



# CONSTRUCTION PLANS

## PHASE 1 - CARICA CONNECTION

### VANDERBILT BEACH RD & AIRPORT PULLING

### TRANSMISSION WATER MAIN IMPROVEMENT

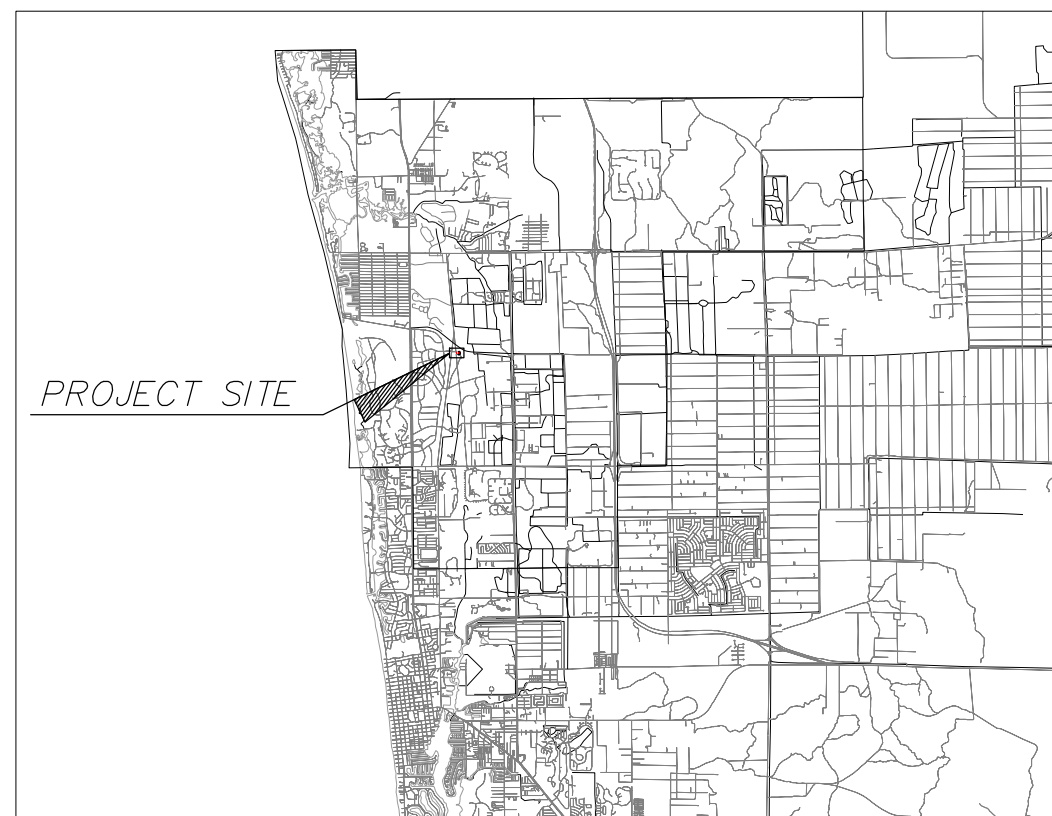
FOR  
COLLIER COUNTY PUBLIC UTILITIES

LOCATED IN  
SECTION 03; TOWNSHIP 49 SOUTH; RANGE 25 EAST  
**COLLIER COUNTY, FLORIDA**

JUNE 16, 2025

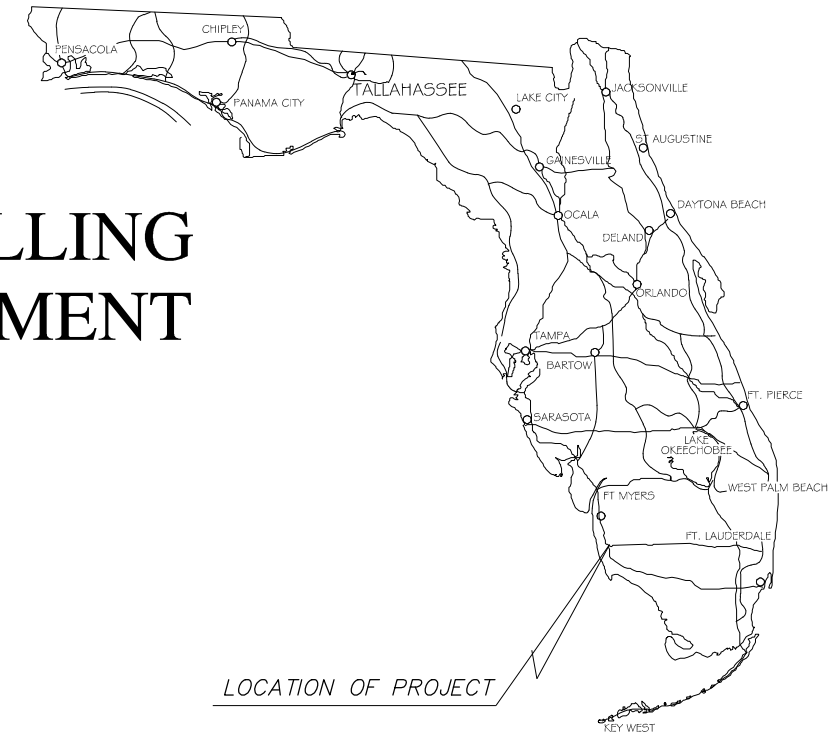
COLLIER COUNTY CONTRACT NO. 23-8193  
COLLIER COUNTY DESIGN PROJECT NO. 70268.1, 70285.1, 70286.1  
COLLIER COUNTY CONSTRUCTION PROJECT NO. TBD

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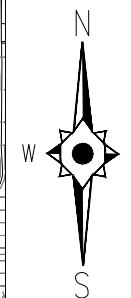


LOCATION MAP  
N. T. S.

For Information Regarding  
This Project, Contact:  
WILLIAM HURRICANE SAUM, PE



### LOCATION OF PROJECT



## CONSTRUCTION PLANS

DESIGN CONSULTANT



— An Apex Company —

JOHNSON ENGINEERING, LLC.  
2350 STANFORD COURT  
NAPLES, FLORIDA 34112  
PHONE: (239) 434-0333  
E.R. #642 & L.B. #642



Phase 1 - Carica Connection  
Vanderbilt Beach Rd & Airport Pulling  
Transmission Water Main Improvement  
Collier County, Florida

[illegible]

DATE: JUNE 16, 2025  
PROJECT NO. 20247135-000  
FILE NO. 03-49-25  
SCALE: AS SHOWN

Cover

SHEET NUMBER

01

ACRE  
ALTERNATE  
APPROXIMATE  
ASBESTOS  
BENCH MARK  
BUILDING  
BOTTOM  
CATCH BASIN  
CUBIC FEET  
CUBIC FEET PER MINUTE  
CAST IRON  
CAST IRON PIPE  
CONSTRUCTION JOINT  
CORRUGATED METAL PIPE  
CLEANOUT  
CHECK VALVE  
CUBIC FOOT  
CUBIC YARD  
CENTER LINE  
CAULKING  
CHAIN LINK FENCE  
COLUMN, COLOR  
CONCRETE  
CONSTRUCTION  
CONTINUOUS  
CONTRACTOR  
CENTERS  
COPPER  
CUBIC INCH  
DIAMETER  
DIAGONAL  
DIMENSION  
DISTANCE  
DUCTILE IRON PIPE  
DRAINAGE EASEMENT  
DRAWING  
EAST  
ELEVATION  
EQUIPMENT  
ELLIPTICAL REINFORCED CONCRETE PIPE  
EASEMENT  
EXISTING  
FINISHED FLOOR  
FINISHED FLOOR ELEVATION  
FORCE MAIN  
FIRE DEPARTMENT CONNECTION  
FOUNDATION  
FINISH  
FIBERGLASS REINFORCED PLASTIC  
FEET  
NATURAL GAS  
GENERAL CONTRACTOR  
GALVANIZED IRON  
GALLONS PER MINUTE  
GATE VALVE  
GAUGE  
GALLON  
GALVANIZED  
GRADE  
HIGH DENSITY POLYETHYLENE  
HORIZONTAL  
HYDRANT  
INSIDE DIAMETER  
INVERT  
IRRIGATION  
LAKE ACCESS EASEMENT  
LINEAL FEET  
LAKE MAINTENANCE EASEMENT  
LAKE MAINTENANCE TRACT  
MILLION GALLONS PER DAY  
MANHOLE  
MECHANICAL JOINT  
MAXIMUM  
MECHANICAL  
MITERED END SECTION  
MANUFACTURER  
MINIMUM  
MISCELLANEOUS  
NORTH  
NORTHEAST  
NORTHWEST  
NON NOTABLE WATER  
NOT TO SCALE  
NUMBER  
NOMINAL  
NATURAL GAS  
ON CENTERS  
ON CENTER EACH WAY  
OUTSIDE DIAMETER  
POUNDS PER CUBIC FOOT  
POUNDS PER SQUARE FOOT  
PLUG VALVE  
POUNDS PER SQUARE INCH  
POLYVINYL CHLORIDE  
POLYETHYLENE  
PAVEMENT  
POINT OF CURVATURE  
PROPOSED GRADE LINE  
PROPERTY LINE  
PLUMBING  
PLYWOOD  
POTABLE WATER  
POINT OF TANGENCY  
PUBLIC UTILITY EASEMENT  
POINT OF VERTICAL INTERSECTION  
QUANTITY  
RADIUS  
ROAD  
REINFORCED CONCRETE PIPE  
REQUIRED  
RIGHT OF WAY  
REUSE LINE  
RIGHT OF WAY  
SOUTH  
SOUTHEAST  
SOUTHWEST  
SANITARY SEWER  
SANITARY  
SCHEDULE  
SECTION  
SEWER  
SHEET  
SPECIFICATION  
SQUARE  
STREET  
STATION  
STEEL  
STANDARD  
SURFACE  
SYMMETRICAL  
TOE OF SLOPE  
TOP OF BANK  
THICK  
TELEPHONE  
TEMPERATURE  
TRANSFORMER  
TYPICAL  
UTILITY EASEMENT  
VERTICAL  
WATER  
WATER MAIN  
WITH  
WITHOUT  
WOOD  
WEIGHT  
WATER VALVE  
WALL HYDRANT

