

From: **Joe Rast** jrast@ruby-collins.com  
Subject: HDD Alignment Change  
Date: January 3, 2021 at 6:52 PM  
To: **Matthew Minor** mattminor@gswsa.com

J

\*\*\* EXTERNAL EMAIL \*\*\*

This message was received from an outside source, please do not click/open any unexpected or suspicious links/attachments. Contact IT if you are unsure or need assistance.

\*\*\* EXTERNAL EMAIL \*\*\*

Hey Matt,

Hope you had a great Christmas/New Year. Sorry to be sending you anything work related late on a Sunday, but it's a little bit time critical and we were really hoping to get some kind of answer by tomorrow if at all possible.

As you know, Laney has encountered some difficult ground conditions while performing the pilot hole for the HDD. They said the hole alignment has deviated as a result and is no longer in spec. They believe the best course of action is to pull out, shift over 5 feet (toward the powerline), and start a new hole.

See attached revised HDD design from Laney.

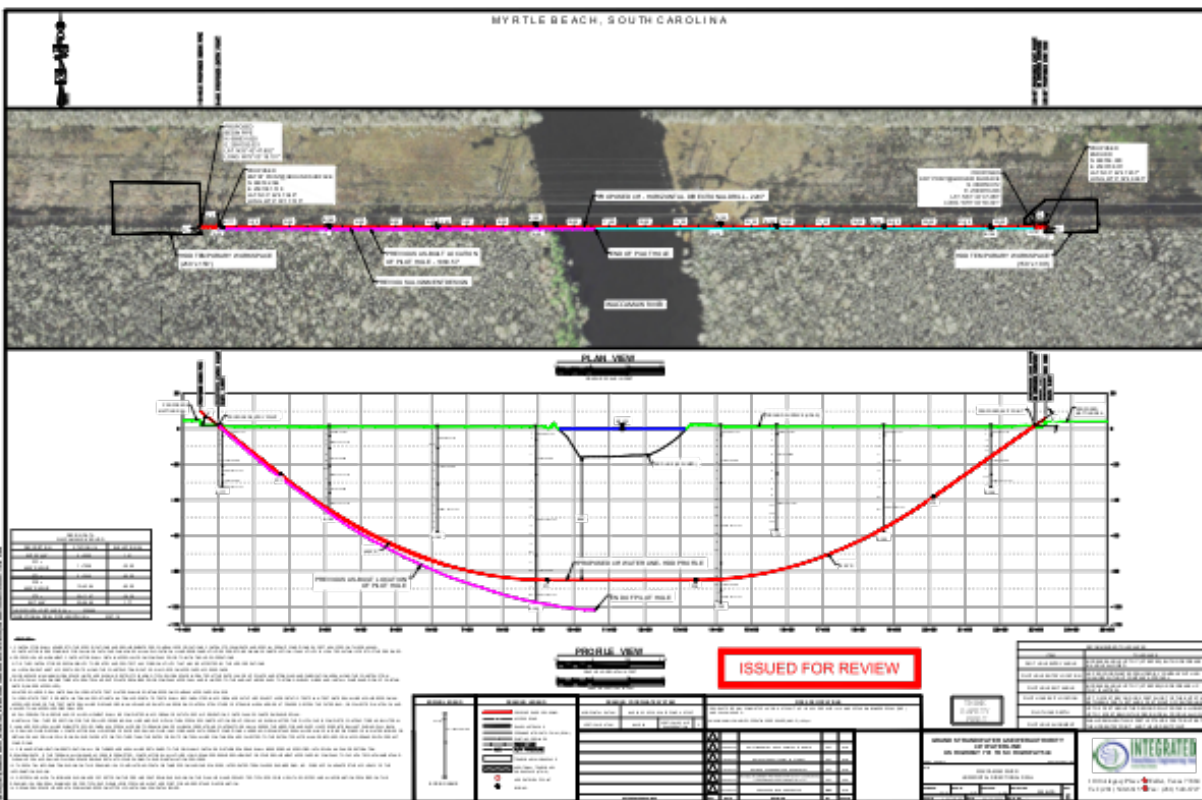
Please call me at your earliest opportunity tomorrow so that we can discuss this and come up with a plan going forward.

