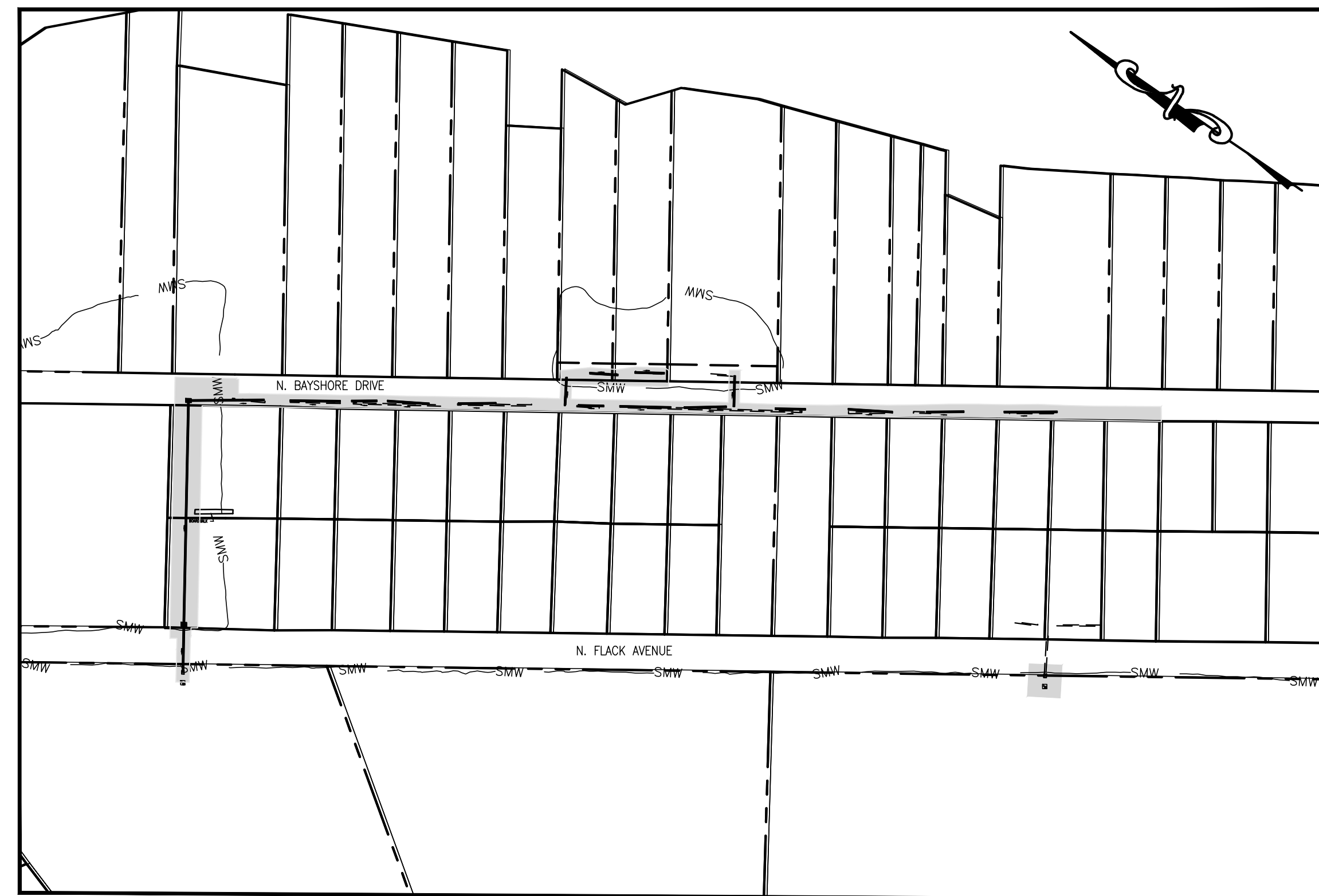


# N. BAYSHORE DRAINAGE IMPROVEMENTS

FOR  
TOWN OF BOWERS  
08-01-115.13-01-04.00-00001  
MURDERKILL HUNDRED  
KENT COUNTY, DELAWARE



SITE MAP  
SCALE: 1"=100'

LEGEND	EXISTING	PROPOSED
PROPERTY LINE	---	N/A
SURVEYED CONTOUR	--- 40 ---	--- 40 ---
LIMITS OF DISTURBANCE (LOD)	N/A	--- LOD ---
PERMANENT EASEMENT	--- PE ---	N/A
SILT FENCE	N/A	--- SF ---
SENSITIVE AREA PROTECTION	N/A	--- SAP ---
STABILIZED CONSTRUCTION ENTRANCE	N/A	--- SCE ---
STABILIZATION MATTING SLOPE	N/A	--- (SM-S) ---
RIPRAP OUTLET PROTECTION	N/A	--- (ROP) ---
RIPRAP STILLING BASIN	N/A	--- (RSB) ---
SWALE	--- oo ---	--- X< ---
STORMDRAIN PIPE	---	---
NEW/REDEVELOPED PAVEMENT	N/A	---
GRASS ACCESS	N/A	---
GRAVEL	N/A	---
DRIVEWAY REMOVAL	N/A	---
FORCE MAIN	--- FM ---	N/A
UNDERGROUND GAS	--- UG-G ---	N/A
UNDERGROUND FIBER	--- UG-F ---	N/A
UNDERGROUND ELECTRIC	--- UG-E ---	N/A
OVERHEAD UTILITY	--- OH ---	N/A
FENCE LINE	---	---
BUILDING	---	N/A
LANDSCAPING	---	N/A
SIGN	---	---
LAMP	---	N/A
MAILBOX	---	N/A
FIRE HYDRANT	---	N/A
POST	---	N/A
WATER VALVE	---	N/A
CONCRETE MONUMENT	---	N/A
ELECTRIC TRANSFORMER	---	N/A
UTILITY BOX - FIBER	---	N/A
LIGHT	---	N/A
ELECTRIC OUTLET	---	N/A
UTILITY POLE	---	N/A
MANHOLE	---	N/A
WATER LINE	---	N/A
SANITARY SEWER	---	N/A
FIRE DEPARTMENT CONNECTION	---	N/A
WOODSLINE	---	N/A
WETLANDS	---	N/A

## INDEX OF SHEETS

SHEET NO.:	TITLE
C100	COVER SHEET
C101	SITE PLAN
C102	PIPE PROFILES
C103	OUTFALL SECTIONS
C104	TYPICAL SECTIONS
C105	CONSTRUCTION DETAILS
C106	CONSTRUCTION DETAILS
C107	CONSTRUCTION DETAILS
C108	CONSTRUCTION DETAILS
C109	CONSTRUCTION DETAILS
C110	ENVIRONMENTAL COMPLIANCE IMPACT TABLE
C111	ENVIRONMENTAL COMPLIANCE FOR DNREC WSLs



LOCATION MAP SCALE: 1" = 500'

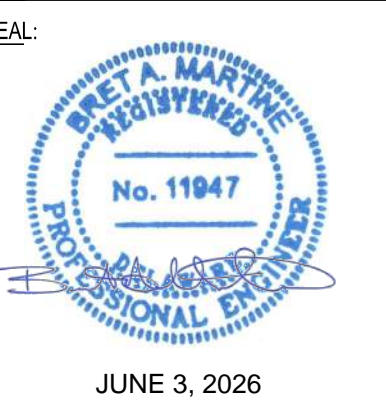
### DATA COLUMN

- PROJECT TAX MAP: 08-01-115.13-01-04.00-00001
- TITLE SOURCE: D.B. 9520-297
- SITE ADDRESS: NORTH BAYSHORE DRIVE, FREDERICA, DE 19946
- ZONING: (SFR) SINGLE FAMILY RESIDENTIAL
- EXISTING SITE AREA: 4.67± ACRES
- PROPOSED SITE AREA: 4.67± ACRES
- PROPOSED CONDITION: N/A - NO NEW BUILDING STRUCTURES
- PROPOSED DISCHARGE: EXISTING WETLANDS ALONG NORTH FLACK AVENUE
- PROPOSED TOTAL LOD: 0.46 ACRES
- DATUM: VERTICAL - NAVD88, HORIZONTAL - NAD83
- BENCHMARK: TRAVERSE POINT 2, NEAR WEST PROPERTY CORNER AT 228 N. FLACK AVENUE, TOWN OF BOWERS, 3308 MAIN STREET, FREDERICA, DE 19946, NORTHING: 387585.5629, EASTING: 660633.5823, ELEVATION: 3.98'
- GROWTH ZONE: SUBJECT PARCEL DOES NOT LIE WITHIN THE DESIGNATED GROWTH ZONE.
- FLOODPLAIN: PER FEMA MAP NO. 10001C0259J, DATED JULY 7, 2014, THE SUBJECT PARCEL IS LOCATED WITHIN A FLOOD ZONE.
- WETLANDS: A WETLANDS DELINEATION WAS PERFORMED BY CENTURY ENGINEERING ON JUNE 2, 2022 AND WETLANDS ARE FOUND IN THE VICINITY OF THIS PROJECT.
- OWNER/DEVELOPER: ADA CARTER PUZZO, MAYOR, TOWN OF BOWERS, 3308 MAIN STREET, FREDERICA, DE 19946, PHONE: (302) 572-9000
- CIVIL ENGINEER: ALAN K. MARTENEY, P.E., CENTURY ENGINEERING, A KLEINFELDER COMPANY, 550 BAY ROAD, DOVER, DE 19901, PHONE: (302) 734-9188

REVISIONS:	DATE:	DESCRIPTION:	BY:

N. BAYSHORE DRIVE  
DRAINAGE IMPROVEMENTS

COVER SHEET



CENTURY ENGINEERING  
A Kleinfelder Company

CEI CONTRACT NO.: 215015.000A



DESIGNED BY:  
CENTURY ENGINEERING

DRAWN BY:  
CENTURY ENGINEERING

CHECKED BY:  
BAM

DATE:  
JUNE 2026

SCALE:  
AS NOTED

SHEET NO.:

C100

CONTRACT NO.:

### CERTIFICATION OF PLAN ACCURACY

I, BRET A. MARTINE, 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.

*Bret A. Martine*

BRET A. MARTINE, P.E., DE NO. 11974  
CENTURY ENGINEERING, LLC  
550 BAY ROAD  
DOVER, DELAWARE 19901  
PHONE: (302) 734-9188 / FAX: (302) 734-4589

DATE 06/03/2026

### OWNER/DEVELOPER CERTIFICATION

I, ADA CARTER PUZZO, 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 DIRECT 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.

