

INDEX OF SHEETS:

ALL ELEVATIONS SHOWN REFER TO NORTH
AMERICAN VERTICAL DATUM (NAVD) 1988

CITY OF NAPLES CITY COUNCIL MEMBERS	
TERESA HEITMANN	MAYOR
MICHAEL McCABE	VICE MAYOR
TERRY HUTCHISON	COUNCIL MEMBER
PAUL PERRY	COUNCIL MEMBER
TED BLANKENSHIP	COUNCIL MEMBER
RAYMOND CHRISTMAN	COUNCIL MEMBER
BETH PETRUNOFF	COUNCIL MEMBER

ROBERT MIDDLETON	PUBLIC WORKS/UTILITY DIRECTOR
MICHELLE BAINES	UTILITY DEPUTY DIRECTOR



The map displays the coastal region of Naples, Florida, with the Gulf of Mexico to the west. Key locations include Bonita Springs, Bonita Beach, Vanderbilt Beach, and Golden Gate. Major roads shown are US Highway 41, US Highway 75, and US Highway 1. Various parks and landmarks are marked, such as Lovers Key State Park, Dog Beach, Bonita Beach Park, Barefoot Beach, Cocohatchee River Park, Delnor-Wiggins Pass State Park, Pelican Bay Park, Clam Pass Beach Park, Veterans Park, North Collier Regional Park, Vineyards Park, and Golden Gate Park. A red arrow points to a specific location on the map, labeled 'PROJECT'. An inset map shows the location of Naples relative to the surrounding area. The map also includes a scale bar and a north arrow.

THE CONTRACTOR SHALL VERIFY LOCATION OF
UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION.
"ALWAYS CALL 811 BEFORE YOU DIG"
WWW.SUNSHINE811.COM

<u>FACILITIES:</u>	<u>OWNER:</u>	<u>TELEPHONE:</u>
CABLE TV:	COMCAST (24 HR EMERGENCY)	239-432-1805
ELECTRIC:	FLORIDA POWER & LIGHT (24 HR EMERGENCY)	239-947-7356 800-468-8243
TELEPHONE:	CENTURY LINK	239-263-6216
WASTEWATER	CITY OF NAPLES UTILITIES	239-213-4713
WATER	CITY OF NAPLES UTILITIES	239-213-4713
GAS	TECO - PEOPLES GAS SYSTEM	239-690-5517

CIVIL:	BOWMAN 6200 WHISKEY CREEK DR. FORT MYERS, FL 33919
ENVIRONMENTAL:	PASSARELLA & ASSOCIATES, INC. 13620 METROPOUS AVE. #200 FORT MYERS, FL 33912
ELECTRICAL:	RKS CONSULTING ENGINEERS 12651 MCGREGOR BLVD STE. 4-402 FORT MYERS, FL 33919
ELECTRICAL:	RKS CONSULTING ENGINEERS 12651 MCGREGOR BLVD STE. 4-402 FORT MYERS, FL 33919
HYDROLOGICAL ANALYSIS:	BOWMAN 2770 HORSEHOE DRIVE SOUTH, SUITE NAPLES, FL 34104

Bowman Consulting Group, Ltd.
6200 Whiskey Creek Drive
Fort Myers, FL 33919
Phone (239) 985-1200
www.bowmanconsulting.com
© Bowman Consulting Group, Ltd.



CITY OF NAPLES UTILITY DEPARTMENT SHALL BE RESPONSIBLE FOR THE PROPOSED WATER MAIN IMPROVEMENTS CONSTRUCTION AND MAINTENANCE.



THESE DRAWINGS ARE NOT APPROVED UNLESS SIGNED & SEALED BELOW:		CAD FILE NAME: 21107.CVR
		DRAWING NO. 1518
		PROJECT NO. 2021.107
		SHEET 1
		REVISIONS
		DATE

C:\FL-FTMY-HM\HMDATA-FM\2021\2021107\DW\PLAN\SECONDARY DR SYSTEM\21107.02.GN-Water Main.dwg Tab: GN Apr 21, 2025 - 12:17pm

CITY OF NAPLES UTILITY IMPROVEMENTS:

1. THE CONTRACTOR SHALL COORDINATE WITH THE CITY FOR WATER MAIN REPLACEMENT AND SERVICES. THE CONTRACTOR SHALL PREPARE A PLAN AND SCHEDULE FOR UTILITY ADJUSTMENTS FOR REVIEW AND APPROVAL BY THE CITY AND COUNTY. THE SCHEDULE SHALL BE UPDATED AS NEEDED DURING CONSTRUCTION.
2. THE EXISTING WATER (EXIST. AC, C1/ PVC), CARE SHALL BE TAKEN IN THE WORK NEAR EXISTING MAINS. ALL UTILITY ADJUSTMENTS SHALL BE IN ACCORDANCE WITH THE CITY REQUIREMENTS, AND BE PERFORMED BY QUALIFIED PERSONNEL. ALL REMOVED AC PIPE SHALL BE BAGGED AND LABELED AT THE SITE AND PROPERLY DELIVERED TO THE CITY DESIGNATED SITE FOR DISPOSAL.
3. ALL MATERIAL AND CITY CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF NAPLES UTILITY STANDARDS.
4. THE CONTRACTOR SHALL COORDINATE WITH THE CITY FOR ALL UTILITY OUTAGES. UTILITY ADJUSTMENTS SHOULD BE COMPLETED IN MULTIPLE LOCATIONS TO MINIMIZE OUTAGES AND DISRUPTION.

SPECIFICATIONS:

1. ALL ROADWAY AND DRAINAGE CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE COLLIER COUNTY CONSTRUCTION STANDARDS HANDBOOK FOR WORK WITHIN THE PUBLIC RIGHT-OF-WAY (LATEST EDITION), THE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (JULY, 2024) AND THE FDOT STANDARD PLANS FOR ROAD CONSTRUCTION (FY 2024-2025 WITH REVISIONS). WHERE CONFLICTS EXIST, THE MOST STRINGENT SHALL APPLY.
2. PIPE IDENTIFIED 'HD' SHALL BE ADS HP STORM PIPE OR PRE-APPROVED EQUIVALENT. THE PIPE SHALL HAVE THE SAME INTERIOR AND ANNULAR EXTERIOR AND MEET OR EXCEED ASTM F2881 AND ASHTO M330. PIPE SHALL BE JOINED WITH A GASKETED INTERIOR BELL AND SPIGOT MEETING ASTM F2881 AND SHALL BE WATERTIGHT IN ACCORDANCE WITH ASTM D3212. GASKETS SHALL MEET ASTM F477 AND BE FACTORY INSTALLED.AN EXTERIOR BELL WRAP SHALL BE INSTALLED. PIPE INSTALLATION AND BACKFILL/COMPACTION SHALL BE IN ACCORDANCE WITH ASTM D2321 AND MANUFACTURERS REQUIREMENTS.

UTILITY SPECIFICATIONS

1. ALL CITY OF NAPLES UTILITY STANDARD DETAILS AND SPECIFICATIONS (UTILITY STANDARDS) ARE APPLICABLE TO THIS PROJECT AND ARE MADE A PART OF THE CONTRACT DOCUMENTS BY REFERENCE. REFER TO LATEST EDITION AND REVISIONS OF THE CITY'S UTILITIES STANDARDS; IN THE EVENT OF CONFLICT BETWEEN THE CITY UTILITIES STANDARDS MANUAL AND THESE DRAWINGS, THE MORE STRINGENT REQUIREMENT SHALL APPLY. SPECIAL ATTENTION IS TO BE PAID TO THE FOLLOWING REQUIREMENTS, SPECIFIC TO THIS PROJECT:
 - A. CONTRACTOR SHALL FLUSH AND PRESSURE TEST ALL NEW PIPING. REFER TO UTILITY STANDARDS.
 - B. ALL WATER PIPING SHALL BE BLUE PVC, C900 DR 14 AND DR 18 AS NOTED. ALL FITTINGS SHALL BE RESTRAINED PER UTILITY STANDARDS.
 - C. A COLOR PRE AND POST CONSTRUCTION AUDIO-VIDEO RECORDING SHALL BE PERFORMED AND PROVIDED TO THE CITY AND ENGINEER.
 - D. A RECORD SURVEY OF THE COMPLETED PROJECT SHALL BE PROVIDED BY A FLORIDA REGISTERED SURVEYOR.
2. THE CONTRACTOR SHALL COORDINATE ALL OUTAGES AND CONNECTIONS WITH THE CITY A MINIMUM OF TWO WEEKS PRIOR.
3. OPERATION OF CONSTRUCTION EQUIPMENT IS ONLY PERMITTED MONDAY THROUGH FRIDAY, 7:00 AM TO 7:00 PM. WORK SHALL BE PRE-APPROVED BY THE CITY FOR OPERATION OF ANY CONSTRUCTION EQUIPMENT DURING OTHER PERIODS.
4. ALL EXCAVATION SHALL BE UNCLASSIFIED WITH NO ADDITIONAL PAYMENT FOR ROCK EXCAVATION OR DEWATERING.
5. THE CONTRACTOR SHALL PROVIDE 48 HOURS WRITTEN NOTICE TO THE ENGINEER, OWNERS REPRESENTATIVE, & THE CITY OF NAPLES PRIOR TO THE FOLLOWING ACTIVITIES:
 - A. COMMENCEMENT.
 - B. CHANGES TO APPROVED SCHEDULES, SUBCONTRACTORS, OR RESIDENT SUPERINTENDENT.

- C. WATER SYSTEM/RAW WATER SYSTEM
 1. HOT TAPS
 2. PRESSURE TEST
 3. CHLORINATION OF WATER LINES
 4. FLUSHINGS
 5. BACTERIOLOGICAL SAMPLINGS
 6. FINAL CONNECTION OF NEW MAINS
 7. FINAL ABANDONMENT OF EX. MAINS
 8. WATER SERVICE & WATER METER SWITCH OVER
 9. BACKFLOW DEVICE INSTALLATION

- D. THE CONTRACTOR SHALL COORDINATE WITH THE CITY FOR BACTERIOLOGICAL SAMPLING. THE CITY SHALL PERFORM ALL SAMPLING AND TESTING IN-HOUSE. TYPICALLY, CHLORINATION SHALL BE DONE ON FRIDAYS, FLUSHING ON MONDAYS WITH SAMPLING ON TUESDAY AND WEDNESDAY. IF NECESSARY ADDITIONAL SAMPLING CAN BE COMPLETED ON THURSDAY.
6. THE PROPOSED PROJECT SHALL BE CONSTRUCTED IN PHASES TO MAINTAIN EXISTING WATER SERVICE AT ALL TIMES, EXCEPT DURING INDIVIDUAL WATER SERVICE SWITCH OVER. EXISTING WATER SERVICE SWITCH OVERS SHALL BE COORDINATED IN ADVANCE WITH THE PROPERTY OWNER AND THE CITY.
 7. THE EXISTING WATER MAINS ARE AC PIPE. CARE SHALL BE TAKEN IN THE WORK NEAR EXISTING MAINS. ALL UTILITY ADJUSTMENTS SHALL BE IN ACCORDANCE WITH THE CITY REQUIREMENTS, AND BE PERFORMED BE QUALIFIED AC PERSONNEL. ALL REMOVED AC PIPE SHALL BE BAGGED AND LABELED AT THE SITE AND PROPERLY DELIVERED TO THE CITY DESIGNATED SITE FOR DISPOSAL.

LEGEND

	FIRE HYDRANT ASSEMBLY		CASING PIPE
	WATER VALVE		EXISTING WATER MAIN
	WATER METER		EXISTING FORCE MAIN
	BLOW OFF		EXISTING STORM DRAIN
	AIR RELEASE VALVE		EXISTING TELEPHONE
	REDUCER		EXISTING ELECTRICAL
	22 1/2' BEND		EXISTING TV
	45' BEND		FENCE
	90' BEND		EDGE OF PAVEMENT
	TEE		FACE OF/BACK OF CURB
	CROSS		RIGHT OF WAY
	PLUG		EASEMENT
	MITERED END SECTION		SIDEWALK
			SILT FENCE

ABBREVIATIONS:

ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	GD	GRAVITY DRAIN
ARV	AIR RELEASE VALVE	GV	GATE VALVE
ASTM	AIR RELEASE VALVE	HDPE	HIGH-DENSITY POLYETHYLENE
AWWA	AMERICAN SOCIETY FOR TESTING AND MATERIAL	INV	INVERT
BE	AMERICAN WATER WORKS ASSOCIATION	LBE	LANDSCAPE BUFFER EASEMENT
B/L	BURIED ELECTRIC	LF	LINEAR FEET
BM	BENCH MARK	LN	LANE
BT	BURIED TELEPHONE	MAX	MAXIMUM
BV	BUTTERFLY VALVE	MH	MANHOLE
CA	ASBESTOS CEMENT	MIN	MINIMUM
CC	CENTER TO CENTER	MJ	MECHANICAL JOINT
CI	CAST IRON	MLP	METAL LIGHT POLE
CL	CLASS/CENTERLINE	NO.	NUMBER
CLY	CLAY	NTS	NOT TO SCALE
CO	CLEANOUT	OC/EW	ON CENTER EACH WAY
CONC	CONCRETE	PCL	PROFILE GRADE LINE
CORP.	CORPORATION	PPW	POWER POLE WOOD
CP	CONTROL PANEL	PPC	POWER POLE CONCRETE
CT	COURT	PSI	PER SQUARE INCH
CTS	COPPER TUBE SIZE	PVC	POLYVINYL CHLORIDE
CUE	COLLIER UTILITY EASEMENT	PVMT	PAVEMENT
DFM	DRAINAGE FORCE MAIN	RCP	REINFORCED CONCRETE PIPE
D.I.P.	DUCTILE IRON PIPE	RD	ROAD
DIA	DIAMETER	RED.	REDUCER
DR	DRIVE/DIMENSION RATIO	REQD	REQUIRED
DRN	DRAIN	RWJ	RESTRAINED MECHANICAL JOINT
ESMT	EASEMENT	RW/R.O.W.	RIGHT OF WAY
ELEV	ELEVATION	SAV	SANITARY
EOP	EDGE OF PAVEMENT	SCO	SEWER CLEANOUT
EX	EXISTING	SMH	SANITARY MANHOLE
FFE	FINISH FLOOR ELEVATION	SS	SANITARY SEWER/STAINLESS STEEL
FM	FORCE MAIN	ST	STREET
FDOT	FLORIDA DEPARTMENT OF TRANSPORTATION	STA	STATION
FT	FEET	SW	SIDEWALK
FLG	FLANGED PIPE FITTING	TCE	TEMPORARY CONSTRUCTION EASEMENT
FO	FIBER OPTIC	TYP	TYPICAL
GALV	GALVANIZED	UE	UNDERGROUND ELECTRIC
		VCP	VITRIFIED CLAY PIPE
		WM	WATER METER/WATER MAIN

NUMBER	REVISIONS	DATE

BIG CYPRESS GOLF AND
COUNTRY CLUB ESTATES
COLLIER COUNTY, FLORIDA

DESIGNED BY	RB	DATE
DRAWN BY	KP	DATE 08/14/2023
CHECKED BY	RB	DATE 04/2025
VERTICAL SCALE	N/A	HORIZONTAL SCALE N/A



Bowman Consulting Group, Ltd.
6200 Whiskey Creek Drive
Fort Myers, FL 33919
Phone (239) 555-1200
www.bowmanconsulting.com
© Bowman Consulting Group, Ltd.

Bowman
FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER 30462

GENERAL NOTES

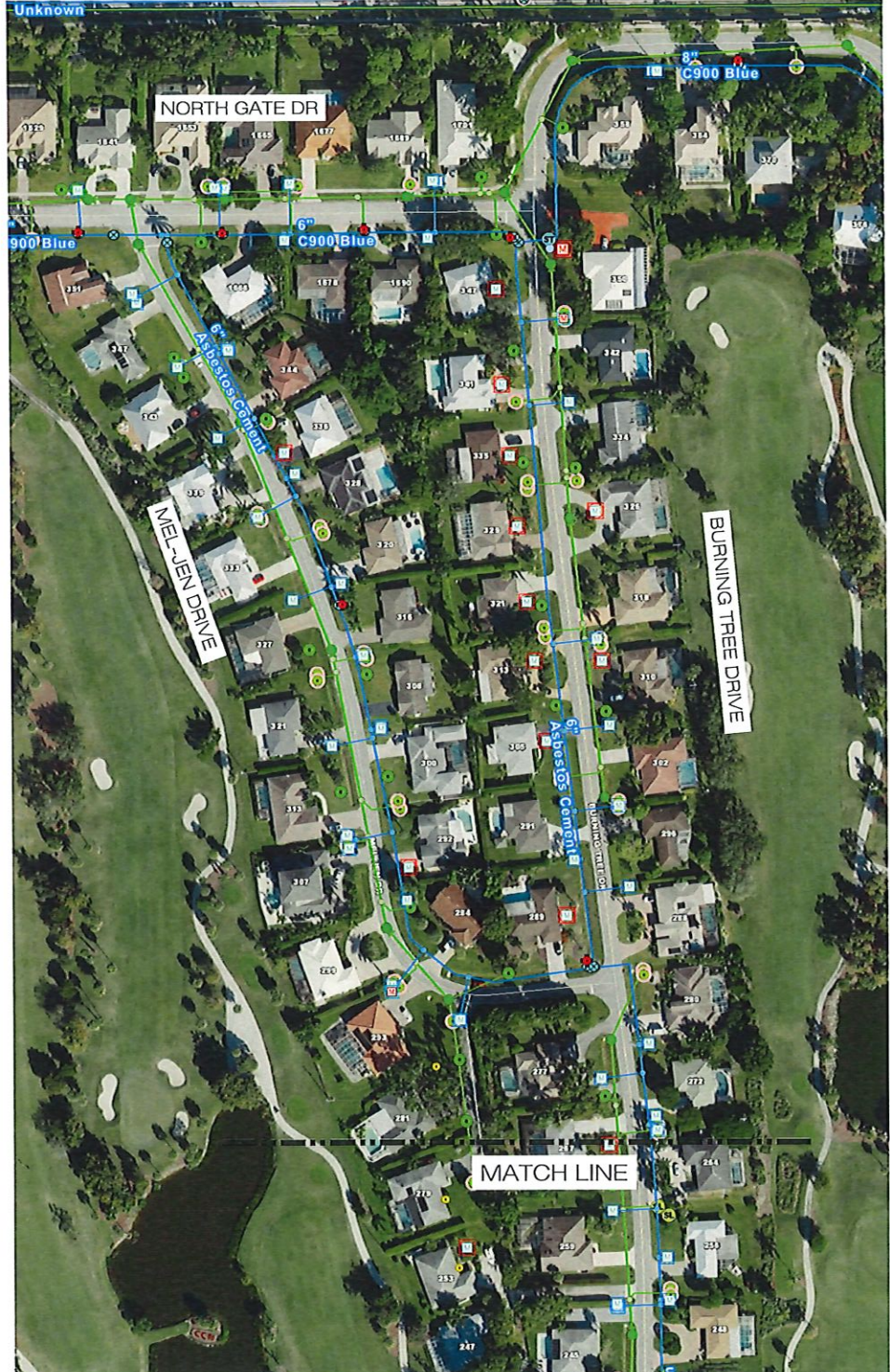
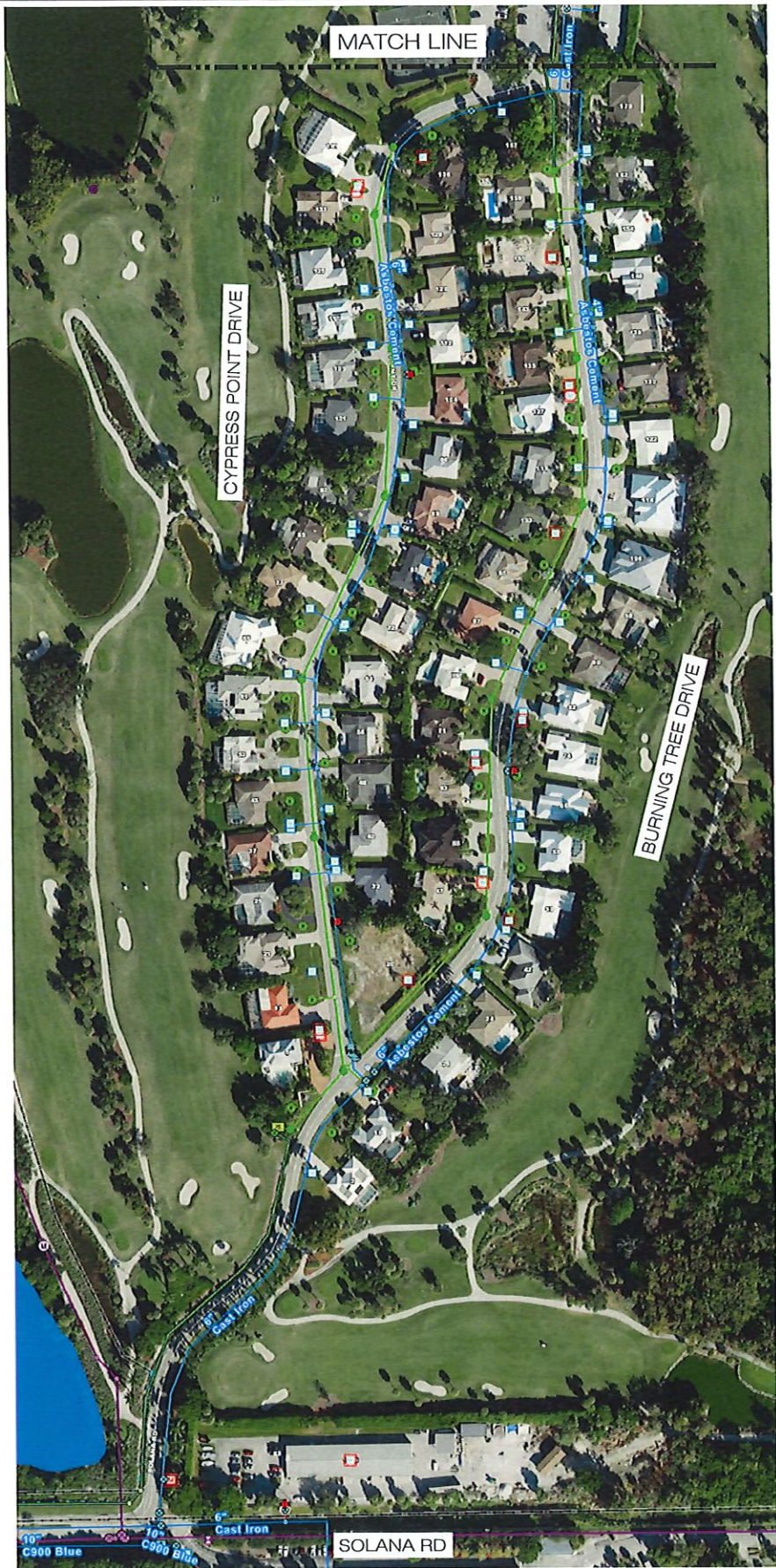
THESE DRAWINGS ARE NOT APPROVED
UNLESS SIGNED & SEALED BELOW:
RICHARD E. BRULANSKI, P.E.
FLORIDA PROFESSIONAL ENGINEER
REGISTRATION #42339
DATE

CAD FILE NAME:	21107.00.GN-WM
PROJECT NO.:	2021107

DRAWING NO.:	1518
SHEET NO.:	2

April 21, 2025

Q:\FL\FTMY-HM\DATA-FM\2021\2021107\DW\PLAN\SECONDARY DR SYSTEM\21107.04.W&S GIS-WATER.dwg Tab: UDET Apr 21, 2025 - 12:41pm



NOTES:

1. GIS INFORMATION PROVIDED BY THE CITY OF NAPLES UTILITY DEPT.
2. THESE MAPS ARE INTENDED FOR USE AS A GENERAL REFERENCE FOR POTABLE WATER AND SANITARY SEWER RESIDENTIAL SERVICES LOCATION.
3. CONTRACTOR IS RESPONSIBLE TO LOCATE AND VERIFY DEPTH OF POTABLE WATER SERVICE LINES AND SANITARY SEWER LATERALS PRIOR TO CONSTRUCTION WITHIN THE RIGHT-OF-WAY FRONTAGE OF EVERY RESIDENTIAL PROPERTY AND NOTIFY ENGINEER OF ANY POTENTIAL CONFLICT WITH THE PROPOSED IMPROVEMENTS.
4. ANY REPAIRS OF DAMAGED BY THE CONTRACTOR TO UTILITIES SHALL BE REPAIRED AND BE AT THE CONTRACTOR'S EXPENSE.

NUMBER	REVISIONS	DATE

BIG CYPRESS GOLF AND
COUNTRY CLUB ESTATES
COLLIER COUNTY, FLORIDA

DESIGNED BY	RB	DATE
DRAWN BY	VZ	08/16/2023
CHECKED BY	RB	04/2025
VERTICAL SCALE	N/A	HORIZONTAL SCALE



Bowman Consulting Group, Ltd.
6200 Whiskey Creek Drive
Fort Myers, FL 33919
Phone (239) 665-1200
www.bowmanconsulting.com
© Bowman Consulting Group, Ltd.

