

17-JUL-2025 16:52 L:\Delaware Department of Transportation\24002387.007A-Amgd.2065F Task 14 Utility\Working\CADD\SHEETS\PN01_NEFront_CEL_WATER.dgn

GENERAL NOTES

1. THESE DRAWINGS DO NOT INCLUDE NECESSARY ELEMENTS OF CONSTRUCTION SAFETY. ALL CONSTRUCTION MUST BE COMPLETED IN ACCORDANCE WITH THE RULES AND REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ACT, AND ALL FEDERAL, STATE AND LOCAL REQUIREMENTS.
2. THE CONTRACTOR SHALL CONTACT THE CITY OF MILFORD DEPARTMENT OF PUBLIC WORKS AT 302-422-1110 AT LEAST 48 HOURS IN ADVANCE OF STARTING CONSTRUCTION.
3. EXISTING UTILITIES ARE SHOWN BASED ON THE BEST INFORMATION CURRENTLY AVAILABLE. LOCATIONS ARE NOT BASED ON A FIELD SURVEY. THE CONTRACTOR SHALL FIELD LOCATE ALL UTILITIES PRIOR TO CONSTRUCTION.
4. THE CONTRACTOR SHALL PROTECT ALL UTILITIES DURING CONSTRUCTION. ANY UTILITY DAMAGED SHALL BE PROMPTLY AND FULLY RESTORED TO THE SATISFACTION OF THE UTILITY COMPANY AT THE CONTRACTOR'S EXPENSE.
5. THE CONTRACTOR SHALL PLAN AND IMPLEMENT ALL NECESSARY REQUIREMENTS OF THE DELAWARE UNDERGROUND UTILITY DAMAGE PREVENTION AND SAFETY ACT.
6. THE CONTRACTOR SHALL PROVIDE EROSION AND SEDIMENT CONTROL IN ACCORDANCE WITH THE SEDIMENT CONTROL ACT. ALL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE DELAWARE EROSION AND SEDIMENT CONTROL HANDBOOK OR DELDOT'S REQUIREMENTS, WHICHEVER IS MORE RESTRICTIVE, AND ALL APPLICABLE LOCAL REQUIREMENTS.
7. TRAFFIC AND SAFETY CONTROL SHALL BE MAINTAINED DURING CONSTRUCTION IN CONFORMANCE WITH THE CURRENT VERSION OF THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL (MUTCD).
8. ALL WORK WITHIN STATE RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH STATE OF DELAWARE STANDARDS.
9. FOR ROAD CROSSING WITH STEEL CASING, THE CASING SHALL EXTEND A MINIMUM 5 FEET BEYOND EDGE OF PAVEMENT.
10. ROAD PLATING IS NOT PERMITTED FROM NOVEMBER 1 THROUGH APRIL 15.
11. ALL OPEN CUT ROAD, PATHS, SIDEWALKS, AND DRIVEWAY CROSSINGS THAT ARE WITHIN 4 FEET OF AN EXISTING PAVEMENT/ CONCRETE SEAM SHALL BE RESTORED TO THE SEAM.
12. ALL DRIVEWAYS SHALL BE RESTORED "IN KIND".
13. ALL FIRE LANES, FIRE HYDRANTS, STAND PIPES, SPRINKLER CONNECTIONS, EXITS, ETC., SHALL BE MARKED AND/OR PROTECTED IN ACCORDANCE WITH STATE FIRE PROTECTION REGULATIONS AS EVIDENCED IN PART III, CHAPTER 1, SECTION 1-1.4.1 AND PART V, CHAPTER 5, STANDARD FOR THE MARKING, IDENTIFICATION, AND ACCESSIBILITY OF FIRE LANES, EXITS, FIRE HYDRANTS, SPRINKLER, AND STANDPIPE CONNECTIONS.
14. THE LOCATION OF ALL FIRE PROTECTION FEATURES, LANE MARKINGS, SIGNAGE, ETC., SHALL BE STRICTLY ADHERED TO BY THE CONTRACTOR.
15. WATER MAINS SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED SANITARY SEWER. WATER MAINS CROSSING SANITARY SEWER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 18 INCHES BETWEEN THE WATER MAIN AND THE SEWER. CROSSINGS SHALL BE ARRANGED SO THAT THE WATER MAIN JOINTS WILL BE AS FAR AS POSSIBLE FROM SEWER MAIN JOINTS. WHERE MINIMUM SEPARATION DISTANCES CANNOT BE MAINTAINED, THE OFFICE OF DRINKING WATER MUST APPROVE ANY VARIANCE SUPPORTED BY DATA FROM THE DESIGN ENGINEER
16. WATER MAINS SHALL HAVE A MINIMUM 4' OF COVER.
17. IF PIPE DEFLECTION IS NEEDED: MAX 1° AXIAL JOINT DEFLECTION IS PERMITTED AS WELL AS 1° MAX LONGITUDINAL PIPE DEFLECTION FOR A TOTAL OF 2° MAX DEFLECTION. THE JOINT MUST BE RESTRAINED IF THE PIPE IS TO BE LONGITUDINALLY DEFLECTED.
18. NOTIFY MISS UTILITY 1-800-282-8555 THREE WORKING DAYS, BUT NO MORE THAN 10 WORKING DAYS, PRIOR TO ANY EXCAVATION OR DEMOLITION ACTIVITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CONFER WITH THE UTILITY COMPANIES INVOLVED IN ORDER TO SECURE THE MOST ACCURATE INFORMATION AVAILABLE AS TO UTILITY LOCATION. 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 CONTRACTOR'S EXPENSE.
19. ADJUST ALL VALVE BOXES TO FINAL GRADE.
20. CURB STOPS SHALL BE LOCATED JUST BEHIND THE RIGHT OF WAY LINE.
21. ALL GATE VALVES SHALL BE PROVIDED WITH A ROADWAY SCREW-TYPE CAST-IRON VALVE BOX. BOX FOR VALVES 3" AND SMALLER SHALL HAVE AN ARCH BASE.
22. VALVES LARGER THAN 2" SHALL BE CAST IRON AMERICAN FLOW CONTROL RESILIENT SEATED GATE VALVES OR APPROVED EQUAL. VALVES SHALL HAVE MECHANICAL JOINT END AND NON-RISING STEM WITH SQUARE OPERATING NUTS.
23. PLACE NEW VALVES NEXT TO TEES, BENDS, ETC., SUPPORT ALL VALVES ON A SOLID 4"x8" CONCRETE MASONRY UNIT.








GENERAL NOTES(CONTINUED)

24. ALL ABANDONED WATER MAIN IS TO BE FLOWABLE FILLED, PLUGGED AND CAPPED IN PLACE (GROUTING IS REQUIRED PER OWNERS REQUEST), VALVES SHUT AND VALVE BOXES AND HYDRANTS REMOVED.
26. ALL EXISTING WATER MAIN SHALL REMAIN ACTIVE UNTIL SUCH TIME AS NEW WATER MAIN IS APPROVED FORSOPERATION BY DHSS-OFFICE OF DRINKING WATER, THE NEW WATER MAIN IS PUT INTO SERVICE AND NEW SERVICES CAN BE ACTIVATED.
26. CONTRACTOR SHALL MARK ALL EASEMENTS AND RIGHTS OF WAY PRIOR TO WORK.
27. PROPOSED WORK AT CONNECTION POINTS TO STAY WITHIN EASEMENTS AND RIGHTS OF WAY.
28. PIPE FITTINGS SHOWN IN THIS PLAN ARE APPROXIMATE, ADDITIONAL FITTINGS MAY BE REQUIRED DURING CONSTRUCTION SHALL BE FURNISHED AND INSTALLED, INCIDENTAL TO ITEM 710500.
29. ALL CONSTRUCTION WITHIN THE PUBLIC RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH THE DELAWARE DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, DATED JANUARY 2025, AND ALL SUBSEQUENT AMENDMENTS THERETO.
30. ALL EXCAVATION FOR STRUCTURES AND PIPE TRENCHES SHALL BE KEPT FREE OF WATER UNTIL BACKFILL IS PROPERLY TAMPED IN PLACE TO FINISHED GRADES.
31. ALL AREAS DISTURBED DUE TO CONSTRUCTION ACTIVITIES SHALL BE RESTORED AS DIRECTED BY THE ENGINEER.
32. POLYVINYL CHLORIDE (PVC) PLASTIC PIPE AND FITTINGS

A. POLYVINYL CHLORIDE PIPE SHALL MEET THE REQUIREMENTS OF AWWA C-900. IT SHALL BE MANUFACTURED IN STANDARD LENGTH NOT EXCEEDING TWENTY (20) FEET AND HAVE AN OUTSIDE DIAMETER EQUAL TO CAST IRON PIPE. PVC PIPE SHALL HAVE STANDARD DIMENSIONS RATIO (DR) OF 18.0 OR LESS. THE PIPE SHALL BE RATED FOR A WORKING PRESSURE OF AT LEAST 150 PSI.

B. POLYVINYL CHLORIDE (PVC) PIPE SHALL BE MANUFACTURED WITH AN ELASTOMETRIC-GASKET JOINT CONFORMING TO ASTM D 3139. PIPE ENDS SHALL BE BEVELED.

C. FITTINGS FOR PVC WATER MAIN SHALL BE GRAY-IRON OR DUCTILE IRON WITH MECHANICAL JOINT HAVING A 250 PSI PRESSURE RATING FOR GRAY-IRON AND 350 PSI IN THE CASE OF DUCTILE-IRON. THEY SHALL BE MARKED AND MANUFACTURED IN CONFORMANCE WITH ANSI/AWWA C110/A21.10, LATEST EDITION. COMPACT DUCTILE IRON FITTINGS WILL BE AN ACCEPTABLE ALTERNATE. THEY SHALL BE MECHANICAL JOINT WITH A 350 PSI PRESSURE RATING CONFORMING TO ANSI/AWWA C153/A21.53 AND C111/A21.11.

LEGEND	
	UTILITY TEST HOLE LOCATION
	EXISTING FIRE HYDRANT
	EXISTING WATER METER
	EXISTING WATER VALVE
	PROPOSED FIRE HYDRANT
	PROPOSED WATER METER
	PROPOSED WATER VALVE

INDEX OF SHEETS		
SECTION	SHEET DESCRIPTION	SHEET NO.(S)
CEN	NOTES SHEETS	70-71
CEN	TABULATION AND SUMMARY SHEET	72
CEN	HORIZONTAL AND VERTICAL CONTROL	73
CEN	PLANS	74-75
CEN	DETAILS	76
CEN	SEQUENCE OF CONSTRUCTION AND SCHEDULES	77

EXISTING UNDERGROUND UTILITIES COORDINATION NOTES:


1. THE LOCATION OF UNDERGROUND UTILITIES AS INDICATED ON PLANS HAS BEEN OBTAINED FROM INFORMATION SUPPLIED BY DELDOT. NEITHER THE OWNER OR THE ARCHITECT/ENGINEER ASSUMES ANY RESPONSIBILITY IN RESPECT TO ACCURACY, COMPLETENESS, OR SUFFICIENCY OF THE INFORMATION SHOWN. THERE IS NO GUARANTEE, EITHER EXPRESSED OR IMPLIED, THAT THE LOCATIONS, SIZE AND TYPE OF MATERIALS OF EXISTING UNDERGROUND UTILITIES INDICATED ARE REPRESENTATIVE OF THOSE TO BE ENCOUNTERED DURING CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL SUCH UTILITIES, INCLUDING SERVICE CONNECTIONS TO UNDERGROUND UTILITIES. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE OWNER OF HIS OPERATIONAL PLANS. IN THE EVENT OF AN UNEXPECTED UTILITY INTERFERENCE DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER. ANY SUCH MAINS AND/OR SERVICES DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
2. PRIOR TO PERFORMING ANY EXCAVATION GREATER THAN 6 INCHES, THE CONTRACTOR SHALL COORDINATE WITH CITY OF MILFORD, DEPARTMENT OF PUBLIC WORKS AND ALL OTHER UTILITY COMPANIES TO DETERMINE THE LOCATION OF UNDERGROUND UTILITY LINES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH ALL ORGANIZATIONS THAT CONTROL EXISTING UNDERGROUND UTILITIES IN THE CONSTRUCTION AREA OR WOULD BE AFFECTED BY CONSTRUCTION WORK AROUND THE EXISTING UTILITIES.
3. THE CONTRACTOR SHALL NOT START EXCAVATION UNTIL ALL UTILITY LINE LOCATIONS HAVE BEEN STAKED OR OTHERWISE CLEARLY MARKED AND DOCUMENTATION FURNISHED TO THE OWNER. ALL MARKINGS SHALL BE CONSIDERED APPROXIMATE, AND UTILITIES OTHER THAN THOSE SHOWN SHALL BE CONSIDERED TO EXIST.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DEFINITE LOCATION OF EACH UTILITY WITHIN THE WORK AREA. CARE SHALL BE EXERCISED DURING EXCAVATION WORK TO AVOID DAMAGING OR DISRUPTING UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF REPAIR FOR DAMAGE TO ANY UTILITY CAUSED BY THE CONTRACTOR'S WORK.
5. WHERE EXISTING UNDERGROUND UTILITIES OR OTHER CONSTRUCTION ARE EXPECTED TO BE IN PROXIMITY TO PROPOSED CONSTRUCTION, OR WHEN APPROACHING EXISTING UTILITIES OR STRUCTURES FOR CONNECTIONS, THE CONTRACTOR SHALL DIG TEST PITS TO DETERMINE THE EXACT LOCATION AND INVERTS OF THE EXISTING UTILITY TO ALLOW FOR POSSIBLE CHANGES TO THE PROPOSED UTILITY IN LINE AND/OR GRADE. THE CONTRACTOR SHALL ALSO DIG TEST PITS IN THE LOCATION OF THE PROPOSED CONNECTIONS TO EXISTING UTILITIES AND SHALL MAKE ALL MEASUREMENTS NECESSARY TO ENSURE PROPER CONNECTION. ANY NECESSARY CHANGES IN LINE OR GRADE OF WORK CAUSED BY FAILURE TO TAKE SUCH PRECAUTIONS SHALL BE AT THE EXPENSE OF THE CONTRACTOR. ALL COSTS ARE INCIDENTAL TO ITEM 710600.
6. WHEN IT IS NECESSARY TO EXCAVATE NEAR OR INTERFERE WITH ANY UTILITY, SEWER LINE, WATER SERVICES, DRAINAGE PIPE, CATCH BASIN, CULVERT, OR OTHER STRUCTURES, THE CONTRACTOR SHALL MAINTAIN THE SAME IN WORKING ORDER AND SHALL REPAIR AND MAKE GOOD ANY DAMAGE DONE DURING THE PROGRESS OF THE WORK AT THE EXPENSE OF THE CONTRACTOR.
7. WHERE EXISTING UTILITIES CROSS THE TRENCH EXCAVATION, THEY SHALL BE ADEQUATELY SUPPORTED AND PROTECTED FROM DAMAGE DUE TO CONSTRUCTION. ALL METHODS FOR SUPPORTING AND MAINTAINING THESE UTILITIES SHALL BE SUBJECT TO REVIEW BY THE UTILITY OWNER. CARE SHALL BE TAKEN TO ENSURE THAT THE EXISTING UTILITY GRADES AND ALIGNMENT ARE MAINTAINED AND ANY PIPE JOINTS ARE NOT DISTURBED. BACKFILL SHALL BE CAREFULLY PLACED AND TAMPED TO PREVENT DAMAGE OR FUTURE SETTLEMENT. ANY DAMAGE OR MISALIGNMENT OF THE UTILITIES DUE TO CONSTRUCTION OR SETTLEMENT SHALL BE REPAIRED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE. ALL COSTS FOR SUPPORTING OR BRACING UTILITIES UNDERGROUND OR AERIAL ARE INCIDENTAL TO ITEM 710600.
8. ANY UNPROTECTED CABLE (DIRECT BURIED) ENCOUNTERED THAT IS VERIFIED AS NOT ABANDONED IN PLACE SHALL BE PROTECTED. THE UTILITY OWNER MAY DIRECT THE CABLE BE PLACED IN SPLIT DUCT OF APPROPRIATE SIZE AND CONCRETE ENCASED THROUGH THE AREA OF CONSTRUCTION. CONTRACTOR SHALL TAKE ALL REASONABLE MEASURES TO AVOID HAVING TO CUT AND SPLICE DIRECT BURIED CABLE. THE CONTRACTOR SHALL NOTE SPLIT DUCT PORTIONS ON AS-BUILTS. ALL COSTS ARE INCIDENTAL TO THE ITEM BEING PLACED THAT NECESSITATED THE UTILITY PROTECTION.
9. ALL SUITABLE EXCESS EXCAVATED MATERIALS SHALL BE USED AS TRENCH BACKFILL AND ANY EXCESS SHALL BE DISPOSED OF OFFSITE. ALL COSTS FOR EXCAVATION, BACKFILL, BACKFILLING AND DISPOSAL ARE INCIDENTAL TO ITEM 710600. USE ONLY SUITABLE GRANULAR MATERIAL APPROVED BY THE ENGINEER FOR BACKFILLING TRENCHES.
10. INTERRUPTION OF EXISTING UTILITIES SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS AND/OR AT THE DIRECTION OF THE UTILITY OWNER(S). PROPER NOTIFICATION SHALL BE PROVIDED BY THE CONTRACTOR AND APPROVAL RECEIVED FROM THE UTILITY OWNER, PRIOR TO INTERRUPTION OF ANY UTILITIES.

