PIKE WATER, INC. **WELL #6**





- UNDERGROUND BUILDING SERVICE UTILITY LINES ARE NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING, MAINTAINING AND REPLACING AS NECESSARY TO ENSURE CONTINUAL SERVICE TO BUILDINGS.
- 2. THE CONTRACTOR IS RESPONSIBLE TO CALL OHIO UTILITIES PROTECTION SERVICE @ 1-800-362-2764, THREE WORKING DAYS PRIOR TO CONSTRUCTION.

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PIKE COUNTY, OH **SEPTEMBER 2019**



LOCATION MAP 1" = 500'



CT CONSULTANTS, INC. **148 NORTH HIGH STREET** GAHANNA, OHIO 43230 (614) 471-7310 PHONE (614) 471-7320 FAX

upai

BARBARA R.' ANDERSON, P.E.





PRESIDENT VICE-PRESIDENT SECRETARY / TREASURER MEMBER MEMBER MEMBER MEMBER



GENERAL NOTES:

- UTILITIES: EXISTING UNDERGROUND UTILITIES ARE LOCATED WHERE IT IS KNOWN THAT THEY EXIST. THE CONTRACTOR IS RESPONSIBLE TO CONTACT THE VARIOUS UTILITY COMPANIES TO OBTAIN ACCURATE LOCATIONS PRIOR TO COMMENCING EXCAVATION ACTIVITIES. THE CONTRACTOR SHALL INCLUDE THE COST OF ALL WORK REQUIRED TO AVOID EXISTING UTILITIES AND STRUCTURES WITHIN THE UNIT PRICE BID FOR THE INSTALLATION OF THE PROPOSED FACILITIES.
- 2. EXISTING UTILITIES: THE FOLLOWING UTILITIES ARE LOCATED WITHIN THE BOUNDARIES OF THIS PROJECT. THE CONTRACTOR SHALL NOTIFY THE OHIO UTILITIES PROTECTION SERVICE (OUPS) AT 1-800-362-2764, TWO (2) WORKING DAYS PRIOR TO COMMENCING ANY EXCAVATION.

PIKE WATER INC. 277 BOSWELL RUN RD. PIKETON, OH 45661 (740) 947-2524

FRONTIER COMMUNICATIONS 1315 ALBERT ST. PORTSMOUTH, OH 4562 (740) 954-5207

DIVERSIFIED GAS AND OIL 4150 BELDEN VILLAGE ST. NW SUITE 401 CANTON, OH 44718 (330)493-0440 AEP OHIO PHONE 800-672-2231

ODOT DISTRICT 9 650 EASTERN AVE. CHILLICOTHE, OH 45601 (740) 773-2691

- 3. DAMAGE TO EXISTING UTILITIES: THE CONTRACTOR SHALL REPAIR AND/OR REPLACE ALL UTILITIES DAMAGED BY HIS CONSTRUCTION ACTIVITIES.
- 4. PERMITS: THE OWNER SHALL OBTAIN ANY REQUIRED STATE, COUNTY OR TOWNSHIP PERMITS FOR THE PROPOSED PROJECT AND SHALL PROVIDE THE PERMITS TO THE CONTRACTOR PRIOR TO COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF THE PERMITS.
- 5. ANCHORAGE OF FITTINGS: ALL EXTERIOR BELOW GRADE FITTINGS INCORPORATED INTO THE CONSTRUCTION SHALL BE ANCHORED AGAINST THRUST BY USE OF CONCRETE THRUST BLOCKS. CONCRETE SHALL BE READY MIX TYPE, 2500 PSI MINIMUM COMPRESSIVE STRENGTH. ABOVE GRADE AND INTERIOR FITTINGS SHALL BE FLANGED OR UTILIZE MECHANICALLY RESTRAINED JOINTS.
- 6. COORDINATION: THE CONTRACTOR SHALL COORDINATE HIS WORK WITH THE OTHER CONTRACTORS AND WITH THE OWNER TO AVOID DELAYS AND CONFLICTS.
- 7. SAFETY: THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR COMPLYING WITH ALL FEDERAL, STATE AND LOCAL SAFETY REQUIREMENTS, TOGETHER WITH EXERCISING PRECAUTIONS AT ALL TIMES FOR THE PROTECTION OF PERSONS INCLUDING EMPLOYEES AND PROPERTY. IT IS ALSO THE CONTRACTOR'S RESPONSIBILITY TO INITIATE, MAINTAIN AND SUPERVISE ALL SAFETY REQUIREMENTS, PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR SECURING THE PROJECT FROM THE GENERAL PUBLIC BOTH DURING AND AFTER HIS WORKING HOURS. THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN ALL LIGHTS, SIGNS, FENCES OR ANY OTHER SAFETY DEVICE TO PREVENT UNAUTHORIZED PERSONNEL FROM HAZARDOUS OR DANGEROUS CONDITIONS ON THE PROJECT SITE. THE COST OF SUCH WORK SHALL BE INCLUDED IN THE VARIOUS ITEMS BID FOR FURNISHING AND INSTALLING MATERIALS ON THIS PROJECT.
- 8. DISINFECTION: ALL WATER LINES SHALL BE DISINFECTED IN ACCORDANCE WITH THE APLICABLE SECTION OF AWWA C651 AND IN ACCORDANCE WITH THE REQUIREMENTS OF THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DISINFECTION AND RELATED TESTING ACTIVITIES FOR THE COMPONENTS INSTALLED AS A PART OF HIS/HER CONTRACT.
- 9. MATERIALS TO BE UTILIZED: ALL MATERIALS TO BE UTILIZED IN THE CONSTRUCTION OF THIS PROJECT THAT WILL COME IN CONTACT WITH POTABLE WATER SHALL BE AWWA AND/OR NSF 60/61 APPROVED. A BRIEF SUMMARY OF THE PRIMARY MATERIALS TO BE UTILIZED IS AS FOLLOWS:

