

PARCEL INFORMATION TABLE

LOT	TAX PARCEL No.	OWNER	DEED	MUNICIPALITY	ZONE
A	7-20-09400-01-1000-00001	SAVANNAH FARMS, INC.	A22-153	WYOMING	R1
B	7-02-09304-01-0100-00001	SAVANNAH FARMS, INC.	D23-134	CAMDEN	R3
C	7-02-09304-01-0200-00001	SAVANNAH FARMS II, LLC	D640-105	CAMDEN	R3
D	7-02-09400-01-3300-00001	SAVANNAH FARMS II, LLC	D640-112	CAMDEN	R3
E	7-02-09400-01-3400-00001	SAVANNAH FARMS II, LLC	D640-102	CAMDEN	R3
F	7-02-09400-01-3500-00001	SAVANNAH FARMS II, LLC	D640-107	CAMDEN	R3
G	7-02-09304-01-0300-00001	SAVANNAH FARMS II, LLC	D640-115	CAMDEN	R3
H	7-02-09400-01-2100-00001	SAVANNAH FARMS, INC.	W35-246	CAMDEN	R3

PUMP STATION AND FORCE MAIN PLANS FOR
FOR
SAVANNAH FARMS
TOWNS OF CAMDEN & WYOMING - KENT COUNTY, DELAWARE

GENERAL NOTES

- SANITARY SEWERS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MOST RECENT CAMDEN WYOMING WATER & SEWER AUTHORITY (CWSWA) STANDARD SPECIFICATIONS FOR CONSTRUCTION, SPECIAL PROVISIONS, SUPPLEMENTAL SPECIFICATIONS, STANDARD DETAILS, AND THE RECOMMENDED STANDARDS FOR WASTEWATER FACILITIES OR STRICTER STANDARDS IDENTIFIED BY THE ENGINEER.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN APPROVAL AND ACCEPTANCE OF THE SANITARY SEWER SYSTEM BY CWSWA UPON COMPLETION OF CONSTRUCTION. AS-BUILT PLANS, SIGNED AND SEALED BY A PROFESSIONAL LAND SURVEYOR OR PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF DELAWARE MUST BE SUBMITTED TO CWSWA BEFORE ACCEPTANCE.
- DURING CONSTRUCTION, THE CONTRACTOR MUST HAVE IN HIS POSSESSION ON SITE, A SET OF CONSTRUCTION PLANS BEARING CWSWA'S STAMP OF APPROVAL.
- THE CONTRACTOR SHALL NOT PLACE, PLANT, PUT OR SET ANY STRUCTURE WITHIN THE SANITARY SEWER EASEMENT.
- A CONSTRUCTION PERMIT ISSUED BY THE STATE OF DELAWARE, DEPARTMENT OF TRANSPORTATION (DELDOT) IS REQUIRED BEFORE ANY WORK IS PERFORMED WITHIN A DELDOT RIGHT-OF-WAY. ALL WORK PERFORMED WITHIN DELDOT'S RIGHT-OF-WAY OR PROPERTY OWNED BY THE STATE OF DELAWARE SHALL BE PERFORMED IN ACCORDANCE WITH THE MOST RECENT DELDOT STANDARD SPECIFICATIONS AND UTILITY MANUAL.
- ALL SANITARY SEWERS AND THE PUMP STATION ARE PUBLIC AND ARE TO BE PUBLICLY MAINTAINED BY CWSWA.
- CONSTRUCTION SHALL NOT DEVIATE FROM THE PLANS AND SPECIFICATIONS APPROVED BY CWSWA WITHOUT WRITTEN PERMISSION FROM CWSWA. MATERIAL AND EQUIPMENT SUBMITTALS ARE SUBJECT TO REVIEW BY CWSWA. CONTACT CWSWA AT 302-697-6372.
- EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN ACCORDANCE WITH THE DELAWARE SEDIMENT AND STORMWATER REGULATIONS, DELAWARE EROSION AND SEDIMENT CONTROL HANDBOOK AND KENT COUNTY DRAINAGE STANDARDS, AS AMENDED.
- CONSTRUCTION SUBMITTALS AND SUBSTITUTIONS MUST BE IN ACCORDANCE WITH CWSWA STANDARD SPECIFICATIONS FOR CONSTRUCTION.
- THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING A RECORD OF ALL SUBMITTALS APPROVED BY CWSWA AND UPON REQUEST MAKING THEM AVAILABLE IN PREPARING AN AS-BUILT PLAN SUBMISSION.
- CERTAIN COMPONENTS ASSOCIATED WITH THE PROPOSED SANITARY SEWER SYSTEM (I.E. CONCRETE ENCASEMENTS, BURIED FITTINGS, PIPE MATERIALS, ETC.) INCLUDING REQUIRED SEPARATION FROM OTHER UTILITIES, CANNOT BE VERIFIED OR AS-BUILT AFTER INSTALLATION IS COMPLETE. THEREFORE, AN AGENT OF THE OWNER/DEVELOPER MUST OBTAIN THAT INFORMATION DURING CONSTRUCTION, MAINTAIN A LOG OF THAT INFORMATION AND FURNISH THE SAME TO WHOMEVER WILL BE PREPARING THE AS-BUILT PLAN SUBMISSION.
- AS-BUILT DOCUMENTS SHALL NOT MERELY DOCUMENT THE DEFICIENCIES WITHIN THE SYSTEM. ALL DEFICIENCIES SHALL BE ADDRESSED PRIOR TO THE AS-BUILT BEING SUBMITTED.
- TYPICAL SEQUENCE OF CONSTRUCTION:
 - CONTACT CWSWA TO SCHEDULE AND CONDUCT A PRE-CONSTRUCTION MEETING PRIOR TO BEGINNING ANY EXCAVATION OR ACTIVITY INVOLVING SANITARY SEWER CONSTRUCTION AND/OR PUMP STATION CONSTRUCTION. CONTACT CWSWA (2 BUSINESS DAYS NOTICE AT 302-697-6372) PRIOR TO COMMENCEMENT OF ANY EXCAVATION OR ACTIVITY INVOLVING SANITARY SEWER CONSTRUCTION, PUMP STATION CONSTRUCTION OR LATERAL TIE-INS TO EXISTING LINES.
 - CONSTRUCT PROPOSED PUMP STATION AND FORCE MAIN AS APPROVED BY CWSWA.
 - BACKFILL AND RE-GRADE AS REQUIRED.
 - PERFORM HYDROSTATIC TEST ON THE FORCE MAINS IN THE PRESENCE OF A CWSWA INSPECTOR. THE HYDROSTATIC TEST PRESSURE SHALL BE 1.5 TIMES THE WORKING PRESSURE OF 100 PSI, WHICHEVER IS GREATER. THE TEST SHALL LAST FOR A MINIMUM OF 2 HOURS AND AT THE END OF THE TEST PERIOD, IF THE TEST PRESSURE HAS REMAINED CONSTANT, THE PIPELINE SHALL HAVE PASSED THE TEST. IF THE PIPE DOES NOT HOLD PRESSURE, THE LEAK SHALL BE LOCATED, PERMANENTLY REPAIRED AND THE TEST REPEATED.
 - PERFORM DRAW DOWN TEST ON THE PUMP STATION IN THE PRESENCE OF A CWSWA INSPECTOR TO VERIFY THE INSTALLATION MEETS DESIGNED OPERATING CONDITIONS.
 - THE ENTIRE LENGTH OF TRACER WIRE SHALL BE LOCATED USING TYPICAL LOW FREQUENCY LINE TRACING EQUIPMENT, WITNESSED BY THE NEW CASTLE COUNTY INSPECTOR. CONTINUITY TESTING IN LIEU OF ACTUAL LINE TRACING IS NOT ACCEPTABLE.
 - PRIOR TO CWSWA MAKING A FINAL INSPECTION, THE FOLLOWING ITEMS MUST BE COMPLETED:
 - ALL MANHOLES MUST BE BROUGHT TO GRADE AND HAVE CONCRETE COLLARS INSTALLED.
 - ALL MANHOLES AND VAULTS MUST BE CLEAN AND FLUSHED.
 - AS-BUILT DRAWINGS (SIGNED AND SEALED BY A REGISTERED LAND SURVEYOR OR PROFESSIONAL ENGINEER IN DELAWARE) WITH ONE (1) MYLAR AND TWO (2) SETS OF PRINTS MUST BE SUBMITTED TO CWSWA.
 - CERTIFICATES OF OCCUPANCY WILL NOT BE ISSUED UNTIL THE AS-BUILT DRAWINGS HAVE BEEN RECEIVED, REVIEWED, AND APPROVED AND THE SANITARY SEWER CONSTRUCTION (INCLUDING ALL APPURTENANCES HAS BEEN ACCEPTED BY CWSWA.

SUPPLEMENTAL NOTES

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACEMENT OF DAMAGED OR DESTROYED LANDSCAPING.
- SEPARATION FROM WATER MAINS TO BE PROVIDED PER THE TEN STATE STANDARDS.
HORIZONTAL = 10" MINIMUM
VERTICAL = 18" MINIMUM (CLEAR)
- ALL MANHOLES SHALL BE PRECAST, TYPE A-2 OR A-3, WITH A-LOK PIPE TO MANHOLE GASKET.
- FOR ACCEPTANCE OF SANITARY SEWER LINES INSTALLED ABOVE THE WATER TABLE, AN AIR TEST OF ALL LINES IS REQUIRED IN ACCORDANCE WITH SECTION 32.01-3 OF THE CWSWA STANDARD SPECIFICATIONS.
- MANHOLES IN PAVED AREAS SHALL BE EQUIPPED WITH A HEAVY TRAFFIC MANHOLE FRAME AND COVER.
- THE OWNER(S) OF THIS PROPERTY, VIA THE RECORD PLAN, HEREBY GRANT(S) AND CONVEY(S) TO CWSWA (A) SANITARY SEWER EASEMENT(S) THAT PERPETUALLY CONVEY(S) THE RIGHT AND PRIVILEGE TO LAY, MAINTAIN, REPAIR, OPERATE, RELAY AND REMOVE AT ANY TIME ITS PIPES AND APPURTENANCES, INCLUDING MANHOLES, LAUNCHES AND CLEANOUTS, FOR THE SANITARY SEWER SYSTEM HEREINAFTER MENTIONED, WITH THE RIGHT OF INGRESS AND EGRESS TO AND FROM THE SAME, ON, OVER AND THROUGH A STRIP OF LAND, DESIGNATED PUBLIC, DEPICTED ON THIS SANITARY SEWER CONSTRUCTION PLAN, THE GRANTOR(S) THE HEIRS, EXECUTORS, ADMINISTRATORS, GRANTEES AND ASSIGNS OF THIS PROPERTY, COVENANTS(S) AND AGREES(S) THAT HE/SHE/IT SHALL NOT PLANT, ERECT, OR CONSTRUCT ANY MANNER OF TREE, SHRUB, BUSH, FENCE, STRUCTURE OR OTHER MAN-MADE IMPROVEMENT, EXCLUDING PAVING, WITHIN THE PERPETUAL EASEMENT DEPICTED ON THIS PLAN.
- CWSWA HAS THE RIGHT OF ACCESS TO THE SITE FOR THE PURPOSES OF OPERATING, MAINTAINING AND REPAIRING THE SANITARY SEWER LINES CONTAINED WITHIN THE SEWER EASEMENTS SHOWN ON THIS PLAN.
- TOP OF MANHOLE ELEVATIONS ARE AT TOP OF MANHOLE FRAME AND COVER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ANY SEDIMENT AND EROSION CONTROL MEASURES NECESSARY TO CONSTRUCT THE SANITARY SEWER AS DIRECTED BY THE ENGINEER OR CWSWA.
- ANY SHEETING, SHORING, OR SIMILAR TRENCH BRACING THAT MAY BE NECESSARY FOR THE CONSTRUCTION OF THIS CONTRACT, SHALL BE INCIDENTAL TO THE COST OF THE LINEAR FOOTAGE OF SANITARY SEWER.
- IF, IN THE OPINION OF THE ENGINEER OR INSPECTOR, IT BECOMES NECESSARY TO REMOVE ANY UNACCEPTABLE FOUNDATION MATERIAL IN ORDER TO PLACE STONE BEDDING FOR PIPES OR MANHOLES, THE COST OF THAT UNCLASSIFIED EXCAVATION SHALL BE INCIDENTAL TO THE COST OF THE CUBIC YARDAGE OF STONE BEDDING.
- THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. ALL CONSTRUCTION SHALL BE DONE IN COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 AND ALL RULES AND REGULATIONS THERETO APPURTENANT.
- THE BIDDER IS REQUIRED TO EXAMINE CAREFULLY THE SITE OF THE WORK, THE PROPOSAL, PLANS, SPECIFICATIONS AND OTHER CONTRACT DOCUMENTS FOR THE WORK CONTEMPLATED AND IT WILL BE ASSUMED THAT HE HAD FAMILIARIZED AND SATISFIED HIMSELF TO THE CHARACTER, QUALITY AND QUANTITIES OF WORK TO BE PERFORMED AND MATERIALS TO BE FURNISHED, AND AS TO THE REQUIREMENTS OF THESE SPECIFICATIONS, PLANS AND OTHER CONTRACT DOCUMENTS, AND HE MUST BE PREPARED TO EXECUTE A FINISHED JOB IN EVERY PARTICULAR WITHOUT ANY EXTRA CHARGE WHATSOEVER, EXCEPT AS MAY BE SPECIFICALLY PROVIDED FOR ELSEWHERE IN THESE CONTRACT DOCUMENTS.
- ALL EXCAVATION SHALL BE UNCLASSIFIED.
- ALL DISTURBED AREAS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION OR BETTER AND THE COST SHALL BE INCIDENTAL TO THE COST PER LINEAR FEET FOR OF THE SANITARY SEWER.
- EXISTING UTILITIES INFORMATION IS SHOWN IN ACCORDANCE WITH AVAILABLE INFORMATION AND IS DEEMED TO REPRESENT QUALITY LEVEL C INFORMATION IN ACCORDANCE WITH A.S.C.E. STANDARD 38-02. COMPLETENESS OR CORRECTNESS THEREOF IS NOT GUARANTEED. IT SHALL BE THE CONTRACTOR'S 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 THE CONTRACTOR'S NEGLIGENCE SHALL BE IMMEDIATELY AND COMPLETELY REPAIRED AT CONTRACTOR'S EXPENSE. TO LOCATE EXISTING UTILITIES IN THE FIELD PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL CONTACT MISS UTILITY OF DELMARVA (TELEPHONE 800-282-8555).

FORCEMAIN DETAIL TABLE

STREET NAME	6" C900 PVC FM (LF)	8" C900 PVC FM (LF)	4" SDR-11 HDPE FM (LF)	4" C900 PVC FM (LF)	NUMBER OF CLEANOUTS	NUMBER OF TRACER STATIONS	NUMBER OF ARV	SOIL MARKERS
MARIENE ROE BOULEVARD	2,702	-	-	-	10	1	-	-
WALDBURG LANE	1,079	-	-	-	2	1	-	-
BAIRD LANE/CROSSBROOK PLACE	437	-	-	-	5	-	-	-
OFF-STREET	331	577	-	-	2	1	-	-
TOTAL	4,112	1,014	0	0	19	3	-	1

NOTE: THE DATA LISTED IN THE DETAIL TABLE PROVIDES THE QUANTITIES FOR THE FORCE MAIN LOCATED ON-SITE UP TO THE CONNECTION POINT AT THE RAILROAD CROSSING WITH THE OFFSITE FORCE MAIN ALIGNED ALONG WILLOW GROVE ROAD AND THE WEST CAMDEN BYPASS. REFER TO THE PLANS FOR SAVANNAH FARMS PLANS FOR THE 1,136 LF OF FORCE MAIN AND APPURTENANCES RUNNING FROM THE RAILROAD CROSSING TO THE CONNECTION POINT WITHIN VOSHILL MILL ROAD.



MISS UTILITY DELAWARE CALL 811
PROTECT YOURSELF, GIVE THREE
WORKING DAYS NOTICE

INDEX OF SHEETS

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SHEETS 7-9	PUMP STATION A FORCE MAIN PLAN AND PROFILE
SHEET 10	PUMP STATION B - SITE PLAN AND DETAILS
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SHEET 17	PUMP STATION C - SITE PLAN AND DETAILS
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SHEET 19-21	PUMP STATION C ELECTRICAL DETAILS
SHEET 22	PUMP STATION C FORCE MAIN PLAN AND PROFILE

PLAN PURPOSE NOTE

THE PURPOSE OF THE PROPOSED IMPROVEMENTS SHOWN ON THESE PLANS IS TO PROVIDE SANITARY SEWER PUMP STATION AND FORCE MAIN TO PROVIDE SANITARY SEWER SERVICE FOR THE DEVELOPMENT OF THE SAVANNAH FARMS SUBDIVISION, 277 TOWNHOUSE UNITS, 88 DUPLEX UNITS, 312 MULTI-FAMILY UNITS, AND 211 SINGLE FAMILY UNITS WITHIN TOWN OF CAMDEN AND 228 SINGLE FAMILY UNITS WITHIN TOWN OF WYOMING FOR SAVANNAH FARMS.

REVISIONS		
NO.	DATE	DESCRIPTION
3	4-9-2026	3 STATION PLANS
2	10-1-2025	PER FLYGT COMMENTS
1	9-5-2025	PER CWSWA/KCDWP COMMENTS

PREPARED FOR:
D. R. HORTON DELAWARE
DIVISION
671 S. CARTER ROAD
SUITE 6
SMYRNA, DE 19777
(302) 514-0550



ATWELL
866.850.4200 www.atwell.com
17 POLLY DRUMMOND CENTER, SUITE 201
NEWARK, DE 19711
302.369.2900
KARNS AND ASSOCIATES IS NOW OPERATING AS ATWELL, LLC

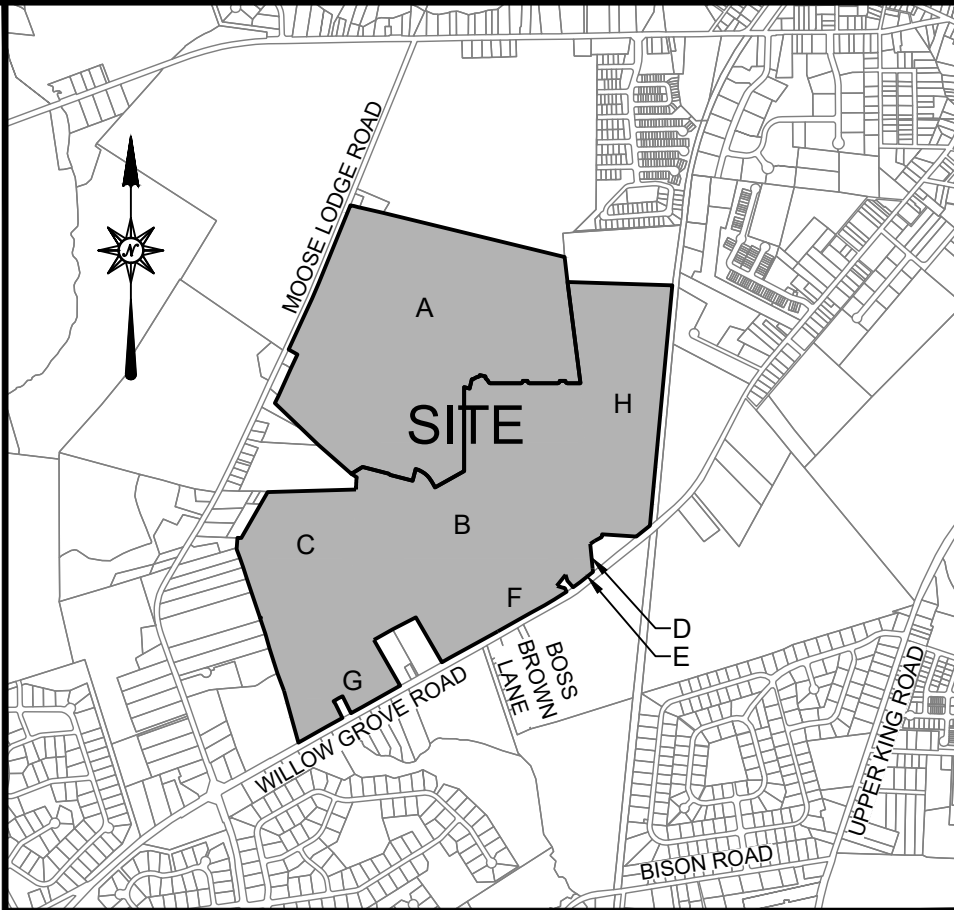
DRAWN BY **MO** DATE **04/02/2025**
CHECKED BY **MJK** SCALE **1" = 400'**



Michael J. Kaszyski, Jr., P.E.
PROFESSIONAL ENGINEER
04-10-2026

CAMDEN-WYOMING SEWER & WATER AUTHORITY

DRAWING NO. **PS01 - PS01** SHEET NO. **1 OF 22**



SITE DATA

- SITE AREA BREAKDOWN:**

GROSS SITE AREA:	361.1109 AC.
AREA SITUATE IN THE TOWN OF WYOMING	136.0084 AC.
AREA SITUATE IN THE TOWN OF CAMDEN	225.1025 AC.
R.O.W. DEDICATED TO WILLOW GROVE ROAD	0.3198 AC.
NET ACREAGE FOR DEVELOPMENT (CAMDEN):	224.5731 AC.
- SURVEY DATUM:**

NAVDS8 - (VERTICAL)
DELAWARE STATE PLANE (NAD83 2011) - (HORIZONTAL)
LOCAL BENCHMARK: BENCHMARK 1 (BM-1)
SET CAPPED REBAR
N: 404211.6132
E: 610706.0149
ELEVATION = 50.61'

NUMBER OF EXISTING MONUMENTS: 53
NUMBER OF PROPOSED MONUMENTS: N/A
- EXISTING LOTS AND/OR DWELLING UNITS:**

PROPOSED LOTS AND/OR DWELLING UNITS: 888 (CAMDEN)
- SUBDIVISION / SITE DATA (CAMDEN)**

NET SITE AREA FOR DEVELOPMENT =	224.5731 AC.
PROPOSED OPEN/GREEN SPACE =	103.92 AC. (46.3%)
TOWNHOUSE	
AREA DEDICATED FOR DEVELOPMENT =	50.57 AC.
PROPOSED NUMBER OF LOTS =	277 LOTS
DUPLEX	
AREA DEDICATED FOR DEVELOPMENT =	21.39 AC.
PROPOSED NUMBER OF LOTS =	88 LOTS
SINGLE FAMILY =	
AREA DEDICATED FOR DEVELOPMENT =	113 AC.
PROPOSED NUMBER OF LOTS =	211 LOTS
MULTI-FAMILY	
AREA DEDICATED FOR DEVELOPMENT =	39.50 AC.
PROPOSED NUMBER OF DWELLING UNITS =	312 UNITS
CWSWA PUMP STATION PARCEL =	0.05 AC.

SUBDIVISION / SITE DATA (WYOMING)

EXISTING ZONING:	R-1
PROPOSED ZONING:	R-1
NET SITE AREA FOR DEVELOPMENT =	134.41 AC.
PROPOSED NUMBER OF LOTS =	226 LOTS

CWSWA PUMP STATION PARCEL = 0.15 AC.

CERTIFICATION OF PLAN ACCURACY

I, MICHAEL J. KASZYSKI, JR., P.E., HEREBY CERTIFY THAT I AM A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF DELAWARE AND THAT TO THE BEST OF MY KNOWLEDGE, THE INFORMATION ON THIS PLAN IS TRUE AND CORRECT TO THE ACCURACY REQUIRED BY ACCEPTED ENGINEERING STANDARDS AND PRACTICES AS REQUIRED BY THE APPLICABLE LAWS OF THE STATE OF DELAWARE.