RECOMMENDED BY:

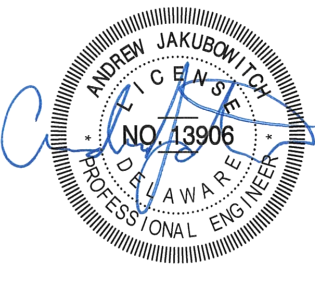
CITY OF MILFORD, DEPARTMENT OF PUBLIC WORKS

DATE

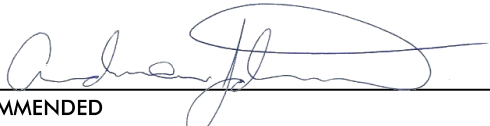
PREPARED BY



CENTURY ENGINEERING
A Kleinfelder Company
550 BAY ROAD
DOVER, DE 19901
(302) 734-9188



SEAL



RECOMMENDED

11/14/25
DATE

REVISIONS		NOT TO SCALE	NE FRONT STREET REHOBOTH BLVD TO SR1	CONTRACT	BRIDGE NO.	X	WATER RELOCATION PLAN NOTES	SECTION
				T202101201	DESIGNED BY: W. CLOUGH			CEN
				COUNTY	CHECKED BY: A. JAKUBOWITZ			SHEET NO.
				KENT				70

WATER RELOCATION PROJECT NOTES:

1.

CONSTRUCTION DEWATERING

a.

ALL DEWATERING EQUIPMENT SUCH AS PUMPS, AIR COMPRESSORS, GENERATORS, ETC. PROPOSED FOR USE DURING CONSTRUCTION IN RESIDENTIAL AREAS SHALL BE PROVIDED WITH NOISE ENCLOSURES. ALL COSTS INCIDENTAL TO ITEM 710500.

b.

THERE IS NO DEWATERING PERMIT FOR THIS PROJECT. IF THE CONTRACTOR CONSIDERS THAT, AS PART OF ITS MEANS AND METHODS OF CONSTRUCTION, A DEWATERING PERMIT IS REQUIRED, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SECURE THE REQUIRED PERMIT IN ORDER TO PROCEED WITH THE EXECUTION OF THE CONSTRUCTION. CONTRACTORS REQUIRED TO SUBMIT DEWATERING PLAN. ALL COSTS INCIDENTAL TO ITEM 710500.
2.

THE CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES AND IMPROVEMENTS NOT DESIGNATED FOR REMOVAL AND SHALL RESTORE DAMAGED OR TEMPORARILY RELOCATED UTILITIES AND IMPROVEMENTS TO A CONDITION EQUAL TO OR BETTER THAN THEY WERE PRIOR TO SUCH DAMAGE OR TEMPORARY RELOCATION, ALL IN ACCORDANCE WITH REQUIREMENTS OF THE CONTRACT DOCUMENTS.
3.

THE CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS AND DEPTHS OF ALL UTILITIES SHOWN AND THE CONTRACTOR SHALL MAKE EXPLORATORY EXCAVATIONS OF ALL UTILITIES THAT MAY INTERFERE WITH THE WORK. ALL SUCH EXPLORATORY EXCAVATIONS SHALL BE PERFORMED AS SOON AS PRACTICABLE AFTER AWARD OF CONTRACT AND, IN ANY EVENT, A SUFFICIENT TIME IN ADVANCE OF CONSTRUCTION TO AVOID POSSIBLE DELAYS TO THE CONTRACTOR'S WORK. WHEN SUCH EXPLORATORY EXCAVATIONS SHOW THE UTILITY LOCATION AS SHOWN TO BE IN ERROR, THE CONTRACTOR SHALL SO NOTIFY CITY OF MILFORD, DEPARTMENT OF PUBLIC WORKS AND DELDOT. ALL COSTS INCIDENTAL TO ITEM 710500.
4.

THE CONTRACTOR MAY BE REQUIRED TO COORDINATE THE BRACING OF UTILITY POLES WITH THE UTILITY OWNER. ANY REQUIRED ELECTRICAL OUTAGES SHALL BE INCLUDED IN THE CONTRACTOR'S CPM SCHEDULE AND ARE INCIDENTAL TO THE WORK BEING PERFORMED. THE CONTRACTOR WILL BE WORKING IN CLOSE PROXIMITY TO EXISTING OVERHEAD UTILITIES AND PROPER EQUIPMENT SHALL BE UTILIZED TO AVOID IMPACTS TO THE EXISTING FACILITY. ALL COSTS ARE INCIDENTAL TO THE CONTRACT AND WILL NOT BE CONSIDERED FOR ADDITIONAL TIME EXTENSIONS OR CAUSE FOR CONTRACT DELAY OR ADDITIONAL COMPENSATION.
5.

CONTRACTOR SHALL INSTALL THRUST BLOCKS PER THE CITY OF MILFORD STANDARDS AND ALL COSTS ARE INCIDENTAL TO ITEM 710500. THRUST BLOCKS FOR WATER MAINS SHALL BE PROVIDED AT ALL BENDS, TEES, PLUGS, CAPS, AND FIRE HYDRANTS ON PROPOSED WATER MAINS PER DETAILS. ANCHOR AND ROD ALL HYDRANTS USING MEGA LUG RESTRAINTS ON ALL JOINTS AND FITTINGS.
6.

CONTRACTOR MAY BE REQUIRED TO MODIFY THRUST BLOCKS AS DETERMINED BY THE ENGINEER AND OWNER IN THE FIELD.
7.

REMOVAL OF EXISTING CONCRETE THRUST BLOCKS ARE INCIDENTAL TO ITEM 710500.
8.

CONTRACTOR SHALL STAKE ELEVATION AND LOCATION OF PROPOSED WATER LINE FOR APPROVAL BY ENGINEER PRIOR TO INSTALLATION. CONTRACTOR SHALL AS-BUILT INSTALLED WATER LINE AT THE END OF EACH WORK DAY. ALL COSTS ARE INCIDENTAL TO ITEM 710500.
9.

THE CONTRACTOR SHALL FOLLOW THE APPROVED PLAN FOR LAYOUT OF THE PROPOSED FACILITIES. IF THE CONTRACTOR DEVIATES FROM THE PLAN AND A CONFLICT IS PRODUCED, NO ADDITIONAL COMPENSATION OR TIME EXTENSIONS SHALL BE PROVIDED TO RESOLVE.
10.

WATER DISTRIBUTION SYSTEM SHALL BE IN ACCORDANCE WITH THE MOST CURRENT CITY OF MILFORD REGULATIONS CONCERNING WATER SUPPLY AND DISTRIBUTION OF WATER SUPPLY. MAINS SHALL BE INSTALLED WITH A MINIMUM OF 48" COVER.
11.

CONTRACTORS SHALL EXTEND WATER BELOW ANY CONFLICTS OR OBSTRUCTIONS TO PROVIDE REQUIRED CLEARANCES.
12.

THROUGHOUT THE PROJECT, WHERE WATER MAINS ARE LOCATED IN, ACROSS OR ADJACENT TO DRAINAGE DITCHES AND SWALES, THE CONTRACTOR SHALL RESTORE DISTURBED AREAS TO THEIR ORIGINAL CONDITION AND VEGETATE AS REQUIRED.
13.

PROPOSED WATER MAINS SHALL BE PVC PIPE, AWWA C-900, UNLESS NOTED OTHERWISE. WATER SERVICES SHALL BE 1 INCH P.E., SDR-9 PIPE.
14.

FIRE HYDRANTS SHALL BE AMERICAN DARLING B-62-B WITH THE CITY OF MILFORD STANDARD THREADS. ALL FIRE HYDRANTS SHALL BE PROVIDED WITH A RESILIENT SEATED GATE VALVE.
15.

ALL WATER MAINS SHALL BE HYDROSTATICALLY TESTED AND DISINFECTED BEFORE ACCEPTANCE.
16.

DIMENSIONS SHOWN ARE TO THE CENTERLINE OF PIPE OR FITTING.
17.

FIRE HYDRANTS SHALL BE COLOR CODED IN ACCORDANCE WITH THE DELAWARE STATE FIRE PREVENTION REGULATIONS PART III, SECTION 3-4. THIS INCLUDES BOTH COLOR CODING THE BONNET IN ACCORDANCE WITH THE CITY OF MILFORD REGULATIONS AND 2.5" X 28" REFLECTIVE TAPE AROUND THE BARREL UNDER THE TOP FLANGE. NUMBERS FOR HYDRANTS WILL BE PROVIDED BY THE CITY OF MILFORD.
18.

ALL PROPOSED WATER MAINS AND SERVICES SHALL BE INSTALLED WITH A TRACER WIRE CONTINUOUSLY ALONG AND DIRECTLY ADHERED TO THE PIPE. ALL WATER MAINS SHALL ALSO HAVE MAGNETIC PIPE DETECTION TAPE INSTALLED DIRECTLY 2' ABOVE AND CONTINUOUSLY ALONG THE PIPE.
19.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING REDLINE DRAWINGS DURING CONSTRUCTION AND PROVIDE CAD AS-BUILT DRAWINGS UPON COMPLETION OF THE PROJECT PRIOR TO ACCEPTANCE.

STERILIZATION OF WATER MAINS NOTES:

1.

THE CONTRACTOR SHALL DISINFECT ALL WATER MAINS IN ACCORDANCE WITH AWWA STANDARD C601, LATEST EDITION.

TESTING OF WATER MAINS:

1.

THE CONTRACTOR SHALL PROVIDE ALL LABOR, TOOLS, MATERIALS, INCLUDING WATER AND EQUIPMENT, INCLUDING PUMPS, COMPRESSORS, STOPWATCH, GAUGES, AND METERS SUBJECT TO THE APPROVAL OF THE CITY OF MILFORD, DEPARTMENT OF PUBLIC WORKS FOR TESTING IN ACCORDANCE WITH THESE SPECIFICATIONS.
2.

THE CITY OF MILFORD, DEPARTMENT OF PUBLIC WORKS SHALL BE NOTIFIED IN ADVANCE OF ALL TESTS, AND ALL TESTS SHALL BE CONDUCTED TO ITS ENTIRE SATISFACTION.
3.

PRESSURE TEST- UPON COMPLETION OF PIPE INSTALLATION AND BACKFILLING, ALL NEWLY LAID PIPE IN ANY VALVED SECTION THEREOF SHALL BE SUBJECTED TO A HYDROSTATIC PRESSURE TEST EQUAL TO 3 TIMES THE NORMAL OPERATING PRESSURE FOR DURATION OF 2 HOURS WITH THE PRESSURE MEASURED AT THE HIGHEST ELEVATION ALONG THE PIPE ALIGNMENT. THE PROCEDURE FOR THE TEST SHALL BE AS FOLLOWS:

A.

EACH VALVED SECTION OF PIPE SHALL BE SLOWLY FILLED WITH WATER AND THE SPECIFIED PRESSURE SHALL BE APPLIED BY MEANS OF A PUMP CONNECTION TO THE PIPE.

B.

BEFORE APPLYING THE SPECIFIED PRESSURE, ALL AIR SHALL BE EXPELLED FROM THE PIPE. IF PERMANENT AIR VENTS ARE NOT LOCATED AT HIGH POINTS, FIRE HYDRANTS OR CORPORATION STOPS SHALL BE USED SO THAT AIR CAN BE EXPELLED.
4.

LEAKAGE TEST- AFTER SATISFACTORY COMPLETION OF A PRESSURE TEST, THE CONTRACTOR SHALL CONDUCT A LEAKAGE TEST. THE CONTRACTOR SHALL FURNISH ALL NECESSARY TOOLS AND MATERIALS. LEAKAGE SHALL BE DEFINED AS THE QUANTITY OF WATER THAT MUST BE SUPPLIED INTO A NEWLY LAID PIPE OR ANY VALVED SECTION, TO MAINTAIN THE SPECIFIED LEAK PRESSURE. AFTER AIR IN THE PIPELINE HAS BEEN EXPELLED AND THE PIPE HAS BEEN FILLED WITH WATER, THE ALLOWABLE LEAKAGE SHALL NOT BE MORE THAN 25 GALLONS OF WATER PER INCH OF DIAMETER OF PIPE PER MILE OF PIPE TESTED PER 24 HOURS AT A PRESSURE OF 100 P.S.I, MEASURED AT THE HIGHEST LINE ELEVATION. LEAKAGE TEST SHALL BE CARRIED OUT NOT LESS THAN 8 HOURS DURATION AND THE ALLOWABLE LEAKAGE PRORATED ACCORDINGLY.
5.