WATER LINE	E: DUCTILE IRON - AWWA C151
	PVC - ASTM D2241
FITTINGS:	DUCTILE IRON - AWWA C153
VALVES:	GATE VALVES - AWWA C509
	BUTTERFLY VALVES - AWWA C504

- 10. HYDROSTATIC TESTING: ALL WATER LINES SHALL BE HYDROSTATICALLY TESTED IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF AWWA C600 FOR DUCTILE IRON MAINS OR AWWA C605 FOR PVC MAINS.
- 11. SAFETY OF CONSTRUCTION: COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 IS REQUIRED OF ALL CONTRACTORS ON THE PROJECT.
- 12. REVIEW OF THE PROJECT SITE: PRIOR TO BIDDING, THE CONTRACTOR SHALL, BY PERSONAL EXAMINATION, SATISFY HIMSELF AS TO THE LOCATION OF THE PROPOSED WORK AND TO ACQUAINT HIMSELF THOROUGHLY WITH THE EXISTING CONDITIONS AND THE DIFFICULTIES THAT ARE LIKELY TO BE ENCOUNTERED IN THE PERFORMANCE OF THE PROPOSED WORK.
- 13. IRON PINS AND MONUMENTS: THE CONTRACTOR SHALL REFERENCE ALL IRON PINS AND MONUMENTS BEFORE EXCAVATING AT OR NEAR THEM. IF ANY IRON PINS OR MONUMENTS ARE DESTROYED OR DAMAGED BY THE CONTRACTOR, THEY SHALL BE ACCURATELY REPLACED BY AN OHIO REGISTERED SURVEYOR EMPLOYED BY THE CONTRACTOR AT THE COMPLETION OF THE PROJECT AND AT NO EXPENSE TO THE OWNER.
- 14. EXCAVATION: ALL EXCAVATION ON THIS PROJECT IS UNCLASSIFIED. THE CONTRACTOR SHALL MAKE ALL EXCAVATION NECESSARY FOR CONSTRUCTION OF YARD PIPING AND STRUCTURES INCLUDED IN THIS PROJECT.
- 15. THE CONTRACTOR SHALL CONFINE HIS ACTIVITIES TO THE PROJECT SITE UNDER DEVELOPMENT OR THE EXISTING RIGHTS-OF-WAY, CONSTRUCTION AND /OR PERMANENT EASEMENTS AND SHALL NOT TRESPASS UPON OTHER PRIVATE PROPERTY WITHOUT THE WRITTEN CONSENT OF THE OWNER.
- 16. MISCELLANEOUS WORK: ALL ITEMS OF WORK CALLED FOR ON THE PLANS FOR WHICH NO SPECIFIC METHOD OF PAYMENT IS PROVIDED SHALL BE PERFORMED BY THE CONTRACTOR AND THE COST OF SAME SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS RELATED ITEMS.
- 17. FINAL CLEAN-UP: THE CONTRACTOR SHALL CLEAN UP ALL DEBRIS AND MATERIALS RESULTING FROM HIS OPERATIONS AND RESTORE ALL SURFACES, STRUCTURES, DITCHES, AND PROPERTY TO ITS ORIGINAL CONDITION TO THE SATISFACTION OF THE OWNER.
- 18. SURFACE RESTORATION: THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING ALL SURFACES DISTURBED BY CONSTRUCTION TO THEIR PRE-CONSTRUCTION CONDITION. SEEDING MIXTURES, MULCHING, AND OTHER MATERIALS UTILIZED TO PERFORM THIS WORK SHALL BE AS SPECIFIED.
- 19. SURVEYS: THE CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMING ALL DETAIL SURVEYS NEEDED FOR CONSTRUCTION.
- 20. NOTIFICATIONS: ANY MODIFICATIONS OR CHANGES TO THE WORK, AS SHOWN ON THE DRAWINGS, MUST HAVE PRIOR WRITTEN APPROVAL OF THE OWNER AND ENGINEER.
- 21. PIPING: CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL PIPING DIMENSIONS PRIOR TO FABRICATING