Thanks,  
Joe

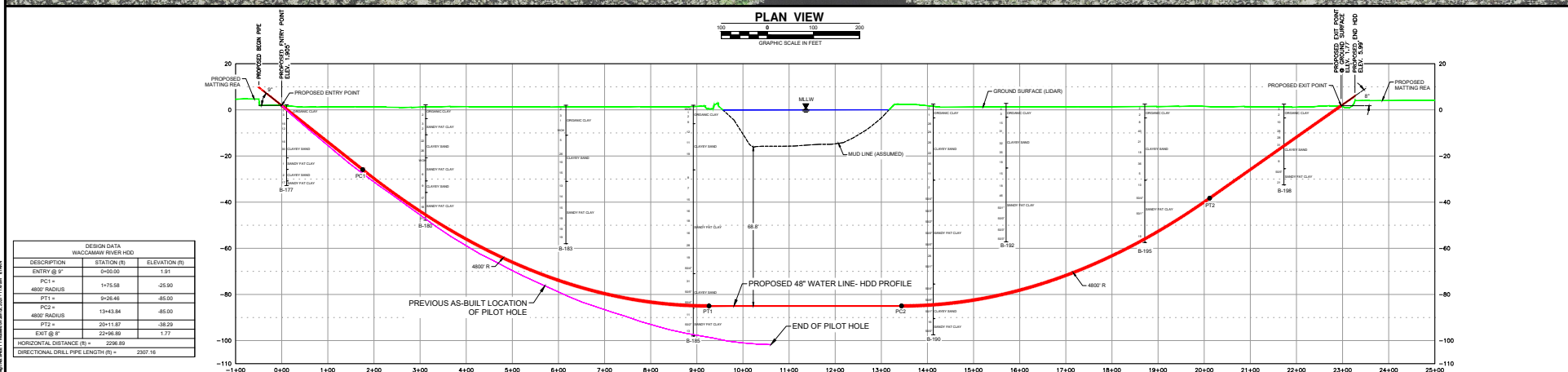
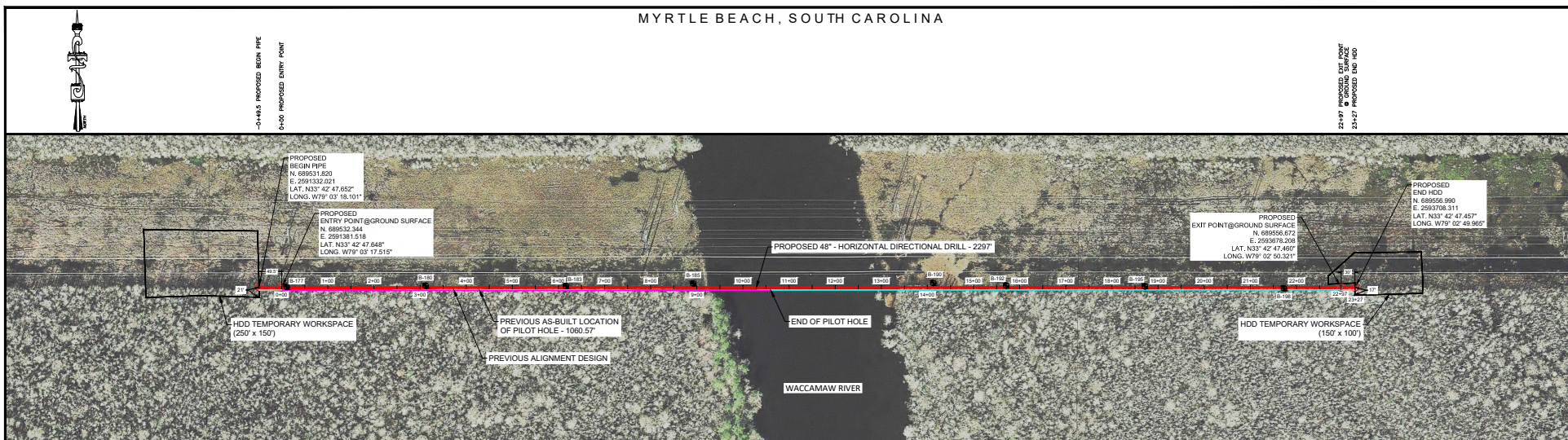


**Joe Rast**  
District Manager  
Ruby-Collins, Inc.  
Phone: 770-432-2900 | Mobile: 865-414-2756  
4325 Dick Pond Road Suite D | Myrtle Beach, South Carolina 29588  
[www.ruby-collins.com](http://www.ruby-collins.com)

