North Marshall Water Tatumsville Pumping Station

Owner: North Marshall Water District - Benton, KY
Engineer: Paul Cloud Engineering - Benton, KY
Superintendent: Roger Colburn - Benton, KY

Digitally signed by Paul Cloud, PE
Date: 2021.03.28 23:49:54 -05'00'

CERTIFIED RIGHT-OF-WAY MAP

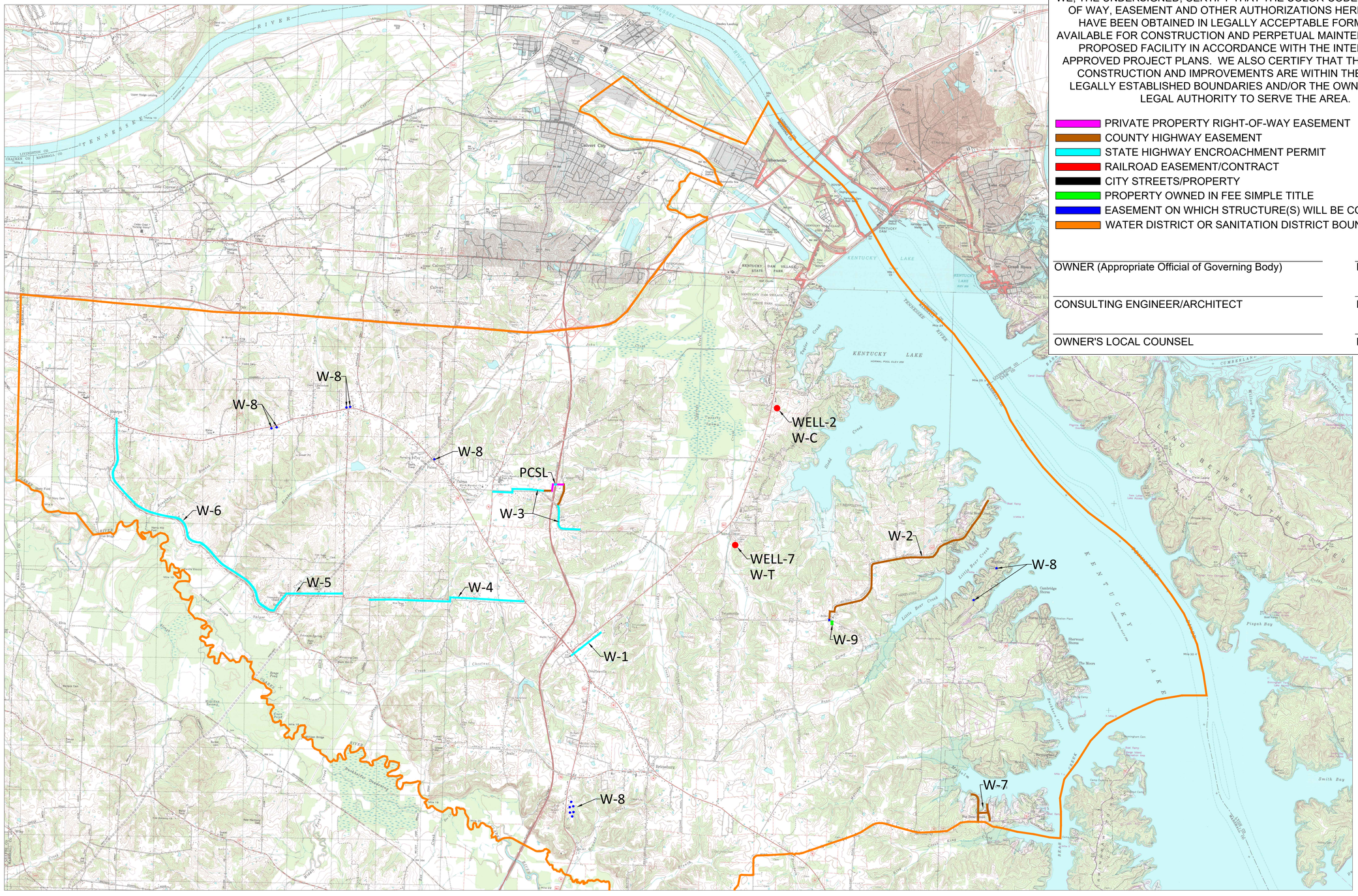
WE, THE UNDERSIGNED, CERTIFY THAT THE COLOR-CODED TITLE, RIGHT OF WAY, EASEMENT AND OTHER AUTHORIZATIONS HERE IN SHOWN, HAVE BEEN OBTAINED IN LEGALLY ACCEPTABLE FORM AND ARE AVAILABLE FOR CONSTRUCTION AND PERPETUAL MAINTENANCE OF THE PROPOSED FACILITY IN ACCORDANCE WITH THE INTENT OF THE APPROVED PROJECT PLANS. WE ALSO CERTIFY THAT THE PROPOSED CONSTRUCTION AND IMPROVEMENTS ARE WITHIN THE OWNER'S LEGALLY ESTABLISHED BOUNDARIES AND/OR THE OWNER HAS THE LEGAL AUTHORITY TO SERVE THE AREA.