Michael J. Kaszyski, Jr., P.E.
04-10-2026

MICHAEL J. KASZYSKI, JR., P.E.
LICENSE NO. 15284

CERTIFICATION OF PLAN APPROVAL

CAMDEN WYOMING SEWER AND WATER AUTHORITY
ENGINEER

CAMDEN WYOMING SEWER AND WATER AUTHORITY
SUPERINTENDENT

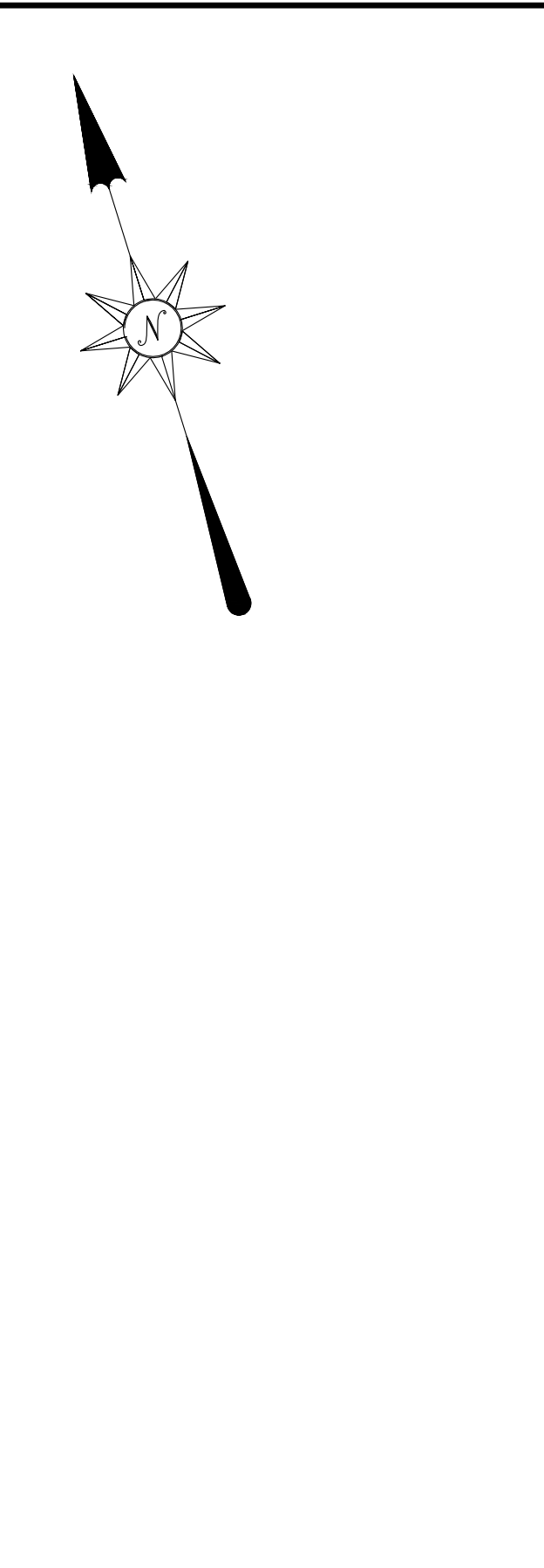
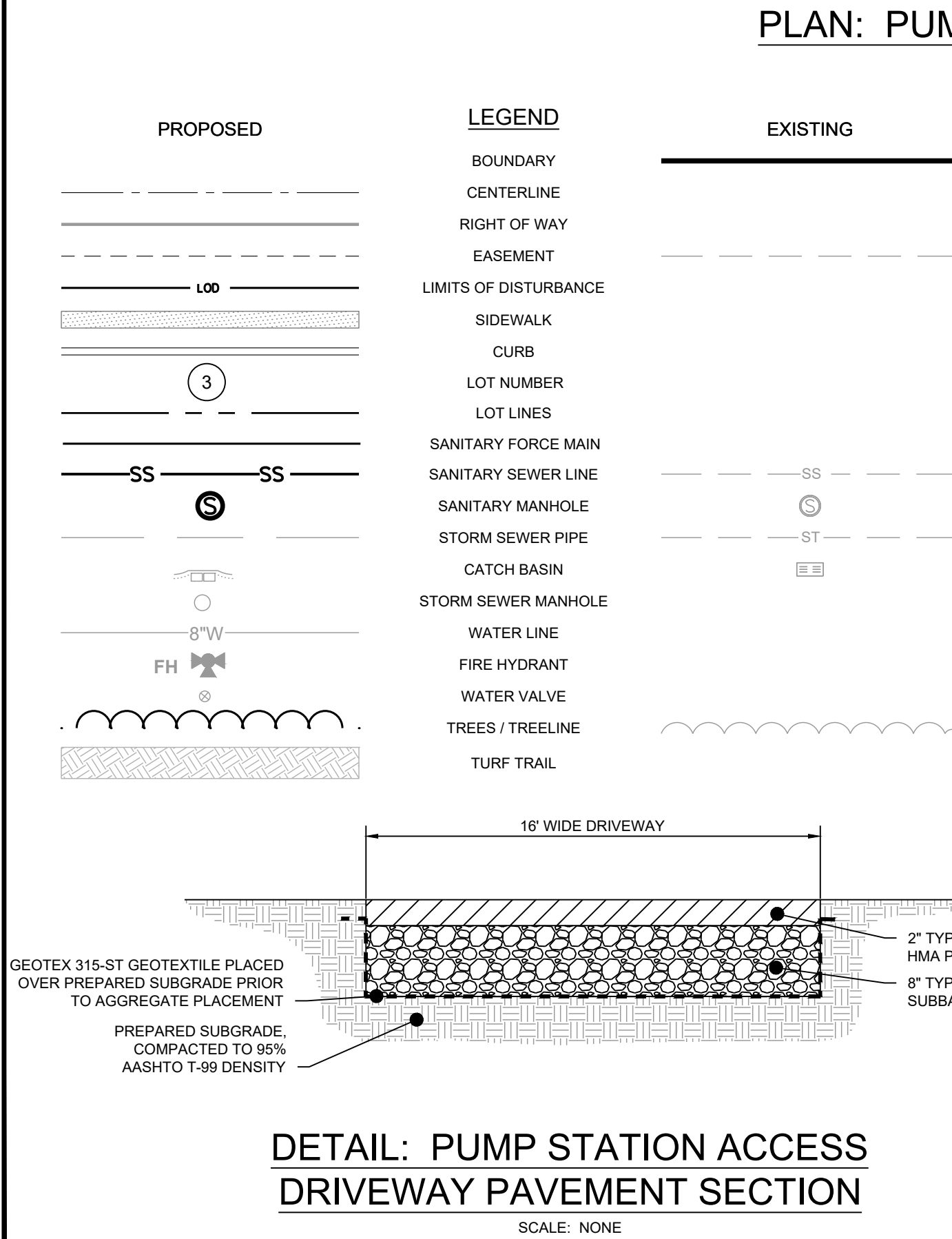
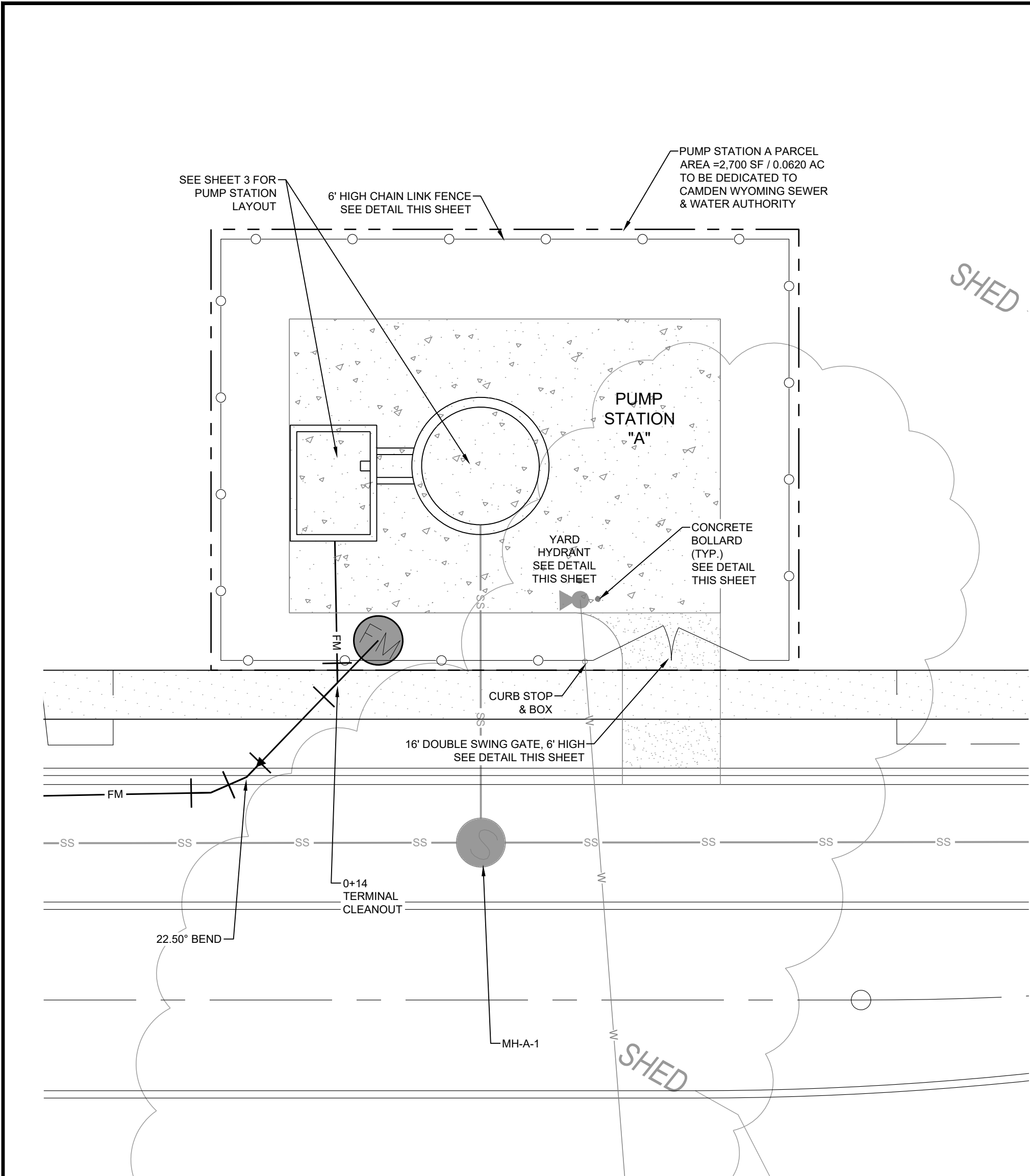
COVER SHEET
PUMP STATION AND FORCE MAIN PLANS
FOR
SAVANNAH FARMS

SITUATE IN: TOWNS OF CAMDEN & WYOMING, KENT COUNTY, DELAWARE



Michael J. Kaszyski, Jr., P.E.
PROFESSIONAL ENGINEER
04-10-2026

DRAWING NO. **PS01 - PS01** SHEET NO. **1 OF 22**



LOG OF BORING NO. PS-A
Sheet 1 of 1

PROJECT: Savannah Farms
PROJECT NO.: 230650
PROJECT LOCATION: Kent County, Delaware

DATE STARTED: 3/18/26
DATE COMPLETED: 3/18/26
DRILLING CONTRACTOR: Geo-Technology Associates, Inc.
DRILLER: D. Hans, Jr.
DRILLING METHOD: Hollow Stem Auger
SAMPLING METHOD: Split Spoon

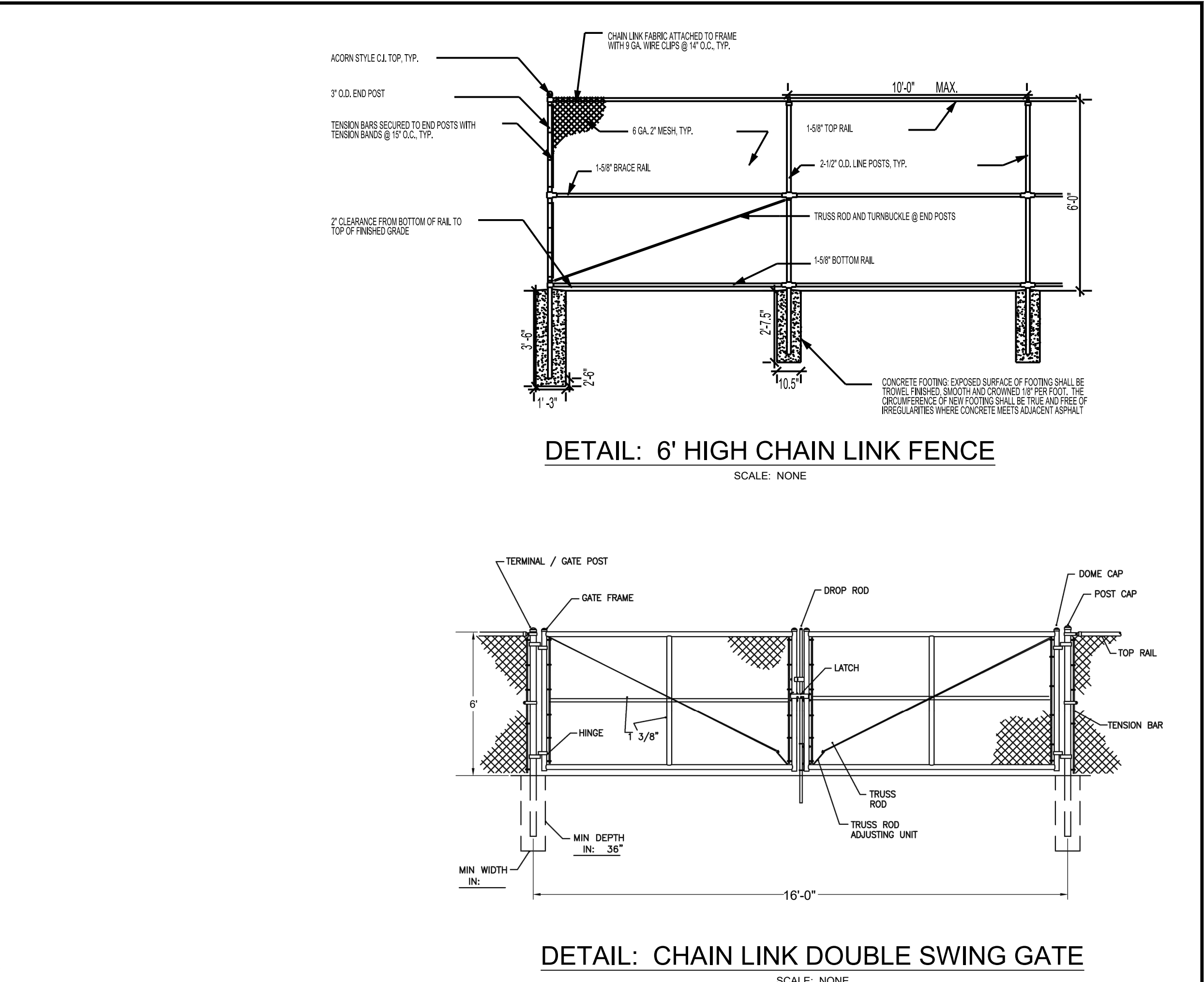
WATER LEVEL (ft): 20.0
CAVED (ft): 11.3
GROUND SURFACE ELEVATION: 53.06
WATER ENCOUNTERED DURING DRILLING (ft): 13.0
DATING: Survey
EQUIPMENT: Diedrich D50
LOGGED BY: A. Kallmeyer
CHECKED BY: M. McDonough

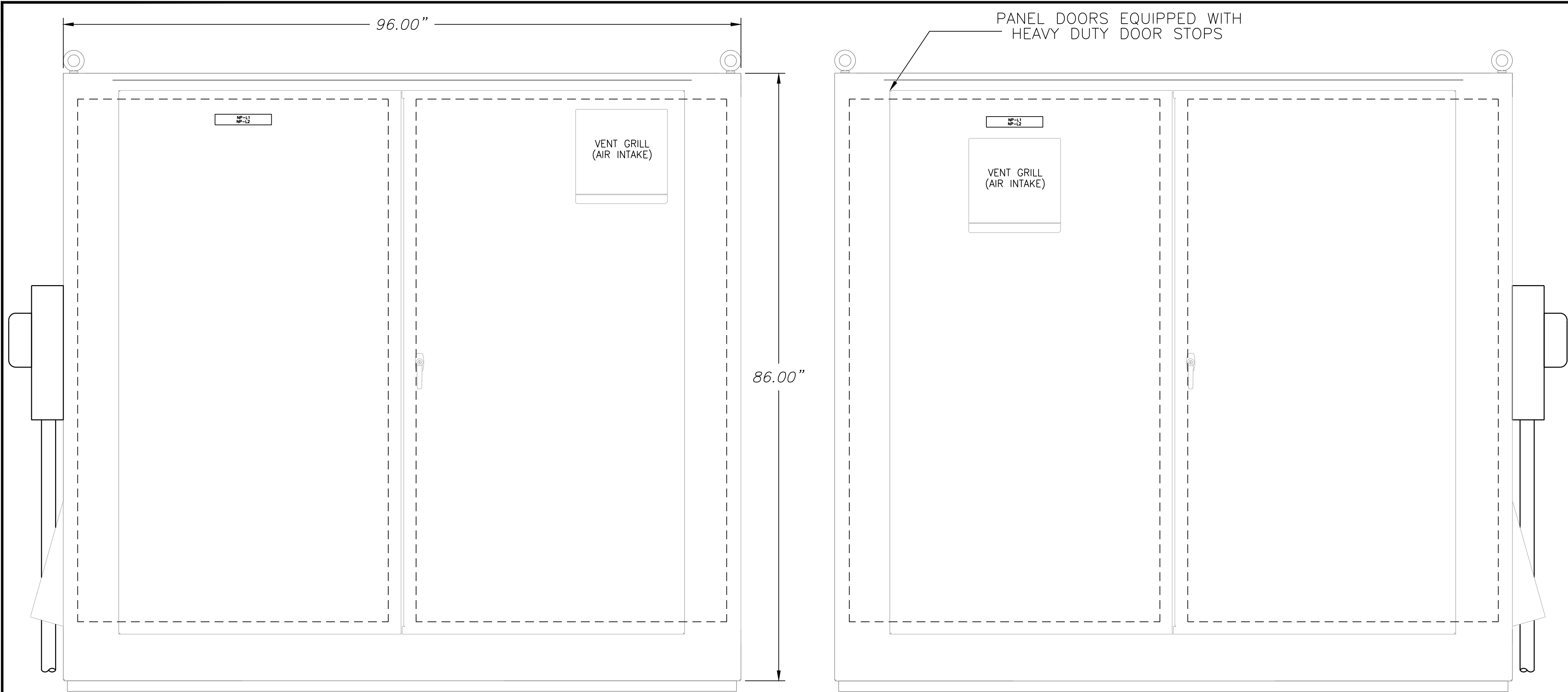
SAMPLE NUMBER	SAMPLE DEPTH (ft)	SAMPLE REQUEST (ft)	SAMPLE BLOW/6 INCHES	N (blows)	ELEVATION (ft)	DEPTH (ft)	USCS	DESCRIPTION	REMARKS
S-1	0.0	12	1-1-2-2	3	53.1	0	SM	Topsoil +/- 3.0 Inches	
S-2	2.0	12	1-2-1-2	3	52.9	2		Orange and brown, moist, very loose, Silty SAND	
S-3	4.0	12	1-1-2-1	3		4		Orange, moist, very loose, Silty SAND	
S-4	6.0	17	2-2-2-2	4		6		Same, orange and tan	
S-5	8.0	16	1-2-2-2	4		8		Same	
S-6	13.0	16	1-1-2-1	3		13		Orange, wet, very loose, Silty SAND	
S-7	18.0	20	1-2-3-3	5		18		Orange, wet, loose, Silty SAND	
S-8	23.0	18	2-2-3-4	5		23		Same	
S-9	28.0	17	2-5-7-7	12		28		Same, medium dense	
S-10	33.0	24	3-6-6-7	12		33		Same	
S-11	38.0	24	3-5-9-10	14		38		Same, contains gravel	

NOTES: Elevation and location should be considered approximate.

GEO-TECHNOLOGY ASSOCIATES, INC.
18 Boulden Circle, Suite 36
New Castle, DE 19720

LOG OF BORING NO. PS-A
Sheet 1 of 1





- NOTES:
1. CONSTRUCTION: NEMA 3R
(MODIFIED NEMA 12)
ENCLOSURE –CARBON STEEL
SUB PANEL–CARBON STEEL
DRIP SHIELD OVER DOORS
L36 STAINLESS STEEL PADLOCKING HANDLE
ALUMINUM CHANNEL ON BOTTOM
DOOR STOPS ON TOP OR BOTTOM OF EACH DOOR
4 RAIN SHROUDS COLOR TO MATCH ENCLOSURE
 2. FINISH: PAINT
A. EXTERIOR – GRAY
B. INTERIOR – GRAY
C. SUB PANEL – WHITE

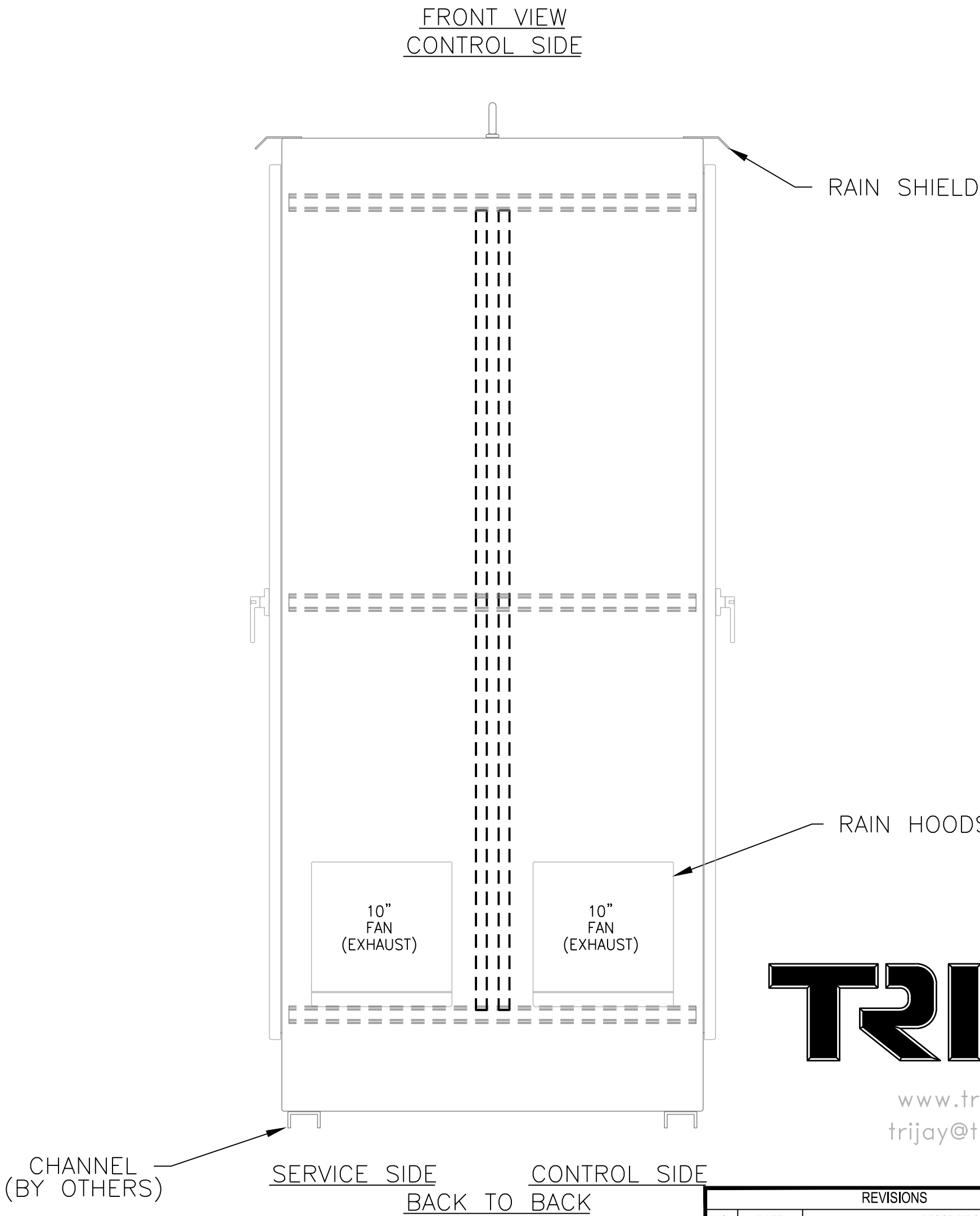
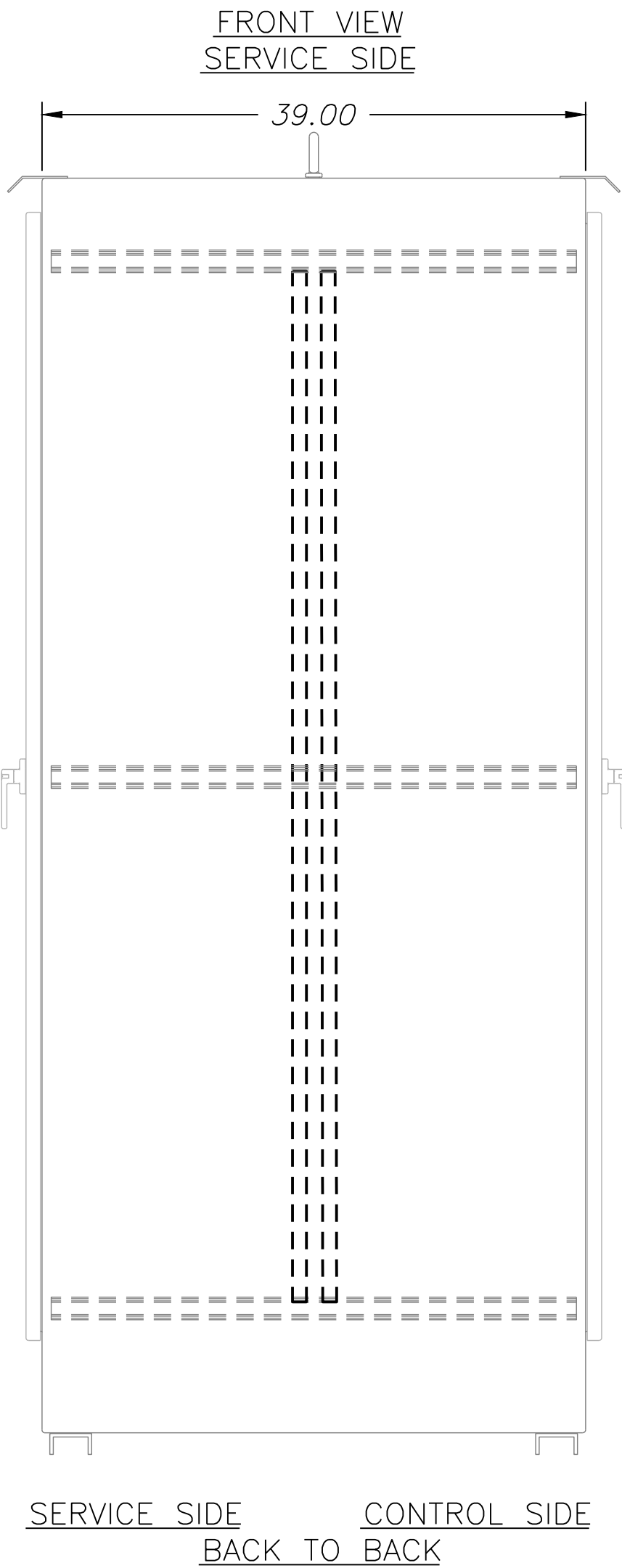
ENGRAVING CHART				
REF.	NAMEPLATE SIZE	TEXT HEIGHT	LINE	TEXT
NP-01	8" x 2"	1/2"	L1	SAVANNAH FARMS PUMP STATION A
			L2	SERVICE EQUIPMENT CABINET
NP-02	8" x 2"	1/2"	L1	SAVANNAH FARMS PUMP STATION A
			L2	CONTROL EQUIPMENT CABINET
NOTES: 1. NAMEPLATES: WHITE LAMICOID (2-PLY) WITH BLACK ENGRAVED LETTERS. 2. ATTACH WITH S.S. DRIVE SCREWS (COAT REAR OF SCREW WITH SILICON SEAL).				

ELECTRIC POWER GENERAL NOTES:

1. WIRING PENETRATING CONCRETE PAD SHALL BE PLACED IN PVC COATED RIGID GALVANIZED STEEL CONDUIT.ALL INTERCONNECT WIRING WITHIN ENCLOSURE SHALL BE IN SCHEDULE 40 PVC OR RIGID ALUMINUM CONDUIT. LIQUID-TIGHT FLEXIBLE NON-METALLIC CONDUIT IN LENGTHS NOT EXCEEDING 12" MAY BE USED WHERE INSTALLATION OF RIGID CONDUIT IS IMPRACTICAL
2. CONTROL SECTIONS WITH VFD DRIVE CONTROLLERS INSTALLED SHALL BE VENTILATED WITH AN ADDITIONAL THERMOSTATICALLY CONTROLLED FAN AND AN ADDITIONAL EXHAUST LOUVER WITH REPLACEABLE FILTER. LIVE TERMINALS OF THERMOSTAT SHALL BE SHIELDED FROM CONTACT.
3. PORTABLE GENERATOR SHALL BE PROVIDED TO CWSWA WITH THE PUMP STATION DEDICATION. TRANSFER SWITCH AND CONNECTION BOX SHALL BE SUPPLIED AND CONNECTED TO THE POWER SIDE OF THE CONTROL BOX.

