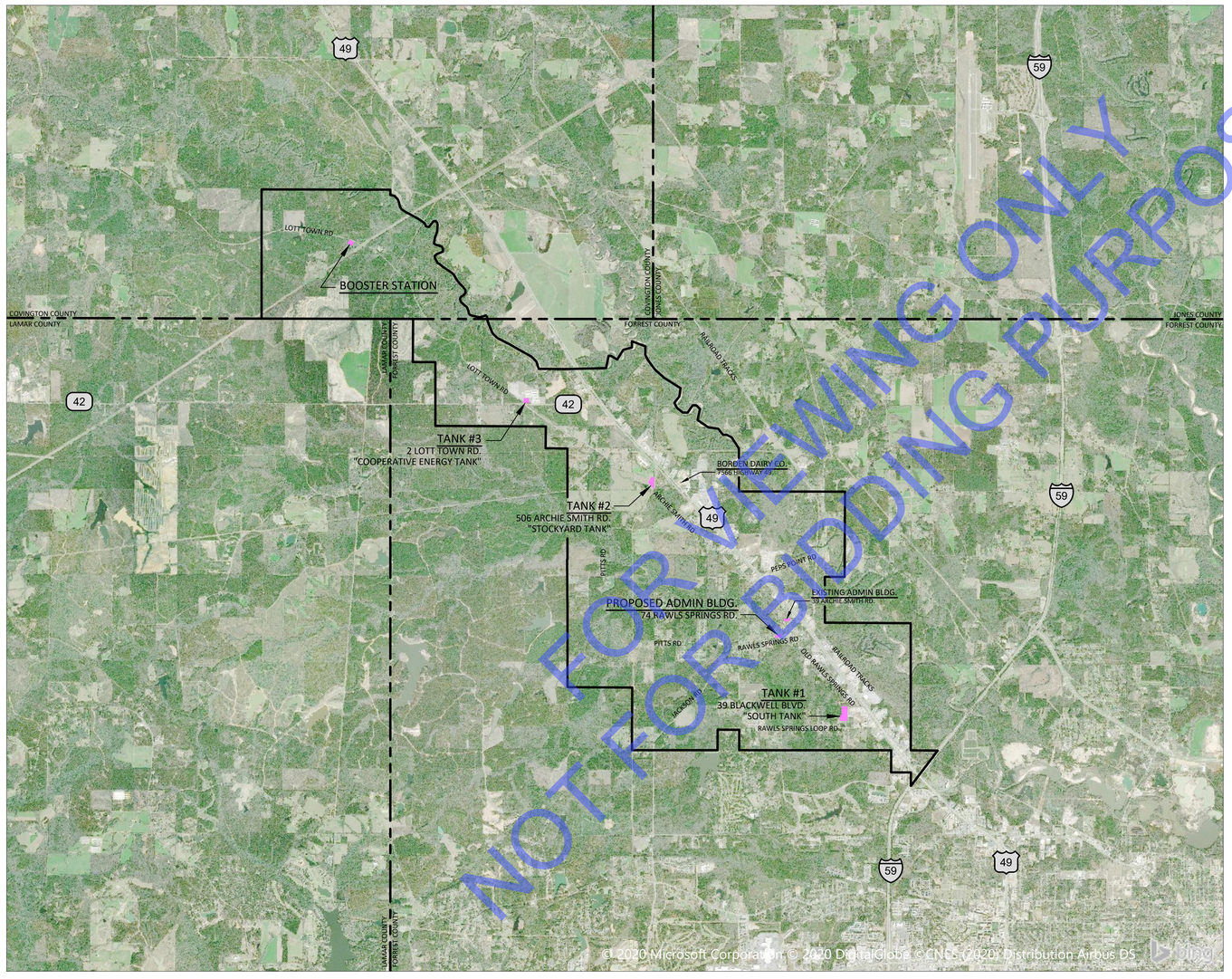
RAWLS SPRINGS UTILITY DISTRICT

Water System Improvements - 2020

Contract Number 1 - Waterline and Tank Site Improvements



VICINITY MAP

LOCATION MAP

PROJECT LOCATION
RAWLS SPRINGS
FORREST CO., &
COVINGTON CO., MS

Rawls Springs Utility District

Board Members

Tony Muli	-	President
Mark Prine	-	Vice President
Catherine Kirkham	-	Board Member
Clarence Clark	-	Board Member
Sallie Minor	-	Board Member
Robin Roberts	-	Board Attorney
James Jefferson	-	MS Certified Operator
Becky McGaugh	-	Office Manager

SHEET INDEX

HOLLIS S. WILLIAMS, JR. REGISTERED PROFESSIONAL ENGINEER AND LAND SURVEYOR PE-14251 PS-02946 STATE OF MISSISSIPPI 9/29/21

HOLLIS S. "PETE" WILLIAMS, PE/PS
P.E. - 14251, P.S. - 02946

Project No.: 1802
Date: 01/13/2021
Scale:
Drawn By: SCL
Checked By: HSW

W ENGINEERING, P.A.
Office 601-928-5981
pw@weng-ms.com
301 Central Ave East
Wiggins, MS 39577

Rawls Springs Utility District
Water System Improvements-2020
Contract Number 1 - Waterline and Tank Site Improvements

Cover Sheet

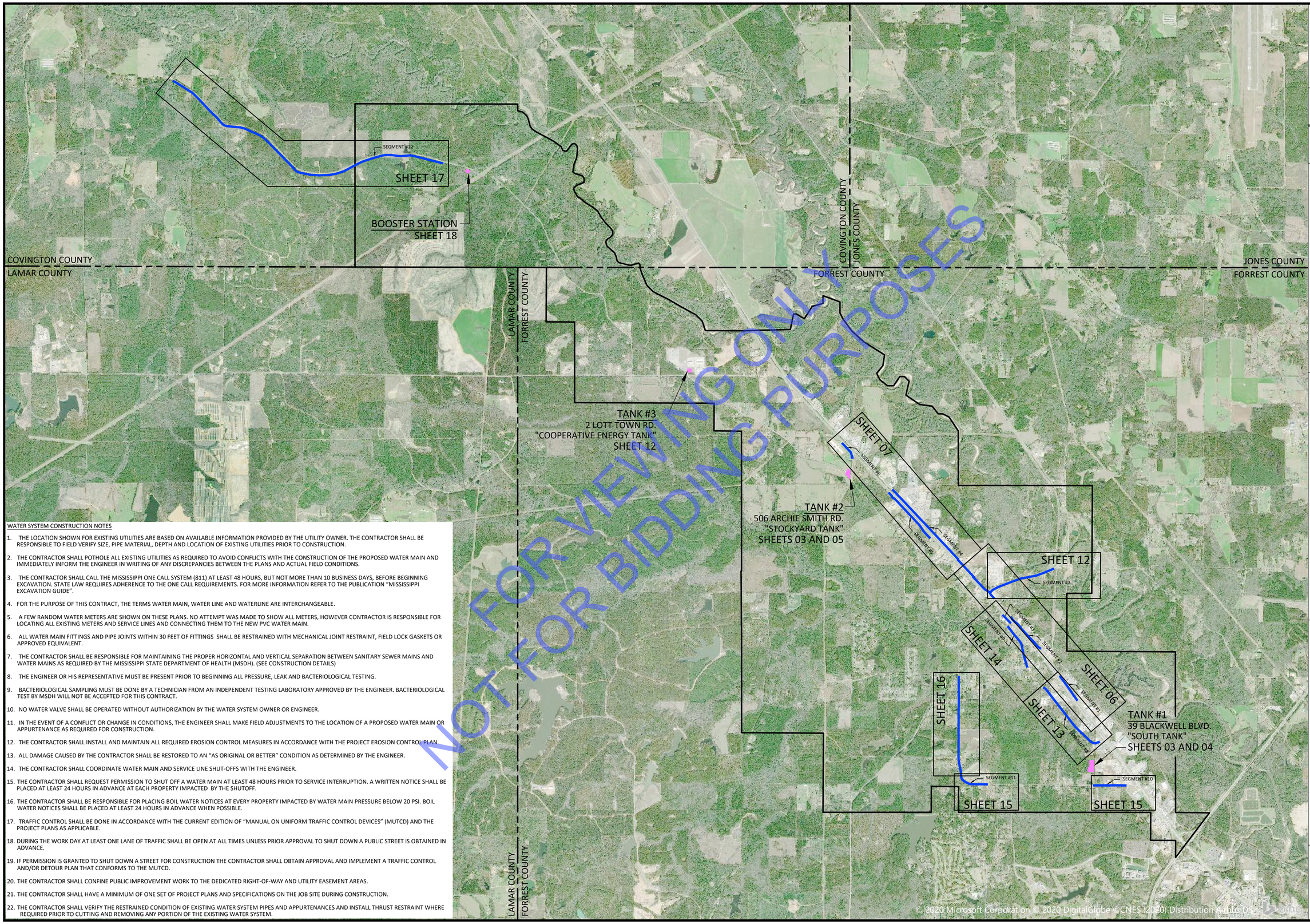
REVISIONS

NO.	DATE	DESCRIPTION	BY
01	03/10	Revised per MDOT's review comments	CL
02	04/14	Revised per MSDH's review comments	CL
03	04/14	Changed Booster Station from 22 to 30 Connections	CL
04	05/07	Changed Booster Station from 30 to 50 Connections	CL
05	08/04	Issued for Board Approval	CL

Sheet No.

01

1802 - RSUD Contract 1 - Waterline and Tank Site Improvements



WATER SYSTEM CONSTRUCTION NOTES

1. THE LOCATION SHOWN FOR EXISTING UTILITIES ARE BASED ON AVAILABLE INFORMATION PROVIDED BY THE UTILITY OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE TO FIELD VERIFY SIZE, PIPE MATERIAL, DEPTH AND LOCATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.
2. THE CONTRACTOR SHALL POTHOLE ALL EXISTING UTILITIES AS REQUIRED TO AVOID CONFLICTS WITH THE CONSTRUCTION OF THE PROPOSED WATER MAIN AND IMMEDIATELY INFORM THE ENGINEER IN WRITING OF ANY DISCREPANCIES BETWEEN THE PLANS AND ACTUAL FIELD CONDITIONS.
3. THE CONTRACTOR SHALL CALL THE MISSISSIPPI ONE CALL SYSTEM (811) AT LEAST 48 HOURS, BUT NOT MORE THAN 10 BUSINESS DAYS, BEFORE BEGINNING EXCAVATION. STATE LAW REQUIRES ADHERENCE TO THE ONE CALL REQUIREMENTS. FOR MORE INFORMATION REFER TO THE PUBLICATION "MISSISSIPPI EXCAVATION GUIDE".
4. FOR THE PURPOSE OF THIS CONTRACT, THE TERMS WATER MAIN, WATER LINE AND WATERLINE ARE INTERCHANGEABLE.
5. A FEW RANDOM WATER METERS ARE SHOWN ON THESE PLANS. NO ATTEMPT WAS MADE TO SHOW ALL METERS, HOWEVER CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL EXISTING METERS AND SERVICE LINES AND CONNECTING THEM TO THE NEW PVC WATER MAIN.
6. ALL WATER MAIN FITTINGS AND PIPE JOINTS WITHIN 30 FEET OF FITTINGS SHALL BE RESTRAINED WITH MECHANICAL JOINT RESTRAINT, FIELD LOCK GASKETS OR APPROVED EQUIVALENT.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE PROPER HORIZONTAL AND VERTICAL SEPARATION BETWEEN SANITARY SEWER MAINS AND WATER MAINS AS REQUIRED BY THE MISSISSIPPI STATE DEPARTMENT OF HEALTH (MSDH). (SEE CONSTRUCTION DETAILS)
8. THE ENGINEER OR HIS REPRESENTATIVE MUST BE PRESENT PRIOR TO BEGINNING ALL PRESSURE, LEAK AND BACTERIOLOGICAL TESTING.
9. BACTERIOLOGICAL SAMPLING MUST BE DONE BY A TECHNICIAN FROM AN INDEPENDENT TESTING LABORATORY APPROVED BY THE ENGINEER. BACTERIOLOGICAL TEST BY MSDH WILL NOT BE ACCEPTED FOR THIS CONTRACT.
10. NO WATER VALVE SHALL BE OPERATED WITHOUT AUTHORIZATION BY THE WATER SYSTEM OWNER OR ENGINEER.
11. IN THE EVENT OF A CONFLICT OR CHANGE IN CONDITIONS, THE ENGINEER SHALL MAKE FIELD ADJUSTMENTS TO THE LOCATION OF A PROPOSED WATER MAIN OR APPURTENANCE AS REQUIRED FOR CONSTRUCTION.
12. THE CONTRACTOR SHALL INSTALL AND MAINTAIN ALL REQUIRED EROSION CONTROL MEASURES IN ACCORDANCE WITH THE PROJECT EROSION CONTROL PLAN.
13. ALL DAMAGE CAUSED BY THE CONTRACTOR SHALL BE RESTORED TO AN "AS ORIGINAL OR BETTER" CONDITION AS DETERMINED BY THE ENGINEER.
14. THE CONTRACTOR SHALL COORDINATE WATER MAIN AND SERVICE LINE SHUT-OFFS WITH THE ENGINEER.
15. THE CONTRACTOR SHALL REQUEST PERMISSION TO SHUT OFF A WATER MAIN AT LEAST 48 HOURS PRIOR TO SERVICE INTERRUPTION. A WRITTEN NOTICE SHALL BE PLACED AT LEAST 24 HOURS IN ADVANCE AT EACH PROPERTY IMPACTED BY THE SHUTOFF.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PLACING BOIL WATER NOTICES AT EVERY PROPERTY IMPACTED BY WATER MAIN PRESSURE BELOW 20 PSI. BOIL WATER NOTICES SHALL BE PLACED AT LEAST 24 HOURS IN ADVANCE WHEN POSSIBLE.
17. TRAFFIC CONTROL SHALL BE DONE IN ACCORDANCE WITH THE CURRENT EDITION OF "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) AND THE PROJECT PLANS AS APPLICABLE.
18. DURING THE WORK DAY AT LEAST ONE LANE OF TRAFFIC SHALL BE OPEN AT ALL TIMES UNLESS PRIOR APPROVAL TO SHUT DOWN A PUBLIC STREET IS OBTAINED IN ADVANCE.
19. IF PERMISSION IS GRANTED TO SHUT DOWN A STREET FOR CONSTRUCTION THE CONTRACTOR SHALL OBTAIN APPROVAL AND IMPLEMENT A TRAFFIC CONTROL AND/OR DETOUR PLAN THAT CONFORMS TO THE MUTCD.
20. THE CONTRACTOR SHALL CONFINE PUBLIC IMPROVEMENT WORK TO THE DEDICATED RIGHT-OF-WAY AND UTILITY EASEMENT AREAS.
21. THE CONTRACTOR SHALL HAVE A MINIMUM OF ONE SET OF PROJECT PLANS AND SPECIFICATIONS ON THE JOB SITE DURING CONSTRUCTION.
22. THE CONTRACTOR SHALL VERIFY THE RESTRAINED CONDITION OF EXISTING WATER SYSTEM PIPES AND APPURTENANCES AND INSTALL THRUST RESTRAINT WHERE REQUIRED PRIOR TO CUTTING AND REMOVING ANY PORTION OF THE EXISTING WATER SYSTEM.

Project No.:	1802
Date:	01/13/2021
Scale:	1" = 2000'
Drawn By:	SCL
Checked By:	HSW

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Rawls Springs Utility District
Water System Improvements-2020
Contract Number 1 - Waterline and Tank Site Improvements

Sheet Layout, Notes & Legend

REVISIONS

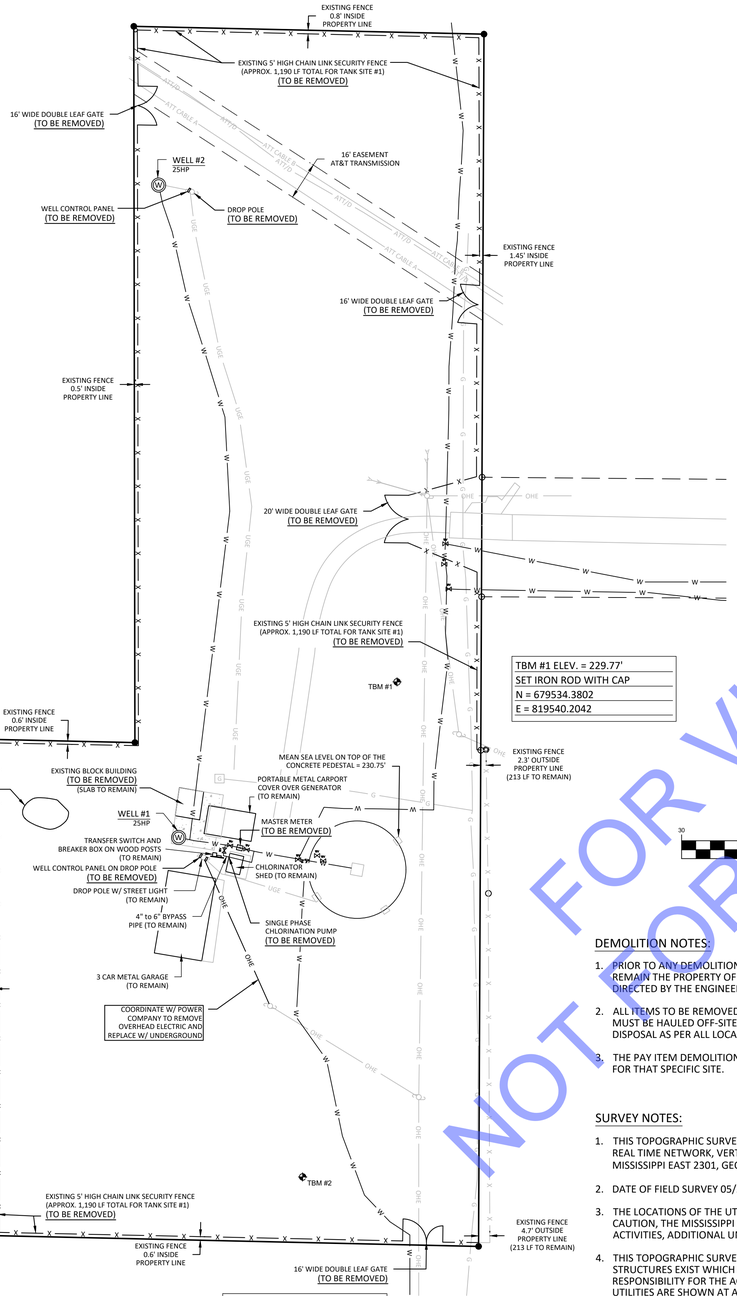
NO.	DATE	DESCRIPTION	BY
01	03/10	Revised per MDOT's review comments	CL
02	08/04	Issued for Board Approval	CL

