

CONTRACT DOCUMENTS
FOR
CONSTRUCTION OF THE

TEMPORARY DIRECT POTABLE * REUSE CONVEYANCE FACILITIES

CITY OF WICHITA FALLS, TEXAS

MAY, 2013

CWF 13-550-16

* REFER TO
DPR DECOMMISSIONING
REPORT

1/4



TABLE OF CONTENTS

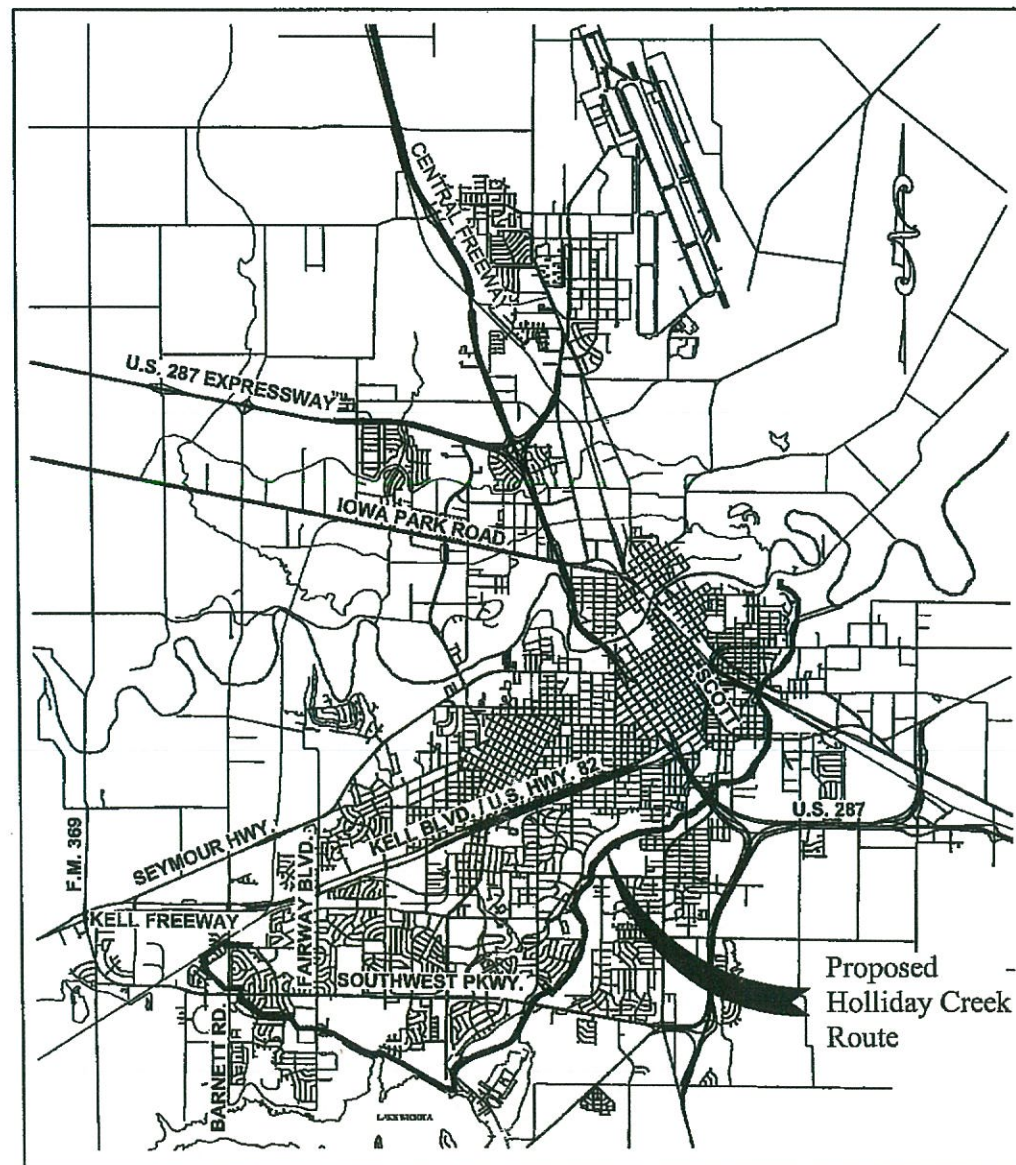
SHEET #	DESCRIPTION	SHEET #	DESCRIPTION
COVER	COVER SHEET	13	PLAN / PROFILE
1	INDEX MAP	14	PLAN / PROFILE
2	PLAN / PROFILE	15	PLAN / PROFILE
3	PLAN / PROFILE	16	PLAN / PROFILE
4	PLAN / PROFILE	17	PLAN / PROFILE
5	PLAN / PROFILE	18	PLAN / PROFILE
6	PLAN / PROFILE	19	PLAN / PROFILE
7	PLAN / PROFILE	20	PLAN / PROFILE
8	PLAN / PROFILE	21	PLAN / PROFILE
9	PLAN / PROFILE	22	PLAN / PROFILE
10	PLAN / PROFILE	23	CYPRESS WTP CONNECTION DETAIL
11	PLAN / PROFILE	24	RIVER ROAD WWTP PUMP DETAILS
12	PLAN / PROFILE	25	TYPICAL DETAILS



BIGGS & MATHEWS, INC.

Consulting Engineers

2500 BROOK AVE. Ph. (940) 766-0156
WICHITA FALLS, TX 76301 Fax (940) 766-3383
TEXAS REGISTERED ENGINEERING FIRM F-834



LOCATION MAP

Mayor : GLENN BARHAM

City Manager : DARRON LEIKER

Director of Public Works : RUSSELL SCHREIBER, P.E.

Utility Operations Manager : DANIEL NIX

City Engineer : DAVIS L. POWELL, P.E.

APPROVED: _____ DATE _____
DIRECTOR OF PUBLIC WORKS

RECOMMENDED: _____ DATE _____
UTILITY OPERATIONS MANAGER

RECOMMENDED: _____ DATE _____
CITY ENGINEER

F:\03_Projects\2012\2012-257\dwg\00_COVER.dwg

REVISION	DATE	DESCRIPTION



5/5/13

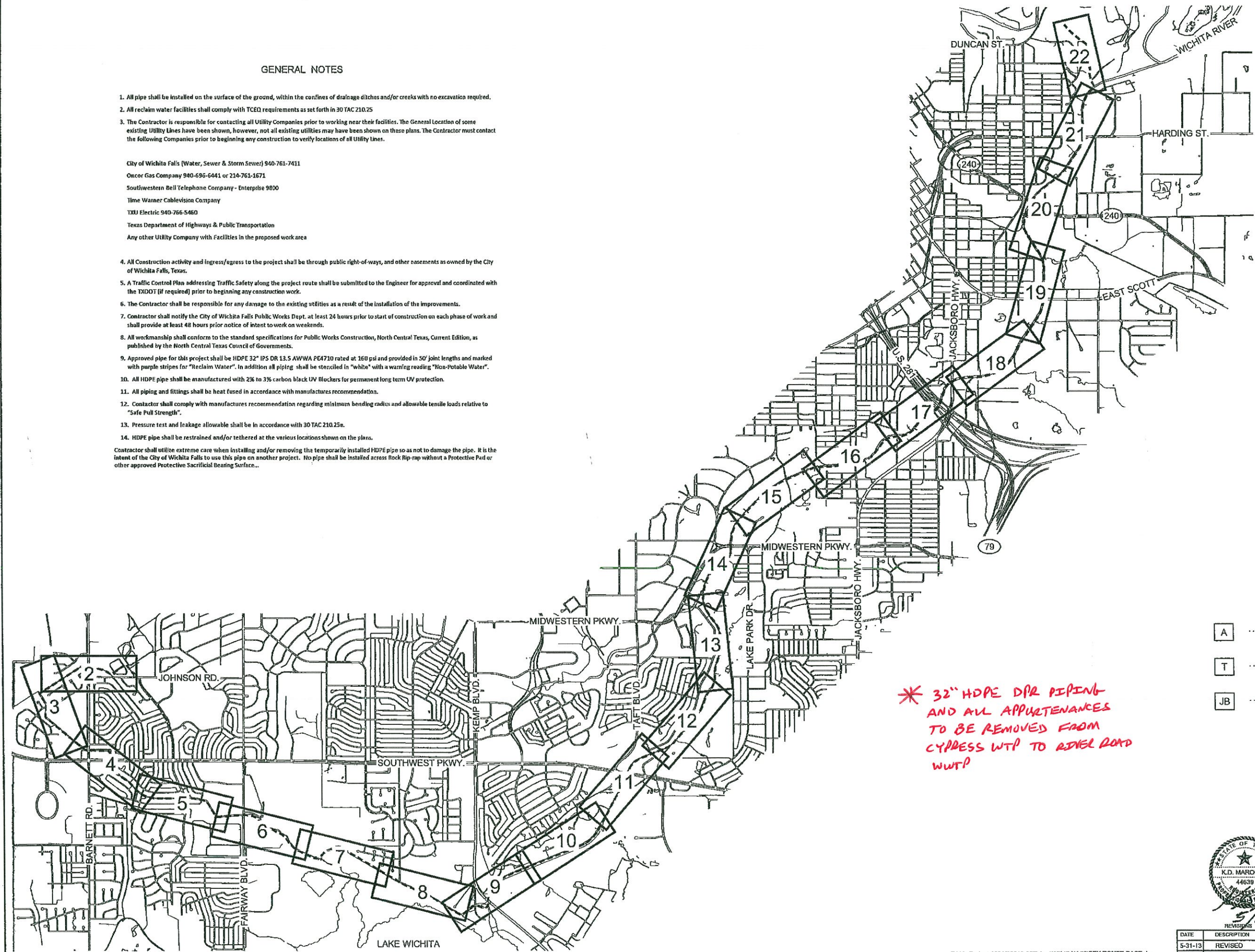
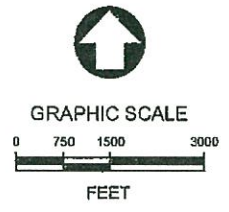
GENERAL NOTES

1. All pipe shall be installed on the surface of the ground, within the confines of drainage ditches and/or creeks with no excavation required.
2. All reclaim water facilities shall comply with TCEQ requirements as set forth in 30 TAC 210.25
3. The Contractor is responsible for contacting all Utility Companies prior to working near their facilities. The General Location of some existing Utility Lines have been shown, however, not all existing utilities may have been shown on these plans. The Contractor must contact the following Companies prior to beginning any construction to verify locations of all Utility Lines.

City of Wichita Falls (Water, Sewer & Storm Sewer) 940-761-7411
Onor Gas Company 940-696-6441 or 214-761-1671
Southwestern Bell Telephone Company - Enterprise 9800
Time Warner Cablevision Company
TXU Electric 940-766-5460
Texas Department of Highways & Public Transportation
Any other Utility Company with Facilities in the proposed work area

4. All Construction activity and ingress/egress to the project shall be through public right-of-ways, and other easements as owned by the City of Wichita Falls, Texas.
5. A Traffic Control Plan addressing Traffic Safety along the project route shall be submitted to the Engineer for approval and coordinated with the TxDOT (if required) prior to beginning any construction work.
6. The Contractor shall be responsible for any damage to the existing utilities as a result of the installation of the improvements.
7. Contractor shall notify the City of Wichita Falls Public Works Dept. at least 24 hours prior to start of construction on each phase of work and shall provide at least 48 hours prior notice of intent to work on weekends.
8. All workmanship shall conform to the standard specifications for Public Works Construction, North Central Texas, Current Edition, as published by the North Central Texas Council of Governments.
9. Approved pipe for this project shall be HDPE 32" IPS DR 13.5 AWWA PE4710 rated at 160 psi and provided in 50' joint lengths and marked with purple stripes for "Reclaim Water". In addition all piping shall be stenciled in "white" with a warning reading "Non-Potable Water".
10. All HDPE pipe shall be manufactured with 2% to 3% carbon black UV Blockers for permanent long term UV protection.
11. All piping and fittings shall be heat fused in accordance with manufactures recommendation.
12. Contractor shall comply with manufactures recommendation regarding minimum bending radius and allowable tensile loads relative to "Safe Pull Strength".
13. Pressure test and leakage allowable shall be in accordance with 30 TAC 210.25e.
14. HDPE pipe shall be restrained and/or tethered at the various locations shown on the plans.

