30" RAW WATER TRANSMISSION MAIN
CLAY COUNTY, FLORIDA

ST. JOHNS RIVER WATER
MANAGEMENT DISTRICT BOARD

ROB BRADLEY, CHAIRMAN, AREA 2
MARYAM H. GHYABI-WHITE, VICE CHAIRMAN, AT LARGE
RON HOWSE, TREASURER, AT LARGE
J. CHRIS PETERSON, SECRETARY, AREA 4
RYAN ATWOOD, AREA 3
DOUG BOURNIQUE, AREA 5
DOUGLAS BURNETT, AT LARGE
COLE OLIVER, AT LARGE
JANET PRICE, AREA 1

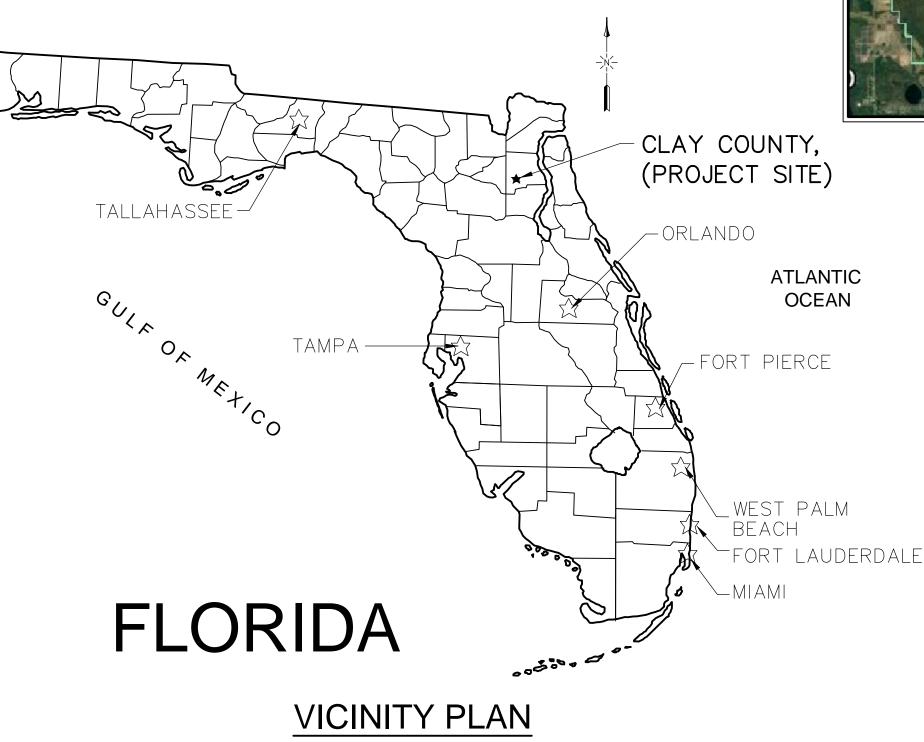
CONTRACT NO. 30593



BLACK CREEK INTAKE STRUCTURE
AND PUMP STATION
(NOT IN CONTRACT)

PROJECT LIMITS AND LOCATION

RECHARGE AREA—
(NOT IN CONTRACT)





JUNE 2022

CDM Smith

4651 Salisbury Road, Suite 420 Jacksonville, FL 32256 Tel: (904) 731-7109 COA No. EB-0000020

ISSUED FOR BID

Water

Environment

Transportation

IMAGE OBTAINED FROM GOGGLE EARTH, AUGUST 201

Energy

**Facilities** 

9247-221208

Last saved by: AUSTJD Time: 5/13/2022 12:07:51 PM

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY CLAY M. TAPPAN, P.E. NO. 42772 ON THE DATE ADJACENT TO THE SEAL

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7						CROSS CHK'D BY:	
J Ц						APPROVED BY:	
EUS	REV. NO.	DATE	DRWN	CHKD	REMARKS	DATE:	JUNE

CDN Smith

4651 Salisbury Road, Suite 420

Jacksonville, FL 32256

Tel: (904) 731-7109

FL COA No. EB-0000020 ST. JOHNS RIVER WATER MANAGEMENT DISTRICT,
LOWER ST. JOHNS RIVER BASIN
BLACK CREEK WATER RESOURCE
DEVELOPMENT PROJECT
30" RAW WATER TRANSMISSION MAIN

SIGNATURE SHEET

PROJECT NO. 9247-221208
FILE NAME: GOOAGNSI.DWG

G-0-A

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±   =			FDOT INDEX 102-603 TWO-	-LANE, IWO-WAY WORK WIIF	IIN THE TRAVEL WAY	IRRIGATION LINE	IRR	TRAFFIC SIGNAL LINE TSL
THOL	CIVIL					JACK & BORE	J&B	UNDERGROUND ELECTRIC UE
M TO	C-1	STATE ROAD 21 STA 116+84.04 TO STA 139+00				LEFT LINEAR FEET	LT	UNKNOWN POST UP
KOJEC	C-2	STATE ROAD 21 STA 110104.04 10 STA 103100  STATE ROAD 21 STA 139+00 TO STA 162+00				LINEAR FEET	LF	UNDERGROUND TELEPHONE UT
자 유	C-3	STATE ROAD 21 STA 162+00 TO STA 184+00				LONG	LG LP	VERTICAL VERT VACUUM BREAKER VB
OTHE	C-4	STATE ROAD 21 STA 184+00 TO STA 206+00				LOW POINT	LP	VACOUM BINEAREIN VB
> \ \ \	C-5	STATE ROAD 21 STA 206+00 TO STA 228+00				MATERIAL	MTL	WATER WINE WI
OR A	C-6	STATE ROAD 21 STA 228+00 TO STA 250+00				MANUFACTURING  MANUFACTURER	MFG MFR	WATER LINE WL WATER MAIN WM
Υ, F	C-7	STATE ROAD 21 STA 250+00 TO STA 272+00		<b>ABBREVIATIO</b>	NS	MAXIMUM	MAX	WATER RESOURCES DEVELOPMENT WRD
PAF	C-8	STATE ROAD 21 STA 272+00 TO STA 294+00		, ,, ,,,,,,,,		MITERED END SECTION	MES	WEATHERPROOF WPF WEST W
0 R	C-9	STATE ROAD 21 STA 294+00 TO STA 316+00	ACRE	AC	MECHANICAL	MECH		WITH W/
VHOL	C-10	STATE ROAD 21 STA 316+00 TO STA 338+00	ADJUSTABLE ALUMINUM	ADJ ALUM	METAL	1ET		
Z	C-11	STATE ROAD 21 STA 338+00 TO STA 360+00	ANGLE	<	MECHANICAL JOINT  METAL REINFORCED PLASTIC PIPE  I	IJ IRPP		
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, H ⊟	C-19	STATE ROAD 21 STA 514+00 TO STA 536+00	BUTTERFLY VALVE	BFV	NUMBER	10		
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wG CDN	C-21	STATE ROAD 21 STA 558+00 TO STA 580+00	CENTER LINE CENTER TO CENTER	Ç CC	OVERHEAD	DH .		
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001N PERT	C-23	STATE ROAD 21 STA 602+00 TO STA 624+00	CORRUGATED METAL PIPE	CMP	OPPOSITE OPENING	OPNG		
D\G(	C-24	STATE ROAD 21 STA 624+00 TO STA 646+00	CENTER (ED)  COMBINATION AIR VALVE	CTR CAV	OR EQUAL	)/E		
CAD	C-25	STATE ROAD 21 STA 646+00 TO STA 668+00		CH — CHORD	OUTSIDE CLEARANCE  OVERHEAD ELECTRIC	OC OH		
ıl∖10 ARE	C-26 C-27	STATE ROAD 21 STA 668+00 TO STA 690+00  STATE ROAD 21 STA 690+00 TO STA 712+00	CURVE DATA (HORIZONTAL)	R — RADIUS $\Delta$ — DELTA		••		
enerd EIN,	C-28	STATE ROAD 21 STA 090+00 TO STA 712+00  STATE ROAD 21 STA 712+00 TO STA 734+00		L — ARC LENGTH PRC — POINT OF REVERSE CURVE	PERFORATED	PERF		
)1 G	C-29	STATE ROAD 21 STA 734+00 TO STA 756+00	DITCH BOTTOM INLET	DBI	PIECE PIPELINE BORING	PB		
0%\(	C-30	STATE ROAD 21 STA 756+00 TO STA 778+00	DEMOLITION	DEMO	POINT	Т		
10 RPOR/	C-31	STATE ROAD 21 STA 778+00 TO STA 800+00	DIAMETER DIAGONAL	DIA, DIAM DIAG	POLYETHYLENE POLYVINYLCHLORIDE	PE PVC		
S NN NCOF	C-32	STATE ROAD 21 STA 800+00 TO STA 822+00	DIMENSION	DIM	POTABLE WATER	W W		
ervice	C-33	STATE ROAD 21 STA 822+00 TO STA 844+00	DISCHARGE DRAWING	DISCH	POUND(S)	B(S)		
in Se	C-34	STATE ROAD 21/ STATE ROAD 16 STA 844+00 TO STA 865+50	DUCTILE IRON PIPE	DIP	PROPERTY LINE POWER POLE	PP		
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\04	C-36	STATE ROAD 16 STA 887+50 TO STA 910+00	EACH	FA	RADIUS	RAD, R		
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با 5 م	C-39 C-40	STATE ROAD 16 STA 954+00 TO STA 976+00 STATE ROAD 16 STA 976+00 TO STA 996+77.76	ELECTRICAL CONTROL BOX	ECB		REQ'D		
PHAS OVIDE	C-41	STATE ROAD 16 STA 976+00 TO STA 996+77.76  STATE ROAD 21 HORIZONTAL DIRECTIONAL DRILL # 1 PROFILE STA 727+00 TO STA 745+00	ELEVATION  EDGE OF PAVEMENT	EL, ELEV EOP	RESTRAINED JOINT	RJ		<u></u>
208_ 3 PR	C-42	STATE ROAD 21 HORIZONTAL DIRECTIONAL DRILL # 1 PROFILE STA 821+00 TO STA 831+00	EXISTING	EXIST	RIGHT RIGHT OF WAY	R/W		
221; SIGNS	C-43	STATE ROAD 21 30" DIP RWM CROSSING PROFILE	FIBERGLASS REINFORCED PIPE	FRP	ROOM	М		
2:04 247\ ) DE	C-44	STATE ROAD 21/ STATE ROAD 16 JACK AND BORE PROFILE	FINISH	FIN	SCHEDULE S	CH		
L1/6	C-45	TREAT ROAD STA. 30+00 TO STA. 53+00	FLANGE	FLG		EC		
2022 3W_P 3W_P ED. 4ENTS	C-46	TREAT ROAD STA. 53+00 TO STA. 76+53.65	FLOOR FORCE MAIN	FM		CAV		
15/2 30m:F 3ERVE 0CUN			FIBER OPTIC	FO SDC	SHEET S SLIP-ON JOINT S	⊓ı J		
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v.ben V.ben GHTS THE			FLORIDA DEPARTMENT OF TRANSPORTATION	FDOT	SQUARE YARD STATE ROAD S	Y		CLAY M TAPPAN
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smith SMI <sup>-</sup> DOCL		SHEET CHK'D BY: G. CASHON SINITA			ATER RESOURCE	INDE	EX OF SHEETS AND	SHEET NO.
savec cdms CDM OF		CROSS CHK'D BY: C. TAPPAN 4651 Salisbury Road, Suite 420		DEVELOPME		<b> </b>	ABBREVIATIONS	G-1
w:// w:// 2022 EUSE	REV. DATE DRWN CH	APPROVED BY: Jacksonville, FL 32256  HKD REMARKS DATE: JUNE 2022 FL COA No. EB-0000020			RANSMISSION MAIN			
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ISSUED FOR BID

2. ALL ELEVATIONS REFER TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 24. WHEN OPEN CUTTING TURNOUTS THE CONTRACTOR SHALL: (NAVD 88).

- 3. LOCATIONS, ELEVATIONS, AND DIMENSIONS OF EXISTING UTILITIES, STRUCTURES, AND OTHER FEATURES ARE SHOWN ACCORDING TO THE BEST INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF THESE PLANS, BUT DO NOT PURPORT TO BE ABSOLUTELY CORRECT. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL VERIFY AND AGREE TO BE FULLY RESPONSIBLE FOR ANY 25. WITHIN THE ENTIRE PROJECT AREA, THE CONTRACTOR SHALL CONDUCT A AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL EXISTING UTILITIES, STRUCTURES, AND OTHER FEATURES AFFECTING HIS WORK.
- 4. CONTRACTOR SHALL VERIFY ALL UTILITIES AND NOTIFY UTILITY OWNER, 72 HOURS PRIOR TO DIGGING IN ANY PORTION OF THE SITE.
- 5. THE CONTRACTOR SHALL REPLACE ANY MONUMENTS, FENCES, ETC. WITH THE SAME TYPE OF MATERIAL THAT WAS REMOVED DURING CONSTRUCTION. COST TO BE INCIDENTAL TO OTHER CONSTRUCTION AND NO EXTRA COMPENSATION SHALL BE ALLOWED.
- TOPOGRAPHIC SURVEY WAS PERFORMED BY: WOOLPERT, INC. UNIVERSITY CORPORATE CENTER 11, 11486 CORPORATE BOULEVARD, SUITE 190, ORLANDO, FL. 32817, PHONE: 407-591-5010.

PORTIONS OF SURVEY PERFORMED BY: SOUTHEASTERN SURVEYING AND MAPPING CORPORATION, 8641 BAYPINE ROAD, SUITE 5, JACKSONVILLE, FLORIDA 32256. PHONE 904-737-5995

- 7. THE CONTRACTOR SHALL CONTACT THE ENGINEER'S OFFICE IMMEDIATELY UPON FINDING ANY CONFLICTS DURING CONSTRUCTION OF ANY IMPROVEMENTS SHOWN
- MEASURES SHALL BE TAKEN BY THE CONTRACTOR TO ENSURE THAT ADEQUATE EROSION AND SEDIMENT CONTROL ARE MAINTAINED AT ALL TIMES DURING THE PROJECT (SEE EROSION CONTROL NOTES).
- 9. STATION OFFSETS SHOWN ON PLANS ARE FROM BASELINE OF CONSTRUCTION TO CENTERLINE OF STRUCTURE.
- 10. ALL STATIONING AND OFFSET REFERS TO CONSTRUCTION BASELINE UNLESS OTHERWISE NOTED ON PLANS.
- 11. PRIOR TO EXCAVATING IN THE VICINITY OF A GAS LINE, THE CONTRACTOR SHALL NOTIFY THE GAS UTILITY OWNER IN ACCORDANCE WITH THE REQUIREMENTS OF FLORIDA STATUTES, PROTECTION OF UNDERGROUND PIPELINES F.S. 553.851, CH 17-143.
- 12. ALL BRUSH, STRIPPINGS OR UNSUITABLE MATERIAL SHALL BE DISPOSED OF OFF-SITE AT THE CONTRACTOR'S EXPENSE.
- 13. ALL PRIVATE AND PUBLIC PROPERTY AFFECTED BY THIS WORK SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN THE CONDITION EXISTING PRIOR TO COMMENCING CONSTRUCTION UNLESS SPECIFICALLY EXEMPTED BY THE PLANS. COSTS TO BE INCIDENTAL TO OTHER CONSTRUCTION AND NO EXTRA COMPENSATION TO BE ALLOWED.
- 14. THE LIMITS OF CONSTRUCTION SHOWN ON THE PLANS SHALL BE STRICTLY OBSERVED BY THE CONTRACTOR. ALL INGRESS, EGRESS AND TRAFFIC PATTERNS ON THE SITE SHALL BE WITHIN THE LIMITS OF CONSTRUCTION SHOWN ON THE DRAWINGS.
- 15. THE LIMITS OF CONSTRUCTION SHALL BE BETWEEN THE EDGE OF PAVEMENT (EOP) AND THE ADJACENT RIGHT OF WAY LINE. EXCEPTIONS TO THE LIMITS OF CONSTRUCTION (WORK OUTSIDE OF THE RIGHT OF WAY LINE) WILL BE NOTED BY A TEMPORARY CONSTRUCTION EASEMENT WHICH WILL BE AQUIRED BY THE OWNER. NO WORK SHALL OCCUR OUTSIDE THE LIMITS OF CONSTRUCTION UNLESS NOTED ON PLANS.
- 16. NO REPRESENTATION IS MADE REGARDING BALANCED EARTHWORK, ANY EXCESS MATERIAL, OR MATERIAL NOT SUITABLE FOR USE AS BACKFILL, SHALL BE DISPOSED OF BY THE CONTRACTOR.
- 17. IN AREAS REQUIRING FILL MATERIAL, THE CONTRACTOR WILL STRIP OR OTHERWISE REMOVE ALL VEGETATION SUCH AS BRUSH, HEAVY SODS, HEAVY GROWTH OF GRASS, DECAYED VEGETABLE MATTER, RUBBISH AND ANY OTHER DELETERIOUS MATERIAL BEFORE EMBANKMENT IS STARTED. IMMEDIATELY PRIOR TO THE PLACING OF FILL MATERIALS, THE ENTIRE AREA UPON WHICH FILL IS TO BE PLACED, SHALL BE SCARIFIED.
- 18. ABSOLUTELY NO WORK WILL BE ALLOWED WITHIN ANY CONSERVATION AREA, BUFFER AREA, MITIGATION AREA, OR DESIGNATED WETLAND AREA UNLESS SO SPECIFICALLY DESCRIBED BY THE PLANS AND GRANTED BY REASON OF PERMIT FROM THE GOVERNMENTAL ENTITY HAVING JURISDICTION OVER SAID AREA.
- 19. A DE-WATERING PERMIT IS REQUIRED BY THE FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) PRIOR TO ANY PUMPING, ETC. AND SHALL BE OBTAINED BY THE CONTRACTOR. CONTRACTOR IS RESPONSIBLE FOR THE DESIGN, INSTALLATION, PERMIT AND OPERATION OF AN ADEQUATE DEWATERING SYSTEM TO DEWATER EXCAVATIONS FOR CONSTRUCTION WITH NO ADDITIONAL COMPENSATION.
- 20. DURING CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL, PROTECTION, AND REPLACEMENT OF ITEMS ON PRIVATE PROPERTY AND PUBLIC RIGHTS OF WAY SUCH AS SPRINKLERS, FENCES, SOD, SHRUBS, TREES, SURVEYING MARKERS, ETC.
- 21. CONTRACTOR SHALL SEED ALL DISTURBED AREAS PER THE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (JANUARY 2018, OR LATEST EDITION).
- 22. IMMEDIATELY AFTER THE WORK IS COMPLETED. CONTRACTOR SHALL BEGIN SEEDING OPERATIONS OF ALL DISTURBED AREAS PER FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (JANUARY 2018, OR LATEST EDITION). THE CONTRACTOR SHALL RESTORE THE RIGHT OF WAY TO THE CONDITION EXISTING PRIOR TO THE WORK. THE CONTRACTOR SHALL MAINTAIN THAT PORTION OF THE RIGHT OF WAY AFFECTED BY THE WORK UNTIL VEGETATION IS ESTABLISHED. FULL PAYMENT FOR SECTIONS OF COMPLETED PIPELINE WITHIN FDOT RIGHT-OF-WAY SHALL NOT BE MADE UNTIL CONTRACTOR HAS RECEIVED APPROVAL FROM FDOT FOR FINISHED GRADING AND VEGETATION.

#### **GENERAL NOTES**

SPECIFICATIONS, LATEST EDITION OF UTILITIES ACCOMMODATION MANUAL (UAM), 23. CONTRACTOR IS MADE AWARE THAT OVERHEAD POWER LINES ARE PRESENT RUNNING PARALLEL TO AND CROSSING THE PROPOSED PIPE ALIGNMENT. CONTRACTOR SHALL TAKE ALL PRECAUTIONS TO ENSURE THE SAFETY OF WORKERS AND THE PUBLIC.

> A. NOTIFY OWNERS SEVEN (7) DAY IN ADVANCE USING DOOR-HANGER TYPE NOTICES OR ON-SITE SIGNS AS APPROPRIATE AND APPROVED.

B. MAINTAIN USER'S ACCESS TO THE PROPERTY. C. RESTORE THE DRIVEWAYS TO AT LEAST AN EQUIVALENT CONDITION AND TYPES OF MATERIAL TO WHAT EXISTED PRIOR TO CUTTING.

PRE-CONSTRUCTION SURVEY OF ACTIVE AND INACTIVE GOPHER TORTOISE BURROWS AND SHALL IMMEDIATELY THEREAFTER INSTALL A CONTINUOUS DOUBLE ROW OF SILT FENCES TO EXCLUDE GOPHER TORTOISES FROM WORK AREAS. ONSITE RELOCATION ACTIVITIES SHALL BE PREFORMED FOR ANY ACTIVE OR INACTIVE BURROWS LOCATED WITHIN THE PROJECT AREA IN ACCORDANCE WITH SECTION 02100 OF THE SPECIFICATIONS.

#### MAINTENANCE OF TRAFFIC

- CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF TRAFFIC (MOT) THROUGHOUT THE PROJECT.
- 2. MOT SHALL CONFORM TO FDOT INDEX 600 SERIES STANDARDS. INDEX 601, 602, 611 AND 612 ARE PROVIDED FOR CONTRACTOR'S CONVENIENCE.
- WORK PERFORMED OUTSIDE FDOT RIGHT-OF-WAY; CONTRACTOR SHALL COORDINATE WITH CLAY COUNTY ENGINEERING AND PUBLIC WORKS
- 4. NO LANE CLOSURES ARE PERMITTED.
- 5. POSTED SPEED LIMIT ON STATE ROADS 16 AND 21 IS 60 MPH.

#### UTILITY OWNERS & CONTACTS

1. THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE UTILITY COMPANY FORTY-EIGHT (48) HOURS IN ADVANCE OF ANY EXCAVATION INVOLVING ITS UTILITIES SO THAT A COMPANY REPRESENTATIVE CAN BE PRESENT. THE LOCATION OF THE UTILITIES SHOWN IN THE PLANS ARE APPROXIMATE ONLY. THE EXACT LOCATION SHALL BE DETERMINED BY THE CONTRACTOR DURING CONSTRUCTION.

UTILITY COMPANY	ТҮРЕ	CONTACT	PHONE NO.
Florida Power & Light	Electric	Joel Bray	386-586-6403
		Doran McFalls	386-754-2020
AT&T	Telephone	Jamie A. Birmingham	904-655-1878
		Dino Farrugio	561-683-2729
Clay County Utility Authority	Sewer or Water	Darrell J. Damrow	904-213-2426
Clay Electric	Electric	Jessie Myers Both Districts (Keystone and Orange Park)	352-473-8000 x8356
		Joey Wilkes (Orange Park District)	904-276-6719 (EXT 4219)
Comcast	CATV	James Graham	N/A
		Andrew Sweeney	904-738-6898
Florida Gas Transmission	Natural Gas Transmission Pipeline Facilities	Joseph Sanchez	407-838-7171
MCI	Fiber Communication Lines	Travis Van Wyk	Twyk@asginc.us
Opticaltel	CATV	Sean Curley	scurley@opticaltel.com
Vero Fiber Networks	Fiber	Marty Wilcox	303-350-4060

- 2. THE CONTRACTOR SHALL USE THE SERVICES OF SUNSHINE-ONE CALL UTILITY LOCATOR A MINIMUM OF 48 HOURS PRIOR TO THE COMMENCEMENT OF WORK. (SUNSHINE-ONE CALL 1 (800) 423-4770 / 811)
- 3. CONTRACTOR IS ALERTED THAT PROJECT AREA PARALLELS AND CROSSES UNDER OVERHEAD TRANSMISSION AND DISTRIBUTION POWER LINES OWNED BY CLAY ELECTRIC (STATE ROAD 21) AND FLORIDA POWER AND LIGHT (STATE ROAD 16). POWER TRANSMISSION LINES ARE 230 KILOVOLT AND DISTRIBUTION LINES ARE 23 - 25 KILOVOLT. CONTRACTOR SHALL ADHERE TO ALL NATIONAL ELECTRIC SAFETY CODE REQUIREMENTS.

JUNE 2022

#### **SURVEYOR'S NOTES**

- 1. HORIZONTAL COORDINATES ARE BASED ON THE FLORIDA STATE PLANE COORDINATE SYSTEM, EAST ZONE 0901, NORTH AMERICAN DATUM OF 83/1990. HORIZONTAL CONTROL WAS BASED ON THE FLORIDA DEPARTMENT OF TRANSPORTATION PERMANENT REFERENCE NETWORK (FPRN)
- 2. VERTICAL DATUM BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1988 (NAVD88). VERTICAL CONTROL WAS BASED AND VERIFIED BY THE FOLLOWING NATIONAL GEODETIC SURVEY (NGS) CONTROL POINTS.

DESIGNATION: STATION NAME

DI8481 NORTHING: 2,053,457 (US FEET) EASTING: 386,258 (US FEET) LONGITUDE: W081°51'09" LATITUDE: N29°58'46" ELEVATION: 24.23 (US FEET)

STAINLESS STEEL ROD DRIVEN TO REFUSAL AT A DEPTH OF 24.1 WITH AN NGS LOGO CAP RECESSED 0.2 FT BELOW THE LEVEL OF THE GROUND AND ABOUT 10.0 FT BELOW THE LEVEL OF STATE HIGHWAY 16. THE DATUM POINT IS RECESSED 0.2 FT BELOW THE LEVEL OF THE NGS LOGO CAP AND LOCATED 96.5 FT SOUTH OF THE CENTERLINE OF STATE HIGHWAY 16, 80.2 FT SOUTH OF THE GUARDRAIL, 79.5 FT SOUTHWEST OF THE SOUTHWEST CORNER OF THE BRIDGE, 13.5 FT WEST OF A POWER POLE AND 12.9 FT WEST OF A CARSONITE WITNESS

DESIGNATION: W441 STATION NAME AC9702

> NORTHING: 2,052,916 (US FEET) 377,635 (US FEET) EASTING: LONGITUDE: W081°52'47" LATITUDE: N29°58'40" ELEVATION: 94.06 (US FEET)

THE MARK IS A ROUND CONCRETE MONUMENT FLUSH WITH THE GROUND AND 1.6 FT BELOW THE LEVEL OF STATE ROAD 16, 259.8 EAST OF THE EAST END OF A CONCRETE HEADWALL, 57.6 FT SOUTH OF THE APPROXIMATE CENTERLINE OF STATE ROAD 16, 1.2 FT NORTH OF AN 18-INCH POWER POLE AND 1.2 FT NORTH OF A CARSONITE WITNESS POST.

- 3. THIS SURVEY EXCEEDS THE ACCURACY REQUIREMENTS FOR SUBURBAN
- 4. ALL MEASUREMENTS SHOWN HEREON ARE REFERENCED TO THE US STANDARD
- 5. THIS SPECIFIC PURPOSE SURVEY WAS PREPARED IN ORDER TO ILLUSTRATE TOPOGRAPHIC DATA SHOWING ROAD STRIPING, EDGE OF PAVEMENTS, RIGHT OF WAY LIMITS BASED ON HISTORICAL MAPS AND DATA IN ADDITION TO DEPICTING WETLAND AREAS LOCATED BY THIS SURVEYOR AND DESIGNATED BY
- 6. UNDERGROUND UTILITIES WERE NOT LOCATED BY THIS SURVEYOR AND ARE NOT PART OF THIS SURVEY.
- 7. SURVEY DATE: ALL SURVEY FIELD DATA COLLECTION WAS COMPLETED BEFORE 01/16/2018.

# **EROSION CONTROL**

- 1. EROSION CONTROL AND SEDIMENTATION CONTROL DEVICES SHALL BE IN PLACE PRIOR TO BEGINNING ANY DEMOLITION OR CONSTRUCTION. THEY SHALL BE INSTALLED TO THE LIMITS SHOWN IN THE DRAWING, AS REQUIRED IN THE SPECIFICATIONS AND IN ACCORDANCE WITH ALL REGULATORY AGENCY REQUIREMENTS.
- 2. IT IS THE CONTRACTORS RESPONSIBILITY TO IMPLEMENT THE EROSION AND TURBIDITY CONTROLS AS SHOWN ON THE PLANS AND PER FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (JANUARY 2018 EDITION). IT IS ALSO THE CONTRACTORS RESPONSIBILITY TO ENSURE THESE CONTROLS ARE PROPERLY INSTALLED, MAINTAINED AND FUNCTIONING PROPERLY TO PREVENT TURBID OR POLLUTED WATER FROM LEAVING THE PROJECT SITE. THE CONTRACTOR WILL ADJUST THE EROSION CONTROLS SHOWN ON THE PLANS AND ADD ADDITIONAL CONTROL MEASURES, AS REQUIRED.TO ENSURE THE SITE MEETS ALL FEDERAL, STATE AND LOCAL EROSION AND TURBIDITY CONTROL REQUIREMENTS.

# SECTION AND DETAIL NUMBERING SYSTEM



SECTION CUT TARGET DETAIL CALL OUT TARGET SECTION DESIGNATION SHEET ON WHICH . SECTION **TARGET** SECTION IS CUT

DETAIL SHOWN ON MULTIPLE SHEETS SHEET ON WHICH -

DETAIL

ARV (SEE PLAN FOR TYPE)

GATE VALVE BOX

BLOWOFF

DETAIL DESIGNATION

TITLE

**DETAIL** 

+12.00

+ GTL

EXISTING SPOT ELEVATION

GOPHER TORTOISE LOCATION

EXISTING STORM DRAIN

UP - UNKNOWN POST

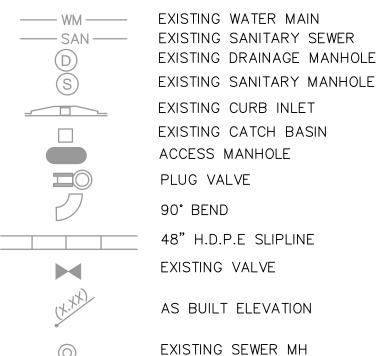
EXIST SIGN

TARGET

DETAIL IS CALLED

LEGEND WETLAND LIMITS EDGE OF PAVEMENT PROPOSED TURNOUT RESTORATION EDGE OF TRAVEL LANE EXIST ASPHALT ROADWAY CENTERLINE OF ROAD P - PROPERTY LINE WETLAND AREA PROJECT BOUNDARY  $\square$  or  $\multimap$ -P.P.EXISTING POWER POLE EXISTING WATER MAIN  $\square$  or  $\circ$  *L.P.* EXISTING LIGHT POLE EXISTING BURIED TELEPHONE **⊕**B−2071 BORING OVERHEAD ELECTRIC EXISTING CABLE TELEVISION \_\_\_\_\_ CATV \_\_\_\_\_ **FENCE** \_\_\_ FO \_\_\_\_ EXISTING FIBER OPTIC GUARDRAIL SILT FENCE EXISTING CONTOUR R/W - RIGHT OF WAY PROPOSED CONTOUR

SURVEYOR'S LEGEND



CLAY M TAPPAN PE NO. 42772 PROJECT NO. 9247-22120

FILE NAME: G002NFIX.DW SHEET NO. G-2

GENERAL NOTES, SURVEYOR'S NOTES AND LEGEND

D. AUST G. CASHON C. TAPPAN DATE DRWN CHKD

REMARKS

4651 Salisbury Road, Suite 420 Jacksonville, FL 32256 Tel: (904) 731-7109 FL COA No. EB-000002

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT. LOWER ST. JOHNS RIVER BASIN BLACK CREEK WATER RESOURCE **DEVELOPMENT PROJECT** 

30" RAW WATER TRANSMISSION MAIN

I OINT NO.	LLLVATION	NONTHING	LASTING
B-11	140.14	1994621.42	330550.7
B-12	155.62	1994214.36	331202.4
B-13	176.73	1996516.72	330221.6
B-14	152.68	1994496.00	331834.9
B-15	130.69	1995148.94	332669.6
B-16	159.75	1995105.66	330163.6
B-17	180.68	1997658.83	329949.3
B-18	153.81	1995406.10	330945.7
B-19	155.42	1993895.75	332659.2
B-20	131.89	1993549.87	330014.9
B-21	134.75	1995373.37	333175.0
B-22	140.43	1995651.57	332372.4
B-23	139.47	1994642.28	332367.8
B-24	172.19	1993739.87	331554.0
B-25	164.62	1993724.87	330807.7
B-26	171.85	1995839.00	330263.3
B-27	183.57	1997018.89	329853.4
B-28	154.38	1993625.13	332172.9
B-108	157.04	1994288.96	331543.6
B-109	160.41	1993754.67	331796.5
B-110	139.34	1994794.77	332493.2
B-111	142.46	1995012.24	332761.6
B-114	151.20	1994605.13	331902.8
B-115	147.16	1994678.64	331988.1
PB-86	172.56	2000606.08	345405.8
PB-87	176.59	1999947.34	344706.9
PB-88	175.17	1999308.50	344016.3
PB-89	169.23	1998643.15	343290.3
PB-90	168.04	1997997.18	342597.2
PB-91	169.94	1997327.11	341877.5
PB-92	163.42	1996675.99	341188.7
PB-93	167.17	1996131.24	340602.7
PB-94	166.46	1995509.05	339933.8
PB-95	155.76	1994859.28	339226.6
PB-96	154.97	1994193.08	338511.5
PB-97	154.38	1993745.67	338026.7
PB-99	158.37	1993355.70	336808.9
PB-100	145.63	1993335.01	335231.1
PB-101	158.02	1993323.05	333664.3

SOIL BORING TABLE

POINT NO. ELEVATION NORTHING EASTING

### NOTE:

 REFER TO GEOTECHNICAL REPORT BY CDM SMITH DATED MARCH 2018 FOR ADDITIONAL INFORMATION RELATED TO SOIL BORINGS AND GEOTECHNICAL RECOMMENDATIONS.

	ALIONIMENT LINE DATA								
	ALIGNMENT LINE DATA								
LINE #	BEARING	DISTANCE	START STATION	END STATION	START POINT	END POINT			
L1	S67° 54' 14.76"E	339.50	30+00.00	33+39.50	N=1993410.93 E=332968.42	N=1993283.23 E=333282.99			
L2	N89° 34′ 47.92"E	310.52	33+39.50	36+50.02	N=1993283.23 E=333282.99	N=1993285.50 E=333593.49			
L3	S89° 58' 57.65"E	78.25	36+50.02	37+28.26	N=1993285.50 E=333593.49	N=1993285.48 E=333671.74			
L4	N89° 52' 19.14"E	836.23	37+28.26	45+64.49	N=1993285.48 E=333671.74	N=1993287.35 E=334507.97			
L5	N88° 57' 33.75"E	263.83	45+64.49	48+28.33	N=1993287.35 E=334507.97	N=1993292.14 E=334771.76			
L6	S89° 12' 01.09"E	514.92	48+28.33	53+43.24	N=1993292.14 E=334771.76	N=1993284.95 E=335286.63			
L7	N44° 32' 03.00"E	76.66	53+43.24	54+19.90	N=1993284.95 E=335286.63	N=1993339.60 E=335340.39			
L8	S89° 55' 31.99"E	358.95	54+19.90	57+78.85	N=1993339.60 E=335340.39	N=1993339.13 E=335699.34			
L9	N89° 25' 03.48"E	472.15	57+78.85	62+51.00	N=1993339.13 E=335699.34	N=1993343.93 E=336171.46			
L10	N89° 31' 10.94"E	948.47	62+51.00	71+99.47	N=1993343.93 E=336171.46	N=1993351.88 E=337119.90			
L11	N88° 57' 22.47"E	454.18	71+99.47	76+53.65	N=1993351.88 E=337119.90	N=1993360.15 E=337574.00			

	ALIGNMENT LINE DATA									
LINE #	BEARING	DISTANCE	START STATION	END STATION	START POINT	END POINT				
L12	N64° 09' 16.87"E	51.13	116+84.04	117+35.17	N=1993360.15 E=337574.00	N=1993382.44 E=337620.02				
L13	N63° 59' 15.18"E	49.04	117+35.17	117+84.21	N=1993382.44 E=337620.02	N=1993403.95 E=337664.09				
L14	N47° 02' 29.04"E	15.79	117+84.21	118+00.00	N=1993403.95 E=337664.09	N=1993414.71 E=337675.64				
L15	N47° 02' 29.04"E	1251.82	118+00.00	130+51.82	N=1993414.71 E=337675.64	N=1994267.78 E=338591.78				
L16	N47° 06' 39.68"E	1106.47	130+51.82	141+58.28	N=1994267.78 E=338591.78	N=1995020.82 E=339402.46				
L17	N47° 10' 41.79"E	2043.72	141+58.28	162+02.01	N=1995020.82 E=339402.46	N=1996409.98 E=340901.47				
L18	N47° 04' 50.57"E	2739.75	162+02.01	189+41.75	N=1996409.98 E=340901.47	N=1998275.66 E=342907.83				
L19	N47° 04' 06.19"E	1288.70	189+41.75	202+30.45	N=1998275.66 E=342907.83	N=1999153.42 E=343851.37				
L20	N47° 08' 52.19"E	3806.21	202+30.45	240+36.66	N=1999153.42 E=343851.37	N=2001742.06 E=346641.74				

# PROJECT BENCH MARKS

 009AV
 1993168.24
 337467.71
 156.04
 Target

 010AV
 1993195.09
 337462.16
 156.05
 Target

 011AV
 1993313.29
 334989.88
 146.55
 Target

						DESIGNED BY:	C. TAPPAN
L						DRAWN BY:	D. AUST
┡						SHEET CHK'D BY:	G. CASHON
ŀ						CROSS CHK'D BY:	C. TAPPAN
┢	DE: /					APPROVED BY:	
ı	REV.	DATE	DRWN	CHKD	REMARKS	DATF:	JUNE 2022



CRYSTAL LAKE

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT,
LOWER ST. JOHNS RIVER BASIN
BLACK CREEK WATER RESOURCE
DEVELOPMENT PROJECT
30" RAW WATER TRANSMISSION MAIN

MAGNOLIA LAKE

BEGIN TREAT ROAD PIPELINE ALIGNMENT— STA=30+00.0 STATION EQUATION
END TREAT ROAD PIPELINE
STA 76+53.65
BEGIN US-21 PIPELINESTA=116+84.04
N=1993360.15
E=337574.00

PK NAIL-011AV

KEY MAP, HORIZONTAL CONTROL AND SOIL BORING TABLE I DATE:
CLAY M TAPPAN
PE NO. 42772

PROJECT NO. 9247-22120
FILE NAME: G003NFKM.DWG
SHEET NO.

