

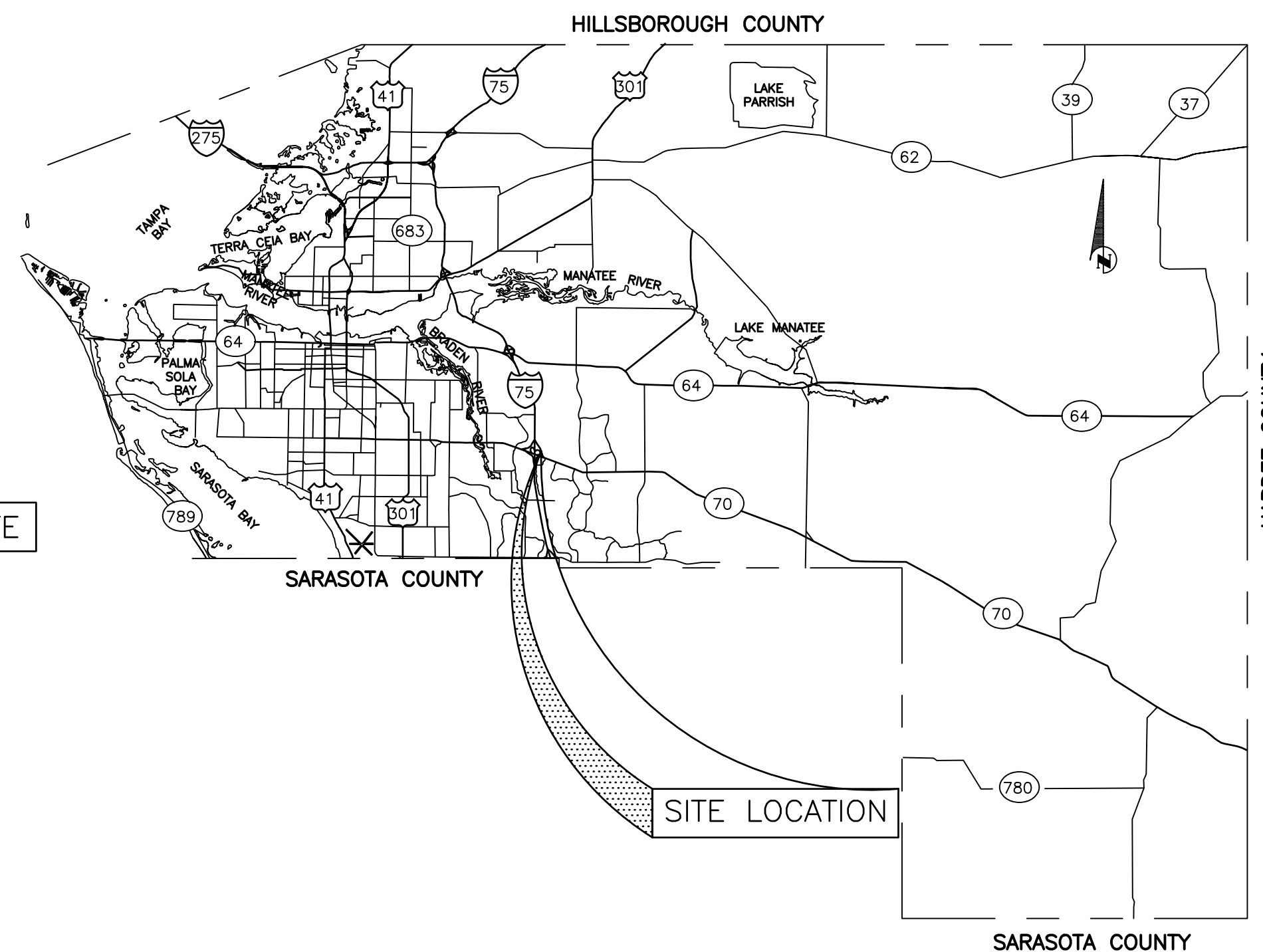
# 100 PLANS

**VERTICAL DATUM  
NGVD 29**

| NO. | INDEX OF SHEETS                        |
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| 01  | COVER SHEET                            |
| 02  | NOTES & LEGEND                         |
| 03  | PLAN & PROFILE, STA 100+00 TO 104+40   |
| 04  | PLAN & PROFILE, STA 104+40 TO 109+60   |
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| 06  | PLAN & PROFILE, STA 114+80 TO 120+00   |
| 07  | PLAN & PROFILE, STA 120+00 TO 125+20   |
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| 10  | PLAN & PROFILE, STA 135+60 TO 140+80   |
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| 17  | PLAN & PROFILE, STA 172+00 TO 177+20   |
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| 22  | STORM WATER POLLUTION PREVENTION NOTES |
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| 25  | DETAILS 2                              |
| 26  | EROSION CONTROL                        |



PROJECT DESCRIPTION  
INSTALL APPROXIMATELY 8,400LF OF 20" FORCEMAIN.



**TARA 20 FORCE MAIN  
PARALLEL TO LENA ROAD  
COVER SHEET**

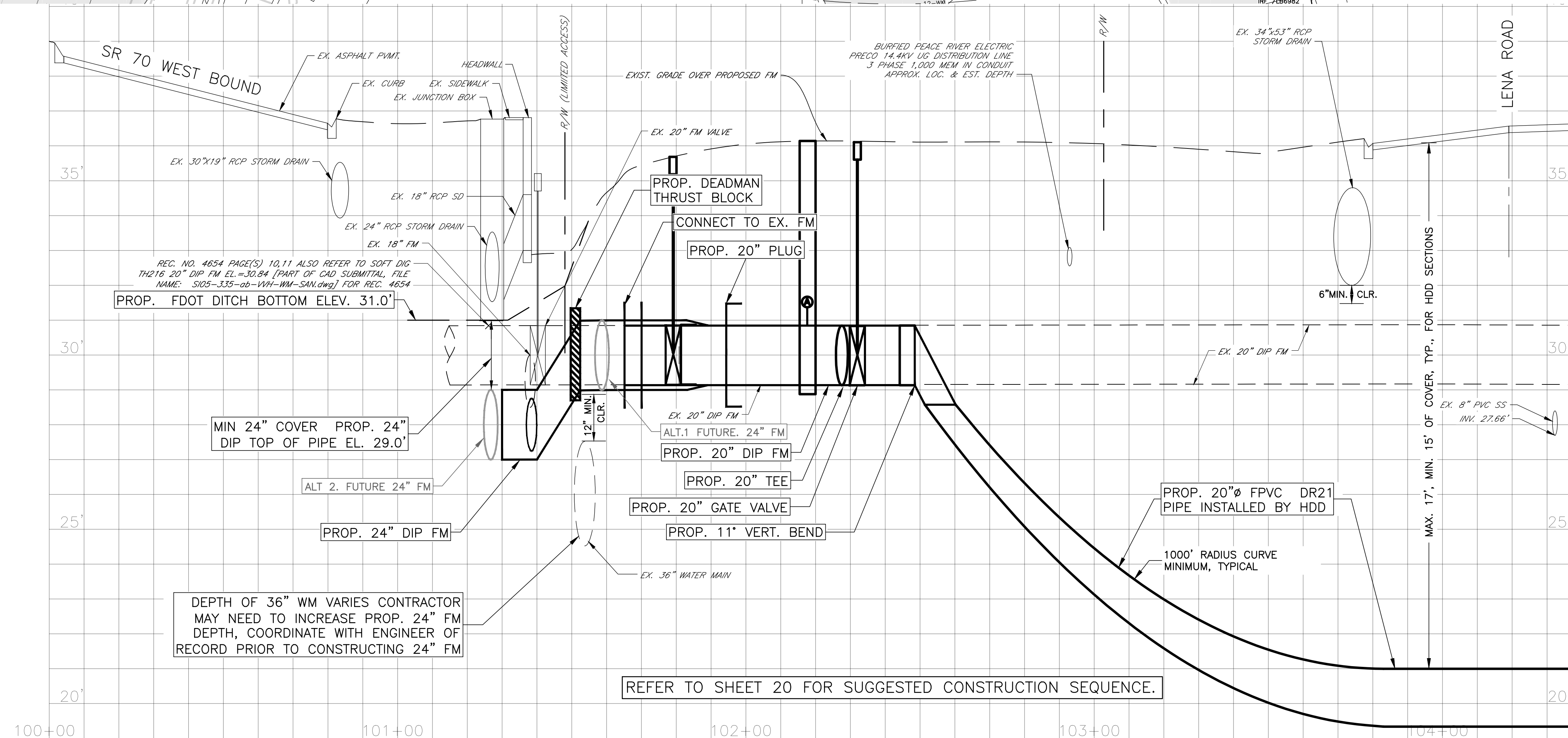
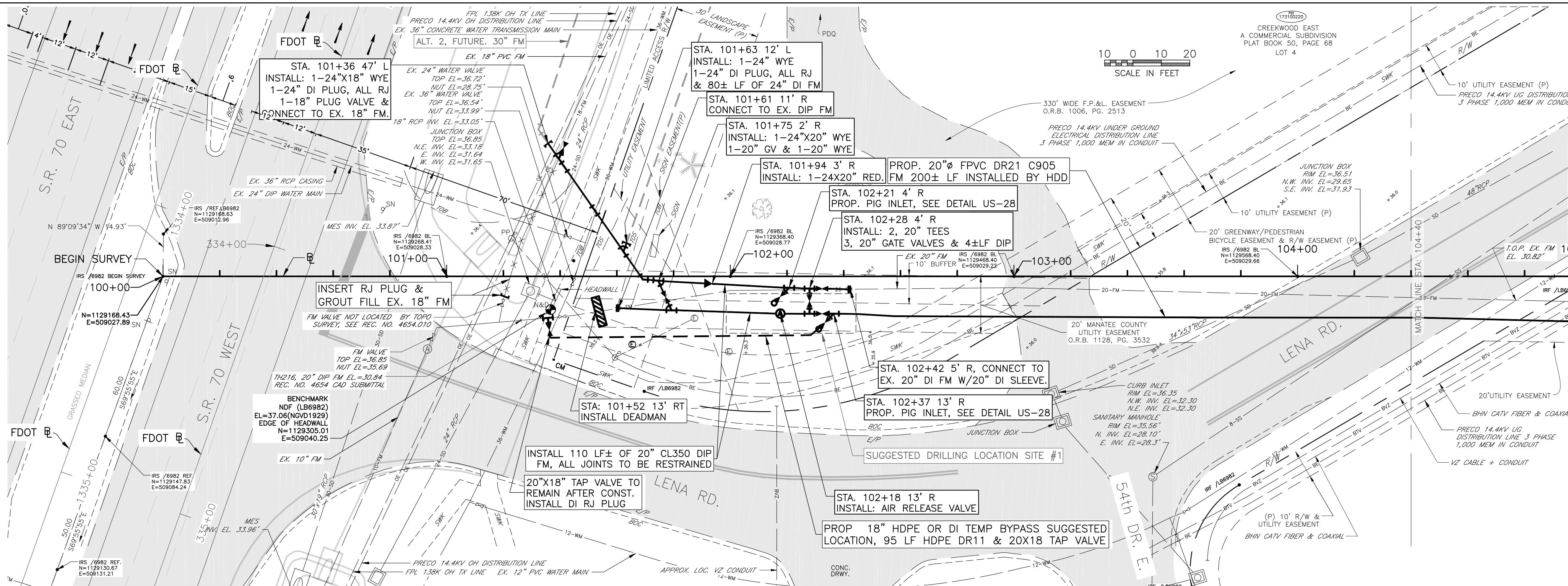
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| NO.                  |          |              |
| PROJECT #            |          | 6079881      |
| SURVEY #             |          | 00-43536     |
| SEC./TWN./RGE        |          | 1,12&13/3518 |
| SCALE                |          | 1"=20'       |
| VERTICAL DATUM       |          | NGVD 29      |
|                      | BY       | DATE         |
| SURVEYED             | ZNS ENGR | 01/22/14     |
| DESIGNED             | JS       | 03/2014      |
| DRAWN                | BR       | 03/2014      |

JAMES STOCKWELL, P.E.  
 FLORIDA PROFESSIONAL ENGINEER NO. 57198  
 State of Florida  
 4/20/16  
 PROFESSIONAL ENGINEER







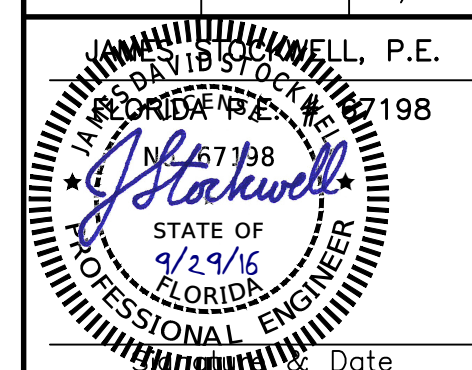


**PUBLIC WORKS DEPARTMENT  
ENGINEERING SERVICES  
1022 26th Avenue East, Bradenton, FL 34208**

**TARA 20 FORCE MAIN  
PARALLEL TO LENA ROAD  
PLAN & PROFILE, STA 100+00 TO 104+40**

**VERTICAL DATUM: NGVD 29**

| PROJECT #      |          | 6079881      |  |
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| SURVEY #       |          | 00-43536     |  |
| SEC./TWN./RGE  |          | 1,12&13/3518 |  |
| VERT. SCALE    |          | 1"=2'        |  |
| HORIZ. SCALE   |          | 1"=20'       |  |
| VERTICAL DATUM |          | NGVD 29      |  |
|                | BY       | DATE         |  |
| SURVEYED       | ZNS ENGR | 01/22/14     |  |
| DESIGNED       | JS       | 03/2014      |  |
| DRAWN          | BR       | 03/2014      |  |



SHEET 03 OF 26



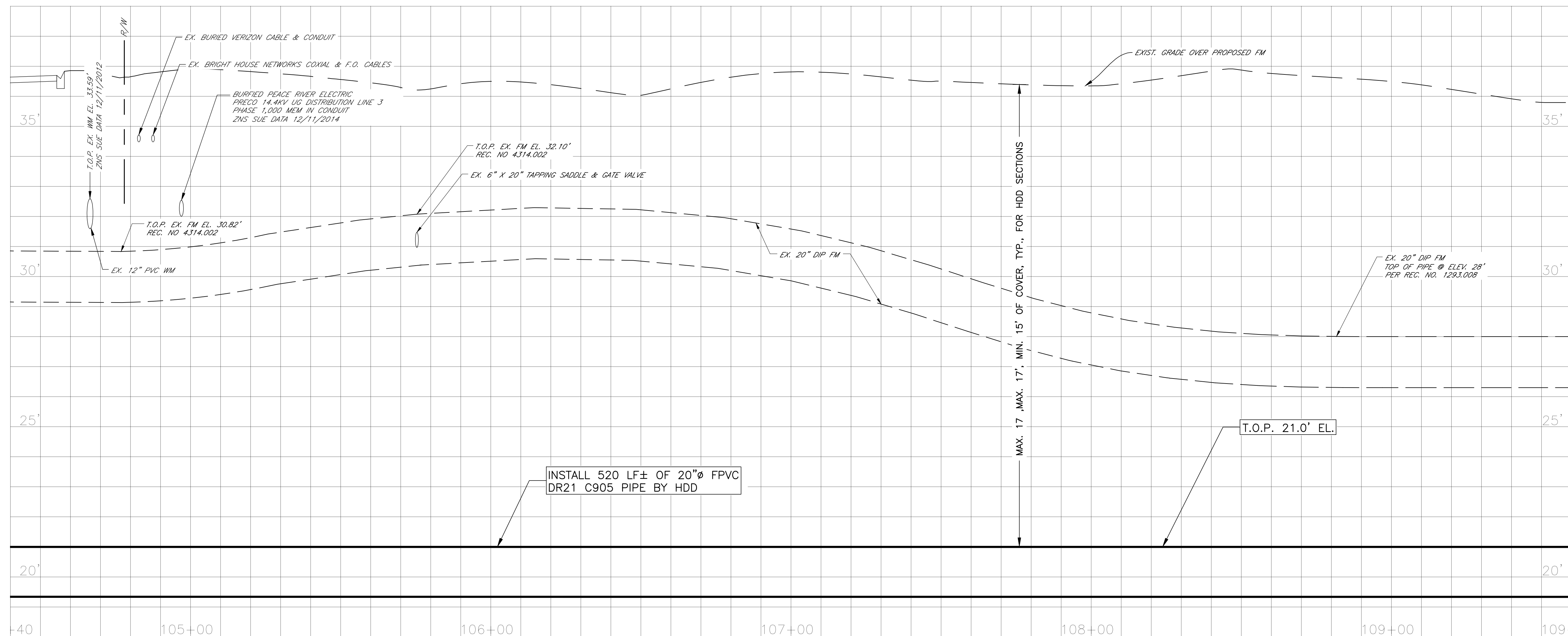
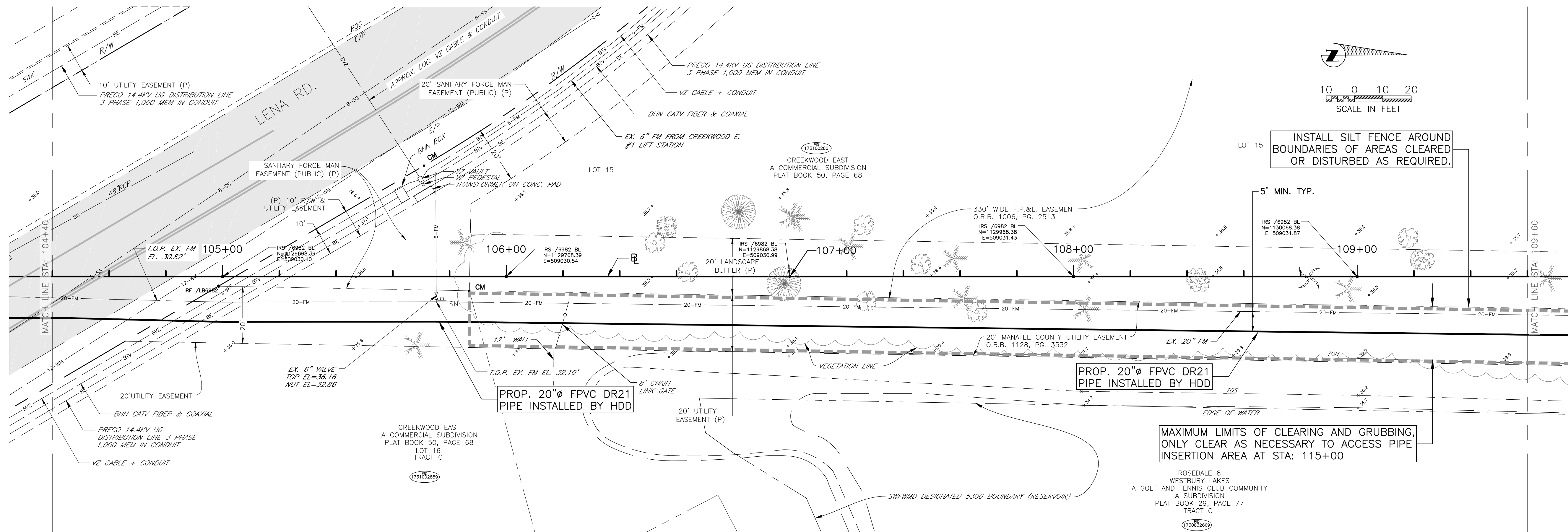
# PLAN & PROFILE, STA 104+40 TO 109+60

## VERTICAL DATUM: NGVD 29

| VERTICAL DATUM: |  |     |              | REVISION | DESCRIPTION | BY | DATE |
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| NO.             |  |     |              |          |             |    |      |
| PROJECT #       |  |     | 6079881      |          |             |    |      |
| SURVEY #        |  |     | 00-43536     |          |             |    |      |
| SEC./TWN./RGE   |  |     | 1,12&13/3518 |          |             |    |      |
| VERT. SCALE     |  |     | 1"=2'        |          |             |    |      |
| HORIZ. SCALE    |  |     | 1"=20'       |          |             |    |      |
| VERTICAL DATUM  |  |     | NGVD 29      |          |             |    |      |
|                 |  | BY  |              | DATE     |             |    |      |
| SURVEYED        |  | ZNS | ENGR         | 01/22/14 |             |    |      |
| DESIGNED        |  | JS  |              | 03/2014  |             |    |      |
| DRAWN           |  | BR  |              | 03/2014  |             |    |      |

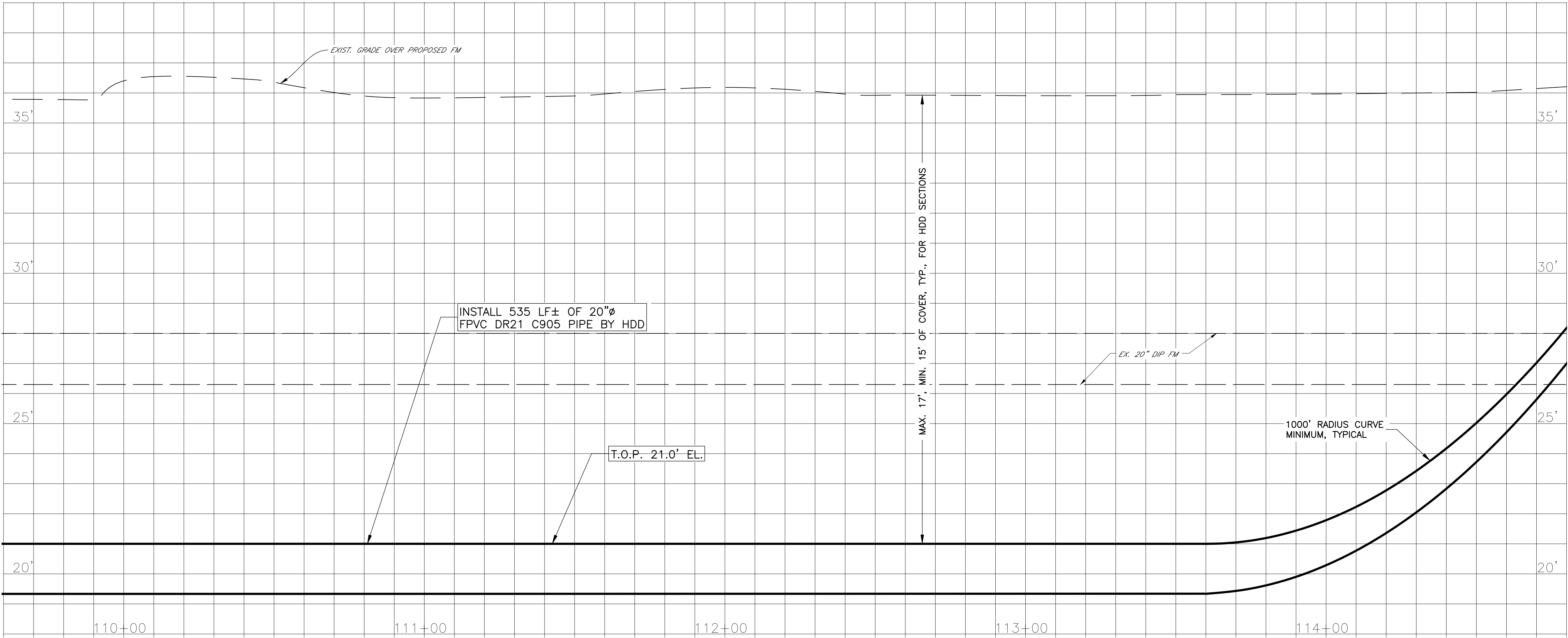
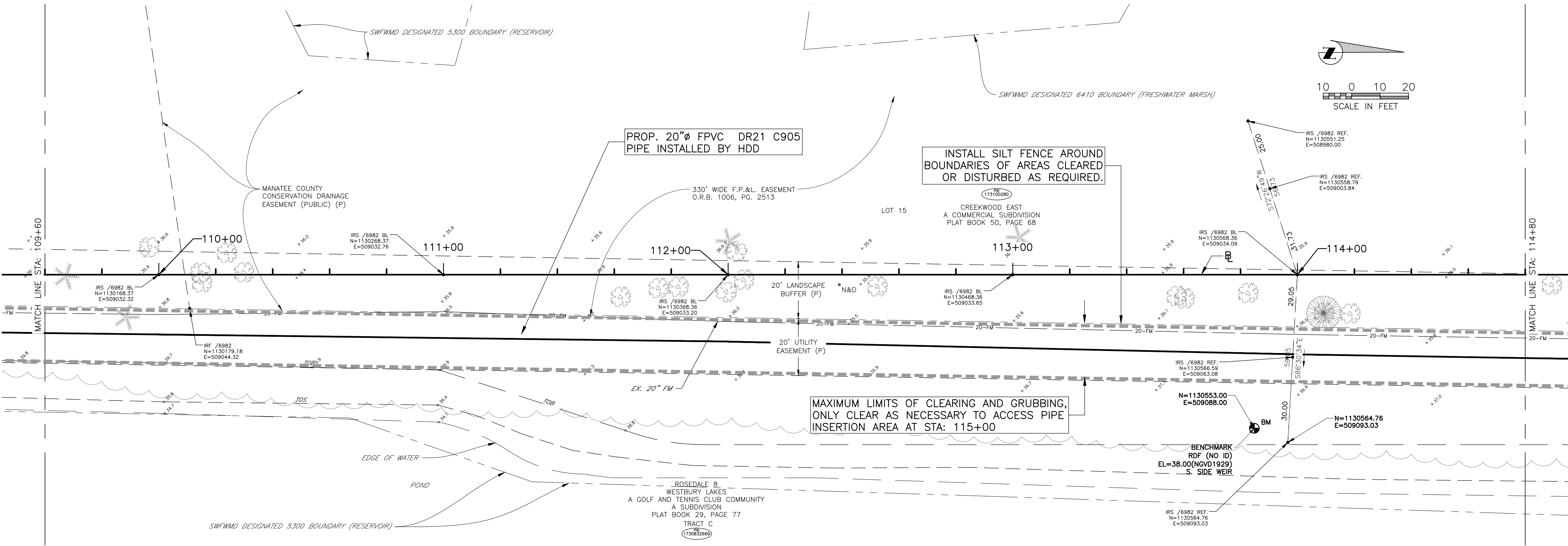
JAMES H. STOCKWELL, P.E.  
DAVID STOCKWELL  
GEORGE P. E. # 7198  
LICENSE  
NO. 67198  
J. Stockwell  
STATE OF  
9/29/16  
FLORIDA  
PROFESSIONAL ENGINEER  
Signature \_\_\_\_\_ Date \_\_\_\_\_

SHEET 04 OF 26





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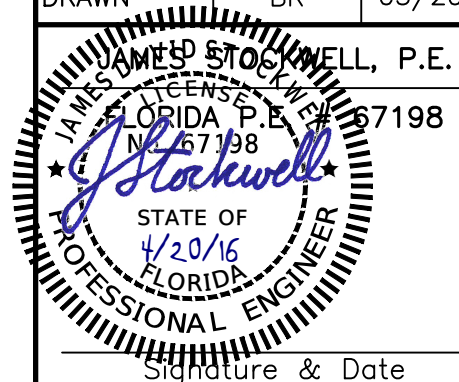


**TARA 20 FORCE MAIN  
PARALLEL TO LENA ROAD  
PLAN & PROFILE, STA 109+60 TO 114+80**

VERTICAL DATUM: NGVD 29

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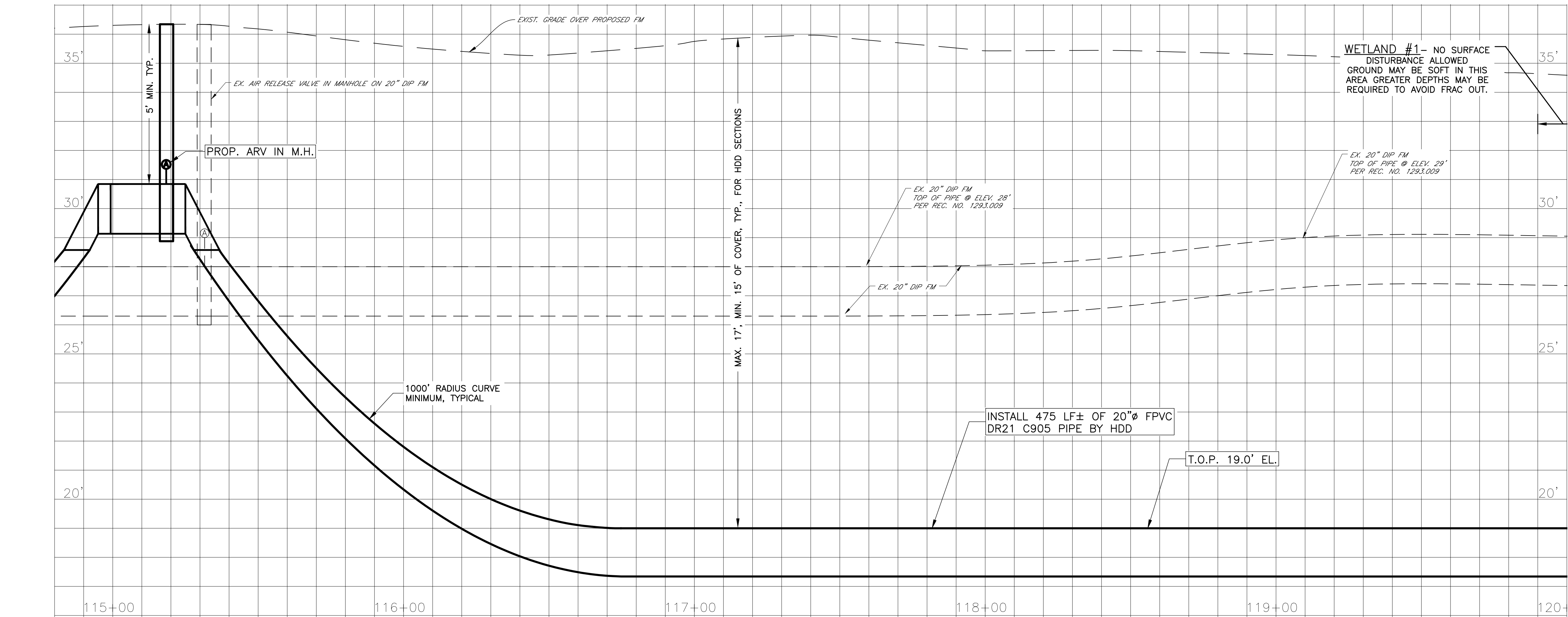
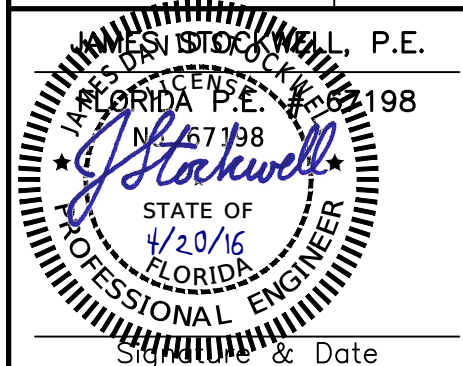
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| PROJECT #      | 6079881           |
| SURVEY #       | 00-43536          |
| SEC./TWN./RGE  | 1,12&13/3518      |
| VERT. SCALE    | 1"=2'             |
| HORZ. SCALE    | 1"=20'            |
| VERTICAL DATUM | NGVD 29           |
| SURVEYED       | ZNS ENGR 01/22/14 |
| DESIGNED       | JS 03/2014        |
| DRAWN          | BR 03/2014        |

