WILLIAMSON COUNTY, TEXAS

CHANGE ORDER NUMBER: 5

Contract Award Date:	1/13/2023
Project Number:	23IFB8
Funding Source:	P462
Roadway:	Sam Bass Road
CSJ Number:	N/A

Contractor: **Cash Construction**

NTP Required: ☑ Yes ☐ No

Project Name: **Corridor H - Sam Bass Road**

Change Order Work Limits: Sta. **Varies** to Sta. **Varies**

Type of Change(on federal-aid non-exempt projects): **Minor** (Major/Minor)

Reasons: **1A & 2G** (3 Max. - In order of importance - Primary first)

Describe the work being revised:

1A. Design Error or Omission. Incorrect PS&E. & 2G. Differing Site Conditions. Unadjusted utility (unforseeable): This Change Order adds items to compensate the contractor for field adjustments on the BCMUD water line alignment to solve conflicts with existing utilities within the BCMUD water plant and the realignment of the proposed water line at the SW corner of Sam Bass Rd and Tonkawa Trail to remain inside the Right-Of-Way limits. This Change Order also compensates the Contractor for installing additional water services requested by BCMUD and for repairing several leaks on the existing water line to maintain service to BCMUD customers.

Work to be performed in accordance with Items: **See attached**

New or revised plan sheet(s) are attached and numbered: **C-205, C-208, C-209, C-309, C-310, C-403**

New Special Provisions/Specifications to the contract are attached: ☐ Yes ☑ No

New Special Provisions to Item N/A No. N/A. Special Specification Item N/A are attached.

Each signatory hereby warrants that each has the authority to execute this Change Order (CO).

The contractor must sign the Change Order and, by doing so, agrees to waive any and all claims for additional compensation due to any and all other expenses; additional changes for time, overhead and profit; or loss of compensation as a result of this change.

THE CONTRACTOR Date 8-2-2024

By

Typed/Printed Name Hunter Drishell

Typed/Printed Title Project Manager

The following information must be provided

Time Ext. #: **N/A** Days added on this CO: **0**

Amount added by this change order: **$68,580.18**

Original Contract Amount:	**36,145,959.00**
Total Change Orders To-Date:	**-2,212,340.46**
Percent Change in Original Contract:	**-6.12%**

RECOMMENDED FOR EXECUTION:

8/6/2024
Senior Construction Engineer — Date

8/29/2024
Program Manager — Date

N/A
3rd Party Signature — Date

RECOMMENDED FOR EXECUTION:

8/29/2024
Department of Infrastructure
Williamson County — Date

APPROVED:

Presiding Officer of the
Williamson County Commissioners Court — Date

WILLIAMSON COUNTY, TEXAS

CHANGE ORDER NUMBER: ***5*** ***Project #*** ***23IFB8***

TABLE A: Force Account Work and Materials Placed into Stock

	LABOR	HOURLY RATE			HOURLY RATE

TABLE B: Contract Items:

				ORIGINAL + PREVIOUSLY REVISED		ADD or (DEDUCT)	NEW		
ITEM	DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	ITEM COST	QUANTITY	QUANTITY	ITEM COST	OVERRUN/ UNDERRUN
BC-999-001	BCMUD YARD RETRENCH	LS	$4,675.09	0.00	$0.00	1.00	1.00	$4,675.09	$4,675.09
BC-999-002	BCMUD WATER LINE LEAK WORK	LS	$54,755.79	0.00	$0.00	1.00	1.00	$54,755.79	$54,755.79
BC-999-003	BCMUD (12") REALIGNMENT AT TONKAWA	LS	$4,049.30	0.00	$0.00	1.00	1.00	$4,049.30	$4,049.30
BC-510-001	BCMUD ADDED SERVICES	EA	$2,550.00	0.00	$0.00	2.00	2.00	$5,100.00	$5,100.00
	TOTALS				$0.00			$68,580.18	$68,580.18

CHANGE ORDER REASON(S) CODE CHART

1. Design Error or Omission	1A. Incorrect PS&E 1B. Other
2. Differing Site Conditions (unforeseeable)	2A. Dispute resolution (expense caused by conditions and/or resulting delay) 2B. Unavailable material 2C. New development (conditions changing after PS&E completed) 2D. Environmental remediation 2E. Miscellaneous difference in site conditions (unforeseeable)(Item 9) 2F. Site conditions altered by an act of nature 2G. Unadjusted utility (unforeseeable) 2H. Unacquired Right-of-Way (unforeseeable) 2I. Additional safety needs (unforeseeable) 2J. Other
3. County Convenience	3A. Dispute resolution (not resulting from error in plans or differing site conditions) 3B. Public relations improvement 3C. Implementation of a Value Engineering finding 3D. Achievement of an early project completion 3E. Reduction of future maintenance 3F. Additional work desired by the County 3G. Compliance requirements of new laws and/or policies 3H. Cost savings opportunity discovered during construction 3I. Implementation of improved technology or better process 3J. Price adjustment on finished work (price reduced in exchange for acceptance) 3K. Addition of stock account or material supplied by state provision 3L. Revising safety work/measures desired by the County 3M. Other
4. Third Party Accommodation	4A. Failure of a third party to meet commitment 4B. Third party requested work 4C. Compliance requirements of new laws and/or policies (impacting third party) 4D. Other
5. Contractor Convenience	5A. Contractor exercises option to change the traffic control plan 5B. Contractor requested change in the sequence and/or method of work 5C. Payment for Partnering workshop 5D. Additional safety work/measures desired by the contractor 5E. Other
6. Untimely ROW/Utilities	6A. Right-of-Way not clear (third party responsibility for ROW) 6B. Right-of-Way not clear (County responsibility for ROW) 6C. Utilities not clear 6D. Other

Williamson County Road Bond Program

Corridor H – Sam Bass Road
Williamson County Project No. 23IFB8

Change Order No. 5

Reason for Change

This Change Order compensates the contactor for work related to the field adjustments on the BCMUD water line alignment to solve conflicts with existing utilities within the BCMUD water plant and the realignment of the proposed water line at the SW corner of Sam Bass Rd and Tonkawa Trail to remain inside the Right-Of-Way limits. This Change Order also compensates the Contractor for installing additional water services requested by BCMUD and for repairing several leaks on the existing water line to maintain service to BCMUD customers.

The following new items will be added by this Change Order.

ITEM	DESCRIPTION	QUANTITY	UNIT
BC-999-001	BCMUD YARD RETRENCH	1	LS
BC-999-002	BCMUD WATER LINE LEAK WORK	1	LS
BC-999-003	BCMUD (12”) REALIGNMENT AT TONKAWA	2	EA
BC-510-001	BCMUD ADDED SERVICES	1	LS

This Change Order results in a net increase of $68,580.18 to the Contract amount, for an adjusted Contract total of $33,952,973.34. The original Contract amount was $36,145,959.00. As a result of this and all Change Orders to-date, $2,192,985.66 has been deducted from the Contract, resulting in a 6.07% net decrease in the overall Contract cost. No time will be added to the Contract for this Change Order.

HNTB Corporation

Oscar Salazar-Bueno, P.E.

Change Order Worksheet

Contract Name	Corridor H - Sam Bass Rd		Solicitation #:	23IFB8
Date awarded	1/13/2023			
Awarded Contract Amount		$36,145,959.00		
			Percentage Change	
	Change order #1	-$2,394,078.12	-6.62%	
	Change order #2	$5,250.00	0.01%	
	Change order #3	$56,523.26	0.16%	
	Change order #4	$70,739.02	0.20%	
	Change order #5	$68,580.18	0.19%	
	Total changes to date	($2,192,985.66)	-6.07%	(Running totals here)
	Adjusted contract amount	$33,952,973.34		

BC-999-001

CONTRACTOR:	CASH CONSTRUCTION COMPANY, LTD.						
PROJECT:	1009 - Sam Bass Road						
ITEM:	CPR #10 - Trim and Remove Trees						
DATE:	12/12/2023						
Item #	Description	Qty.	Unit	Prod. / Day	Additional Days	Unit Bid	Bid Amount
1	Realignment of BCMUD 12" Line	1.00	LS		2.00	$4,675.09	$4,675.09
	GRAND TOTAL						**$4,675.09**
Notes:							

PRICES EXCLUDE: BONDS, IMPORTING TOPSOIL, STREET LIGHTS, ENGINEERING, REVEG, HAZARDOUS MATERIALS HANDLING, SLOPE RETENTION, ROCK BERMS, SOD, MAKE UP WELL AND ASSEMBLY, FOUNTAINS, AND ALL EROSION CONTROLS NOT LISTED.

BREAKDOWN WORKSHEET
Item: CPR #11
Date: 1/3/2024

DESCRIPTION	QUAN	UNIT	UNIT PRICE	LABOR	MATERIAL	EQUIP	SUB
LABOR							
Superintendent	2	HR	$63.94	$127.88			
Forman (1)	2	HR	$34.51	$69.02			
Laborer (3)	0	HR	$21.00	$0.00			
Operator EX (1)	0	HR	$23.00	$0.00			
Operator LD (1)	2	HR	$22.00	$44.00			
Pipelayer (2)	0	HR	$22.00	$0.00			
Subtotal				$240.90			
MATERIAL							
DI Fittings	0.03	TNS	$28,650.00		$859.50		
DI Pipe	0	LF	$49.31		$0.00		
Bedding	0	TNS	$19.35		$0.00		
Subtotal					$859.50		
EQUIPMENT							
Deere 624K	2	HR	$44.55			$89.10	
CAT 320	0	HR	$75.68			$0.00	
Superintendents Truck	2	HR	$8.00			$16.00	
Subtotal	0					$105.10	
SUB							
Chapman Trenching	87	LF	$11.00				$957.00
Survey - Restake	87	LF	$1.25				$108.75
Chapman Mobilization	1	LS	$2,000.00				$2,000.00
Subtotal							$3,065.75
Subtotals				$240.90	$859.50	$105.10	$3,065.75
Burden on Direct Labor - 55%				$132.50			
Direct Labor - 15%				$56.01			
Material -15%							
Equipment - 15%						$15.77	
Subcontracts -5%							$153.29
Subtotals				$429.40	$859.50	$120.87	$3,219.04

Change Proposal Subtotal	$4,628.81
Bond (1%)	$46.29
Total Change Proposal	$4,675.09

BC-999-002

CONTRACTOR:	CASH CONSTRUCTION COMPANY, LTD.						
PROJECT:	1009 - Sam Bass Road						
ITEM:	CPR #14 - T&M Work for BCMUD Leak						
DATE:	6/12/2024						
				Prod. /	Additional	Unit	Bid
Item #	Description	Qty.	Unit	Day	Days	Bid	Amount
1	CPR #14 - T&M Work for BCMUD Leak	1.00	LS		16.00	$54,755.79	$54,755.79
	GRAND TOTAL						**$54,755.79**
Notes:							

PRICES EXCLUDE: BONDS, IMPORTING TOPSOIL, STREET LIGHTS, ENGINEERING, REVEG, HAZARDOUS MATERIALS HANDLING, SLOPE RETENTION, ROCK BERMS, SOD, MAKE UP WELL AND ASSEMBLY, FOUNTAINS, AND ALL EROSION CONTROLS NOT LISTED.