	EXISTING	PROPOSED
WATER MAIN	----- EX WM -----	----- WM -----
WATER MAIN WITH SIZE	----- EX 8" WM -----	----- PR. 8" WM -----
WATER SERVICE	----- EX WS -----	----- WS -----
FORCE MAIN	----- EX FM -----	----- FM -----
FORCE MAIN WITH SIZE	----- EX 8" FM -----	----- PR. 8" FM -----
IRRIGATION MAIN	----- EX IRR -----	----- IRR -----
IRRIGATION MAIN WITH SIZE	----- EX 8" IRR -----	----- PR. 8" IRR -----
REUSE MAIN	----- EX RU -----	----- RU -----
REUSE MAIN WITH SIZE	----- EX 8" RU -----	----- PR. 8" RU -----
IQ MAIN	----- EX IQ -----	----- IQ -----
IQ MAIN WITH SIZE	----- EX 8" IQ -----	----- PR. 8" IQ -----
RAW WATER MAIN	----- EX RW -----	----- RW -----
RAW WATER MAIN WITH SIZE	----- EX 8" RW -----	----- PR. 8" RW -----
SANITARY SEWER	----- EX SS -----	----- SS -----
SANITARY SEWER WITH SIZE	----- EX 8" SS -----	----- PR. 8" SS -----
CABLE TELEVISION	----- EX TV -----	----- TV -----
CLOSED CIRCUIT TELEVISION	----- EX CCTV -----	----- CCTV -----
MISC. COMMUNICATION	----- EX COMM -----	----- COMM -----
ELECTRIC	----- EX ELEC -----	----- ELEC -----
OVERHEAD ELECTRIC	----- EX UG-ELEC -----	----- ELEC -----
UNDERGROUND ELECTRIC	----- EX ONE -----	----- ONE -----
GAS MAIN	----- EX GAS -----	----- GAS -----
GAS MAIN WITH SIZE	----- EX 8" GAS -----	----- GAS -----
FIRE MAIN	----- EX FIRE -----	----- FIRE -----
DRAINAGE	----- EX SD -----	----- SD -----
DRAINAGE WITH SIZE	----- EX 8" DR -----	----- DR -----
STORM WATER	----- EX STM -----	----- STM -----
TELEPHONE	----- EX TEL -----	----- TEL -----
UNDERGROUND TELEPHONE	----- EX UGT -----	----- UGT -----

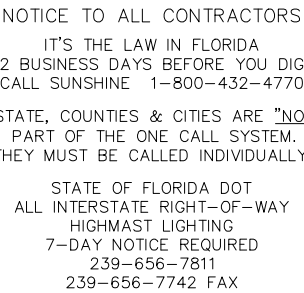
	GATE VALVE
	TEE ASSEMBLY
	REDUCER
	BLOW OFF
	FIRE HYDRANT
	FIRE HYDRANT ASSEMBLY WITH GATE VALVE
	MITERED END SECTION
	MANHOLE W/ NUMBER
	PLUG VALVE
	AIR RELEASE VALVE
	11.25° BEND
	22.5° BEND
	45° BEND
	90° BEND
	VERTICAL DEFLECTION
	WYE
	WATER SERVICE (DOUBLE)
	WATER SERVICE (SINGLE)
	IRRIGATION SERVICE (DOUBLE)
	IRRIGATION SERVICE (SINGLE)
	SEWER SERVICE (DOUBLE)
	SEWER SERVICE (SINGLE)
	HEADWALL
	DRAINAGE INLET (SEE PLAN FOR TYPES)
	THROAT INLET
	FLARED END SECTION

**PRINTING FULL SIZE OR 22"X34" PLANS:**

- 22"X34" PLANS ARE MEANT TO BE PLOTTED AT 20 SCALE.  
(SEE INDIVIDUAL SCALE BARS ON EACH SHEET FOR DEVIATIONS)
- WHEN PRINTING FULL SIZE PLANS (22"X34") MAKE SURE THE PROPER SIZE PAPER IS USED. FAILURE TO DO SO WILL RESULT IN PLANS THAT ARE NOT TO SCALE.
- WHEN PRINTING 22"X34" PDF'S FROM ADOBE SELECT "**ACTUAL SIZE**" & "**CHOOSE PAPER SOURCE** BY PDF PAGE SIZE"

- 11"x17" PLANS ARE MEANT TO BE PLOTTED AT 40 SCALE.  
(SEE INDIVIDUAL SCALE BARS ON EACH SHEET FOR DEVIATIONS)
- WHEN PRINTING 1/2 SIZE PLANS (11"x17") MAKE SURE THE PROPER SIZE PAPER IS USED. FAILURE TO DO SO WILL RESULT IN PLANS THAT ARE NOT TO SCALE.
- WHEN PRINTING 11"x17" PDF'S FROM ADOBE SELECT "ACTUAL SIZE" & "CHOOSE PAPER SOURCE BY PDF PAGE SIZE"

ASPHALT DRIVE	ASPH. SIDEWALK
CONCRETE DRIVE PAINTED OR STAMPED	BRICK SIDEWALK
CONCRETE DRIVE	CONC. SIDEWALK
BRICK DRIVE	ROADWAY
GRAVEL/DIRT DRIVE	ROADWAY TRENCH



STATE OF FLORIDA DOT  
ALL INTERSTATE RIGHT-OF-WAY  
HIGHMAST LIGHTING  
7-DAY NOTICE REQUIRED  
239-656-7811  
239-656-7742 FAX

ALL ELEVATIONS REFER TO NORTH AMERICA VERTICAL DATUM OF 1988 (NAVD88), CONVERSION FROM NAVD88 TO NORTH AMERICAN GEODETIC VERTICAL DATUM OF 1929 (NGVD29) IS AS FOLLOWS: NAVD88 - 1.24 = NGVD29.

2. THE CONTRACTOR SHALL POTHOLE TO LOCATE (HORIZONTALLY AND VERTICALLY) ALL EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION AND PROVIDE IN WRITING ANY DISCREPANCIES TO THE COUNTY. EXTREME CAUTION TO BE USED WHEN EXCAVATING, AS NUMBER AND LOCATION OF EXISTING UTILITIES ARE BASED ON RECORD INFORMATION THAT HAS NOT BEEN FIELD VERIFIED.

3. IT IS THE CONTRACTOR'S RESPONSIBILITY DURING CONSTRUCTION TO PROTECT ANY EXISTING UTILITIES. DAMAGE TO EXISTING UTILITIES AND PROPERTY DURING CONSTRUCTION SHALL BE REPAIRED AND/OR REPLACED AT NO ADDITIONAL COST TO THE COUNTY.

4. THE CONTRACTOR IS REQUIRED TO CONTACT ALL UTILITY OWNERS PRIOR TO THE BEGINNING OF CONSTRUCTION AND COORDINATE WITH ALL UTILITY OWNERS IN THE AREA PRIOR TO AND DURING CONSTRUCTION.

5. EXISTING FACILITIES INCLUDING FENCES, GATES, UNDERGROUND PIPING, CONDUITS, DRIVEWAYS, SIDEWALKS, UTILITIES AND OTHER EXISTING FACILITIES SHALL BE RESTORED TO A CONDITION EQUAL OR BETTER THAN WHAT EXISTED PRIOR TO COMMENCING CONSTRUCTION, AT NO ADDITIONAL COST TO THE OWNER, TO THE SATISFACTION OF THE COUNTY.

6. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REPLACE/REPAIR ANY EXISTING LANDSCAPING/PRIVATE IMPROVEMENTS WITHIN THE R/W OR WORK AREA, E.G. SOD, BUSHES, AND TREES, SPRINKLER PIPING, SPRINKLER HEADS, IRRIGATION SYSTEMS, AND FENCING THAT MAY HAVE BEEN DAMAGED DURING CONSTRUCTION AT NO ADDITIONAL COSTS TO THE OWNER. CONTRACTOR TO REPLACE OR REPAIR DAMAGED PROPERTY OR IMPROVEMENTS TO A CONDITION EQUAL TO OR BETTER THAN EXISTED PRIOR TO CONSTRUCTION. CONTRACTOR SHALL TEMPORARILY CONNECT IRRIGATION COMPONENTS DURING CONSTRUCTION TO ENSURE IRRIGATION SYSTEMS CONTINUED USE DURING CONSTRUCTION.

7. ANY SURVEY MONUMENTS INCLUDING PROPERTY CORNERS WITHIN THE LIMITS OF CONSTRUCTION ARE TO BE PROTECTED. IF A MONUMENT IS IN DANGER OF BEING DISTURBED, THE CONTRACTOR SHALL PROPERLY REFERENCE ITS LOCATION AND RESET THE MONUMENT AS REQUIRED BY THE CONTRACTOR'S FLORIDA LICENSED SURVEYOR, AT NO ADDITIONAL COST TO THE OWNER.

8. THE CONTRACTOR IS REQUIRED TO ADJUST ALL VALVE BOXES, MANHOLE RIMS, GRATES, ETC., AS NECESSARY TO MATCH PROPOSED GRADES. PAVEMENT AROUND VALVES, MANHOLES, AND METER BOXES SHALL BE FLUSH WITH ACCESS TO ALL UTILITIES MAINTAINED AT ALL TIMES. NO ADDITIONAL PAYMENT SHALL BE MADE FOR THIS WORK AS THE COST IS INCIDENTAL TO THE COST OF CONSTRUCTION.

9. CONTRACTOR SHALL RELOCATE OR ADJUST MAILBOXES, MANHOLES, VALVES, GRATES, SIGNS, ETC. IN CONFLICT WITH THE PROPOSED CONSTRUCTION AND SHALL REPAIR, ADJUST, AND/OR REPLACE ITEM AS NECESSARY AT NO ADDITIONAL COST TO THE OWNER. MAILBOXES REMOVED OR DAMAGED DURING CONSTRUCTION SHALL BE AT A MINIMUM TEMPORARILY REINSTALLED AND/OR REPLACED PER FDOT STANDARD INDEX NO. 532 OR TO MATCH THE PRECONSTRUCTION CONDITION AS APPROVED BY THE OWNER. TEMPORARILY REPLACED AND/OR REINSTALLED MAILBOX SHALL BE INSTALLED PER USPS GUIDELINES (41-45" ABOVE GRADE TO BOTTOM OF MAILBOX WITH THE FRONT OF THE MAILBOX 6-8" FROM THE EDGE OF PAVEMENT).

10. THE CONTRACTOR SHALL NOTIFY THE COUNTY PROJECT MANAGER OF ANY ENCROACHMENT ONTO PRIVATE PROPERTY A MINIMUM OF 14 DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES.