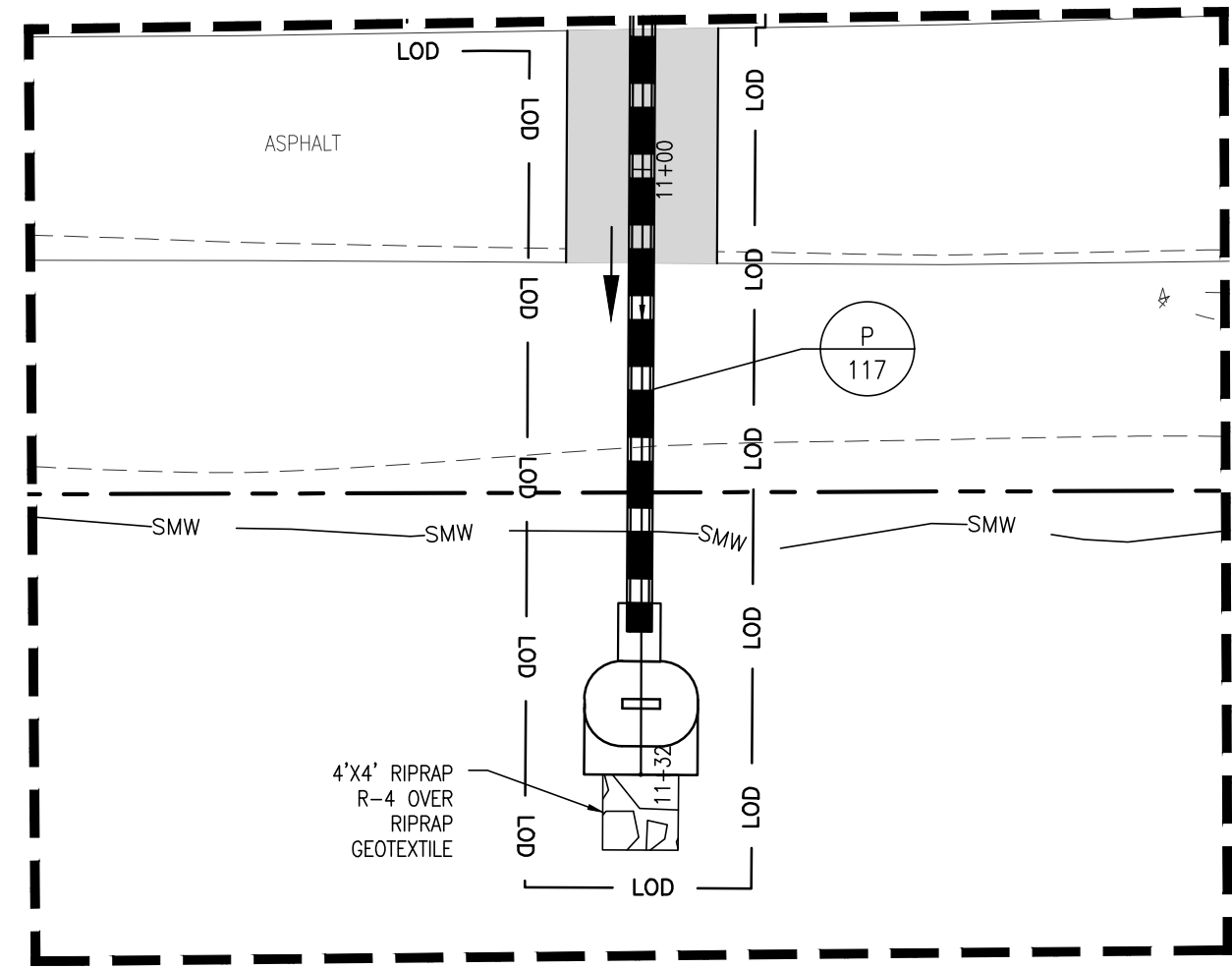
ADA CARTER PUZZO  
MAYOR, TOWN OF BOWERS  
3308 MAIN STREET  
FREDERICA, DE 19946

DATE 06/03/2026

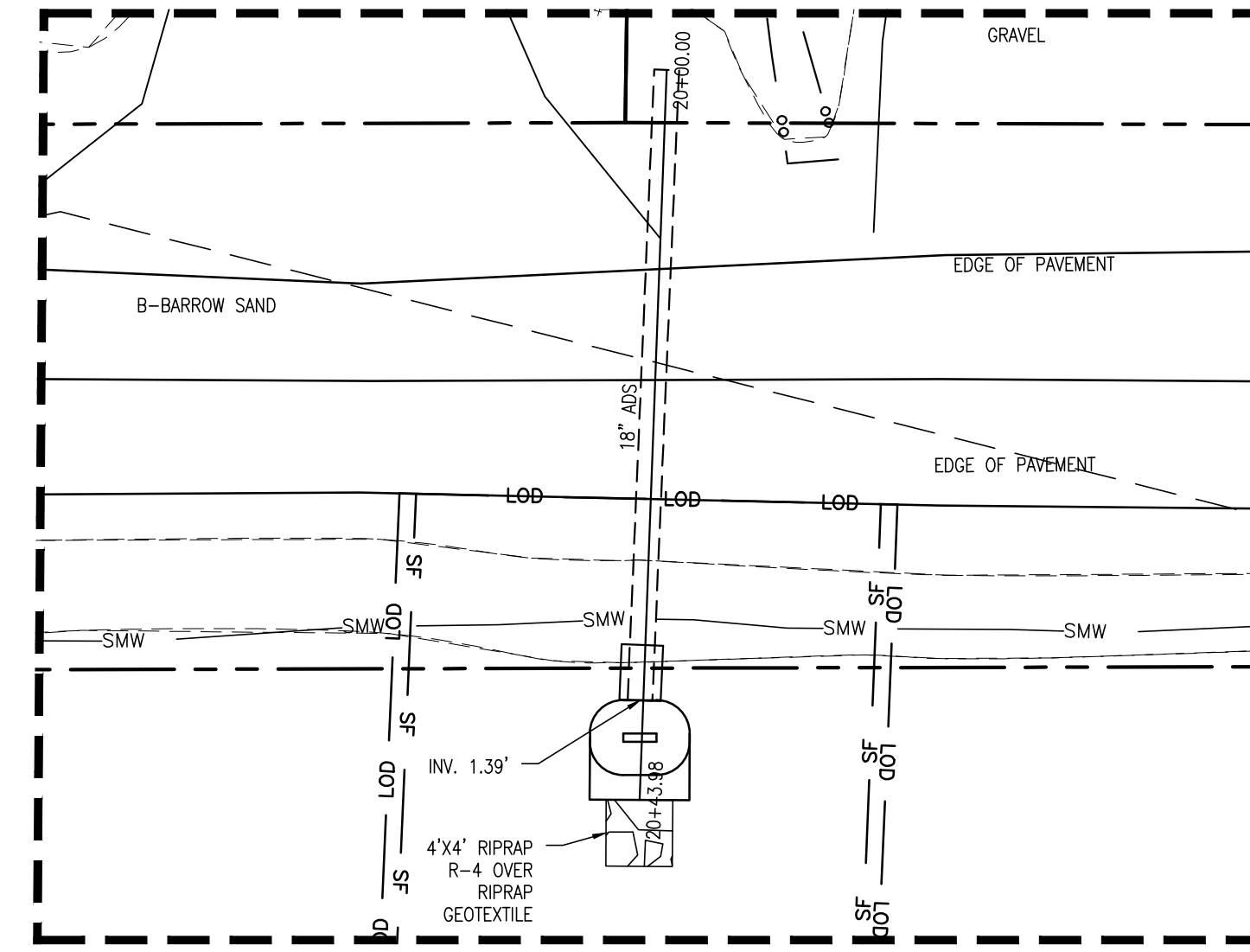
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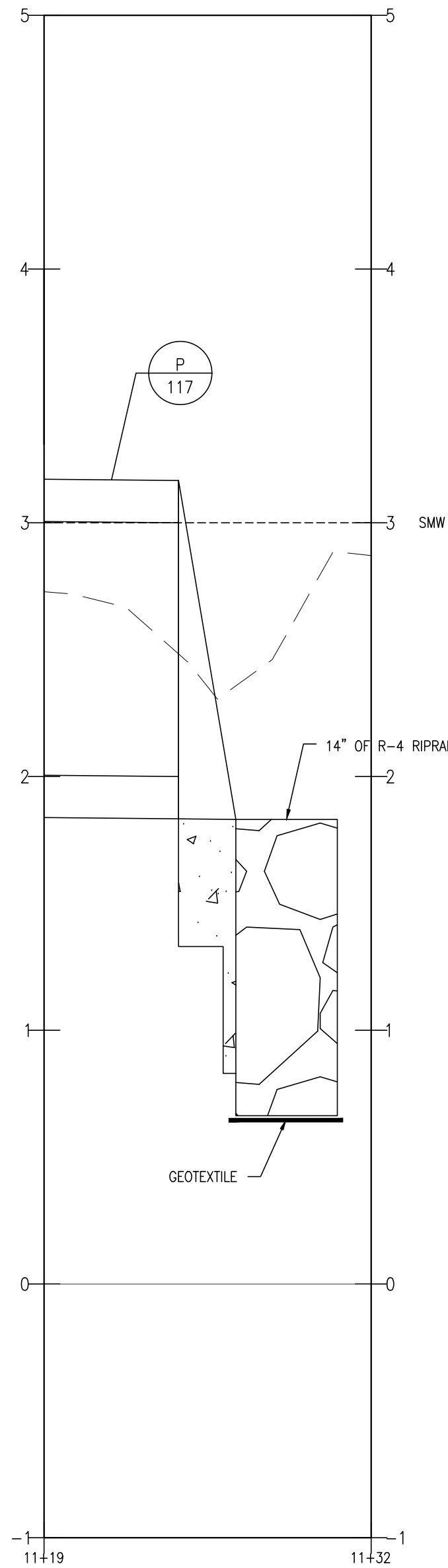