- PRIVATE PROPERTY RIGHT-OF-WAY EASEMENT
- COUNTY HIGHWAY EASEMENT
- STATE HIGHWAY ENCROACHMENT PERMIT
- RAILROAD EASEMENT/CONTRACT
- CITY STREETS/PROPERTY
- PROPERTY OWNED IN FEE SIMPLE TITLE
- EASEMENT ON WHICH STRUCTURE(S) WILL BE CONSTRUCTED
- WATER DISTRICT OR SANITATION DISTRICT BOUNDARY

OWNER (Appropriate Official of Governing Body) _____ DATE _____

CONSULTING ENGINEER/ARCHITECT _____ DATE _____

OWNER'S LOCAL COUNSEL _____ DATE _____



LINES

- W-1 HIGHWAY 68/641 BORE
- W-2 LITTLE BEAR HIGHWAY
- W-3 HIGHWAY 1422 LINE UPGRADE
- W-4 GRIGGSTOWN ROAD
- W-5 SALYERS CREEK ROAD
- W-6 SCALE ROAD
- W-7 HALBROOK & GUTHRIE ROADS
- W-8 DISTRICT PRIMARY VALVE REPLACEMENT
- W-9 INLINE CONTROL VALVE
- W-10 ELECTRONIC METERS
- W-C & W-T NEW DEEP WELLS
- PCSL-1 PARKWAY CROSSING

N

NOT TO SCALE

DESCRIPTION: **NMWD 2020 UPGRADES**

LOCATION: NORTH MARSHALL WATER DISTRICT
96 CARROLL RD., BENTON, KY 42025

DATE: FEBRUARY 2021

DRAWING NUMBER: U-1

DRAWING REVISION: 05

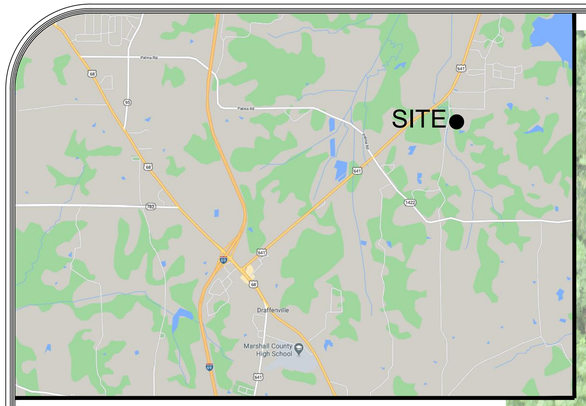
DRAWING BY: BPC

APPROVED BY: PEC

PAUL CLOUD ENGINEERING
270.994.1168
437 CACTUS DRIVE
BENTON, KY 42025

DRAWING NUMBER:

U-1

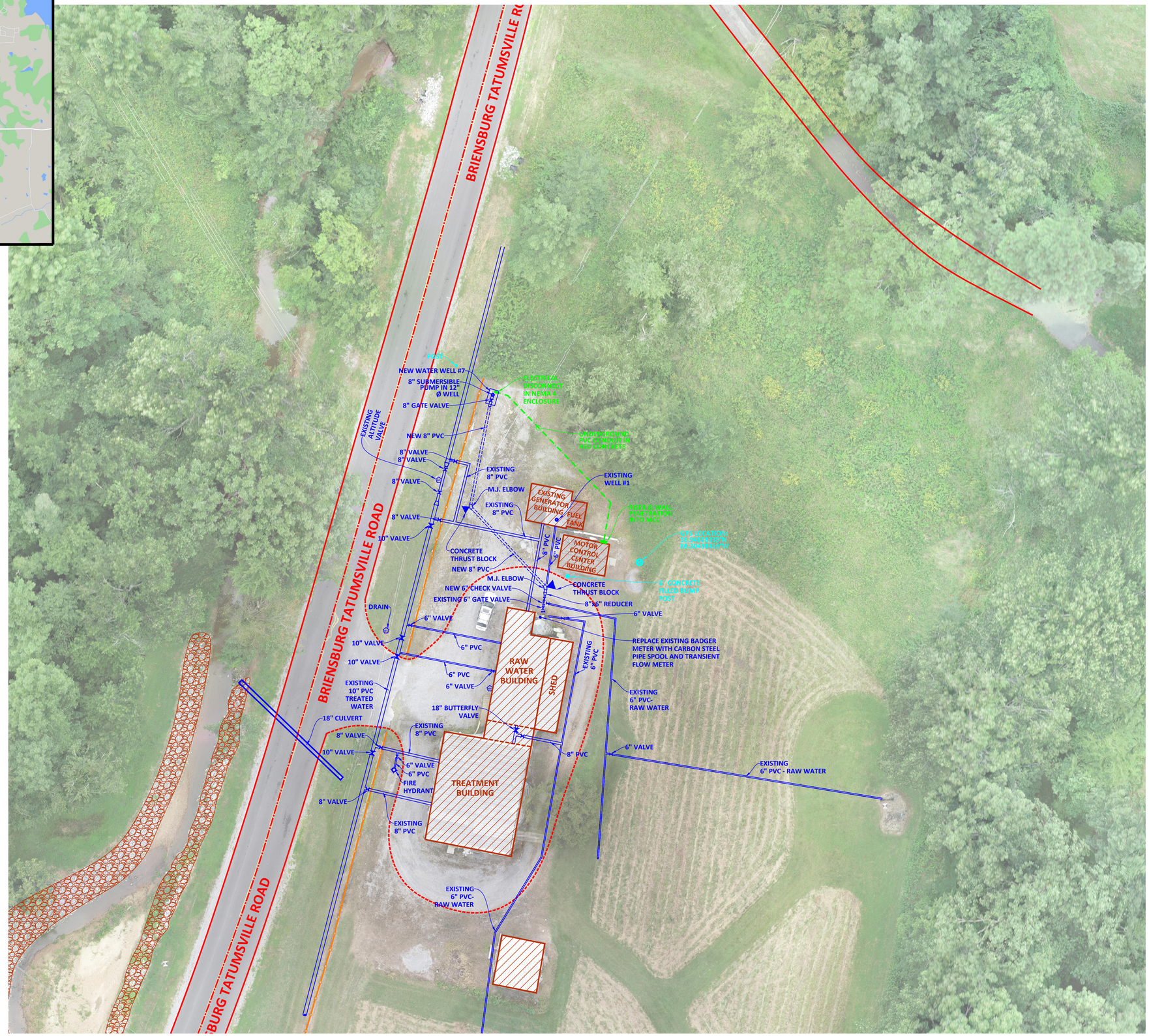


VICINITY MAP

NOT TO SCALE

GRAPHIC SCALE 1"=20'

0 20' 40' 60'



NOTES:

1. WATER WELL #1 SHALL BE A 12" DIAMETER WELL 400' DEEP.
2. THE NEW 8" SUBMERSIBLE PUMP SHALL BE SET AT APPROXIMATELY 110' DEEP BUT THIS SHALL BE ADJUSTED ACCORDINGLY AFTER THE WELL IS COMPLETED AND WATER CAPACITY VERIFIED.
3. THE NEW 8" PVC MAIN SHALL CONNECT TO AN EXISTING6" GATE VALVE (AS SHOWN)
4. ALL UNDERGROUND ELECTRICAL CONDUIT SHALL BE ENCAPSULATED IN RED CONCRETE.