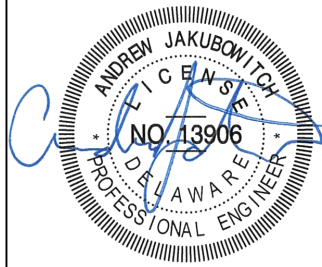
BACTERIA TEST- AFTER SATISFACTORY COMPLETION OF A LEAKAGE/PRESSURE TEST, THE CONTRACTOR MUST CONTACT A DELAWARE STATE APPROVED LABORATORY TO GATHER A SAMPLE OF THE WATER FOR TESTING PURPOSES. FINAL APPROVAL WILL NOT BE GIVEN FOR THE PROJECT UNTIL A CERTIFICATE TO OPERATE HAS BEEN DELIVERED TO THE CITY OF MILFORD, DEPARTMENT OF PUBLIC WORKS BY THE OFFICE OF DRINKING WATER.

RECOMMENDED BY:

CITY OF MILFORD, DEPARTMENT OF PUBLIC WORKS

DATE

PREPARED BY
m CENTURY
ENGINEERING
.....
A Kleinfelder Company
550 BAY ROAD
DOVER, DE 19901
(302) 734-9188



SEAL

RECOMMENDED

11/14/25

DATE

REVISIONS

NOT TO SCALE

NE FRONT STREET
REHOBOTH BLVD TO SR1

CONTRACT

T202101201

COUNTY

KENT

BRIDGE NO.

X

DESIGNED BY: W. CLOUGH

CHECKED BY: A. JAKUBOWITCH

WATER RELOCATION PLAN
NOTES

SECTION

CEN

SHEET NO.

71

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LUMP SUM BREAKDOWN FOR ITEM 710500 INSTALLATION OF WATER MAIN AND ACCESSORIES; NE FRONT STREET; DELDOT CONTRACT T202101201							
SECTION DESIGNATION	ITEM NUMBER	PIPE SIZE AND TYPE	LENGTH	CASING	TOP OF PIPE EL IN	TOP OF PIPE EL OUT	REQUIRED VALVES
STATION 1000+00.00 TO STATION 1010+44.77 (ALL BENDS AND FITTINGS SHALL BE INCIDENTAL TO THE LINEAR FEET OF PIPE BEING INSTALLED)	710500	10" PVC MAIN LINE	1,045 LF		12.47'	18.83'	1 EA, 10" TAPPING SLEEVE AND VALVE
		8" PVC SERVICE CONNECTION	30 LF				2 EA, GATE VALVE - 8"
		8" PVC SERVICE CONNECTION	24 LF				4 EA, GATE VALVE - 10"
		10" PVC SERVICE CONNECTION	16 LF				2 EA, TIE-IN TO EXISTING 10" MAIN
		10" PVC SERVICE CONNECTION	41 LF				1 EA, FIRE HYDRANT ASSEMBLY
		1" PVC SERVICE CONNECTION	45 LF				1 EA, HYDRANT TEE, 10" X 6"
							1 EA, FIRE HYDRANT EXTENSION, 6"
							2 EA, 10"X8" TEE
							3 EA, 10" TEE
							1 EA, METER AND METER YOKE, 1"X1"
							4 EA, PLUG AND CAP
							2 EA, SERVICE CONNECTION

RECOMMENDED BY:	
<div></div>	DATE
CITY OF MILFORD, DEPARTMENT OF PUBLIC WORKS	

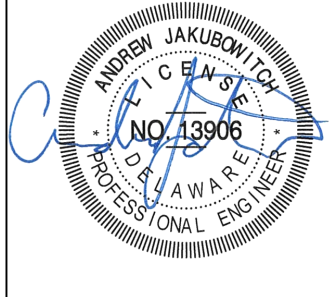
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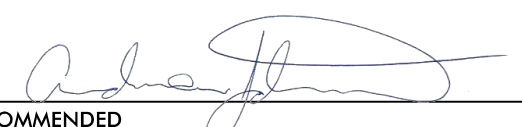
ENGINEERING

A Kleinfelder Company

550 BAY ROAD
DOVER, DE 19901
(302) 734-9188



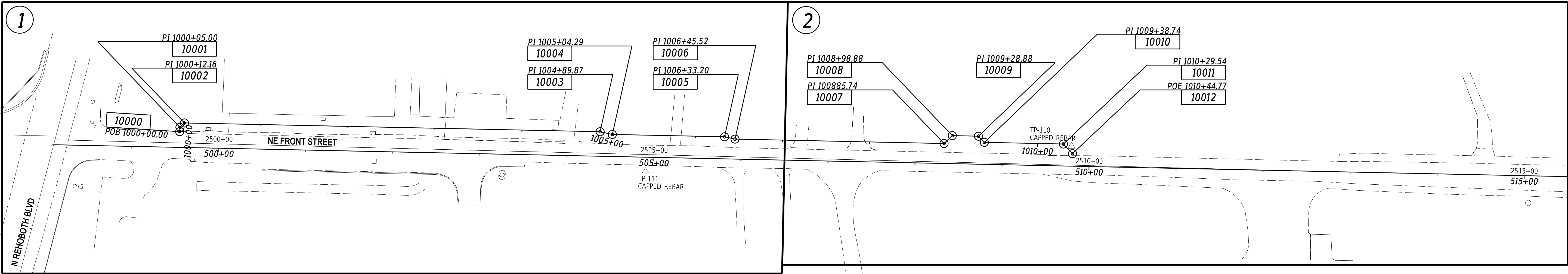
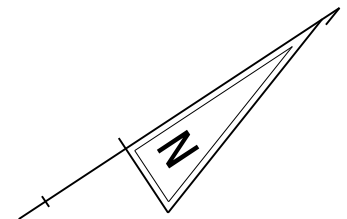
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RECOMMENDED

DATE 11/14/25

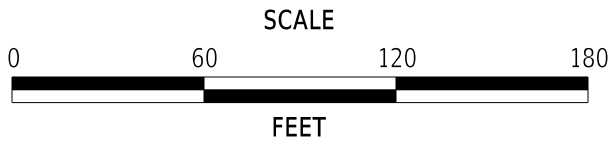
REVISIONS		NOT TO SCALE	NE FRONT STREET REHOBOTH BLVD TO SR1	CONTRACT	BRIDGE NO.	X	WATER RELOCATION PLAN TABULATION AND SUMMARY SHEET	SECTION
				T202101201	DESIGNED BY: W. CLOUGH			CEN
				COUNTY	CHECKED BY: A. JAKUBOWITCH			SHEET NO.
				KENT				72



HORIZONTAL / VERTICAL CONTROL DATA					
POINT NO.	STATION	OFFSET	NORTHING	EASTING	ELEV.
110	509+81.33	-22.659	335560.7881	656066.0819	23.253
111	504+91.55	16.905	335135.8688	655821.1860	20.928

CONSTRUCTION ALIGNMENT CONTROL				
POINT NO.	STATION	OFFSET	NORTHING	EASTING
10000	1000+00.00	0.000	334714.4406	655488.1097
10001	1000+05.00	0.000	334717.4478	655484.1151
10002	1000+12.16	0.000	334724.4852	655482.8214
10003	1004+89.87	0.000	335117.7903	655753.9768
10004	1005+04.29	0.000	335127.8331	655764.3162
10005	1006+33.20	0.000	335233.9696	655837.4896
10006	1006+45.52	0.000	335242.5511	655846.3245
10007	1008+85.74	0.000	335440.3254	655982.6756
10008	1008+98.88	0.000	335453.2468	655980.3003
10009	1009+28.88	0.000	335477.9458	655997.3284
10010	1009+38.74	0.000	335479.7296	656007.0313
10011	1010+29.54	0.000	335554.4841	656058.5692
10012	1010+44.77	0.000	335557.1258	666073.5688

ADDENDA / REVISIONS	

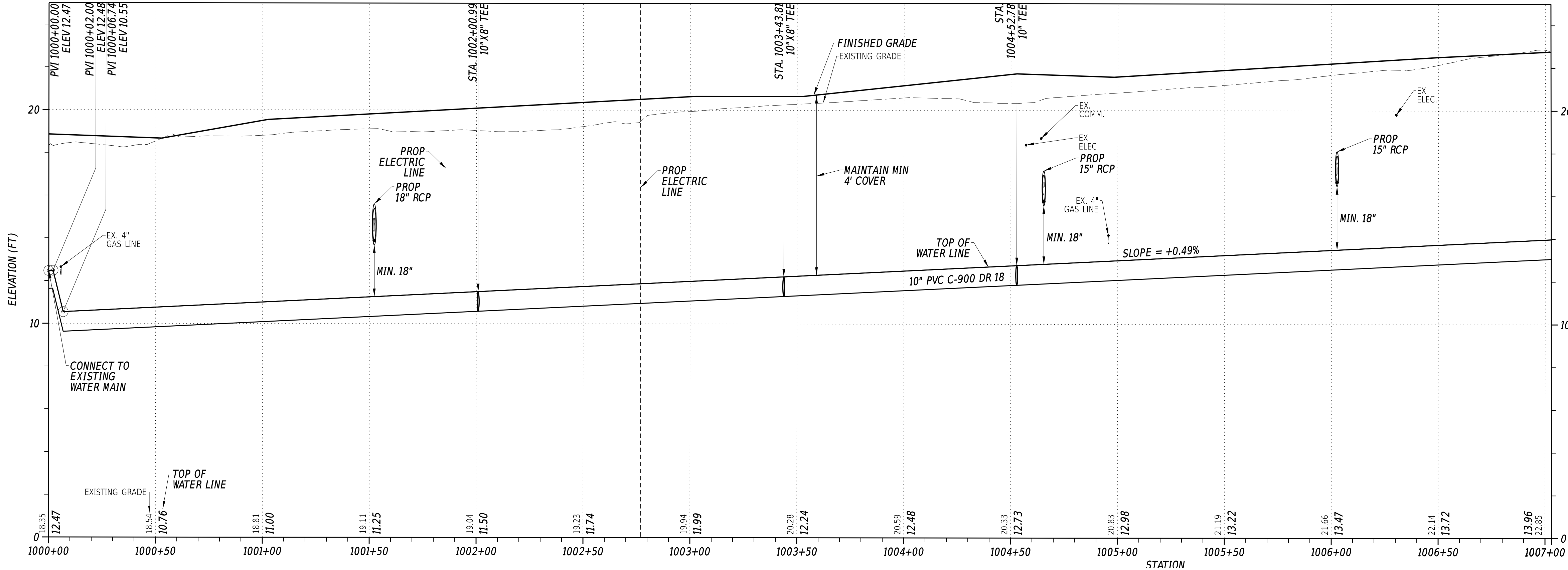
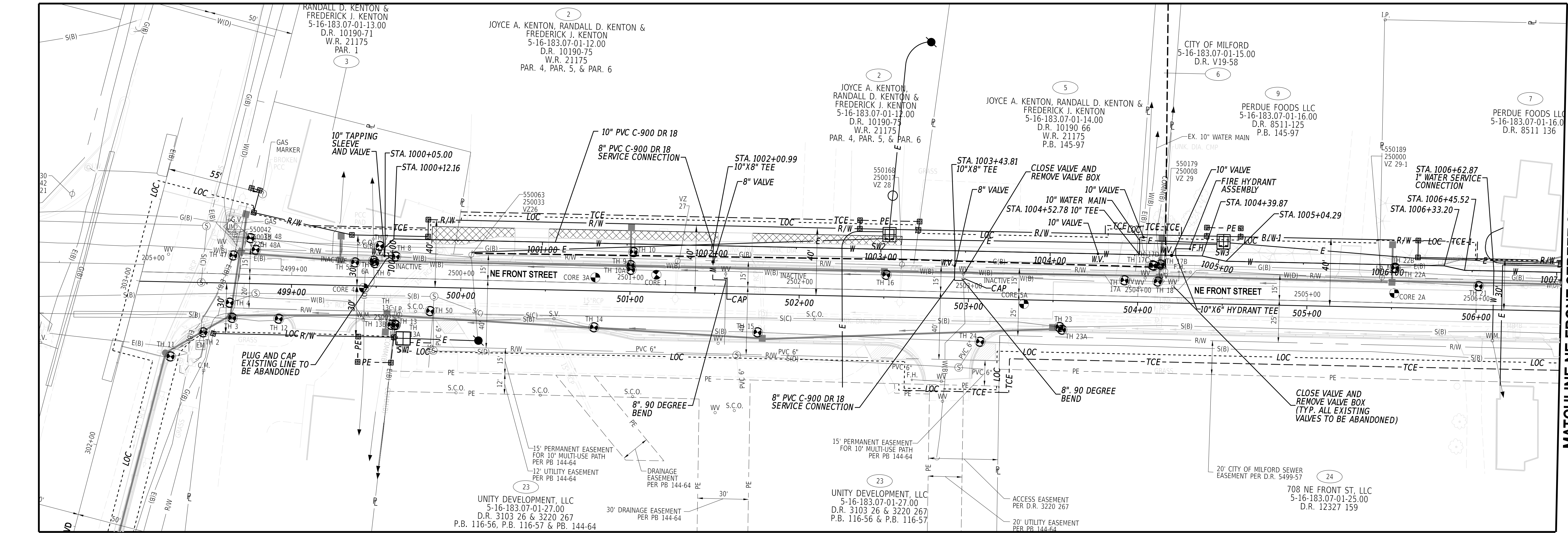


NE FRONT STREET
REHOBOTH BLVD TO SR1

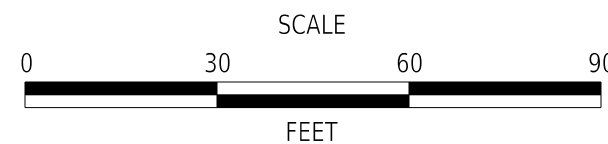
CONTRACT	BRIDGE NO.	X
T202101201	DESIGNED BY:	W. CLOUGH
COUNTY	CHECKED BY:	A. JAKUBOWITCH
KENT		

WATER RELOCATION PLAN
HORIZONTAL AND
VERTICAL CONTROL

SECTION
CEN
SHEET NO.
73



REVISIONS	



NE FRONT STREET
REHOBOTH BLVD TO SR1

CONTRACT T202101201	BRIDGE NO.	X
	DESIGNED BY:	W. CLOUGH
	CHECKED BY:	A. JAKUBOWITCH
COUNTY KENT	DATE 11/14/25	

WATER RELOCATION PLAN

SECTION CEN
SHEET NO. 74

RECOMMENDED BY:

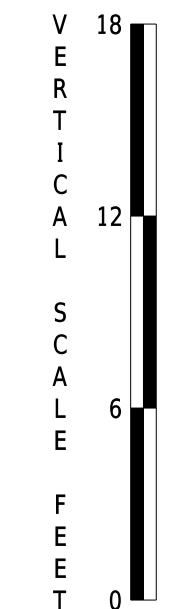
CITY OF MILFORD, DEPARTMENT OF PUBLIC WORKS
DATE

PREPARED BY
CENTURY
ENGINEERING
A Kleinfelder Company
550 BAY ROAD
DOVER, DE 19901
(302) 734-9188

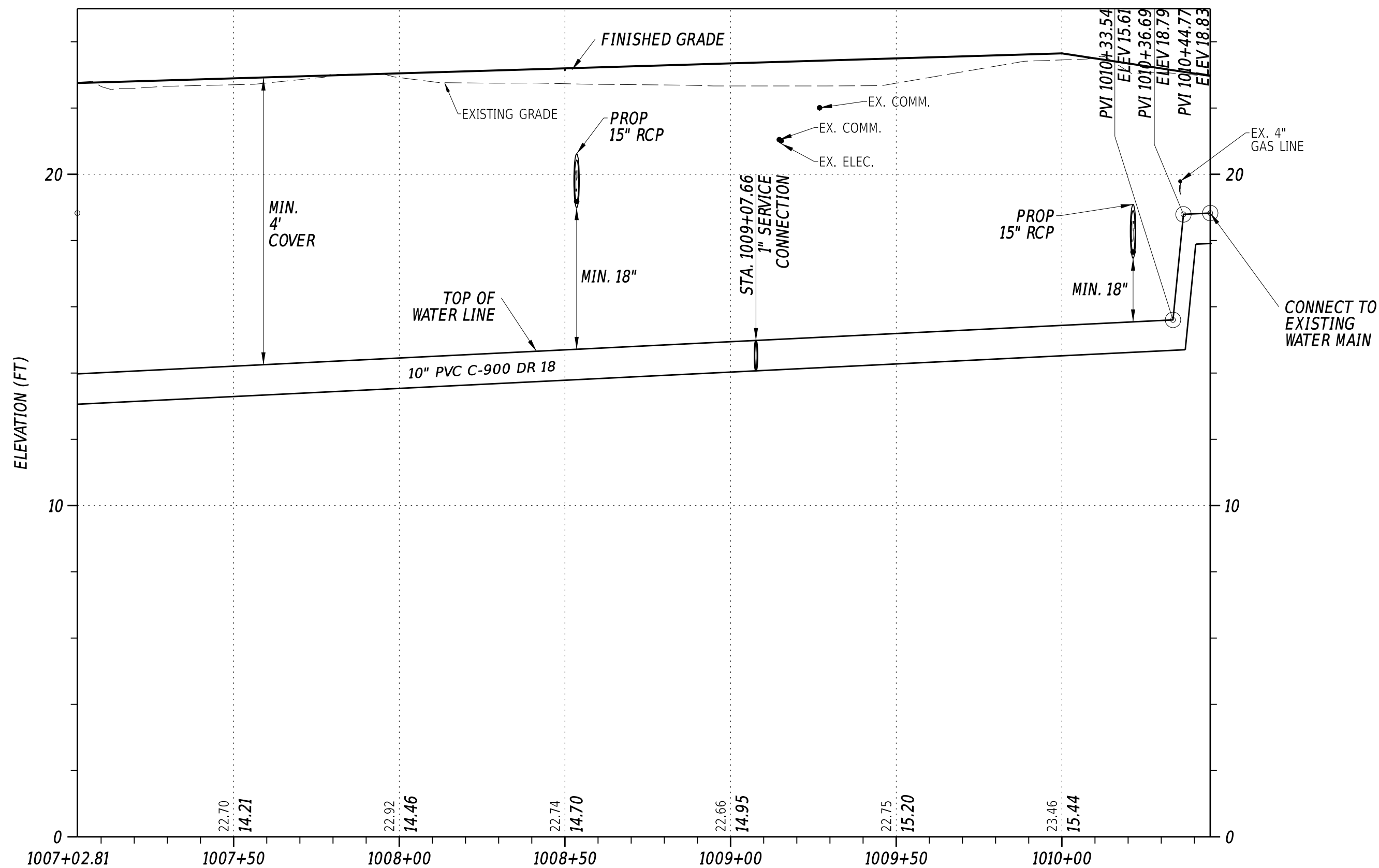
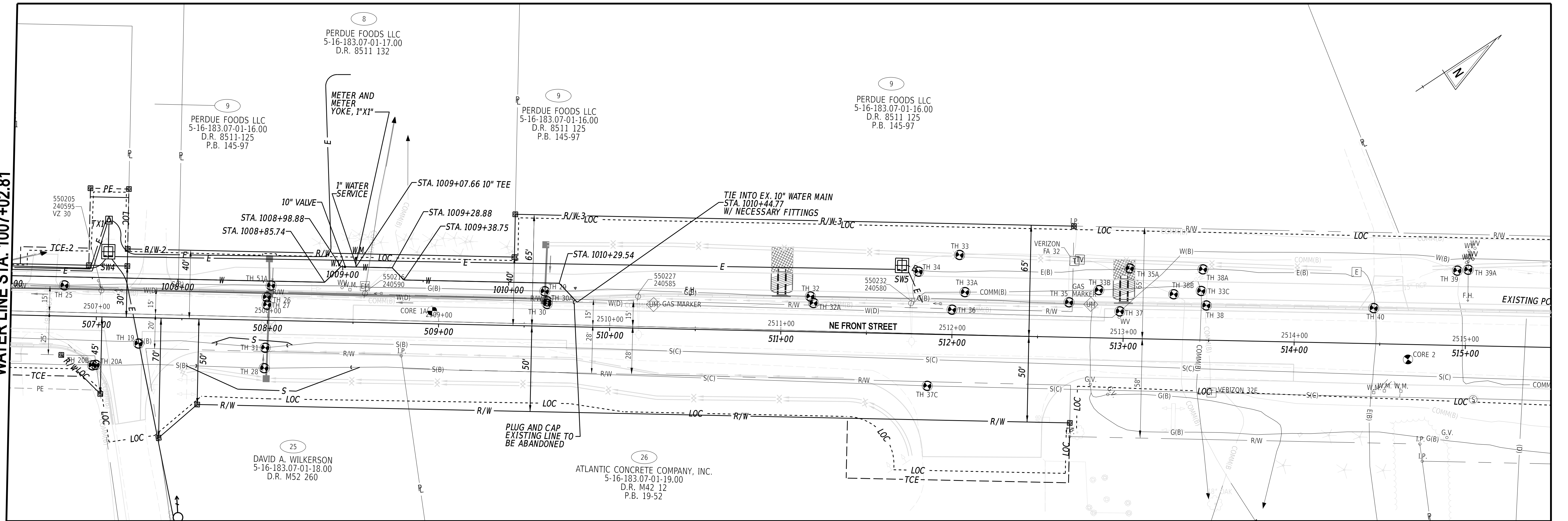
SEAL
ANDREW JAKUBOWITZ
P.E.
NO. 13906
PROFESSIONAL ENGINEER
STATE OF DELAWARE

RECOMMENDED

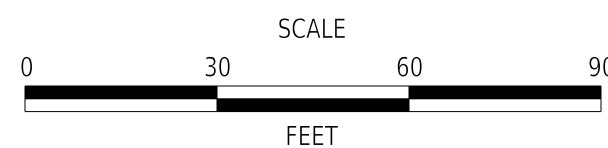
DATE
11/14/25



MATCHLINE NE FRONT STREET STA. 506+50.00
WATER LINE STA. 1007+02.81



REVISIONS	




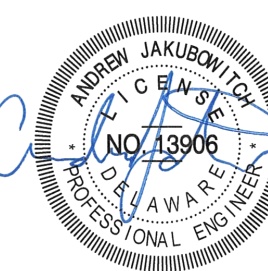

**NE FRONT STREET
REHOBOTH BLVD TO SR1**

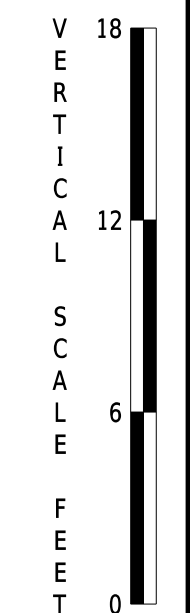
CONTRACT	BRIDGE NO.	X
T202101201	DESIGNED BY:	W. CLOUGH
COUNTY	CHECKED BY:	A. JAKUBOWITCH
KENT		

WATER RELOCATION PLAN

SECTION
CEN
SHEET NO.
75

RECOMMENDED BY:		DATE	
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CITY OF MILFORD, DEPARTMENT OF PUBLIC WORKS			

<p>PREPARED BY</p>  <p>CENTURY ENGINEERING</p> <p>A Kleinfelder Company</p> <p>550 BAY ROAD DOVER, DE 19801 (302) 734-9188</p>	
<hr/> <p>RECOMMENDED</p> 	<hr/> <p>11/14/25</p> <p>DATE</p>



SEQUENCE OF CONSTRUCTION

1.

PRE-CONSTRUCTION COORDINATION:

A.

VERIFY EXISTING UTILITIES WITH TEST PITS AND LOCATES.

B.

SUBMIT MOT/TRAFFIC AND PHASING PLAN.

C.

ARRANGE REQUIRED SHUTDOWN WINDOWS WITH THE CITY OF MILFORD WATER DIVISION FOR FUTURE TIE-INS.

D.

NOTIFY THE DELAWARE OFFICE OF DRINKING WATER (ODW) OF PROPOSED PRESSURE- AND BACTERIA-TESTING SCHEDULE.

E.

COORDINATE ANY NECESSARY SHUTDOWNS OF EXISTING WATER MAINS TO MINIMIZE SERVICE DISRUPTIONS. THE WATER SERVICE (EXISTING 10-INCH WATER MAIN) AT STATION 504+05 IS A SYSTEM SUPPLY LINE AND SHALL REMAIN IN SERVICE UNLESS OTHERWISE APPROVED BY THE CITY OF MILFORD.
2.

INSTALL LIVE (WET-TAP) CONNECTIONS:

A.

PERFORM TAPS ON THE ACTIVE 10-INCH MAIN; SET TAPPING SLEEVES AND VALVES WHILE THE EXISTING MAIN REMAINS IN SERVICE.

B.

CITY OF MILFORD STAFF TO WITNESS ALL TAPS.
3.

INSTALL THE NEW 10-INCH PVC C-900 WATER MAIN:

A.

INSTALL PIPE, VALVES, TEES, HYDRANT LEAD AND ASSEMBLY, TRACER WIRE, SERVICE LATERALS, AND THRUST BLOCKS.

B.

MAINTAIN REQUIRED COVER AND CLEARANCES.

C.

SURVEY PIPE, AND APPURTENANCES FOR AS-BUILT PLAN PREPARATION.
4.

TESTING:

A.

PERFORM TESTING PER NOTES FOR "TESTING OF WATER MAINS".

B.

REPAIR ANY LEAKS AND REPEAT UNTIL PASSING.
5.

DISINFECTION AND BACTERIOLOGICAL TESTING:

A.

CHLORINATE PER ANWA C651, ACHIEVE TARGET RESIDUAL, FLUSH, AND OBTAIN TWO CONSECUTIVE NEGATIVE BACTERIOLOGICAL SAMPLES THROUGH A STATE-APPROVED LABORATORY.
6.

ODW REVIEW AND APPROVAL:

A.

HOLD-POINT: THE EXISTING MAIN STAYS IN SERVICE UNTIL ODW ISSUES WRITTEN ACCEPTANCE OF PRESSURE- AND BACTERIA-TEST RESULTS.
7.

COORDINATED SHUTDOWN AND FINAL TIE-INS:

A.

WITH 48-HOUR MINIMUM NOTICE TO THE CITY OF MILFORD, ISOLATE THE EXISTING MAIN, COMPLETE CONNECTIONS, REMOVE ANY NECESSARY SECTIONS OF THE ABANDONED PIPE, OPEN NEW VALVES, AND PLACE THE NEW MAIN INTO PERMANENT SERVICE.
8.

ABANDON THE OLD MAIN:

A.

GROUT, PLUG, OR CAP ABANDONED SEGMENTS; REMOVE OBSOLETE VALVE BOXES, BLOW-OFFS, AND HYDRANTS AS SPECIFIED.
9.

RECORD DRAWINGS AND CLOSE-OUT:

A.

SUBMIT AS-BUILT PLANS AND ASSET DATA TO THE CITY OF MILFORD AND CENTURY ENGINEERING.

B.

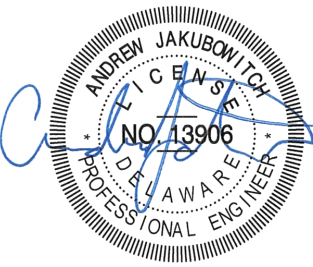
REMOVE TEMPORARY CONTROLS AND DEMOBILIZE.

RECOMMENDED BY:

CITY OF MILFORD, DEPARTMENT OF PUBLIC WORKS

DATE

PREPARED BY
CENTURY
ENGINEERING
A Kleinfelder Company
550 BAY ROAD
DOVER, DE 19901
(302) 734-9188



SEAL

RECOMMENDED

11/14/25

DATE

REVISIONS

NOT TO SCALE

NE FRONT STREET
REHOBOTH BLVD TO SR1

CONTRACT

T202101201

COUNTY

KENT

BRIDGE NO.

X

DESIGNED BY: W. CLOUGH

CHECKED BY: A. JAKUBOWITCH

WATER RELOCATION PLAN
SEQUENCE OF CONSTRUCTION

SECTION

CEN

SHEET NO.

77

GENERAL NOTES

1.

THE EXISTING 4-INCH SANITARY SEWER FORCE MAIN IS OWNED BY THE CITY OF MILFORD, DEPARTMENT OF PUBLIC WORKS. THE EXISTING 18-INCH SANITARY SEWER FORCE MAIN IS OWNED BY THE KENT COUNTY, DEPARTMENT OF PUBLIC WORKS.
2.

EQUIPMENT AND/OR STOCKPILE MATERIAL SHALL NOT BE STORED IN THE DRIP LINE AREA OF ANY TREE.
3.

THE CONTRACTOR SHALL CONTACT THE OWNER AT LEAST 48 HOURS IN ADVANCE OF STARTING CONSTRUCTION.
4.

THE CONTRACTOR SHALL CONTACT MISS UTILITY OF DELMARVA AT 1-800-282-8555 FOR UTILITY LOCATIONS WITHIN AND SURROUNDING CONSTRUCTION AREAS NOT LESS THAN 72 HOURS BEFORE PERFORMING ANY EXCAVATION.
5.

THE CONTRACTOR SHALL USE ONLY NEW MATERIALS, PARTS, AND PRODUCTS. ALL MATERIALS SHALL BE STORED SO AS TO ASSURE THE PRESERVATION OF THEIR QUALITY AND FITNESS FOR THE INTENDED WORK. ALL MATERIAL MUST BE MANUFACTURED IN THE USA.
6.