PIPE. PRESSURE RATINGS, FLANGE DRILLING PATTERNS, AND VALVE LEVER POSITIONS SHALL BE CONFIRMED WITH THE OWNER AND ENGINEER PRIOR TO FABRICATION AND SHALL BE DETAILED ON THE PIPING SUBMITTAL.

- 22. SITE LAYOUT: CONTRACTOR SHALL VERIFY ALL DIMENSIONS RELATED TO THE LOCATION OF THE PROPOSED FACILITIES PRIOR TO CONSTRUCTION. DISCREPANCIES NOTED IN DIMENSIONS SHOWN SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER AND THE ENGINEER.
- 23. FINAL GRADING: UPON COMPLETION OF WORK, THE AREA SURROUNDING EXISTING AND PROPOSED FACILITIES DISTURBED BY CONSTRUCTION OPERATIONS SHALL BE GRADED TO PROVIDE POSITIVE DRAINAGE AWAY FROM STRUCTURES.
- 24. DEWATERING: THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DEWATERING ACTIVITIES NECESSARY FOR INSTALLATION OF THE PROPOSED FACILITIES.
- 25. FITTINGS REQUIRED FOR CONSTRUCTION: THE CONTRACTOR SHALL FURNISH ALL FITTINGS REQUIRED, WHETHER DESIGNATED OR NOT, NECESSARY TO ACHIEVE THE DESIRED ALIGNMENT OR INSTALLATION AS OUTLINED ON THE PLANS. COST OF THE REQUIRED FITTINGS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR RELATED ITEMS INCORPORATED INTO THE PROJECT.
- 26. SEPARATION: WATER LINES ON THIS PROJECT SHALL BE INSTALLED TO PROVIDE A MINIMUM HORIZONTAL SEPARATION FROM SEWER LINES OF 10 FEET AND A MINIMUM OF VERTICAL SEPARATION OF 18 INCHES.
- 27. REVIEW OF DOCUMENTS: PRIOR TO COMMENCING THE WORK, THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR STUDYING THE CONTRACT DOCUMENTS AND REPORTING AT ONCE TO THE ENGINEER ANY ERROR OR INCONSISTENCY THAT MAY BE DISCOVERED.
- 28. VERIFICATION OF DIMENSIONS: THESE DIMENSIONS DO NOT INDICATE ALL PIPE FITTINGS REQUIRED TO INSTALL YARD PIPING AS SHOWN. CONTRACTOR IS RESPONSIBLE FOR DETERMINING AND PROVIDING ALL REQUIRED FITTINGS.
- 29. SCALING OF DRAWINGS: THE DRAWINGS SHALL NOT BE SCALED.
- 30. EXCAVATION: THE CONTRACTOR SHALL TAKE PRECAUTIONS AS NECESSARY AROUND AREAS OF EXCAVATION AND CONSTRUCTIONS TO ELIMINATE HAZARDS TO PERSONS AND PROPERTY.
- 31. COMPLIANCE: ALL CONTRACTORS AND SUBCONTRACTORS SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES AND ORDINANCE.
- 32. MATERIALS AND EQUIPMENT: MATERIALS AND EQUIPMENT SPECIFIED ON THE DRAWINGS BY TRADE NAME ARE SO LISTED AS TO CONVEY THE QUALITY AND WORKMANSHIP REQUIRED. SIMILAR MATERIALS OR EQUIPMENT MANUFACTURED BY FIRMS OTHER THAN THOSE LISTED ON THE DRAWINGS WILL BE CONSIDERED FOR ACCEPTABILITY. THE GENERAL CONTRACTOR SHALL SUBMIT DETAILED SHOP DRAWINGS FOR ALL SUCH MATERIAL AND EQUIPMENT.

