

NESBITT ENGINEERING, INC.

SERVING DEVELOPERS, INDUSTRY, BUSINESS AND GOVERNMENT BY PROVIDING PROVEN SOLUTIONS SINCE 1976

BREATHITT COUNTY WATER DISTRICT

CANOE ROAD WATERLINE EXTENSION PHASE 2

FUNDED BY
STATE REVOLVING FUND
EPA GRANT

BREATHITT COUNTY, KENTUCKY
MARCH 2012

BREATHITT COUNTY JUDGE EXECUTIVE
JASON RICHARDSON

WATER COMMISSIONERS

BOBBY THORPE JR - CHAIRMAN

SAMMIE TURNER - VICE CHAIRMAN

EVA FUGATE - SECRETARY

KASH NOBLE - TREASURER

EUGENE TURNER - MEMBER

RECEIVED

DEC 21 2012

PUBLIC SERVICE
COMMISSION

2012-00506

PA 12/19/12

BID SET SEPTEMBER 2012
DOW SUBMITTAL MARCH 2012





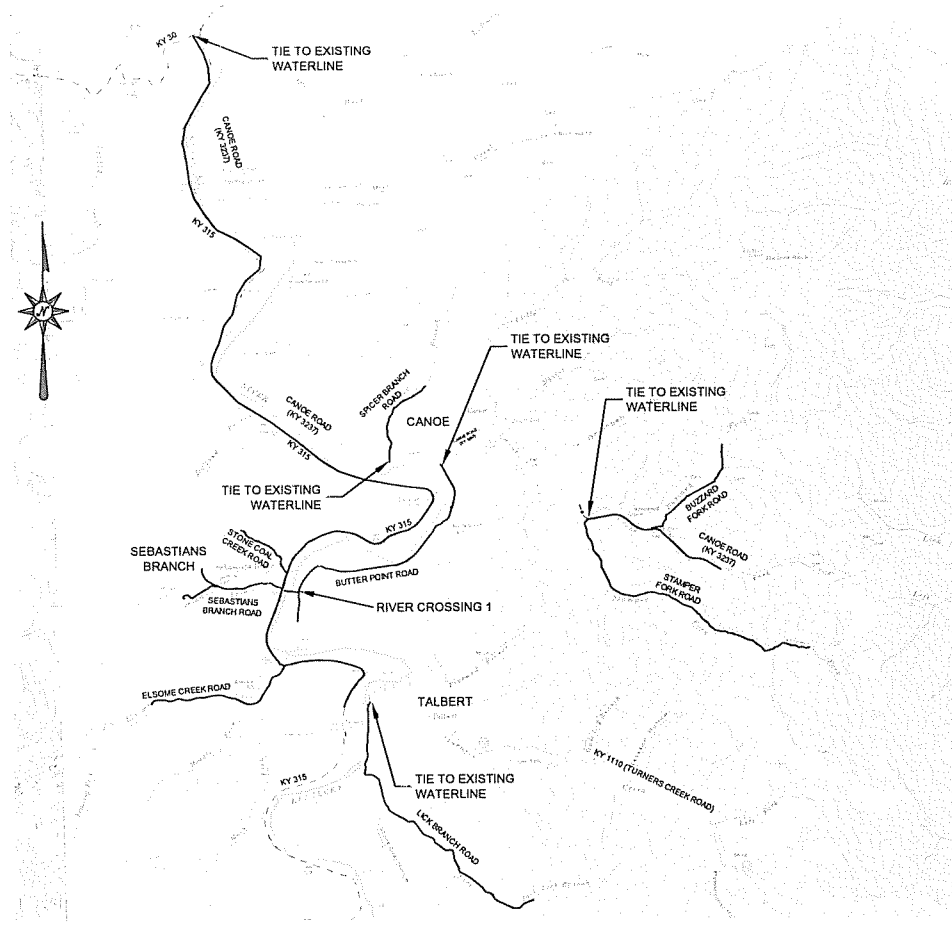
ABBREVIATIONS

A.F.F.	ABOVE FINISHED FLOOR	EXT	EXTERIOR	PRV	PRESSURE RELIEF VALVE
ALUM	ALUMINUM	F.D	FLOOR DRAIN	PRESS	PRESSURE
APPROX.	APPROXIMATE	F.F.	FINISHED FLOOR	REDUC	REDUCING
BIT	BITUMINOUS	FLG	FLANGE	RED	REDUCER
BLDG	BUILDING	FL	FENCELINE	REINFC	REINFORCING
BLK	BLOCK	FLOC	FLOCCULATOR	REFRIG.	REFRIGERATOR
B.M.	BENCH MARK	GD	GRADE	RM	ROOM
B'FLY	BUTTERFLY	H.B.	HOSE BIB	SAN	SANITARY
BOTT	BOTTOM	H	HEIGHT	SCH.	SCHEDULE
CHEM	CHEMICAL	H.W.	HOT WATER	SECT	SECTION
C.I.	CAST IRON	INFL	INFLUENT	SED	SEDIMENTATION
C.I.S.P.	CAST IRON SOIL PIPE	INV.	INVERT	SEW	SEWER
CL	CLEARANCE	LAV	LAVATORY	SHT	SHEET
CONC.	CONCRETE	L	LENGTH	SOL	SOLUTION
CHLOR	CHLORINE	LOAD'G	LOADING	SPC'S.	SPECIFICATION'S
CL	CLEARANCE	LNG	LONG	SO.	SQUARE
C.W.	COLD WATER	NH	MANHOLE	S.S.	STAINLESS STEEL
CJ	COPPER	M.J.	MECHANICAL JOINT	ST	STEEL TUBE
C.O.	CLEANOUT	MIN.	MINIMUM	STL.	STEEL
CONT	CONTINUATION	MTD.	MOUNTED	STN.	STAINLESS
DGA	DENSE GRADED AGGREGATE	NO.	NUMBER	SURF	SURFACE
D.I.	DUCTILE IRON	MAX	MAXIMUM	SVCS	SERVICES
DISCH	DISCHARGE	NO.	NUMBER	T	THICK
D.I.M.J.	DUCTILE IRON MECHANICAL JOINT	NRS	NONRISING STEM	T.O.C	TOP OF CONCRETE
D.I.P.E	DUCTILE IRON PLAIN END	NOT TO SCALE		TP.	TYPICAL
D.I.R.P	DUCTILE IRON PIPE	O.C	ON CENTER	TRANS	TRANSITION
DEMO	DEMOLITION	O.D.	OVERALL DIMENSION	VAC	VACUUM
DIAG	DIAGONAL	OPER	OPERATOR	VAL	VALVE
EFFL	EFFLUENT	OP'NG	OPENING	VTR	VENT THRU ROOF
E.F.	EACH FACE	PE	POLYETHYLENE	VERT	VERTICAL
ELC	ELECTRICAL	P.E.	PLAIN END	WD	WOOD
EL	ELEVATION	PL	PLATE	W.C.	WATER CLOSET
EQUIP	EQUIPMENT	PROP	PROPOSED	W/	WITH
E.W.	EACH WAY	PVC	POLYVINYL CHLORIDE	W.L.	WATER LEVEL
EXIST	EXISTING	PRV	PRESSURE RELIEF VALVE	W.S.E.	WATER SURFACE ELEVATION
		PRESS	PRESSURE	WWF	WOVEN WIRE FENCE

CALL THE KENTUCKY ONE CALL BEFORE DIGGING:
KENTUCKY UNDERGROUND PROTECTION, INC. 1-800-752-6007
 A FEDERAL LAW NOW IN EFFECT STATES THAT ANY PERSON WHO ENGAGES IN EXCAVATION ACTIVITIES WITHOUT FIRST USING AN AVAILABLE ONE-CALL NOTIFICATION SYSTEM TO DETERMINE LOCATIONS OF UNDERGROUND FACILITIES; OR WITHOUT HEEDING LOCATION INFORMATION OR MARKINGS AND SUBSEQUENTLY DAMAGES A PIPELINE FACILITY SHALL BE SUBJECT TO A FINE, IMPRISONMENT, OR BOTH. THE LAW ALSO STATES THAT OSHA MAY BE NOTIFIED OF ANY ACCIDENT CAUSED BY AN EXCAVATOR.
NATIONAL ONE-CALL REFERRAL NUMBER 1-800-258-0808

SHEET INDEX

SHEET	STATION	STATION	LOCATION
C-1A	INDEX SHEET		
C-2A	0+00	TO 32+30	SPICER BRANCH ROAD
C-3A	0+00	TO 30+00	BUTTER POINT ROAD
C-3B	30+00	TO 60+00	BUTTER POINT ROAD
C-4A	60+00	TO 94+00	BUTTER POINT ROAD
C-5A	0+00	TO 30+00	KY 315
C-5B	30+00	TO 60+00	KY 315
C-6A	60+00	TO 90+00	KY 315
C-6B	90+00	TO 120+00	KY 315
C-7A	120+00	TO 150+00	KY 315
C-7B	150+00	TO 180+00	KY 315
C-8A	180+00	TO 210+00	KY 315
C-8B	210+00	TO 240+00	KY 315
C-9A	240+00	TO 270+00	KY 315
C-9B	270+00	TO 300+00	KY 315
C-10A	300+00	TO 330+00	KY 315
C-10B	330+00	TO 361+00	KY 315
C-11A	0+00	TO 30+00	LICK BRANCH ROAD
C-11B	30+00	TO 60+00	LICK BRANCH ROAD
C-12A	60+00	TO 90+00	LICK BRANCH ROAD
C-12B	90+00	TO 106+00	LICK BRANCH ROAD
C-13A	0+00	TO 23+00	STONE COAL CREEK ROAD
C-14A	0+00	TO 30+00	CANOE ROAD (KY 3237)
C-14B	30+00	TO 51+00	CANOE ROAD (KY 3237)
C-15A	0+00	TO 30+00	STAMPER FORK ROAD
C-15B	30+00	TO 60+00	STAMPER FORK ROAD
C-16A	60+00	TO 90+00	STAMPER FORK ROAD
C-16B	90+00	TO 101+35	STAMPER FORK ROAD
C-17A	0+00	TO 30+00	BUZZARD FORK ROAD
C-17B	30+00	TO 41+70	BUZZARD FORK ROAD
C-18A	0+00	TO 31+70	SEBASTIANS BRANCH ROAD - LINE A
C-18B	0+00	TO 14+00	SEBASTIANS BRANCH ROAD - LINE B
C-19A	0+00	TO 30+00	ELDSOME BRANCH
C-19B	30+00	TO 60+00	ELDSOME BRANCH
D-1	RIVER & CREEK CROSSING DETAILS		
D-2	STANDARD DETAILS		
D-3	STANDARD DETAILS 2		
D-4	KY 30 WEST BOOSTER STATION IMPROVEMENTS		



VICINITY MAP
1" = 3000'

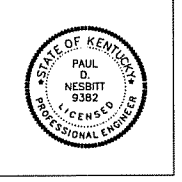
- GENERAL NOTES:**
- DIMENSIONS OF EXISTING STRUCTURES, EQUIPMENT, ETC. SHALL BE FIELD CONFIRMED BY THE CONTRACTOR. WHERE CRITICAL DIMENSIONS FOR INSTALLATION OF PROPOSED EQUIPMENT ARE INDICATED ON THE DRAWINGS, THE CONTRACTOR SHALL CONFIRM THESE DIMENSIONS FOR ACTUAL EQUIPMENT FURNISHED. ALL KNOWN DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER.
 - THE CONTRACTOR SHALL USE ALL POSSIBLE CARE DURING EXCAVATION ON THIS PROJECT SO AS NOT TO DISTURB ANY EXISTING UTILITY WHETHER SHOWN ON PLANS OR NOT. ANY UTILITY DISTURBED OR DAMAGED BY THE CONTRACTOR DURING HIS CONSTRUCTION OPERATIONS SHALL BE REPAIRED BY THE CONTRACTOR AT NO EXTRA COST TO THE OWNER.
 - THE CONTRACTOR SHALL CONFINE ALL CONSTRUCTION ACTIVITY TO THE AREA WITHIN EXISTING EASEMENTS AND CONSTRUCTION LIMITS, UNLESS OTHERWISE APPROVED IN WRITING BY THE OWNER.
 - THE CONTRACTOR WILL BE SOLELY LIABLE FOR ANY WORK HE PERFORMS OUTSIDE OF LEGAL EASEMENTS OR CONSTRUCTION LIMITS.
 - THE CONTRACTOR MUST CONTACT ALL UTILITY OWNERS AND HAVE THEM FIELD LOCATE THEIR EXISTING LINES PRIOR TO ANY CONSTRUCTION ACTIVITY.
 - EFFORTS HAVE BEEN MADE TO INDICATE ACCURATE LOCATIONS OF SOME EXISTING STRUCTURES, PIPING AND UTILITIES. HOWEVER THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE SITE AND OTHER EXISTING CONDITIONS AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES BETWEEN INFORMATION DEPICTED BY THE CONSTRUCTION DRAWINGS AND ACTUAL FIELD CONDITIONS WHICH WOULD SIGNIFICANTLY ALTER THE DESIGN INTENT OF THE CONSTRUCTION DRAWINGS PRIOR TO COMMENCING HIS CONSTRUCTION OPERATIONS. DIMENSIONS OF EXISTING STRUCTURES AND/OR SITE RESTRICTIONS ARE APPROXIMATE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN AND CONFIRM ALL DIMENSIONS AND ELEVATIONS OF EXISTING STRUCTURES AND TOPOGRAPHY IN THE FIELD NECESSARY FOR HIS CONSTRUCTION OPERATION.
 - THE CONTRACTOR SHALL USE ALL POSSIBLE CARE DURING EXCAVATION ON THIS PROJECT SO AS NOT TO DISTURB OR DAMAGE ANY EXISTING UTILITY OR STRUCTURE NOT SCHEDULED FOR DEMOLITION WHETHER DEPICTED OR NOT IN THE CONSTRUCTION DRAWINGS. ANY DAMAGE TO THE ABOVE MENTIONED ITEMS CAUSED DIRECTLY OR INDIRECTLY BY THE CONTRACTOR SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT NO COST TO THE OWNER TO A CONDITION EQUAL TO OR BETTER THAN THAT WHICH EXISTED PRIOR TO BEING DAMAGED.
 - THE CONTRACTOR SHALL CONTACT AND OBTAIN THE PERMISSION OF EXISTING UTILITY OWNERS 48 HOURS (MIN.) PRIOR TO ANY CONSTRUCTION ACTIVITY INTERRUPTING OPERATION OF SAID UTILITY.
 - UNLESS OTHERWISE NOTED, ALL BURIED PIPES SHALL HAVE 30" (MIN.) COVER AS MEASURED FROM FINISHED GRADE TO THE OUTSIDE SURFACE OF THE PIPE.
 - IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO WORK ALL APPLICABLE DRAWINGS AND THE APPROPRIATE SPECIFICATIONS AS A UNIT. ANY OMISSIONS, DELETIONS, OR CONFLICTS ARISING AS A RESULT OF FAILURE TO INCORPORATE ALL DRAWINGS AND SPECIFICATIONS WHICH APPLY SHALL BE CORRECTED BY THE CONTRACTOR AT NO ADDED COST TO THE OWNER.