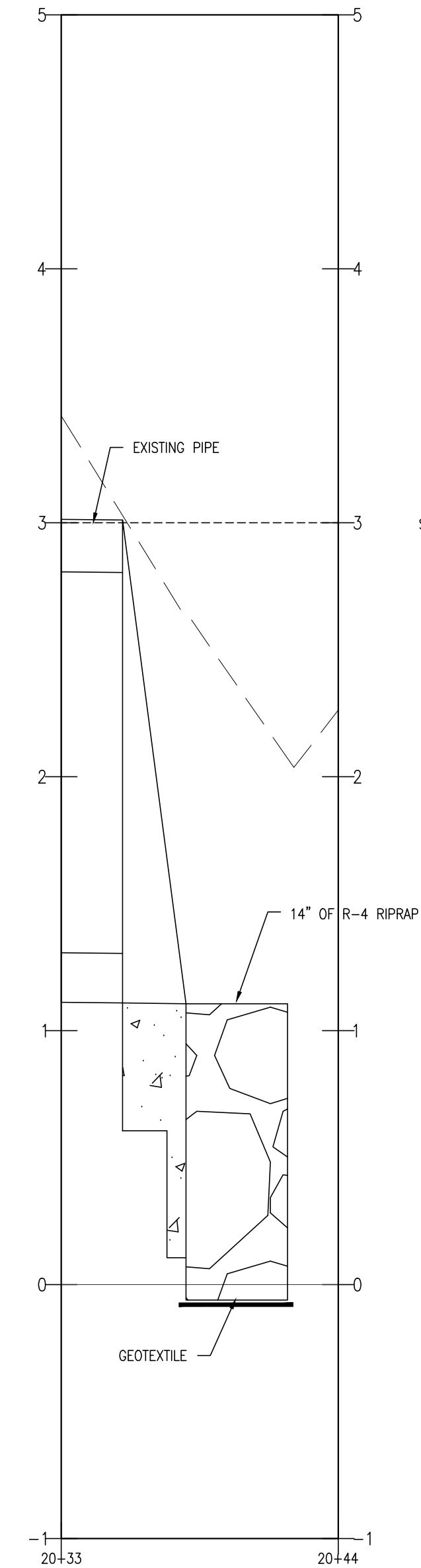
NORTH BAYSHORE DRIVE TO NORTH FLACK AVENUE OUTFALL 1 PLAN VIEW  
SCALE: 1" = 10'



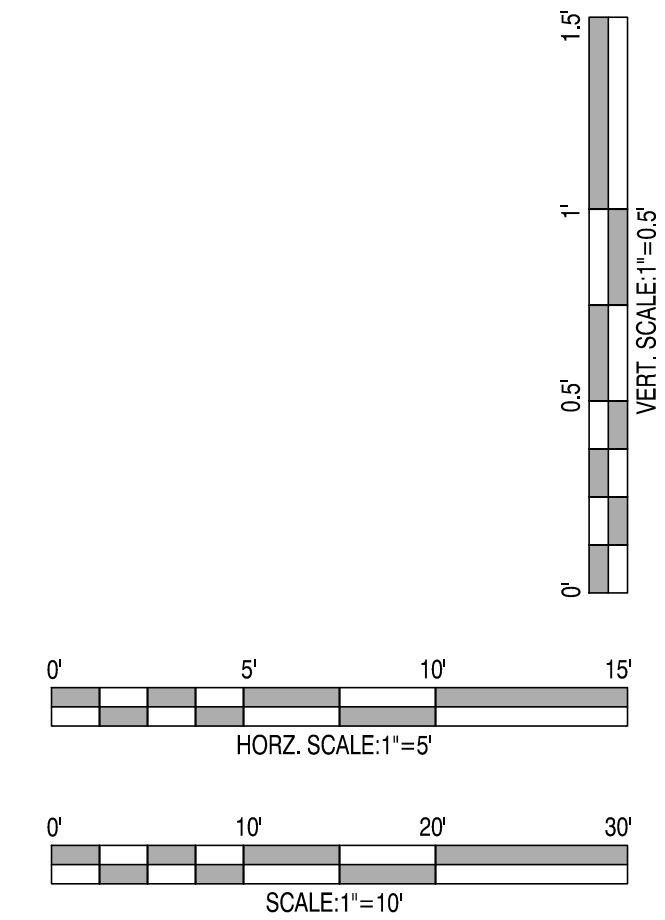
NORTH BAYSHORE DRIVE TO NORTH FLACK AVENUE OUTFALL 2 PLAN VIEW  
SCALE: 1" = 10'



NORTH BAYSHORE DRIVE TO NORTH FLACK AVENUE OUTFALL 1  
HORIZONTAL SCALE 1" = 5'  
VERTICAL SCALE 1" = 0.5'



NORTH BAYSHORE DRIVE TO NORTH FLACK AVENUE OUTFALL 2  
HORIZONTAL SCALE 1" = 5'  
VERTICAL SCALE 1" = 0.5'



REVISIONS:

DATE:	DESCRIPTION:	BY:

N. BAYSHORE DRIVE  
DRAINAGE IMPROVEMENTS  
OUTFALL SECTIONS

SEAL:

JUNE 3, 2026

CIVIL ENGINEER:

CEI CONTRACT NO.: 215015.000A

DESIGNED BY:  
CENTURY ENGINEERING

DRAWN BY:  
CENTURY ENGINEERING

CHECKED BY:  
BAM

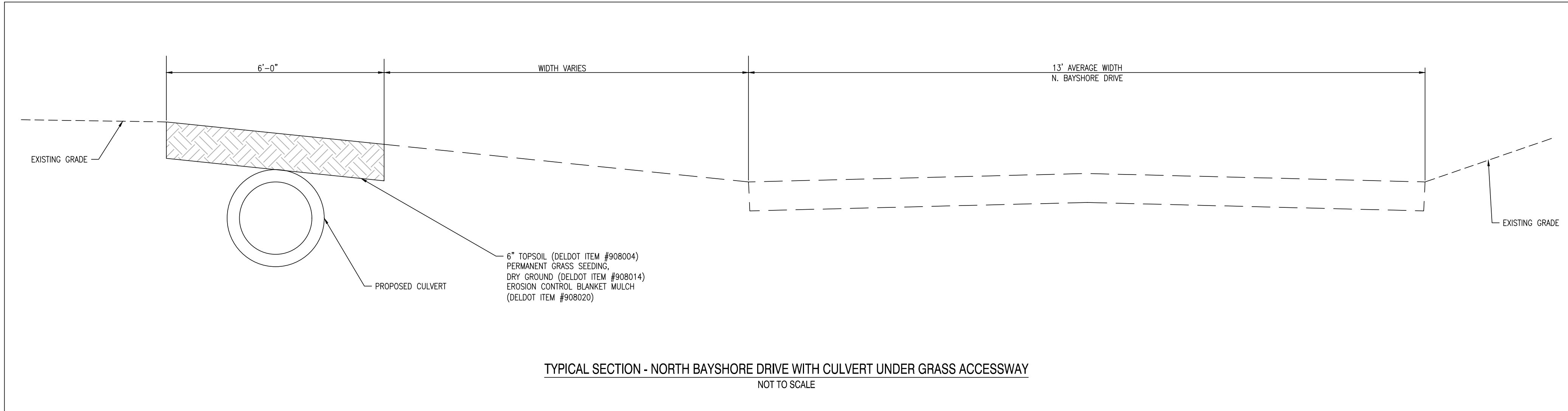
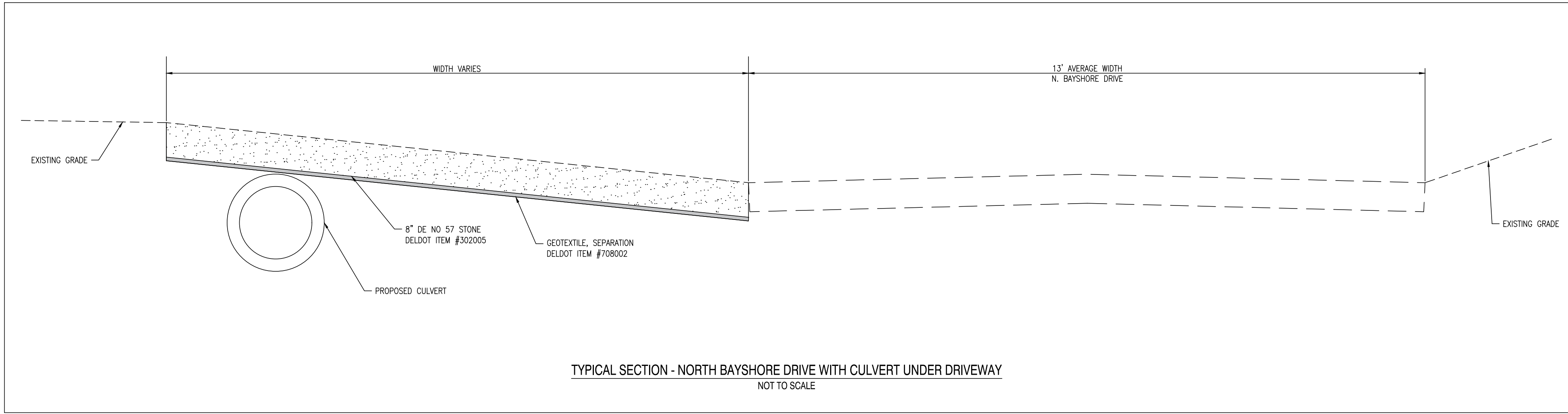
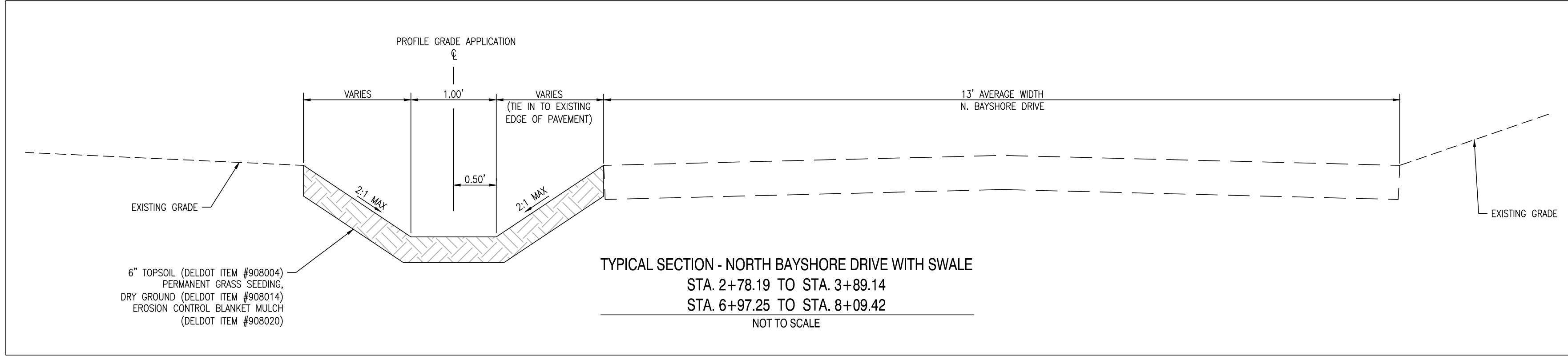
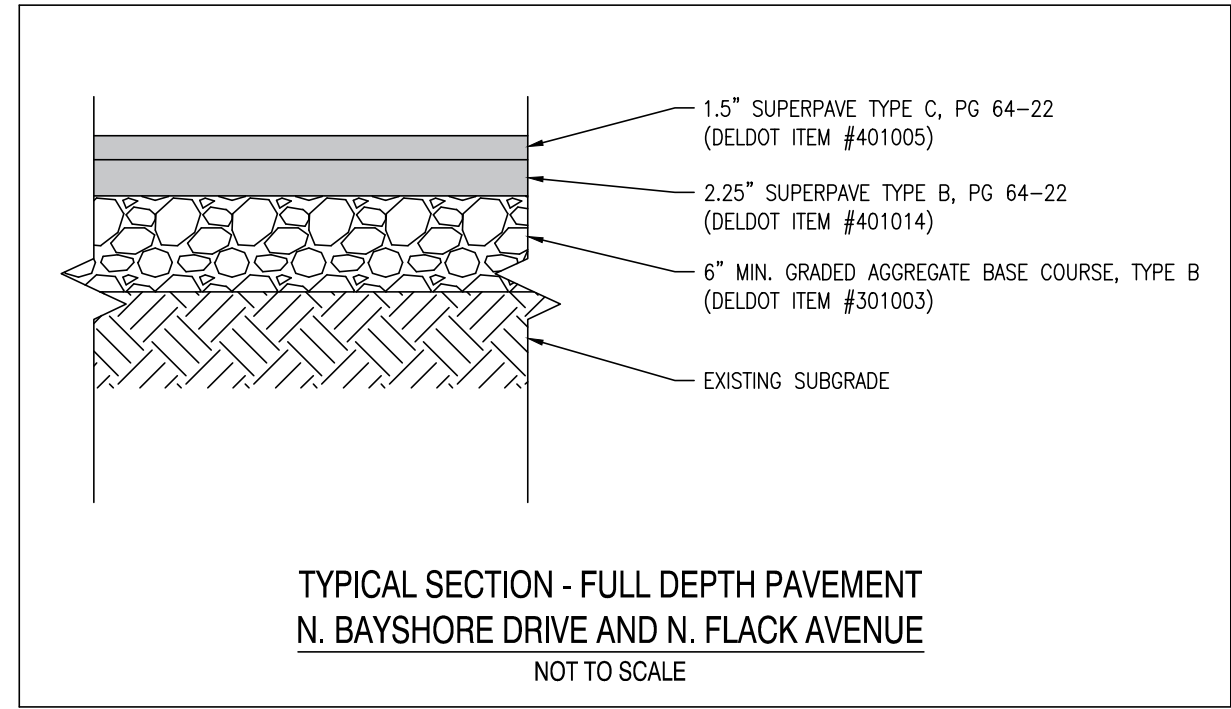
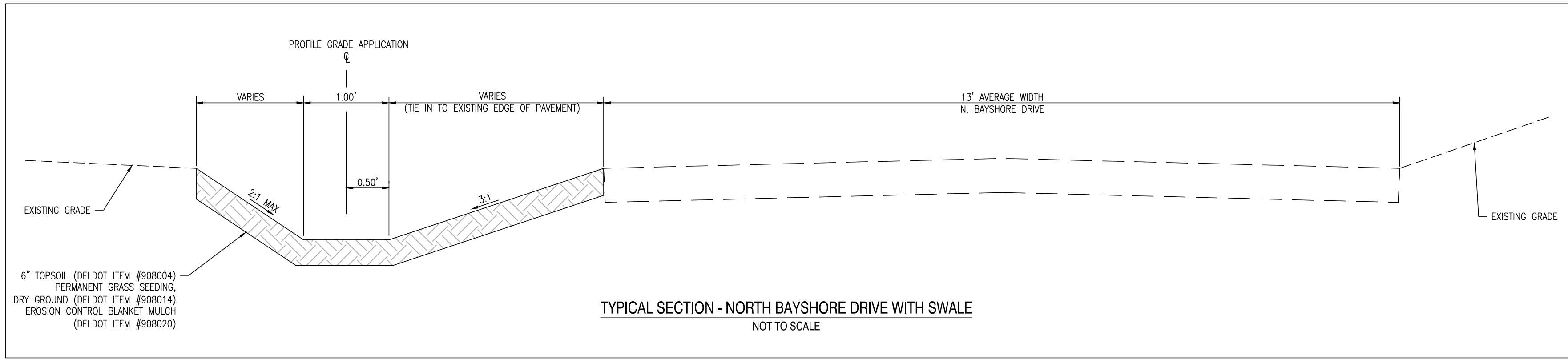
DATE:  
JUNE 2026