BREAKDOWN WORKSHEET

Item: CPR#15 - T&M Work for BCMUD Leak

Date: 3/26/2024

DESCRIPTION	QUAN	UNIT	UNIT PRICE	LABOR	MATERIAL	EQUIP	SUB
LABOR							
Superintendent 1	30	HR	$63.94	$1,918.20			
Superintendent 2	30	HR	$28.85	$865.50			
Forman (1)	75	HR	$30.09	$2,256.75			
Laborer (1)	146	HR	$17.50	$2,555.00			
Operator LD (1)	34	HR	$24.48	$832.32			
Operator LD (2)	60	HR	$19.50	$1,170.00			
Operator Blade	10	HR	$34.75	$347.50			
Operator Roller	18	HR	$20.40	$367.20			
Operator Backhoe	75	HR	$20.91	$1,568.25			
Subtotal				$11,880.72			
MATERIAL							
Bedding	120	Tons	$18.35		$2,202.00		
Base	300	Tons	$14.00		$4,200.00		
Geogrid	1	Roll	$1,002.25		$1,002.25		
Subtotal					$7,404.25		
EQUIPMENT							
Deere 624K	34	HR	$103.08			$3,504.72	
Cat 272D	60	HR	$60.60			$3,636.00	
Cat 416F2	75	HR	$68.24			$5,118.00	
Sakai SV540D	18	HR	$117.45			$2,114.10	
Water Truck	8	HR	$24.20			$193.60	
Subtotal						$14,566.42	
SUB							
Alpha Remob	1	LS	$6,500.00				$6,500.00
Onsite Trucking	10	HR	$90.00				$900.00
Subtotal							$7,400.00
Subtotals				$11,880.72	$7,404.25	$14,566.42	$7,400.00
Burden on Direct Labor - 55%				$6,534.40			
Direct Labor - 15%				$2,762.27			
Material -15%					$1,110.64		
Equipment - 15%						$2,184.96	
Subcontracts -5%							$370.00
Subtotals				$21,177.38	$8,514.89	$16,751.38	$7,770.00

Change Proposal Subtotal	$54,213.65
Bond (1%)	$542.14
Total Change Proposal	$54,755.79

BC-999-003

CONTRACTOR:	CASH CONSTRUCTION COMPANY, LTD.						
PROJECT:	1009 - Sam Bass Road						
ITEM:	CPR#22 - Extra Work @ Tonkawa Tree						
DATE:	5/13/2024						
				Prod. /	Additional	Unit	Bid
Item #	Description	Qty.	Unit	Day	Days	Bid	Amount
1	CPR#22 - Extra Work @ Tonkawa Tree	1.00	LS		1.00	$4,049.30	$4,049.30
	GRAND TOTAL						**$4,049.30**
Notes:							

PRICES EXCLUDE: BONDS, IMPORTING TOPSOIL, STREET LIGHTS, ENGINEERING, REVEG, HAZARDOUS MATERIALS HANDLING, SLOPE RETENTION, ROCK BERMS, SOD, MAKE UP WELL AND ASSEMBLY, FOUNTAINS, AND ALL EROSION CONTROLS NOT LISTED.

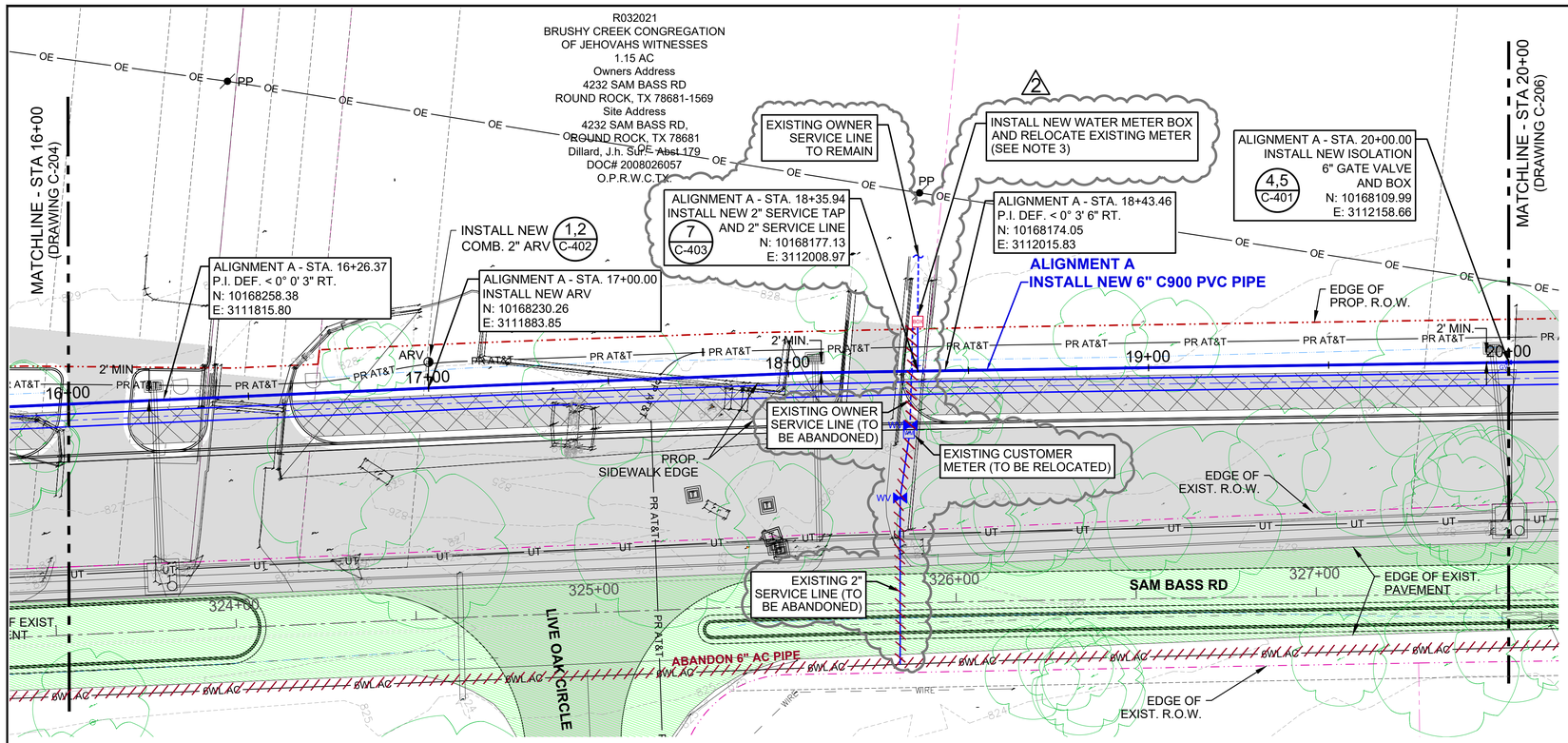
BREAKDOWN WORKSHEET

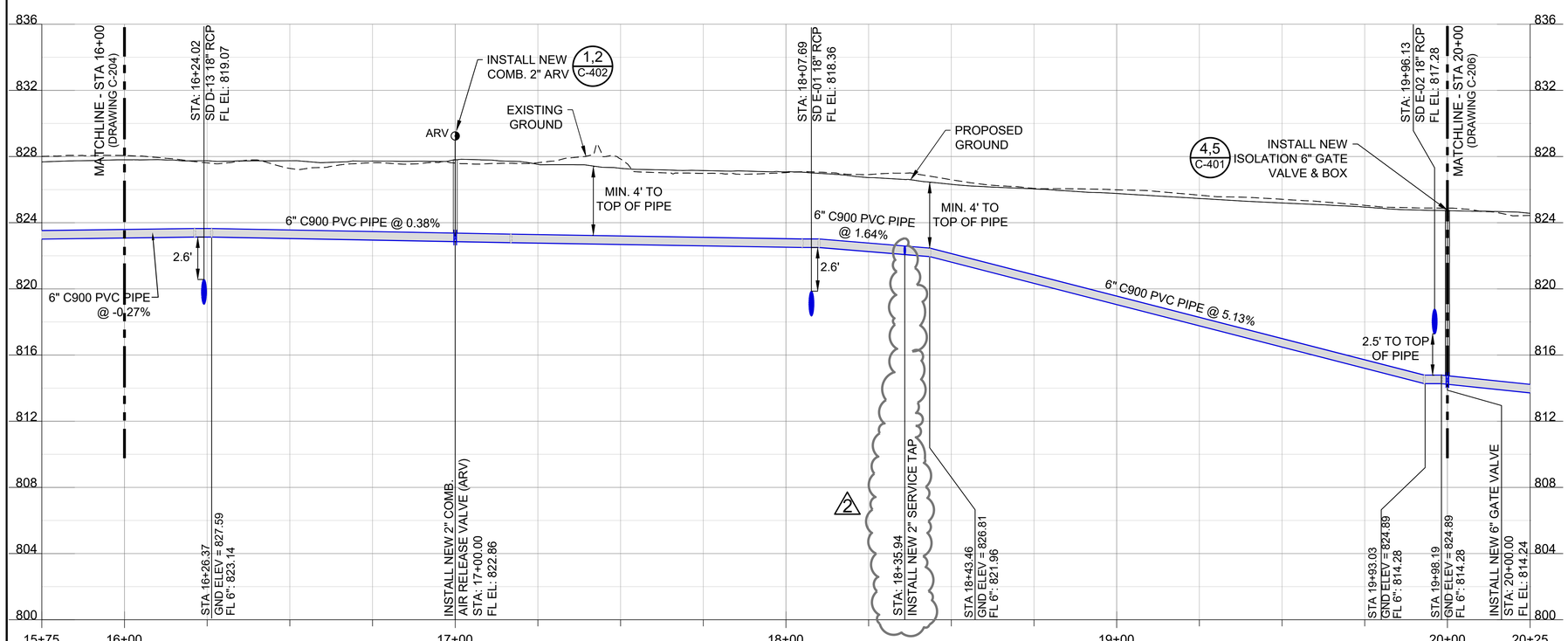
Item: CPR#22 - Extra Work @ Tonkawa Tree