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05	WELL DETAILS 1	01C-02
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07	WELL DETAILS 3	01C-04

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			DIN VERT	IENSIO FICAL B	NS OF (ENDS V	CONCR	N UPW	LOCKIN ARD TH	G FOR RUST						
PIPE SIZES		6" AND	8"	1	O" AND	12"	1	4" AND	16"	1	8" AND :	20"		24"	
DEGREE BEND OR DEFLECTION	11 1/4°	22 1/2°	45°	11 1/4°	22 1/2°	45°	11 1/4°	22 1/2°	45°	11 1/4°	22 1/2°	45°	11 1/4°	22 1/2°	45°
LENGTH	3'	4'	6'	4.5'	6.0'	8.0'	6'	8'	11'	7'	9'	13'	7'	10'	14'
WIDTH	3'	3'	3'	3'	3'	4'	3.5'	3.5'	5'	4'	5'	5.5'	5'	6'	7'
DEPTH	2'	3'	4'	3'	4.5'	5'	3.5'	5'	5'	4'	5'	6'	5'	6'	7'
SQ. IN. REBAR	0.15	0.28	0.57	0.33	0.66	1.30	0.60	1.18	2.31	0.92	1.84	3.61	1.36	2.7	5.2
MASS CONCRETE CU. YD.	0.66	1.33	2.66	1.5	3.0	5.9	2.7	5.2	10.2	4.1	8.3	15.8	6.7	13.3	25.7
PIPE SIZES		30"			36"			42"			48"			54"	
DEGREE BEND OR DEFLECTION	11 1/4°	22 1/2°	45°	11 1/4°	22 1/2°	45°	11 1/4°	22 1/2°	45°	11 1/4°	22 1/2°	45°	11 1/4°	22 1/2°	45°
LENGTH	8'	10'	15'	9'	12'	17.5'	10'	15'	19'	13'	17'	21.5'	15'	18'	24'
WIDTH	6'	8'	8.5'	7'	8.5'	10'	8'	8.5'	12'	8'	9.5'	13'	8'	10'	14'
DEPTH	6'	7'	8.5'	6.5'	8'	9'	7'	8.5'	9.5'	7'	9'	10'	8'	10'	11'
SQ. IN. REBAR	2.13	4.14	8.1	3.06	5.96	11.7	4.16	8.1	16.0	5.44	10.6	21.0	6.9	13.4	26.3
MASS CONCRETE CU. YD.	10.5	20.4	40.0	15.1	29.4	57.8	20.6	40	79	26.9	52.3	103.7	34.1	66.2	130