11. THE CONTRACTOR SHALL NOTIFY COLLIER COUNTY UTILITIES DEPARTMENT AT LEAST 10 CALENDAR DAYS IN ADVANCE OF ALL PLANNED SERVICE INTERRUPTIONS & REQUESTS FOR VALVE OPERATION AND RECEIVE COUNTY PROJECT MANAGER'S APPROVAL BEFORE PROCEEDING WITH PLANNED INTERRUPTIONS. ONLY COUNTY EMPLOYEES ARE PERMITTED TO OPERATE VALVES.

12. THE CONTRACTOR SHALL PROVIDE A 10 DAY WRITTEN NOTICE TO THE ENGINEER OF RECORD, OWNER'S CEI REPRESENTATIVE, AND COLLIER COUNTY PROJECT MANAGER PRIOR TO THE FOLLOWING ACTIVITIES:

- a. COMMENCEMENT OF CONSTRUCTION
- b. CHANGES TO APPROVED SCHEDULES, SUBCONTRACTORS, AND RESIDENT SUPERINTENDENT
- c. WATER SYSTEM
  - i. HOT TAPS
  - ii. PRESSURE TESTS
  - iii. CHLORINATION OF WATER MAINS
  - iv. FLUSHING
  - v. BACTERIOLOGICAL SAMPLING
  - vi. FINAL CONNECTION OF NEW MAINS
  - vii. BEGINNING AC PIPE REMOVAL
  - viii. FINAL ABANDONMENT OF EXISTING MAINS
  - ix. WATER SERVICE AND WATER METER SWITCH OVER
  - x. BACKFLOW DEVICE INSTALLATION
- d. WASTEWATER SYSTEM
  - i. TESTING OF BYPASS PUMP STATION
  - ii. INFILTRATION/EXFILTRATION TESTS
  - iii. LAMPING OF SEWER LINE
  - iv. TELEVISION VIDEO TAPING OF SEWER LINES

13. CONTRACTOR TO PROVIDE SILT FENCE, STACKED SYNTHETIC BALES AND OTHER APPROPRIATE MEASURES TO AFFECT THE FILTRATION OF SURFACE WATER FLOWS AND TO PROVIDE EROSION PROTECTION DURING CONSTRUCTION ACTIVITIES. PROTECTION IS TO BE MAINTAINED DURING THE CONSTRUCTION PERIOD UNTIL DISTURBED SOILS HAVE BEEN STABILIZED WITH GRASS OR SUITABLE EROSION PROTECTION TREATMENT.

14. EXISTING OFF-SITE DRAINAGE PATTERNS SHALL BE MAINTAINED DURING CONSTRUCTION.

15. SHOP DRAWINGS FOR ANY EQUIPMENT AND MATERIAL MUST BE APPROVED BY EOR AND COLLIER COUNTY PRIOR TO FABRICATION AND INSTALLATION.

16. CONTRACTOR SHALL RETAIN, ON THE WORK SITE, COPIES OF ALL PERMITS NECESSARY FOR CONSTRUCTION.

17. CONTRACTOR IS REQUIRED TO OBTAIN FROM THE ENGINEER OF RECORD AND COUNTY PROJECT MANAGER WRITTEN APPROVAL FOR ANY DEVIATIONS FROM THE PLANS AND/OR SPECIFICATIONS. ALL PROPOSED AND APPROVED DEVIATIONS SHALL BE AT NO ADDITIONAL COST TO THE COUNTY.

18. CONTRACTOR SHALL REPORT ALL FIELD CHANGES TO THE ENGINEER OF RECORD, CEI REPRESENTATIVE, AND COUNTY PROJECT MANAGER WITHIN 24 HOURS.

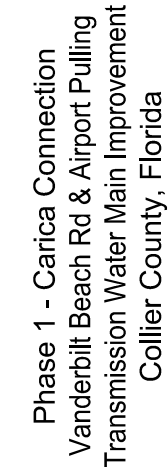
1. CLEARING AND GRUBBING SHALL BE LIMITED TO THE RIGHT-OF-WAY ONLY. CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING ALL AREAS DISTURBED BY THEIR WORK. ALL DISTURBED AREAS SHALL BE SODDED TO MATCH EXISTING CONDITIONS WITH SOD SET NO MORE THAN 1/2" BELOW ADJACENT DRIVEWAYS. NEWLY INSTALLED SOD SHALL BE WATERED UNTIL ESTABLISHED/ROOTED. IF SOD IS REQUIRED TO BE REINSTALLED DURING THE COURSE OF CONSTRUCTION FOR WHATEVER REASON, CONTRACTOR SHALL BE REQUIRED TO WATER REINSTALLED SECTIONS UNTIL THEY ARE ESTABLISHED/ROOTED.
20. AFTER SUBSTANTIAL COMPLETION AND PRIOR TO FINAL COMPLETION, THE CONTRACTOR SHALL ACCURATELY RECORD AND PLOT THE LOCATIONS AND DEPTHS OF ALL IMPROVEMENTS INSTALLED ON A FINAL SET OF RECORD DRAWINGS WHICH SHALL BE DELIVERED TO THE ENGINEER OF RECORD, CEI REPRESENTATIVE, AND COLLIER COUNTY.
21. SURVEY LAYOUT AND RECORD DRAWINGS ARE TO BE PERFORMED BY A FLORIDA LICENSED LAND SURVEYOR PROVIDED BY THE CONTRACTOR AND SHALL INCLUDE PROPERTY CORNERS AND RIGHT-OF-WAY LINES. ALL ELEVATIONS MUST REFER TO N.A.V.D.-88. AS-BUILTS/RECORD DRAWINGS SHALL INCLUDE VALVE & HYDRANT MANUFACTURER, SIZE, & MODEL NUMBER. IN ADDITION TO THE SURVEYED RECORD DRAWINGS, THE CONTRACTOR SHALL PROVIDE THE ENGINEER A COMPLETE SET OF REDLINES DEPICTING ALL CHANGES MADE TO THE CONTRACT DRAWINGS.
22. CONTRACTOR SHALL STAKE THE LOCATION OF EACH PROPERTY CORNER AT THE RIGHT-OF-WAY LINES, PROPERTY LINES, AND EASEMENT LINES ALONG THE ENTIRE PROJECT WITHIN 10 DAYS OF NTP AND MAINTAIN THE STAKES THROUGHOUT THE DURATION OF THE PROJECT.
23. CONTRACTORS WILL BE RESPONSIBLE FOR STORING ALL MATERIALS FOR THE PROJECT, INCLUDING ALL MATERIALS PURCHASED BY COLLIER COUNTY IN A SECURED, FENCED IN STORAGE AREA. CONTRACTOR IS TO PROVIDE LEASE AGREEMENT WITH PROPERTY OWNER, RIGHT-OF-WAY PERMITS, AND TEMPORARY USE PERMITS TO THE ENGINEER AND COUNTY WITHIN TEN (10) DAYS OF THE ISSUED NOTICE TO PROCEED. NO MATERIAL MAY BE STORED WITHIN THE RIGHT-OF-WAY. ALL MATERIAL STORED SHALL BE COVERED, PER THE MANUFACTURER'S RECOMMENDATIONS AND COUNTY SPECIFICATIONS.
24. ALL STORAGE LOTS USED FOR THE PROJECT MUST BE MAINTAINED DAILY INCLUDING, BUT NOT LIMITED TO: MOWING AND WEEDING, LITTER REMOVAL, FENCE AND SCREEN REPAIR AS NEEDED, DAILY SWEEPING AND DUST CONTROL, AND PERMIT RENEWAL AS REQUIRED.
25. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING UTILITY SERVICE AT ALL TIMES DURING CONSTRUCTION WITHIN THE PROJECT LIMITS. THIS INCLUDES HAVING A SUPPLY OF REPAIR MATERIALS ONSITE THAT MATCHES EXISTING IN THE EVENT OF A BREAK.
26. CONTRACTOR MUST PROVIDE A TWO (2) WEEK LOOK AHEAD FOR ALL CONSTRUCTION ACTIVITIES EVERY TWO (2) WEEKS AND ATTEND ALL MEETINGS AT THE COUNTY'S DISCRETION. ADDITIONALLY, THE CONTRACTOR SHALL PROVIDE AN UPDATED, COMPLETE PROJECT GANTT SCHEDULE WITH EVERY MONTHLY PAY APPLICATION.
27. CONTRACTOR SHALL NOT LEAVE TRENCHES OR HOLES OPEN OVER NIGHT OR OVER WEEKENDS/HOLIDAYS.
28. ALL CONSTRUCTION DEBRIS AND OTHER WASTE MATERIAL SHALL BE DISPOSED OF OFFSITE IN ACCORDANCE WITH APPLICABLE REGULATIONS.
29. WORK AREAS ARE TO BE CLEANED ON A DAILY BASIS INCLUDING, BUT NOT LIMITED TO LITTER COLLECTION, TO SWEEPING STREETS AND DAILY WATERING, (TO BE COMPLETED THROUGHOUT THE WORKDAY AS NEEDED), INCLUDING LOT STORAGE AREAS.
30. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING RIGHT-OF-WAY, TREE REMOVAL, AND DEWATERING PERMITS, IF REQUIRED.
31. ALL CONTRACTORS AND REPRESENTATIVES ON-SITE MUST HAVE COLLIER COUNTY CONTRACTOR IDENTIFICATION BADGES ON THEIR PERSON, CLEARLY DISPLAYED, AT ALL TIMES.
32. CONTRACTOR SHALL CLEAN AND SWAB EACH SECTION OF PIPE MATERIAL, INCLUDING ALL FITTINGS, VALVES, AND APPURTENANCES, WITH A CHLORINE SOLUTION, PRIOR TO INSTALLATION.
33. EACH PIPE SECTION, FITTING, VALVE, ETC., SHALL BE INSTALLED IN A DRY TRENCH, AND NO DIRT OR DEBRIS MAY ENTER THE PIPE MATERIAL AFTER IT IS CLEANED.
34. CONTRACTOR SHALL USE A PLUG, OR OTHER DEVICES, TO MAINTAIN CLEAN PIPE MATERIALS AFTER THEY HAVE BEEN CLEAN AND INSTALLED IN THE TRENCH.