Contractor shall utilize extreme care when installing and/or removing the temporarily installed HDPE pipe so as not to damage the pipe. It is the intent of the City of Wichita Falls to use this pipe on another project. No pipe shall be installed across Rock Rip-rap without a Protective Pad or other approved Protective Sacrificial Bearing Surface...



LEGEND

- A AIR / VACUUM VALVE
- T TETHER / ANCHOR LOCATION
- JB JERSEY BARRIERS

* 32" HDPE DPR PIPING
AND ALL APPURTENANCES
TO BE REMOVED FROM
CYPRESS WTP TO RIVER ROAD
WWT

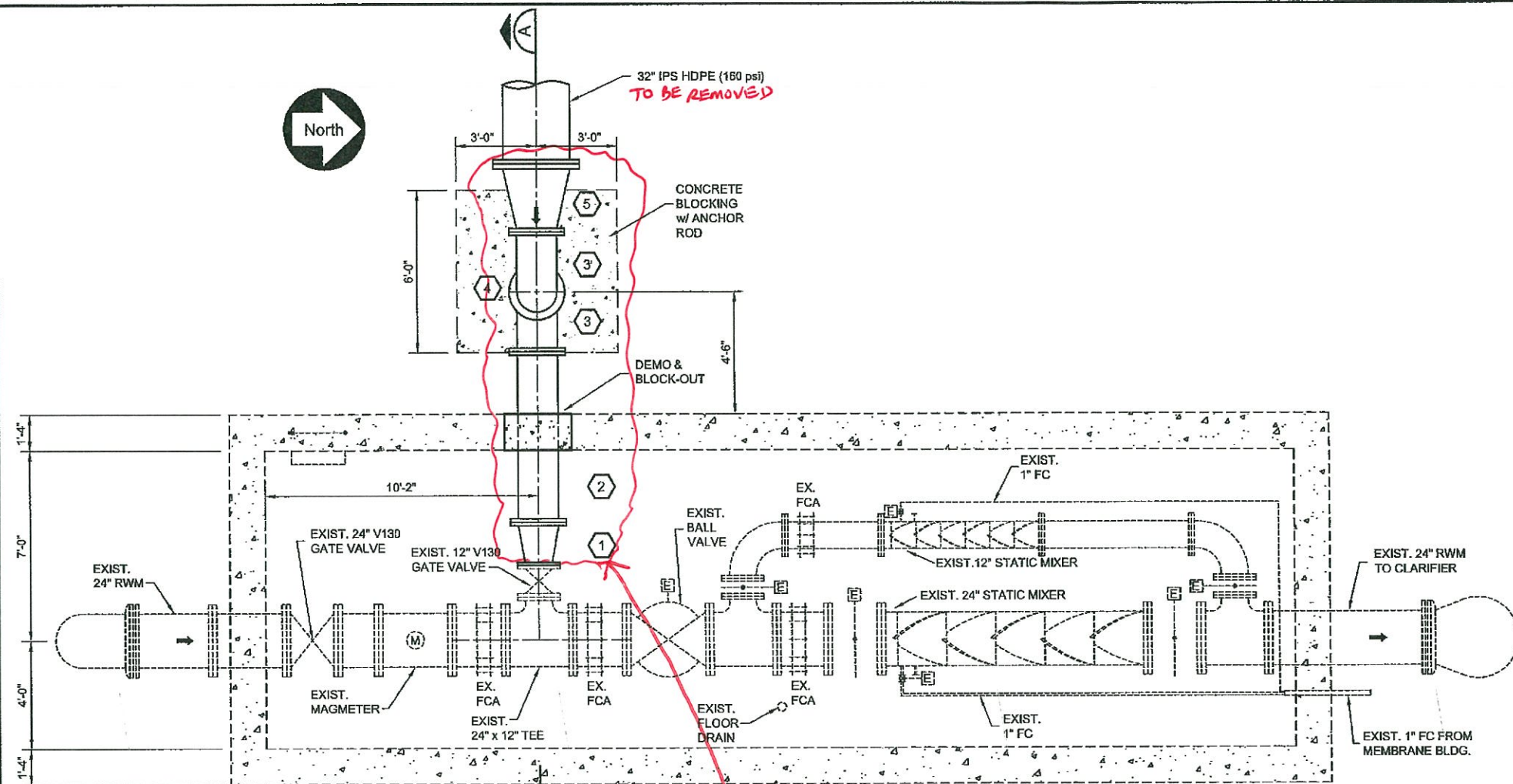
INDEX MAP

TEMPORARY DIRECT POTABLE
REUSE CONVEYANCE FACILITIES
CITY OF WICHITA FALLS, TEXAS



BIGGS & MATHEWS, INC.
CONSULTING ENGINEERS
2500 BROOK AVENUE
WICHITA FALLS, TX 76701
P: (817) 765-3383
F: (817) 765-0156

DATE	DESCRIPTION	DN. KDM	DATE: 2-5-2013	SHEET
5-31-13	REVISED	DW. JMJ	SCALE: AS SHOWN	1
		CK. KDM	REVISED:	OF 25

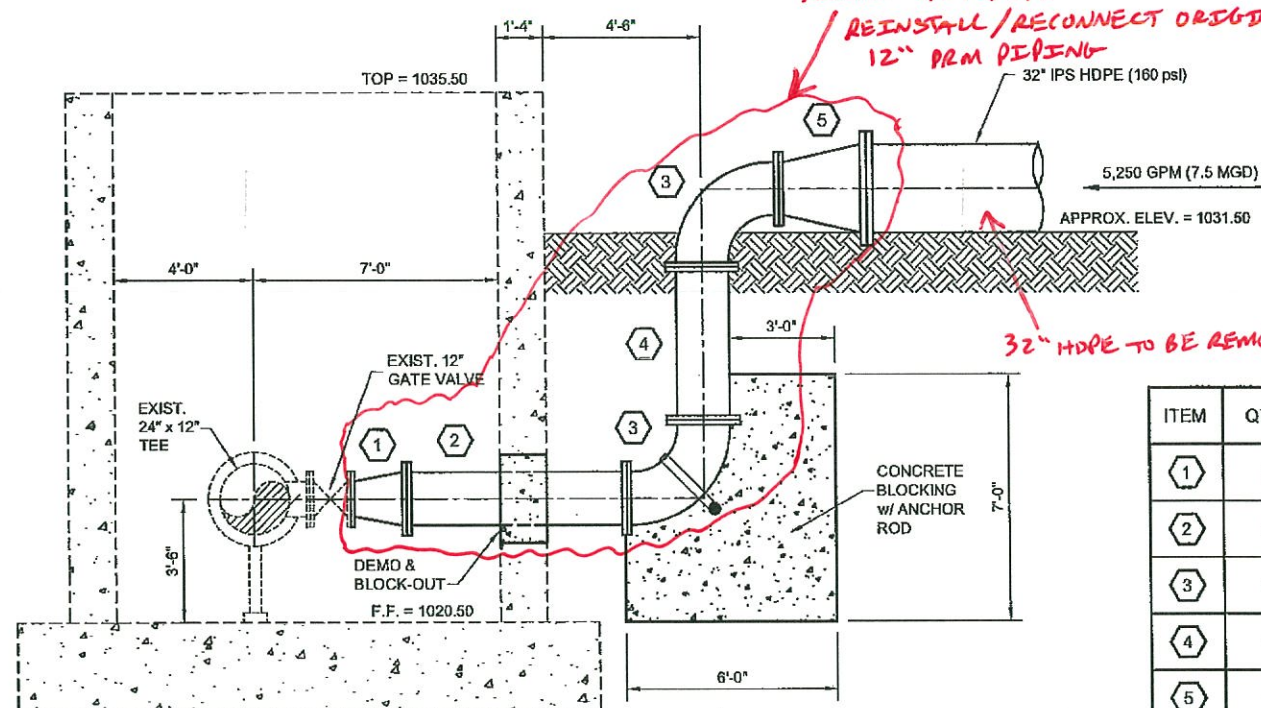


EXISTING FLOW CONTROL VAULT - PLAN

3/8" = 1'-0"

REMOVE 1, 2, 3, 4, 5

REINSTALL/RECONNECT ORIGINAL 12" PRM PIPING

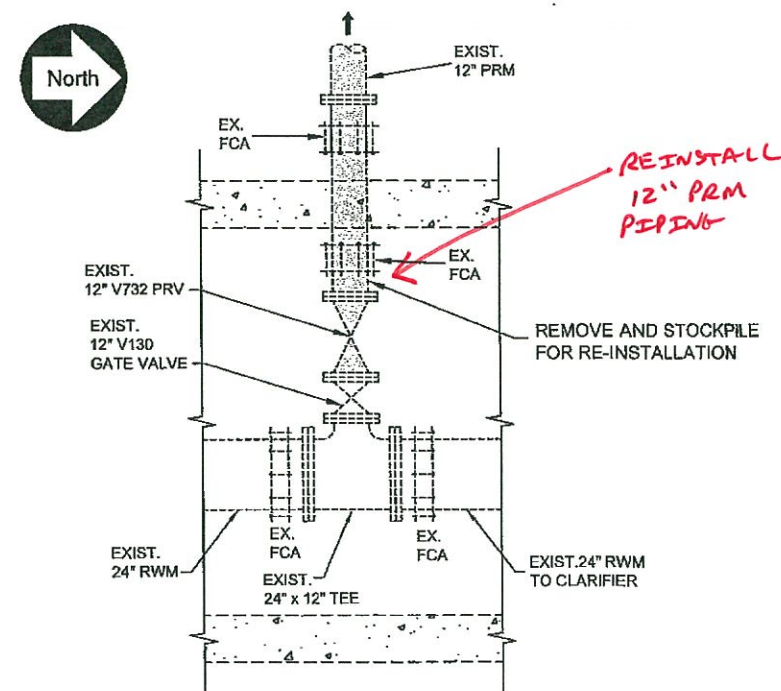


SECTION A

3/8" = 1'-0"

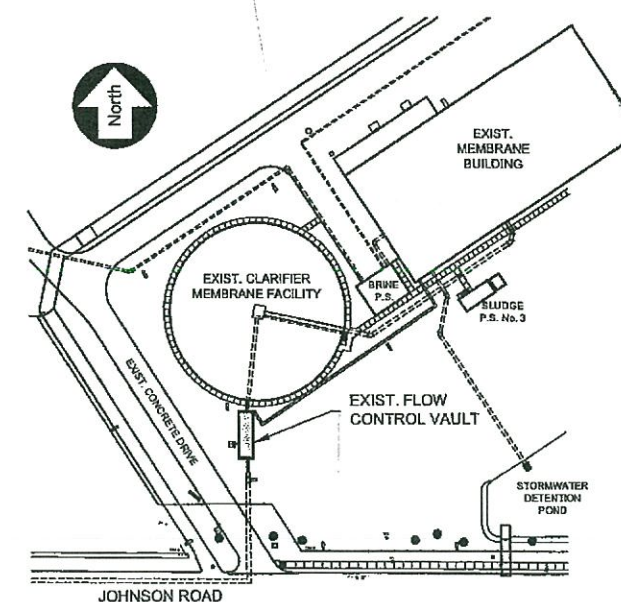
PARTIAL LIST OF MATERIALS

ITEM	QTY.	DESCRIPTION
1	1	12" x 18" D.I. FLANGED REDUCER
2	1	18" D.I. FLANGED SPOOL (APPROX. 6'-3 1/2" ± LENGTH)
3	2	18" D.I. FLANGED 90° LONG RADIUS BENDS
4	1	18" D.I. FLANGED SPOOL TO FIT (APPROX. 4'-4" ± LENGTH)
5	1	18" x 30" D.I. FLANGED REDUCER