CONTROL PANEL NOTES:

1. PLASTIC WIRE WRAPS SHALL BE USED TO BUNDLE WIRES EXCEPT WITHIN WIRING DUCTS. BUNDLES WILL BE SECURELY FASTENED TO STEEL STRUCTURE.
2. WIRE TO BE STRANDED COPPER, INSULATED FOR NOT LESS THAN 600 VOLTS WITH A MOISTURE-RESISTANT & FLAME RETARDANT COVERING. CONTROL CIRCUIT WIRING TO BE 16 AWG MINIMUM. ANALOG CIRCUIT WIRING TO BE 18 AWG TWISTED SHIELDED PAIRS.
4. WIRE NUMBERS ARE TO AGREE WITH THE TERMINAL NUMBERS UNLESS OTHERWISE SHOWN. ALL PLC INPUT & OUTPUT ADDRESS NUMBERS TO BE USED AS WIRE NUMBERS.
5. SPARE TERMINAL NUMBERS: BLANK
6. BOTH ENDS OF ALL WIRES SHALL BE MARKED PER WIRING DIAGRAM
7. WIRE COLORS:
AC PHASEBLACK
AC NEUTRALWHITE
GROUNDGREEN
AC CONTROL (PANEL POWERED)..... RED
AC CONTROL (FIELD POWERED).....YELLOW
DO CONTROLORANGE
(+24VDC.....BLUE
(-)24VDC.....BROWN
DC SIGNAL (ANALOG)2/C SHIELD
(+) RED
(-) BLACK





TRIJAY SYSTEMS INC.
10 MAPLE AVENUE
P.O. BOX 109
LINE LEXINGTON, PA 18932
Phone: (215) 997-5833
Fax: (215) 997-5834

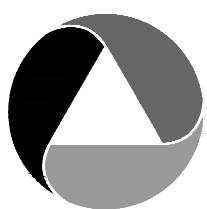
www.trijay.com
trijay@trijay.com

ELECTRIC DETAILS
PUMPING STATION 'A' & FORCE MAIN
PLANS
FOR
SAVANNAH FARMS

SITUATE IN: TOWNS OF CAMDEN & WYOMING, KENT COUNTY, DELAWARE

REVISIONS		
NO.	DATE	DESCRIPTION
3	4-9-2026	3 STATION PLANS
2	10-1-2025	PER FLYGT COMMENTS
1	9-5-2025	PER CWSWAKCDPW COMMENTS

PREPARED FOR:
D. R. HORTON DELAWARE
DIVISION
671 S. CARTER ROAD
SUITE 6
SMYRNA, DE 19777
(302) 514-0850



ATWELL
866.850.4200 www.atwell.com
17 POLLY DRUMMOND CENTER, SUITE 201
NEWARK, DE 19711
302.369.2900
** KARNS AND ASSOCIATES IS NOW OPERATING AS ATWELL, LLC **

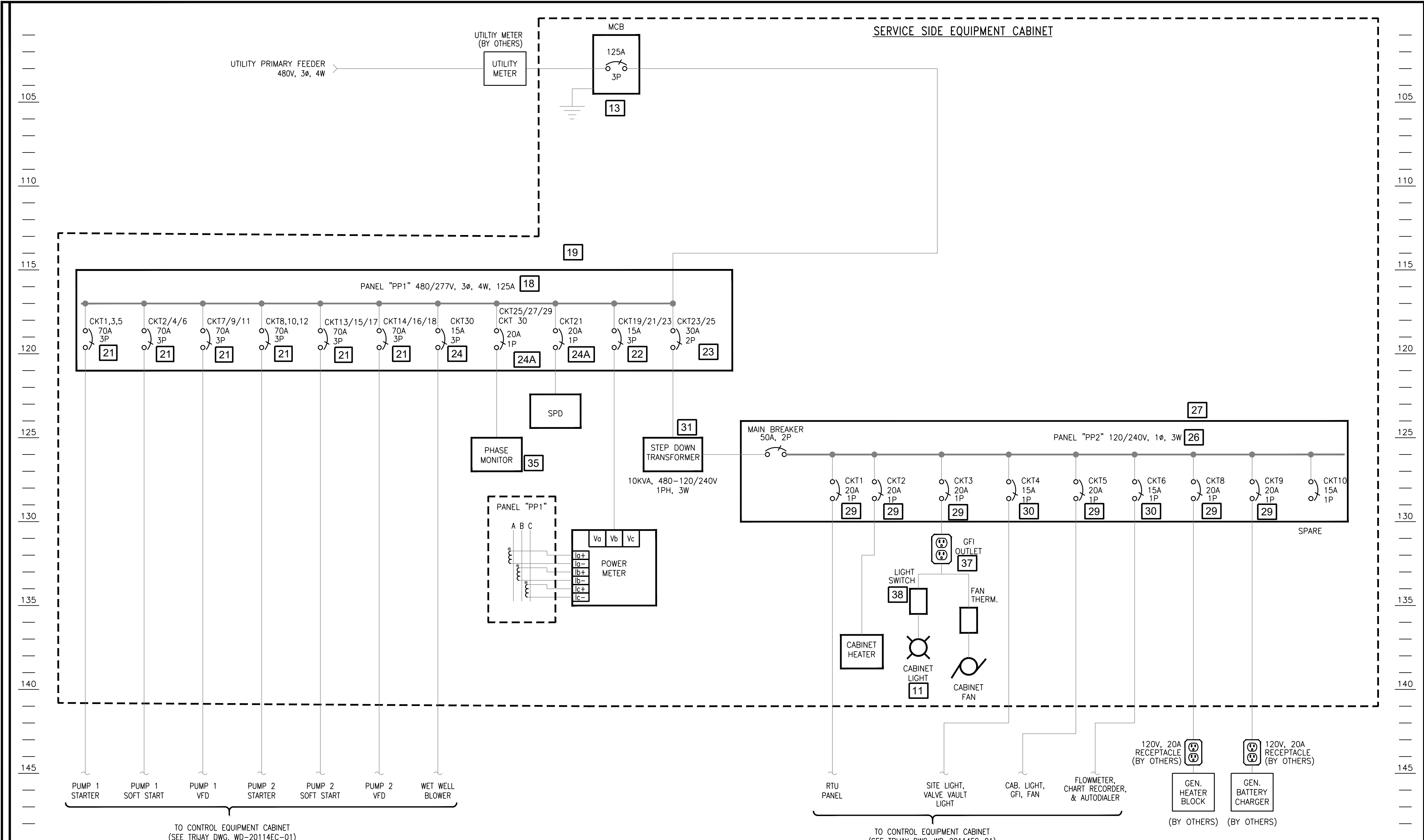
DRAWN BY MO DATE 04/02/2025
CHECKED BY MJK SCALE AS SHOWN



Michael J. Karns 04-10-2026
PROFESSIONAL ENGINEER

CAMDEN-WYOMING SEWER & WATER AUTHORITY

DRAWING NO.	SHEET NO.
PS02-PS09 - PS04	4 OF 22



EQUIPMENT LIST

- ENCLOSURE, 86"H x 96"W x 36"D MODIFIED 3R PANEL - HOFFMAN (OR APPROVED EQUIVALENT)
- SUBPANEL, 74"H x 44"W - HOFFMAN (OR APPROVED EQUIVALENT)
- LARGE ENCLOSURE DOOR STOP KIT - HOFFMAN (OR APPROVED EQUIVALENT)
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- ELECTRIC HEATER 400W W/ THERMOSTAT - HOFFMAN (OR APPROVED EQUIVALENT)
- (INTENTIONALLY LEFT BLANK)
- (INTENTIONALLY LEFT BLANK)
- 48" 2 - LIGHT LINEAR WHITE INTEGRATED LED LIGHT - METALUX (OR APPROVED EQUIVALENT)
- TVSS 160kA/PHASE, 480Y/277V, 3 PHASE, 4 WIRE, NEMA 1 - SQUARE D (OR APPROVED EQUIVALENT)
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SITUATE IN: TOWNS OF CAMDEN & WYOMING, KENT COUNTY, DELAWARE



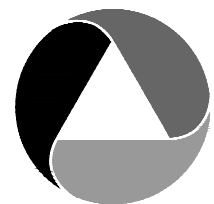
www.trijay.com
trijay@trijay.com

TRIJAY SYSTEMS INC.

10 MAPLE AVENUE
P.O. BOX 109
LINE LEXINGTON, PA 18932
Phone: (215) 997-5833
Fax: (215) 997-5834

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PROFESSIONAL ENGINEER

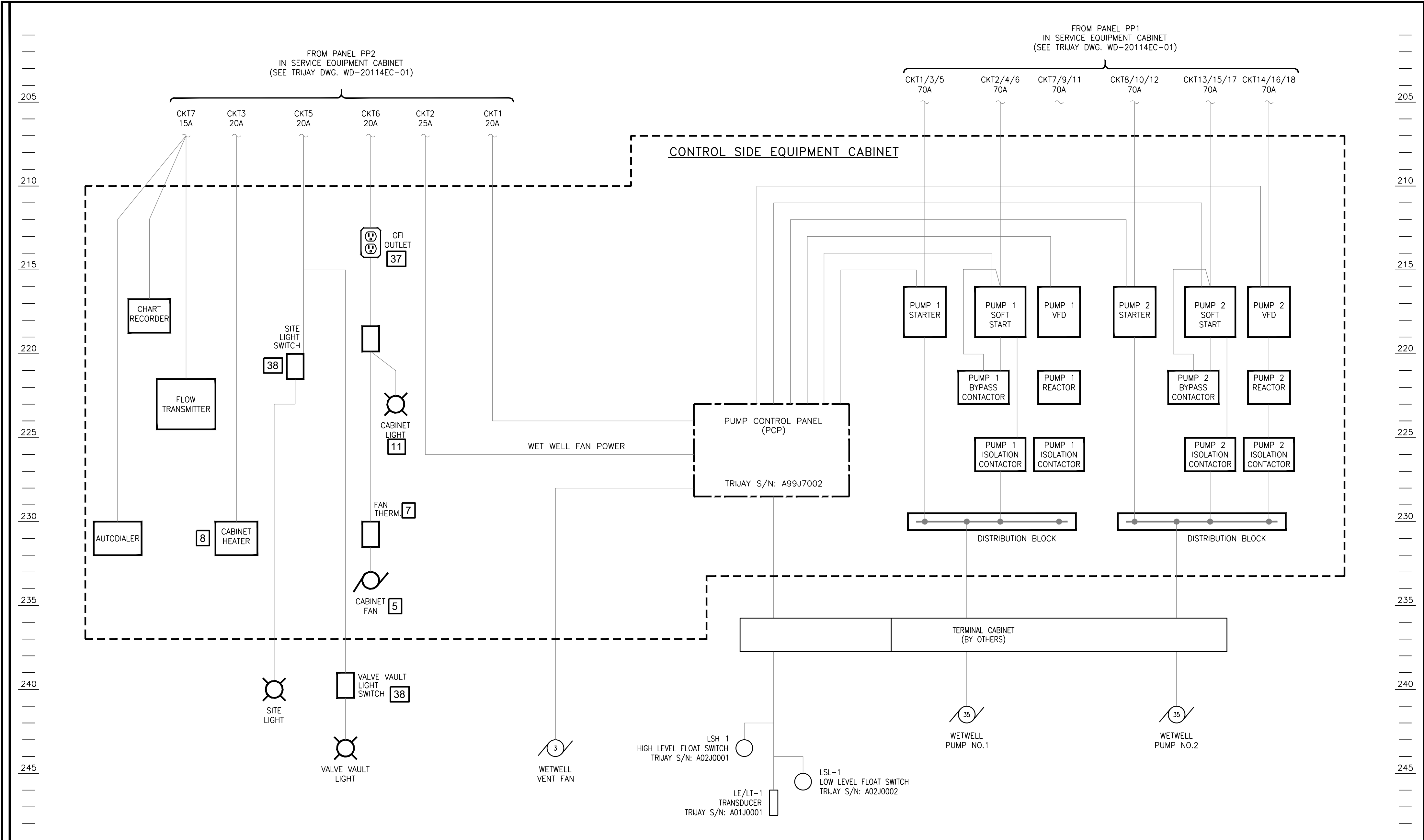
CAMDEN-WYOMING SEWER &
WATER AUTHORITY

DRAWING NO.

PS02-PS09 - PS05

SHEET NO.

5 OF 22



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ELECTRIC DETAILS PLAN PUMPING STATION 'A' & FORCE MAIN PLANS FOR *SAVANNAH FARMS*

SITUATE IN: TOWNS OF CAMDEN & WYOMING, KENT COUNTY, DELAWARE

TRIJAY TRIJAY SYSTEMS INC.
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** KARNIS AND ASSOCIATES IS NOW OPERATING AS ATWELL, LLC **

DRAWN BY
CHECKED BY

MO
MJK

DATE
SCALE

04/02/2025
AS SHOWN



04-10-2026
PROFESSIONAL ENGINEER

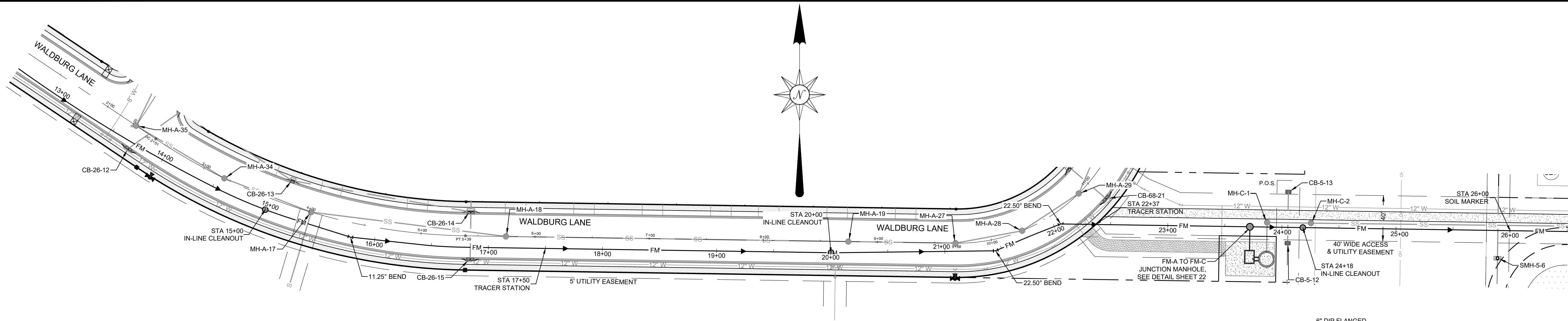
CAMDEN-WYOMING SEWER &
WATER AUTHORITY

DRAWING NO.

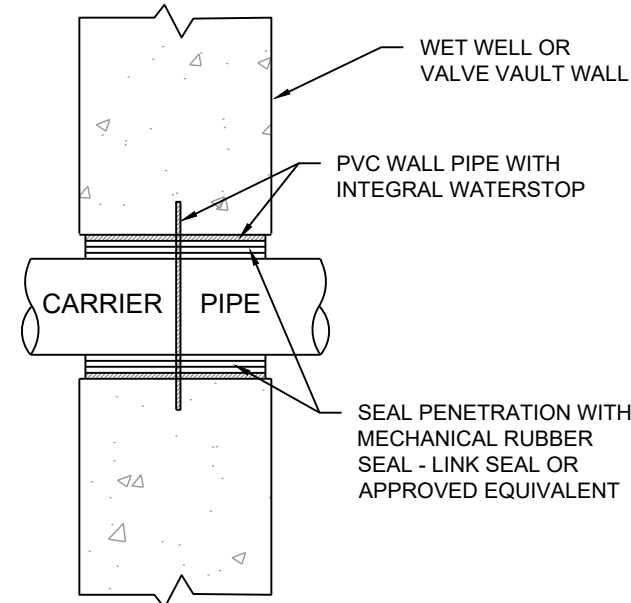
PS02-PS09 - PS06

SHEET NO.

6 OF 22

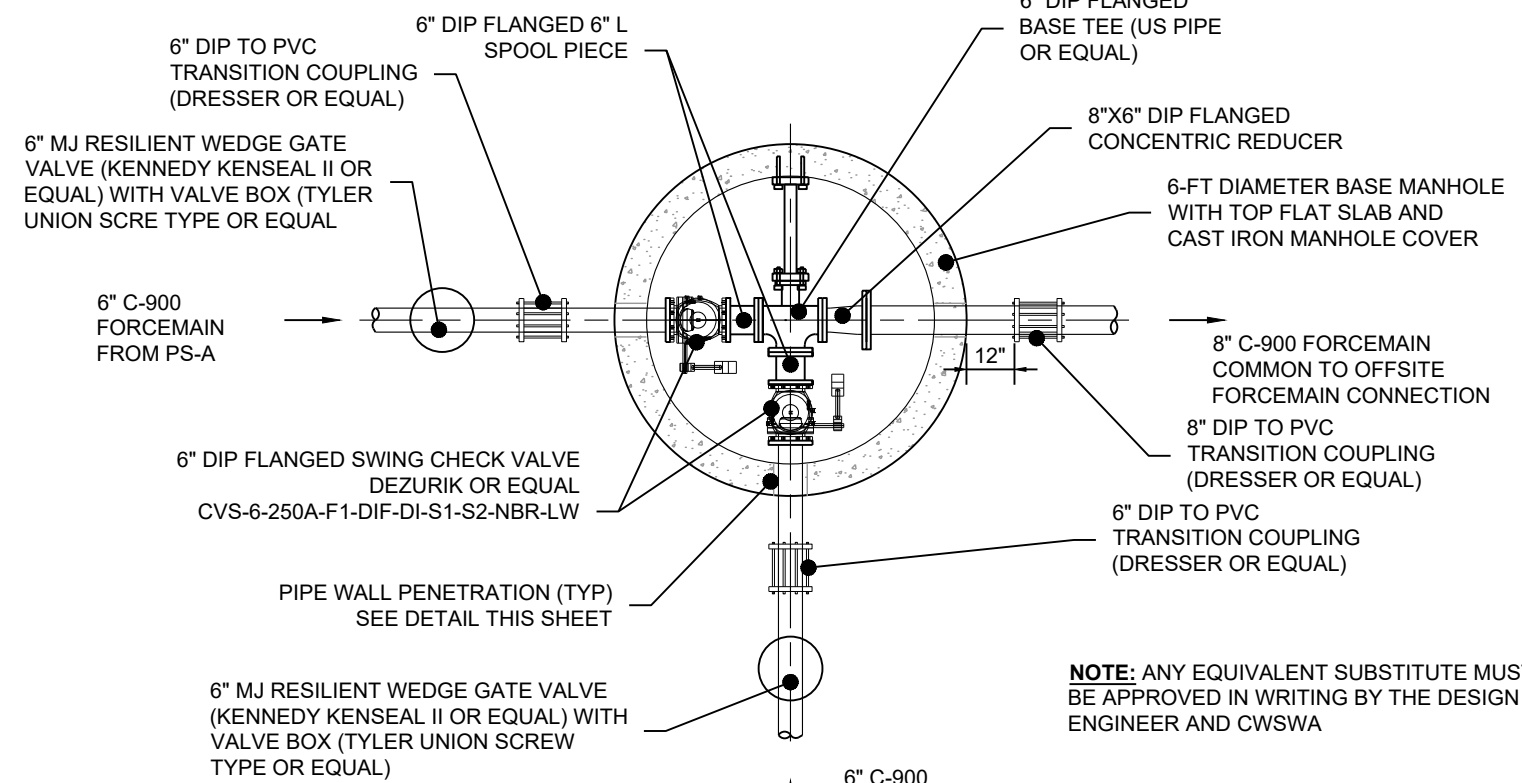


PLAN
SCALE: 1" = 50'



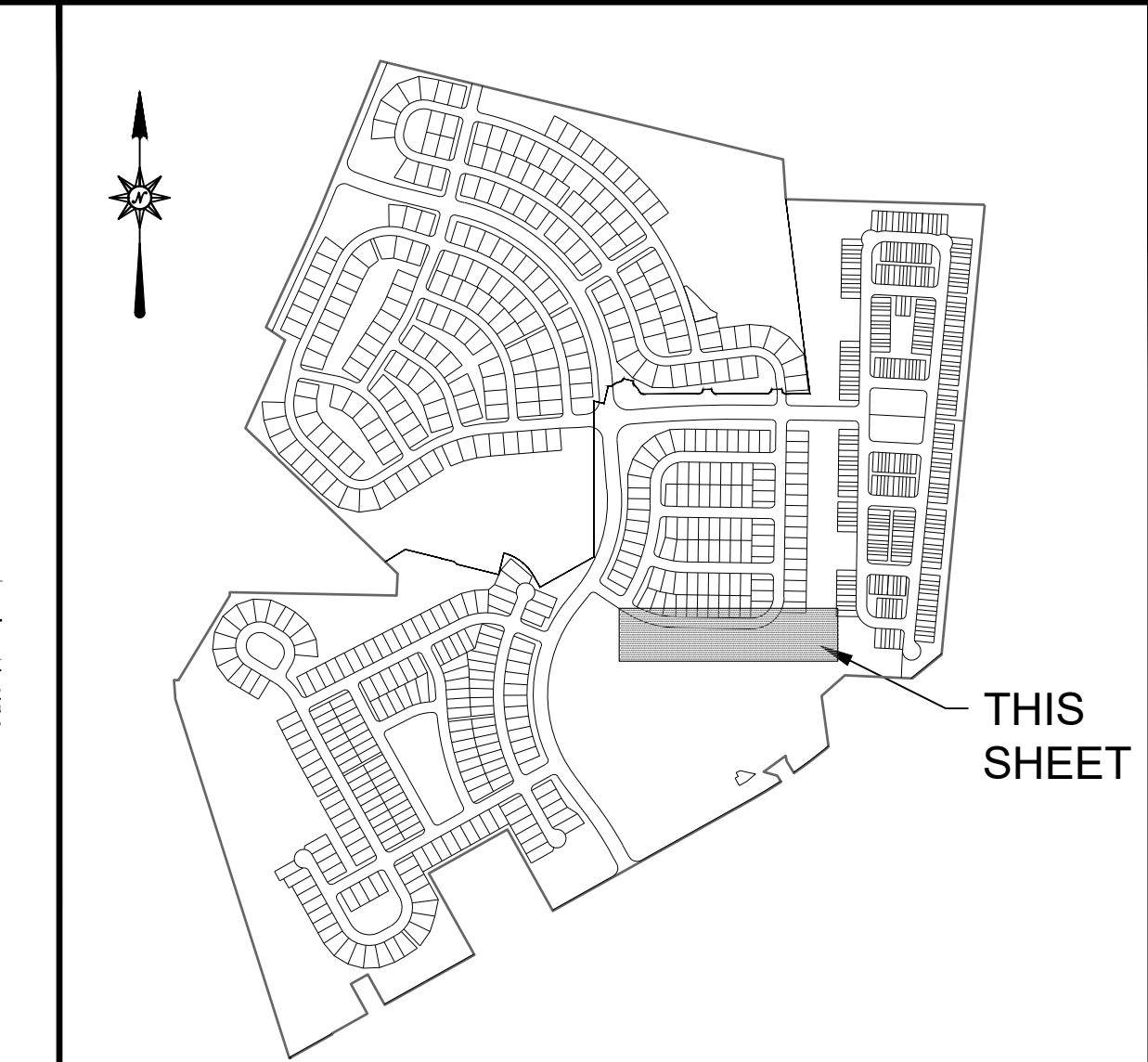
DETAIL: PIPE PENETRATION THROUGH
PRECAST WALL

SCALE: NONE



DETAIL: FORCE MAIN JUNCTION MANHOLE
FM-A AND FM-C CONNECTION

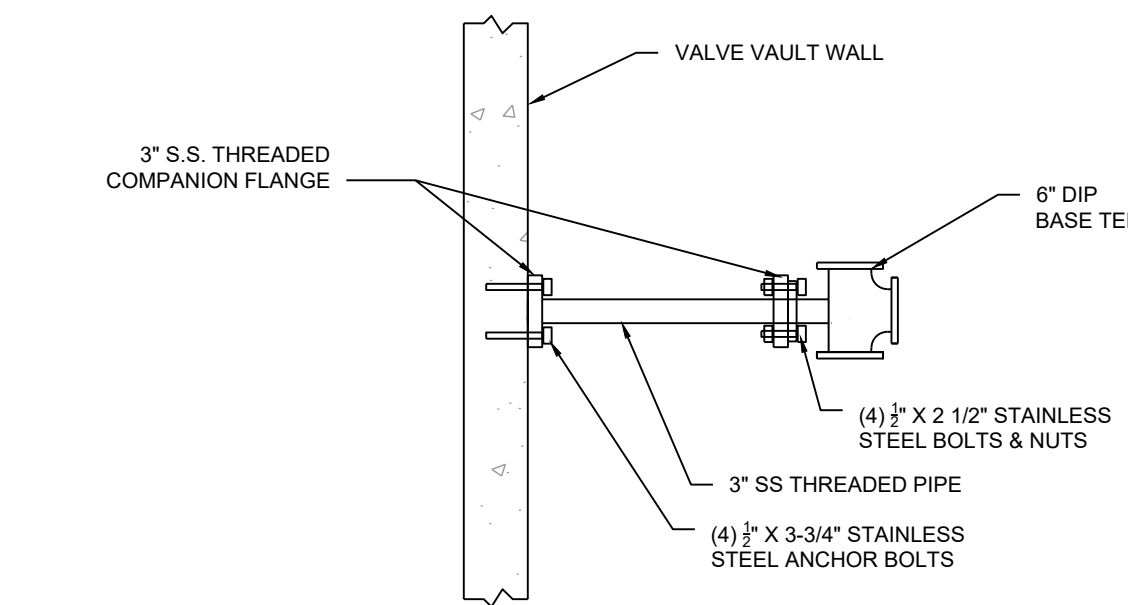
SCALE: 1/4" = 1'-0"



KEY MAP

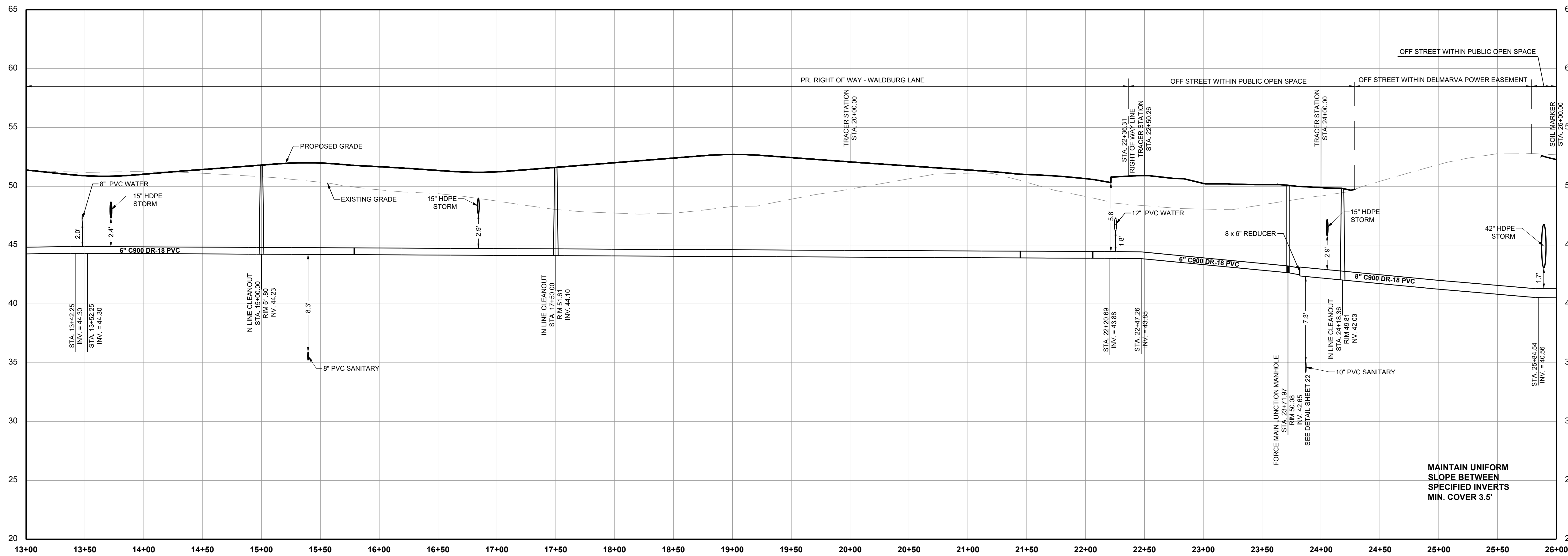
SCALE: 1"=1000'

PROPOSED	LEGEND	EXISTING
	BOUNDARY	
	CENTERLINE	
	RIGHT OF WAY	
	EASEMENT	
	LIMITS OF DISTURBANCE	
	SIDEWALK	
	CURB	
	LOT NUMBER	
	LOT LINES	
	SANITARY FORCE MAIN	
	SANITARY SEWER LINE	
	SANITARY MANHOLE	
	STORM SEWER PIPE	
	CATCH BASIN	
	STORM SEWER MANHOLE	
	WATER LINE	
	FIRE HYDRANT	
	WATER VALVE	
	TREES / TREELINE	
	TURF TRAIL	



DETAIL: JUNCTION PIPE SUPPORT

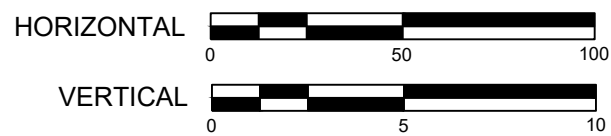
SCALE: NONE



PROFILE: FORCE MAIN - PUMP STATION 'A'