Sheet No.
02

1802- RSUD Contract 1 - Waterline and Tank Site Improvements

Tank Site #1

39 Blackwell Blvd. "South Tank"



TBM #1 ELEV. = 229.77'
SET IRON ROD WITH CAP
N = 679534.3802
E = 819540.2042

TBM #2 ELEV. = 229.19'
SET IRON ROD WITH CAP
N = 679326.7970
E = 819540.2042

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)

1 INCH = 30 FT.

TANK SITE 1 - LEGEND

- FOUND IRON PIPE
- FOUND IRON ROD
- SET IRON ROD
- FIRE HYDRANT
- WATER VALVE
- POWER POLE
- GUY WIRE
- GAS METER
- WATER MAIN
- OVERHEAD ELECTRIC
- UNDERGROUND ELECTRIC
- BURIED FIBER OPTIC
- GAS MAIN
- CHAIN LINK FENCE

DEMOLITION NOTES:

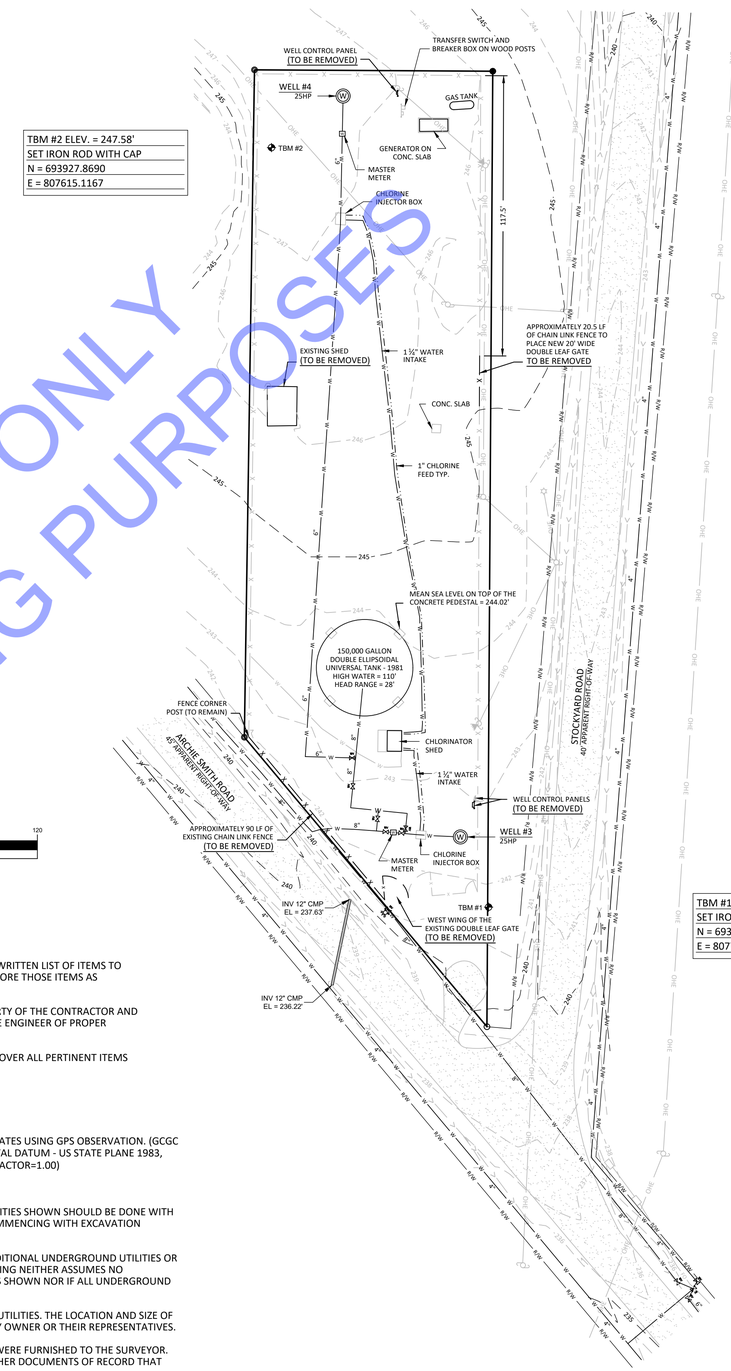
1. PRIOR TO ANY DEMOLITION, CONTRACTOR MUST REQUEST FROM THE ENGINEER A WRITTEN LIST OF ITEMS TO REMAIN THE PROPERTY OF THE OWNER. CONTRACTOR MUST CLEAN AND NEATLY STORE THOSE ITEMS AS DIRECTED BY THE ENGINEER.
2. ALL ITEMS TO BE REMOVED THAT ARE NOT ON THAT LIST WILL BECOME THE PROPERTY OF THE CONTRACTOR AND MUST BE HAULED OFF-SITE. CONTRACTOR MUST PROVIDE DOCUMENTATION TO THE ENGINEER OF PROPER DISPOSAL AS PER ALL LOCAL, STATE AND FEDERAL REGULATIONS.
3. THE PAY ITEM DEMOLITION, POST CONSTRUCTION CLEAN UP AND GRASSING WILL COVER ALL PERTINENT ITEMS FOR THAT SPECIFIC SITE.

SURVEY NOTES:

1. THIS TOPOGRAPHIC SURVEY IS SET TO MEAN SEA LEVEL AND STATE PLANE COORDINATES USING GPS OBSERVATION. (GCGC REAL TIME NETWORK, VERTICAL DATUM - NAD 83 (2011) EPOCH 2010.00. HORIZONTAL DATUM - US STATE PLANE 1983, MISSISSIPPI EAST 2301, GEOID 12B (CONUS) CONVERGENCE= 000°04'08.35", SCALE FACTOR=1.00)
2. DATE OF FIELD SURVEY 05/26/2020
3. THE LOCATIONS OF THE UTILITIES ARE APPROXIMATE ONLY, EXCAVATION NEAR UTILITIES SHOWN SHOULD BE DONE WITH CAUTION, THE MISSISSIPPI ONE-CALL NETWORK SHOULD BE NOTIFIED PRIOR TO COMMENCING WITH EXCAVATION ACTIVITIES, ADDITIONAL UNDERGROUND UTILITIES MAY EXIST.
4. THIS TOPOGRAPHIC SURVEY IS LIMITED TO ABOVE GROUND STRUCTURES ONLY. ADDITIONAL UNDERGROUND UTILITIES OR STRUCTURES EXIST WHICH MAY NOT BE INCLUDED ON THIS DRAWING. W ENGINEERING NEITHER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE LOCATION OF UNDERGROUND UTILITIES SHOWN NOR IF ALL UNDERGROUND UTILITIES ARE SHOWN AT ALL.
5. NO EFFORT WAS MADE TO EXCAVATE "POT HOLE" TO LOCATE ANY UNDERGROUND UTILITIES. THE LOCATION AND SIZE OF UNDERGROUND UTILITIES ARE SHOWN AS MARKED ON THE GROUND BY THE UTILITY OWNER OR THEIR REPRESENTATIVES.
6. NO ABSTRACT OF TITLE, NOR TITLE COMMITMENT, OR RESULTS OF A TITLE SEARCH WERE FURNISHED TO THE SURVEYOR. ALL DOCUMENTS OF RECORD REVIEWED ARE NOTED HEREON. THERE MAY EXIST OTHER DOCUMENTS OF RECORD THAT MAY AFFECT THIS SURVEYED PARCEL.
7. THE PROFESSIONAL SURVEYOR HAS MADE NO INVESTIGATION OR INDEPENDENT SEARCH FOR EASEMENTS OF RECORD, ENCUMBRANCES, RESTRICTIVE COVENANTS, OWNERSHIP TITLE EVIDENCE, OR ANY OTHER FACTS THAT AN ACCURATE AND CURRENT TITLE SEARCH MAY DISCLOSE.

Tank Site #2

506 Archie Smith Rd. "Stockyard Tank"



TBM #1 ELEV. = 241.86'
SET IRON ROD WITH CAP
N = 693609.3766
E = 807706.1406

TANK SITE 2 - LEGEND

- FOUND IRON PIPE
- FOUND IRON ROD
- SET IRON ROD
- FIRE HYDRANT
- WATER VALVE
- POWER POLE
- GUY WIRE
- LIGHT POLE
- WATER MAIN
- OVERHEAD ELECTRIC
- BURIED FIBER OPTIC
- CHAIN LINK FENCE
- RIGHT-OF-WAY
- DITCH w/ DIRECTION OF FLOW

Project No.: 1802
Date: 01/13/2021
Scale: 1" = 30'
Drawn By: SCL
Checked By: HSW

Grid North

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Wiggins, MS 39577

Rawls Springs Utility District
Water System Improvements-2020
Contract Number 1 - Waterline and Tank Site Improvements

Existing Conditions/Demo Plan - Tank Sites 1 & 2

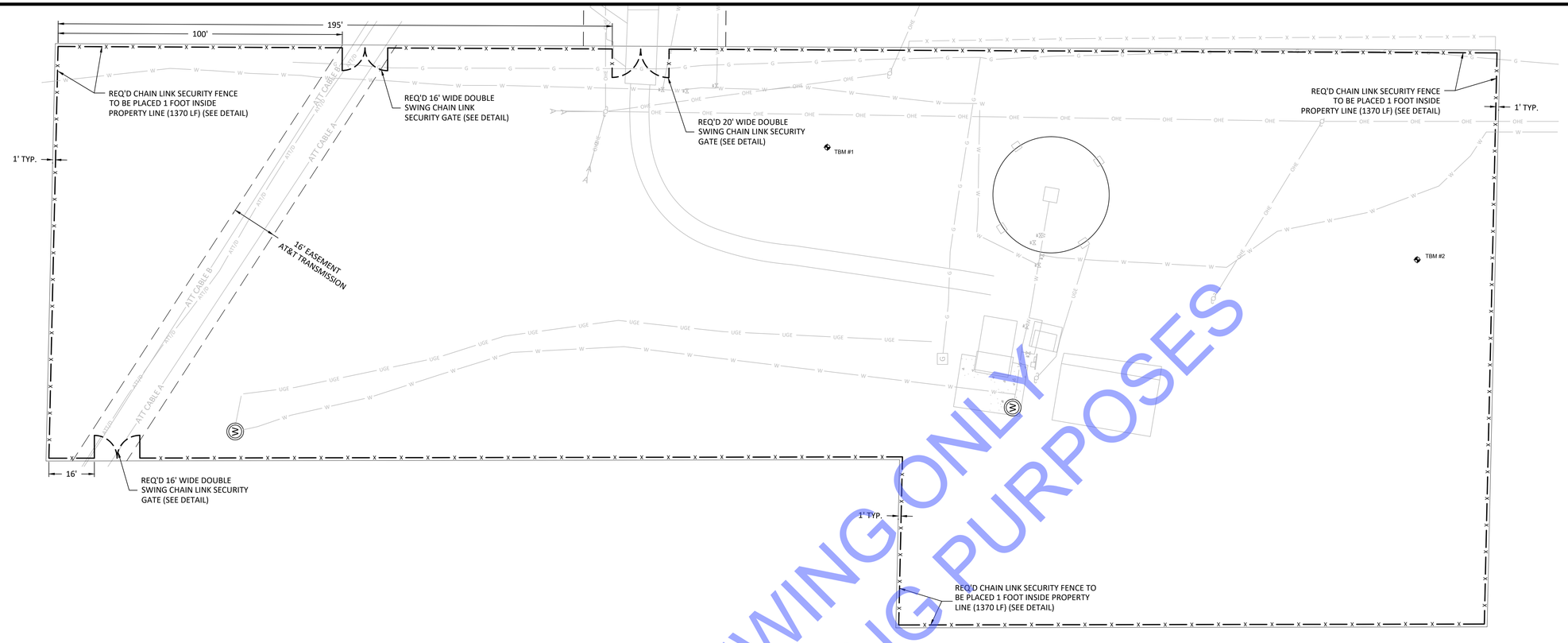
REVISIONS

NO.	DATE	DESCRIPTION	BY
01	08/04	Issued for Board Approval	CL

Sheet No.

03

1802 - RSUD Contract 1 - Waterline and Tank Site Improvements

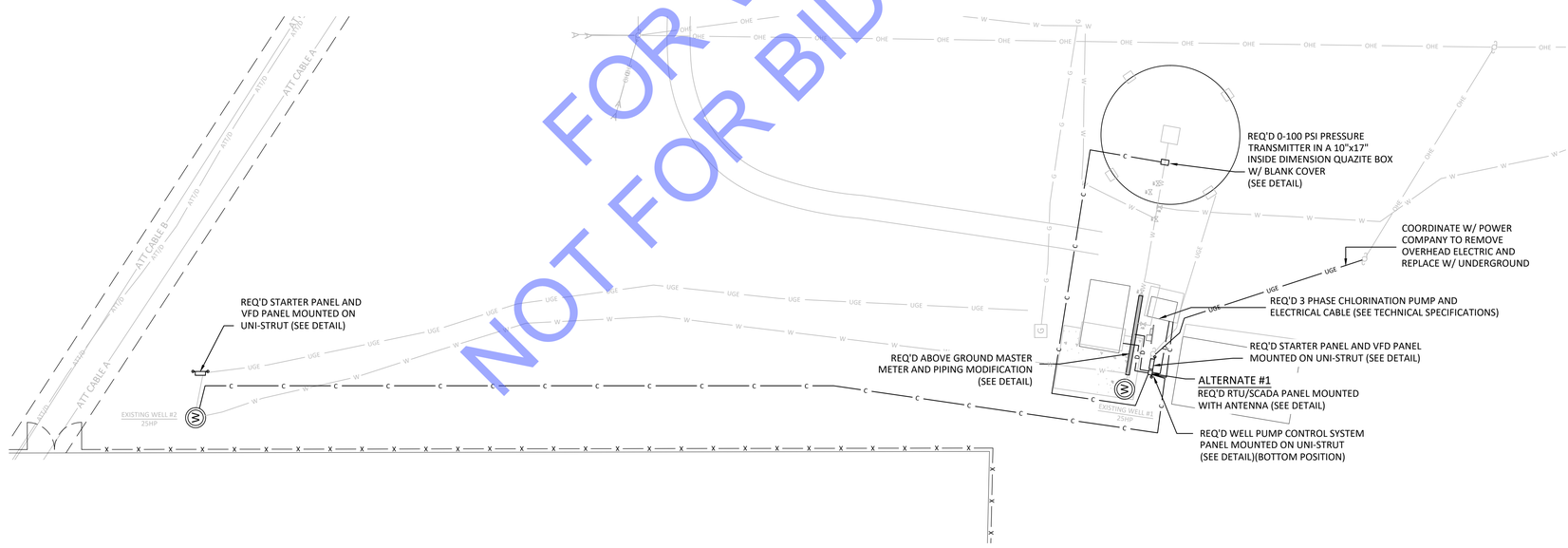


GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 INCH = 20 FT.

SITE IMPROVEMENTS FOR TANK SITE 1



SYSTEM CONTROL & SYSTEM MONITORING IMPROVEMENTS FOR TANK SITE 1

LEGEND

W	- WATER WELL
	- FIRE HYDRANT
	- WATER VALVE
	- POWER POLE
	- GUY WIRE
G	- GAS METER
W	- WATER MAIN
OHE	- OVERHEAD ELECTRIC
UGE	- UNDERGROUND ELECTRIC
ATT/D	- BURIED FIBER OPTIC
G	- GAS MAIN
D	- REQ'D DATA CABLE TO SCADA (ALTERNATE #1)
C	- REQ'D CONTROL CABLE TO WELL PUMP CONTROL SYSTEM
RTU	- REMOTE TERMINAL UNIT
VFD	- VARIABLE FREQUENCY DRIVE
PSI	- POUNDS PER SQUARE INCH
GPM	- GALLONS PER MINUTE

NOTES:

1. ONLY ONE WATER WELL SHALL BE REMOVED FROM SERVICE AT A TIME.
2. THE CHLORINATOR SYSTEM SHALL NOT BE OUT OF SERVICE FOR MORE THAN 2 HOURS. BOTH WELL PUMPS SHALL REMAIN OFF WHILE THE CHLORINATION SYSTEM IS OUT OF SERVICE.
3. THE FOLLOWING ITEMS SHALL BE CONNECTED TO THE SCADA RTU:
   - WELL PUMPS CONTROL SYSTEM
   - MASTER METER DIGITAL ENCODER
   - CHLORINATOR PUMP
   - EMERGENCY GENERATOR
4. THIS SCADA TO BE USED FOR THIS PROJECT IS FOR MONITORING ONLY. THE FOLLOWING CONDITIONS WILL BE MONITORED:

- LEVEL ALARMS	(WELL PUMPS CONTROL SYSTEM)
- TANK LEVEL	(WELL PUMPS CONTROL SYSTEM)
- WELL PUMPS START	(WELL PUMPS CONTROL SYSTEM)
- WELL PUMP RUN TIME	(WELL PUMPS CONTROL SYSTEM)
- WELL PUMPS ON/OFF	(WELL PUMPS CONTROL SYSTEM)
- WELL PUMPS FAILURE	(WELL PUMPS CONTROL SYSTEM)
- GALLONS OF FLOW	(MASTER METER DIGITAL ENCODER)
- GPM	(MASTER METER DIGITAL ENCODER)
- ON/OFF	(CHLORINATOR PUMPS)
- ON/OFF	(EMERGENCY GENERATOR)

5. THE FOLLOWING ITEMS SHALL BE CONNECTED TO THE WELL PUMPS CONTROL SYSTEM:
   - PRESSURE TRANSMITTER
   - CHLORINATOR PUMP
   - WELL PUMPS/VFD (WELLS 1 & 2)
6. THE WELL PUMP CONTROL SYSTEM SHALL HAVE THE FOLLOWING CONTROL POINT LEVELS: HIGH LEVEL ALARM, LOW LEVEL ALARM, PUMP(S) OFF, LEAD WELL PUMP ON AND LAG WELL PUMP ON
7. SEE SHEET 09B FOR REQUIRED SCADA SYSTEM AT TANK SITE 3 (A REMOTE TANK WITHOUT A WATER SOURCE)

REVISIONS			
NO.	DATE	DESCRIPTION	BY
01	04/14	Revised per MSDH's review comments	CL
02	08/03	Revised Well and Booster Station Controls	CL
03	08/04	Issued for Board Approval	CL