DESCRIPTION:
WATER WELL #1
TATUMSVILLE PUMP STATION

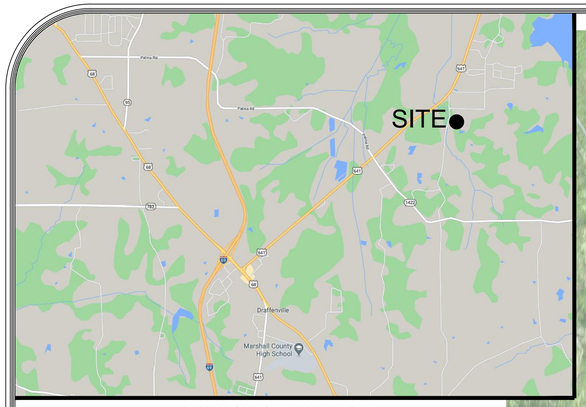
LOCATION:
BRIENSBURG TATUMSVILLE ROAD
BENTON, KENTUCKY 42025

DATE: *FEBRUARY 2021*
DRAWING NUMBER: *WT-1*
DRAWING REVISION: *02*
DRAWING BY: *BPC*
APPROVED BY: *PEC*

PAUL CLOUD ENGINEERING
270.994.1168
437 CACTUS DRIVE
BENTON, KY 42025

DRAWING NUMBER:

WT-1



VICINITY MAP

NOT TO SCALE

GRAPHIC SCALE 1"=8'

0 8' 16' 24'

NOTES:

1. NEW WATER WELL #7 SHALL BE A 12" DIAMETER WELL 400' DEEP.
2. THE NEW 8" SUBMERSIBLE PUMP SHALL BE SET AT APPROXIMATELY 110' DEEP BUT THIS SHALL BE ADJUSTED ACCORDINGLY AFTER THE WELL IS COMPLETED AND WATER CAPACITY VERIFIED.
3. THE NEW 8" PVC MAIN SHALL CONNECT TO AN EXISTING6" GATE VALVE (AS SHOWN)
4. ALL UNDERGROUND ELECTRICAL CONDUIT SHALL BE ENCAPSULATED IN RED CONCRETE.

POST
NEW WATER WELL #7
8" SUBMERSIBLE PUMP IN 12" Ø WELL
8" GATE VALVE
ELECTRICAL DISCONNECT IN NEMA 4 ENCLOSURE
EXISTING ALTITUDE VALVE
NEW 8" PVC
UNDERGROUND PVC CONDUIT IN RED CONCRETE
8" VALVE
8" VALVE
8" VALVE
EXISTING 8" PVC
M.J. ELBOW
EXISTING WELL #1
EXISTING GENERATOR BUILDING
FUEL TANK
RISER & WALL PENETRATION INTO MCC
EXISTING 8" PVC
8" VALVE
10" VALVE
CONCRETE THRUST BLOCK
NEW 8" PVC
8" PVC
6" PVC
MOTOR CONTROL CENTER BUILDING
GPS LOCATION: 36.94808335°N 88.30438416°W
M.J. ELBOW
NEW 6" CHECK VALVE
EXISTING 6" GATE VALVE
CONCRETE THRUST BLOCK
6" CONCRETE FILLED BUMP POST
8"x6" REDUCER
DRAIN
6" VALVE
6" VALVE
10" VALVE
6" PVC
REPLACE EXISTING BADGER METER WITH CARBON STEEL PIPE SPOOL AND TRANSIENT FLOW METER
10" VALVE
6" PVC
RAW WATER BUILDING
SHED
EXISTING 6" PVC
EXISTING 10" PVC TREATED WATER
6" VALVE
EXISTING 6" PVC- RAW WATER
18" BUTTERFLY VALVE
18" CULVERT
EXISTING 8" PVC
8" VALVE
10" VALVE
8" PVC
6" VALVE
6" VALVE
BRIENSBURG TATUMSVILLE ROAD