  
JAMES P. STOCKWELL, P.E.  
FLORIDA P.E. # 67198  
STATE OF FLORIDA  
PROFESSIONAL ENGINEER  
Signature & Date



## VERTICAL DATUM: NGVD 29

| NO. | REVISION DESCRIPTION | BY          | DATE    |
|-----|----------------------|-------------|---------|
|     | PROJECT #            | 6079881     |         |
|     | SURVEY #             | 00-43536    |         |
|     | SEC./TWN./RGE        | 1,12&13/351 |         |
|     | VERT. SCALE          | 1"=2'       |         |
|     | HORIZ. SCALE         | 1"=20'      |         |
|     | VERTICAL DATUM       | NGVD 29     |         |
|     |                      | BY          | DATE    |
|     | SURVEYED             | ZNS ENGR    | 01/22/1 |
|     | DESIGNED             | JS          | 03/2014 |
|     | DRAWN                | BR          | 03/2014 |

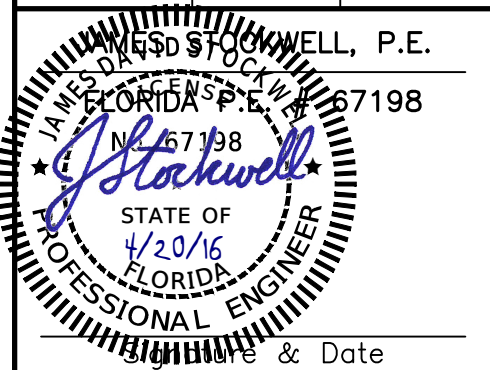




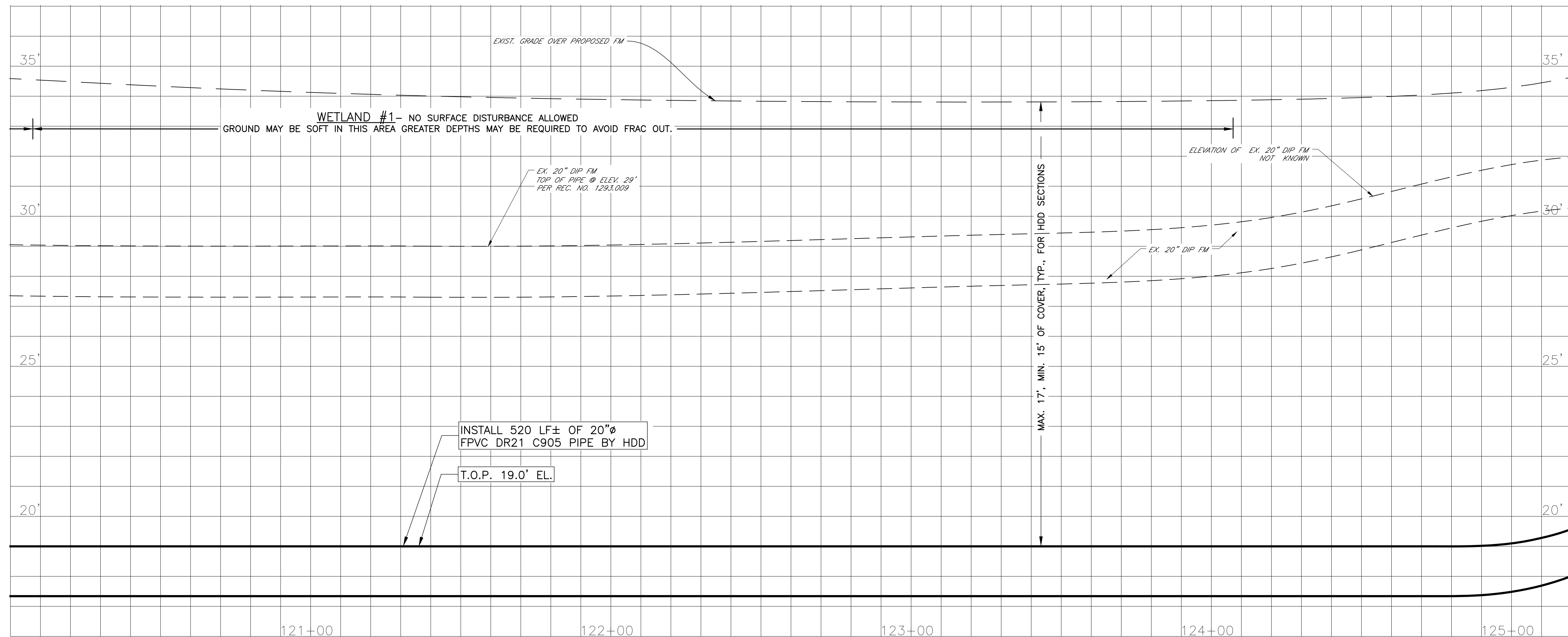
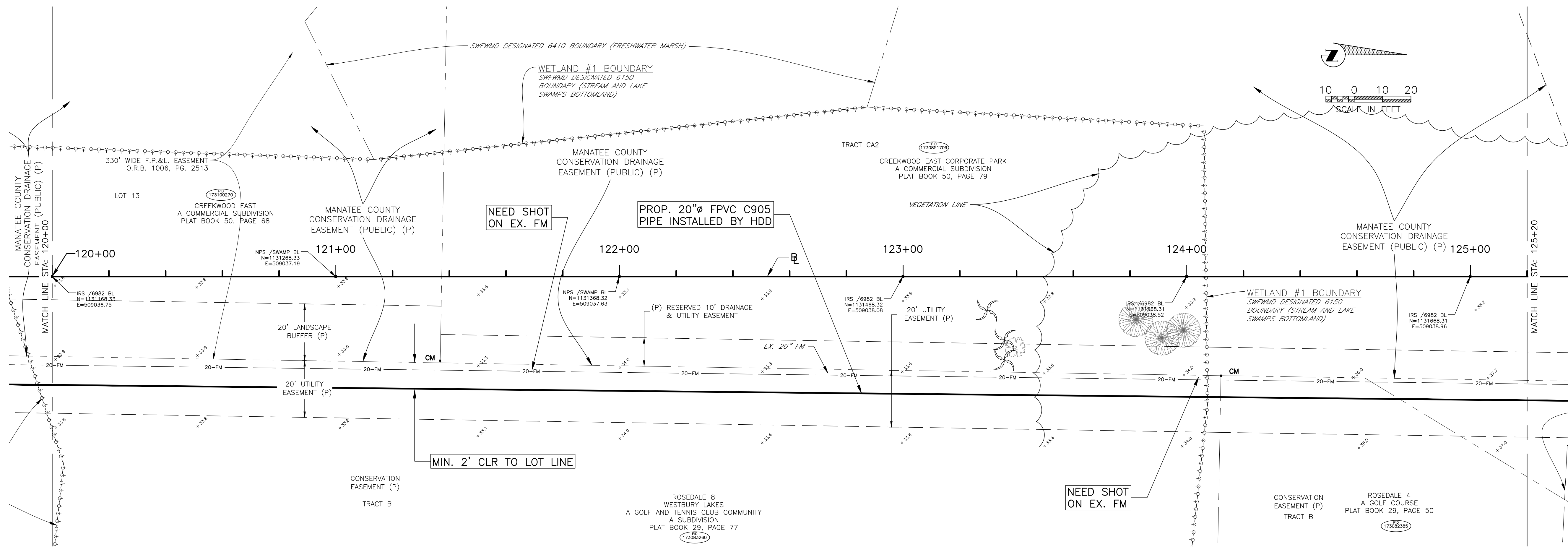
# PLAN & PROFILE, STA 120+00 TO 12+20

## VERTICAL DATUM: NGVD 29

| NO. | REVISION DESCRIPTION |          |          | BY           | DATE |
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|     |                      |          |          |              |      |
|     | PROJECT #            |          |          | 6079881      |      |
|     | SURVEY #             |          |          | 00-43536     |      |
|     | SEC./TWN./RGE        |          |          | 1,12&13/3518 |      |
|     | VERT. SCALE          |          |          | 1"=2'        |      |
|     | HORZ. SCALE          |          |          | 1"=20'       |      |
|     | VERTICAL DATUM       |          |          | NGVD 29      |      |
|     |                      |          | BY       | DATE         |      |
|     | SURVEYED             | ZNS ENGR | 01/22/14 |              |      |
|     | DESIGNED             | JS       | 03/2014  |              |      |
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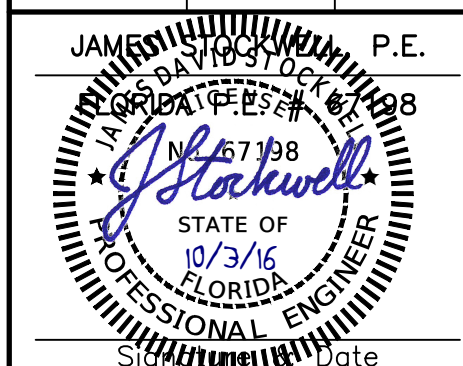
SHEET 07 OF 26



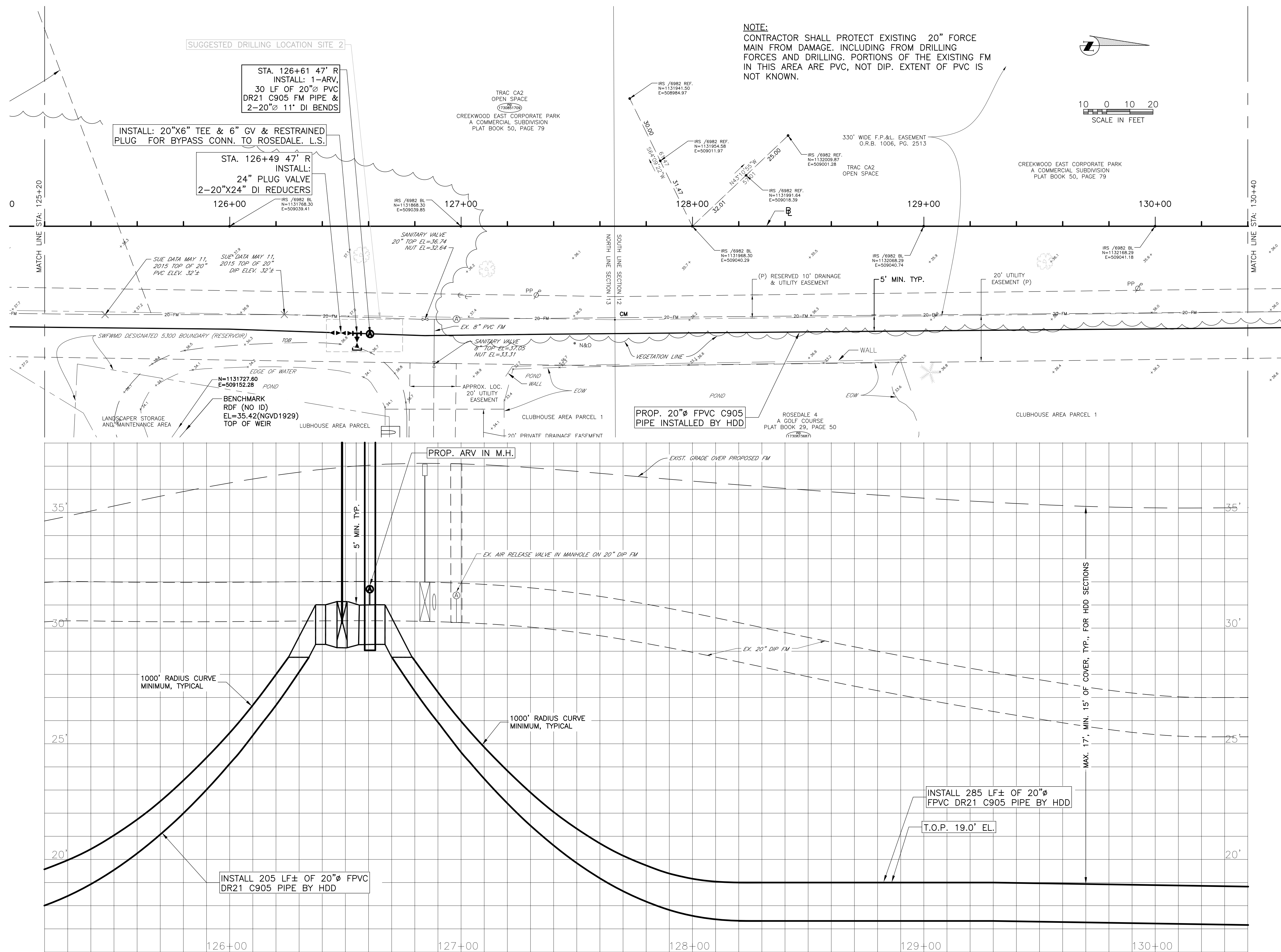


## VERTICAL DATUM: NGVD 29

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| PROJECT #      |          | 6079881     |  |
| SURVEY #       |          | 00-43536    |  |
| SEC./TWN./RGE  |          | 1,12&13/351 |  |
| VERT. SCALE    |          | 1"=2'       |  |
| HORZ. SCALE    |          | 1"=20'      |  |
| VERTICAL DATUM |          | NGVD 29     |  |
|                | BY       | DATE        |  |
| SURVEYED       | ZNS ENGR | 01/22/1     |  |
| DESIGNED       | JS       | 03/2014     |  |
| DRAWN          | BR       | 03/2014     |  |



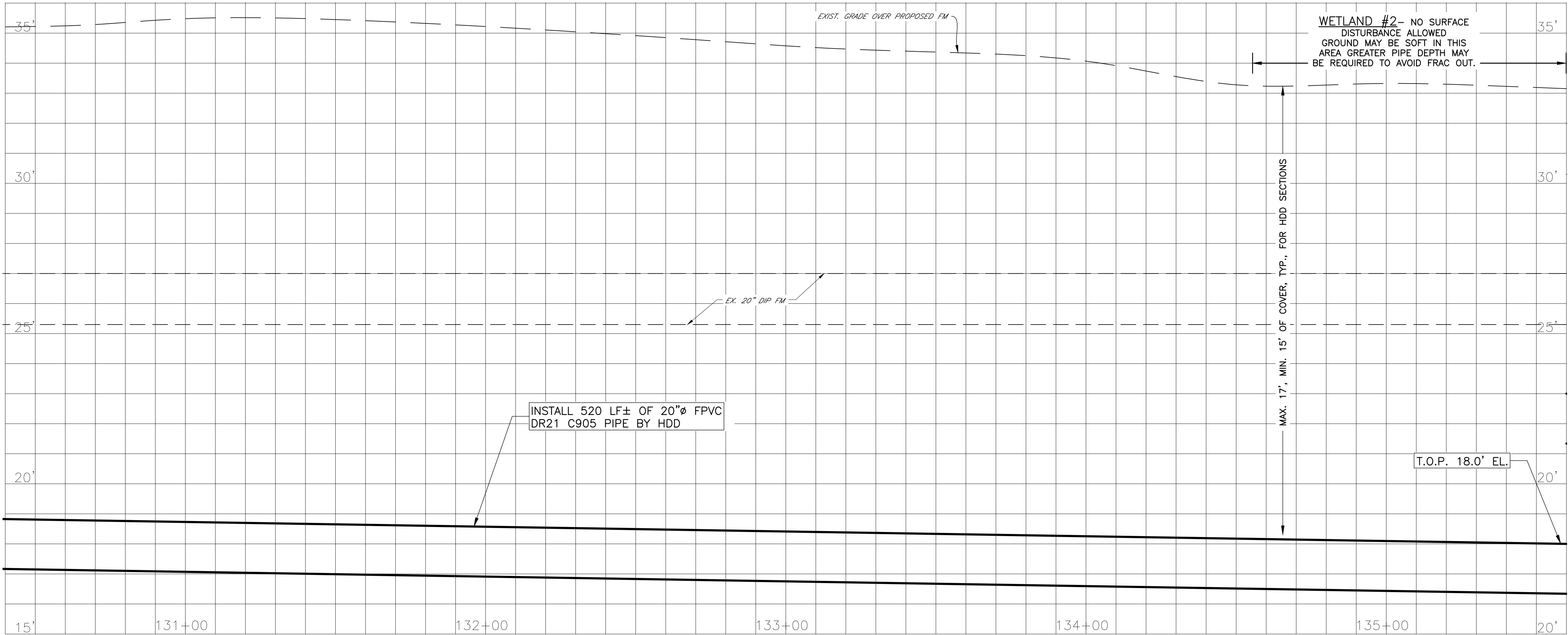
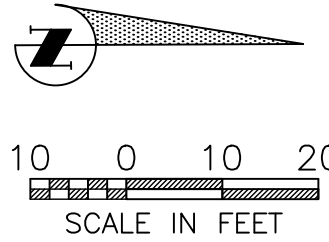
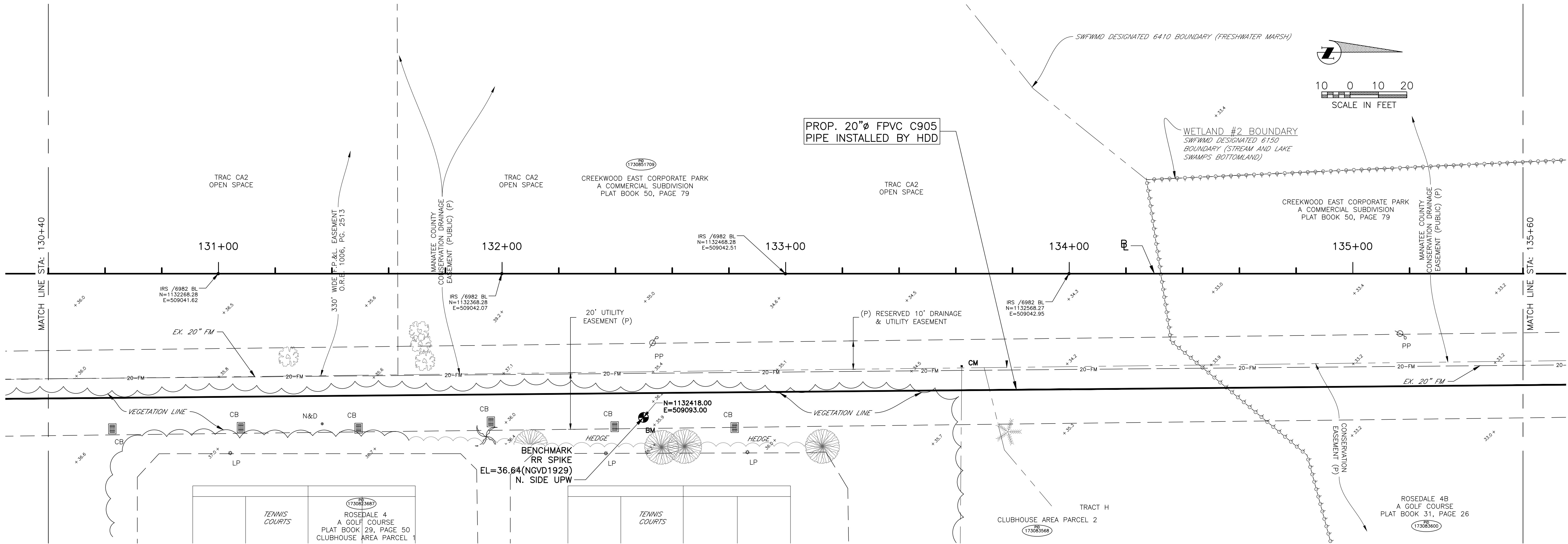
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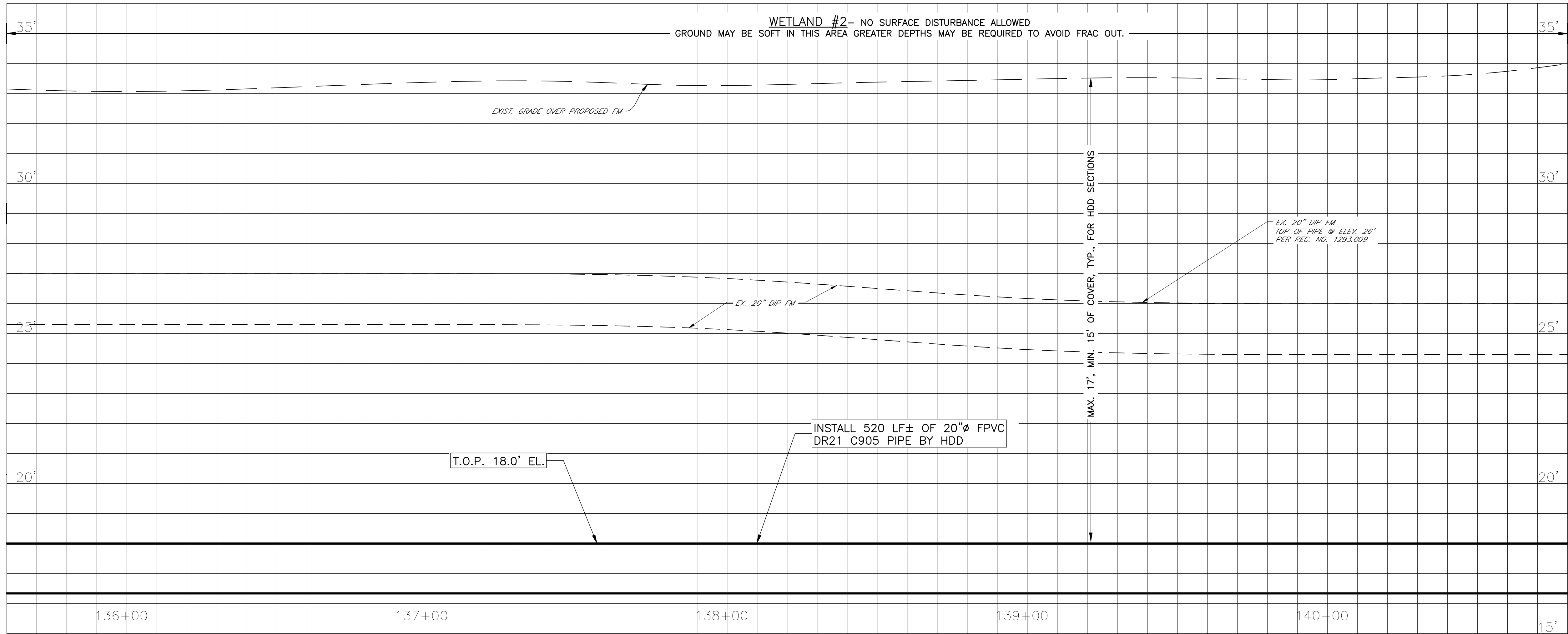


**TARA 20 FORCE MAIN  
PARALLEL TO LENA ROAD  
PLAN & PROFILE, STA 130+40 TO 135+60**


VERTICAL DATUM: NGVD 29

| NO. | REVISION | DESCRIPTION | BY | DATE |
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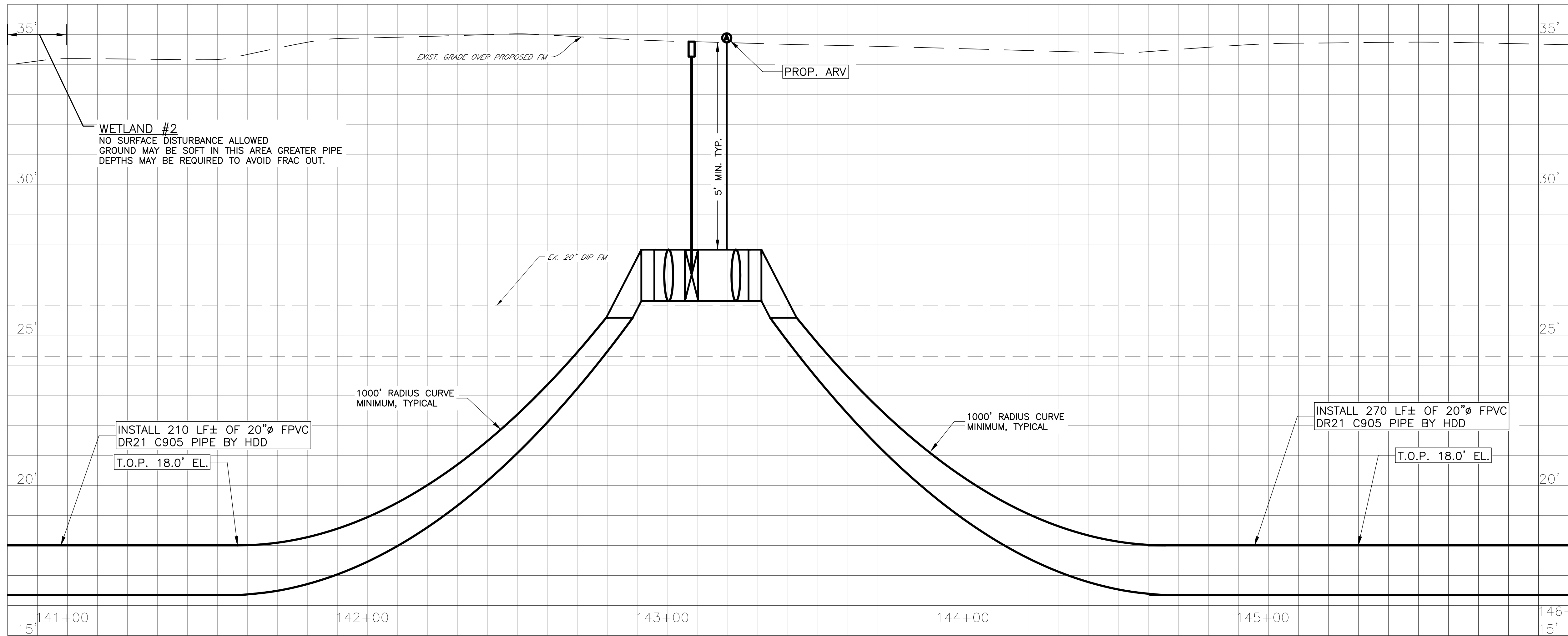
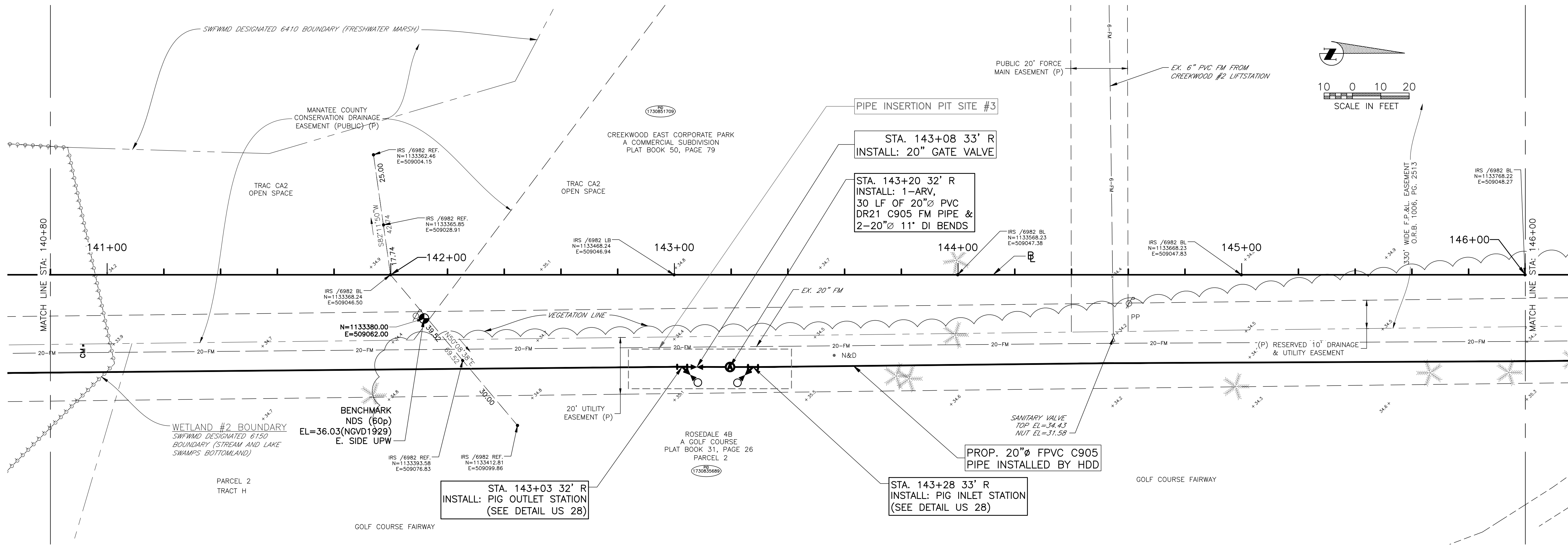


**TARA 20 FORCE MAIN  
PARALLEL TO LENA ROAD  
PLAN & PROFILE, STA 13+60 TO 140+80**


 JAMES DAVID STOKWELL, P.E.  
 FLORIDA P.E. NO. 67198  
 STATE OF FLORIDA  
 PROFESSIONAL ENGINEER  
 4/20/16  
 Signature & Date



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PUBLIC WORKS DEPARTMENT  
ENGINEERING SERVICES  
1022 26th Avenue East, Bradenton, FL 34208