					MI HORI	NIMUM IZONTA	SQUAF L THRU	RE FEE	T OF BI OCKING	EARING G AND V	SURF#	ACE RE AL THR	QUIRE UST DO	D FOR DWNWA	ARD									
PIPE SIZES		6"	AND 8"			10" A	ND 12"			14" A	ND 16"			18" A	ND 20"			2	24"			3	0"	
TYPE OF BEARING	C	EGREE DEFLE	BEND	OR		DEGRE DEFI	E BENI) OR N		DEGRE DEFL	E BEND) OR N		DEGRE DEFI	E BEND) OR N		DEGRE DEFL	E BEND) OR N		DEGRE DEFL	E BEND) OR N
ALLOWABLE LOADS	11 1/4°	22 1/2°	45°	90°	11 1/4°	22 1/2°	45°	90°	11 1/4°	22 1/2°	45°	90°	11 1/4°	22 1/2°	45°	90°	11 1/4°	22 1/2°	45°	90°	11 1/4	°22 1/2°	45°	90°
SAND 1 TON/SQ. FT. SOFT CLAY 1 TON/SQ. FT.	1.50	3.00	6.00	12.00	3.00	6.00	12.00	24.50	5.50	11.00	21.50	43.00	8.50	16.50	33.00	66.00	13.6	27	52	97	21.3	41.4	81	150
SAND & GRAVEL 2 TON/SQ. FT.	1.00	1.50	3.00	6.00	1.50	3.00	6.00	12.00	2.50	5.50	11.00	21.50	4.00	8.50	16.50	33.00	6.8	13.5	26	48.5	10.6	20.7	40.5	75
CLAY 3 TON/SQ. FT.	1.00	1.00	2.00	4.00	1.00	2.00	4.00	8.00	2.00	3.50	7.00	14.00	3.00	5.50	11.00	22.00	4.5	9	17.3	32.3	7.1	13.8	27.0	50
SOFT ROCK 5 TON/SQ. FT.	1.00	1.00	1.00	2.50	1.00	1.00	2.50	5.00	1.00	2.00	4.50	8.50	1.50	3.50	6.50	13.00	2.7	5.4	10.4	19.4	4.2	8.3	16.2	30
ROCK 20 TON/SQ. FT.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00	1.00	1.50	3.50	.68	1.3	2.6	4.8	1.06	2.07	4.05	7.5
																	_							
PIPE SIZES			36"			4	2"			4	8"			5	54"			6	60"					
TYPE OF BEARING] [DEGREE DEFLI	E BEND	OR N		DEGRE DEFI	E BENI) OR N		DEGRE DEFL	E BEND	D OR N		DEGRE DEFI	E BEND) OR N		DEGRE DEFL	E BEND) OR N				
LOADS	11 1/4°	22 1/2°	45°	90°	11 1/4°	22 1/2°	45°	90°	11 1/4°	22 1/2°	45°	90°	11 1/4°	22 1/2°	45°	90°	11 1/4°	22 1/2°	45°	90°				
SAND 1 TON/SQ. FT. SOFT CLAY 1 TON/SQ. FT.	30.6	59.6	117	220	41.6	81	160	294	54.4	106	210	384	69	134	263	486	85	165.5	324.6	600				
SAND & GRAVEL 2 TON/SQ. FT.	15.3	29.8	58.5	110.0	20.8	40.5	80	147	27.2	53	105	192	34.5	67	131.5	243	42.5	82.7	162.3	300				
CLAY 3 TON/SQ. FT.	10.2	19.9	39	73.3	13.8	27	53.3	98	18.1	35.3	70	128	23	44.6	87.6	162	28.3	55.1	108.2	200				
SOFT ROCK 5 TON/SQ. FT.	6.1	11.9	23.4	44	8.3	16.2	32	58.8	10.9	21.2	42	76.8	13.8	26.8	52.6	97.2	17	33.1	64.9	120				
ROCK 20 TON/SQ. FT.	1.5	2.9	5.8	11	2.08	4.05	8	14.7	2.7	5.3	10.5	19.2	3.4	6.7	13.1	24.3	4.2	8.2	16.2	30				

REINFORCING BAR
NO.CROSS SECTION
IN2 PER BARVERTICAL
IMBEDMENT 0.31 15 IN. 0.44 19 IN. 6 0.60 26 IN. 7 0.79 35 IN. 8 1.00 44 IN. 9 1.27 56 IN. 10 1.56 68 IN. 11



- NOTES:

- DEFORMED BARS.

TYPICAL THRUST BLOCKING

N. T. S.

TYPICAL THRUST BLOCKING

D231005









			WELL	& PUMP (CHART				
	WELL	DATA					PUMP DAT/	4	
? SOLE _ATE /ATION	GROUND ELEVATION	TOP SCREEN ELEVATION	WELL CASING DIAMETER	BOTTOM WELL SCREEN ELEVATION	PUMPING RATE (GPM)	PUMPING HEAD (FT)	MAX H.P.	DISCHARGE PIPE DIAMETER	ODNR WELL LOG #
70.00	541.0±	480.00	16.00	464.00	700	100	25.00	8.00	TBD

Pick Count Search advisor Manuel Pick Count 1

05 7





3/4" COUPLING -3/4"x3/4" NIPPLE PIPE WALL PIPING TO BE STAINLESS STEEL SCH 40

				ISSUED FOR:	BID	ON	REVISION	DATE		
SHEET	C	1		ISSUE DATE:	8/29/2019					
		PROJE 90 DISCI	PIKE COUNTY OHIO	SCALE:	AS SHOWN				your trusted advisor	
	VIL NAME	CT NO.		DESIGNED BY:	BRA				consultants engineers architects	
OF 7	3	6	WELL DETAILS 2	DRAWN BY:	RE				planners	
				CHECKED BY:	BRA					

- BRASS SPIGOT





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- BUCKET WITHIN EXISTING MCC TO SUPPLY NEW WELL.