Project No.: 1802
Date: 01/13/2021
Scale: 1" = 20'
Drawn By: SCL
Checked By: HSW

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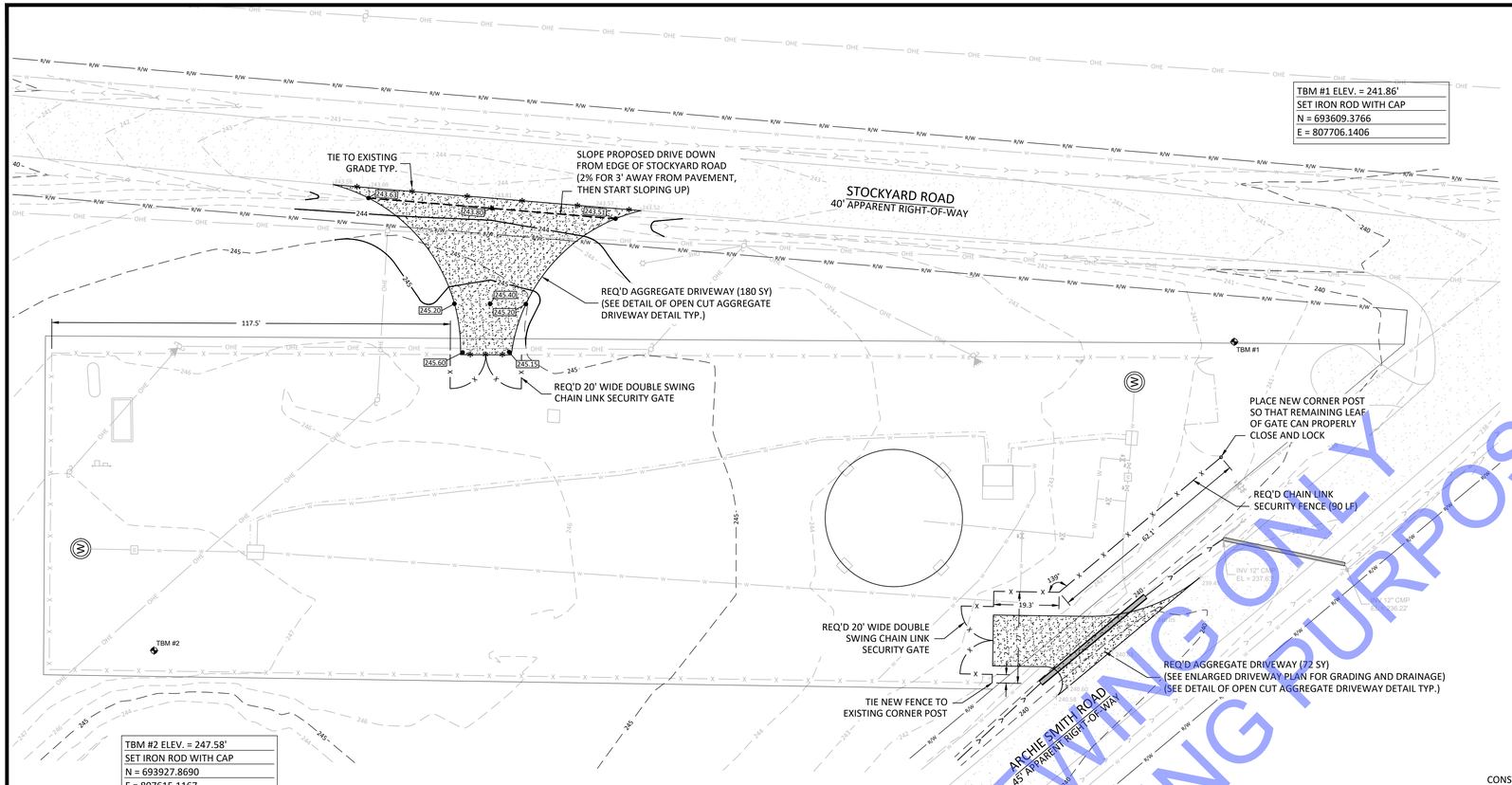
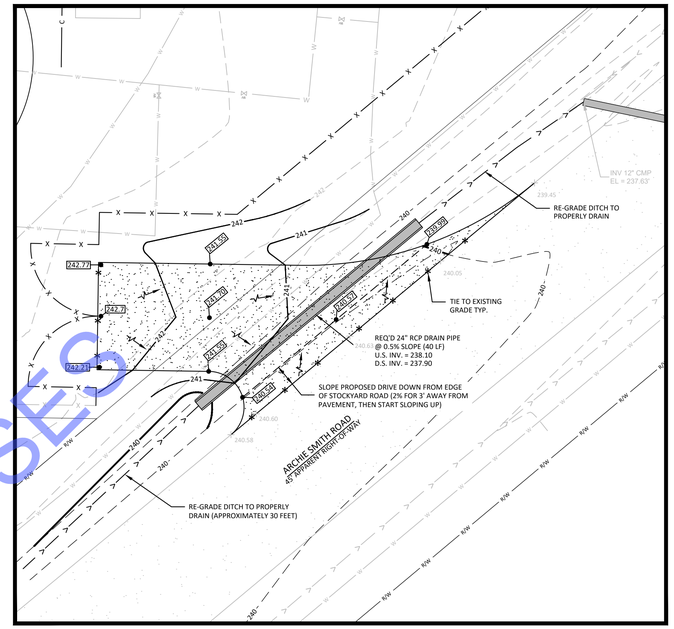
Rawls Springs Utility District
Water System Improvements-2020
Contract Number 1 - Waterline and Tank Site Improvements
Proposed Improvements - Tank Site 1

Sheet No.
04

1802- RSUD Contract 1 - Waterline and Tank Site Improvements





ENLARGED DRIVEWAY PLAN

SCALE: 1" = 10'

SITE IMPROVEMENTS FOR TANK SITE 2

CONSTRUCTION NOTES:

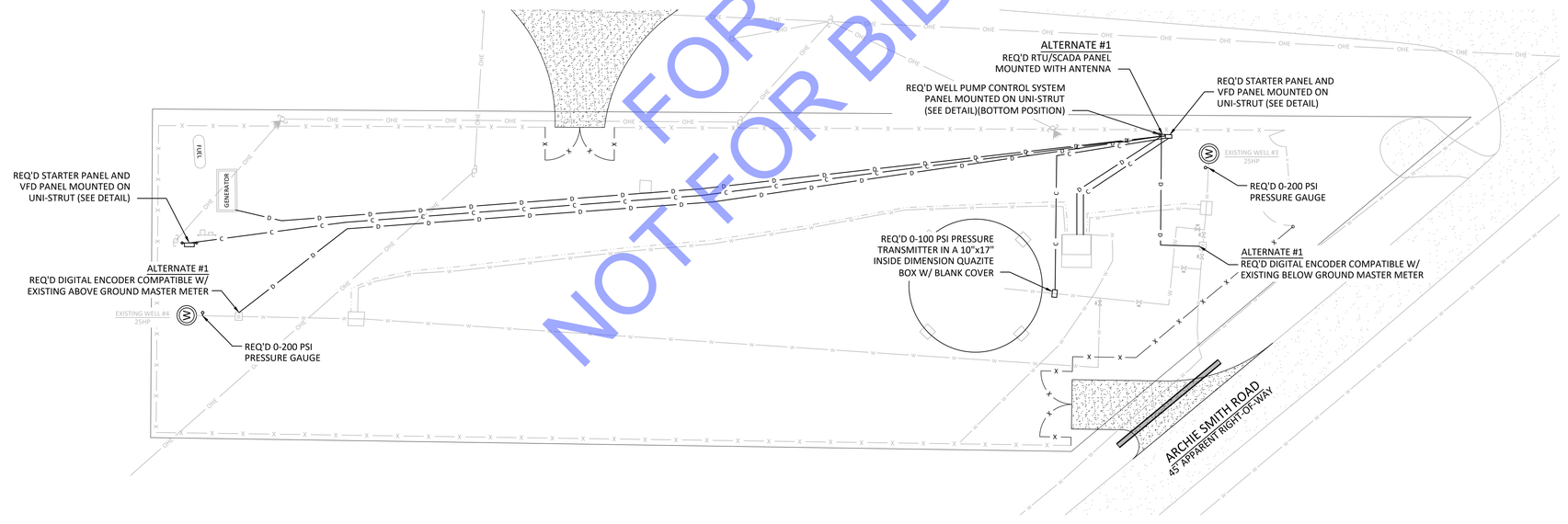
PRIOR TO ANY PLACEMENT OF FILL MATERIAL ON THE PROJECT THE ENTIRE AREA MUST BE "PROOF ROLLED" IN THE PRESENCE OF THE ENGINEER.

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)

1 INCH = 20 FT.



LEGEND

W	- WATER WELL
FH	- FIRE HYDRANT
WV	- WATER VALVE
PP	- POWER POLE
GW	- GUY WIRE
LP	- LIGHT POLE
W	- WATER MAIN
OHE	- OVERHEAD ELECTRIC
FO	- BURIED FIBER OPTIC
R/W	- RIGHT-OF-WAY
>	- DITCH w/ DIRECTION OF FLOW
D	- REQ'D DATA CABLE TO SCADA (ALTERNATE #1)
C	- REQ'D CONTROL CABLE TO WELL PUMP CONTROL SYSTEM
RTU	- REMOTE TERMINAL UNIT
VFD	- VARIABLE FREQUENCY DRIVE
PSI	- POUNDS PER SQUARE INCH
GPM	- GALLONS PER MINUTE

NOTES:

1. ONLY ONE WATER WELL SHALL BE REMOVED FROM SERVICE AT A TIME.
2. THE CHLORINATOR SYSTEM SHALL NOT BE OUT OF SERVICE FOR MORE THAN 2 HOURS. BOTH WELL PUMPS SHALL REMAIN OFF WHILE THE CHLORINATION SYSTEM IS OUT OF SERVICE.
3. THE FOLLOWING ITEMS SHALL BE CONNECTED TO THE SCADA RTU:
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   - MASTER METER DIGITAL ENCODER
   - CHLORINATOR PUMP
   - EMERGENCY GENERATOR
4. THIS SCADA TO BE USED FOR THIS PROJECT IS FOR MONITORING ONLY. THE FOLLOWING CONDITIONS WILL BE MONITORED:

- LEVEL ALARMS	(WELL PUMPS CONTROL SYSTEM)
- TANK LEVEL	(WELL PUMPS CONTROL SYSTEM)
- WELL PUMPS START	(WELL PUMPS CONTROL SYSTEM)
- WELL PUMP RUN TIME	(WELL PUMPS CONTROL SYSTEM)
- WELL PUMPS ON/OFF	(WELL PUMPS CONTROL SYSTEM)
- WELL PUMPS FAILURE	(WELL PUMPS CONTROL SYSTEM)
- GALLONS OF FLOW	(MASTER METER DIGITAL ENCODER)
- GPM	(MASTER METER DIGITAL ENCODER)
- ON/OFF	(CHLORINATOR PUMPS)
- ON/OFF	(EMERGENCY GENERATOR)

5. THE FOLLOWING ITEMS SHALL BE CONNECTED TO THE WELL PUMPS CONTROL SYSTEM:
   - PRESSURE TRANSMITTER
   - WELL PUMPS/VFD (WELLS 3 & 4)
   - CHLORINATOR PUMP
6. THE WELL PUMP CONTROL SYSTEM SHALL HAVE THE FOLLOWING CONTROL POINT LEVELS: HIGH LEVEL ALARM, LOW LEVEL ALARM, PUMP(S) OFF, LEAD WELL PUMP ON AND LAG WELL PUMP ON
7. SEE SHEET 09B FOR REQUIRED SCADA SYSTEM AT TANK SITE 3 (A REMOTE TANK WITHOUT A WATER SOURCE)

SYSTEM CONTROL & SYSTEM MONITORING IMPROVEMENTS FOR TANK SITE 2

Project No.: 1802
Date: 01/13/2021
Scale: 1" = 20'
Drawn By: SCL
Checked By: HSW

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Rawls Springs Utility District
Water System Improvements-2020
Contract Number 1 - Waterline and Tank Site Improvements
Proposed Improvements - Tank Site 2

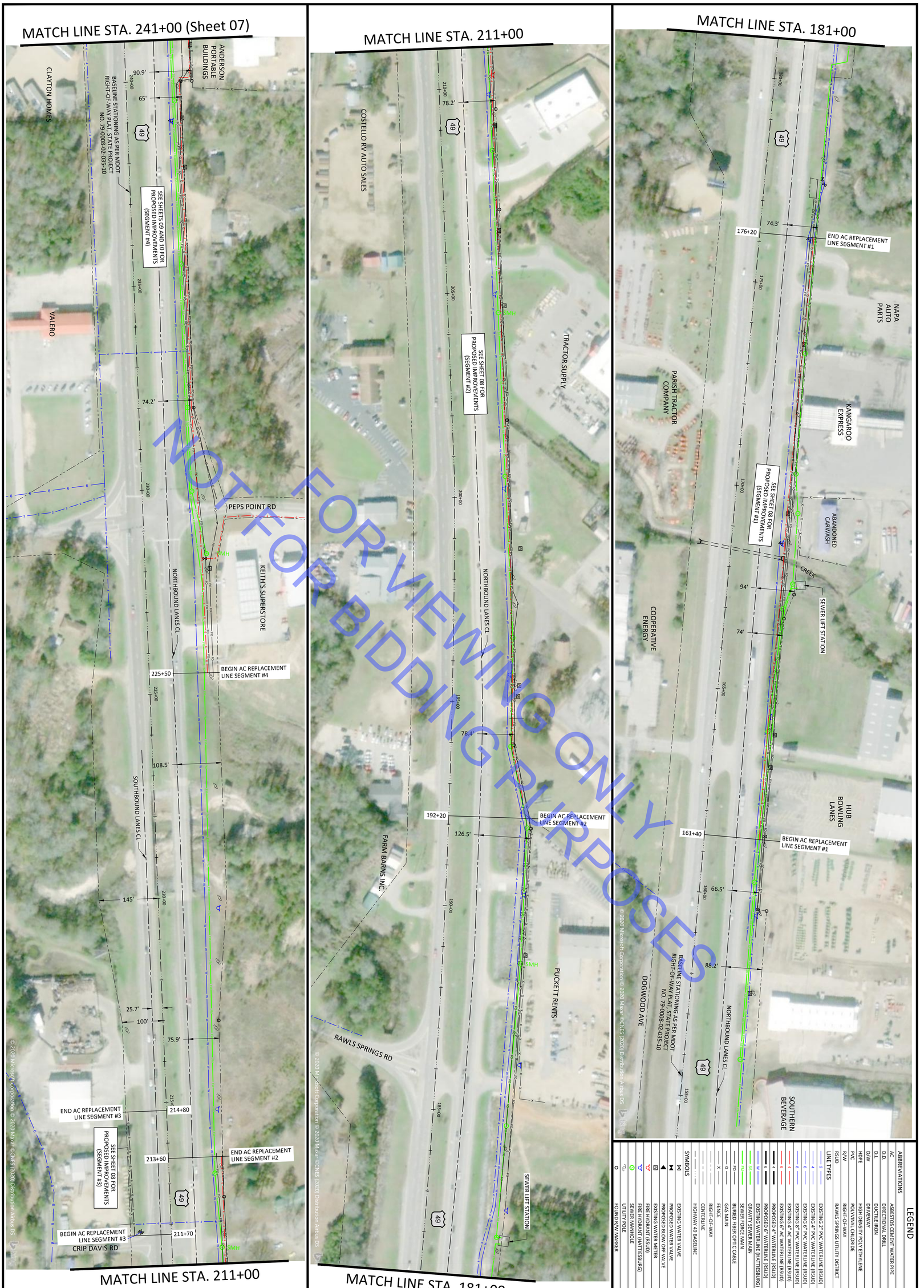
REVISIONS

NO.	DATE	DESCRIPTION	BY
01	04/14	Revised per MSDH's review comments	CL
02	08/03	Revised Well and Booster Station Controls	CL
03	08/04	Issued for Board Approval	CL

Sheet No.

05

1802 - RSUD Contract 1 - Waterline and Tank Site Improvements



LEGEND

ABBREVIATIONS		LINE TYPES	
AC	ASBESTOS CEMENT WATER PIPE	EXISTING 2" PVC WATERLINE (RSUD)	
D.D.	DIRECTIONAL DRILL	EXISTING 4" PVC WATERLINE (RSUD)	
D.I.	DUCTILE IRON	EXISTING 6" PVC WATERLINE (RSUD)	
D/W	DRIVEWAY	EXISTING 8" PVC WATERLINE (RSUD)	
HDPE	HIGH DENSITY POLY ETHYLENE	EXISTING 4" AC WATERLINE (RSUD)	
PVC	POLYVINYL CHLORIDE	EXISTING 6" AC WATERLINE (RSUD)	
R/W	RIGHT-OF-WAY	PROPOSED 6" WATERLINE (RSUD)	
RSUD	RAWLS SPRINGS UTILITY DISTRICT	PROPOSED 8" WATERLINE (RSUD)	
		EXISTING WATERLINE (HATTIESBURG)	
		PROPOSED WATERLINE (HATTIESBURG)	
		SEWER FORCE MAIN	
SYMBOLS		BURIED FIBER OPTIC CABLE	
	EXISTING WATER VALVE	GAS MAIN	
	PROPOSED WATER VALVE	FENCE	
	PROPOSED BLOW OFF VALVE	RIGHT-OF-WAY	
	EXISTING WATER METER	CENTERLINE	
	FIRE HYDRANT (RSUD)	HIGHWAY 49 BASELINE	
	FIRE HYDRANT (HATTIESBURG)		
	SEWER MANHOLE		
	UTILITY POLE		
	FOUND R/W MARKER		

Sheet No.	REVISIONS			
	NO.	DATE	DESCRIPTION	BY
09	01	08/04	Issued for Board Approval	CL

Rawls Springs Utility District
Water System Improvements-2020
Contract Number 1 - Waterline and Tank Site Improvements

Existing Conditions - Highway 49 (Sta. 155+00 to 241+00)

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pw@weng-ms.com

Project No.: 1802
Date: 01/12/2021
Scale: 1" = 100'
Drawn By: SCL
Checked By: HSW

Sheet No.	REVISIONS			
	NO.	DATE	DESCRIPTION	BY
07	01	08/04	Issued for Board Approval	CL

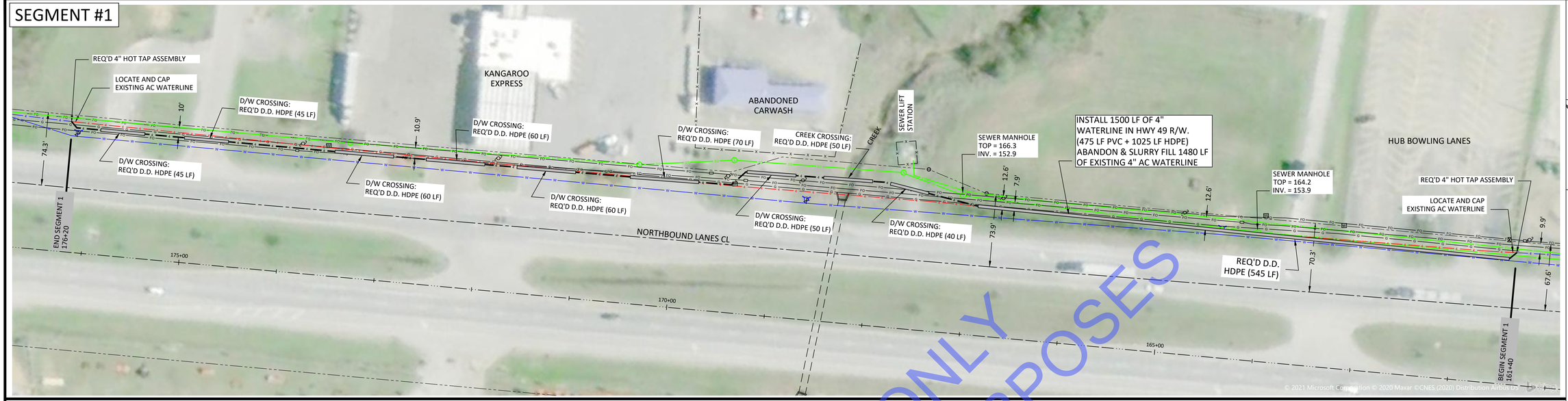
Rawls Springs Utility District
Water System Improvements-2020
Contract Number 1 - Waterline and Tank Site Improvements