DESCRIPTION: NEW WATER WELL #7 TATUMSVILLE PUMP STATION

LOCATION: BRIENSBURG TATUMSVILLE ROAD BENTON, KENTUCKY 42025

DATE: FEBRUARY 2021

DRAWING NUMBER: WT-2

DRAWING REVISION: 03

DRAWING BY: BPC

APPROVED BY: PEC

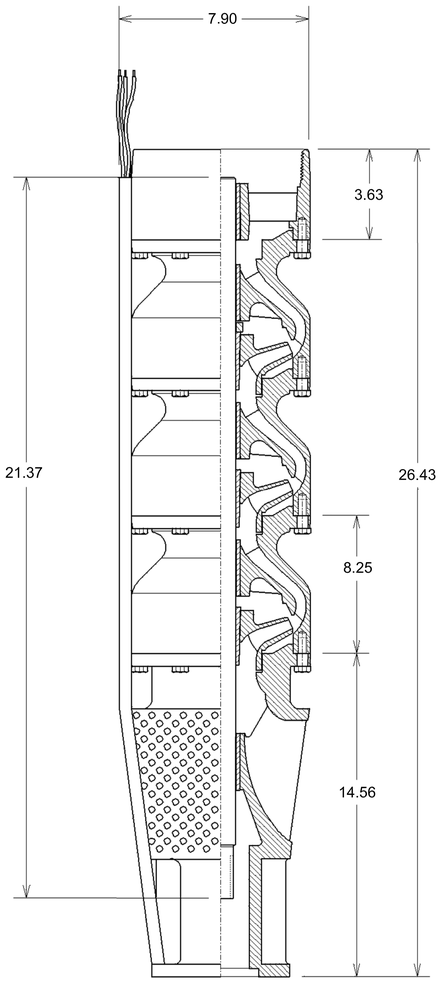
PAUL CLOUD ENGINEERING
270.994.1168
437 CACTUS DRIVE
BENTON, KY 42025

DRAWING NUMBER:

WT-2

KENTUCKY WATER WELL DATA - NEARBY WELLS

Well #	AKGWA NUMBER	Latitude	Longitude	PUBLIC ID	AI Number	Quadrangle	County	Construction Date	Status	Primary Use	Surface Elevation	Depth to Bedrock	Total Depth	Static Water Level	Owner_BusinessName	Casing Size	Regulatory Program
1	5067	36.948125	-88.304527	790319	2955	Briensburg	Marshall	1966	ACTIVE	PUBLIC - COMMUNITY	365	100	100	17	North Marshall Water District	10"	Water Withdrawal
2	5068	36.947374	-88.304605	790319	2955	Briensburg	Marshall	1972	ACTIVE	PUBLIC - COMMUNITY	365	100	100	17	North Marshall Water District	10"	Water Withdrawal
3	5069	36.944743	-88.305384	790319	2955	Briensburg	Marshall	1978	ACTIVE	PUBLIC - COMMUNITY	370	100	100	17	North Marshall Water District	12"	Water Withdrawal
4	5070	36.944622	-88.305383	790319	2955	Briensburg	Marshall	1983	ACTIVE	PUBLIC - COMMUNITY	370	100	100	17	North Marshall Water District	8"	Water Withdrawal
5	5071	36.947778	-88.304072	790319	2955	Briensburg	Marshall	1983	ACTIVE	PUBLIC - COMMUNITY	370	100	400		North Marshall Water District	6"	Water Withdrawal
6	5072	36.946548	-88.304105	790319	2955	Briensburg	Marshall		ACTIVE	PUBLIC - COMMUNITY	370	100	400	27	North Marshall Water District	8"	Water Withdrawal