Bowman
FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER 30462

POTABLE WATER & SANITARY
SEWER SERVICES LOCATION
MAP - CITY OF NAPLES GIS

THESE DRAWINGS ARE NOT APPROVED
UNLESS SIGNED & SEALED BELOW:
RICHARD E. BRYLANSKI, P.E.
FLORIDA PROFESSIONAL ENGINEER
REGISTRATION # 42339
DATE:

CAD FILE NAME:
21107.00.GIS
PROJECT NO.:
2021107

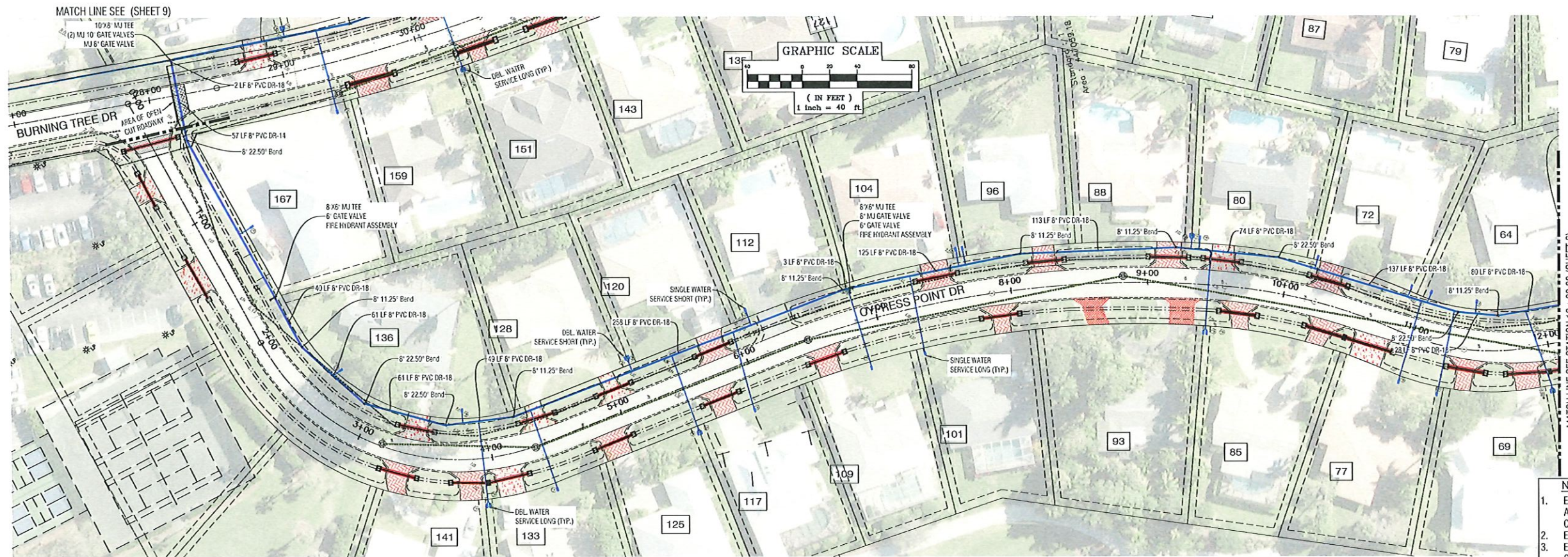
April 21, 2025
DRAWING NO.:
1518
SHEET NO.:
3

Q:\FL-FTMY-HM\DATA-FA\2021\107\DW PLAN\SECONDARY DR SYSTEM\21107.05.PLPR-Water Main.dwg Tab: 4 M JEN (2) Apr 29, 2025 - 8:03am

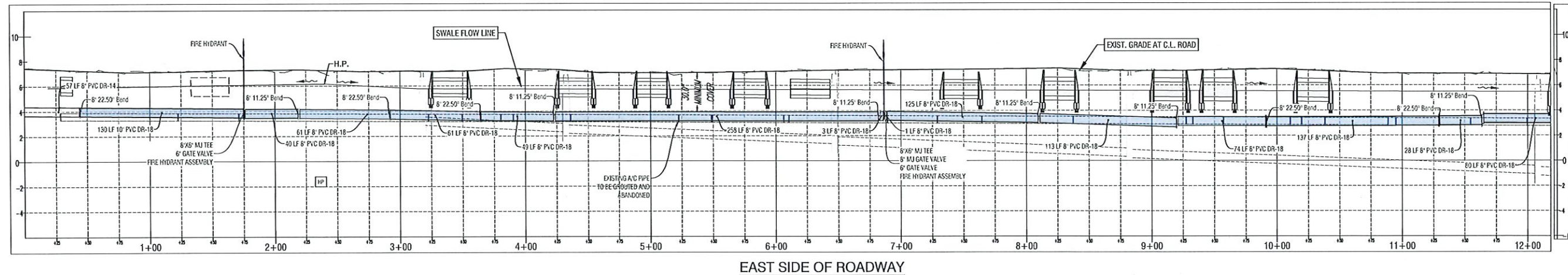


NUMBER REVISIONS DATE			BIG CYPRESS GOLF AND COUNTRY CLUB ESTATES COLLIER COUNTY, FLORIDA		DESIGNED BY RB DATE 08/14/2023 CHECKED BY RB DATE 04/2025 VERTICAL SCALE HORIZONTAL SCALE N.T.S.	Bowman Consulting Group, Ltd. 6200 Whiskey Creek Drive Fort Myers, FL 33919 Phone (239) 555-1200 www.bowmanconsulting.com © Bowman Consulting Group, Ltd.	Bowman FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER 30462	WATER MAIN REPLACEMENT PHASING PLAN	THESE DRAWINGS ARE NOT APPROVED UNLESS SIGNED & SEALED BELOW: RICHARD E. BRYLANSKI, P.E. FLORIDA PROFESSIONAL ENGINEER REGISTRATION #12339 DATE	CAD FILE NAME: 21107.00.PLPR PROJECT NO.: 2021107	DRAWING NO.: 1518 SHEET NO.: 3A
--	--	--	--	--	---	--	--	--	--	---	---

Q:\FL-FTM-HM\HDATA-FM\2021\2021107\DW\PLAN\SECONDARY DR SYSTEM\21107.05.PLPR-Water Main.dwg Tab: 5 C1 Apr 21, 2025 - 1:04pm



- NOTES:
1. EXISTING A.C. WATER MAIN TO BE GROUTED AND ABANDONED IN PLACE, EXCEPT WHERE NEW CONSTRUCTION REQUIRES REMOVAL.
 2. EXISTING FIRE HYDRANTS TO BE REMOVED.
 3. EXISTING VALVES TO BE OPENED, AND REMOVE VALVE STEM, GROUT AND ABANDON IN PLACE.



NUMBER	REVISIONS	DATE

BIG CYPRESS GOLF AND
COUNTRY CLUB ESTATES
COLLIER COUNTY, FLORIDA

DESIGNED BY	RB	DATE	08/14/2023
DRAWN BY	KP	DATE	08/14/2023
CHECKED BY	RB	DATE	04/2025
VERTICAL SCALE	1"=4'	HORIZONTAL SCALE	1"=40'



Bowman Consulting Group, Ltd.
6200 Whiskey Creek Drive
Fort Myers, FL 33919
Phone (239) 555-1200
www.bowmanconsulting.com
© Bowman Consulting Group, Ltd.

Bowman

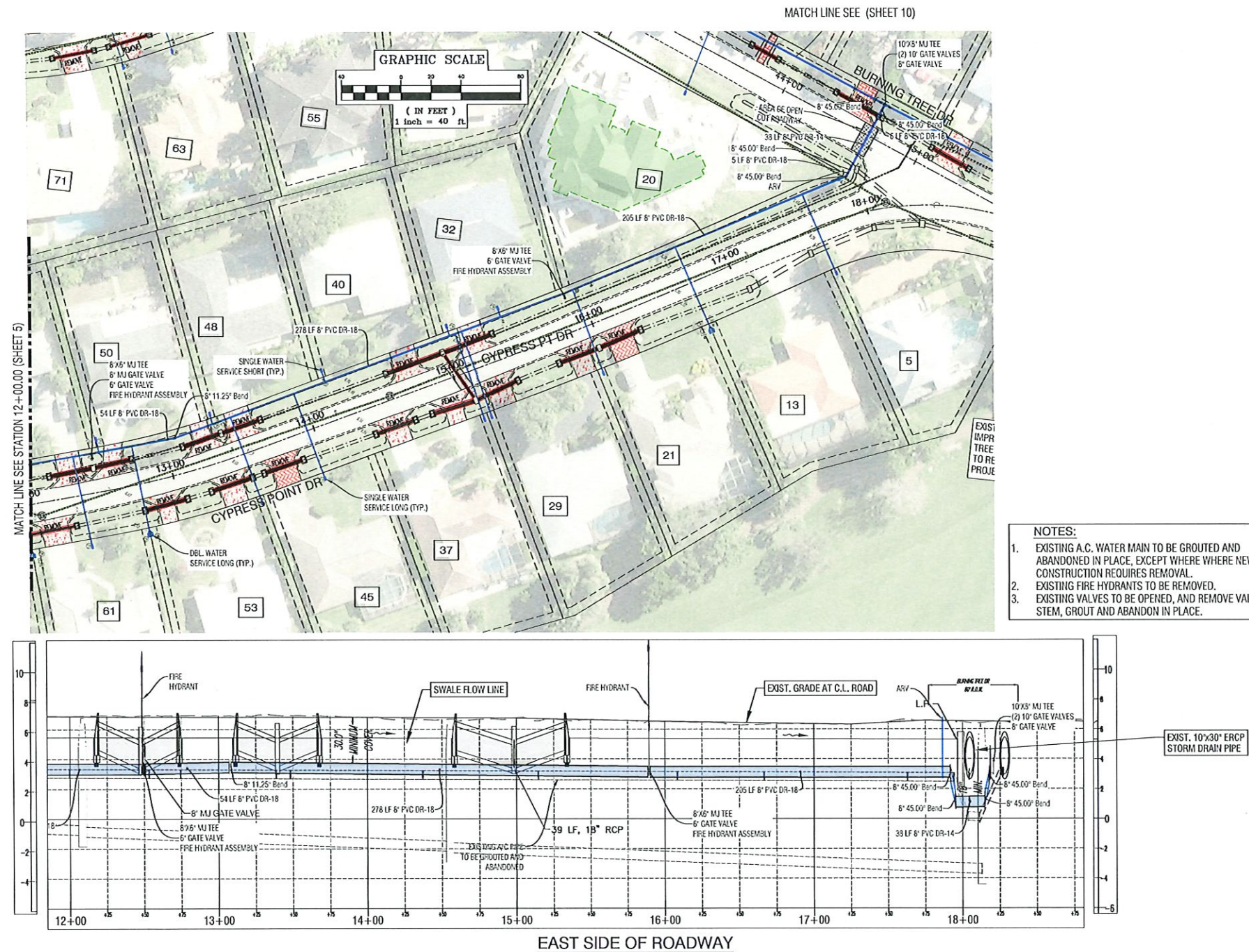
WATER MAIN REPLACEMENT
PLAN AND PROFILE 1
CYPRESS POINT DRIVE

THESE DRAWINGS ARE NOT APPROVED
UNLESS SIGNED & SEALED BELOW:
RICHARD E. SWILANSKI, P.E.
FLORIDA PROFESSIONAL ENGINEER
REGISTRATION #22393
DATE:

CAD FILE NAME:	21107.00.PLPR
PROJECT NO.:	2021107

DRAWING NO.:	1518
SHEET NO.:	5

April 21, 2025



Q:\FL-FTM-HM\HDATA-FW\2021\2021107\DW PLAN\SECONDARY DR SYSTEM\21107.05.PLPR-Water Main.dwg Tab: 6 C2 Apr 29, 2025 - 8:09am

NUMBER	REVISIONS	DATE
1		
2		
3		
4		

BIG CYPRESS GOLF AND
COUNTRY CLUB ESTATES
COLLIER COUNTY, FLORIDA

DESIGNED BY	RB	DATE	
DRAWN BY	KP	DATE	08/14/2023
CHECKED BY	RB	DATE	04/2025
VERTICAL SCALE	1"=4'	HORIZONTAL SCALE	1"=40'



Bowman Consulting Group, Ltd.
6200 Whiskey Creek Drive
Fort Myers, FL 33919
Phone (239) 555-1200
www.bowmanconsulting.com
© Bowman Consulting Group, Ltd.

Bowman

WATER MAIN REPLACEMENT
PLAN AND PROFILE 2
CYPRESS POINT DRIVE

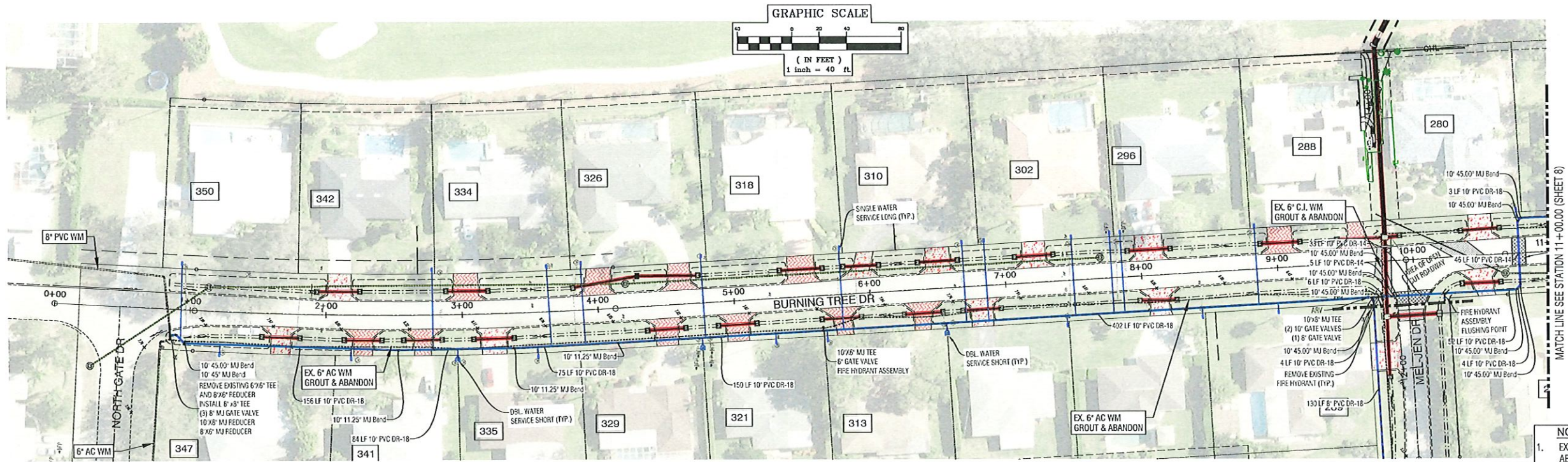
THESE DRAWINGS ARE NOT APPROVED
UNLESS SIGNED & SEALED BELOW:

RICHARD E. BIVANSKI, P.E.
FLORIDA PROFESSIONAL ENGINEER
REGISTRATION #42333
DATE

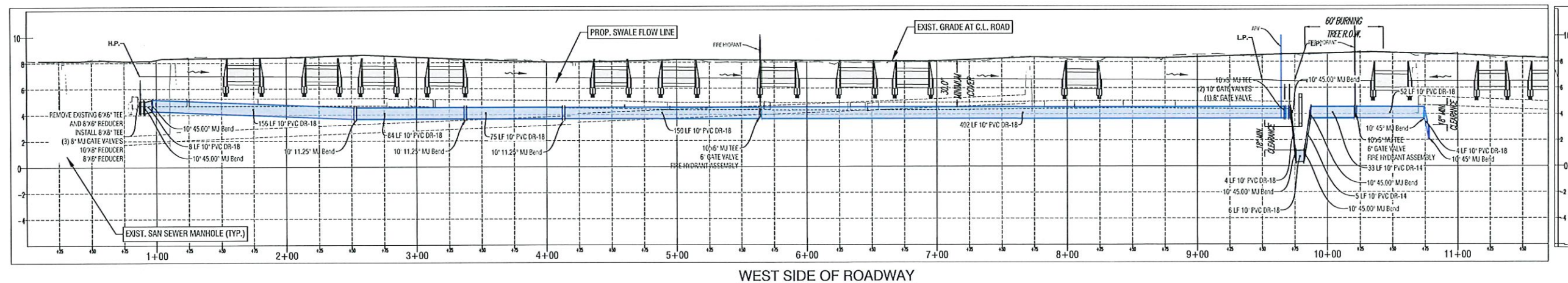
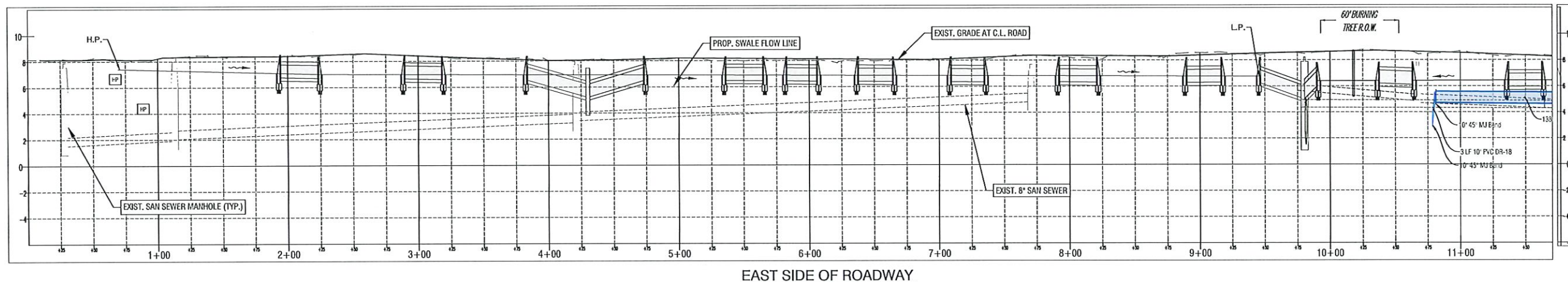
CAD FILE NAME:	21107.00.PLPR
PROJECT NO.:	2021107

DRAWING NO.:	1518
SHEET NO.:	6

April 29, 2025



- NOTES:**
1. EXISTING A.C. WATER MAIN TO BE GROUTED AND ABANDONED IN PLACE, EXCEPT WHERE NEW CONSTRUCTION REQUIRES REMOVAL.
 2. EXISTING FIRE HYDRANTS TO BE REMOVED.
 3. EXISTING VALVES TO BE OPENED, AND REMOVE VALVE STEM, GROUT AND ABANDON IN PLACE.



NUMBER	REVISIONS	DATE
1		
2		
3		
4		

BIG CYPRESS GOLF AND
COUNTRY CLUB ESTATES
COLLIER COUNTY, FLORIDA

DESIGNED BY
RB
DATE
08/14/2023
CHECKED BY
RB
DATE
04/2025
VERTICAL SCALE
1"=4'
HORIZONTAL SCALE
1"=40'



Bowman Consulting Group, Ltd.
6200 Whiskey Creek Drive
Fort Myers, FL 33919
Phone (239) 955-1200
www.bowmanconsulting.com
© Bowman Consulting Group, Ltd.

Bowman

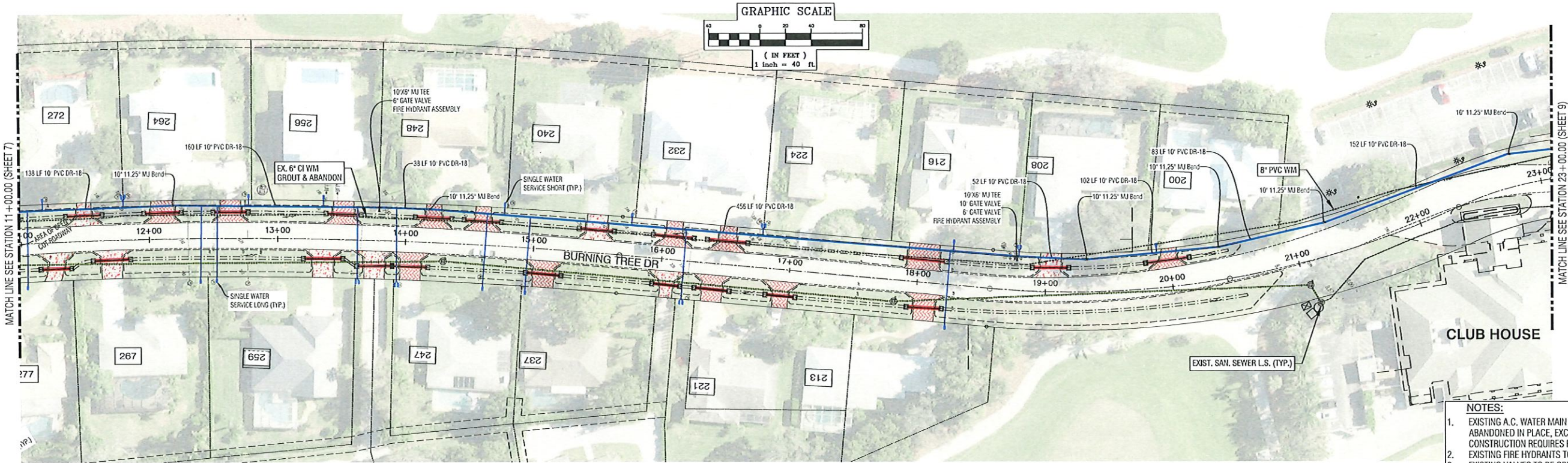
WATER MAIN REPLACEMENT
PLAN AND PROFILE 1
BURNING TREE DRIVE

THESE DRAWINGS ARE NOT APPROVED
UNLESS SIGNED & SEALED BELOW:
RICHARD E. BRILANSKI, P.E.
FLORIDA PROFESSIONAL ENGINEER
REGISTRATION #42339
DATE

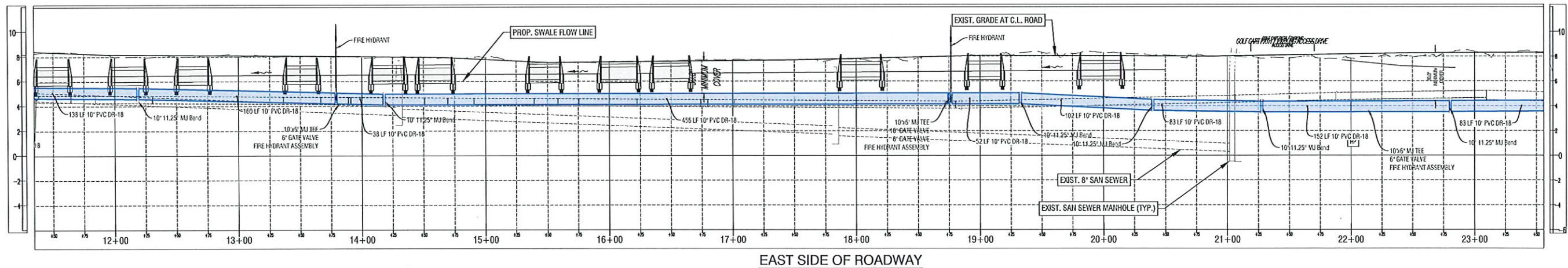
CAD FILE NAME:
21107.00.PLPR
PROJECT NO.:
2021107

April 21, 2025
DRAWING NO.:
1518
SHEET NO.:
7

Q:\FL\FTMY-HM\HDATA-FM\2021\107\DW PLAN\SECONDARY DR SYSTEM\21107.05.PLPR-Water Main.dwg Tab: 7 BTI Apr 21, 2025 - 1:37pm



- NOTES:**
1. EXISTING A.C. WATER MAIN TO BE GROUTED AND ABANDONED IN PLACE, EXCEPT WHERE NEW CONSTRUCTION REQUIRES REMOVAL.
 2. EXISTING FIRE HYDRANTS TO BE REMOVED.
 3. EXISTING VALVES TO BE OPENED, AND REMOVE VALVE STEM, GROUT AND ABANDON IN PLACE.



EAST SIDE OF ROADWAY

Q:\FL-FTM-HM\DATA-FM\2021\2021107\DW\PLAN\SECONDARY DR SYSTEM\21107.05.PLPR-Water Main.dwg Tab: 8 BTZ Apr 21, 2025 - 1:34pm

NUMBER	REVISIONS	DATE

BIG CYPRESS GOLF AND
COUNTRY CLUB ESTATES
COLLIER COUNTY, FLORIDA

DESIGNED BY	RB	DATE	
DRAWN BY	KP	DATE	08/14/2023
CHECKED BY	RB	DATE	04/2025
VERTICAL SCALE	1"=4'	HORIZONTAL SCALE	1"=40'



Bowman Consulting Group, Ltd.
6200 Whiskey Creek Drive
Fort Myers, FL 33919
Phone (239) 955-1200
www.bowmanconsulting.com
© Bowman Consulting Group, Ltd.

Bowman

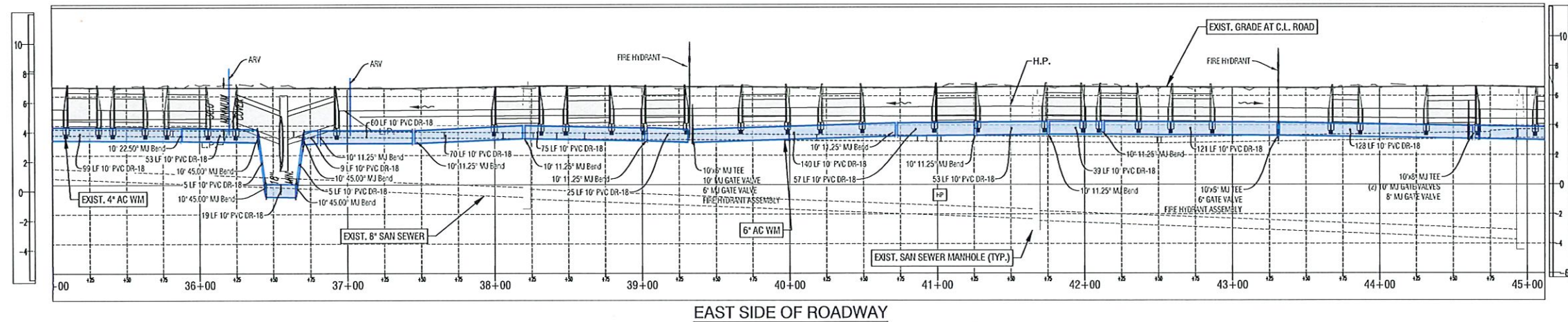
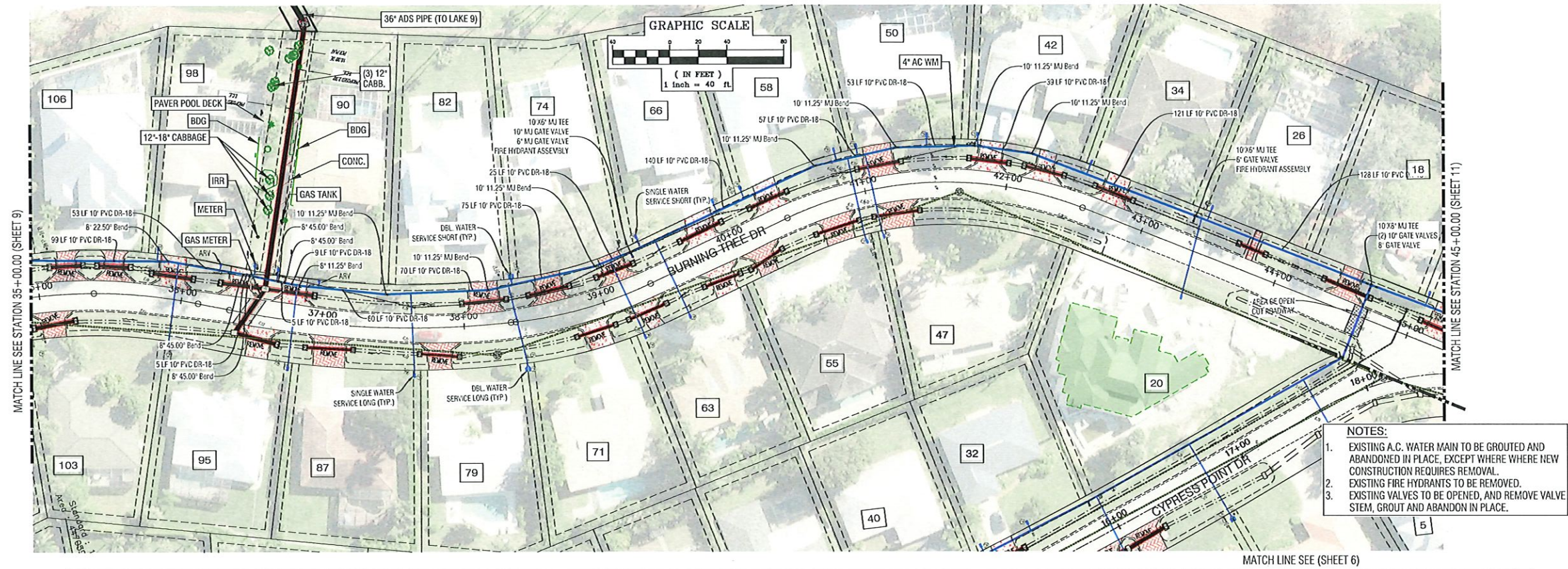
WATER MAIN REPLACEMENT
PLAN AND PROFILE 2
BURNING TREE DRIVE