Existing Conditions - Highway 49 (Sta. 241+00 to 332+00)

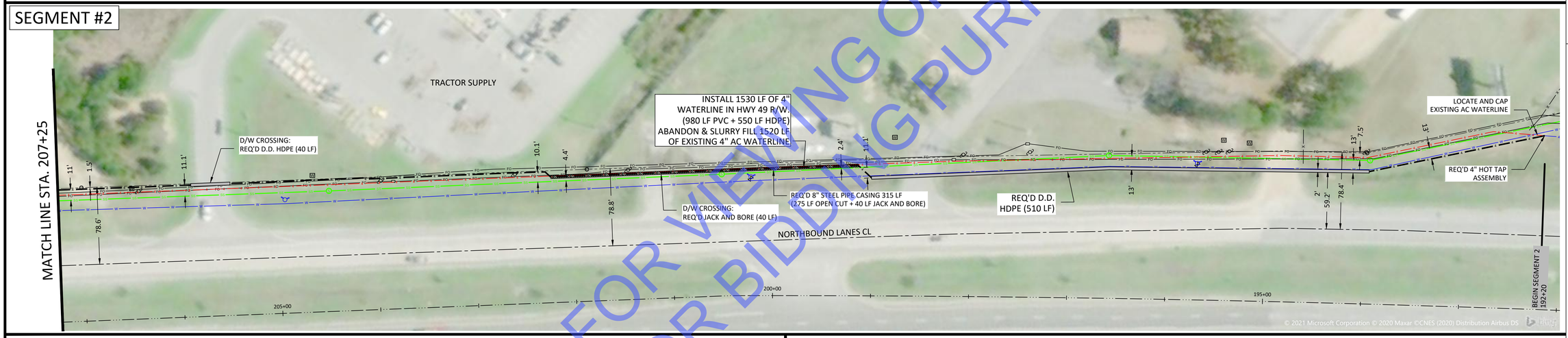
W ENGINEERING, P.A.
301 Central Ave East
Wiggins, MS 39577
Office 601-928-5981
pw@weng-ms.com

Project No.:	1802
Date:	01/12/2021
Scale:	1" = 100'
Drawn By:	SCL
Checked By:	HSW

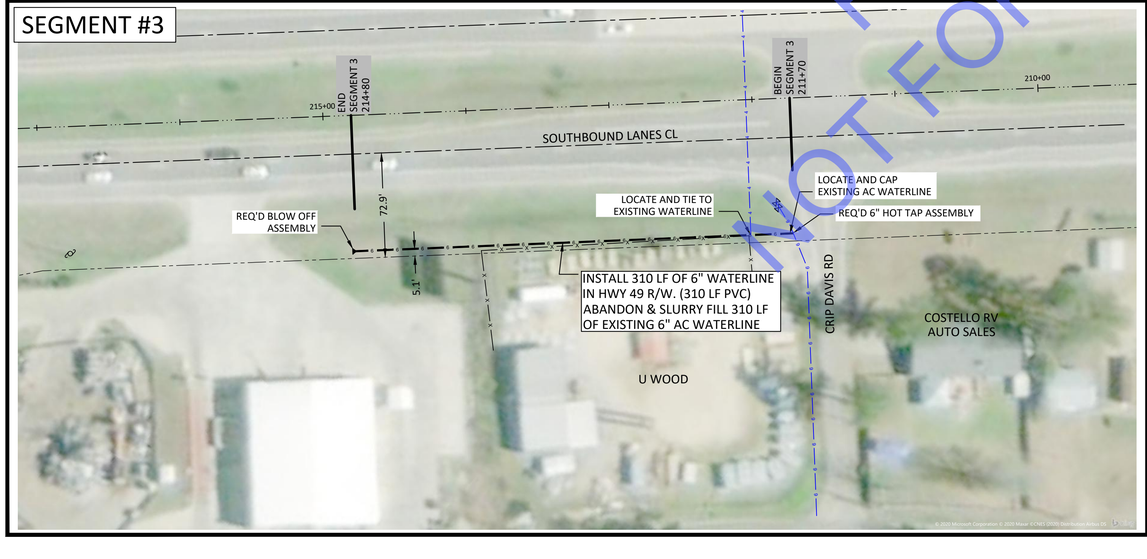
SEGMENT #1



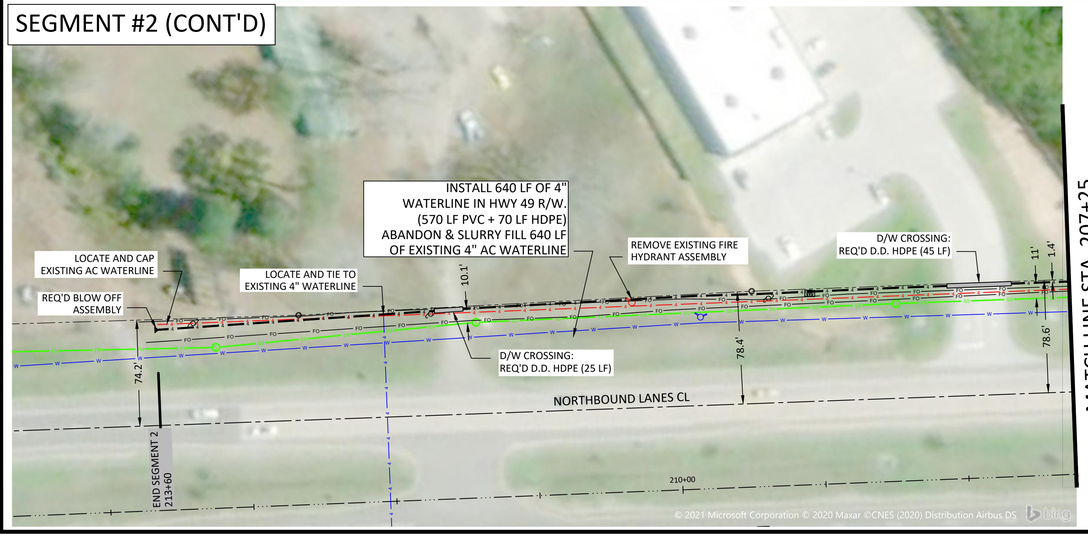
SEGMENT #2



SEGMENT #3



SEGMENT #2 (CONT'D)



Project No.: 1802
Date: 01/13/2021
Scale: 1" = 50'
Drawn By: SCL
Checked By: HSW

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Rawls Springs Utility District
Water System Improvements-2020
Contract Number 1 - Waterline and Tank Site Improvements
Proposed Improvements - Highway 49

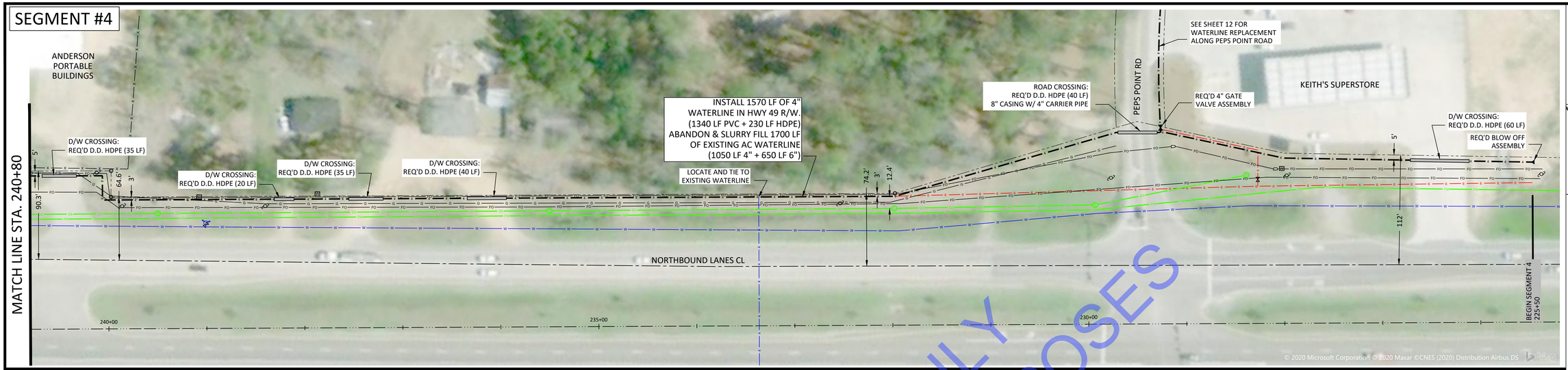
REVISIONS

NO.	DATE	DESCRIPTION	BY
01	03/10	Revised per MDOT's review comments	CL
02	08/04	Issued for Board Approval	CL

Sheet No.
08

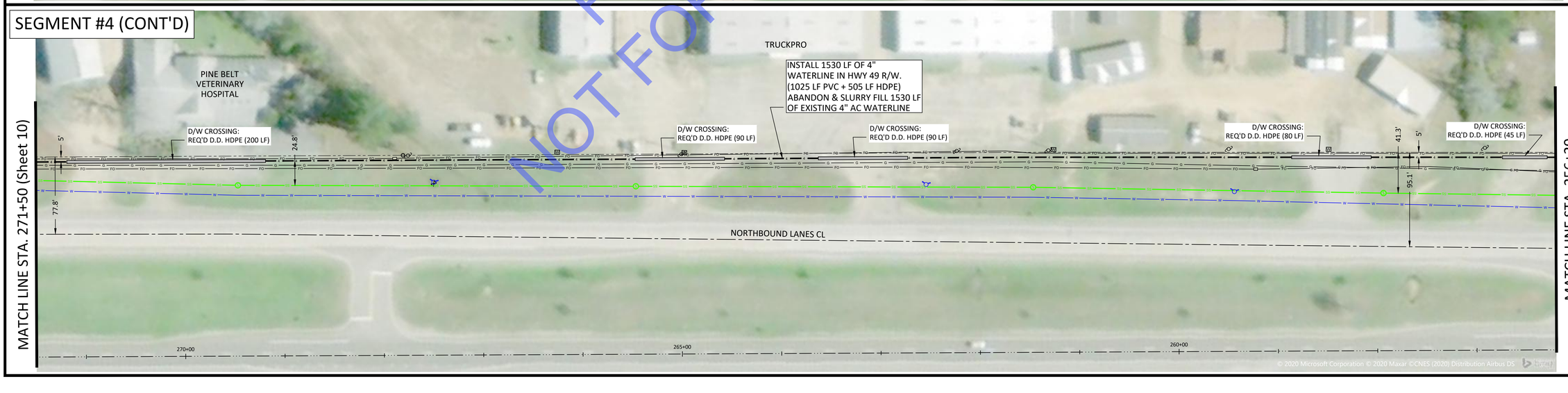
1802 - RSUD Contract 1 - Waterline and Tank Site Improvements

SEGMENT #4



SEGMENT #4 (CONT'D)

SEGMENT #4 (CONT'D)



Project No.: 1802
Date: 01/13/2021
Scale: 1" = 50'
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Rawls Springs Utility District
Water System Improvements-2020

Contract Number 1 - Waterline and Tank Site Improvements

Proposed Improvements - Highway 49

REVISIONS

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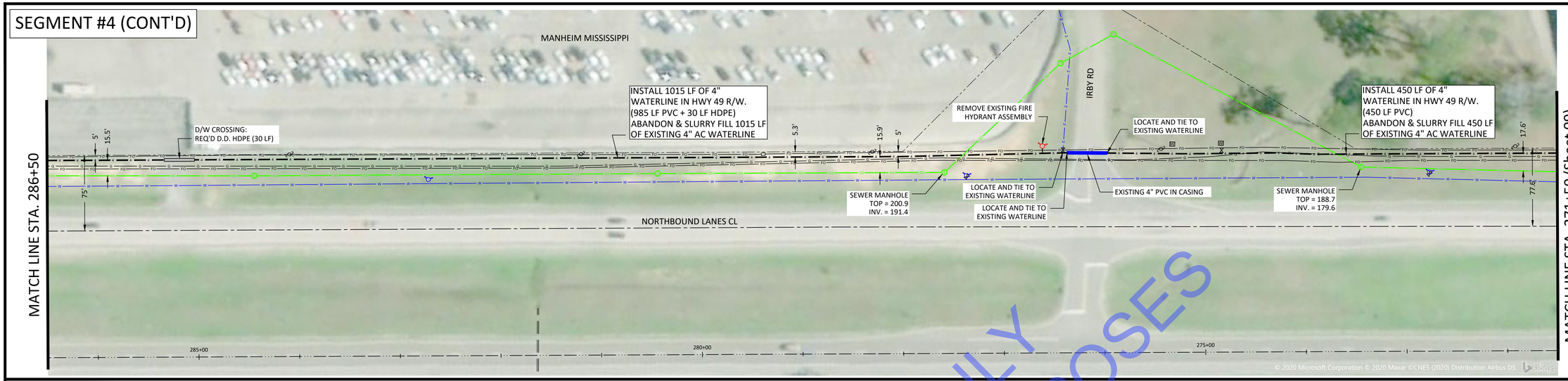
01	03/10	Revised per MDOT's review comments	CL
02	08/04	Issued for Board Approval	CL

Sheet No.

09

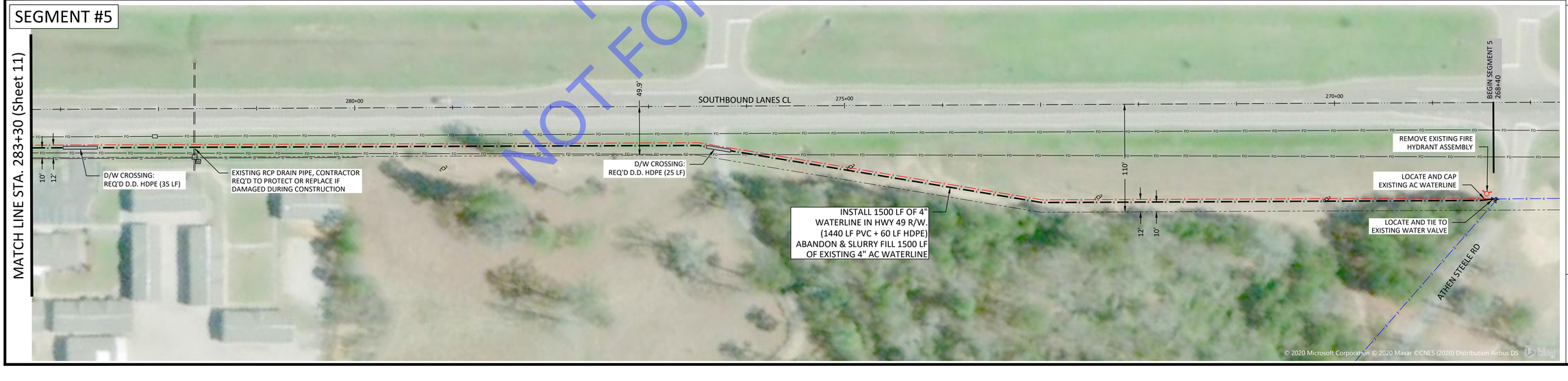
1802 - RSUD Contract 1 - Waterline and Tank Site Improvements

SEGMENT #4 (CONT'D)



SEGMENT #4 (CONT'D)

SEGMENT #5



Project No.: 1802
Date: 01/13/2021
Scale: 1" = 50'
Drawn By: SCL
Checked By: HSW

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Rawls Springs Utility District
Water System Improvements-2020
Contract Number 1 - Waterline and Tank Site Improvements

Proposed Improvements - Highway 49

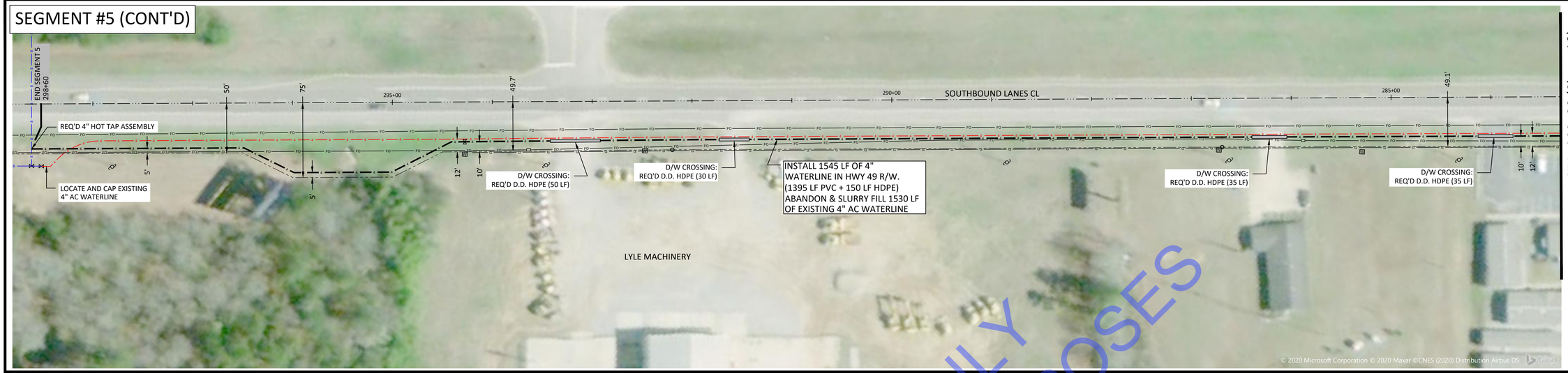
REVISIONS

NO.	DATE	DESCRIPTION	BY
01	03/10	Revised per MDOT's review comments	CL
02	08/04	Issued for Board Approval	CL

Sheet No.
10

1802- XSUD Contract 1 - Waterline and Tank Site Improvements

SEGMENT #5 (CONT'D)



MATCH LINE STA. 283+30 (Sheet 10)

SEGMENT #6

Project No.: 1802
Date: 01/13/2021
Scale: 1" = 50'
Drawn By: SCL
Checked By: HSW

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Rawls Springs Utility District
Water System Improvements-2020
Contract Number 1 - Waterline and Tank Site Improvements
Proposed Improvements - Highway 49

REVISIONS

NO.	DATE	DESCRIPTION	BY
01	03/10	Revised per MDOT's review comments	CL
02	08/04	Issued for Board Approval	CL

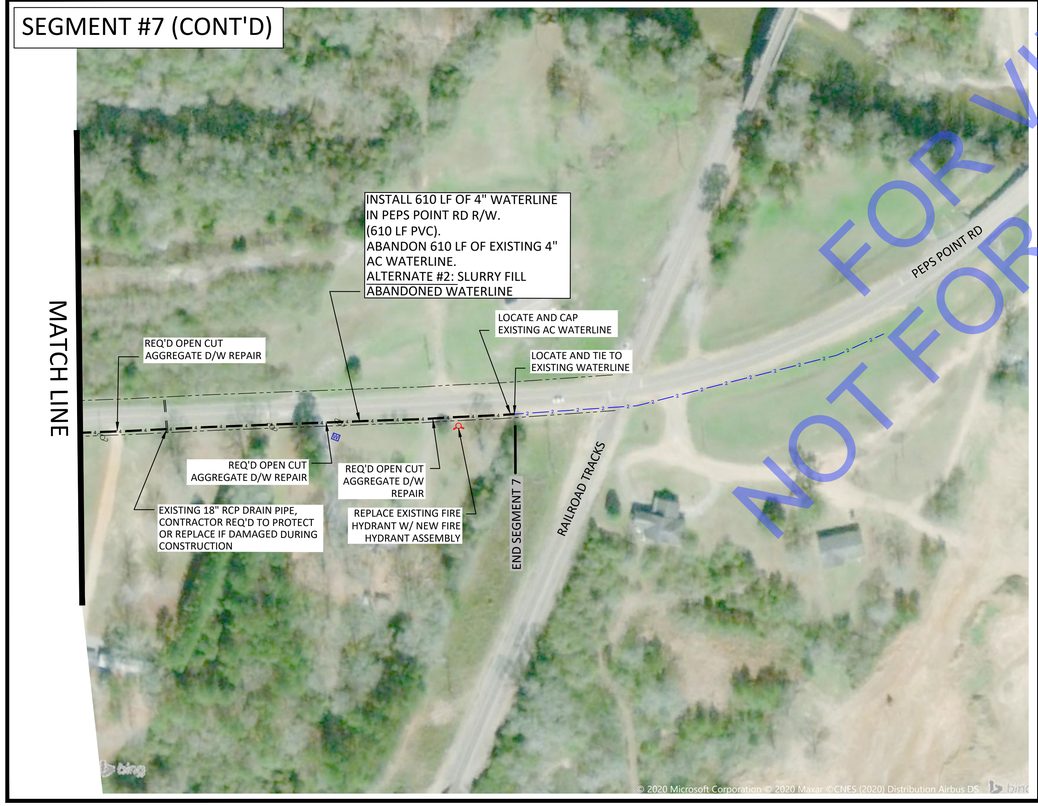
Sheet No.