G-3

ISSUED FOR BID

ALIGNMENT LINE DATA									
LINE #	BEARING	DISTANCE	START STATION	END STATION	START POINT	END POINT	LINE	E #	
L20	N47° 08' 52.19"E	3806.21	202+30.45	240+36.66	N=1999153.42 E=343851.37	N=2001742.06 E=346641.74	L3	37	
L21	N47° 06' 58.06"E	4915.94	240+36.66	289+52.60	N=2001742.06 E=346641.74	N=2005087.43 E=350243.82	L3	38	
L22	N47° 03' 31.97"E	868.50	289+52.60	298+21.09	N=2005087.43 E=350243.82	N=2005679.09 E=350879.61	L3	39	
L23	N24° 33′ 31.97″E	42.53	298+21.09	298+63.62	N=2005679.09 E=350879.61	N=2005717.77 E=350897.28	L4	10	
L24	N47° 08' 56.71"E	1002.71	298+63.62	308+66.33	N=2005717.77 E=350897.28	N=2006399.70 E=351632.39	L4	41	
L25	N69° 33' 02.76"E	38.27	308+66.33	309+04.61	N=2006399.70 E=351632.39	N=2006413.08 E=351668.26	L4	12	
L26	N47° 03' 02.76"E	8155.33	309+04.61	390+59.94	N=2006413.08 E=351668.26	N=2011969.71 E=357637.62	L4	13	
L27	N24° 33' 29.80"E	34.28	390+59.94	390+94.22	N=2011969.71 E=357637.62	N=2012000.89 E=357651.86	L4	14	
L28	N47° 14' 35.43"E	449.47	390+94.22	395+43.69	N=2012000.89 E=357651.86	N=2012306.03 E=357981.88	L4	15	
L29	N69° 33' 29.80"E	28.28	395+43.69	395+71.97	N=2012306.03 E=357981.88	N=2012315.91 E=358008.38	L4	16	
L30	N47° 05' 20.05"E	1116.04	395+71.97	406+88.01	N=2012315.91 E=358008.38	N=2013075.78 E=358825.78	L4	17	
L31	N24° 33' 29.80"E	42.88	406+88.01	407+30.89	N=2013075.78 E=358825.78	N=2013114.78 E=358843.60	L4	18	
L32	N47° 03' 29.80"E	56.14	407+30.89	407+87.03	N=2013114.78 E=358843.60	N=2013153.02 E=358884.70	L4	19	
L33	N69° 33' 29.80"E	42.87	407+87.03	408+29.90	N=2013153.02 E=358884.70	N=2013167.99 E=358924.87	L5	50	
L34	N47° 01' 33.87"E	3085.72	408+29.90	439+15.62	N=2013167.99 E=358924.87	N=2015271.43 E=361182.59	L5	51	
L35	N47° 02' 07.77"E	1120.46	439+15.62	450+36.09	N=2015271.43 E=361182.59	N=2016035.07 E=362002.52	L5	52	
L36	N23° 00' 56.11"E	40.80	450+36.09	450+76.89	N=2016035.07 E=362002.52	N=2016072.63 E=362018.47			

ALIGNMENT LINE DATA									
LINE #	BEARING	DISTANCE	START STATION	END STATION	START POINT	END POINT			
L37	N45° 30' 56.11"E	14.81	450+76.89	450+91.70	N=2016072.63 E=362018.47	N=2016083.00 E=362029.03			
L38	N68° 00' 56.11"E	47.49	450+91.70	451+39.18	N=2016083.00 E=362029.03	N=2016100.78 E=362073.07			
L39	N45° 50' 56.24"E	472.42	451+39.18	456+11.61	N=2016100.78 E=362073.07	N=2016429.85 E=362412.03			
L40	N47° 53' 55.07"E	39.97	456+11.61	456+51.58	N=2016429.85 E=362412.03	N=2016456.65 E=362441.69			
L41	N50° 05' 13.02"E	49.75	456+51.58	457+01.34	N=2016456.65 E=362441.69	N=2016488.57 E=362479.85			
L42	N47° 05' 13.02"E	88.61	457+01.34	457+89.94	N=2016488.57 E=362479.85	N=2016548.91 E=362544.75			
L43	N44° 05' 13.02"E	82.48	457+89.94	458+72.43	N=2016548.91 E=362544.75	N=2016608.15 E=362602.14			
L44	N45° 43' 24.27"E	19.99	458+72.43	458+92.42	N=2016608.15 E=362602.14	N=2016622.11 E=362616.45			
L45	N47° 21' 35.51"E	2042.74	458+92.42	479+35.16	N=2016622.11 E=362616.45	N=2018005.84 E=364119.14			
L46	N47° 03' 11.73"E	1138.11	479+35.16	490+73.27	N=2018005.84 E=364119.14	N=2018781.26 E=364952.22			
L47	N47° 01' 09.84"E	2961.64	490+73.27	520+34.91	N=2018781.26 E=364952.22	N=2020800.36 E=367118.91			
L48	N47° 02' 20.28"E	1414.25	520+34.91	534+49.17	N=2020800.36 E=367118.91	N=2021764.17 E=368153.89			
L49	N24° 32' 20.28"E	37.08	534+49.17	534+86.24	N=2021764.17 E=368153.89	N=2021797.90 E=368169.29			
L50	N47° 02' 20.28"E	19.03	534+86.24	535+05.27	N=2021797.90 E=368169.29	N=2021810.87 E=368183.21			
L51	N69° 32′ 20.28″E	37.09	535+05.27	535+42.36	N=2021810.87 E=368183.21	N=2021823.84 E=368217.96			
L52	N47° 01' 09.16"E	1761.77	535+42.36	553+04.13	N=2021823.84 E=368217.96	N=2023024.93 E=369506.84			

SOIL BORING TABLE								
POINT NO.	ELEVATION	NORTHING	EASTING					
PB-54	132.45	2021429.12	367790.82					
PB-55	145.40	2020777.65	367087.66					
PB-56	149.50	2020136.92	366401.77					
PB-57	150.78	2019465.10	365675.44					
PB-58	158.22	2018836.81	365006.75					
PB-59	166.26	2018204.94	364326.67					
PB-60	167.11	2017540.26	363617.88					
PB-61	167.39	2016904.34	362920.10					
PB-62	169.59	2016253.01	362229.72					
PB-63	172.14	2015614.27	361535.27					
PB-64	189.27	2014955.76	360834.91					
PB-65	195.59	2014306.08	360136.96					
PB-66	200.69	2013650.10	359432.61					
PB-67	202.02	2013002.78	358739.68					
PB-68	203.56	2012353.89	358041.61					
PB-69	206.46	2011720.59	357356.55					
PB-70	209.45	2011056.33	356651.69					
PB-71	211.50	2010398.12	355940.07					
PB-72	217.88	2009755.54	355250.58					
PB-74	221.36	2008457.35	353854.58					
PB-75	219.44	2007807.87	353157.42					
PB-76	215.57	2007140.02	352440.93					
PB-77	213.90	2006491.80	351742.44					
PB-78	212.27	2005845.72	351047.12					
PB-79	210.09	2005179.11	350332.33					
PB-80	225.55	2004530.87	349639.41					
PB-81	210.44	2003887.93	348948.40					
PB-82	209.57	2003229.49	348238.09					
PB-83	190.61	2002587.78	347533.30					
PB-84	193.18	2001916.58	346824.18					
PB-85	179.88	2001250.17	346104.65					

### NOTE:

 REFER TO GEOTECHNICAL REPORT BY CDM SMITH DATED MARCH 2018 FOR ADDITIONAL INFORMATION RELATED TO SOIL BORINGS AND GEOTECHNICAL RECOMMENDATIONS.

						DESIGNED BY:	C. TAPPAI
						DRAWN BY:	D. AUS
						SHEET CHK'D BY:	G. CASHOI
						CROSS CHK'D BY:	C. TAPPAI
L						APPROVED BY:	-
R	REV.	DATE	DRWN	CHKD	REMARKS	DATE:	JUNE 202:

71 17 71 71	CDM Smith
-	4651 Salisbury Road, Suite 420
-	Jacksonville, FL 32256
2	Tel: (904) 731-7109
=	

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT,
LOWER ST. JOHNS RIVER BASIN
BLACK CREEK WATER RESOURCE
DEVELOPMENT PROJECT
30" RAW WATER TRANSMISSION MAIN

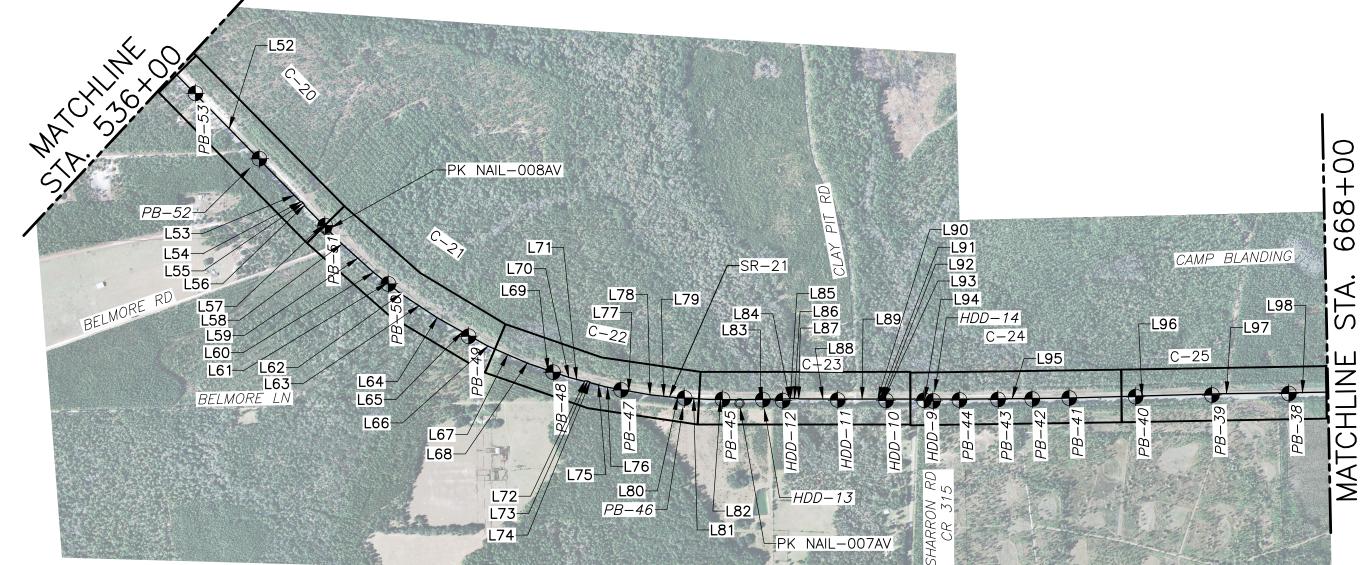
KEY MAP, HORIZONTAL CONTROL AND SOIL BORING TABLE II DATE:
CLAY M TAPPAN
PE NO. 42772

PROJECT NO. 9247-221208
FILE NAME: G004NFKM.DW0

SHEET NO.

ISSUED FOR BID

savea by: AUSIJD - IIMe: 3/13/2022 12:20:41 PM \cdmsmith—a202—pw.bentley.com:PW\_PL1\9247\221208\_PHASE 1 PIPELINE\04 Design Services NM\_100%\01 General\10 CADD\0 2 CDM SMITH ALL RIGHTS RESERVED.



ALIGNMENT LINE DATA									
LINE #	BEARING	DISTANCE	START STATION	END STATION	START POINT	END POINT			
L52	N47° 01' 09.16"E	1761.77	535+42.36	553+04.13	N=2021823.84 E=368217.96	N=2023024.93 E=369506.84			
L53	N46° 55' 10.37"E	174.57	553+04.13	554+78.70	N=2023024.93 E=369506.84	N=2023144.16 E=369634.34			
L54	N23° 47' 16.03"E	23.45	554+78.70	555+02.15	N=2023144.16 E=369634.34	N=2023165.62 E=369643.80			
L55	N46° 17' 16.03"E	29.21	555+02.15	555+31.36	N=2023165.62 E=369643.80	N=2023185.81 E=369664.91			
L56	N68° 44' 57.88"E	25.60	555+31.36	555+56.96	N=2023185.81 E=369664.91	N=2023195.09 E=369688.77			
L57	N46° 55' 16.33"E	540.23	555+56.96	560+97.18	N=2023195.09 E=369688.77	N=2023564.06 E=370083.36			
L58	N45° 06' 53.77"E	19.99	560+97.18	561+17.17	N=2023564.06 E=370083.36	N=2023578.17 E=370097.53			
L59	N43° 18' 31.21"E	421.81	561+17.17	565+38.99	N=2023578.17 E=370097.53	N=2023885.11 E=370386.86			
L60	N41° 22' 49.59"E	19.99	565+38.99	565+58.98	N=2023885.11 E=370386.86	N=2023900.11 E=370400.07			
L61	N39° 27' 07.98"E	343.62	565+58.98	569+02.59	N=2023900.11 E=370400.07	N=2024165.43 E=370618.42			
L62	N37° 04' 18.96"E	19.98	569+02.59	569+22.57	N=2024165.43 E=370618.42	N=2024181.38 E=370630.46			
L63	N34° 41' 29.95"E	430.67	569+22.57	573+53.24	N=2024181.38 E=370630.46	N=2024535.48 E=370875.58			
L64	N32° 36' 48.61"E	19.99	573+53.24	573+73.23	N=2024535.48 E=370875.58	N=2024552.32 E=370886.35			
L65	N30° 32' 07.27"E	586.23	573+73.23	579+59.46	N=2024552.32 E=370886.35	N=2025057.25 E=371184.20			
L66	N27° 39' 45.98"E	19.97	579+59.46	579+79.44	N=2025057.25 E=371184.20	N=2025074.94 E=371193.48			
L67	N24° 47' 24.69"E	427.72	579+79.44	584+07.16	N=2025074.94 E=371193.48	N=2025463.25 E=371372.82			
L68	N22° 29' 31.42"E	19.98	584+07.16	584+27.14	N=2025463.25 E=371372.82	N=2025481.71 E=371380.46			
L69	N20° 11' 38.15"E	435.85	584+27.14	588+62.99	N=2025481.71 E=371380.46	N=2025890.77 E=371530.92			
L70	N17° 57' 08.73"E	19.98	588+62.99	588+82.97	N=2025890.77 E=371530.92	N=2025909.78 E=371537.08			
L71	N15° 42' 39.31"E	149.87	588+82.97	590+32.84	N=2025909.78 E=371537.08	N=2026054.05 E=371577.66			
L72	N6° 13' 00.37"W	24.74	590+32.84	590+57.58	N=2026054.05 E=371577.66	N=2026078.64 E=371574.98			
L73	N16° 16' 59.63"E	32.58	590+57.58	590+90.16	N=2026078.64 E=371574.98	N=2026109.91 E=371584.11			
L74	N38° 54' 46.26"E	22.62	590+90.16	591+12.78	N=2026109.91 E=371584.11	N=2026127.52 E=371598.33			
L75	N15° 42' 39.31"E	169.65	591+12.78	592+82.43	N=2026127.52 E=371598.33	N=2026290.83 E=371644.26			

LINE #	BEARING	DISTANCE	START STATION	END STATION	START POINT	END POINT
L76	N13° 34' 37.52"E	19.99	592+82.43	593+02.42	N=2026290.83 E=371644.26	N=2026310.25 E=371648.96
L77	N11° 26' 35.72"E	429.35	593+02.42	597+31.77	N=2026310.25 E=371648.96	N=2026731.07 E=371734.14
L78	N9° 26' 52.68"E	19.99	597+31.77	597+51.76	N=2026731.07 E=371734.14	N=2026750.79 E=371737.42
L79	N7°27'09.63"E	269.98	597+51.76	600+21.74	N=2026750.79 E=371737.42	N=2027018.49 E=371772.44
L80	N5° 53' 20.44"E	19.99	600+21.74	600+41.73	N=2027018.49 E=371772.44	N=2027038.38 E=371774.49
L81	N4° 19' 31.25"E	315.69	600+41.73	603+57.43	N=2027038.38 E=371774.49	N=2027353.17 E=371798.30
L82	N1° 57' 39.07"E	244.06	603+57.43	606+01.49	N=2027353.17 E=371798.30	N=2027597.09 E=371806.65
L83	N0° 34' 43.72"E	591.96	606+01.49	611+93.44	N=2027597.09 E=371806.65	N=2028189.01 E=371812.63
L84	N1° 18' 53.08"E	9.08	611+93.44	612+02.52	N=2028189.01 E=371812.63	N=2028198.09 E=371812.84
L85	N33° 55' 35.30"W	9.26	612+02.52	612+11.78	N=2028198.09 E=371812.84	N=2028205.77 E=371807.67
L86	N1° 09' 00.61"E	79.14	612+11.78	612+90.91	N=2028205.77 E=371807.67	N=2028284.89 E=371809.26
L87	N34° 23' 13.24"E	10.09	612+90.91	613+01.00	N=2028284.89 E=371809.26	N=2028293.22 E=371814.96
L88	N1° 28' 55.92"E	496.66	613+01.00	617+97.67	N=2028293.22 E=371814.96	N=2028789.72 E=371827.81
L89	N1° 35' 16.71"E	319.78	617+97.67	621+17.44	N=2028789.72 E=371827.81	N=2029109.37 E=371836.67
L90	N34° 37' 45.14"W	8.95	621+17.44	621+26.39	N=2029109.37 E=371836.67	N=2029116.73 E=371831.58
L91	N1°24'43.93"E	47.51	621+26.39	621+73.91	N=2029116.73 E=371831.58	N=2029164.23 E=371832.75
L92	N36° 18' 09.44"E	8.76	621+73.91	621+82.67	N=2029164.23 E=371832.75	N=2029171.29 E=371837.94
L93	N1° 07' 07.79"E	8.61	621+82.67	621+91.28	N=2029171.29 E=371837.94	N=2029179.90 E=371838.11
L94	N1° 15' 19.77"E	842.99	621+91.28	630+34.27	N=2029179.90 E=371838.11	N=2030022.69 E=371856.58
L95	N0° 54' 44.46"E	980.03	630+34.27	640+14.30	N=2030022.69 E=371856.58	N=2031002.60 E=371872.18
L96	N0° 16' 44.94"W	1723.22	640+14.30	657+37.52	N=2031002.60 E=371872.18	N=2032725.80 E=371863.79
L97	N0° 08' 12.43"E	36.12	657+37.52	657+73.65	N=2032725.80 E=371863.79	N=2032761.92 E=371863.87
L98	N0° 31' 12.35"E	1549.92	657+73.65	673+23.57	N=2032761.92 E=371863.87	N=2034311.78 E=371877.94

ALIGNMENT LINE DATA

	SOIL BO	RING TABLE	
POINT NO.	ELEVATION	NORTHING	EASTING
HDD-9	69.10	2029593.57	371860.0
HDD-10	66.15	2029196.72	371852.2
HDD-11	65.66	2028693.83	371836.5
HDD-12	66.21	2028120.78	371828.9
HDD-13	64.82	2027913.84	371814.
HDD-14	72.75	2029687.57	371869.9
PB-38	92.23	2033394.20	371878.6
PB-39	89.24	2032592.09	371876.
PB-40	85.75	2031796.94	371874.4
PB-41	82.07	2031105.76	371872.
PB-42	80.81	2030720.31	371872.8
PB-43	79.68	2030364.33	371870.
PB-44	76.76	2029962.04	371865.0
PB-45	74.37	2027494.74	371801.9
PB-46	85.74	2027099.37	371779.
PB-47	90.24	2026440.54	371679.0
PB-48	89.71	2025737.21	371477.
PB-49	87.90	2024866.17	371082.
PB-50	94.47	2024043.86	370518.
PB-51	106.90	2023398.51	369896.0
PB-52	117.56	2022730.26	369182. <sup>-</sup>
PB-53	126.08	2022080.84	368486.

# PROJECT BENCH MARKS

007AV	2027670.08	371847.70	71.88	Target
VA800	2023411.94	369944.10	108.59	Target

### NOTE:

 REFER TO GEOTECHNICAL REPORT BY CDM SMITH DATED MARCH 2018 FOR ADDITIONAL INFORMATION RELATED TO SOIL BORINGS AND GEOTECHNICAL RECOMMENDATIONS.

> DATE: CLAY M TAPPAN PE NO. 42772

PROJECT NO. 9247-221208
FILE NAME: GOO5NFKM.DWG

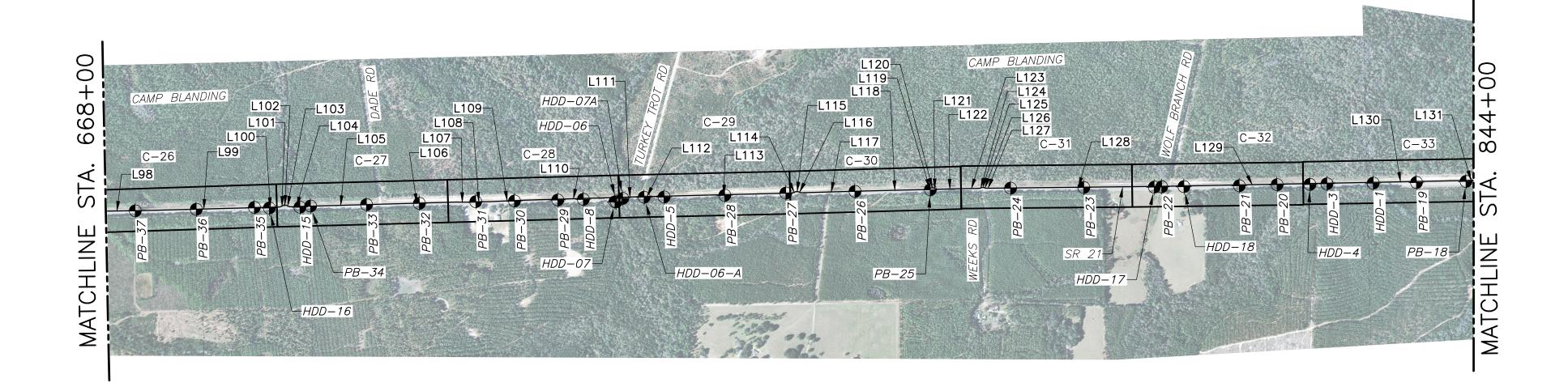
					DESIGNED BY:	C. TAPPAN
					DRAWN BY:	D. AUST
					SHEET CHK'D BY:	G. CASHON
					CROSS CHK'D BY:	C. TAPPAN
					APPROVED BY:	_
REV.	DATE	DRWN	CHKD	RFMARKS	DATE	JUNE 2022

Z	CDM Smith
- -	4651 Salisbury Road, Suite 420 Jacksonville, FL 32256
2	Tel: (904) 731-7109

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT,
LOWER ST. JOHNS RIVER BASIN
BLACK CREEK WATER RESOURCE
DEVELOPMENT PROJECT
30" RAW WATER TRANSMISSION MAIN

KEY MAP, HORIZONTAL CONTROL AND SOIL BORING TABLE III

G-5



NOTE

 REFER TO GEOTECHNICAL REPORT BY CDM SMITH DATED MARCH 2018 FOR ADDITIONAL INFORMATION RELATED TO SOIL BORINGS AND GEOTECHNICAL RECOMMENDATIONS.

ALIGNMENT LINE DATA									
LINE #	BEARING	DISTANCE	START STATION	END STATION	START POINT	END POINT			
L98	N0° 31' 12.35"E	1549.92	657+73.65	673+23.57	N=2032761.92 E=371863.87	N=2034311.78 E=371877.94			
L99	N0° 11' 00.28"W	1467.04	673+23.57	687+90.61	N=2034311.78 E=371877.94	N=2035778.81 E=371873.25			
L100	N0° 13′ 04.70"W	244.38	687+90.61	690+34.99	N=2035778.81 E=371873.25	N=2036023.19 E=371872.32			
L101	N21° 59' 12.23"W	59.54	690+34.99	690+94.53	N=2036023.19 E=371872.32	N=2036078.40 E=371850.03			
L102	NO° 30' 47.77"E	19.93	690+94.53	691+14.45	N=2036078.40 E=371850.03	N=2036098.33 E=371850.20			
L103	N23° 00' 47.77"E	55.33	691+14.45	691+69.79	N=2036098.33 E=371850.20	N=2036149.25 E=371871.84			
L104	N0° 13′ 04.70"W	178.83	691+69.79	693+48.62	N=2036149.25 E=371871.84	N=2036328.09 E=371871.16			
L105	N0° 14' 12.27"W	955.44	693+48.62	703+04.06	N=2036328.09 E=371871.16	N=2037283.52 E=371867.21			
L106	N0° 13′ 16.67"W	1002.11	703+04.06	713+06.17	N=2037283.52 E=371867.21	N=2038285.63 E=371863.34			
L107	N1° 33′ 33.14″E	168.63	713+06.17	714+74.80	N=2038285.63 E=371863.34	N=2038454.19 E=371867.93			
L108	N0° 03' 05.93"W	254.52	714+74.80	717+29.32	N=2038454.19 E=371867.93	N=2038708.71 E=371867.70			
L109	N1° 04' 19.89"W	476.99	717+29.32	722+06.31	N=2038708.71 E=371867.70	N=2039185.61 E=371858.77			
L110	N0° 21′ 08.07"W	1227.96	722+06.31	734+34.27	N=2039185.61 E=371858.77	N=2040413.55 E=371851.22			
L111	N0° 21' 41.49"W	222.82	734+34.27	736+57.08	N=2040413.55 E=371851.22	N=2040636.36 E=371849.82			
L112	N0° 11' 00.79"W	215.21	736+57.08	738+72.29	N=2040636.36 E=371849.82	N=2040851.56 E=371849.13			
L113	N0° 04' 47.51"W	1764.78	738+72.29	756+37.07	N=2040851.56 E=371849.13	N=2042616.35 E=371846.67			
L114	N20° 14' 45.55"W	47.14	756+37.07	756+84.21	N=2042616.35 E=371846.67	N=2042660.57 E=371830.35			

			ALIGNMENT L	INE DATA		
LINE #	BEARING	DISTANCE	START STATION	END STATION	START POINT	END POINT
L115	N2° 15' 14.45"E	30.68	756+84.21	757+14.89	N=2042660.57 E=371830.35	N=2042691.23 E=371831.56
L116	N24° 45' 14.45"E	35.12	757+14.89	757+50.01	N=2042691.23 E=371831.56	N=2042723.12 E=371846.27
L117	N0° 12' 53.14"W	783.35	757+50.01	765+33.35	N=2042723.12 E=371846.27	N=2043506.46 E=371843.33
L118	N0° 04' 42.84"W	849.37	765+33.35	773+82.73	N=2043506.46 E=371843.33	N=2044355.83 E=371842.17
L119	N22° 30' 00.00"W	54.74	773+82.73	774+37.46	N=2044355.83 E=371842.17	N=2044406.40 E=371821.22
L120	N0° 00' 00.00"E	13.80	774+37.46	774+51.26	N=2044406.40 E=371821.22	N=2044420.20 E=371821.22
L121	N22° 30' 00.00"E	54.33	774+51.26	775+05.59	N=2044420.20 E=371821.22	N=2044470.39 E=371842.01
L122	N0° 04' 42.84"W	336.14	775+05.59	778+41.72	N=2044470.39 E=371842.01	N=2044806.52 E=371841.55
L123	N0° 25' 42.40"E	219.11	778+41.72	780+60.83	N=2044806.52 E=371841.55	N=2045025.63 E=371843.19
L124	N22° 40′ 37.77"W	23.59	780+60.83	780+84.42	N=2045025.63 E=371843.19	N=2045047.39 E=371834.09
L125	N0° 15' 00.97"E	30.83	780+84.42	781+15.25	N=2045047.39 E=371834.09	N=2045078.22 E=371834.23
L126	N22° 19' 22.23"E	25.08	781+15.25	781+40.33	N=2045078.22 E=371834.23	N=2045101.42 E=371843.75
L127	N0° 25′ 42.40"E	57.16	781+40.33	781+97.49	N=2045101.42 E=371843.75	N=2045158.58 E=371844.18
L128	N0° 42' 38.23"E	2270.57	781+97.49	804+68.05	N=2045158.58 E=371844.18	N=2047428.97 E=371872.34
L129	N0° 17' 04.43"E	2191.47	804+68.05	826+59.52	N=2047428.97 E=371872.34	N=2049620.41 E=371883.22
L130	N0° 13′ 21.88″E	1622.75	826+59.52	842+82.28	N=2049620.41 E=371883.22	N=2051243.16 E=371889.53
L131	N0° 19' 23.30"W	1175.91	842+82.28	854+58.19	N=2051243.16 E=371889.53	N=2052419.05 E=371882.90

	SOIL BOF	RING TABLE		SOIL BORING TABLE				SOIL BORING TABLE			
POINT NO.	ELEVATION	NORTHING	EASTING	POINT NO.	ELEVATION	NORTHING	EASTING	POINT NO.	ELEVATION	NORTHING	EASTING
HDD-1	69.80	2050080.97	371894.86	HDD-17	92.11	2047265.81	371880.26	PB-27	89.42	2042528.95	371845.92
HDD-3	68.94	2049485.64	371889.41	HDD-18	91.27	2047647.25	371883.54	PB-28	79.95	2041743.57	371857.15
HDD-4	68.63	2049266.56	371891.94	PB-18	95.06	2051273.20	371900.64	PB-29	65.47	2039596.41	371866.63
HDD-5	53.83	2040963.53	371860.70	PB-19	86.42	2050636.06	371898.95	PB-30	87.60	2039039.52	371867.49
HDD-06	53.19	2040347.03	371907.08	PB-20	73.62	2048844.62	371886.63	PB-31	94.29	2038542.37	371863.06
HDD-06-A	53.35	2040706.63	371856.93	PB-21	86.36	2048358.97	371888.18	PB-32	97.04	2037816.94	371868.37
HDD-07	53.15	2040329.55	371907.26	PB-22	91.45	2047361.17	371879.72	PB-33	95.38	2037137.54	371868.40
HDD-07A	53.62	2040431.35	371865.62	PB-23	98.39	2046359.98	371863.86	PB-34	93.19	2036417.54	371870.40
HDD-8	55.50	2039925.87	371866.38	PB-24	100.47	2045419.03	371851.13	PB-35	93.31	2035696.13	371870.21
HDD-15	94.35	2036280.99	371882.30	PB-25	99.42	2044386.25	371847.11	PB-36	94.04	2034948.44	371877.18
HDD-16	94.01	2035887.57	371882.76	PB-26	93.88	2043417.91	371846.52	PB-37	94.36	2034163.07	371878.92

					DESIGNED BY:	C. TAPPAN
					DRAWN BY:	D. AUST
					SHEET CHK'D BY:	G. CASHON
					CROSS CHK'D BY:	
					APPROVED BY:	_
REV. NO.	DATE	DRWN	CHKD	REMARKS	DATE:	JUNE 2022

CDM Smith
4651 Salisbury Road, Suite 420
Jacksonville, FL 32256
Tel: (904) 731-7109
EL COA No. ER-0000020

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT,
LOWER ST. JOHNS RIVER BASIN
BLACK CREEK WATER RESOURCE
DEVELOPMENT PROJECT
30" RAW WATER TRANSMISSION MAIN

KEY MAP, HORIZONTAL CONTROL AND SOIL BORING TABLE IV DATE:
CLAY M TAPPAN
PE NO. 42772

PROJECT NO. 9247-22120

SHEET NO.