THE CONTRACTOR'S SPECIAL ATTENTION IS NEEDED TO ASSURE COMPLIANCE WITH THE COLLIER COUNTY PUBLIC UTILITIES FIVE NS. THESE RELATE TO ALL COUNTY UTILITIES INCLUDING, BUT NOT LIMITED TO, WATER AND WASTEWATER TREATMENT FACILITIES, RAW WATER PUMPING AND TRANSMISSION FACILITIES, POTABLE WATER STORAGE, TRANSMISSION, AND DISTRIBUTION FACILITIES; WASTEWATER COLLECTION, TRANSMISSION, AND PUMPING FACILITIES; IRRIGATION QUALITY WATER STORAGE, PUMPING, TRANSMISSION, AND DISTRIBUTION SYSTEMS; AND SOLID WASTE TRANSFER FACILITIES. THE FACILITY LIST AND TO WHAT COUNTY AGENCIES THESE FACILITIES BELONG, IS PROVIDED FOR YOUR INFORMATION. ALL FACILITIES WILL BE REVIEWED AND ENSURED ON A CASE-BY-CASE BASIS BY UTILITY AND OTHER COUNTY STAFF.

1. NO OFFSITE ODOR AT ANY TIME, (24 HOURS PER DAY, 7 DAYS PER WEEK, 365 DAYS PER YEAR)
2. NO SANITARY SEWER OVERFLOWS (SSOS-SPILLS), (7 DAYS PER WEEK, 365 DAYS PER YEAR)
3. NO FUGITIVE DUST EMISSIONS (7 DAYS PER WEEK, 365 DAYS PER YEAR)
4. NO OFFSITE NOISES, ALL SOUND EMISSION SHALL BE MITIGATED PRIOR TO FENCE LINE PER LAND DEVELOPMENT CODE, (7 DAYS PER WEEK, 365 DAYS PER YEAR)
5. NO OFFSITE LIGHT EMISSION, ALL LIGHT EMISSIONS SHALL BE MITIGATED PRIOR TO FENCE LINE PER LAND DEVELOPMENT CODE.

ALL REFERENCES TO COLLIER COUNTY PUBLIC UTILITIES STANDARD DETAILS ARE FROM THE 2025 COLLIER COUNTY UTILITIES UTILITIES STANDARDS MANUAL. THESE STANDARD DETAILS WERE PREPARED BY OR AT THE DIRECTION OF COLLIER COUNTY AND WERE FURNISHED TO JOHNSON ENGINEERING, LLC.

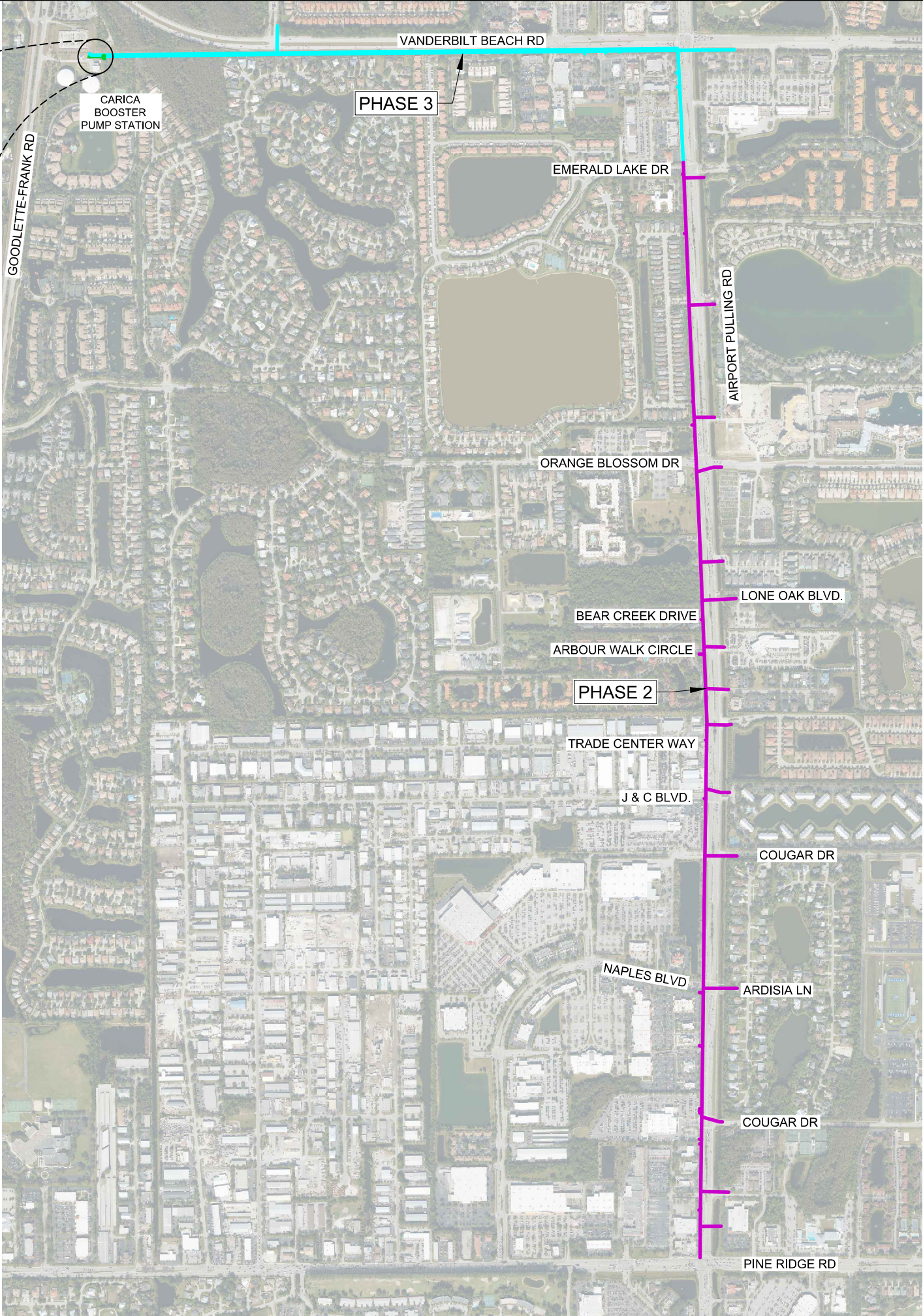
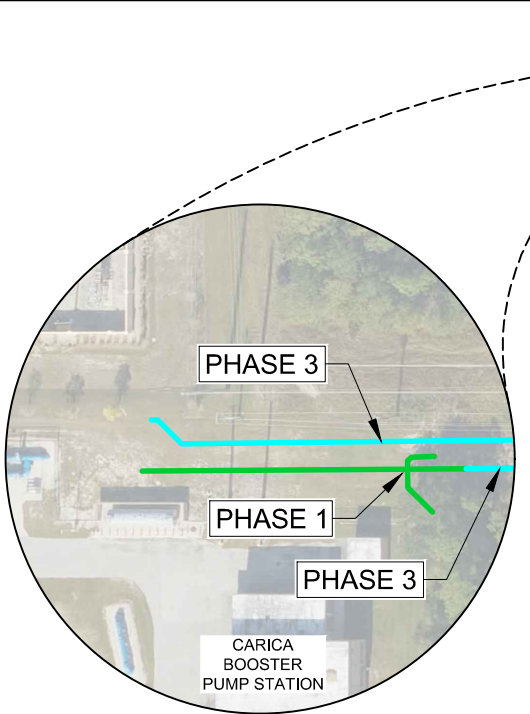
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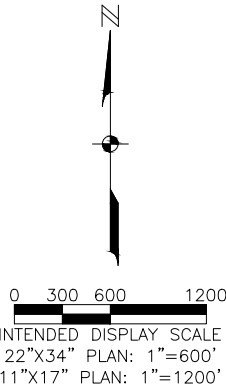
DATE: JUNE 16, 2025  
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FILE NO. 03-49-25  
SCALE: AS SHOWN

## 02

\\fms01\Drawings\2024\2024135-000\Utilities\Drawings\2024135-000\_Phase Map.dwg (Phase Map) Michael Titone Jun 16, 2025 - 2:08pm



- Phase 1 - Current plans
- Phase 2
- Phase 3



ELEVATIONS SHOWN HEREON ARE BASED ON NORTH AMERICA VERTICAL DATUM OF 1988 (NAVD '88).  
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**JOHNSON**  
**ENGINEERING**  
— An Apex Company —  
JOHNSON ENGINEERING, LLC.  
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PHONE: (239) 434-0333  
E.R. #642 & L.B. #642

WILLIAM HURRICANE SALEM, PE  
FL License No. 88659

Phase 1 - Carica Connection  
Vanderbilt Beach Rd & Airport Pulling  
Transmission Water Main Improvement  
Collier County, Florida

