **Parking lot lights currently do not exist. We will discuss lighting with the club and if the facility is used at night, lighting will be provided and shown on the final site plan.**

g. *Due to the implementation of a variance, it is highly recommended that a second label showing the distance from the rear of the proposed addition to the property line is provided. This will ensure the addition does not exceed what was approved as part of Case No. 12492. This is a suggestion.* **A second label has been provided.**

h. *The Site Plan is subject to the following agency approvals which will only be needed by time of final approval:*
    a. *Delaware Department of Transportation (DelDOT) – Letter of No Objection*
    b. *Delaware Office of the State Fire Marshal (SFMO)*
    c. *Sussex Conservation District*

Our office will obtain the above referenced approvals or Letters of No Objection.

We request to be place on the February 25, 2021 agenda for preliminary site plan approval. If you have any questions regarding this submission, please contact me at (302) 424-1441 or via e-mail at rwl@dbfinc.com.

Sincerely,
Davis, Bowen & Friedel, Inc.

Ring W. Lardner, P.E.
Principal

P:\Boys and Girls Club\3636A001 - Oak Orchard (Boys and Girls Club)\Docs\Sussex County\2021-02-05 Comment Response\Cover Letter.docx

Chase Phillips, Planner I
Not a valid map, for general reference only