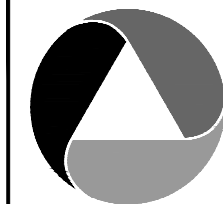
STA.: 13+00 TO 26+00

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



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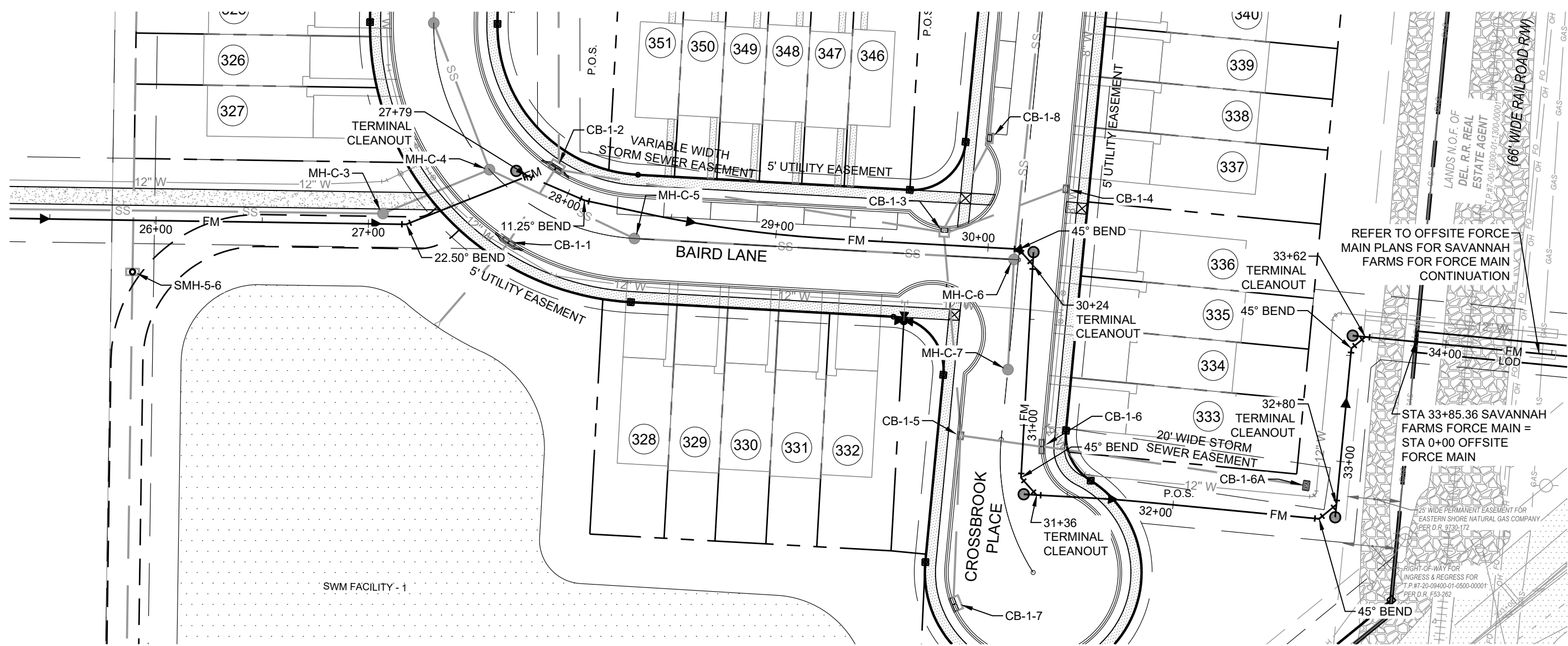
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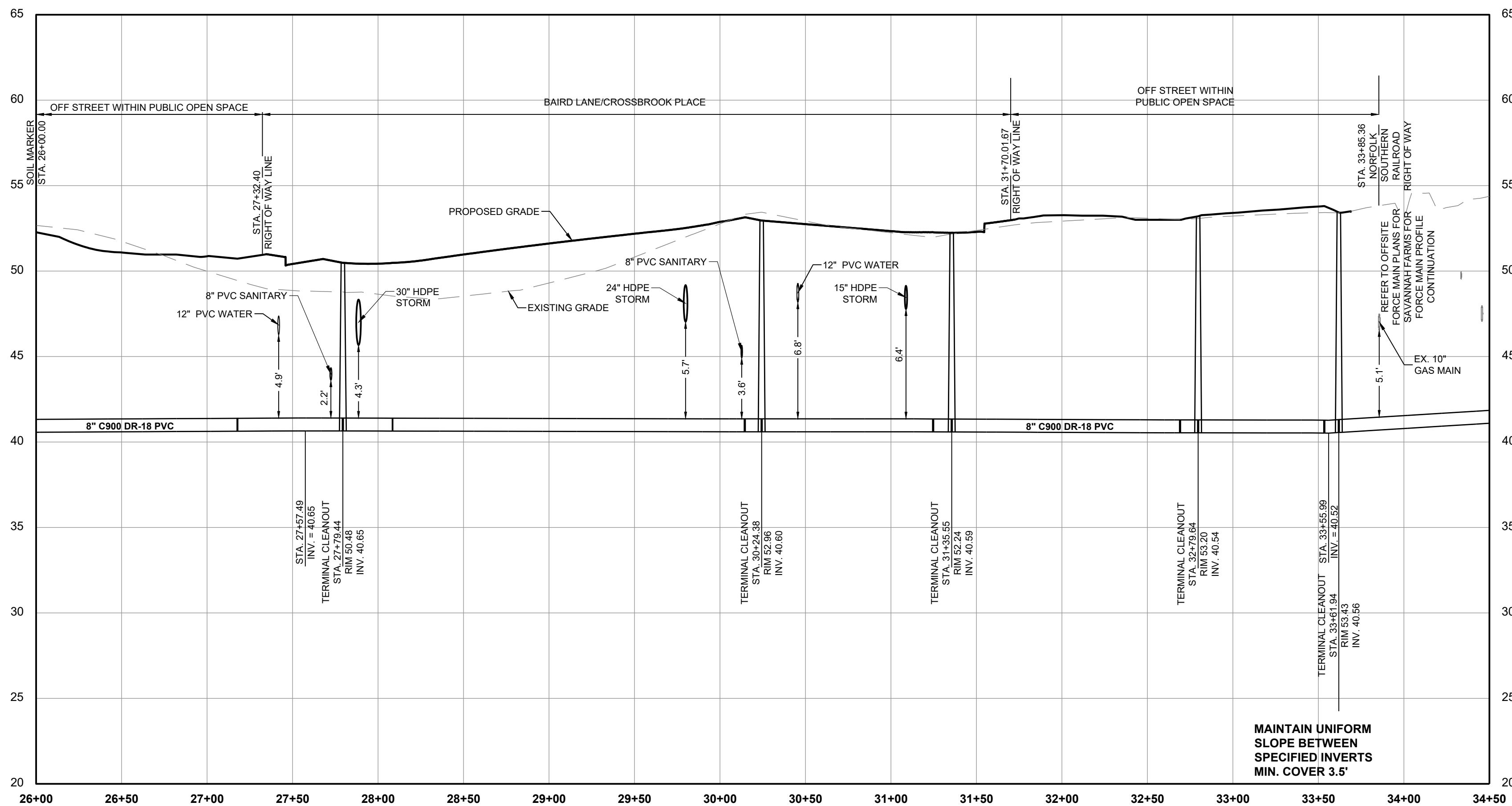


**CAMDEN-WYOMING SEWER &
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DRAWING NO.	SHEET NO.
PS02-PS09 - PS08	8 OF 22

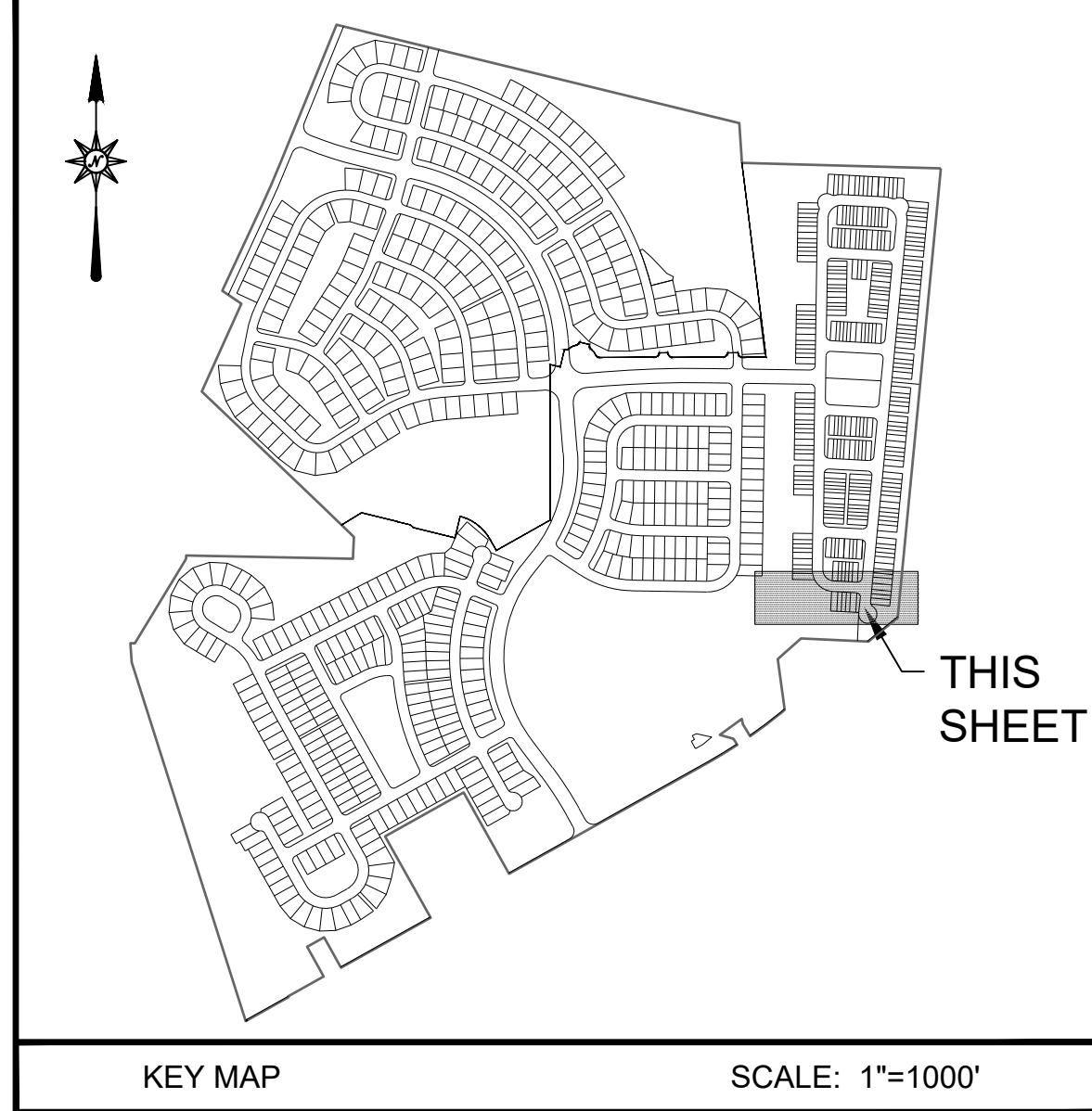


PLAN
SCALE: 1" = 50'



PROFILE: FORCE MAIN - PUMP STATION 'A'

STA.: 26+00 TO 33+86
SCALE: HORIZ.: 1" = 50' VERT.: 1" = 5'
HORIZONTAL
VERTICAL



PROPOSED	LEGEND	EXISTING
	BOUNDARY	
	CENTERLINE	
	RIGHT OF WAY	
	EASEMENT	
	LIMITS OF DISTURBANCE	
	SIDEWALK	
	CURB	
	LOT NUMBER	
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	STORM SEWER MANHOLE	
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	FIRE HYDRANT	
	WATER VALVE	
	TREES / TREELINE	
	TURF TRAIL	

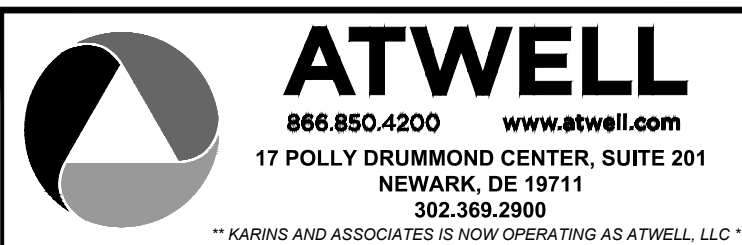
SANITARY FORCE MAIN 'A'
PLAN AND PROFILE
STA 9+50 TO STA 19+00
FOR

SAVANNAH FARMS

SITUATE IN: TOWNS OF CAMDEN & WYOMING, KENT COUNTY, DELAWARE

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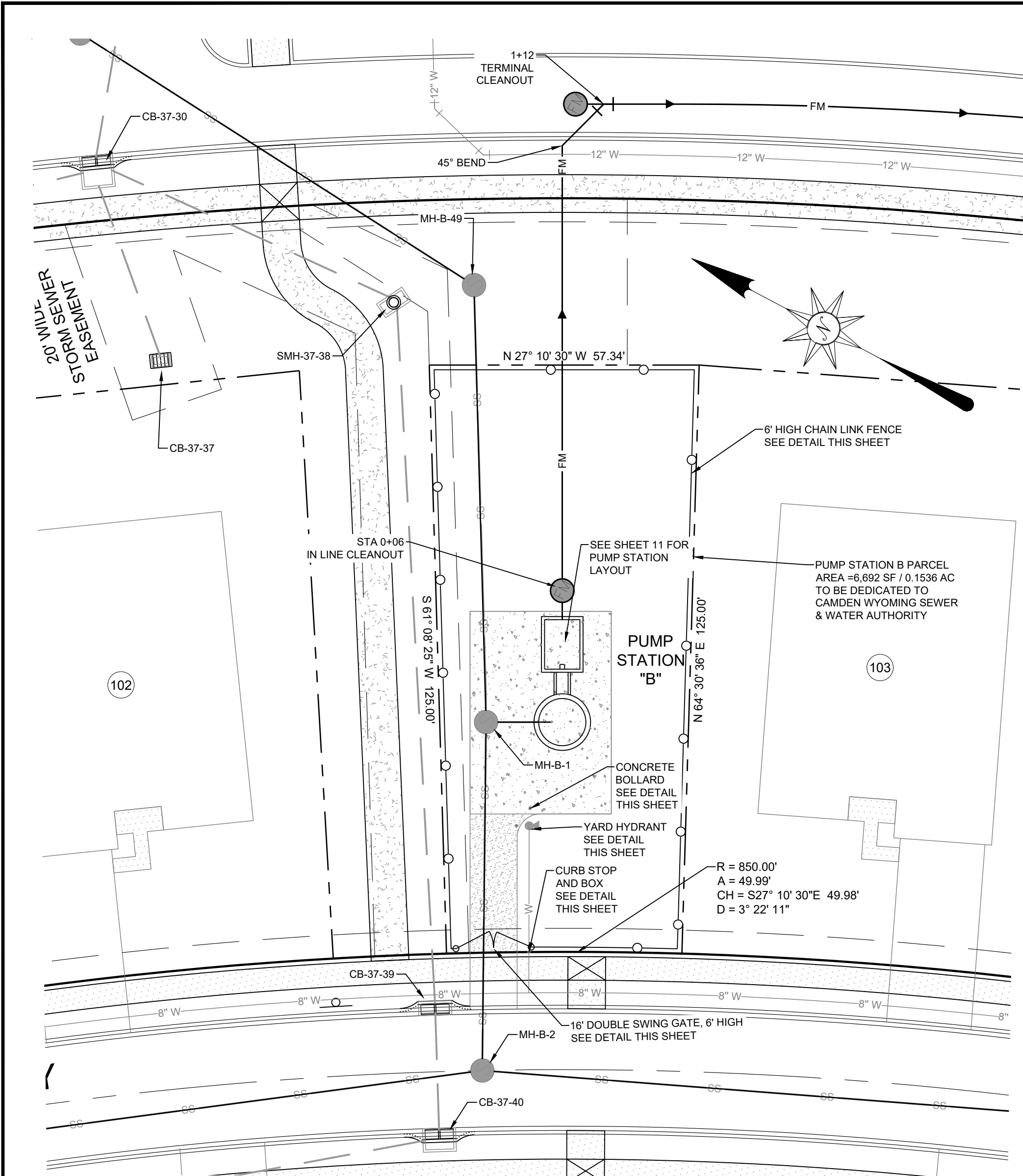


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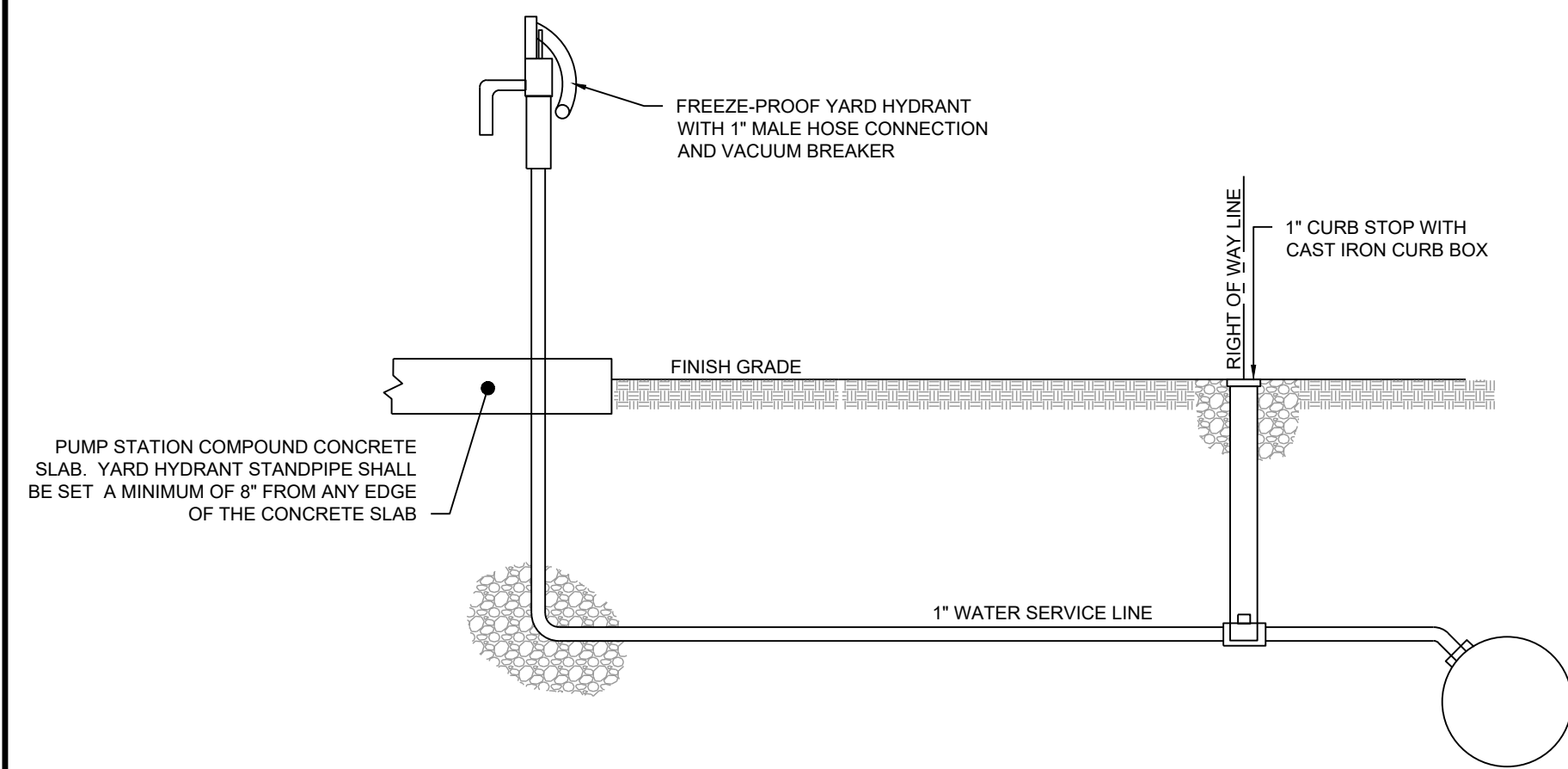


CAMDEN-WYOMING SEWER &
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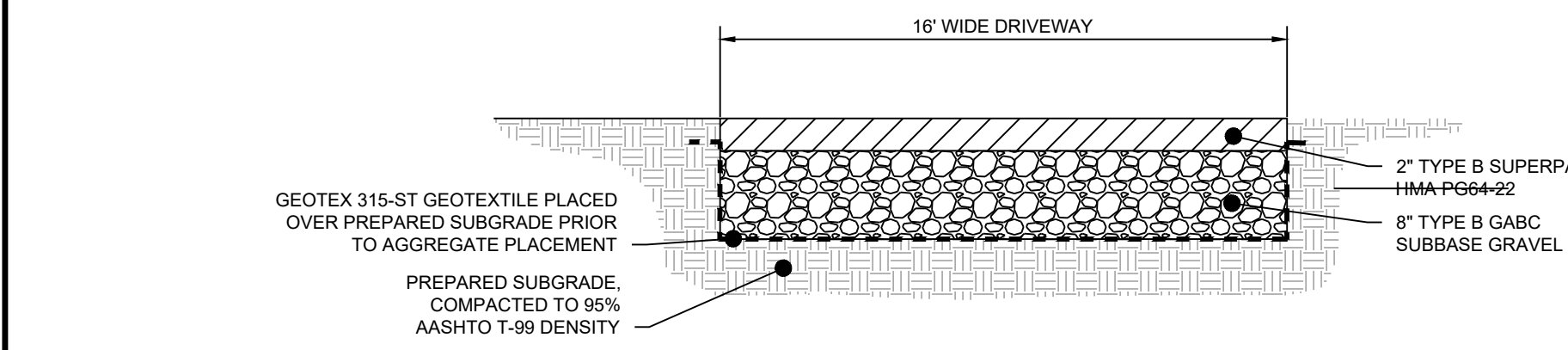
DRAWING NO. PS02-PS09 - PS09 SHEET NO. 9 OF 22



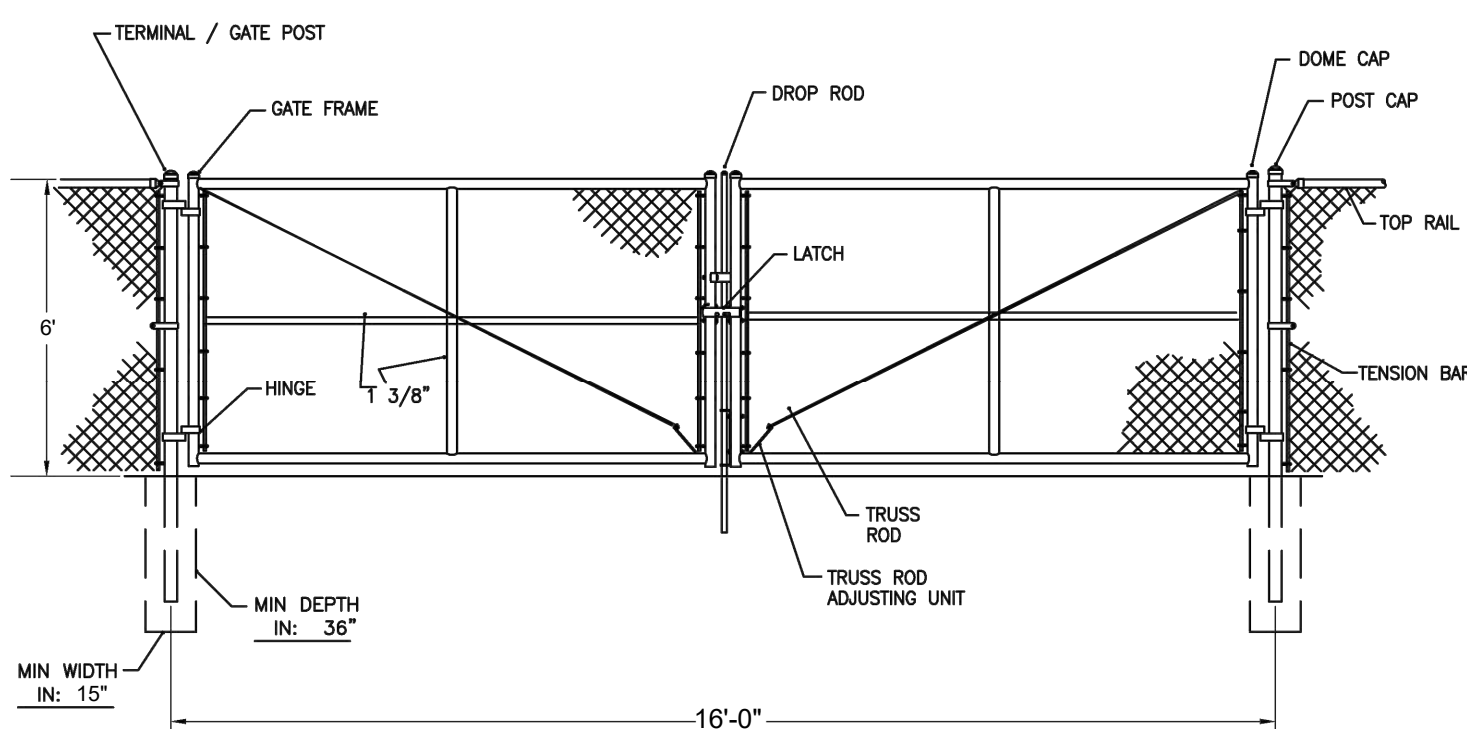
PLAN: PUMP STATION 'B' SITE
SCALE: 1" = 20'



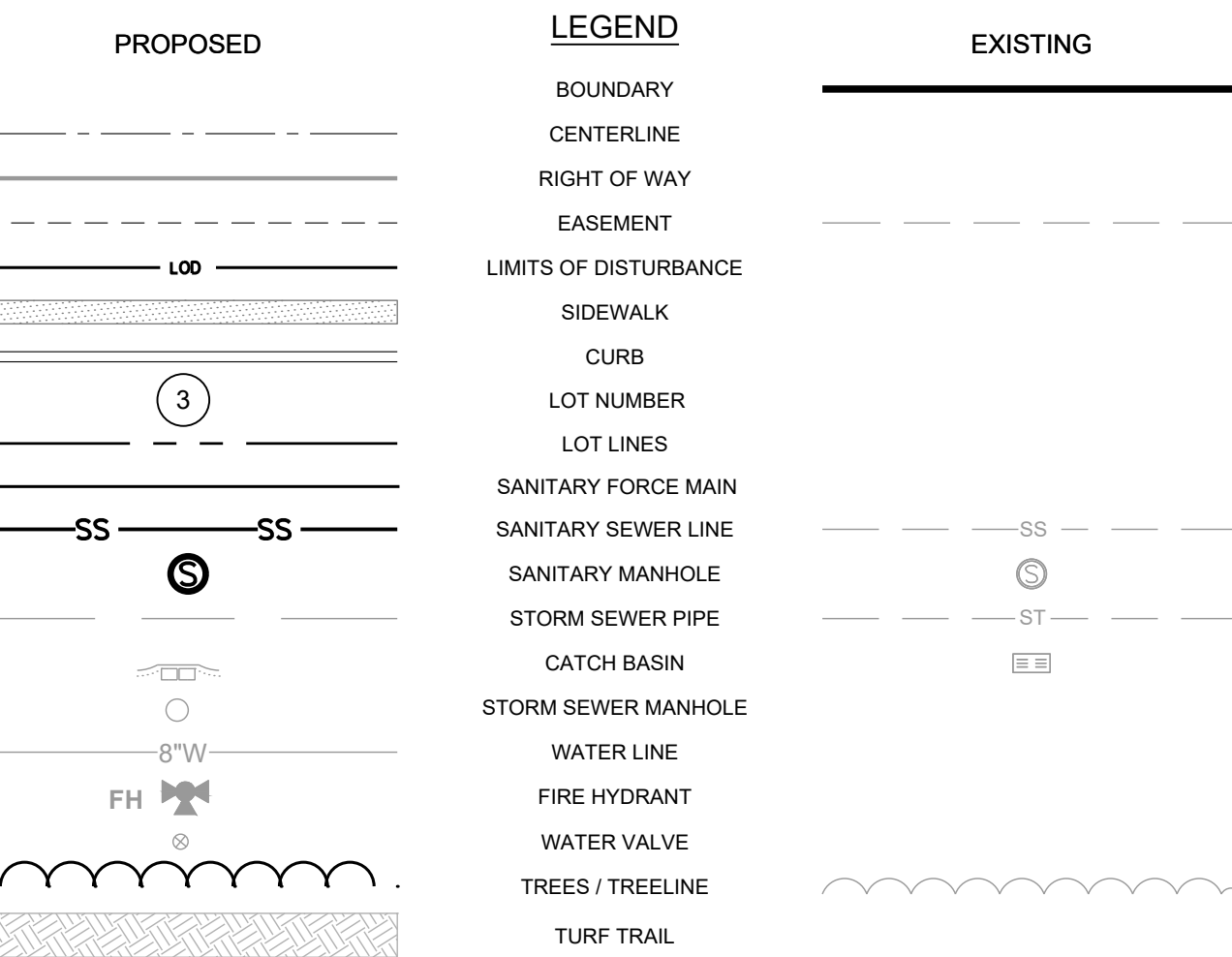
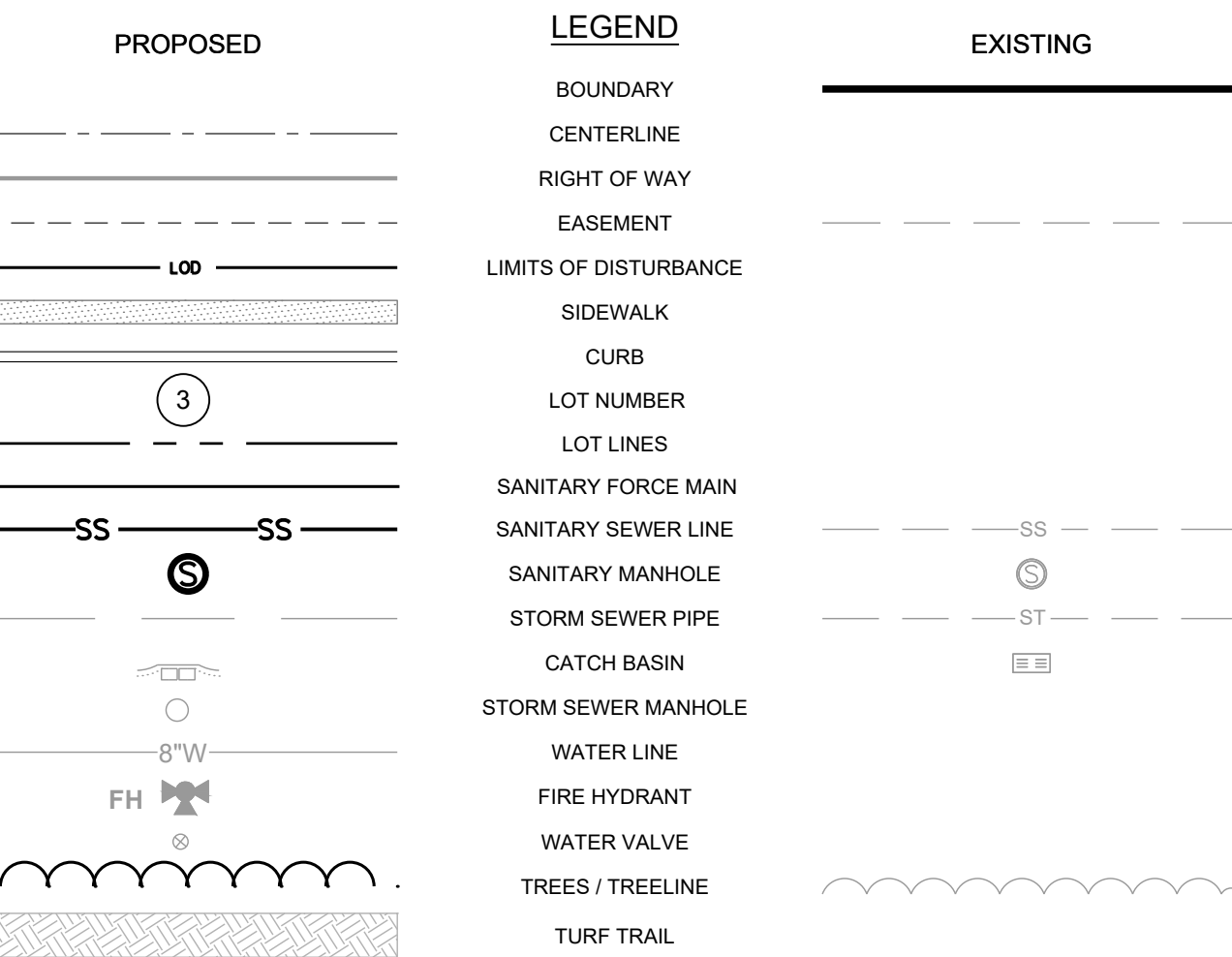
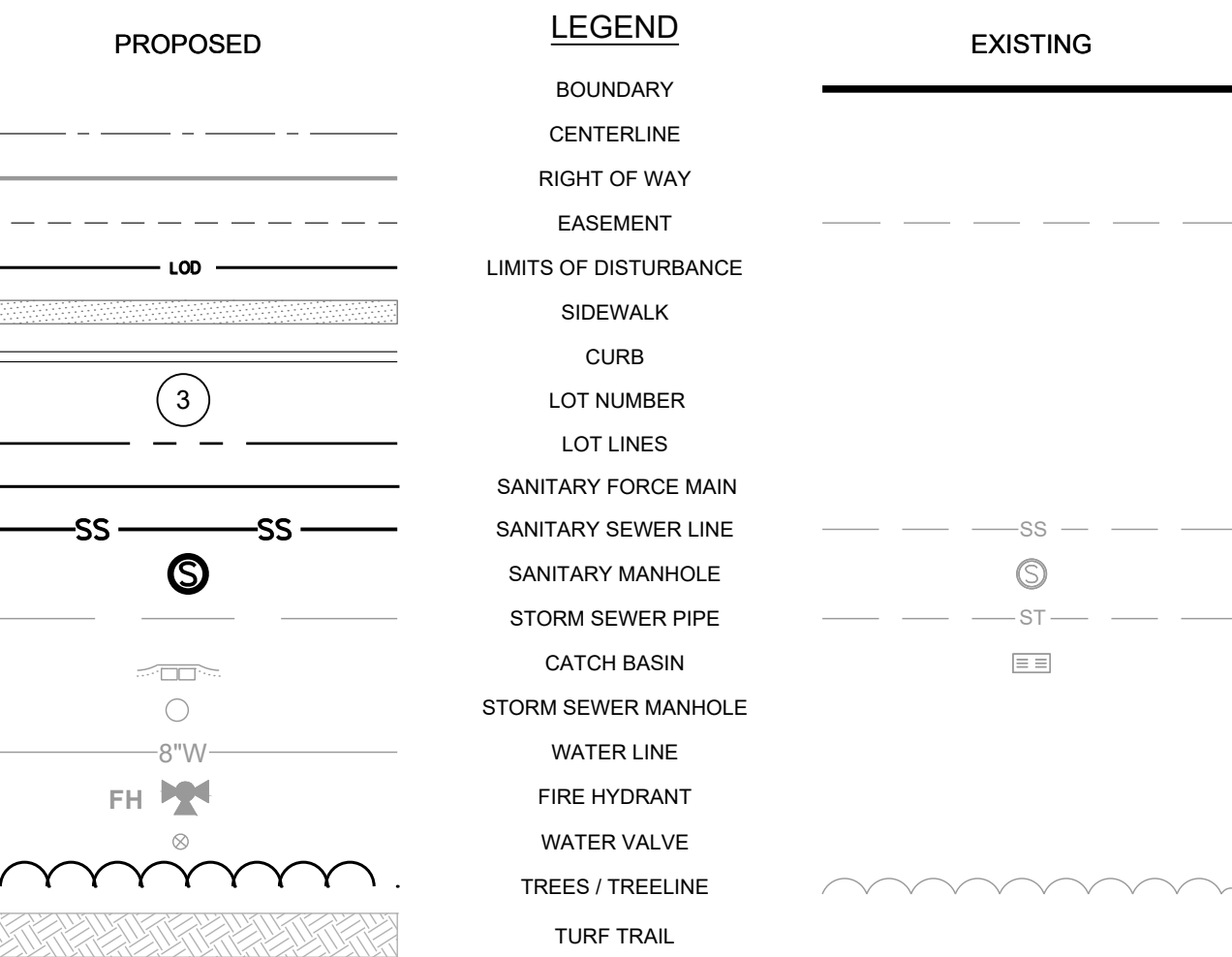
DETAIL: YARD HYDRANT
SCALE: NONE