NO.	DESCRIPTION	DATE

DATE: JUNE 16, 2025

PROJECT NO. 20247135-000

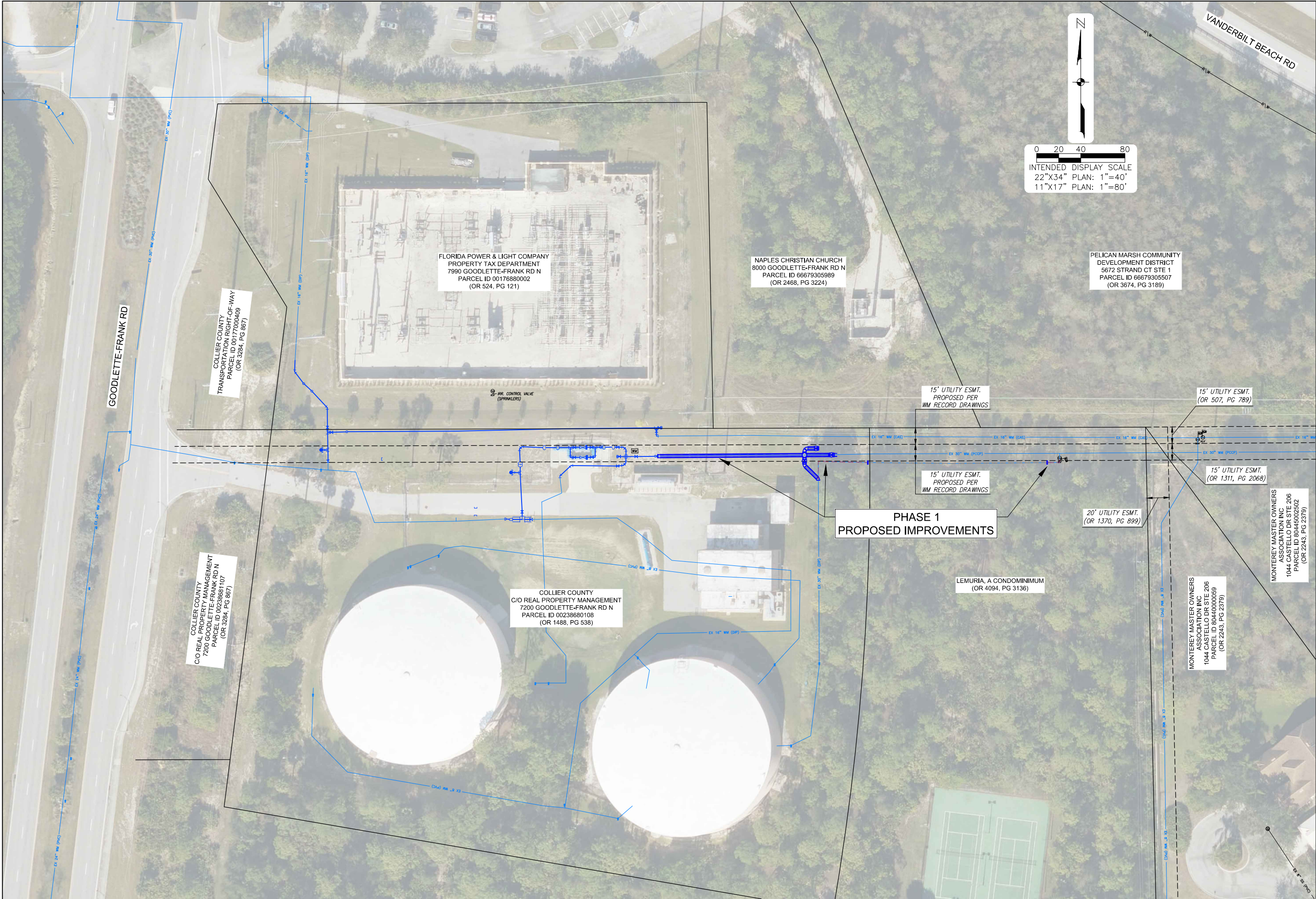
FILE NO. 03-49-25

SCALE: AS SHOWN

Construction Plans  
Phase Map

SHEET NUMBER  
**03**

\\fms01\Drawings\2024\2024135-000\Utilities\Drawings\2024135-000\_Phase Map.dwg (Carica Map) Michael Tiano Jun 16, 2025 - 2:50pm



**JOHNSON ENGINEERING**  
— An Apex Company —  
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Construction Plans  
Carica Plant Map

SHEET NUMBER  
**04**

\\fms01\Drawings\2024\2024135-000\Utilities\Drawings\2024135-000\_Phase 1 Utility Plan.dwg (Phase 1 Connection) Michael Tiso Jun 16, 2025 - 2:09pm

0 5 10 20  
INTENDED DISPLAY SCALE  
22"x34" PLAN: 1"=10'  
11"x17" PLAN: 1"=20'



Phase 1 - Carica Connection  
Vanderbilt Beach Rd & Airport Pulling  
Transmission Water Main Improvement  
Collier County, Florida

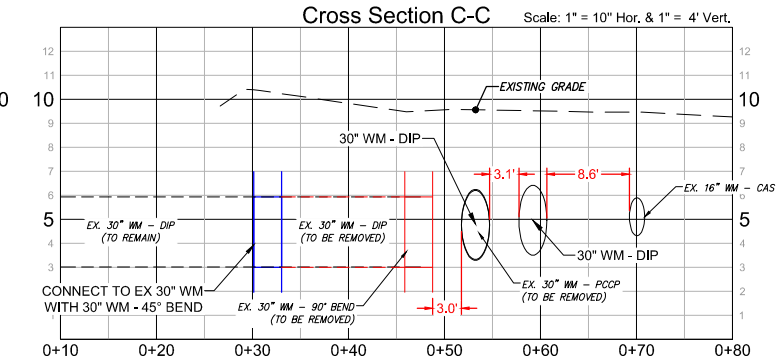
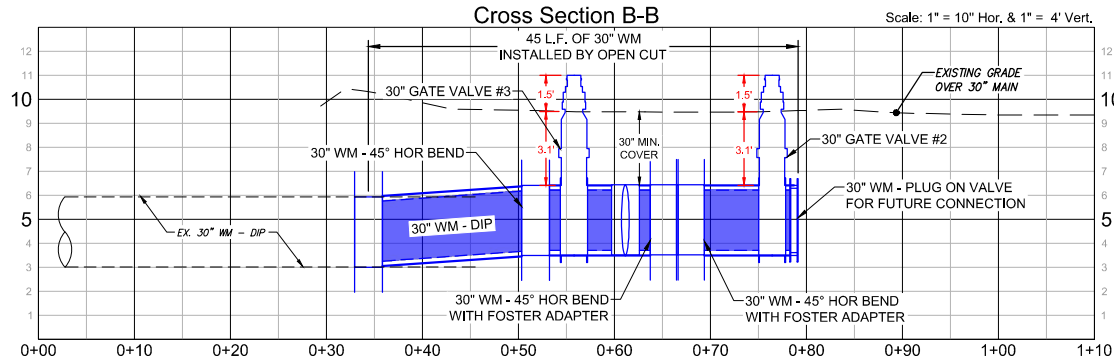
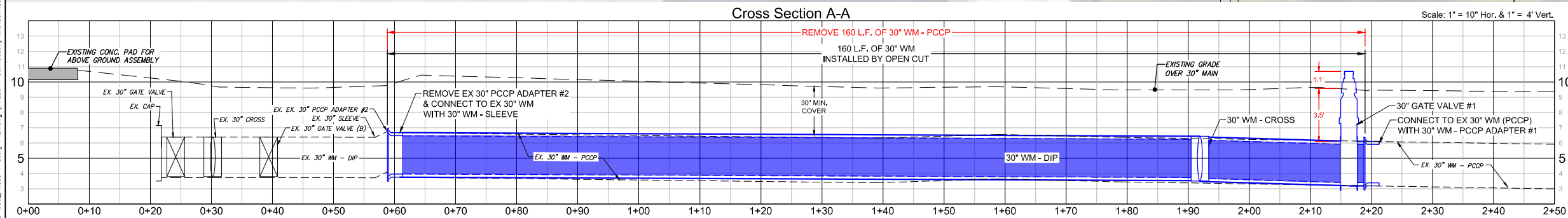
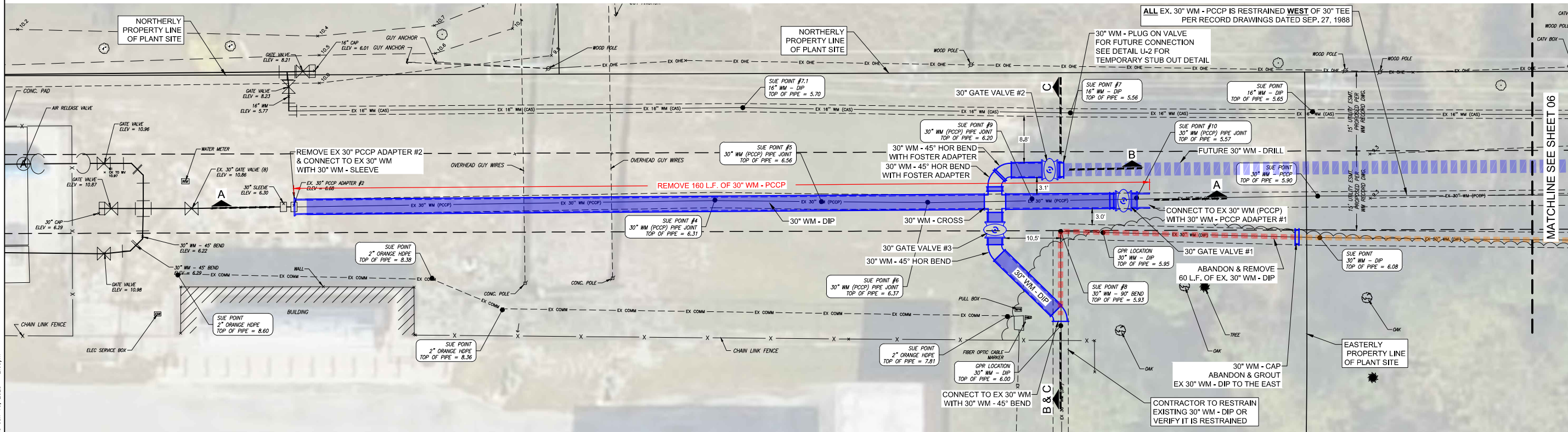
NO.	REVISIONS	DESCRIPTION	DATE

DATE: JUNE 16, 2025  
PROJECT NO. 20247135-000  
FILE NO. 03-49-25  
SCALE: AS SHOWN

Construction Plans  
Carica Connection

SHEET NUMBER

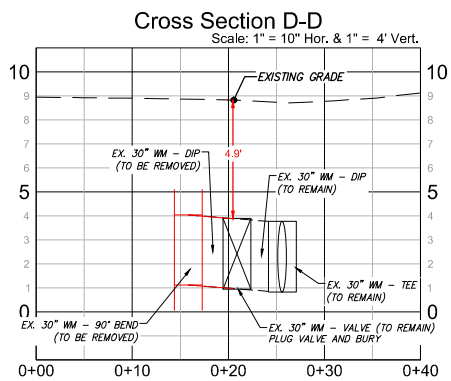
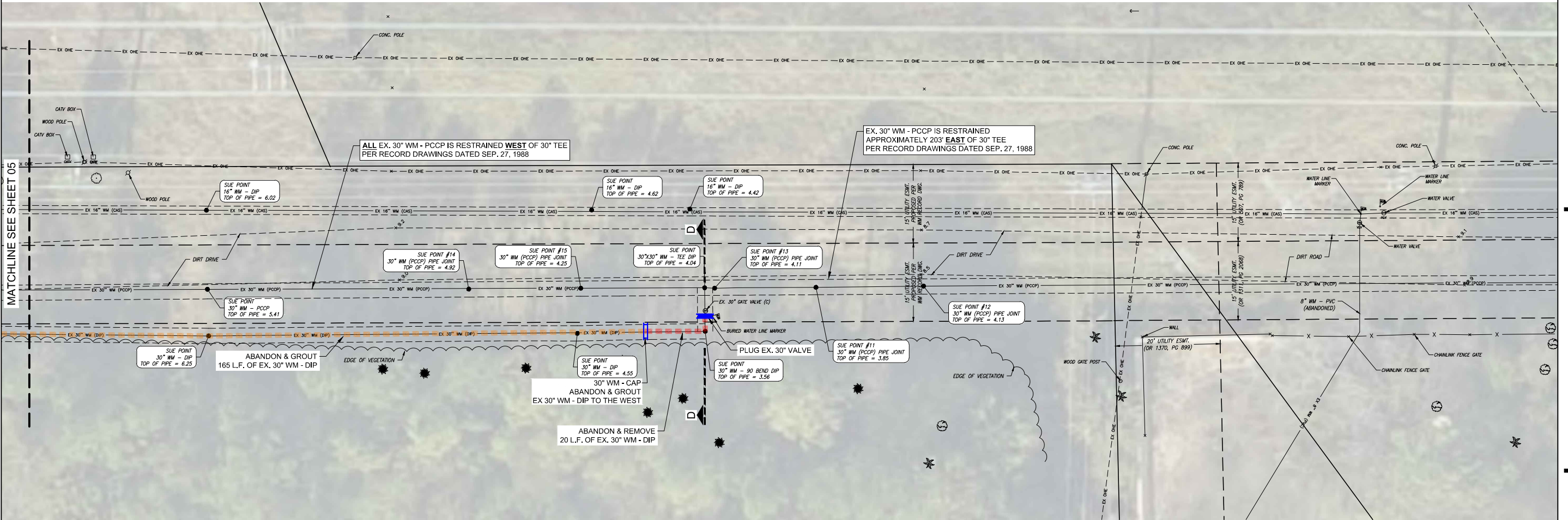
05



NOTES

- SEE SHEET 07 FOR CONSTRUCTION SEQUENCE PLAN.