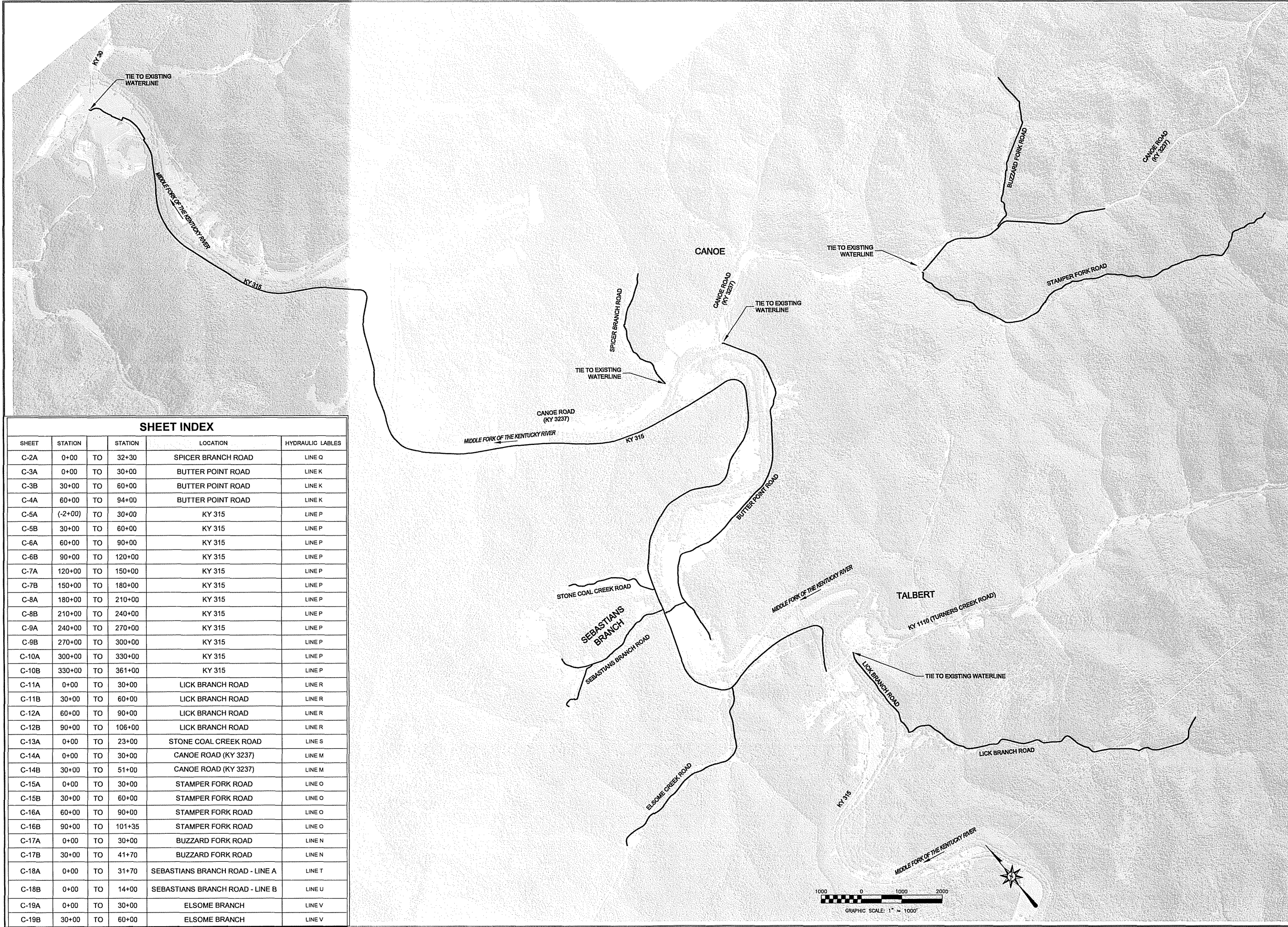
- CONSTRUCTION ON STATE RIGHT-OF-WAY NOTES:**
- WATER MAIN/SEWER LINES TO BE CONSTRUCTED WITHIN THE KENTUCKY TRANSPORTATION CABINET RIGHT-OF-WAY. TRENCHES SHALL BE OF A DEPTH SUFFICIENT TO PROVIDE A MINIMUM COVER OF 42" FROM THE EXISTING GROUND SURFACE TO THE TOP OF THE PIPE AND BE LOCATED APPROXIMATELY AS SHOWN UNLESS OTHERWISE NOTED. SEE INDIVIDUAL SHEETS FOR DETAILS.
 - ALL BORES UNDER STATE HIGHWAYS RIGHT-OF-WAY SHALL BE A MINIMUM OF 42" DEPTH UNDER BOTTOM OF DITCH LINE TO TOP OF THE PROPOSED BORE AND/OR CASING PIPE ON BOTH SIDES OF THE HIGHWAY.
 - ROCK BLASTING: THERE SHALL BE NO BLASTING WITHIN STATE RIGHT-OF-WAY WITHOUT WRITTEN CONSENT FROM THE KENTUCKY TRANSPORTATION CABINET.
 - PROTECTION OF EXISTING PAVING: WATERLINES SHALL BE INSTALLED FIVE (5) FEET FROM THE EDGE OF PAVEMENT WHERE APPLICABLE. CARE SHALL BE TAKEN BY THE CONTRACTOR TO AVOID CRACKING OR BREAKING THE BITUMINOUS PAVING. ALL DAMAGE TO THE EXISTING PAVING CAUSED BY THE CONTRACTOR'S OPERATION SHALL BE REPAIRED BY THE CONTRACTOR AT NO COST TO THE OWNER. PAVING PROTECTION SHALL BE ACCOMPLISHED BY THE USE OF RUBBER AND STREET PADDED MACHINERY OR OTHER APPROVED EQUIPMENT WELL SUITED FOR THIS TYPE OF CONSTRUCTION.
 - BANK AND DITCH PROTECTION EXCAVATION: DURING CONSTRUCTION, ALL EMBANKMENTS, REFILLS AND EXCAVATIONS SHALL BE KEPT SHAPED AND DRAINED BY THE CONTRACTOR. DITCHES AND DRAINS ALONG THE HIGHWAYS SHALL BE MAINTAINED IN SUCH A MANNER AS TO DRAIN EFFECTIVELY AT ALL TIMES. PERMANENT APPURTENANCES (GATE VALVE BOXES, HYDRANTS, ETC.) SHALL NOT BE LOCATED IN DITCH LINES. PERMANENT SURFACE APPURTENANCES SHALL BE LOCATED AT THE BACK OF DITCH (MINIMUM) OR TOE OF SLOPE.
 - PRIVATE ENTRANCE ROAD: ALL ROADWAYS AND DRIVEWAYS WITHIN THE WORK LIMITS OF STATE RIGHT-OF-WAYS SHALL BE REFILLED TO THE NATURAL SURFACE OF THE GROUND WITH APPROVED MATERIAL. THE MATERIAL SHALL BE PLACED AND COMPACTED TO A SMOOTHNESS SUITABLE FOR TRAFFIC. THE CONTRACTOR SHALL BE TOTALLY RESPONSIBLE FOR MAINTAINING THESE ROADWAYS UNTIL THE RESTORATION IS APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL NOTE THAT ALL PRIVATE BUSINESSES AND RESIDENCES ALONG THE ROUTE OF THE PROPOSED WATER MAIN/SEWER LINE CONSTRUCTION MUST HAVE ACCESS TO THEIR PROPERTIES AT ALL TIMES DURING CONSTRUCTION.
 - PROTECTION OF EXISTING DRAINAGE CULVERTS: ALL LOCATIONS WHERE THE PROPOSED WATER MAIN/SEWER LINE IS PARALLEL WITH OR CROSSING AN EXISTING STORM SEWER, THE COST OF RELAYING EXISTING CULVERT PIPES OR THE EXTRA DEPTH REQUIRED TO AVOID THE EXISTING CULVERT IS CONSIDERED INCIDENTAL TO THE CONSTRUCTION AND IS NOT A PAY ITEM.
 - SOME EXISTING UTILITIES HAVE NOT BEEN SHOWN: THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL EXISTING UTILITIES. THE CONTRACTOR SHALL COORDINATE WITH THE REPRESENTATIVES OF THE VARIOUS UTILITIES WHEN WORKING NEAR ANY EXISTING UTILITY. NO ADDITIONAL PAYMENT TO THE CONTRACTOR WILL BE MADE FOR EXTRA DEPTH REQUIRED TO AVOID ANY EXISTING UTILITY.

12/15/12



nesbitt engineering, inc.
 227 N. Upper Street
 Lexington, Kentucky
 40507-1016
 Tel (859) 233-3111
 Fax (859) 259-2717





SHEET INDEX

SHEET	STATION		STATION	LOCATION	HYDRAULIC LABELS
C-2A	0+00	TO	32+30	SPICER BRANCH ROAD	LINE Q
C-3A	0+00	TO	30+00	BUTTER POINT ROAD	LINE K
C-3B	30+00	TO	60+00	BUTTER POINT ROAD	LINE K
C-4A	60+00	TO	94+00	BUTTER POINT ROAD	LINE K
C-5A	(-2+00)	TO	30+00	KY 315	LINE P
C-5B	30+00	TO	60+00	KY 315	LINE P
C-6A	60+00	TO	90+00	KY 315	LINE P
C-6B	90+00	TO	120+00	KY 315	LINE P
C-7A	120+00	TO	150+00	KY 315	LINE P
C-7B	150+00	TO	180+00	KY 315	LINE P
C-8A	180+00	TO	210+00	KY 315	LINE P
C-8B	210+00	TO	240+00	KY 315	LINE P
C-9A	240+00	TO	270+00	KY 315	LINE P
C-9B	270+00	TO	300+00	KY 315	LINE P
C-10A	300+00	TO	330+00	KY 315	LINE P
C-10B	330+00	TO	361+00	KY 315	LINE P
C-11A	0+00	TO	30+00	LICK BRANCH ROAD	LINE R
C-11B	30+00	TO	60+00	LICK BRANCH ROAD	LINE R
C-12A	60+00	TO	90+00	LICK BRANCH ROAD	LINE R
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C-15A	0+00	TO	30+00	STAMPER FORK ROAD	LINE O
C-15B	30+00	TO	60+00	STAMPER FORK ROAD	LINE O
C-16A	60+00	TO	90+00	STAMPER FORK ROAD	LINE O
C-16B	90+00	TO	101+35	STAMPER FORK ROAD	LINE O
C-17A	0+00	TO	30+00	BUZZARD FORK ROAD	LINE N
C-17B	30+00	TO	41+70	BUZZARD FORK ROAD	LINE N
C-18A	0+00	TO	31+70	SEBASTIANS BRANCH ROAD - LINE A	LINE T
C-18B	0+00	TO	14+00	SEBASTIANS BRANCH ROAD - LINE B	LINE U
C-19A	0+00	TO	30+00	ELSONE BRANCH	LINE V
C-19B	30+00	TO	60+00	ELSONE BRANCH	LINE V

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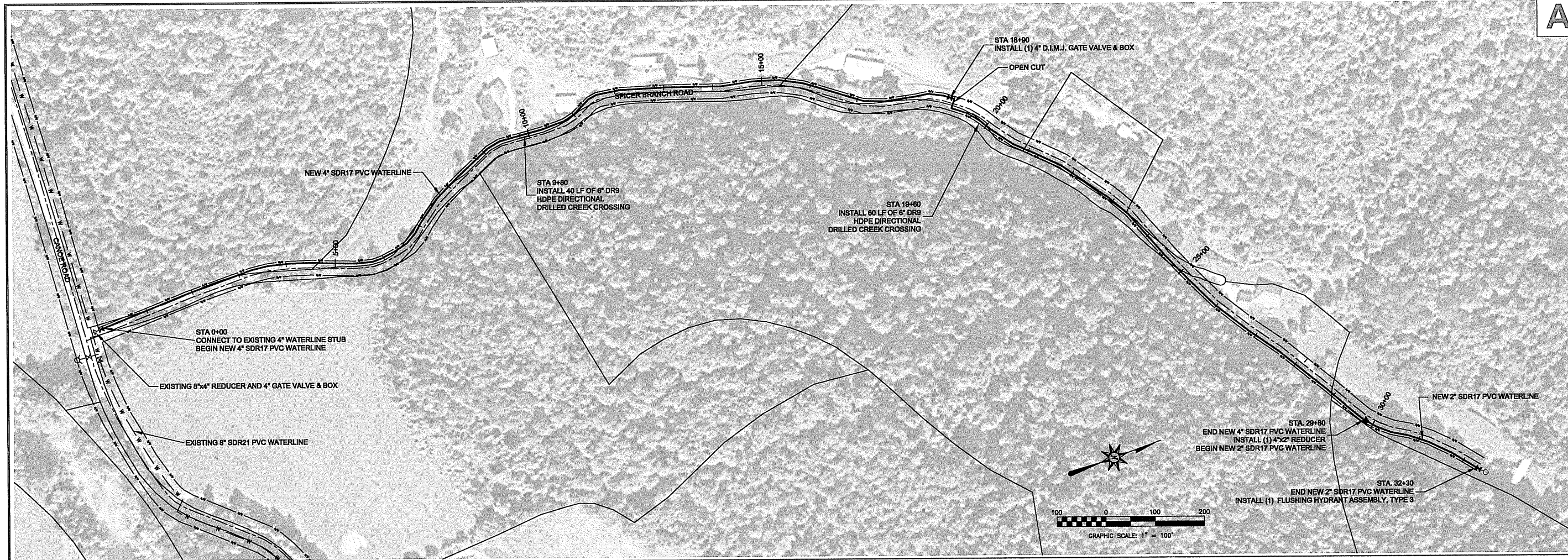
BREATHITT COUNTY WATER DISTRICT
1137 MAIN STREET
JACKSON, KENTUCKY 41339
CANOE ROAD WATERLINE EXTENSION PHASE 2
CANOE SHEET INDEX

12/18/12

nesbitt engineering, inc.
BREATHITT COUNTY WATER DISTRICT
CANOE WATERLINE EXTENSION
JOB NO. 988.33
SCALE: 1" = 1000'
DATE: 12-05-11
DESIGNER: JCW
DRAWN BY: JCW
PROJECT: \03 DESIGN\DESIGN\CANOE PLAN.DWG

STATE OF KENTUCKY
REGISTERED PROFESSIONAL ENGINEER
9382

sheet no. C-1



INTENTIONALLY LEFT BLANK

LEGEND

			GATE VALVE AND BOX
			HYDRANT ASSEMBLY INCLUDING REDUCER
			AIR RELIEF VALVE (ARV)
			REDUCER (SIZE AS INDICATED)
			WATER LINE (SIZE AS INDICATED)
			STEEL ENCASED PIPE (SIZE AND ROAD BORE OR OPEN TRENCH AS NOTED)
			EXISTING RIGHT OF WAY
			BLOWOFF ASSEMBLY

NOTE: PROPERTY INFORMATION PROVIDED BY THE BREATHITT COUNTY PROPERTY VALUATION OFFICE. PROPERTY LINES ARE APPROXIMATE AND DO NOT REFLECT AN ACTUAL FIELD SURVEY

NOTE: PER KTC REQUIREMENTS THERE MUST BE A MINIMUM COVER OF 42" IN THE STATE R.O.W. THERE SHALL BE NO SURFACE APPURTENANCES IN THE DITCHLINE

LAST PLOTTED:
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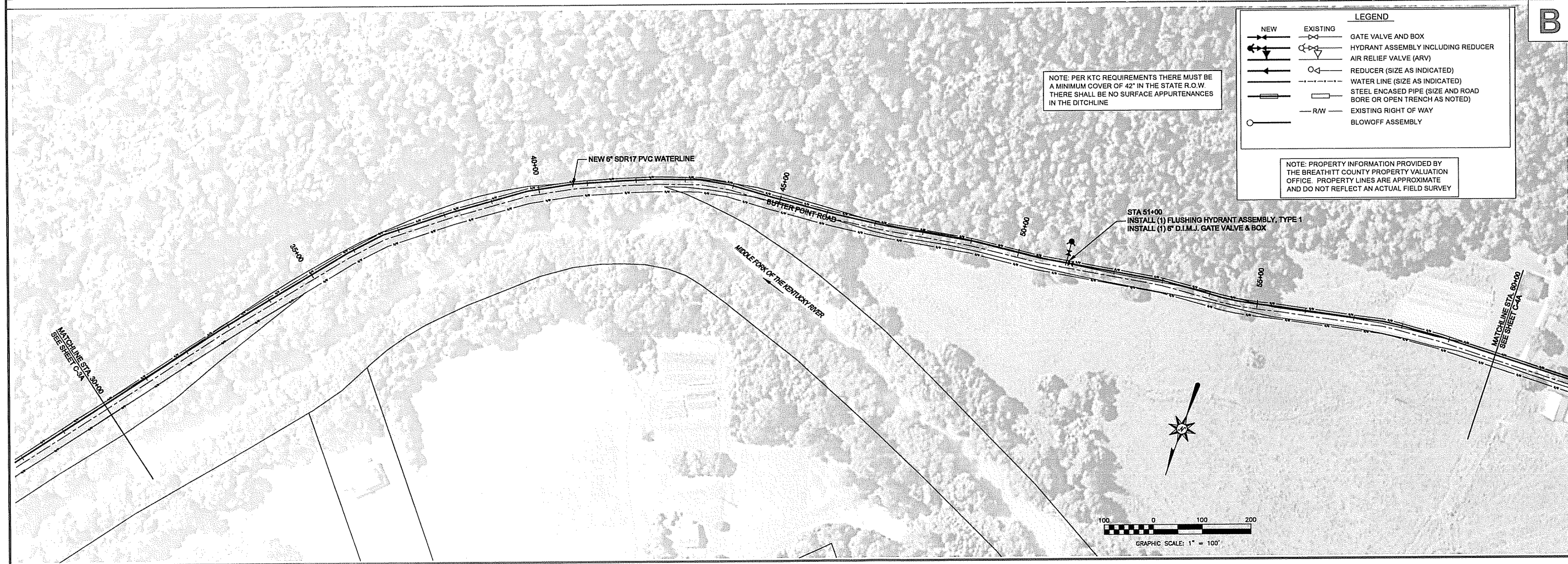
BREATHITT COUNTY WATER DISTRICT
1137 MAIN STREET
JACKSON, KENTUCKY 41339
CANOE ROAD WATERLINE EXTENSION PHASE 2
SPICER BRANCH ROAD

STATE OF KENTUCKY
PAUL S. NESBITT
9382
LICENSED PROFESSIONAL ENGINEER

nesbitt engineering, inc.
providing proven solutions since 1978
BREATHITT COUNTY WATER DISTRICT
CANOE WATERLINE EXTENSION
sheet no. 988.33
scale 1" = 100'
date 12-05-11
file name \03 DESIGN\DESIGN\CANOE PLAN.DWG

sheet no. C-2

12/5/11



LEGEND

			GATE VALVE AND BOX
			HYDRANT ASSEMBLY INCLUDING REDUCER AIR RELIEF VALVE (ARV)
			REDUCER (SIZE AS INDICATED) WATER LINE (SIZE AS INDICATED) STEEL ENCASED PIPE (SIZE AND ROAD BORE OR OPEN TRENCH AS NOTED)
			EXISTING RIGHT OF WAY BLOWOFF ASSEMBLY

NOTE: PER KTC REQUIREMENTS THERE MUST BE A MINIMUM COVER OF 42" IN THE STATE R.O.W. THERE SHALL BE NO SURFACE APPURTENANCES IN THE DITCHLINE