THESE DRAWINGS ARE NOT APPROVED
UNLESS SIGNED & SEALED BELOW:
RICHARD E. BRYLANSKI, P.E.
FLORIDA PROFESSIONAL ENGINEER
REGISTRATION #12319
DATE:

CAD FILE NAME:
21107.00.PLPR
PROJECT NO.:
2021107

April 21, 2025
DRAWING NO.:
1518
SHEET NO.:
8

Q:\FL\FTMY-HM\HDATA-FM\2021\2021107\DW PLAN\SECONDARY DR SYSTEM\21107.05.PLPR-Water Main.dwg Tab: 10 BT4 Apr 21, 2025 - 1:51pm



NUMBER	REVISIONS	DATE
1		
2		
3		
4		

BIG CYPRESS GOLF AND
COUNTRY CLUB ESTATES
COLLIER COUNTY, FLORIDA

DESIGNED BY
RB
DATE
08/14/2023
CHECKED BY
KP
DATE
04/2025
VERTICAL SCALE
1"=4'
HORIZONTAL SCALE
1"=40'



Bowman Consulting Group, Ltd.
6200 Whiskey Creek Drive
Fort Myers, FL 33919
Phone (239) 955-1200
www.bowmanconsulting.com
© Bowman Consulting Group, Ltd.

Bowman

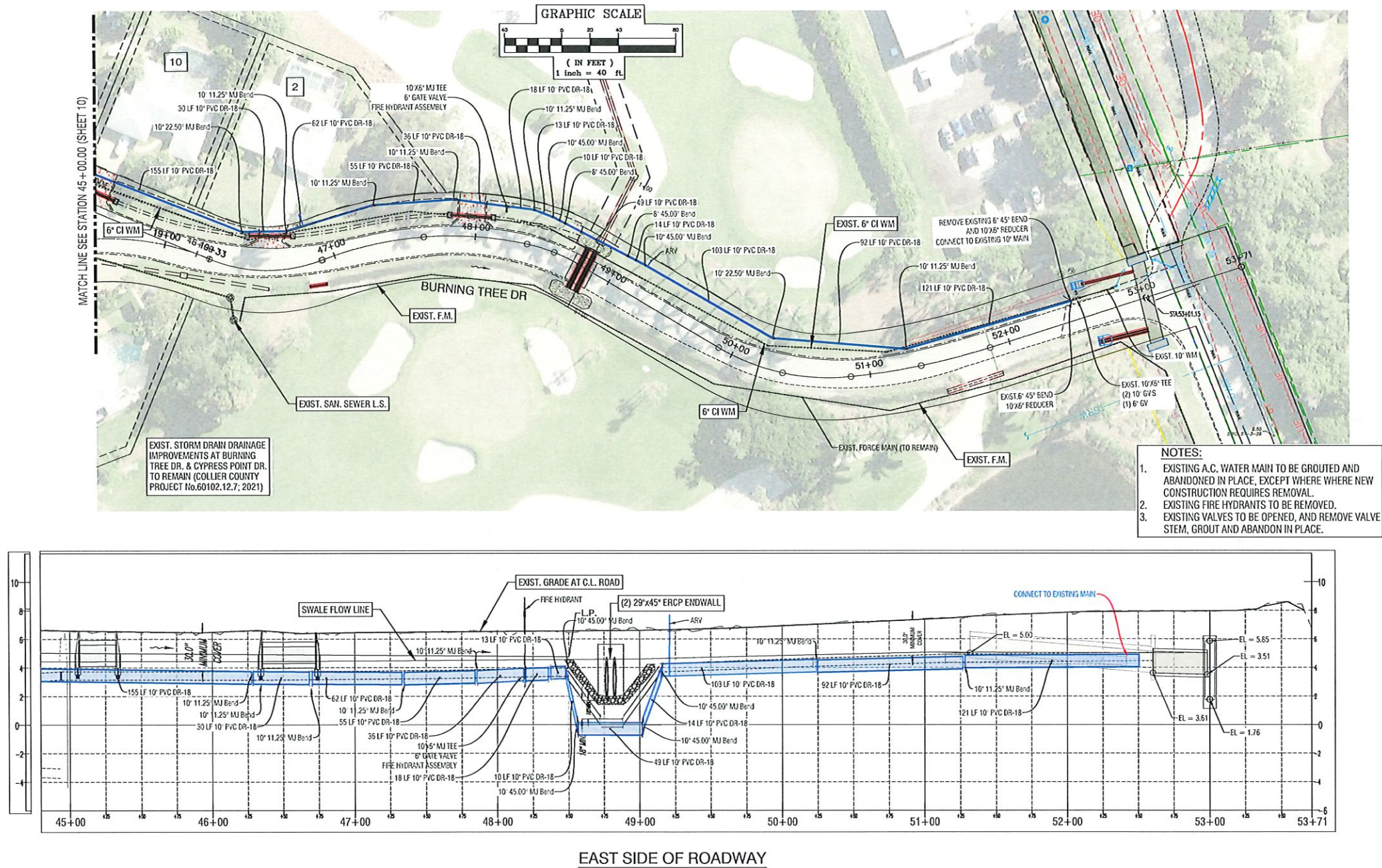
WATER MAIN REPLACEMENT
PLAN AND PROFILE 4
BURNING TREE DRIVE

THESE DRAWINGS ARE NOT APPROVED
UNLESS SIGNED & SEALED BELOW:
RICHARD E. BRYLANSKI, P.E.
FLORIDA PROFESSIONAL ENGINEER
REGISTRATION #12339
DATE

CAD FILE NAME:
21107.00.PLPR
PROJECT NO.:
2021107
DRAWING NO.:
1518
SHEET NO.:
10

April 21, 2025

Q:\FL\FTMY-HM\HDATA-FM\2021\2021107\DW PLAN\SECONDARY DR SYSTEM\21107.05.PLPR-Water Main.dwg Tab: 11 BTS Apr 29, 2025 - 8:27am



NUMBER	REVISIONS	DATE
1		
2		
3		
4		

BIG CYPRESS GOLF AND
COUNTRY CLUB ESTATES
COLLIER COUNTY, FLORIDA

DESIGNED BY	RB	DATE
DRAWN BY	KP	08/14/2023
CHECKED BY	RB	04/2025
VERTICAL SCALE	HORIZONTAL SCALE 1"=40'	



Bowman Consulting Group, Ltd.
6200 Whiskey Creek Drive
Fort Myers, FL 33919
Phone (239) 655-1200
www.bowmanconsulting.com
© Bowman Consulting Group, Ltd.

Bowman

WATER MAIN REPLACEMENT
PLAN AND PROFILE 5
BURNING TREE DRIVE

THESE DRAWINGS ARE NOT APPROVED
UNLESS SIGNED & SEALED BELOW:
RICHARD E. BRAWLANSKI, P.E.
FLORIDA PROFESSIONAL ENGINEER
REGISTRATION #12319
DATE

CAD FILE NAME:	DRAWING NO.:
21107.00.PLPR	1518
PROJECT NO.:	SHEET NO.:
2021107	11

April 29, 2025

C:\P\FTNY-HW\DATA-FM\2021\2021107\DW\PLAN\SECONDARY DR SYSTEM\City Utility Details.dwg Tab: UD 12 Apr 21, 2025 - 3:01pm

LIMEROCK ROAD

NOTES: 1) ALL PROCTOR AND DENSITY TESTS SHALL BE TAKEN BY A CERTIFIED LABORATORY.
2) ALL TESTS SHALL BE COMPLETED AND MEET MINIMUM DENSITY REQUIREMENTS PRIOR TO ADDITIONAL BACK-FILLING.
3) ALL BACKFILL MATERIAL REQUIRES APPROVAL BY PROJECT ENGINEER.

***** CONTRACTOR SHALL UTILIZE BEST METHODS AND PRACTICES TO CONTROL GROUND WATER DURING ENTIRE EXCAVATION, INSTALLATION, BACKFILL AND COMPACTION. INSTALLATION OF PIPELINE IN WET AND/OR FLOODED TRENCH IS NOT ACCEPTABLE. PROPER BEDDING AND COMPACTION CAN NOT BE ACCOMPLISHED IN WET AND/OR FLOODED TRENCH.

HEAPED BACKFILL NO TAMPING

SEE BEDDING DETAIL

OPEN TERRAIN

FOR: UTILITIES DEPARTMENT CITY OF NAPLES
DATE: JAN. 2016 BACKFILL - LIMEROCK ROAD SHEET: U-01
DRAWN: DAG/AMH DIR: UTILITIES
SCALE: N.T.S. 380 RIVERSIDE CIRCLE, NAPLES, FL 34102 DWG. U-01-16.DWG

PAVED ROADWAYS

NOTES: 1) ALL PROCTOR AND DENSITY TESTS SHALL BE TAKEN BY A CERTIFIED LABORATORY.
2) ALL TESTS SHALL BE COMPLETED AND MEET MINIMUM DENSITY REQUIREMENTS PRIOR TO ADDITIONAL BACK-FILLING.
3) ORDINANCE 82-31 REQUIRES A R.O.W. PERMIT FOR ALL WORK WITHIN PUBLIC ROADS. THE R.O.W. PERMIT REQUIREMENTS SHALL SUPERSEDE THIS DETAIL.

***** CONTRACTOR SHALL UTILIZE BEST METHODS AND PRACTICES TO CONTROL GROUND WATER DURING ENTIRE EXCAVATION, INSTALLATION, BACKFILL AND COMPACTION. INSTALLATION OF PIPELINE IN WET AND/OR FLOODED TRENCH IS NOT ACCEPTABLE. PROPER BEDDING AND COMPACTION CAN NOT BE ACCOMPLISHED IN WET AND/OR FLOODED TRENCH.

***** INSTALLATION OF ANY WATER, WASTEWATER, OR RECLAIM WATER LINE REQUIRED TO PASS UNDER OR TRENCHING CAUSING UNDERMINING OF ANY EXISTING CONCRETE CURB, GUTTER, OR SIDEWALK; TUNNELING UNDER IS NOT ALLOWED. ANY AFFECTED CONCRETE CURB, GUTTER, OR SIDEWALK SHALL BE CLEANLY REMOVED (ALL SECTIONS AFFECTED, 5 FT MINIMUM). FULL BACKFILL AND PROPER COMPACTION PERFORMED. CONCRETE REPLACED REQUIRING A MINIMUM OF 5 FT BETWEEN EXPANSION JOINTS.

FOR: UTILITIES DEPARTMENT CITY OF NAPLES
DATE: JAN. 2016 BACKFILL - PAVED ROADWAYS SHEET: U-02
DRAWN: DAG/AMH DIR: UTILITIES
SCALE: N.T.S. 380 RIVERSIDE CIRCLE, NAPLES, FL 34102 DWG. U-02-16.DWG

PIPE BEDDING & BACKFILL

NOTES: 1) COMMON FILL SHALL BE COMPACTED TO MATCH CRITERIA PROVIDED IN BACKFILL DETAILS FOR PAVED AND UNPAVED LOCATIONS RESPECTIVELY.
2) BEDDING MATERIAL SHALL BE FOOT #57 STONE IF BELOW THE SEASONAL LOW GROUNDWATER TABLE, OR FOOT #59 STONE, FOOT #51 OR #53 SCREENING IF ABOVE THE SEASONAL LOW GROUNDWATER TABLE.
3) ORDINANCE 82-31 REQUIRES A R.O.W. PERMIT FOR ALL WORK WITHIN PUBLIC ROADS. THE R.O.W. PERMIT REQUIREMENTS SHALL SUPERSEDE THIS DETAIL.

***** CONTRACTOR SHALL UTILIZE BEST METHODS AND PRACTICES TO CONTROL GROUND WATER DURING ENTIRE EXCAVATION, INSTALLATION, BACKFILL AND COMPACTION. INSTALLATION OF PIPELINE IN WET AND/OR FLOODED TRENCH IS NOT ACCEPTABLE. PROPER BEDDING AND COMPACTION CAN NOT BE ACCOMPLISHED IN WET AND/OR FLOODED TRENCH.