EXISTING PIPING FLOW CONTROL VAULT - PLAN

3/8" = 1'-0"



EXISTING FLOW CONTROL VAULT - LOCATION MAP

NOT TO SCALE

CYPRESS W.T.P.
CONNECTION DETAIL

TEMPORARY DIRECT POTABLE
REUSE CONVEYANCE FACILITIES

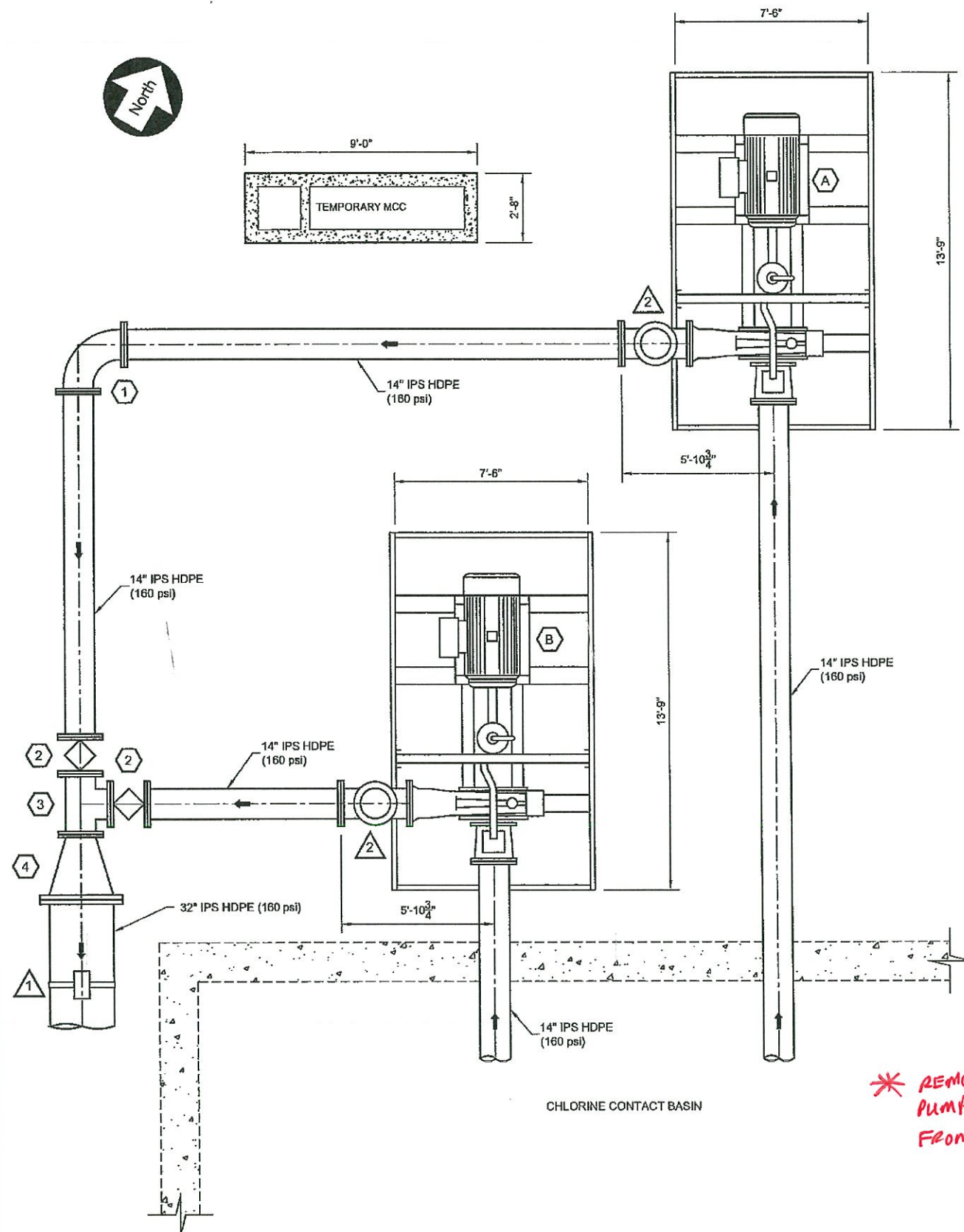
CITY OF WICHITA FALLS, TEXAS



BIGGS & MATHEWS, INC.
CONSULTING ENGINEERS

2500 BROOK AVENUE
WICHITA FALLS, TX 76701
F: (847) 756-3333
TEXAS REGISTERED ENGINEERING FIRM F-634

DATE	DESCRIPTION	DR. KDM	DATE: 2-5-2013	SHEET
		DW. JMJ	SCALE: AS SHOWN	23
		CK. KDM	REVISED:	OF 25



PROPOSED TEMPORARY SKID MOUNTED PUMPS - PLAN VIEW
3/8" = 1'-0"

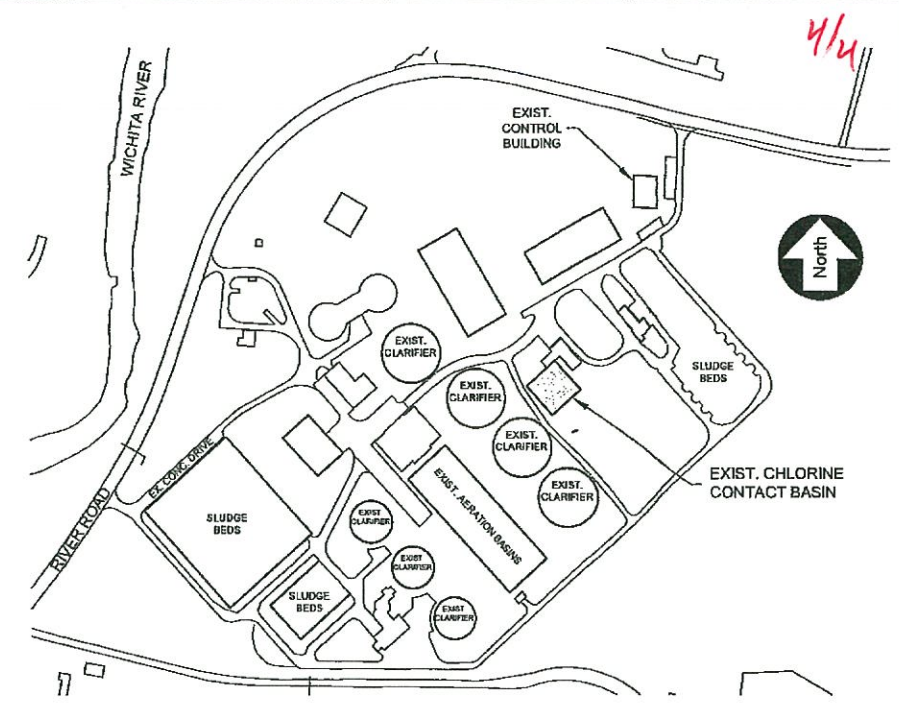
PARTIAL LIST OF MATERIALS

ITEM	QTY.	DESCRIPTION
1	1	14" D.I. FLANGED LONG RADIUS 90° BEND
2	2	14" D.I. FLANGED PLUG VALVES
3	1	14" x 14" D.I. FLANGED TEE
4	1	14" x 30" D.I. FLANGED REDUCER
A	1	480 V. 3-PHASE SKID MOUNTED ELECTRIC MOTOR DRIVEN PUMP AND CONTROLLED BY VFD...
B	1	SKID MOUNTED DIESEL DRIVEN STAND-BY PUMP AND CONTROLLED BY VFD...
1	1	DOPPLER STRAP ON FLOW METER WITH RATE OF FLOW, TOTALIZER AND DATA LOGGER. (GREYLINE INSTRUMENTS, INC.)
2	2	14" CHECK VALVE

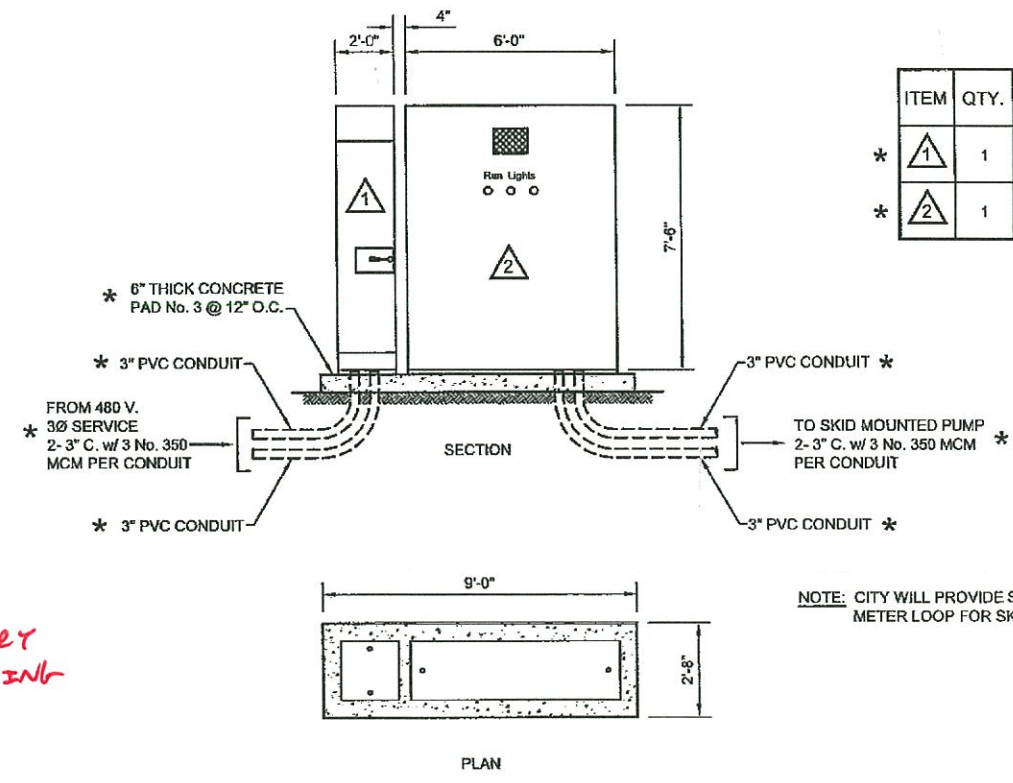
PUMP HEAD AND FLOW REQUIREMENTS (2-PUMPS)
(THREE POINTS ON PUMP CURVE)

5000 GPM @ 270' TDH
5500 GPM @ 250' TDH
6500 GPM @ 235' TDH

CONTRACTOR SHALL SUBMIT PUMP CURVE FOR APPROVAL PRIOR TO PURCHASE...



EXISTING CHLORINE CONTACT BASIN - LOCATION MAP
NOT TO SCALE



TEMPORARY 450 H.P. VFD PANEL
3/8" = 1'-0"

TEMPORARY MCC

ITEM	QTY.	DESCRIPTION
1	1	MIN. 600 AMP, 480 V. 3-POLE MAIN BREAKER
2	1	MIN. 450 H.P. 480 V VFD CONTROLLER

NOTE: * BY CONTRACTOR...