FILE NAME: GOO6NFKM.DW

			ALIGNMENT L	INE DATA			
LINE #	BEARING	DISTANCE	START STATION		START POINT	END POINT	
L132	N0° 19' 23.30"W	1175.91	842+82.28	854+58.19	N=2051243.16 E=371889.53	N=2052419.05 E=371882.90	
L133	N0° 14' 29.85"W	675.90	854+58.19	861+34.09	N=2052419.05 E=371882.90	N=2053094.94 E=371880.05	
L134	S89° 45′ 31.48″E	97.82	861+34.09	862+31.91	N=2053094.94 E=371880.05	N=2053094.53 E=371977.87	
L135	N90° 00' 00.00"E	42.68	862+31.91	862+74.59	N=2053094.53 E=371977.87	N=2053094.53 E=372020.55	
L136	N45° 00' 00.00"E	59.72	862+74.59	863+34.31	N=2053094.53 E=372020.55	N=2053136.76 E=372062.78	
L137	N0° 10′ 02.46″E	129.61	863+34.31	864+63.92	N=2053136.76 E=372062.78	N=2053266.37 E=372063.16	
L138	S89° 33′ 38.37"E	250.62	864+63.92	867+14.54	N=2053266.37 E=372063.16	N=2053264.45 E=372313.77	
L139	S85° 56' 17.55"E	291.82	867+14.54	870+06.36	N=2053264.45 E=372313.77	N=2053243.78 E=372604.85	
L140	S87° 39' 50.64"E	1566.89	870+06.36	885+73.25	N=2053243.78 E=372604.85	N=2053179.92 E=374170.44	
L141	N69° 45′ 42.72"E	27.36	885+73.25	886+00.61	N=2053179.92 E=374170.44	N=2053189.38 E=374196.11	
L142	S87°44'17.28"E	33.02	886+00.61	886+33.63	N=2053189.38 E=374196.11	N=2053188.08 E=374229.11	
L143	S64° 58' 37.13"E	27.62	886+33.63	886+61.25	N=2053188.08 E=374229.11	N=2053176.39 E=374254.14	
L144	S86° 59' 00.43"E	295.36	886+61.25	889+56.61	N=2053176.39 E=374254.14	N=2053160.85 E=374549.08	
L145	S86° 59' 00.43"E	295.36	889+56.61	892+51.96	N=2053160.85 E=374549.08	N=2053145.31 E=374844.03	
L146	S87° 32' 27.30"E	1547.44	892+51.96	907+99.40	N=2053145.31 E=374844.03	N=2053078.91 E=376390.04	
L147	S87° 34' 21.48"E	811.30	907+99.40	916+10.70	N=2053078.91 E=376390.04	N=2053044.55 E=377200.62	
L148	N70° 16' 17.02"E	44.71	916+10.70	916+55.41	N=2053044.55 E=377200.62	N=2053059.65 E=377242.70	
L149	S87° 11' 10.17"E	32.70	916+55.41	916+88.11	N=2053059.65 E=377242.70	N=2053058.04 E=377275.36	
L150	S64° 41' 10.17"E	40.16	916+88.11	917+28.27	N=2053058.04 E=377275.36	N=2053040.87 E=377311.67	
L151	S87° 51' 24.50"E	1341.96	917+28.27	930+70.23	N=2053040.87 E=377311.67	N=2052990.68 E=378652.68	
L152	S89° 04' 33.37"E	1419.65	930+70.23	944+89.88	N=2052990.68 E=378652.68	N=2052967.79 E=380072.15	

REMARKS

			ALIGNMENT L	INE DATA		
LINE #	BEARING	DISTANCE	START STATION	END STATION	START POINT	END POINT
L153	N68° 25' 26.63"E	57.63	944+89.88	945+47.51	N=2052967.79 E=380072.15	N=2052988.98 E=380125.75
L154	S89° 04' 33.37"E	61.99	945+47.51	946+09.50	N=2052988.98 E=380125.75	N=2052987.98 E=380187.73
L155	S66° 34′ 33.37"E	57.63	946+09.50	946+67.13	N=2052987.98 E=380187.73	N=2052965.07 E=380240.61
L156	S89° 04′ 33.37"E	2364.99	946+67.13	970+32.13	N=2052965.07 E=380240.61	N=2052926.93 E=382605.29
L157	S89° 07' 05.77"E	112.09	970+32.13	971+44.22	N=2052926.93 E=382605.29	N=2052925.20 E=382717.37
L158	N68° 22' 54.23"E	49.81	971+44.22	971+94.02	N=2052925.20 E=382717.37	N=2052943.55 E=382763.67
L159	S89° 07' 05.77"E	66.93	971+94.02	972+60.96	N=2052943.55 E=382763.67	N=2052942.52 E=382830.60
L160	S66° 37' 05.77"E	24.90	972+60.96	972+85.86	N=2052942.52 E=382830.60	N=2052932.64 E=382853.46
L161	S89° 07' 15.14"E	560.81	972+85.86	978+46.67	N=2052932.64 E=382853.46	N=2052924.04 E=383414.20
L162	N88° 52' 07.43"E	331.48	978+46.67	981+78.15	N=2052924.04 E=383414.20	N=2052930.58 E=383745.61
L163	N85° 41' 20.95"E	317.73	981+78.15	984+95.88	N=2052930.58 E=383745.61	N=2052954.46 E=384062.45
L164	N83° 21' 41.39"E	238.94	984+95.88	987+34.82	N=2052954.46 E=384062.45	N=2052982.09 E=384299.79
L165	N78° 12' 02.10"E	153.99	987+34.82	988+88.81	N=2052982.09 E=384299.79	N=2053013.58 E=384450.53
L166	N80° 36' 48.62"E	249.56	988+88.81	991+38.37	N=2053013.58 E=384450.53	N=2053054.28 E=384696.74
L167	N77° 17' 23.39"E	44.89	991+38.37	991+83.26	N=2053054.28 E=384696.74	N=2053064.15 E=384740.53
L168	N77° 17' 23.39"E	74.18	991+83.26	992+57.43	N=2053064.15 E=384740.53	N=2053080.47 E=384812.89
L169	N77° 17' 23.39"E	85.33	992+57.43	993+42.76	N=2053080.47 E=384812.89	N=2053099.25 E=384896.12
L170	N77° 40' 06.02"E	93.23	993+42.76	994+35.99	N=2053099.25 E=384896.12	N=2053119.16 E=384987.20
L171	N77° 12' 17.74"E	220.88	994+35.99	996+56.87	N=2053119.16 E=384987.20	N=2053168.08 E=385202.60
L172	N79° 16' 33.05"E	20.89	996+56.87	996+77.76	N=2053168.08 E=385202.60	N=2053171.96 E=385223.12

POINT NO.	ELEVATION	NORTHING	EASTING
B-3	16.34	2053567.64	386224.55
B-4	23.99	2053368.46	386123.41
B-9	27.78	2053710.99	386648.72
B-10	29.60	2053638.41	386782.34
B-100	40.62	2053366.67	385440.77
B-101	36.49	2053320.53	385468.88
B-102	31.58	2053341.37	385521.32
B-103	30.21	2053351.02	385570.28
B-104	27.00	2053398.01	385634.85
B-105	22.80	2053454.94	385819.57
B-106	26.16	2053512.79	386043.24
B-107	24.00	2053643.81	386371.88
B-112 *	73.07	2052975.60	384707.84
B-113 *	72.38	2053047.18	384702.11
JB-1	96.94	2053287.21	372021.26
JB-2	97.59	2053163.32	371988.15
JB-3	96.12	2053138.41	371881.54
PB-1	38.52	2053208.10	385554.43
PB-2	72.73	2053036.26	384699.26
PB-3	84.57	2052891.86	383927.54
PB-4	87.41	2052928.29	382893.69
PB-5	92.24	2052891.81	381977.80
PB-6	93.72	2052954.42	381066.33
PB-7	95.31	2052926.47	380134.85
PB-8	98.18	2052981.31	379230.47
PB-9	98.44	2052954.82	378291.57
PB-10	93.81	2053037.42	377351.32
PB-11	97.70	2053034.02	376417.98
PB-12	98.35	2053114.79	375515.47
PB-13	97.07	2053111.19	374625.21
PB-14	97.21	2053195.06	373775.42
PB-15	98.30	2053187.92	372862.41
<del>                                     </del>			

SOIL BORING TABLE

# \* BORING B-112 AND B-113 LOCATIONS AND ELEVATIONS ARE APPROXIMATE AND DO NOT REPRESENT SURVEY DATA

### PROJECT BENCH MARKS

ID	Northing	Easting	Elevation	
001AV	2054046.55	387680.95	37.37	Target
002AV	2054027.28	387697.39	36.64	Target
003AV	2053171.62	372017.27	98.47	Target
004AV	2053249.00	372014.54	98.30	Target
005AV	2053056.27	371935.97	97.52	Target
006AV	2053058.84	371899.42	97.42	Target

1. REFER TO GEOTECHNICAL REPORT BY CDM SMITH DATED MARCH 2018 FOR ADDITIONAL INFORMATION RELATED TO SOIL BORINGS AND GEOTECHNICAL RECOMMENDATIONS.

G. CASHON

C. TAPPAN

4651 Salisbury Road, Suite 420 Jacksonville, FL 32256 Tel: (904) 731-7109 FL COA No. EB-0000020

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT, LOWER ST. JOHNS RIVER BASIN

BLACK CREEK WATER RESOURCE **DEVELOPMENT PROJECT** 30" RAW WATER TRANSMISSION MAIN KEY MAP, HORIZONTAL CONTROL AND SOIL BORING TABLE V

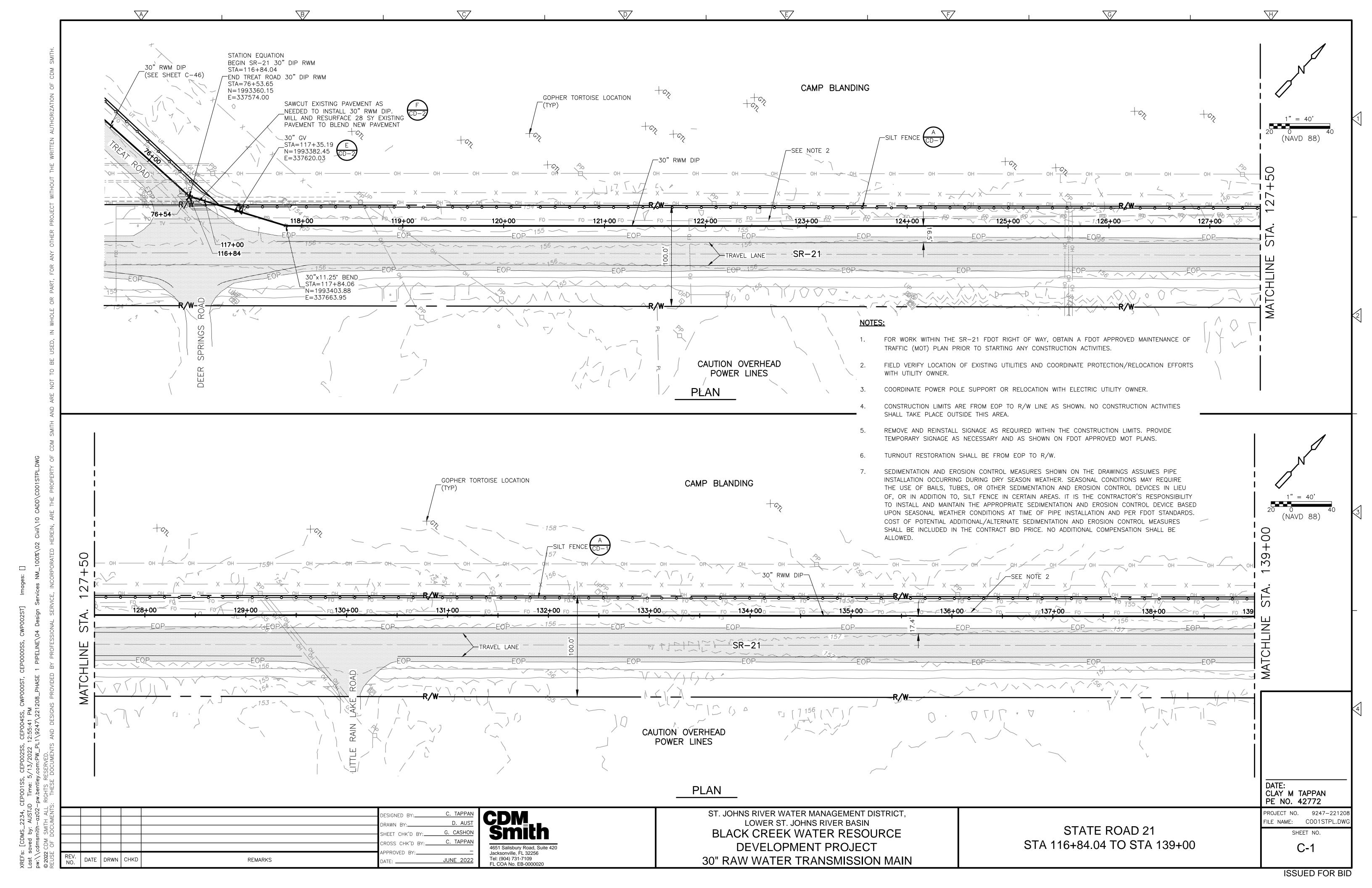
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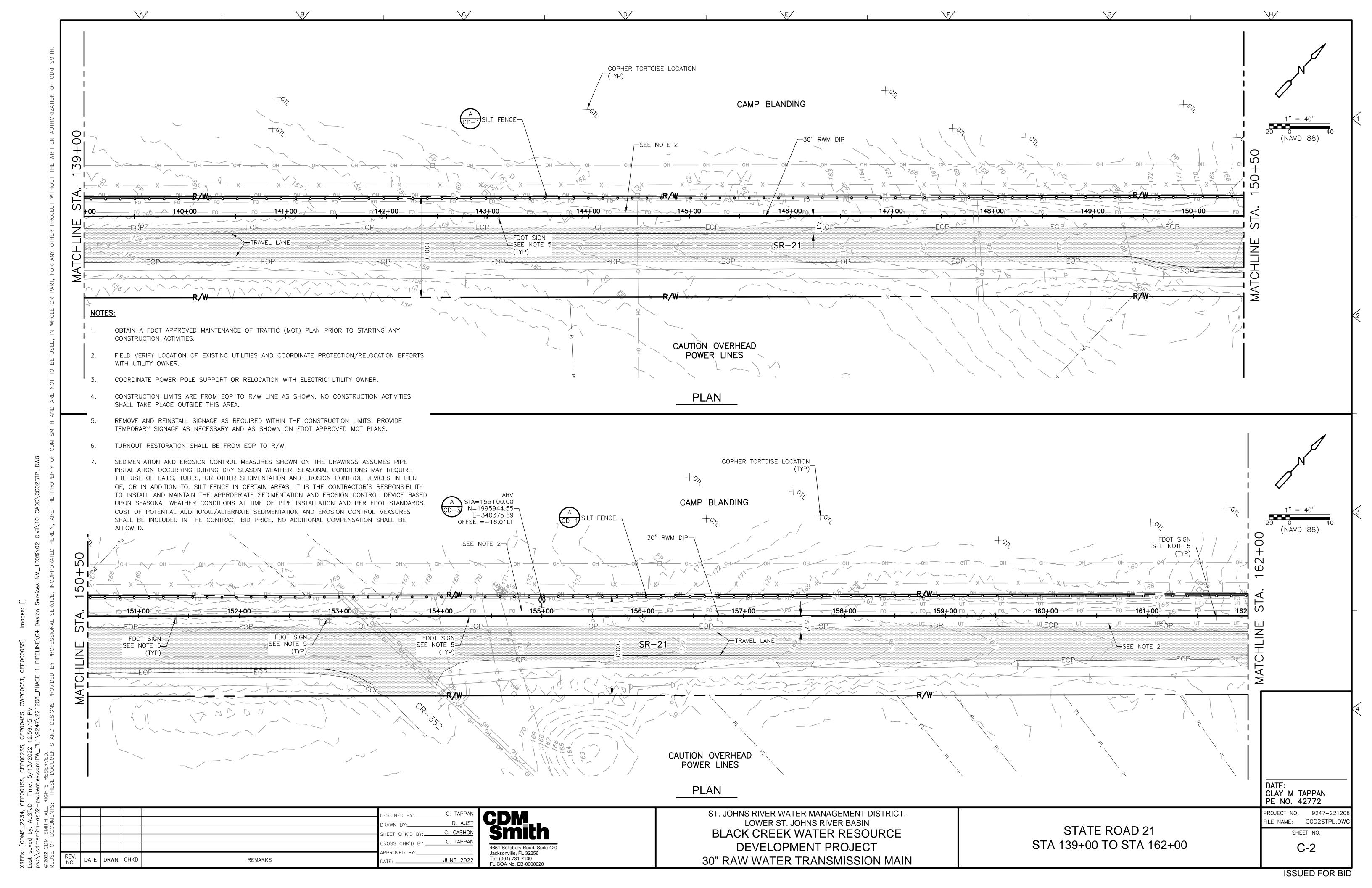
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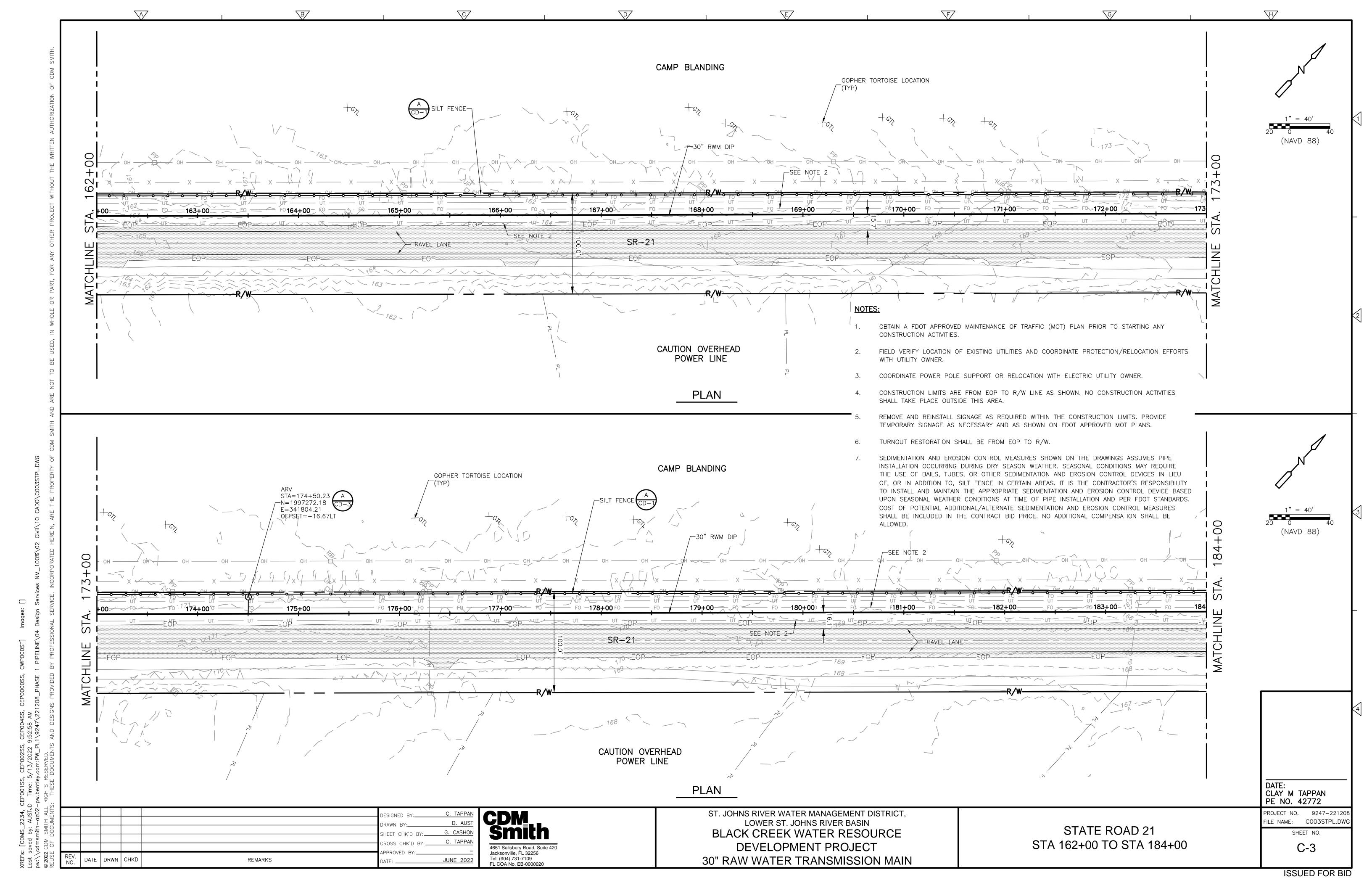
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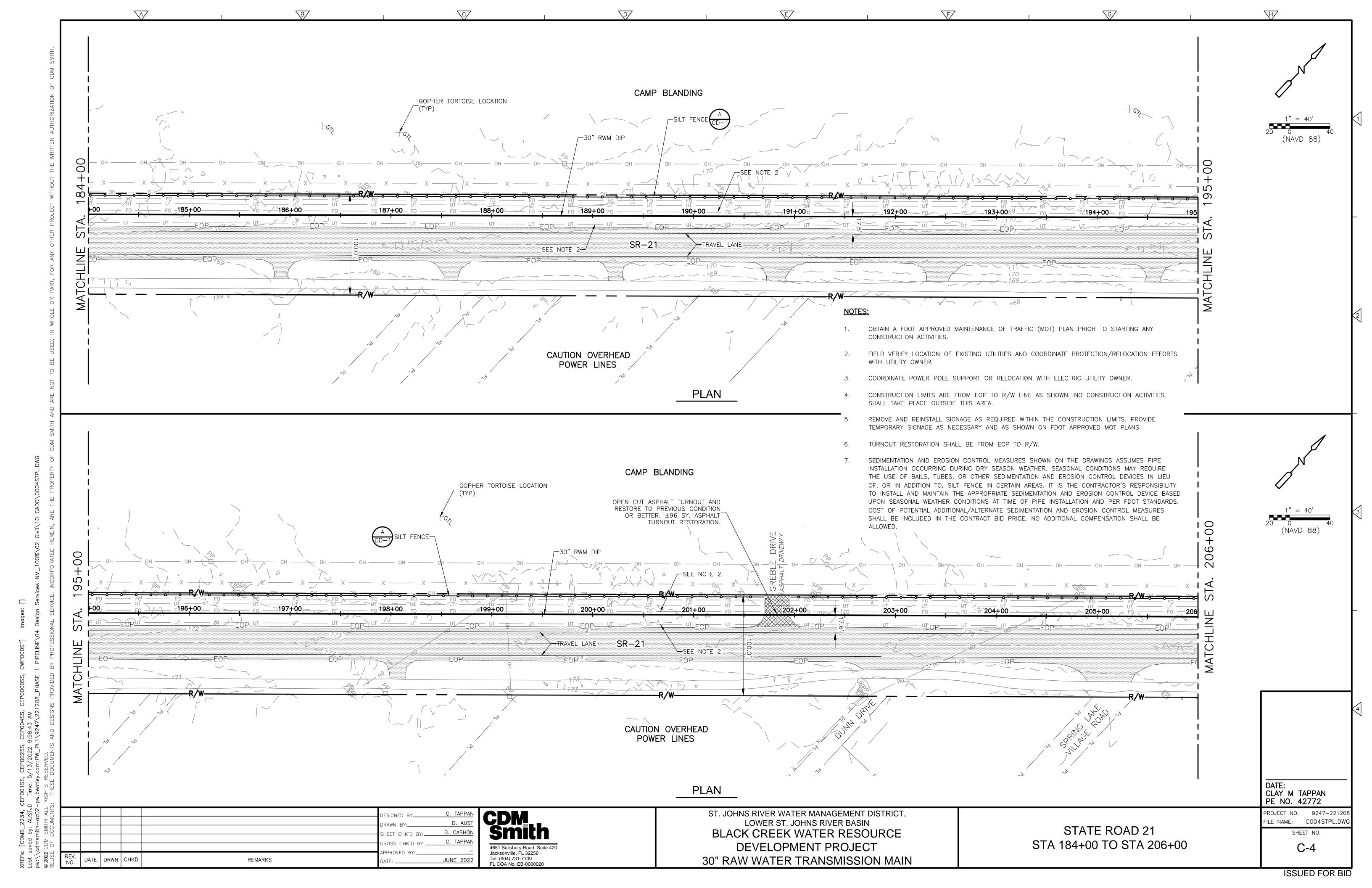
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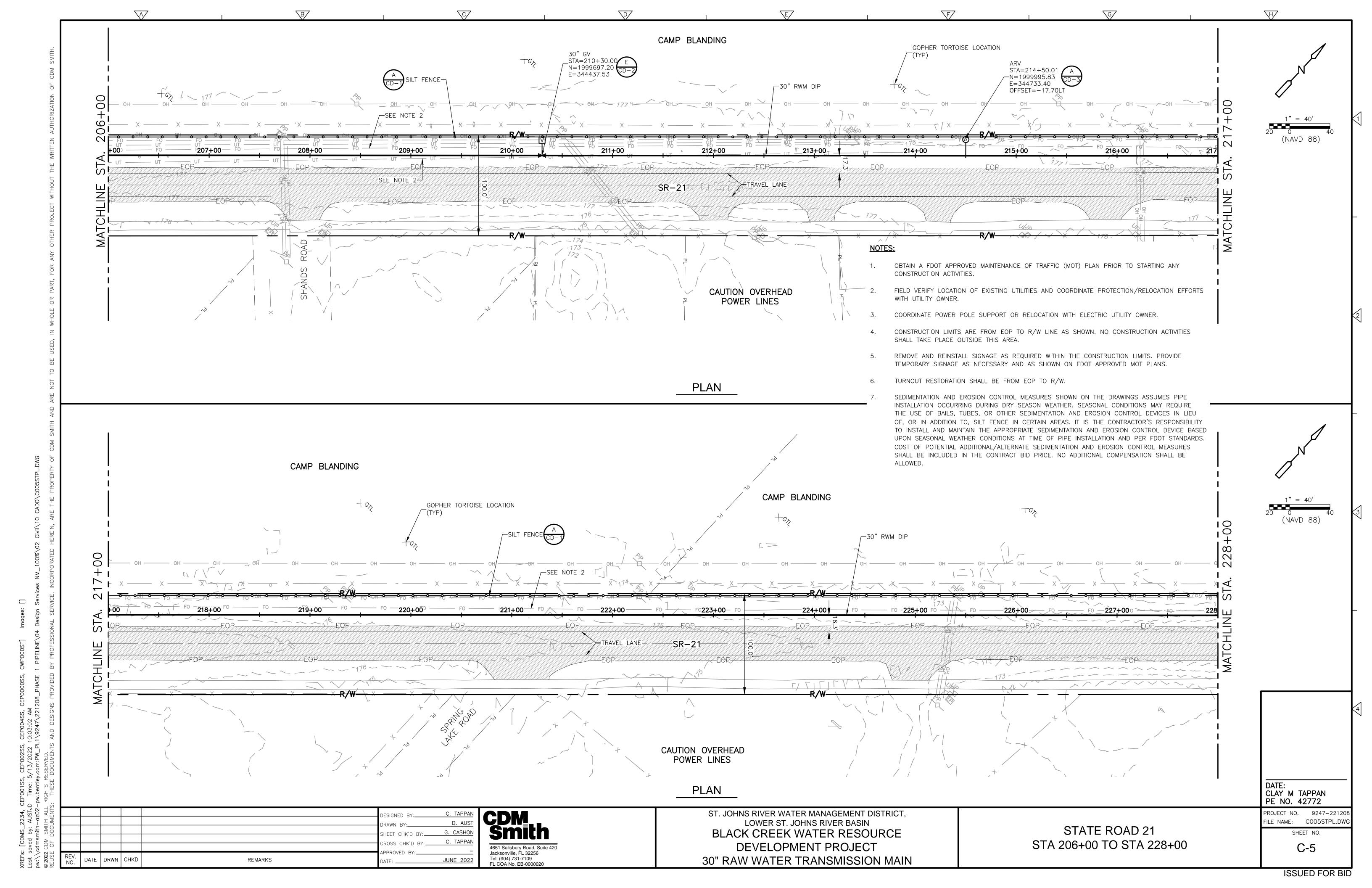
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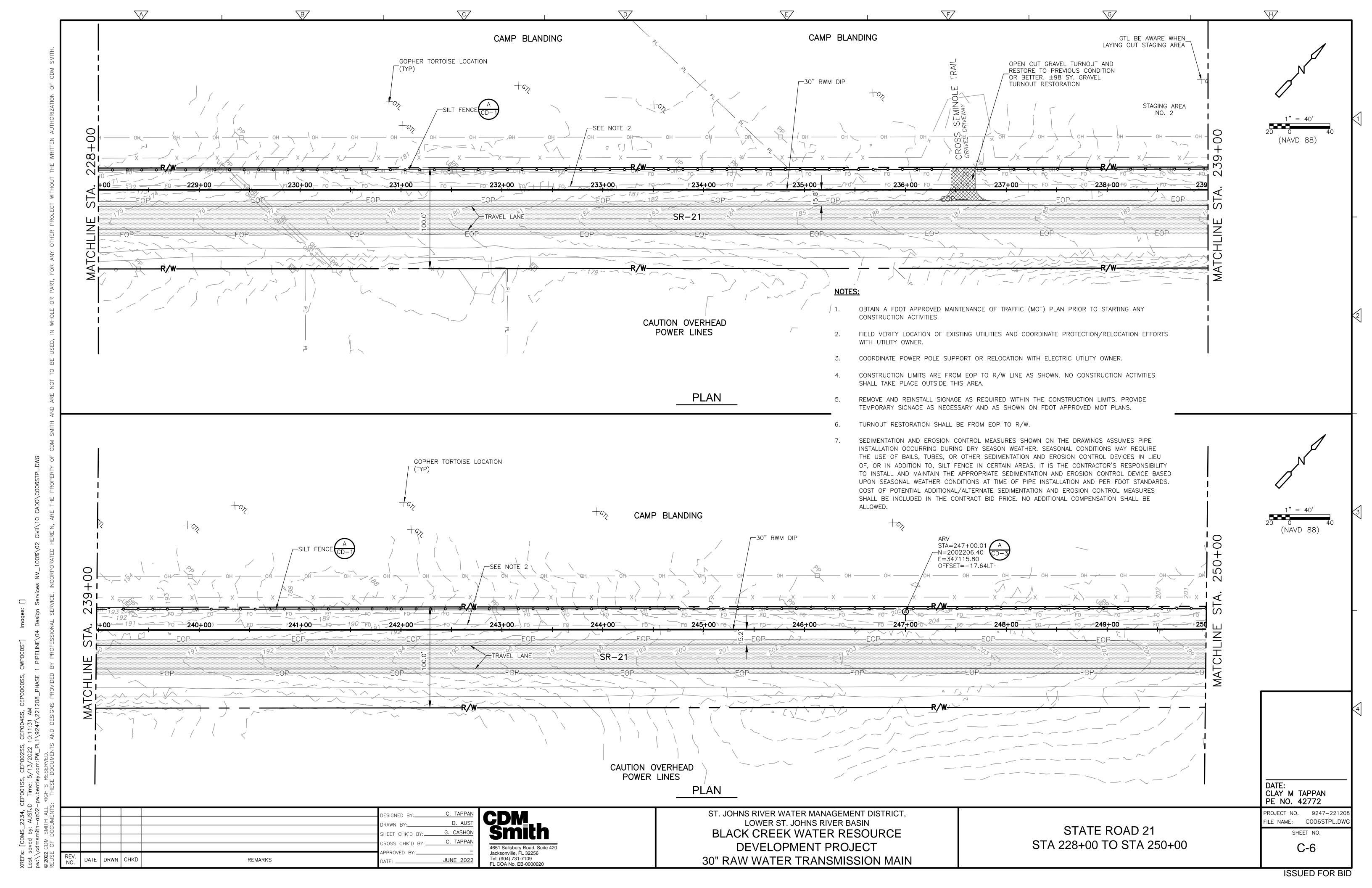