***** INSTALLATION OF ANY WATER, WASTEWATER, OR RECLAIM WATER LINE REQUIRED TO PASS UNDER OR TRENCHING CAUSING UNDERMINING OF ANY EXISTING CONCRETE CURB, GUTTER, OR SIDEWALK; TUNNELING UNDER IS NOT ALLOWED. ANY AFFECTED CONCRETE CURB, GUTTER, OR SIDEWALK SHALL BE CLEANLY REMOVED (ALL SECTIONS AFFECTED, 5 FT MINIMUM). FULL BACKFILL AND PROPER COMPACTION PERFORMED. CONCRETE REPLACED REQUIRING A MINIMUM OF 5 FT BETWEEN EXPANSION JOINTS.

FOR: UTILITIES DEPARTMENT CITY OF NAPLES
DATE: JAN. 2016 PIPE BEDDING & BACKFILL SHEET: U-03
DRAWN: DAG/AMH DIR: UTILITIES
SCALE: N.T.S. 380 RIVERSIDE CIRCLE, NAPLES, FL 34102 DWG. U-03-16.DWG

THRUST BLOCKS NO. 1

NOTES: 1) ON BENDS AND TEES, EXTEND THRUST BLOCKS FULL LENGTH.
2) PLACE BEND IN FRONT OF ALL PLUGS BEFORE POURING THRUST BLOCKS.
3) POUR THRUST BLOCKS AGAINST UNDISTURBED SOIL. WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE LOOSE SOIL AND EXTEND THRUST BLOCK TO UNDISTURBED SOIL.
4) IN BACK FILLING, ANY ROCK ENCOUNTERED SHALL BE REMOVED AND REPLACED WITH ACCEPTABLE MATERIAL.
5) BACK FILL MATERIAL SHALL NOT INCLUDE ROCK OR BOLLERS.
6) THRUST BLOCK AREAS BASED ON SOIL BEARING LOAD OF 2000 P.S.F. AND LINE PRESSURE OF 150 P.S.F.
7) ALL CONCRETE SHALL BE MINIMUM 2000 PSI.

FOR: UTILITIES DEPARTMENT CITY OF NAPLES
DATE: JAN. 2016 THRUST BLOCKS NO. 1 SHEET: U-04
DRAWN: DAG/AMH DIR: UTILITIES
SCALE: N.T.S. 380 RIVERSIDE CIRCLE, NAPLES, FL 34102 DWG. U-04-16.DWG

THRUST BLOCKS NO. 2

NOTES: 1) ON BENDS AND TEES, EXTEND THRUST BLOCKS FULL LENGTH.
2) PLACE BEND IN FRONT OF ALL PLUGS BEFORE POURING THRUST BLOCKS.
3) POUR THRUST BLOCKS AGAINST UNDISTURBED SOIL. WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE LOOSE SOIL AND EXTEND THRUST BLOCK TO UNDISTURBED SOIL.
4) IN BACK FILLING, ANY ROCK ENCOUNTERED SHALL BE REMOVED AND REPLACED WITH ACCEPTABLE MATERIAL.
5) BACK FILL MATERIAL SHALL NOT INCLUDE ROCK OR BOLLERS.
6) THRUST BLOCK AREAS BASED ON SOIL BEARING LOAD OF 2000 P.S.F. AND LINE PRESSURE OF 150 P.S.F.
7) ALL CONCRETE SHALL BE MINIMUM 2000 PSI.

FOR: UTILITIES DEPARTMENT CITY OF NAPLES
DATE: JAN. 2016 THRUST BLOCKS NO. 2 SHEET: U-05
DRAWN: DAG/AMH DIR: UTILITIES
SCALE: N.T.S. 380 RIVERSIDE CIRCLE, NAPLES, FL 34102 DWG. U-05-16.DWG

CROSS OVER

NOTES: 1) SANITARY SEWER LINES OR FORCE MAINS SHALL BE SEPARATED FROM WATER MAINS BY A MINIMUM CLEAR VERTICAL DISTANCE OF 18" AND A HORIZONTAL DISTANCE OF 10'-0".
2) ALL CROSSING WITH VERTICAL CLEARANCE LESS THAN 18" SHALL BE MADE USING THICKNESS CLASS 200 AWWA C-900 PVC OR DUCTILE IRON CLASS 350 PIPE FOR DISTANCE OF 10' EACH SIDE OF THE CROSSING AND SEWER SHALL BE CONCRETE ENCASED.
3) THE 18" CLEAR DISTANCE SHALL NOT BE REDUCED IN CASES WHERE WATER MAIN CROSSES UNDER SEWER LINE.
4) VERTICAL CLEARANCE LESS THAN 12" SHALL NOT BE ALLOWED UNLESS APPROVED BY THE CITY UTILITY ENGINEER.

FOR: UTILITIES DEPARTMENT CITY OF NAPLES
DATE: JAN. 2016 CROSS OVER SHEET: U-07
DRAWN: DAG/AMH DIR: UTILITIES
SCALE: N.T.S. 380 RIVERSIDE CIRCLE, NAPLES, FL 34102 DWG. U-07-16.DWG

TYPICAL CONFLICT CROSSING

NOTES: 1) SANITARY SEWER LINES OR FORCE MAINS SHALL BE SEPARATED FROM WATER MAINS BY A MINIMUM CLEAR VERTICAL DISTANCE OF 18" AND A HORIZONTAL DISTANCE OF 10'-0".
2) ALL CROSSING WITH VERTICAL CLEARANCE LESS THAN 18" SHALL BE MADE USING THICKNESS CLASS 200 AWWA C-900 PVC OR DUCTILE IRON CLASS 350 PIPE FOR DISTANCE OF 10' EACH SIDE OF THE CROSSING AND SEWER SHALL BE CONCRETE ENCASED.
3) THE 18" CLEAR DISTANCE SHALL NOT BE REDUCED IN CASES WHERE WATER MAIN CROSSES UNDER SEWER LINE.
4) VERTICAL CLEARANCE LESS THAN 12" SHALL NOT BE ALLOWED UNLESS APPROVED BY THE CITY UTILITY ENGINEER.

FOR: UTILITIES DEPARTMENT CITY OF NAPLES
DATE: JAN. 2016 TYPICAL CONFLICT CROSSING SHEET: U-08
DRAWN: DAG/AMH DIR: UTILITIES
SCALE: N.T.S. 380 RIVERSIDE CIRCLE, NAPLES, FL 34102 DWG. U-08-16.DWG

PIPE RESTRAINT SCHEDULE

PIPE SIZE IN INCHES	RESTRAINED PIPE LENGTH IN FEET (1)			
	TEE (3)	REDUCER (4)	DEAD ENDS (2)	VERTICAL BENDS
6 x 4	0	40	55	23
6 x 6	34	72	77	11
8 x 4	0	72	100	41
8 x 6	55	74	120	50
10 x 6	75	74	141	58
10 x 10	75	74	181	75
12 x 4	0	122	200	83
12 x 6	31	75	218	90
12 x 12	95	107	253	105
16 x 6	0	153	303	125
16 x 10	44	107	350	145
16 x 16	134	157		
18 x 8	0	157		
18 x 12	69	108		
18 x 16	152	161		
20 x 10	20	77		
20 x 16	120	77		
20 x 20	170			
24 x 12	37	187		
24 x 16	132	109		
24 x 24	204	213		
30 x 16	78	165		
30 x 20	138	259		
30 x 30	252	191		
36 x 18	84			
36 x 24	170			
36 x 36	228			

NOTES: 1. RESTRAIN ALL PIPE JOINTS WITHIN THE DISTANCE SHOWN ON THE TABLES MEASURED FROM THE POINT OF CONNECTION.
2. ISOLATION VALVES SHALL BE TREATED AS DEAD ENDS WITH RESTRAINT ON BOTH SIDES OF THE VALVE.
3. RESTRAINT IS FOR BRANCH OF TEE. IF BRANCH SIZE IS NOT ON TABLE, USE NEXT LARGEST BRANCH.
4. RESTRAINT IS FOR LARGE DIAMETER SIDE OF REDUCER. IF REDUCER SIZE IS NOT ON TABLE, USE NEXT SMALLER REDUCER (SMALL END).
5. THIS SCHEDULE IS TO BE USED FOR DUCTILE IRON AND PVC PIPE.

FOR: UTILITIES DEPARTMENT CITY OF NAPLES
DATE: JAN. 2016 PIPE RESTRAINT SCHEDULE SHEET: U-09
DRAWN: DAG/AMH DIR: UTILITIES
SCALE: N.T.S. 380 RIVERSIDE CIRCLE, NAPLES, FL 34102 DWG. U-09-16.DWG

NUMBER	REVISIONS	DATE

BIG CYPRESS GOLF AND COUNTRY CLUB ESTATES
COLLIER COUNTY, FLORIDA

DESIGNED BY	RB	DATE	
DRAWN BY	KP	DATE	08/14/2023
CHECKED BY	RB	DATE	04/2025
VERTICAL SCALE	1"=4'	HORIZONTAL SCALE	1"=40'



Bowman Consulting Group, Ltd.
6200 Whiskey Creek Drive
Fort Myers, FL 33919
Phone (239) 565-1200
www.bowmanconsulting.com
© Bowman Consulting Group, Ltd.