GSWSA-  
WACC...1\_1.dwg



# MYRTLE BEACH, SOUTH CAROLINA



**DESIGN DATA**  
WACCAMAW RIVER HDD

| DESCRIPTION                        | STATIONING | ELEVATION (ft) |
|------------------------------------|------------|----------------|
| ENTRY @ 9"                         | 0+00.00    | 1.91           |
| PC1                                | 1+75.58    | -25.90         |
| PT1                                | 9+26.46    | -85.00         |
| PC2                                | 13+43.84   | -85.00         |
| PT2                                | 20+11.87   | -38.29         |
| EXIT @ 9"                          | 22+56.89   | 1.77           |
| HORIZONTAL DISTANCE (ft)           | 2256.89    |                |
| DIRECTIONAL DRILL PIPE LENGTH (ft) | 2367.16    |                |

**NOTES:**

- CONTRACTOR SHALL ADHERE TO THE SPECIFICATIONS AND REQUIREMENTS PER COMPANY SPECIFICATIONS, CONTRACT DOCUMENTS AND SPECIAL PERMIT CONDITIONS, EXCEPT AS NOTED ON THIS DRAWING.
- CONTRACTOR IS RESPONSIBLE FOR CALLING SOUTH CAROLINA ONE-CALL AND LOCATING ALL UNDERGROUND UTILITIES PRIOR TO BEGINNING CONSTRUCTION. IF ANY UTILITY IS LOCATED WITHIN 15 FEET OF THE DESIGNED HDD PROFILE AND ALIGNMENT, CONTRACTOR SHALL OBTAIN APPROVAL FROM COMPANY PRIOR TO INITIATING HDD OPERATIONS.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO IDENTIFY AND PROTECT ANY FOREIGN UTILITY THAT MAY BE AFFECTED BY THE HDD OPERATIONS.
- ALL EQUIPMENT MUST ACCESS THE SITE ALONG THE CONSTRUCTION RIGHT-OF-WAY OR FROM APPROVED ACCESS ROADS.
- WORKSPACE MAXIMUM WORKSPACE LIMITS ARE SHOWN. RESTRICT CLEARING TO THE ENTRY AND EXIT POINTS AND STRINGING AND FABRICATION AREA ALONG THE CONSTRUCTION RIGHT-OF-WAY. CLEARING BETWEEN THE ENTRY AND EXIT POINTS REQUIRES PRIOR COMPANY APPROVAL AND IS LIMITED TO THE AMOUNT NECESSARY TO STRING SURVEY WIRES AND METAL PUMPS AND PIPING TO OBTAIN WATER (WHERE APPROVED).
- WATER SOURCE: DRILL WATER AND HYDROSTATIC TEST WATER SHALL BE OBTAINED FROM COMPANY APPROVED SOURCE.