NOTE: CITY WILL PROVIDE SITE POWER AND METER LOOP FOR SKID MOUNTED PUMP...

* REMOVE ALL TEMPORARY PUMP SKIDS AND PIPING FROM RHWTP



PUMP DETAILS
RIVER ROAD W.W.T.P.

TEMPORARY DIRECT POTABLE REUSE CONVEYANCE FACILITIES

CITY OF WICHITA FALLS, TEXAS

BIGGS & MATHEWS, INC.
CONSULTING ENGINEERS
2500 BROCK AVENUE
WICHITA FALLS, TX 76701
V: (817) 766-0156
F: (817) 766-3383
TEXAS REGISTERED ENGINEERING FIRM F-824

DATE	DESCRIPTION	DN. KDM	DATE	SHEET
5-14-13	REVISED PER CITY COMMENTS	DN. JMJ	2-5-2013	24
5-31-13	REVISED	CK. KDM	SCALE: AS SHOWN	OF 25

CONTRACT DOCUMENTS
FOR
CONSTRUCTION OF THE

* **TEMPORARY DIRECT POTABLE REUSE
CYPRESS W.T.P. PIPING MODIFICATION**

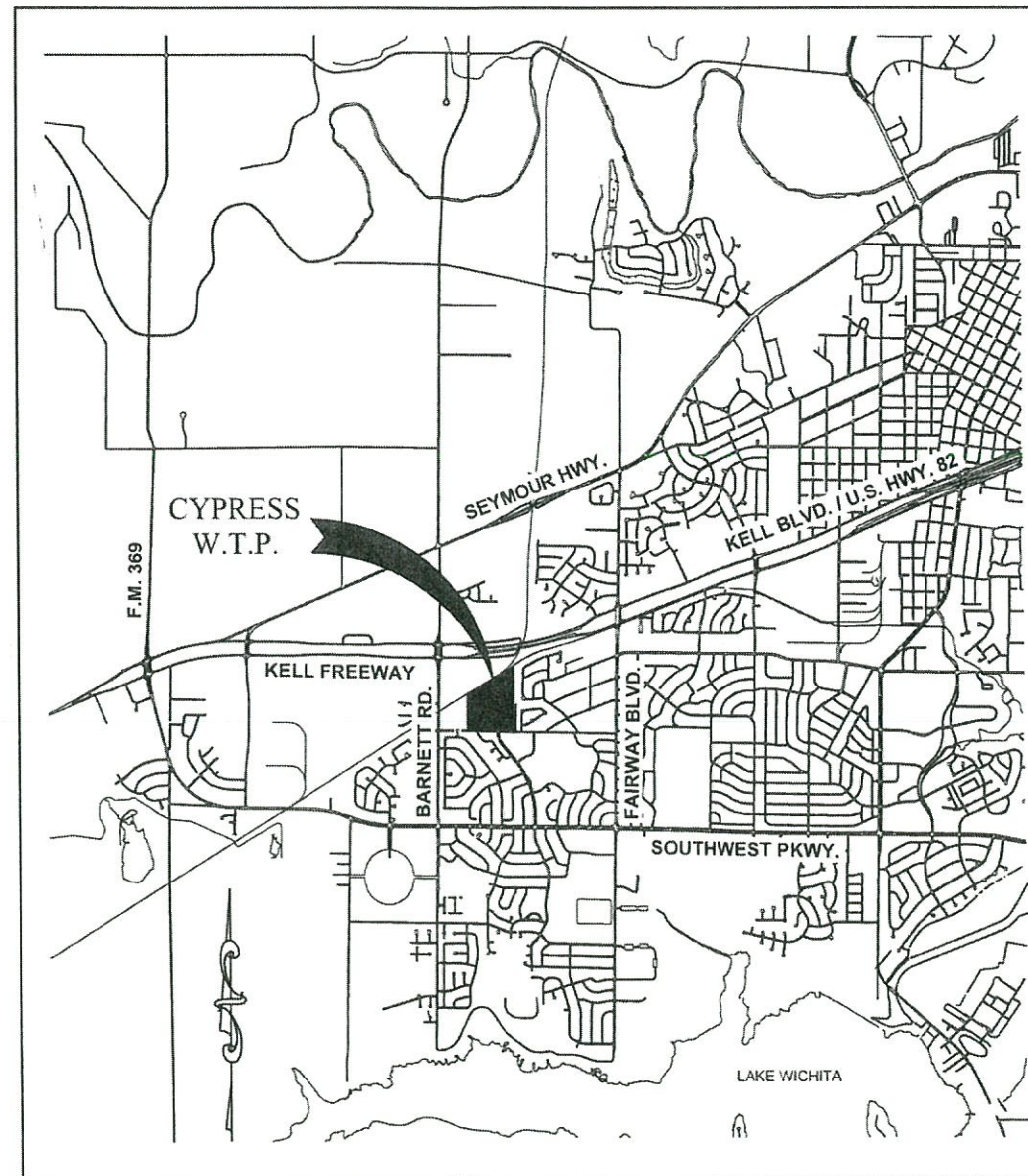
CITY OF WICHITA FALLS, TEXAS
OCTOBER, 2013
CWF 13-550-16

* REFER TO
DPR DECOMMISSIONING
REPORT

1/8



Mayor : GLENN BARHAM
City Manager : DARRON LEIKER
Director of Public Works : RUSSELL SCHREIBER, P.E.
Utility Operations Manager : DANIEL NIX
City Engineer : DAVIS L. POWELL, P.E.



LOCATION MAP



BIGGS & MATHEWS, INC.

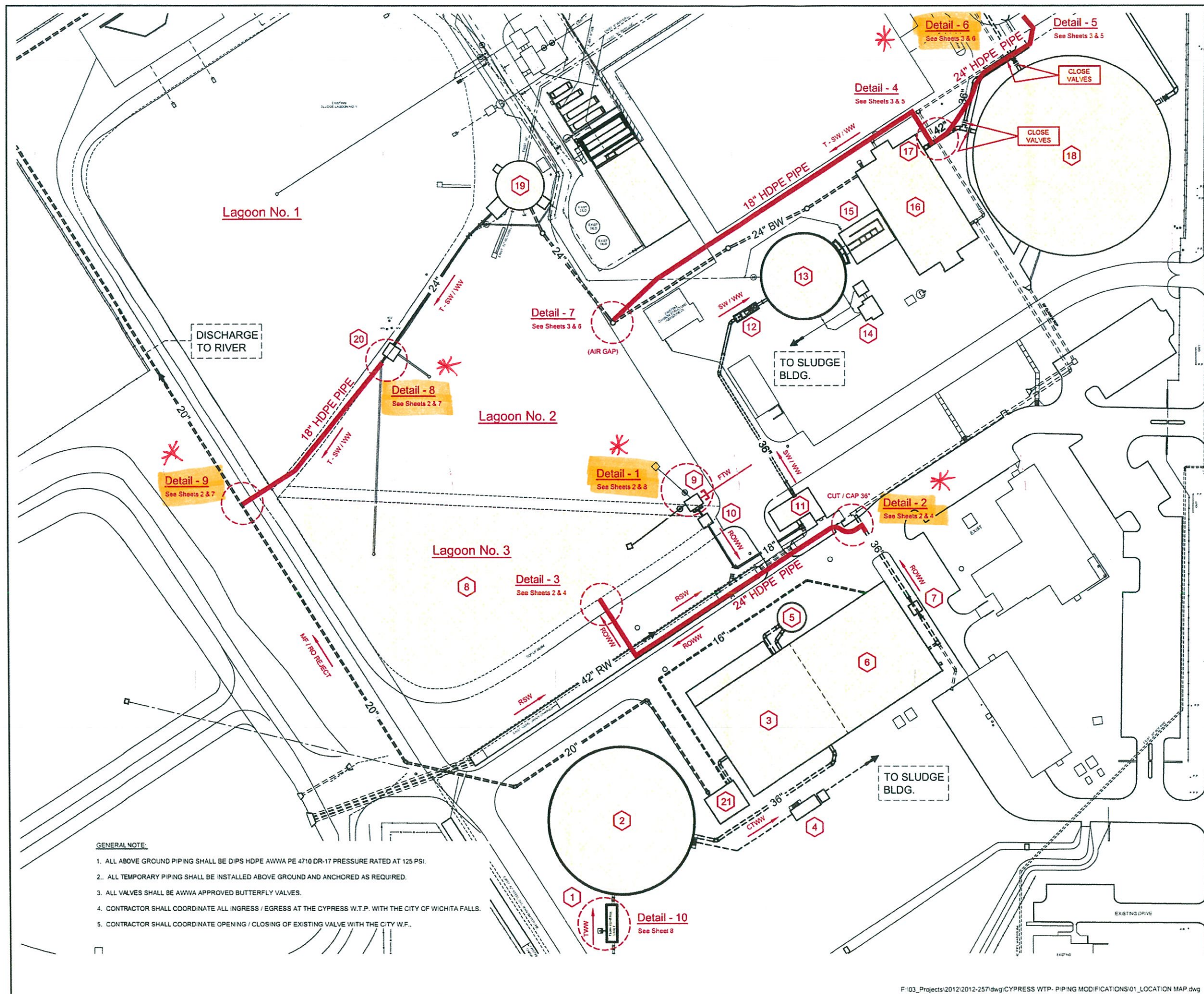
Consulting Engineers

2500 BROOK AVE. Ph. (940) 766-0156
WICHITA FALLS, TX 76301 Fax (940) 766-3383
TEXAS REGISTERED ENGINEERING FIRM F-834

APPROVED: _____ DATE _____
DIRECTOR OF PUBLIC WORKS
RECOMMENDED: _____ DATE _____
UTILITY OPERATIONS MANAGER
RECOMMENDED: _____ DATE _____
CITY ENGINEER



REVISION	DATE	DESCRIPTION



GENERAL NOTE:

1. ALL ABOVE GROUND PIPING SHALL BE DIPS HDPE AWWA PE 4710 DR-17 PRESSURE RATED AT 125 PSI.
2. ALL TEMPORARY PIPING SHALL BE INSTALLED ABOVE GROUND AND ANCHORED AS REQUIRED.
3. ALL VALVES SHALL BE AWWA APPROVED BUTTERFLY VALVES.
4. CONTRACTOR SHALL COORDINATE ALL INGRESS / EGRESS AT THE CYPRESS W.T.P. WITH THE CITY OF WICHITA FALLS.
5. CONTRACTOR SHALL COORDINATE OPENING / CLOSING OF EXISTING VALVE WITH THE CITY W.F..



GRAPHIC SCALE
0 25 50 100
FEET

DPR FACILITIES

- 1 FLOW CONTROL VAULT
- 2 MEMBRANE CLARIFIER
- 3 MF TREATMENT
- 4 MEMBRANE SLUDGE P.S.
- 5 BREAK TANK
- 6 R.O. TREATMENT
- 7 R.O. METER VAULT
- 8 REUSE TEMPORARY STORAGE LAAGOON NO. 3
- 9 REUSE PUMP STATION
- 10 REUSE FLOW METER
- 11 SPLITTER BOX
- 12 2010 RAPID MIX / PARSHALL FLUME
- 13 2010 CLARIFIER
- 14 2010 SLUDGE P.S.
- 15 2010 RECARBONATION BASIN
- 16 2010 FILTERS
- 17 2010 TRANSFER PUMPS
- 18 2010 10 M.G. STORAGE TANK
- 19 2010 RECOVERY WELL P.S.
- 20 2010 LAAGOON VALVE VAULT
- 21 BRINE PUMP STATION

FLOW STREAM I.D.