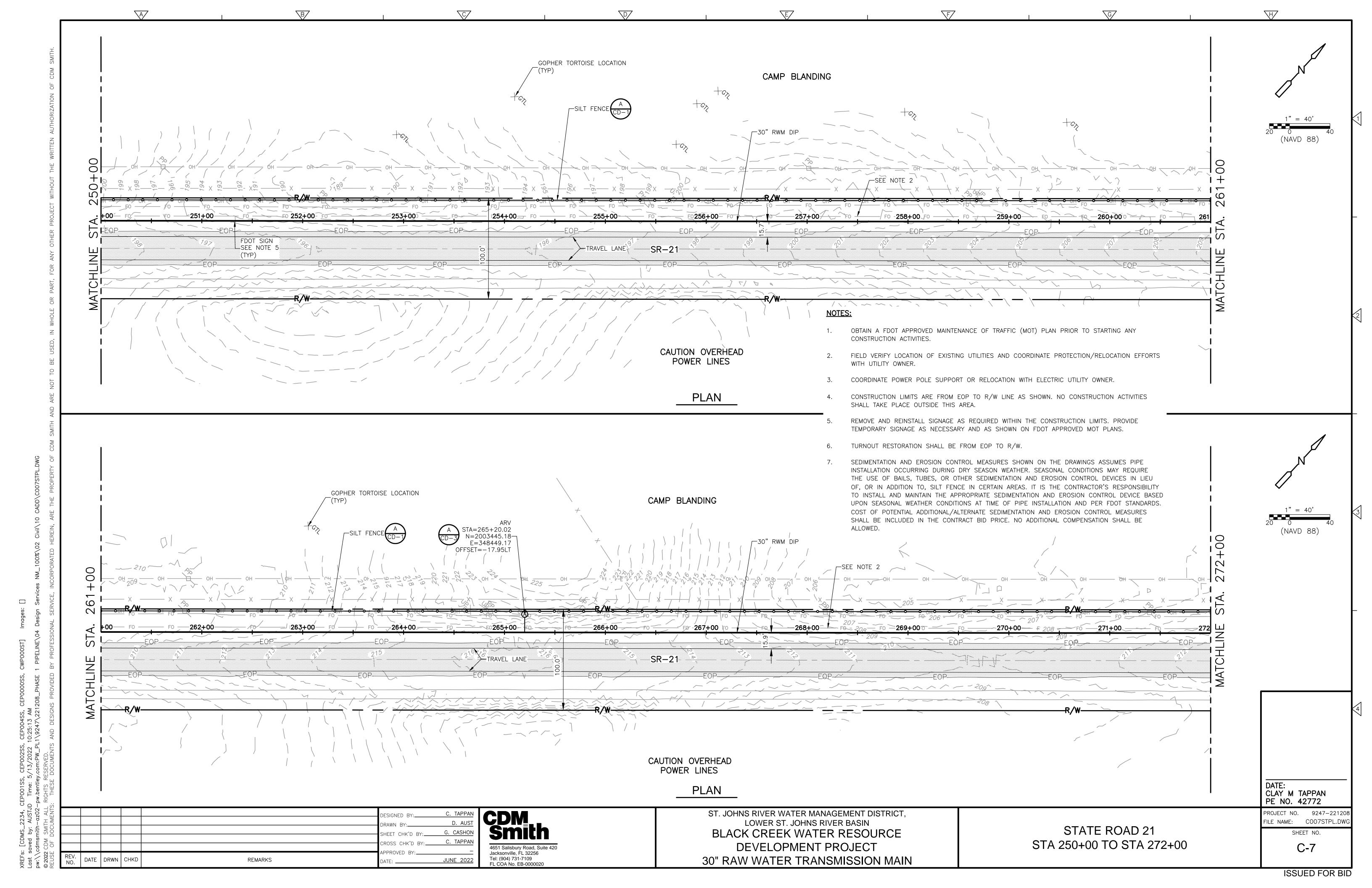


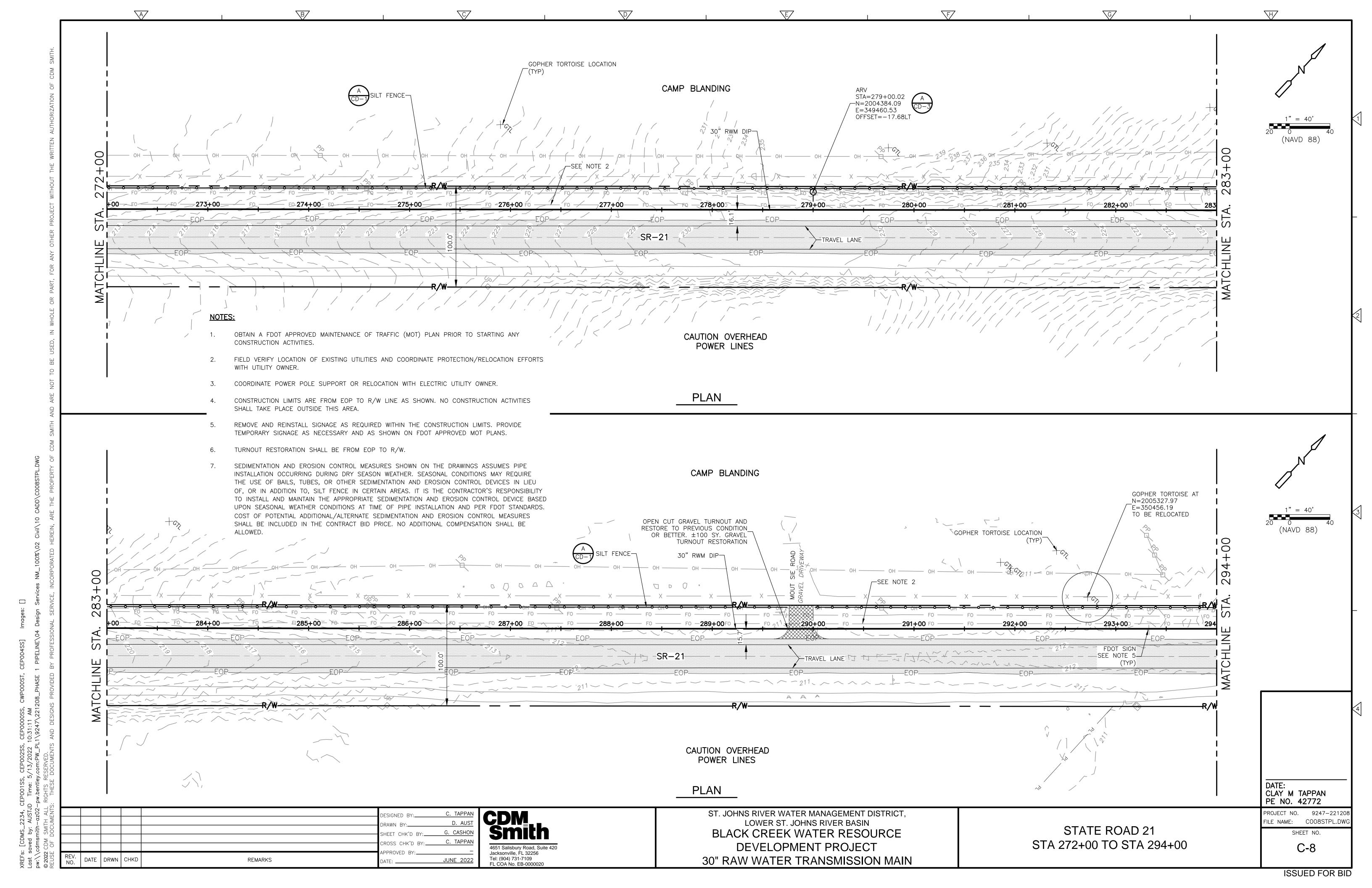


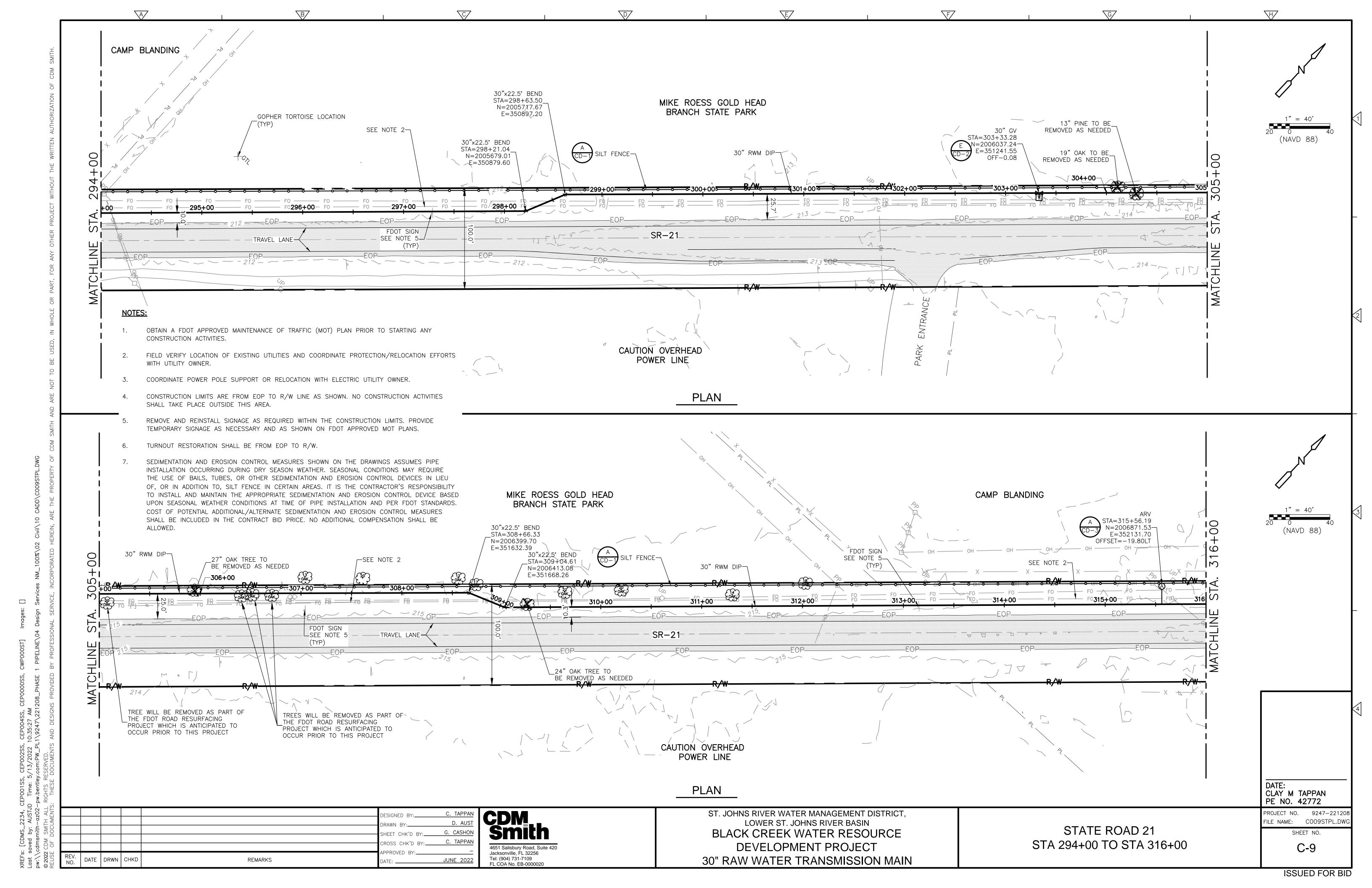


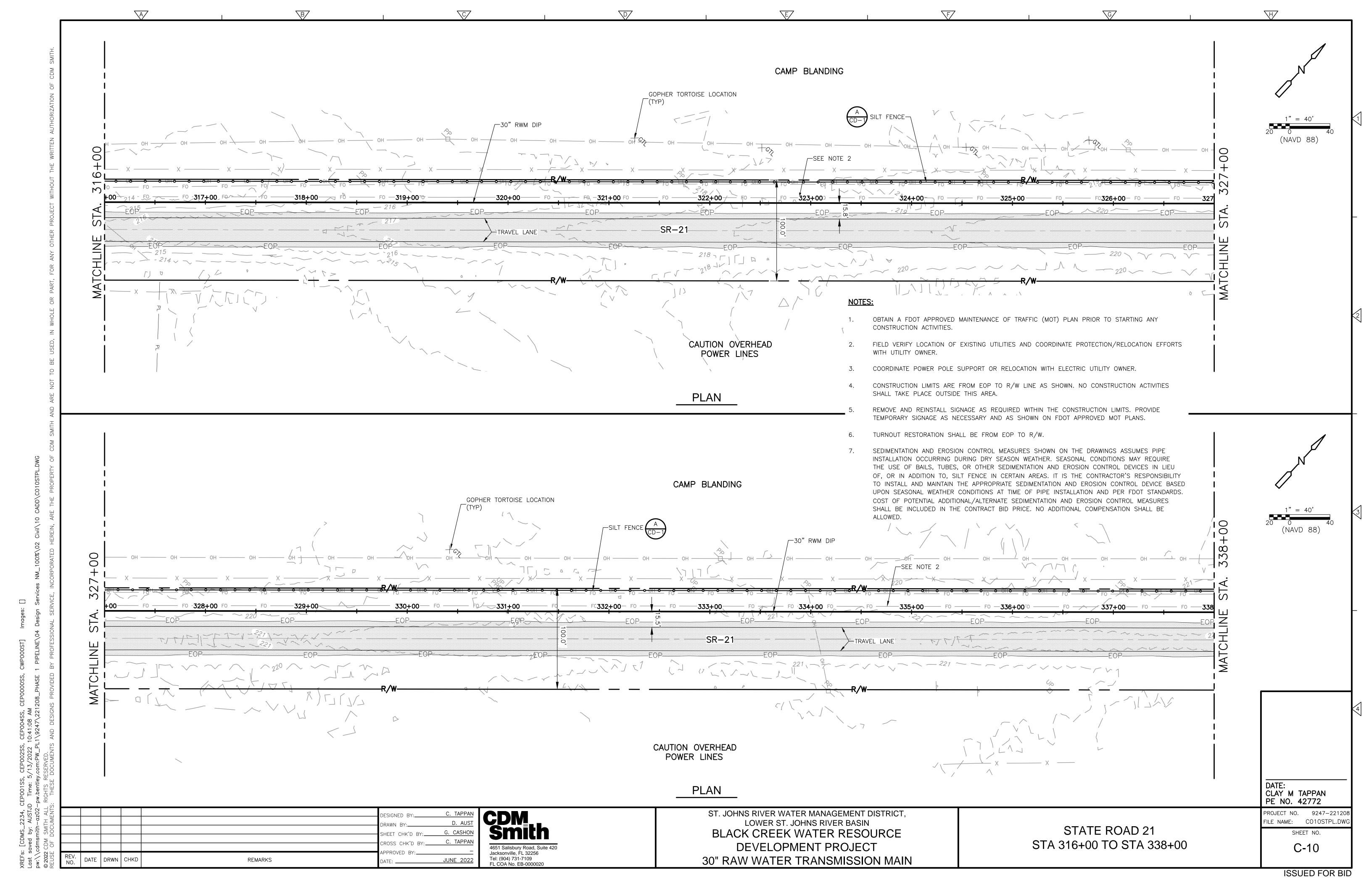


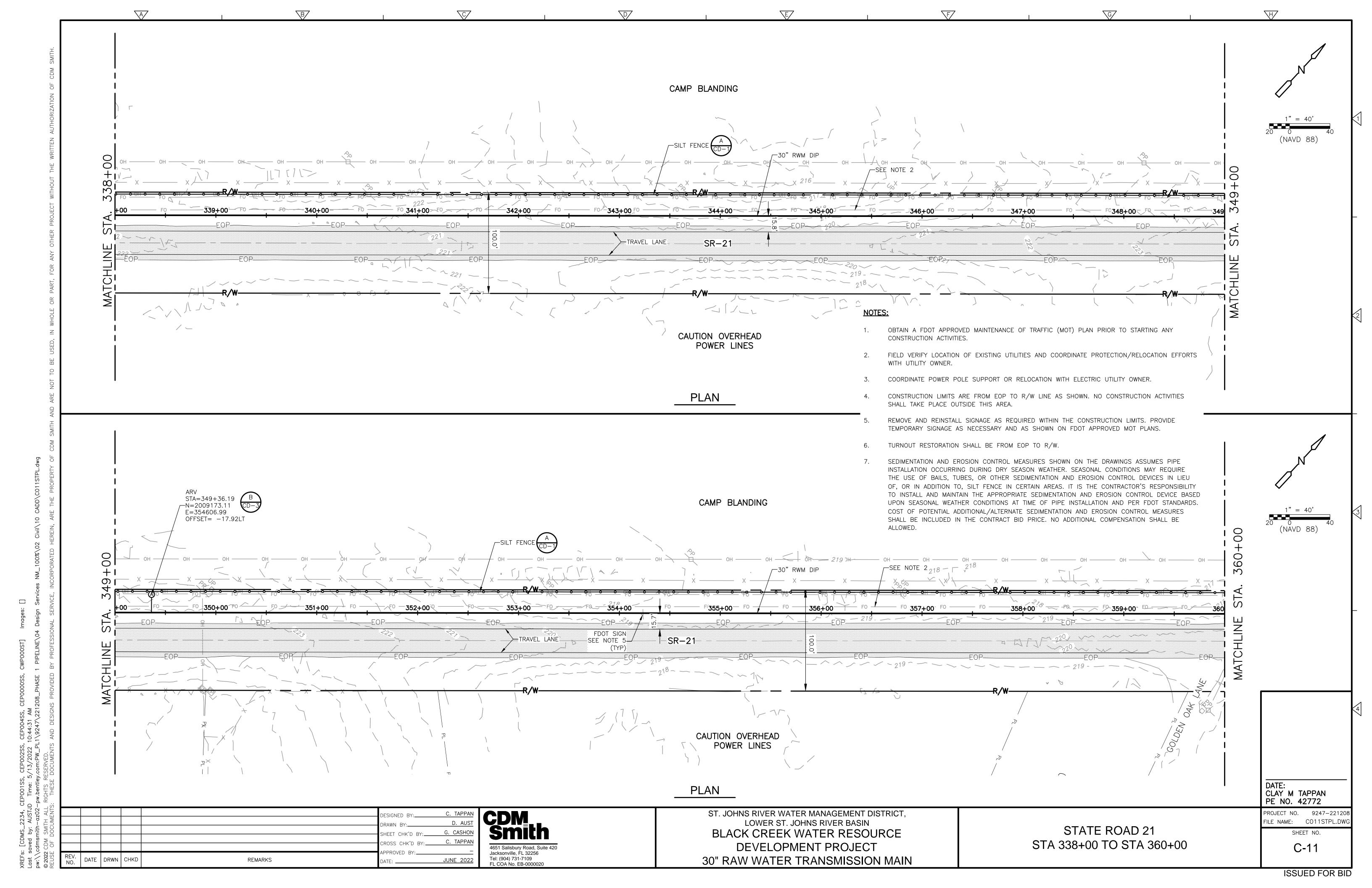


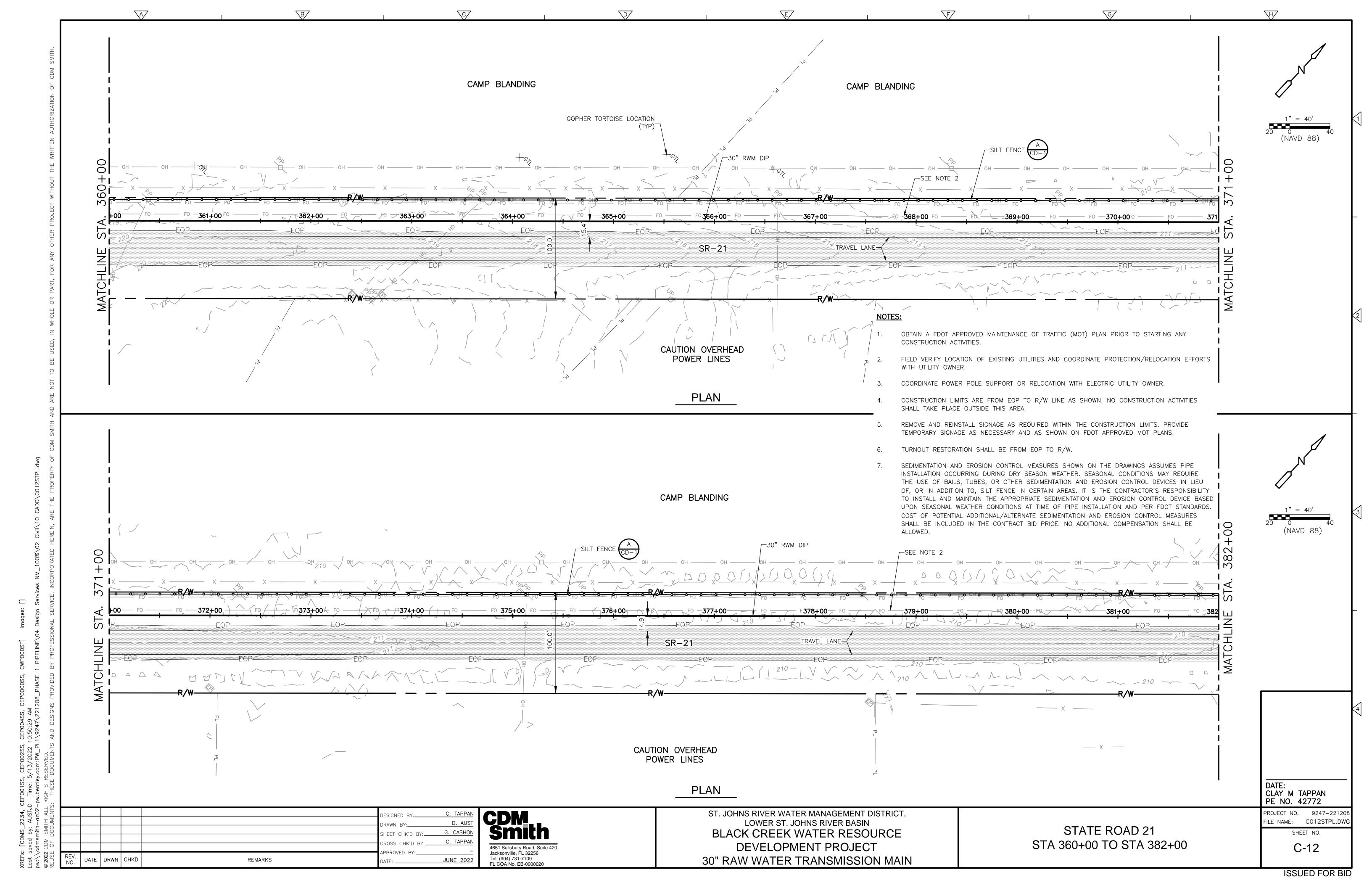


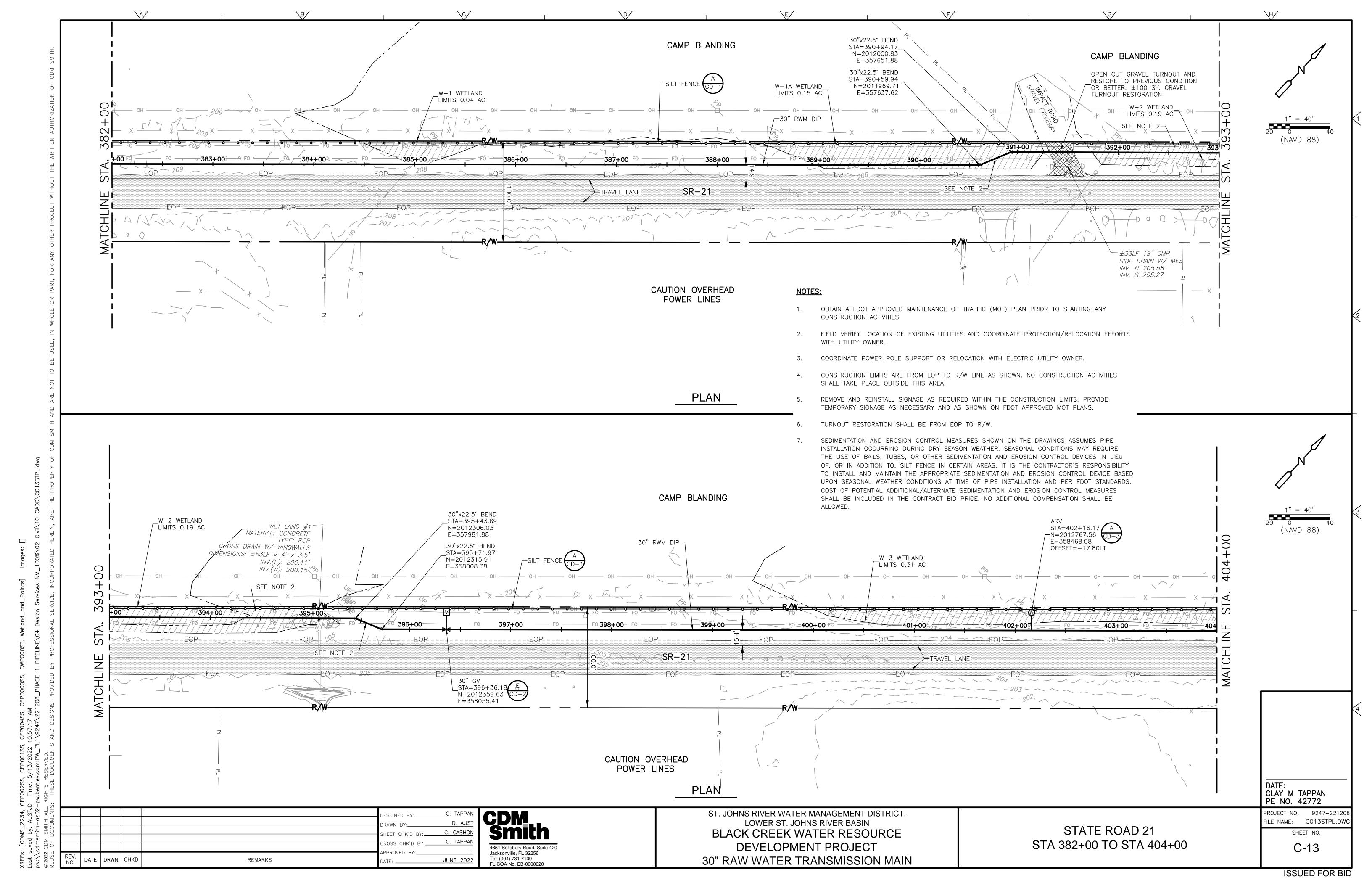


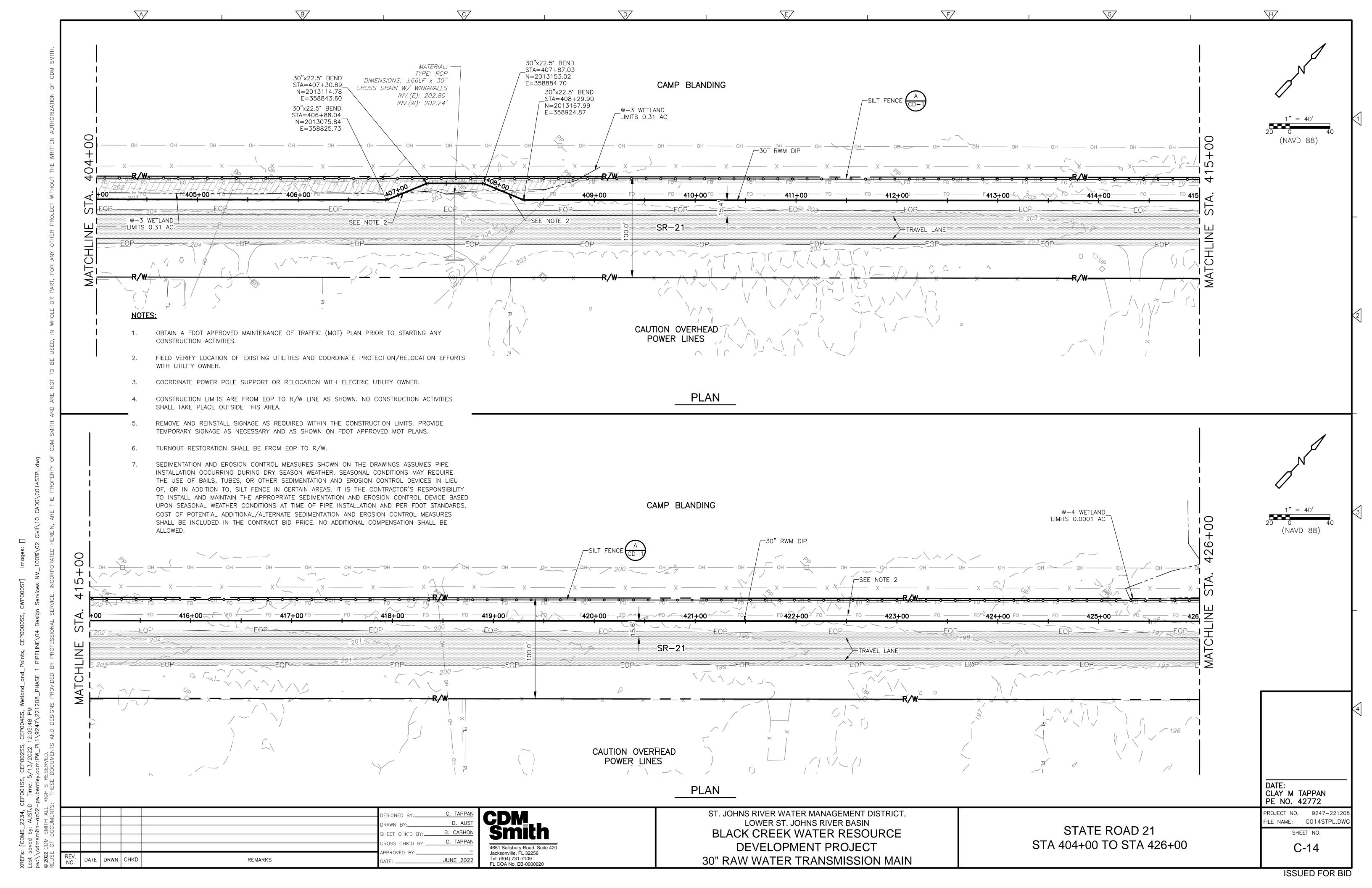


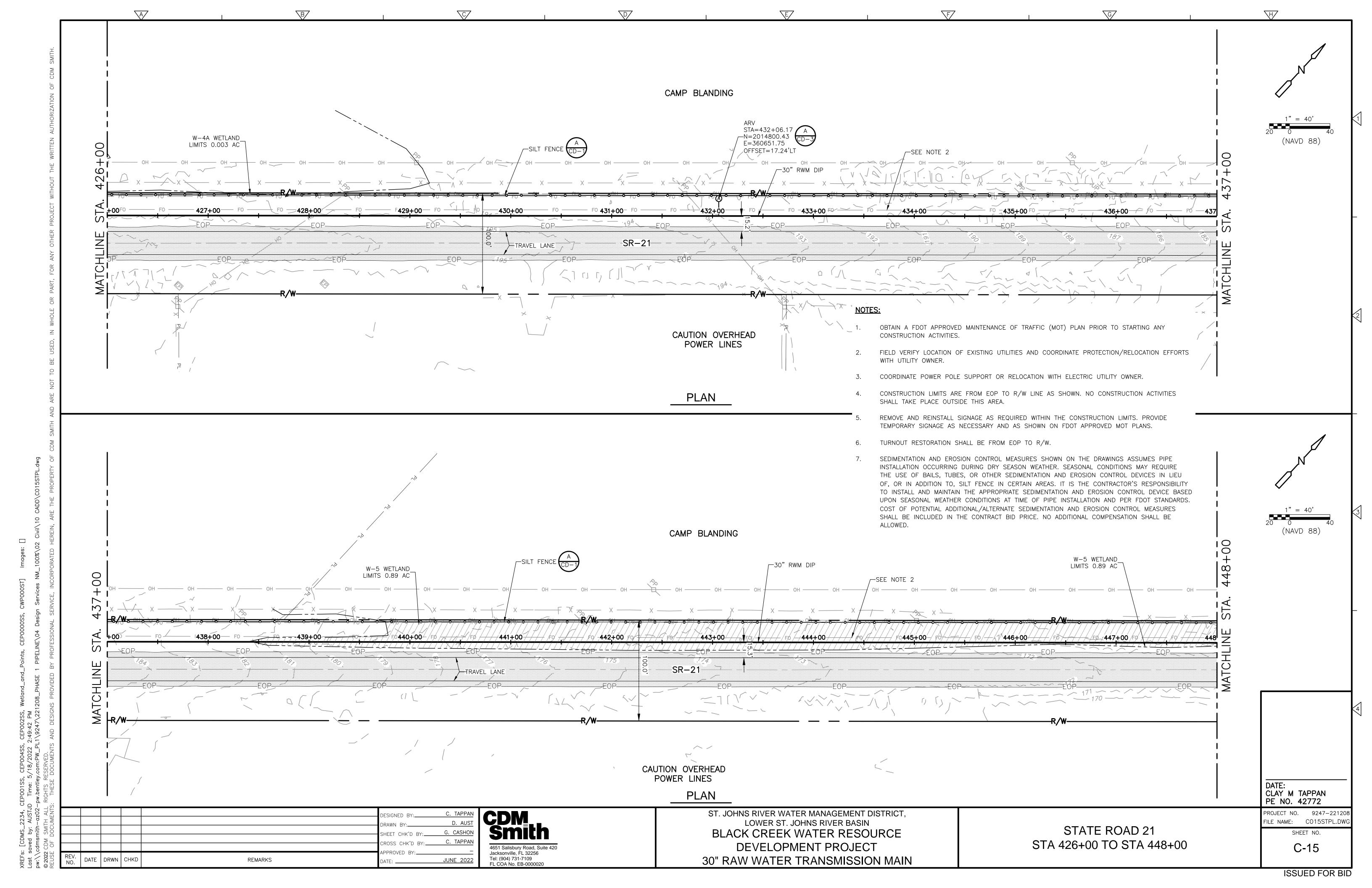


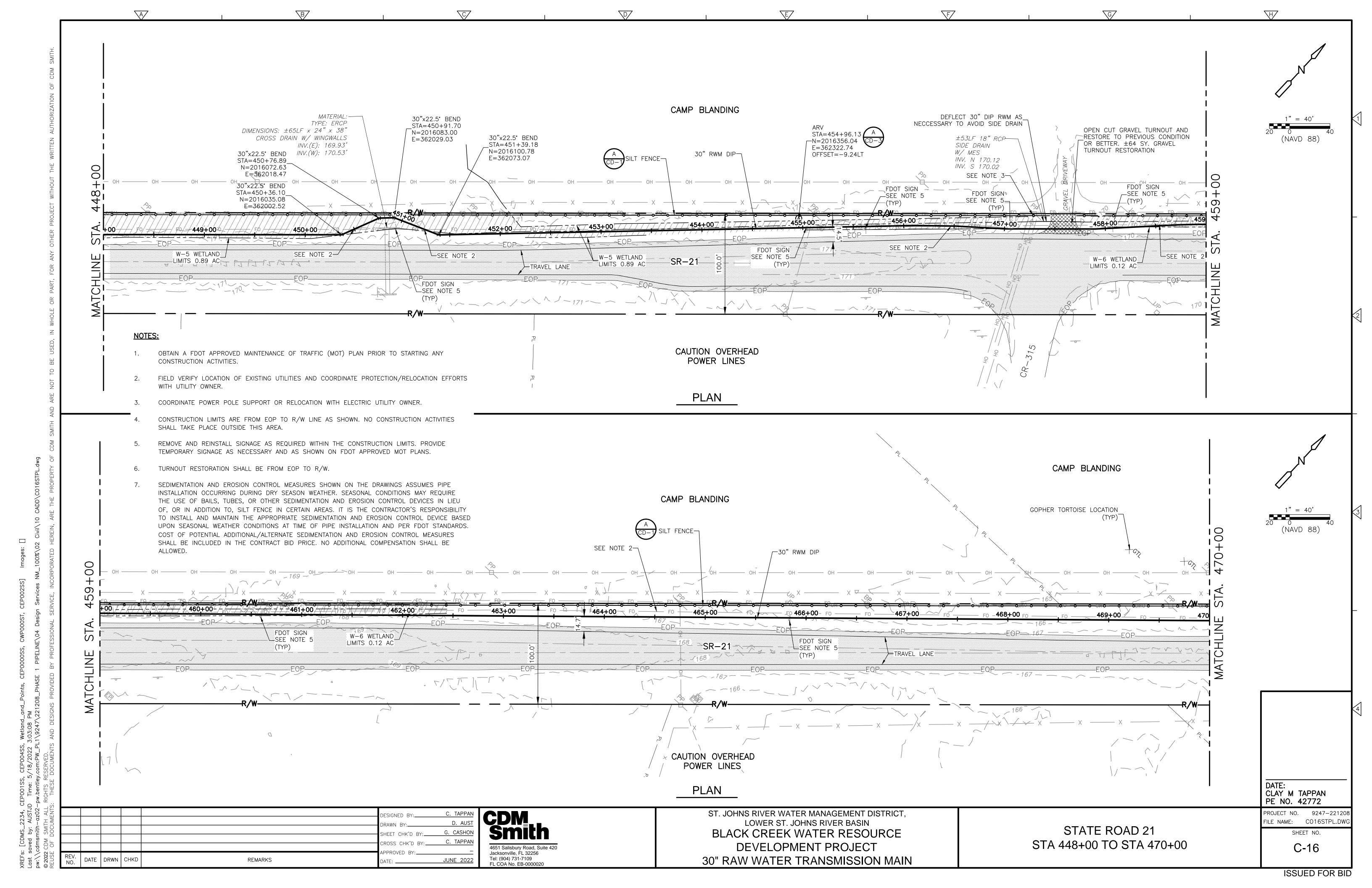


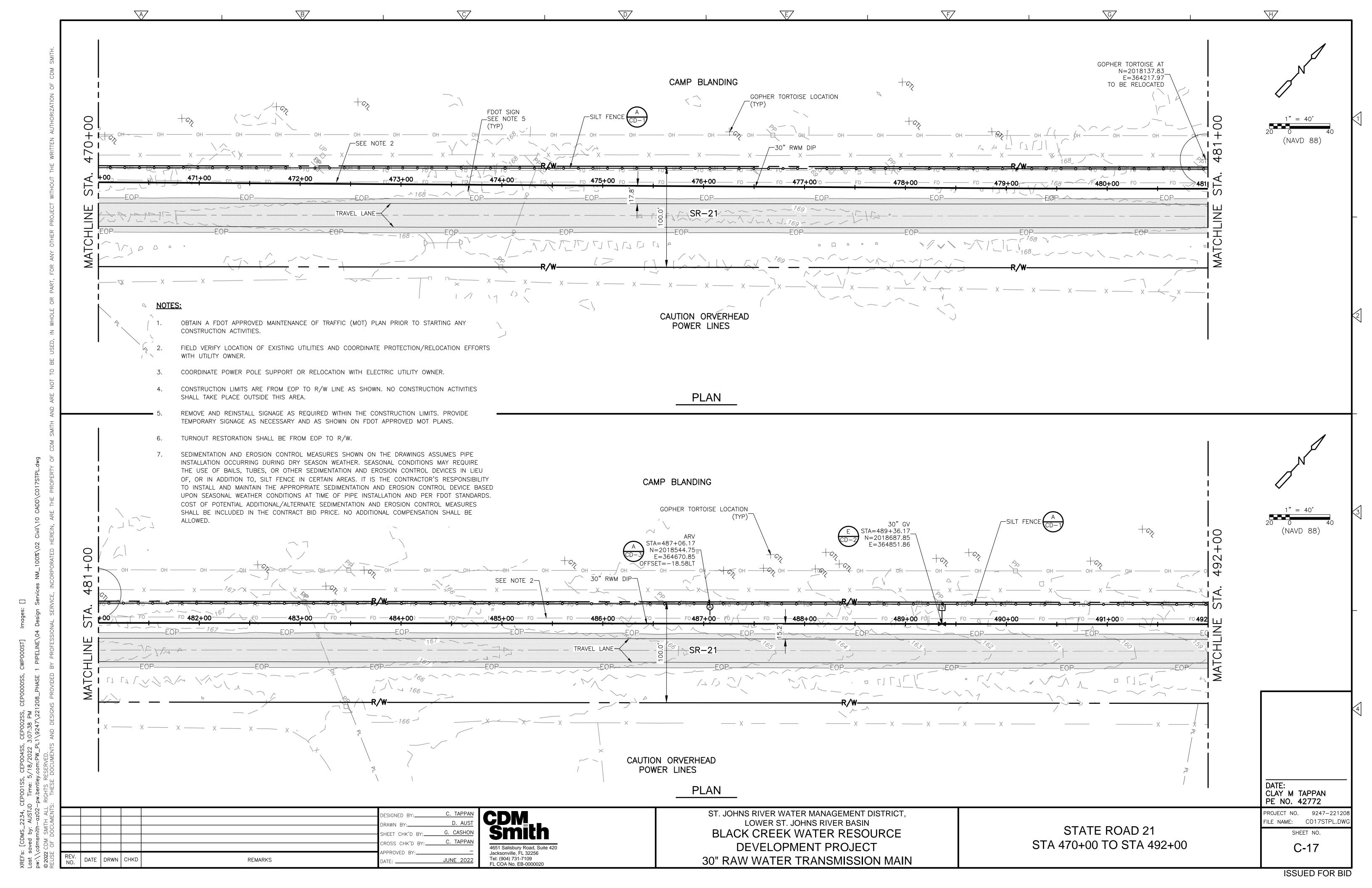


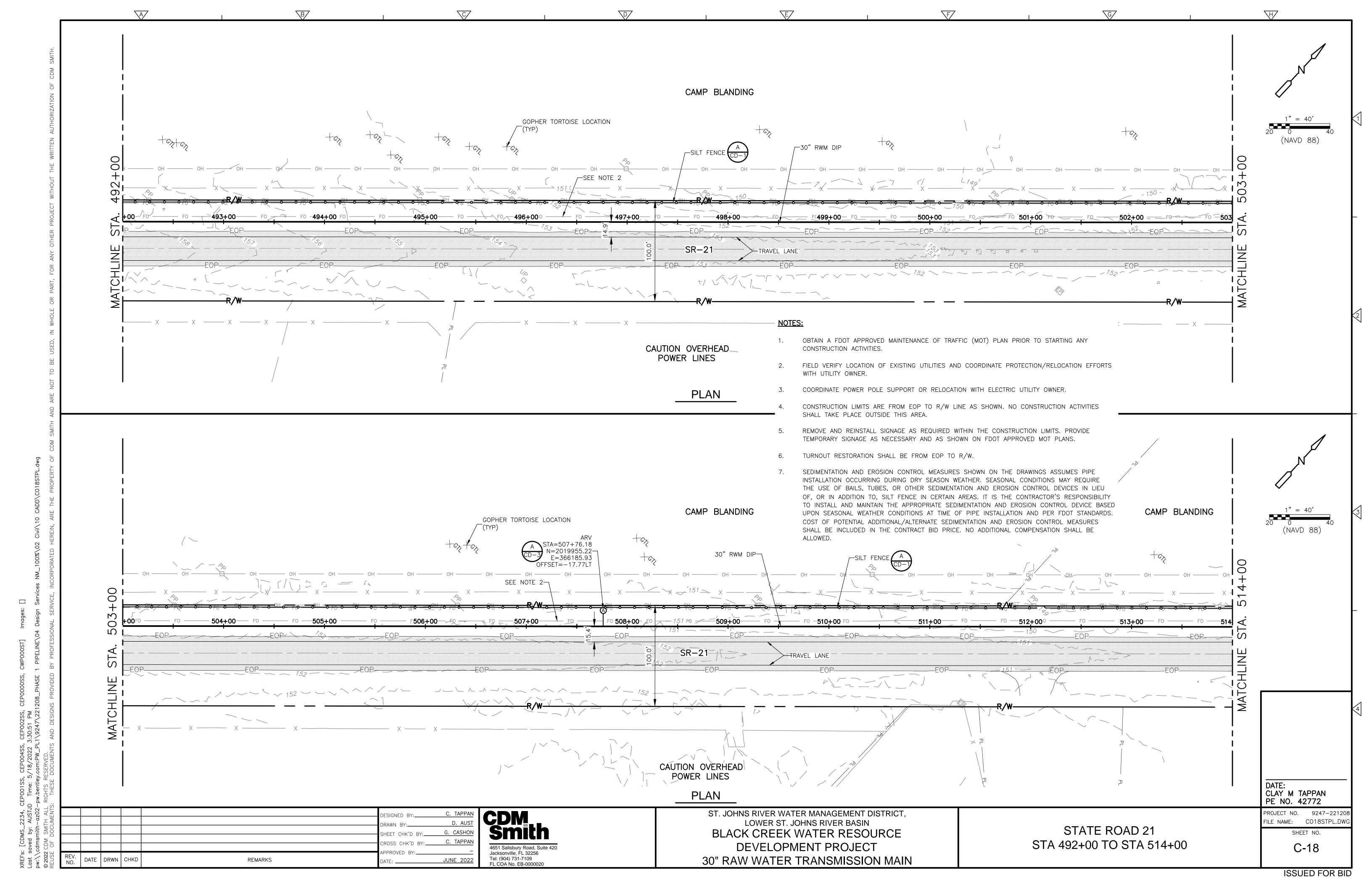


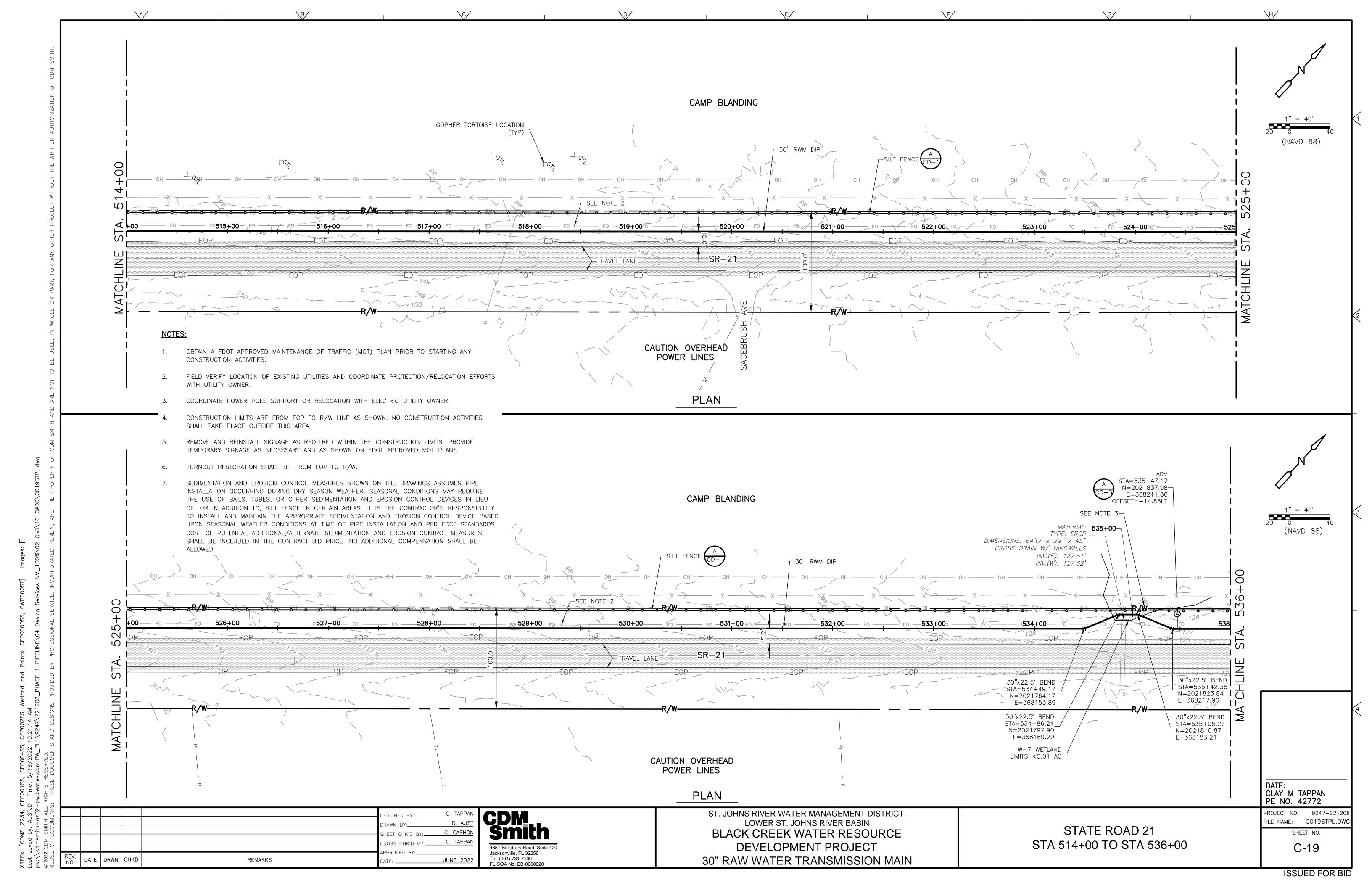


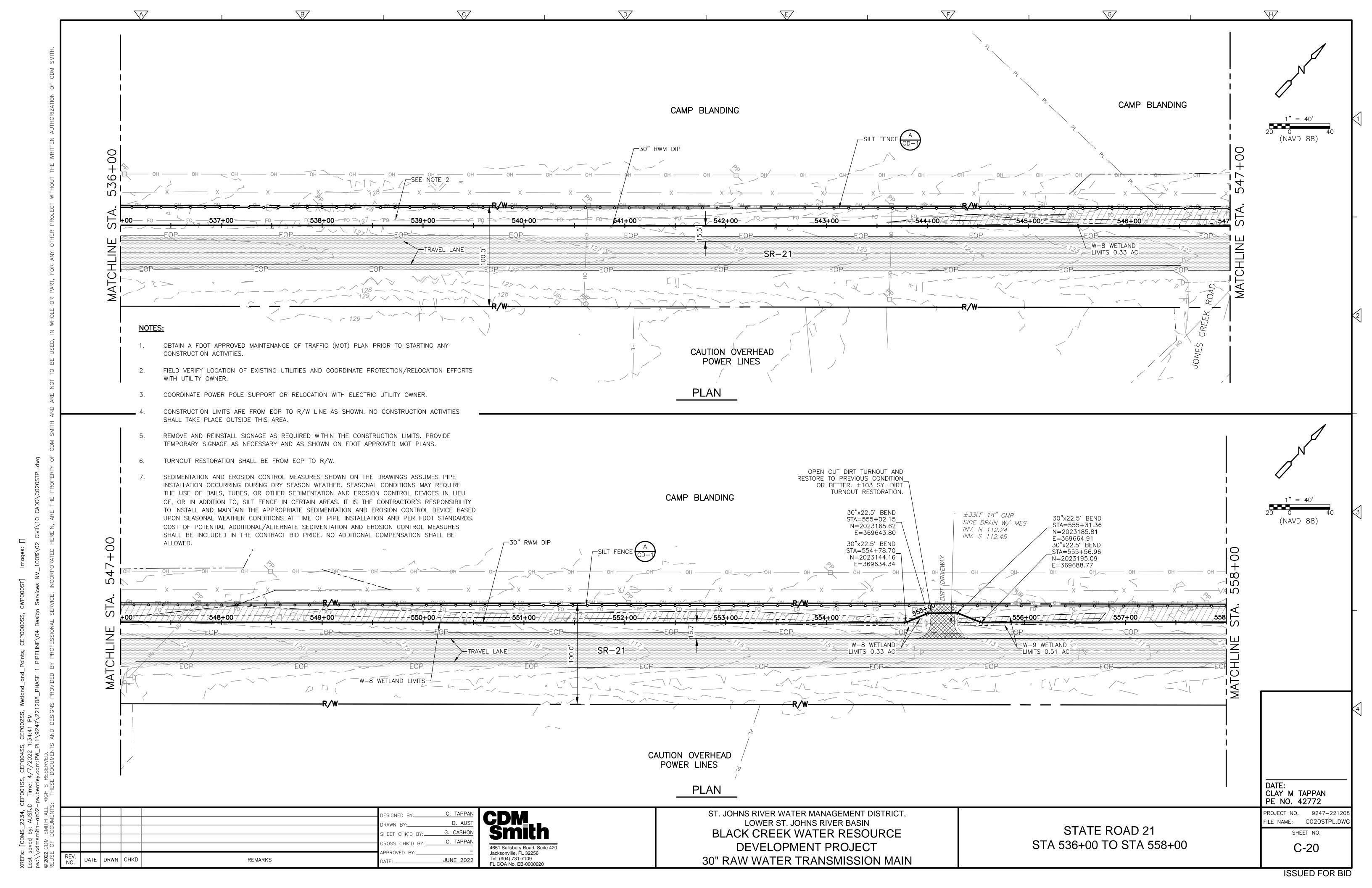


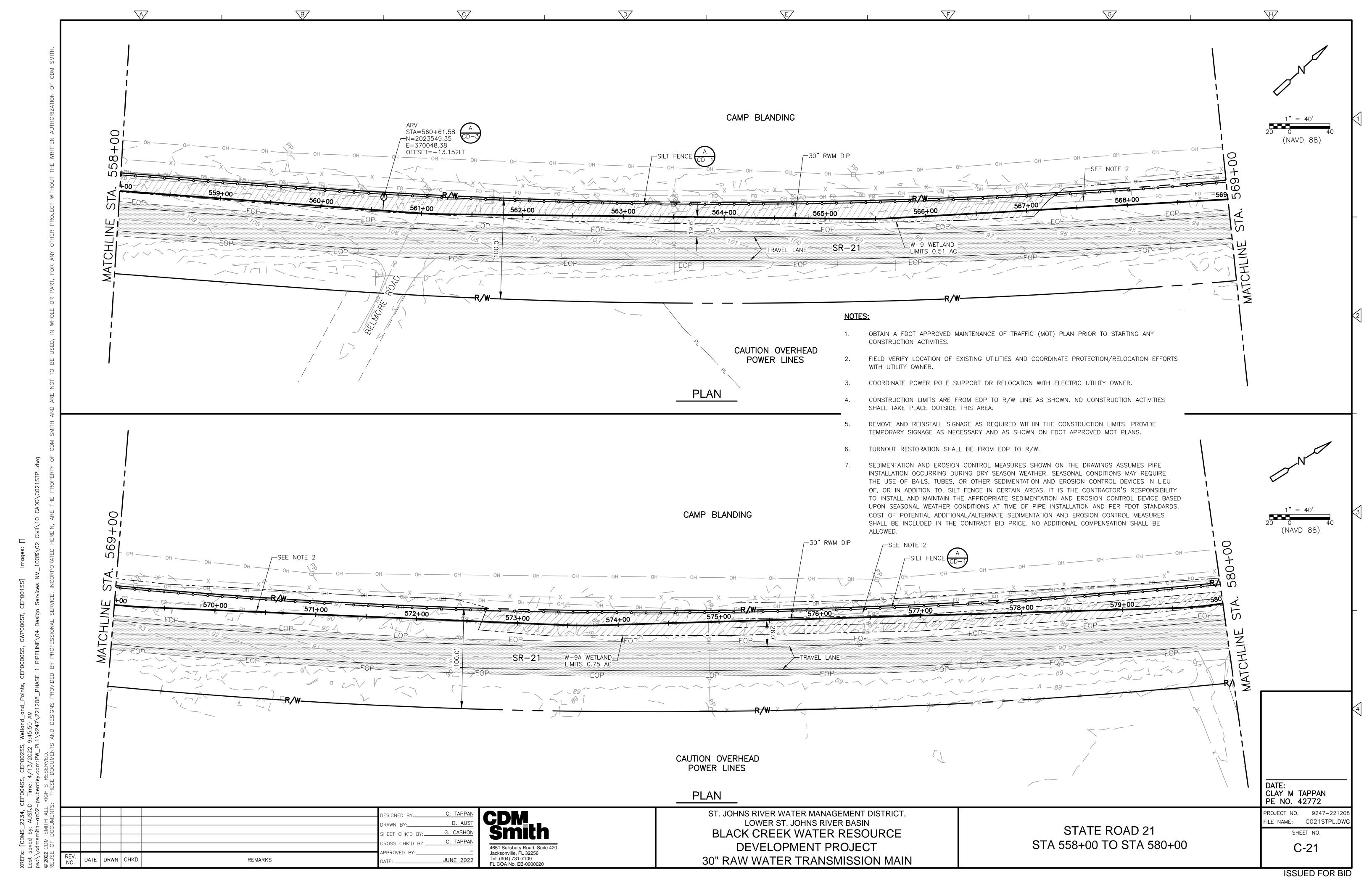


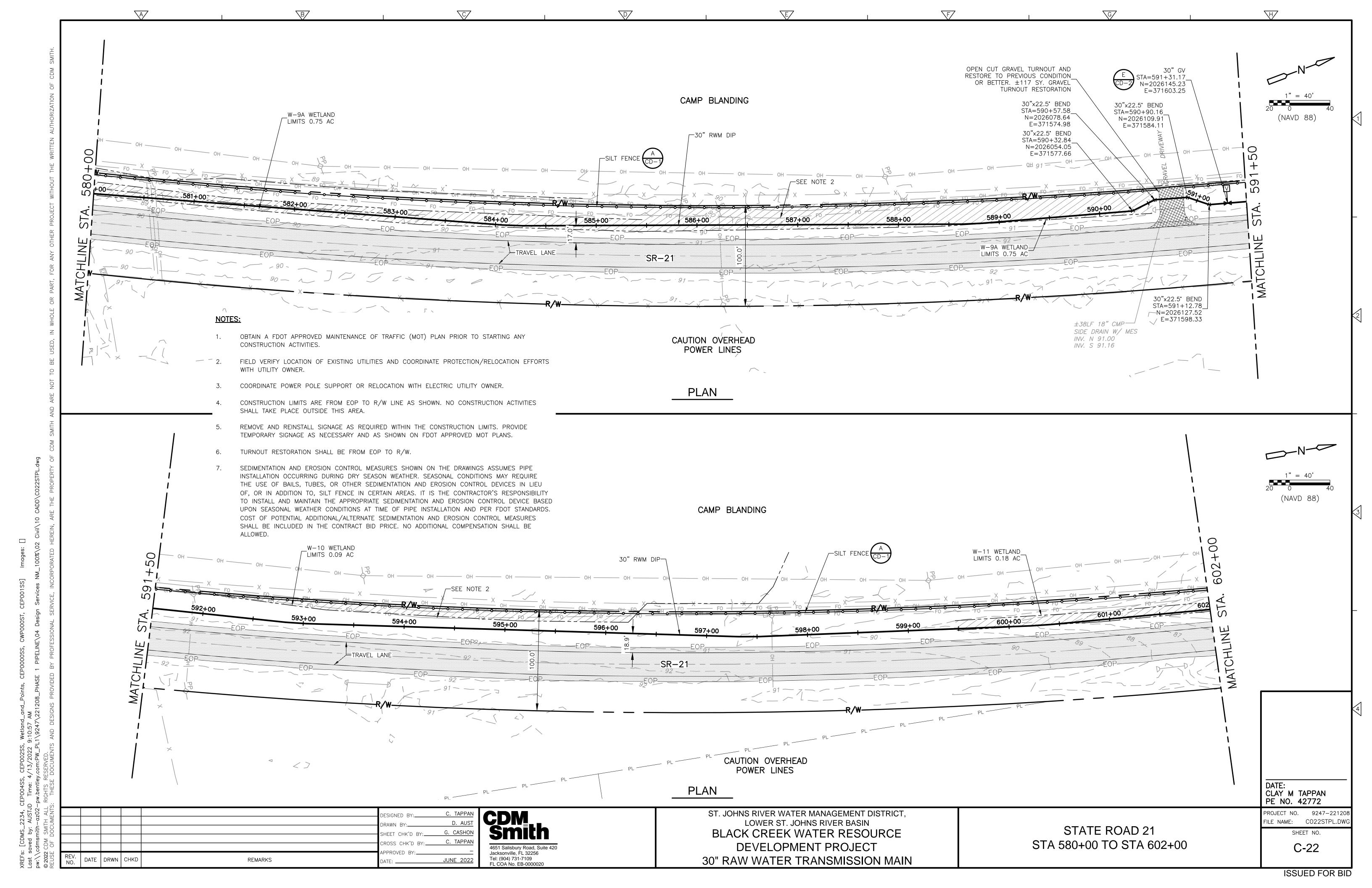


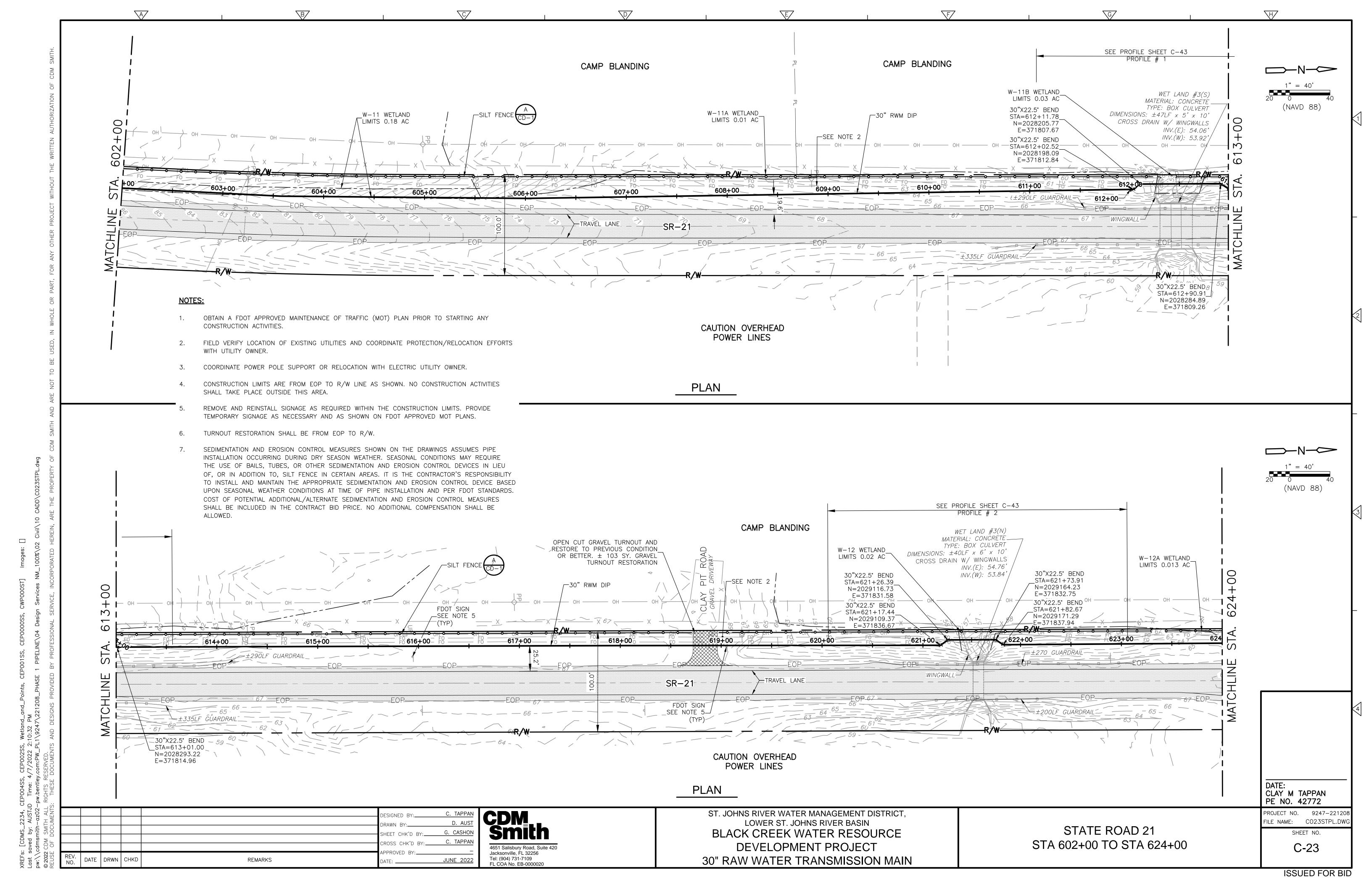


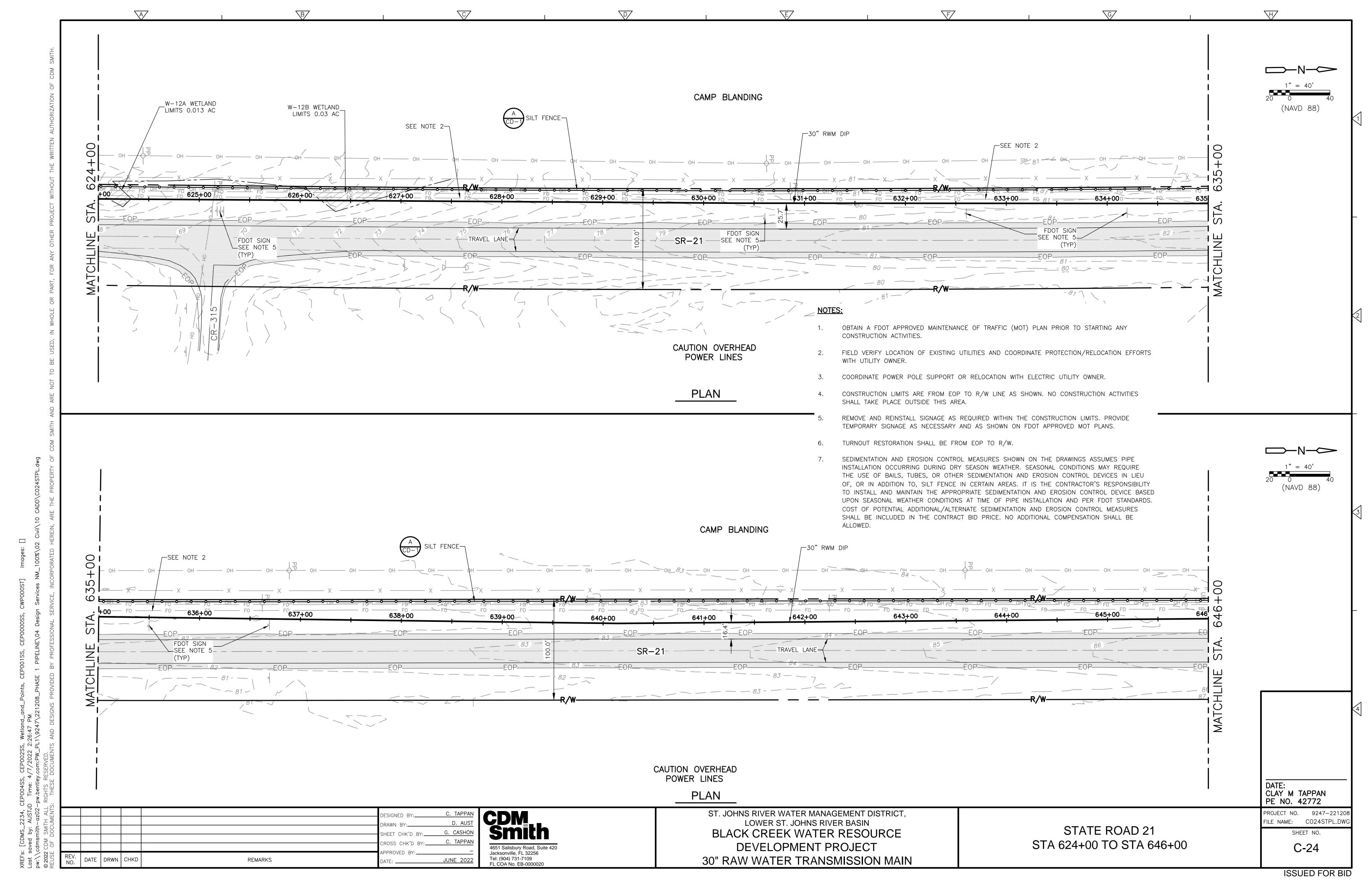


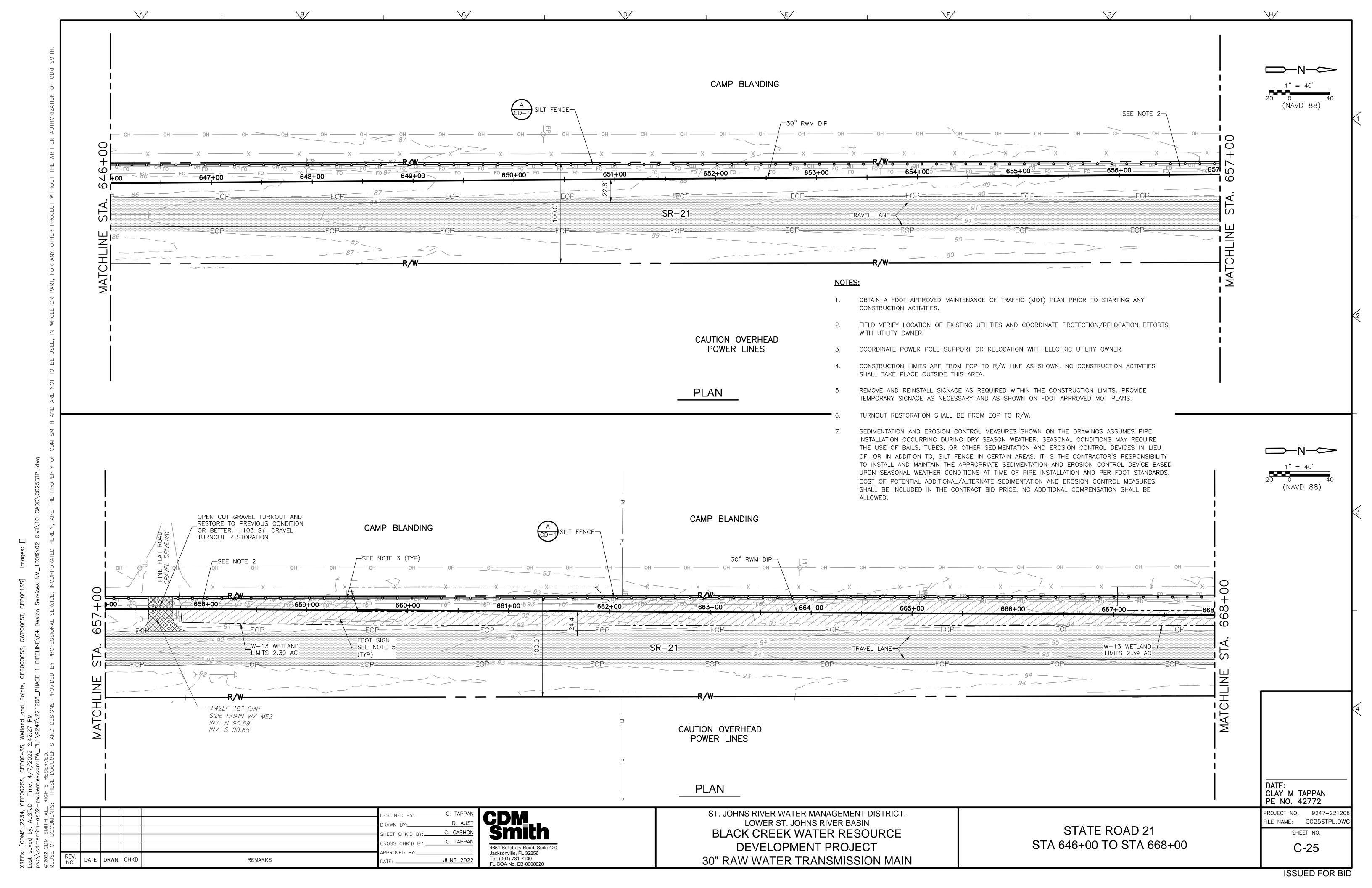


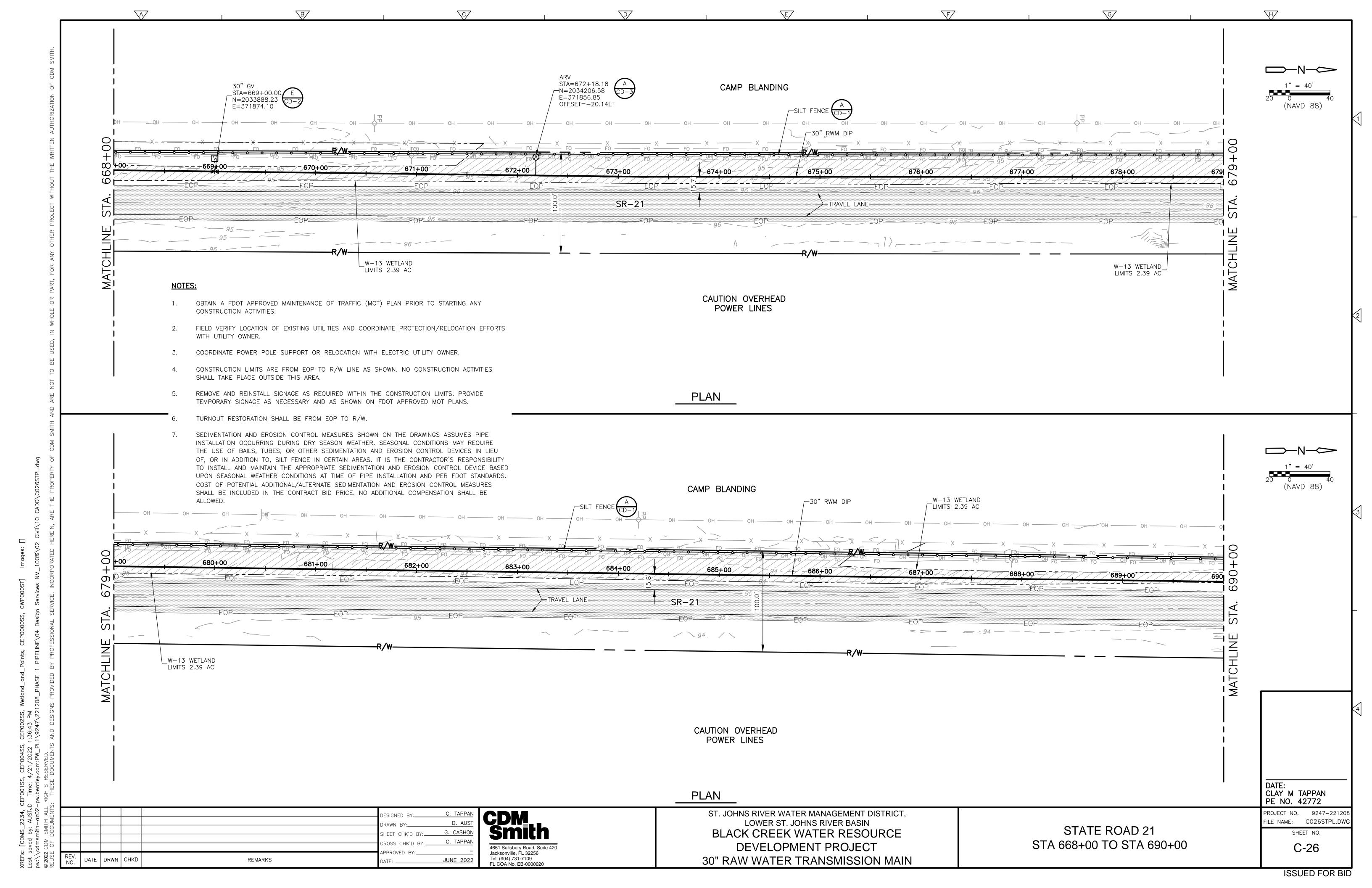


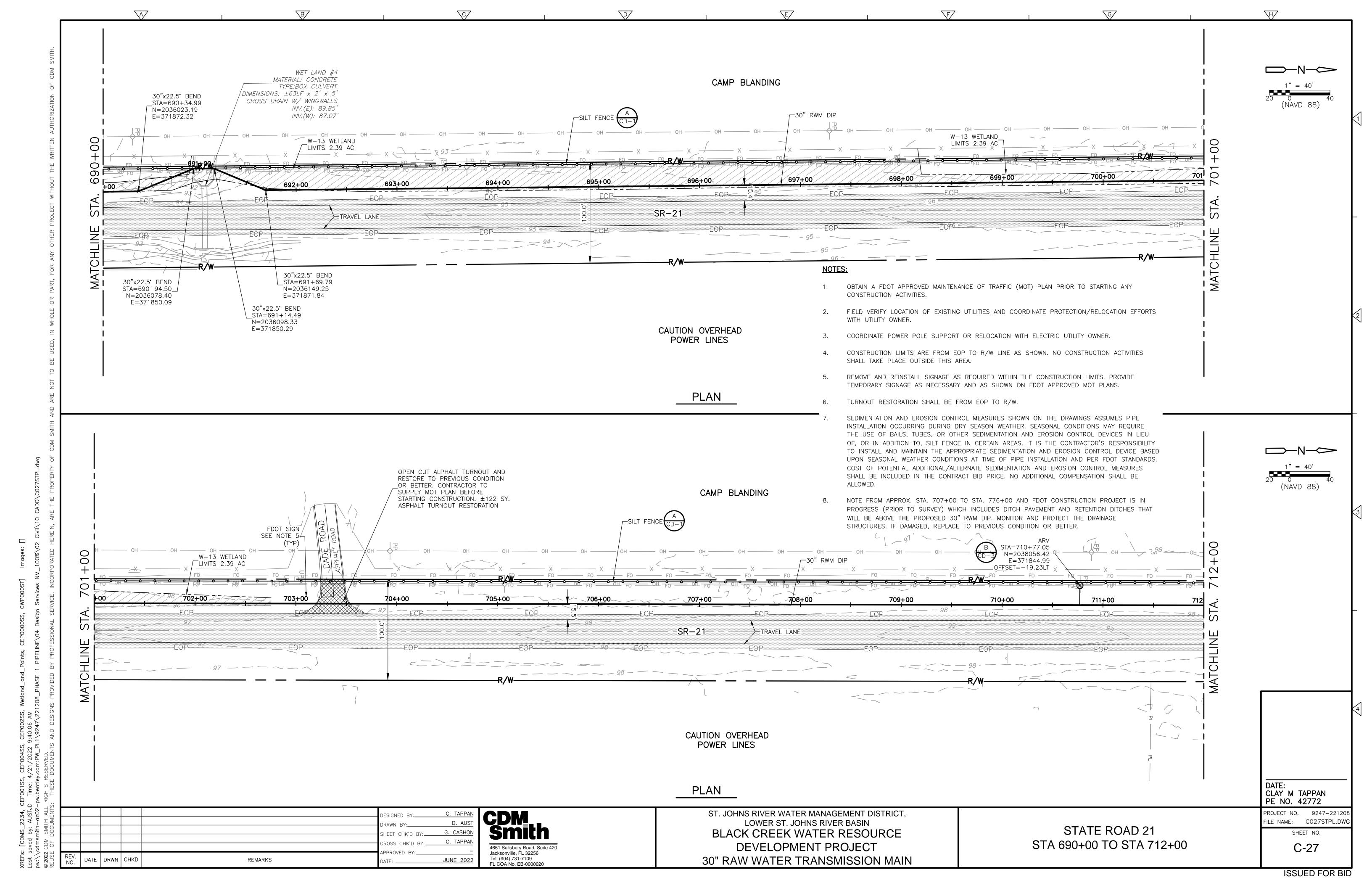


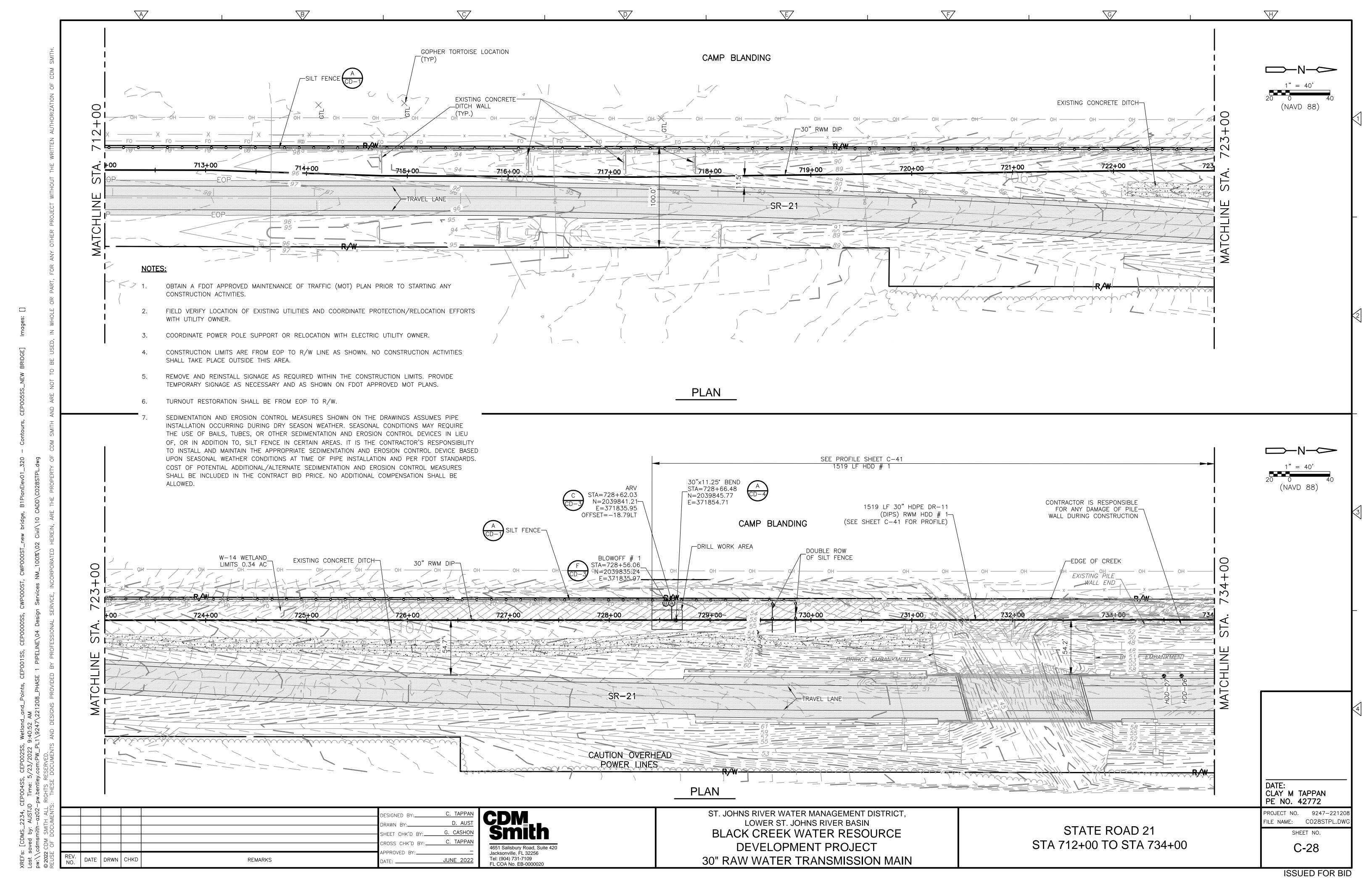


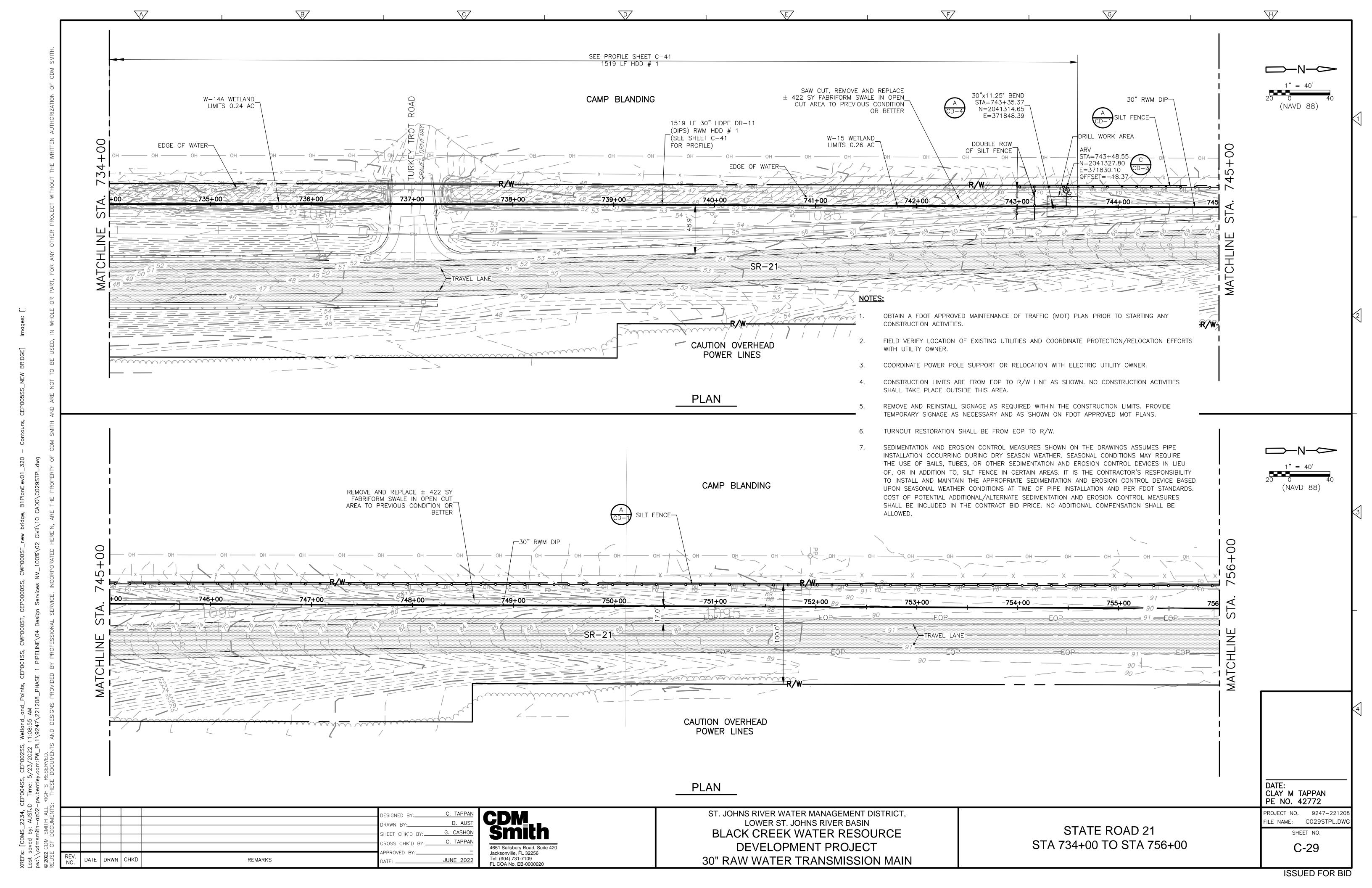


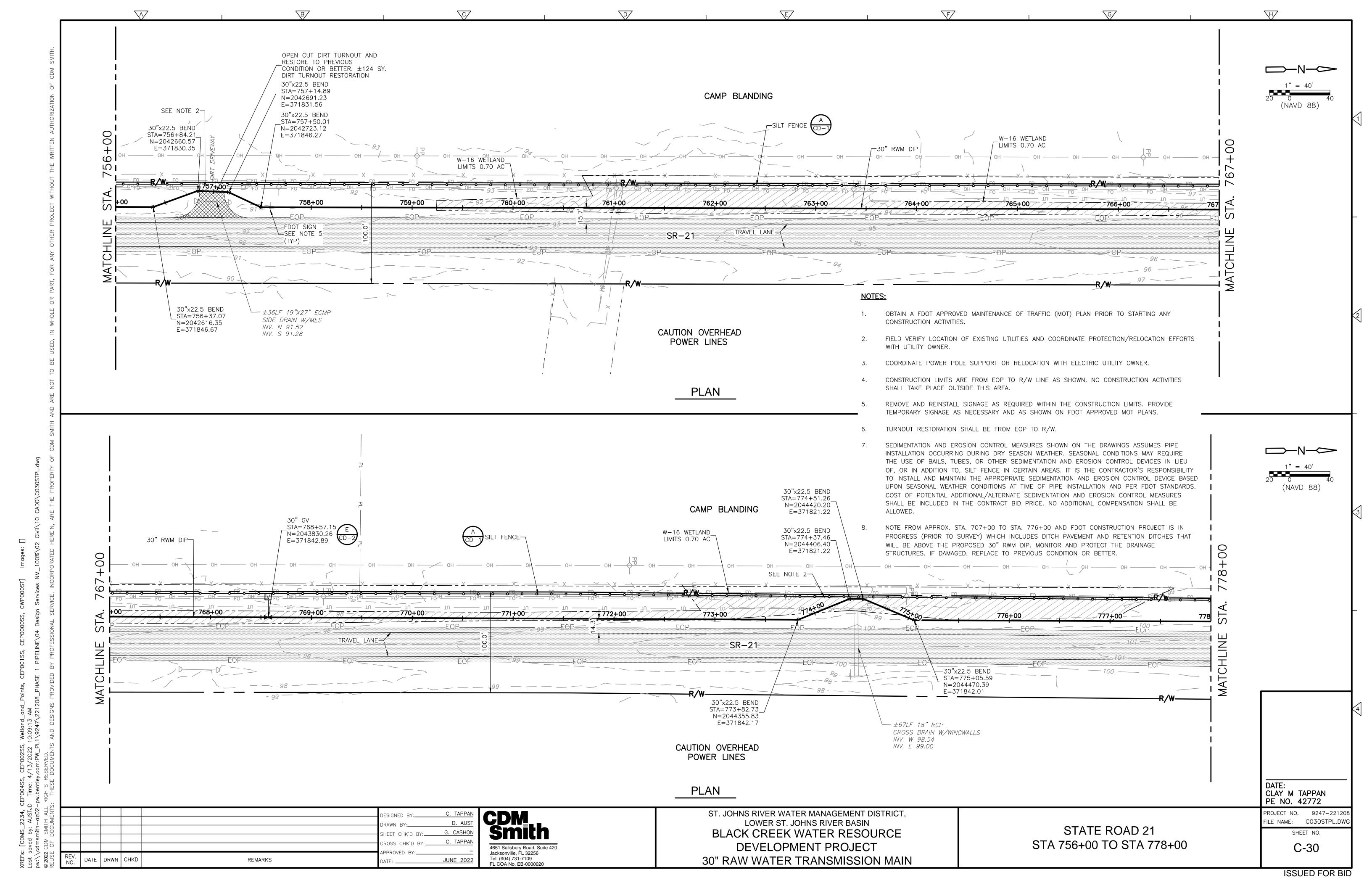


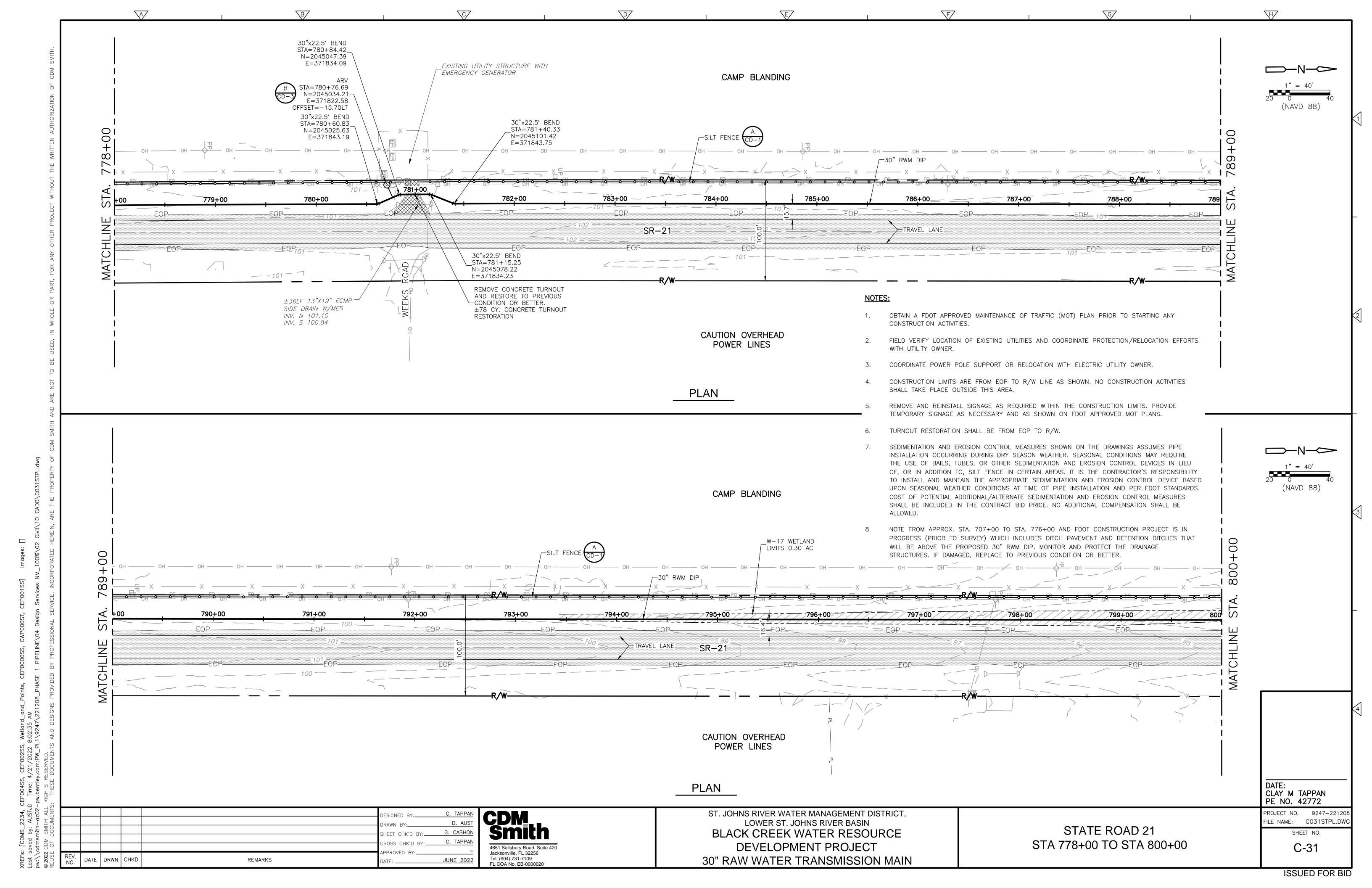


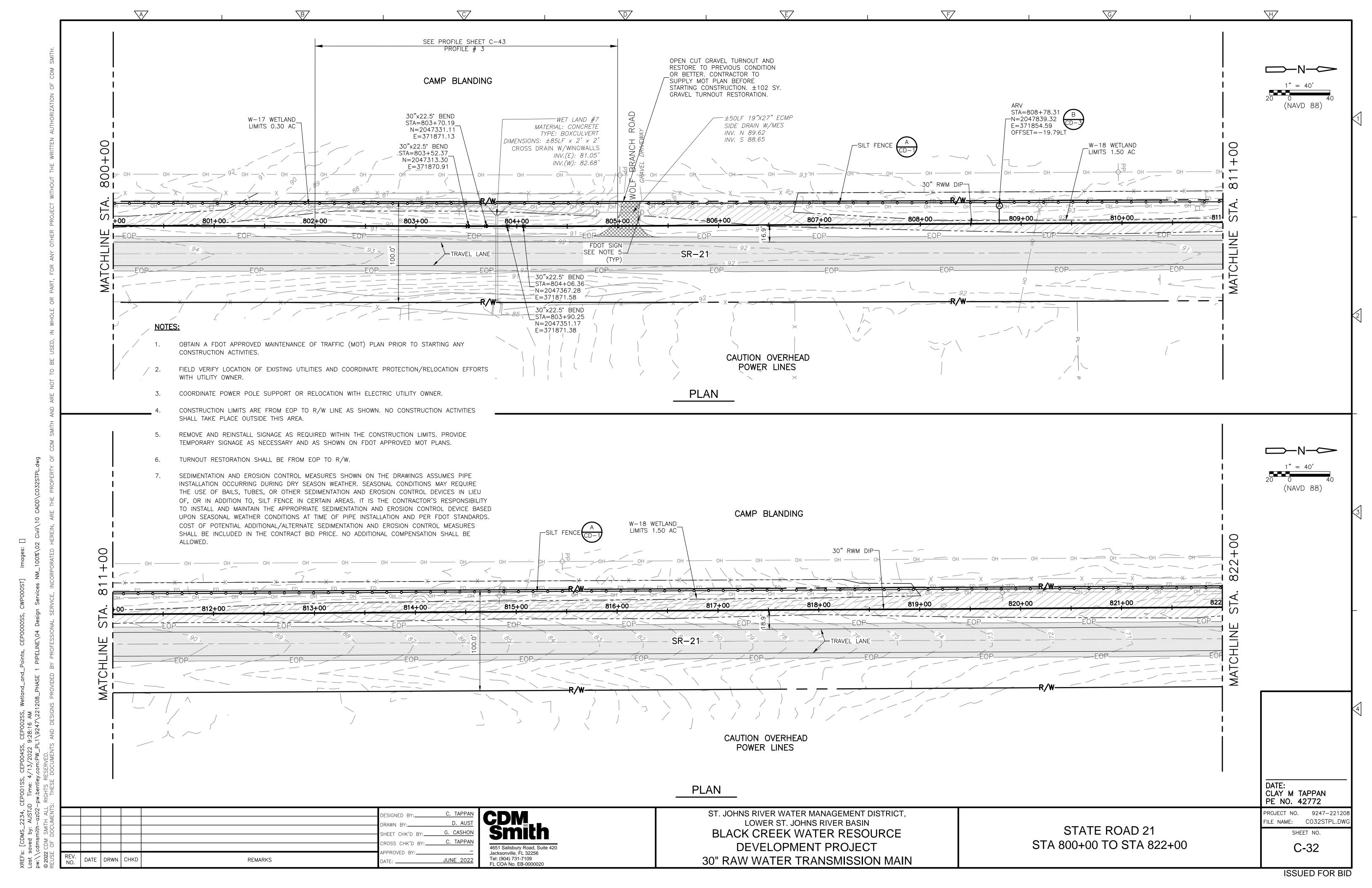


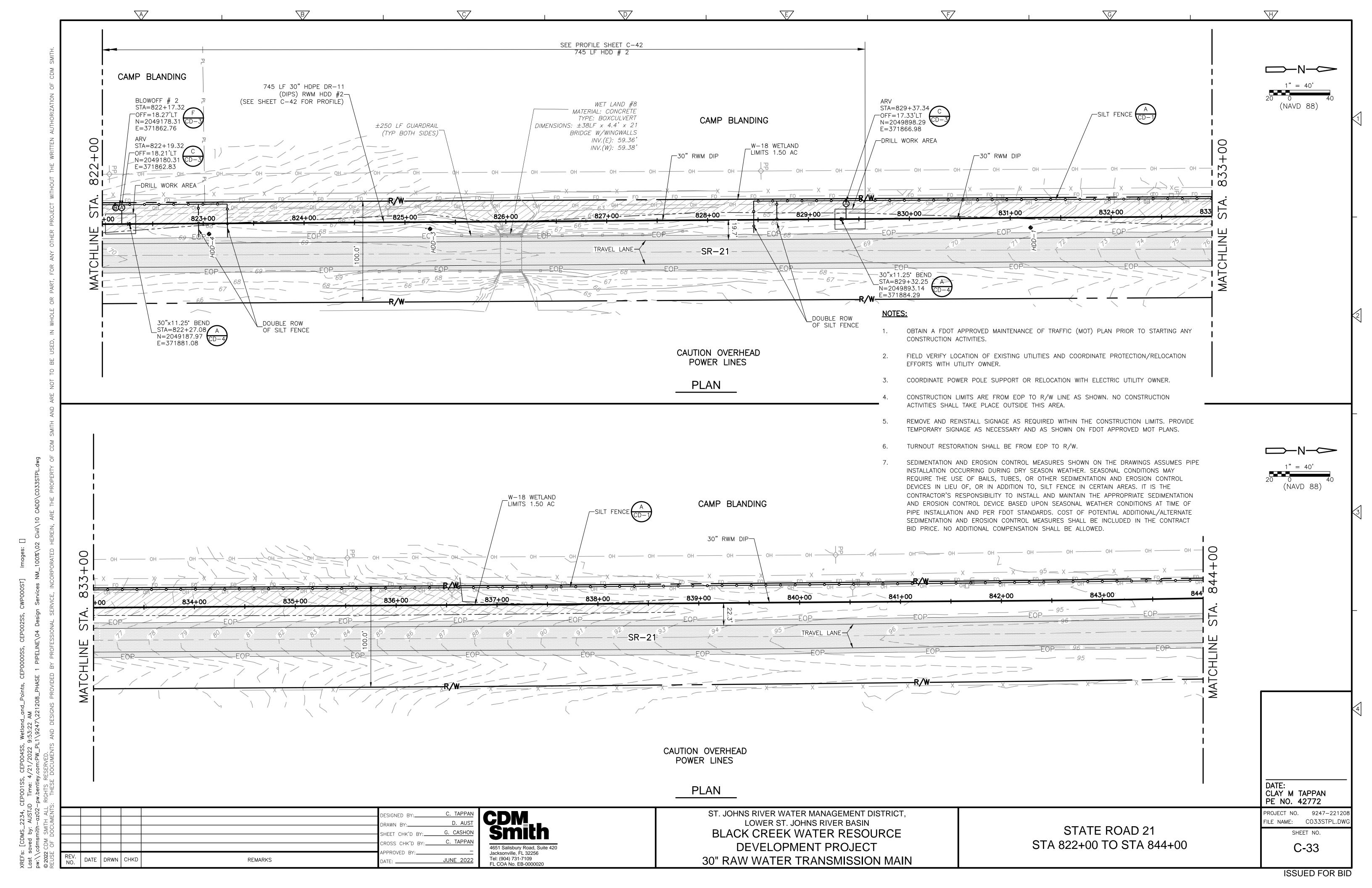


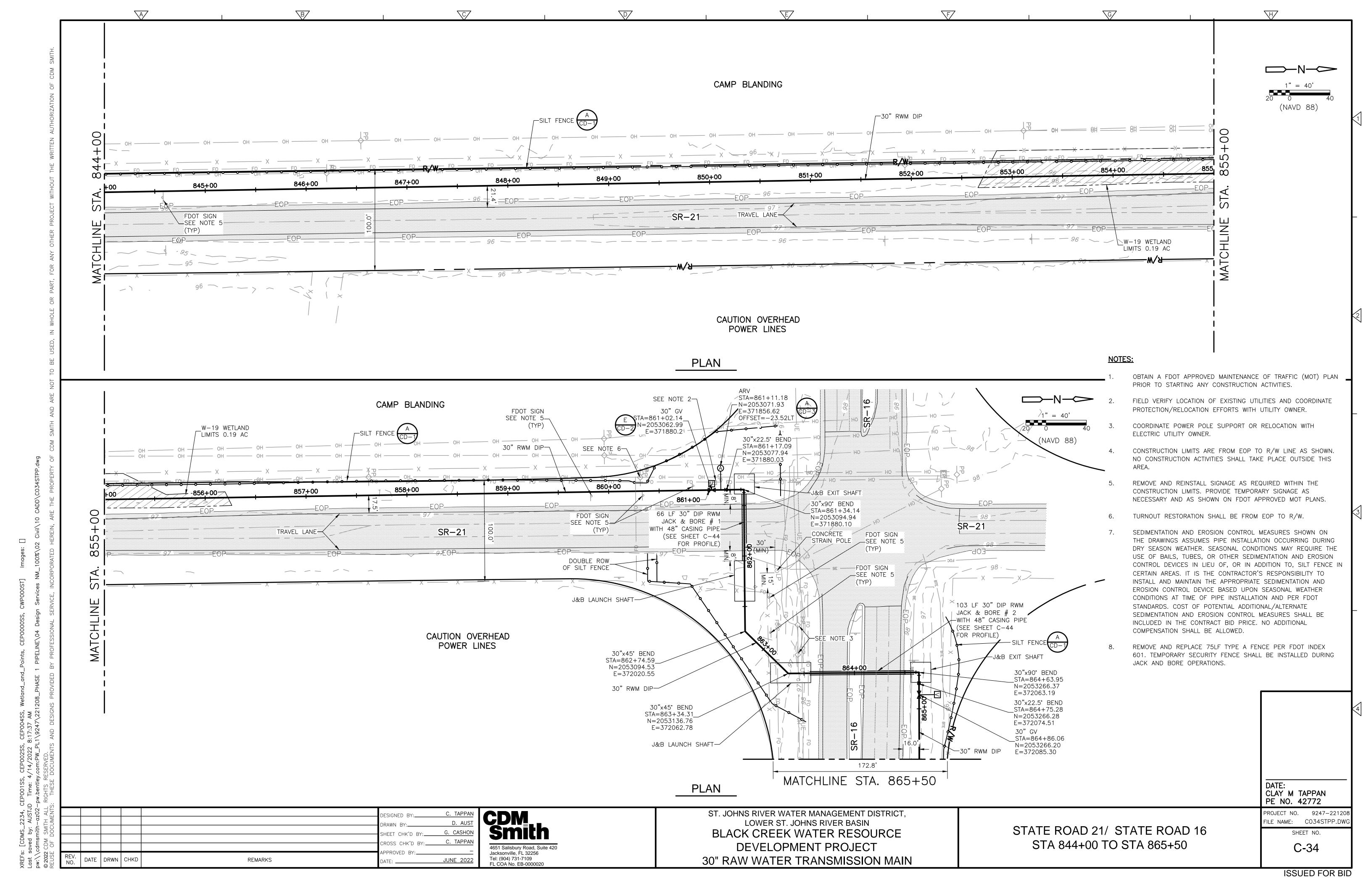


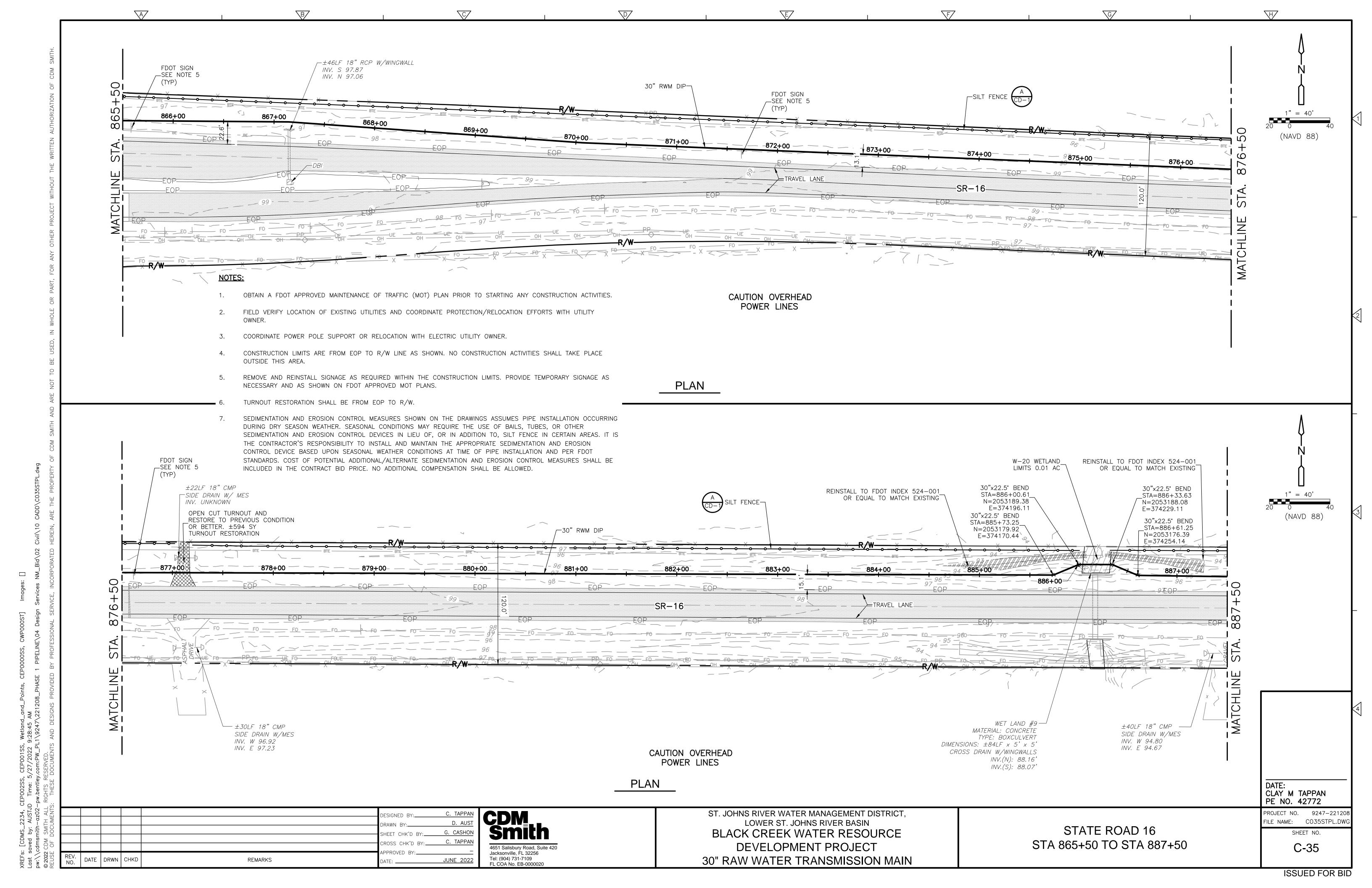


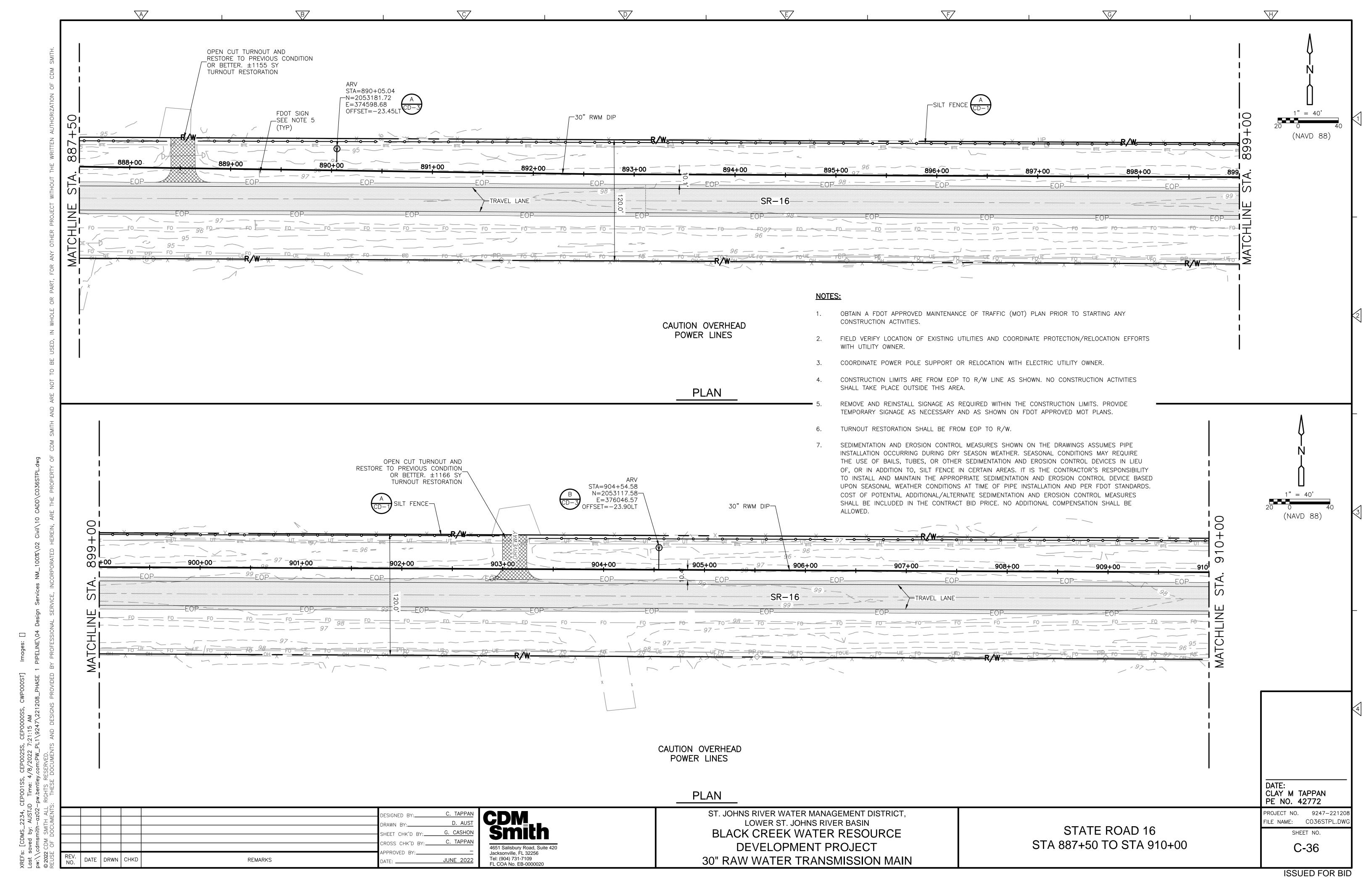


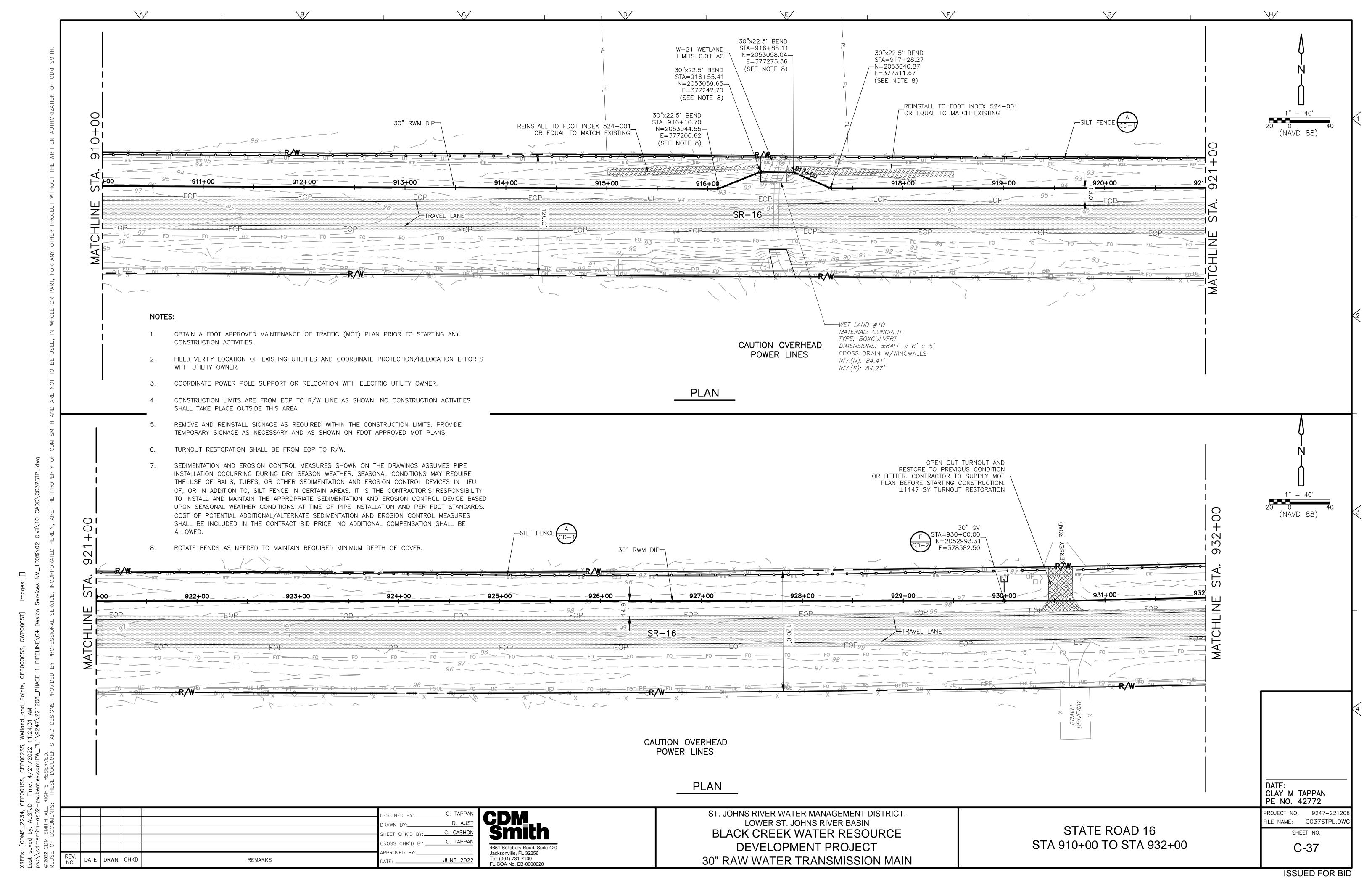


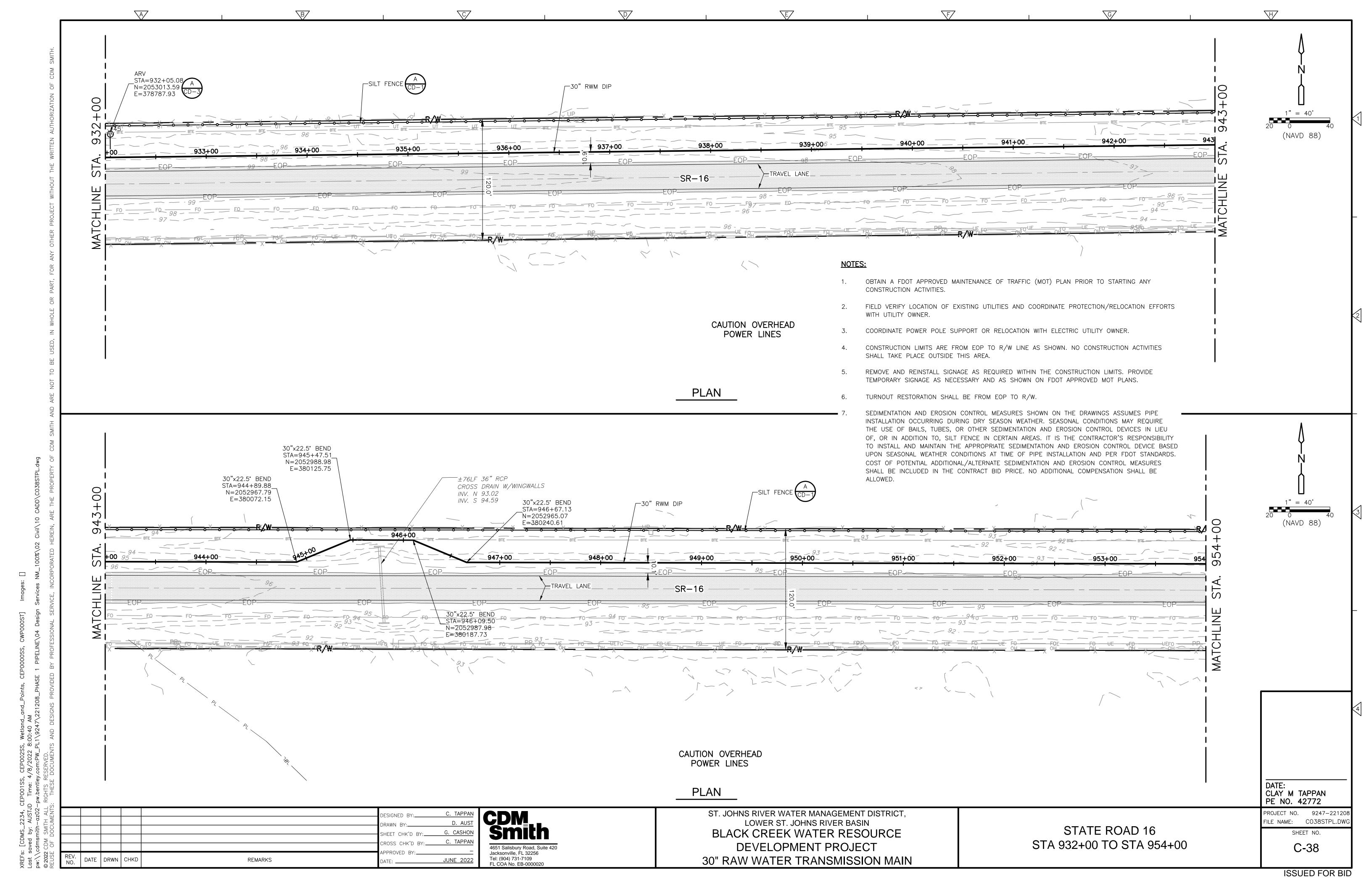


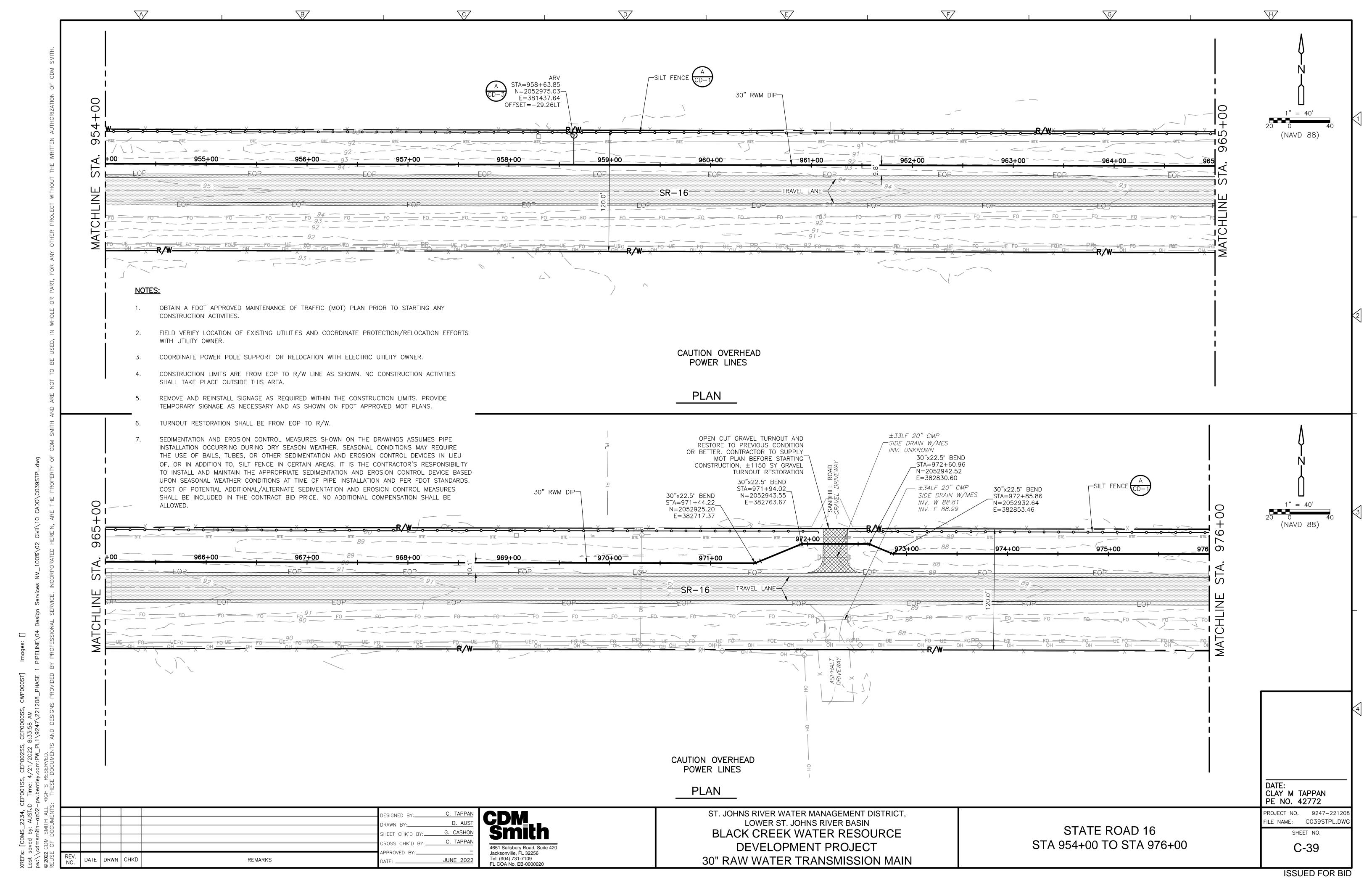


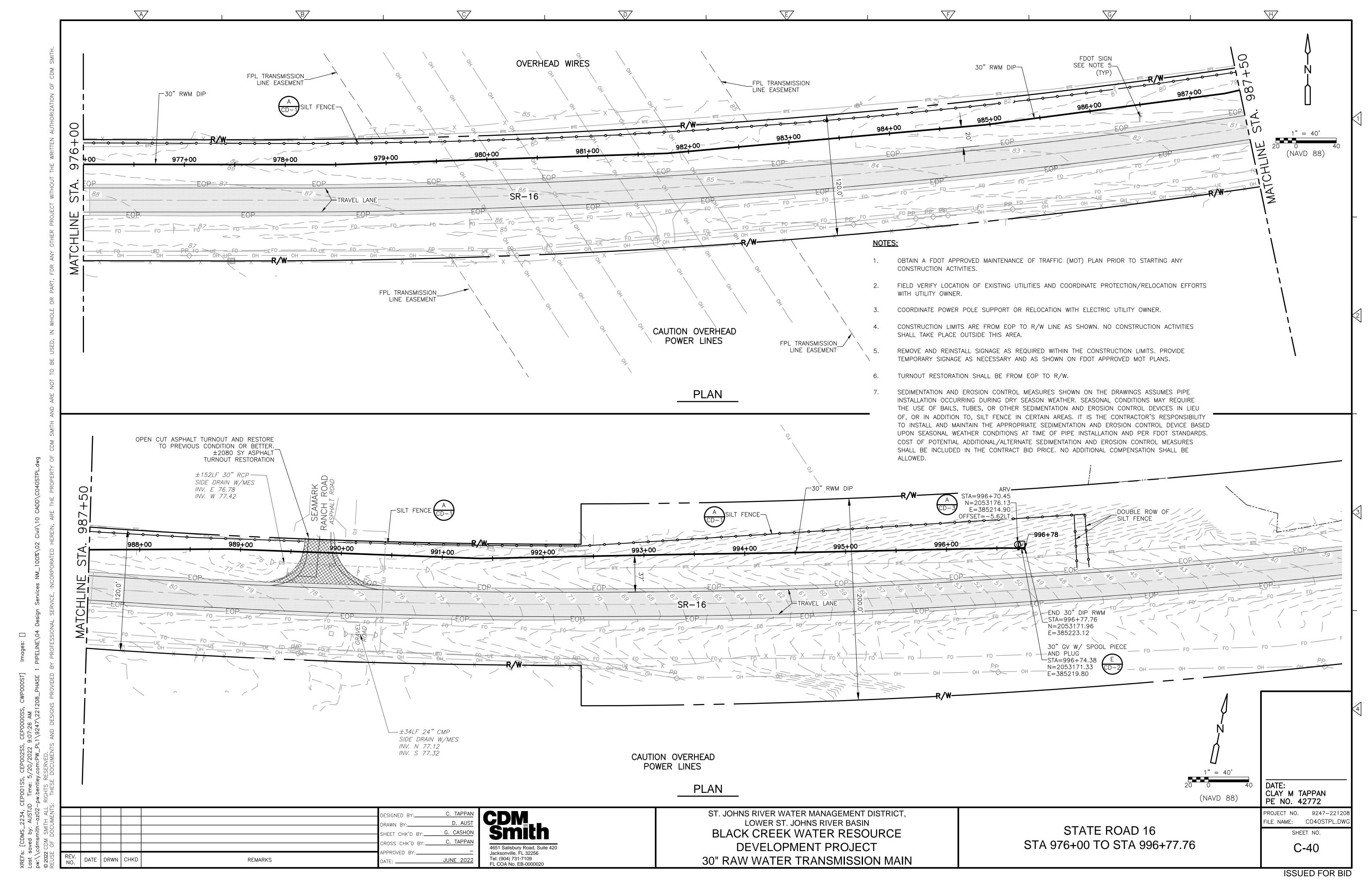


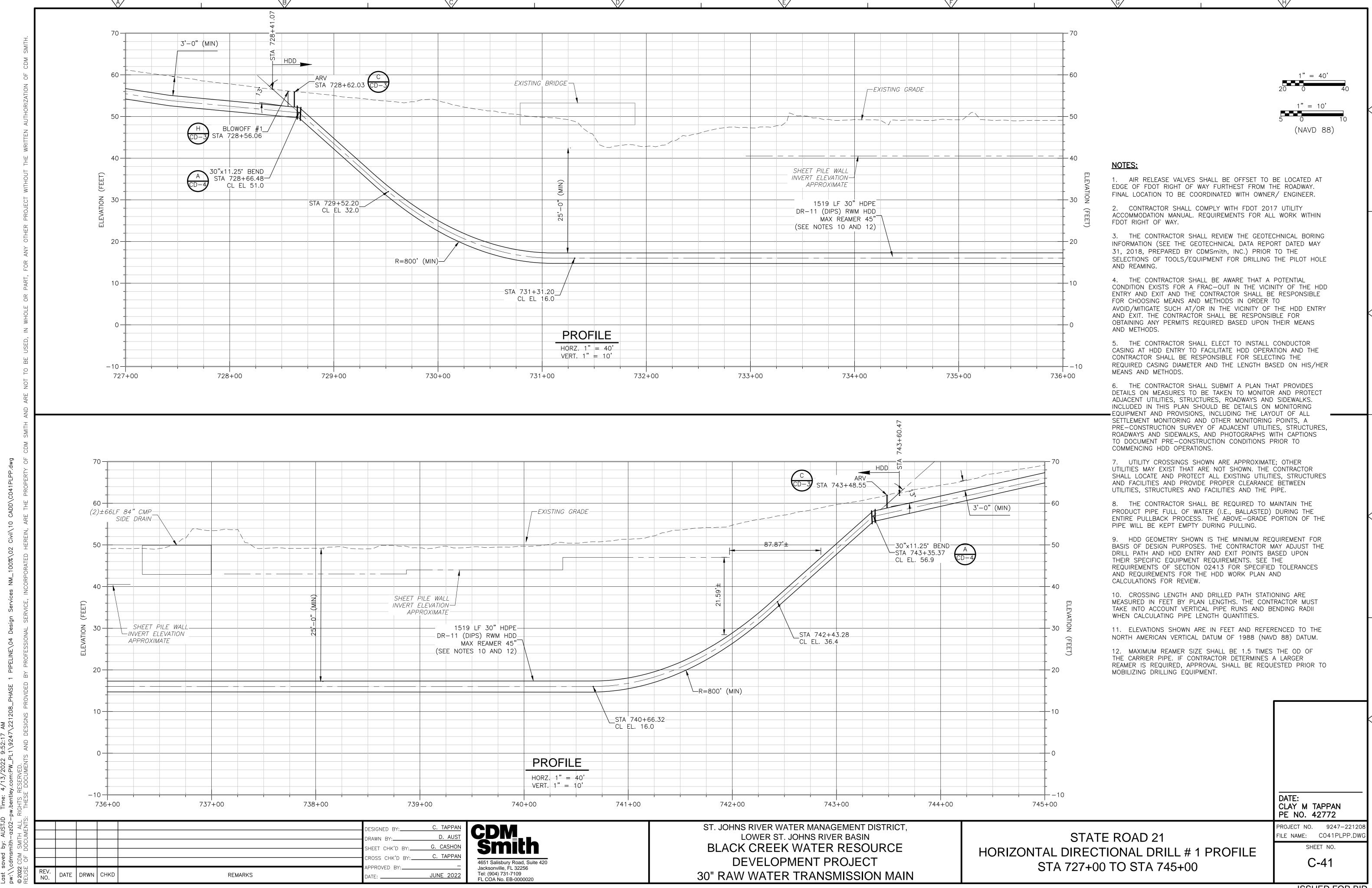












BLOWOFF #2 STA 822+17.32 CD-33'-0" (MIN) 3'-0" (MIN) -4.4'x21' BOX CULVERT -EXISTING GRADE STA 822+19.3 C STA 829+37.34 30"x11.25° BEND STA 829+32.25 CL. EL 61.9 -30"x11.25° BEND-└─STA 829+32.25 STA 822+27.08 CL. EL 61.9 CL. EL 63.9 STA 829+01.02 -745 LF 30" HDPE STA 822+63.35 CL. EL 54.5 CL. EL 54.5 \_DR-11 (DIPS) RWM HDD √MAX REAMER 45"  $\_(\mathsf{SEE}\ \mathsf{NOTES}\ \mathsf{10}\ \mathsf{AND}\ \mathsf{12})_{\_}$ R=800' (MIN)— -R=800' (MIN) \_STA 827+21.02-STA 824+47.35 \_CL. EL 34.0 CĻ. EL 34.0<sup>=</sup> 821+00 822+00 823+00 824+00 825+00 826+00 827+00 828+00 829+00 830+00 831+00 VERT. 1" = 10'

(NAVD 88)

# NOTES:

AIR RELEASE VALVES SHALL BE OFFSET TO BE LOCATED AT EDGE OF FDOT RIGHT OF WAY FURTHEST FROM THE ROADWAY. FINAL LOCATION TO BE COORDINATED WITH OWNER/ ENGINEER.

2. CONTRACTOR SHALL COMPLY WITH FDOT 2017 UTILITY ACCOMMODATION MANUAL. REQUIREMENTS FOR ALL WORK WITHIN FDOT RIGHT OF WAY.

3. THE CONTRACTOR SHALL REVIEW THE GEOTECHNICAL BORING INFORMATION (SEE THE GEOTECHNICAL DATA REPORT DATED MAY 31, 2018, PREPARED BY CDMSmith, INC.) PRIOR TO THE SELECTIONS OF TOOLS/EQUIPMENT FOR DRILLING THE PILOT HOLE AND REAMING.

4. THE CONTRACTOR SHALL BE AWARE THAT A POTENTIAL CONDITION EXISTS FOR A FRAC-OUT IN THE VICINITY OF THE HDD ENTRY AND EXIT AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR CHOOSING MEANS AND METHODS IN ORDER TO AVOID/MITIGATE SUCH AT/OR IN THE VICINITY OF THE HDD ENTRY AND EXIT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY PERMITS REQUIRED BASED UPON THEIR MEANS AND METHODS.

5. THE CONTRACTOR SHALL ELECT TO INSTALL CONDUCTOR CASING AT HDD ENTRY TO FACILITATE HDD OPERATION AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR SELECTING THE REQUIRED CASING DIAMETER AND THE LENGTH BASED ON HIS/HER MEANS AND METHODS.