- HYDROSTATIC TEST: PRE-INSTALLATION AND POST-INSTALLATION HYDROSTATIC TESTS SHALL BE CONDUCTED IN ACCORDANCE WITH THE PROJECT HYDROSTATIC TEST PLAN. TEST WATER SHALL BE ACQUIRED FROM AN APPROVED SOURCE. THE TEST WATER SHALL BE DISCHARGED IN AN UPLAND AREA INTO AN EROSION CONTROL STRUCTURE OF STRAW BALES AND/OR SILT FENCES, GEOTEXTILE FILTER BAG, OR COLLECTED IN A TRUCK AND WAILED TO AN APPROVED DISPOSAL SITE.
- PILOT PREVENTION: REFUELING OF ALL EQUIPMENT SHALL BE COMPLETED IN ACCORDANCE WITH THE DRILL PREVENTION, CONTROL, AND COUNTER MEASURE PLAN.
- INSTALLATION: THE PIPE SECTION FOR THE DRILLING CROSSING SHALL BE MADE UP WITHIN THE APPROVED CONSTRUCTION RIGHT-OF-WAY AS SHOWN. AFTER THE PILOT HOLE IS COMPLETE, CONTRACTORS AS-BUILT DRILL PLAN AND PROFILE SHALL BE SUBMITTED FOR COMPANY APPROVAL. PRIOR TO BEARING AND PULLBACK OPERATIONS, CONTRACTOR SHALL ASSESS THE NEED FOR AND SUPPLY APPROPRIATE BALLAST DURING PULL BACK.
- DRILLING FLUID DISPOSAL: CONTRACTOR SHALL DISPOSE OF EXCESS DRILLING FLUID IN ACCORDANCE WITH PERMIT CONDITIONS. UNDER NO CIRCUMSTANCES SHALL DRILLING FLUID BE DISPOSED OF IN WATER BODIES OR BETALEAKS. ANY DRILLING FLUID (WASH) SURFACES AT POINTS OTHER THAN THE ENTRY OR EXIT POINTS SHALL BE CONTAINED AND COLLECTED TO THE EXTENT PRACTICAL, AND DISPOSED OF IN ACCORDANCE WITH PERMIT CONDITIONS.
- CLEARANCE DATA/RESTORATION: ALL DISTURBED AREAS SHALL BE RETURNED TO THE ORIGINAL CONTOURS. DISTURBED AREAS SHALL BE RESEED AS SPECIFIED IN THE CLEAN-UP AND RESTORATION REQUIREMENTS. IF THE TERRAIN ALLOWS AND ACCESS IS PERMITTED, CONTRACTOR SHALL UTILIZE LOW GROUND PRESSURE EQUIPMENT OR OTHER EQUIPMENT APPROVED BY COMPANY, TO FACILITATE CONTAMINANT AND CLEAN-UP OF ANY DRILLING FLUID SURFACE RELEASES THAT OCCUR DURING THE HDD INSTALLATION PROCESS.
- THE SPATIAL INFORMATION SHOWN ON THIS DRAWING IS A COMPILED OF DATA OBTAINED FROM VARIOUS SOURCES. INTEGRATED TRENCHLESS ENGINEERING, INC. DOES NOT GUARANTEE THE ACCURACY OF THE INFORMATION SHOWN.
- GEOTECHNICAL DATA BORINGS SHOWN ARE OFFSET FROM THE PIPELINE CENTERLINE AS SHOWN ON THE PLAN VIEW AND PROJECTED TO THE PROFILE VIEW. THE GEOTECHNICAL INFORMATION PROVIDED ON THIS DRAWING IS A GENERAL SUMMARY. REFER TO THE APPLICABLE GEOTECHNICAL DATA REPORT FOR MORE DETAILED INFORMATION.
- GROUND SURFACE LOGS AND DATA DOWNLOADED FROM [HTTPS://DATA.DNR.SC.GOV/](https://data.dnr.sc.gov/)