11

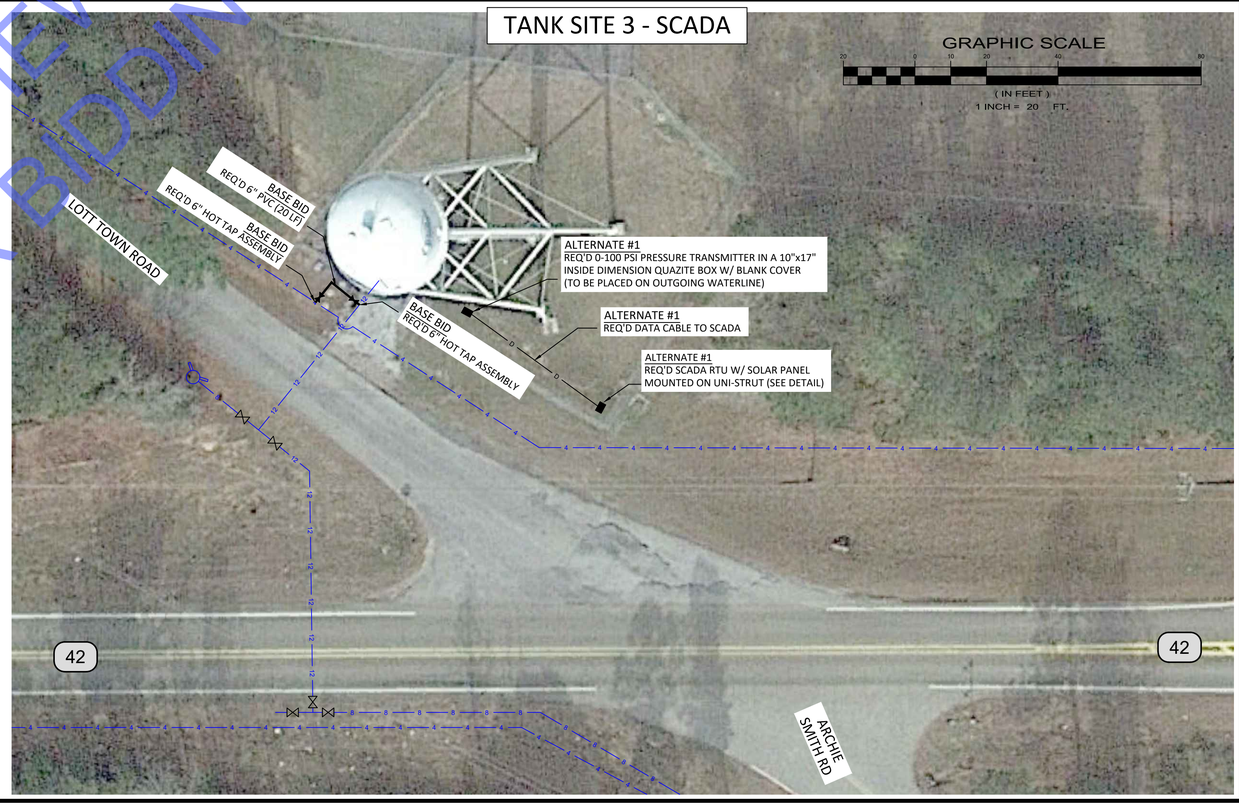
1802 - RSUD Contract 1 - Waterline and Tank Site Improvements

SEGMENT #7

SEGMENT #7 (CONT'D)



TANK SITE 3 - SCADA



Project No.: 1802
Date: 01/13/2021
Scale: 1" = 100'
Drawn By: SCL
Checked By: HSW

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Rawls Springs Utility District
Water System Improvements-2020
Contract Number 1 - Waterline and Tank Site Improvements
Waterline Replacement - Peps Point Rd / SCADA - Tank Site 3

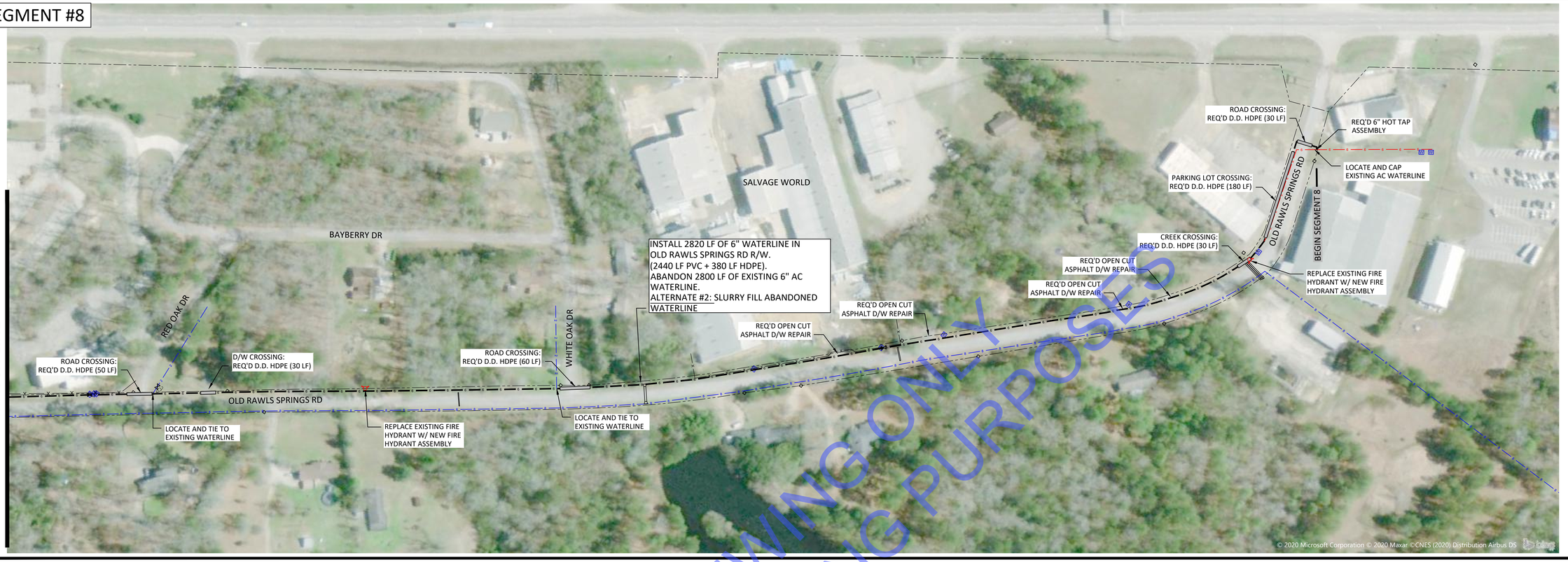
REVISIONS

NO.	DATE	DESCRIPTION	BY
01	08/04	Issued for Board Approval	CL

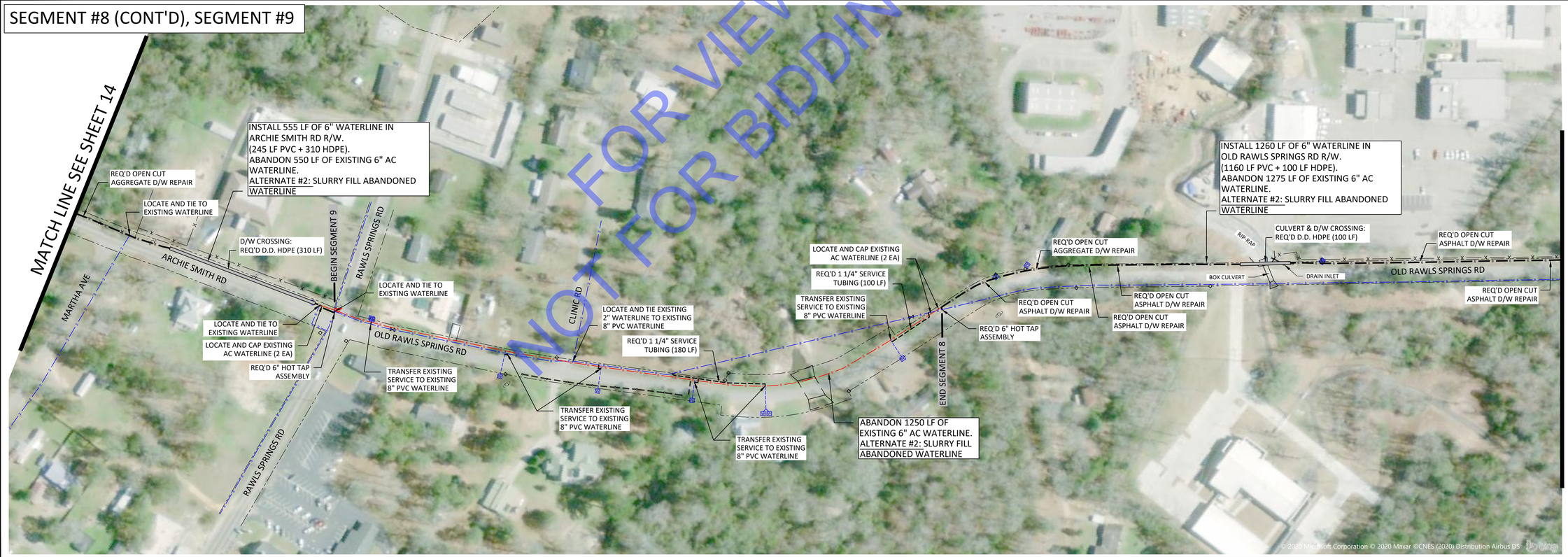
Sheet No.
12

1802 - RSUD Contract 1 - Waterline and Tank Site Improvements

SEGMENT #8



SEGMENT #8 (CONT'D), SEGMENT #9



Project No.: 1802
Date: 01/13/2021
Scale: 1" = 100'
Drawn By: SCL
Checked By: HSW

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Rawls Springs Utility District
Water System Improvements-2020
Contract Number 1 - Waterline and Tank Site Improvements

Waterline Replacement - Old Rawls Springs Rd

REVISIONS

NO.	DATE	DESCRIPTION	BY
01	08/04	Issued for Board Approval	CL

Sheet No.
13

1802 - RSUD Contract 1 - Waterline and Tank Site Improvements

SEGMENT #9 (CONT'D)

Project No.: 1802
Date: 01/13/2021
Scale: 1" = 100'
Drawn By: SCL
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Rawls Springs Utility District
Water System Improvements-2020
Contract Number 1 - Waterline and Tank Site Improvements
Waterline Replacement - Archie Smith Rd

REVISIONS

NO.	DATE	DESCRIPTION	BY
01	08/04	Issued for Board Approval	CL

Sheet No.
14

1802 - RSUD Contract 1 - Waterline and Tank Site Improvements

SEGMENT #10

SEGMENT #11

MATCH LINE SEE SHEET 16

Project No.: 1802
Date: 01/13/2021
Scale: 1" = 100'
Drawn By: SCL
Checked By: HSW

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Rawls Springs Utility District
Water System Improvements-2020
Contract Number 1 - Waterline and Tank Site Improvements
Waterline Replacement - Rawls Springs Loop Rd

REVISIONS

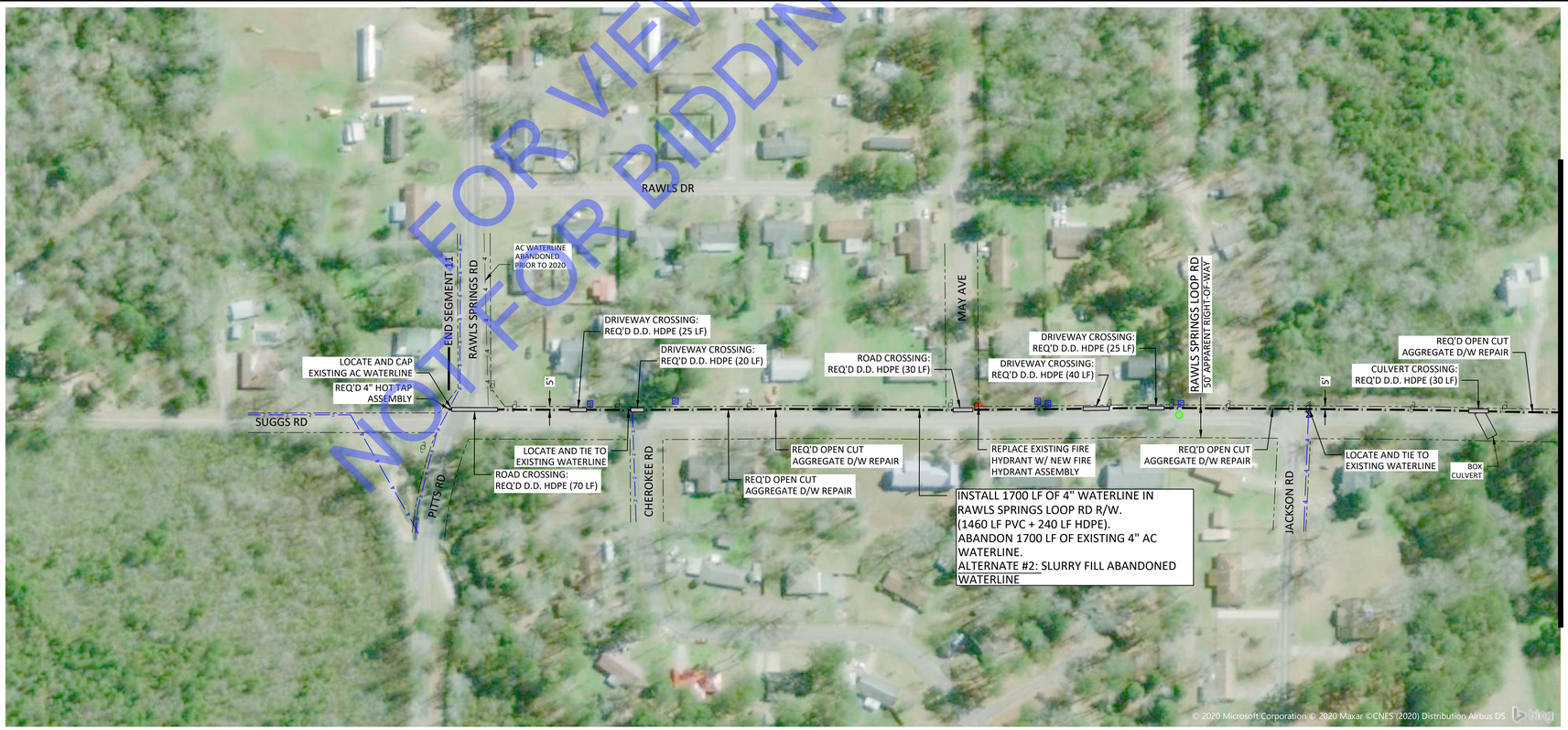
NO.	DATE	DESCRIPTION	BY
01	08/04	Issued for Board Approval	CL

Sheet No.
15

1802 - RSUD Contract 1 - Waterline and Tank Site Improvements

SEGMENT #11 (CONT'D)

SEGMENT #11 (CONT'D)



Project No.: 1802
Date: 01/13/2021
Scale: 1" = 100'
Drawn By: SCL
Checked By: HSW

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Rawls Springs Utility District
Water System Improvements-2020
Contract Number 1 - Waterline and Tank Site Improvements
Waterline Replacement - Rawls Springs Loop Rd

REVISIONS

NO.	DATE	DESCRIPTION	BY
01	08/04	Issued for Board Approval	CL

Sheet No.
16

1802 - RSUD Contract 1 - Waterline and Tank Site Improvements

SEGMENT #12

MATCH LINE

LOTT TOWN ROAD
60' APPARENT RIGHT-OF-WAY

REQ'D 4" PVC
WATERLINE (4450 LF)

REQ'D OPEN CUT
AGGREGATE D/W REPAIR

5' MAXIMUM

BEGIN SEGMENT 12

REQ'D 4" HOT TAP ASSEMBLY

EXISTING 4" PVC
WATERLINE

REQ'D DOUBLE SERVICE
(SEE DETAIL)

REQ'D OPEN CUT
AGGREGATE D/W REPAIR

REQ'D BOOSTER STATION
(SEE SHEET 18 FOR SITE PLAN)

SEGMENT #12 (CONT'D)

MATCH LINE

5' MAXIMUM

LOTT TOWN ROAD
60' APPARENT RIGHT-OF-WAY

REQ'D 4" PVC
WATERLINE (6200 LF)

REQ'D OPEN CUT
AGGREGATE D/W REPAIR

REQ'D OPEN CUT
ASPHALT D/W REPAIR

REQ'D SINGLE SERVICE
(SEE DETAIL)