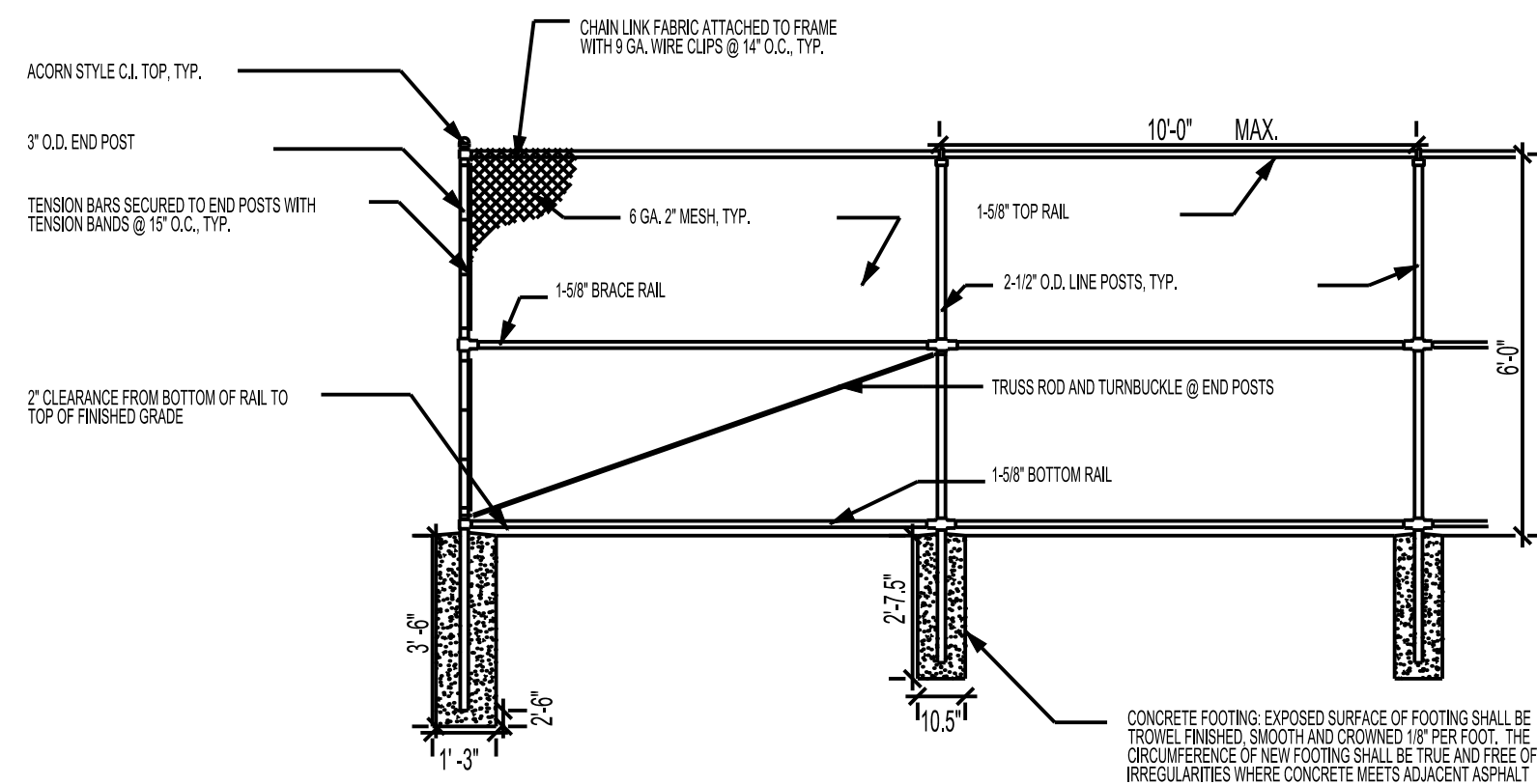
DETAIL: PUMP STATION ACCESS
DRIVEWAY PAVEMENT SECTION
SCALE: NONE



DETAIL: CHAIN LINK DOUBLE SWING GATE
SCALE: NONE



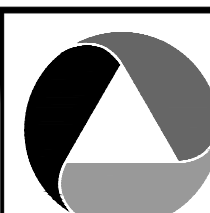
DETAIL: HYDRANT BOLLARD
SCALE: NONE



DETAIL: 6' HIGH CHAIN LINK FENCE
SCALE: NONE

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D. R. HORTON DELAWARE
DIVISION
671 S. CARTER ROAD
SUITE 6
SMYRNA, DE 19711
(302) 514-0850



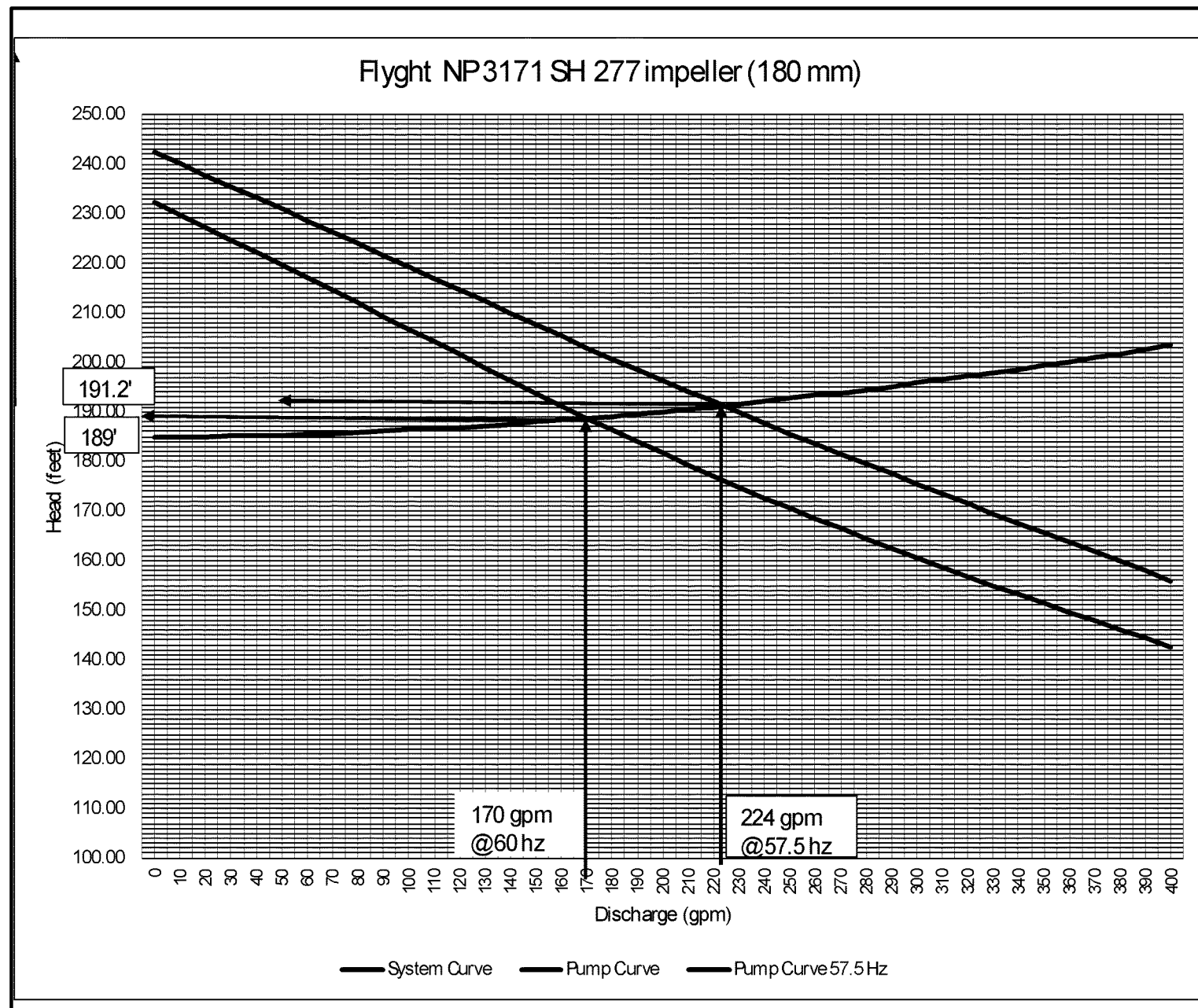
ATWELL
866.850.4200 www.atwell.com
17 POLLY DRUMMOND CENTER, SUITE 201
NEWARK, DE 19711
302.369.2900
KARNS AND ASSOCIATES IS NOW OPERATING AS ATWELL, LLC

DRAWN BY: **MO** DATE: 04/02/2025
CHECKED BY: **MJK** SCALE: AS SHOWN



CAMDEN-WYOMING SEWER & WATER AUTHORITY

DRAWING NO. **PS10-PS22 - PS10** SHEET NO. **10 OF 22**



PUMP AND SYSTEM DESIGN CURVE
PUMP STATION 'B'

Total Sewer Flow		Units	Unit Flow	Total GPD
Project Area	Wyoming Sngles	226	250	56,500
Fifer Tract Allowance		297	250	74,250
Jenkins Tract Allowance		223	250	55,750
Total		746		186,500 GPD
		Peaking Factor	1.7	full Build
		Peak Flow		317,050 GPD
		24 hr runoff		221 gpm

Wet Well Sizing		Initial Site	Full Build
Pump Cycle		56,500 GPD	186,500 GPD
Average Daily Flow	Initial	2.0	1.7
Peaking Factor		78 gpm	220 gpm
Peak Flow		7 minutes	6.0 minutes
Pump Cycle Time		549 gallons	1,321 gallons
Pump Dose Volume		10 ft	10 ft
Wet Well diameter		78.5 cf	78.5 cf
Wet Well Storage per foot		587 gallons	587 gallons
Pump Dose Depth (Off to On)		12.0 inches	27.0 inches

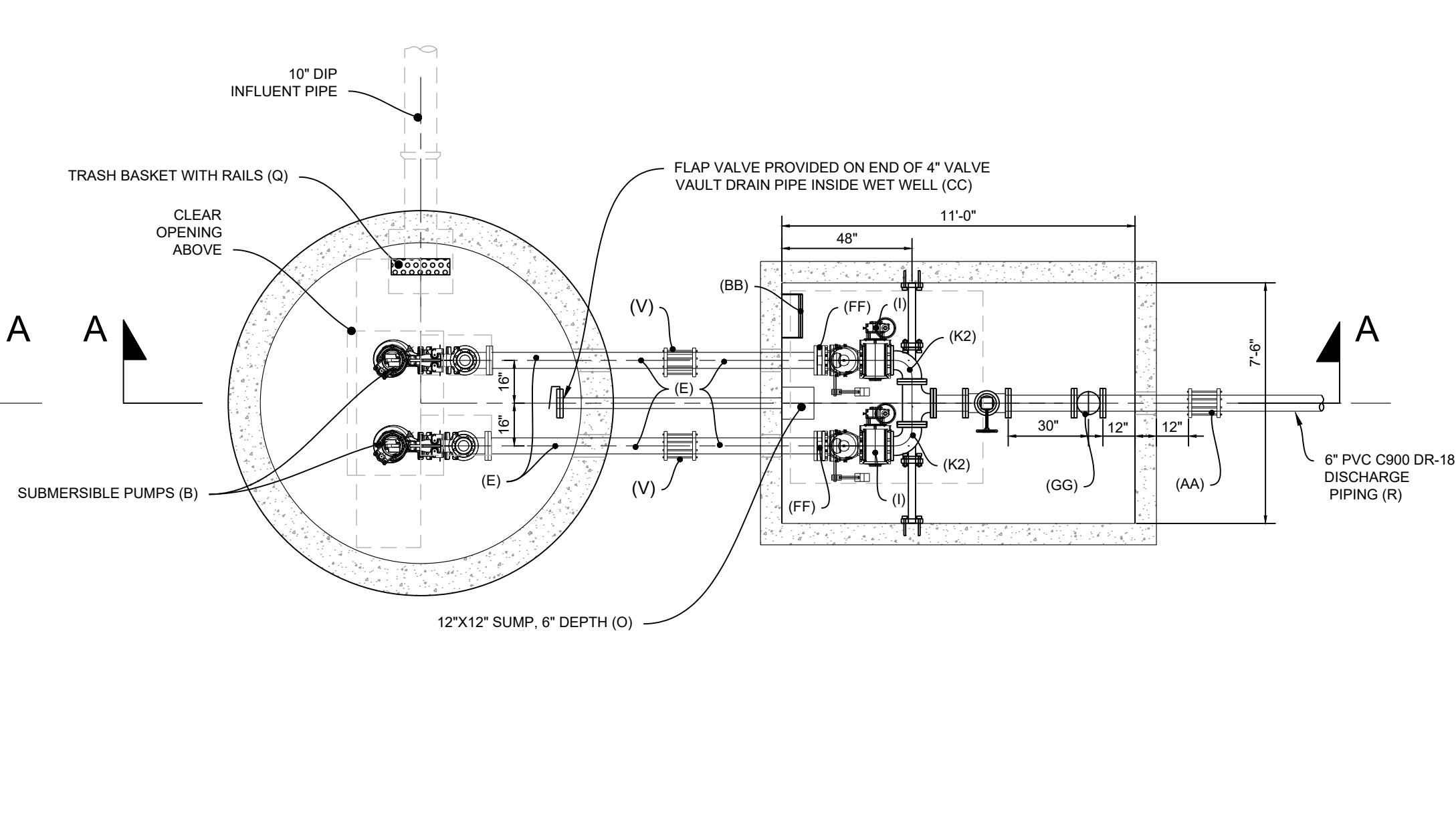
Wet Well Ventilation Computations		3 Stations
Pump Station B		
Air Flow Calculation		
10 ft diam wet well		
78.5 cu ft storage per vertical foot		
49.10 Inside Top Elevation		
26.62 Pumps Off		
22.48 vertical feet		
78.5 cu ft storage per vertical foot		
1,765 cu ft air		
30 air changes per hour		
52,950 CFH		883 cfm
Pressure Loss (inches wg)		
$\Delta h = 0.109136 \frac{q^{1.9}}{de^{5.02}}$		1.264101
		q = 883 cfm airflow
		de = 8.0 inches
$h_{friction} = 0.24 \frac{q^2}{de^5}$		2 Blower el
$h_{filter} = 1.00 \frac{q^2}{de^5}$		1 duct el
$h_T = 1.24 \frac{q^2}{de^5}$		1 length

PUMP STATION DESIGN FLOWS

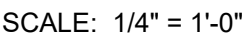
PUMP STATION 'B'
SITE PLAN AND DETAILS
PUMPING STATION FORCE MAIN PLANS
FOR

SAVANNAH FARMS

SITUATE IN: TOWNS OF CAMDEN & WYOMING, KENT COUNTY, DELAWARE

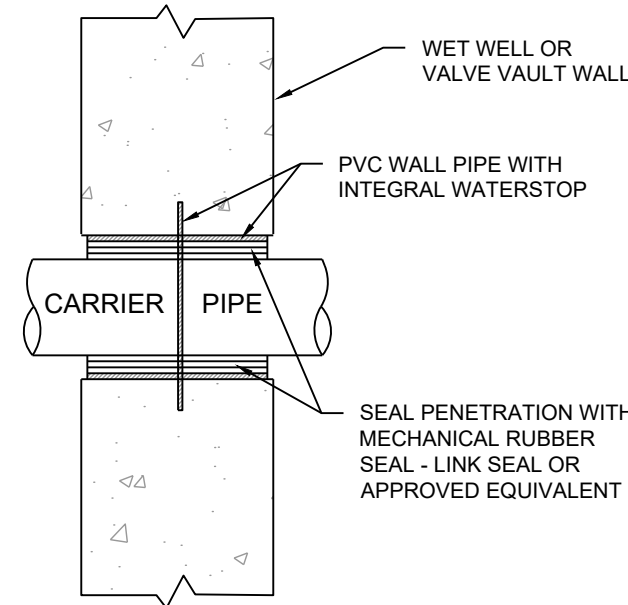


SCALE: 1/4" = 1'-0"

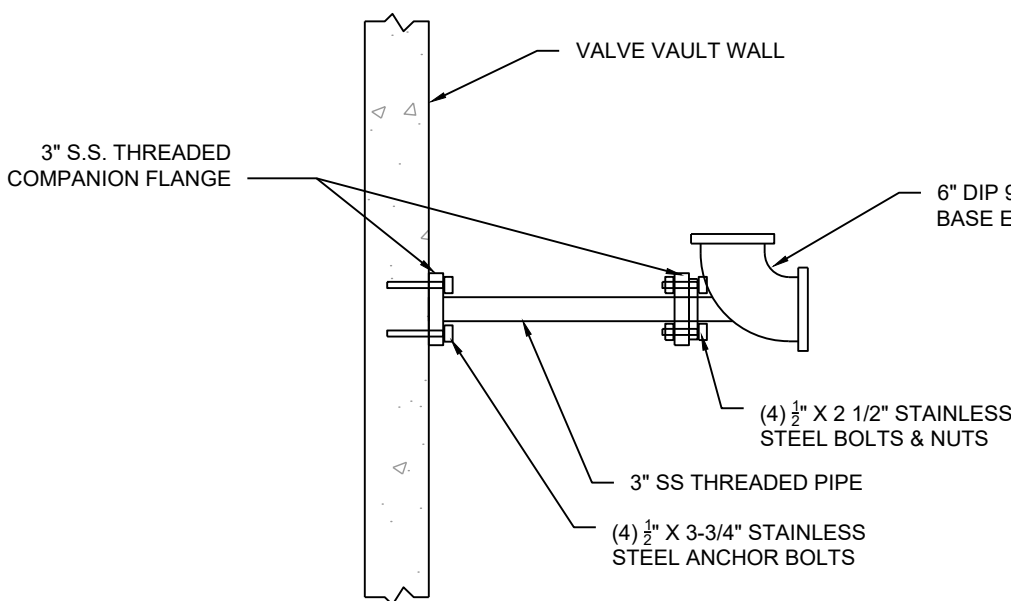


PUMP STATION NOTES:

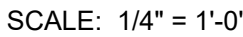
1. SUPPLY FAN, VENT PIPE, INFLUENT SWEER, BYPASS SECTION LINE AND TRASH BASKET SHOWN OUT OF POSITION ON ELEVATION VIEW FOR CLARITY.
2. WASTEWATER PIPING WITHIN WET WELL AND VALVE VAULT SHALL BE 12" CLAS 35 RCP.
3. 30XV PWR PRESSURE GLAND WITH ASHROFT PRESSURE TRANSMITTER RATED FOR 0 TO 120 PSI.
4. 30XV PWR PRESSURE GLAND ELEVATION SHALL BE SET TO MAINTAIN THE MINIMUM WATER LEVEL FOR PUMP SUBMERGENCE AS RECOMMENDED BY MANUFACTURER.
5. ALL INTERIOR SURFACES SHALL BE MODULAR RUBBER MECHANICAL JOINTS TO PREVENT WATER PENETRATIONS. SEE DETAIL THIS SHEET.
6. ELECTROMAGNETIC FLOW METER SHALL BE SIEMENS SITOPUS 500FLO 2 (2) COATS OF WATERPROOF COAT.
7. ALL INTERIOR WET WELL CONCRETE SURFACES SHALL RECEIVE DURAPLATE 100 (OR EQUIVALENT) PWR LINER.
8. ALL INTERIOR WET WELL CONCRETE SURFACES SHALL RECEIVE TWO (2) COATS OF WATERPROOF COAT TARP EPOXY. MINIMUM DRY THICKNESS 24 MILS.