6. THE CONTRACTOR SHALL SUBMIT A PLAN THAT PROVIDES DETAILS ON MEASURES TO BE TAKEN TO MONITOR AND PROTECT ADJACENT UTILITIES, STRUCTURES, ROADWAYS AND SIDEWALKS. INCLUDED IN THIS PLAN SHOULD BE DETAILS ON MONITORING EQUIPMENT AND PROVISIONS, INCLUDING THE LAYOUT OF ALL SETTLEMENT MONITORING AND OTHER MONITORING POINTS, A PRE-CONSTRUCTION SURVEY OF ADJACENT UTILITIES, STRUCTURES, ROADWAYS AND SIDEWALKS, AND PHOTOGRAPHS WITH CAPTIONS TO DOCUMENT PRE-CONSTRUCTION CONDITIONS PRIOR TO COMMENCING HDD OPERATIONS.

7. UTILITY CROSSINGS SHOWN ARE APPROXIMATE; OTHER UTILITIES MAY EXIST THAT ARE NOT SHOWN. THE CONTRACTOR SHALL LOCATE AND PROTECT ALL EXISTING UTILITIES, STRUCTURES AND FACILITIES AND PROVIDE PROPER CLEARANCE BETWEEN UTILITIES, STRUCTURES AND FACILITIES AND THE PIPE.

8. THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN THE PRODUCT PIPE FULL OF WATER (I.E., BALLASTED) DURING THE ENTIRE PULLBACK PROCESS. THE ABOVE-GRADE PORTION OF THE PIPE WILL BE KEPT EMPTY DURING PULLING.

9. HDD GEOMETRY SHOWN IS THE MINIMUM REQUIREMENT FOR BASIS OF DESIGN PURPOSES. THE CONTRACTOR MAY ADJUST THE DRILL PATH AND HDD ENTRY AND EXIT POINTS BASED UPON THEIR SPECIFIC EQUIPMENT REQUIREMENTS. SEE THE REQUIREMENTS OF SECTION 02413 FOR SPECIFIED TOLERANCES AND REQUIREMENTS FOR THE HDD WORK PLAN AND CALCULATIONS FOR REVIEW.

10. CROSSING LENGTH AND DRILLED PATH STATIONING ARE MEASURED IN FEET BY PLAN LENGTHS. THE CONTRACTOR MUST TAKE INTO ACCOUNT VERTICAL PIPE RUNS AND BENDING RADII WHEN CALCULATING PIPE LENGTH QUANTITIES.

11. ELEVATIONS SHOWN ARE IN FEET AND REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) DATUM.

12. MAXIMUM REAMER SIZE SHALL BE 1.5 TIMES THE OD OF THE CARRIER PIPE. IF CONTRACTOR DETERMINES A LARGER REAMER IS REQUIRED, APPROVAL SHALL BE REQUESTED PRIOR TO MOBILIZING DRILLING EQUIPMENT.

G. CASHON C. TAPPAN 4651 Salisbury Road, Suite 420 Jacksonville, FL 32256

Tel: (904) 731-7109

FL COA No. EB-0000020

JUNE 2022

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT, LOWER ST. JOHNS RIVER BASIN BLACK CREEK WATER RESOURCE **DEVELOPMENT PROJECT** 30" RAW WATER TRANSMISSION MAIN

STATE ROAD 21 HORIZONTAL DIRECTIONAL DRILL # 2 PROFILE STA 821+00 TO STA 831+00

CLAY M TAPPAN PE NO. 42772 PROJECT NO. 9247-22120

> SHEET NO. C-42

FILE NAME: CO42PLPP.DW

ISSUED FOR BID

DATE DRWN CHKD

REMARKS

☐6'x10' BOX CULVERT EXISTING GRADE 3'-0" (MIN) (TYP) 3'-0" (MIN) (TYP) EXISTING GRADE 3'-0" (MIN) (TYP) -EXISTING GRADE \_5'x10' BOX CULVERT \_\_19"x27" ECMP 60 --90 90--2'x2' BOX CULVERT 30"x22.5° BEND 30"x22.5° BEND\_ 30"x22.5" BEND ≒STA. 613+01.00 30"x22.5" BEND 30"x22.5" BEND STA. 612+02.52— STA. 621+17.44+7CL. EL. 56.72 -STA. 621+82.67 STA. 803+52.37 CL. EL. 56.36 30"x22.5° BEND CL. EL. 56.06 CL. EL. 55.96 CL. EL. 85.10 ─STA. 804+06.36-CONCRETE CRADLE-CL. EL. 84.39 30"x22.5° BEND \_30"x22.5" BEND-50 -50-80-- 80 30"x22.5" BEND 「STA. 621+26.39<sup>□</sup> 30"x22.5" BEND STA. 621+73.91 CL. EL. 52.35 STA. 612+11.78— STA. 612+90.91 CL. EL. 52.35 CL. EL. 51.75\_ CL. EL. 51.75 30" RWM DIP 30" RWM DIP \_\_30"x22.5" BEND\_\_ STA. 803+70.19— MAX REAMER 45" -30"x22.5" BEND MAX REAMER 45" `─STA. 803+90.25 CL. EL. 77.72 CL. EL. 77.72 30" RWM DIP MAX REAMER 45" 621+00 803+00 611+00 612+00 613+00 613+50 620+00 622+00 623+00 802+00 804+00 805+00 805+50 PROFILE #3 PROFILE #2 PROFILE #1 HORZ. 1" = 40'VERT. 1" = 4'HORZ. 1" = 40'VERT. 1" = 4'NOTES: HORZ. 1" = 40'VERT. 1" = 4'1. AIR RELEASE VALVES SHALL BE OFFSET TO BE LOCATED AT EDGE OF FDOT RIGHT OF WAY FURTHEST FROM THE ROADWAY. 