RSW	Raw Surface Water
TWW	Treated Wastewater
CTWW	Clarifier Treated Wastewater
ROWW	Reverse Osmosis Treated Wastewater
SW / WW	Combined Surface Water & Wastewater
T-SW / WW	Treated Combined Surface Water & Wastewater
MF / RO REJECT	Reject Water from MF / RO Treatment Facilities

TEMPORARY SITE PIPING MODIFICATIONS

TEMPORARY DIRECT POTABLE REUSE

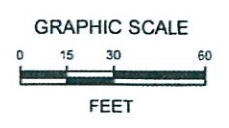
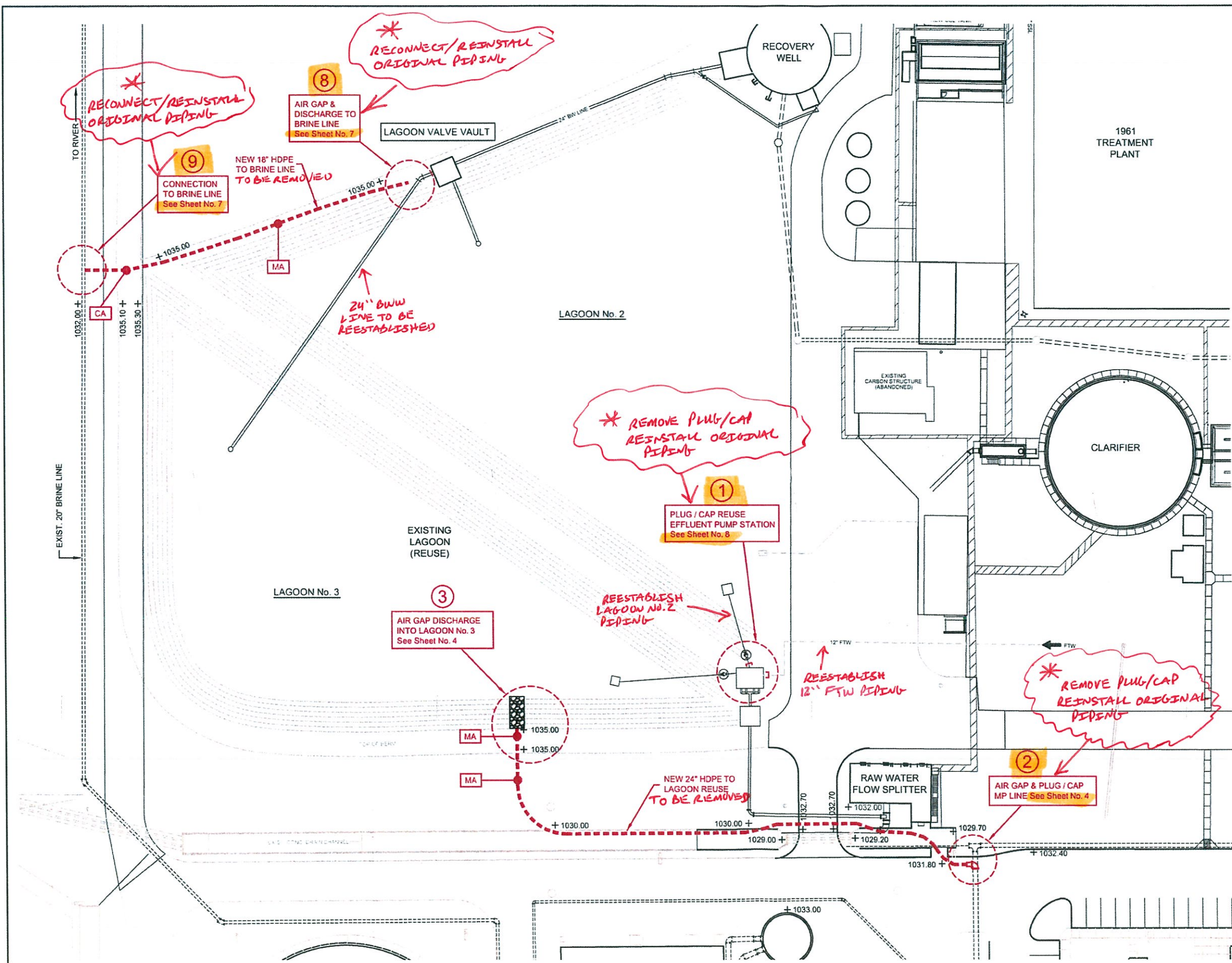
CYPRESS W.T.P.
CITY OF WICHITA FALLS, TEXAS



BIGGS & MATHEWS, INC.
CONSULTING ENGINEERS

2500 BROOK AVENUE V. (940) 766-0156
WICHITA FALLS, TX 76301 F. (940) 766-3383
TEXAS REGISTERED ENGINEERING FIRM F-334

DATE	DESCRIPTION	DN	KDM	DATE	10-1-2013	SHEET	1
		DW	JMU	SCALE	AS SHOWN		
		CK	KDM	REVISED		OF	3



LEGEND

- + 1038.11 EXISTING SPOT GRADES
- ① CONNECTION NUMBER
- MA MANTA RAY ANCHOR ASSEMBLY LOCATION
- CA CONCRETE ANCHOR ASSEMBLY LOCATION

GENERAL NOTES:

1. EXCAVATE AND REMOVE A PORTION OF THE 36" MP LINE AND INSTALL 36" 90° BEND. TEMPORARY CAP MP LINE.
2. AIR GAP 24" REUSE LINE DISCHARGE INTO LAGOON No. 3.
3. DISCONNECT LAGOON No. 2 PIPING FROM REUSE PUMP STATION.
4. DISCONNECT 12" FTW PIPING FROM REUSE PUMP STATION.
5. DISCONNECT LAGOON VALVE VAULT FROM LAGOON No. 2 & LAGOON No. 3.
6. CONNECT BACKWASH LINE TO DISCHARGE INTO BRINE LINE.

EXISTING CONNECTION - PLAN
1" = 30'-0"

CYPRESS W.T.P.
CONNECTION DETAIL

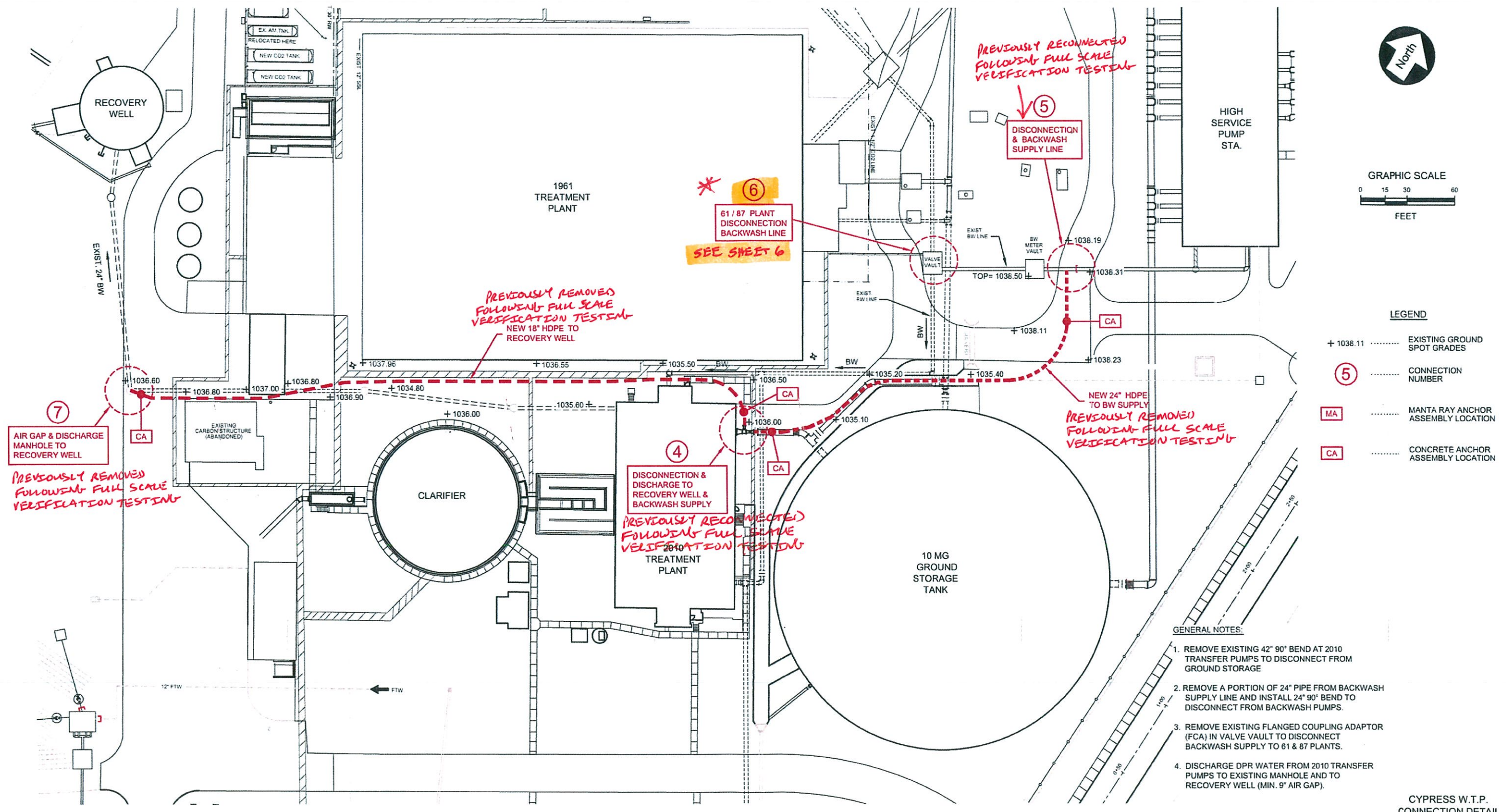
TEMPORARY DIRECT
POTABLE REUSE

CITY OF WICHITA FALLS, TEXAS

BIGGS & MATHEWS, INC.
CONSULTING ENGINEERS
2500 BROOK AVENUE
WICHITA FALLS, TX 76301
V: (847) 766-0156
F: (847) 766-3333
TEXAS REGISTERED ENGINEERING FIRM #2634



DATE	DESCRIPTION	BY	DATE	SHEET
10-1-2013	AS SHOWN	KDM	10-1-2013	2
10-1-2013	REVISED	KDM	10-1-2013	8



EXISTING 42" FROM 2010 TRANSFER PUMPS CONNECTION - PLAN
1" = 30'-0"