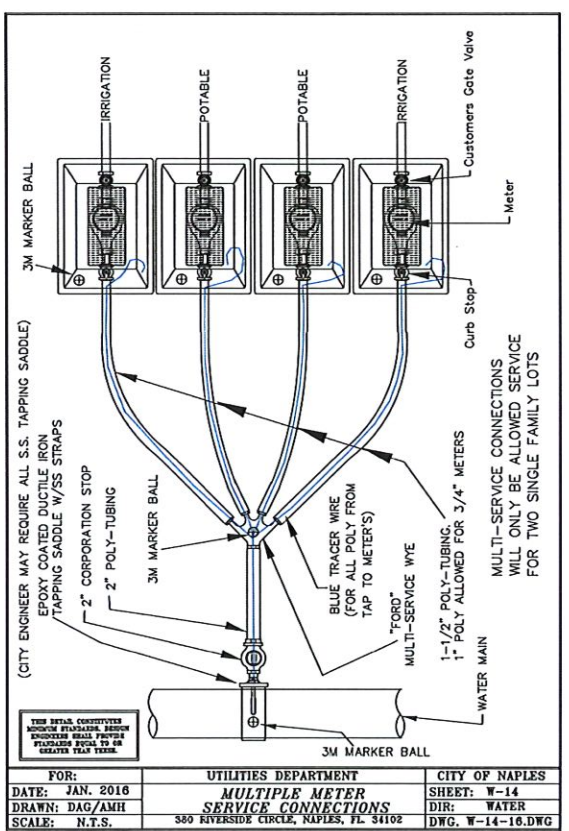
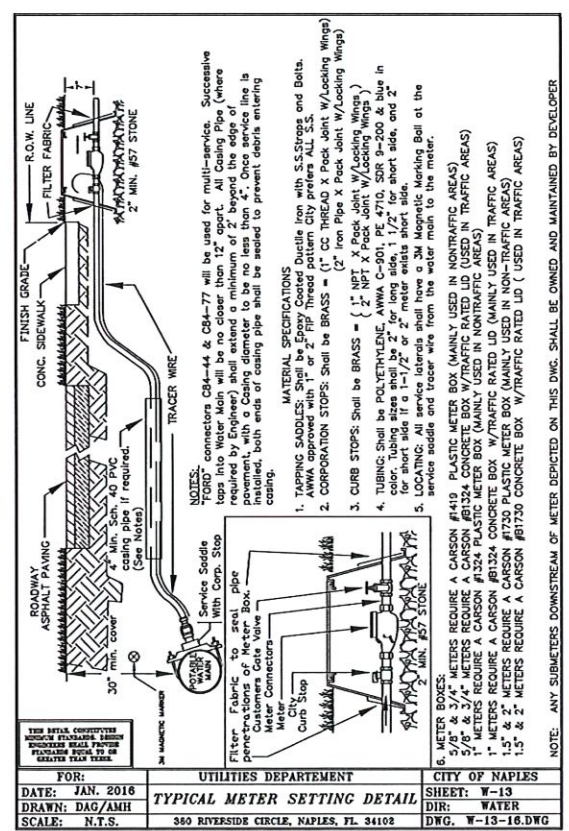
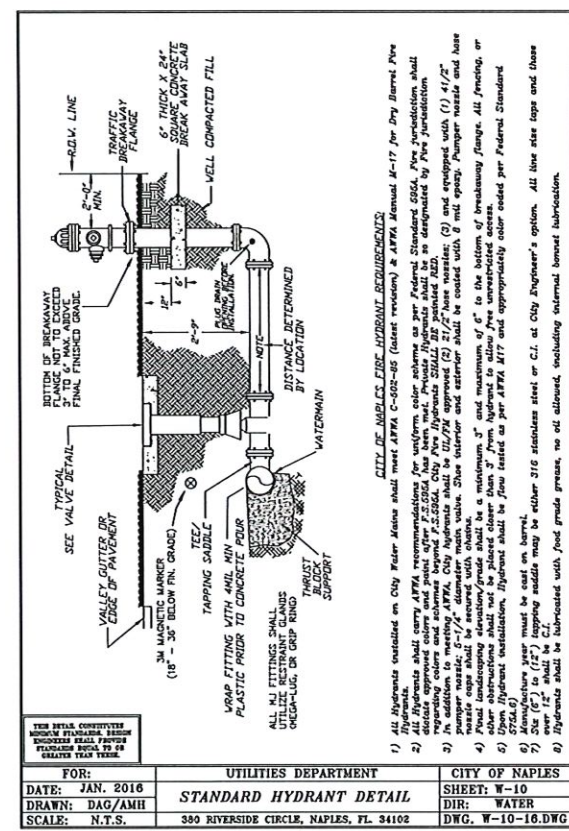
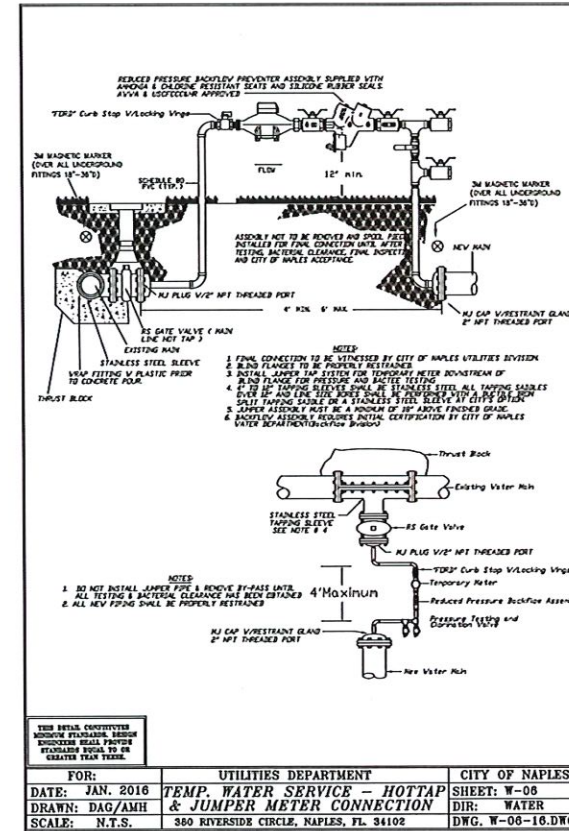
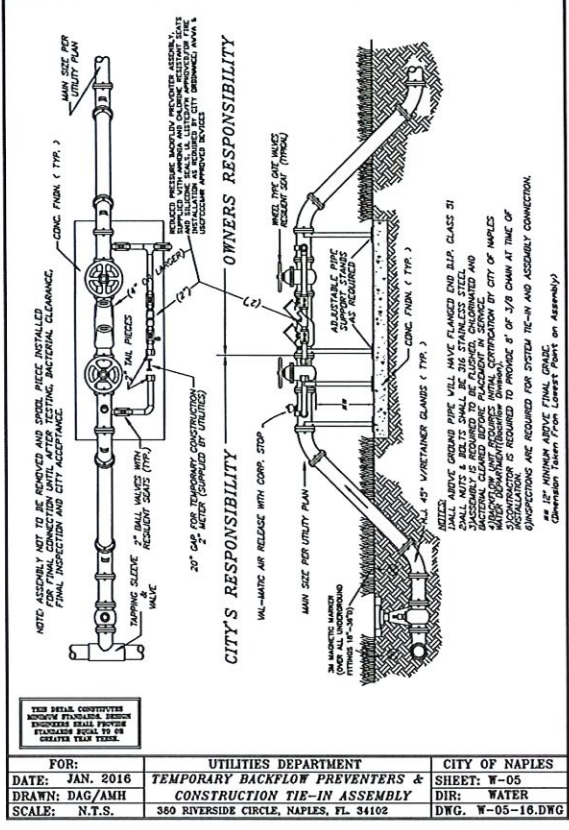
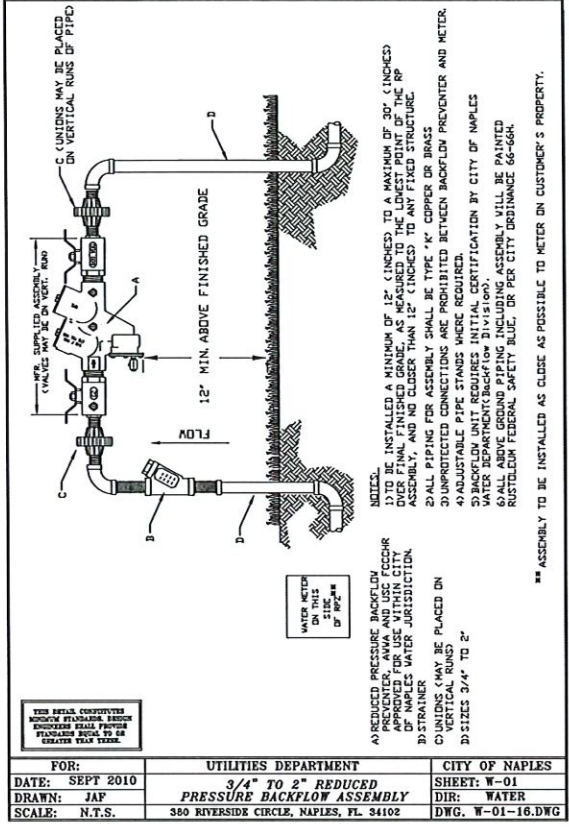
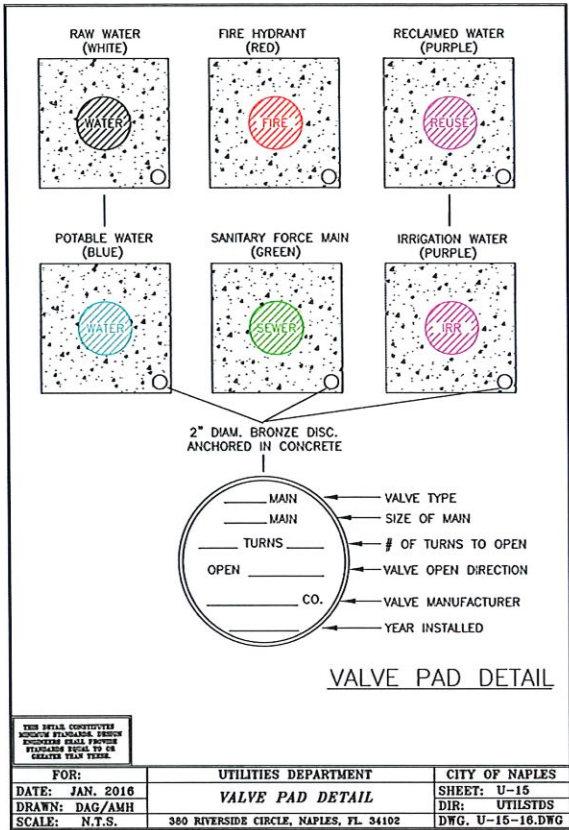
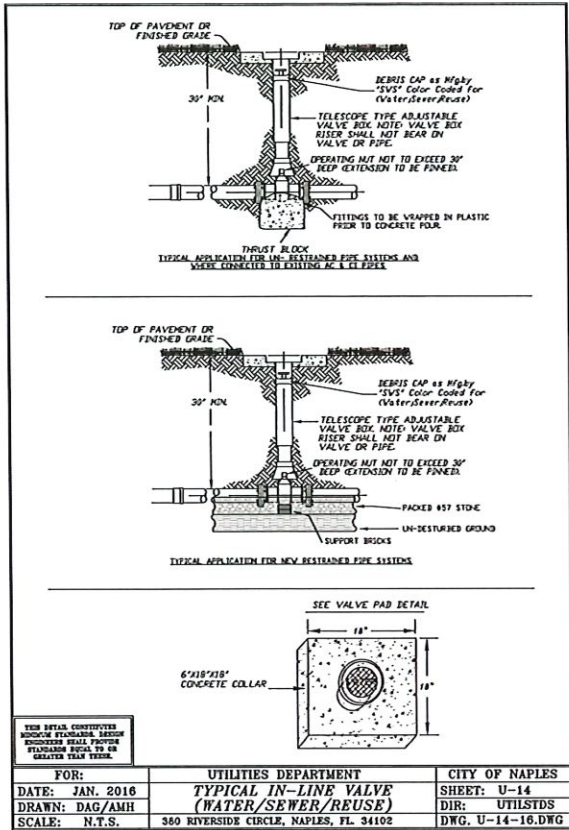
Bowman
FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER 30462

UTILITY DETAILS

THESE DRAWINGS ARE NOT APPROVED UNLESS SIGNED AND SEALED BELOW:
PROFESSIONAL ENGINEER
FLORIDA PROFESSIONAL ENGINEER REGISTRATION #42339
DATE:

CAD FILE NAME:	DRAWING NO.:
21107.00.PLPR	1518
PROJECT NO.:	SHEET NO.:
2021107	12

April 21, 2025



Bowman Consulting Group, Ltd.
6200 Whiskey Creek Drive
Fort Myers, FL 33919
Phone (239) 955-1200
www.bowmanconsulting.com
© Bowman Consulting Group, Ltd.

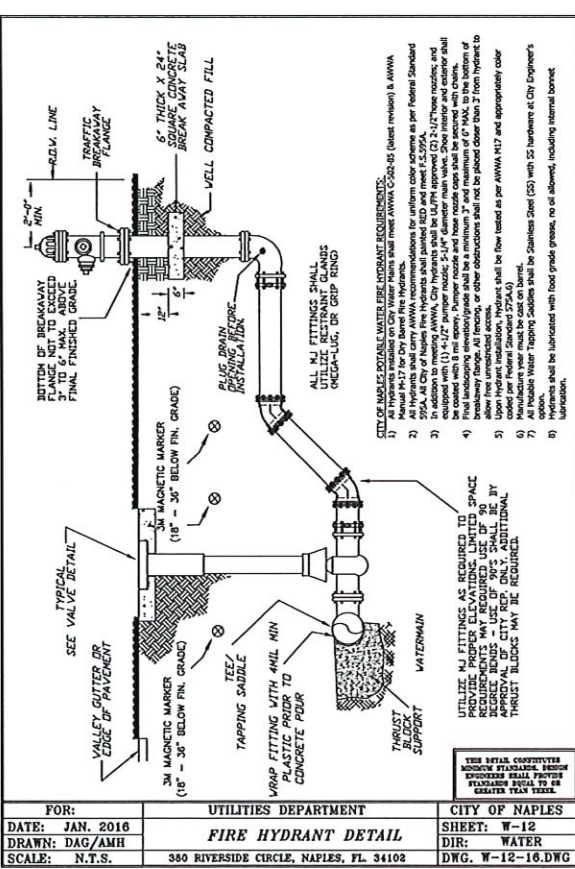
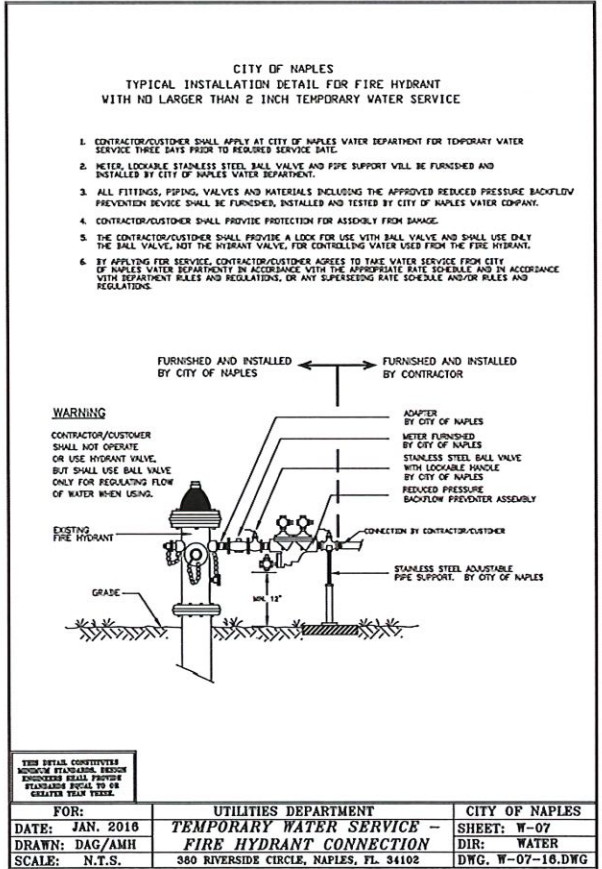
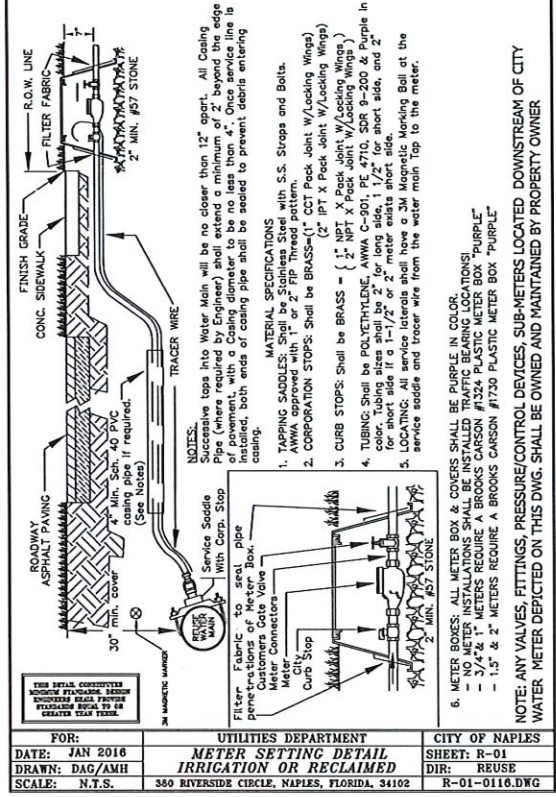
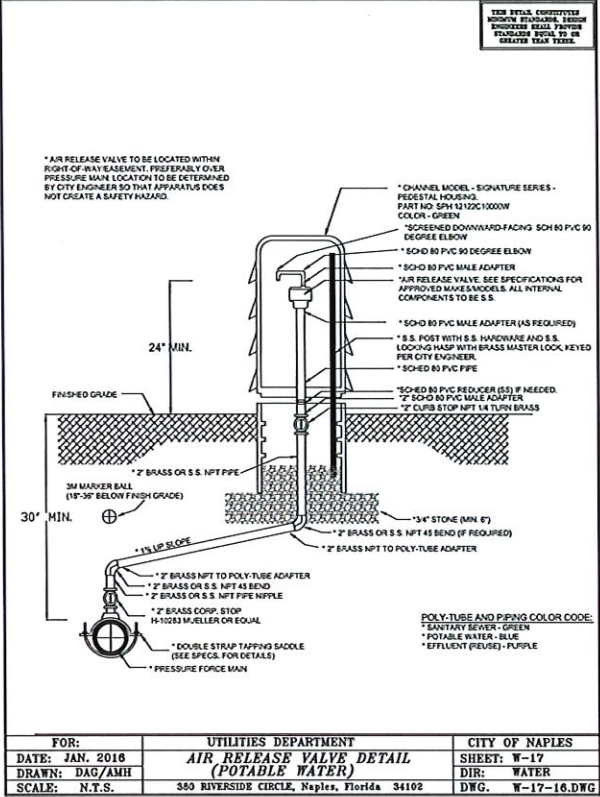
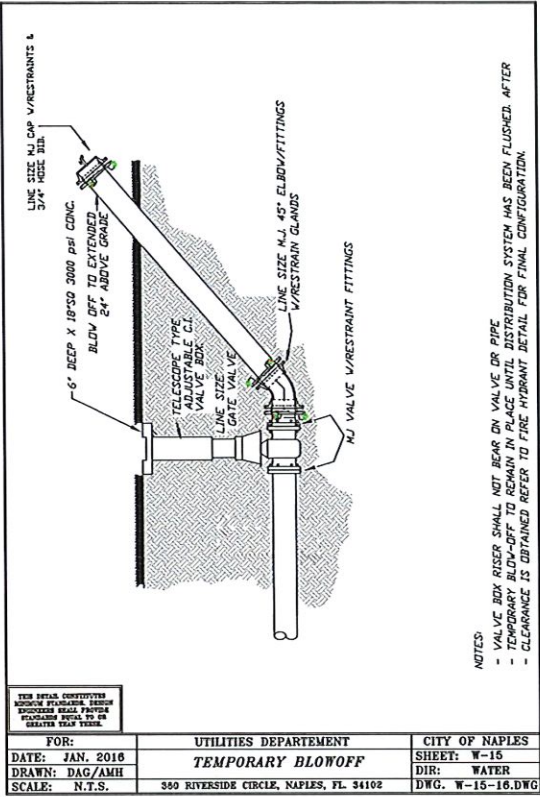
Bowman
FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER 30462