REQ'D D.D. 1 1/4"
SERVICE TUBING

REQ'D DOUBLE SERVICE
(SEE DETAIL)

SEGMENT #12 (CONT'D)

MATCH LINE

REQ'D SINGLE SERVICE
(SEE DETAIL)

REQ'D BLOW OFF
ASSEMBLY

REQ'D D.D. 1 1/4"
SERVICE TUBING

REQ'D OPEN CUT
AGGREGATE D/W REPAIR

REQ'D DOUBLE SERVICE
(SEE DETAIL)

5' MAXIMUM

LOTT TOWN ROAD
60' APPARENT RIGHT-OF-WAY

REQ'D 4" PVC
WATERLINE (4600 LF)

END
SEGMENT 12

VARIES

Project No.:	1802
Date:	01/13/2021
Scale:	1" = 200'
Drawn By:	SCL
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Rawls Springs Utility District
Water System Improvements-2020
Contract Number 1 - Waterline and Tank Site Improvements
Waterline Extension to Tick Creek - Lott Town Rd

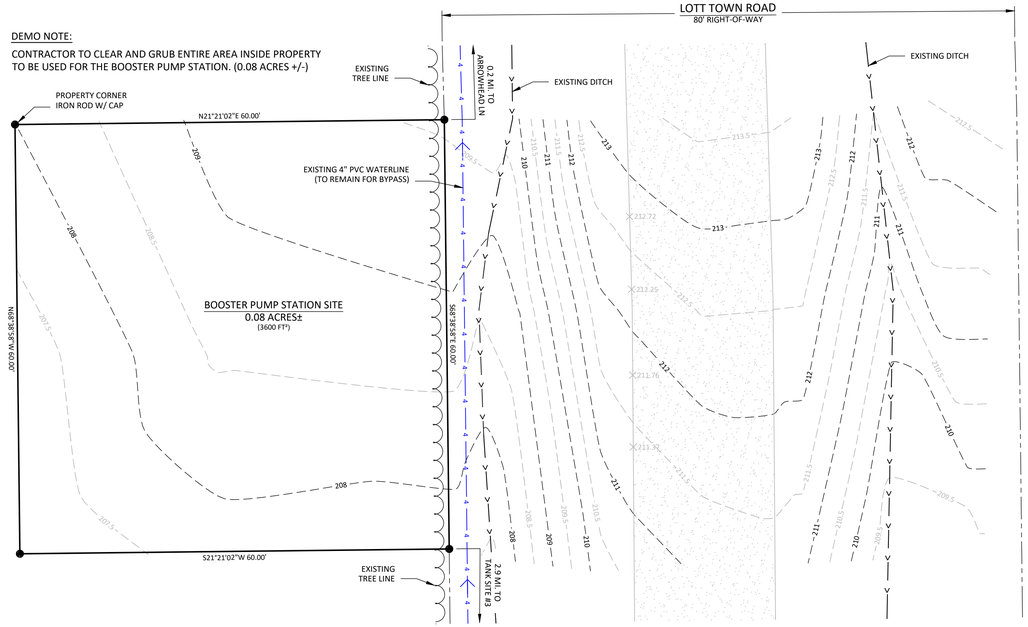
REVISIONS

NO.	DATE	DESCRIPTION	BY
01	08/04	Issued for Board Approval	CL

Sheet No.

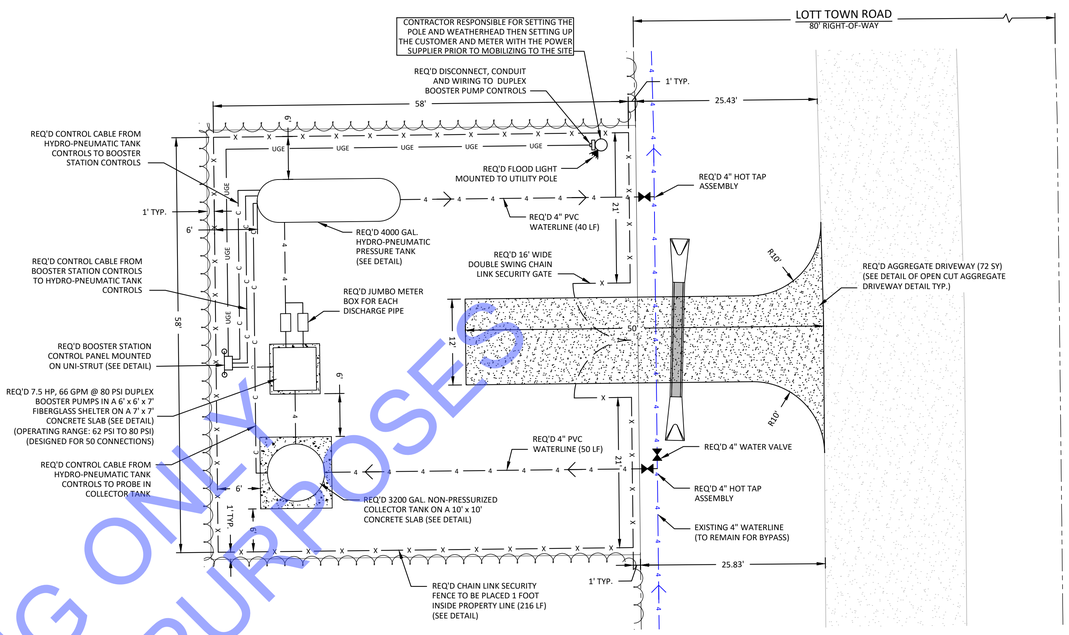
17

1802 - RSUD Contract 1 - Waterline and Tank Site Improvements



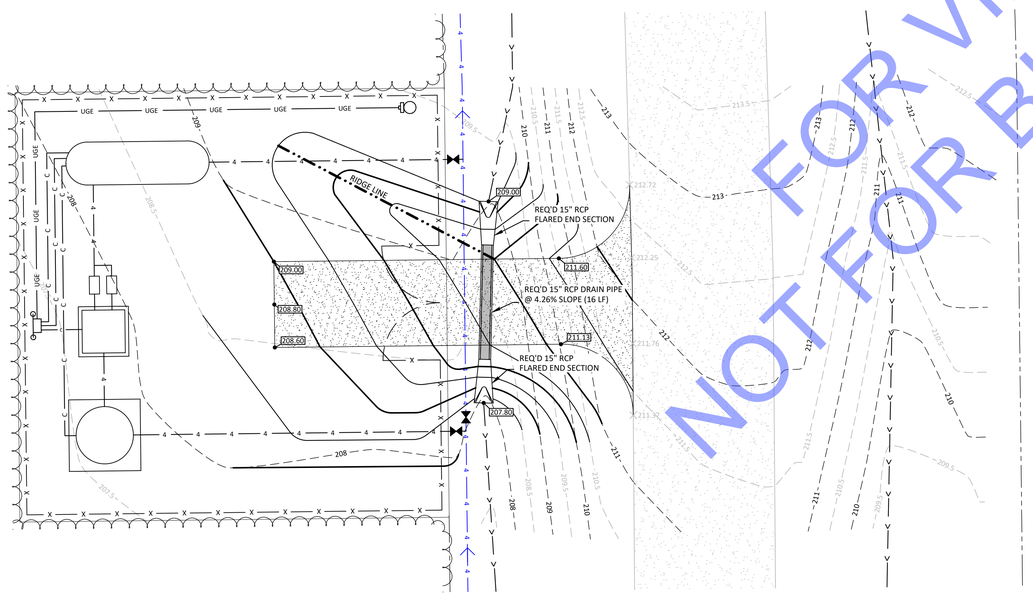
EXISTING CONDITIONS & DEMOLITION PLAN

SCALE: 1" = 10'



SITE PLAN

SCALE: 1" = 10'



GRADING & DRAINAGE PLAN

SCALE: 1" = 10'

GENERAL TANK NOTES:

1. ALL WELDED STEEL TANKS SHALL CONFORM TO CURRENT "AWWA STANDARD FOR WELDED CARBON STEEL TANKS FOR WATER STORAGE".
2. ALL PRESSURE TANKS SHALL CONFORM TO CURRENT AWWA STANDARDS AND TO THE ASME CODE FOR UNFIRED PRESSURE VESSELS.
3. PAINTS, PRIMERS AND SEALERS USED ON THE INTERIOR OF WATER TANKS SHALL BE NSF APPROVED FOR CONTACT WITH POTABLE WATER.
4. LOCKS ON GATE, ACCESS MANHOLES AND FIBERGLASS PUMP SHELTER SHALL BE PROVIDED TO PREVENT TRESPASSING, VANDALISM AND SABOTAGE. HIGH STRENGTH, CUT RESISTANT LOCKS OR LOCK COVERS SHALL BE USED TO PREVENT DIRECT CUTTING OF A LOCK.

HYDROPNEUMATIC (PREESURE) TANK NOTES:

1. TANKS SHOULD BE BUILT TO ASME CODE REQUIREMENTS.
2. MAXIMUM CONTROL PRESSURE RANGE: 20 PSI.
3. AIR VOLUME AND PUMP CONTROLS SHOULD MAINTAIN THE WATER LEVEL BETWEEN 1/3 AND 1/2 DIAMETER MEASURED FROM THE BOTTOM OF THE TANK. CONTROLS SHOULD BE DESIGNED TO MINIMIZE RELEASE OF AIR THROUGH THE AIR RELEASE VALVE AND MAXIMUM PUMP RUN TIME. THE CONTROLS MUST SENSE BOTH AIR PRESSURE AND THE WATER LEVEL TO MAINTAIN PROPER CONDITIONS FOR PROVIDING DESIRED PUMP CYCLE, SO A COMBINATION OF PRESSURE AND ELECTRODE CONTROLS IS NECESSARY.
4. REQUIRED ACCESSORIES
   - SIGHT GLASS WITH VALVES TO ALLOW FOR DRAINAGE AND REPAIR OF THE SIGHT GLASS
   - PRESSURE RELIEF VALVE TO MEET ASME CODE REQUIREMENTS
   - DRAIN WITH A HORIZONTAL DISCHARGE AT THE BOTTOM OF THE TANK
   - ACCESS TO THE TANK AT THE BOTTOM 1/3 DIAMETER AT LEAST 24" IN THE SMALLEST DIMENSION
   - WEATHER PROOF PRESSURE GAUGE MOUNTED ABOVE MAXIMUM WATER LEVEL W/ ISOLATION VALVE
   - VALVED CONNECTIONS FOR AIR VOLUME AND PRESSURE CONTROLS
   - AIR COMPRESSOR TO REPLENISH AIR BEING ABSORBED

REQUIRED COLLECTOR (NON-PRESSURIZED) TANK ACCESSORIES:

1. WATER LEVEL GAUGE WITH VALVES TO ALLOW FOR DRAINAGE AND REPAIR
2. SCREENED VENT AS LARGE AS THE INLET/OUTLET PIPE IN ACCORDANCE WITH CURRENT AWWA STANDARDS, TO PROTECT TANK FROM ENTRANCE OF INSECTS, BIRDS AND OTHER CONTAMINATES
3. OVERFLOW IN ACCORDANCE WITH CURRENT AWWA STANDARDS
4. 2" TANK DRAIN
5. TANK ACCESS ACCORDING TO CURRENT AWWA STANDARDS. THE OPENING SHALL HAVE A CURB AT LEAST 4 INCHES HIGH AND THE COVER SHALL HAVE A DOWNWARD OVERLAP OF AT LEAST 2 INCHES

MATERIAL TESTING NOTES:

1. CONTRACTOR TO SUBMIT TO ENGINEER FOR APPROVAL THE CREDENTIALS OF AN INDEPENDENT TESTING FIRM WITH EXPERIENCE IN THE AREA TO TEST AND CERTIFY ALL SOIL PROOF ROLLS, DENSITIES, AND CONCRETE REINFORCEMENT STEEL AND STRENGTH.
2. THE APPROVED TESTING LAB MUST PROVIDE AT LEAST ONE DENSITY TEST FOR EACH LAYER OF SOIL ON EACH AREA OF DRIVEWAY OR FOUNDATION. (BOOSTER STATION SITE, ELEVATED TANK SITES, AND DRIVEWAY AND ROAD CROSSINGS)
3. IN ADDITION TO A PASSING DENSITY TEST OF EACH LAYER, TESTING FIRM MUST PROVIDE DOCUMENTATION OF A PROOF ROLL AND APPROVE ALL SUBBASE OR INSITU SOIL RECEIVING FILL MATERIAL IS STABLE, NON-YIELDING AND NON-PUMPING.
4. ALL SOIL TESTS WILL BE CONDUCTED BY APPROPRIATE ASTM (1698, 1557, 1557 MODIFIED, ETC.)
5. ALL CONCRETE CYLINDERS AND COMPRESSIVE STRENGTH REPORTS SHALL BE IN COMPLIANCE TO AMERICAN CONCRETE INSTITUTE (ACI-318). A MINIMUM OF 5 CYLINDERS ARE REQUIRED FOR EACH POUR OR EACH DAYS WORK.

Project No.: 1802
Date: 04/05/2021
Scale: 1" = 10'
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Rawls Springs Utility District
Water System Improvements-2020
Contract Number 1 - Waterline and Tank Site Improvements
Booster Station for Waterline Extension to Tick Creek

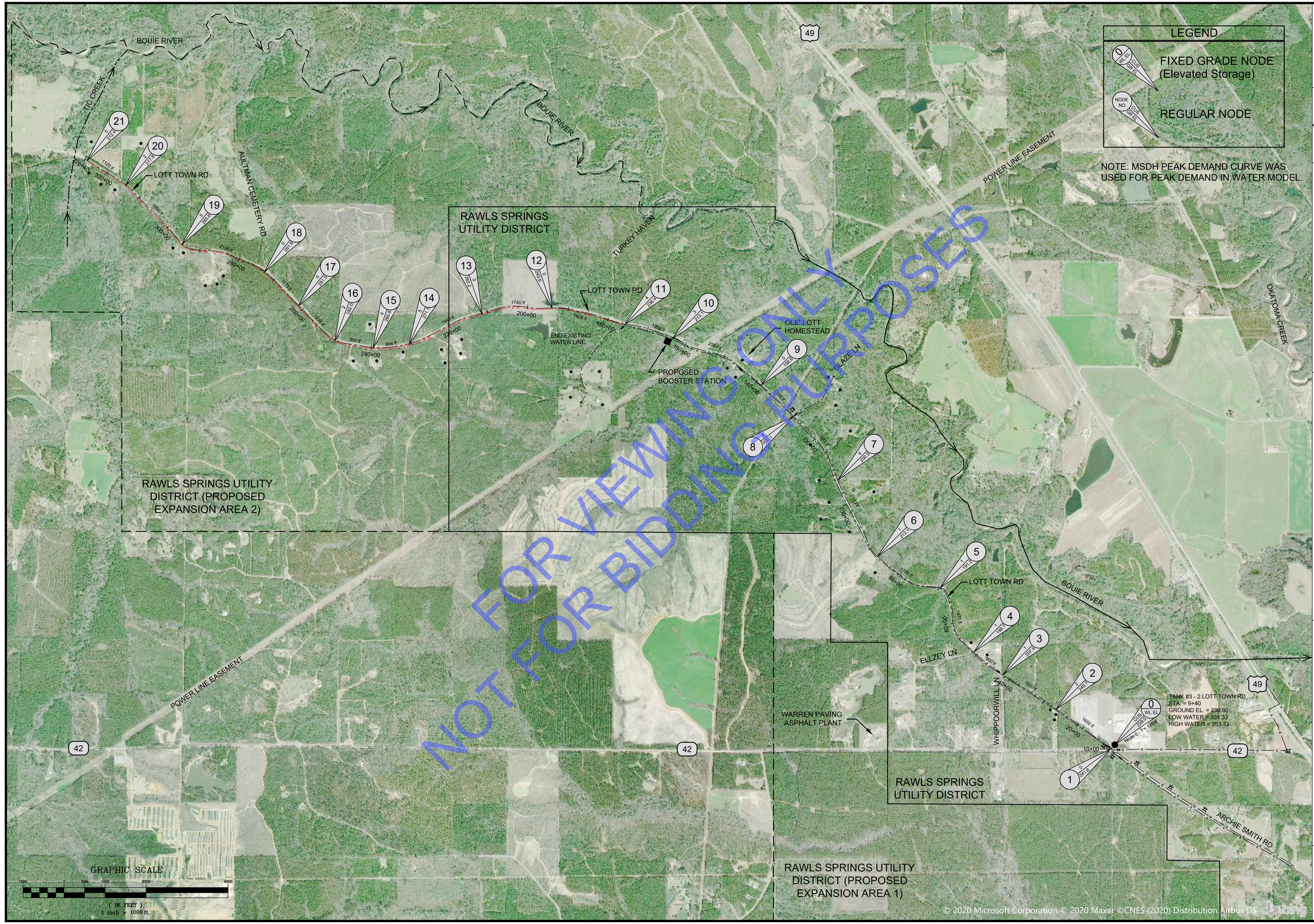
REVISIONS

NO.	DATE	DESCRIPTION	BY
01	04/14	Revised per MSDH's review comments	CL
02	04/14	Changed Booster Station from 22 to 30 Connections	CL
03	05/07	Changed Booster Station from 30 to 50 Connections	CL
04	08/03	Revised Well and Booster Station Controls	CL
05	08/04	Issued for Board Approval	CL

Sheet No.

18

1802 - RSUD Contract 1 - Waterline and Tank Site Improvements



Project No.: 1802
Date: 11/10/2020
Scale: 1" = 1000'
Drawn By: SCL
Checked By: HSW

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Rawls Springs Utility District
Water System Improvements-2020
Contract Number 1 - Waterline and Tank Site Improvements

Node Map for Waterline Extension to Tick Creek

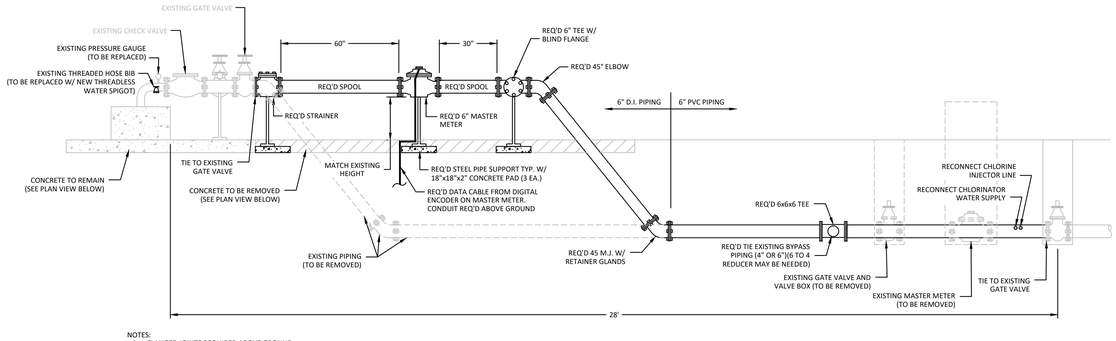
REVISIONS

NO.	DATE	DESCRIPTION	BY
01	04/14	Revised per MSDH's review comments	CL
02	08/04	Issued for Board Approval	CL

Sheet No.