ISSUED FOR REVIEW

**BORING LEGEND**

APR 15

WELL LOG

BORING NAME

**DRAWING LEGEND**

PROPOSED HDD CROSSING

ACCESS ROAD

RAILROAD TRACKS

PERMANENT RIGHT OF WAY (ROW)

EXISTING ROAD

FENCE LINE

OFF FENCE LINE

TEMPORARY WORKSPACE

ADDITIONAL TEMPORARY WORKSPACE

BORING

**DRAWING COORDINATE SYSTEM**

HORIZONTAL DATUM: NAD83 SC SPCL SOUTH ZONE US FOOT

VERTICAL DATUM: NAD83 US FOOT

VERTICAL SCALE: ENGINEERING

REFERENCE DRAWING:

**PIPE SPECIFICATIONS**

1. PRODUCT PIPE SHALL CONSIST OF 48\"/>

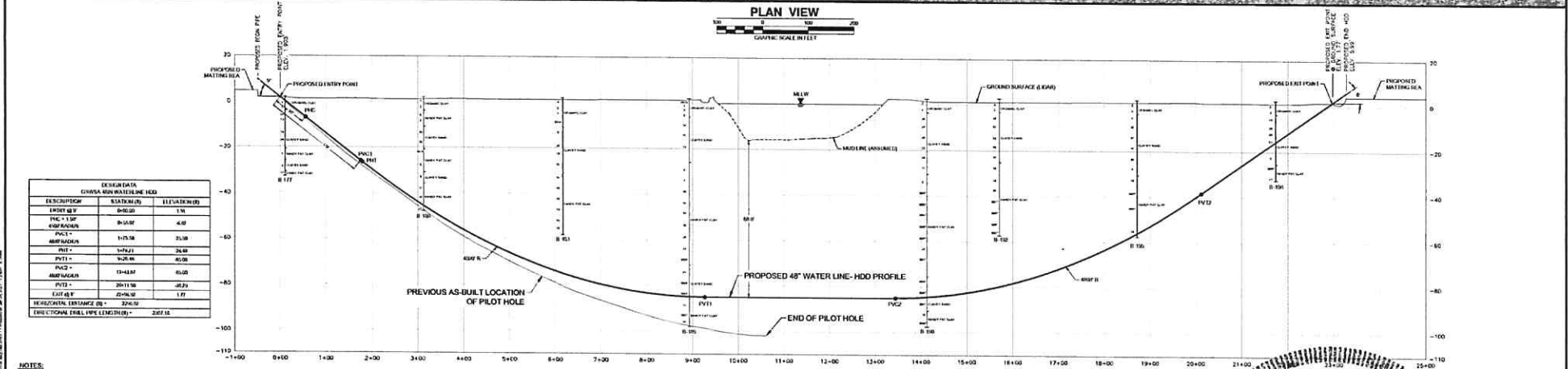
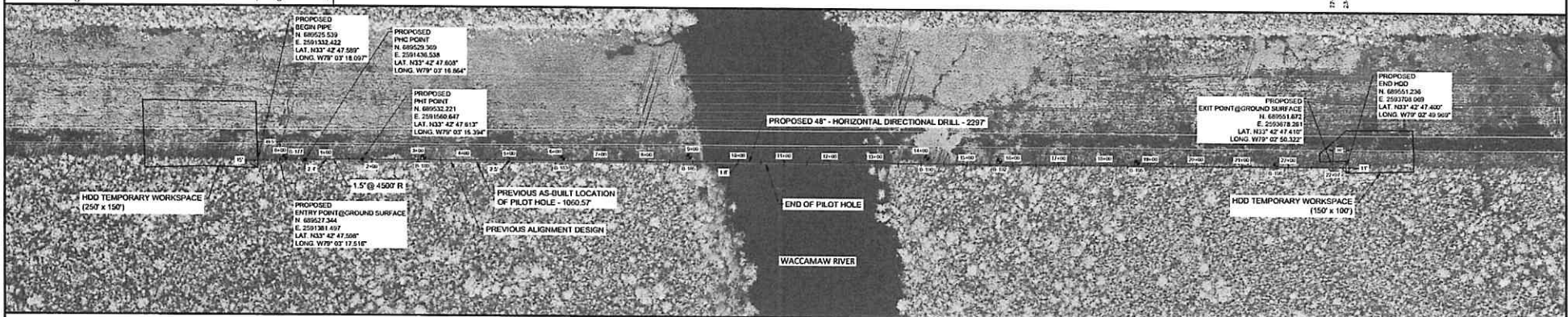
11000 Allegacy Place • Waller, Texas 77784  
 Tel: (281) 540-6615 • Fax: (281) 540-6727  
 INTEGRATED Trenchless Engineering Inc.

1-6-88.5 PROPOSED BEGIN DATE

0-00 PROPOSED END DATE

1-12 8.1 01' 34' 50" RT.















03-97 PROPOSED EXIT POINT  
• GROUND SURFACE  
03-27 PROPOSED [NO HCO]



| DESIGN DATA                    |              |                |
|--------------------------------|--------------|----------------|
| GWYDA 400N WATERLINE HDD       |              |                |
| DESCRIPTION                    | STATION (ft) | ELEVATION (ft) |
| ENTRY @ V                      | 0+00.00      | 1.76           |
| PVC1 = 1.50'<br>400G RADIUS    | 0+34.00      | 4.60           |
| PVC1 =<br>400G RADIUS          | 1+70.50      | 25.30          |
| PVI1 =                         | 1+94.25      | 26.48          |
| PVI1 =                         | 1+92.86      | 40.00          |
| PVC2 =<br>400G RADIUS          | 13+43.87     | 65.00          |
| PVI2 =                         | 20+11.50     | -10.75         |
| EXIT @ F                       | 22+06.00     | 1.87           |
| HORIZONTAL DISTANCE (ft)       | 22+06.00     |                |
| HORIZONTAL ENCL. LWP (LX) (ft) |              | 2007.10        |

[illegible]