SUBMERSIBLE PUMP DATA

MODEL	Motor Size	"A"	"B"	"C"	One Stage "D"	"E"	OneStage Shaft Lenath	Disch. Sizes	First Stage Weight	Add'l Stage Weiaht
SC	4	8.25	4.63	3.31	16.19	5.64	12.88	3,4	44	13
	6	10.56			18.50		13.63		49	
ST	4	8.25	4.81		16.38		13.06		44	
	6	10.56			18.69		13.81		49	
5RWA	4	8.38	4.00		15.69		13.25		44	
	6	10.56			17.88		13.75		49	
6C	4	8.44	5.13	3.75	17.31	6.28	13.63	3,4,5	50	17
	6	10.56			19.44		14.25		55	
	8	12.50			21.38		15.38		60	
6DH	4	4.94	5.50		14.19	5.88	10.63		41	16
	6	9.75			19.00		13.75		53	
6RA	6	10.56	3.75		18.06	5.94	12.88	3.4	90	20
7C	6	12.88	6.38		22.88	7.50	18.50	5,6	75	28
	8	14.56			24.56		19.25		87	
7RA	6	8.44	4.50		16.56	7.90	11.50	3,4	105	28
7T	6	12.88	7.09		23.59	7.50	19.06	6	78	31
	8	14.56			25.28		19.94		90	
7WA	6	12.88	5.50		22.00		17.75		68	30
	8	14.56			23.69		18.50		80	
8FD	6	12.88	**8.25**	**3.63**	24.75	**7.90**	20.50		125	**34**
	8	**14.56**			**26.43**		**21.37**		**137**	
81	6	12 .88	6.38		22.88		18.13		90	33
	8	14.56			24.56		18.88		102	
BRA	6	12.88	5.00		21.50		17.25	4,5,6	165	36
	8	14.56			23.19		18.13		177	
8RJ	6	12.88	6.50		23.00		17.50	5,6	90	34
	8	14.56			24.69		18.88		102	
9RA	6	12.88	5.50		22.00		17.50	4,5,6	185	46
	8	14.56			23.69		18.50		197	
9RC	6	15.13	8.50	4.50	28.13	9.81	24.25	5,6,8	194	64
	8	13.25			26.25		21.50		206	
	10	13.25			26.25		20.50		206	
9T	6	15.13	9.25		28.88		25.00		200	70
	8	13.25			27.00		22.25		212	
	10	13.25			27.00		21.25		212	
9WA	6	15.13	6.63		26.25		22.38		158	58
	8	13.25			24.38		19.63		170	
	10	13.25			24.38		18.63		170	
10DH	8	13.25	9.25		27.00	10.00	22.00	6,8	185	65
	10	13.25			27.00		22.00		190	
	12	13.25			27.00		21.00		190	
10RA	6	15.13	6.63		26.25		22.38	4,6,8	280	76
	8	13.25			24.38		19.63		285	
	10	13.25			24.38		18.63		285	
10RJ	6	15.13	8.40		28.03		23.38	6,8	187	60
	8	13.25			26.15		20.75		192	
	10	13.25			26.15		19.75		192	
10WA	6	15.13	7.63		27.25		23.38	4,6,8	183	56
	8	13.25			25.38		20.63		188	
	10	13.25			25.38		19.63		188	
11C	8	13.25	9.88	5.13	28.25	11.50	23.75	6,8,10	285	97
	10	13.25			28.25		23.75			
	12	13.25			28.25		22.75			
11RA	6	14.44	8.00	5.88	28.31	12.10	24.25		415	103
	8	13.25			27.13		22.25			
	10	13.25			27.13		21.25			

ADJOINING WATER WELL DATA

Well #	AKGWA NUMBER	Feet Below Surface		Hole Diameter	Casing (ID) Diameter	Casing Type	Well Yield (GPM)	Feet Below Surface		Description
		From	To					From	To	
1	5067	0	80'		10"	Steel	600	0	60'	Clay & Gravel Mix
		80'	100'		10"	Steel w/screen		60'	100'	White Fine Sand
								100'		Bedrock
							* 80' Draw Down			
2	5068	0	70'		10"	Steel	500	0	60'	Clay & Gravel Mix
		70'	100'		10"	Steel w/screen		60'	100'	White Fine Sand
								100'		Bedrock
							* 70' Draw Down			
3	5069	0	70'		12"	Steel	520	0	60'	Clay & Gravel Mix
		70'	100'		12"	Steel w/screen		60'	100'	White Fine Sand
								100'		Bedrock
							* 70' Draw Down			
4	5070	0	70'		6"	Plastic	160	0	60'	Clay & Gravel Mix
		70'	100'		6"	Plastic w/screen		60'	100'	White Fine Sand
								100'		Bedrock
5	5071				6"		200	0	100'	Sandy Clay
								100'		Boulder Zone
								100'	360'	Limestone
								360'	377'	Fractured Limestone
								377'	400'	Limestone
6	5072				8"	Steel	870	0	100'	Sand & Clay
					7.625"	Steel w/screen		100'		Boulder Zone
								100'	367'	Limestone
								367'	387'	Fractured Limestone
								387'	400'	Limestone
							* 106' Draw Down			