CYPRESS W.T.P.
CONNECTION DETAIL

TEMPORARY DIRECT
POTABLE REUSE

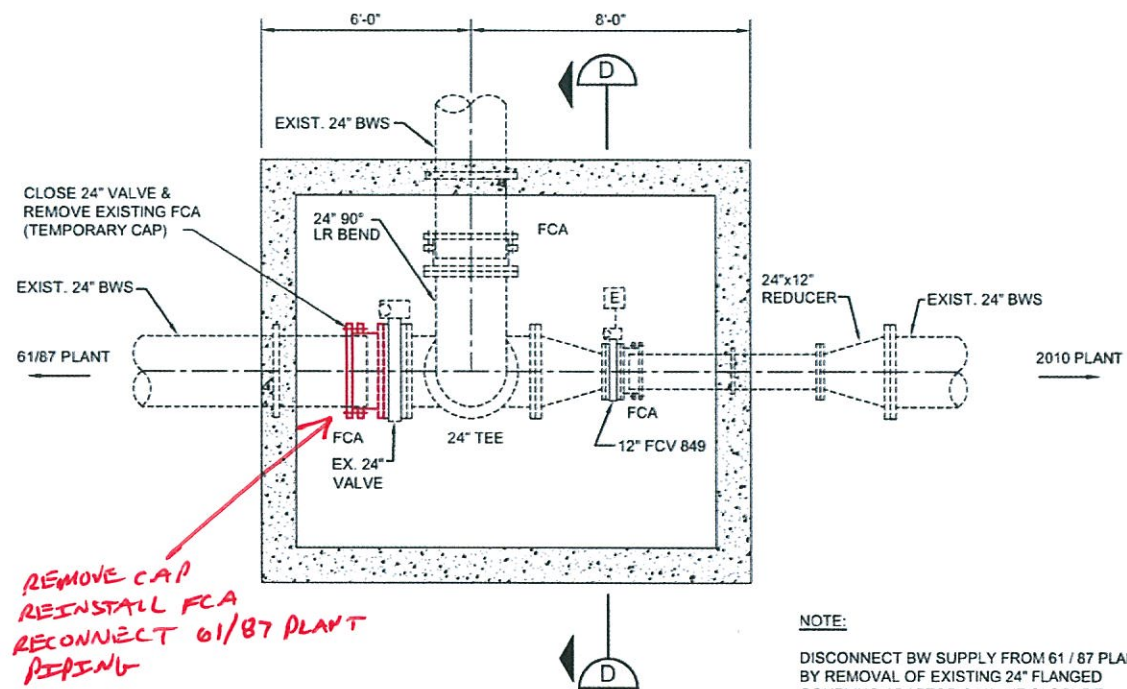
CITY OF WICHITA FALLS, TEXAS

BIGGS & MATHEWS, INC.
CONSULTING ENGINEERS

2500 BROOK AVENUE
WICHITA FALLS, TX 76701
F. (847) 766-3083
TEXAS REGISTERED ENGINEERING FIRM F-3534

V. (847) 766-0156

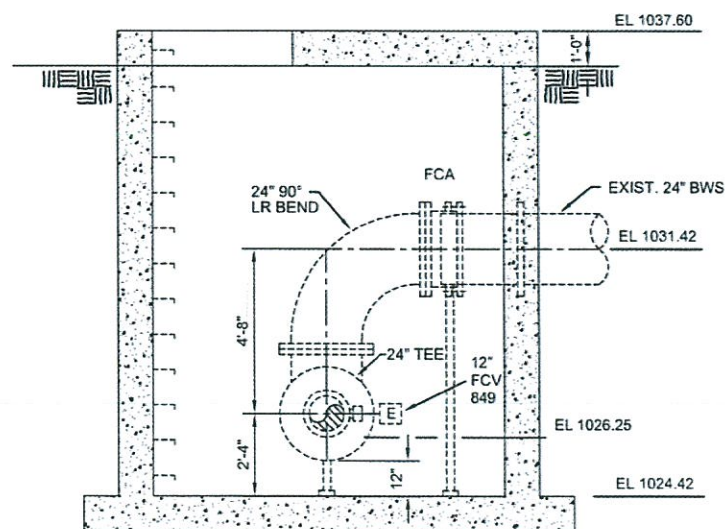
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10-1-2013	SCALE AS SHOWN	KDM	10-1-2013	3
	REVISED	KDM		8



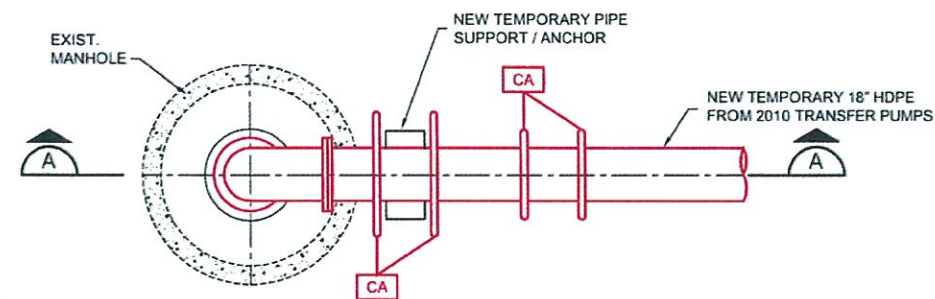
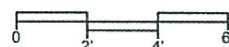
REMOVE CAP
REINSTALL FCA
RECONNECT 61/87 PLANT
PIPING



CONNECTION No. 6 - PLAN VIEW
3/8" = 1'-0"



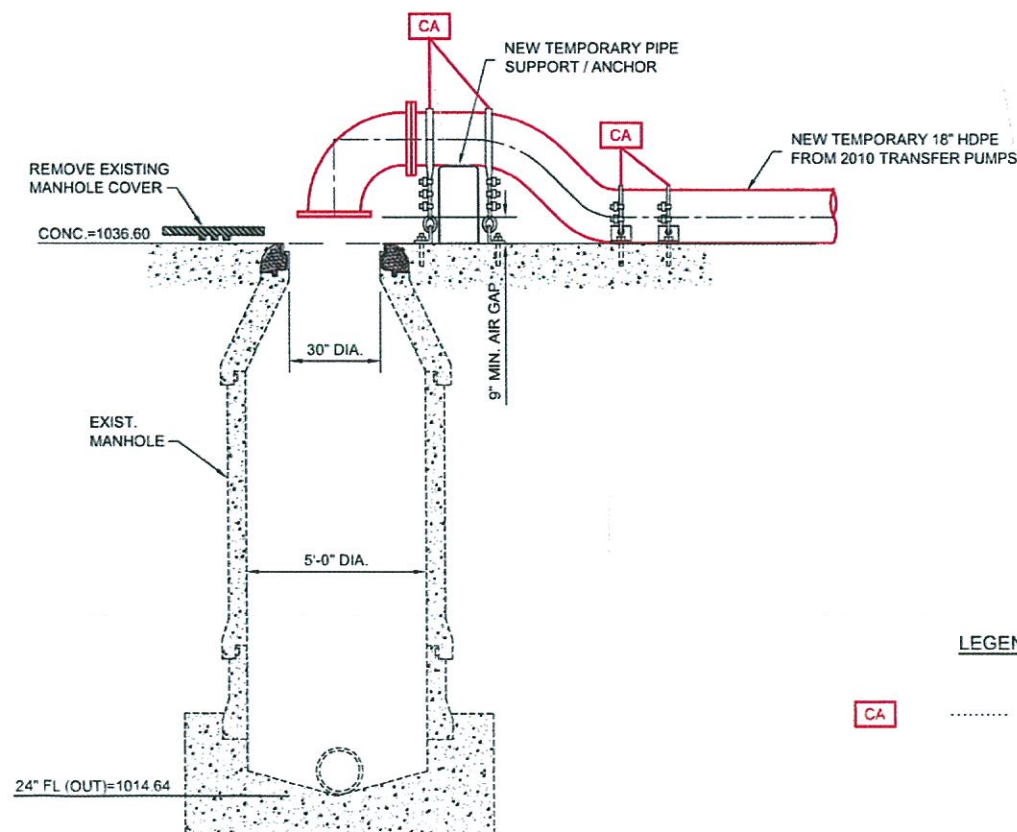
SECTION D
3/8" = 1'-0"



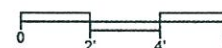
CONNECTION No. 7 - PLAN VIEW
3/8" = 1'-0"



PREVIOUSLY REMOVED
FOLLOWING FULL SCALE
VERIFICATION TESTING



SECTION A
3/8" = 1'-0"