ALL CONSTRUCTION SHALL BE PERFORMED TO THE SATISFACTION OF THE ENGINEER, DELAWARE DEPARTMENT OF TRANSPORTATION (DELDOT), AND ALL RESPECTIVE UTILITY OWNER'S IN ACCORDANCE WITH ALL APPLICABLE CONTRACT DRAWINGS AND SPECIFICATIONS.
7.

THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE LAWS, ORDINANCES, RULES, REGULATIONS AND ORDERS OF ANY PUBLIC BODY HAVING JURISDICTION. THE CONTRACTOR SHALL ERECT AND MAINTAIN, AS REQUIRED BY THE CONDITIONS AND PROGRESS OF THE WORK, ALL NECESSARY SAFEGUARDS FOR SAFETY AND PROTECTION IN ACCORDANCE WITH APPLICABLE OSHA REGULATION.
8.

THE CONTRACTOR SHALL INSTALL THE PROPOSED SANITARY SEWER AND FORCE MAINS WITH A MINIMUM OF 5 FEET OF HORIZONTAL AND 12 INCHES OF VERTICAL CLEARANCE FROM OTHER EXISTING AND PROPOSED UTILITIES. THE CONTRACTOR SHALL MAINTAIN A MINIMUM OF 10 FEET OF HORIZONTAL CLEARANCE AND 18 INCHES OF VERTICAL CLEARANCE BETWEEN WATER MAINS AND SANITARY SEWERS (BOTH EXISTING AND PROPOSED MAINS).
9.

THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL MATERIALS FOR APPROVAL TO THE OWNER PRIOR TO COMMENCEMENT OF CONSTRUCTION. ALL MATERIALS ORDERED AND INSTALLED PRIOR TO DPWS REVIEW AND ACCEPTANCE WILL BE AT THE CONTRACTOR'S RISK.
10.

THE CONTRACTOR SHALL OPEN ONLY THAT SECTION OF TRENCH OR ACCESS PITS WHICH CAN BE BACKFILLED AND STABILIZED AT THE END OF EACH WORKING DAY. STEEL PLATES SHALL BE USED ON ANY TRENCH OR ACCESS PITS WHICH MUST REMAIN OPEN OVERNIGHT. THIS REQUIREMENT DOES NOT APPLY TO AREAS COMPLETELY CLOSED AND SECURE FROM VEHICULAR OR PEDESTRIAN TRAFFIC. PAYMENT TO BE INCIDENTAL TO ITEM 801000, MAINTENANCE OF TRAFFIC.
11.

CONTRACTOR SHALL AT ALL TIMES MAINTAIN A SAFE AND DRY EXCAVATION. MAINTAIN SUFFICIENT DEWATERING FOR A DRY SUBGRADE. DEWATERING SHALL BE DONE IN ACCORDANCE WITH SECTION 902.
12.

PIPE PLUGS SHALL BE DESIGNED FOR PERMANENT INSTALLATION AND SHALL BE REMOVABLE. OBTAIN PLUGS FOR VARIOUS TYPES OF PIPE USED FROM THE RESPECTIVE PIPE MANUFACTURER.
13.

DUCTILE IRON PRESSURE SEWER PIPE 4 INCHES TO 29 INCHES NOMINAL PIPE SIZE DIAMETER SHALL CONFORM TO AWWA C151, PRESSURE CLASS 350. PIPES 30 INCHES IN DIAMETER AND GREATER SHALL CONFORM TO AWWA C151, PRESSURE CLASS 250. THE DI PRESSURE PIPE SHALL HAVE AN INTERIOR PROTECTO 401 CERAMIC EPOXY LINING, MINIMUM THICKNESS OF 40 MILS.
14.

DUCTILE IRON PRESSURE SEWER FITTINGS 8 INCHES TO 36 INCHES NOMINAL PIPE SIZE DIAMETER SHALL CONFORM TO AWWA C153; PRESSURE CLASS 250, MINIMUM, WITH AN INTERIOR OF PROTECTO 401 CERAMIC EPOXY LINING MINIMUM THICKNESS OF 40 MILS.
15.

DUCTILE IRON PIPE AND FITTINGS SHALL HAVE AN EXTERIOR ASPHALTIC COATING APPROXIMATELY 1 MIL THICK PER AWWA C151 FOR DUCTILE IRON PIPE, AWWA C115 FOR FLANGED PIPE AND AWWA C110 AND C153 FOR FITTINGS.
16.

RUBBER GASKET JOINTS, LUBRICANTS, GLANDS, BOLTS AND NUTS FOR DUCTILE IRON PRESSURE PIPE AND FITTINGS SHALL CONFORM TO AWWA C111, WITH MECHANICAL JOINTS FOR BURIED FITTINGS AND MECHANICAL OR PUSH-ON JOINTS FOR BURIED PIPING.
17.

ALL FITTINGS SHALL BE RESTRAINED. FORCE MAIN RUNS NOTED AS RESTRAINED SHALL HAVE RESTRAINED JOINTS THAT MEET U.S. PIPE "TR-FLEX" OR AMERICAN PIPE "FLEX-RING" REQUIREMENTS OR APPROVED EQUAL.
18.

ROUTINE PERIODIC INSPECTIONS DURING CONSTRUCTION WILL BE PROVIDED BY THE OWNER. THESE INSPECTIONS DO NOT RELIEVE THE CONTRACTOR FROM HIS OBLIGATION AND RESPONSIBILITY FOR CONSTRUCTING A SANITARY SEWER SYSTEM IN STRICT ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE OWNER.
19.

AFTER TESTING IS COMPLETE AND ALL COMPONENTS OF THE SANITARY SEWER SYSTEM ARE DEEMED ACCEPTABLE TO THE OWNER, THE CONTRACTOR SHALL SUBMIT THE AS-BUILT DRAWINGS TO THE OWNER. ANY DISCREPANCIES NOTED DURING THE FINAL INSPECTION SHALL BE CORRECTED BY THE CONTRACTOR WITHIN 30 DAYS.
20.

BASIS OF DESIGN - SPECIFIC MANUFACTURERS AND MODELS ARE LISTED THROUGHOUT THESE DRAWINGS INTENDED AS BASIS OF DESIGN. SEE TECHNICAL SPECIFICATIONS FOR ADDITIONAL PERFORMANCE REQUIREMENTS AND ALTERNATIVES. IN EVERY CASE THE RELATED MANUFACTURERS AND MODELS MUST BE ACCEPTABLE TO THE OWNER AND COMPATIBLE WITH THE OWNER'S STANDARDS AND CURRENT OPERATING PROCEDURES.
21.

BUTTRESSES/THRUST BLOCKING HAS BEEN DESIGNED BASED ON THE FOLLOWING.

A. A MINIMUM 3,000 PSF PASSIVE SOIL BEARING CAPACITY.

B. A MINIMUM 28 DAY CONCRETE COMPRESSIVE STRENGTH OF 3,000 PSI (CLASS B CONCRETE).

C. DEPTH FROM FINISHED GRADE TO TOP OF PIPE ASSUMED TO BE 2.5 FT. OR DEEPER.

D. EXISTING SOIL CONDITIONS ARE NOT SOFT OR ORGANIC.

THRUST BLOCK SHALL BE PROVIDED ALONG FORCE MAIN PIPING AT ALL TEE AND WYE FITTINGS, VALVES, AND 45° BENDS.
22.

DIFFERING SITE CONDITIONS AND/OR DIFFERING MATERIAL PROPERTIES SHALL REQUIRE KENT COUNTY DPW APPROVAL OF SPECIAL DESIGN DETAILS PREPARED BY THE DESIGN ENGINEER PRIOR TO INITIATING OR RESUMING CONSTRUCTION ACTIVITIES.

THE CONTRACTOR SHALL ALLOW SUFFICIENT TIME FOLLOWING EXCAVATIONS FOR INSPECTION AND EVALUATION OF EXISTING SOIL SUBGRADE CONDITIONS BY THE CONSTRUCTION ENGINEER (AGENT FOR THE OWNER). THE CONSTRUCTION ENGINEER SHALL INSPECT ALL STRUCTURE AND THRUST BLOCKING SUBGRADE AND PIPELINE SUBGRADE FOLLOWING EXCAVATION AND PRIOR TO CONSTRUCTION OF NEW WORK TO CONFIRM DESIGN CONDITIONS ARE MET AND SUBGRADE CONDITIONS ARE SUITABLE FOR CONSTRUCTION. IN THE EVENT THE SOIL BEARING CAPACITY IS LESS THAN THE MINIMUM DESIGN VALUE, THE CONSTRUCTION ENGINEER SHALL CAUSE AFFECTED CONSTRUCTION TO CEASE AND SHALL NOTIFY THE DESIGN ENGINEER FOR RE-DESIGN TO ACCOMMODATE THE REDUCED SOIL BEARING CAPACITY.

23.

THE CONTRACTOR SHALL MAINTAIN ONE COMPLETE SET OF CONTRACT DRAWINGS ON WHICH HE SHALL NOTE, IN RED, THE ALIGNMENTS AND INVERTS OF ALL UNDERGROUND UTILITIES THAT ARE INSTALLED OR ENCOUNTERED DURING THE EXECUTION OF THE WORK. ALL DISCREPANCIES BETWEEN THE PLAN LOCATIONS AND ELEVATIONS OF BOTH THE EXISTING AND PROPOSED UTILITIES SHALL BE SHOWN ON THE AS-BUILT DRAWINGS TO BE MAINTAINED BY THE CONTRACTOR IN THE FIELD. AT THE CONCLUSION OF WORK, ONE SET OF AS-BUILT DRAWINGS SHALL BE SUBMITTED TO THE OWNER. COSTS TO PREPARE & SUBMIT ALL AS-BUILTS ARE INCIDENTAL TO THE ITEM BEING RECORDED ON THE AS-BUILT DRAWINGS.
24.

FOR ALL OF THE WORK ITEMS RELATED TO THE SANITARY SEWER RELOCATIONS, THE HIERARCHY OF CONTRACT DOCUMENTS SHALL, IN THE EVENT OF A CONFLICT, BE:

PLAN NOTES AND DETAILS TAKE PRECEDENCE OVER

SPECIAL PROVISIONS WHICH TAKE PRECEDENCE OVER

REFERENCED DELDOT STANDARD SPECIFICATIONS WHICH TAKE PRECEDENCE OVER

TECHNICAL SPECIFICATIONS WHICH TAKE PRECEDENCE OVER

THE OWNER'S STANDARD DETAILS
25.

ANY TEMPORARY SHEETING AND/OR SHORING SHALL BE REMOVED BY THE CONTRACTOR FOLLOWING ITS USE IN THE FIELD. COSTS ARE INCIDENTAL TO THE ITEM REQUIRING THE PLACEMENT OF THE SHEETING OR SHORING.
26.

FORCE MAIN MARKERS, IN ACCORDANCE WITH KENT COUNTY STANDARD DETAIL, SHALL BE PLACED AT ALL BENDS. COSTS ARE INCIDENTAL TO THE BENDS BEING INSTALLED.
27.

POLYCHLORIDE FORCE MAIN PIPE AND FITTINGS

A

POLYVINYL CHLORIDE (PVC) FORCE MAIN PIPE SHALL BE MANUFACTURED TO MEET OR EXCEED THE REQUIREMENTS OF AWWA C-900, LATEST REVISION. IT SHALL HAVE OUTSIDE DIAMETERS EQUAL TO DUCTILE IRON PIPE WITH A DIMENSION RATIO (DR) OF 21 OR LESS. THE PIPE SHALL BE RATED FOR A WORKING PRESSURE OF AT LEAST 150 PSI PLUS A SURGE ALLOWANCE OF AT LEAST 35 PSI AND SHALL HAVE A MINIMUM HYDROSTATIC STRENGTH OF 600 PSI.

B.

ALL FITTINGS FOR PVC FORCE MAIN SHALL BE MADE OF DUCTILE IRON IN ACCORDANCE WITH ANSI STANDARD A21.20. FITTINGS SHALL BE CLASS 250 AND PROVIDED WITH MECHANICAL JOINT ENDS FURNISHED IN ACCORDANCE WITH ANSI SPECIFICATIONS A21.11 EXCEPT WHERE NOTED ON THE PLANS OR DELINEATED IN THESE SPECIFICATIONS. INSIDE OF FITTINGS SHALL BE DOUBLE CEMENT LINED WITH A BITUMINOUS SEAL COAT IN ACCORDANCE WITH ANSI 21.40.

SEWER RELOCATION PROJECT NOTES:

1.





ALL WORK ON THE SEWER SHALL BE PERFORMED BY QUALIFIED CONTRACTORS ACCEPTED BY THE OWNER.
2.

ALL EXCAVATION, BACKFILL BORROW TYPE C, BACKFILLING, GABC, AND STONE FOR BEDDING FOR ALL WORK ASSOCIATED WITH THE INSTALLATION OF THE SEWER FACILITIES SHALL BE INCIDENTAL TO THE PAY ITEM FOR INSTALLING THE SEWER FACILITIES.
3.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING ALL DISTURBED AREAS TO THE SATISFACTION OF THE ENGINEER WITH ALL COSTS INCIDENTAL TO THE SEWER INSTALLATION PAY ITEMS EXCEPT TOPSOIL, TOPSOILING, SEEDING, AND/OR MULCH WHICH WILL BE PAID UNDER THE APPLICABLE BID ITEMS.
4.

PRIOR TO PERFORMING ANY WORK, THE CONTRACTOR SHALL STAKE OUT THE LIMITS OF CONSTRUCTION SHOWN ON THE PLANS AND PLACE SILT FENCE ALONG THESE LIMITS IN ACCORDANCE WITH STATE AND FEDERAL REQUIREMENTS. AT NO TIME SHALL THE CONTRACTOR DRIVE EQUIPMENT, PLACE MATERIAL, TRAVERSE WITH PERSONNEL OR OTHERWISE DISTURB THE AREA BEYOND THE LIMITS OF CONSTRUCTION SHOWN ON THE PLANS UNLESS APPROVED BY THE ENGINEER. COST FOR PROVIDING THE STAKEOUT IS INCIDENTAL TO ITEM 763501, CONSTRUCTION ENGINEERING.
5.

AFTER THE NEW SEWER INSTALLATIONS HAVE BEEN INSTALLED, ACCEPTED BY THE ENGINEER AND THE OWNER, AND ARE IN SERVICE, THE CONTRACTOR SHALL ABANDON THE REMAINING EXISTING PIPES. ALL COSTS ASSOCIATED WITH ABANDONING THE EXISTING PIPES SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 211000, REMOVAL OF STRUCTURES AND OBSTRUCTIONS. ALL REMOVED MATERIAL DEEMED SALVAGEABLE BY THE OWNER SHALL BE TRANSPORTED AND STORED BY THE CONTRACTOR AT THE OWNERS YARD, OTHERWISE ALL REMOVED MATERIAL SHALL BE REMOVED FROM THE PROJECT SITE AND DISPOSED OF BY THE CONTRACTOR IN A SAFE AND LEGAL MANNER. FLOWABLE FILL REQUIRED TO COMPLETELY FILL ABANDONED PIPES IN PLACE WILL BE MEASURED AND PAID FOR UNDER ITEM 208000, FLOWABLE FILL.