DESCRIPTION: WATER WELL #7 - DETAIL TATUMSVILLE PUMP STATION

LOCATION: BRIENSBURG TATUMSVILLE ROAD BENTON, KENTUCKY 42025

DATE: SEPTEMBER 2020

DRAWING NUMBER: WT-3

DRAWING REVISION: 01

DRAWING BY: BPC

APPROVED BY: PEC

PAUL CLOUD ENGINEERING

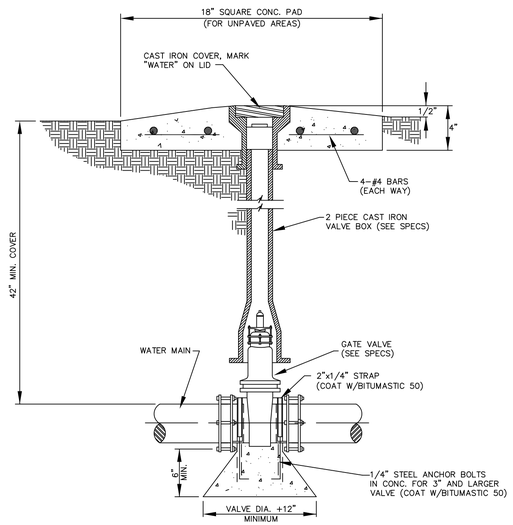
270.994.1168

437 CACTUS DRIVE

BENTON, KY 42025

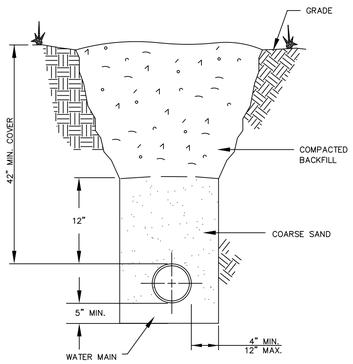
DRAWING NUMBER:

WT-3



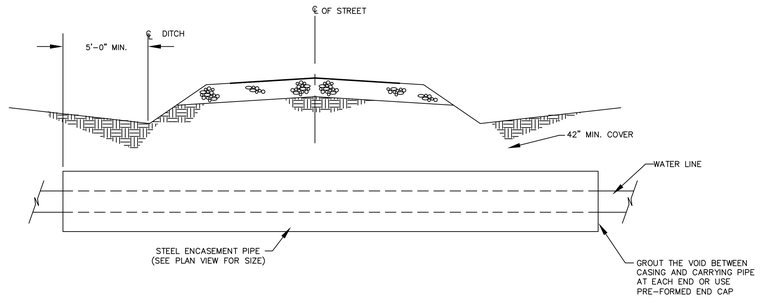
GATE VALVE

SCALE: N.T.S.



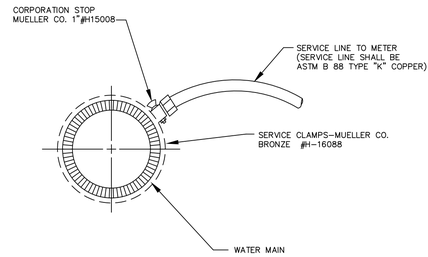
TRENCH SECTION

SCALE: N.T.S.



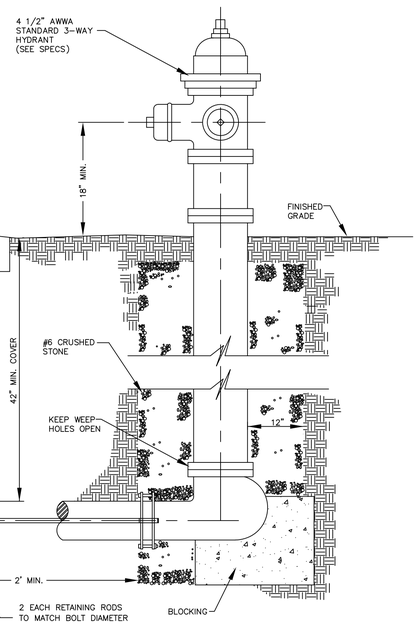
PIPE CROSSING UNDER EXISTING PAVED STREET

(AS NOTED ON DRAWING)