SCALE: NONE



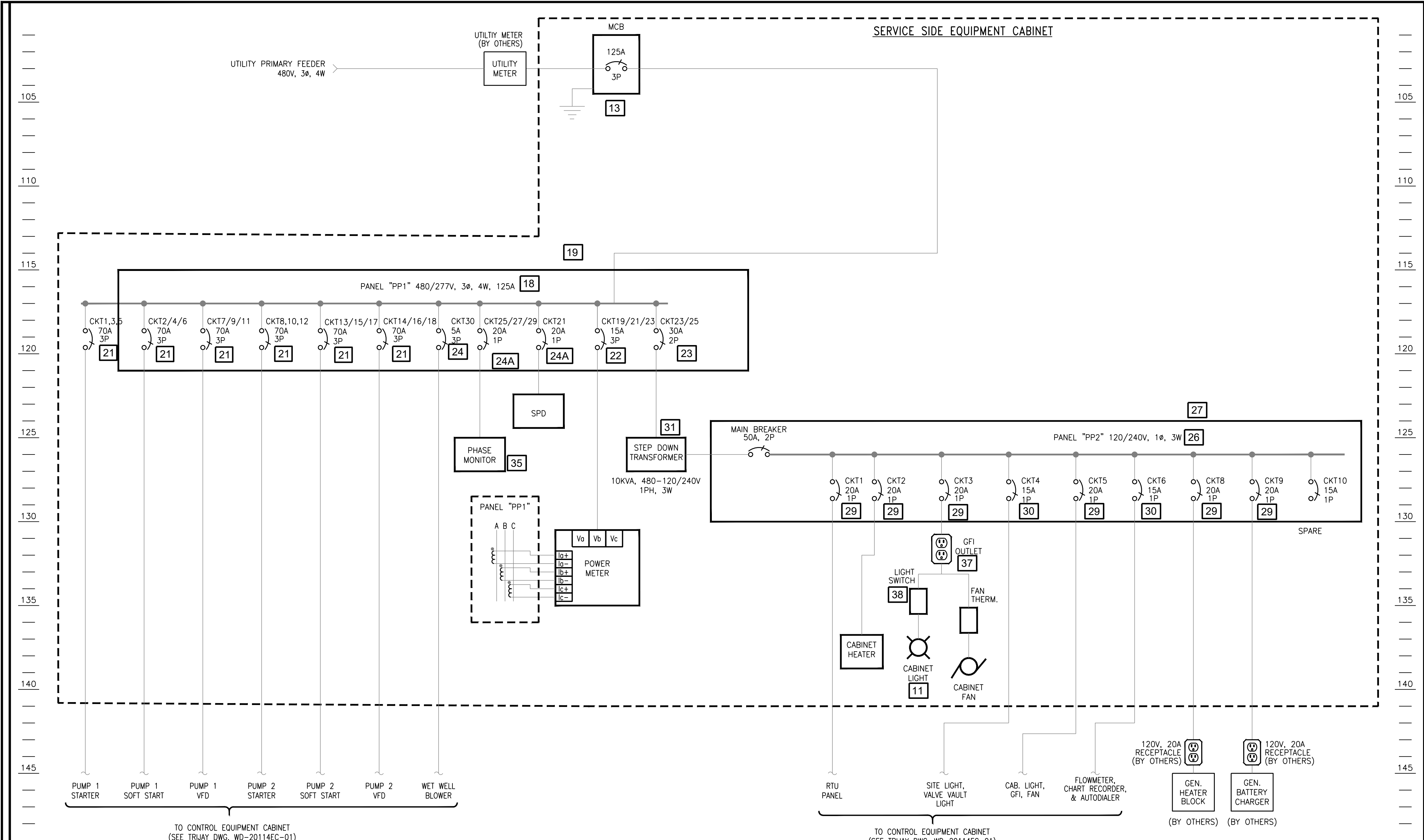
SCALE: NONE



SCALE: 1/4" = 1'-0"

SITUATE IN: TOWNS OF CAMDEN & WYOMING, KENT COUNTY, DELAWARE

DRAWING NO.	SHEET NO.
PS10-PS22 - PS11	11 OF 22



EQUIPMENT LIST

- ENCLOSURE, 86"H x 96"W x 36"D MODIFIED 3R PANEL - HOFFMAN (OR APPROVED EQUIVALENT)
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- (INTENTIONALLY LEFT BLANK)
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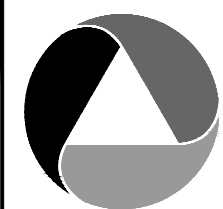
ELECTRIC DETAILS PUMPING STATION 'B' & FORCE MAIN PLANS FOR **SAVANNAH FARMS**

SITUATE IN: TOWNS OF CAMDEN & WYOMING, KENT COUNTY, DELAWARE

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10 MAPLE AVENUE
P.O. BOX 109
LINE LEXINGTON, PA 18932
Phone: (215) 997-5833
Fax: (215) 997-5834
www.trijay.com
trijay@trijay.com

REVISIONS		
NO.	DATE	DESCRIPTION
3	4-9-2026	3 STATION PLANS
2	10-1-2025	PER FLYGT COMMENTS
1	9-5-2025	PER CWS/KA/KCDPW COMMENTS

PREPARED FOR:
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DIVISION
671 S. CARTER ROAD
SUITE 6
SMYRNA, DE 19777
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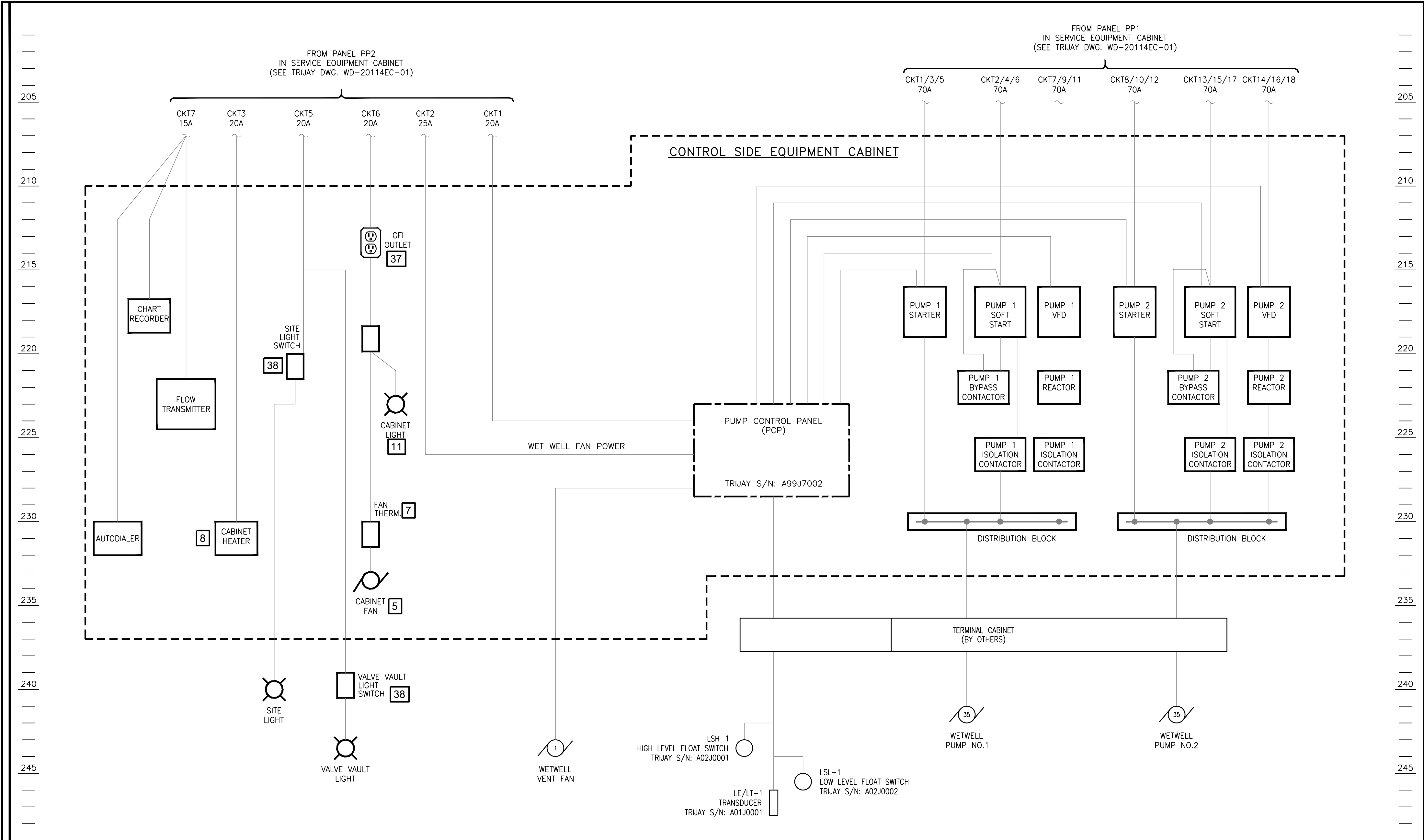
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DRAWN BY **MO** DATE **04/02/2025**
CHECKED BY **MJK** SCALE **AS SHOWN**



**CAMDEN-WYOMING SEWER &
WATER AUTHORITY**

DRAWING NO. **PS10-PS22 - PS13** SHEET NO. **13 OF 22**



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ELECTRIC DETAILS PLAN PUMPING STATION 'B' & FORCE MAIN PLANS FOR SAVANNAH FARMS

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PREPARED FOR:
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SUITE 6
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** KARNIS AND ASSOCIATES IS NOW OPERATING AS ATWELL, LLC **

DRAWN BY
CHECKED BY

MO
MJK

DATE
SCALE

04/02/2025
AS SHOWN

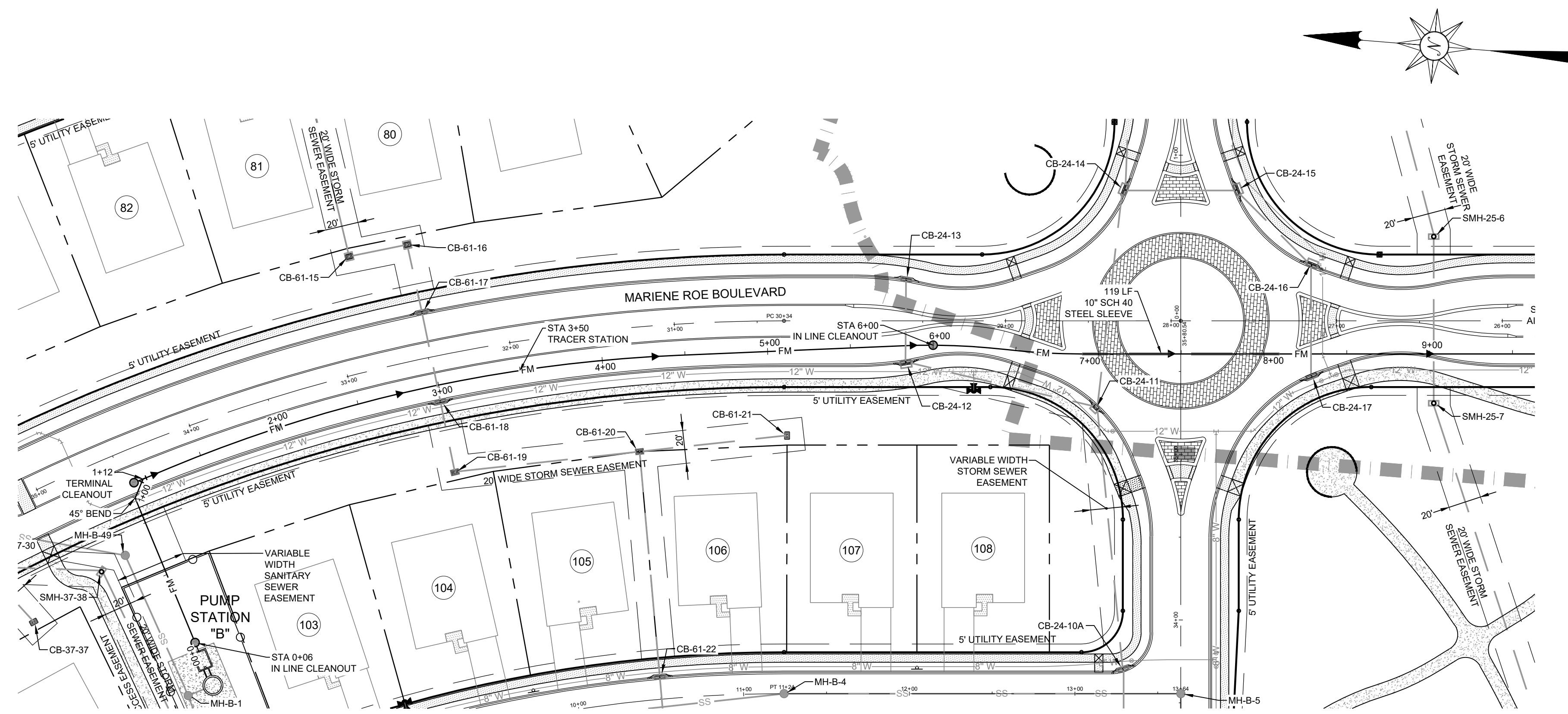


04-10-2026
JONAL ENGINEER

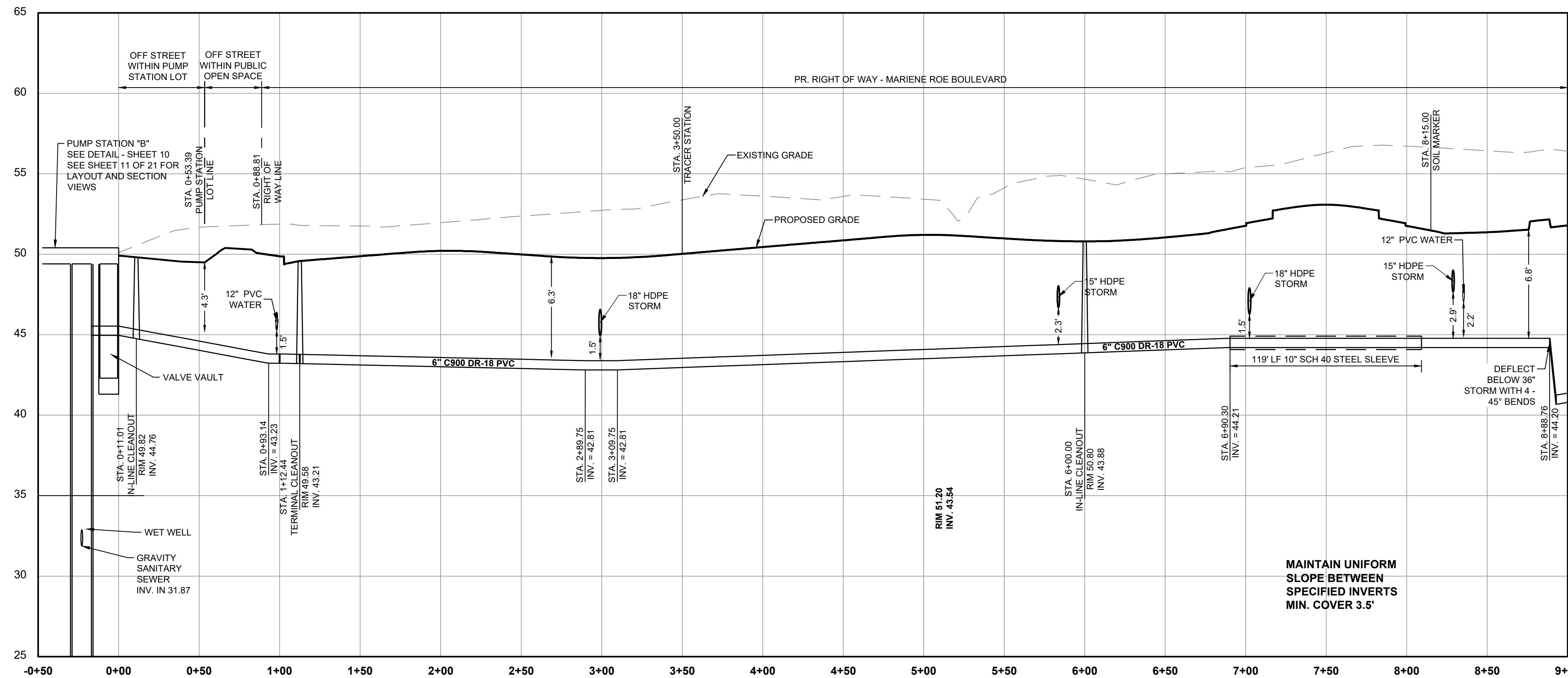
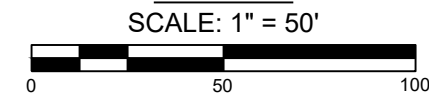
CAMDEN-WYOMING SEWER &
WATER AUTHORITY

DRAWING NO.
PS10-PS22 - PS14

SHEET NO.
14 OF 22

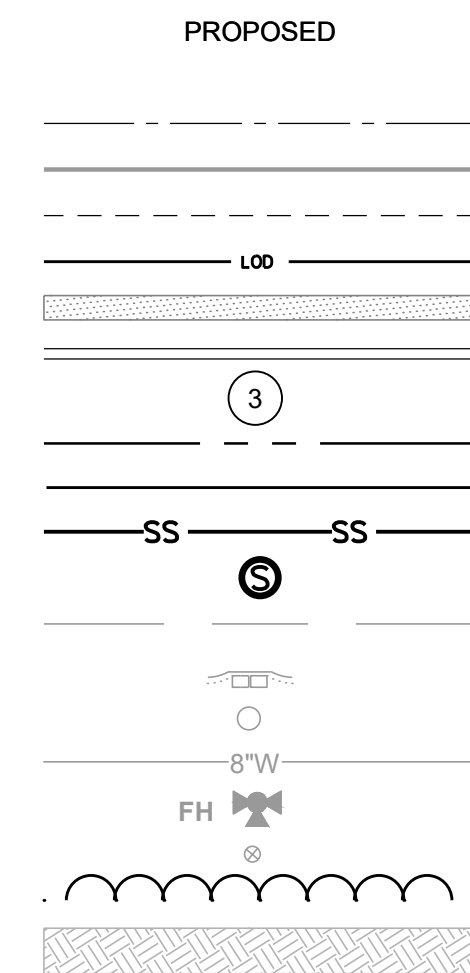
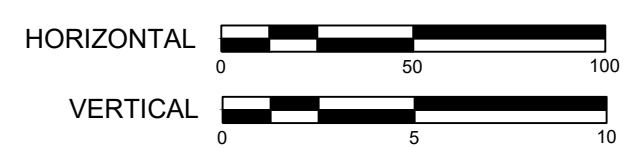


PLAN
SCALE: 1" = 50'



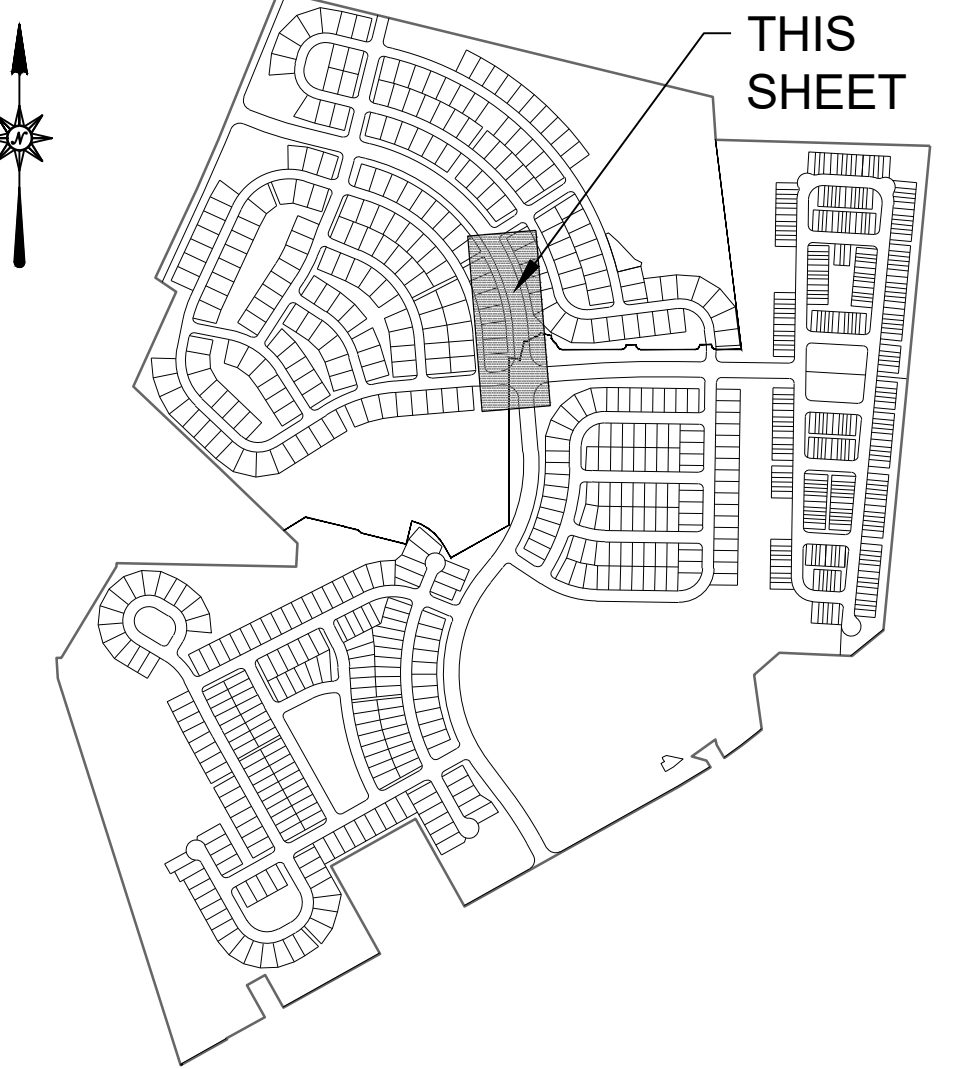
PROFILE: FORCE MAIN - PUMP STATION 'B'
STA.: 0+00 TO 9+00

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



LEGEND

EXISTING



KEY MAP

SCALE: 1"=1000'

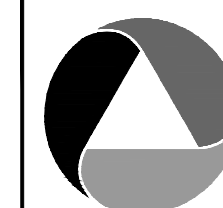
SANITARY FORCE MAIN 'B'
PLAN AND PROFILE
STA 0+00 TO STA 9+00
FOR

SAVANNAH FARMS

SITUATE IN: TOWNS OF CAMDEN & WYOMING, KENT COUNTY, DELAWARE

REVISIONS		
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PREPARED FOR:
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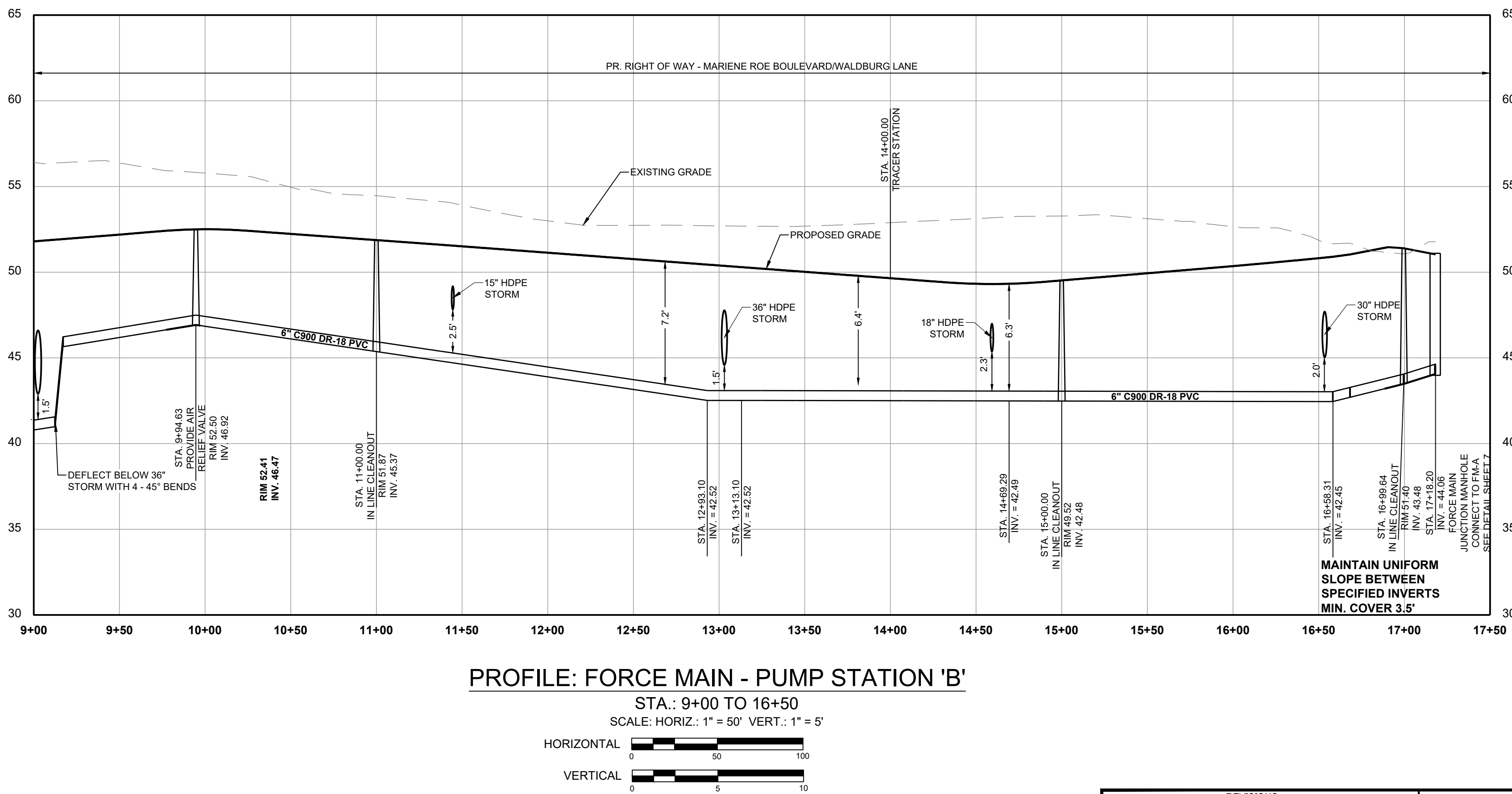
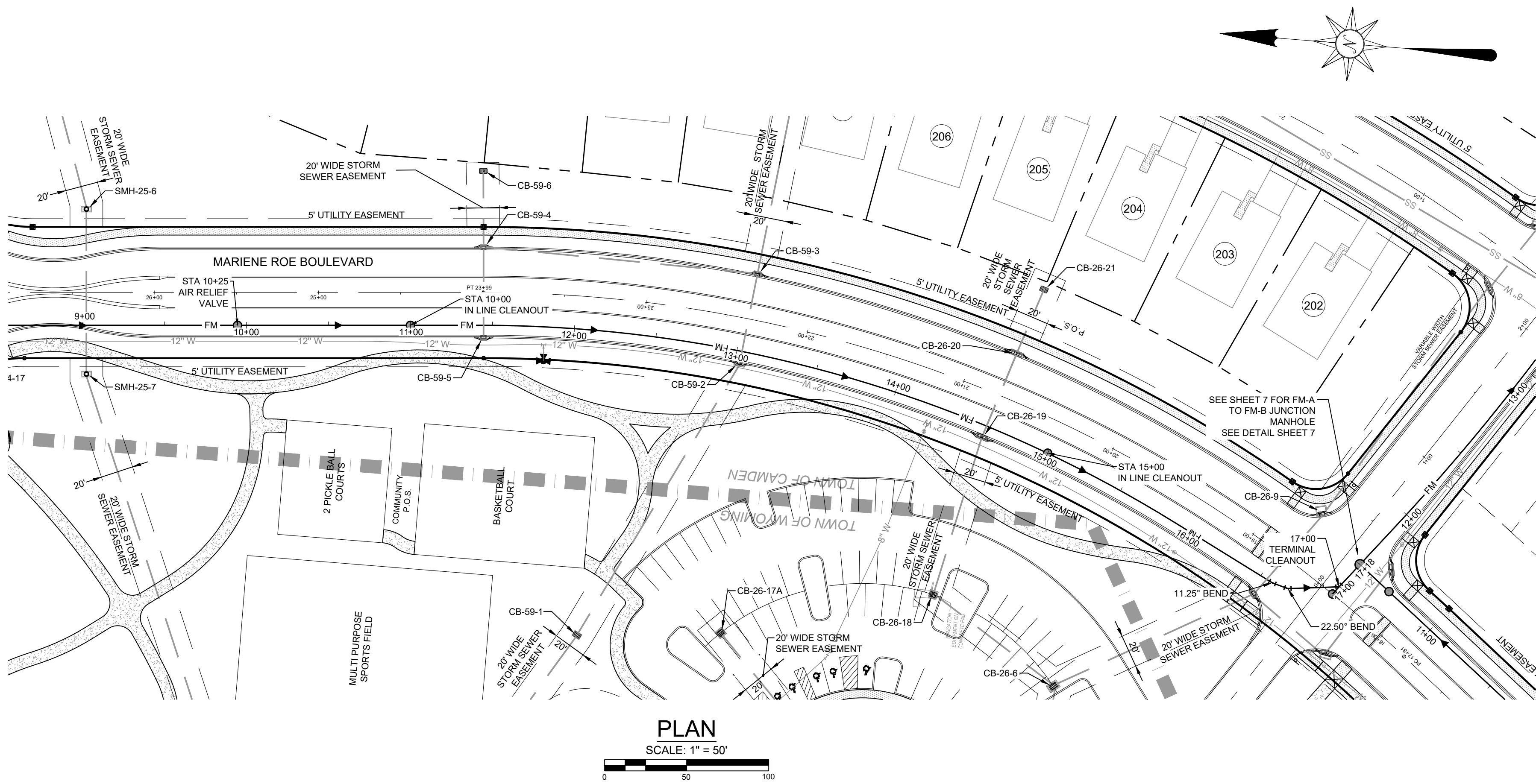
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**CAMDEN-WYOMING SEWER &
WATER AUTHORITY**

DRAWING NO.	SHEET NO.
PS10-PS22 - PS15	15 OF 22



PROPOSED	LEGEND	EXISTING
	BOUNDARY	
	CENTERLINE	
	RIGHT OF WAY	
	EASEMENT	
	LIMITS OF DISTURBANCE	
	SIDEWALK	
	CURB	
	LOT NUMBER	
	LOT LINES	
	SANITARY FORCE MAIN	
	SANITARY SEWER LINE	
	SANITARY MANHOLE	
	STORM SEWER PIPE	
	CATCH BASIN	
	STORM SEWER MANHOLE	
	WATER LINE	
	FIRE HYDRANT	
	WATER VALVE	
	TREES / TREELINE	
	TURF TRAIL	

SANITARY FORCE MAIN 'B'
PLAN AND PROFILE
STA 9+00 TO STA 16+50
FOR

SAVANNAH FARMS

SITUATE IN: TOWNS OF CAMDEN & WYOMING, KENT COUNTY, DELAWARE

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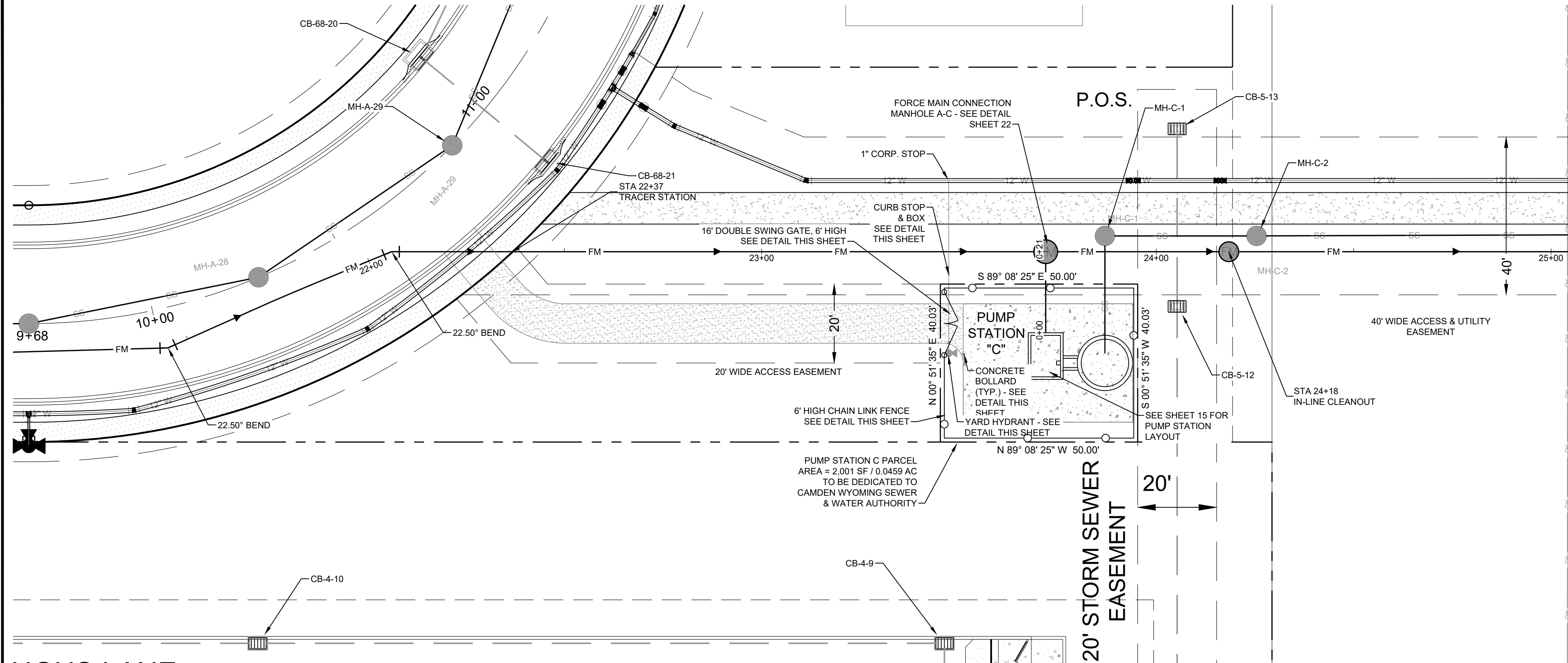
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17 POLLY DRUMMOND CENTER, SUITE 201
NEWARK, DE 19711
302.369.2900
** KARINS AND ASSOCIATES IS NOW OPERATING AS ATWELL, LLC **