SCALE:  
AS NOTED

SHEET NO.:  
C103

CONTRACT NO.:

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REVISIONS:

DATE:	DESCRIPTION:	BY:

N. BAYSHORE DRIVE  
 DRAINAGE IMPROVEMENTS  
 TYPICAL SECTIONS

SEAL:

BRET A. MARTIN  
 No. 11947  
 PROFESSIONAL ENGINEER  
 STATE OF DELAWARE  
 JUNE 3, 2026

CIVIL ENGINEER:

CENTURY  
 ENGINEERING  
 A Kleinfelder Company

CEI CONTRACT NO.: 215015.000A

DESIGNED BY:  
 CENTURY ENGINEERING

DRAWN BY:  
 CENTURY ENGINEERING

CHECKED BY:  
 BAM

DATE:  
 JUNE 2026

SCALE:  
 N.T.S

SHEET NO.:  
 C104

CONTRACT NO.:

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**xylem**  
Let's Solve Water

**TECHNICAL BROCHURE**  
B3887BF R3



# WS\_BF Series Model 3887BF

SUBMERSIBLE SEWAGE PUMP



**GOULDS**  
WATER TECHNOLOGY  
a xylem brand

Wastewater

## Goolds Water Technology

### FEATURES

**Impeller:** Cast iron, semi-open, non-clog, dynamically balanced with pump out vanes for mechanical seal protection.

**Casing:** Cast iron flanged volute type for maximum efficiency. Designed for easy installation on A10-20 slide rail or base elbow rail systems.

**Mechanical Seal:** SILICON CARBIDE VS. SILICON CARBIDE sealing faces for superior abrasive resistance, stainless steel metal parts, Buna-N elastomers.

**Shaft:** Corrosion-resistant, 300 series stainless steel. Threaded design. Locknut on all models to guard against component damage on accidental reverse rotation.

**Fasteners:** 300 series stainless steel.

Capable of running dry without damage to components.

Designed for continuous operation when fully submerged.

EXTENDED WARRANTY AVAILABLE FOR RESIDENTIAL APPLICATIONS.

### AGENCY LISTINGS

Tested to UL 778 and CSA 22.2 108 Standards By Canadian Standards Association File #LR3549

### APPLICATIONS

Specifically designed for the following uses:

- Homes
- Sewage systems
- Dewatering/effluent
- Light industrial
- Commercial applications

Anywhere waste or drainage must be disposed of quickly, quietly and efficiently.

### SPECIFICATIONS

#### Pump

- Solids handling capabilities: 2" maximum
- Capacities: up to 185 GPM
- Total heads: up to 38 feet TDH
- Discharge size: 2" NPT threaded companion flange as standard. 3" option available but must be ordered separately. (Order no. A1-3)
- Temperature: 104°F (40°C) continuous 140°F (60°C) intermittent.

#### MOTORS

- Fully submerged in high grade turbine oil for lubrication and efficient heat transfer. All ratings are within the working limits of the motor.
- Class B insulation

### Single phase (60 Hz):

- Capacitor start motors for maximum starting torque.
- Built-in overload with automatic reset.
- SJTOW or STOW severe duty oil and water resistant power cords.
- ½ - 1 HP models have NEMA three prong ground-ing plugs.

### Three phase (60 Hz):

- Class 10 overload protection must be provided in separately ordered starter unit.
- STOW power cords all have bare lead cord ends.
- Bearings: Upper and lower heavy duty ball bearing construction.
- Designed for Continuous Operation: Pump ratings are within the motor manufacturer's recommended working limits, can be operated continuously without damage when fully submerged.
- Power Cable: Severe duty rated, oil and water resistant. Epoxy seal on motor end provides secondary moisture barrier in case of outer jacket damage and to prevent oil wicking. Standard cord is 20'. Optional lengths are available.
- Motor Cover O-ring: Assures positive sealing against contaminants and oil leakage.

PAGE 2

Wastewater

## Goolds Water Technology

### MOTOR AND MODEL INFORMATION

Order Number	HP	Phase	Volts	RPM	Impeller Diameter (in.)	Maximum Amps	Locked Rotor Amps	KVA Code	Full Load Efficiency	Resistance Start	Resistance Line-Line	Weight (lbs.)
WS0311BF	0.33	1	115	1750	4.69	10.7	30.0	M	54	11.9	1.7	63
WS0318BF			208			6.8	19.5	K	51	9.1	4.2	
WS0312BF	0.5	3	230	1750	5.00	4.9	14.1	L	53	14.5	8.0	65
WS0511BF			115			14.5	31.1	J	55	9.3	1.4	
WS0518BF	0.75	3	208	1750	5.38	8.0	19.5	K	51	9.1	4.2	85
WS0512BF			230			7.3	16.5	J	54	11.7	5.6	
WS0538BF	1	3	200	1750	5.75	3.8	12.3	K	75	-	6.7	85
WS0532BF			230			3.3	9.7	K	75	-	9.9	
WS0534BF	0.75	3	460	1750	5.38	1.7	4.9	K	75	-	39.4	85
WS0537BF			575			1.4	4.3	K	68	-	47.8	
WS0718BF	1	3	208	1750	5.75	11.0	39.0	K	65	2.6	1.4	85
WS0712BF			230			9.4	24.8	J	57	4.8	2.3	
WS0738BF	0.75	3	200	1750	5.38	4.1	21.2	H	74	-	4.3	85
WS0732BF			230			3.6	17.3	J	76	-	5.6	
WS0734BF	1	3	460	1750	5.75	1.8	8.9	J	76	-	22.4	85
WS0737BF			575			1.5	7.3	J	71	-	29.2	
WS1018BF	1	3	208	1750	5.75	14.0	39.0	K	65	2.6	1.4	85
WS1012BF			230			12.3	30.5	H	60	4.3	1.8	
WS1038BF	0.75	3	200	1750	5.38	6.0	21.2	H	74	-	4.3	85
WS1032BF			230			5.8	17.3	J	76	-	5.6	
WS1034BF	1	3	460	1750	5.75	2.9	8.9	J	76	-	22.4	85
WS1037BF			575			2.4	7.3	J	71	-	29.2	