Date: 5/13/2024

DESCRIPTION	QUAN	UNIT	UNIT PRICE	LABOR	MATERIAL	EQUIP	SUB
LABOR							
Superintendent 1	2	HR	$63.94	$127.88			
Foreman (1)	5	HR	$42.42	$212.10			
Laborer (1)	5	HR	$22.00	$110.00			
Laborer (2)	5	HR	$19.00	$95.00			
Pipelayer	5	HR	$23.00	$115.00			
Loader Operator(1)	0	HR	$24.48	$0.00			
Loader Operator (2)	0	HR	$24.00	$0.00			
Exc Operator	18	HR	$27.00	$486.00			
Subtotal				$1,145.98			
MATERIAL							
					$0.00		
					$0.00		
Subtotal					$0.00		
EQUIPMENT							
Deere 624K	0	HR	$103.08			$0.00	
Deere 544P	0	HR	$57.83			$0.00	
Cat 416F2	0	HR	$68.24			$0.00	
Cat 320	18	HR	$95.00			$1,710.00	
Water Truck	0	HR	$24.20			$0.00	
Subtotal						$1,710.00	
SUB							
							$0.00
							$0.00
Subtotal							$0.00
Subtotals				$1,145.98	$0.00	$1,710.00	$0.00
Burden on Direct Labor - 55%				$630.29			
Direct Labor - 15%				$266.44			
Material -15%					$0.00		
Equipment - 15%						$256.50	
Subcontracts -5%							$0.00
Subtotals				$2,042.71	$0.00	$1,966.50	$0.00

Change Proposal Subtotal	$4,009.21
Bond (1%)	$40.09
Total Change Proposal	$4,049.30





GRAPHIC SCALE

0 10 20 40 80

SCALE IN FEET
1" = 20' (22x34)

LEGEND:

- PROPOSED 6" PVC C900 WATER LINE
- 6WL — EXISTING 6" WATER LINE
- 6WL AC — EXISTING 6" WATER LINE (AC PIPE)
- 12WL — EXISTING 12" WATER LINE
- 12WL PVC — EXISTING 12" WATER LINE (PVC PIPE)
- 12WL AC — EXISTING 12" WATER LINE (AC PIPE)
- 24WL DI — EXISTING 24" WATER LINE (DI PIPE)
- 30WL DI — EXISTING 30" WATER LINE (DI PIPE)
- WL — EXISTING WATER LINE (SIZE UNKNOWN)
- WV — EXISTING WATER VALVE
- 2 — WM — EXISTING WATER METER
- BOX — PROPOSED METER BOX
- BWL — EXISTING WATER LINE TO BE ABANDONED IN PLACE OR REMOVED
- UT — EXISTING UNDERGROUND TELEPHONE LINE
- T — EXISTING TELEPHONE BOX
- PR AT&T — PROPOSED AT&T UNDERGROUND LINE
- F — EXISTING UNDERGROUND FIBER OPTIC CABLE
- OE — EXISTING OVERHEAD ELECTRIC LINE
- PP — EXISTING POWER POLE
- FH — EXISTING FIRE HYDRANT
- FH — PROPOSED FIRE HYDRANT
- 831 — EXISTING SURFACE CONTOUR (SURVEYED)
- X — EXISTING BARBED WIRE FENCE LINE
- EXISTING CHAIN-LINK FENCE
- PARCEL BOUNDARY (SOURCE: WILLIAMSON CAD)
- SURVEYED R.O.W.
- PROPOSED R.O.W.
- EXISTING EASEMENT
- EXISTING PAVEMENT
- PROPOSED PAVEMENT

GENERAL NOTES:

1. CONTRACTOR SHALL FIELD VERIFY ALL UTILITIES BEFORE CONSTRUCTION.
2. ALL BENDS SHALL HAVE RESTRAINED JOINTS (DETAIL 2, C-403) AND THRUST BLOCKING (DETAIL 3, C-401).
3. RELOCATE EXISTING METER AND CONNECT TO EXISTING OWNER SERVICE LINE AFTER COMMISSIONING OF NEW 6" WL. 2

8 4 0 20 40

SCALE IN FEET
VERTICAL EXAGGERATION = 5X

No.	Revisions and Descriptions	By	Date
2	INSTALL NEW SERVICE TAP, SERVICE LINE AND METER BOX. RELOCATE EXIST. CUSTOMER METER. NOTE 3	TEC	8/4/2023

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BRUSHY CREEK MUD
SAM BASS RD UTILITY RELOCATIONS
ROUND ROCK, TEXAS

PROPOSED 6 INCH WATER LINE A
STA. 16+00 - STA. 20+00

Drawn By: RPS
Checked By: TEC
Scale: AS SHOWN
Date: JANUARY 2023

STATE OF TEXAS
THOMAS E. CAPONI
54723
LICENSED
PROFESSIONAL ENGINEER

Thomas E. Caponi
Aug 4, 2023
Revision 2

Thomas E. Caponi
Jan. 27, 2023

MRB group
MRB Group, P.C.
8834 N. Capital of Texas Hwy, Suite 220, Austin, TX 78759 Phone: 512-436-8571
303 W. Calhoun Ave, Temple, TX 76501 Phone: 254-771-2054
TBPELS Firm Number F-10615
www.mrbgroup.com

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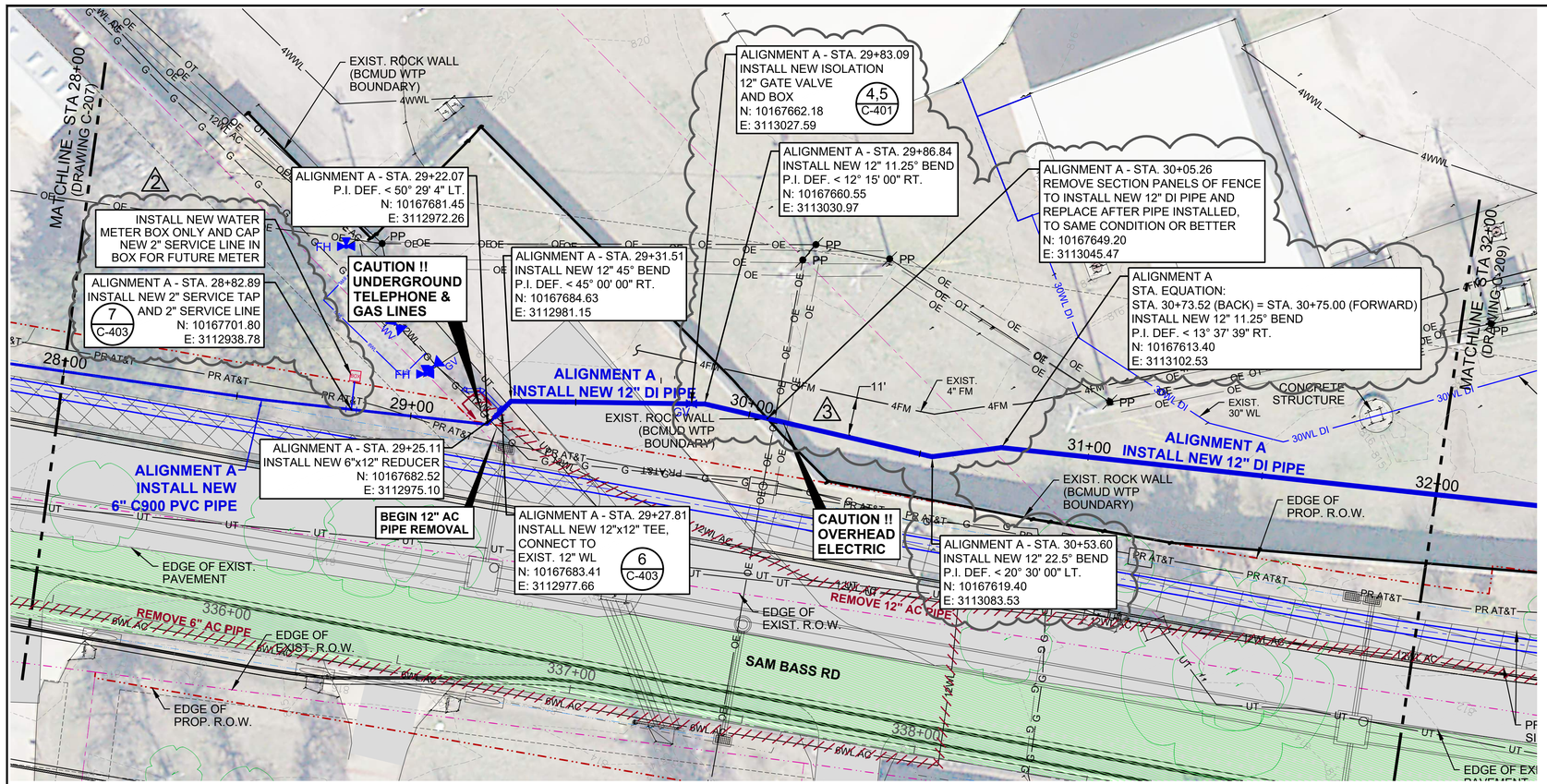
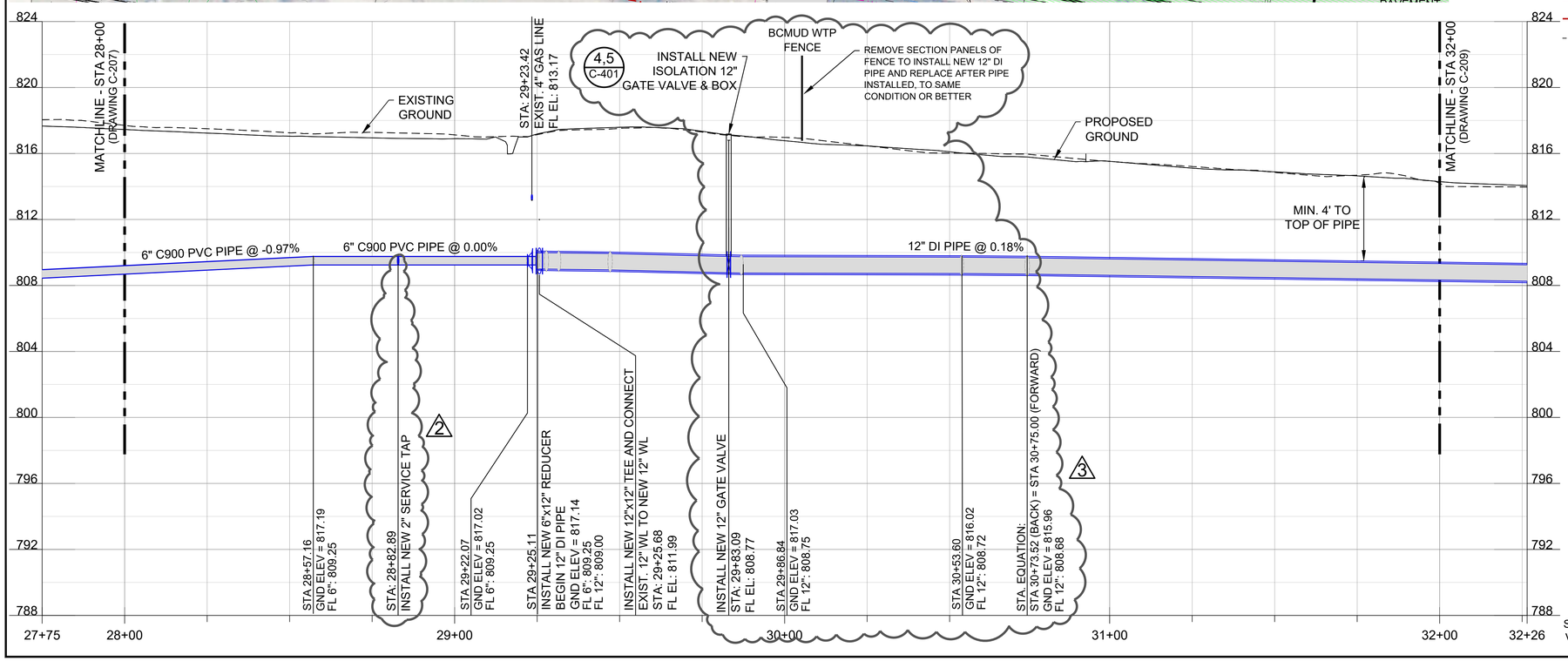
Project No. 0226.21003