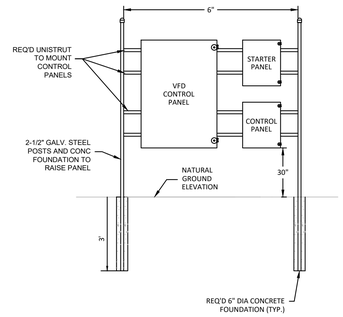
19

1802- RSUD Contract 1 - Waterline and Tank Site Improvements

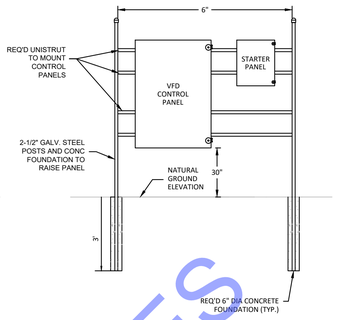


NOTES:
1. FLANGED JOINTS REQUIRED ABOVE GROUND
2. MECHANICAL JOINTS W/ RETAINER GLANDS REQUIRED BELOW GROUND

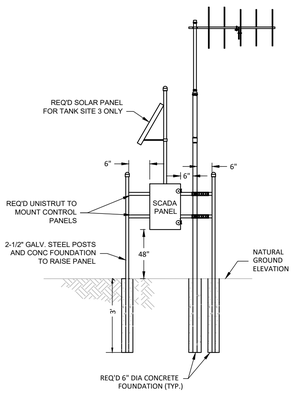
PIPING MODIFICATION AT TANK SITE 1 - PROFILE VIEW



PANEL MOUNTING @ WELLS #1 & #3



PANEL MOUNTING @ WELLS #2 & #4



SCADA/RTU PANEL MOUNTING

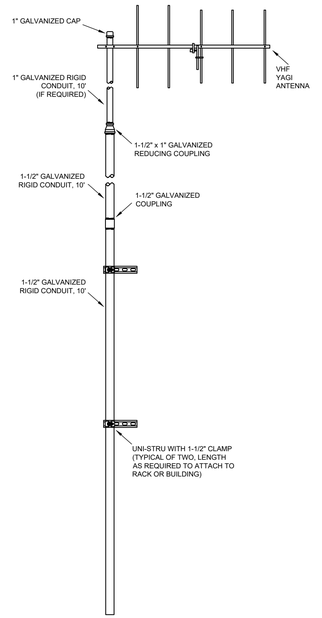
RTU - REMOTE TELEMETRY UNIT

PIPING MODIFICATION AT TANK SITE 1 - PLAN VIEW

PRESSURE TRANSMITTER

PANEL WIRING @ WELLS #1 & #3

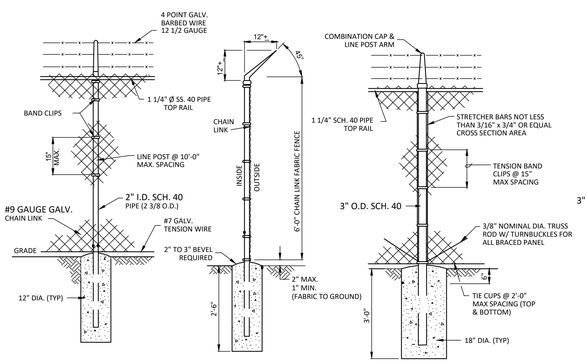
PANEL WIRING @ WELLS #2 & #4



RADIO ANTENNA AND MAST MOUNTING

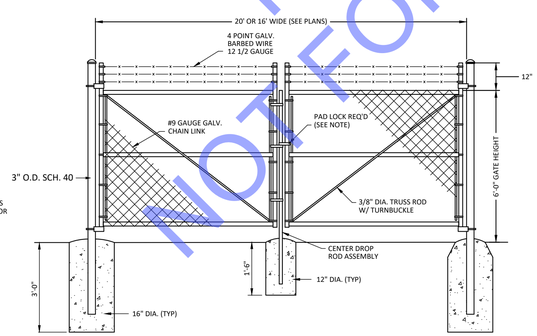
(QUANTITY OF FOUR)

(TANK SITES 1, 2, 3 AND MAIN OFFICE)

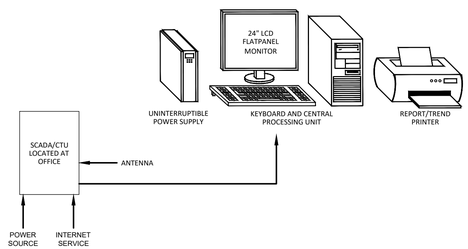


TYPICAL LINE POST — TYPICAL CORNER POST

6' CHAIN LINK SECURITY FENCE



DOUBLE SWING CHAIN LINK SECURITY GATE



PANEL WIRING @ SCADA/CTU LOCATED AT MAIN OFFICE

CTU - CENTRAL TELEMETRY UNIT

Project No.: 1802
Date: 01/13/2021
Scale: N.T.S.
Drawn By: SCL
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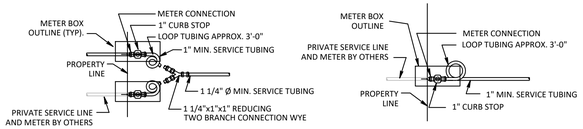
Rawls Springs Utility District
Water System Improvements-2020
Contract Number 1 - Waterline and Tank Site Improvements
Tank Site Improvement Details

REVISIONS

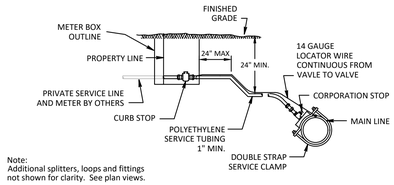
NO.	DATE	DESCRIPTION	BY
01	04/14	Revised per MSDH's review comments	CL
02	08/04	Issued for Board Approval	CL

Sheet No.
20



DOUBLE SERVICE - PLAN VIEW

SINGLE SERVICE - PLAN VIEW



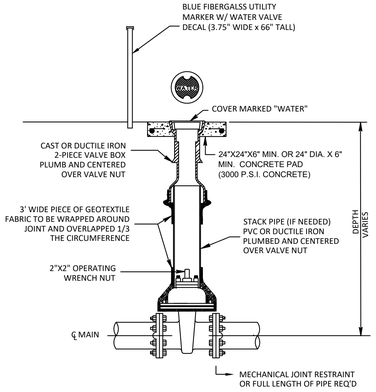
Note:
Additional splitters, loops and fittings not shown for clarity. See plan views.

TYPICAL SERVICE - PROFILE VIEW

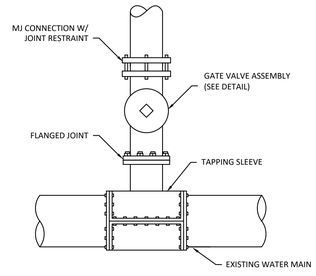
WATER SERVICE CONNECTION DETAILS

WATER SERVICE NOTES

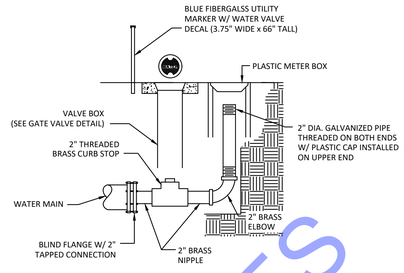
1. THE MINIMUM SIZE SERVICE SHALL BE 1". IF THE EXISTING SERVICE IS SMALLER THAN THE NEW SERVICE, THE CONTRACTOR SHALL PROVIDE APPROPRIATE SIZED REDUCER. THE COST OF REDUCERS OR ANY OTHER HARDWARE NEEDED FOR THE PROPER WATER SERVICE INSTALLATION SHALL BE INCLUDED IN THE UNIT PRICE BID FOR WATER SERVICES.
2. WATER SERVICE SIZE SHALL MATCH EXISTING, BUT SHALL NOT BE LESS THAN 1" UNLESS DIRECTED OTHERWISE BY THE ENGINEER OR HIS AUTHORIZED REPRESENTATIVE.
3. FOR STREETS WITH CURBS STAMP "W" IN THE FACE OF CURB AT EACH SERVICE LOCATION AND "V" AT EACH VALVE LOCATION. CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT SERVICE AND VALVE LOCATIONS ARE ACCURATELY MARKED.
4. THE CONTRACTOR SHALL MARK THE EXACT LOCATION OF ALL SERVICES AND VALVES SHALL BE SHOWN ON FINAL AS-BUILTS. THE CONTRACTOR SHALL DIMENSION THE LOCATION OF SERVICE OR VALVE FROM THE NEAREST CROSS STREET CENTERLINE OR ANOTHER PERMANENT LANDMARK APPROVED BY THE ENGINEER OR HIS AUTHORIZED REPRESENTATIVE.
5. ALL NEW WATER SERVICES SHALL BE INSTALLED WITH 14 GAUGE LOCATOR WIRE. THE WIRE SHALL BE CONTINUOUS FROM MAIN TO PROPERTY LINE. WIRE SHALL BE SPLICED AT EACH SPLITTER.
6. A 1" x 3/4" ADAPTOR SHALL BE INSTALLED AFTER THE 1" CURB STOP ON A STANDARD RESIDENTIAL SERVICE TO CONNECT TO THE WATER METER. NO SEPARATE PAYMENT SHALL BE PROVIDED FOR THIS WORK.
7. ALL BRASS FITTINGS SHALL BE LEAD-FREE BRASS MEETING NSF-61G AND/OR NSF-372 SPECIFICATIONS, AND THE 2014 LEAD CONTENT REVISIONS TO THE SAFE DRINKING WATER ACT (SDWA).



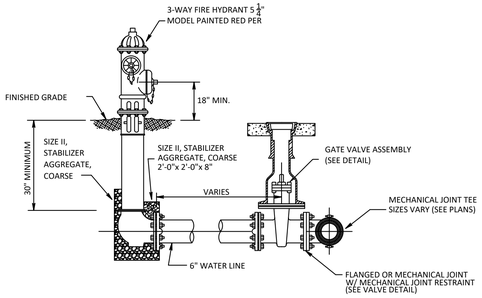
GATE VALVE ASSEMBLY



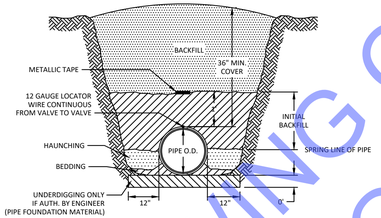
HOT TAP ASSEMBLY
TAPPING VALVE & SLEEVE



BLOW OFF VALVE ASSEMBLY



FIRE HYDRANT ASSEMBLY



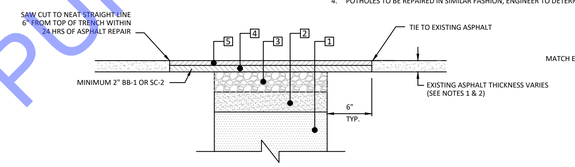
WATERLINE TRENCH

WATERLINE PLACEMENT NOTES:

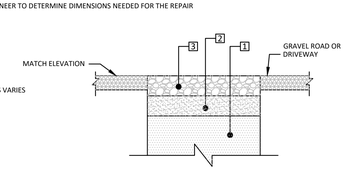
1. SHOULD ENGINEER DETERMINE THAT THE NATIVE MATERIAL AT THE BOTTOM OF THE TRENCH IS UNSUITABLE FOR FOUNDATION OF THE PIPE, THE ENGINEER MAY AUTHORIZE OVERDIGGING THE TRENCH A DEPTH OF 6 INCHES AND REPLACE WITH A SELECT FOUNDATION (CLEAN UNIFORMLY GRADED COARSE SAND)
2. GENERALLY, LOOSE MATERIAL LEFT BY THE EXCAVATOR ON THE TRENCH BOTTOM AND SOFT MATERIAL SHAVED FROM THE TRENCH EXCAVATION WILL BE ADEQUATE FOR BEDDING THE PIPE SO THAT IT IS FULLY SUPPORTED.
3. HAUNCHING MATERIAL SHALL BE NATIVE MATERIAL SECURED FROM THE TRENCH EXCAVATION AND THOROUGHLY COMPACTED TO THE SPRING LINE OF THE PIPE AND EXTENDING TO THE SIDE WALLS OF THE TRENCH, A MINIMUM 85% STANDARD PROCTOR COMPACTION WILL BE CONSIDERED ADEQUATE COMPACTION.
4. THE INITIAL BACKFILL (NATIVE MATERIAL SECURED FROM THE TRENCH EXCAVATION) MAY THEN PROCEED TO A HEIGHT OF 12 INCHES ABOVE THE TOP OF THE PIPE AND MECHANICALLY TAMPED. FURTHER BACKFILL SHALL NOT PROCEED UNTIL THE INITIAL BACKFILL HAS BEEN OBSERVED BY THE ENGINEER.
5. SHOULD THE ENGINEER DETERMINE THAT THE NATIVE MATERIAL SECURED FROM THE TRENCH EXCAVATION IS NOT SUITABLE FOR EMBEDMENT, THE ENGINEER MAY AUTHORIZE THE USE OF SELECT BEDDING MATERIAL.
6. FURTHER BACKFILL UTILIZING MATERIAL FROM TRENCH EXCAVATION MAY THEN PROCEED TO THE ORIGINAL GROUND SURFACE. BACKFILL TO BE PLACED IN 12 INCH LIFTS AND THEN COMPACTED AS FOLLOWS: 85% STANDARD PROCTOR IN UNPAVED AREAS & 95% STANDARD PROCTOR UNDER ROADS AND DRIVEWAYS.
7. CONTRACTOR SHALL MAINTAIN TRENCH BACKFILL AT ORIGINAL GROUND SURFACE UNTIL FINAL ACCEPTANCE OF THE WORK.
8. ALL SURPLUS MATERIAL NOT UTILIZED FOR TRENCH BACKFILL SHALL BE REMOVED AND DISPOSED OF BY CONTRACTOR AT HIS OWN EXPENSE.

DRIVEWAY REPAIR NOTES:

1. IF EXISTING ASPHALT IS LESS THAN 3½" THICK, THE EXTRA REQUIRED PAVEMENT THICKNESS WILL BE IN TRENCH ONLY
2. IF EXISTING ASPHALT IS GREATER THAN 3½" THICK, EXTRA THICKNESS OF BB-1 WILL BE NEEDED TO MATCH EXISTING THICKNESS
3. AN INDEPENDENT TESTING LAB MUST PROVIDE A PASSING DENSITY LAB REPORT TO THE ENGINEER AS PER TECHNICAL SPECIFICATION AT A MINIMUM OF 1 PASSING TEST PER DRIVEWAY.
4. POTHOLES TO BE REPAIRED IN SIMILAR FASHION, ENGINEER TO DETERMINE DIMENSIONS NEEDED FOR THE REPAIR

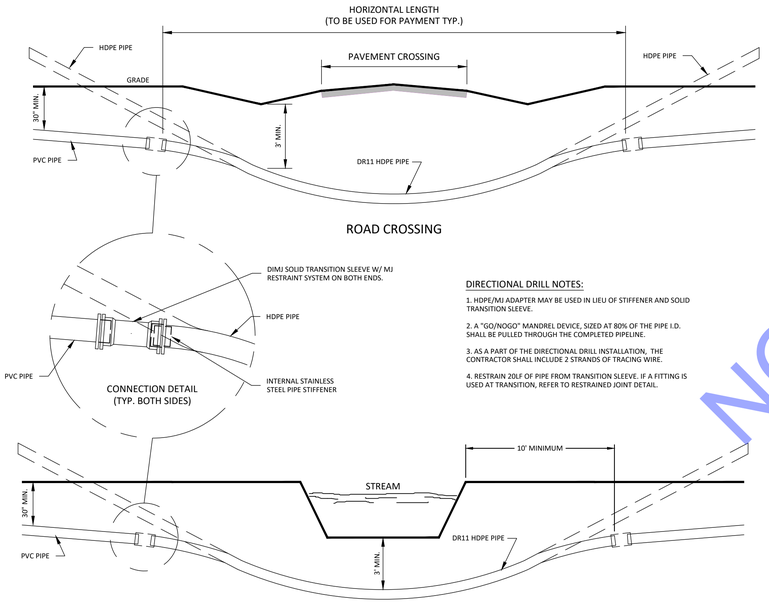


OPEN CUT ASPHALT DRIVEWAY REPAIR



OPEN CUT AGGREGATE DRIVEWAY REPAIR

5 - SECOND LAYER OF HMA (HOT MIX ASPHALT) 1 1/2" THICK (ST 9.5MM) - ASPHALT SURFACE COURSE
4 - FIRST LAYER OF HMA (HOT MIX ASPHALT) 2" THICK (ST 19MM) - ASPHALT BASE COURSE
3 - 5" 610 CRUSHED LIMESTONE COMPACTED TO 95% MODIFIED PROCTOR (ASTM D1557) - BASE
2 - 6" RED SAND CLAY (CLASS 9, GROUP B) COMPACTED TO 95% STANDARD PROCTOR (ASTM D698) - SUBBASE
1 - COMPACTED BACKFILL (SEE WATERLINE TRENCH DETAIL)



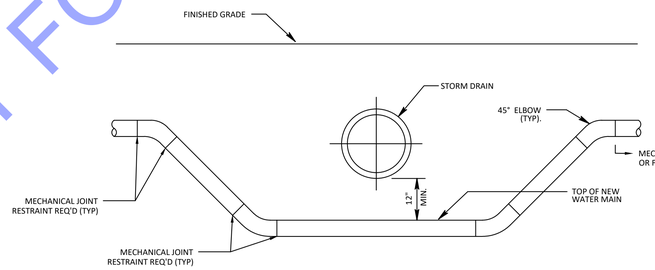
ROAD CROSSING

STREAM CROSSING

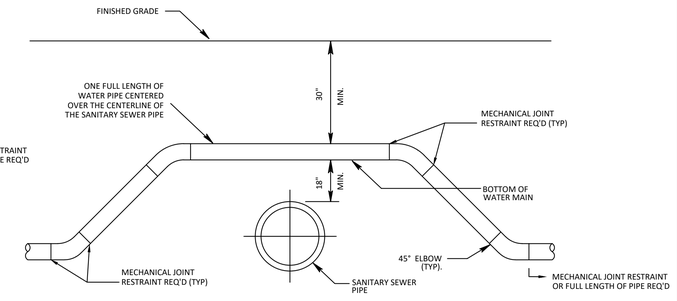
DIRECTIONAL DRILL

DIRECTIONAL DRILL NOTES:

1. HDPE/MJ ADAPTER MAY BE USED IN LIEU OF STIFFENER AND SOLID TRANSITION SLEEVE.
2. A "GO/NOGO" MANDREL DEVICE, SIZED AT 80% OF THE PIPE I.D. SHALL BE PULLED THROUGH THE COMPLETED PIPELINE.
3. AS A PART OF THE DIRECTIONAL DRILL INSTALLATION, THE CONTRACTOR SHALL INCLUDE 2 STRANDS OF TRACING WIRE.
4. RESTRAIN 20LF OF PIPE FROM TRANSITION SLEEVE. IF A FITTING IS USED AT TRANSITION, REFER TO RESTRAINED JOINT DETAIL.