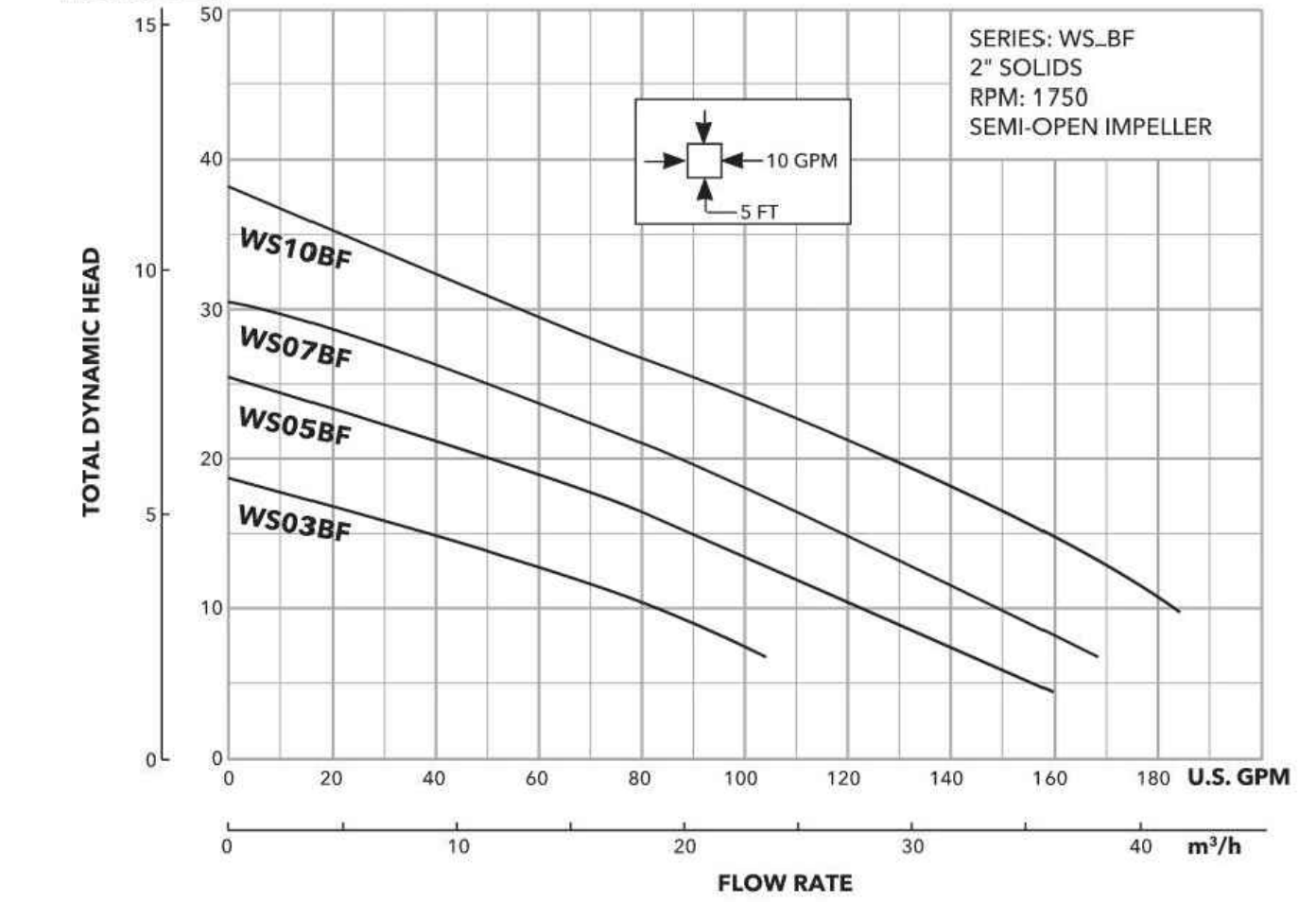
NOTE: CONTRACTOR SHALL INSTALL (2) - WS1012BF PUMPS

PAGE 3

Wastewater

## Goolds Water Technology

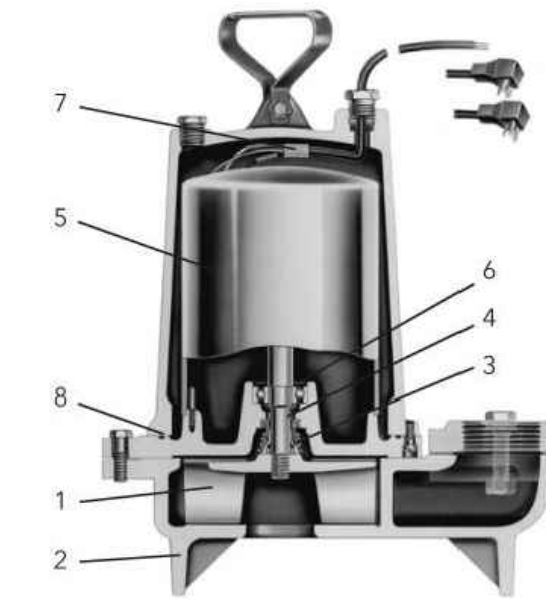
### METERS FEET



### COMPONENTS

Item No.	Description
1	Impeller
2	Casing
3	Mechanical Seal
4	Motor Shaft
5	Motor
6	Ball Bearings
7	Power Cable
8	Casing O-Ring

\* For available repair parts, see repair parts book.



PAGE 4

Wastewater

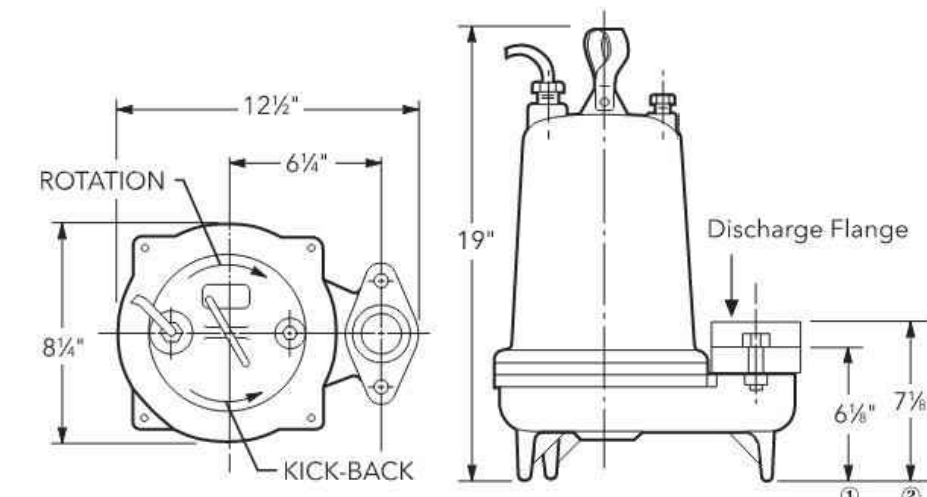
## Goolds Water Technology

### PERFORMANCE RATINGS (gallons per minute)

Order No.	WS03BF	WS05BF	WS07BF	WS10BF
RPM	1750	1750	1750	1750
10	80	122	145	183
15	36	90	116	152
20	-	50	86	123
25	-	-	48	95
30	-	-	-	58
35	-	-	-	20

### DIMENSIONS

(All dimensions are in inches. Do not use for construction purposes.)



### Discharge Flange:

- 2" NPT standard
- 3" NPT optional (order an A1-3)

PAGE 5

Wastewater

## Goolds Water Technology

### STANDARD PANEL OPTIONS

Pump Order Number	K Series		Boulay Series	
	Simplex	Duplex	Simplex	Duplex
WS0311BF	KS19020WF	KD19020WF	S10020	D10020
WS0318BF	KS19020WF	KD19020WF	S10020	D10020
WS0312BF	KS19020WF	KD19020WF	S10020	D10020
WS0511BF	KS19020WF	KD19020WF	S10020	D10020
WS0518BF	KS19020WF	KD19020WF	S10020	D10020
WS0512BF	KS19020WF	KD19020WF	S10020	D10020
WS0538BF	KS31255WF	KD31255WF	S32540	D32540
WS0532BF	KS31255WF	KD31255WF	S32540	D32540
WS0534BF	KS31255WF	KD31255WF	S31615	D31615
WS0537BF	N/A	N/A	S31615	D31615
WS0718BF	KS19020WF	KD19020WF	S10020	D10020
WS0712BF	KS19020WF	KD19020WF	S10020	D10020
WS0738BF	KS31255WF	KD31255WF	S34063	D34063
WS0732BF	KS31255WF	KD31255WF	S32540	D32540
WS0734BF	KS31255WF	KD31255WF	S31625	D31625
WS0737BF	N/A	N/A	S31625	D31625
WS1018BF	KS19020WF	KD19020WF	S10020	D10020
WS1012BF	KS19020WF	KD19020WF	S10020	D10020
WS1038BF	KS34518WF	KD34518WF	S34063	D34063
WS1032BF	KS34518WF	KD34518WF	S34063	D34063
WS1034BF	KS31255WF	KD31255WF	S32540	D32540
WS1037BF	N/A	N/A	S32540	D32540

NOTE: Boulay Series part numbers have additional available features, see page 7 for more information.  
NOTE: K Series panel part numbers include floats to order without float switches, remove the "WF" suffix. Boulay Series panels do not include float switches.  
NOTE: CONTRACTOR SHALL INSTALL KD19020WF K-SERIES DUPLEX PANEL

PAGE 6

Wastewater

## Goolds Water Technology



### K-SERIES

- NEMA 4X dead front outdoor rated enclosure
- Red LED alarm beacon
- HOA selector switch
- Field wiring terminal block
- Single phase models handle 120, 208 and 230V service
- Three phase models handle 200, 230 and 460V service
- Requires separate control/alarm power feed
- See brochure "BCPKSPANELS" for additional information