UTILITY DETAILS

THESE DRAWINGS ARE NOT APPROVED
UNLESS SIGNED & SEALED BELOW.

DATE:

CAD FILE NAME: 21107.00.PLPR
PROJECT NO.: 2021107
DRAWING NO.: 1518
SHEET NO.: 13



NUMBER	REVISIONS	DATE

BIG CYPRESS GOLF AND
COUNTRY CLUB ESTATES
COLLIER COUNTY, FLORIDA

DESIGNED BY	DATE
RB	08/14/2023
DRAWN BY	DATE
KP	04/2025
CHECKED BY	DATE
RB	04/2025
VERTICAL SCALE	HORIZONTAL SCALE
1"=4'	1"=40'



Bowman Consulting Group, Ltd.
6200 Whiskey Creek Drive
Fort Myers, FL 33919
Phone (239) 665-1200
www.bowmanconsulting.com
© Bowman Consulting Group, Ltd.

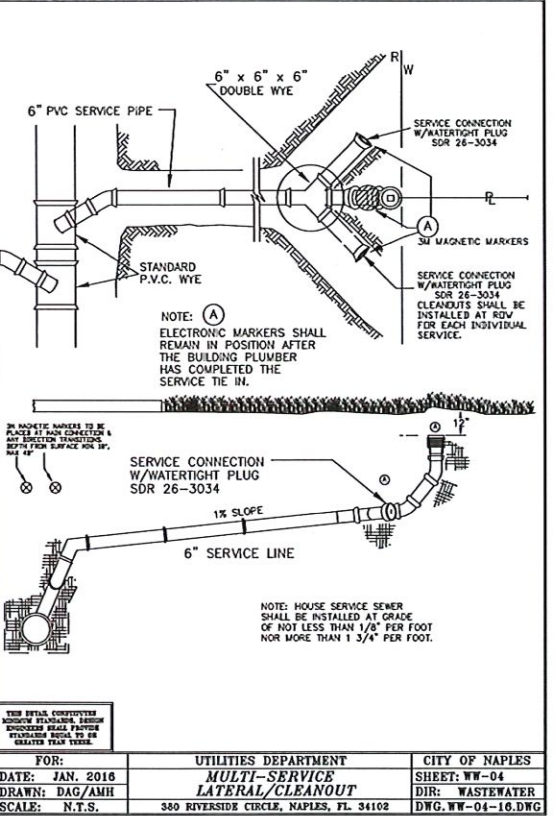
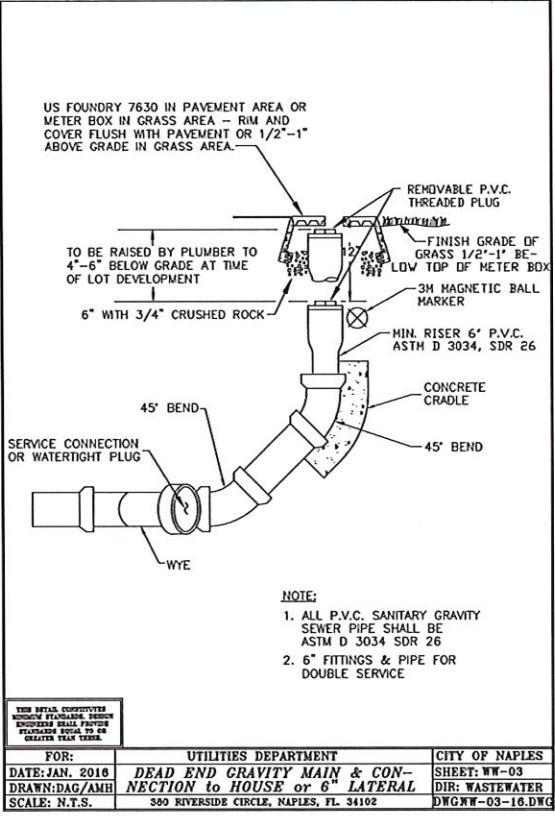
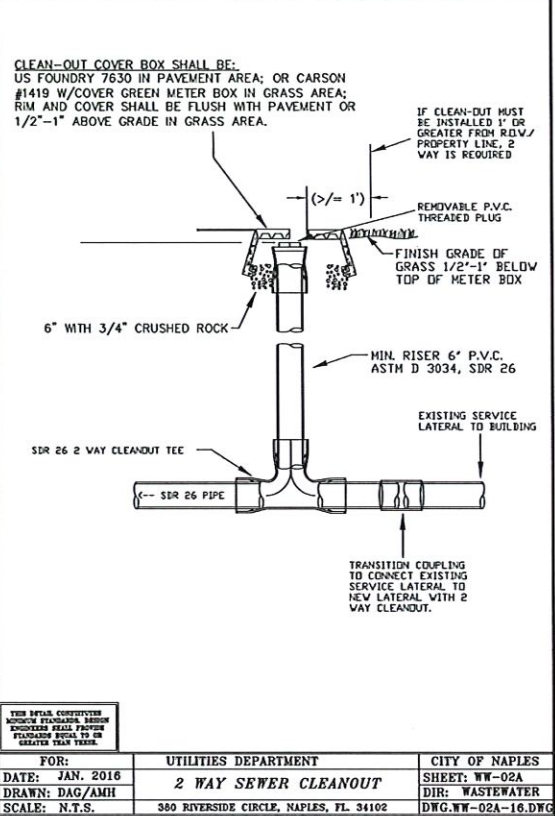
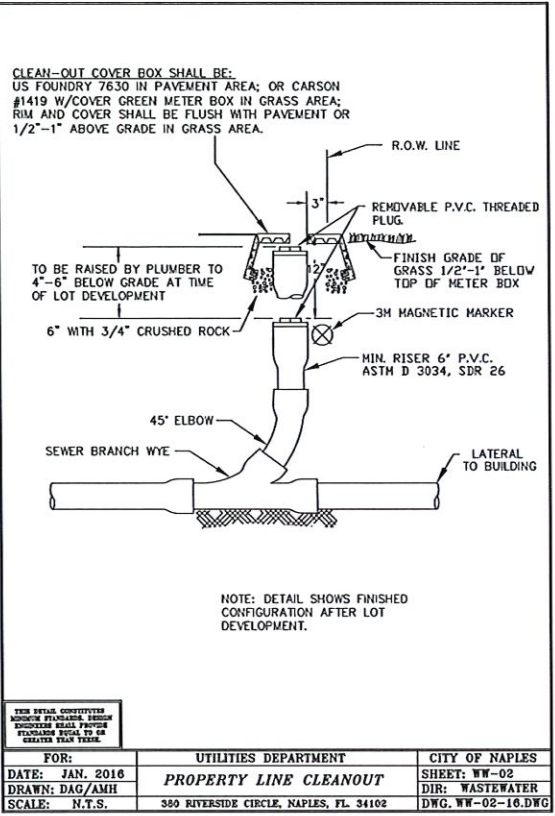
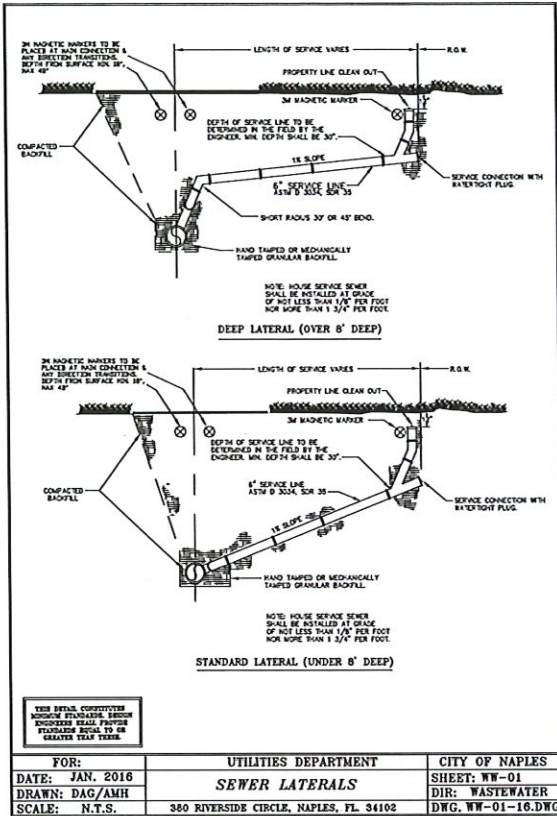
Bowman
FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER 30462

UTILITY DETAILS

THESE DRAWINGS ARE NOT APPROVED UNLESS SIGNED & SEALED BELOW.	CAD FILE NAME: 21107.00.PLPR	DRAWING NO.: 1518
PROPOSED BY: BOWMAN CONSULTING GROUP, LTD. FLORIDA PROFESSIONAL ENGINEER REGISTRATION # 42339 DATE:	PROJECT NO.: 2021107	SHEET NO.: 14

April 21, 2025

C:\P-FTM\HW\MDATA-FM\2021\2021107\DW\PLAN\SECONDARY DR SYSTEM\City Utility Details.dwg Tab: UD 15 Apr 29, 2025 - 8:30am



NUMBER	REVISIONS	DATE

BIG CYPRESS GOLF AND
COUNTRY CLUB ESTATES
COLLIER COUNTY, FLORIDA

DESIGNED BY	RB	DATE
DRAWN BY	KP	08/14/2023
CHECKED BY	RB	04/2025
VERTICAL SCALE	1"=4'	HORIZONTAL SCALE
		1"=40'



Bowman Consulting Group, Ltd.
6200 Whiskey Creek Drive
Fort Myers, FL 33919
Phone (939) 955-1200
www.bowmanconsulting.com
© Bowman Consulting Group, Ltd.

Bowman
FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER 30462

UTILITY DETAILS

THESE DRAWINGS ARE NOT APPROVED
UNLESS SIGNED & SEALED BELOW.
RICHARDE BRULANSKI P.E.
FLORIDA PROFESSIONAL ENGINEER
REGISTRATION #42339
DATE:

CAD FILE NAME:	DRAWING NO:
21107.00.PLPR	1518
PROJECT NO:	SHEET NO:
2021107	15

April 29, 2025