DRAWN BY: **MO** DATE: **04/02/2025**
CHECKED BY: **MJK** SCALE: **1" = 50'**

DELAWARE
Professional Engineer
No. 112284
04-10-2026

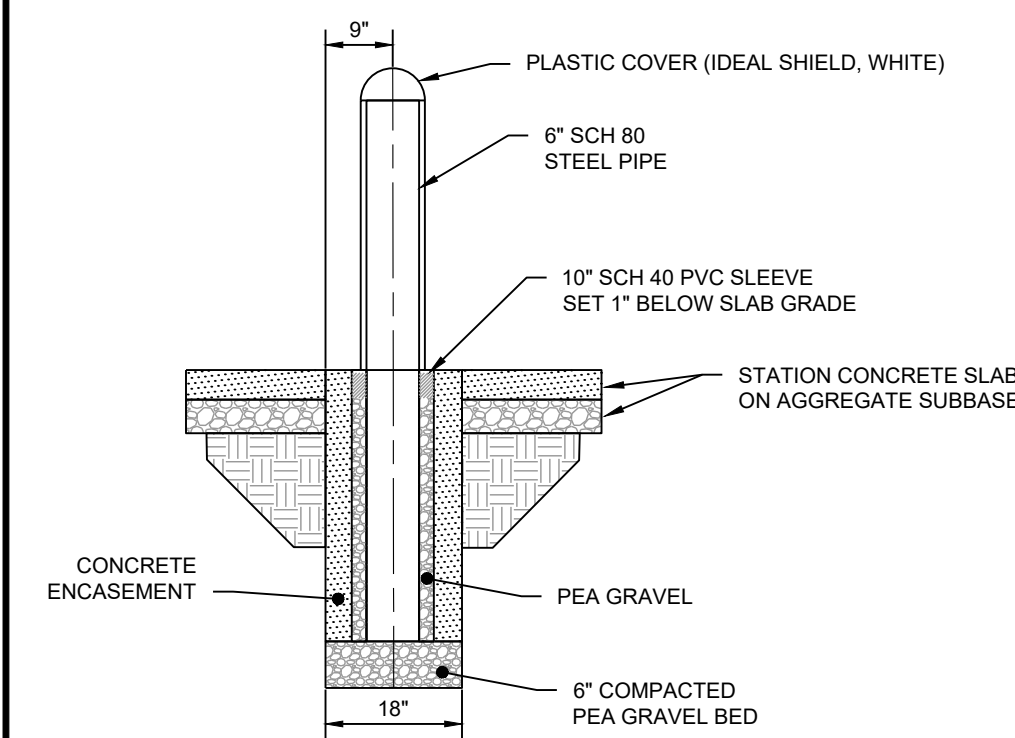
CAMDEN-WYOMING SEWER & WATER AUTHORITY

DRAWING NO.	SHEET NO.
PS10-PS22 - PS16	16 OF 22



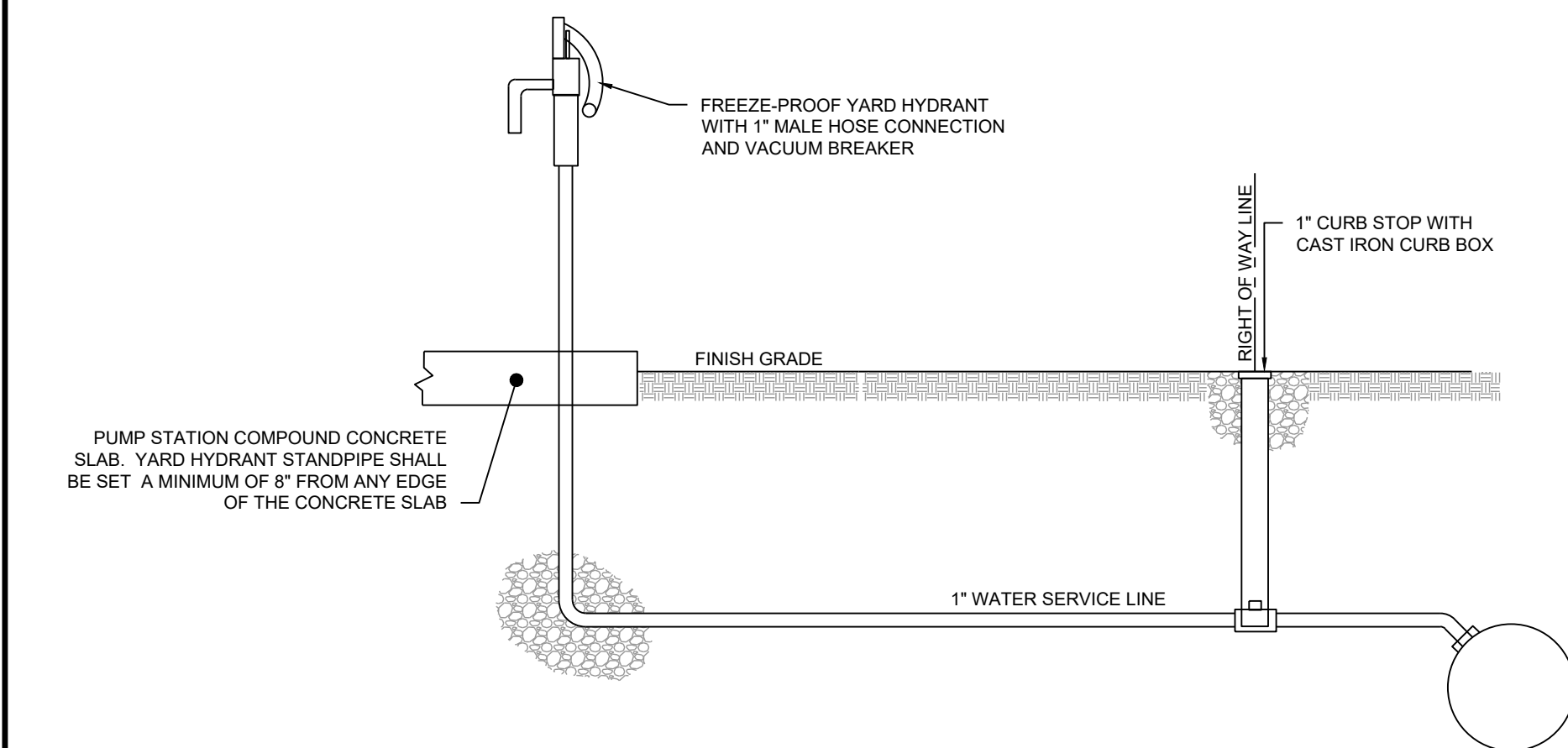
PLAN: PUMP STATION 'C' SITE

SCALE: 1" = 20'



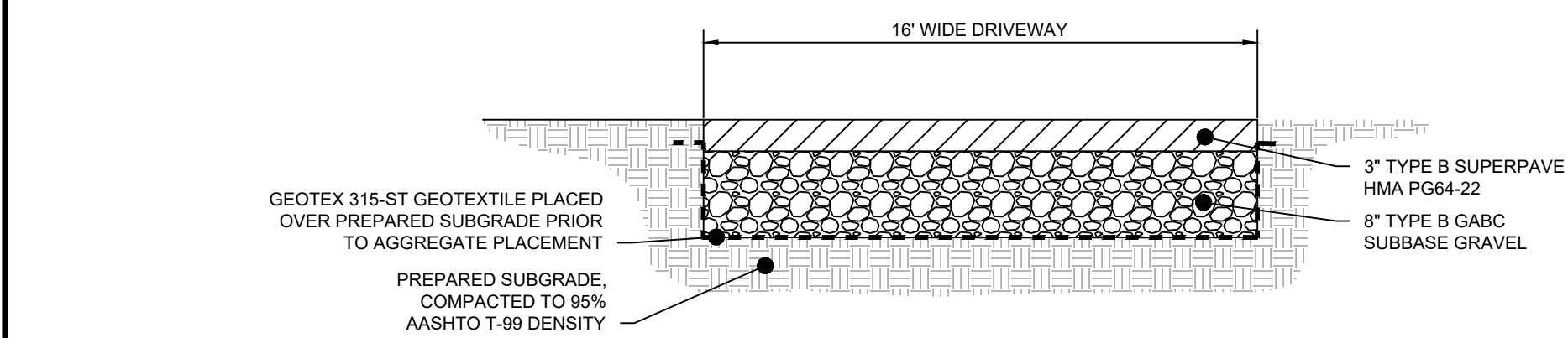
DETAIL: HYDRANT BOLLARD

SCALE: NONE



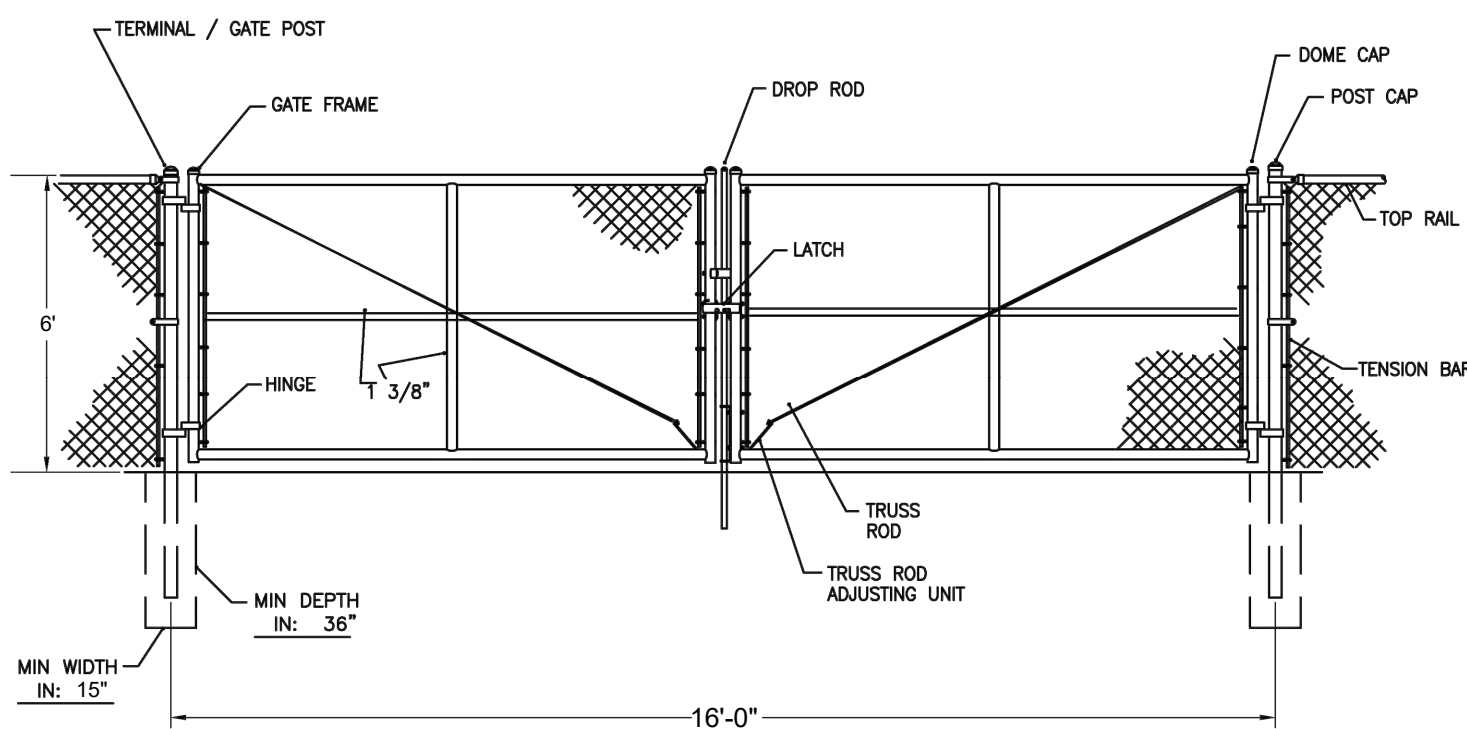
DETAIL: YARD HYDRANT

SCALE: NONE



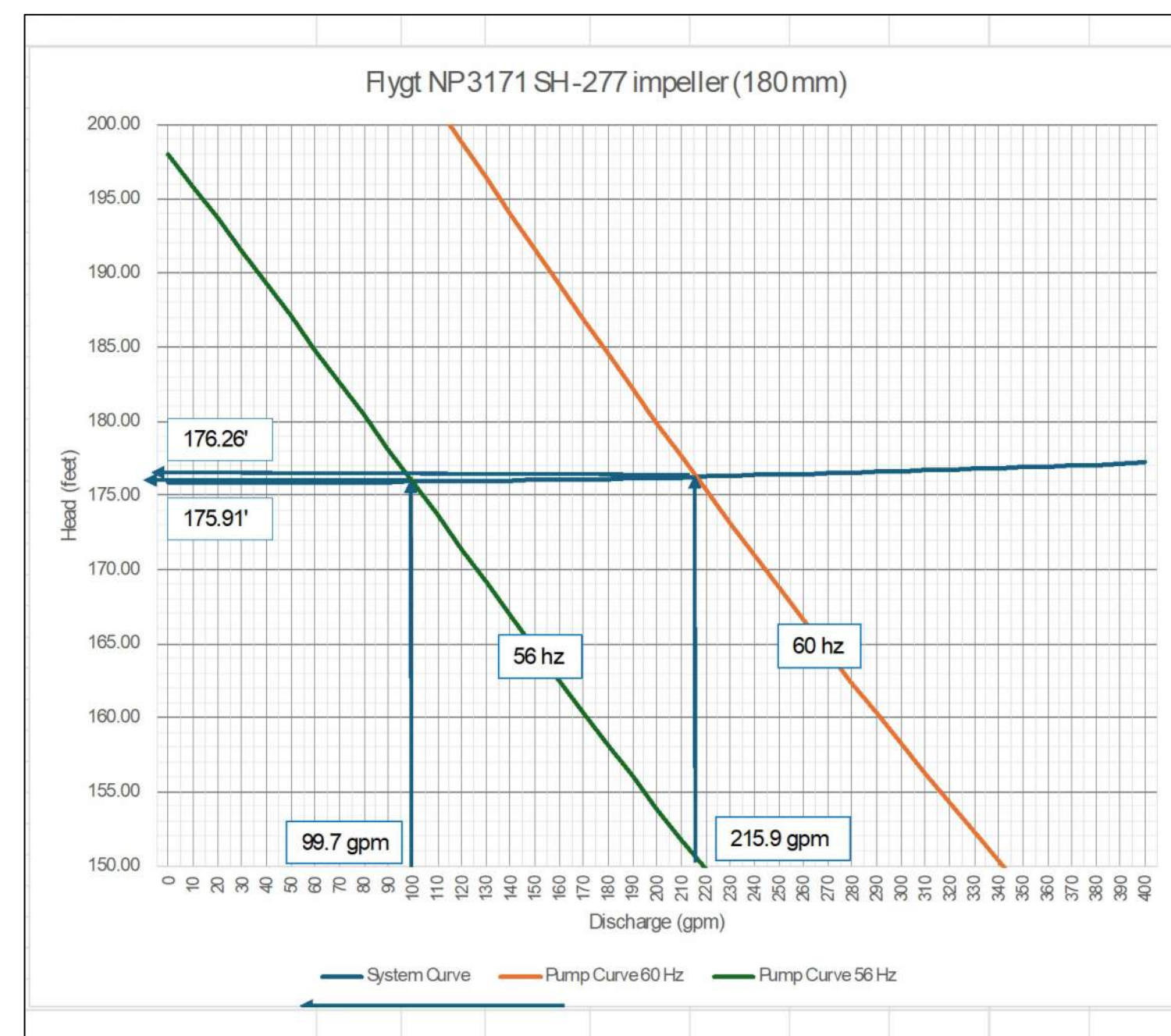
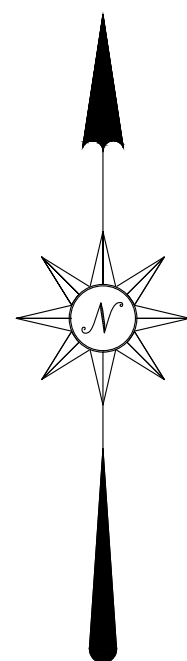
DETAIL: PUMP STATION ACCESS DRIVEWAY PAVEMENT SECTION

SCALE: NONE



DETAIL: CHAIN LINK DOUBLE SWING GATE

SCALE: NONE



PUMP AND SYSTEM DESIGN CURVE
PUMP STATION 'C'

LOG OF BORING NO. PS-C										Sheet 1 of 1	
PROJECT: Savannah Farms					WATER LEVEL (ft): 17.5 7.6 BOC						
PROJECT NO.: 230650					DATE: 3/18/26 3/18/26						
PROJECT LOCATION: Kent County, Delaware					CAVED (ft): In Augers 9.2						
DATE STARTED: 3/18/26					WATER ENCOUNTERED DURING DRILLING (ft): 10.0						
DATE COMPLETED: 3/18/26					GROUND SURFACE ELEVATION: 48.61						
DRILLING CONTRACTOR: Geo-Technology Associates, Inc.					DATUM: Survey						
DRILLER: D. Hans, Jr.					EQUIPMENT: Diedrich D50						
DRILLING METHOD: Hollow Stem Auger					LOGGED BY: A. Keilmeyer						
SAMPLING METHOD: Split Spoon					CHECKED BY: M.McDonough						
SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (%)	SAMPLE BLOWBIS inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS	
S-1	0.0	19	2-2-4-4	5	48.6	0	SC		Topsoil +/- 6.0 inches		
									Brown and gray, moist, loose, Clayey SAND		
S-2	2.0	11	3-3-3-3	6	44.6		CL		Same		
S-3	4.0	22	1-2-3-3	4	42.6		CL		Gray, moist, soft, Sandy Lean CLAY		
S-4	6.0	18	2-4-7-7	11	40.6	7	SC		Gray, moist medium dense, Clayey SAND		
S-5	8.0	20	1-2-1-2	3			SM		Gray, wet, very loose, Silty SAND		
S-6	13.0	24	1-2-3-3	5		14			Same, loose		
S-7	18.0	24	3-3-6-7	9		21			Gray and orange, wet, loose, Silty SAND		
S-8	23.0	24	2-2-4-4	6					Same		
S-9	28.0	24	4-7-6-7	13		28			Orange, wet, medium dense, Silty SAND, contains gravel		
S-10	33.0	24	8-6-6-6	12		35			Same		
S-11	38.0	24	4-5-11-11	16	8.6				Same		
									Boring terminated at 40.0 feet.		
NOTES: Elevation and location should be considered approximate.											
 GEO-TECHNOLOGY ASSOCIATES, INC. 18 Boulder Circle, Suite 36 New Castle, DE 11720										LOG OF BORING NO. PS-C	
										Sheet 1 of 1	

Total Sewer Flow			Units	Unit Flow	Total GPD
Project Area					
Camden Singles				250	0
Camden Towns				277	69,250
Camden Apartments				0	0
Total				277	69,250 GPD
Peaking Factor				2.0	full Build
Peak Flow					138,500 GPD
24 hr runoff					97 gpm

Wet Well Sizing			Initial	Full Build
Pump Cycle				
Average Daily Flow			12,500 GPD	69,250 GPD
Peaking Factor			2.6	2.0
Peak Flow			23 gpm	96 gpm
Pump Cycle Time			12 minutes	6.0 minutes
Pump Dose Volume			276 gallons	577 gallons
Wet Well diameter			10 ft	10 ft
Wet Well Storage per foot			78.5 cf	78.5 cf
Pump Dose Depth (Off to On)			587 gallons	587 gallons
			6.0 inches	12.0 inches

Wet Well Ventilation Computations			3 Stations
Pump Station C			
Air Flow Calculation			
10 ft diam wet well			
78.5 cu ft storage per vertical foot			
49.10 Inside Top Elevation			
30.13 Pumps Off			
18.97 vertical feet			
78.5 cu ft storage per vertical foot			
1,489 cu ft air			
30 air changes per hour			
44,670 CFH 745 cfm			
Pressure Loss (inches w/g)			
h _f = 0.109136 q ^{1.9} de ^{-5.02} in/100 ft			
q = 745 cfm airflow			
de = 8.0 inches			
h _{friction} = 0.15 elbows 2 Blower el 52.60			
h _{ducting} = 1.00 Grilles 1 duct el 36.13			
h _T = 1.15 Filters 1 length 16.47			

PUMP STATION DESIGN FLOWS

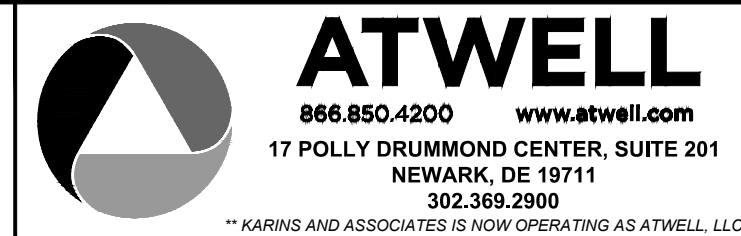
SANITARY FORCE MAIN 'C'
PLAN AND PROFILE
STA 0+00 TO STA 9+00
FOR

SAVANNAH FARMS

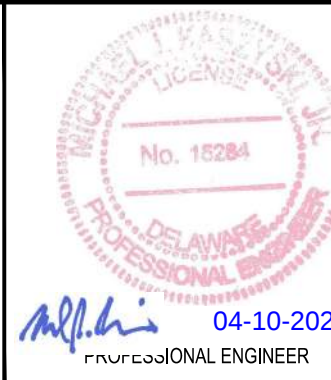
SITUATE IN: TOWNS OF CAMDEN & WYOMING, KENT COUNTY, DELAWARE

REVISIONS		
NO.	DATE	DESCRIPTION
3	4-9-2026	3 STATION PLANS
2	10-1-2025	PER FLYGT COMMENTS
1	9-5-2025	PER CWS/KA/KCDPW COMMENTS

PREPARED FOR:
D. R. HORTON DELAWARE
DIVISION
671 S. CARTER ROAD
SUITE 6
SMYRNA, DE 19877
(302) 514-0850

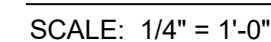
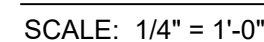


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CHECKED BY: MJK SCALE: AS SHOWN



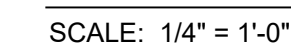
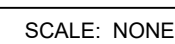
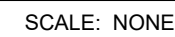
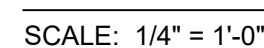
CAMDEN-WYOMING SEWER &
WATER AUTHORITY

DRAWING NO. PS10-PS22 - PS17
SHEET NO. 17 OF 22



PROPOSED: 277 SINGLE FAMILY ATTACHED LOTS (CAMDEN PS-C)

1. SUPPLY FAN, VENT PIPE, INFLUENT SEWER, BYPASS
SUCK LINE AND TRASH BASKET SHOWN OUT OF
POSITION ON ELEVATION VIEW FOR CLARIFICATION.
2. WATER PIPING SHALL BE 12" DUCTILE IRON VALVE VAULT
SHALL BE CLASS 33 FLANGED END DUCTILE IRON PIPE.
3. XQ50 P50 PRESSURE GLAND WITH ASHROFT PRESSURE
RATING. WATER PIPING SHALL BE 12" DUCTILE IRON.
4. LOW LEVEL ALARM SWITCH ELEVATION SHALL BE SET TO
MAINTAIN THE MINIMUM WATER LEVEL FOR PUMP
OPERATION. ALARM SWITCH SHALL BE 1/2" DUCTILE IRON
PIPE SLEEVE WITH INTEGRAL WATERSTOP AND MODULAR
RUBBER MECHANICAL SEAL TYPICAL FOR ALL PIPE
PENETRATIONS. SELECTIONS SHALL BE:
5. ELECTROMAGNETIC FLOW METER SHALL BE SIEMENS
STRANS MAGFLO 5100W WITH MAG6000 TRANSMITTER.
6. FLOW METER SHALL BE 12" DUCTILE IRON VALVE VAULT
REQUIRE CURVED 100' OR EQUIVALENT PVC LINED
ALL EXTERIOR WELL TIE WALL CONCRETE SURFACES SHALL
BE 20" (2) CYCLES OF 100' OR EQUIVALENT COAL TAR
EPOXY. MINIMUM DRY THICKNESS 24 MILS.