LEGEND

CA CONCRETE ANCHOR ASSEMBLY LOCATION

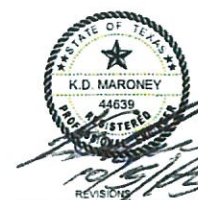
CYPRESS W.T.P.
CONNECTION DETAIL

TEMPORARY DIRECT
POTABLE REUSE

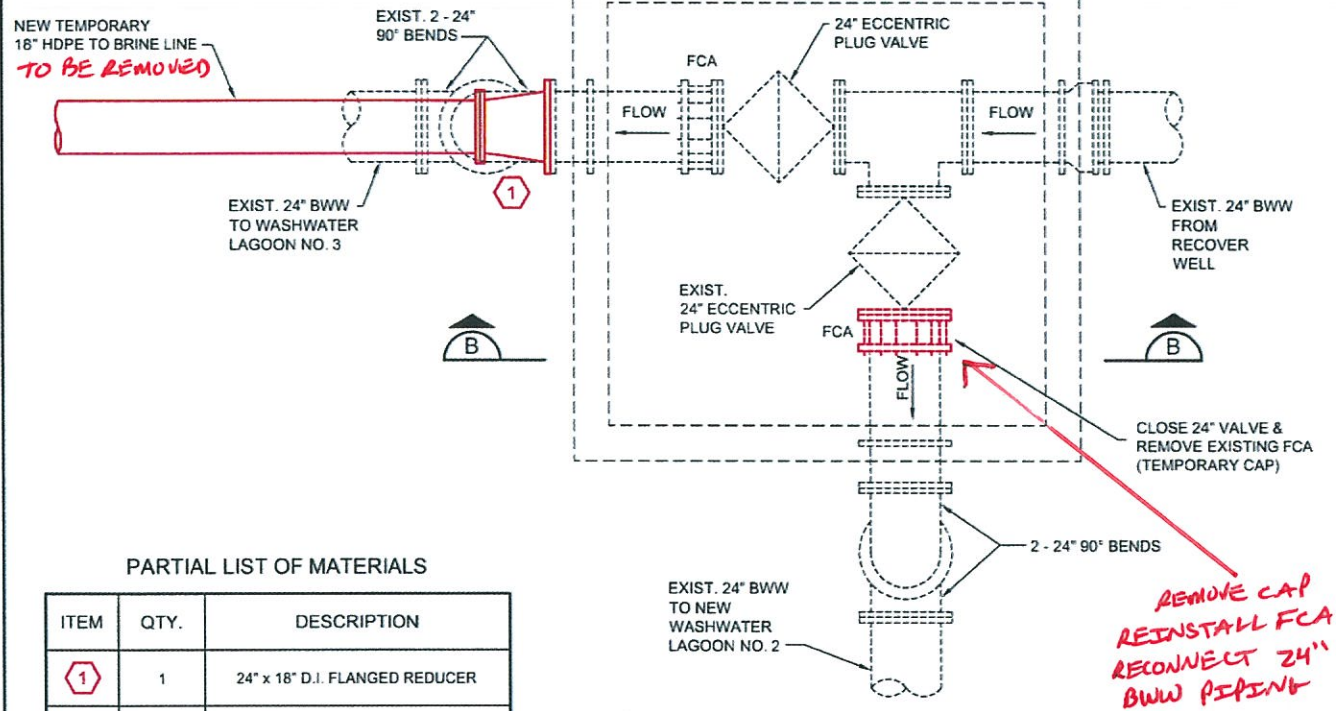
CITY OF WICHITA FALLS, TEXAS

BIGGS & MATHEWS, INC.
CONSULTING ENGINEERS

2500 BROOK AVENUE
WICHITA FALLS, TX 76701
TEXAS REGISTERED ENGINEERING FIRM #4639



DATE	DESCRIPTION	BY	DATE	REVISION	SHEET
		DM KDM	10-1-2013		6
		DW JMJ	SCALE	AS SHOWN	
		CH KDM	REVISED		OF 8

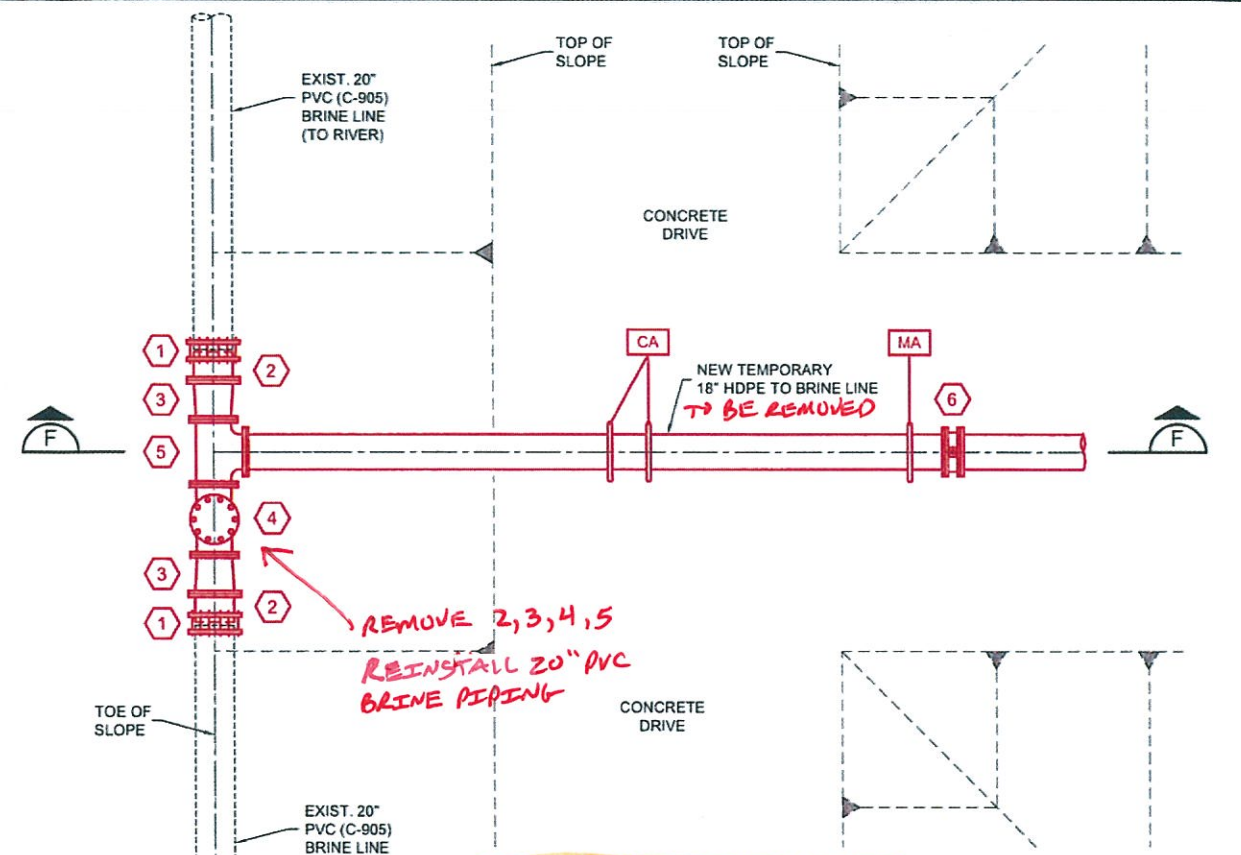
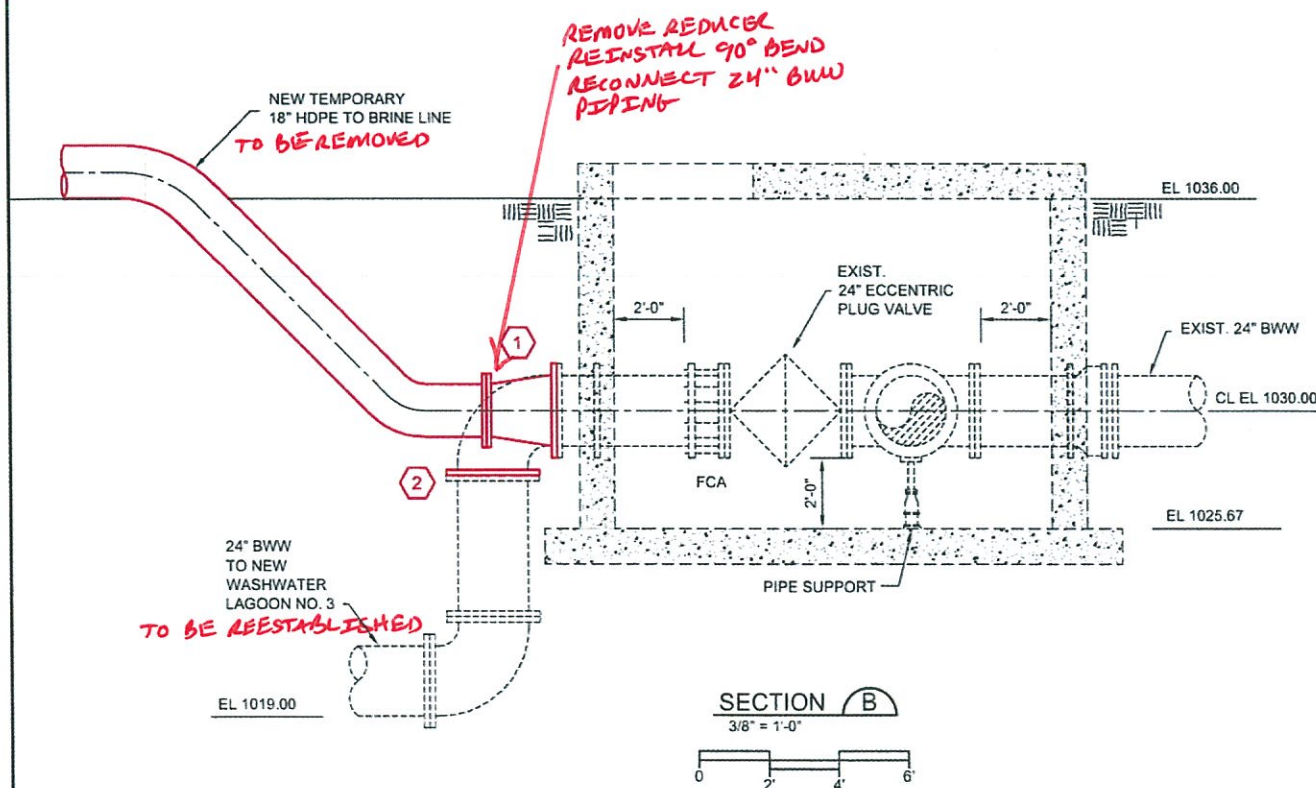


PARTIAL LIST OF MATERIALS

ITEM	QTY.	DESCRIPTION
1	1	24" x 18" D.I. FLANGED REDUCER
2	1	24" TEMPORARY CAP

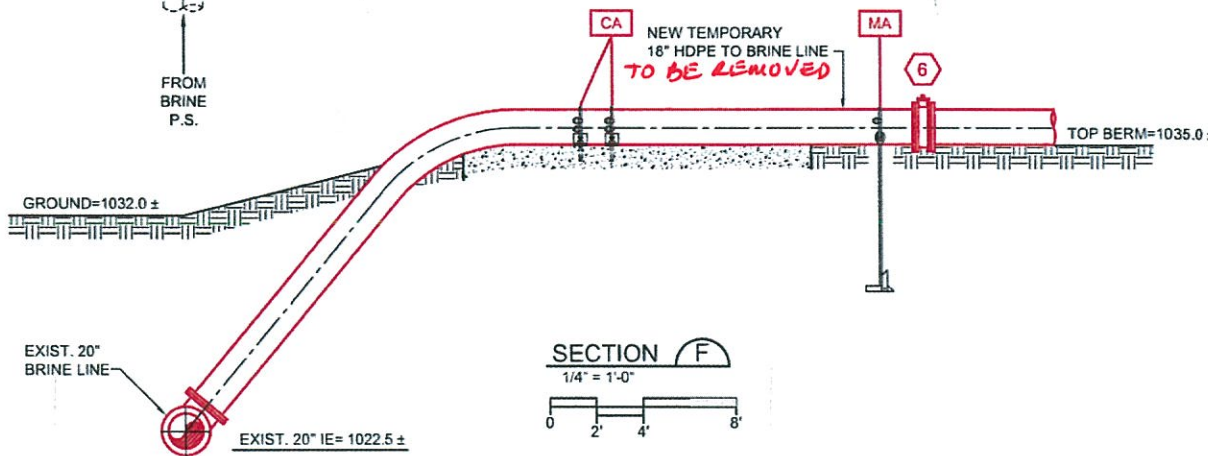
CONNECTION No. 8 - PLAN VIEW

3/8" = 1'-0"



CONNECTION No. 9 - PLAN VIEW

1/4" = 1'-0"



PARTIAL LIST OF MATERIALS

CUT & REMOVE PORTION OF 20" LINE & INSTALL THE FOLLOWING

ITEM	QTY.	DESCRIPTION
1	2	20" DRESSER COUPLINGS
2	2	20" D.I. FLANGED TO P.E. D.I. PIPE
3	2	18" x 20" D.I. FLANGED REDUCER
4	1	18" D.I. FLANGED RUBBER FLAPPER SWING CHECK VALVE
5	1	18" x 18" D.I. FLANGED TEE (ROTATED AS REQ'D.)
6	1	18" FLANGED BUTTERFLY VALVE