SEWER LEGEND	
	AIR RELEASE VALVE
	GATE VALVE
	HORIZONTAL BEND / ANGLE
	VERTICAL BEND / ANGLE

INDEX OF SHEETS		
SECTION	SHEET DESCRIPTION	SHEET NO(S)
CEN	NOTES SHEETS	78
CEN	TABULATION AND SUMMARY SHEET	79
CEN	HORIZONTAL AND VERTICAL CONTROL	80
CEN	PLANS	81
CEN	DETAILS	82
CEN	SEQUENCE OF CONSTRUCTION AND SCHEDULES	83

EXISTING UNDERGROUND UTILITIES COORDINATION NOTES:

1.

THE LOCATION OF UNDERGROUND UTILITIES AS INDICATED ON PLANS HAS BEEN OBTAINED FROM EXISTING RECORDS. NEITHER THE OWNER OR THE ARCHITECT/ENGINEER ASSUMES ANY RESPONSIBILITY WHATEVER IN RESPECT TO ACCURACY, COMPLETENESS, OR SUFFICIENCY OF THE INFORMATION SHOWN. THERE IS NO GUARANTEE, EITHER EXPRESSED OR IMPLIED THAT THE LOCATIONS, SIZE AND TYPE OF MATERIALS OF EXISTING UNDERGROUND UTILITIES INDICATED ARE REPRESENTATIVE OF THOSE TO BE ENCOUNTERED DURING CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL SUCH UTILITIES, INCLUDING SERVICE CONNECTIONS TO UNDERGROUND UTILITIES. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE OWNER OF HIS OPERATIONAL PLANS. IN THE EVENT OF AN UNEXPECTED UTILITY INTERFERENCE DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER. ANY SUCH MAINS AND/OR SERVICES DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED IMMEDIATELY AT HIS EXPENSE.
2.

PRIOR TO PERFORMING ANY EXCAVATION GREATER THAN 6 INCHES, THE CONTRACTOR SHALL COORDINATE WITH THE OWNER AND ALL PRIVATE UTILITY COMPANIES TO DETERMINE THE LOCATION OF UNDERGROUND UTILITY LINES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH ALL ORGANIZATIONS THAT CONTROL EXISTING UNDERGROUND UTILITIES IN THE CONSTRUCTION AREA OR WOULD BE AFFECTED BY CONSTRUCTION WORK AROUND THE EXISTING UTILITIES.
3.

THE CONTRACTOR SHALL NOT START EXCAVATION UNTIL ALL UTILITY LINE LOCATIONS HAVE BEEN STAKED OR OTHERWISE CLEARLY MARKED AND DOCUMENTATION FURNISHED TO THE OWNER. ALL MARKINGS SHALL BE CONSIDERED APPROXIMATE, AND UTILITIES OTHER THAN THOSE SHOWN SHALL BE CONSIDERED TO EXIST.
4.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DEFINITE LOCATION OF EACH UTILITY WITHIN THE WORK AREA. CARE SHOULD BE EXERCISED DURING EXCAVATION WORK TO AVOID DAMAGING OR DISRUPTING UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING (AT CONTRACTOR'S EXPENSE) DAMAGE TO ANY UTILITY CAUSED BY THE CONTRACTOR'S WORK.
5.

WHERE EXISTING UNDERGROUND UTILITIES OR OTHER CONSTRUCTION ARE EXPECTED TO BE IN PROXIMITY TO PROPOSED CONSTRUCTION, OR WHEN APPROACHING EXISTING UTILITIES OR STRUCTURES FOR CONNECTIONS, THE CONTRACTOR SHALL DIG TEST PITS TO DETERMINE THE EXACT LOCATION AND INVERTS OF THE EXISTING UTILITY TO ALLOW FOR POSSIBLE CHANGES TO THE PROPOSED UTILITY IN LINE AND/OR GRADE. THE CONTRACTOR SHALL ALSO DIG TEST PITS IN THE LOCATION OF THE PROPOSED CONNECTIONS TO EXISTING UTILITIES AND SHALL MAKE ALL MEASUREMENTS NECESSARY TO ENSURE PROPER CONNECTION. ANY NECESSARY CHANGES IN LINE OR GRADE OF WORK CAUSED BY FAILURE TO TAKE SUCH PRECAUTIONS SHALL BE AT THE EXPENSE OF THE CONTRACTOR.
6.

WHEN IT IS NECESSARY TO EXCAVATE NEAR OR INTERFERE WITH ANY SEWER LINE, WATER SERVICES, DRAIN PIPE, CATCH BASIN, CULVERT, OR OTHER STRUCTURES, THE CONTRACTOR SHALL MAINTAIN THE SAME IN WORKING ORDER AND SHALL REPAIR AND MAKE GOOD ANY DAMAGE DONE DURING THE PROGRESS OF THE WORK.
7.

WHERE EXISTING UTILITIES CROSS THE TRENCH EXCAVATION, THEY SHALL BE ADEQUATELY SUPPORTED AND PROTECTED FROM DAMAGE DUE TO CONSTRUCTION. ALL METHODS FOR SUPPORTING AND MAINTAINING THESE UTILITIES SHALL BE SUBJECT TO REVIEW BY THE UTILITY OWNER. CARE SHALL BE TAKEN TO ENSURE THAT THE EXISTING UTILITY GRADES AND ALIGNMENT ARE MAINTAINED AND THE PIPE JOINTS ARE NOT DISTURBED. BACKFILL SHALL BE CAREFULLY PLACED AND TAMPED TO PREVENT DAMAGE OR FUTURE SETTLEMENT. ANY DAMAGE OR MISALIGNMENT OF THE UTILITIES DUE TO CONSTRUCTION OR SETTLEMENT SHALL BE REPAIRED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
8.

ANY UNPROTECTED CABLE (DIRECT BURIED) ENCOUNTERED THAT IS VERIFIED AS NOT ABANDONED IN PLACE SHALL BE PROTECTED. THE UTILITY OWNER MAY DIRECT THE CABLE BE PLACED IN SPLIT DUCT OF APPROPRIATE SIZE AND CONCRETE ENCASED THROUGH THE AREA OF CONSTRUCTION. CONTRACTOR SHALL TAKE ALL REASONABLE MEASURES TO AVOID HAVING TO CUT AND SPLICE DIRECT BURIED CABLE. THE CONTRACTOR SHALL NOTE SPLIT DUCT PORTIONS ON AS-BUILTS. COSTS ARE INCIDENTAL TO THE ITEM BEING PLACED THAT NECESSITATED THE UTILITY PROTECTION.
9.

ALL SUITABLE EXCESS EXCAVATED MATERIALS SHALL BE USED AS EMBANKMENT FILL ELSEWHERE ON THE PROJECT.
10.

INTERRUPTION OF EXISTING UTILITIES SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS AND/OR AT THE DIRECTION OF THE UTILITY OWNER/S.

RECOMMENDED BY:

KENT COUNTY, DEPARTMENT OF PUBLIC WORKS


DATE

RECOMMENDED BY:

CITY OF MILFORD, DEPARTMENT OF PUBLIC WORKS

DATE

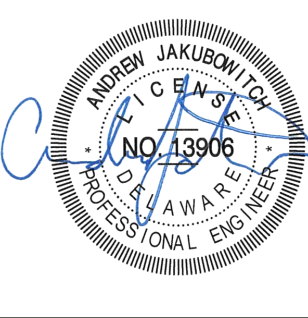
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CENTURY ENGINEERING

A Kleinfelder Company

550 BAY ROAD
DOVER, DE 19901
(302) 734-9188



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11/14/25

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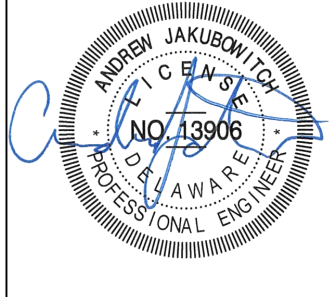
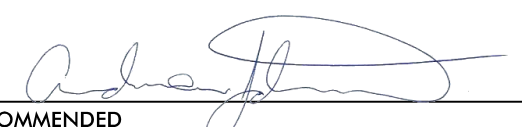
REVISIONS		NOT TO SCALE	NE FRONT STREET REHOBOTH BLVD TO SR1	CONTRACT	BRIDGE NO.	X	SEWER RELOCATION PLAN NOTES	SECTION
				T202101201				CEN
				COUNTY	DESIGNED BY: W. CLOUGH			SHEET NO.
				KENT	CHECKED BY: A. JAKUBOWITCH			78

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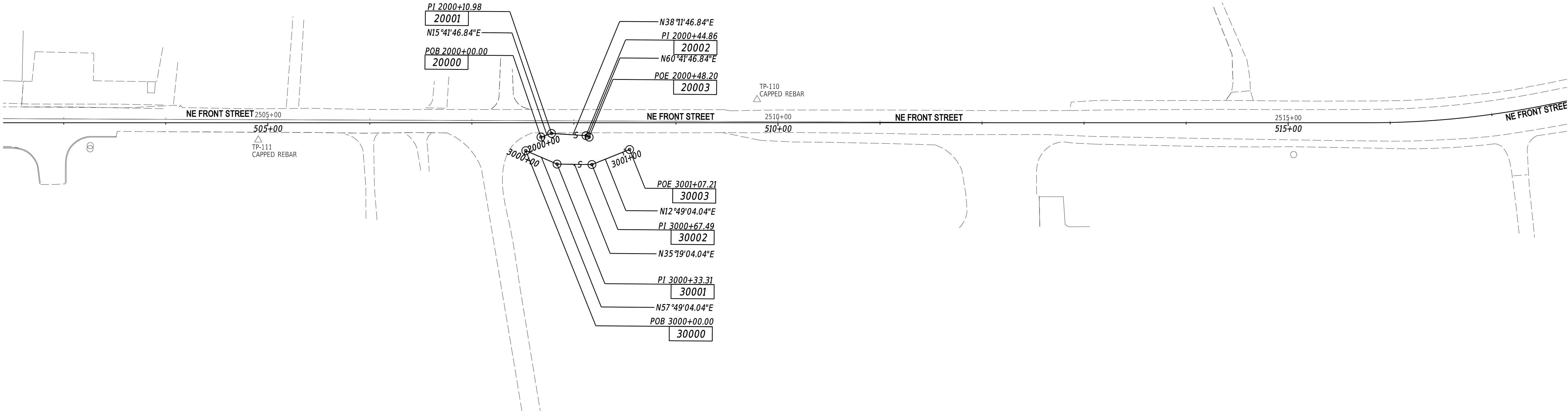
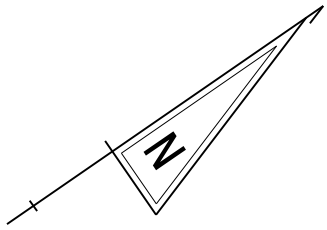
BREAKDOWN FOR ITEMS 711023 & 711034; SANITARY PIPE ITEM SCHEDULES; NE FRONT STREET; DELDOT CONTRACT T202101201							
RUN DESIGNATION	ITEM NUMBER	PIPE SIZE	LENGTH(LF)	TOP OF PIPE EL IN	TOP OF PIPE EL OUT	GENERAL WORK DESCRIPTION	WORK ELEMENTS INCLUDED
LOCATION 1 STA 2000+00 TO 2000+48.20	711034	4" PVC	48.20 (LF)	18.28	18.33	RELOCATION OF 4" PVC FORCE MAIN	6 EA, 4" 22.5 DEGREE BENDS PLUG AND CAPS FOR EXISTING 4"
LOCATION 2 STA 3000+00 TO 3001+07.21	711023	18" DIP	107.21 (LF)	17.35	17.44	RELOCATION OF 18" DIP FORCE MAIN	4 EA, 18" 22.5 DEGREE BENDS 2 EA, PLUG AND CAPS FOR EXISTING 18"

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<div></div>	<div></div>
KENT COUNTY, DEPARTMENT OF PUBLIC WORKS	DATE

RECOMMENDED BY:	
<div></div>	<div></div>
CITY OF MILFORD, DEPARTMENT OF PUBLIC WORKS	DATE

<div>PREPARED BY</div> <div>CENTURY ENGINEERING</div> <div>A Kleinfelder Company</div> <div>550 BAY ROAD DOVER, DE 19901 (302) 734-9188</div>	<div></div> <div>SEAL</div>
<div></div> <div>RECOMMENDED</div>	<div>11/14/25</div> <div>DATE</div>

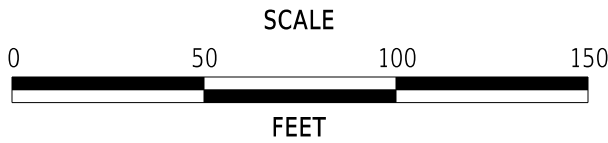
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				T202101201	DESIGNED BY: W. CLOUGH			CEN
				COUNTY	CHECKED BY: A. JAKUBOWITCH			SHEET NO.
				KENT				79



HORIZONTAL / VERTICAL CONTROL DATA					
POINT NO.	STATION	OFFSET	NORTHING	EASTING	ELEV.
110	509+81.33	-22.659	335560.7881	656066.0819	23.253
111	504+91.55	16.905	335135.8688	655821.1860	20.928

CONSTRUCTION ALIGNMENT CONTROL					
POINT NO.	STATION	OFFSET	NORTHING	EASTING	
20000	2000+00.00	0.000	335365.6227	655976.1078	
20001	2000+10.98	0.000	335376.1952	655979.0788	
20002	2000+44.86	0.000	335402.8191	656000.0271	
20003	2000+48.20	0.000	335404.4524	656002.9371	
30000	3000+00.00	0.000	335345.8221	655978.6900	
30001	3000+33.31	0.000	335363.5639	656006.8828	
30002	3000+67.49	0.000	335391.4534	656026.6427	
30003	3001+07.21	0.000	335430.1874	656035.4555	