WATER MAIN TAPPING DETAIL

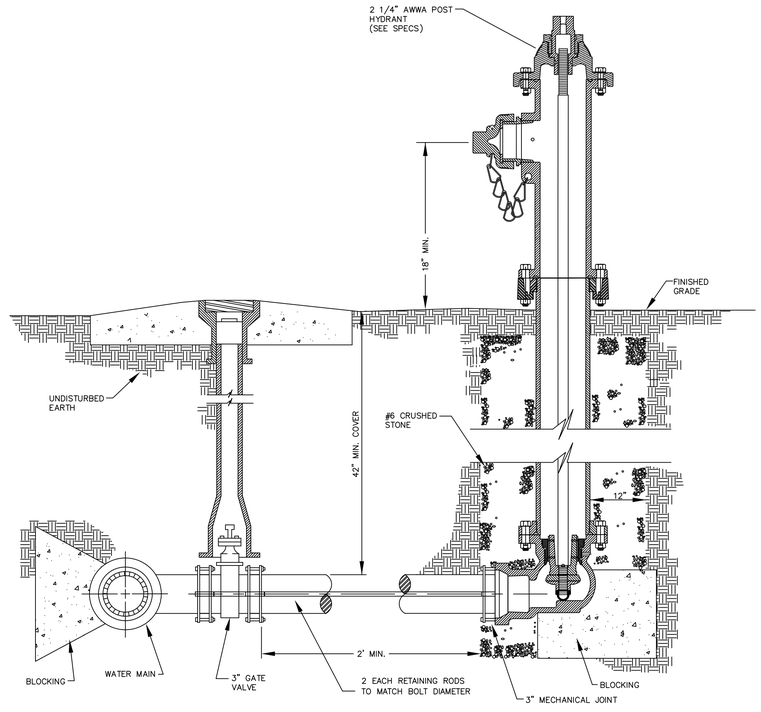
SCALE: N.T.S.



NOTE: A HYDRANT CONNECTING PIECE AND HYDRANT ANCHORING TEE MAY BE USED IN LEIU OF THE RODDED CONNECTIONS.

SECTIONAL ELEVATION: BRANCH TYPE HYDRANT

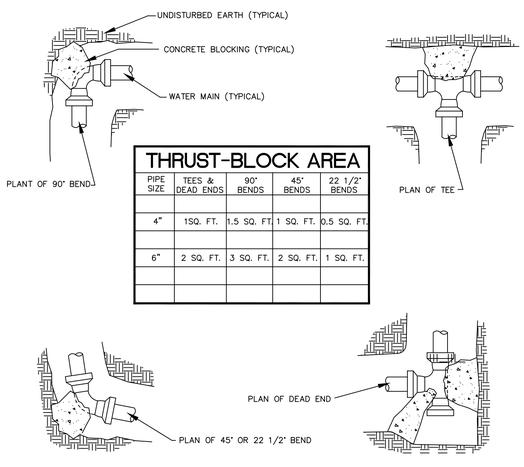
SCALE: N.T.S.



NOTE: A HYDRANT CONNECTING PIECE AND HYDRANT ANCHORING TEE MAY BE USED IN LEIU OF THE RODDED CONNECTIONS.

SECTIONAL ELEVATION: POST FLUSH HYDRANT

SCALE: N.T.S.



THRUST-BLOCK AREA

PIPE SIZE	TEES & DEAD ENDS	90° BENDS	45° BENDS	22 1/2° BENDS
4"	1SQ. FT.	1.5 SQ. FT.	1 SQ. FT.	0.5 SQ. FT.
6"	2 SQ. FT.	3 SQ. FT.	2 SQ. FT.	1 SQ. FT.

Paul Cloud Engineering
437 Cactus Drive
Benton, KY 42025
(270) 527-7909

STANDARD DETAILS
WATER DISTRIBUTION SYSTEM

STANDARD DETAILS
WATER
DISTRIBUTION
SYSTEM

02-18-21

REV	DATE
1	01-18-18

SHEET
D-1