### Construction Plans Fill Line Detail

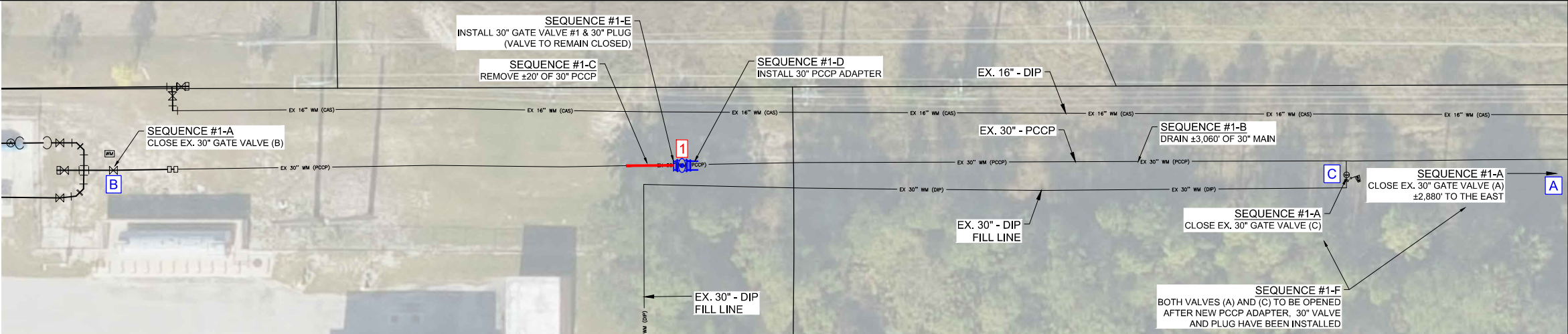


1. SEE SHEET 07 FOR CONSTRUCTION SEQUENCE PLAN.

\\fms01\Drawings\2024\2024135-000\Utilities\Drawings\2024135-000\_Phase Map.dwg (Cor. Set) Michael/Treese Jun 16, 2025 - 2:11pm

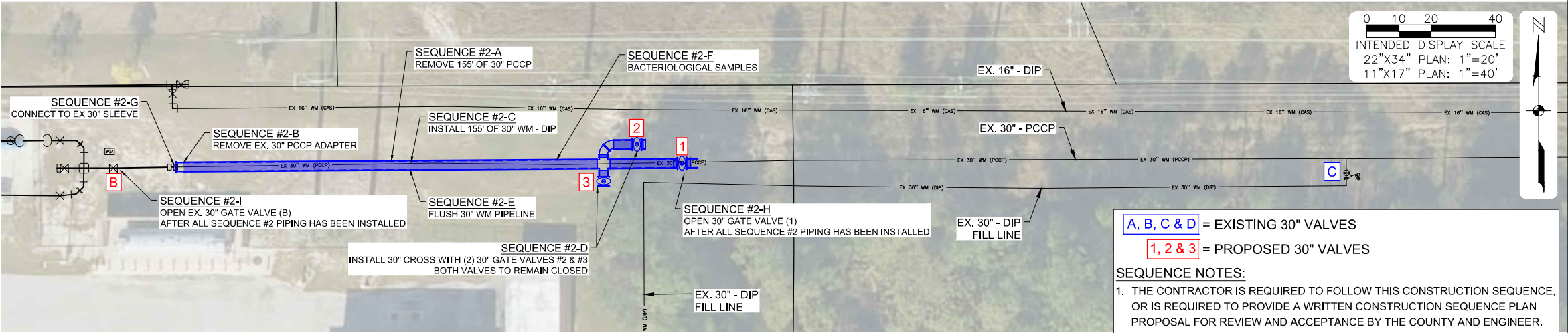
SEQUENCE #1 - GATE VALVE #1 INSTALLATION

- A. SHUT DOWN WATER SYSTEM BY CLOSING (3) EX. 30" VALVES:  
30" VALVE (A) ±2,880' TO THE EAST.  
30" VALVE (B) TO THE WEST.  
30" VALVE (C) AT THE FILL LINE TEE.
- B. DRAIN ±3,060' OF 30" WM.
- C. REMOVE ±20' OF EXISTING 30" WM (PCCP).
- D. INSTALL 30" PCCP ADAPTER #1.
- E. INSTALL 30" GATE VALVE #1 WITH 30" PLUG.
- F. OPEN EX. 30" VALVES (A) AND (C).
- G. EX. 30" VALVE (B) TO REMAIN CLOSED.
- H. NEW 30" GATE VALVE #1 TO REMAIN CLOSED
- AFTER SEQUENCE #1
- FILL LINE IS ACTIVE.
  - BYPASS ASSEMBLY WILL BE OUT OF SERVICE.



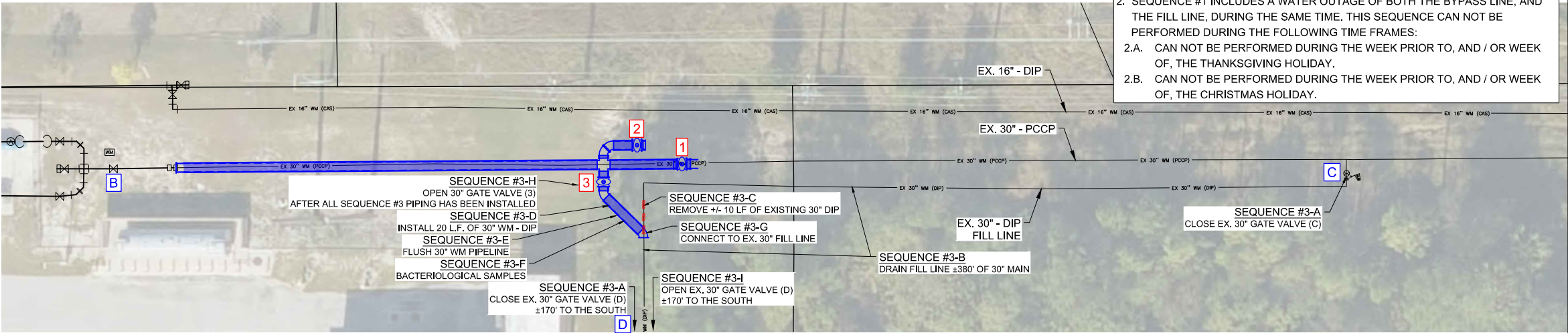
SEQUENCE #2 - BYPASS LINE INSTALLATION

- A. REMOVE 155 L.F. OF 30" WM (PCCP)
- B. REMOVE EX. 30" PCCP ADAPTER #2
- C. CONNECT TO NEW 30" GATE VALVE #1 AND INSTALL 155 L.F. OF 30" WM - DIP HEADING WEST.
- D. INSTALL 30" CROSS WITH (2) 30" GATE VALVES GATE VALVE #2 WITH 30" PLUG FOR FUTURE PHASE 3 CONNECTION.  
GATE VALVE #3 FOR CONNECTION TO FILL LINE.  
BOTH GATE VALVES TO REMAIN CLOSED.
- E. FLUSH 30" WM PIPELINE FROM THE EAST TO THE WEST USING NEW AND EX. VALVES.
- F. COLLECT AT LEAST TWO (2) DAYS OF BACTERIOLOGICAL SAMPLES. RECEIVE LAB APPROVAL OF ACCEPTABLE TESTING RESULTS.
- G. CONNECT NEW 30" WM PIPELINE TO EX. 30" SLEEVE ON THE WEST END.
- H. OPEN NEW 30" GATE VALVE #1.
- I. OPEN EX. 30" VALVE (B).
- AFTER SEQUENCE #2
- FILL LINE IS ACTIVE.
  - BYPASS ASSEMBLY IS ACTIVE.



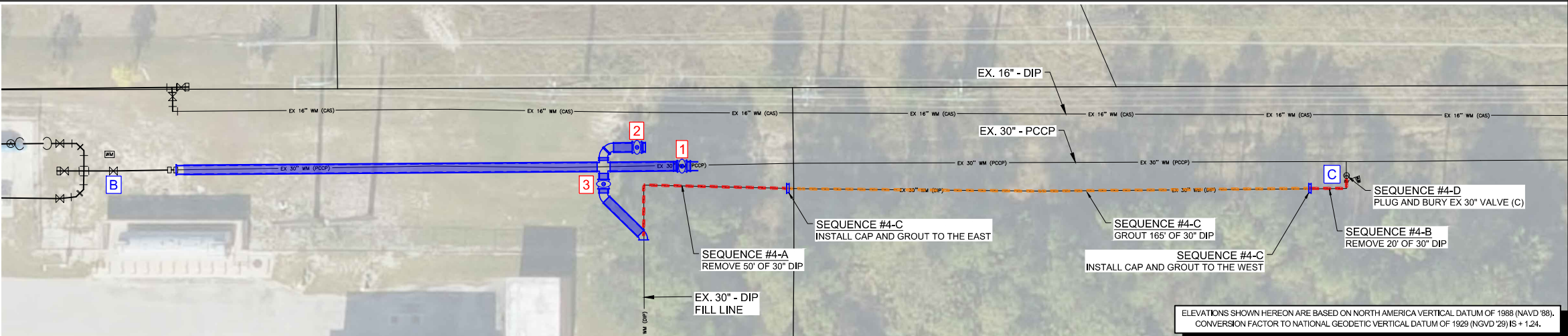
SEQUENCE #3 - FILL LINE INSTALLATION

- A. SHUT DOWN FILL LINE BY CLOSING (2) EX. 30" VALVES:  
30" VALVE (C) ON THE FILL LINE TEE.  
30" VALVE (D) ±170' SOUTH OF WORK AREA.
- B. DRAIN ±380' OF 30" WM.
- C. REMOVE +/- 10 LF OF EXISTING 30" DIP
- D. INSTALL 20 L.F. OF 30" WM - DIP, CONNECTING TO NEW 30" GATE VALVE #3 HEADING SOUTH.
- E. FLUSH 30" WM PIPELINE USING NEW AND EX. VALVES.
- F. COLLECT AT LEAST TWO (2) DAYS OF BACTERIOLOGICAL SAMPLES. RECEIVE LAB APPROVAL OF ACCEPTABLE TESTING RESULTS.
- G. CONNECT TO EX. 30" FILL LINE.
- H. OPEN NEW 30" VALVE #3.
- I. OPEN EX. 30" VALVE (D).
- AFTER SEQUENCE #3
- FILL LINE IS ACTIVE.
  - BYPASS ASSEMBLY IS ACTIVE.