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LAST SAVED: _____

BREATHITT COUNTY WATER DISTRICT
1137 MAIN STREET
JACKSON, KENTUCKY 41339
CANCE ROAD WATERLINE EXTENSION PHASE 2

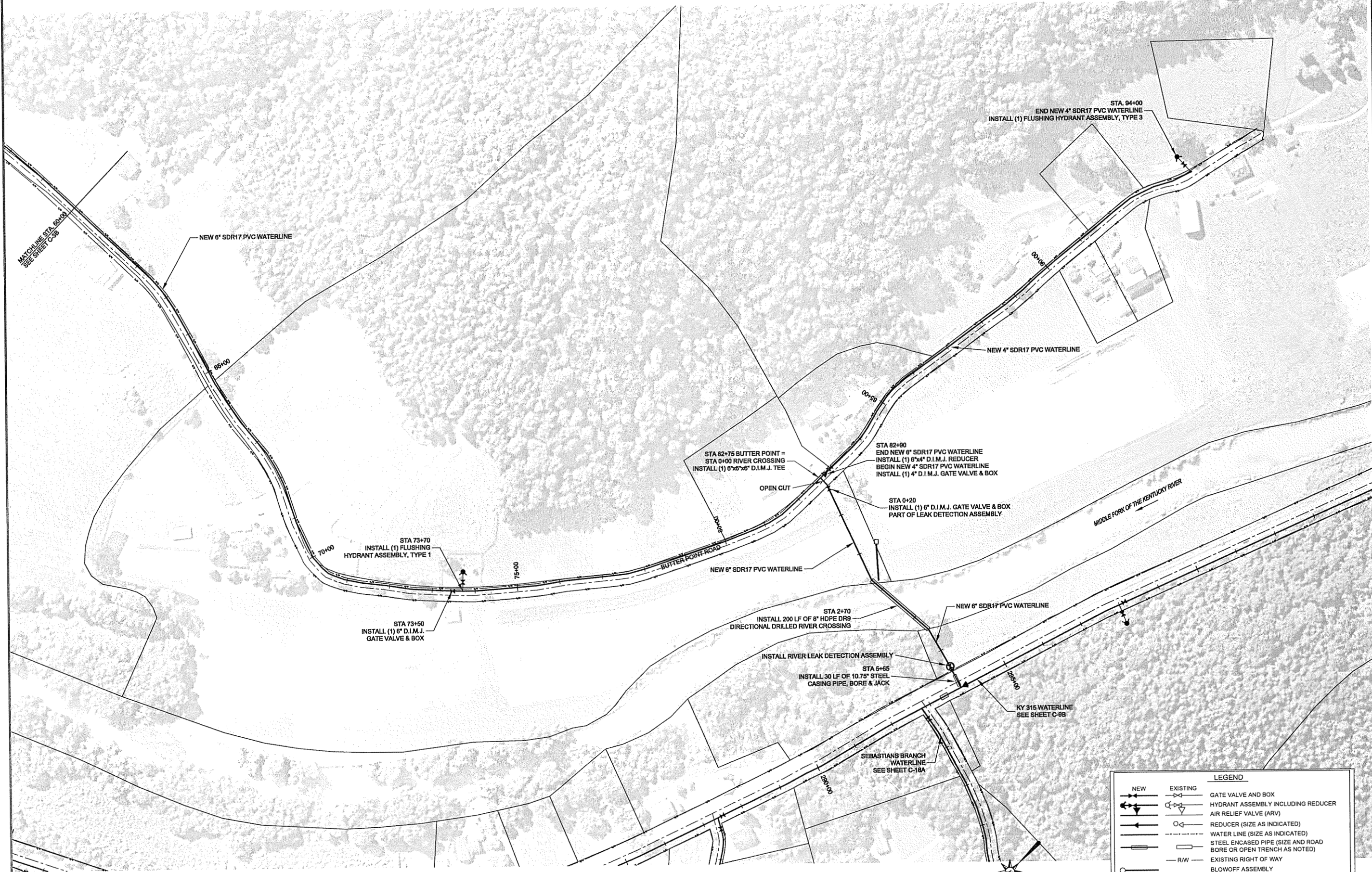
BUTTER POINT ROAD

nesbitt engineering, inc.
providing power solutions since 1978
BREATHITT COUNTY WATER DISTRICT
CANCE WATERLINE EXTENSION
JOB NO.: 998.33
SCALE: 1" = 100'
DESIGNER: JCW
DATE: 12-05-11
PROJECT: \03 DESIGN\DESIGN\CANCE PLAN.DWG

STATE OF KENTUCKY
PUBLIC
NESBITT
9384
LICENSED
PROFESSIONAL ENGINEER

12/5/11

sheet no
C-3



MATCHLINE STA. 65+00
SEE SHEET C-3B

NEW 8" SDR17 PVC WATERLINE

65+00

STA 73+70
INSTALL (1) FLUSHING
HYDRANT ASSEMBLY, TYPE 1

STA 73+50
INSTALL (1) 8" D.I.M.J.
GATE VALVE & BOX

70+00

75+00

STA 82+75 BUTTER POINT =
STA 0+00 RIVER CROSSING
INSTALL (1) 8"x6"x6" D.I.M.J. TEE

OPEN CUT

NEW 8" SDR17 PVC WATERLINE

BUTTER POINT ROAD

80+00

STA 82+90
END NEW 8" SDR17 PVC WATERLINE
INSTALL (1) 8"x4" D.I.M.J. REDUCER
BEGIN NEW 4" SDR17 PVC WATERLINE
INSTALL (1) 4" D.I.M.J. GATE VALVE & BOX

80+25

80+00

80+00

NEW 4" SDR17 PVC WATERLINE

STA. 94+00
END NEW 4" SDR17 PVC WATERLINE
INSTALL (1) FLUSHING HYDRANT ASSEMBLY, TYPE 3

80+20

STA 0+20
INSTALL (1) 8" D.I.M.J. GATE VALVE & BOX
PART OF LEAK DETECTION ASSEMBLY

MIDDLE FORK OF THE KENTUCKY RIVER

STA 2+70
INSTALL 200 LF OF 8" HDPE DR9
DIRECTIONAL DRILLED RIVER CROSSING

INSTALL RIVER LEAK DETECTION ASSEMBLY

STA 5+65
INSTALL 30 LF OF 10.75" STEEL
CASING PIPE, BORE & JACK

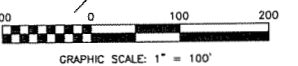
NEW 6" SDR17 PVC WATERLINE

KY 315 WATERLINE
SEE SHEET C-9B

SEBASTIANS BRANCH
WATERLINE
SEE SHEET C-18A

205+00

205+00



LEGEND	
NEW	EXISTING

NOTE: PER KTC REQUIREMENTS THERE MUST BE A MINIMUM COVER OF 42" IN THE STATE R.O.W THERE SHALL BE NO SURFACE APPURTENANCES IN THE DITCHLINE

NOTE: PROPERTY INFORMATION PROVIDED BY THE BREATHITT COUNTY PROPERTY VALUATION OFFICE. PROPERTY LINES ARE APPROXIMATE AND DO NOT REFLECT AN ACTUAL FIELD SURVEY

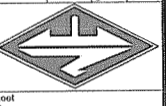
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BREATHITT COUNTY WATER DISTRICT
1137 MAIN STREET
JACKSON, KENTUCKY 41339
CANOE ROAD WATERLINE EXTENSION PHASE 2
BUTTER POINT ROAD



nesbitt engineering, inc.
BREATHITT COUNTY WATER DISTRICT
CANOE WATERLINE EXTENSION
JOB NO.: 99B.33
SCALE: 1" = 100'
DRAWN BY: JCW
DATE: 12-05-11
DESIGN: PLAN.DWG

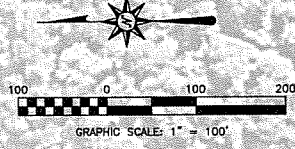
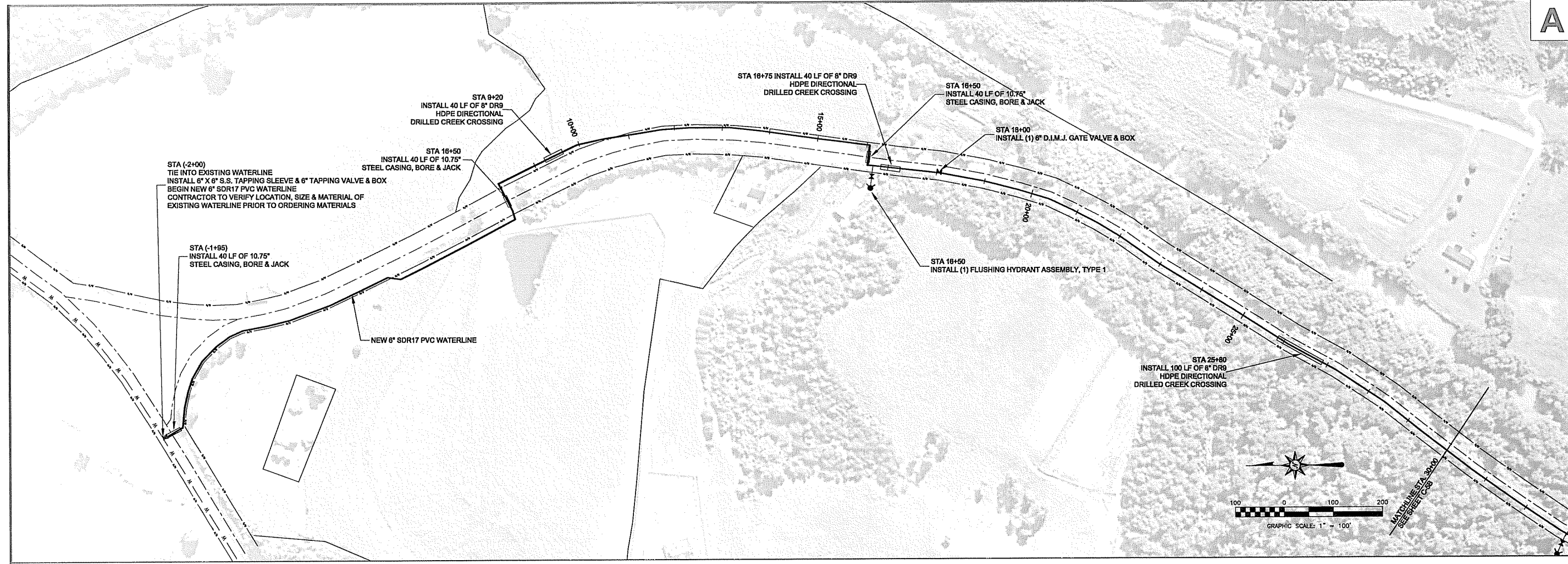


C-4

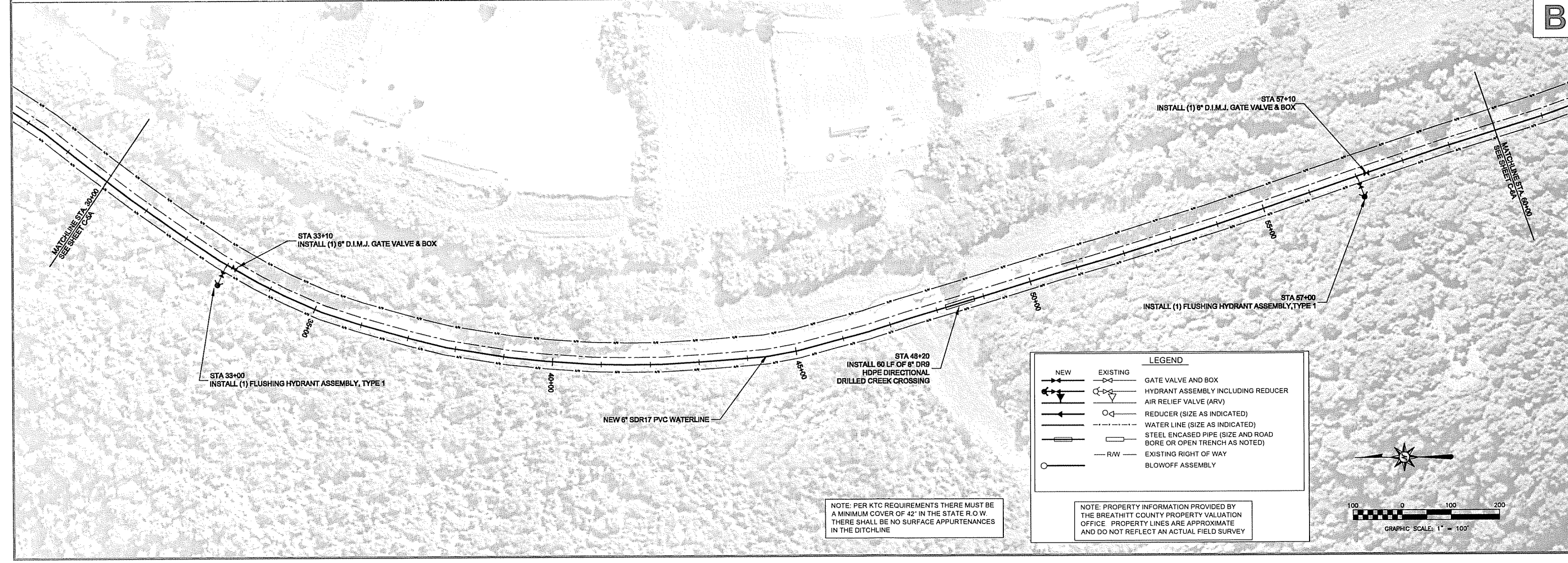
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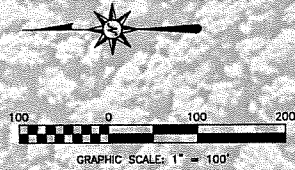
B



LEGEND	
NEW	EXISTING

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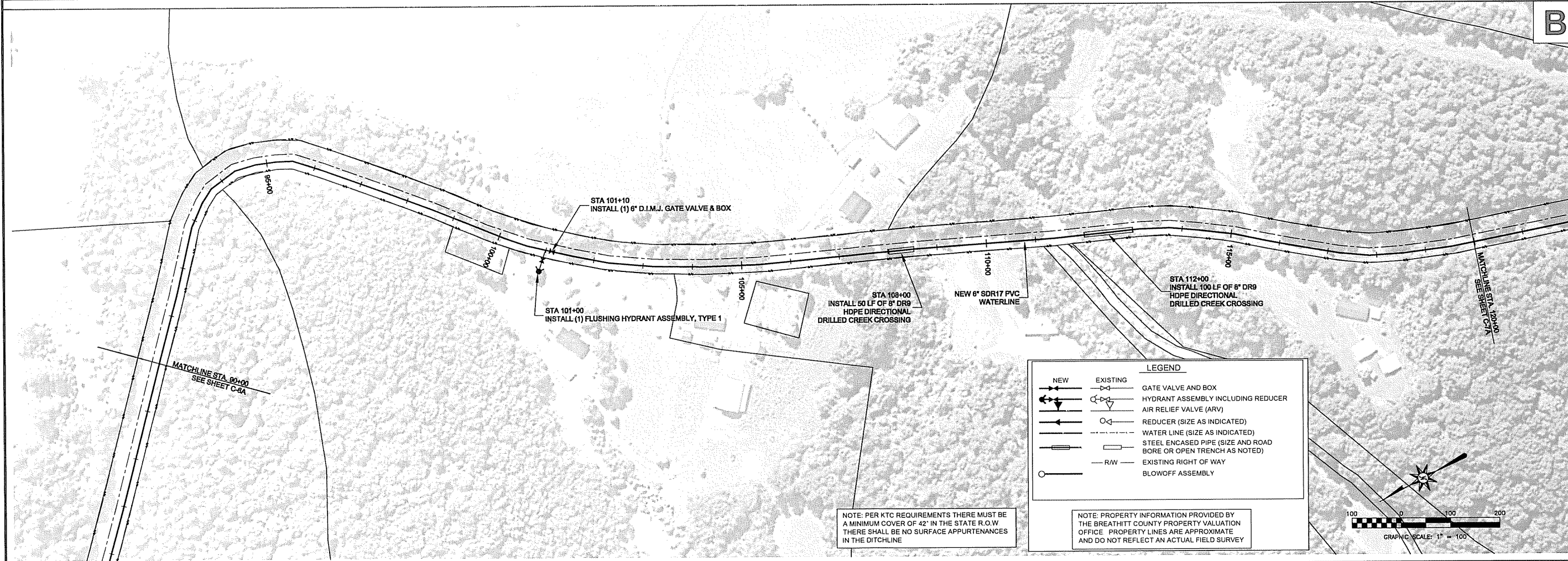
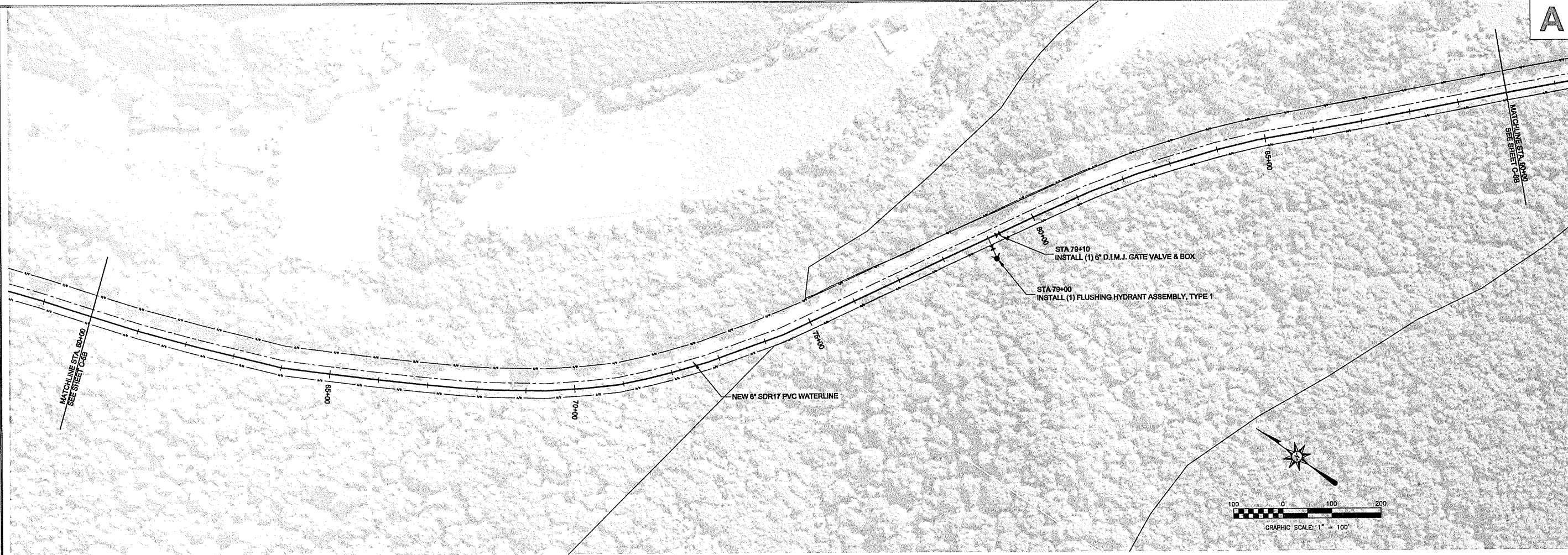