### BOULAY SERIES

- NEMA 4X outdoor rated enclosure
- Red alarm beacon
- HOA selector switch
- Through door pump run light(s)
- Through door alarm test and horn silence button
- Single phase models handle 120, 208 and 230V service
- Three phase models handle 200, 230, 460 and 575V service
- Accepts single or dual power feed
- See brochure "BCP3 R11" for additional information on simplex models
- See brochure "BCP4 R14" for additional information on duplex models

PAGE 7

REVISIONS:  
DATE: DESCRIPTION:

N. BAYSHORE DRIVE  
DRAINAGE IMPROVEMENTS  
CONSTRUCTION DETAILS

SEAL:



JUNE 3, 2026

CIVIL ENGINEER



CEI CONTRACT NO.: 215015.000A



DESIGNED BY:  
CENTURY ENGINEERING

DRAWN BY:  
CENTURY ENGINEERING

CHECKED BY:  
BAM

DATE:  
JUNE 2026

SCALE:  
N.T.S

SHEET NO.:  
C106

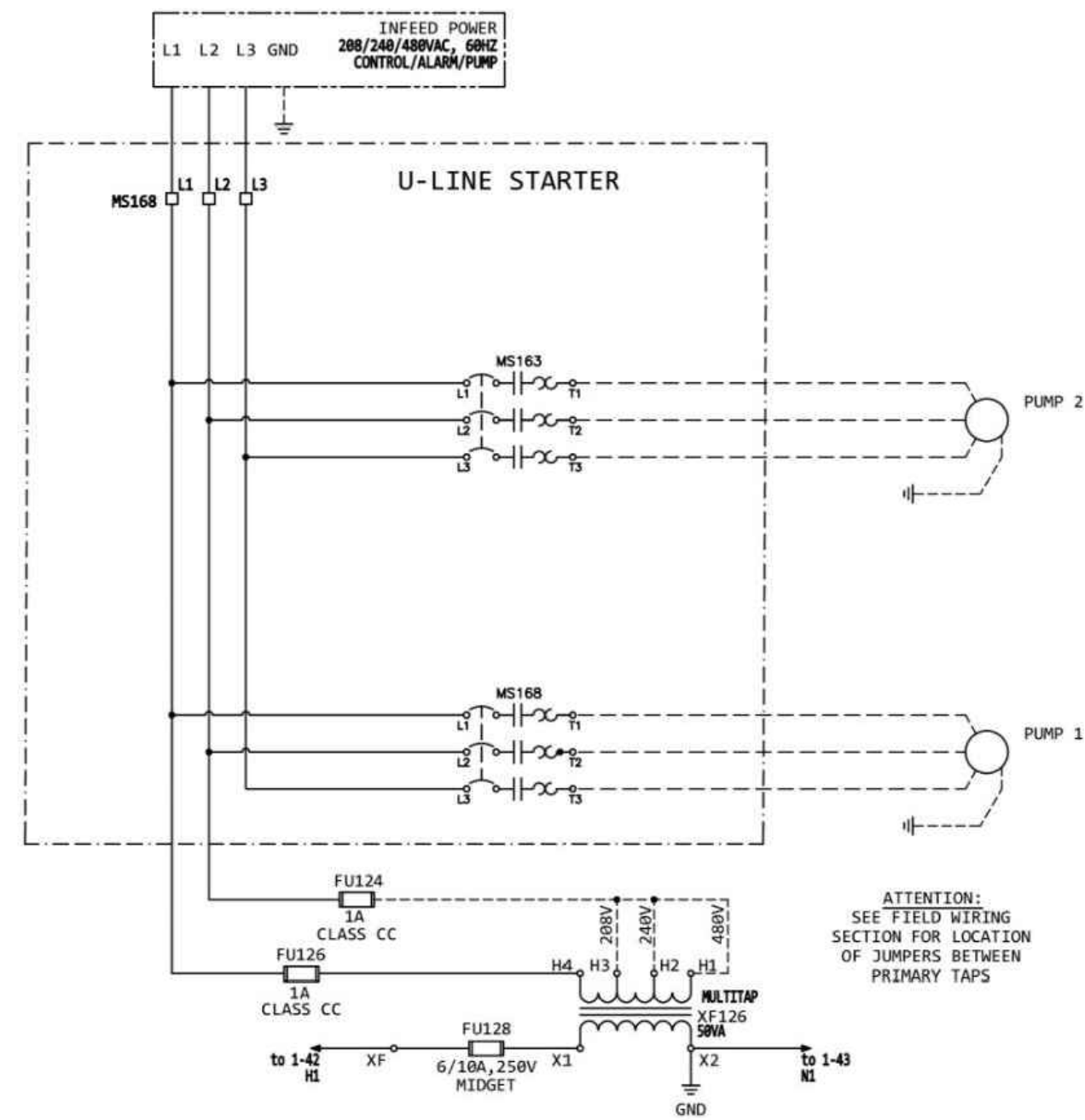
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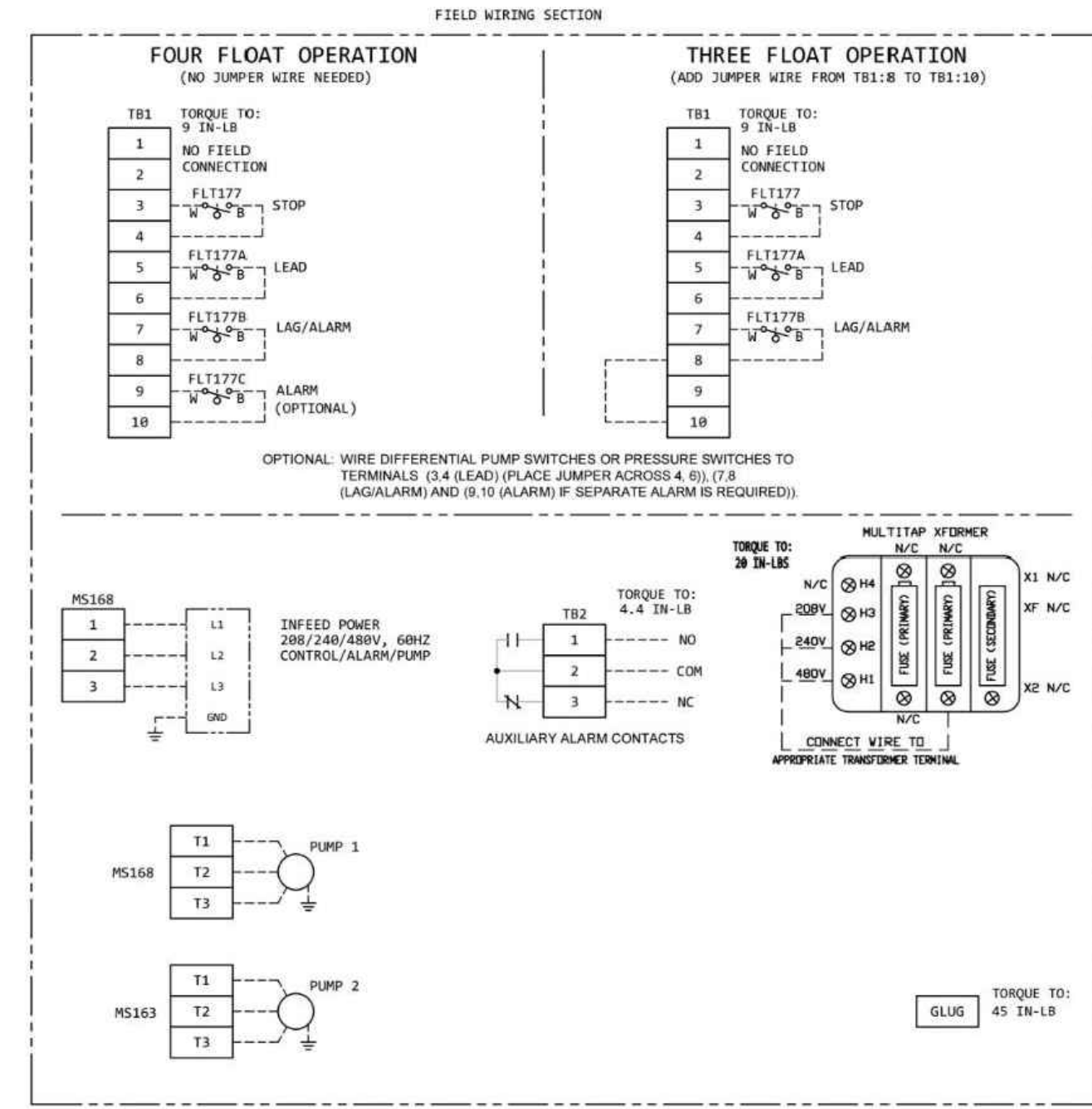