# TARA 20 FORCE MAIN PARALLEL TO LENA ROAD PLAN & PROFILE, STA 140+80 TO 146+00

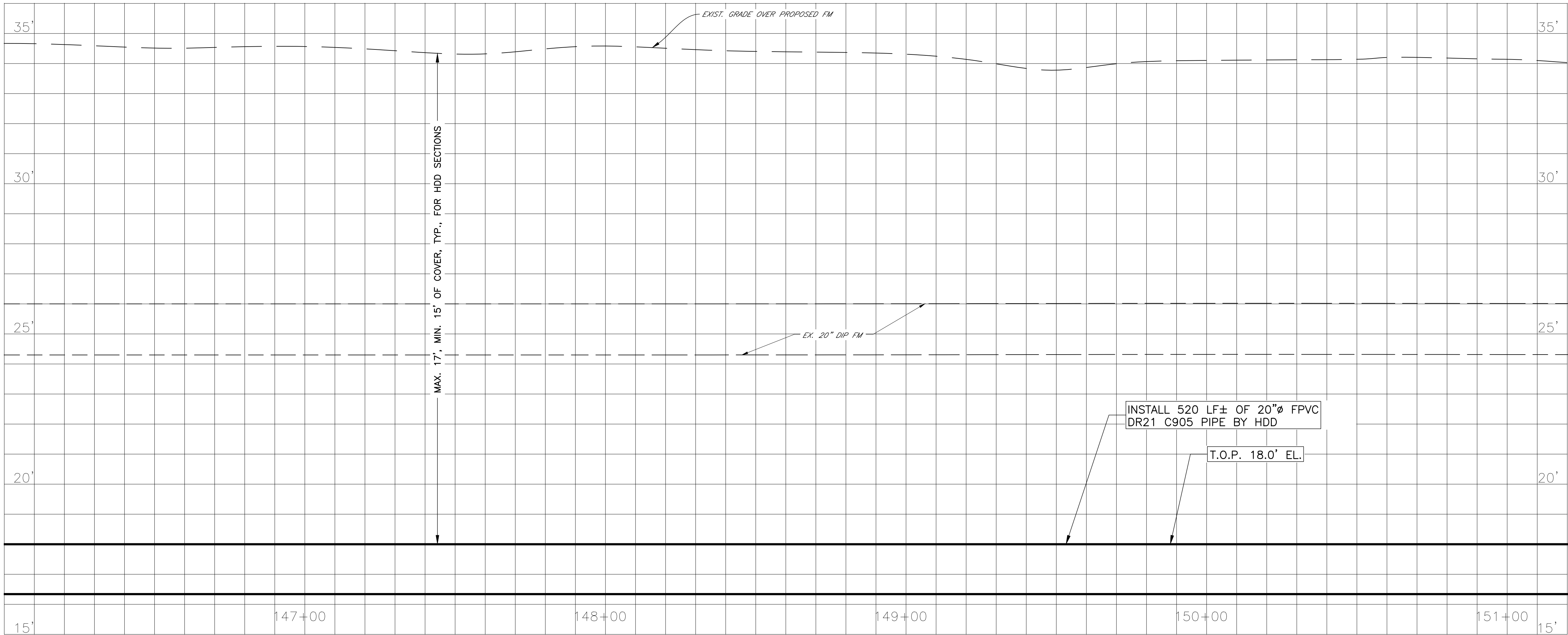
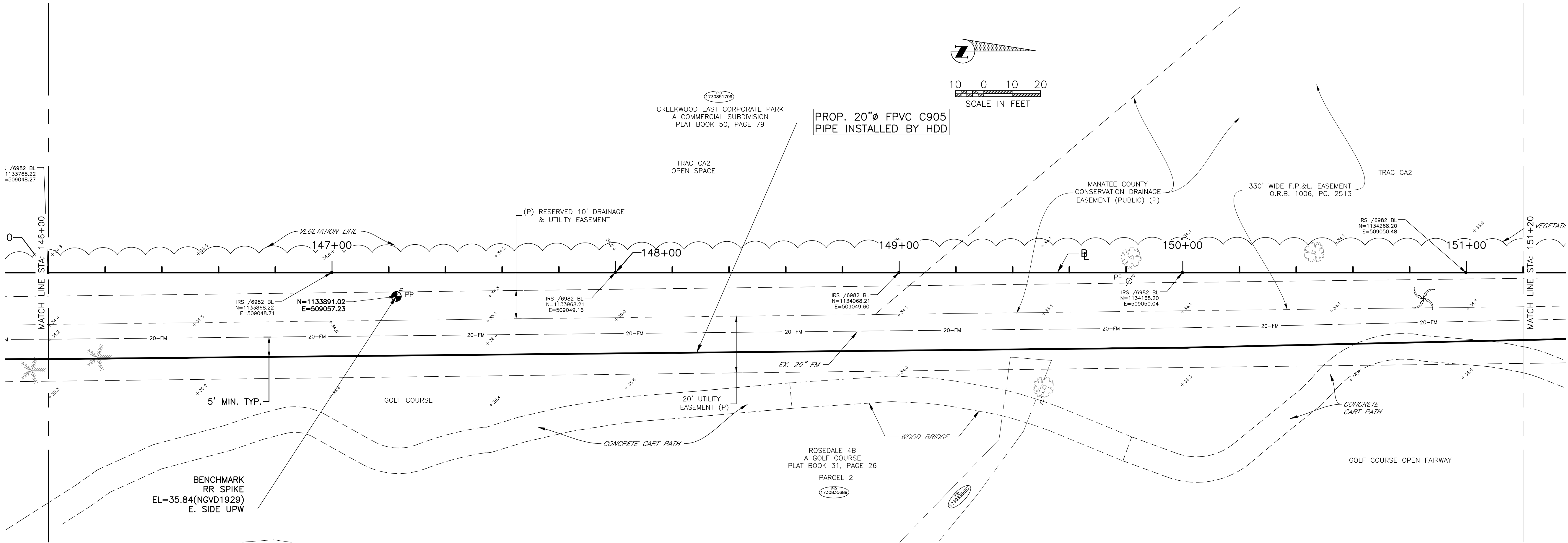
VERTICAL DATUM: NGVD 29

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PROJECT # 6079881  
SURVEY # 00-43536  
SEC./TWN./RGE 1,12&13/3518  
VERT. SCALE 1"=2'  
HORZ. SCALE 1"=20'  
VERTICAL DATUM NGVD 29  
BY DATE  
SURVEYED ZNS ENGR 01/22/14  
DESIGNED JS 03/2014  
DRAWN BR 03/2014  
JAMES R. SWELL, P.E.  
67198  
STATE OF FLORIDA  
PROFESSIONAL ENGINEER  
4/20/16



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TARA 20 FORCE MAIN  
PARALLEL TO LENA ROAD  
PLAN & PROFILE, STA 146+00 TO 1+20

VERTICAL DATUM: NGVD 29

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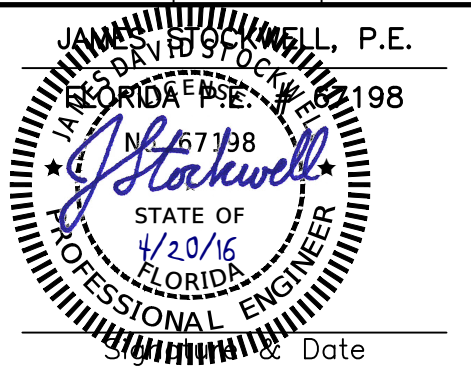
JAMES R. HANWELL, P.E.  
Professional Engineer  
No. 67198  
State of Florida  
4/20/16



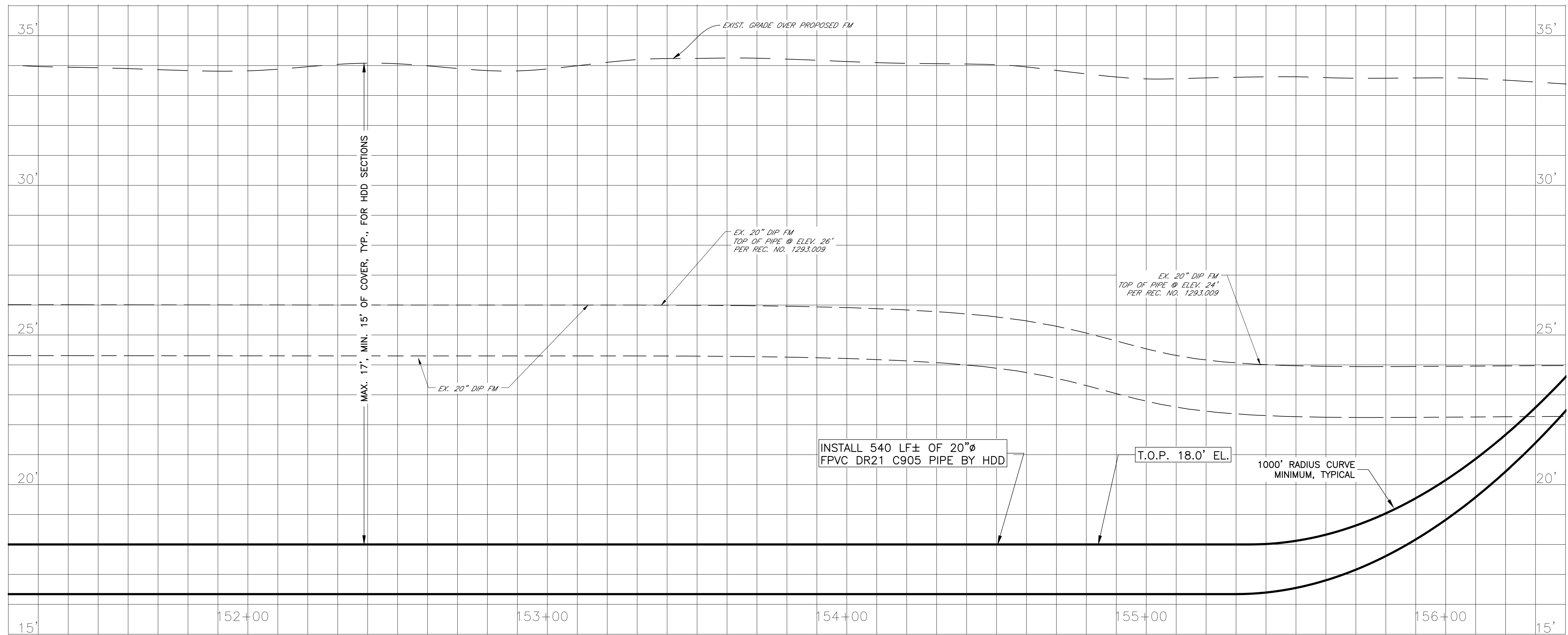
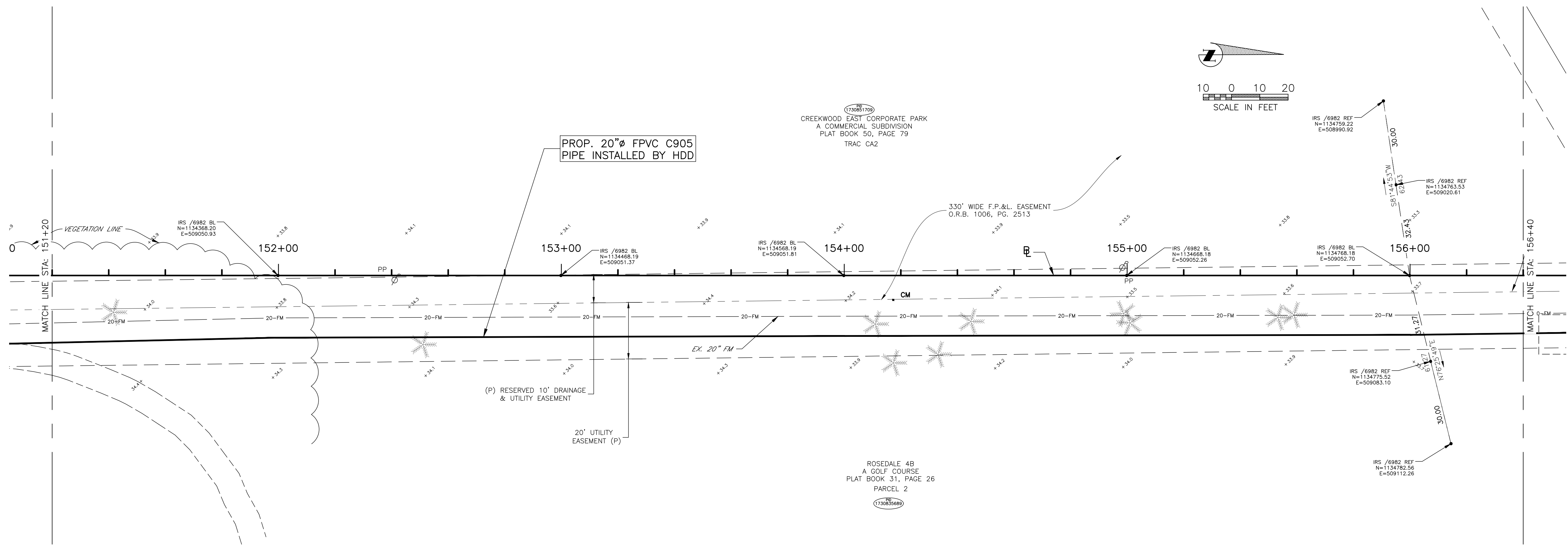
**TARA 20 FORCE MAIN  
PARALLEL TO LENA ROAD  
PLAN & PROFILE, STA 1+00 TO 1+640**

**VERTICAL DATUM: NGVD 29**

| NO.            | REVISION DESCRIPTION | BY       | DATE |
|----------------|----------------------|----------|------|
| PROJECT #      | 6079881              |          |      |
| SURVEY #       | 00-43536             |          |      |
| SEC./TWN./RGE  | 1,12&13/3518         |          |      |
| VERT. SCALE    | 1"=2'                |          |      |
| HORZ. SCALE    | 1"=20'               |          |      |
| VERTICAL DATUM | NGVD 29              |          |      |
|                | BY                   | DATE     |      |
| SURVEYED       | ZNS ENGR             | 01/22/14 |      |
| DESIGNED       | JS                   | 03/2014  |      |
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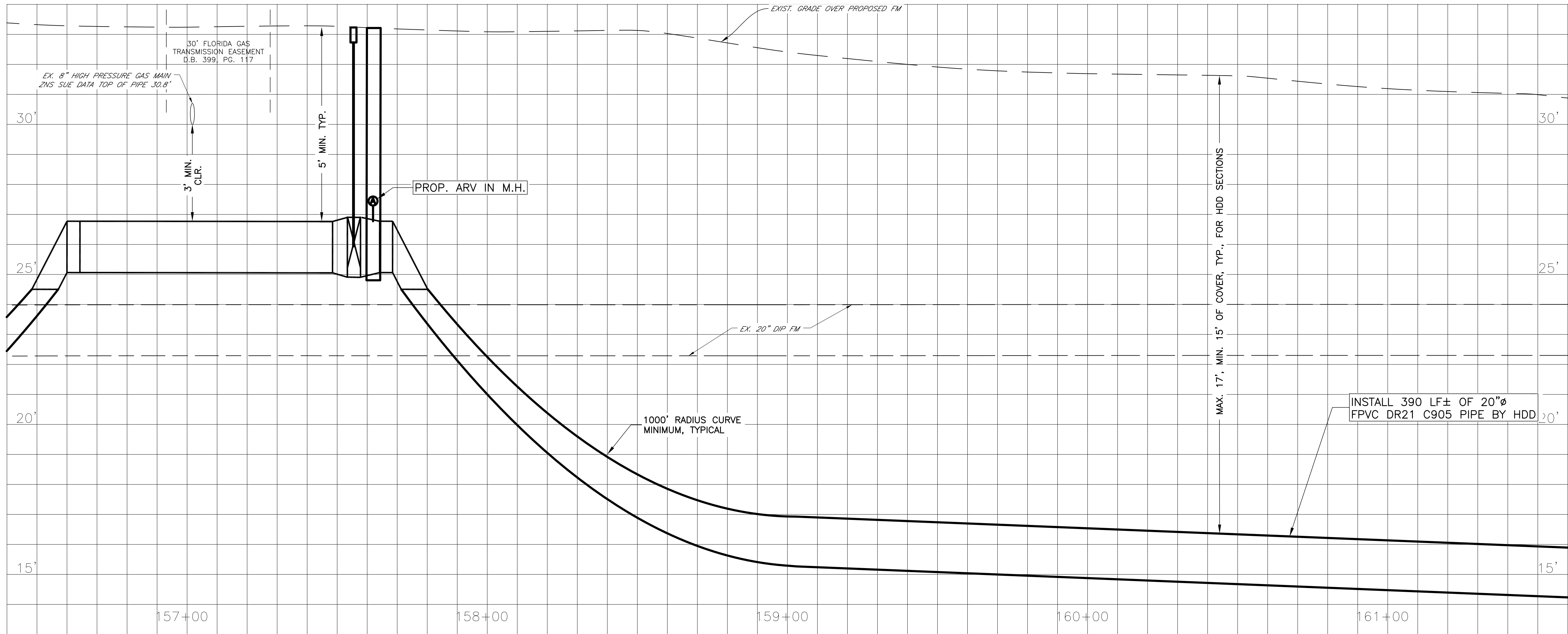
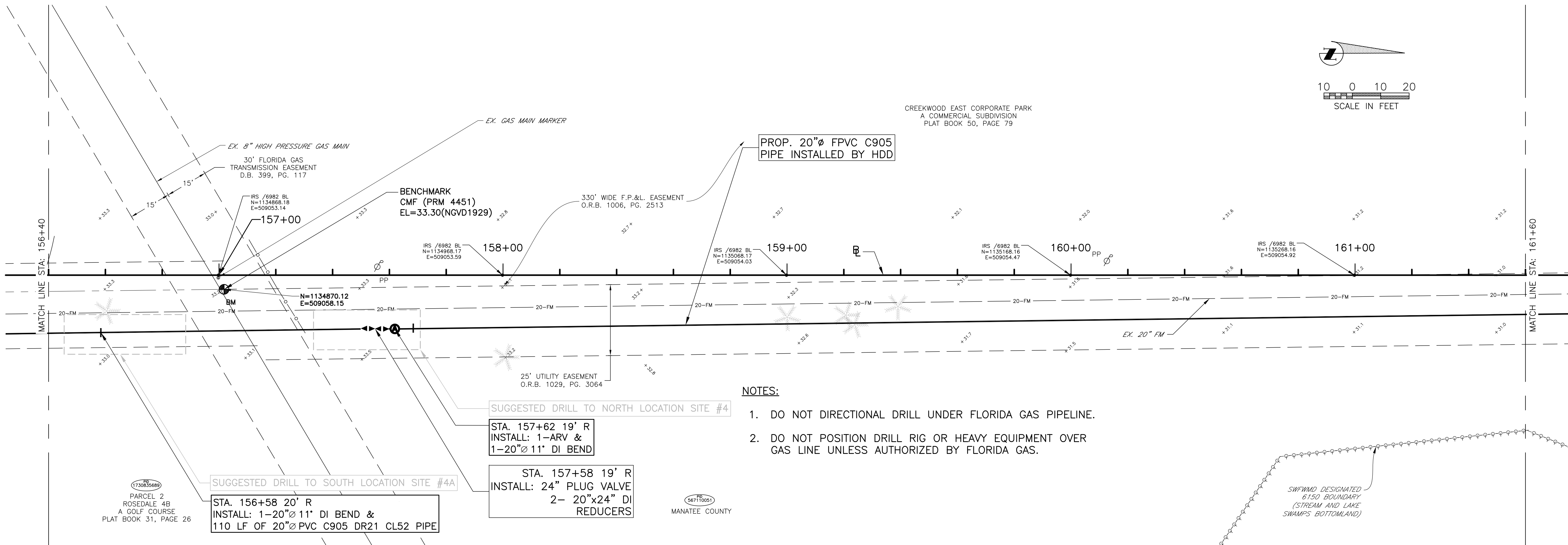


SHEET 13 OF 26





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**TARA 20 FORCE MAIN  
PARALLEL TO LENA ROAD  
PLAN & PROFILE, STA 156+40 TO 161+60**

**VERTICAL DATUM: NGVD 29**

| NO.            | REVISION DESCRIPTION                                    | BY       | DATE     |
|----------------|---|----------|----------|
| 1              | REVISED TO 24" PLUG VALVE AND ADDED REDUCERS STA 157+58 | JDS      | 09-30-16 |
| PROJECT #      | 6079881   |          |          |
| SURVEY #       | 00-43536  |          |          |
| SEC./TWN./RGE  | 1,12&13/3518  |          |          |
| VERT. SCALE    | 1"=2'   |          |          |
| HORZ. SCALE    | 1"=20'  |          |          |
| VERTICAL DATUM | NGVD 29   |          |          |
|                | BY  | DATE     |          |
| SURVEYED       | ZNS ENGR  | 01/22/14 |          |
| DESIGNED       | JS  | 03/2014  |          |
| DRAWN          | BR  | 03/2014  |          |

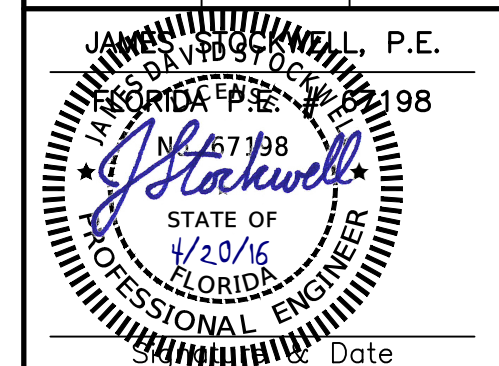
JAMES B. BUCKWELL, P.E.  
Professional Engineer  
No. 67198  
State of Florida  
10/3/16  
Date



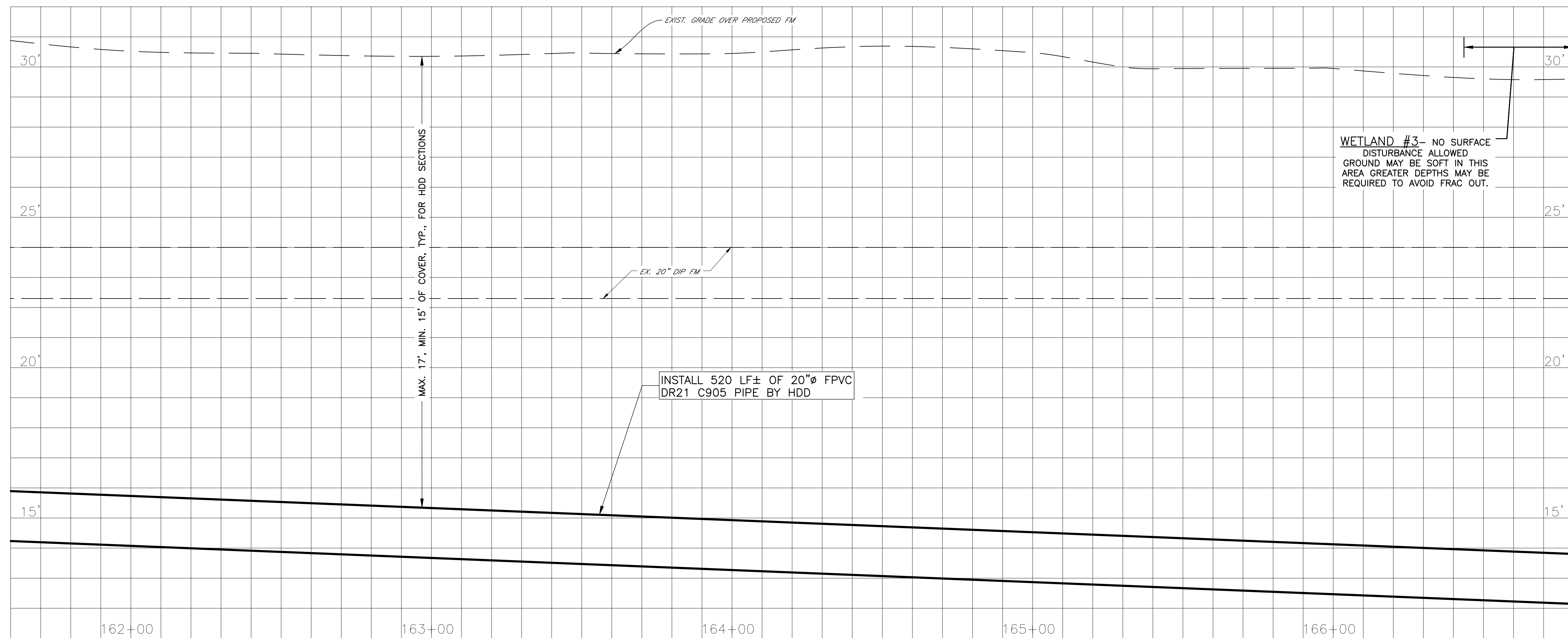
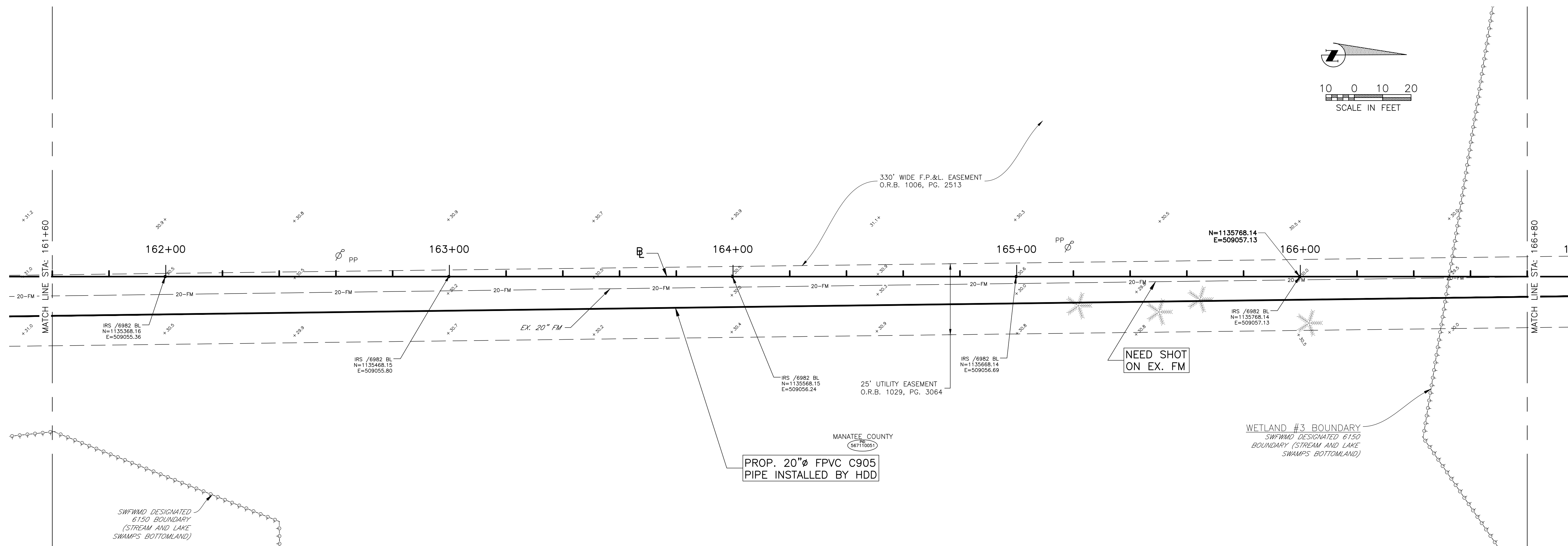
# PLAN & PROFILE, STA 161+60 TO 166+80

**VERTICAL DATUM: NGVD 29**

| VERTICAL DATUM:      |  |     |              | BY       | DATE |
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| REVISION DESCRIPTION |  |     |              |          |      |
| NO.                  |  |     |              |          |      |
| PROJECT #            |  |     | 6079881      |          |      |
| SURVEY #             |  |     | 00-43536     |          |      |
| SEC./TWN./RGE        |  |     | 1,12&13/3518 |          |      |
| VERT. SCALE          |  |     | 1"=2'        |          |      |
| HORIZ. SCALE         |  |     | 1"=20'       |          |      |
| VERTICAL DATUM       |  |     | NGVD 29      |          |      |
|                      |  | BY  |              | DATE     |      |
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| DESIGNED             |  | JS  |              | 03/2014  |      |
| DRAWN                |  | BR  |              | 03/2014  |      |