SITUATE IN: TOWNS OF CAMDEN & WYOMING, KENT COUNTY, DELAWARE

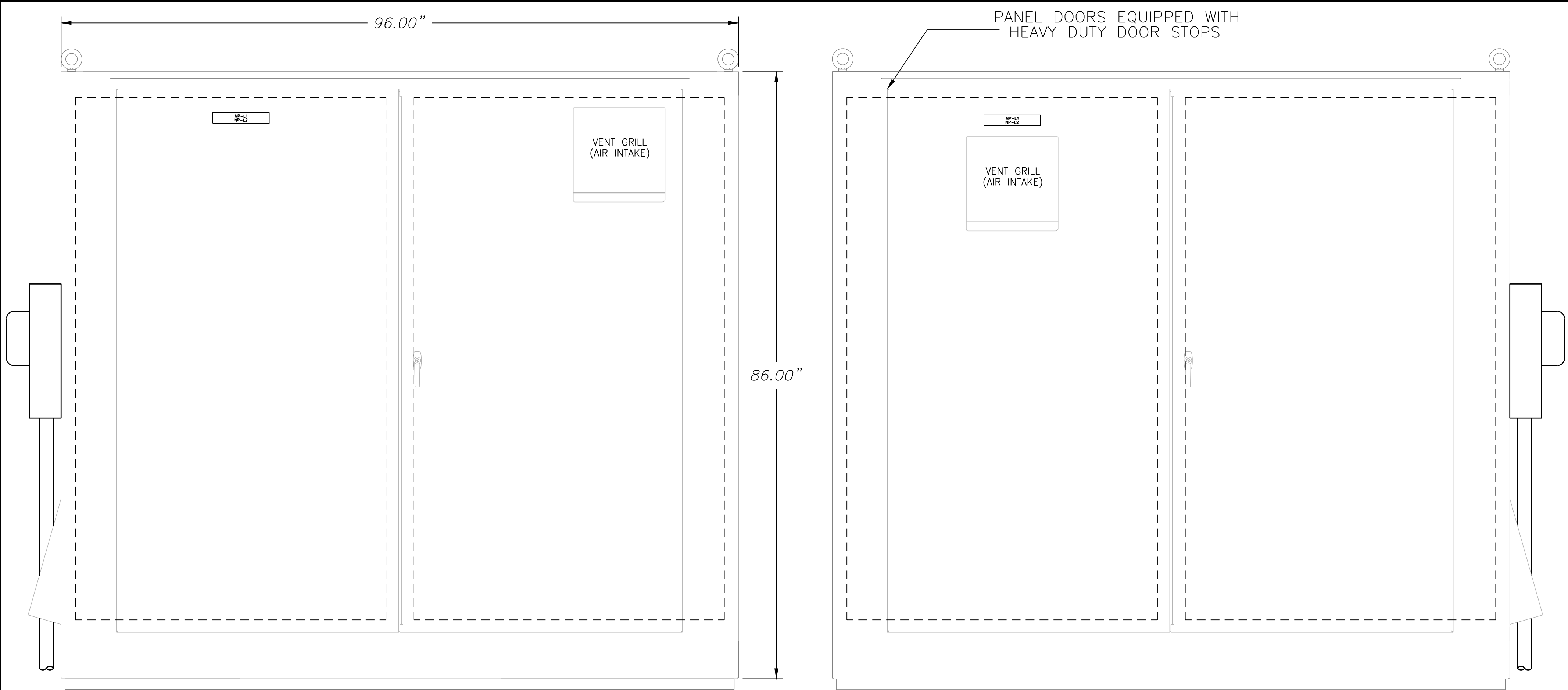
PREPARED FOR:
D. R. HORTON DELAWARE
DIVISION
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SUITE 6
SMYRNA, DE 19977
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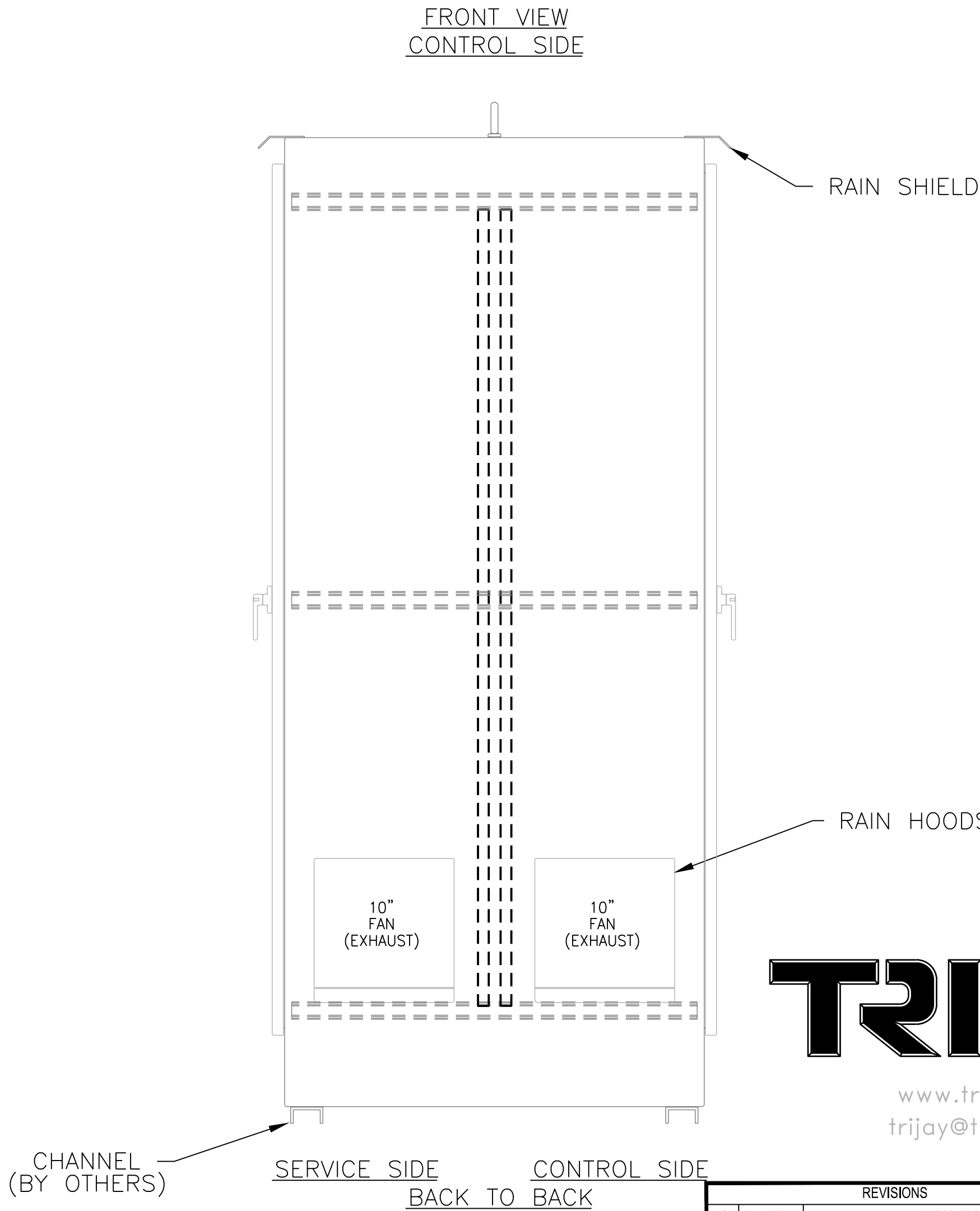
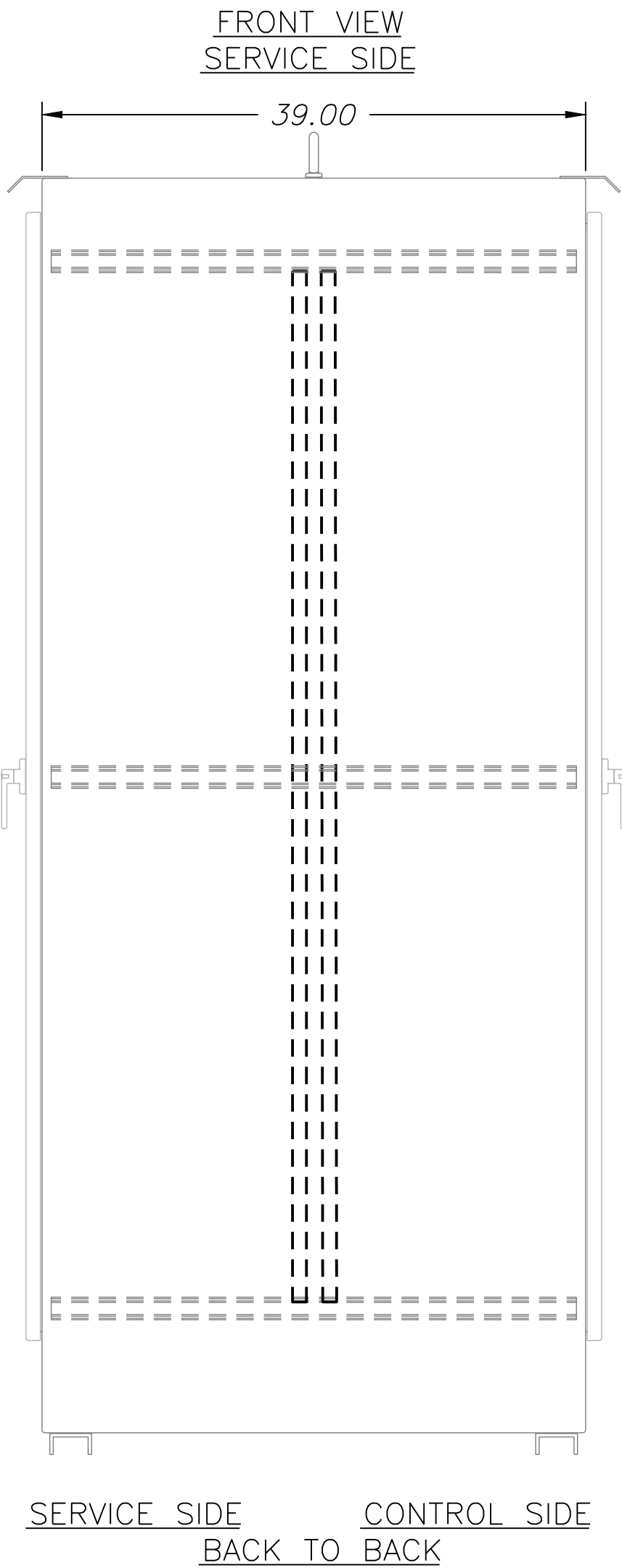


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- NOTES:
1. CONSTRUCTION: NEMA 3R
(MODIFIED NEMA 12)
ENCLOSURE –CARBON STEEL
SUB PANEL–CARBON STEEL
DRIP SHIELD OVER DOORS
L36 STAINLESS STEEL PADLOCKING HANDLE
ALUMINUM CHANNEL ON BOTTOM
DOOR STOPS ON TOP OR BOTTOM OF EACH DOOR
4 RAIN SHROUDS COLOR TO MATCH ENCLOSURE
 2. FINISH: PAINT
A. EXTERIOR – GRAY
B. INTERIOR – GRAY
C. SUB PANEL – WHITE

ENGRAVING CHART				
REF.	NAMEPLATE SIZE	TEXT HEIGHT	LINE	TEXT
NP-01	8" x 2"	1/2"	L1	SAVANNAH FARMS PUMP STATION B
			L2	SERVICE EQUIPMENT CABINET
NP-02	8" x 2"	1/2"	L1	SAVANNAH FARMS PUMP STATION B
			L2	CONTROL EQUIPMENT CABINET
NOTES: 1. NAMEPLATES: WHITE LAMICOID (2-PLY) WITH BLACK ENGRAVED LETTERS. 2. ATTACH WITH S.S. DRIVE SCREWS (COAT REAR OF SCREW WITH SILICON SEAL).				





www.trijay.com
trijay@trijay.com

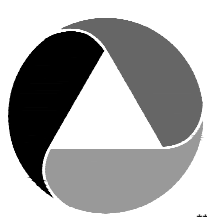
TRI-JAY SYSTEMS INC.
10 MAPLE AVENUE
P.O. BOX 109
LINE LEXINGTON, PA 18932
Phone: (215) 997-5833
Fax: (215) 997-5834

ELECTRIC DETAILS
PUMPING STATION 'C' & FORCE MAIN
PLANS
FOR
SAVANNAH FARMS

SITUATE IN: TOWNS OF CAMDEN & WYOMING, KENT COUNTY, DELAWARE

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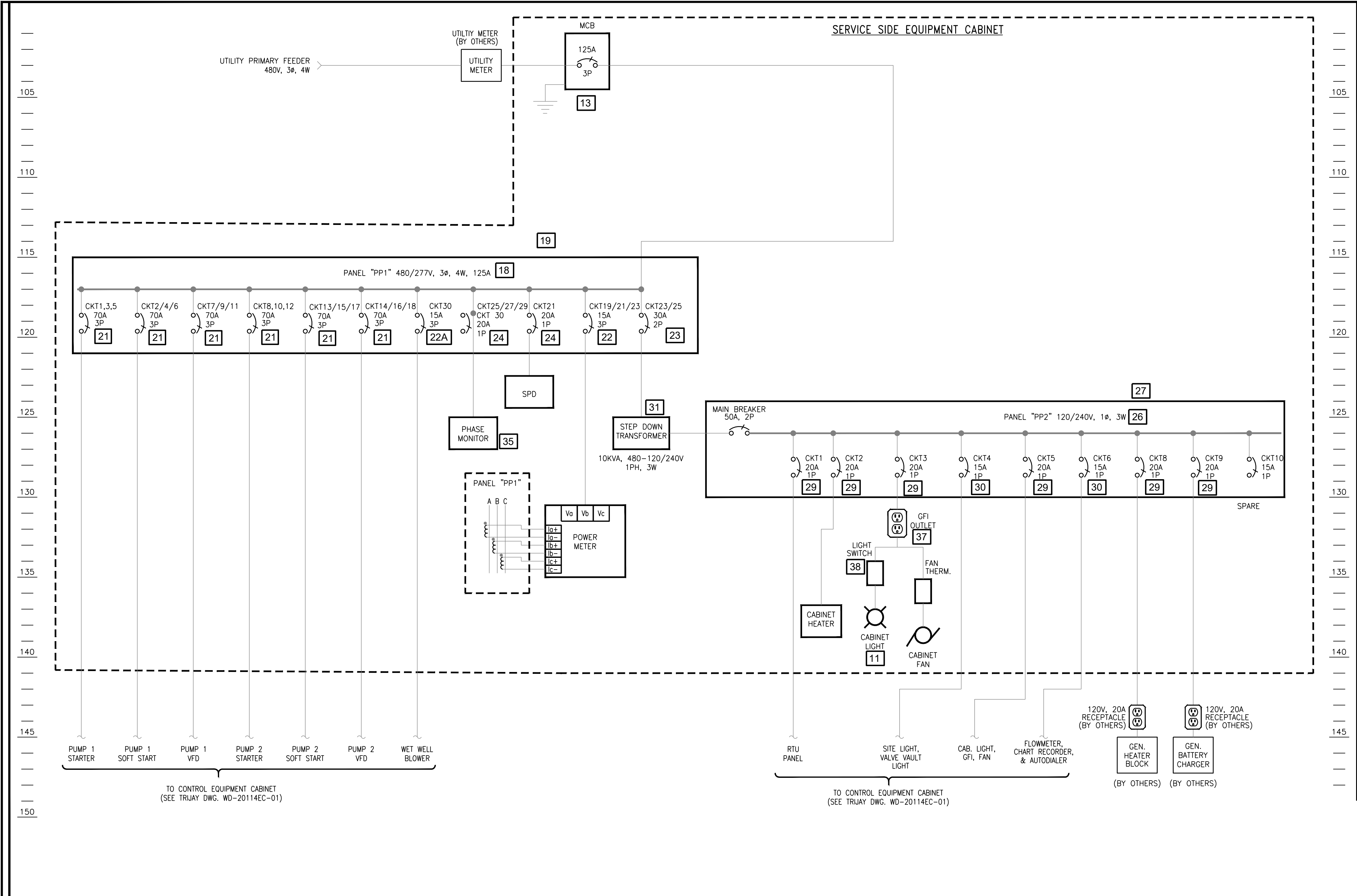
ATWELL
866.850.4200 www.atwell.com
17 POLLY DRUMMOND CENTER, SUITE 201
NEWARK, DE 19711
302.369.2900
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DRAWN BY MO DATE 04/02/2025
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Michael J. Karms
04-10-2026
PROFESSIONAL ENGINEER

CAMDEN-WYOMING SEWER & WATER AUTHORITY	
DRAWING NO.	SHEET NO.
PS10-PS22 - PS19	19 OF 22



EQUIPMENT LIST

- ENCLOSURE, 86"H x 96"W x 36"D MODIFIED 3R PANEL - HOFFMAN (OR APPROVED EQUIVALENT)
- SUBPANEL, 74"H x 44"W - HOFFMAN (OR APPROVED EQUIVALENT)
- LARGE ENCLOSURE DOOR STOP KIT - HOFFMAN (OR APPROVED EQUIVALENT)
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- ELECTRIC HEATER 400W W/ THERMOSTAT - HOFFMAN (OR APPROVED EQUIVALENT)
- (INTENTIONALLY LEFT BLANK)
- (INTENTIONALLY LEFT BLANK)
- 48" 2 - LIGHT LINEAR WHITE INTEGRATED LED LIGHT - METALUX (OR APPROVED EQUIVALENT)
- TVSS 160kA/PHASE, 480Y/277V, 3 PHASE, 4 WIRE, NEMA 1 - SQUARE D (OR APPROVED EQUIVALENT)
- MAIN CIRCUIT BREAKER, 125A, 3 PHASE, 480V - SQUARE D (OR APPROVED EQUIVALENT)
- CIRCUIT BREAKER, 30A, 3 PHASE, 480V - SQUARE D (OR APPROVED EQUIVALENT)
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- GROUND KIT - SQUARE D (OR APPROVED EQUIVALENT)
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- BOX FOR LOAD CENTER - SQUARE D (OR APPROVED EQUIVALENT)
- INDOOR COVER WITH DOOR FOR LOAD CENTER - SQUARE D (OR APPROVED EQUIVALENT)
- CIRCUIT BREAKER, 70A, 3P - SQUARE D (OR APPROVED EQUIVALENT)
- CIRCUIT BREAKER, 15A, 3P - SQUARE D (OR APPROVED EQUIVALENT)
- CIRCUIT BREAKER, 5A, 3P, 480V INVERSE TIME - SQUARE D (OR APPROVED EQUIVALENT)
- CIRCUIT BREAKER, 30A, 2P - SQUARE D (OR APPROVED EQUIVALENT)
- CIRCUIT BREAKER, 20A, 1P - SQUARE D (OR APPROVED EQUIVALENT)
- CIRCUIT BREAKER, 40A, 3P - SQUARE D (OR APPROVED EQUIVALENT)
- LOAD CENTER 120/240V W/ 100A MLCB, 1 PHASE, 4 WIRE, NEMA 1 BOX - SQUARE D (OR APPROVED EQUIVALENT)
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- CIRCUIT BREAKER, 15A, 1P - SQUARE D (OR APPROVED EQUIVALENT)
- TRANSFORMER 10KVA, 480-120/277VAC, 1PH - SQUARE D (OR APPROVED EQUIVALENT)
- PHASE FAILURE RELAY - SQUARE D (OR APPROVED EQUIVALENT)
- FUSEHOLDER FOR PHASE RELAY, 3P - SQUARE D (OR APPROVED EQUIVALENT)
- FUSE, 7 AMPS - BUSSMANN (OR APPROVED EQUIVALENT)
- PHASE MONITOR ENCLOSURE - SAGINAW (OR APPROVED EQUIVALENT)
- SUB-PANEL FOR PHASE MONITOR ENCLOSURE - SAGINAW (OR APPROVED EQUIVALENT)
- GFI OUTLET, 20A, 125VAC WITH BOX - PASS & SEYMOUR (OR APPROVED EQUIVALENT)
- LIGHT SWITCH W/ BOX - PASS & SEYMOUR (OR APPROVED EQUIVALENT)
- WIREWAY, 6" x 6" x 72" - SQUARE D (OR APPROVED EQUIVALENT)
- WIREWAY, 6" x 6" x 60" - SQUARE D (OR APPROVED EQUIVALENT)
- EFFLUENT FLOW TRANSMITTER: 24V DC WITH RS-485 SERIAL WIRED TO 3
- 3 POLE WITH S/N AUTOMATIC TRANSFER SWITCH (POWER MONITORING MODULES ON LOAD SIDE CONDUCTORS), MOUNTED ON OUTSIDE OF CAB WITH CONNECTORS FOR PORTABLE GENERATOR CONNECTION.
- CHARTER RECORDER (HONEYWELL MODEL D4500A CLASSIC SERIES CIRCULAR CHART RECORDER
- WET WELL BLOWER MOTOR STARTER
- TRANSIENT VOLTAGE SURGE SUPPRESSOR UNIT (MODULAR)
TYPE I FOR OVER 400A SERVICE
TYPE II FOR 400A OR LESS SERVICE
LEADS SHALL BE KEPT AS SHORT AS POSSIBLE
- POWER METER - CONTRACTOR SHALL FURNISH AND INSTALL KWH METER SOCKET, LOCATION TO BE PROVIDED BY UTILITY COMPANY.
- PROVIDE (1) 4" SCHEDULE 40 PVC CONDUIT WITH PULL STRINGS FOR SECONDARY SERVICE CABLES FROM UTILITY TRANSFORMER TO POWER METER. COORDINATE SERVICE CONNECTION WITH UTILITY COMPANY.
- TRANSFORMER, PAD AND GROUNDING PROVIDED BY UTILITY COMPANY.
- CONTROL WIRE TO PLC
- ELECTRO INDUSTRIES SHARK 50B POWER METER IN SEPARATE NEMA 1 ENCLOSURE. PROVIDE CTS IN PP1 BACKBOX AND CAT 5 TO ETHERNET SWITCH IN RTU.
- OMIT MAIN BREAKER FOR STATIONS WITH 120/240VAC SERVICE VOLTAGE
- NEMA 1 ENCLOSED 3P-30A CIRCUIT BREAKER
- 3 / #10 & 1 / #10 GND - 3/4" CONDUIT - 24" MAXIMUM LEAD LENGTH
- 1 / #6 G.E.C. PER NEC
- HIGH TIDE TECHNOLOGIES MODEL HTT-1100

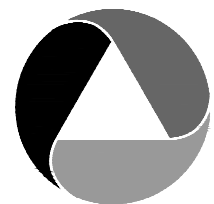
ELECTRIC DETAILS PUMPING STATION 'C' & FORCE MAIN PLANS FOR **SAVANNAH FARMS**

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TRIJAY TRIJAY SYSTEMS INC.
10 MAPLE AVENUE
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trijay@trijay.com

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SMYRNA, DE 19777
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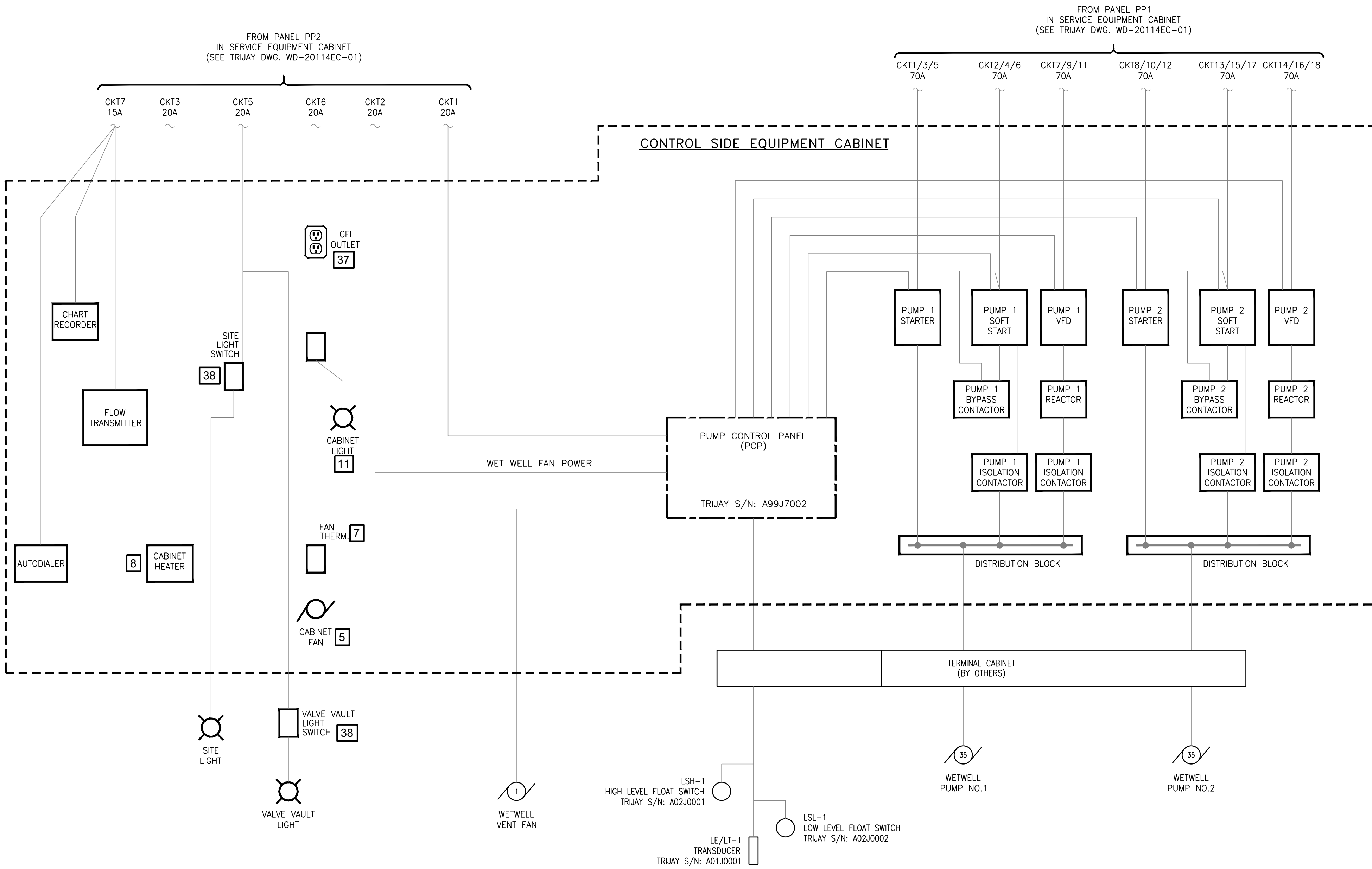
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**CAMDEN-WYOMING SEWER &
WATER AUTHORITY**

DRAWING NO. PS10-PS22 - PS20
SHEET NO. 20 OF 22



EQUIPMENT LIST

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- TRANSFORMER 10KVA, 480-120/277VAC, 1PH - SQUARE D (OR APPROVED EQUIVALENT)
- PHASE FAILURE RELAY - SQUARE D (OR APPROVED EQUIVALENT)
- FUSEHOLDER FOR PHASE RELAY, 3P - SQUARE D (OR APPROVED EQUIVALENT)
- FUSE, 7 AMPS - BUSSMANN (OR APPROVED EQUIVALENT)
- PHASE MONITOR ENCLOSURE - SAGINAW (OR APPROVED EQUIVALENT)
- SUB-PANEL FOR PHASE MONITOR ENCLOSURE - SAGINAW (OR APPROVED EQUIVALENT)
- GFI OUTLET, 20A, 125VAC WITH BOX - PASS & SEYMOUR (OR APPROVED EQUIVALENT)
- LIGHT SWITCH W/ BOX - PASS & SEYMOUR (OR APPROVED EQUIVALENT)
- WIREWAY, 6" x 6" x 72" - SQUARE D (OR APPROVED EQUIVALENT)
- WIREWAY, 6" x 6" x 60" - SQUARE D (OR APPROVED EQUIVALENT)
- EFFLUENT FLOW TRANSMITTER: 24V DC WITH RS-485 SERIAL WIRED TO 3
- 3 POLE WITH S/N AUTOMATIC TRANSFER SWITCH (POWER MONITORING MODULES ON LOAD SIDE CONDUCTORS), MOUNTED ON OUTSIDE OF CAB WITH CONNECTORS FOR PORTABLE GENERATOR CONNECTION.
- CHARTER RECORDER (HONEYWELL MODEL D4500A CLASSIC SERIES CIRCULAR CHART RECORDER
- WET WELL BLOWER MOTOR STARTER
- TRANSIENT VOLTAGE SURGE SUPPRESSOR UNIT (MODULAR)
TYPE I FOR OVER 400A SERVICE
TYPE II FOR 400A OR LESS SERVICE
LEADS SHALL BE KEPT AS SHORT AS POSSIBLE
- POWER METER - CONTRACTOR SHALL FURNISH AND INSTALL KWH METER SOCKET, LOCATION TO BE PROVIDED BY UTILITY COMPANY.
- PROVIDE (1) 4" SCHEDULE 40 PVC CONDUIT WITH PULL STRINGS FOR SECONDARY SERVICE CABLES FROM UTILITY TRANSFORMER TO POWER METER. COORDINATE SERVICE CONNECTION WITH UTILITY COMPANY.
- TRANSFORMER, PAD AND GROUNDING PROVIDED BY UTILITY COMPANY.
- CONTROL WIRE TO PLC
- ELECTRO INDUSTRIES SHARK 50B POWER METER IN SEPARATE NEMA 1 ENCLOSURE. PROVIDE CTS IN PP1 BACKBOX AND CAT 5 TO ETHERNET SWITCH IN RTU.
- OMIT MAIN BREAKER FOR STATIONS WITH 120/240VAC SERVICE VOLTAGE
- NEMA 1 ENCLOSED 3P-30A CIRCUIT BREAKER
- 3 / #10 & 1 / #10 GND - 3/4" CONDUIT - 24" MAXIMUM LEAD LENGTH
- 1 / #6 G.E.C. PER NEC
- HIGH TIDE TECHNOLOGIES MODEL HTT-1100

**ELECTRIC DETAILS PLAN
PUMPING STATION 'C' & FORCE MAIN
PLANS
FOR
SAVANNAH FARMS**

SITUATE IN: TOWNS OF CAMDEN & WYOMING, KENT COUNTY, DELAWARE

TRIJAY TRIJAY SYSTEMS INC.
10 MAPLE AVENUE
P.O. BOX 109
LINE LEXINGTON, PA 18932
Phone: (215) 997-5833
Fax: (215) 997-5834
www.trijay.com
trijay@trijay.com

REVISIONS		
NO.	DATE	DESCRIPTION
3	4-9-2026	3 STATION PLANS
2	10-1-2025	PER FLYGT COMMENTS
1	9-5-2025	PER CWS/KA/KCD/PIW COMMENTS

PREPARED FOR:
D. R. HORTON DELAWARE
DIVISION
671 S. CARTER ROAD
SUITE 6
SMYRNA, DE 19977
(302) 514-0850



ATWELL
866.850.4200 www.atwell.com
17 POLLY DRUMMOND CENTER, SUITE 201
NEWARK, DE 19711
302.369.2900
** KARNIS AND ASSOCIATES IS NOW OPERATING AS ATWELL, LLC **

DRAWN BY: **MO** DATE: **04/02/2025**
CHECKED BY: **MJK** SCALE: **AS SHOWN**



Atwell
PROFESSIONAL ENGINEER
04-10-2026

**CAMDEN-WYOMING SEWER &
WATER AUTHORITY**

DRAWING NO. **PS10-PS22 - PS21** SHEET NO. **21 OF 22**