ISSUED FOR REVIEW

| BORING LEGEND  | DRAWING LEGEND  |
|--|---|
| <br>BPT (PT)            | <br>PUMP HOLE (HEAD CRACKING)              |
| <br>WATER LEVEL (DEPTH) | <br>ACOUSTIC                               |
| <br>BORING NUMBER       | <br>RAILROAD TRACKS                        |
|  | <br>PNEUMATIC (HEIGHT OF 1000 IN. MIN)     |
|  | <br>END OF BORELINE                        |
|  | <br>TRENCH LINE                            |
|  | <br>SUN (PNEUMATIC)                        |
|  | <br>TEMPORARY MEASUREMENT                  |
|  | <br>ACTUAL TEMPORARY MEASUREMENT (STATION) |
|  | <br>HEAD ENTRY POINT                       |
|  | <br>PNEUMATIC                              |

| DRAWING COORDINATE SYSTEM |                                 |  |
|---------------------------|---------------------------------|--|
| HORIZONTAL DATUM          | NAD83 BLMNPS, BOUND E, NUB, UTM |  |
| VERTICAL DATUM            | NAD83                           | VERTICAL SCALE<br>EARTH TIDAL CORRECTION |

| PIPE SPECIFICATIONS   |                |      |     |  |
|---|----------------|------|-----|--|
| 1. PRODUCT SHALL BE COMPOSED OF HOT DIP GALVANIZED STEEL WITH A MINIMUM WALL THICKNESS OF 0.075 INCHES (2.0 MM) AND SHALL BE PROTECTED AGAINST CORROSION BY A MINIMUM OF TWO COATS OF AN EPOXY-BASED PAINT. |                |      |     |  |
| 2. MANHOLE LIDS SHALL BE CAST IRON WITH A MINIMUM WEIGHT OF 150 LBS.  |                |      |     |  |
| ITEM NO.  | DESCRIPTION    | UNIT | QTY |  |
| 000001  | MANHOLE LIDS   | EA   | 10  |  |
| 000002  | MANHOLE FRAMES | EA   | 10  |  |
| 000003  | MANHOLE RINGS  | EA   | 10  |  |
| 000004  | MANHOLE COVERS | EA   | 10  |  |
| 000005  | MANHOLE LIDS   | EA   | 10  |  |
| 000006  | MANHOLE FRAMES | EA   | 10  |  |
| 000007  | MANHOLE RINGS  | EA   | 10  |  |
| 000008  | MANHOLE COVERS | EA   | 10  |  |
| 000009  | MANHOLE LIDS   | EA   | 10  |  |
| 000010  | MANHOLE FRAMES | EA   | 10  |  |
| 000011  | MANHOLE RINGS  | EA   | 10  |  |
| 000012  | MANHOLE COVERS | EA   | 10  |  |
| 000013  | MANHOLE LIDS   | EA   | 10  |  |
| 000014  | MANHOLE FRAMES | EA   | 10  |  |
| 000015  | MANHOLE RINGS  | EA   | 10  |  |
| 000016  | MANHOLE COVERS | EA   | 10  |  |
| 000017  | MANHOLE LIDS   | EA   | 10  |  |
| 000018  | MANHOLE FRAMES | EA   | 10  |  |
| 000019  | MANHOLE RINGS  | EA   | 10  |  |
| 000020  | MANHOLE COVERS | EA   | 10  |  |
| 000021  | MANHOLE LIDS   | EA   | 10  |  |
| 000022  | MANHOLE FRAMES | EA   | 10  |  |
| 000023  | MANHOLE RINGS  | EA   | 10  |  |
| 000024  | MANHOLE COVERS | EA   | 10  |  |
| 000025  | MANHOLE LIDS   | EA   | 10  |  |
| 000026  | MANHOLE FRAMES | EA   | 10  |  |
| 000027  | MANHOLE RINGS  | EA   | 10  |  |
| 000028  | MANHOLE COVERS | EA   | 10  |  |
| 000029  | MANHOLE LIDS   | EA   | 10  |  |
| 000030  | MANHOLE FRAMES | EA   | 10  |  |
| 000031  | MANHOLE RINGS  | EA   | 10  |  |
| 000032  | MANHOLE COVERS | EA   | 10  |  |
| 000033  | MANHOLE LIDS   | EA   | 10  |  |
| 000034  | MANHOLE FRAMES | EA   | 10  |  |