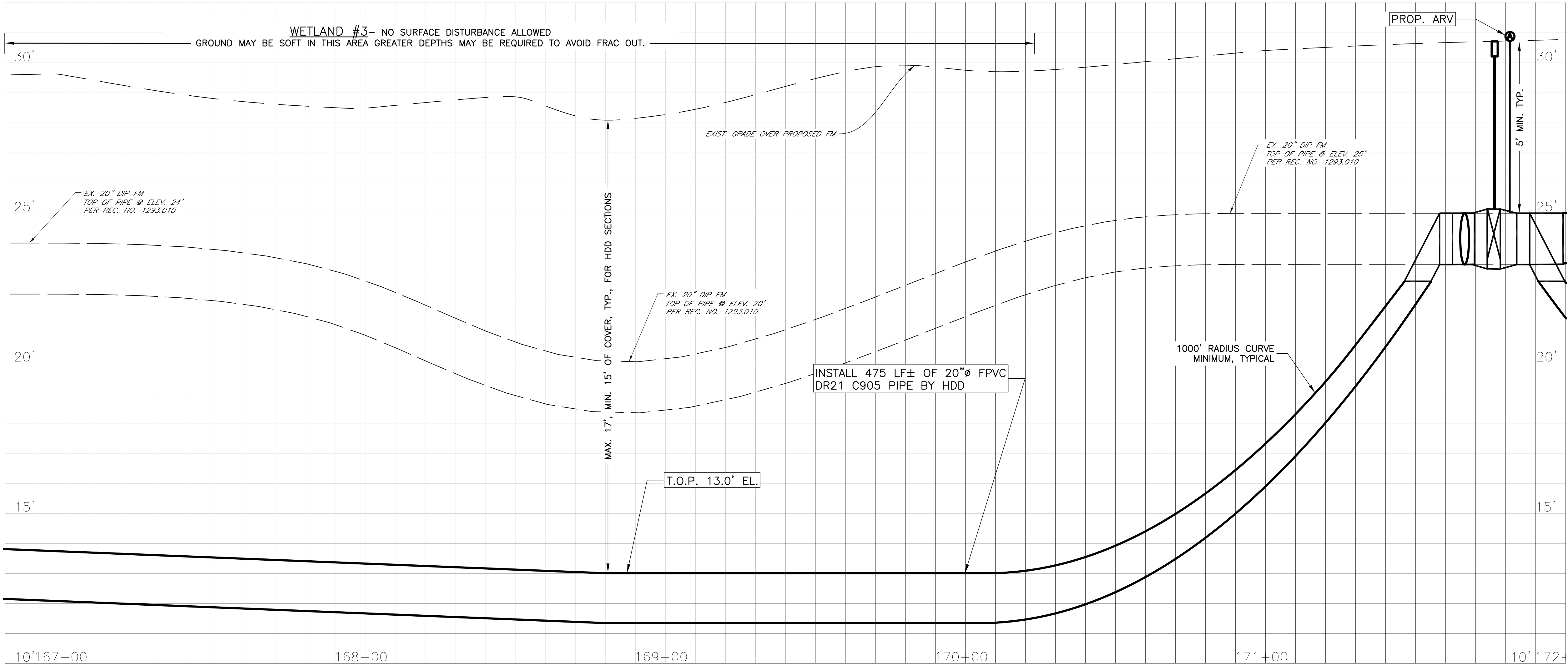
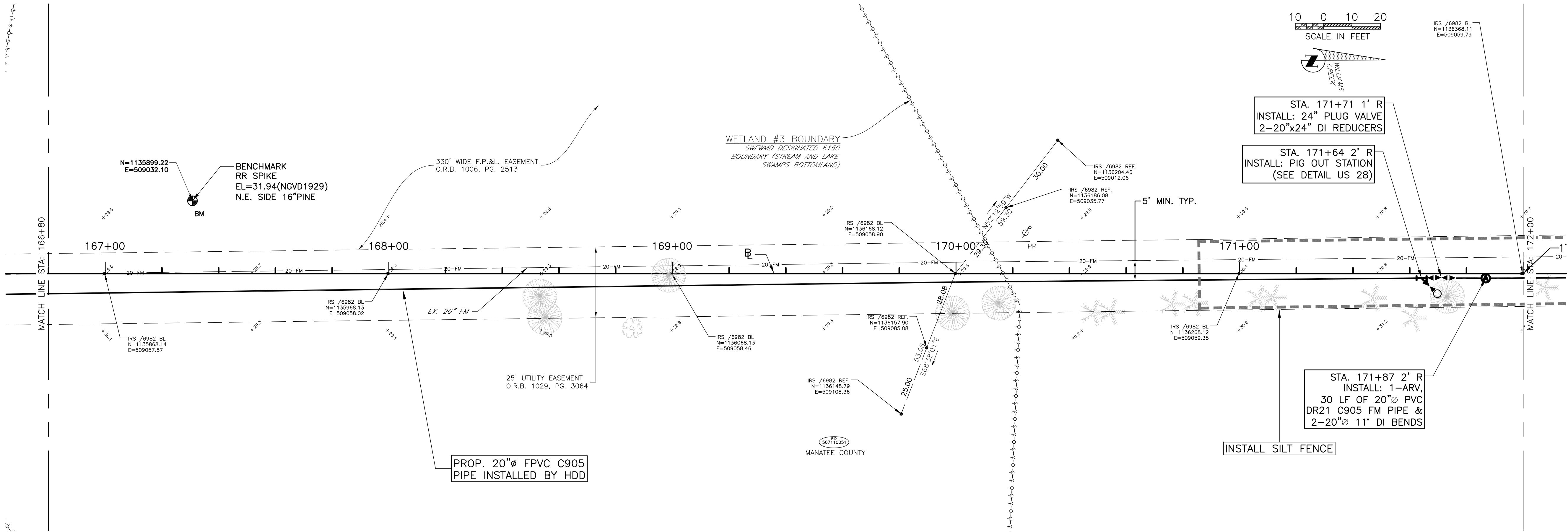


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TARA 20 FORCE MAIN  
PARALLEL TO LENA ROAD  
PLAN & PROFILE, STA 166+80 TO 172+00

VERTICAL DATUM: NGVD 29

| NO.            | REVISION     | DESCRIPTION   | BY  | DATE     |
|----------------|--------------|---|-----|----------|
| 1              |              | REVISED TO 24" PLUG VALVE AND ADDED REDUCERS STA 171+71 | JDS | 09-30-16 |
| PROJECT #      | 6079881      |   |     |          |
| SURVEY #       | 00-43536     |   |     |          |
| SEC./TWN./RGE  | 1,12&13/3518 |   |     |          |
| VERT. SCALE    | 1"=2'        |   |     |          |
| HORZ. SCALE    | 1"=20'       |   |     |          |
| VERTICAL DATUM | NGVD 29      |   |     |          |
| BY             | DATE         |   |     |          |
| SURVEYED       | ZNS ENGR     | 01/22/14  |     |          |
| DESIGNED       | JS           | 03/2014   |     |          |
| DRAWN          | BR           | 03/2014   |     |          |

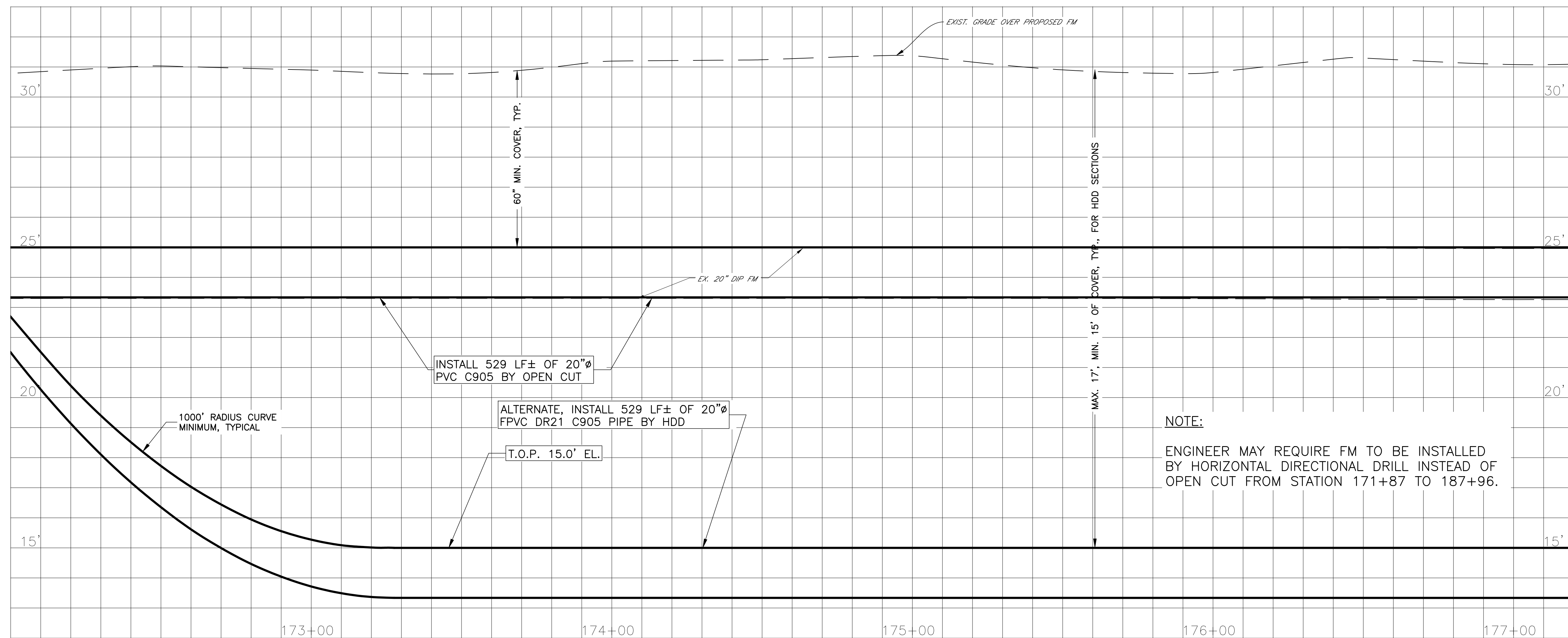
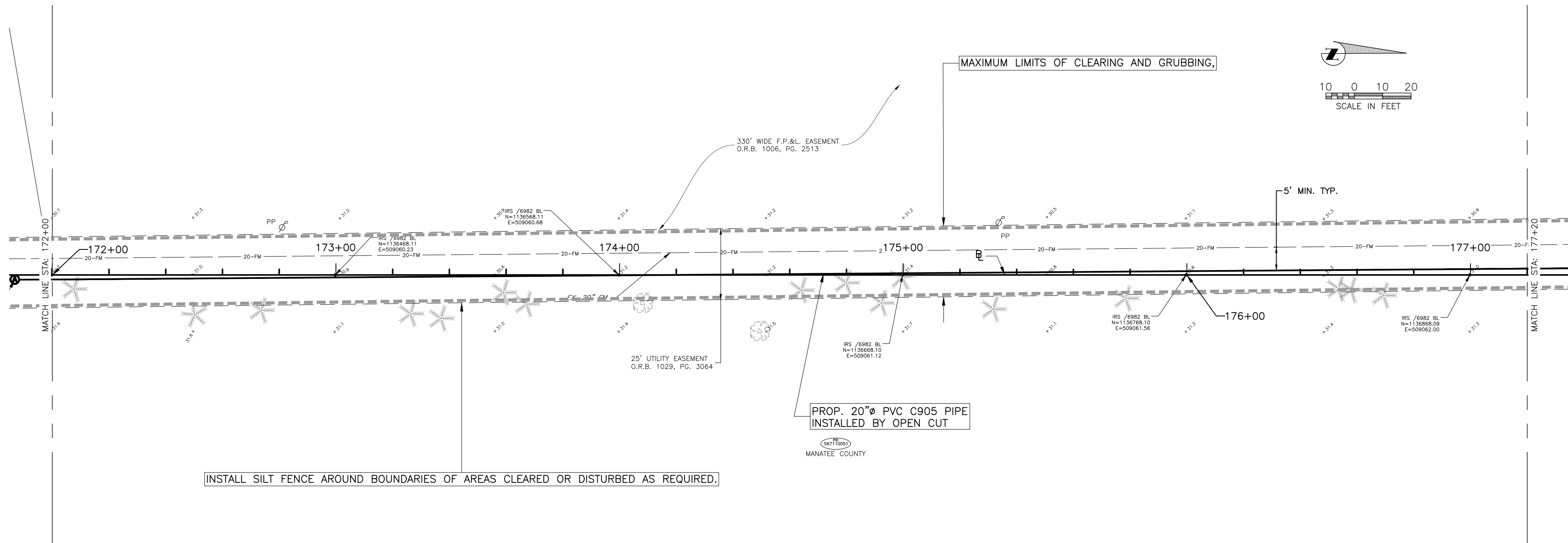


**TARA 20 FORCE MAIN  
PARALLEL TO LENA ROAD  
PLAN & PROFILE, STA 1+2+00 TO 1+2+20**

## VERTICAL DATUM: NGVD 29

| VERTICAL DATUM:      |  |     |              | BY       | DATE |
|----------------------|--|-----|--------------|----------|------|
| REVISION DESCRIPTION |  |     |              |          |      |
| NO.                  |  |     |              |          |      |
| PROJECT #            |  |     | 6079881      |          |      |
| SURVEY #             |  |     | 00-43536     |          |      |
| SEC./TWN./RGE        |  |     | 1,12&13/3518 |          |      |
| VERT. SCALE          |  |     | 1"=2'        |          |      |
| HORIZ. SCALE         |  |     | 1"=20'       |          |      |
| VERTICAL DATUM       |  |     | NGVD 29      |          |      |
|                      |  | BY  |              | DATE     |      |
| SURVEYED             |  | ZNS | ENGR         | 01/22/14 |      |
| DESIGNED             |  | JS  |              | 03/2014  |      |
| DRAWN                |  | BR  |              | 03/2014  |      |

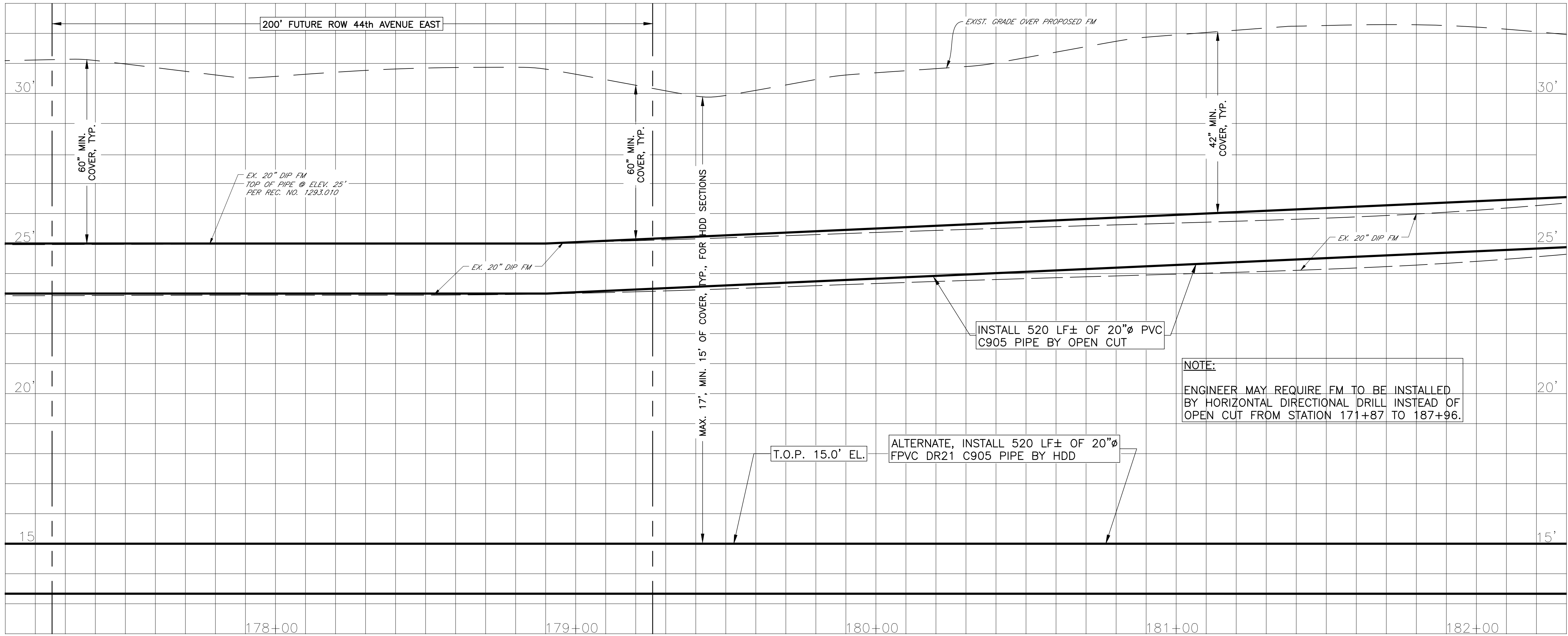
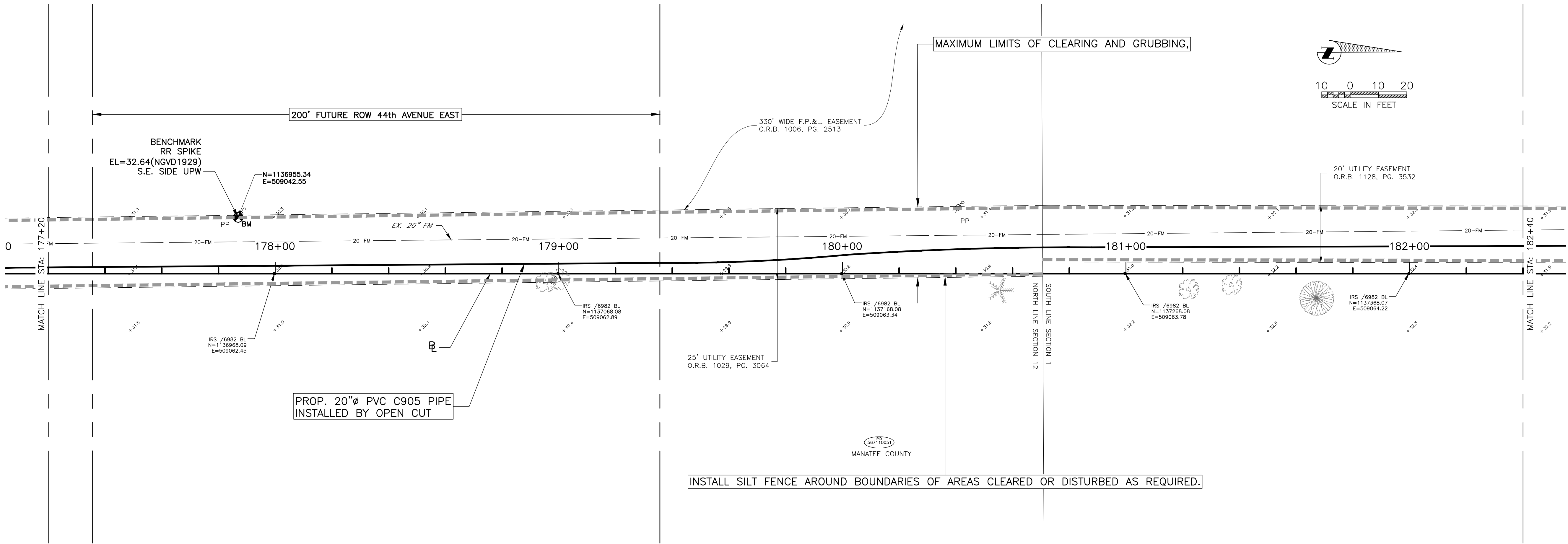
JAMES STOKWELL, P.E.  
DAVID STOKWELL  
FLORIDA LICENSE # 1298  
NO. 57198  
STATE OF  
4/20/16  
FLORIDA  
PROFESSIONAL ENGINEER  
Signature & Date



S:\PWD\_Engineering\_Share\Util Eng Design\PROJ\~SAN SWR Proj\FM - Lena Road\DWGS\LRFM.dwg,17, 4/20/2016 9:12 AM Bruce Robertson, 1:1 ANSI full bleed D (34.00 x 22.00 inches)



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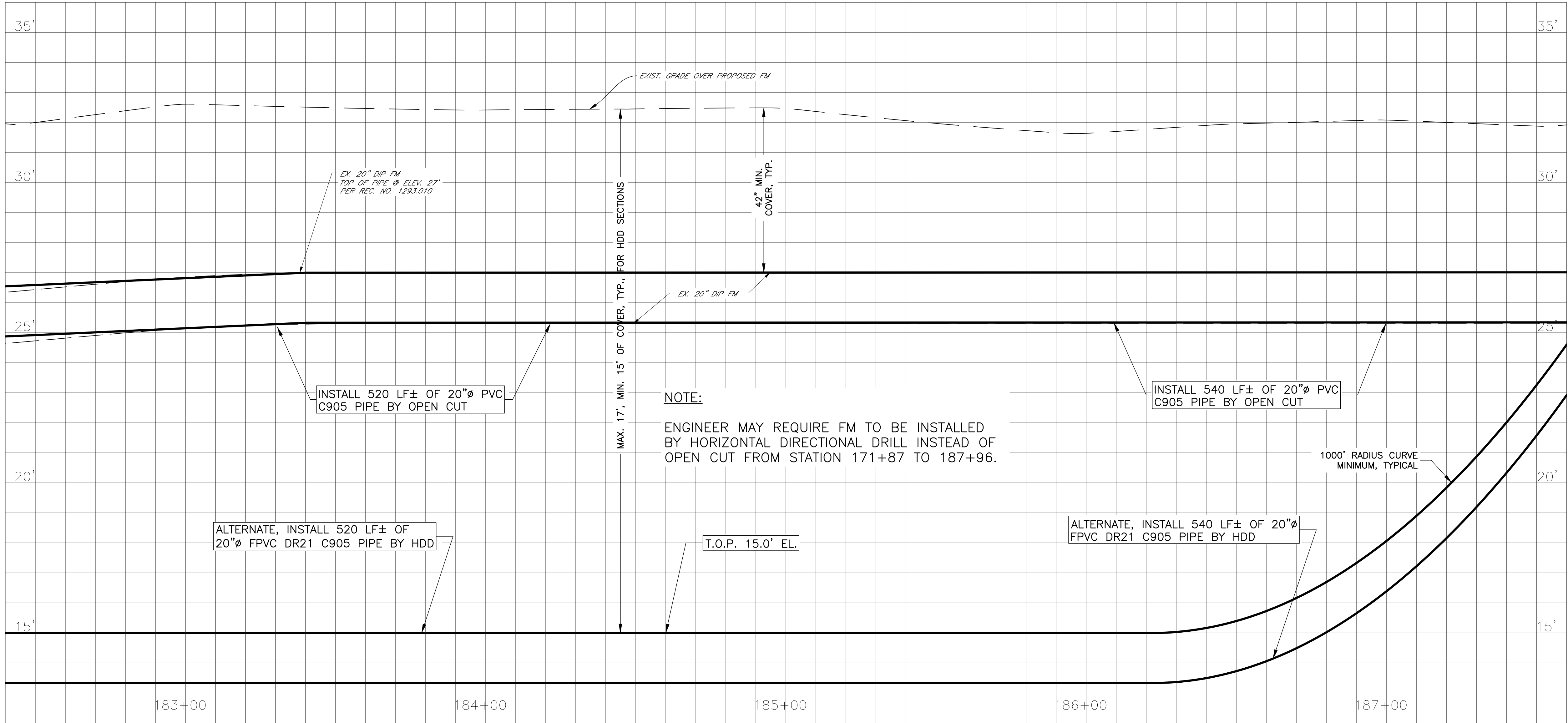
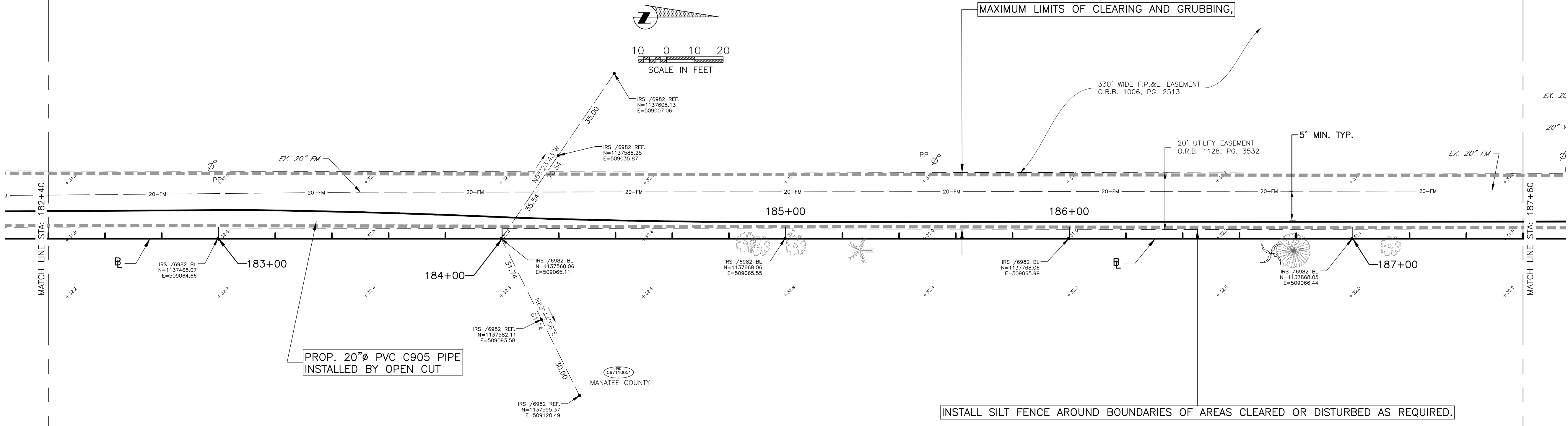
**TARA 20 FORCE MAIN  
PARALLEL TO LENA ROAD  
PLAN & PROFILE, STA 177+20 TO 182+40**

VERTICAL DATUM: NGVD 29

| NO. | REVISION | DESCRIPTION | BY | DATE |
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TARA 20 FORCE MAIN  
PARALLEL TO LENA ROAD  
PLAN & PROFILE, STA 182+40 TO 187+60

VERTICAL DATUM: NGVD 29

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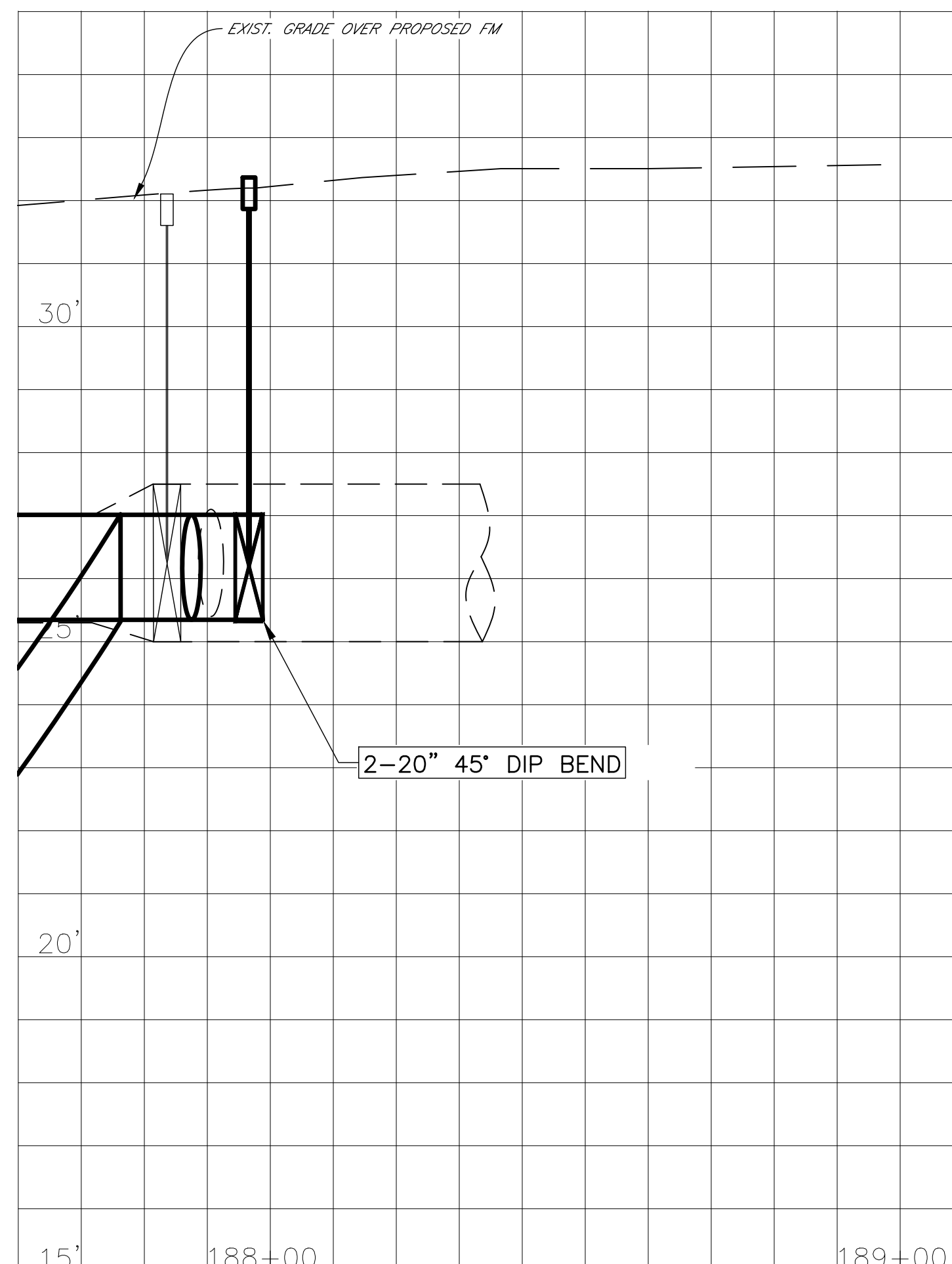


**VERTICAL DATUM: NGVD 29**

| PROJECT #            |     | 6079881     |         |  |      |  |  |
|----------------------|-----|-------------|---------|--|------|--|--|
| SURVEY #             |     | 00-43536    |         |  |      |  |  |
| SEC./TWN./RGE        |     | 1,12&13/351 |         |  |      |  |  |
| VERT. SCALE          |     | 1"=2'       |         |  |      |  |  |
| HORZ. SCALE          |     | 1"=20'      |         |  |      |  |  |
| VERTICAL DATUM       |     | NGVD 29     |         |  |      |  |  |
|                      | BY  |             |         |  | DATE |  |  |
| SURVEYED             | ZNS | ENGR        | 01/22/1 |  |      |  |  |
| DESIGNED             | JS  |             | 03/2014 |  |      |  |  |
| DRAWN                | BR  |             | 03/2014 |  |      |  |  |
| NO.                  |     |             |         |  |      |  |  |
| REVISION DESCRIPTION |     |             |         |  |      |  |  |
| BY                   |     |             |         |  |      |  |  |
| DATE                 |     |             |         |  |      |  |  |

JAMES L. COWELL, P.E.  
 JAMES DAVID STOCKWELL, P.E.  
 FLORIDA  
 N. 67198  
 J. Stockwell  
 STATE OF  
 4/20/16  
 FLORIDA  
 PROFESSIONAL ENGINEER  
 Signature & Date

SHEET 20 OF 26



1. PREPARE STORM WATER POLLUTION PREVENTION PLAN & APPLY AND PAY FOR AND OBTAIN NPDES PERMIT. PREPARE FORCE MAIN BYPASS PLAN & SUBMIT TO COUNTY FOR REVIEW.
2. INSTALL EROSION & SEDIMENT CONTROL MEASURES. COMMENCE CLEARING & GRUBBING FOR ACCESS TO SITE & CONSTRUCTION SITE AREAS(S) AS NECESSARY, IN ACCORDANCE WITH CONTRACTORS SCHEDULE.
3. CONTRACTOR MAY NEGOTIATE ALTERNATIVE ACCESS ROUTES WITH LANDOWNERS AT NO COST TO COUNTY, SUBJECT TO PERMIT CONDITIONS & COUNTY APPROVAL.
4. INSTALL PROPOSED 20" PVC FORCE MAIN HDD AND TRENCH SECTION IN ACCORDANCE WITH CONTRACTORS SCHEDULE. INSTALL THRUST BLOCKING & RESTRAIN EXISTING PIPING AS NECESSARY. PIG & PRESSURE TEST PIPING AS REQUIRED.
5. CONNECT PROPOSED 20" FORCE MAIN TO EXISTING 30" FORCE MAIN AT STATION 187+97 (NORTH END OF PROJECT).
6. INSTALL FORCE MAIN BYPASS FACILITIES & COORDINATE LIFT STATION SHUT DOWNS WITH COUNTY STAFF. SHUTDOWN CREEKWOOD EAST 1 & 2, (OPER. POINTS 350GPM & 300 GPM), AND ROSEDALE (700 GPM) LIFT STATIONS. CONTRACTOR TO PROVIDE AT LEAST ONE TANKER TRUCK FOR DURATION OF SHUTDOWNS TO TRANSPORT WASTEWATER TO DISPOSAL.
7. CONNECT PROPOSED 20" FORCE MAINS TO EXISTING 20" FORCE MAINS AT STATION 101+61 & 102+42 (SOUTH END OF PROJECT).
8. REMOVE BYPASS PIPING AND RESTORE WASTEWATER FLOWS TO FORCE MAINS.
9. RESTORE ALL DISTURBED AREAS WITH HYDRO SEED OR SOD AS DIRECTED.