GRAPHIC SCALE

0 10 20 40 80

SCALE IN FEET
1" = 20' (22x34)

LEGEND:

- PROPOSED 6" PVC C900 WATER LINE
- PROPOSED 12" DI WATER LINE
- 6WL — EXISTING 6" WATER LINE
- 6WL AC — EXISTING 6" WATER LINE (AC PIPE)
- 12WL — EXISTING 12" WATER LINE
- 12WL PVC — EXISTING 12" WATER LINE (PVC PIPE)
- 12WL AC — EXISTING 12" WATER LINE (AC PIPE)
- 24WL DI — EXISTING 24" WATER LINE (DI PIPE)
- 30WL DI — EXISTING 30" WATER LINE (DI PIPE)
- WL — EXISTING WATER LINE (SIZE UNKNOWN)
- WV — EXISTING WATER VALVE
- 2 BOX — PROPOSED METER BOX
- WL — EXISTING WATER LINE TO BE ABANDONED IN PLACE OR REMOVED
- UT — EXISTING UNDERGROUND TELEPHONE LINE
- T — EXISTING TELEPHONE BOX
- PR AT&T — PROPOSED AT&T UNDERGROUND LINE
- F — EXISTING UNDERGROUND FIBER OPTIC CABLE
- OE — EXISTING OVERHEAD ELECTRIC LINE
- PP — EXISTING POWER POLE
- FH — EXISTING FIRE HYDRANT
- FH — PROPOSED FIRE HYDRANT
- 831 — EXISTING SURFACE CONTOUR (SURVEYED)
- X — EXISTING BARBED WIRE FENCE LINE
- EXISTING CHAIN-LINK FENCE
- PARCEL BOUNDARY (SOURCE: WILLIAMSON CAD)
- SURVEYED R.O.W.
- PROPOSED R.O.W.
- EXISTING EASEMENT
- EXISTING PAVEMENT
- PROPOSED PAVEMENT

GENERAL NOTES:

1. CONTRACTOR SHALL FIELD VERIFY ALL UTILITIES BEFORE CONSTRUCTION.
2. CONTRACTOR SHALL COORDINATE WITH BCMUD FOR ACCESS TO WTP SITE (SEE SHEET G-002).
3. CONTRACTOR SHALL MAINTAIN SECURE FENCING FOR WTP IN ACCORDANCE WITH TCEQ REQUIREMENTS AT ALL TIMES.
4. CONTRACTOR SHALL RESTORE PAVEMENT FOR WTP WEST ENTRANCE IN ACCORDANCE WITH ROUND ROCK DETAIL WT-07 (DETAIL 3, C-403).
5. ALL BENDS SHALL HAVE RESTRAINED JOINTS (DETAIL 2, C-403) AND THRUST BLOCKING (DETAIL 3, C-401).
6. CONTRACTOR SHALL PROVIDE APPROPRIATE EROSION AND SEDIMENTATION CONTROLS CONSISTENT WITH STANDARD DETAILS PROVIDED ELSEWHERE IN THE DRAWINGS, AND SHALL SUBMIT A PLAN FOR SUCH CONTROLS ON THE BCMUD WTP SITE TO THE ENGINEER FOR APPROVAL. 1

8 4 0 20 40

SCALE IN FEET
VERTICAL EXAGGERATION = 5X

No.	Revisions and Descriptions	By	Date
3	MODIFY 12" WL ALIGNMENT	TEC	12/15/2023
2	INSTALL NEW SERVICE TAP, SERVICE LINE AND METER BOX	TEC	8/4/2023
1	ADD NOTE 6, EROSION CONTROL	TEC	2/14/2023

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BRUSHY CREEK MUD
SAM BASS RD UTILITY RELOCATIONS
ROUND ROCK, TEXAS

PROPOSED 6 INCH AND 12 INCH
WATER LINE A STA. 28+00 - STA. 32+00

Drawn By: RPS
Checked By: TEC
Scale: AS SHOWN
Date: JANUARY 2023

Thomas E. Capone Dec. 15, 2023

STATE OF TEXAS
THOMAS E. CAPONE
54723
LICENSED PROFESSIONAL ENGINEER

MRB group
MRB Group, P.C.
8834 N. Capital of Texas Hwy. Suite 220, Austin, TX 78759 Phone: 512-436-8571
303 W. Calhoun Ave. Temple, TX 76501 Phone: 254-771-2054
TBPELS Firm Number F-10615
www.mrbgroup.com

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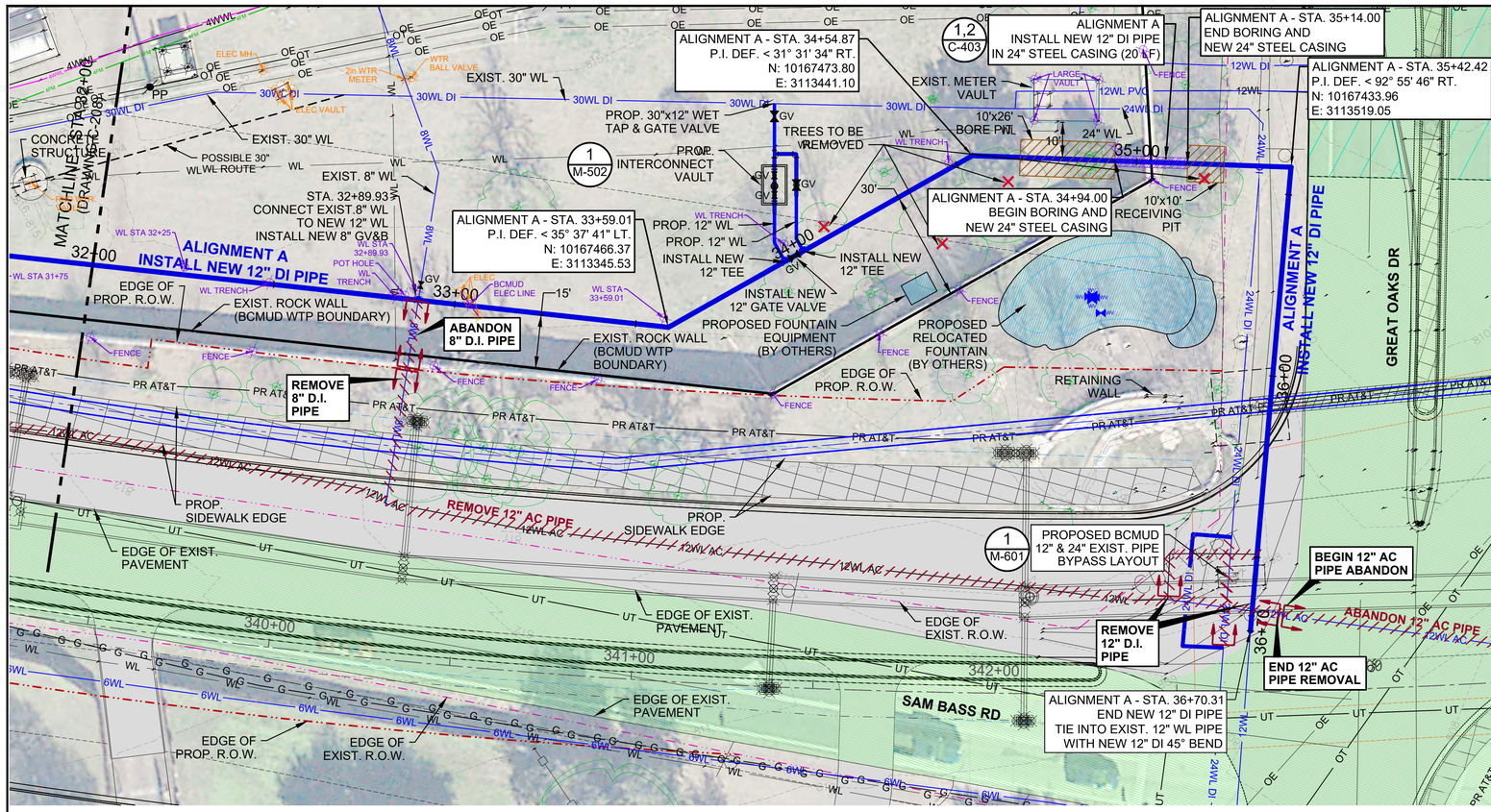
15 of 34