SEQUENCE #4 - EX. WATER MAIN ABANDONMENT

- A. REMOVE APPROXIMATELY 50' OF 30" DIP.
- B. REMOVE APPROXIMATELY 20' OF 30" DIP.
- C. INSTALL (2) CAPS AND GROUT 165' OF 30" DIP.
- D. PLUG AND BURY EX. 30" VALVE (C)



ELEVATIONS SHOWN HEREON ARE BASED ON NORTH AMERICA VERTICAL DATUM OF 1988 (NAVD '88).  
CONVERSION FACTOR TO NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD '29) IS + 1.24.

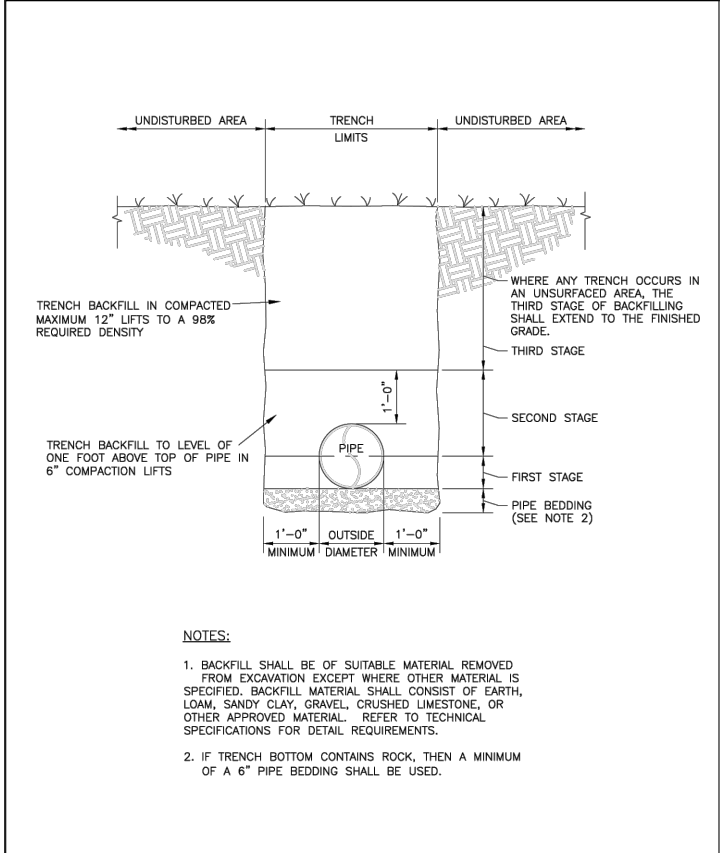
NO.	DATE	DESCRIPTION

DATE: JUNE 16, 2025  
PROJECT NO. 20247135-000  
FILE NO. 03-49-25  
SCALE: AS SHOWN

Construction Plans  
Construction  
Sequence Plan

SHEET NUMBER

\\tms01\Drawings\2024\135-000\Utilities\Drawings\2024\135-000\_Phase 1 Utility Plan.dwg (D (1)) Michael.Tsao Jun 16, 2025 - 2:11pm



PIPE SIZE IN INCHES	RESTRAINED PIPE LENGTH IN FEET							
	VERTICAL BENDS							
	90°		45°		22-1/2°		11-1/4°	
	UPPER	LOWER	UPPER	LOWER	UPPER	LOWER	UPPER	LOWER
4	60	24	25	10	12	5	6	3
6	85	34	35	14	17	7	9	3
8	110	43	45	18	22	9	11	9
10	133	52	55	21	27	10	13	5
12	155	60	64	25	31	12	15	6
16	198	76	82	31	40	15	20	8
18	218	83	90	35	44	17	22	8
20	238	90	98	37	47	18	23	9
24	277	104	115	43	55	21	27	10
30	330	122	136	51	66	24	33	12
36	379	139	156	57	75	28	38	14

PIPE SIZE IN INCHES	RESTRAINED PIPE LENGTH IN FEET				
	HORIZONTAL BENDS				
	90°	45°	22-1/2°	11-1/4°	DEAD ENDS (2)
4	23	9	5	2	55
6	32	13	6	3	77
8	40	17	8	4	100
10	48	20	10	5	120
12	56	23	11	6	141
16	71	29	14	7	181
18	77	32	15	8	200
20	84	35	17	8	218
24	96	40	19	10	253
30	112	47	22	11	303
36	127	53	25	13	350

NOTES:

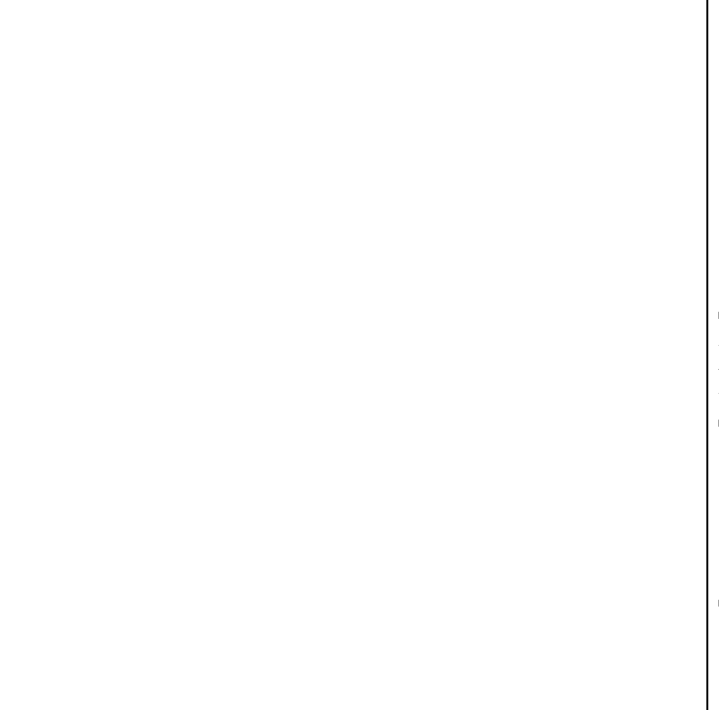
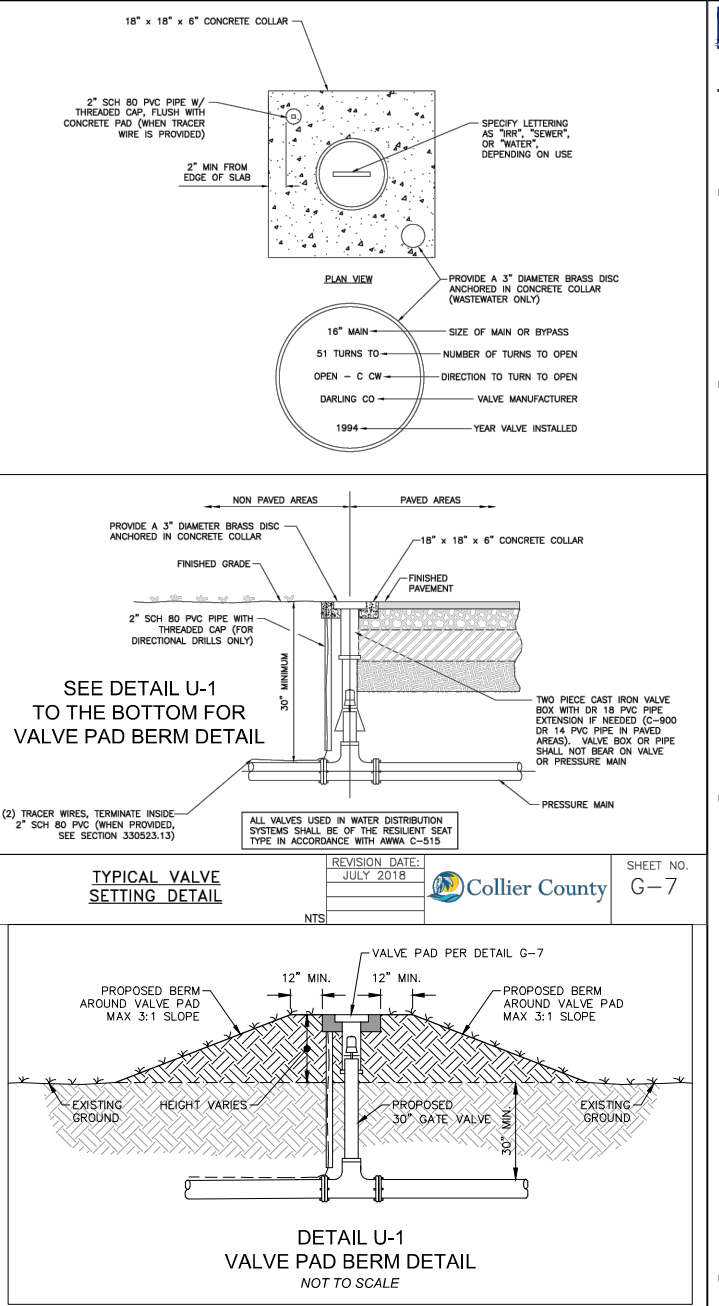
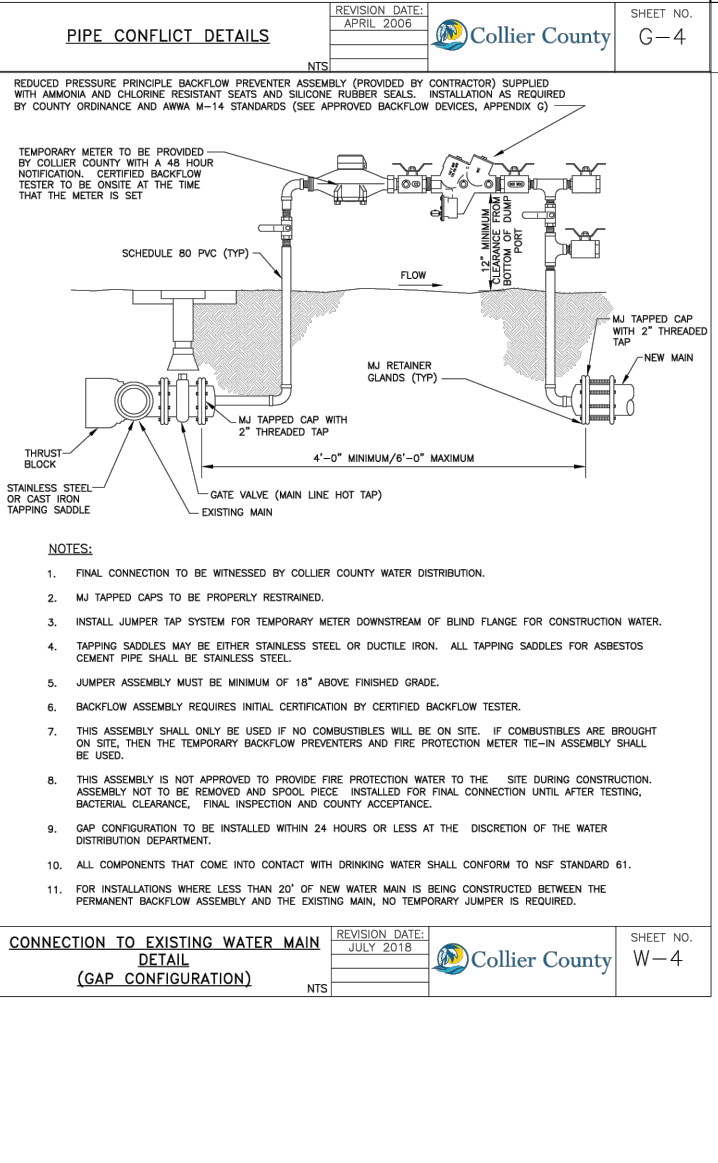
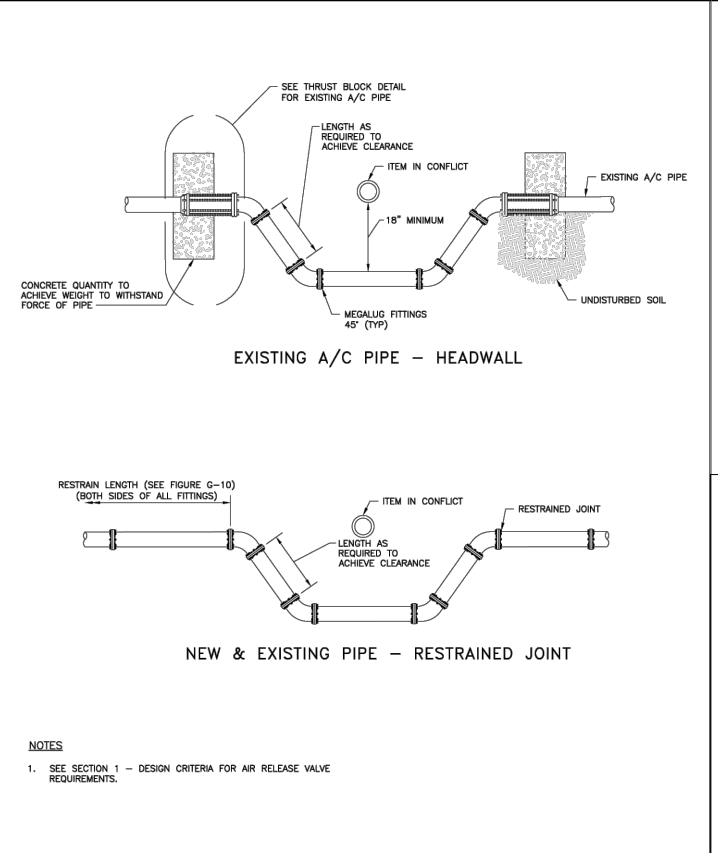
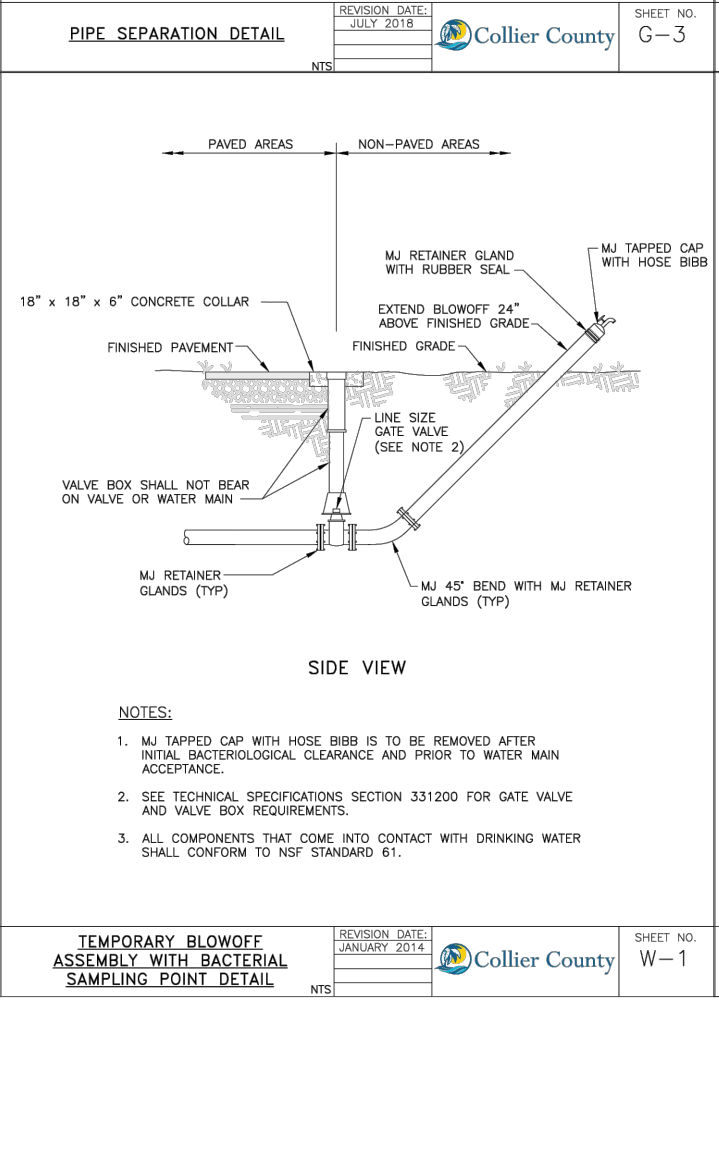
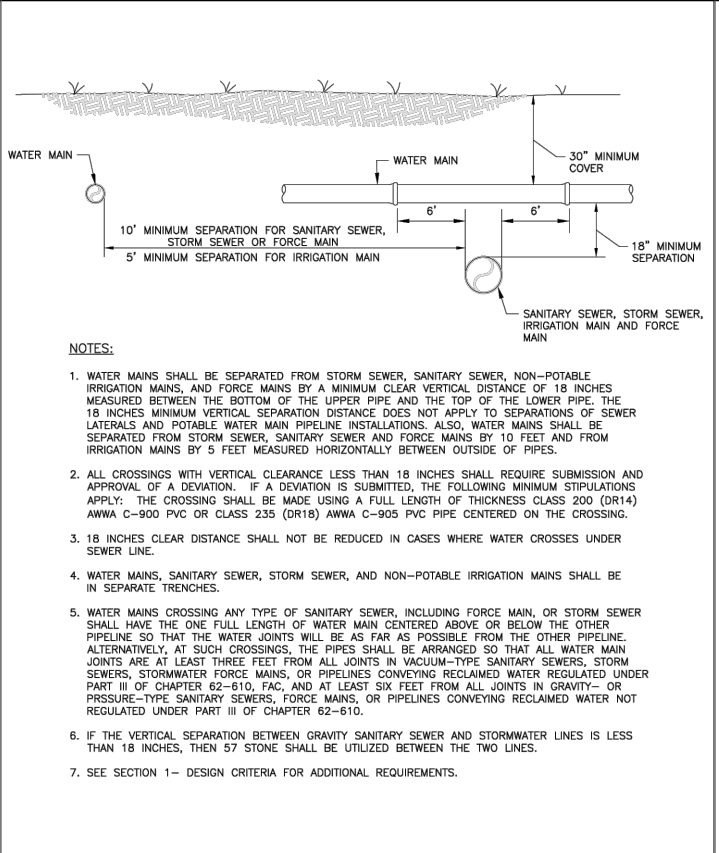
- RESTRAIN ALL PIPE JOINTS WITHIN THE DISTANCE SHOWN ON THE TABLES MEASURED FROM THE POINT OF CONNECTION.
- ISOLATION VALVES SHALL BE TREATED AS DEAD ENDS. WITH RESTRAINT ON BOTH SIDES OF THE VALVE.
- RESTRAINT IS FOR BRANCH OF TEE. IF BRANCH SIZE IS NOT ON TABLE, USE NEXT LARGEST BRANCH.
- RESTRAINT IS FOR LARGE DIAMETER SIDE OF REDUCER. IF REDUCER SIZE IS NOT ON TABLE, USE NEXT SMALLER REDUCER (SMALL END).
- THIS SCHEDULE IS TO BE USED FOR DUCTILE IRON AND PVC PIPE.

REVISION DATE: JANUARY 2025

Collier County

SHEET NO. G-10

PIPE RESTRAINT SCHEDULE		REVISION DATE: JANUARY 2025	Collier County	SHEET NO. G-10
NTS				



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WILLIAM HURRICANE SAUM, PE  
FL License No. 88659

**Collier County**

Phase 1 - Carica Connection  
Vanderbilt Beach Rd & Airport Pulling  
Transmission Water Main Improvement  
Collier County, Florida

REVISIONS	DATE	DESCRIPTION
NO.		

DATE: JUNE 16, 2025  
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Construction Plans  
1 of 2

SHEET NUMBER  
**D-01**