| 000035  | MANHOLE RINGS  | EA   | 10  |  |
| 000036  | MANHOLE COVERS | EA   | 10  |  |
| 000037  | MANHOLE LIDS   | EA   | 10  |  |
| 000038  | MANHOLE FRAMES | EA   | 10  |  |
| 000039  | MANHOLE RINGS  | EA   | 10  |  |
| 000040  | MANHOLE COVERS | EA   | 10  |  |
| 000041  | MANHOLE LIDS   | EA   | 10  |  |
| 000042  | MANHOLE FRAMES | EA   | 10  |  |
| 000043  | MANHOLE RINGS  | EA   | 10  |  |
| 000044  | MANHOLE COVERS | EA   | 10  |  |
| 000045  | MANHOLE LIDS   | EA   | 10  |  |
| 000046  | MANHOLE FRAMES | EA   | 10  |  |
| 000047  | MANHOLE RINGS  | EA   | 10  |  |
| 000048  | MANHOLE COVERS | EA   | 10  |  |
| 000049  | MANHOLE LIDS   | EA   | 10  |  |
| 000050  | MANHOLE FRAMES | EA   | 10  |  |
| 000051  | MANHOLE RINGS  | EA   | 10  |  |
| 000052  | MANHOLE COVERS | EA   | 10  |  |
| 000053  | MANHOLE LIDS   | EA   | 10  |  |
| 000054  | MANHOLE FRAMES | EA   | 10  |  |
| 000055  | MANHOLE RINGS  | EA   | 10  |  |
| 000056  | MANHOLE COVERS | EA   | 10  |  |
| 000057  | MANHOLE LIDS   | EA   | 10  |  |
| 000058  | MANHOLE FRAMES | EA   | 10  |  |
| 000059  | MANHOLE RINGS  | EA   | 10  |  |
| 000060  | MANHOLE COVERS | EA   | 10  |  |
| 000061  | MANHOLE LIDS   | EA   | 10  |  |
| 000062  | MANHOLE FRAMES | EA   | 10  |  |
| 000063  | MANHOLE RINGS  | EA   | 10  |  |
| 000064  | MANHOLE COVERS | EA   | 10  |  |
| 000065  | MANHOLE LIDS   | EA   | 10  |  |
| 000066  | MANHOLE FRAMES | EA   | 10  |  |
| 000067  | MANHOLE RINGS  | EA   | 10  |  |
| 000068  | MANHOLE COVERS | EA   | 10  |  |
| 000069  | MANHOLE LIDS   | EA   | 10  |  |
| 000070  | MANHOLE FRAMES | EA   | 10  |  |
| 000071  | MANHOLE RINGS  | EA   | 10  |  |
| 000072  | MANHOLE COVERS | EA   | 10  |  |
| 000073  | MANHOLE LIDS   | EA   | 10  |  |
| 000074  | MANHOLE FRAMES | EA   | 10  |  |
| 000075  | MANHOLE RINGS  | EA   | 10  |  |
| 000076  | MANHOLE COVERS | EA   | 10  |  |
| 000077  | MANHOLE LIDS   | EA   | 10  |  |
| 000078  | MANHOLE FRAMES | EA   | 10  |  |
| 000079  | MANHOLE RINGS  | EA   | 10  |  |
| 000080  | MANHOLE COVERS | EA   | 10  |  |
| 000081  | MANHOLE LIDS   | EA   | 10  |  |
| 000082  | MANHOLE FRAMES | EA   | 10  |  |
| 000083  | MANHOLE RINGS  | EA   | 10  |  |
| 000084  | MANHOLE COVERS | EA   | 10  |  |
| 000085  | MANHOLE LIDS   | EA   | 10  |  |
| 000086  | MANHOLE FRAMES | EA   | 10  |  |
| 000087  | MANHOLE RINGS  | EA   | 10  |  |
| 000088  | MANHOLE COVERS | EA   | 10  |  |
| 000089  | MANHOLE LIDS   | EA   | 10  |  |
| 000090  | MANHOLE FRAMES | EA   | 10  |  |
| 000091  | MANHOLE RINGS  | EA   | 10  |  |
| 000092  | MANHOLE COVERS | EA   | 10  |  |
| 000093  | MANHOLE LIDS   | EA   | 10  |  |
| 000094  | MANHOLE FRAMES | EA   | 10  |  |
| 000095  | MANHOLE RINGS  | EA   | 10  |  |
| 000096  | MANHOLE COVERS | EA   | 10  |  |
| 000097  | MANHOLE LIDS   | EA   | 10  |  |
| 000098  | MANHOLE FRAMES | EA   | 10  |  |
| 000099  | MANHOLE RINGS  | EA   | 10  |  |
| 000100  | MANHOLE COVERS | EA   | 10  |  |

[illegible]

Approved:   
1/14/21 DDC ENGINEERS, L.L.C.