BREATHITT COUNTY WATER DISTRICT
1137 MAIN STREET
JACKSON, KENTUCKY 41339
CANOE ROAD WATERLINE EXTENSION PHASE 2
KY 315



nesbitt engineering, inc.
BREATHITT COUNTY WATER DISTRICT
CANOE WATERLINE EXTENSION
scale: 1" = 100'
drawn by: JCW
date: 12-05-11
sheet no: C-5

12/5/12



LEGEND	
	NEW
	EXISTING
	GATE VALVE AND BOX
	HYDRANT ASSEMBLY INCLUDING REDUCER
	AIR RELIEF VALVE (ARV)
	REDUCER (SIZE AS INDICATED)
	WATER LINE (SIZE AS INDICATED)
	STEEL ENCASED PIPE (SIZE AND ROAD BORE OR OPEN TRENCH AS NOTED)
	EXISTING RIGHT OF WAY
	BLOWOFF ASSEMBLY

NOTE: PER KTC REQUIREMENTS THERE MUST BE A MINIMUM COVER OF 42" IN THE STATE R.O.W THERE SHALL BE NO SURFACE APPURTENANCES IN THE DITCHLINE

NOTE: PROPERTY INFORMATION PROVIDED BY THE BREATHITT COUNTY PROPERTY VALUATION OFFICE. PROPERTY LINES ARE APPROXIMATE AND DO NOT REFLECT AN ACTUAL FIELD SURVEY



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1137 MAIN STREET
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CANOE ROAD WATERLINE EXTENSION PHASE 2

KY 315

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BREATHITT COUNTY WATER DISTRICT
CANOE WATERLINE EXTENSION

Project No.: 998.33

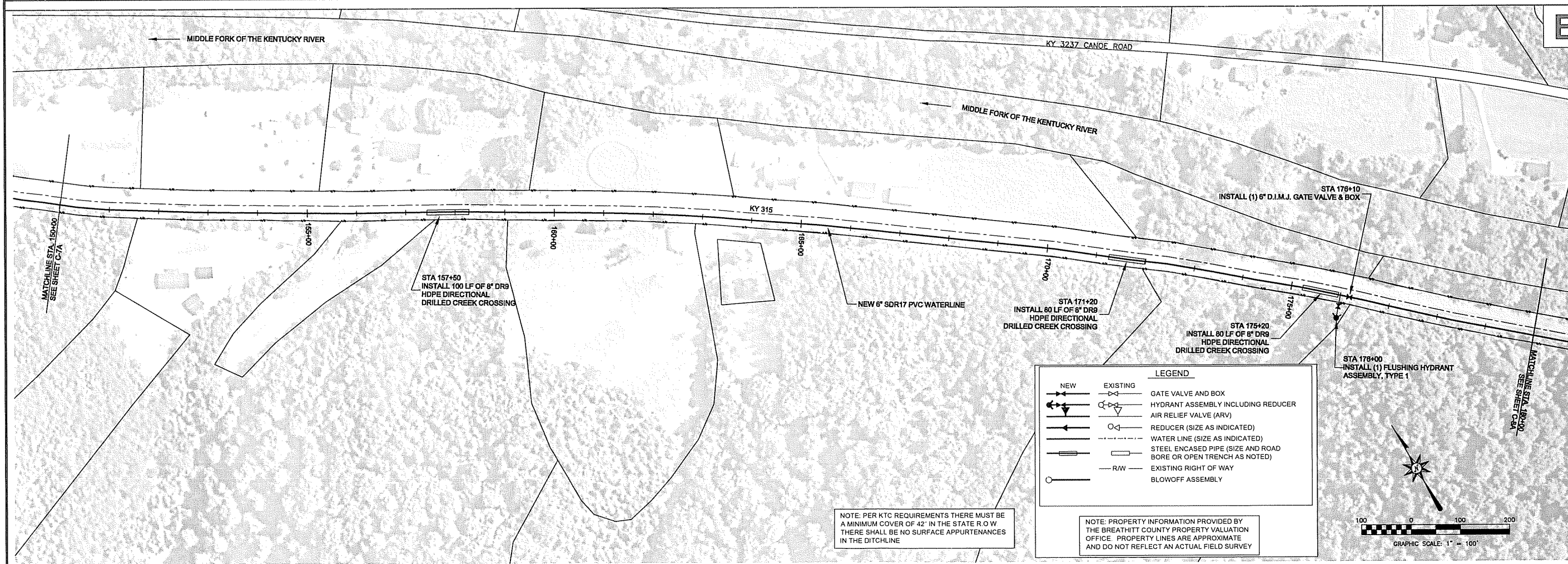
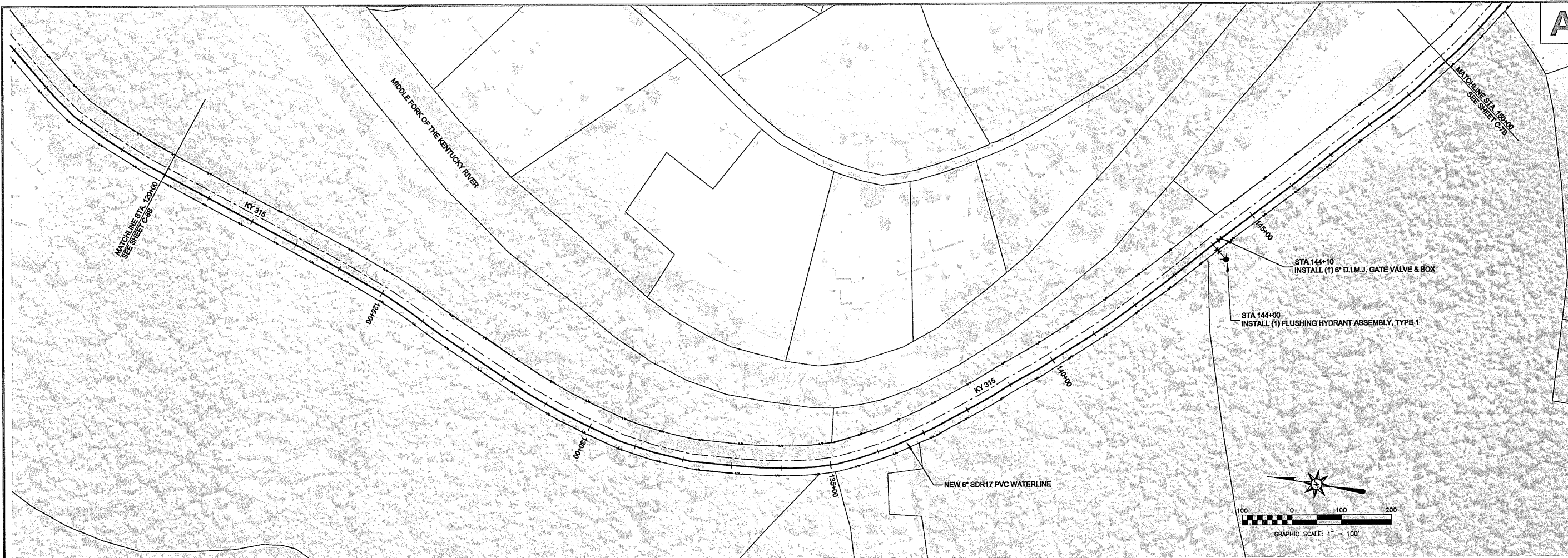
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Date: 12-05-11

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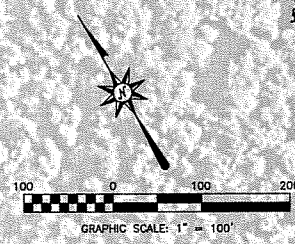
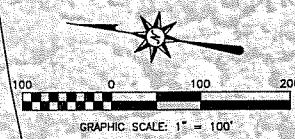
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LEGEND

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CANOE ROAD WATERLINE EXTENSION PHASE 2

KY 315

STATE OF KENTUCKY
PAUL D. NESBITT
9312
LICENSED PROFESSIONAL ENGINEER

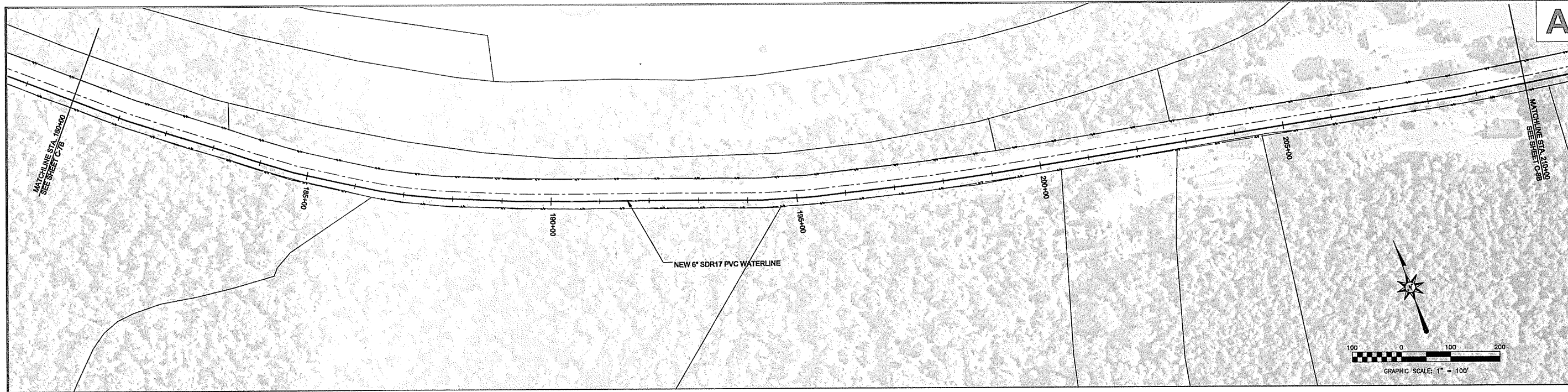
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CANOE WATERLINE EXTENSION

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date: 12-05-11
file name: 998.33
sheet: 1" = 100'
project: \03 DESIGN\DESIGN\CANOE PLAN.DWG

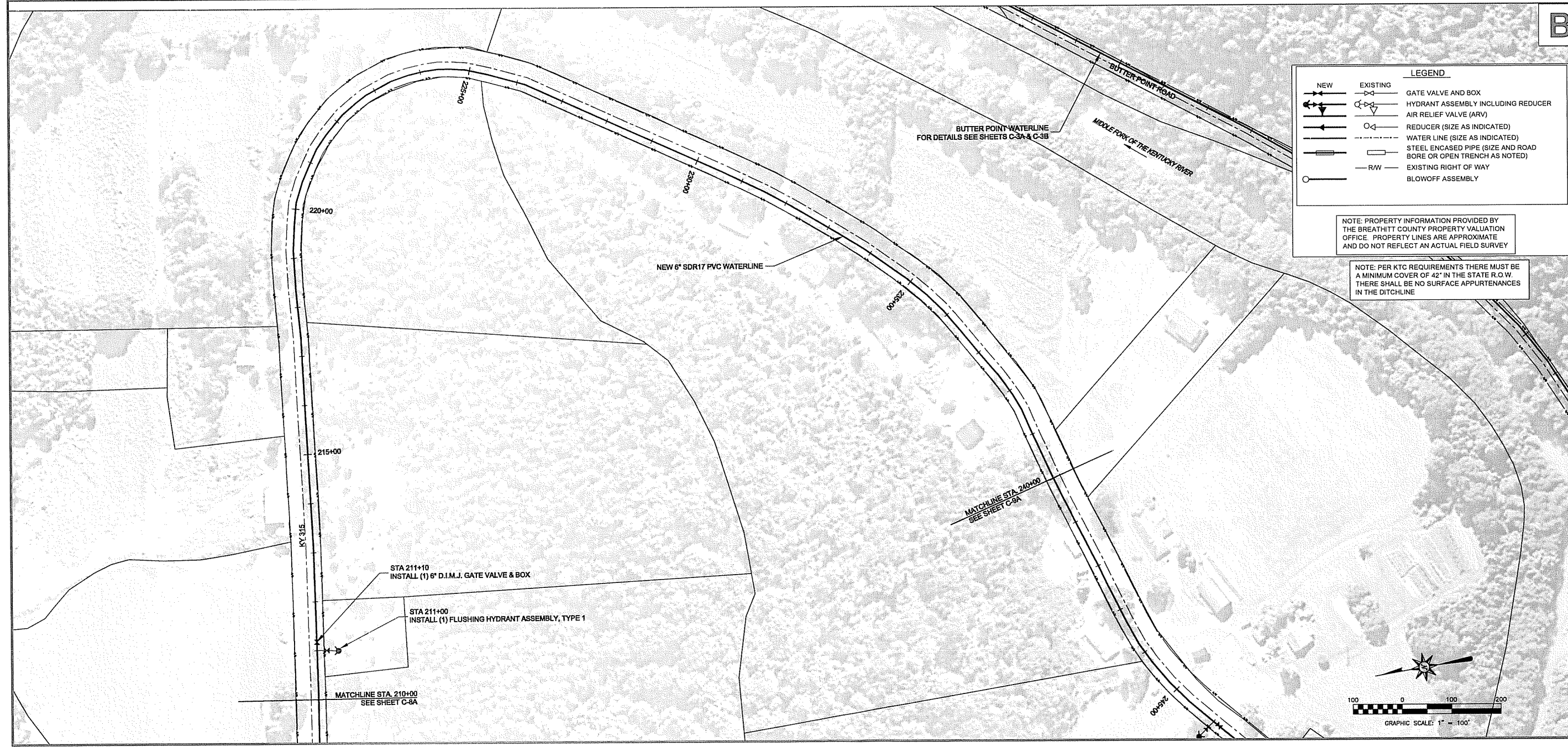
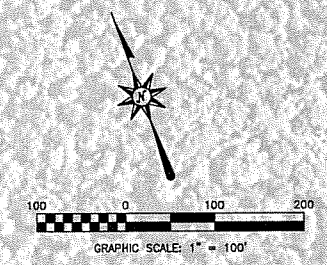
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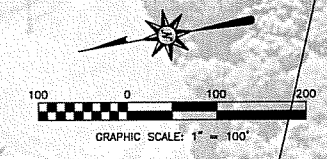


B

LEGEND	
	NEW
	EXISTING
	GATE VALVE AND BOX
	HYDRANT ASSEMBLY INCLUDING REDUCER
	AIR RELIEF VALVE (ARV)
	REDUCER (SIZE AS INDICATED)
	WATER LINE (SIZE AS INDICATED)
	STEEL ENCASED PIPE (SIZE AND ROAD BORE OR OPEN TRENCH AS NOTED)
	EXISTING RIGHT OF WAY
	BLOWOFF ASSEMBLY