ADDENDA / REVISIONS	



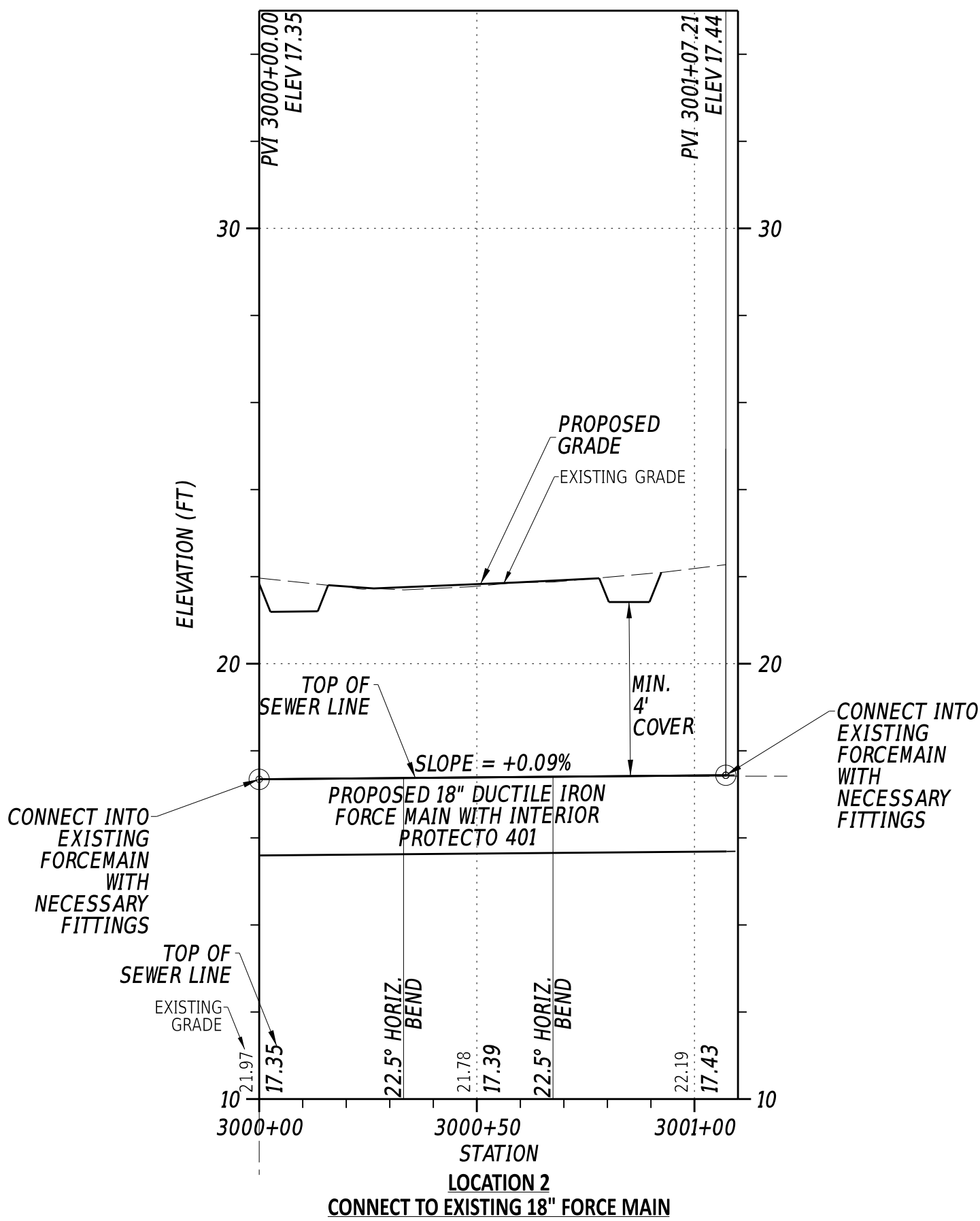
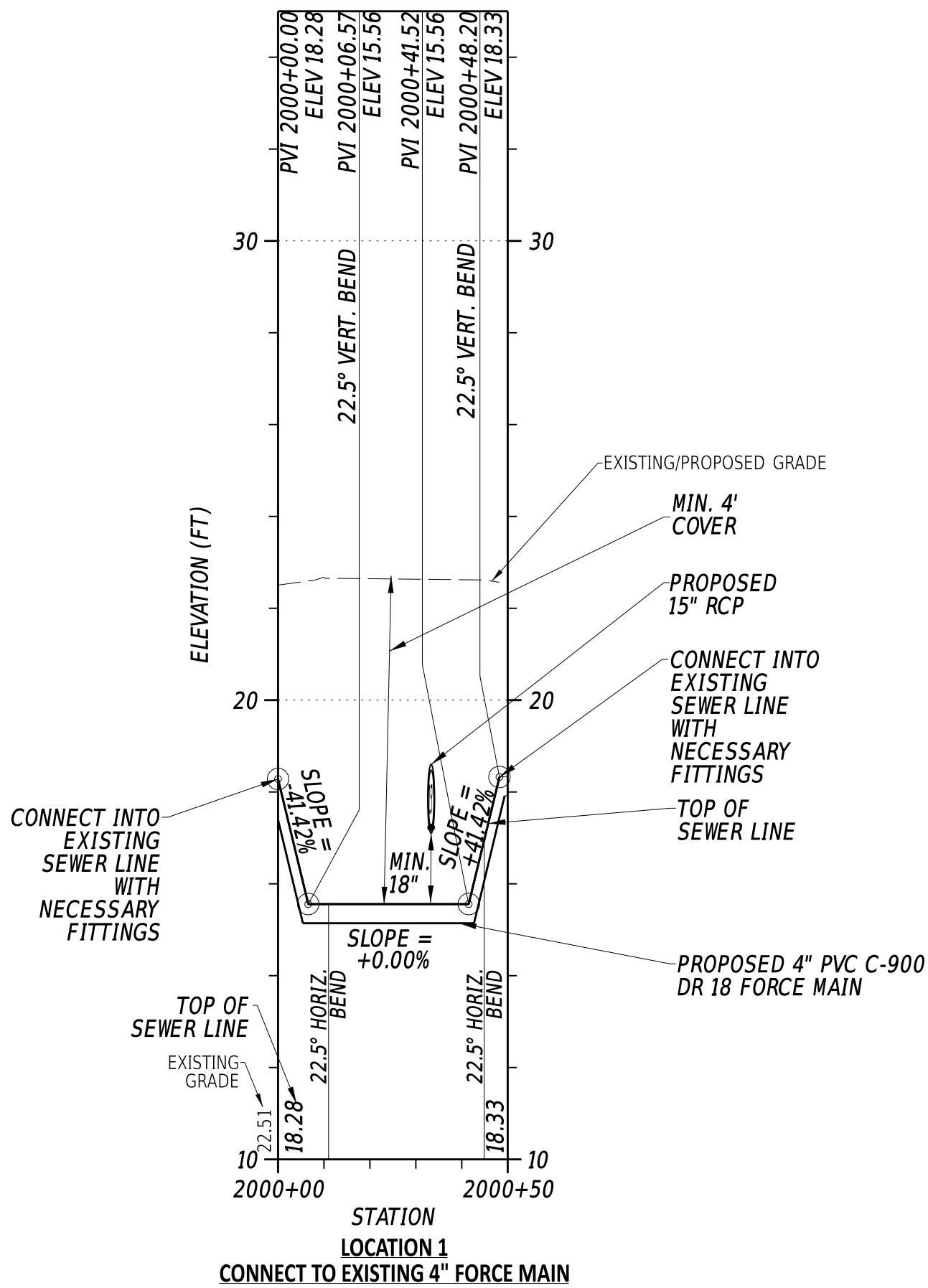
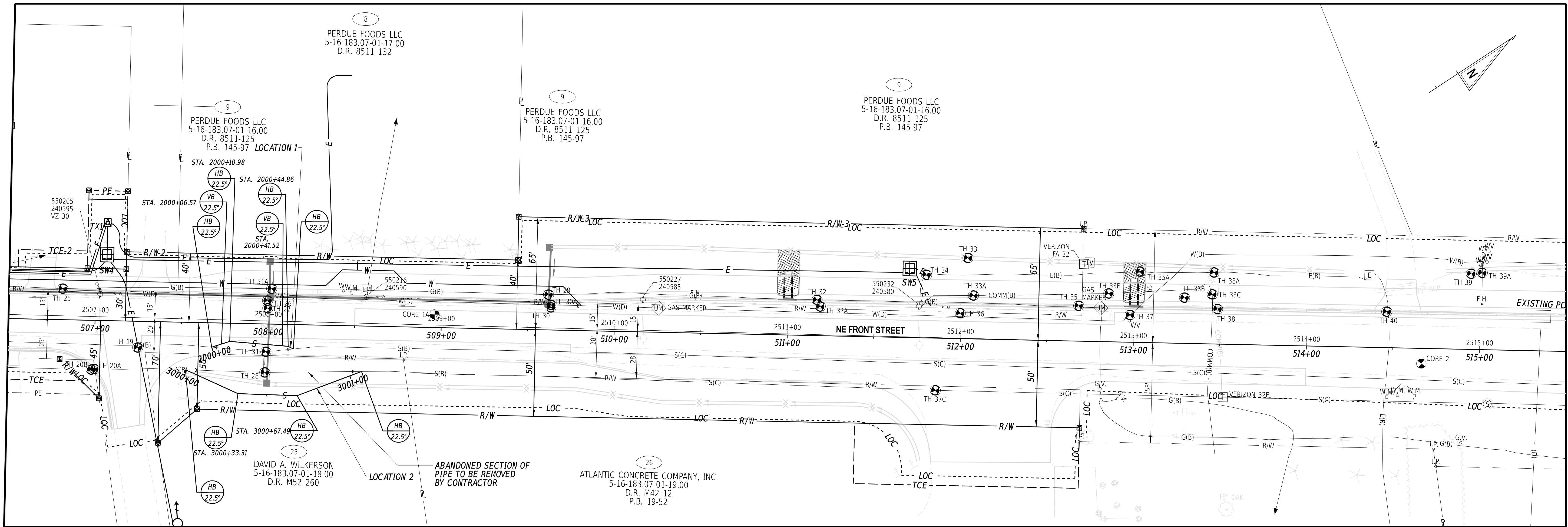
NE FRONT STREET
REHOBOTH BLVD TO SR1

CONTRACT	BRIDGE NO.	X
T202101201	DESIGNED BY: W. CLOUGH	
COUNTY	CHECKED BY: A. JAKUBOWITCH	
KENT		

SEWER RELOCATION PLAN
HORIZONTAL AND
VERTICAL CONTROL

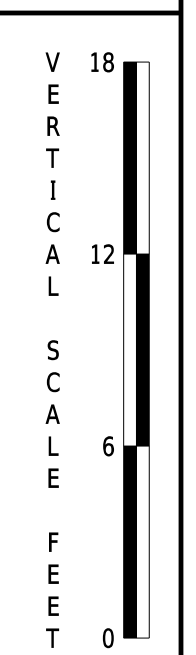
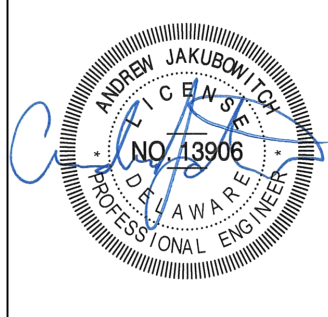
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KENT COUNTY, DEPARTMENT OF PUBLIC WORKS	DATE
RECOMMENDED BY:	
CITY OF MILFORD, DEPARTMENT OF PUBLIC WORKS	DATE

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A Kleinfelder Company	
550 BAY ROAD DOVER, DE 19901 (302) 734-9188	
RECOMMENDED	DATE 11/14/25