1. THE COUNTY WILL PROVIDE ONE LIFT STATION SHUTDOWN AT ROSEDALE, CREEKWOOD EAST #1 & #2, AT NO COST TO THE CONTRACTOR. THE COUNTY SHALL CHARGE THE CONTRACTOR \$3,500 EACH FOR ADDITIONAL SHUTDOWNS, IF NEEDED. SHUT DOWN TIME ALLOWED IS 11PM TO 6AM UNLESS APPROVED OTHERWISE IN WRITING BY THE COUNTY, FOR A MAXIMUM OF TWO NIGHTS.
2. THE CONTRACTOR SHALL SUBMIT A FORCE MAIN BYPASS PLAN FOR REVIEW A MIN. 28 DAYS PRIOR TO IMPLEMENTATION.
3. ALL JOINTS ON PROPOSED PIPE SHALL BE RESTRAINED BY THE CONTRACTOR, EXCEPT FOR TRENCHED SECTION STA. 187+70 TO 172+20, RESTRAIN JOINTS ONLY AS NECESSARY PER DETAIL UG-8. CONTRACTOR SHALL PROVIDE ALL PERMANENT AND TEMPORARY THRUST BLOCKS AND RESTRAINTS ON EXISTING PIPING AS NECESSARY TO ENSURE BLOWOUTS DO NOT OCCUR DURING OPERATION TESTING, AND WARRANTY PERIOD.
4. CONTRACTOR IS REQUIRED TO COORDINATE HIS WORK AND ACCESS TO THE SITE WITH FPL, OWNER OF PROPERTIES ON THE WEST (CREEKWOOD E. CORP. PARK) AND THE EAST (ROSEDALE), FLORIDA GAS TRANSMISSION, COUNTY ROADS AND UTILITY OPERATIONS STAFF. ALL COST RELATED TO ACCESS AND COORDINATION AND FOR COMPLIANCE WITH REQUIREMENTS SHALL BE INCLUDED IN THE CONTRACTORS BID PRICES. REFER TO CONTRACT DOCUMENTS FOR INFORMATION.



STORMWATER POLLUTION PREVENTION NOTES LENA ROAD FORCE MAIN  
FROM: SR 70 TO: 41ST AVE. E. MANATEE COUNTY

I. SITE DESCRIPTION:

- (1) NATURE OF CONSTRUCTION ACTIVITY  
THE PROPOSED FORCE MAIN IS TO BE INSTALLED FROM SR 70 TO 41st AVE. E. IN MANATEE COUNTY. THE COUNTY PROPOSES TO INSTALL MOST OF THE PIPE BY DIRECTIONAL DRILLING.

- (2) SEQUENCE OF MAJOR SOIL DISTURBING ACTIVITIES:

(a) THE CONTRACTOR SHALL BE REQUIRED TO PREPARE A SITE SPECIFIC EROSION AND SEDIMENT CONTROL PLAN ALONG WITH A DETAILED CONSTRUCTION SCHEDULE TO INDICATE DATES OF MAJOR ACTIVITIES AND DETERMINE SEQUENCES OF TEMPORARY AND PERMANENT SOIL DISTURBING ACTIVITIES ON ALL PORTIONS OF THE PROJECT.

(b) THE CONTRACTOR WILL BE REQUIRED TO MODIFY THE PLAN OR MATERIALS TO ADAPT TO SEASONAL VARIATIONS. CONSTRUCTION ACTIVITY VARIATIONS. OR AS DIRECTED BY THE ENGINEER.

(c) APPLICABLE EROSION AND SEDIMENT CONTROL DEVICES AND IMPLEMENTATION PROCEDURES ARE SUPPLIED IN THE STATE OF FLORIDA EROSION AND SEDIMENT CONTROL DESIGNER AND REVIEW MANUAL (E&SC MANUAL).

(d) THE ENGINEER MAY DETERMINE IF ANY MODIFICATIONS OR ADDITIONAL CONTROLS ARE REQUIRED AND OBTAIN DEPLOYMENT SCHEDULES FOR THE IMPLEMENTATION OF ALL ADDITIONAL EROSION AND SEDIMENT CONTROL DEVICES FROM THE CONTRACTOR.

- (3) GENERAL STORM WATER POLLUTION PREVENTION NOTES:

(a) ALL EROSION AND SEDIMENT CONTROL DEVICES FOR EACH PHASE OF WORK ARE TO BE INSTALLED PRIOR TO BEGINNING WORK ON THAT PHASE.

(b) INSTALL EROSION AND SEDIMENT CONTROL DEVICES WHERE LISTED IN THE CONTRACTOR'S APPROVED EROSION AND SEDIMENT CONTROL PLAN FOR PERIMETER CONTROLS BEFORE THE LAND IS DISTURBED.

(c) PROVIDE SEDIMENT BARRIERS WHERE LISTED IN THE CONTRACTOR'S APPROVED EROSION AND SEDIMENT CONTROL PLAN DURING CONSTRUCTION.

(d) PROVIDE INLET PROTECTION SYSTEMS AT INLET OPENINGS.

(e) COVER OR STABILIZE DISTURBED AREAS AS SOON AS POSSIBLE.

(f) DO NOT DISTURB AN AREA UNTIL IT IS NECESSARY FOR CONSTRUCTION TO PROCEED.

(g) TIME CONSTRUCTION ACTIVITIES TO LIMIT IMPACT FROM SEASONAL CLIMATE CHANGES OR WEATHER EVENTS.

(h) DO NOT REMOVE PERIMETER CONTROLS UNTIL ALL UPSTREAM AREAS ARE FULLY STABILIZED AND PERMANENT VEGETATION IS ESTABLISHED.

- (4) PROJECT AREAS:

THE ESTIMATED TOTAL PROJECT AREA IS 5.6 ACRES. THE ESTIMATED AREA BE DISTURBED DURING CONSTRUCTION ACTIVITIES IS 2.7 ACRES.

- (5) RUNOFF COEFFICIENTS BEFORE Cw(B). DURING Cw(D) AND AFTER Cw(A) CONSTRUCTION:

RUNOFF COEFFICIENT FOR: GRASSED & TREED AREAS: C=0.20  
DISTURBED AREAS, EXPOSED SOIL, ETC., DURING CONSTRUCTION: C=0.30

WEIGHTED RUN-OFF COEFFICIENT:  
BEFORE: Cw(B)=0.20, DURING: Cw(D)=0.25 AFTER: Cw(A)=0.20

THE RUN-OFF COEFFICIENT DURING CONSTRUCTION. Cw (D). IS CALCULATED ASSUMING THAT THE MAXIMUM ALLOWABLE AREA OF SOIL IS DISTURBED DURING CONSTRUCTION AND THE REMAINING AMOUNT IS THE EXISTING GRASSED & TREED AREAS.

- (6) DESCRIPTION OF SOIL WITHIN THE LENA ROAD FORCE MAIN PROJECT:

| SOIL TYPE                    | HYDROLOGIC GROUP | DEPTH TO SHWE |
|------------------------------|------------------|---------------|
| 20-EAUGALLIE FINE SAND (66%) | AID              | 0.0-1.5'      |
| 38-PALMETTO FINE SAND (34%)  | AID              | 0.0-1.5'      |

REFERENCE: USDA SOIL SURVEY OF MANATEE COUNTY. FLORIDA

- (7) ESTIMATED DRAINAGE FLOW DIRECTION AND AVERAGE SLOPE OF DRAINAGE AREA FOR EACH OUTFALL:

(a) SITE MAP: INCLUDED ON KEY SHEET IN THE CONSTRUCTION PLANS

(b) DRAINAGE MAPS OR MAPS WITH APPROPRIATE CONTOURS: N/A

- (8) RECEIVING WATERS: ULTIMATE DRAINAGE TO BRADEN RIVER

- (9) THE OUTFALLS ARE NOT 303(d) LISTED. IMPAIRED WATERS FOR PARAMETERS SUCH AS TOTAL SUSPENDED SOLIDS (TSS), TURBIDITY, NUTRIENTS, DISSOLVED OXYGEN, FECAL COLIFORM. ETC.

- (10) OUTFALL LOCATIONS TO BE PROVIDED BY CONTRACTOR.

- (11) THERE ARE NO WETLAND IMPACTS ON THIS PROJECT.

- (12) DESCRIPTION OF STORMWATER MANAGEMENT: (EXISTING/PROPOSED)

(a) EXISTING DRAINAGE FLOWS ARE TYPICALLY SHEET FLOWS TO THEIR RESPECTIVE CREEK. EXISTING DRAINAGE WILL NOT BE ALTERED.

(b) OFF-SITE RUNOFF SHOULD BE DIVERTED AWAY OR THROUGH THE CONSTRUCTION AREA. IF POSSIBLE, THIS ADDITIONAL FLOW, IF NOT DIVERTED, CAN ADD VOLUME AND SIZE TO STRUCTURAL PRACTICES. REQUIRING MORE FREQUENT MAINTENANCE AND LIMITING EFFECTIVENESS OF EROSION AND SEDIMENT CONTROLS.

(c) THE CONTRACTOR WILL PROVIDE POLLUTION CONTROL BY IMPLEMENTING DUST CONTROL DURING ALL PHASES OF CONSTRUCTION. SEDIMENT CONTROL WILL BE ACCOMPLISHED BY USING STREET OR VACUUM SWEEPERS.

(d) STORMWATER RUNOFF SHALL BE CONVEYED TO EITHER TEMPORARY SEDIMENT BASINS OR CONTAINMENT SYSTEMS. THE PROPOSED SEDIMENT BASINS, CONTAINMENT SYSTEMS AND/OR STORMWATER MANAGEMENT FACILITIES SHALL BE CONSTRUCTED DURING THE

INITIAL PHASE OF CONSTRUCTION AND USED DURING CONSTRUCTION.

(e) THE CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS TO PREVENT UNAUTHORIZED MATERIALS FROM ENTERING WETLANDS, WATERWAYS, OTHER SURFACE WATERS OR WATERS OF THE U.S.

II. CONTROLS: SEDIMENT AND EROSION CONTROLS

- (1) WATER QUALITY MONITORING:

(a) WATER QUALITY MONITORING SHALL BE CONDUCTED IN ACCORDANCE WITH THE SPECIAL CONDITIONS OF ANY ENVIRONMENTAL PERMIT OR BY THE CONTRACTOR UPON THE OBSERVATION THAT WATER QUALITY STANDARDS MAY BE VIOLATED BY THE CONTRACTOR'S ACTIVITIES. MONITORING LOCATIONS MAY BE SPECIFIED IN THE ENVIRONMENTAL PERMIT OR MAY BE DESIGNATED BY THE CONTRACTOR AND APPROVED BY THE PROJECT ENGINEER.

(b) THE CONTRACTOR WILL BE RESPONSIBLE FOR MONITORING ANY ACTIVITIES FOR VIOLATION OF WATER QUALITY STANDARDS AS THEY RELATE TO TURBIDITY (NO GREATER THAN 29 NTU'S ABOVE BACKGROUND OR GREATER THAN 0 NTU'S ABOVE BACKGROUND FOR DIRECT DISCHARGES TO OFW'S).

(c) IF WATER QUALITY STANDARDS ARE VIOLATED. CONSTRUCTION SHALL BE STOPPED IMMEDIATELY, THE ENVIRONMENTAL PERMIT CONDITIONS FOLLOWED AND EROSION AND SEDIMENT CONTROL DEVICES REEVALUATED AND APPROVED BY THE ENGINEER PRIOR TO ANY CONTINUATION OF ACTIVITY. MONITORING ACTIVITIES AND TURBIDITY READINGS SHALL BE RECORDED ON THE CONSTRUCTION INSPECTION REPORT AND CONTINUED UNTIL TURBIDITY READINGS FALL BELOW AN ACCEPTABLE LEVEL (LESS THAN 29 NTU'S ABOVE BACKGROUND OR LESS THAN 0 NTU'S ABOVE BACKGROUND FOR DIRECT DISCHARGES TO OFW'S).

(d) WATER QUALITY MONITORING MAY BE CONDUCTED DURING ANY PHASE OF CONSTRUCTION AS DIRECTED BY THE PROJECT ENGINEER.

- (2) STABILIZATION PRACTICES:

(a) STABILIZATION MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO MAINTAINING, ESTABLISHING AND USING VEGETATION, APPLYING MULCHES, SODDING, SEEDING, BMP'S AND THE USE OF ROLLED EROSION CONTROLLED PRODUCTS. WHEN CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, SIDE SLOPES SHALL BE STABILIZED WITH PERFORMANCE SODDING OR SEEDING OR ANY OTHER APPROVED METHOD OF STABILIZATION INCLUDED IN THE STATE OF FLORIDA EROSION AND SEDIMENT CONTROL DESIGNER AND REVIEW MANUAL (E&SC MANUAL).

(b) STABILIZATION SHALL TAKE PLACE AS SOON AS PRACTICAL IN PORTIONS OF THE PROJECT WHERE CONSTRUCTION ACTIVITIES HAVE CEASED, BUT NO LATER THAN 7 DAYS AFTER ANY CONSTRUCTION ACTIVITY CEASES EITHER TEMPORARILY OR PERMANENTLY.

(c) ALL EROSION CONTROL DEVICES SHALL BE INSTALLED ACCORDING TO THE CONTRACT DOCUMENTS, AND THE CONTRACTOR'S APPROVED EROSION CONTROL PLAN.

(d) ANY TEMPORARY MATERIAL USED FOR POLLUTION OR EROSION AND SEDIMENT CONTROL DURING CONSTRUCTION SHALL BE REMOVED AT THE COMPLETION OF THE PROJECT AND FINAL STABILIZATION OF THE PROJECT HAS BEEN ACHIEVED.

(e) SEDIMENT BARRIERS SHOULD BE USED ALONG THE LENGTH OF THE PROJECT WHERE THE GROUND SLOPES AWAY FROM THE SITE OR WHERE THERE IS POTENTIAL FOR SEDIMENT TO BE DIRECTED OFF-SITE. PARTICULAR CARE SHOULD BE USED WHEN THERE ARE WETLANDS OR WATERS OF THE U.S. ARE INVOLVED. SEDIMENT BARRIERS SHOULD BE USED AROUND THE PERIMETER OF STOCKPILE AREAS.

(f) SPACING OF SEDIMENT BARRIERS USED AS DITCH OR SWALE CHECKS/DAMS SHOULD BE BASED UPON THE HEIGHT OF THE BARRIER AND THE SLOPE OF THE DITCH OR SWALE.

(g) THE CONTRACTOR SHALL BE RESPONSIBLE FOR MODIFYING SOIL TRACKING PREVENTION SYSTEMS OR PROCEDURES AS NEEDED.

- (3) STRUCTURAL PRACTICES FOR EROSION AND SEDIMENT CONTROL

- (a) not used  
(b) not used

(c) SEDIMENT BASIN (CONTAINMENT SYSTEM) PURPOSE: A CONTAINMENT SYSTEM IS DESIGNED TO DETAIN AN ADEQUATE VOLUME OF RUNOFF, REDUCE THE VELOCITY OF FLOW THROUGH THE SYSTEM, ALLOW FOR SETTLEMENT OF SUSPENDED SOLIDS AND REGULATE THE DISCHARGE RATE FROM THE SEDIMENT BASIN.

(1) SEDIMENT BASINS MUST BE PLACED IN STRATEGIC LOCATIONS WITHIN THE ACTIVE AREAS OF CONSTRUCTION. CONTRIBUTING AREA AND SIZE OF TARGET SOIL PARTICLE WILL DICTATE WHETHER THE SEDIMENT BASIN WILL BE TYPE 1, TYPE 2 OR TYPE 3 SYSTEM.

(2) THE USE OF SMALLER PRE-SEDIMENTATION BASINS USED IN CONJUNCTION WITH LARGER PERMANENT RETENTION/DETENTION PONDS ARE EFFECTIVE IN CAPTURING LARGER VOLUMES OF SEDIMENTS. THIS TECHNIQUE REQUIRES PERIODICALLY SCHEDULED REMOVAL OF THE ACCUMULATED SEDIMENTS.

- (d) SEDIMENT BARRIERS (TEMPORARY CONSTRUCTION SITE BMP'S)

PURPOSE: SEDIMENT BARRIERS EITHER OBSTRUCT FLOW DR PREVENT THE PASSAGE OF WATER WHILE CONSTRUCTION ACTIVITIES OCCUR. SMALLER SEDIMENT BARRIERS MAY FUNCTION AS A SMALL SEDIMENT CONTAINMENT SYSTEM OR AS A METHOD TO REDUCE FLOW VELOCITY.

(1) THESE CONSTRUCTION BMP'S CAN INCLUDE SYNTHETIC BALES, STAKED SILT FENCE, TURBIDITY BARRIER, STORM SEWER INLET BARRIERS, ROCK BARRIERS, GEOSYNTHETIC BARRIERS, ETC.

(2) APPROPRIATE LOCATIONS INCLUDE SITE PERIMETER, BELOW DISTURBED AREAS SUBJECT TO SHEET AND RILL EROSION, BELOW THE TOE OF EXPOSED AND ERODIBLE SLOPES, ALONG THE TOE OF STREAM AND CHANNEL BANKS, AROUND DRAINS AND INLETS LOCATED IN LOWPOINTS OR THE DOWNSTREAM EDGE OF AREAS UNDERGOING VERTICAL OR BOX CULVERT CONSTRUCTION ACTIVITIES.

(3) INAPPROPRIATE LOCATIONS FOR THESE SAME MEASURES INCLUDE PARALLEL TO A HILLSIDE CONTOUR, IN CHANNELS WITH CONCENTRATED FLOW (UNLESS PROPERLY REINFORCED), UPSTREAM OR DOWNSTREAM OF CULVERTS WITH CONCENTRATED FLOW, IN FRONT OF OR AROUND INLETS ON A GRADE WITH CONCENTRATED FLOW OR IN FLOWING STREAMS.

- (e) FLOATING TURBIDITY BARRIER:

PURPOSE: USED IN PERMANENT BODIES OF WATER TO RETAIN SEDIMENT AND FLOATING DEBRIS FROM A CONSTRUCTION AREA SO THAT REMOVAL OR CONTAINMENT OF THE MATERIAL IS POSSIBLE. THEY ARE ALSO USED TO CONTROL MIGRATION OF SUSPENDED SEDIMENTS.

(1) TYPE I, LIGHT DUTY, IS USED WHERE THERE IS LITTLE OR NO CURRENT, NO WIND AND NO WAVE ACTION.

(2) TYPE II, MODERATE DUTY, IS USED WITH SOME CURRENT (<3.5 FT. PER SECOND) AND SOME EXPOSURE TO WIND.

(3) TYPE III, HEAVY DUTY, IS USED WITH GREATER CURRENT (3.5-5.0 FT. PER SECOND), MODERATE WIND AND WAVE ACTION.

(4) BARRIER MUST BE ATTACHED AT BOTH ENDS AND WEIGHTED ON THE BOTTOM.

(5) MULTIPLE LINES OF BARRIER MAY BE USED IN SOME CIRCUMSTANCES FOR ADDITIONAL PROTECTION.

(6) STANDARD PANELS FOR WATER DEPTHS ARE 5.0'. ADDITIONAL PANELS CAN BE USED FOR WATER DEPTHS > 5.0'.

- (f) STAKED TURBIDITY BARRIER:

PURPOSE: THIS ITEM IS COMMONLY USED IN AREAS WHERE CONTINUOUS CONSTRUCTION ACTIVITIES CHANGE THE NATURAL CONTOURS AND DRAINAGE RUNOFF PATTERNS.

(1) COMMONLY USED IN LAKES AND STREAMS AS A SEDIMENT CONTAINMENT SYSTEM. SHOULD NOT BE USED WHERE WATER CURRENTS MOVE THE CURTAIN AND DISLODGE COLLECTED SEDIMENTS.

(2) MAXIMUM DEPTH OF PANEL IS 3'-8".

(3) POST MUST BE A MINIMUM LENGTH OF 5.0' AND A MINIMUM OF 10" OF FABRIC MUST BE IMBEDDED IN THE GROUND.

- (g) INLET PROTECTION SYSTEM

PURPOSE: ANY OF A NUMBER OF SEDIMENT BARRIERS THAT EITHER PREVENT SEDIMENT FROM ENTERING AN INLET OR TRAP THE SEDIMENTS ONCE THEY ENTER THE INLET.

(1) TYPICAL APPLICATIONS INCLUDE ROCK BARRIERS, FRAME AND FILTER BARRIERS, CURB INLET "SUMP" BARRIER, CURB INLET DIVERSION BERM, CURB AND GUTTER SEDIMENT CONTAINMENT SYSTEM OR CURB INLET INSET.

(2) SHOULD BE INSTALLED ONLY WHEN CONSTRUCTION ACTIVITIES ARE ONGOING AND ONLY WHERE SUMP CONDITIONS EXIST.

(3) SHOULD NOT BE USED WHEN CONSTRUCTION IS COMPLETE AND SHOULD NOT BE USED IN AREAS WHERE FLOODING COULD ENCROACH INTO THE TRAVEL LANES.

(h) SOIL TRACKING PREVENTION DEVICE

PURPOSE: TEMPORARY STRUCTURES TO ASSIST WITH THE REMOVAL OF SOIL MATERIAL CAPTURED ON VEHICLE TIRES BEFORE THE VEHICLES ENTER THE ROADWAY.

(2) USE ADDITIONAL DEVICES FOR CONSTRUCTION AREAS THAT ARE NOT ADJACENT TO THE ROAD RIGHT OF WAY AND NO ACCESS IS PROVIDED THROUGH A SOIL TRACKING PREVENTION DEVICE.

III. OTHER CONTROLS:

- (1) WASTE DISPOSAL

(a) THE CONTRACTOR WILL PROVIDE LITTER CONTROL AND COLLECTION WITHIN THE PROJECT BOUNDARIES DURING CONSTRUCTION ACTIVITIES.

(b) ALL FERTILIZER AND CHEMICAL CONTAINERS SHALL BE DISPOSED OF BY THE CONTRACTOR ACCORDING TO EPA'S STANDARD PRACTICES AS DETAILED BY THE MANUFACTURER.

(c) NO SOLID MATERIALS, INCLUDING BUILDING AND CONSTRUCTION MATERIALS, SHALL BE DISCHARGED TO WETLANDS OR BURIED ON SITE.

(d) ALL SANITARY WASTE WILL BE COLLECTED FROM PORTABLE UNITS BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR AS REQUIRED BY STATE REGULATIONS.

- (2) OFF-SITE VEHICLE TRACKING - WILL BE CONTROLLED BY THE FOLLOWING METHODS:

(a) LOADED HAUL TRUCKS ARE TO BE COVERED BY A TARPAULIN AT ALL TIMES.

(b) EXCESS DIRT ON ROAD WILL BE REMOVED DAILY.

- (3) NON-STORMWATER (INCLUDING SPILL REPORTING)

THE CONTRACTOR WILL PROVIDE THE COUNTY WITH AN EROSION AND SEDIMENT CONTROL PLAN THAT WILL INCLUDE SPILL CONTAINMENT, REPORTING AND RESPONSES. THE PLAN SHALL SPECIFY WHAT MANAGEMENT PRACTICES AND CONTAINMENT METHODS WILL BE USED TO PREVENT POTENTIAL POLLUTANTS (FUEL, DRILLING MUD, LUBRICANTS, HERBICIDES, ETC.) FROM SPILLING ONTO THE SOIL OR INTO THE SURFACE WATERS. IF A SPILL DOES OCCUR, OR IF CONTAMINATED SOIL OR GROUNDWATER IS ENCOUNTERED, CONTACT ROB BROWN, ENVIRONMENTAL PROTECTION DIVISION MANAGER AT (941) 742-5980.

IV. MAINTENANCE:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE AND REPAIRS OF ALL EROSION AND SEDIMENT CONTROL DEVICES AND REMOVAL OF EROSION AND SEDIMENT CONTROL DEVICES WHEN NOTICE OF TERMINATION IS MAILED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND PROPER DISPOSAL OF SEDIMENT BUILDUP THROUGH THE LIFE OF THE INSTALLED EROSION AND SEDIMENT CONTROL DEVICES.

- (1) ALL CONTROL MEASURES WILL BE MAINTAINED DAILY BY THE CONTRACTOR AND ALL MEASURES WILL BE MAINTAINED IN GOOD WORKING ORDER. IF A REPAIR IS NECESSARY, IT WILL BE INITIATED WITHIN 24 HOURS OF NOTICE.

(2) SODDING & HYDROSEED AREAS WILL BE INSPECTED FOR BARE SPOTS, WASHOUTS AND HEALTHY GROWTH.

(3) SYNTHETIC BALES SHALL BE MAINTAINED TO ENSURE THEIR USEFULNESS AND NOT BLOCK OR IMPEDE STORMWATER FLOW OR DRAINAGE.

(4) STABILIZED CONSTRUCTION ENTRANCES SHALL BE MAINTAINED TO PREVENT CLOGGING OF ROCK BEDDING WHICH MAY IMPEDE THE USEFULNESS OF THE STRUCTURE.

V. INSPECTION:

- (1) THE CONTRACTOR SHALL INSTALL AND MAINTAIN RAIN GAUGES ON THE PROJECT SITE AND RECORD WEEKLY RAINFALL IN ACCORDANCE WITH THE NPDES PERMIT.

(2) ALL EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSPECTED DAILY BY CONTRACTOR'S PERSONNEL WHO ARE F.D.E.P. CERTIFIED STORMWATER MANAGEMENT INSPECTORS.

(3) THE CONTRACTOR SHALL COMPLETE ALL SWPPP INSPECTION REPORT FORMS REQUIRED FOR THE NPDES PERMIT.

VI. TRACKING AND REPORTING:

(1) THE CONTRACTOR SHALL SUBMIT A WEEKLY REPORT TO THE COUNTY DOCUMENTING THE DAILY INSPECTIONS AND MAINTENANCE OR REPAIRS TO THE EROSION AND SEDIMENT CONTROL DEVICES. THE CONTRACTOR SHALL MAINTAIN ALL REQUIRED REPORTS AND COMPLETE ALL SWPPP INSPECTION FORMS.

(2) PREPARATION OF ALL THE CONTRACTOR'S REPORTS OF INSPECTION, MAINTENANCE AND REPAIRS REQUIRED FOR THE CONTROL AND ABATEMENT OF EROSION AND WATER POLLUTION, SHALL BE INCLUDED IN THE INDIVIDUAL COSTS OF THE EROSION AND SEDIMENT CONTROL DEVICES OR LUMP SUM COST OF THE PROJECT.

(3) THE CONTRACTOR SHALL USE THE SWPPP CONSTRUCTION INSPECTION REPORT FORM # 650-040-03, FOR DAILY INSPECTIONS.

ENVIRONMENTAL

1. CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF ALL SEDIMENT AND EROSION CONTROL (SEC) DEVICES (E.G., BARRIERS, SEDIMENT TRAPS/BASINS, VEGETATIVE BUFFERS, ETC.) AS SPECIFIED IN THE FINAL APPROVED PLANS FOR THE PROJECT. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL SEC DEVICES UTILIZED DURING THE PROJECT, AS WELL AS INSTALLATION & MAINTENANCE OF ANY ADDITIONAL MEASURES DEEMED NECESSARY DURING PROJECT IMPLEMENTATION, TO PREVENT EROSION AND OFF-SITE SEDIMENT MIGRATION. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR REMOVAL AND PROPER DISPOSAL OF ALL SEC DEVICES UPON CONCLUSION OF THE PROJECT, AND UPON ADEQUATE STABILIZATION OF DISTURBED SOILS.

DRAINAGE AND GRADING

2. TO PREVENT SEDIMENTARY RUNOFF DURING CONSTRUCTION, STAKED HAY BALES, STAKED SILT SCREENS OR INLET DEBRIS CONTROL SCREENS ARE TO BE PLACED AT STORM INLETS, OUTFALL LOCATIONS AND ADJACENT PROPERTY LINES AS REQUIRED PRIOR TO ANY CONSTRUCTION ACTIVITIES. SEDIMENT AND EROSION CONTROL DEVICES SHALL BE INSTALLED AND THEN VERIFIED/INSPECTED BY MANATEE COUNTY INFRASTRUCTURE INSPECTIONS RESOURCES DIVISION (708-7450) PRIOR TO COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE SEDIMENTATION BARRIERS IN A WORKING MANNER FOR THE DURATION OF CONSTRUCTION AND SHOULD BE CHECKED DAILY. SILTATION ACCUMULATIONS GREATER THAN THE LESSER OF 12 INCHES OR ONE-HALF OF THE DEPTH OF THE SEDIMENTATION BARRIER SHALL BE IMMEDIATELY REMOVED AND REPLACED IN UPLAND AREAS. IN ADDITION TO SPECIFIED EROSION CONTROL LOCATIONS, THE CONTRACTOR SHALL PERFORM DAILY SITE INSPECTIONS FOR POTENTIAL EROSION PROBLEMS. IF PROBLEMS OCCUR, THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING APPROPRIATE EROSION CONTROL IMMEDIATELY. AN INSPECTION LOG SHALL BE MAINTAINED AND AVAILABLE ONSITE AT ALL TIMES. STORMWATER TREATMENT FACILITIES INCLUDING OUTFALL ARE TO BE CONSTRUCTED EARLY IN SITE DEVELOPMENT, WITH NO OFF-SITE UNTREATED RUN-OFF OCCURRING DURING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING TEMPORARY EROSION CONTROL DEVICES FOLLOWING COMPLETION OF ALL CONSTRUCTION AND FINAL STABILIZATION.