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CANOE WATERLINE EXTENSION

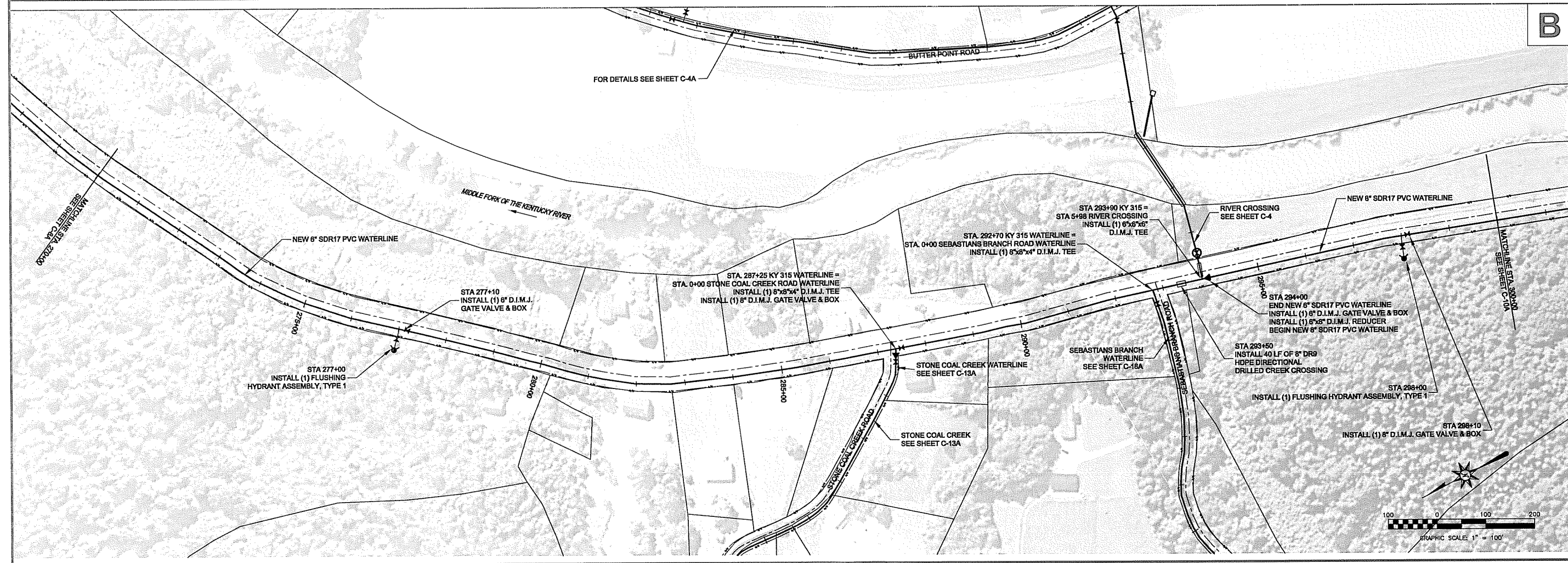
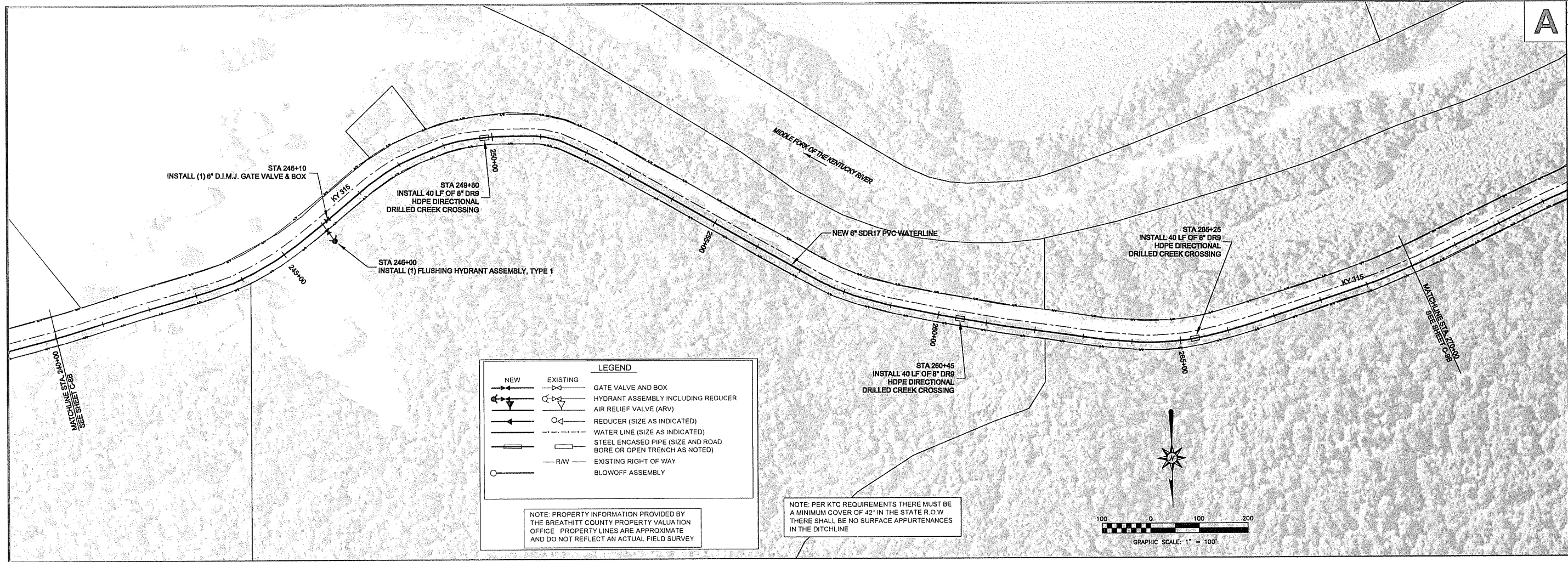
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C-8

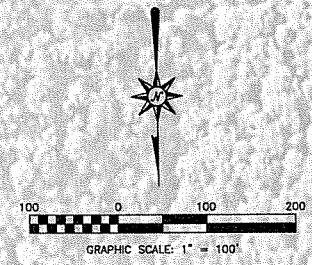
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LEGEND

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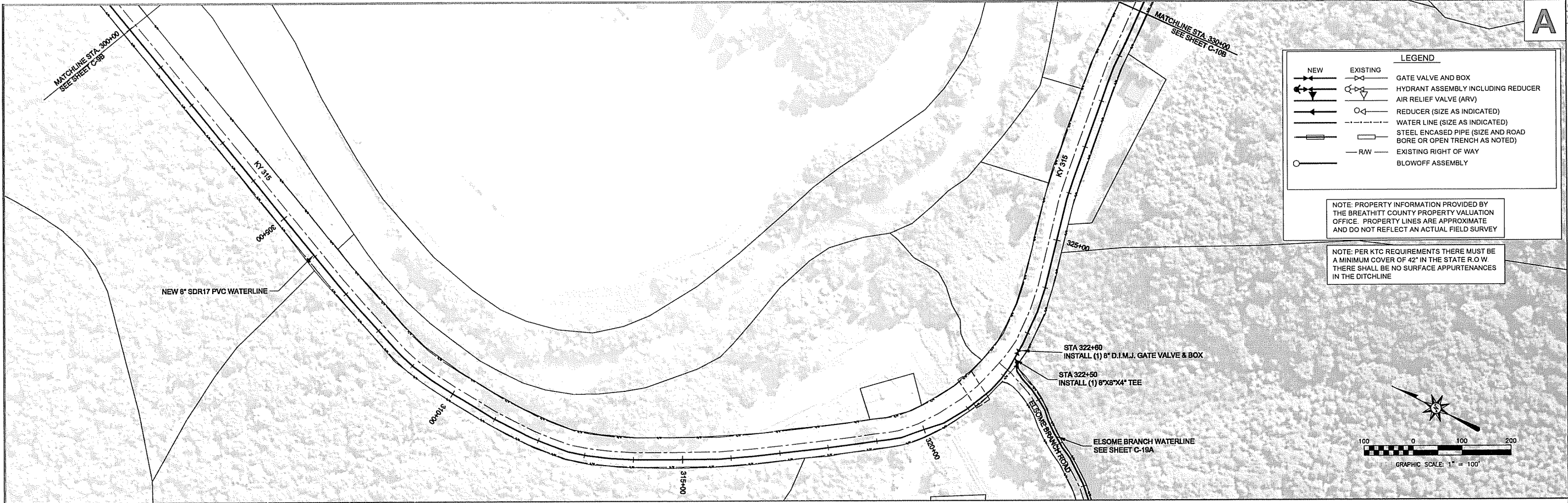
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CANOE ROAD WATERLINE EXTENSION PHASE 2
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CANOE WATERLINE EXTENSION
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drawn by JCW
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sheet no. **C-9**

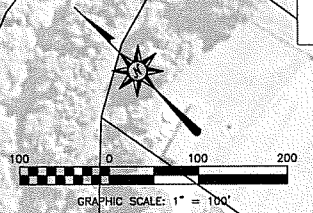
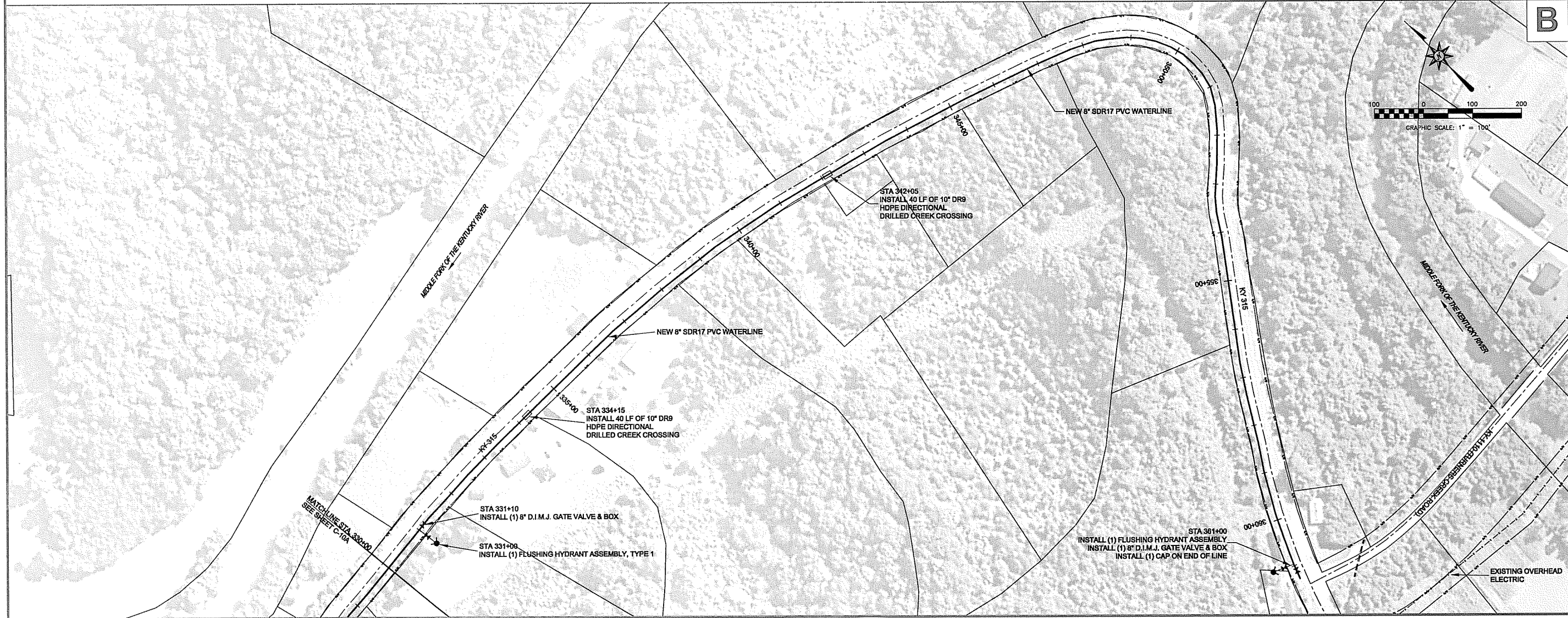
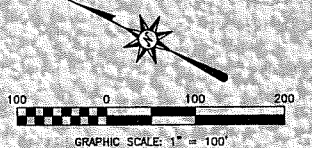
12/12/12



LEGEND	
NEW	EXISTING
GATE VALVE AND BOX	HYDRANT ASSEMBLY INCLUDING REDUCER
AIR RELIEF VALVE (ARV)	REDUCER (SIZE AS INDICATED)
WATER LINE (SIZE AS INDICATED)	STEEL ENCASED PIPE (SIZE AND ROAD BORE OR OPEN TRENCH AS NOTED)
EXISTING RIGHT OF WAY	BLOWOFF ASSEMBLY

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1137 MAIN STREET
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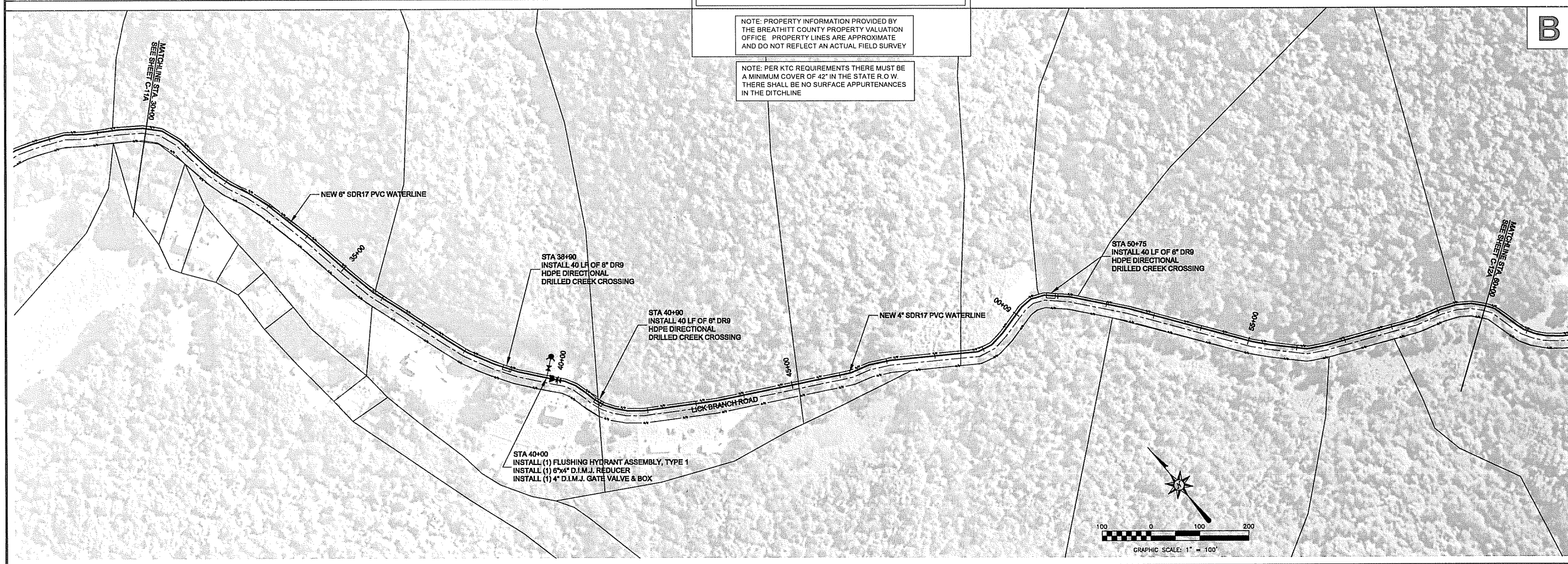
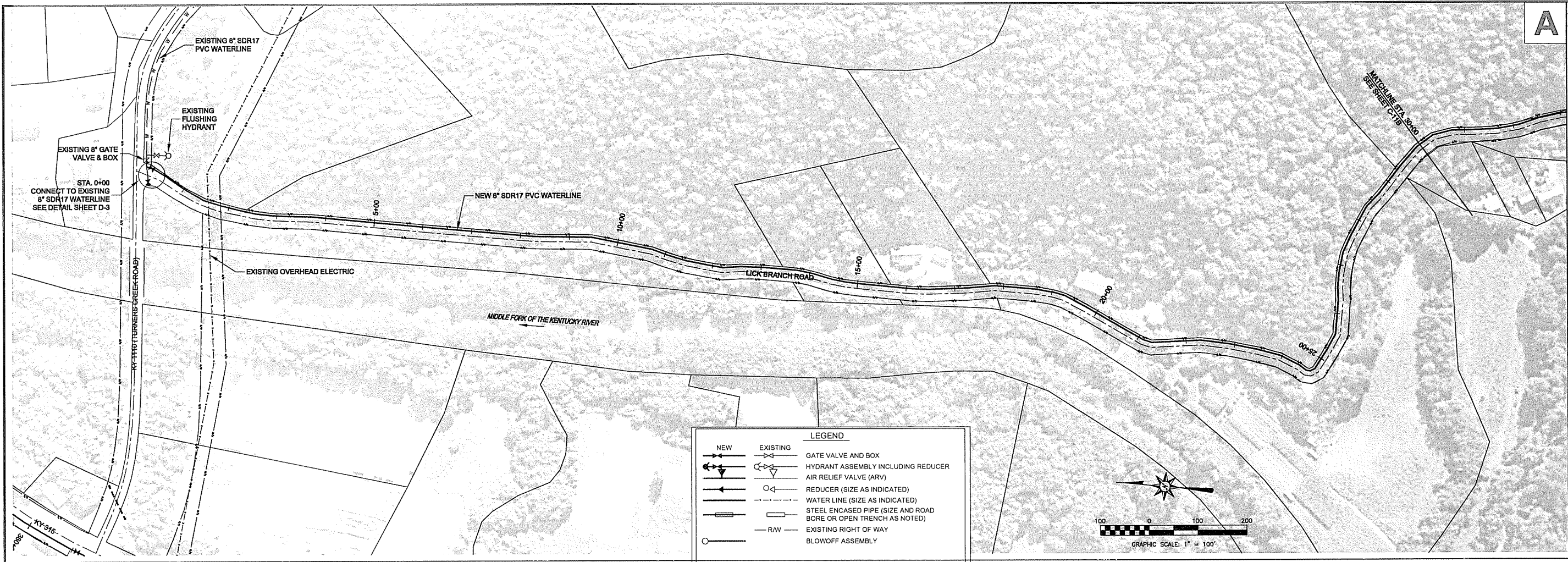
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BREATHITT COUNTY WATER DISTRICT
CANOE WATERLINE EXTENSION