1" = 40'FINAL LOCATION TO BE COORDINATED WITH OWNER/ ENGINEER. 2. CONTRACTOR SHALL COMPLY WITH FDOT 2017 UTILITY ACCOMMODATION MANUAL. REQUIREMENTS FOR ALL WORK WITHIN FDOT RIGHT OF WAY. 3. THE CONTRACTOR SHALL REVIEW THE GEOTECHNICAL BORING (NAVD 88) (NAVD 88) (NAVD 88) INFORMATION (SEE THE GEOTECHNICAL DATA REPORT DATED MAY 31, 2018, PREPARED BY CDMSmith, INC.) PRIOR TO THE SELECTIONS OF TOOLS/EQUIPMENT. 4. UTILITY CROSSINGS SHOWN ARE APPROXIMATE; OTHER UTILITIES MAY EXIST THAT ARE NOT SHOWN. THE CONTRACTOR SHALL LOCATE AND PROTECT ALL EXISTING UTILITIES, STRUCTURES AND FACILITIES AND PROVIDE PROPER CLEARANCE BETWEEN UTILITIES, STRUCTURES AND FACILITIES AND THE PIPE. 5. ELEVATIONS SHOWN ARE IN FEET AND REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) DATUM. DATE: CLAY M TAPPAN PE NO. 42772 ST. JOHNS RIVER WATER MANAGEMENT DISTRICT, PROJECT NO. 9247-22120 FILE NAME: CO43PLPP.DW LOWER ST. JOHNS RIVER BASIN D. AUST STATE ROAD 21 BLACK CREEK WATER RESOURCE G. CASHON SHEET NO. C. TAPPAN 30" DIP RWM CROSSING PROFILE **DEVELOPMENT PROJECT** C-43 4651 Salisbury Road, Suite 420 Jacksonville, FL 32256 DATE DRWN CHKD Tel: (904) 731-7109 FL COA No. EB-0000020 30" RAW WATER TRANSMISSION MAIN REMARKS JUNE 2022

ISSUED FOR BID

\_20'x20' EXIT SHAFT AIR RELEASE VALVE STA 861+11.18 CL EL 96.7 20'x40' LAUNCH SHAFT-SEE NOTE 11--20'x40' LAUNCH SHAFT ¬ \_20'x20' EXIT SHAFT 100 -\_EXISTING GRADE EXISTING GRADE -(EL. ASSUMED)  $\overline{\phantom{a}}$ (EL. ASSUMED)-(EL. ASSUMED) (EL. ASSUMED) (EL. ASSUMED) -30" RWM DIP--30" RWM DIP-STA 861+02.14<del>-/</del> CL EL 91.8 STA 864+86.06 CD-2 -30" RWM DIP-0.5% 30"X22.5" BEND CL EL 91.0 STA 861+17.09-CL EL 91.9 \_30"X22.5° BEND\_ STA 864+75.28 30"X90° BEND CL EL 90.9 STA 861+34.14 CL EL 86.7 30"X90° BEND =STA 864+63.95 66 LF 30" DIP RWM CL EL 86.2 30"X45° BEND JACK AND BORE #1 WITH STA 862+74.59-\_48" STEEL CASING SLOPED AT 0.5%. CL EL 86.2 JACK AND BORE CASING-103 LF 30" DIP RWM SHALL EXTEND 8' MIN. PAST EOP\_ JACK AND BORE #2 WITH CD-330"X45" BEND\_ 48" STEEL CASING SLOPED AT 0.5%.— JACK AND BORE CASING SHALL EXTEND STA 863+34.31 (TYP) CL EL 86.2 -8' MIN. PAST EOP. (TYP) 862+00 860+00 861+00 863+00 864+00 865+00 866+00 JACK AND BORE # 1 JACK AND BORE # 2 **PROFILE** 1" = 40'PROFILE HORZ. 1" = 40'HORZ. 1" = 40'VERT. 1" = 4'VERT. 1" = 4"(NAVD 88)

# NOTES:

- 1. COORDINATE PROTECTION / RELOCATION WITH UTILITY OWNER. FIELD VERIFY LOCATION OF EXISTING UTILITIES AND PROTECT/RELOCATE AS NEEDED.
- 2. REMOVE AND REINSTALL SIGNAGE AS REQUIRED WITHIN CONSTRUCTION LIMITS. PROVIDE TEMPORARY SIGNAGE AS NECESSARY AND AS SHOWN ON DOT APPROVED MOT PLANS (TYP).
- CONSTRUCTION LIMITS ARE FROM EOP TO R/W LINE AS SHOWN.
   NO CONSTRUCTION ACTIVITIES SHALL TAKE PLACE OUTSIDE THIS AREA.
- 4. OBTAIN AN APPROVED MOT PLAN PRIOR TO STARTING CONSTRUCTION ACTIVITIES.
- 5. TURNOUT RESTORATION SHALL BE FROM EOP TO R/W.
- 6. COORDINATE WITH ELECTRIC UTILITY OWNER FOR TEMPORARY POWER POLE SUPPORT OR RELOCATION AS REQUIRED.