3. TOPOGRAPHIC AND PROPERTY SURVEYS GIVING LOT SIZE, GROUND ELEVATIONS, OBSTRUCTIONS ON SITE, LOCATIONS AND DEPTHS OF SEWERS, CONDUITS, PIPES, EXISTING STRUCTURES, CURBS, PAVEMENTS, TRACTS, AND SOIL BORING DATA GIVING THE NATURE OF GROUND AND SUBSURFACE CONDITIONS HAVE BEEN OBTAINED FROM RELIABLE SOURCES. THE ACCURACY OF THIS DATA IS NOT GUARANTEED, AND IS FURNISHED SOLELY AS AN ACCOMMODATION TO THE CONTRACTOR. USE OF THIS DATA SHALL BE MADE AT THE CONTRACTOR'S DISCRETION. NO ADDITIONAL COMPENSATION WILL BE GRANTED DUE TO THE CONTRACTOR'S LACK OF KNOWLEDGE OF SITE CONDITIONS. PRIOR TO BID SUBMISSION, THE CONTRACTOR SHALL CONDUCT ANY ADDITIONAL SURVEYS AND SOILS TESTS HE MAY DEEM NECESSARY TO VERIFY THE ACCURACY OF THE INFORMATION PROVIDED.

4. DURING DEWATERING OPERATIONS, THE CONTRACTOR SHALL NOT DISCHARGE DIRECTLY TO RECEIVING WATERS, EXISTING CONVEYANCES TO RECEIVING WATERS, OR WETLAND SYSTEMS. TEMPORARY SEDIMENT BASINS, TRAPS, OR SILTATION REDUCTION DEVICES SHALL BE UTILIZED TO COLLECT THE DISCHARGE FROM DEWATERING ACTIVITIES TO ELIMINATE THE POTENTIAL FOR OFFSITE SEDIMENT TRANSPORT AND TO ENSURE THAT DIRECT DISCHARGE DOES NOT OCCUR.

CONSTRUCTION

5. ALL MATERIALS NOT CLAIMED BY THE COUNTY SHALL BECOME PROPERTY OF THE CONTRACTOR, AND SHALL BE DISPOSED OF BY THE CONTRACTOR IN AREAS PROVIDED BY THE CONTRACTOR. THIS WORK SHALL BE INCLUDED IN AND PAID UNDER THE PAY ITEM CLEARING AND GRUBBING.
6. ALL EXISTING FENCES DISTURBED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED AND REINSTALLED BY THE CONTRACTOR AT NO ADDITIONAL COST.
7. PAYMENT FOR ALL WORK NECESSARY TO REMOVE AND RELOCATE HOG WIRE/CHAIN LINK FENCE SHALL BE INCLUDED IN CLEARING AND GRUBBING.

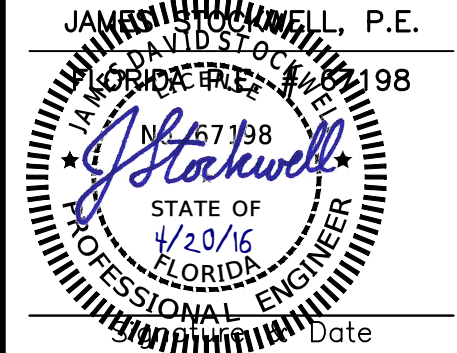


PUBLIC WORKS DEPARTMENT  
ENGINEERING SERVICES  
1022 26th Avenue East, Bradenton, FL 34208

TARA 20 FORCE MAIN  
PARALLEL TO LENA ROAD  
STORM WATER POLLUTION PREVENTION NOTES

| DATE                 |  |  |  |  |  |  |
|----------------------|--|--|--|--|--|--|
| BY                   |  |  |  |  |  |  |
| REVISION DESCRIPTION |  |  |  |  |  |  |
| NO.                  |  |  |  |  |  |  |

|                |                   |
|----------------|-------------------|
| PROJECT #      | 6079881           |
| SURVEY #       | 00-43536          |
| SEC./TWN./RGE  | 1,12&13/3518      |
| VERT. SCALE    | NA                |
| HORZ. SCALE    | NA                |
| VERTICAL DATUM | NGVD 29           |
|                | BY DATE           |
| SURVEYED       | ZNS ENGR 01/22/14 |
| DESIGNED       | JS 03/2014        |
| DRAWN          | BR 03/2014        |

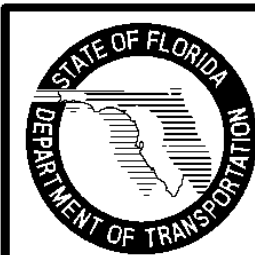
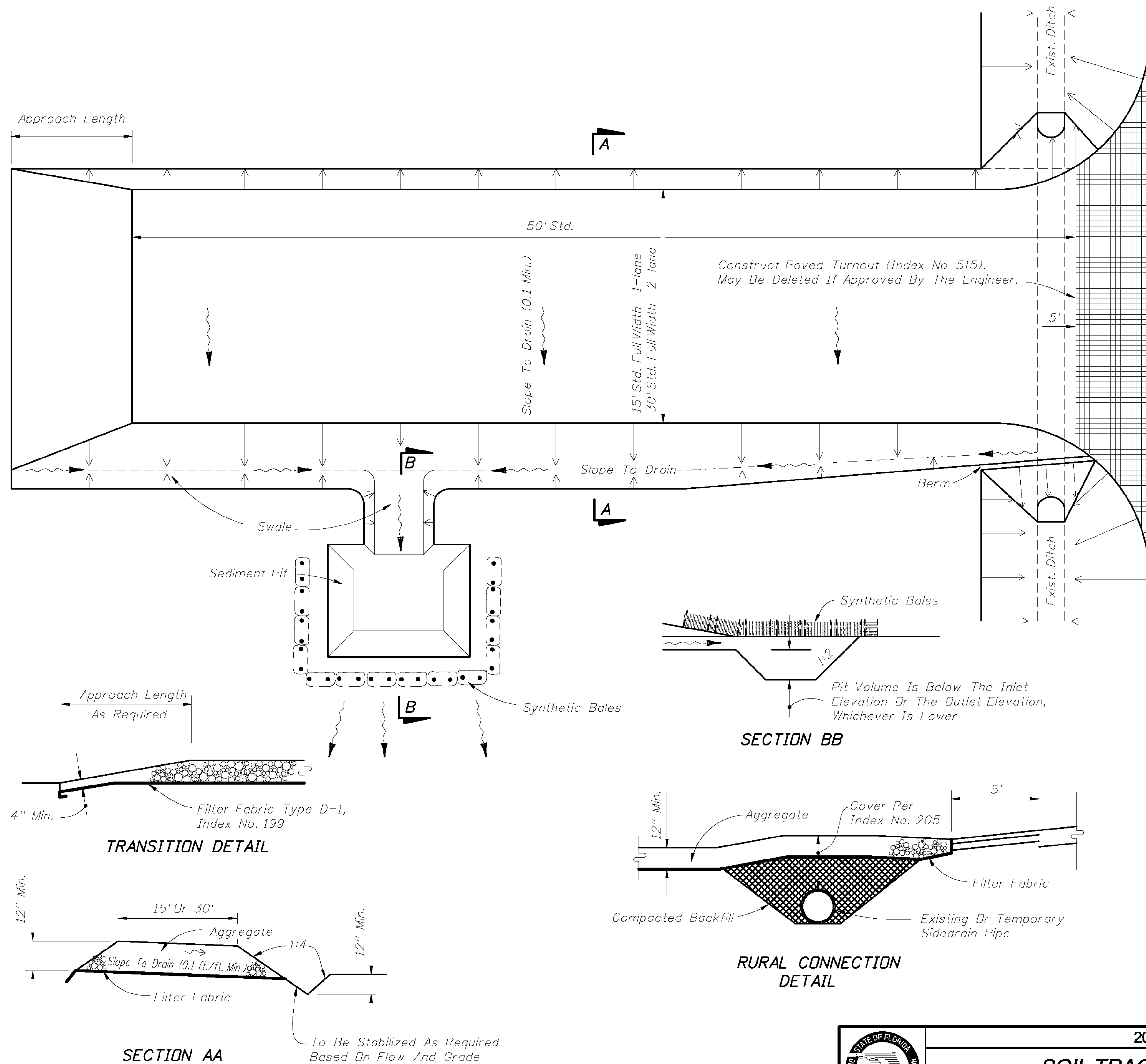
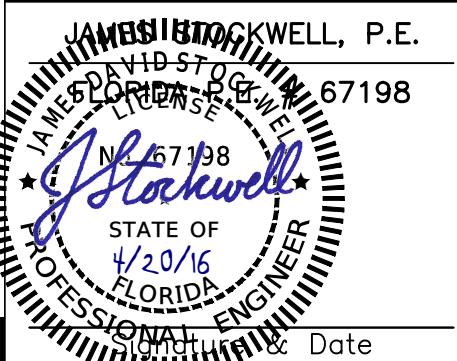




TARA 20 FORCE MAIN  
PARALLEL TO LENA ROAD  
STORM WATER POLLUTION PREVENTION NOTES

| NO. | REVISION DESCRIPTION | BY | DATE |
|-----|----------------------|----|------|
|     |                      |    |      |
|     |                      |    |      |
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|                |                   |
|----------------|-------------------|
| PROJECT #      | 6079881           |
| SURVEY #       | 00-43536          |
| SEC./TWN./RGE  | 1,12&13/3518      |
| VERT. SCALE    | NA                |
| HORZ. SCALE    | NA                |
| VERTICAL DATUM | NGVD 29           |
|                | BY DATE           |
| SURVEYED       | ZNS ENGR 01/22/14 |
| DESIGNED       | JS 03/2014        |
| DRAWN          | BR 03/2014        |



2008 FDOT Design Standards

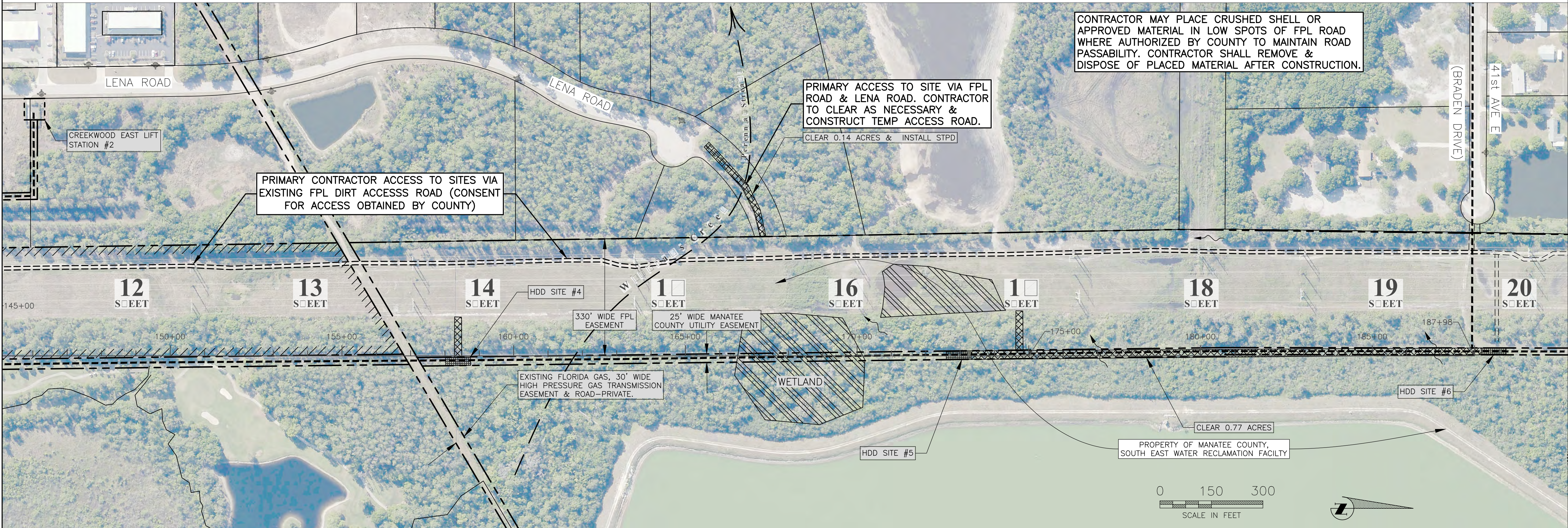
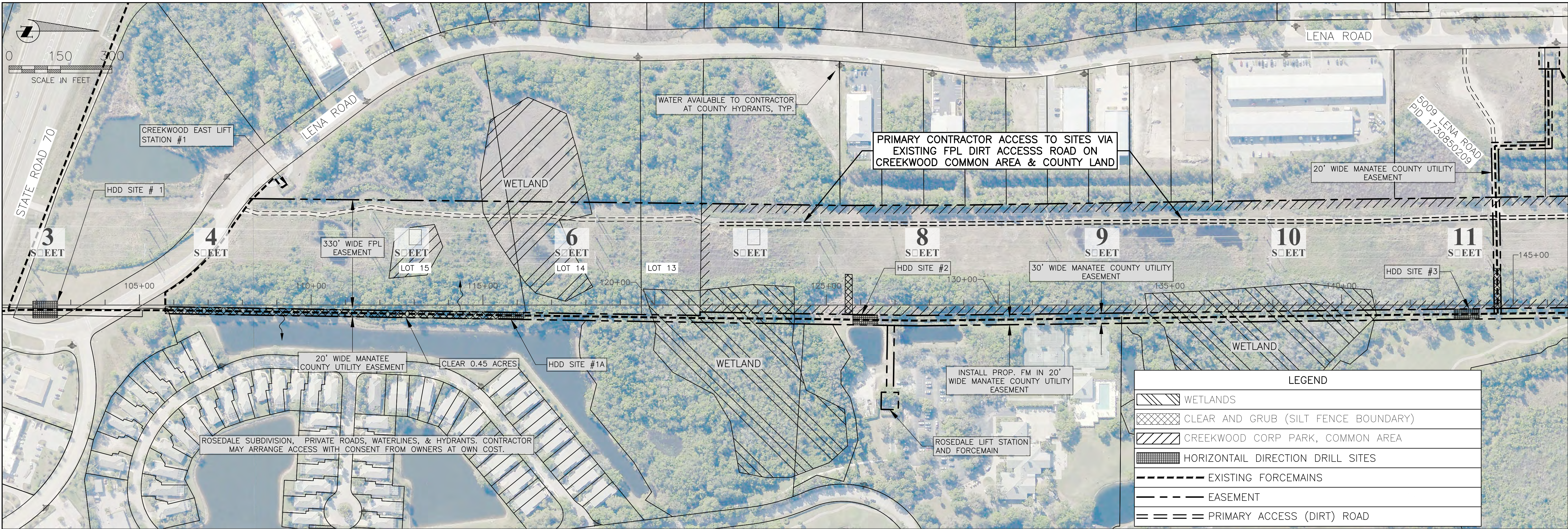
SOIL TRACKING PREVENTION DEVICE  
TYPE A


Last  
Revision  
07/01/07

Sheet No.  
1 of 1

Index No.  
106







PUBLIC WORKS DEPARTMENT  
ENGINEERING SERVICES  
1022 26th Avenue East, Bradenton, FL 34208

**TARA 20 FORCE MAIN**

**PARALLEL TO LENA ROAD**

**CONSTRUCTION ACCESS & KE S EET**

| NO. | REVISION DESCRIPTION | BY | DATE |
|-----|----------------------|----|------|
|     |                      |    |      |
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|                |                   |
|----------------|-------------------|
| PROJECT #      | 6079881           |
| SURVEY #       | 00-43536          |
| SEC./TWN./RGE  | 1,12&13/3518      |
| VERT. SCALE    | NA                |
| HORZ. SCALE    | 1"=150'           |
| VERTICAL DATUM | NGVD 29           |
| SURVEYED       | BY DATE           |
| DESIGNED       | ZNS ENGR 01/22/14 |
| DRAWN          | JS 03/2014        |
| DRAWN          | BR 03/2014        |

JAMES DRYDEN, P.E.

67198

67198

STATE OF FLORIDA

PROFESSIONAL ENGINEER

4/20/16

SHEET 23 OF 26







COPYRIGHT 2010 MANATEE COUNTY GOVERNMENT | S:\PWD\_Engineering\Share\Util\_Eng\_Design\PROJ\~SAR\_SMR\_Proj\FM - Lena Road\DWGS\LRN.dwg,25, 4/20/2016 9:13 AM Bruce Robertson, 1:1, ANSI full bleed D (34.00 x 22.00 inches)

REQUIRED LENGTH OF RESTRAINED JOINT PIPE  
FOR DR18 PVC PIPE

| MAIN<br>PIPE<br>SIZE | HORIZ. BENDS |     |       | TEES               |                    |                    |                   |                   |                   |                    |                    | REDUCERS           |     |     |     |        |     | PLUGS & VALVES |  |  |
|----------------------|--------------|-----|-------|--------------------|--------------------|--------------------|-------------------|-------------------|-------------------|--------------------|--------------------|--------------------|-----|-----|-----|--------|-----|----------------|--|--|
|                      | 90°          | 45° | 22.5° | SIZE               |                    |                    |                   | LENGTH            |                   |                    |                    | SIZE               |     |     |     | LENGTH |     |                |  |  |
|                      |              |     |       | X24                | X16                | X12                | X10               | X24               | X20               | X16                | X12                | X10                | X24 | X20 | X16 | X12    | X10 |                |  |  |
| 24                   | 90°          | 38' | 18.5' | X24 <sub>169</sub> | X16 <sub>120</sub> | X12 <sub>132</sub> | X10 <sub>96</sub> | X24 <sub>30</sub> | X20 <sub>64</sub> | X16 <sub>117</sub> | X12 <sub>80</sub>  | X10 <sub>158</sub> |     |     |     |        | 214 |                |  |  |
| 20                   | 78           | 32  | 16    | X20 <sub>141</sub> | X16 <sub>101</sub> | X12 <sub>53</sub>  | X10 <sub>48</sub> | X20 <sub>1</sub>  | X16 <sub>65</sub> | X12 <sub>115</sub> | X10 <sub>149</sub> |                    |     |     |     |        | 184 |                |  |  |
| 16                   | 66           | 27  | 13    | X16 <sub>111</sub> | X12 <sub>67</sub>  | X10 <sub>41</sub>  | X8 <sub>12</sub>  |                   | X16 <sub>64</sub> | X12 <sub>107</sub> | X8 <sub>111</sub>  |                    |     |     |     |        | 151 |                |  |  |
| 12                   | 52           | 22  | 10    | X12 <sub>80</sub>  | X10 <sub>56</sub>  | X8 <sub>51</sub>   | X6 <sub>1</sub>   |                   | X10 <sub>58</sub> | X8 <sub>62</sub>   | X6 <sub>81</sub>   |                    |     |     |     |        | 118 |                |  |  |
| 10                   | 44           | 18  | 9     | X10 <sub>63</sub>  | X8 <sub>40</sub>   | X6 <sub>7</sub>    |                   |                   | X8 <sub>38</sub>  | X6 <sub>61</sub>   | X4 <sub>86</sub>   |                    |     |     |     |        | 100 |                |  |  |
| 8                    | 37           | 15  | 7     | X8 <sub>49</sub>   | X6 <sub>18</sub>   | X4 <sub>1</sub>    |                   |                   | X6 <sub>35</sub>  | X4 <sub>60</sub>   |                    |                    |     |     |     |        | 83  |                |  |  |
| 6                    | 29           | 12  | 6     | X6 <sub>29</sub>   | X4 <sub>1</sub>    |                    |                   |                   | X4 <sub>33</sub>  |                    |                    |                    |     |     |     |        | 63  |                |  |  |
| 4                    | 21           | 8   | 4     | X4 <sub>12</sub>   |                    |                    |                   |                   |                   |                    |                    |                    |     |     |     |        | 45  |                |  |  |

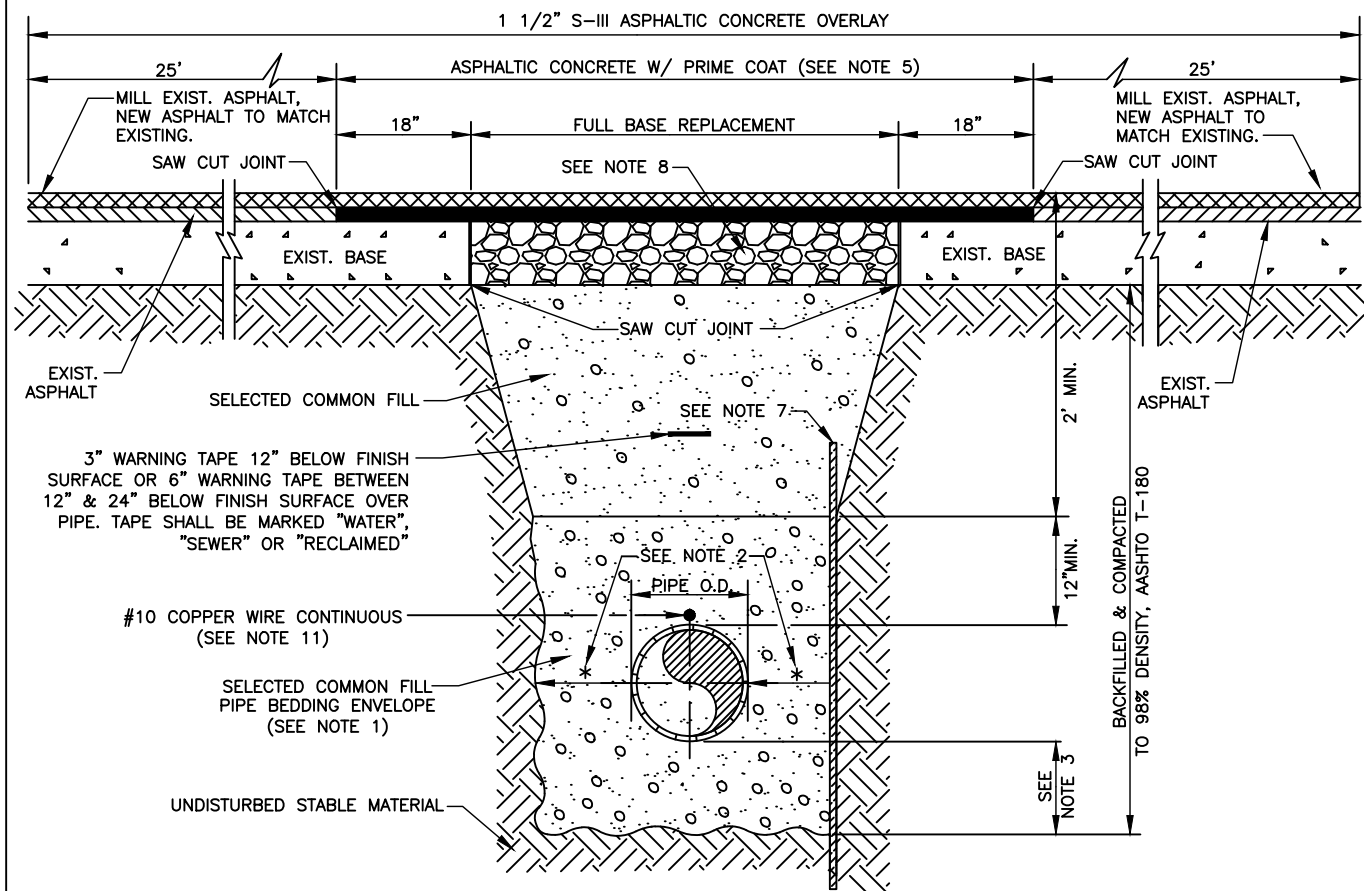
NOTES:

- RESTRAIN 11.25" BENDS 50% OF LENGTH FOR 22.5° BENDS.
- ALL VALVES AND FITTINGS SHALL BE RESTRAINED TO THE CONNECTING SECTIONS OF PIPE.
- ALL ISOLATION VALVES MUST BE PROPERLY ANCHORED OR RESTRAINED TO RESIST A 180 PSI TEST PRESSURE IN EITHER DIRECTION.
- PIPE SIZES ARE GIVEN IN INCHES.
- RESTRAINED PIPE LENGTHS ARE GIVEN IN FEET.
- LENGTHS SHOWN ARE FOR A TEST PRESURE OF 180 PSI.
- THE RESTRAINED LENGTHS SHOWN IN THESE TABLES ARE BASED ON SOIL CLASSIFICATION SP WITH AWWA TYPE 3 TRENCH CONDITIONS, 180 PSI TEST PRESSURE, 3 FEET OF COVER AND 1.5 FACTOR OF SAFETY. ACTUAL BURY CONDITIONS MUST BE DETERMINED BY THE ENGINEER OF RECORD AND THE RESTRAINED LENGTHS MODIFIED ACCORDINGLY.
- RESTRAINED LENGTHS TO BE APPLIED TO PIPELINES PER DETAIL RESTRAINED LENGTHS FOR PIPE.

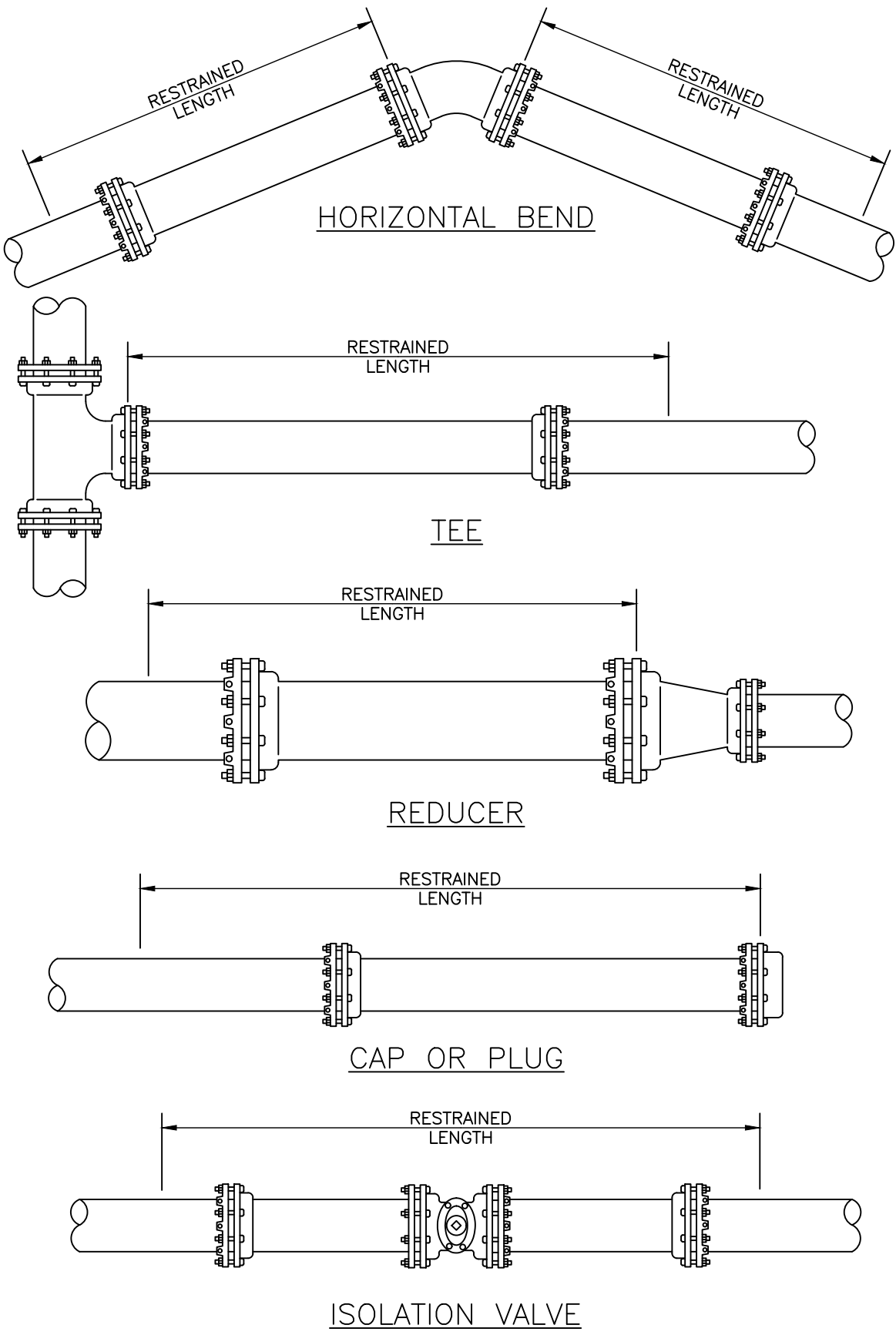
| MANATEE COUNTY<br>PUBLIC WORKS DEPARTMENT |         |                  | RESTRAINED<br>LENGTHS FOR PVC<br>PIPE | UG-8 |
|---|---------|------------------|---------------------------------------|------|
| REV. BY                                   | DATE    |                  |                                       |      |
| CLB/BR                                    | 11/7/10 | JANUARY 7, 2014  |                                       |      |
|   |         | DATE OF APPROVAL |                                       |      |

NOTES:

- USE OF TYPE A-2 AND A-3 PIPE BEDDING TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
- PROVIDE ADEQUATE CLEARANCE TO PLACE AND COMPACT STAGE 1 BEDDING MATERIAL IN TRENCH AREA BELOW PIPE SPRINGLINE. PIPE EMBEDMENT MUST BE COMPACTED OUT TO THE TRENCH WALL OR 2.5 TIMES THE PIPE OD, WHICHEVER IS LESS.
- TYPICALLY 4" TO 6".
- PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
- ASPHALTIC CONCRETE STRUCTURE COURSE WITH PRIME COAT SHALL BE THE SAME DEPTH AND TYPE AS EXISTING OR A MINIMUM OF 1 1/4 INCH, WHICHEVER IS GREATER.
- MILL 25" BACK FROM TRENCH SAW CUT. ADJUST MILLING PER INDIVIDUAL SITE TO NOT IMPACT BASE. BUTT JOINT TO EXIST ASPHALT. FINAL OVERLAY LIMITS ARE FROM EDGE OF PAVEMENT TO EDGE OF PAVEMENT. FINAL OVERLAY TO MATCH EXISTING WITH NO DISCERNABLE "BUMP" AT JOINT. MILLING LIMITS THAT IMPACT INTERSECTION SHALL BE ADDRESSED ON A CASE BY CASE BASIS AND APPROVED BY MANATEE COUNTY.
- SHEETING ORDERED LEFT IN PLACE TO BE CUT OFF 24" BELOW FINISHED GRADE OR 12" BELOW SUBGRADE.
- BASE SHALL BE 8" MINIMUM THICKNESS CRUSHED CONCRETE.
- TEMPORARY PATCHES WILL BE INSTALLED TO PROVIDE A SMOOTH ALL WEATHER SURFACE AT ALL TIMES. PERMANENT REPLACEMENT TO BE MADE AS SOON AS POSSIBLE.
- RESTORE SIGNAGE & MARKING WITH THERMOPLASTIC PER FDOT STANDARDS, LATEST EDITION.
- TRACER WIRE NOT REQUIRED FOR GRAVITY SEWERS.
- NOTES 5, THRU 10, ARE MINIMUM REQUIREMENTS FOR A TRENCH IN A ROAD. REFER TO LATEST EDITION OF MANATEE COUNTY HIGHWAY AND TRAFFIC STANDARDS FOR ADDITIONAL REQUIREMENTS.