Project No. 0226.21003



GRAPHIC SCALE

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SCALE IN FEET
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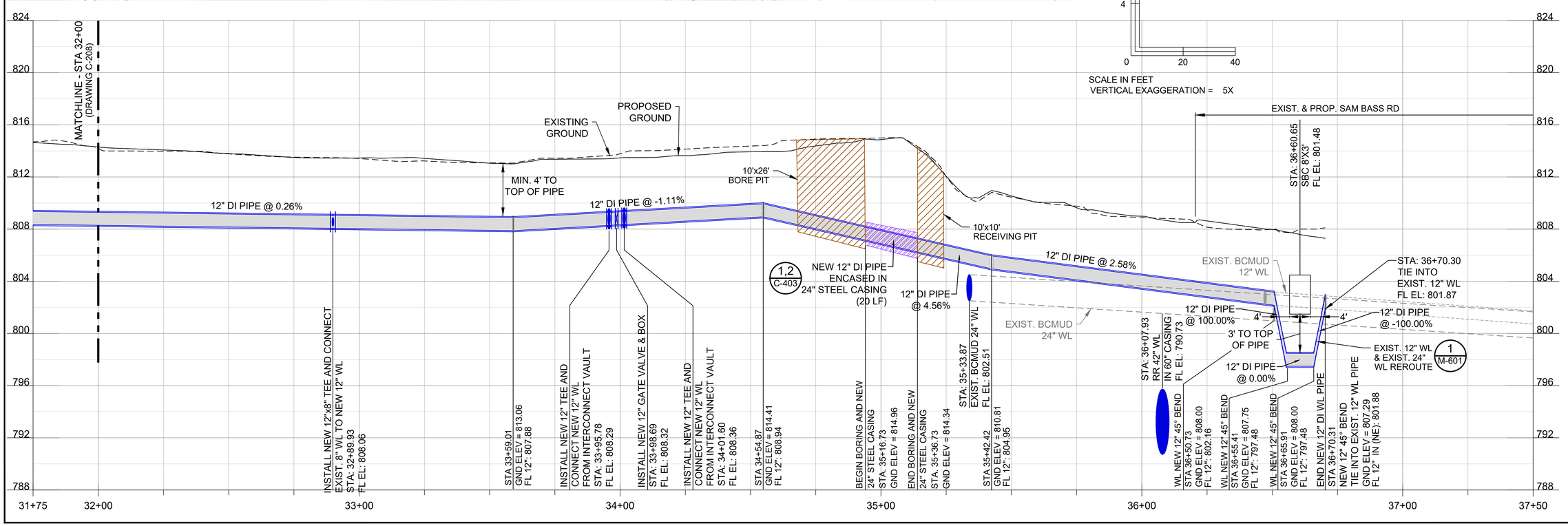
GENERAL NOTES:

1. CONTRACTOR SHALL FIELD VERIFY ALL UTILITIES BEFORE CONSTRUCTION.
2. CONTRACTOR SHALL COORDINATE WITH BCMUD FOR ACCESS TO WTP SITE (SEE SHEET G-002).
3. CONTRACTOR SHALL MAINTAIN SECURE FENCING FOR WTP IN ACCORDANCE WITH TCEQ REQUIREMENTS AT ALL TIMES.
4. ALL BENDS SHALL HAVE RESTRAINED JOINTS (DETAIL 2, C-403) AND THRUST BLOCKING (DETAIL 3, C-401).
5. CARRIER PIPE SHALL HAVE RESTRAINED JOINTS THROUGH THE CASING PIPING AND 50 LF BEYOND END OF CASING.
6. CONTRACTOR SHALL PROVIDE APPROPRIATE EROSION AND SEDIMENTATION CONTROLS CONSISTENT WITH STANDARD DETAILS PROVIDED ELSEWHERE IN THE DRAWINGS, AND SHALL SUBMIT A PLAN FOR SUCH CONTROLS ON THE BCMUD WTP SITE TO THE ENGINEER FOR APPROVAL. 1

LEGEND:

- PROPOSED 12" DI WATER LINE
- 6WL — EXISTING 6" WATER LINE
- 6WL AC — EXISTING 6" WATER LINE (AC PIPE)
- 12WL — EXISTING 12" WATER LINE
- 12WL PVC — EXISTING 12" WATER LINE (PVC PIPE)
- 12WL AC — EXISTING 12" WATER LINE (AC PIPE)
- 24WL DI — EXISTING 24" WATER LINE (DI PIPE)
- 30WL DI — EXISTING 30" WATER LINE (DI PIPE)
- WL — EXISTING WATER LINE (SIZE UNKNOWN)
- WV — EXISTING WATER VALVE
- WL — EXISTING WATER LINE TO BE ABANDONED IN PLACE OR REMOVED
- UT — EXISTING UNDERGROUND TELEPHONE LINE
- T — EXISTING TELEPHONE BOX
- PR AT&T — PROPOSED AT&T UNDERGROUND LINE
- F — EXISTING UNDERGROUND FIBER OPTIC CABLE
- OE — EXISTING OVERHEAD ELECTRIC LINE
- PP — EXISTING POWER POLE
- FH — EXISTING FIRE HYDRANT
- FH — PROPOSED FIRE HYDRANT
- 831 — EXISTING SURFACE CONTOUR (SURVEYED)
- X — EXISTING BARBED WIRE FENCE LINE
- EXISTING CHAIN-LINK FENCE
- PARCEL BOUNDARY (SOURCE: WILLIAMSON CAD)
- SURVEYED R.O.W.
- PROPOSED R.O.W.
- EXISTING EASEMENT
- EXISTING PAVEMENT
- PROPOSED PAVEMENT



No.	Revisions and Descriptions	By	Date
1	ADD NOTE 6, EROSION CONTROL	TEC	2/14/2023

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BRUSHY CREEK MUD
SAM BASS RD UTILITY RELOCATIONS
ROUND ROCK, TEXAS

PROPOSED 12 INCH WATER LINE A
STA. 32+00 - STA. 36+70.31 (END)

Drawn By: RPS
Checked By: TEC
Scale: AS SHOWN
Date: JANUARY 2023

STATE OF TEXAS
THOMAS E. CAPONI
54723
LICENSED
PROFESSIONAL ENGINEER
Thomas E Caponi
Feb 14, 2023

MRB group
MRB Group, P.C.
8834 N. Capital of Texas Hwy, Suite 220, Austin, TX 78759 Phone: 512-436-8571
303 W. Calhoun Ave, Temple, TX 76501 Phone: 254-771-2054
TBPELS Firm Number F-10615
www.mrbgroup.com

Sheet No. C-209
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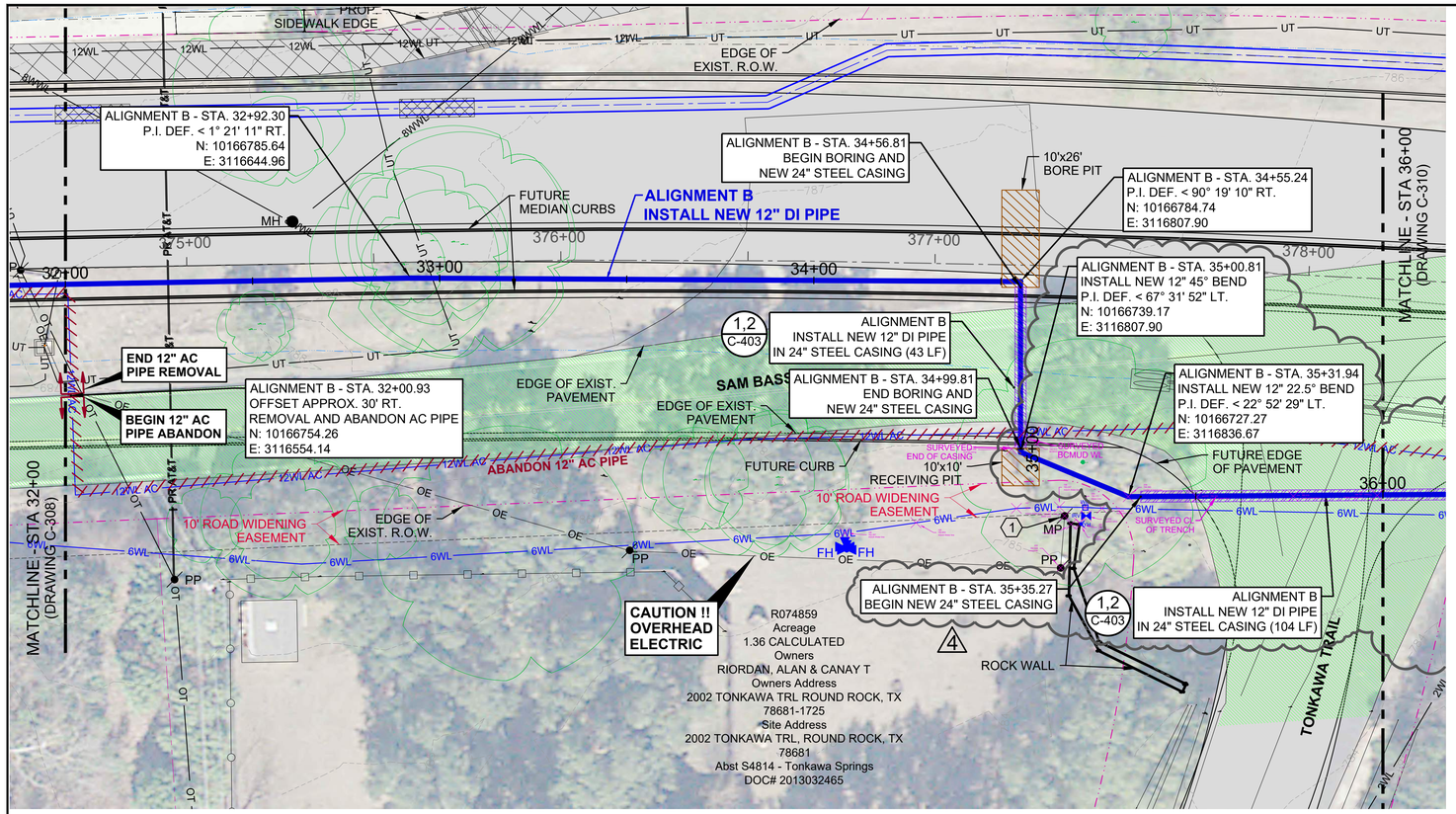
Project No. 0226.21003



GRAPHIC SCALE

0 10 20 40 80

SCALE IN FEET
1" = 20' (22x34)

NORTH

LEGEND:

- PROPOSED 12" DI WATER LINE
- 6WL — EXISTING 6" WATER LINE
- 6WL AC — EXISTING 6" WATER LINE (AC PIPE)
- 12WL — EXISTING 12" WATER LINE
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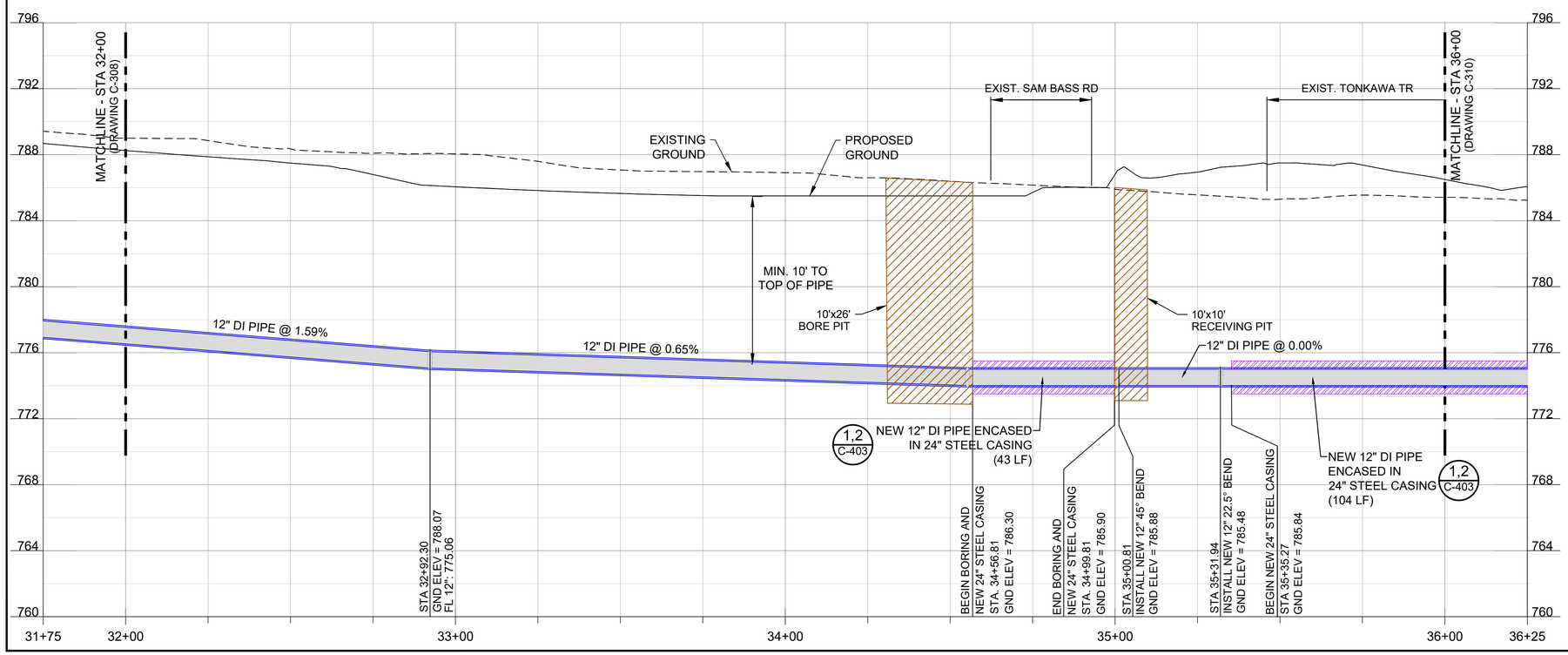
- PROPOSED R.O.W.
- EXISTING EASEMENT
- EXISTING PAVEMENT
- PROPOSED PAVEMENT

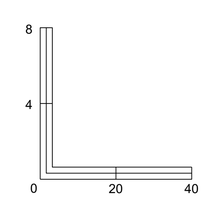


GENERAL NOTES:

1. CONTRACTOR SHALL FIELD VERIFY ALL UTILITIES BEFORE CONSTRUCTION.
2. CONTRACTOR SHALL INSTALL A 6" Ø TEMPORARY BY-PASS WHERE THE EXISTING BCMUD 12" Ø WL MUST BE REMOVED FROM SERVICE. THERE IS NO SEPARATE PAY ITEM FOR THIS WORK. CONTRACTOR SHALL MAINTAIN WATER SERVICE AT ALL TIMES EXCEPT AS REQUIRED FOR CONNECTIONS. PROVIDE BCMUD A MINIMUM OF TWO WEEKS ADVANCE NOTICE.
3. ALL BENDS SHALL HAVE RESTRAINED JOINTS (DETAIL 2, C-403) AND THRUST BLOCKING (DETAIL 3, C-401).
4. CARRIER PIPE SHALL HAVE RESTRAINED JOINTS THROUGH THE CASING PIPING AND 50 LF BEYOND END OF CASING.

KEY NOTE:

1. CONTRACTOR SHALL ARRANGE FOR SUPPORT OF METER POLE DURING CONSTRUCTION.



SCALE IN FEET
VERTICAL EXAGGERATION = 5X

STATE OF TEXAS
THOMAS E. CAPONI
54723
LICENSED PROFESSIONAL ENGINEER
Apr. 30, 2024
Revision #4

STATE OF TEXAS
THOMAS E. CAPONI
54723
LICENSED PROFESSIONAL ENGINEER
Jan. 27, 2023

No.	Revisions and Descriptions	By	Date
4	ALIGNMENT ADJUSTMENT AS REQUESTED BY WILLIAMSON COUNTY	TEC	4/23/2024

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BRUSHY CREEK MUD
SAM BASS RD UTILITY RELOCATIONS
ROUND ROCK, TEXAS

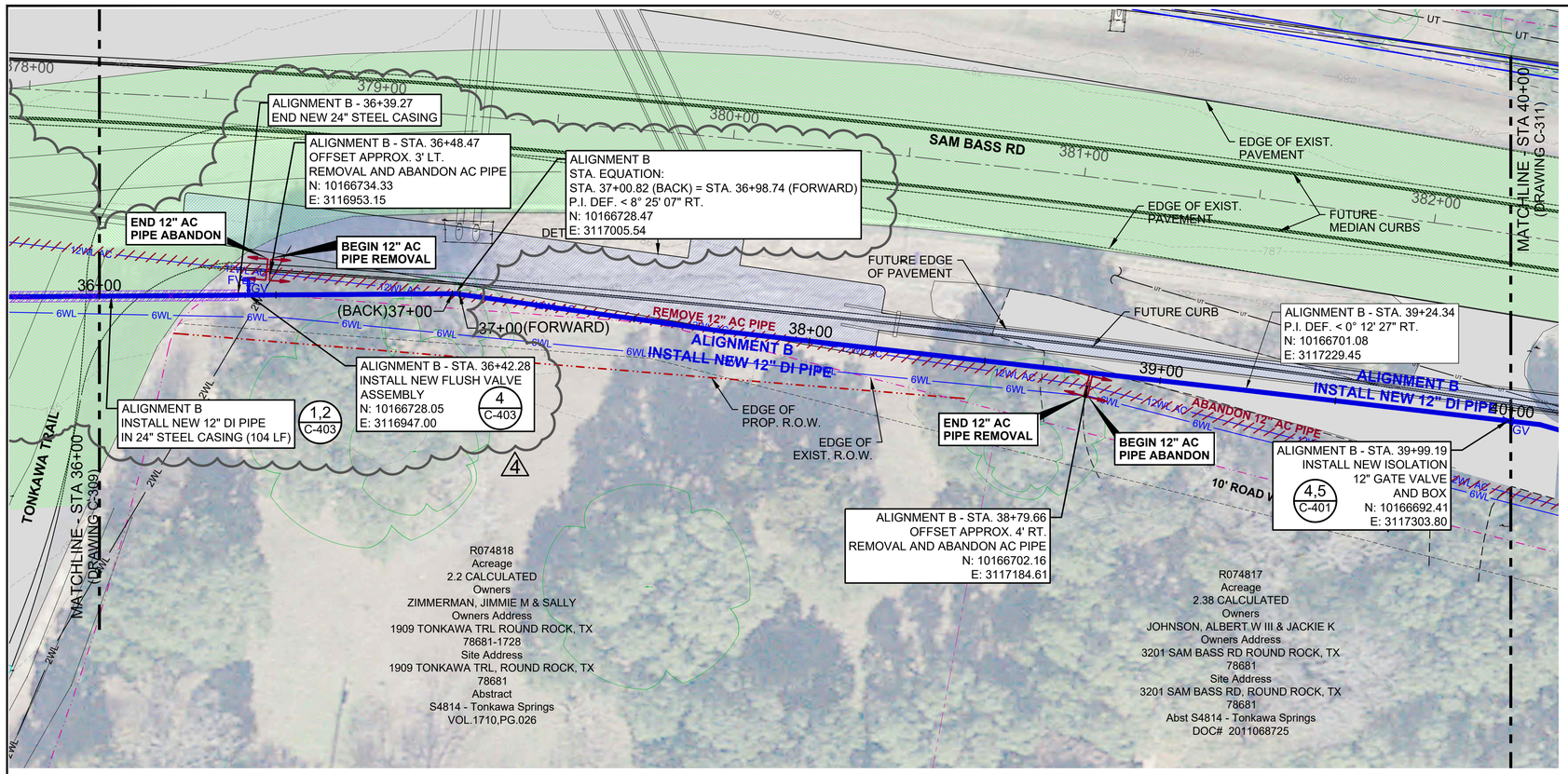
PROPOSED 12 INCH WATER LINE B
STA. 32+00 - STA. 36+00

Drawn By: RPS
Checked By: TEC
Scale: AS SHOWN
Date: JANUARY 2023

MRB group
MRB Group, P.C.
8834 N. Capital of Texas Hwy, Suite 220, Austin, TX 78759 Phone: 512-436-6571
303 W. Calhoun Ave. Temple, TX 76501 Phone: 254-771-2054
TBPELS Firm Number F-10615
www.mrbgroup.com

Sheet No. C-309

Project No. 0226.21003



GRAPHIC SCALE

0 10 20 40 80

SCALE IN FEET
1" = 20' (22x34)