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BREATHITT COUNTY WATER DISTRICT
1137 MAIN STREET
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CANOE ROAD WATERLINE EXTENSION PHASE 2
LICK BRANCH

12/19/12

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CANOE WATERLINE EXTENSION

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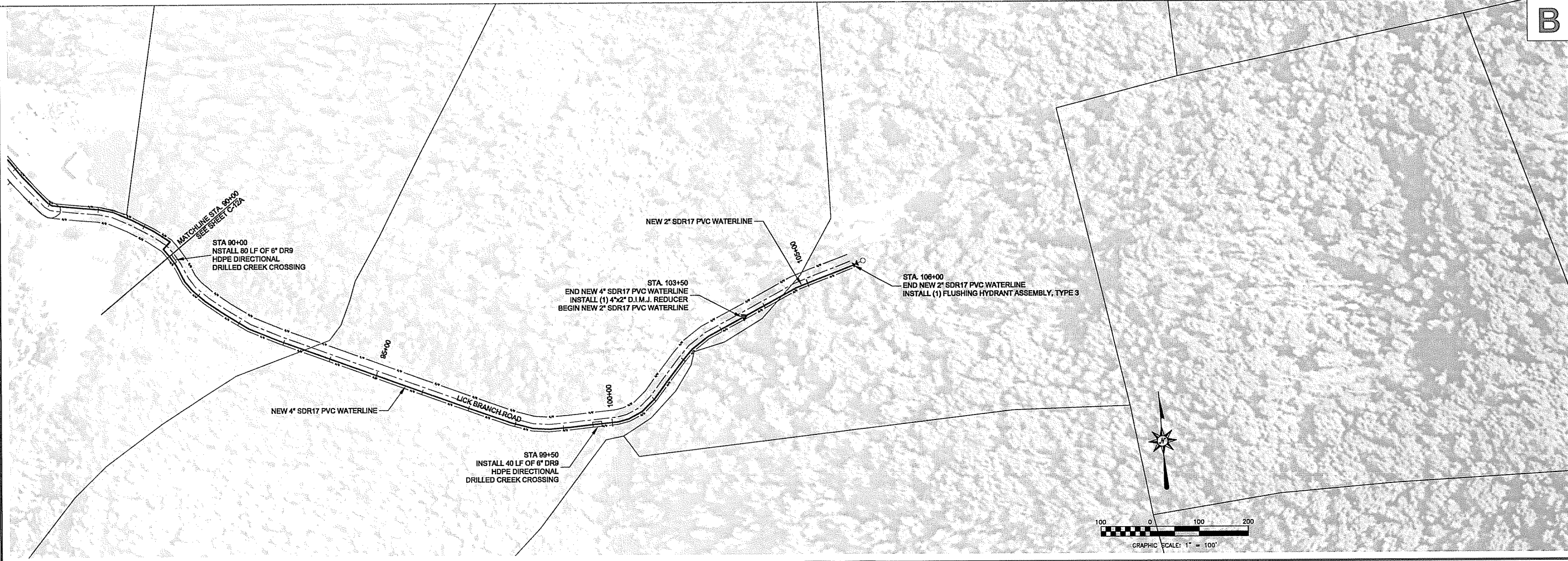
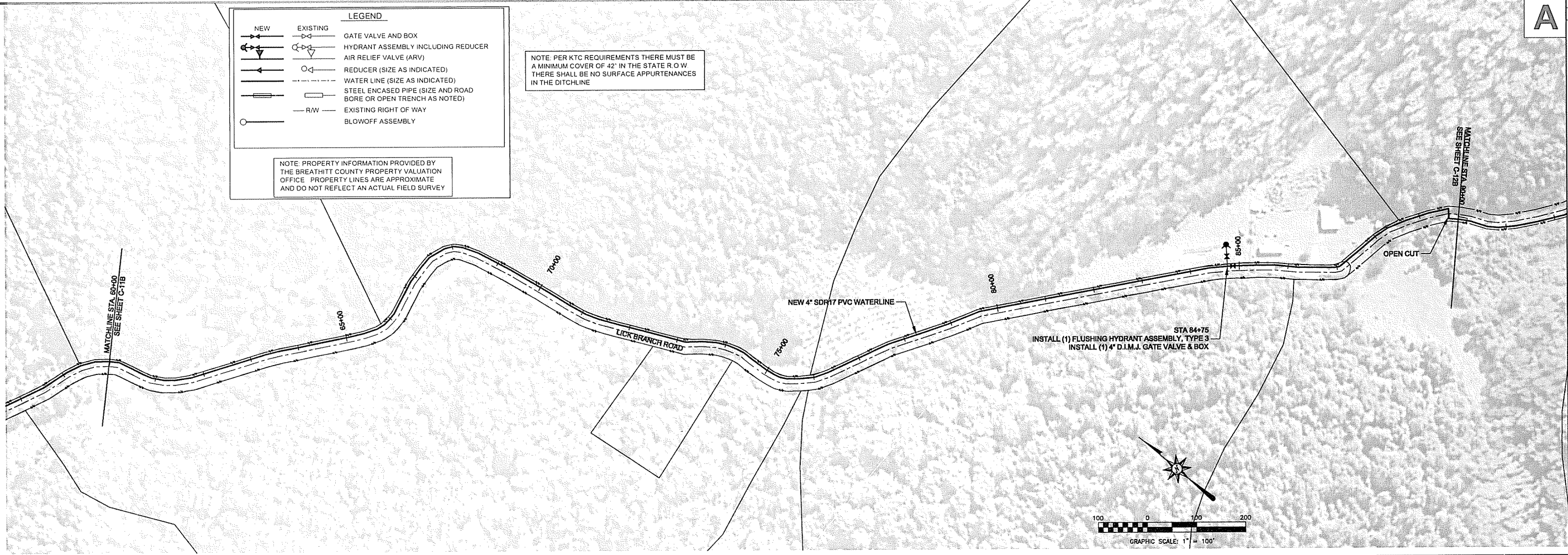
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File Name: \03 DESIGN\DESIGN\CANOE PLAN.DWG

shoot no
C-11

LEGEND	
	NEW
	EXISTING
	GATE VALVE AND BOX
	HYDRANT ASSEMBLY INCLUDING REDUCER
	AIR RELIEF VALVE (ARV)
	REDUCER (SIZE AS INDICATED)
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1137 MAIN STREET
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CANOE ROAD WATERLINE EXTENSION PHASE 2
LICK BRANCH

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CANOE WATERLINE EXTENSION

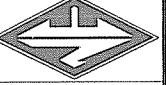
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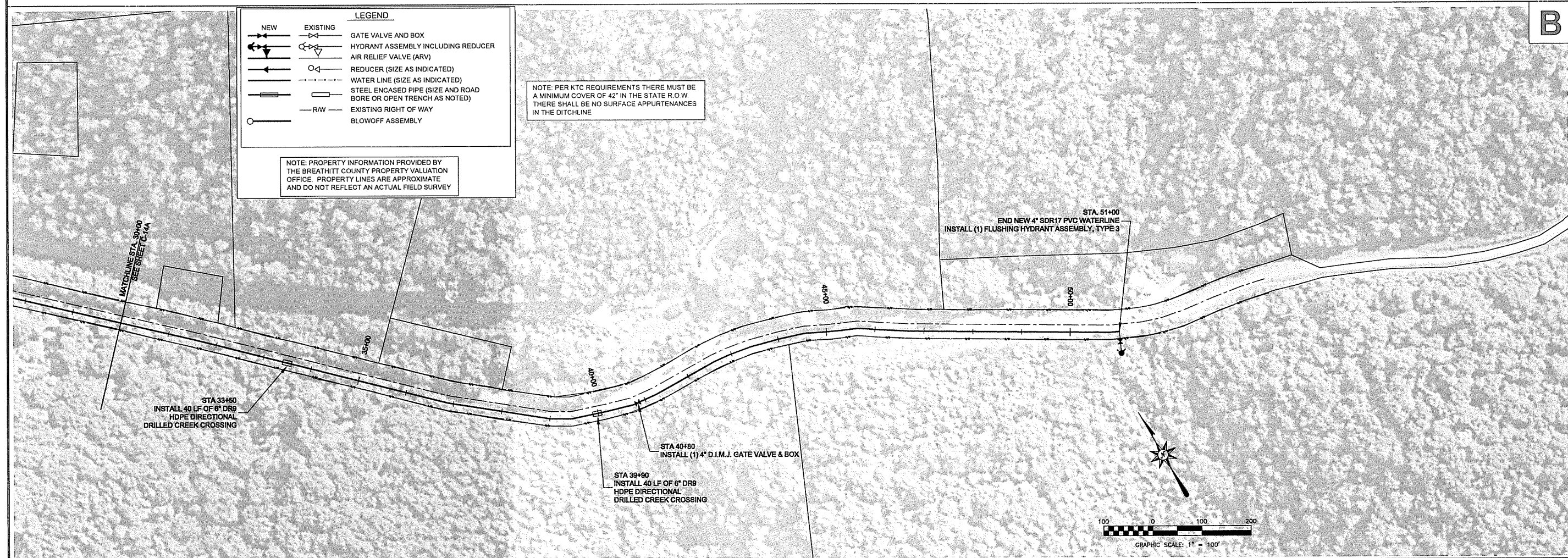
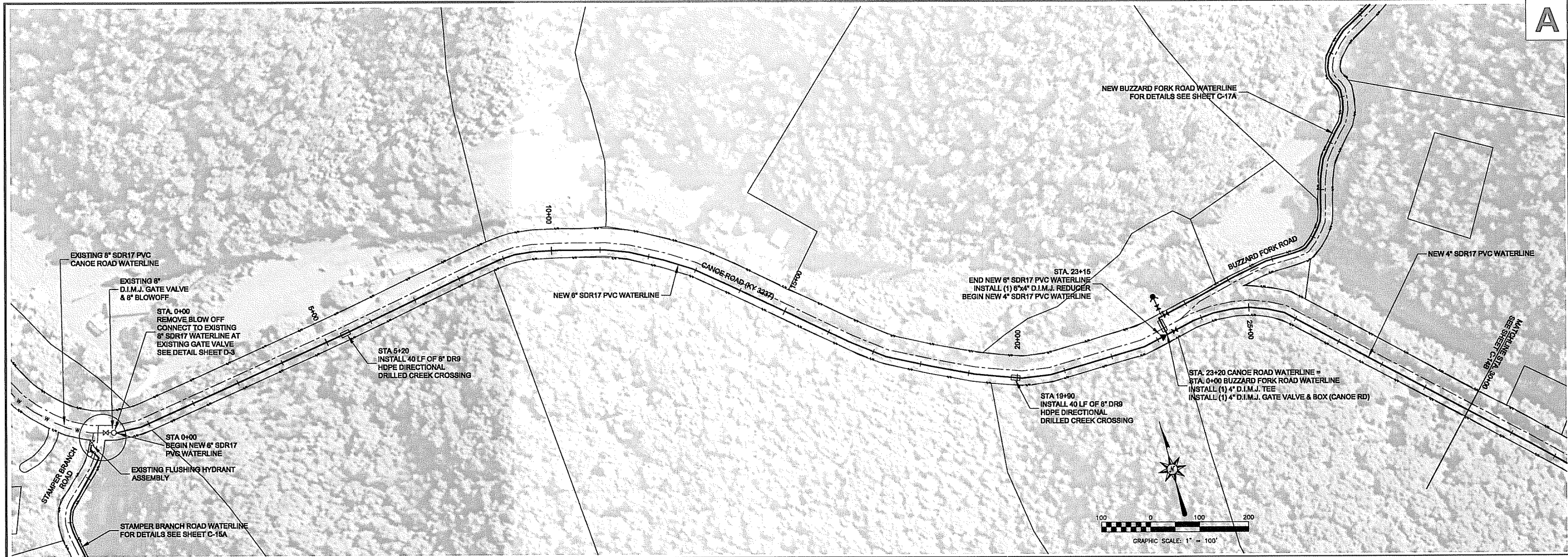
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12/5/11





LEGEND

			GATE VALVE AND BOX
			HYDRANT ASSEMBLY INCLUDING REDUCER
			AIR RELIEF VALVE (ARV)
			REDUCER (SIZE AS INDICATED)
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BREATHITT COUNTY WATER DISTRICT
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B

CANOE CREEK - ROAD FORK

12/19/12

STATE OF KENTUCKY
PAUL D. NESBITT
9382
LICENSED PROFESSIONAL ENGINEER

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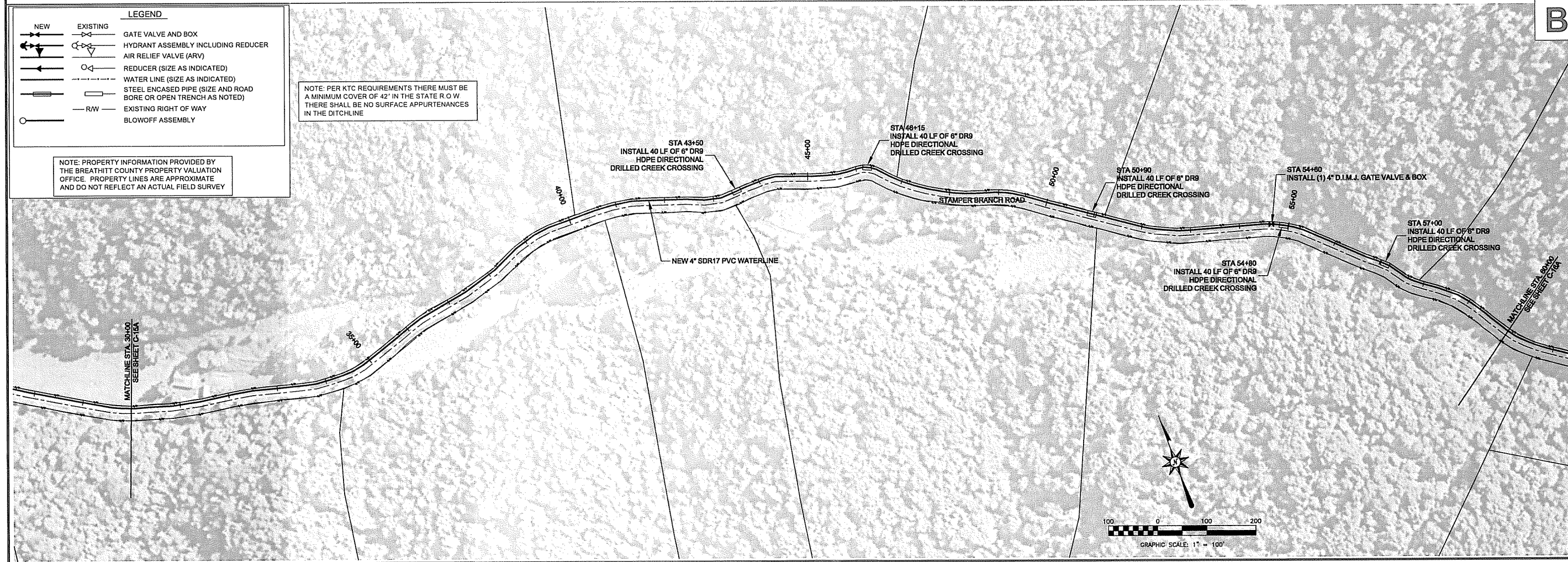
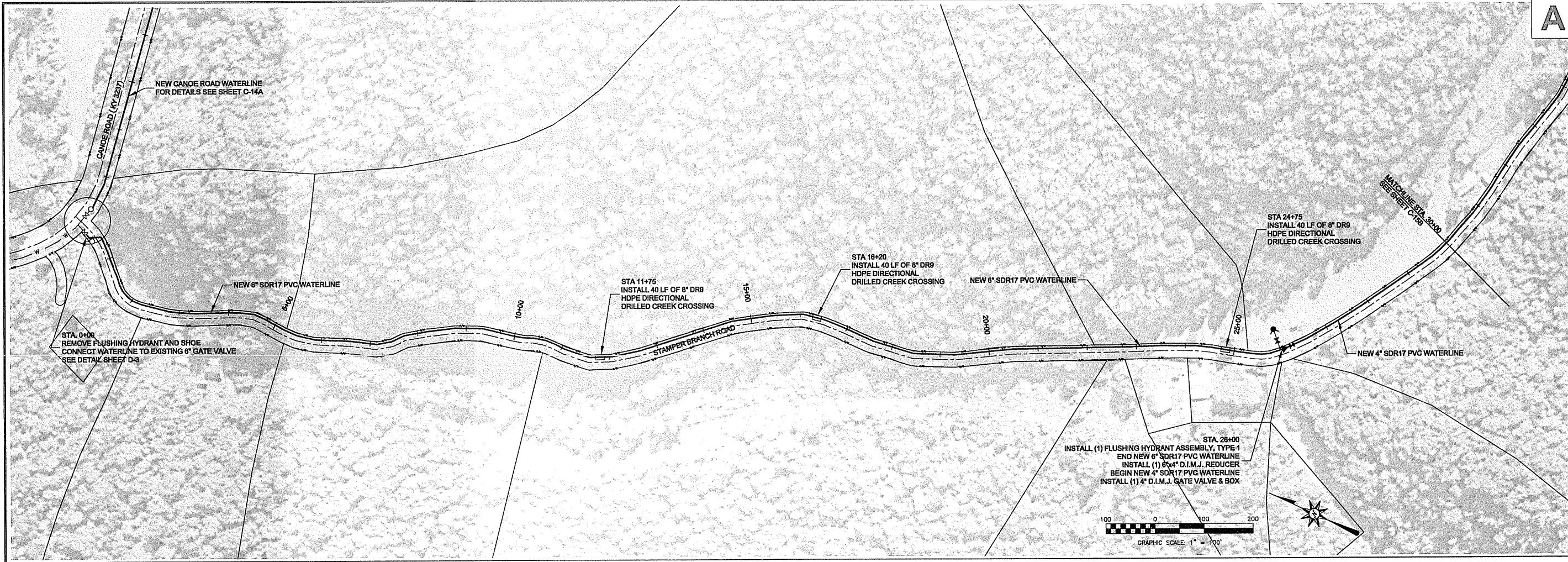
BREATHITT COUNTY WATER DISTRICT
CANOE WATERLINE EXTENSION

drawn by: JCW
date: 12-05-11

scale: 1" = 100'