LEGEND

MA	MANTA RAY ANCHOR ASSEMBLY LOCATION
CA	CONCRETE ANCHOR ASSEMBLY LOCATION

CYPRESS W.T.P.
CONNECTION DETAIL

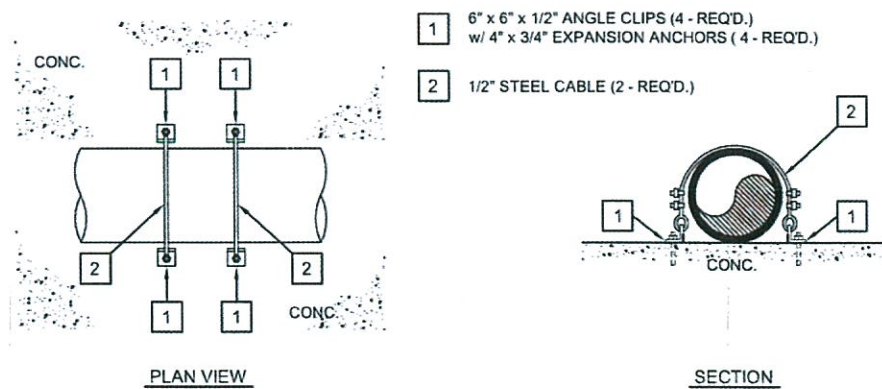
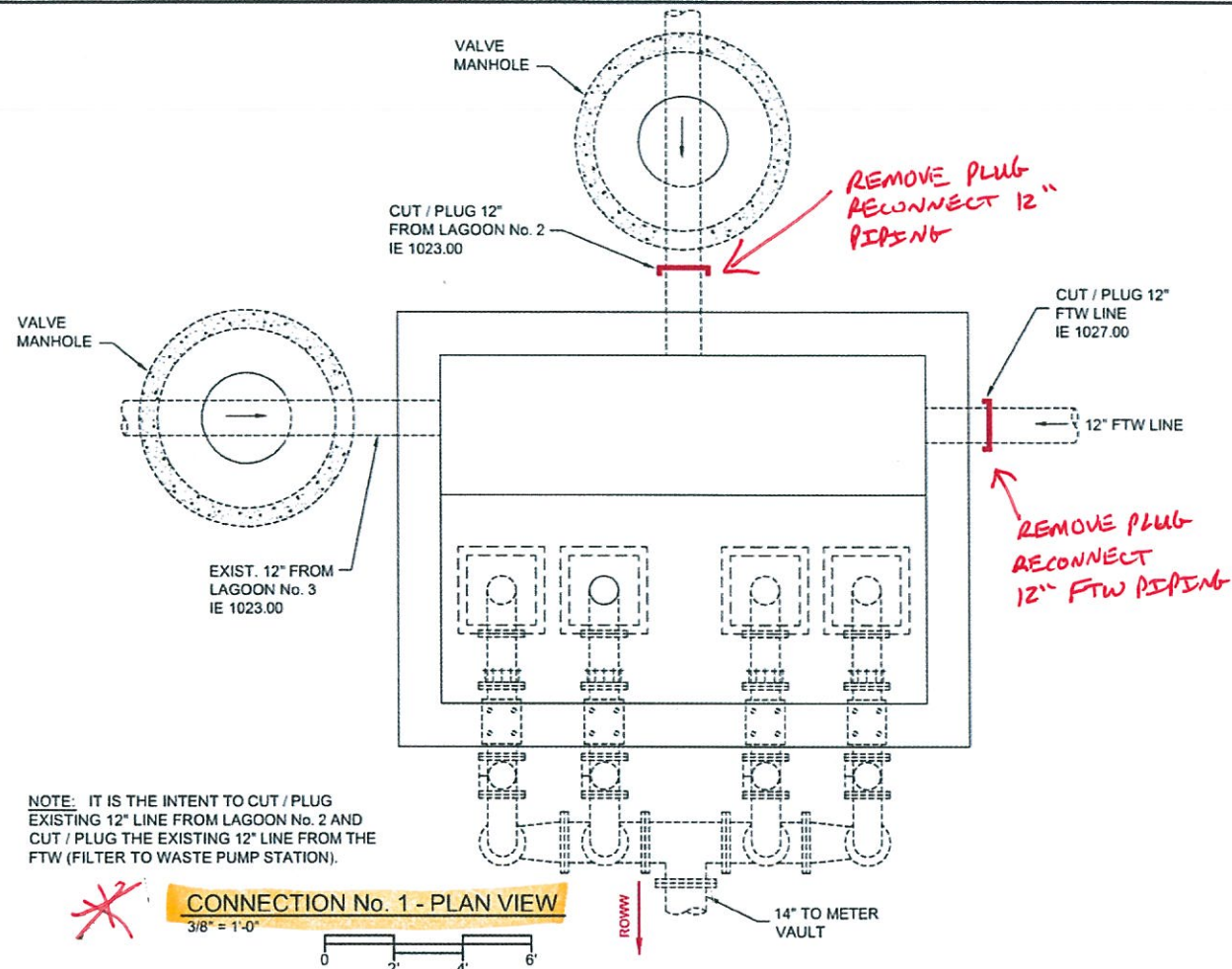
TEMPORARY DIRECT
POTABLE REUSE

CITY OF WICHITA FALLS, TEXAS

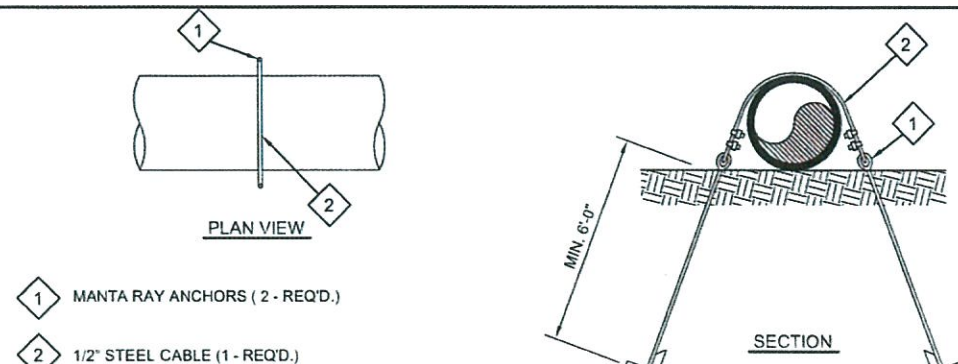
BIGGS & MATHEWS, INC.
CONSULTING ENGINEERS

2500 BROOK AVENUE
WICHITA FALLS, TX 76701
TEL: (847) 766-0156
F: (847) 766-3383
TEXAS REGISTERED ENGINEERING FIRM F-534

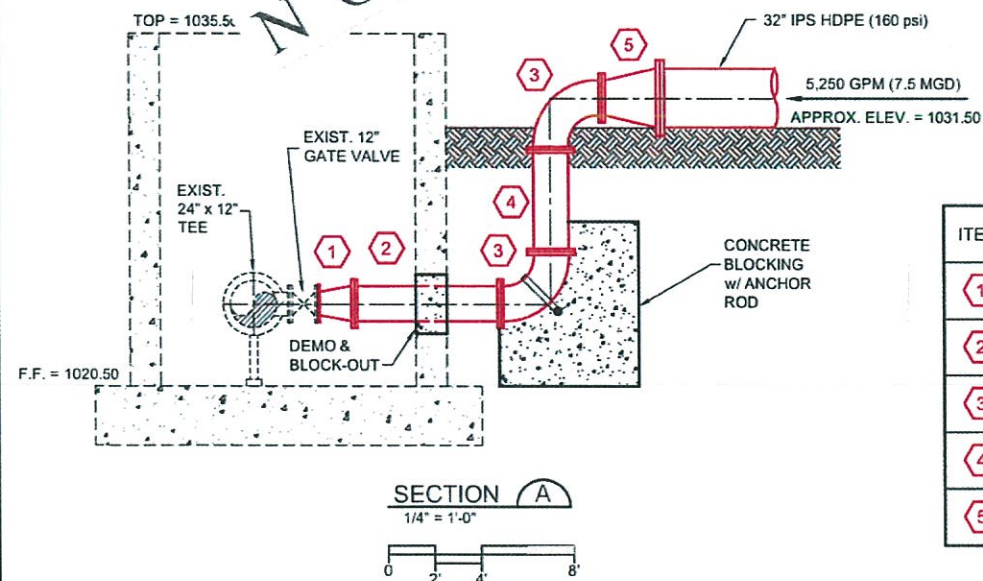
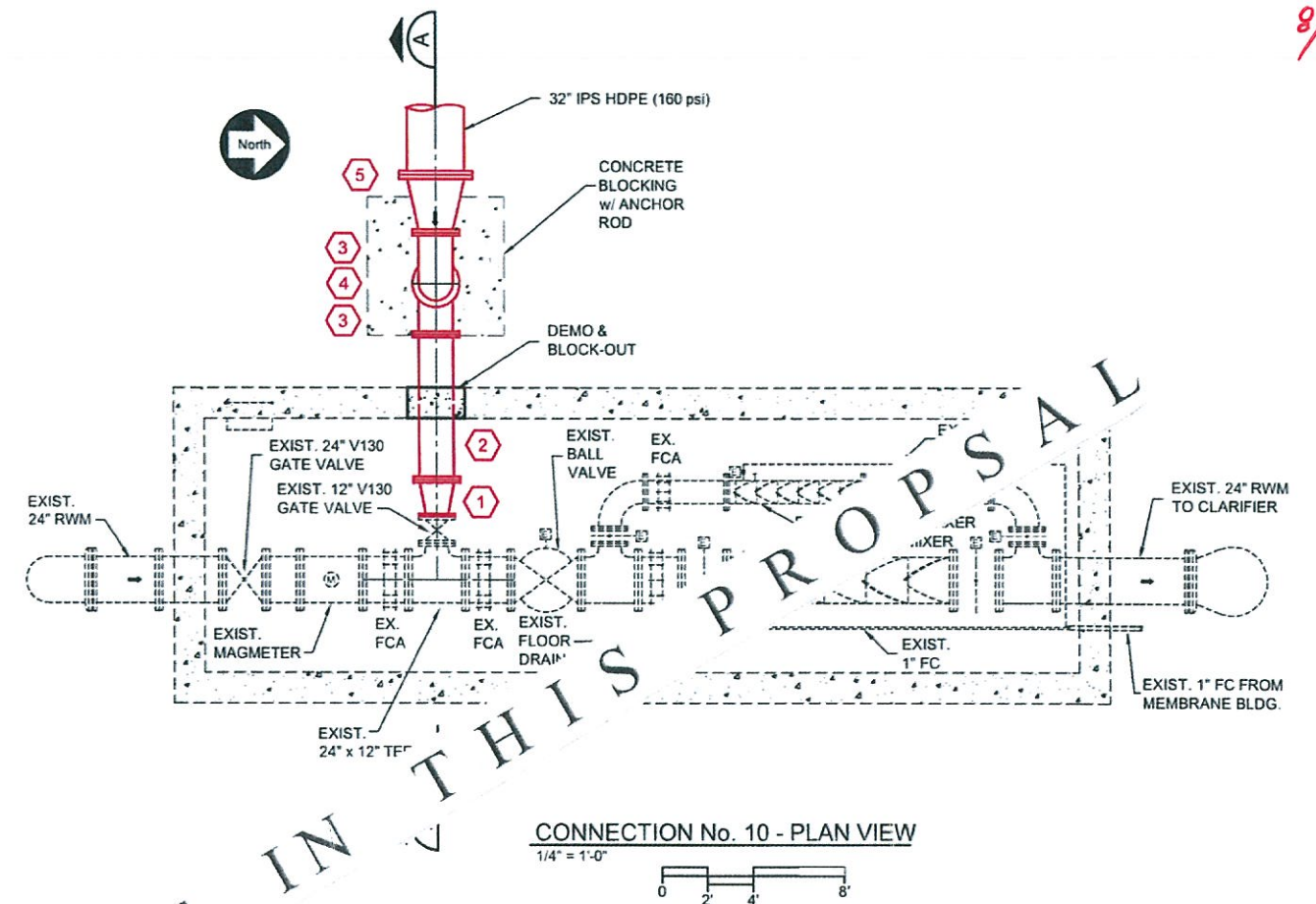
DATE	DESCRIPTION	DN	KDM	DATE	10-1-2013	SHEET
		DW	JMJ	SCALE	AS SHOWN	7
		CK	KDM	REVISED		OF 8



TYPICAL CONCRETE ANCHOR ASSEMBLY
(4 ANCHORS PER ASSEMBLY)



TYPICAL MANTA RAY ANCHOR ASSEMBLY
(2 ANCHORS PER ASSEMBLY)



PARTIAL LIST OF MATERIALS

ITEM	QTY.	DESCRIPTION
1	1	12" x 18" D.I. FLANGED REDUCER
2	1	18" D.I. FLANGED SPOOL (APPROX. 6'-3 1/2" ± LENGTH)
3	2	18" D.I. FLANGED 90° LONG RADIUS BENDS
4	1	18" D.I. FLANGED SPOOL TO FIT (APPROX. 4'-4" ± LENGTH)
5	1	18" x 30" D.I. FLANGED REDUCER

CYPRESS W.T.P.
CONNECTION DETAIL

TEMPORARY DIRECT
POTABLE REUSE

CITY OF WICHITA FALLS, TEXAS

BIGGS & MATHEWS, INC.

CONSULTING ENGINEERS
2500 BROOK AVENUE V. (940) 766-0156
WICHITA FALLS, TX 76301 F. (940) 766-3383
TEXAS REGISTERED ENGINEERING FIRM F-534

DATE	DESCRIPTION	DN	KDM	DATE	10-1-2013	SHEET
		DW	JMJ	SCALE	AS SHOWN	8
		CK	KDM	REVISED		OF 8