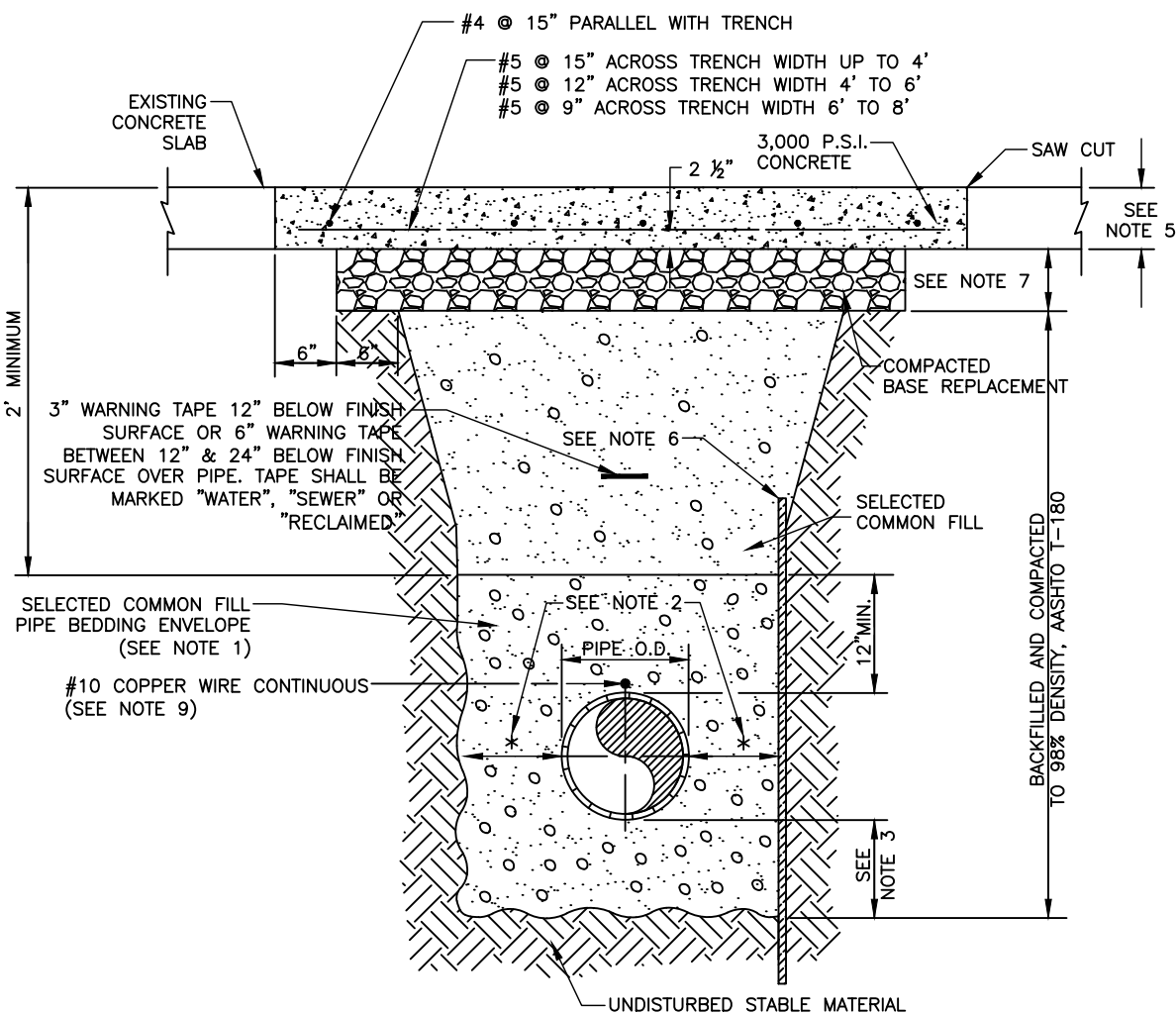
| MANATEE COUNTY<br>PUBLIC WORKS DEPARTMENT |       |                  | TRENCH WITH ASPHALT<br>PAVEMENT SURFACE TYPE<br>A-1 PIPE BEDDING | UG-12 |
|---|-------|------------------|--|-------|
| REV. BY                                   | DATE  |                  |  |       |
| WRT/KE                                    | 03/11 | JANUARY 7, 2014  |  |       |
|   |       | DATE OF APPROVAL |  |       |



| MANATEE COUNTY<br>PUBLIC WORKS DEPARTMENT |       |                  | RESTRAINED<br>LENGTHS FOR PIPE | UG-10 |
|---|-------|------------------|--------------------------------|-------|
| REV. BY                                   | DATE  |                  |                                |       |
| CLB/BR                                    | 11/10 | JANUARY 7, 2014  |                                |       |
|   |       | DATE OF APPROVAL |                                |       |

NOTES:

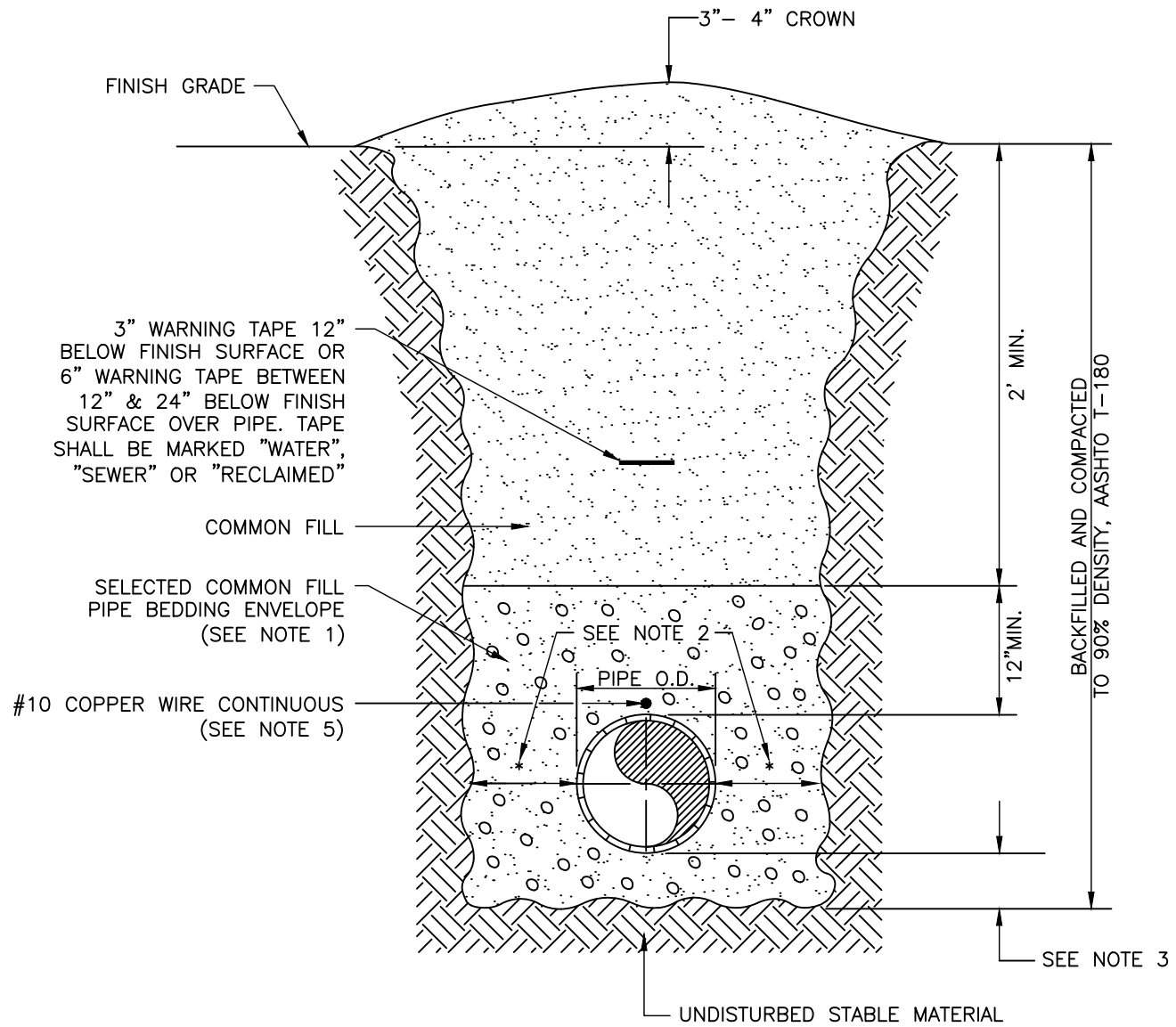
- USE OF TYPE A-2 AND A-3 PIPE BEDDING TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
- PROVIDE ADEQUATE CLEARANCE TO PLACE AND COMPACT STAGE 1 BEDDING MATERIAL IN TRENCH AREA BELOW PIPE SPRINGLINE. PIPE EMBEDMENT MUST BE COMPACTED OUT TO THE TRENCH WALL OR 2.5 TIMES THE PIPE OD, WHICHEVER IS LESS.
- TYPICALLY 4" TO 6".
- PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
- THICKNESS TO MATCH EXISTING OR BE 8" MINIMUM, WHICHEVER IS GREATER.
- SHEETING ORDERED LEFT IN PLACE TO BE CUT OFF 24" BELOW FINISHED GRADE OR 12" BELOW SUBGRADE.
- BASE SHALL BE 8" MINIMUM THICKNESS CRUSHED CONCRETE.
- TEMPORARY PATCHES WILL BE INSTALLED TO PROVIDE A SMOOTH ALL WEATHER SURFACE AT ALL TIMES. PERMANENT REPLACEMENT TO BE MADE AS SOON AS POSSIBLE.
- TRACER WIRE NOT REQUIRED FOR GRAVITY SEWERS.
- NOTES 5, THRU 8, ARE MINIMUM REQUIREMENTS. REFER TO MANATEE COUNTY HIGHWAY AND TRAFFIC STANDARDS FOR ADDITIONAL REQUIREMENTS.



| MANATEE COUNTY<br>PUBLIC WORKS DEPARTMENT |       |                  | TRENCH WITH CONCRETE<br>PAVEMENT SURFACE TYPE<br>A-1 PIPE BEDDING | UG-13 |
|---|-------|------------------|---|-------|
| REV. BY                                   | DATE  |                  |   |       |
| CLB/BR                                    | 11/10 | JANUARY 7, 2014  |   |       |
|   |       | DATE OF APPROVAL |   |       |

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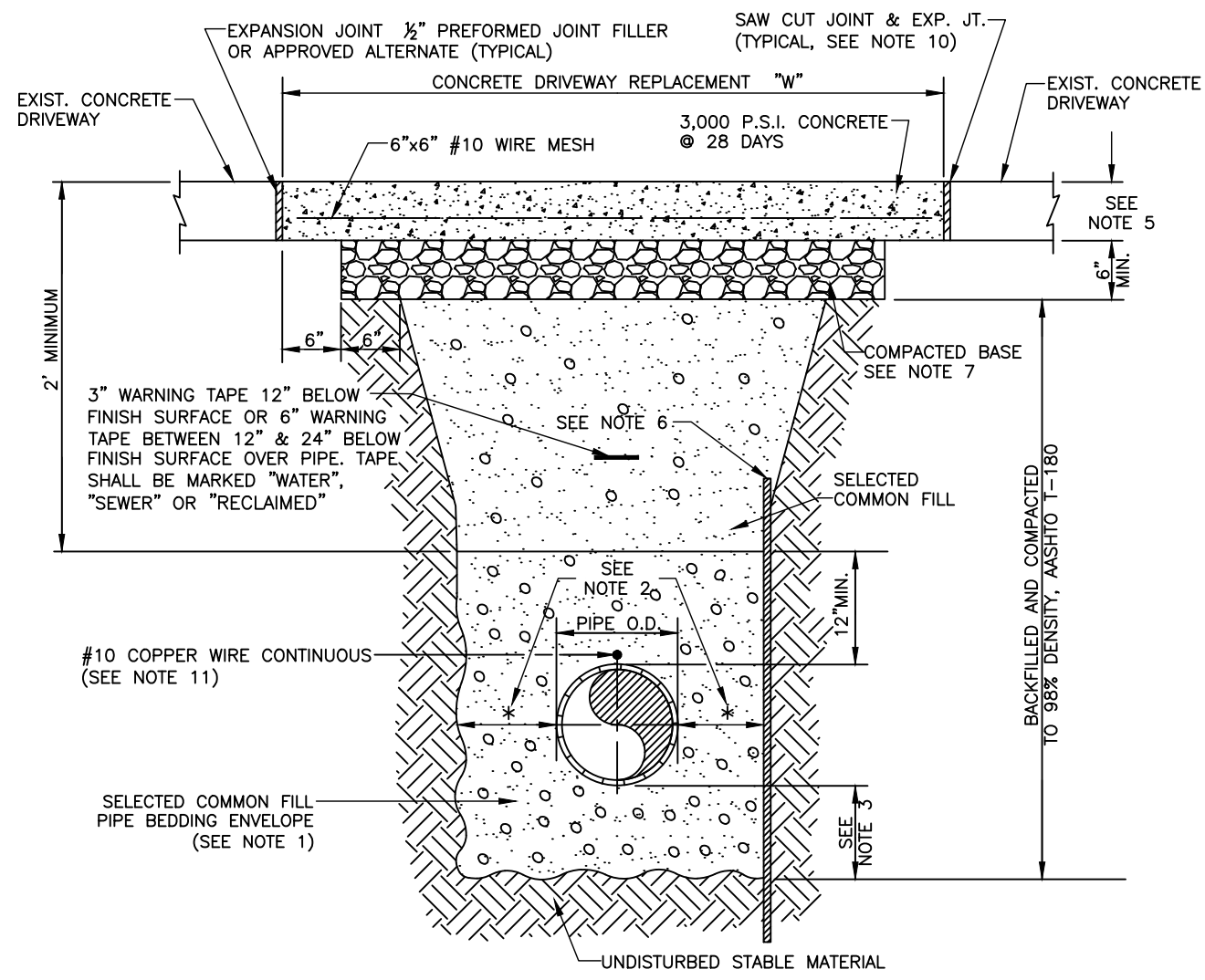
- USE OF TYPE A-2 AND A-3 PIPE BEDDING TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
- PROVIDE ADEQUATE CLEARANCE TO PLACE AND COMPACT STAGE 1 BEDDING MATERIAL IN TRENCH AREA BELOW PIPE SPRINGLINE. PIPE EMBEDMENT MUST BE COMPACTED OUT TO THE TRENCH WALL OR 2.5 TIMES THE PIPE OD, WHICHEVER IS LESS.
- TYPICALLY 4" TO 6".
- PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
- TRACER WIRE NOT REQUIRED FOR GRAVITY SEWERS.



| MANATEE COUNTY<br>PUBLIC WORKS DEPARTMENT |       |                  | TRENCH WITH<br>UNIMPROVED SURFACE<br>TYPE A-1 PIPE BEDDING | UG-11 |
|---|-------|------------------|--|-------|
| REV. BY                                   | DATE  |                  |  |       |
| WRT/KE                                    | 03/11 | JANUARY 7, 2014  |  |       |
|   |       | DATE OF APPROVAL |  |       |

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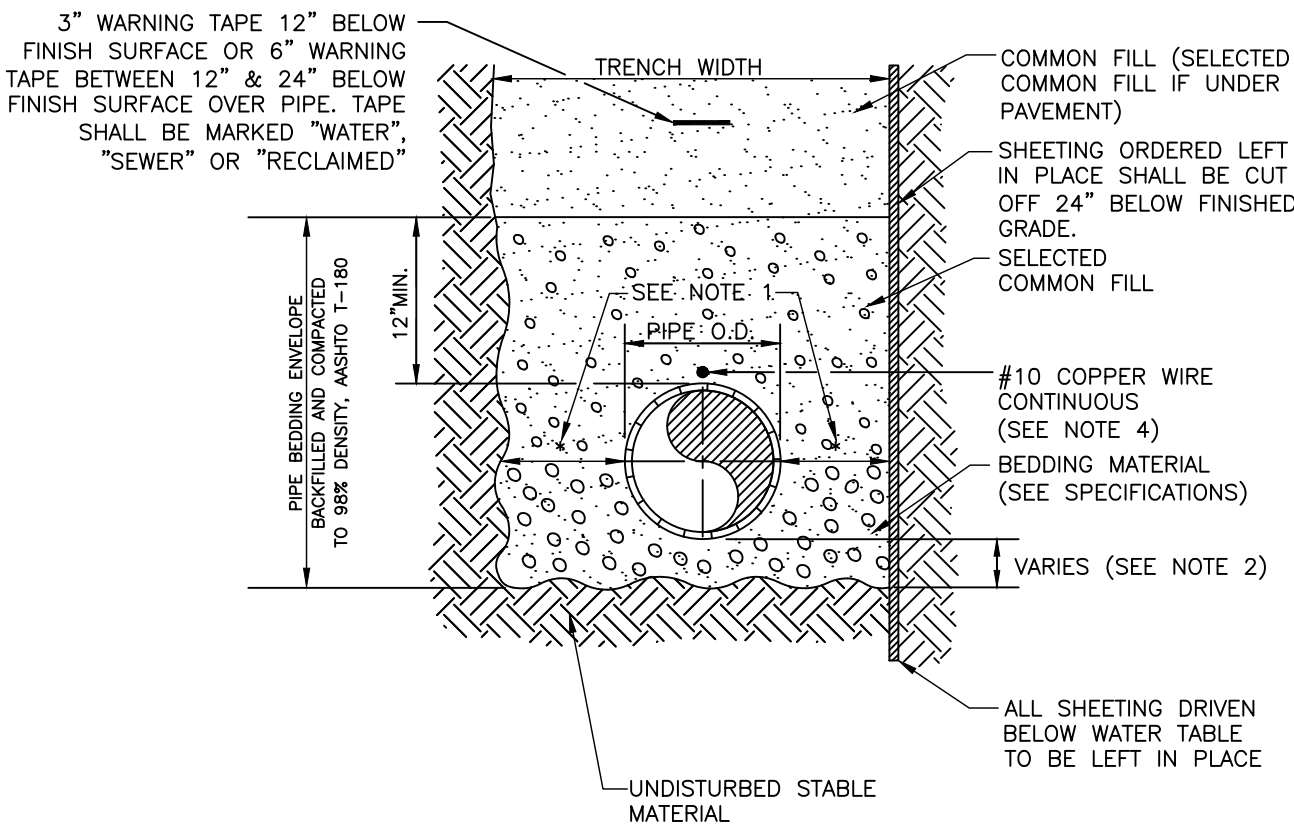
- USE OF TYPE A-2 AND A-3 PIPE BEDDING TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
- PROVIDE ADEQUATE CLEARANCE TO PLACE AND COMPACT STAGE 1 BEDDING MATERIAL IN TRENCH AREA BELOW PIPE SPRINGLINE. PIPE EMBEDMENT MUST BE COMPACTED OUT TO THE TRENCH WALL OR 2.5 TIMES THE PIPE OD, WHICHEVER IS LESS.
- TYPICALLY 4" TO 6".
- PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
- THICKNESS TO MATCH EXISTING OR BE 6" MINIMUM, WHICHEVER IS GREATER.
- SHEETING ORDERED LEFT IN PLACE TO BE CUT OFF 24" BELOW FINISHED GRADE OR 12" BELOW SUBGRADE.
- BASE SHALL BE COMPACTED 6" MINIMUM THICKNESS OF APPROVED MATERIAL.
- DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST ADOPTED CONSTRUCTION STANDARDS OF THE MANATEE COUNTY TRANSPORTATION DEPARTMENT.
- IF THE DRIVEWAY IS 12" OR WIDER, SAWCUT AN EXPANSION JOINT ALONG THE CENTER OF THE DRIVEWAY (3/8" WIDE AND 1/2" DEEP) AFTER THE CONCRETE HAS SET.
- IF THERE IS AN EXISTING EXPANSION JOINT WITHIN 3' OF THE PROPOSED JOINT, EXTEND DRIVEWAY REPLACEMENT TO THE EXISTING JOINT.
- TRACER WIRE NOT REQUIRED FOR GRAVITY SEWERS.



| MANATEE COUNTY<br>PUBLIC WORKS DEPARTMENT |       |                  | TRENCH WITH CONCRETE<br>DRIVEWAY SURFACE TYPE<br>A-1 PIPE BEDDING | UG-14 |
|---|-------|------------------|---|-------|
| REV. BY                                   | DATE  |                  |   |       |
| CLB/BR                                    | 11/10 | JANUARY 7, 2014  |   |       |
|   |       | DATE OF APPROVAL |   |       |

NOTES:

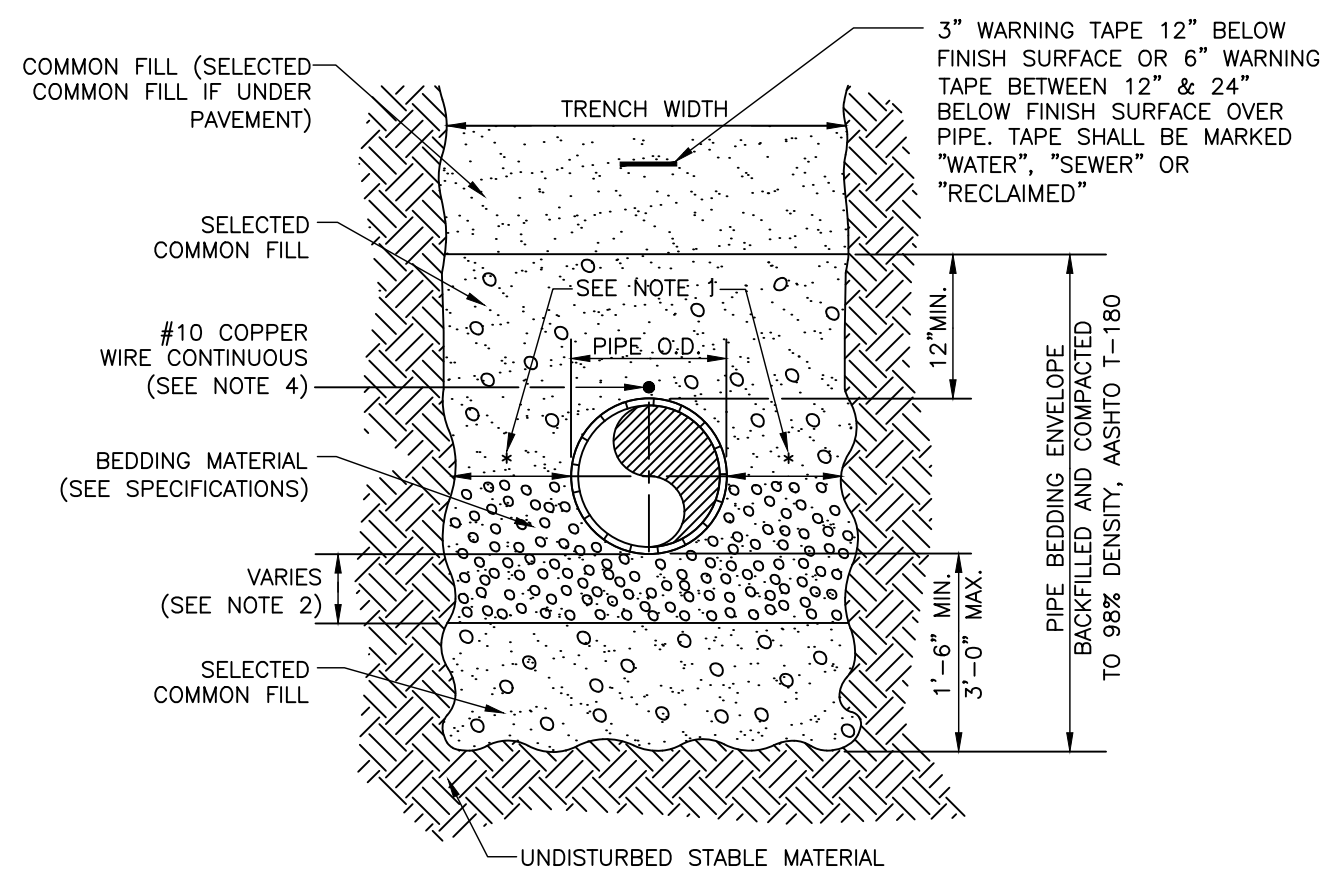
- PROVIDE ADEQUATE CLEARANCE TO PLACE AND COMPACT STAGE 1 BEDDING MATERIAL IN TRENCH AREA BELOW PIPE SPRINGLINE. PIPE EMBEDMENT MUST BE COMPACTED OUT TO THE TRENCH WALL OR 2.5 TIMES THE PIPE OD, WHICHEVER IS LESS.
- TYPICALLY 4" TO 6".
- PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
- TRACER WIRE NOT REQUIRED FOR GRAVITY SEWERS.



| MANATEE COUNTY<br>PUBLIC WORKS DEPARTMENT |         |                  | TRENCH WITH TYPE<br>A-2 PIPE BEDDING | UG-15 |
|---|---------|------------------|--------------------------------------|-------|
| REV. BY                                   | DATE    |                  |                                      |       |
| CLB/BR                                    | 11/7/10 | JANUARY 7, 2014  |                                      |       |
|   |         | DATE OF APPROVAL |                                      |       |

NOTES:

- PROVIDE ADEQUATE CLEARANCE TO PLACE AND COMPACT STAGE 1 BEDDING MATERIAL IN TRENCH AREA BELOW PIPE SPRINGLINE. PIPE EMBEDMENT MUST BE COMPACTED OUT TO THE TRENCH WALL OR 2.5 TIMES THE PIPE OD, WHICHEVER IS LESS.
- TYPICALLY 4" TO 6".
- PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
- TRACER WIRE NOT REQUIRED FOR GRAVITY SEWERS.