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C-14



LEGEND

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CANOE ROAD WATERLINE EXTENSION PHASE 2

STAMPER FORK

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CANOE WATERLINE EXTENSION
project no. 998.33
scale: 1" = 100'
drawn by JCW
date: 12-05-11
sheet no. C-15

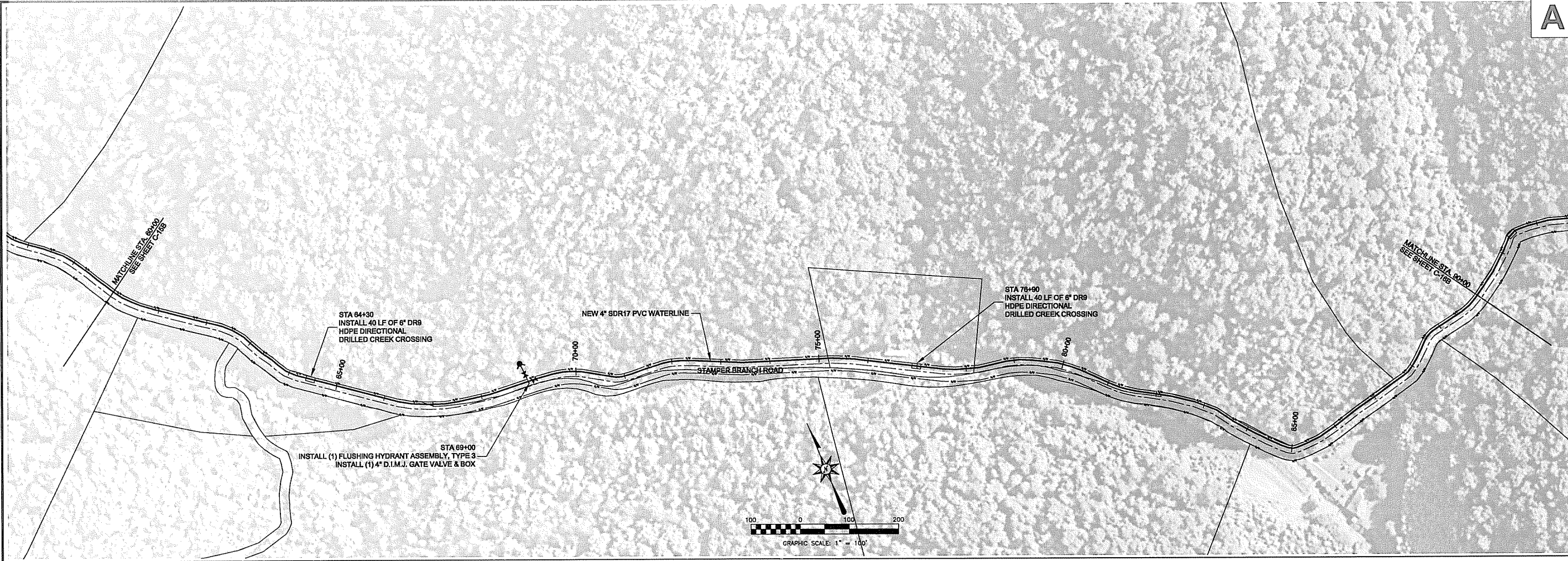
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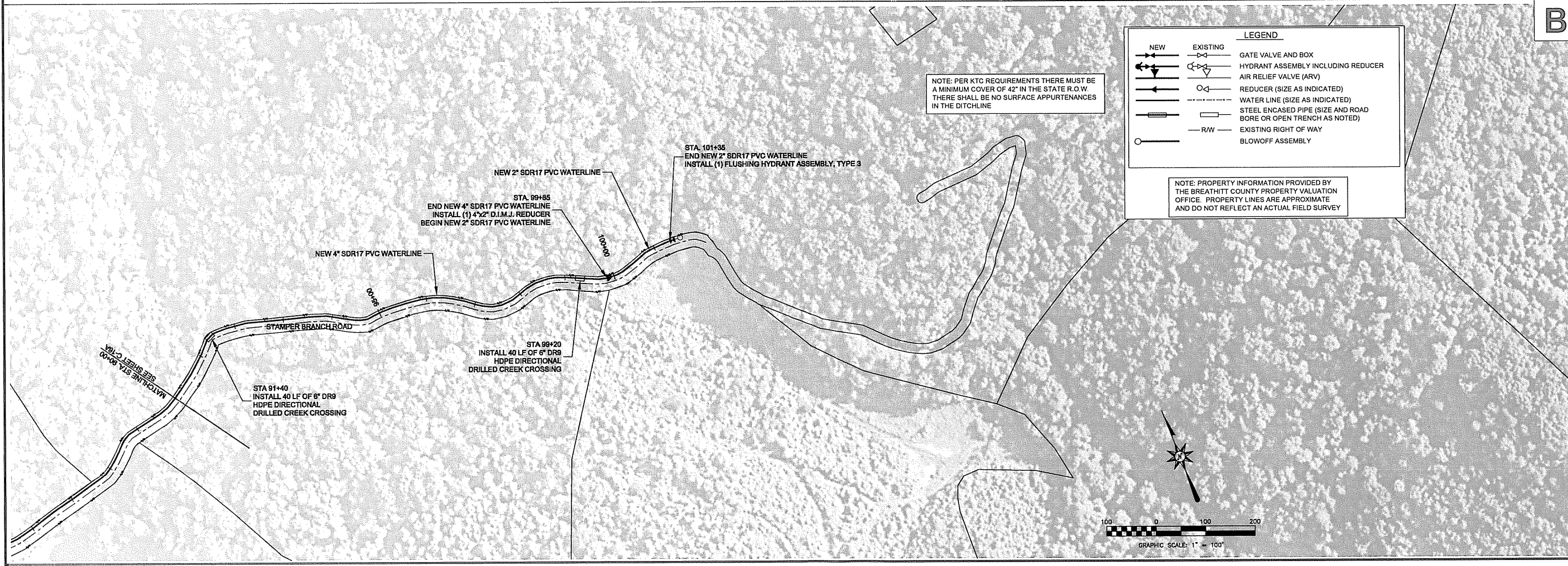
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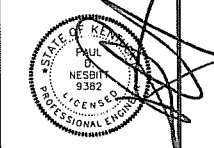


LEGEND

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BREATHITT COUNTY WATER DISTRICT
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JACKSON, KENTUCKY 41339
CANOE ROAD WATERLINE EXTENSION PHASE 2
STAMPER FORK



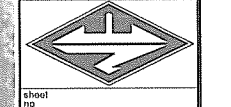
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CANOE WATERLINE EXTENSION

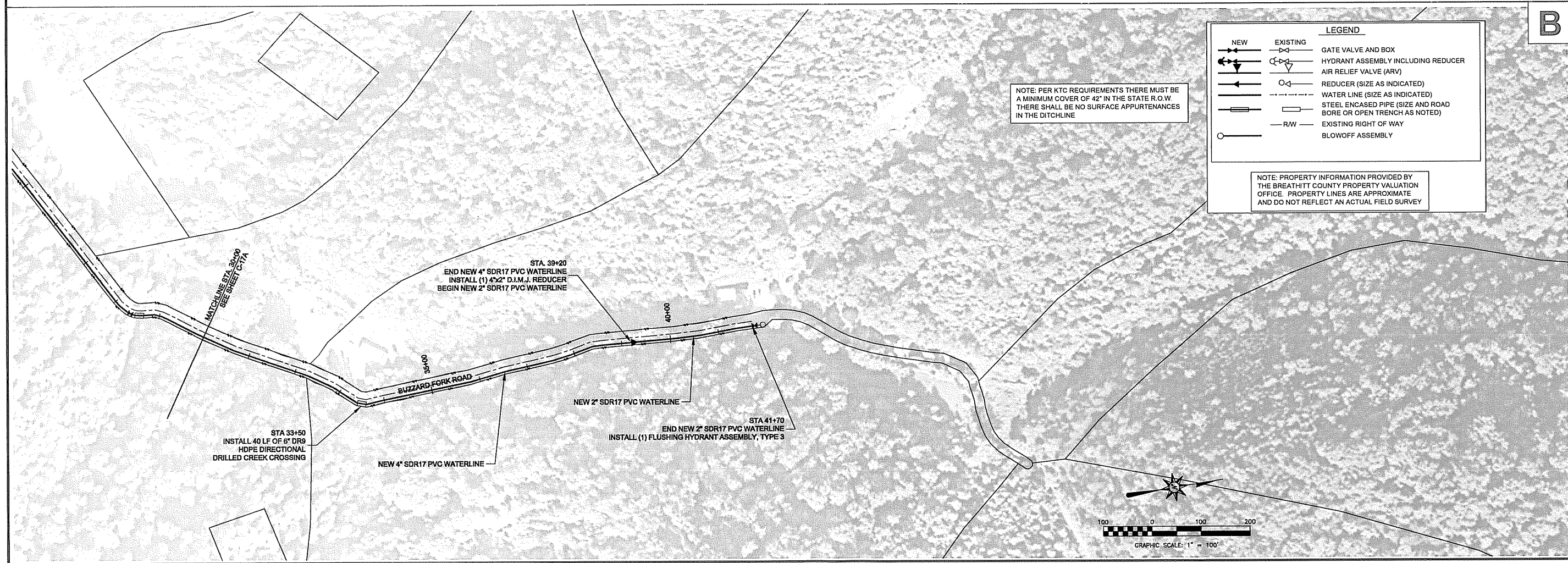
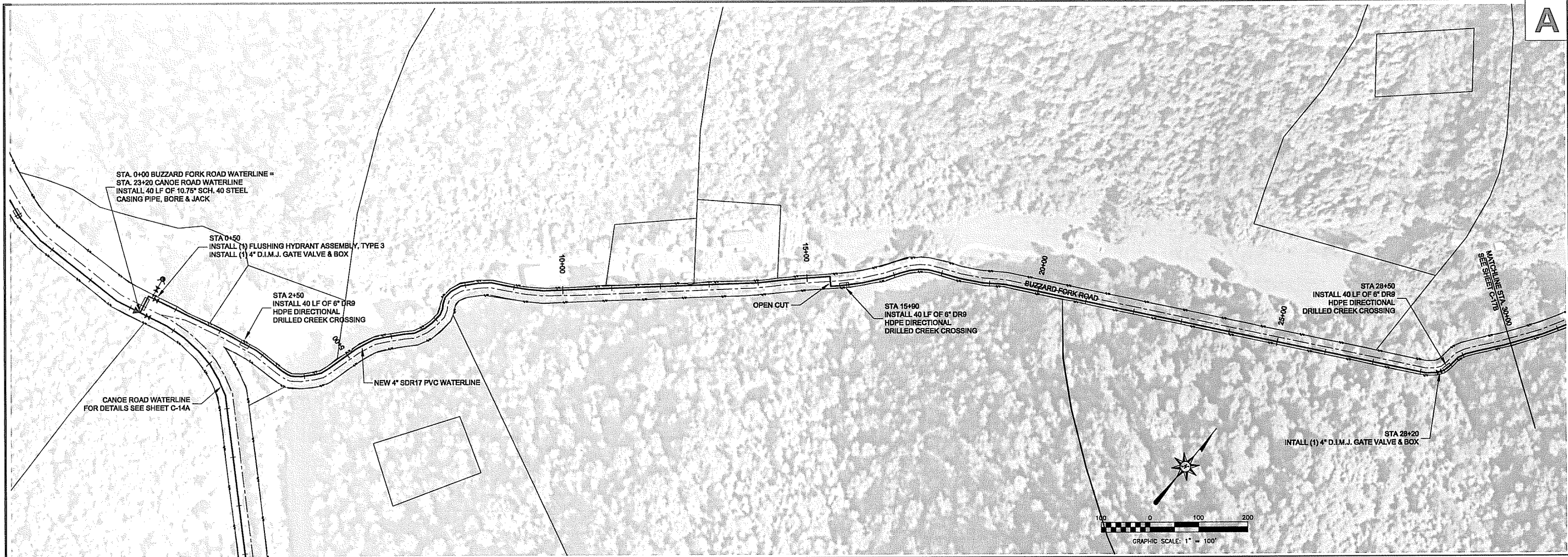
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date: 12-05-11



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1137 MAIN STREET
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CANOE ROAD WATERLINE EXTENSION PHASE 2

BUZZARD FORK

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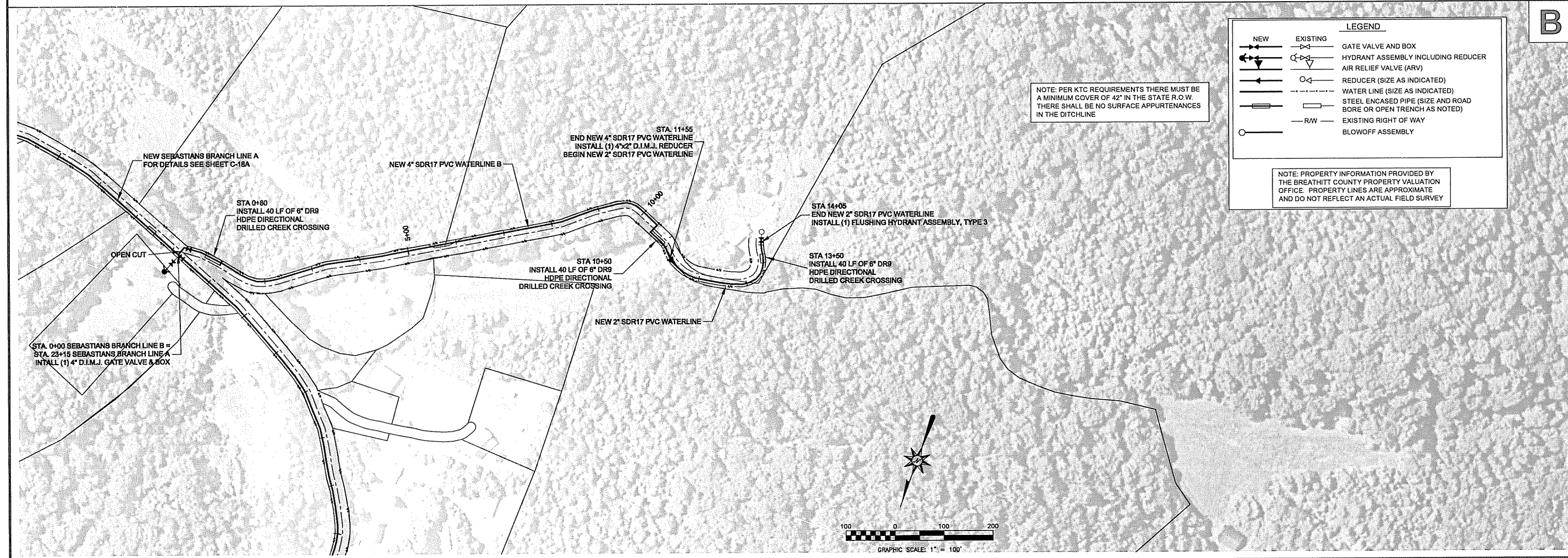
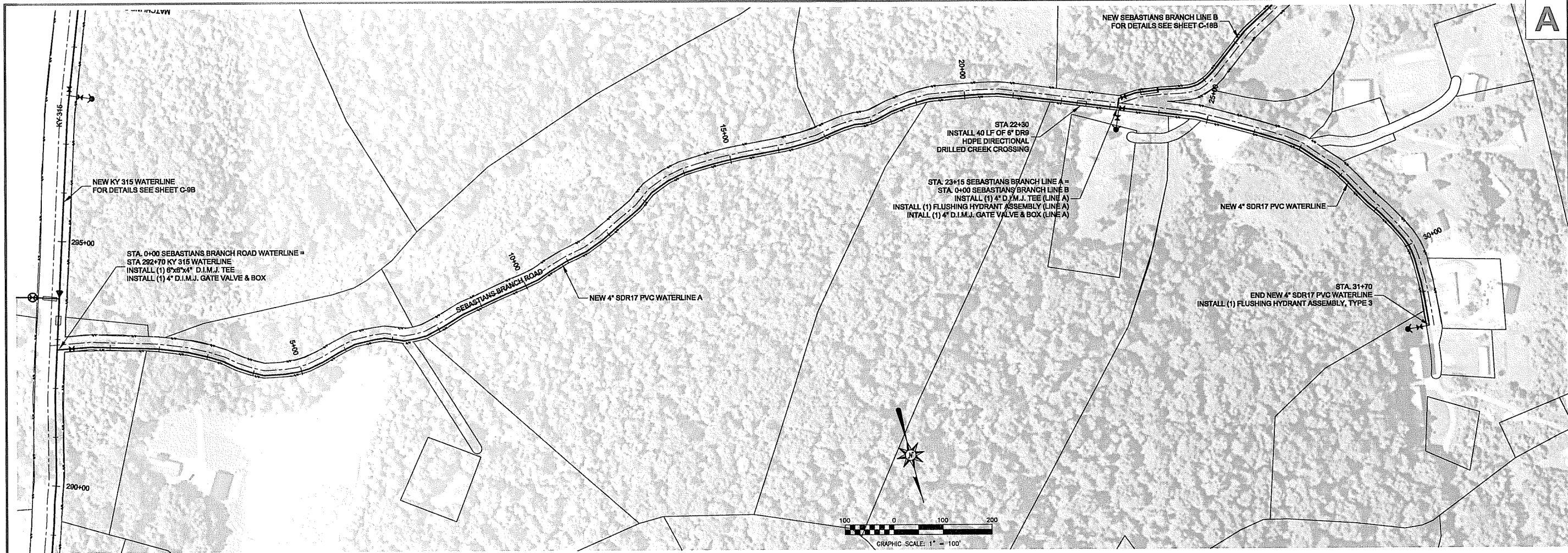
BREATHITT COUNTY WATER DISTRICT
CANOE WATERLINE EXTENSION

drawn by: JCW
date: 12-05-11

total: 1" = 100'
job no.: 998.33
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1137 MAIN STREET
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CANOE ROAD WATERLINE EXTENSION PHASE 2
SEBASTIANS BRANCH