**DUPLEX THREE PHASE PANEL**  
 KD31255WF (1.25 - 5 AMPS) • KD34518WF (4.5 - 18 AMPS) • KD38032WF (8 - 32 AMPS)

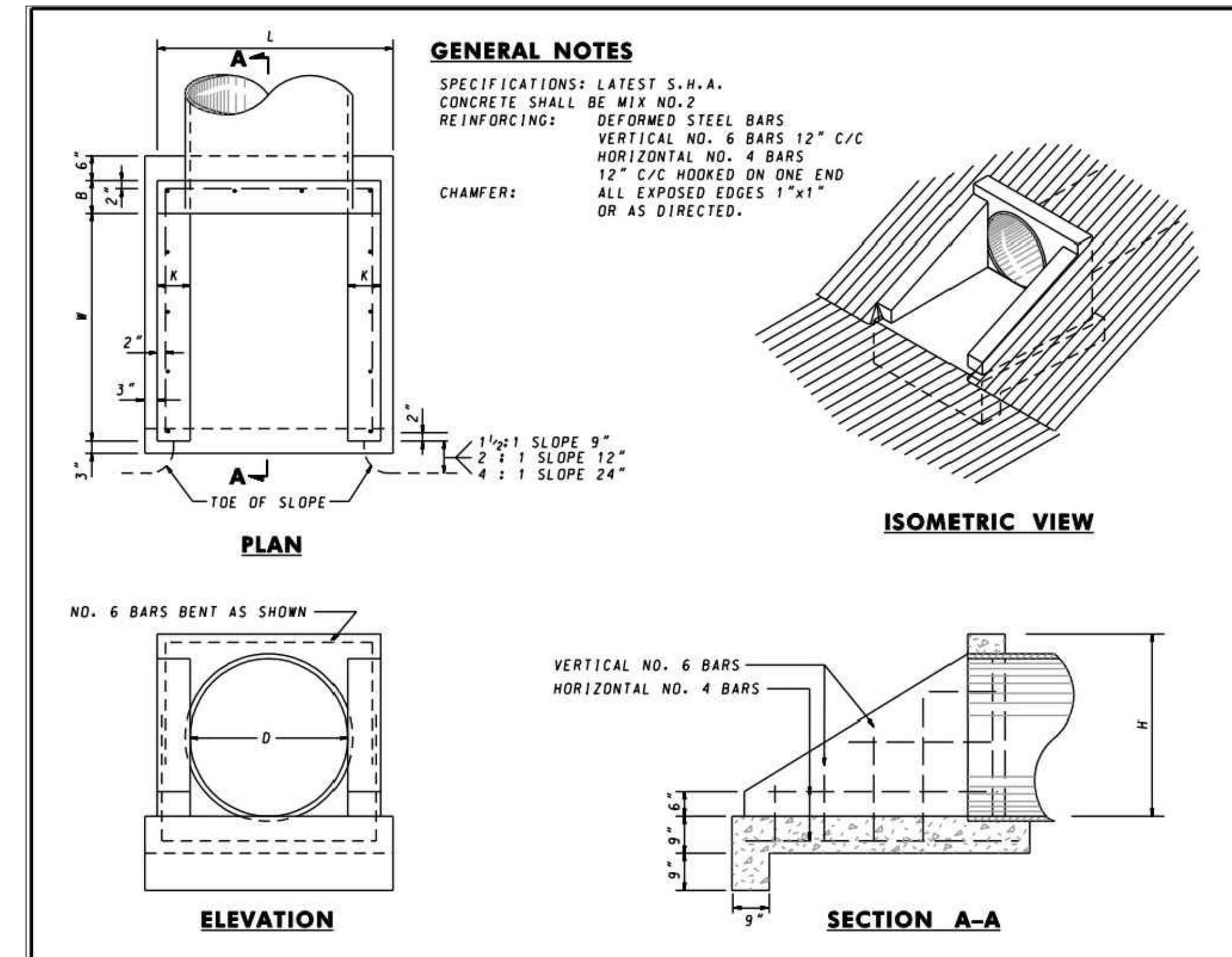


ATTENTION:  
SEE FIELD WIRING  
SECTION FOR LOCATION  
OF JUMPERS BETWEEN  
PRIMARY TAPS

**DUPLEX THREE PHASE PANEL**  
 KD31255WF (1.25 - 5 AMPS) • KD34518WF (4.5 - 18 AMPS) • KD38032WF (8 - 32 AMPS)



- NOTES:
1. FIELD WIRING IS SHOWN
  2. TEMPERATURE RATING OF FIELD INSTALLED CONDUCTORS MUST BE AT LEAST 140° F. (60° C.).
  3. FIELD WIRING WILL ACCEPT COPPER CONDUCTORS ONLY.
  4. CONNECT GROUND LNK IN PANEL TO A SECURE EARTH GROUND.
  5. INSTALL IN ACCORDANCE WITH ARTICLE 409 OF THE NATIONAL ELECTRIC CODE.
  6. MAIN DISCONNECT AND OVERCURRENT PROTECTION OF INCOMING FEEDER CIRCUIT PROVIDED BY OTHERS AND MUST BE SIZED ACCORDING TO PUMP/MOTOR MANUFACTURING SPECIFICATIONS.



**GENERAL NOTES**

- SPECIFICATIONS: LATEST S.H.A.  
 CONCRETE SHALL BE MIX NO.2  
 REINFORCING: DEFORMED STEEL BARS  
 VERTICAL NO. 6 BARS 12" C/C  
 HORIZONTAL NO. 4 BARS  
 12" C/C HOOKED ON ONE END  
 ALL EXPOSED EDGES 1"x1"  
 OR AS DIRECTED.
- CHAMFER:

1/2:1 SLOPE 9"  
 2:1 SLOPE 12"  
 4:1 SLOPE 24"

STRUCTURE ID	PIPE DIA. D	DIMENSIONS					TIDEFLEX CHECK VALVE SIZE
		L	B	H	W	K	
EW-1	12"	2' - 0"	9"	2' - 0"	1' - 5"	6"	12"
EW-2	18"	2' - 6"	9"	2' - 3"	1' - 10"	6"	18"

EW-1 & EW-2 ENDWALL DETAIL  
 NOT TO SCALE

REVISIONS:  
 DATE: \_\_\_\_\_ DESCRIPTION: \_\_\_\_\_  
 BY: \_\_\_\_\_

N. BAYSHORE DRIVE  
 DRAINAGE IMPROVEMENTS  
 CONSTRUCTION DETAILS



JUNE 3, 2026



CEI CONTRACT NO.: 215015.000A



DESIGNED BY:  
 CENTURY ENGINEERING

DRAWN BY:  
 CENTURY ENGINEERING

CHECKED BY:  
 BAM

DATE:  
 JUNE 2026

SCALE:  
 N.T.S

SHEET NO.:  
 C109

CONTRACT NO.:

IMPACT ID (C101)	IMPACT ID (C111)	STATE JURISDICTION	IMPACT TYPE	ACTIVITY	IMPACT AREA LENGTH (FT)	IMPACT AREA WIDTH (FT)	IMPACT AREA DEPTH (FT)	IMPACT VOL (CU FT)	IMPACT AREA (SQ FT)	LOSS AREA (SQ FT)
EW1	1	WETLANDS	PERMANENT	STRUCTURE - ENDWALL OUTFALL	2.25	1.42	2.00	6.39	3.20	3.20
EW1	2	WETLANDS	TEMPORARY	PIPE INSTALLATION - TIMBER MATTING	13.45	12.03	-	-	161.80	-
P117	3	WETLANDS	PERMANENT	STRUCTURE - PIPE	5.00	1.00	1.00	5.00	5.00	5.00
P117	4	SUBAQUEOUS	PERMANENT	STRUCTURE - PIPE	34.00	1.00	1.00	34.00	34.00	-
P115/MH100/P116/MH101/P117	5	WETLANDS	TEMPORARY	PIPE INSTALLATION - TIMBER MATTING	229.15	41.81	-	-	9580.76	-
P117	6	WETLANDS	PERMANENT	STRUCTURE - PIPE	4.00	1.00	1.00	4.00	4.00	4.00
MH101	7	WETLANDS	PERMANENT	MANHOLE	5.50	5.50	2.27	68.67	30.25	30.25
P116	8	WETLANDS	PERMANENT	STRUCTURE - PIPE	201.00	1.00	1.00	201.00	201.00	201.00
MH100	9	WETLANDS	PERMANENT	MANHOLE	2.50	4.00	8.31	83.10	10.00	10.00
P115	10	WETLANDS	PERMANENT	STRUCTURE - PIPE	210.75	1.00	1.00	210.75	210.75	210.75
P115	11	SUBAQUEOUS	PERMANENT	STRUCTURE - PIPE	67.00	1.00	1.00	67.00	67.00	-
P115/P114	12	SUBAQUEOUS	TEMPORARY	GRADING/SLOPING*	23.90	1.00	1.23	29.40	23.90	-
P114	13	SUBAQUEOUS	PERMANENT	STRUCTURE - PIPE	46.00	1.00	1.00	46.00	46.00	-
P114/P113	14	SUBAQUEOUS	TEMPORARY	GRADING/SLOPING*	10.34	1.00	1.27	13.13	10.34	-
P113	15	SUBAQUEOUS	PERMANENT	STRUCTURE - PIPE	24.00	1.00	1.00	24.00	24.00	-
P113/P112	16	SUBAQUEOUS	TEMPORARY	GRADING/SLOPING*	9.72	1.00	2.46	23.91	9.72	-
P112	17	SUBAQUEOUS	PERMANENT	STRUCTURE - PIPE	38.00	1.00	1.00	38.00	38.00	-
P112/P111	18	SUBAQUEOUS	TEMPORARY	GRADING/SLOPING*	26.51	1.00	1.57	41.62	26.51	-
P111	19	SUBAQUEOUS	PERMANENT	STRUCTURE - PIPE	35.00	1.00	1.00	35.00	35.00	-
P111/P107	20	SUBAQUEOUS	TEMPORARY	GRADING/SLOPING*	74.87	1.00	1.75	131.02	74.87	-
P107	21	SUBAQUEOUS	PERMANENT	STRUCTURE - PIPE	23.00	1.00	1.00	23.00	23.00	-
P107/P106	22	SUBAQUEOUS	TEMPORARY	GRADING/SLOPING*	14.65	1.00	1.26	18.46	14.65	-
P106	23	SUBAQUEOUS	PERMANENT	STRUCTURE - PIPE	47.00	1.00	1.00	47.00	47.00	-
P106/P105	24	SUBAQUEOUS	TEMPORARY	GRADING/SLOPING*	12.32	1.00	1.81	22.30	12.32	-
P105	25	SUBAQUEOUS	PERMANENT	STRUCTURE - PIPE	39.00	1.00	1.00	39.00	39.00	-
P105/P104/P103	26	SUBAQUEOUS	TEMPORARY	GRADING/SLOPING*	44.61	1.00	1.89	84.31	44.61	-
P103	27	SUBAQUEOUS	PERMANENT	STRUCTURE - PIPE	28.00	1.00	1.00	28.00	28.00	-
P103/P102	28	SUBAQUEOUS	TEMPORARY	GRADING/SLOPING*	38.93	1.00	1.64	63.85	38.93	-
P102	29	SUBAQUEOUS	PERMANENT	STRUCTURE - PIPE	40.00	1.00	1.00	40.00	40.00	-
P102/P101	30	SUBAQUEOUS	TEMPORARY	GRADING/SLOPING*	31.13	1.00	1.71	53.23	31.13	-
P101	31	SUBAQUEOUS	PERMANENT	STRUCTURE - PIPE	34.00	1.00	1.00	34.00	34.00	-
P101/P100	32	SUBAQUEOUS	TEMPORARY	GRADING/SLOPING*	36.69	1.00	1.63	59.80	36.69	-
P100	33	SUBAQUEOUS	PERMANENT	STRUCTURE - PIPE	49.00	1.00	1.00	49.00	49.00	-
P100	34	SUBAQUEOUS	TEMPORARY	GRADING/SLOPING*	87.79	1.00	1.67	146.61	87.79	-
P113	35	SUBAQUEOUS	PERMANENT	GRASS ACCESS	11.00	1.00	0.50	5.50	11.00	-
P113/P112	36	SUBAQUEOUS	PERMANENT	DRIVEWAY REMOVAL	11.78	1.00	0.50	5.89	11.78	-
P112	37	SUBAQUEOUS	PERMANENT	GRAVEL	26.47	1.00	0.50	13.24	26.47	-
P112/P111	38	SUBAQUEOUS	PERMANENT	DRIVEWAY REMOVAL	13.94	1.00	0.50	6.97	13.94	-
P111	39	SUBAQUEOUS	PERMANENT	GRAVEL	22.21	1.00	0.50	11.11	22.21	-
P111/P110	40	SUBAQUEOUS	PERMANENT	DRIVEWAY REMOVAL	31.44	1.00	0.50	15.72	31.44	-
P107	41	SUBAQUEOUS	PERMANENT	GRASS ACCESS	11.24	1.00	0.50	5.62	11.24	-
P101	42	SUBAQUEOUS	PERMANENT	GRASS ACCESS	22.06	1.00	0.50	11.03	22.06	-
P110	43	SUBAQUEOUS	PERMANENT	STRUCTURE - PIPE	17.00	1.00	1.00	17.00	17.00	-
P110	44	WETLANDS	PERMANENT	STRUCTURE - PIPE	8.00	1.00	1.00	8.00	8.00	8.00
P110/P109	45	WETLANDS	TEMPORARY	GRADING/SLOPING*	21.74	1.00	0.10	2.17	21.74	-
P109	46	WETLANDS	PERMANENT	STRUCTURE - PIPE	26.00	1.00	1.00	26.00	26.00	26.00
P109/P108	47	WETLANDS	TEMPORARY	GRADING/SLOPING*	15.70	1.00	0.55	8.64	15.70	-
P108	48	WETLANDS	PERMANENT	STRUCTURE - PIPE	27.00	1.00	1.00	27.00	27.00	27.00
P108	49	WETLANDS	TEMPORARY	GRADING/SLOPING*	38.84	1.00	0.10	3.88	38.84	-
P110/P109/P108	50	WETLANDS	TEMPORARY	PIPE INSTALLATION - TIMBER MATTING	144.55	18.66	-	-	2697.30	-
P104	51	SUBAQUEOUS	PERMANENT	STRUCTURE - PIPE	15.00	1.00	1.00	15.00	15.00	-
P104	52	WETLANDS	PERMANENT	STRUCTURE - PIPE	13.00	1.00	1.00	13.00	13.00	13.00
P104	53	WETLANDS	TEMPORARY	GRADING/SLOPING*	43.03	1.56	1.00	67.13	67.13	-
P104	54	WETLANDS	TEMPORARY	PIPE INSTALLATION - TIMBER MATTING	48.19	17.21	-	-	829.35	-
EW2	55	WETLANDS	PERMANENT	STRUCTURE - ENDWALL OUTFALL	2.50	1.83	2.23	10.20	4.58	4.58
EW2	56	WETLANDS	TEMPORARY	PIPE INSTALLATION - TIMBER MATTING	22.69	30.00	-	-	680.70	-
EW1	57	WETLANDS	PERMANENT	RIPRAP AT OUTFALL	4.00	4.00	1.17	18.72	16.00	16.0000
EW2	58	WETLANDS	PERMANENT	RIPRAP AT OUTFALL	4.00	4.00	1.17	18.72	16.00	16.0000
<b>TOTAL PERMANENT WETLANDS IMPACTS (SQ FT)</b>										<b>574.77</b>
<b>TOTAL PERMANENT SUBAQUEOUS IMPACTS (SQ FT)</b>										<b>686.14</b>
<b>TOTAL TEMPORARY WETLANDS IMPACTS (SQ FT)</b>										<b>13949.92</b>
<b>TOTAL TEMPORARY SUBAQUEOUS IMPACTS (SQ FT)</b>										<b>411.46</b>
<b>TOTAL WETLANDS LOSS (SQ FT)</b>										<b>574.77</b>