- 7. SEDIMENTATION AND EROSION CONTROL SHOWN ON THE DRAWINGS ASSUME PIPE INSTALLATION OCCURRING DURING DRY SEASON WEATHER. SEASONAL CONDITIONS MAY REQUIRE THE USE OF BAILS, TUBES OR OTHER SEDIMENTATION AND EROSION CONTROL DEVICES IN LIEU OF SILT FENCE IN CERTAIN AREAS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSTALL AND MAINTAIN THE APPROPRIATE SEDIMENTATION AND EROSION CONTROL DEVICE BASED UPON SEASONAL WEATHER CONDITIONS AT TIME OF PIPE INSTALLATION AND PER FDOT STANDARDS. COST OF POTENTIAL ADDITIONAL/ALTERNATE SEDIMENTATION AND EROSION CONTROL MEASURES SHALL BE INCLUDED IN THE CONTRACT BID PRICE. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.
- 8. TRENCHLESS CROSSING SHALL BE SLOPED 0.5%-1% DOWN FROM EXIT SHAFT.
- 9. SHAFTS SHALL EXTEND TO 2' BELOW BOTTOM OF CASING.
- 10. ALL PIPE INSTALLATIONS SHALL CONFORM TO 2017 UTILITIES ACCOMMODATION MANUAL (UAM). IF A CONFLICT EXISTS BETWEEN THESE DOCUMENTS AND THE UAM THE MORE STRINGENT SHALL APPLY.
- 11. ARV AND VALVE BOXES SHALL BE INSTALLED BETWEEN EOP AND FENCE ADJACENT TO FENCE. SEE PLAN VIEW.
- 12. EXCAVATIONS WITHIN FDOT RIGHT-OF-WAYS SHALL BE A MINIMUM OF 8-FEET FROM EDGE OF ROADWAY PAVEMENT.

STATE ROAD 21/ STATE ROAD 16

JACK AND BORE PROFILE

DATE: CLAY M TAPPAN PE NO. 42772

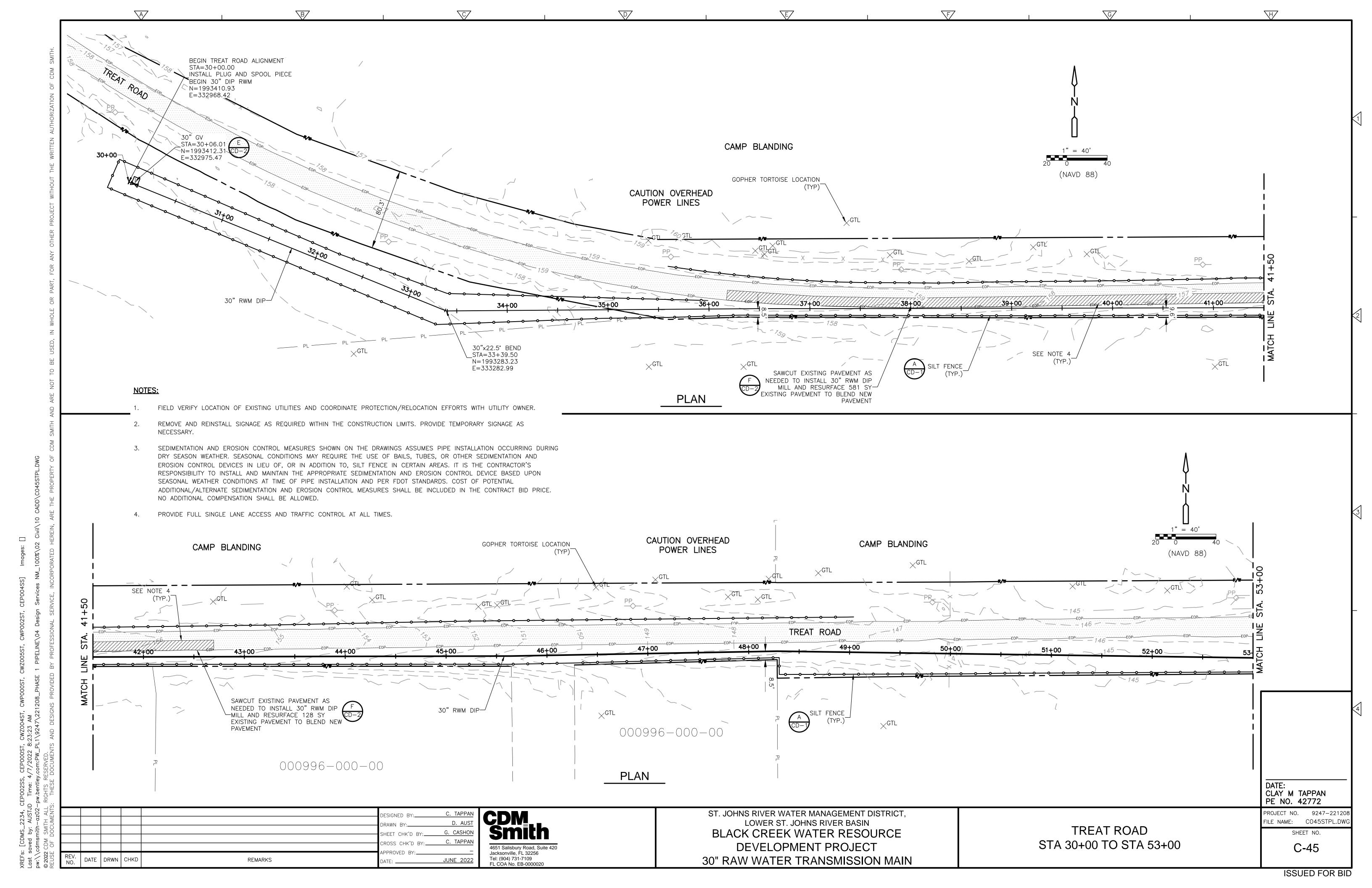
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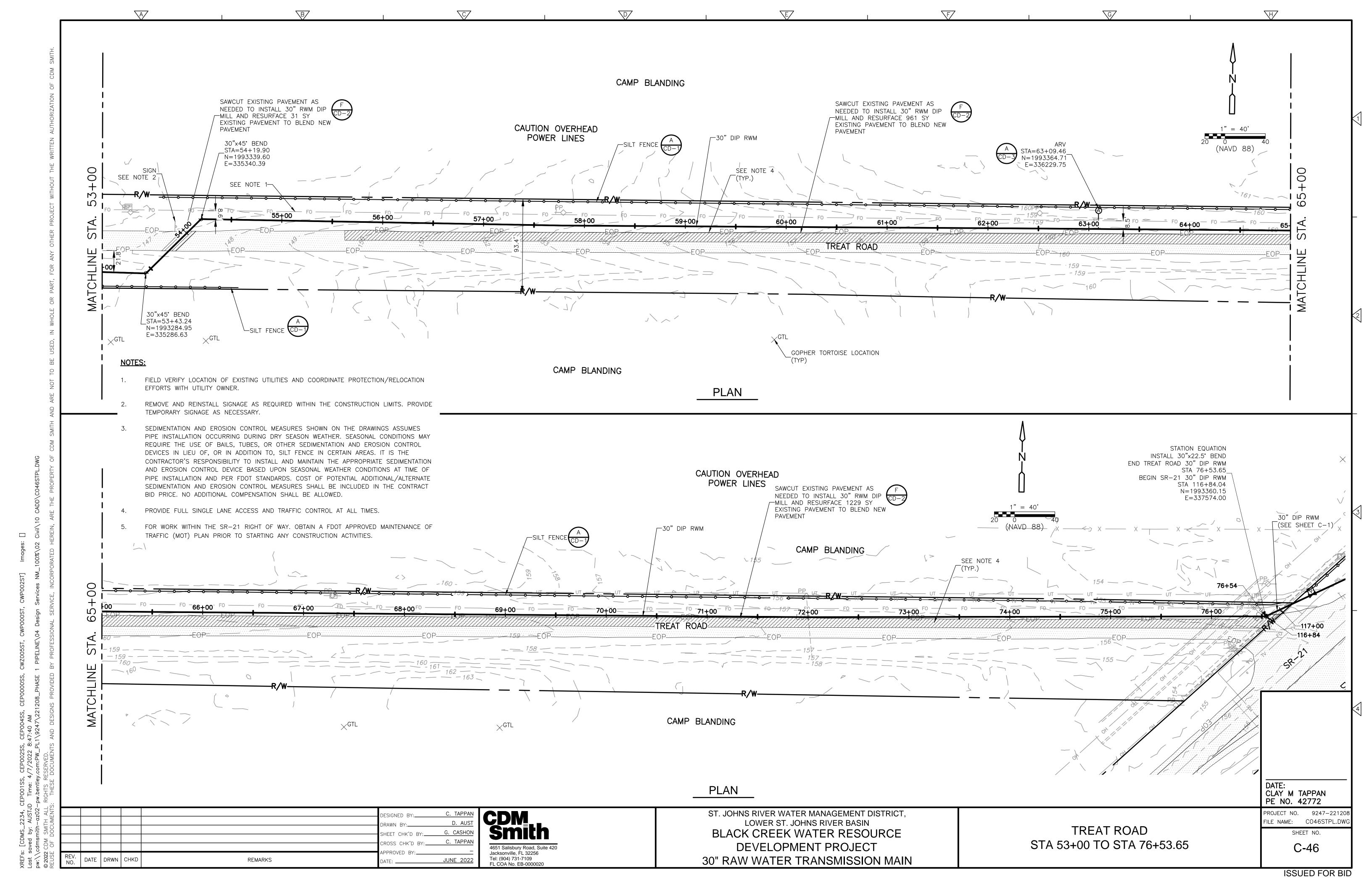
SHEET NO. **C-44** 

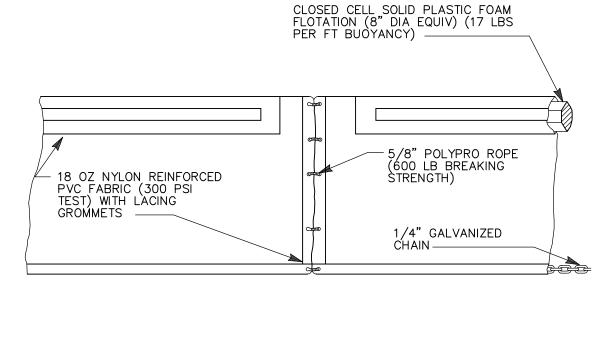
| DESIGNED BY: \_\_\_\_\_ C. TAPPAN | DRAWN BY: \_\_\_\_\_ D. AUST | SHEET CHK'D BY: \_\_\_\_\_ C. TAPPAN | CROSS CHK'D BY: \_\_\_\_\_ C. TAPPAN | CROSS CHK'D BY: \_\_\_\_\_\_ C. TAPPAN | APPROVED BY: \_\_\_\_\_\_ C. TAPPAN | APPROVED BY: \_\_\_\_\_\_ DATE: \_\_\_\_\_\_ JUNE 2022

 $\overline{A}$ 

4651 Salisbury Road, Suite 420 Jacksonville, FL 32256 Tel: (904) 731-7109 FL COA No. EB-0000020 ST. JOHNS RIVER WATER MANAGEMENT DISTRICT,
LOWER ST. JOHNS RIVER BASIN
BLACK CREEK WATER RESOURCE
DEVELOPMENT PROJECT
30" RAW WATER TRANSMISSION MAIN







FLOATING TURBIDITY BARRIER

# NOTES:

# **EROSION CONTROL** IT IS THE CONTRACTORS RESPONSIBILITY TO IMPLEMENT THE EROSION AND TURBIDITY CONTROLS AS SHOWN ON THE PLANS. IT IS ALSO THE CONTRACTORS RESPONSIBILITY TO ENSURE THESE CONTROLS ARE PROPERLY INSTALLED,

MAINTAINED AND FUNCTIONING PROPERLY TO PREVENT TURBID OR POLLUTED WATER FROM LEAVING THE PROJECT SITE. THE CONTRACTOR WILL ADJUST THE EROSION AND TURBIDITY CONTROLS SHOWN ON THE PLANS AND ADD ADDITIONAL CONTROL MEASURES, AS REQUIRED, TO ENSURE THE SITE MEETS ALL FEDERAL, STATE AND LOCAL EROSION AND TURBIDITY CONTROL REQUIREMENTS. THE FOLLOWING BEST MANAGEMENT PRACTICES WILL BE IMPLEMENTED BY THE CONTRACTOR AS REQUIRED BY THE PLANS AND AS REQUIRED BY THE

- SEDIMENT BASINS AND TRAPS, PERIMETER DITCHES, SEDIMENT BARRIERS AND OTHER MEASURES INTENDED TO TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP BEFORE ANY LAND-DISTURBING TAKES PLACE.
- ALL SEDIMENT CONTROL MEASURES ARE TO BE ADJUSTED TO MEET FIELD CONDITIONS AT THE TIME OF CONSTRUCTION AND BE CONSTRUCTED PRIOR TO ANY GRADING OR DISTURBANCE OF EXISTING SURFACE MATERIAL ON BALANCE OF SITE. PERIMETER SEDIMENT BARRIERS SHALL BE CONSTRUCTED TO PREVENT SEDIMENT OR TRASH FROM FLOWING OR FLOATING ON TO ADJACENT PROPERTIES.