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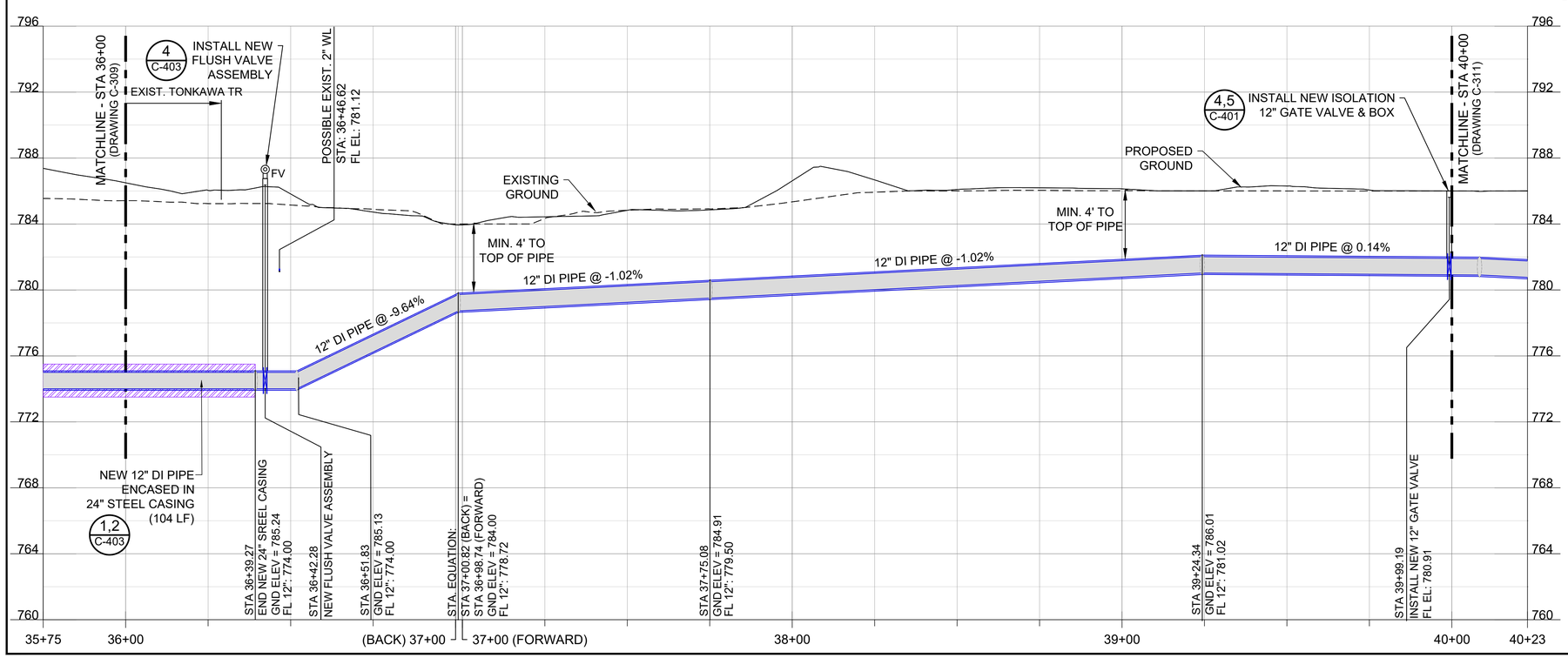
- EXISTING PAVEMENT
- PROPOSED PAVEMENT



GENERAL NOTES:

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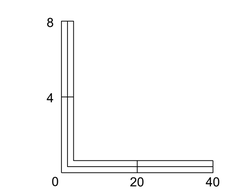
3. ALL BENDS SHALL HAVE RESTRAINED JOINTS (DETAIL 2, C-403) AND THRUST BLOCKING (DETAIL 3, C-401).
4. CARRIER PIPE SHALL HAVE RESTRAINED JOINTS THROUGH THE CASING PIPING AND 50 LF BEYOND END OF CASING.



SCALE IN FEET
VERTICAL EXAGGERATION = 5X

STATE OF TEXAS
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No.	Revisions and Descriptions	By	Date
4	ALIGNMENT ADJUSTMENT AS REQUESTED BY WILLIAMSON COUNTY	TEC	4/23/2024

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BRUSHY CREEK MUD
SAM BASS RD UTILITY RELOCATIONS
ROUND ROCK, TEXAS

PROPOSED 12 INCH WATER LINE B
STA. 36+00 - STA. 40+00

Drawn By: RPS
Checked By: TEC
Scale: AS SHOWN
Date: JANUARY 2023

MRB group
MRB Group, P.C.
8834 N. Capital of Texas Hwy, Suite 220, Austin, TX 78759 Phone: 512-436-8571
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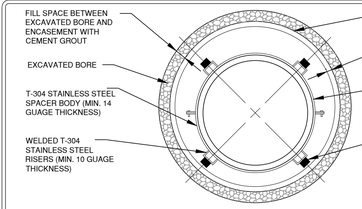
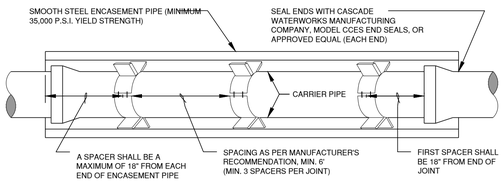
Project No. 0226.21003



PIPE SIZE-CARRIER (DIAMETER)	PIPE SIZE-CASING (DIAMETER) (MIN.)	MINIMUM PIPE THICKNESS (INCHES)	
6"	16"	1/4	0.2500
8"	18"	1/4	0.2500
10"	20"	5/16	0.3125
12" ~ 14"	24"	3/8	0.3750
16" ~ 18"	30"	7/16	0.4375
20"	36"	1/2	0.5000
24"	42"	1/2	0.5000
30"	48"	1/2	0.5000

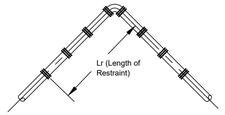


NOTES:

1. CASING SPACER CONFIGURATION AND SPACING SHALL BE AS SHOWN ON MANUFACTURER'S DRAWINGS FOR SPECIFIC WORK; THESE MUST BE ACCEPTABLE TO THE CITY OF ROUND ROCK.
2. CASING SPACER SHALL BE AS MANUFACTURED BY CASCADE WATERWORKS MANUFACTURING COMPANY, MODEL CCS, OR APPROVED EQUAL.

RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT	CITY OF ROUND ROCK	DRAWING NO: WT-16
APPROVED 03-01-18 DATE	PIPE ENCASEMENT DETAIL	ROUND ROCK TEXAS UTILITIES AND ENVIRONMENTAL SERVICES
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		

1 PIPE ENCASEMENT DETAIL
NTS



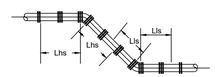
HORIZONTAL BEND

NOM. PIPE SIZE(in.)	90° BEND	45° BEND	22.5° BEND	11.25° BEND	SIZE ON SIZE TEE	DEAD END
6	21 FT.	9 FT.	4 FT.	2 FT.	BR.	36 FT.
12	40 FT.	17 FT.	8 FT.	4 FT.	23 FT.	76 FT.

NOTE:

- RECOMMENDED RESTRAINED LENGTHS FOR STRAIGHT TEES ASSUME A MINIMUM 10' LENGTH OF PIPE ATTACHED TO EACH SIDE OF THE RUN.
- BR. ONLY INDICATES RESTRAINT AT TEE BRANCH ONLY.
- ALL BENDS (DEGREE CHANGES) ARE CALCULATED AS HORIZONTAL.
- DEAD-END SERVICE CONSTITUTES CAPS, PLUGS, VALVES AND HYDRANTS.
- TABLE CALCULATIONS ARE BASED ON WORKING PRESSURE OF 150 psi, CLAYEY SOIL OF MEDIUM TO LOW PLASTICITY WITH LITTLE SAND AND GRAVEL, 4 FEET OF COVER, AND SAFETY FACTOR OF 1.5.

HORIZONTAL BEND RESTRAINT



VERTICAL DOWN BEND AND OFFSET

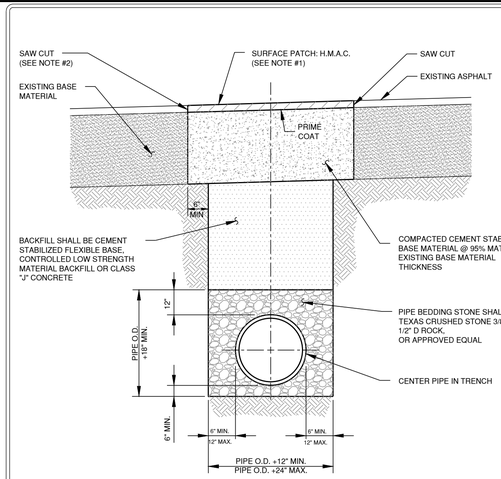
NOM. PIPE SIZE(in.)	90° BEND		45° BEND		22.5° BEND		11.25° BEND	
	High Side	Low Side	High Side	Low Side	High Side	Low Side	High Side	Low Side
6	111	43	46	18	22	9	11	4
12	212	81	86	34	42	16	21	8

NOTE:

- ALL BENDS (DEGREE CHANGES) ARE CALCULATED AS VERTICAL. THE FIRST RESTRAINED LENGTH (FEET) IS FOR THE HIGH-SIDE BEND(S) AND THE SECOND RESTRAINED LENGTH (FEET) INDICATES THE LOW-SIDE BEND(S). THESE LENGTHS WERE CALCULATED USING A CONSISTENT 4 FOOT DEPTH OF COVER FOR THE WATERMAIN.

VERTICAL BEND RESTRAINT

2 MECHANICAL JOINT PIPE RESTRAINT TABLES
NTS

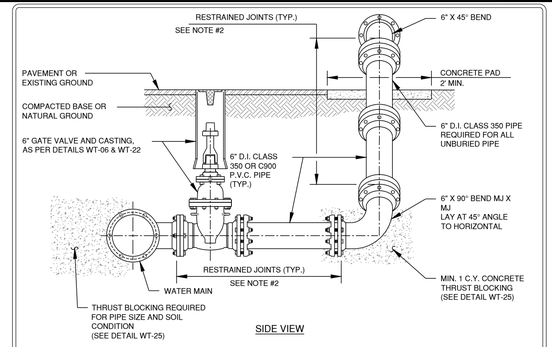


NOTES:

1. H.M.A.C. THICKNESS SHALL MATCH EXISTING ASPHALT THICKNESS AND NOT LESS THAN 2".
2. THE CONTRACTOR SHALL SAW CUT, REMOVE AND REPLACE EXISTING PAVEMENT AND FLEXIBLE BASE A MINIMUM OF 6" BEYOND EITHER THE EDGE OF THE WATERLINE TRENCH OR THE POINT WHERE EXISTING PAVEMENT IS DAMAGED DUE TO TRENCHING OPERATIONS, WHICHEVER IS GREATER. FINISHED PATCH SHALL BE NEAT AND UNIFORM.
3. INSTALLATION OF BACKFILL, SAW CUTTING AND REMOVAL OF EXISTING PAVEMENT AND SURFACE PATCH SHALL NOT BE PAID FOR SEPARATELY. COSTS FOR THESE ITEMS SHALL BE INCLUDED IN UNIT PRICE BID FOR WATERLINE PIPE.
4. THE CONTRACTOR SHALL PROVIDE STEEL PLATES TO SPAN THE TRENCH AS NECESSARY OR TO ALLOW BACKFILL TO CURE. SUCH PLATES SHALL BE SUITABLE FOR VEHICLE PASSAGE OVER THE TRENCH AND SHALL BE SATISFACTORILY ANCHORED IN PLACE. COSTS FOR THIS ITEM SHALL BE INCLUDED IN UNIT PRICE BID FOR WATERLINE PIPE.
5. ALL TRENCHING AND TRENCH SAFETY SHALL COMPLY WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS.

RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT	CITY OF ROUND ROCK	DRAWING NO: WT-07
APPROVED 03-01-18 DATE	WATERLINE BEDDING AND SURFACE REPAIR DETAIL (EXISTING PAVED SURFACE)	ROUND ROCK TEXAS UTILITIES AND ENVIRONMENTAL SERVICES
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		

3 WATERLINE BEDDING AND SURFACE REPAIR DETAIL
(EXISTING PAVED SURFACE)
NTS

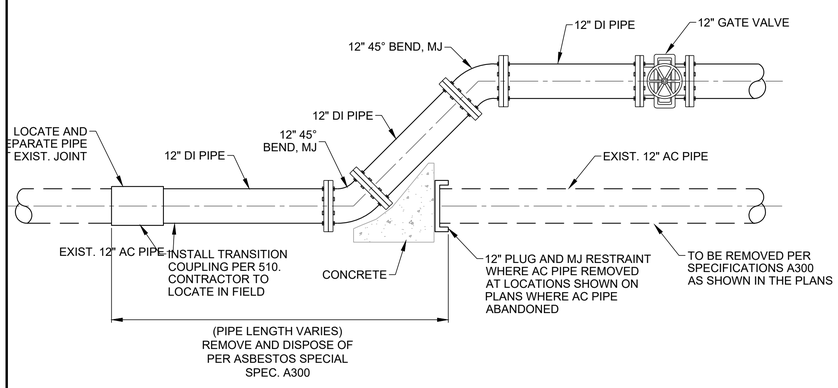


NOTES:

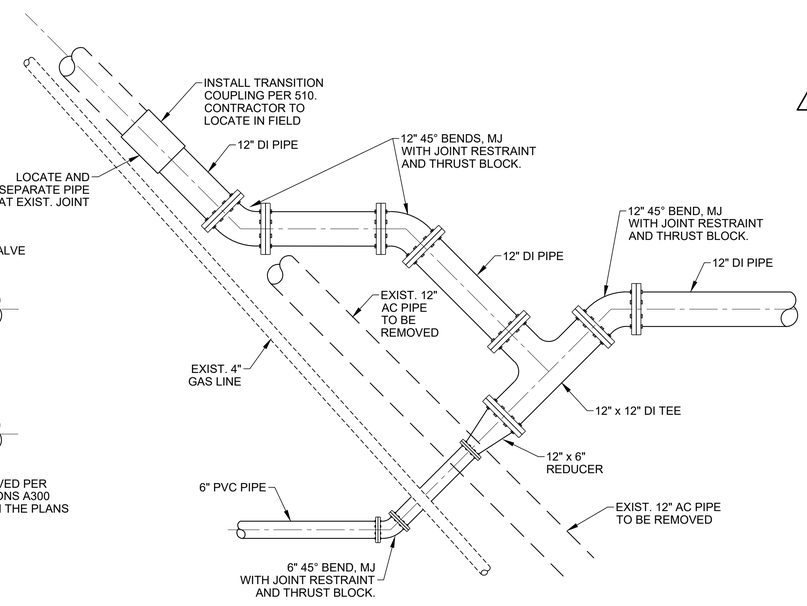
1. WRAP 8 MIL. POLY-FILM WRAP ON ALL BURIED PIPE AND FITTINGS.
2. PROVIDE RESTRAINED JOINTS AND THRUST BLOCKING. FLG X FLG JOINTS ARE ACCEPTABLE FROM 90° BEND TO BLIND FLANGE.
3. EXTERIOR SURFACES OF EXPOSED PIPE SHALL BE PAINTED. POTABLE WATER PIPE SHALL BE PAINTED SAFETY BLUE.

RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT	CITY OF ROUND ROCK	DRAWING NO: WT-29
APPROVED 03-01-18 DATE	DRAIN VALVE DETAIL	ROUND ROCK TEXAS UTILITIES AND ENVIRONMENTAL SERVICES
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		

4 FLUSH VALVE (DRAIN VALVE) DETAIL
NTS



5 ASBESTOS CEMENT PIPE OFFSET CONNECTION DETAIL
12" DI PIPE CONNECTION TO EXIST. 12" AC PIPE
NTS

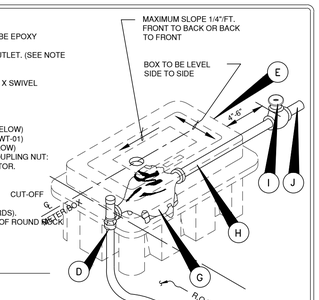


6 WL ALIGNMENT A TIE-IN AT WEST WTP ENTRANCE DETAIL
6" PVC PIPE CONNECTION TO EXIST. 12" DI PIPE
NTS

2

MATERIAL LIST:

A. SERVICE SADDLE REQUIRED. SERVICE SADDLE TO BE EPOXY COATED WITH DUAL STAINLESS STEEL BANDS.
B. 1 1/2" OR 2" CORPORATION STOP - SERVICE PIPE OUTLET. (SEE NOTE #2)
C. 1 1/2" OR 2" SERVICE PIPE.
D. LOCKING ANGLE METER STOP; SERVICE PIPE INLET X SWIVEL COUPLING NUT OUTLET:
- FOR 1 1/2" METERS: 1 1/2" X 1 1/2"
- FOR 2" METERS: 2" X 2"
- SEE NOTE #2
E. PLASTIC RECTANGULAR METER BOX. (SEE TABLE BELOW)
F. PIPE CASING WHERE APPLICABLE. (AS PER DETAIL WT-01)
G. WATER METER, CENTERED IN BOX. (SEE TABLE BELOW)
H. WATER METER COUPLING; MALE I.P.T. X SWIVEL COUPLING NUT:
- LENGTH OF PIPE TO BE DETERMINED BY CONTRACTOR.
- EXTEND PIPE TO 4"-6" OUTSIDE OF METER BOX.
I. BRONZE GATE VALVE: NON-RISING STEM (1 1/2" OR 2") FEMALE I.P.T. (PROPERTY OWNERS CUT-OFF OUTSIDE METER BOX IN SEPARATE VALVE CAN WITH LID AS PER CITY OF ROUND ROCK STANDARDS).
J. BUSHING (IF NECESSARY) AND PIPE MEETING CITY OF ROUND ROCK PLUMBING CODE REQUIREMENTS.

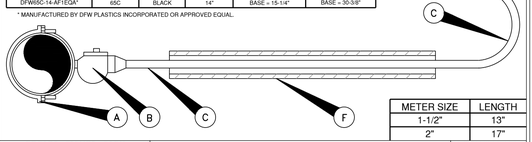


NOTES:

1. SERVICE PIPE SHALL BE COPPER TUBE SIZE. IT MAY BE 150 PSI ANNEALED SEAMLESS TYPE "K" COPPER TUBING OR 200 PSI BLACK COLORED POLYETHYLENE HAVING A DIMENSION RATIO OF 9 (DR9).
2. ALL STAINLESS STEEL INSERTS THAT COME WITH COMPRESSION FITTINGS SHALL NOT BE USED ON ANY CONNECTIONS.
3. SERVICE SADDLES SHALL BE WRAPPED COMPLETELY WITH 8 MIL. POLYETHYLENE FILM.
4. TOP OF BOXES SHALL BE 1" ABOVE FINISHED GRADE.
5. PIPING AND TUBING SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 510.3 OF THE STANDARD SPECIFICATIONS. SPECIAL ATTENTION IS CALLED TO "PIPE BEDDING ENVELOPE" AND "BACKFILLING", SECTIONS 510.3 (14) AND 510.3 (25), RESPECTIVELY.
6. AXIS OF METER ASSEMBLY (LINE THROUGH METER STOP, METER, PIPING AND OWNERS CUTOFF) SHALL BE 10" BELOW TOP OF BOX.
7. SLOTS PROVIDED IN METER BOX TO ACCOMODATE PIPING INTO AND OUT OF BOX, SHALL NOT BE MODIFIED.
8. LOCATION OF METER BOXES SHALL BE SUBJECT TO THE APPROVAL OF THE C.O.R.R.

PART NUMBER	SERIES	COLOR	HEIGHT	WIDTH	LENGTH
DFW65C-14-BODY*	65C	BLACK	14"	TOP = 18-3/4"	TOP = 30-3/8"
DFW65C-AF1EQA-LID*	65C	BLACK	1-7/8"	LID = 15-1/4"	LID = 26-7/8"
DFW65C-14-AF1EQA*	65C	BLACK	14"	BASE = 15-1/4"	BASE = 30-3/8"

* MANUFACTURED BY DFW PLASTICS INCORPORATED OR APPROVED EQUAL.



METER SIZE	LENGTH
1-1/2"	13"
2"	17"

RECORD SIGNED COPY ON FILE AT U&ES DEPARTMENT	CITY OF ROUND ROCK	DRAWING NO: WT-03
APPROVED 03-01-18 DATE	SINGLE 1-1/2" OR 2" WATER METER DETAIL	ROUND ROCK TEXAS UTILITIES AND ENVIRONMENTAL SERVICES
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR THE APPROPRIATE USE OF THIS DETAIL. (NOT TO SCALE)		

7 SINGLE SERVICE WATER METER DETAIL
NTS

Thomas E Caponi Aug 4, 2023 Revision 2

STATE OF TEXAS THOMAS E. CAPONI 54723 LICENSED PROFESSIONAL ENGINEER

Thomas E Caponi Jan. 27, 2023

STATE OF TEXAS THOMAS E. CAPONI 54723 LICENSED PROFESSIONAL ENGINEER

No.	Revisions and Descriptions	By	Date
2	SINGLE SERVICE WATER METER DETAIL ADDED	TEC	8/4/2023

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BRUSHY CREEK MUD
SAM BASS RD UTILITY RELOCATIONS
ROUND ROCK, TEXAS

SITE DETAILS SHEET 3 OF 3

Drawn By: RPS
Checked By: TEC
Scale: SEE PLAN
Date: JANUARY 2023

MRB group
MRB Group, P.C.
8834 N. Capital of Texas Hwy. Suite 220, Austin, TX 78759 Phone: 512-436-8571
303 W. Calhoun Ave. Temple, TX 76501 Phone: 254-771-2054
TBPELS Firm Number: F-10615
www.mrbgroup.com

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