\*GRADING/SLOPING BETWEEN PIPES, 1' WIDTH WITH 2:1/3:1 SIDE SLOPE; ALL MATERIAL INCORPORATED INTO SIDE SLOPES (SEE SHEET C104)

REVISIONS:	BY:	
DATE:	DESCRIPTION:	

**N. BAYSHORE DRIVE  
DRAINAGE IMPROVEMENTS  
ENVIRONMENTAL COMPLIANCE IMPACT TABLE**



CIVIL ENGINEER:



CEI CONTRACT NO.: 215015.000A



DESIGNED BY:  
CENTURY ENGINEERING

DRAWN BY:  
CENTURY ENGINEERING

CHECKED BY:  
BAM

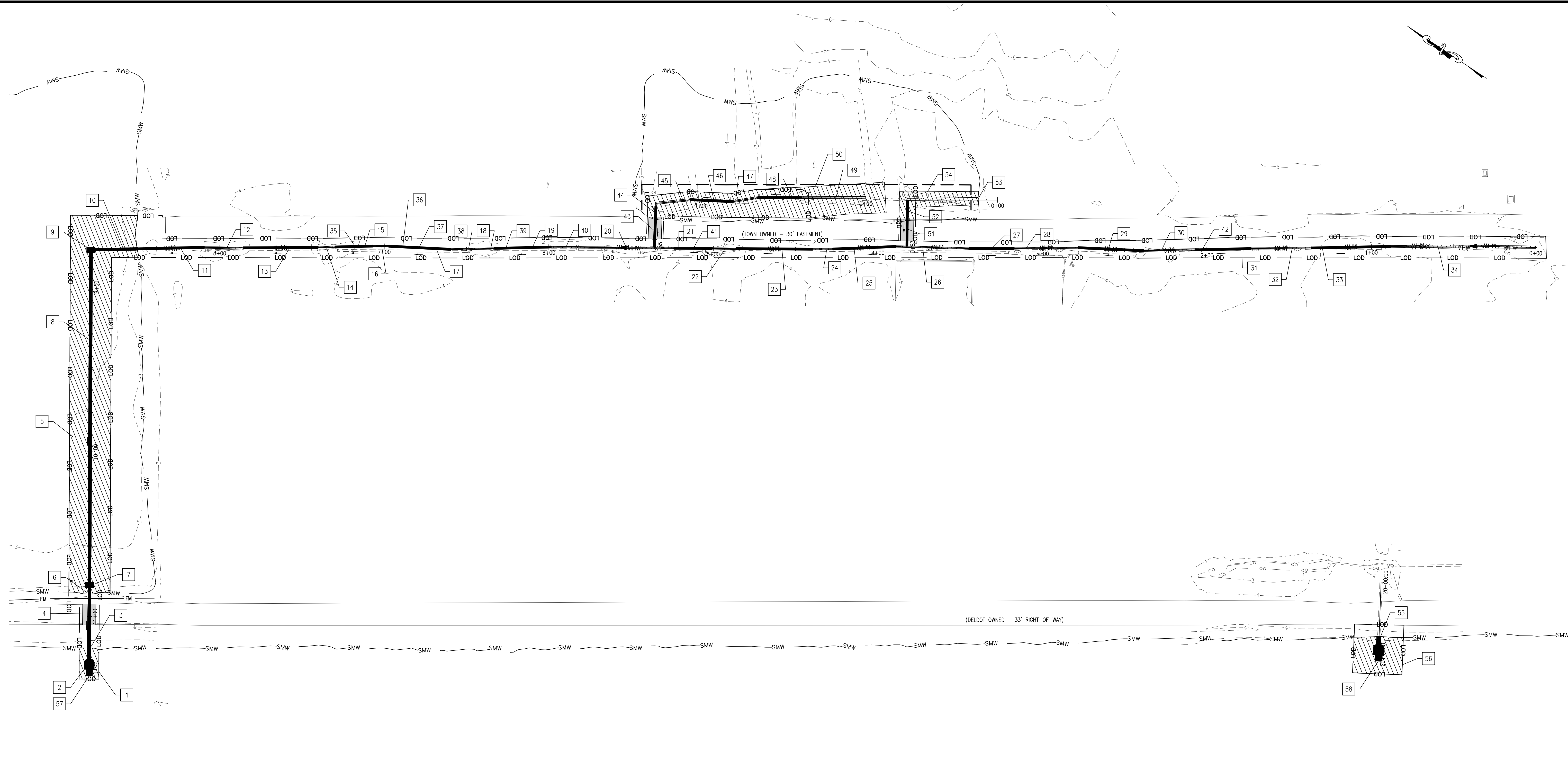
DATE:  
JUNE 2026

SCALE:  
N.T.S

SHEET NO.:  
C110

CONTRACT NO.:  
-

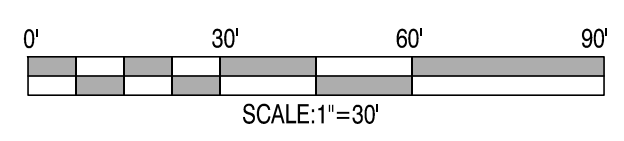
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**GENERAL NOTES:**  
 1. TIME OF YEAR RESTRICTION FROM APRIL 1ST TO JULY 31ST FOR FEDERALLY AND STATE-LISTED SPECIES

**LEGEND:**

- LIMIT OF DISTURBANCE      — LOD — LOD —
- EXISTING SUBAQUEOUS, MEAN HIGH WATER (INSIGNIFICANT TIDAL INFLUENCE)      — MHW — MHW —
- EXISTING STATE MAPPED WETLAND (INSIGNIFICANT TIDAL INFLUENCE, MHW = MLW)      — SMW —
- PERMANENT IMPACTS      [Solid black box]
- TEMPORARY IMPACTS      [Hatched box]



**REVISIONS:**

DATE:	DESCRIPTION:	BY:

**N. BAYSHORE DRIVE  
 DRAINAGE IMPROVEMENTS  
 ENVIRONMENTAL COMPLIANCE  
 FOR DNREC WSLs**



CIVIL ENGINEER:  
  
**CENTURY ENGINEERING**  
 A Kleinfelder Company

CEI CONTRACT NO.: 215015.000A



DESIGNED BY:  
 CENTURY ENGINEERING

DRAWN BY:  
 CENTURY ENGINEERING

CHECKED BY:  
 BAM

DATE:  
 JUNE 2026

SCALE:  
 1"=30'

SHEET NO.:  
**C111**

CONTRACT NO.:  
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