REGULATORY AGENCIES.

- DURING CONSTRUCTION OF THE PROJECT. SOIL STOCK PILES SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. THE CONTRACTOR IS RESPONSIBLE FOR THE TEMPORARY PROTECTIONS AND PERMANENT STABILIZATION OF ALL SOIL STOCKPILES ON SITE AS WELL AS SOIL INTENTIONALLY TRANSPORTED FROM THE PROJECT SITE.
- AFTER ANY SIGNIFICANT RAINFALL SEDIMENT CONTROL STRUCTURES WILL BE INSPECTED FOR INTEGRITY. ANY DAMAGED DEVICES SHALL BE REPAIRED IMMEDIATELY.
- CONCENTRATED RUNOFF SHALL NOT FLOW DOWN CUT OR FILL SLOPES UNLESS CONTAINED WITHIN AN ADEQUATE TEMPORARY OR PERMANENT

CHANNEL, FLUME OR SLOPE DRAIN STRUCTURE.

- WHENEVER WATER SEEPS FROM A SLOPE FACE ADEQUATE DRAINAGE OR OTHER PROTECTION SHALL BE PROVIDED.
- SEDIMENT WILL BE PREVENTED FROM ENTERING ANY STORM DRAIN SYSTEM, DITCH, OR CHANNEL. ALL STORM SEWER INLETS THAT ARE MADE OPERABLE DURING CONSTRUCTION SHALL BE PROTECTED SO THAT SEDIMENT-LADEN WATER CANNOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO REMOVE SEDIMENT.
- BEFORE TEMPORARY OR NEWLY CONSTRUCTED STORMWATER CONVEYANCE CHANNELS ARE MADE OPERATIONAL, ADEQUATE OUTLET PROTECTION AND ANY REQUIRED TEMPORARY OR PERMANENT CHANNEL LINING SHALL BE INSTALLED IN BOTH THE CONVEYANCE CHANNEL AND RECEIVING CHANNEL.
- WHEN WORK IN A LIVE WATERCOURSE IS PERFORMED, PRECAUTIONS SHALL BE TAKEN TO MINIMIZE ENRICHMENT. CONTROL SEDIMENT TRANSPORT AND STABILIZE THE WORK AREA TO THE GREATEST EXTENT POSSIBLE DURING CONSTRUCTION. NONERODIBLE MATERIAL SHALL BE USED FOR THE CONSTRUCTION OF CAUSEWAYS AND COFFERDAMS. EARTHEN FILL MAY BE USED FOR THESE STRUCTURES IF ARMORED BY NONERODIBLE COVER MATERIALS.
- STOCKPILING MATERIAL: NO EXCAVATED MATERIAL SHALL BE STOCKPILED IN SUCH A MANNER AS TO DIRECT RUNOFF DIRECTLY OFF THE PROJECT SITE INTO ANY ADJACENT WATER BODY OR STORM WATER COLLECTION FACILITY.
- EXPOSED AREA LIMITATION: THE SURFACE AREA OF OPEN, RAW ERODIBLE SOIL EXPOSED BY CLEARING AND GRUBBING OPERATIONS OR EXCAVATION AND FILLING OPERATIONS SHALL NOT EXCEED 1 ACRE. IF THE TOTAL AREA TO BE CLEARED IS EQUAL TO, OR EXCEEDS ONE (1) ACRE, THEN THE CONTRACTOR WILL BE RESPONSIBLE FOR PREPARING A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) IN ACCORDANCE WITH EPA'S NPDES REGULATIONS. THE CONTRACTOR WILL BE RESPONSIBLE FOR SUBMITTING A NOTICE ON INTENT (NOI) TO EPA FORTY-EIGHT (48) HOURS PRIOR TO COMMENCING CONSTRUCTION.

- 12. TEMPORARY SEEDING: AREAS OPENED BY CONSTRUCTION OPERATIONS AND THAT ARE NOT ANTICIPATED TO BE RE-EXCAVATED OR DRESSED AND RECEIVE FINAL GRASSING TREATMENT WITHIN 30 DAYS SHALL BE SEEDED WITH A QUICK GROWING GRASS SPECIES WHICH WILL PROVIDE AN EARLY COVER DURING THE SEASON IN WHICH IT IS PLANTED AND WILL NOT LATER COMPETE WITH THE PERMANENT GRASSING.
- 13. TEMPORARY SEEDING AND MULCHING: SLOPES STEEPER THAN 6:1 THAT FALL WITHIN THE CATEGORY ESTABLISHED IN PARAGRAPH 12 ABOVE LOOSE MEASURE OF MULCH MATERIAL CUT INTO THE SOIL OF THE SEEDED AREA ADEQUATE TO PREVENT MOVEMENT OF SEED AND MULCH.
- TEMPORARY GRASSING: THE SEEDED OR SEEDED AND MULCHED AREA(S) SHALL BE ROLLED AND WATERED OR HYDROMULCHED OR OTHER SUITABLE METHODS IF REQUIRED TO ASSURE OPTIMUM GROWING CONDITIONS FOR THE ESTABLISHMENT OF A GOOD GRASS COVER. TEMPORARY GRASSING SHALL BE THE SAME MIX & AMOUNT REQUIRED FOR PERMANENT GRASSING IN THE CONTRACT SPECIFICATIONS.
- 15. TEMPORARY REGRASSING: IF, AFTER 14 DAYS FROM SEEDING, THE TEMPORARY GRASSED AREAS HAVE NOT ATTAINED A MINIMUM OF 75 PERCENT GOOD GRASS COVER, THE AREA WILL BE REWORKED AND ADDITIONAL SEED APPLIED SUFFICIENT TO ESTABLISH THE DESIRED VEGETATIVE COVER.
- 16. MAINTENANCE: ALL FEATURES OF THE PROJECT DESIGNED AND CONSTRUCTED TO PREVENT EROSION AND SEDIMENT SHALL BE MAINTAINED DURING THE LIFE OF THE CONSTRUCTION SO AS TO FUNCTION AS THEY WERE ORIGINALLY DESIGNED AND CONSTRUCTED.
- 17. PERMANENT EROSION CONTROL: THE EROSION CONTROL FACILITIES OF THE PROJECT SHOULD BE DESIGNED TO MINIMIZE THE IMPACT ON THE OFFSITE FACILITIES.
- 18. PERMANENT SEEDING: ALL AREAS WHICH HAVE BEEN DISTURBED BY CONSTRUCTION WILL, AS A MINIMUM, BE SEEDED. THE SEEDING MIX MUST PROVIDE BOTH LONG-TERM VEGETATION AND RAPID GROWTH SEASONAL VEGETATION. SLOPES STEEPER THAN 4:1 SHALL BE SEEDED AND MULCHED
- 19. ALL SLOPES STEEPER THAN 3:1 SHALL BE SODDED.

# TEMPORARY STRAW BALE SEDIMENT BARRIER

2" X 2" WOOD STAKES OR

1.25 #/FT STEEL POST-

2.0' SPACING (TYPICAL)

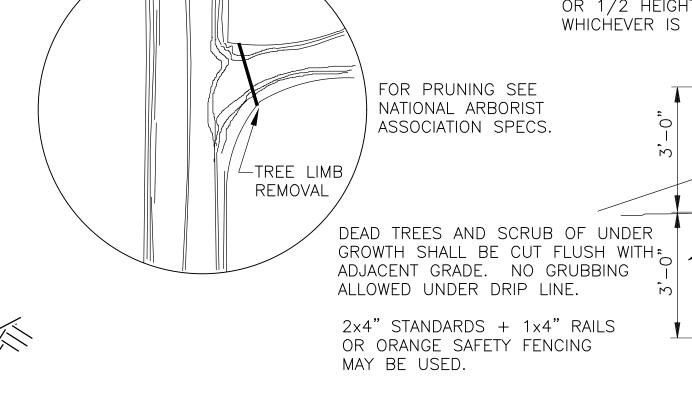
CONTINUOUS ALONG TUBE

SINGLE ROW OF BALES OF STRAW TO BE PLACED PRIOR TO THE START OF ROUGH GRADING

<u>PLAN</u>

THE GROUND

-DEPTH OF BACKFILL



PLAN VIEW OF ROOT ZONE

RADIUS OF TREE BARRIER

PER SECTION VIEW-

INCH OF TRUNK DIAMETER OR 1/2 HEIGHT OF TREE WHICHEVER IS GREATER 6' MINIMUM WIDTH FOR 2" CALIPER TREES OR SMALLER 6" BARK MULCH, PLACE BARK MULCH AT AREAS NOT PROTECTED BY BARRIER.

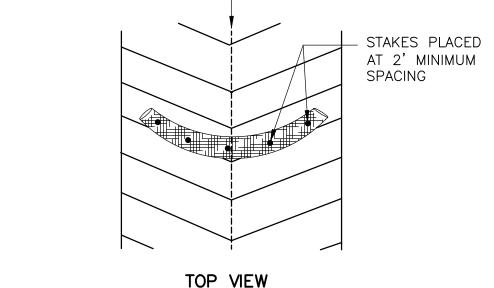
# TREE PROTECTION BARRICADE SPECIFICATIONS:

ONE FOOT FOR EACH

- 1. CONTRACTOR TO COMPLY WITH ALL LOCAL TREE ORDINANCES IN ADDITION TO THE SPECIFICATIONS NOTED BELOW.
- 2. FOUR CORNER UPRIGHT STAKES OF NO LESS THAN 2" X 2" LUMBER CONNECTED BY HORIZONTAL MEMBERS OF NO LESS THAN 1" X 4" LUMBER; OR UPRIGHT STAKES SPACED AT 4-5' INTERVALS OF NO LESS 2" X 2" LUMBER CONNECTED BY TWINE FLAGGED WITH PLASTIC SURVEYING TAPE AT REGULAR INTERVALS.
- 3. REQUIRED BARRICADES AND FLAGGING SHALL BE ERECTED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER PRIOR TO COMMENCEMENT OF LAND ALTERATION ACTIVITIES. BARRICADES SHALL REMAIN IN PLACE UNTIL ALTERATION AND CONSTRUCTION ACTIVITIES ARE COMPLETED.
- 4. DURING LAND ALTERATION AND CONSTRUCTION ACTIVITIES, IT SHALL BE UNLAWFUL TO REMOVE VEGETATION BY GRUBBING OR TO PLACE SOIL DEPOSITS, DEBRIS, SOLVENTS, CONSTRUCTION MATERIAL, MACHINERY OR OTHER EQUIPMENT OF ANY KIND WITHIN THE DRIPLINE OF A TREE TO REMAIN ON THE SITE UNLESS OTHERWISE APPROVED BY THE ENGINEER.
- 5. LAND ALTERATION ACTIVITIES SHALL NOT UNNECESSARILY REMOVE EXISTING VEGETATION AND ALTER EXISTING TOPOGRAPHY.

# TREE PROTECTION BARRICADE

**DETAIL** NTS



END VIEW OF DITCH

FLOW

1. REMOVE SEDIMENT WHEN IT REACHES 1/3 THE HEIGHT OF THE EXPOSED SEDIMENT TUBE.

NOTES:

# SEDIMENT TUBES

**DETAIL** NOT TO SCALE

OF DITCH

D. AUST G. CASHON C. TAPPAN DATE DRWN CHKD REMARKS JUNE 2022

4651 Salisbury Road, Suite 420 Jacksonville, FL 32256 Tel: (904) 731-7109

FL COA No. EB-0000020

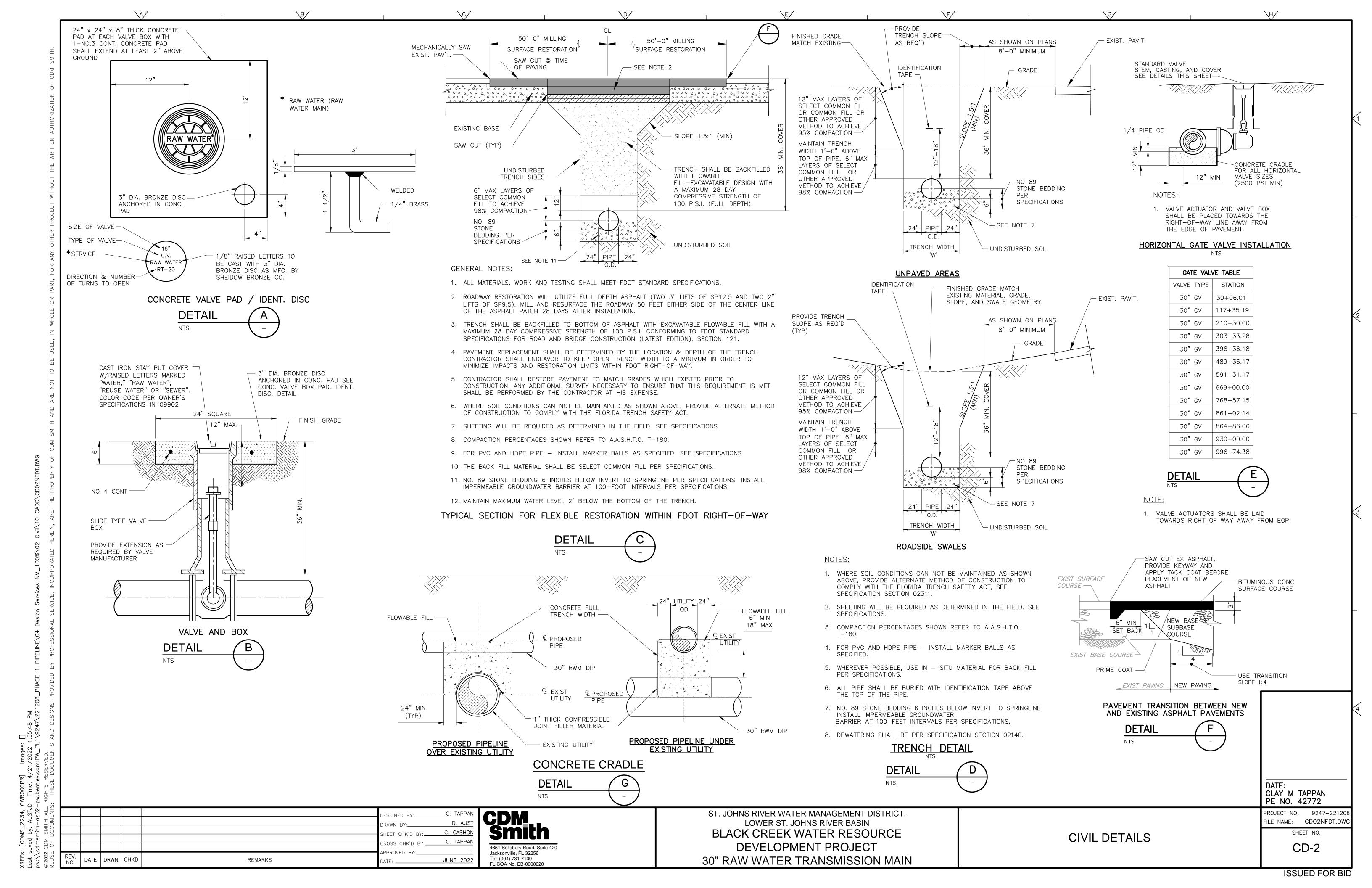
ST. JOHNS RIVER WATER MANAGEMENT DISTRICT. LOWER ST. JOHNS RIVER BASIN **BLACK CREEK WATER RESOURCE DEVELOPMENT PROJECT** 30" RAW WATER TRANSMISSION MAIN

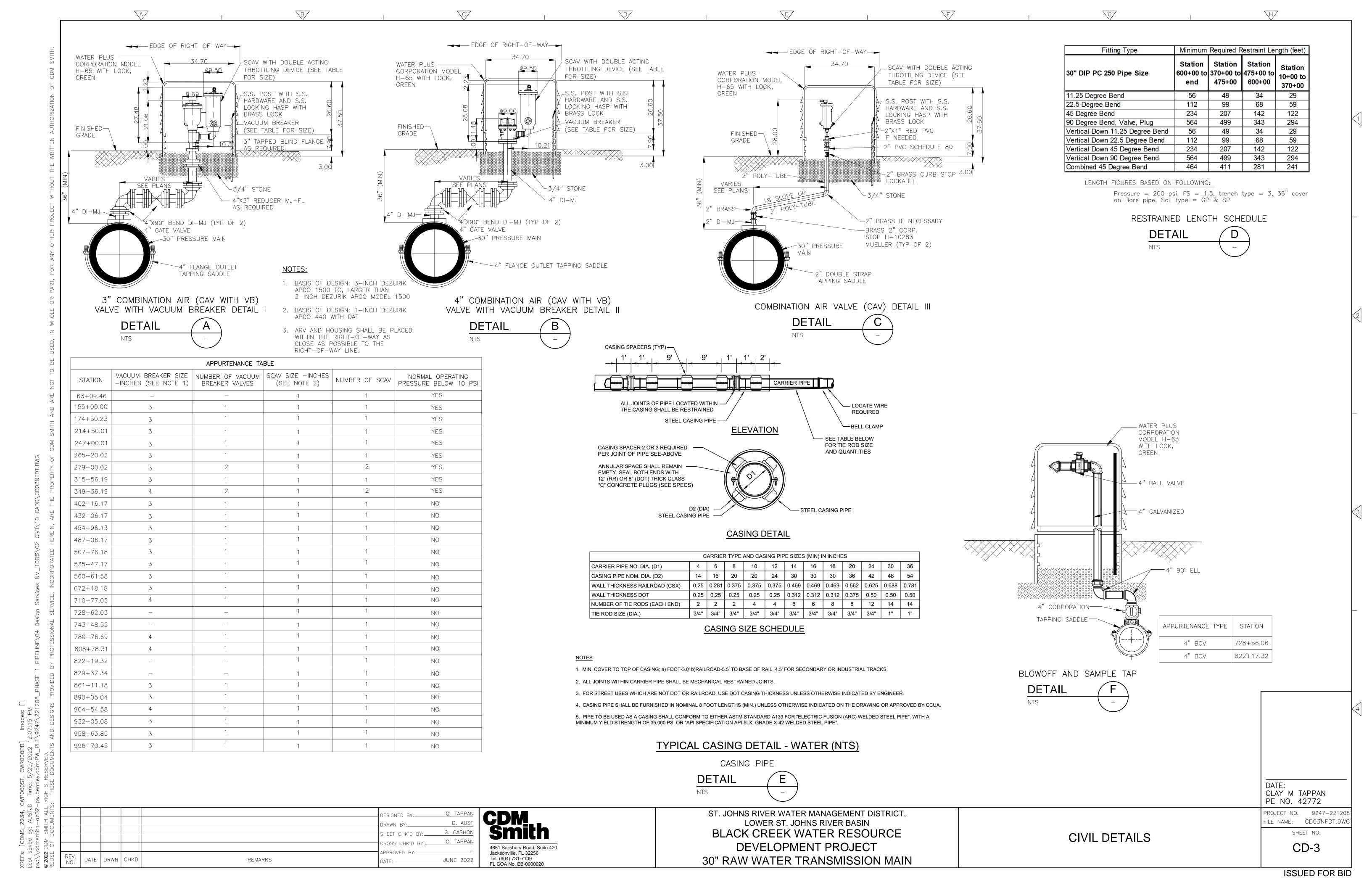
SEDIMENTATION AND EROSION CONTROL DETAILS

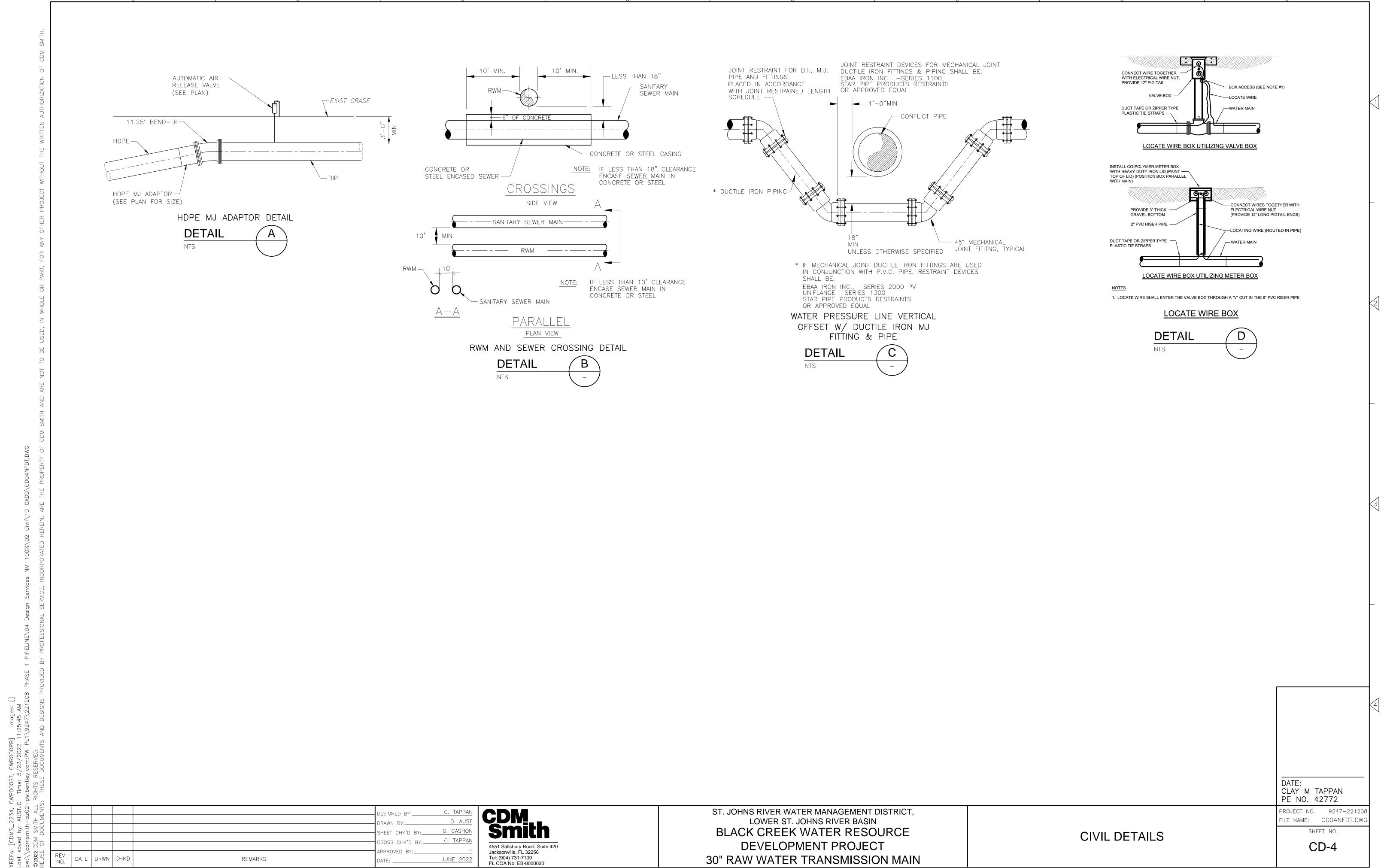
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CLAY M TAPPAN

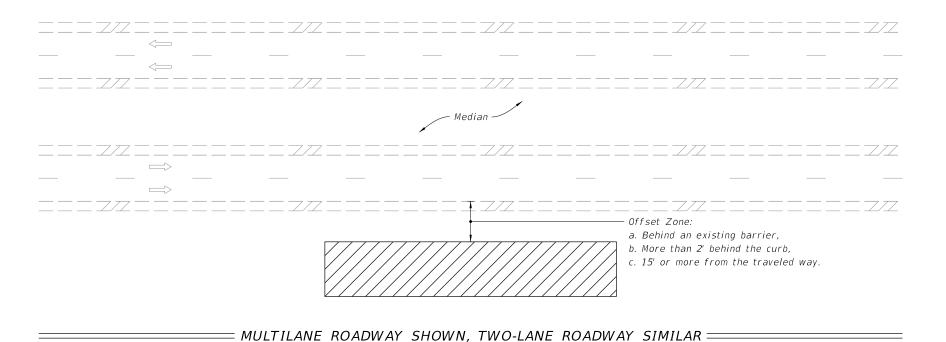
SHEET NO. CD-1







ISSUED FOR BID



# NOTES:

- 1. This Index applies to Two-Lane, Two-Way and Multilane Roadways, including Medians of divided roadways, with work beyond the shoulder.
- 2. Use Index 102-602 when the work operation (excluding establishing and terminating the work area) requires that two or more work vehicles cross the Offset Zone in any one hour period.
- 3. Use Index 102-660 when Work Area encroaches a Sidewalk.

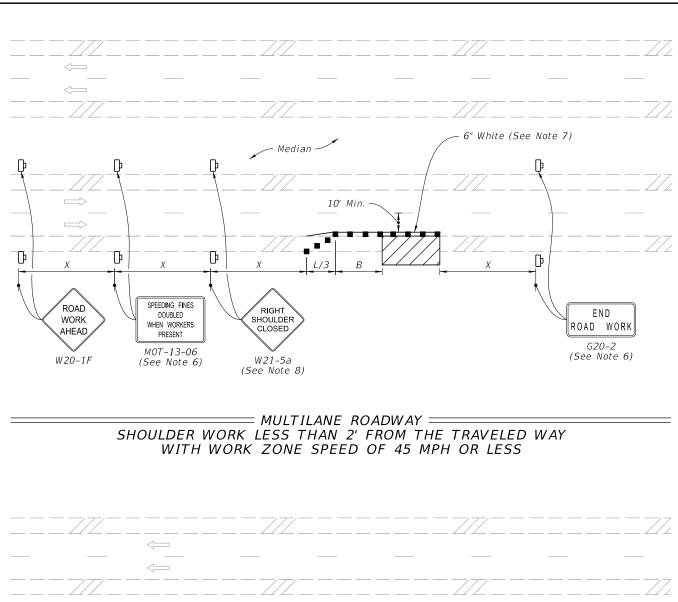
# SYMBOLS:





Lane Identification and Direction of Traffic

≥ DESCRIPTION: LAST REVISION 11/01/20



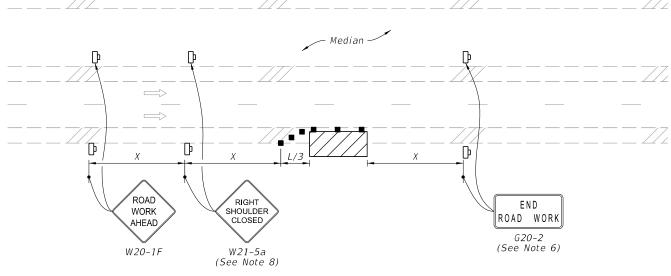
# SYMBOLS:

Work Area

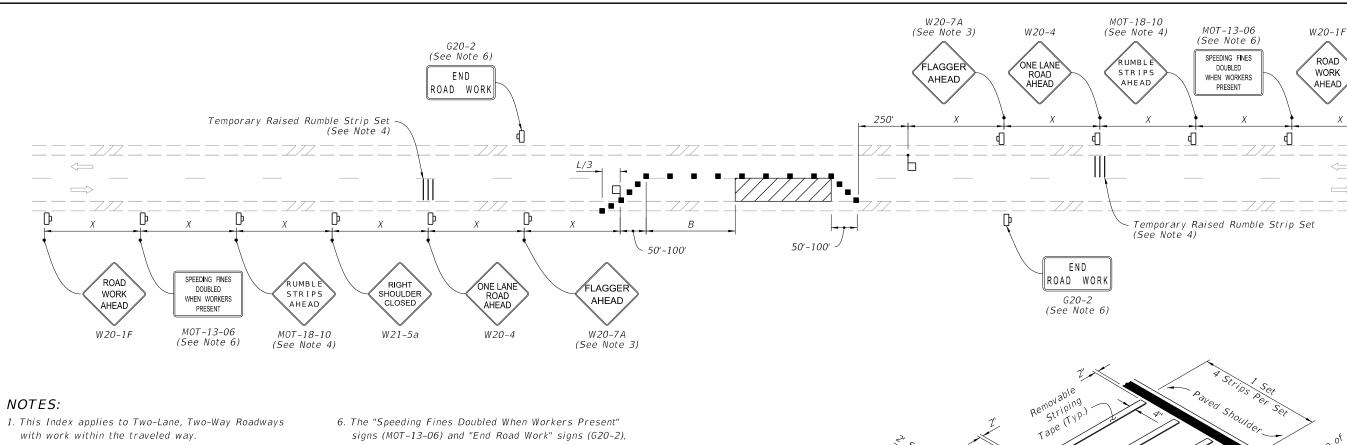
■ Channelizing Device (See Index 102-600)

Work Zone Sign

Lane Identification and Direction of Traffic



=  $extit{MULTILANE}$   $extit{ROADWAY}$  =SHOULDER WORK BETWEEN 2' AND 15' FROM THE TRAVELED WAY



- 2. L = Taper Length
- B = Buffer Length
- X = Work Zone Sign Spacing

See Index 102-600 for "L", "B", "X" and channelizing device spacing values.

- 3. Optionally, use "Flagger Ahead" sign with symbol (W20-7) instead of "Flagger Ahead" sign with text (W20-7A).
- 4. Use temporary raised rumble strips when the existing posted speed is 55 mph or greater and the work duration is greater than 60 minutes. If temporary raised rumble strips are not used, omit "Rumble Strips Ahead" signs (MOT-18-10) and associated work zone sign spacing.
- 5. Additional one-way control may be provided by the following means:
- a. Flag-carrying vehicle
- b. Official vehicle
- c. Pilot vehicles
- d. Traffic signals

When flaggers are the sole means of one-way control, the flaggers must be in sight of each other or in direct communication at all times.

## SYMBOLS:

Work Area

■ Channelizing Device (See Index 102-600)

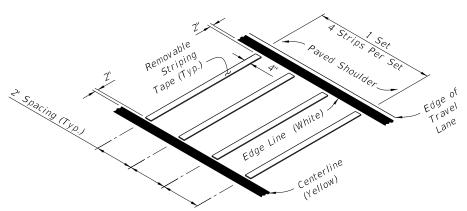
₩ork Zone Sign

DESCRIPTION:

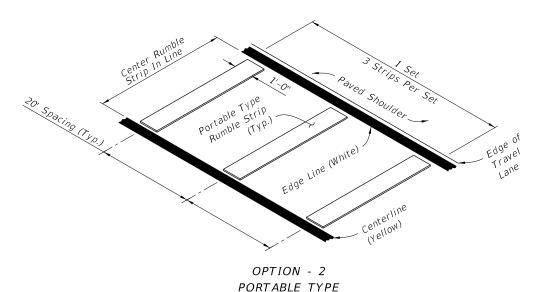
☐ Flagger

Lane Identification and Direction of Traffic

- along with associated work zone sign spacing, may be omitted when the work operation will be in place for 24 hours or less.
- 7. Automated Flagger Assistance Devices (AFADs) may be used in accordance with Specification Sections 102, 990 and the APL vendor drawings.
- 8. Railroad Crossings:
  - a. If an active railroad crossing is located closer to the Work Area than the queue length plus 300 feet, extend the Buffer Space as shown on Sheet 2.
  - b. If the queuing of vehicles across an active railroad crossing cannot be avoided, provide a uniformed traffic control officer or flagger at the highway-rail grade crossing to prevent vehicles from stopping within the highway-rail grade crossing, even if automatic train warning devices are in place.



OPTION - 1 REMOVABLE STRIPING TYPE



RUMBLE STRIP SETS ==

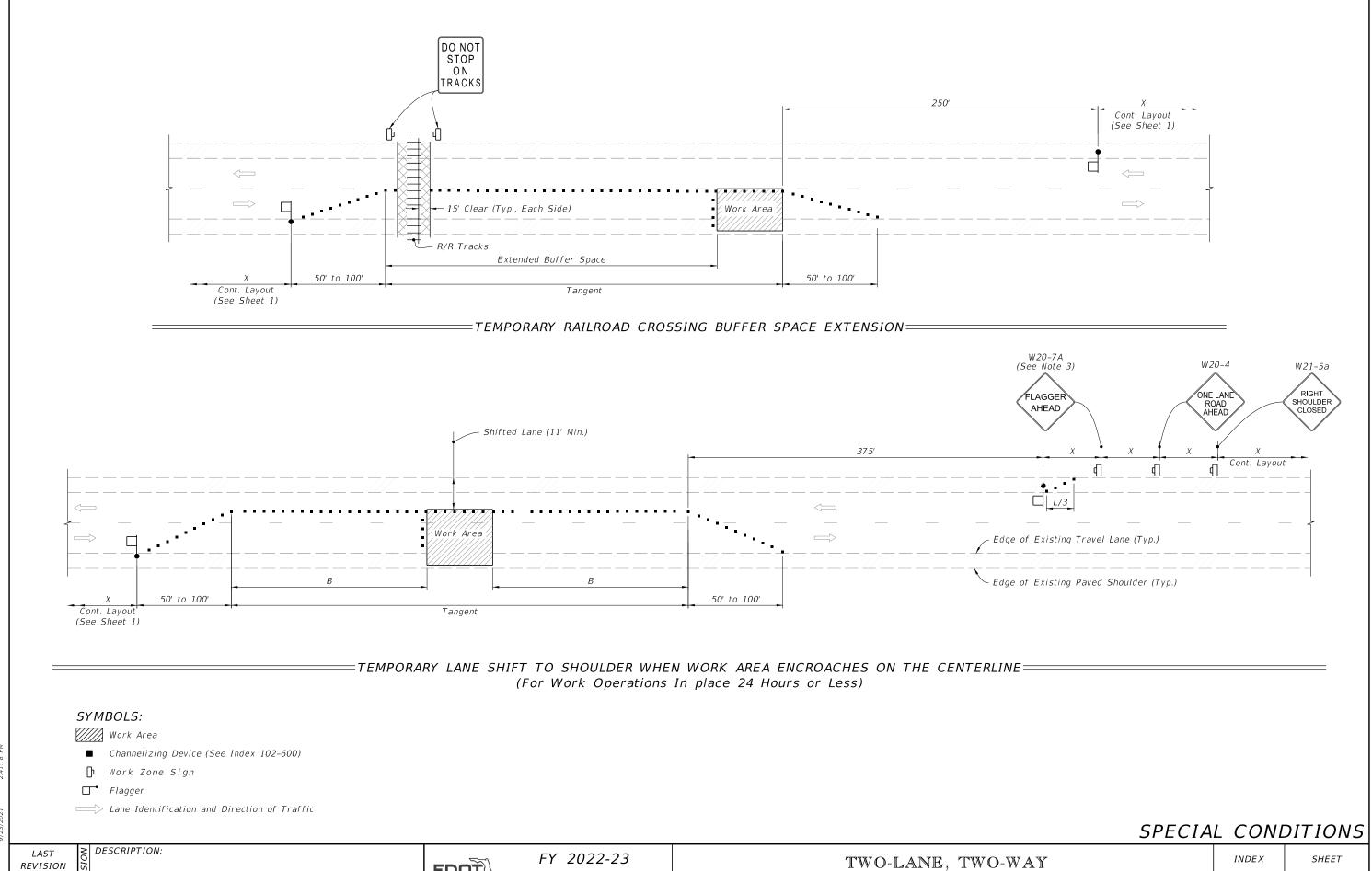
FDOT

FY 2022-23 STANDARD PLANS

TWO-LANE, TWO-WAY WORK WITHIN THE TRAVEL WAY

INDEX 102-603

SHEET 1 of 2



11/01/21

FDOT

FY 2022-23 STANDARD PLANS

TWO-LANE, TWO-WAY WORK WITHIN THE TRAVEL WAY

INDEX 102-603

2 of 2