REVISIONS



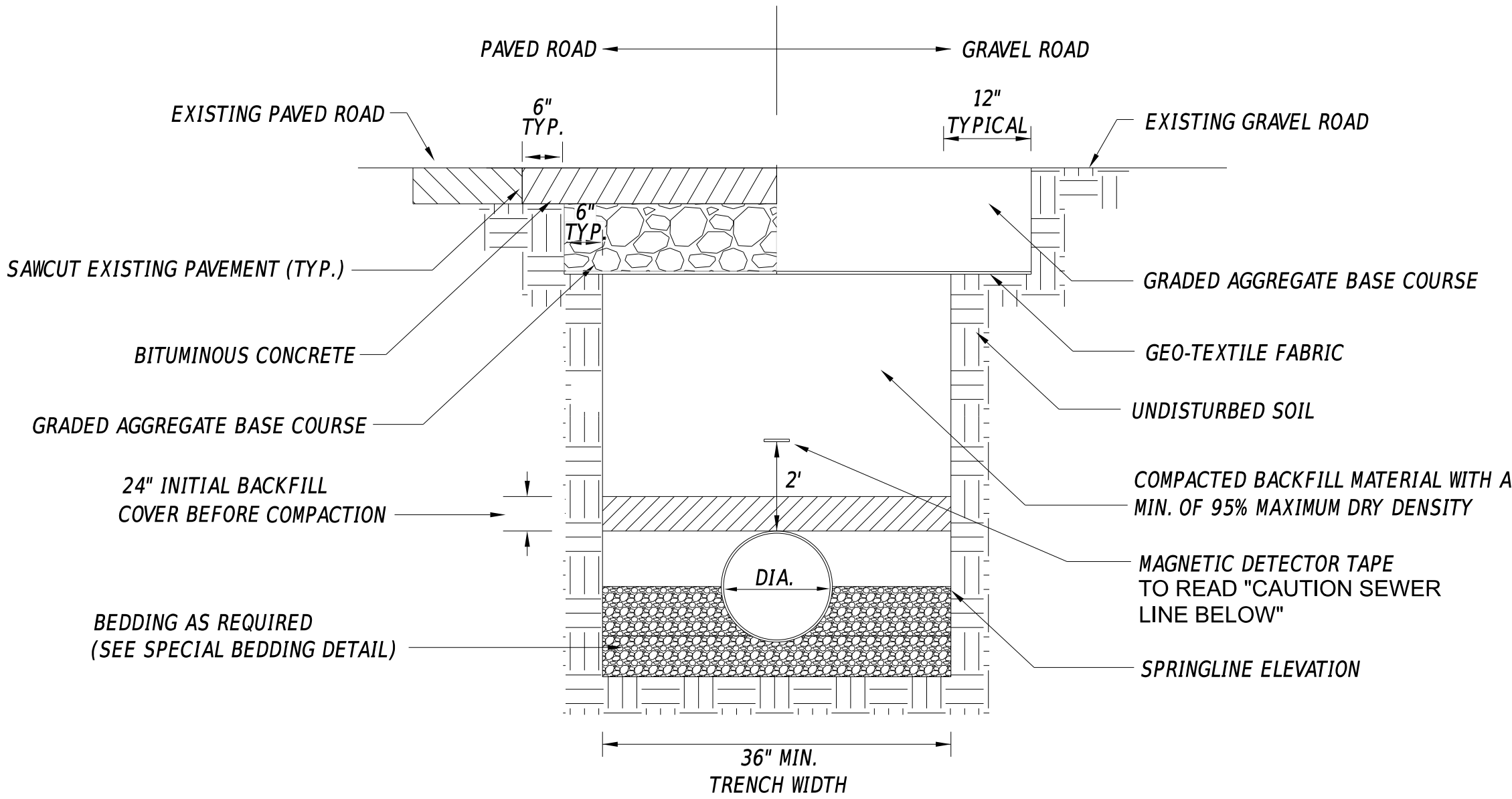
NE FRONT STREET REHOBOTH BLVD TO SR1

CONTRACT	BRIDGE NO.	X
T202101201	DESIGNED BY:	W. CLOUGH
COUNTY	CHECKED BY:	A. JAKUBOWITZ
KENT		

SEWER RELOCATION PLAN

SECTION
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81

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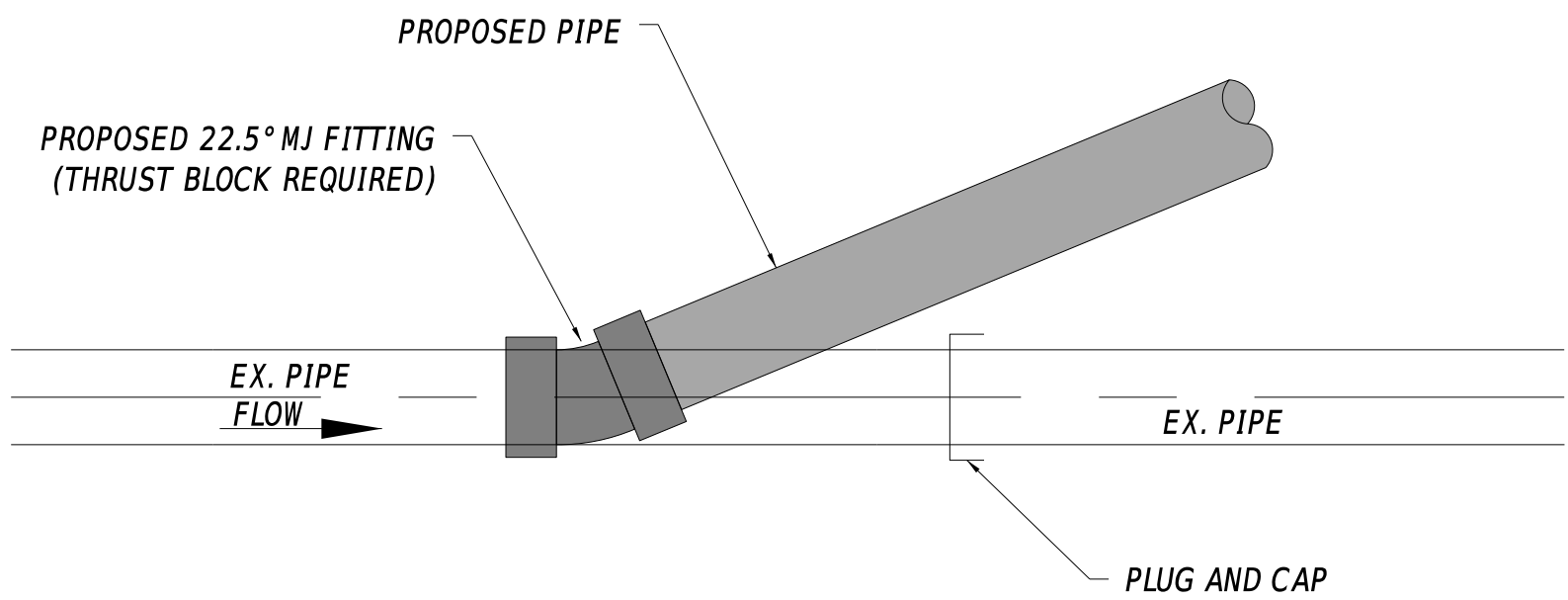


PIPE DIAMETER	MINIMUM TRENCH WIDTH
4"	36"
18"	42"

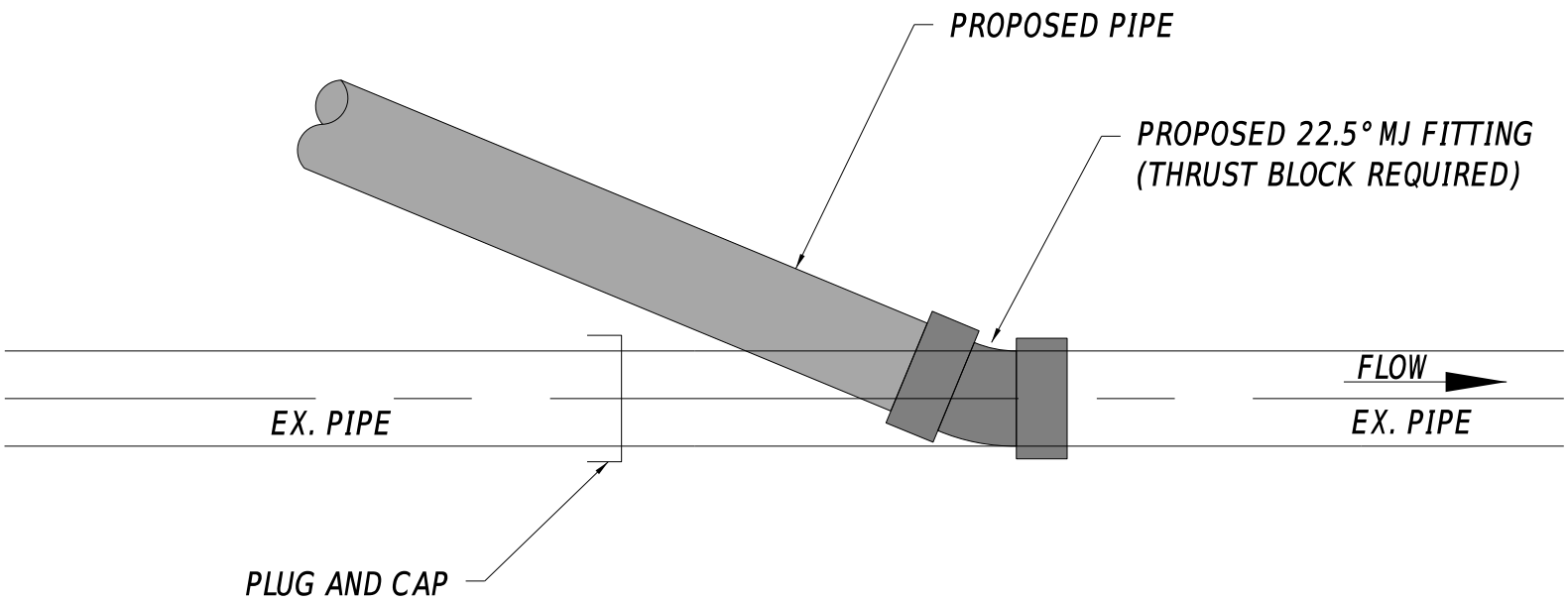
NOTES:

- 1) 72" MINIMUM FINISHED PAVING WIDTH IN DELDOT R.O.W.
- 2) FOR TRENCHES REQUIRING SHORING AND BRACING, ALL WIDTHS SHALL BE INCREASED BY 2 FT.
- 3) WHEN THE GEOTECHNICAL REPORT INDICATES A HIGH WATER TABLE OR CONDITIONS WARRANT, WELL POINTS SHALL BE INSTALLED TO MAINTAIN REQUIRED WIDTHS AND SUITABLE BEDDING.
- 4) THE ENTIRE THICKNESS AND VERTICAL EDGE OF CUT SHALL BE TACKED.
- 5) THE SAME DEPTH OF PAVEMENT MATERIAL WHICH EXISTS BE REINSTALLED, BUT IN NO CASE SHALL THE ASPHALT PAVEMENT BE LESS THAN 2" THICK.
- 6) THE ASPHALT PAVEMENT MATERIAL SHALL BE INSTALLED AND COMPACTED THOROUGHLY TO ACHIEVE A SMOOTH LEVEL PATCH.
- 7) ALL MAXIMUM DRY DENSITY REQUIREMENTS ARE BASED ON STANDARD PROCTER IN UNPAVED AREAS AND MODIFIED PROCTOR IN PAVED AREAS.
- 8) ONLY APPLY COMPACTED EFFORT OVER PIPE AFTER 24" INITIAL COVER REQUIREMENT IS MET.
- 9) LIFTS TO BE A MINIMUM OF 8" MAXIMUM OF 12", EXCEPT FOR FIRST LIFT OF COVER OVER PIPE.
- 10) PVC SDR 35 FOR GRAVITY SANITARY SEWER APPLICATIONS FROM 3 TO 15 FT DEEP.
- 11) PVC SDR 26 OR PVC SDR 21 FOR GRAVITY SANITARY SEWER APPLICATIONS FROM 3 TO 20 FEET DEEP (CORRUGATED PVC PIPE AS ACCEPTABLE ALTERNATIVE).
- 12) PVC SDR 21 FOR SANITARY SEWER FORCE MAIN APPLICATIONS 12 IN. DIA. OR LESS.
- 13) FINAL TRENCH RESTORATION SHALL BE IN ACCORDANCE WITH CURRENT DELDOT STANDARDS
- 14) NO MATERIAL WILL BE ACCEPTED FOR BACKFILL THAT HAS A PLASTICITY INDEX GREATER THAN 30
- 15) ALL TRENCHING OPERATIONS MUST FOLLOW OSHA GUIDELINES FOR EXCAVATION

TRENCH PAVEMENT WIDTH
NOT TO SCALE



CONNECTION DETAIL 1
NOT TO SCALE



CONNECTION DETAIL 2
NOT TO SCALE

NOTES:

- 1) ABOVE DETAIL APPLIES TO BOTH 4" & 18" SEWER RELOCATION CONNECTIONS.

REVISIONS		NOT TO SCALE	NE FRONT STREET REHOBOTH BLVD TO SR1	CONTRACT T202101201 COUNTY KENT	BRIDGE NO. DESIGNED BY: W. CLOUGH CHECKED BY: A. JAKUBOWITCH	SECTION CEN SHEET NO. 82

NE FRONT STREET
REHOBOTH BLVD TO SR1

SEWER RELOCATION
DETAIL SHEET

SEQUENCE OF CONSTRUCTION

(APPLIES TO LOCATION 1 - 4-IN PVC FM AND LOCATION 2 - 18-IN DIP FM SHOWN IN THE ITEM SCHEDULE)

1.

PRE-CONSTRUCTION COORDINATION:

A.

NOTIFY MISS UTILITY AND PERFORM TEST PITS TO VERIFY HORIZONTAL/VERTICAL CLEARANCES TO ALL EXISTING UTILITIES.

B.

SUBMIT SHOP DRAWINGS FOR PIPE, FITTINGS, PLUGS, AND PRESSURE-TEST APPARATUS TO KENT COUNTY DPW FOR REVIEW.

C.

ESTABLISH MOT, EROSION-CONTROL, AND MATERIAL-STAGING AREAS.

D.

THE CONTRACTOR IS TO COORDINATE THE SHUTDOWN AND ISOLATION OF THE FORCEMAIN WITH OWNER. THE 18-INCH FORCEMAIN IS OWNED BY KENT COUNTY DEPARTMENT OF PUBLIC WORKS. THE 4-INCH FORCEMAIN IS OWNED BY THE CITY OF MILFORD.
2.

INSTALLATION OF NEW 4-IN PVC FORCEMAIN (LOCATION 1):

A.

EXCAVATE AND LAY ±48 LF OF 4-IN PVC FM WITH REQUIRED 22.5° BENDS, SLEEVE CONNECTORS, AND TRACER WIRE.

B.

MAINTAIN MINIMUM 4 FT COVER AND SPECIFIED HORIZONTAL/VERTICAL UTILITY SEPARATIONS.

C.

CONTRACTOR TO SURVEY THE INSTALLATION OF THE MAINS AND APPURTENANCES FOR AS-BUILT PLAN PREPARATION.
3.

INSTALLATION OF NEW 18-IN DIP FORCEMAIN (LOCATION 2):

A.

EXCAVATE AND LAY ±107 LF OF 18-IN DIP FM WITH REQUIRED 22.5° BENDS, SLEEVE CONNECTORS, AND TRACER WIRE.

B.

ALL CONNECTIONS SHALL BE MADE WITH FITTINGS AS NECESSARY TO TIE INTO EXISTING MAINS AFTER HYDROSTATIC TESTING HAS BEEN APPROVED
4.

BACKFILL AND TRENCH RESTORATION (BOTH LOCATIONS):

A.

PLACE BEDDING, INITIAL COVER, AND COMPACTED BACKFILL AS SPECIFIED; RESTORE PAVEMENT OR SHOULDER AREAS IN KIND.
5.

HYDROSTATIC PRESSURE TESTING:

A.

CONDUCT HYDROSTATIC TEST ON EACH NEW FORCEMAIN SECTION AT 1.5 TIMES THE OPERATIONAL PRESSURE FOR TWO HOURS; REPAIR AND RETEST UNTIL ZERO LEAKAGE IS ACHIEVED.
6.

SCHEDULE SHUTDOWNS AND TIE-INS:

A.

COORDINATE THE SHUTDOWN OF THE EXISTING 4-IN FM WITH THE CITY OF MILFORD.

B.

COORDINATE THE SHUTDOWN OF THE EXISTING 18-IN FM WITH KENT COUNTY DPW.

C.

UPON APPROVED SHUTDOWN WINDOWS, MAKE FINAL TIE-INS USING FITTINGS AS NECESSARY AND PLACE NEW MAINS IN SERVICE. CHECK FOR VISUAL LEAKS AT CONNECTION POINTS ONCE MAINS ARE IN SERVICE
7.

ABANDONMENT OF EXISTING MAINS:

A.

FOLLOWING SUCCESSFUL COMMISSIONING OF THE NEW FMS, THE CONTRACTOR SHALL REMOVE THE EXISTING 4-IN AND 18-IN FORCEMAINS ALONG THE ALIGNMENT AS SHOWN ON THE PLANS.
8.

FINAL RESTORATION AND PROJECT CLOSE-OUT:

A.

COMPLETE SURFACE RESTORATION, REMOVE TEMPORARY CONTROLS, DEMOBILIZE, AND SUBMIT RED-LINE AS-BUILTS TO KENT COUNTY DPW AND THE CITY OF MILFORD FOR ACCEPTANCE.

RECOMMENDED BY:

KENT COUNTY, DEPARTMENT OF PUBLIC WORKS

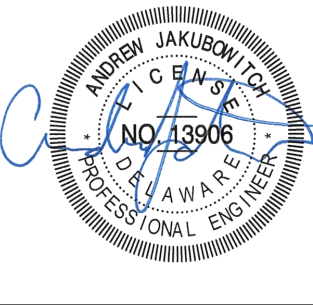
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REVISIONS

NOT TO SCALE

NE FRONT STREET
REHOBOTH BLVD TO SR1

CONTRACT

T202101201

COUNTY

KENT

BRIDGE NO.

X

DESIGNED BY: W. CLOUGH

CHECKED BY: A. JAKUBOWITCH

SEWER RELOCATION PLAN
SEQUENCE OF CONSTRUCTION

SECTION

CEN

SHEET NO.

83