WATER MAIN/STORM DRAIN CROSSING



WATER MAIN/SANITARY SEWER CROSSING

WATER MAIN / SANITARY SEWER CROSSING NOTE:

1. WATER MAINS SHALL BE INSTALLED AT LEAST 10 FEET HORIZONTALLY AND AT LEAST 18 INCHES VERTICALLY (THE BOTTOM OF THE WATER LINE MUST BE 18 INCHES ABOVE THE TOP OF THE SEWER LINE) FROM EXISTING OR PROPOSED SANITARY SEWERS, STORM SEWERS AND SEWER MANHOLES. THE DISTANCE SHALL BE MEASURED EDGE TO EDGE. WHERE WATER LINES CROSS OVER SEWER LINES (MINIMUM 18" VERTICAL SEPARATION) WATER LINE JOINTS SHOULD BE LOCATED AT THE MAXIMUM DISTANCE POSSIBLE FROM SEWER LINE JOINTS.
2. WATER LINES SHALL ALWAYS BE CONSTRUCTED ABOVE SANITARY SEWER LINES UNLESS A SEPARATE DETAIL IS SHOWN INDICATING A DIFFERENT ARRANGEMENT AND THE PLANS INDICATE SPECIFIC LOCATIONS WHERE THE WATER LINE MAY BE LOCATED BELOW THE SANITARY SEWER.

Project No.: 1802
Date: 01/13/2021
Scale: N.T.S.
Drawn By: SCL
Checked By: HSW

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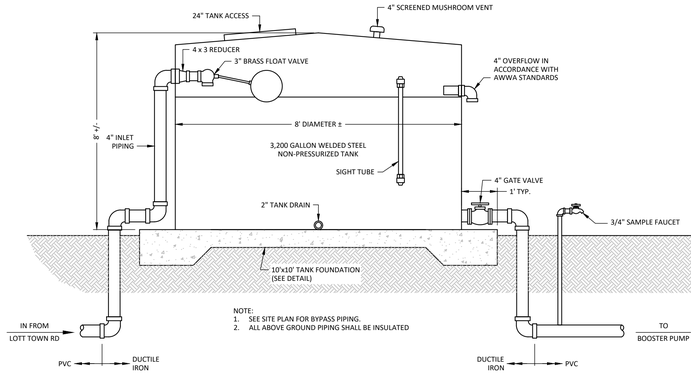
Rawls Springs Utility District
Water System Improvements-2020
Contract Number 1 - Waterline and Tank Site Improvements
Waterline Construction Details

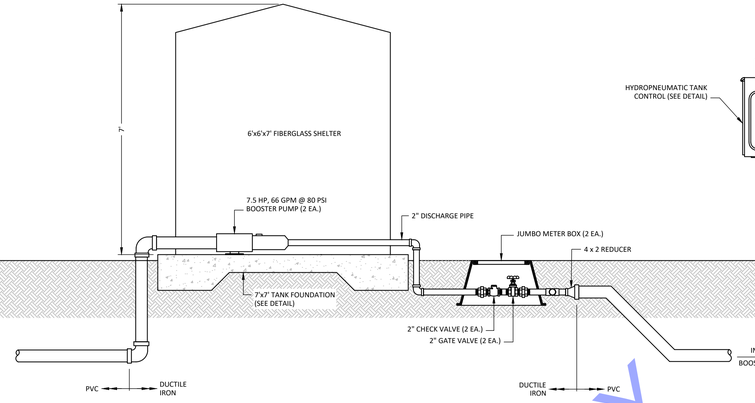
REVISIONS

NO.	DATE	DESCRIPTION	BY
01	03/10	Revised per MDOT's review comments	CL
02	08/04	Issued for Board Approval	CL

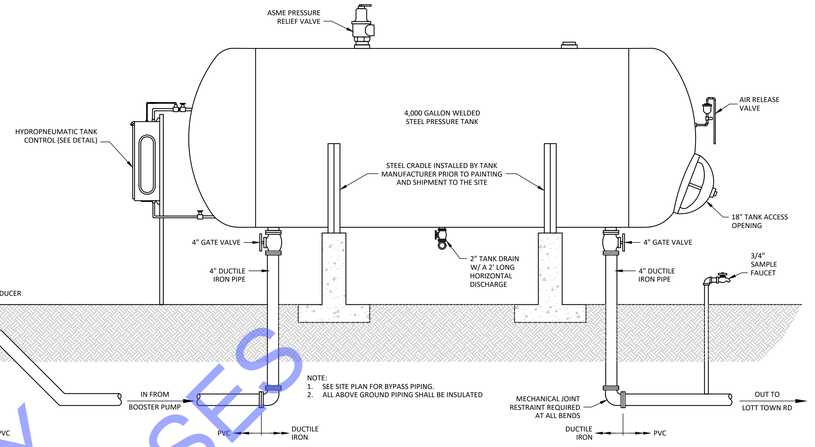
Sheet No.
21



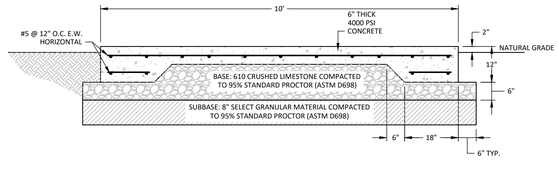
COLLECTOR TANK



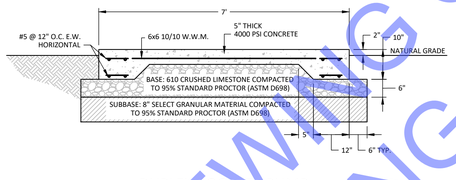
DUPLEX BOOSTER PUMPS



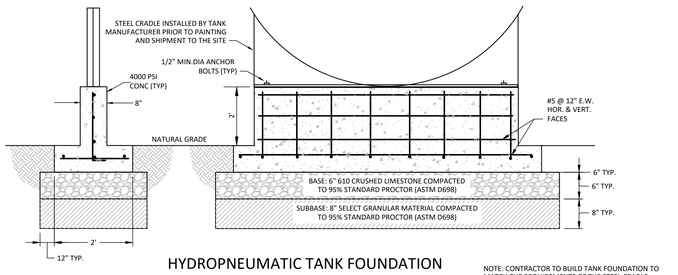
HYDROPNEUMATIC TANK



COLLECTOR TANK FOUNDATION



DUPLEX BOOSTER PUMP FOUNDATION

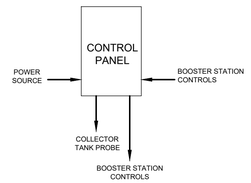


HYDROPNEUMATIC TANK FOUNDATION

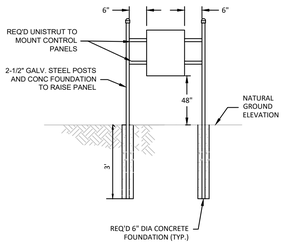
NOTE: CONTRACTOR TO BUILD TANK FOUNDATION TO MATCH THE REQUIREMENTS OF THE STEEL CRADLE PROVIDED BY THE TANK MANUFACTURER

FOUNDATION NOTES:

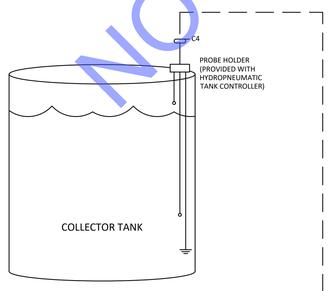
1. ANCHOR BOLTS TO BE SIZED BY THE MANUFACTURER FOR DIAMETER AND LENGTH.
2. THE ENTIRE CONCRETE FOUNDATION SHALL BE ONE MONOLITHIC PIECE POURED AT THE SAME TIME.

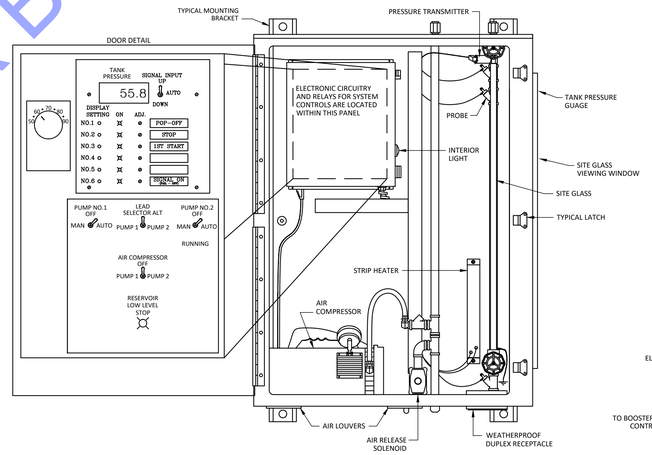


HYDROPNEUMATIC TANK CONTROL PANEL & WIRING



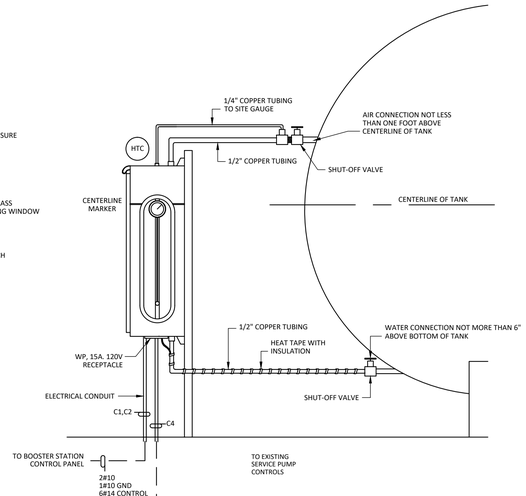
HYDROPNEUMATIC TANK CONTROL PANEL MOUNTING





NEMA 4X FIBERGLASS ENCLOSURE
(36"H x 30"W x 12'D)

HYDROPNEUMATIC TANK CONTROL INTERIOR



HYDROPNEUMATIC TANK CONTROL

Project No.: 1802
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Scale: N.T.S.
Drawn By: SCL
Checked By: HSW

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Rawls Springs Utility District
Water System Improvements-2020
Contract Number 1 - Waterline and Tank Site Improvements

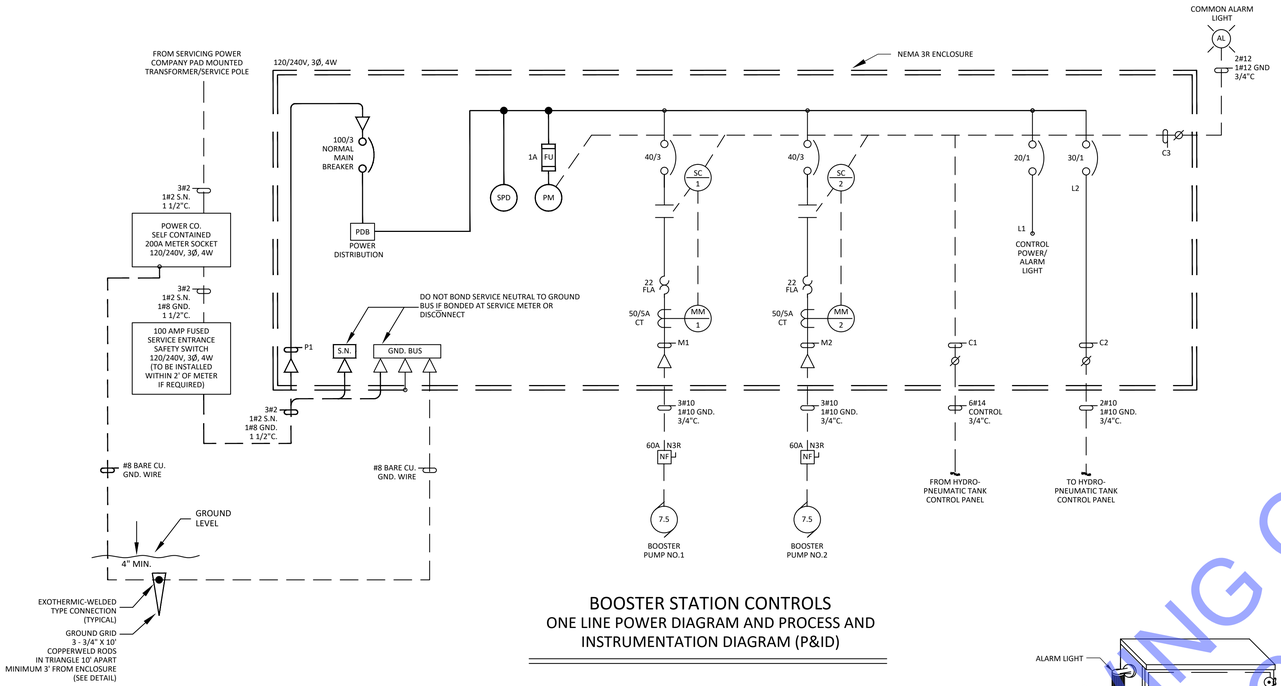
Booster Station Details

REVISIONS

NO.	DATE	DESCRIPTION	BY
01	04/14	Revised per MSDH's review comments	CL
02	04/14	Changed Booster Station from 22 to 30 Connections	CL
03	05/07	Changed Booster Station from 30 to 50 Connections	CL
04	08/03	Revised Well and Booster Station Controls	CL
05	08/04	Issued for Board Approval	CL

Sheet No.
22

1802 - RSUD Contract 1 - Waterline and Tank Site Improvements



BOOSTER STATION CONTROLS
ONE LINE POWER DIAGRAM AND PROCESS AND INSTRUMENTATION DIAGRAM (P&ID)

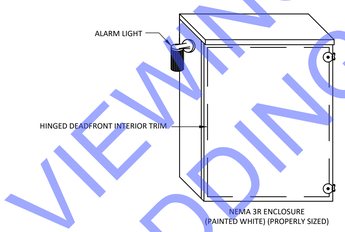
LEGEND

SPD	SURGE SUPPRESSION DEVICE -	SEE COMPONENT SPECIFICATIONS	CT	CURRENT TRANSFORMER -	SEE COMPONENT SPECIFICATIONS
PM	PHASE MONITOR -	SEE COMPONENT SPECIFICATIONS	HTC	HYDROPNEUMATIC TANK CONTROLLER -	SEE COMPONENT SPECIFICATIONS
SC	SIMPLEX CONTROLLER -	SEE COMPONENT SPECIFICATIONS	AL	COMMON ALARM LIGHT -	SEE COMPONENT SPECIFICATIONS
MM	MOTOR MONITOR -	SEE COMPONENT SPECIFICATIONS			SEE COMPONENT SPECIFICATIONS

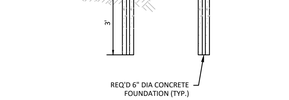
LEGEND

JB	JUNCTION BOX	ABC 123	DOOR/DEADFRONT MOUNTED DEVICE
ABC	BACKPLATE MOUNTED DEVICE	PDB	POWER DISTRIBUTION BLOCK
ABC 123	BACKPLATE MOUNTED DEVICE	ABC	SCADA EQUIPMENT
NF	NON-FUSED DISCONNECT SWITCH		
	GROUND		

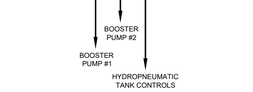
NOTES:
1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE SERVICING POWER COMPANY.
2. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER AND ENGINEER TO DETERMINE WHETHER ELECTRICAL SERVICE TO BE OVERHEAD OR UNDERGROUND.
3. SERVICE POLE/PADMOUNT TRANSFORMER SHALL BE INSTALLED PER INSTRUCTION OF THE SERVICING POWER COMPANY.
4. AREA LIGHT/SERVICE LIGHT (IF REQUIRED) SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR.
5. SERVICE POLE HEIGHT AND BURIAL DEPTH SHALL BE AS REQUIRED BY THE SERVICING POWER COMPANY.
6. SUPPLY SIDE NON-FUSED DISCONNECT SWITCH, METER BASE, AND FUSED DISCONNECT SWITCH SHALL BE INSTALLED PER SERVICING POWER COMPANY REQUIREMENTS.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR GROUND GRID (IF REQUIRE) AND SHALL VERIFY PROPER GROUNDING OF ALL ELECTRICAL EQUIPMENT. ALL GROUNDS SHALL HAVE A MAXIMUM RESISTANCE OF 25 OHMS.
8. FENCE SURROUNDING PROJECT SITE SHALL BE GROUNDED WITH A GROUND ROD AT EACH FIXED GATE POST AND AT EACH CORNER POST.



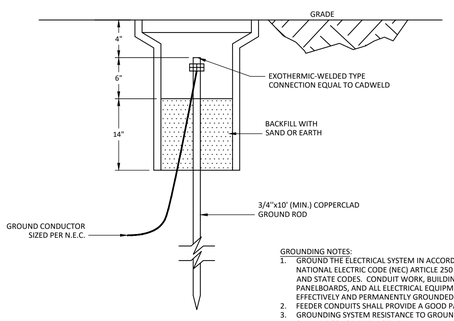
BOOSTER STATION CONTROLS
PANEL ENCLOSURE



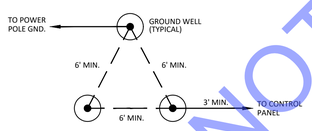
BOOSTER STATION CONTROLS
MOUNTING



BOOSTER STATION CONTROLS
PANEL & WIRING



SINGLE GROUND WELL
DETAIL FOR GROUND GRID
(TYPICAL OF THREE)



GROUND DETAIL OVERVIEW

GROUNDING NOTES:
1. GROUND THE ELECTRICAL SYSTEM IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE (NEC) ARTICLE 250 ALONG WITH ANY LOCAL AND STATE CODES. CONDUIT WORK, BUILDINGS, FENCES, MOTORS, PANELBOARDS, AND ALL ELECTRICAL EQUIPMENT ARE TO BE EFFECTIVELY AND PERMANENTLY GROUNDED.
2. FEEDER CONDUITS SHALL PROVIDE A GOOD PATH TO SYSTEM GROUND.
3. GROUNDING SYSTEM RESISTANCE TO GROUND OF 25 OHMS OR LESS SHALL BE CONSIDERED AS THE MINIMUM AND A RESISTANCE OF 5 OHMS OR LESS SHALL BE THE GOAL.
4. PROVIDE CERTIFIED TEST REPORTS OF GROUND RESISTANCE.

Project No.: 1802
Date: 08/03/2021
Scale: N.T.S.
Drawn By: SCL
Checked By: HSW

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Rawls Springs Utility District
Water System Improvements-2020
Contract Number 1 - Waterline and Tank Site Improvements
Booster Station Details

REVISIONS

NO.	DATE	DESCRIPTION	BY
01	08/04	Issued for Board Approval	CL
			CL
			CL

Sheet No.
23

1802- RSUD Contract 1 - Waterline and Tank Site Improvements