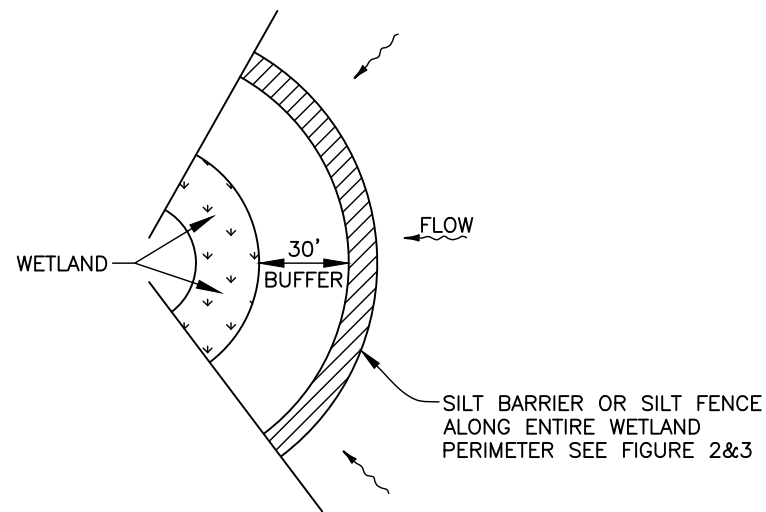
| MANATEE COUNTY<br>PUBLIC WORKS DEPARTMENT |         |                  | TRENCH WITH TYPE<br>A-3 PIPE BEDDING | UG-16 |
|---|---------|------------------|--------------------------------------|-------|
| REV. BY                                   | DATE    |                  |                                      |       |
| CLB/BR                                    | 11/7/10 | JANUARY 7, 2014  |                                      |       |
|   |         | DATE OF APPROVAL |                                      |       |

TARA 20 FORCE MAIN  
PARALLEL TO LENA ROAD  
DETAILS 2

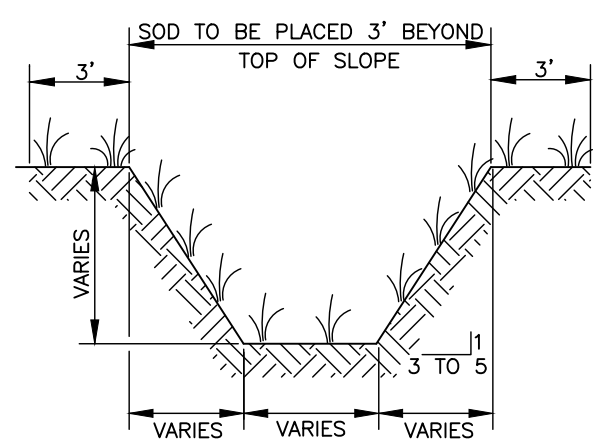
| REVISION       | DESCRIPTION  | BY       | DATE |
|----------------|--------------|----------|------|
| NO.            |              |          |      |
| PROJECT #      | 6079881      |          |      |
| SURVEY #       | 00-43536     |          |      |
| SEC./TWN./RGE  | 1,12&13/3518 |          |      |
| VERT. SCALE    | 1"=2'        |          |      |
| HORZ. SCALE    | 1"=20'       |          |      |
| VERTICAL DATUM | NGVD 29      |          |      |
|                | BY           | DATE     |      |
| SURVEYED       | ZNS ENGR     | 01/22/14 |      |
| DESIGNED       | JS           | 03/2014  |      |
| DRAWN          | BR           | 03/2014  |      |



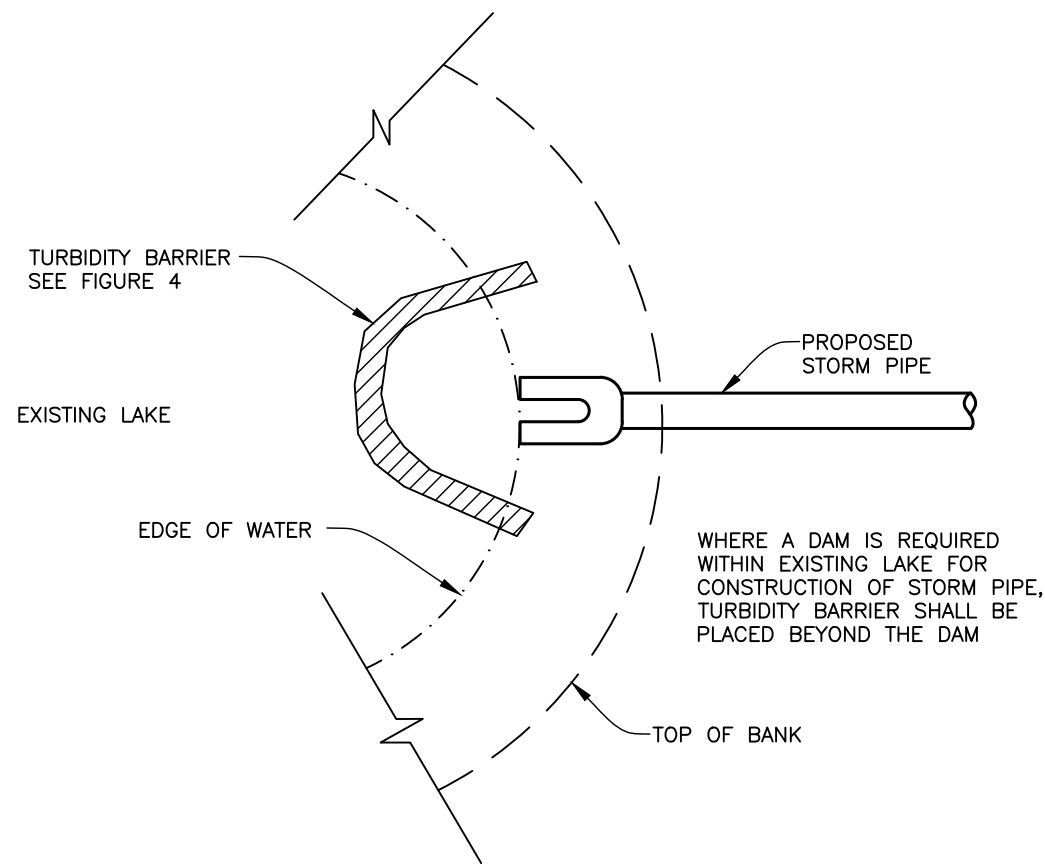
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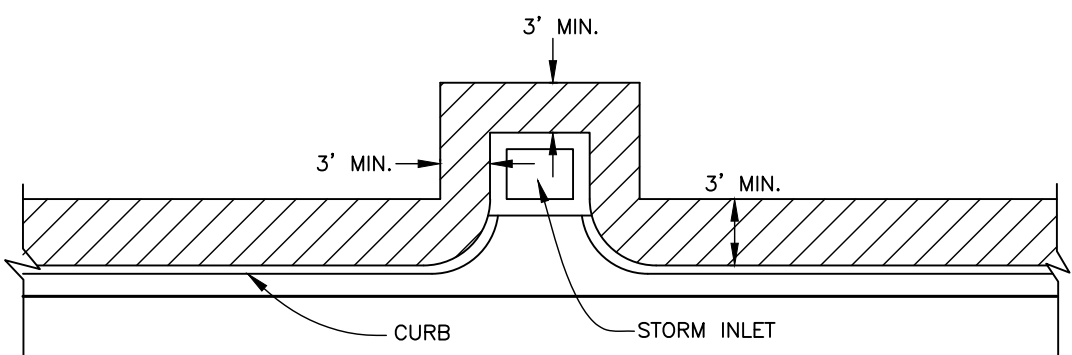
WETLAND BUFFER  
FIGURE 1



TYPICAL SWALE SECTION  
FIGURE 5

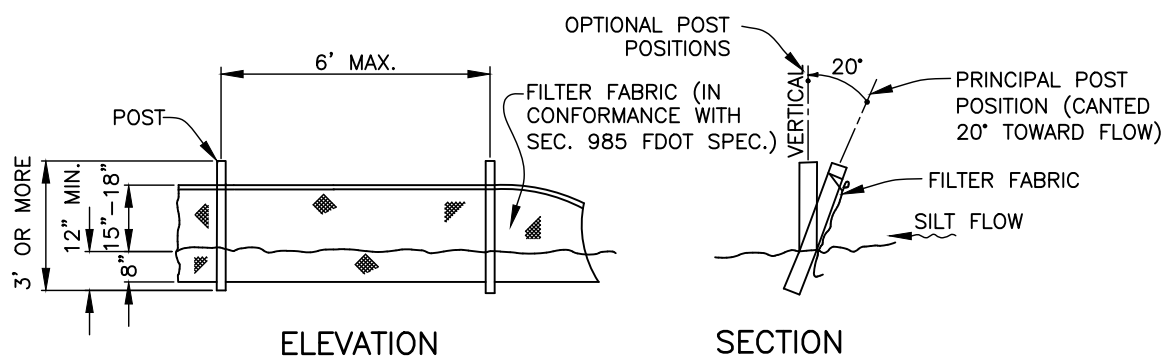


TURBIDITY BARRIER AT CONNECTION OF  
STORM PIPE TO EXISTING LAKE  
FIGURE 9



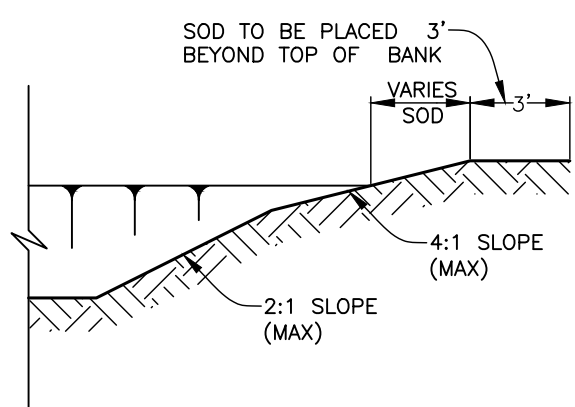
SOD ALONG CURB  
AND AROUND INLET  
FIGURE 14

NOTE:  
REFERENCE THE FDOT DESIGN STANDARDS  
LATEST EDITION FOR ALL TEMPORARY  
EROSION CONTROL MEASURES.

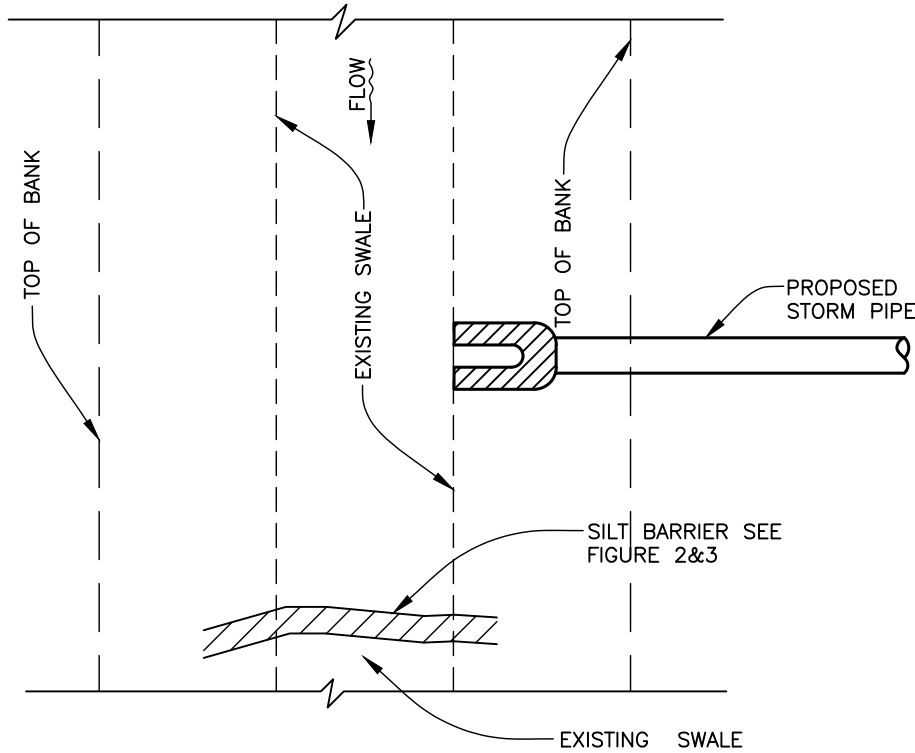


NOTE: SILT FENCE TO BE PAID FOR UNDER THE CONTRACT UNIT PRICE FOR STAKED SILT FENCE (LF).

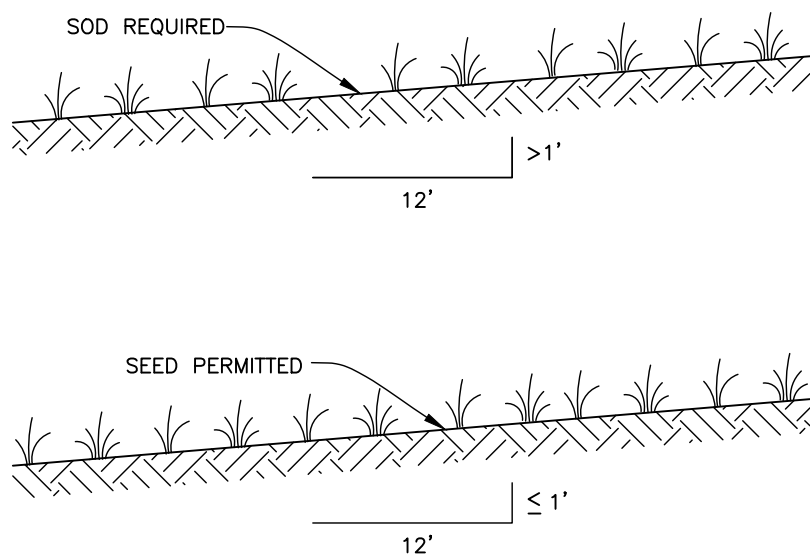
TYPICAL SILT FENCE  
FIGURE 2



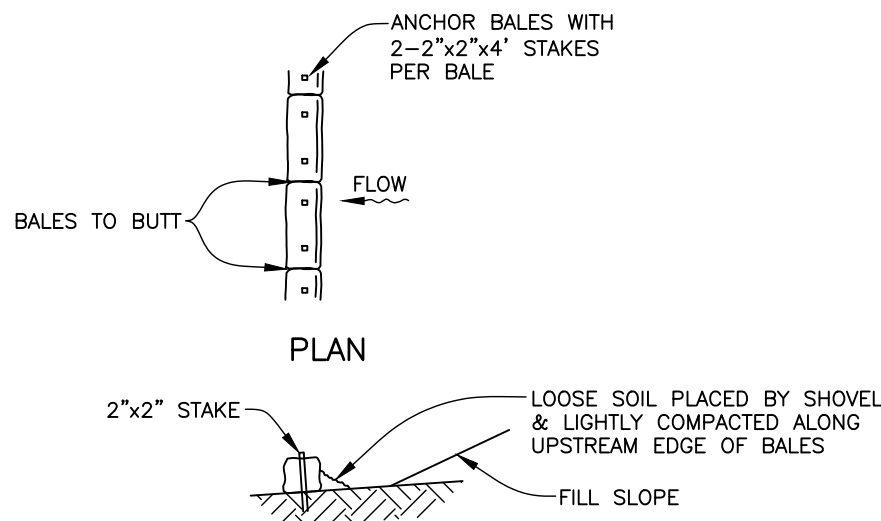
TYPICAL RETENTION/DETENTION POND SECTION  
FIGURE 6



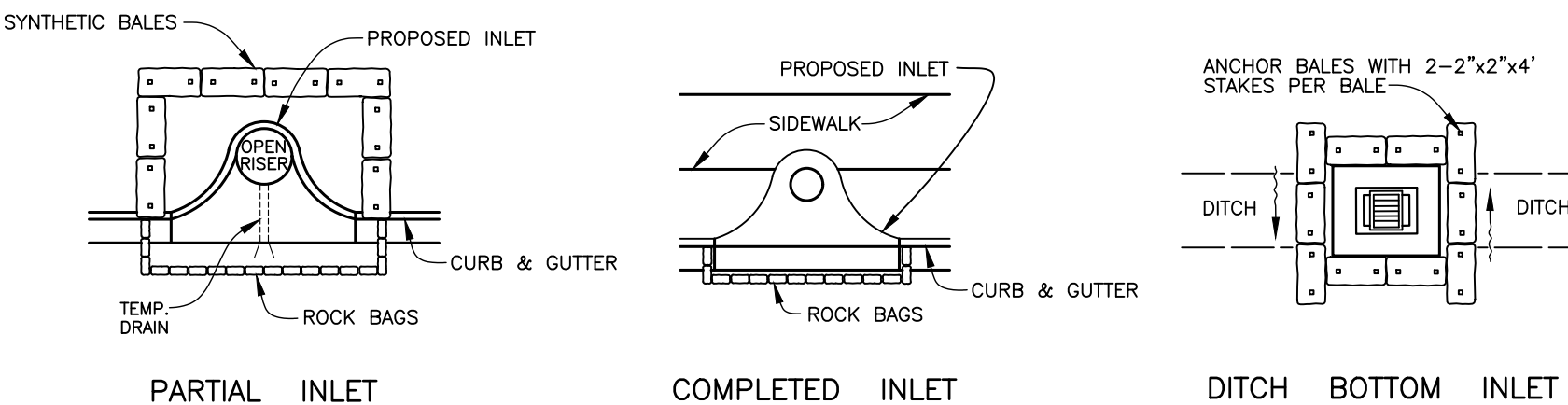
SILT BARRIER AT CONNECTION OF  
STORM PIPE TO EXISTING SWALE  
FIGURE 10



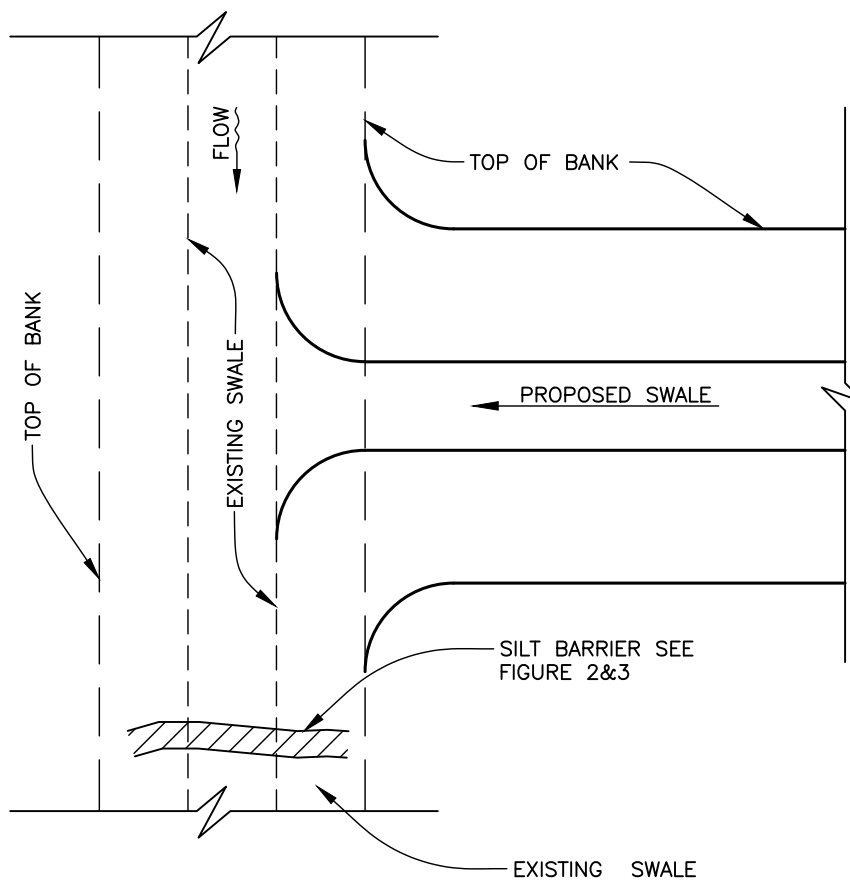
GRASS SLOPES  
FIGURE 13



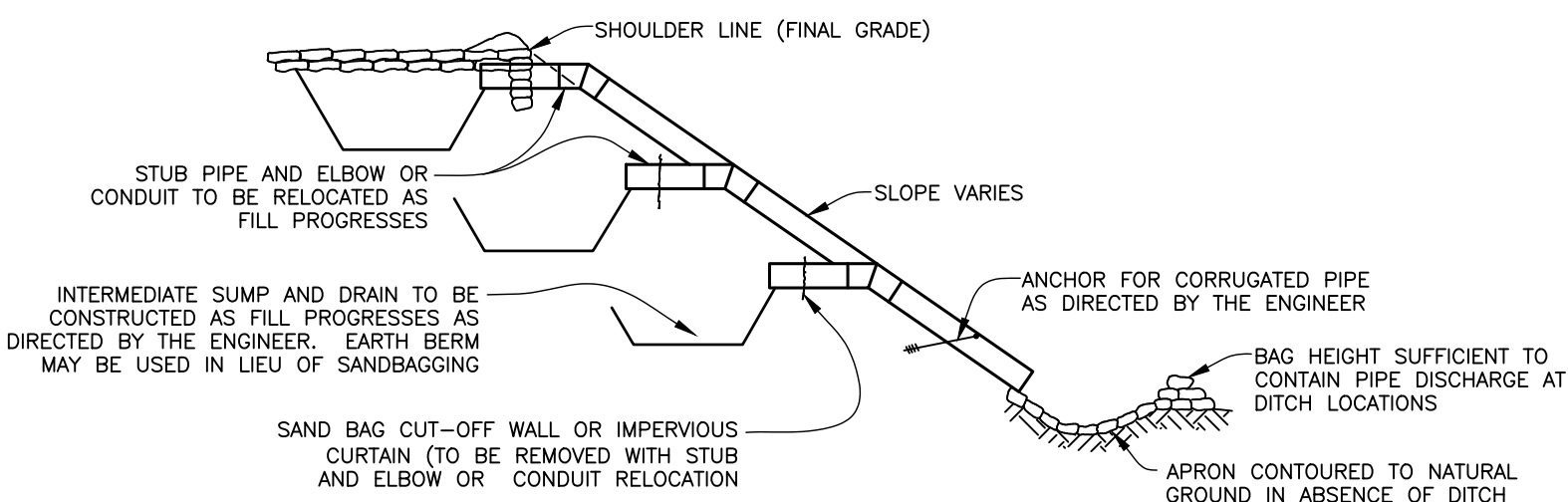
TYPICAL BALE SILT BARRIER  
FIGURE 3



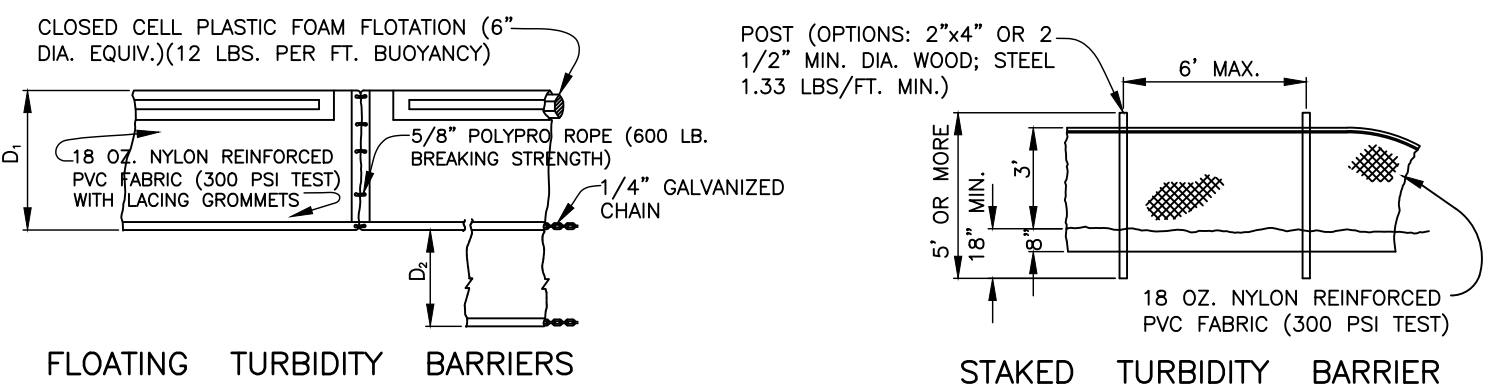
SYNTHETIC BALE PROTECTION AROUND  
INLETS OR SIMILAR STRUCTURES  
FIGURE 7



SILT BARRIER AT CONNECTION  
OF SWALE TO EXISTING SWALE  
FIGURE 11



SECTION AA  
TEMPORARY SLOPE DRAIN  
FIGURE 15

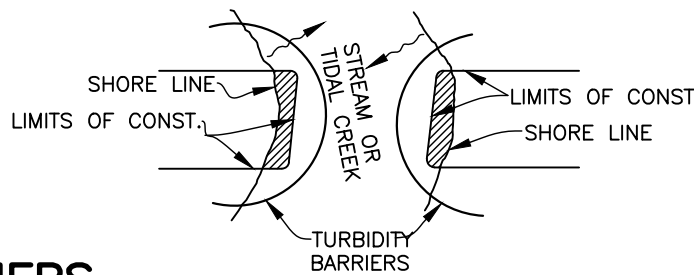


FLOATING TURBIDITY BARRIERS

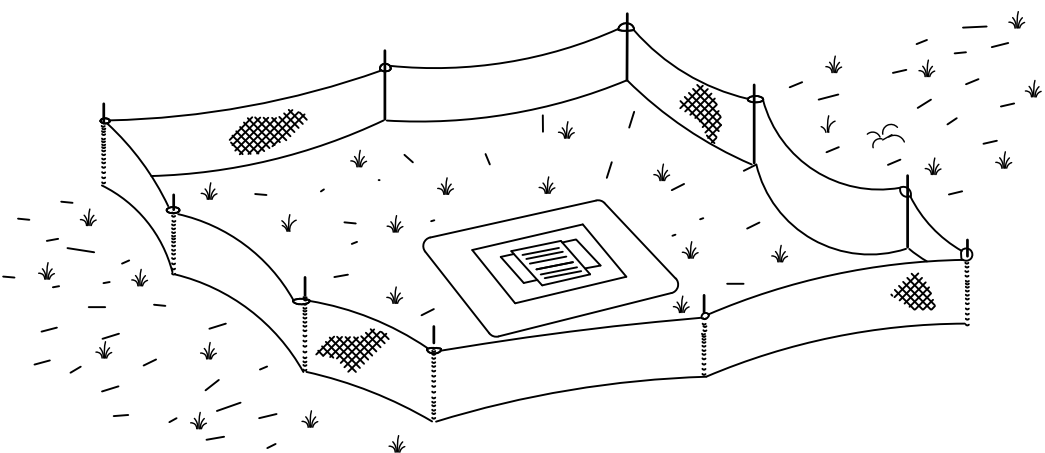
STAKED TURBIDITY BARRIER

D<sub>1</sub> = 5' STD. (SINGLE PANEL FOR DEPTHS 5' OR LESS). D<sub>2</sub> = 5' STD. (ADDITIONAL PANEL FOR DEPTHS > 5'). CURTAIN TO REACH BOTTOM UP TO DEPTHS OF 10 FEET. TWO(2) PANELS TO BE USED FOR DEPTHS GREATER THAN 10 FEET UNLESS SPECIAL DEPTH CURTAINS SPECIFICALLY CALLED FOR IN THE PLANS OR AS DETERMINED BY THE ENGINEER.

NOTICE: COMPONENTS OF TYPES I AND II MAY BE SIMILAR OR IDENTICAL TO PROPRIETARY DESIGNS. ANY INFRINGEMENT ON THE PROPRIETARY RIGHTS OF THE DESIGNER SHALL BE THE SOLE RESPONSIBILITY OF THE USER. SUBSTITUTIONS FOR TYPES I AND II SHALL BE AS APPROVED BY THE ENGINEER.

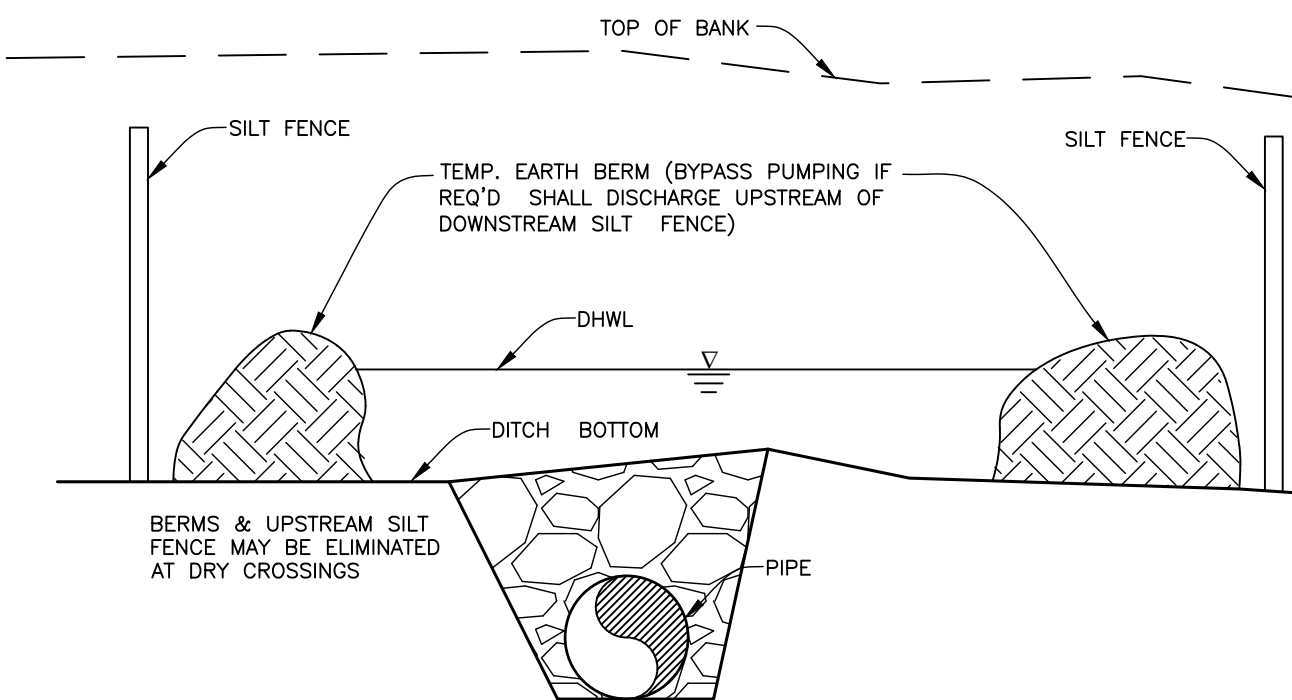


TURBIDITY BARRIERS  
FIGURE 4

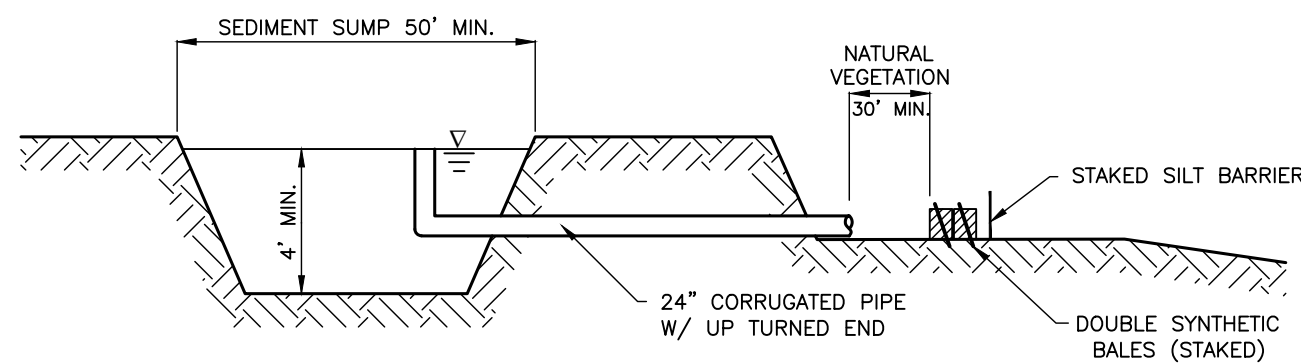


TYPE III SILT FENCE PROTECTION  
AROUND DITCH BOTTOM INLETS

STAKED SILT BARRIER OR SILT FENCE  
PROTECTION AROUND DITCH BOTTOM INLETS  
FIGURE 8



UNDERGROUND PIPE CROSSING  
FIGURE 12



SEDIMENT SUMP SECTION  
FIGURE 16



PUBLIC WORKS DEPARTMENT  
ENGINEERING SERVICES  
1022 26th Avenue East, Bradenton, FL 34208

TARA 20 FORCE MAIN  
PARALLEL TO LENA ROAD  
EROSION CONTROL

| NO.            | REVISION     | DESCRIPTION | BY | DATE |
|----------------|--------------|-------------|----|------|
|                |              |             |    |      |
|                |              |             |    |      |
|                |              |             |    |      |
|                |              |             |    |      |
| PROJECT #      | 6079881      |             |    |      |
| SURVEY #       | 00-43536     |             |    |      |
| SEC./TWN./RGE  | 1,12&13/3518 |             |    |      |
| VERT. SCALE    | 1"=2'        |             |    |      |
| HORZ. SCALE    | 1"=20'       |             |    |      |
| VERTICAL DATUM | NGVD 29      |             |    |      |
|                | BY           | DATE        |    |      |
| SURVEYED       | ZNS ENGR     | 01/22/14    |    |      |
| DESIGNED       | JS           | 03/2014     |    |      |
| DRAWN          | BR           | 03/2014     |    |      |