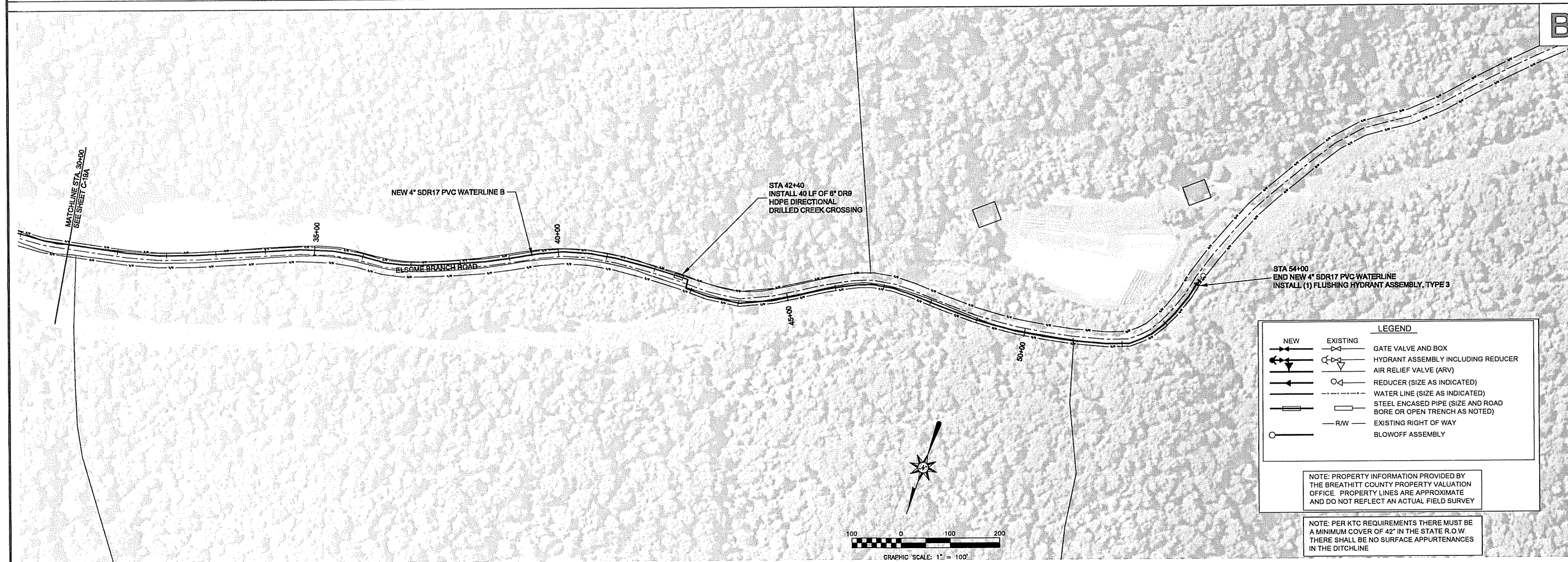
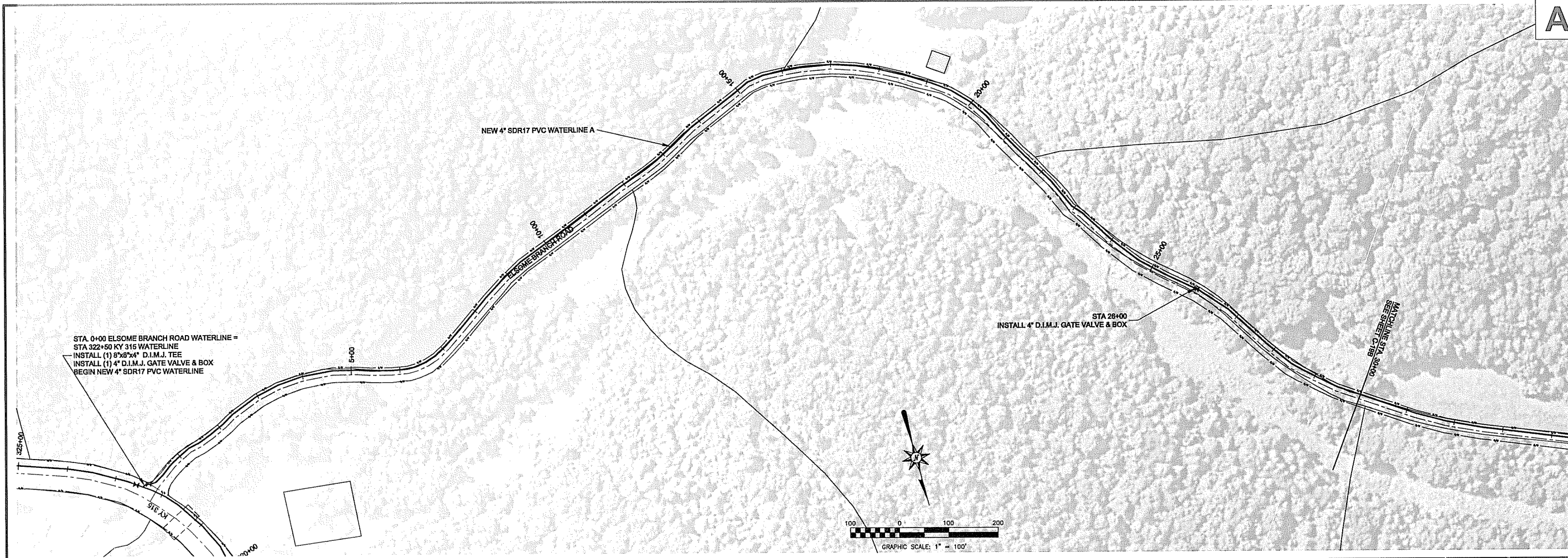
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BREATHITT COUNTY WATER DISTRICT
CANOE WATERLINE EXTENSION
DATE: 12-05-11
DRAWN BY: JCW
JOB NO.: 998.33
SCALE: 1" = 100'

STATE OF KENTUCKY
PAUL D. WELCH
REGISTERED PROFESSIONAL ENGINEER
LICENSE NO. 10045

12/19/11

sheet no. C-18



LEGEND

	NEW		EXISTING
	GATE VALVE AND BOX		HYDRANT ASSEMBLY INCLUDING REDUCER
	AIR RELIEF VALVE (ARV)		REDUCER (SIZE AS INDICATED)
	WATER LINE (SIZE AS INDICATED)		STEEL ENCASED PIPE (SIZE AND ROAD BORE OR OPEN TRENCH AS NOTED)
	-R/W-		BLOWOFF ASSEMBLY

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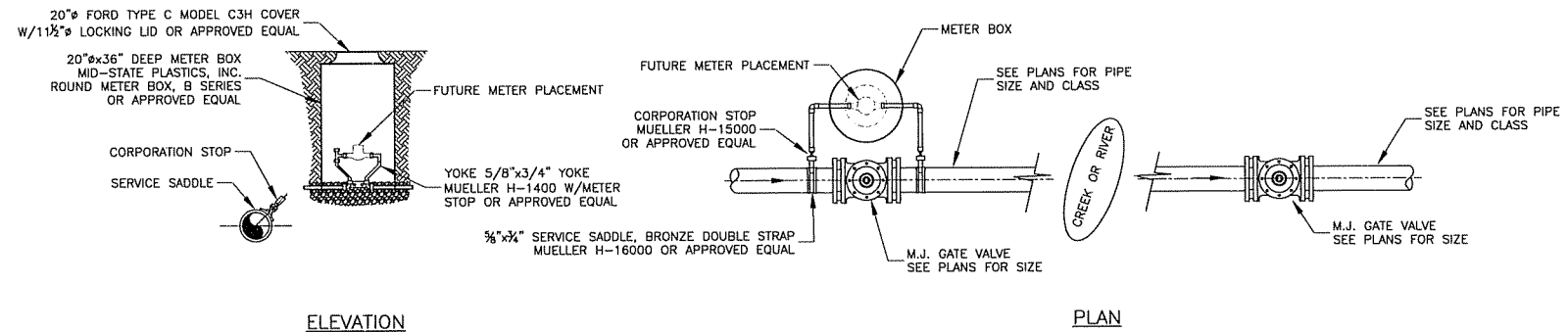
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BREATHITT COUNTY WATER DISTRICT
1137 MAIN STREET
JACKSON, KENTUCKY 41339
CANOE ROAD WATERLINE EXTENSION PHASE 2
ELSOME CREEK

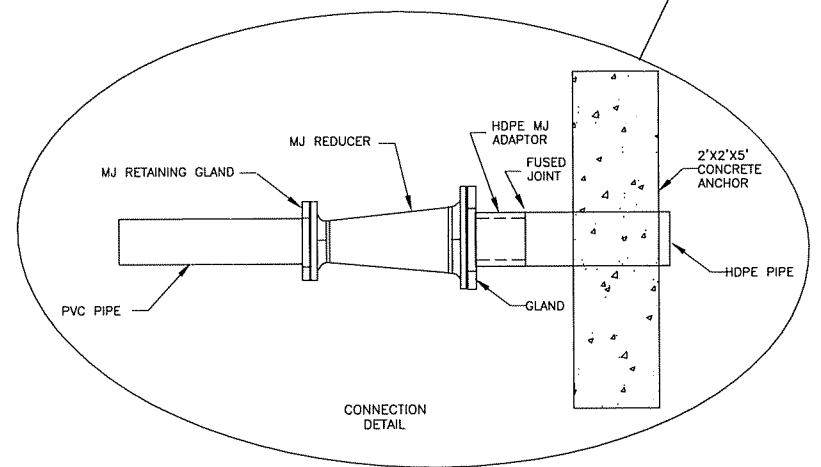
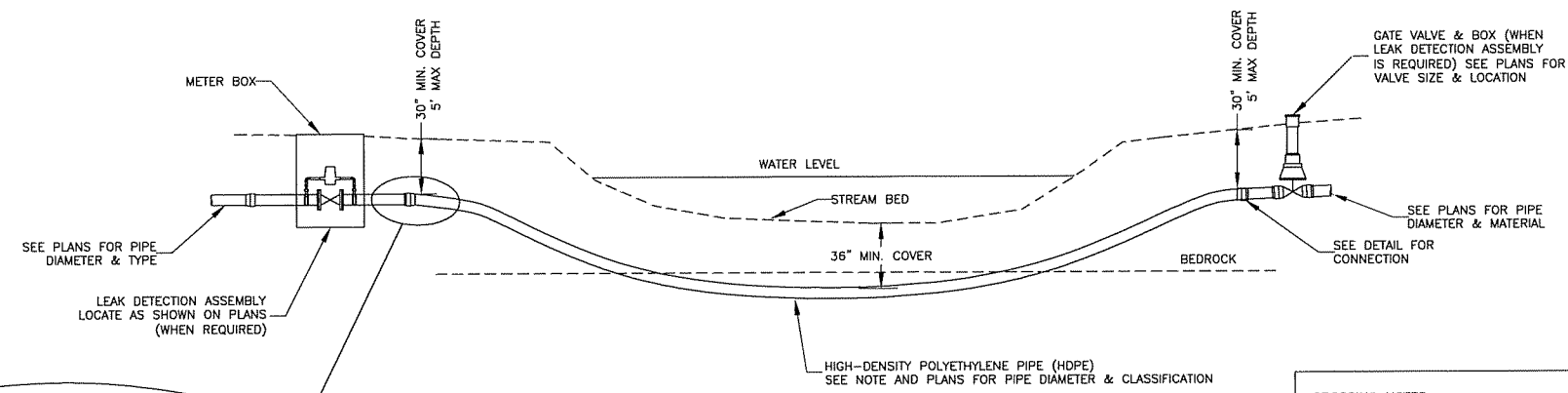
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BREATHITT COUNTY WATER DISTRICT
CANOE WATERLINE EXTENSION
PROJECT NO. 998.33
SCALE: 1" = 100'
DESIGN: JCV
DATE: 12-05-11
DESIGN PLAN/DWG

sheet no. **C-19**

12/19/12



LEAK DETECTION ASSEMBLY
NOT TO SCALE



CREEK AND RIVER CROSSING DETAILS
NOT TO SCALE

- CROSSING NOTES:**
1. CONNECTION OF THE HDPE TO THE PVC OR DUCTILE IRON WATERLINE SHALL BE NO DEEPER THAN 5 FEET FROM THE GROUND ELEVATION.
 2. DIRECTIONAL BORE SHALL BE MADE IN BED ROCK WITH A MIN DEPTH OF 36".
 3. WHEN USING HDPE THE PIPE SHALL BE SIZED UP ONE PIPE SIZE TO ALLOW THE I.D. OF THE HDPE TO EQUAL THE I.D. OF THE CONNECTING WATERLINE.
 4. PIPE SHALL BE DRILLED INTO SOLID BEDROCK WITH A MIN. COVER OF 36".
 5. USE ANGLED FITTINGS, AS NECESSARY TO MAKE CONNECTION BETWEEN PIPES.

12/6/11
[Signature]

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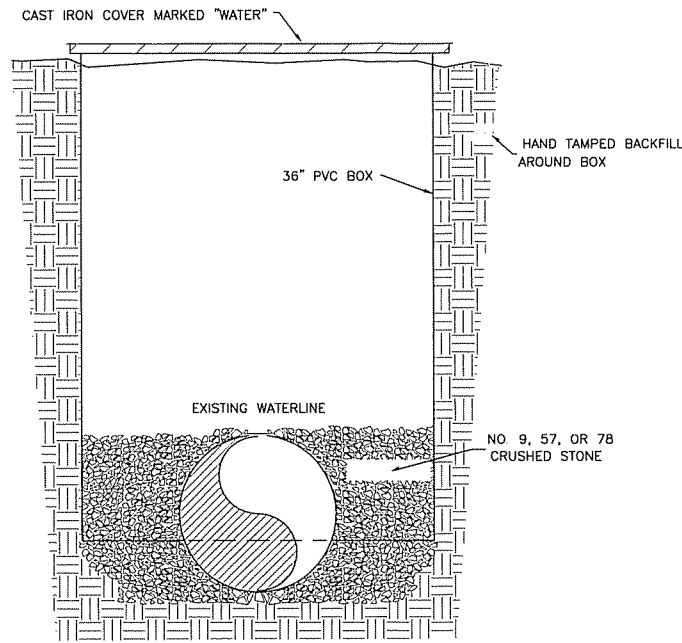
REVISIONS:

BREATHITT COUNTY WATER DISTRICT
1137 MAIN STREET
JACKSON, KENTUCKY 41339
CANOE ROAD WATERLINE EXTENSION PHASE 2
RIVER AND CREEK CROSSING DETAILS

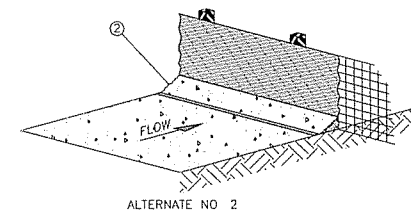
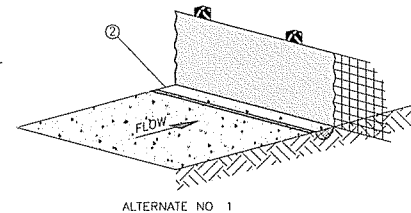
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CANOE ROAD WATERLINE EXTENSION PHASE 2
SCALE: AS SHOWN
DRAWN BY: MMS
JOB NO.: 998-03
DATE: 12-05-11
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SHEET NO
D-1



FLOW MONITORING PIT

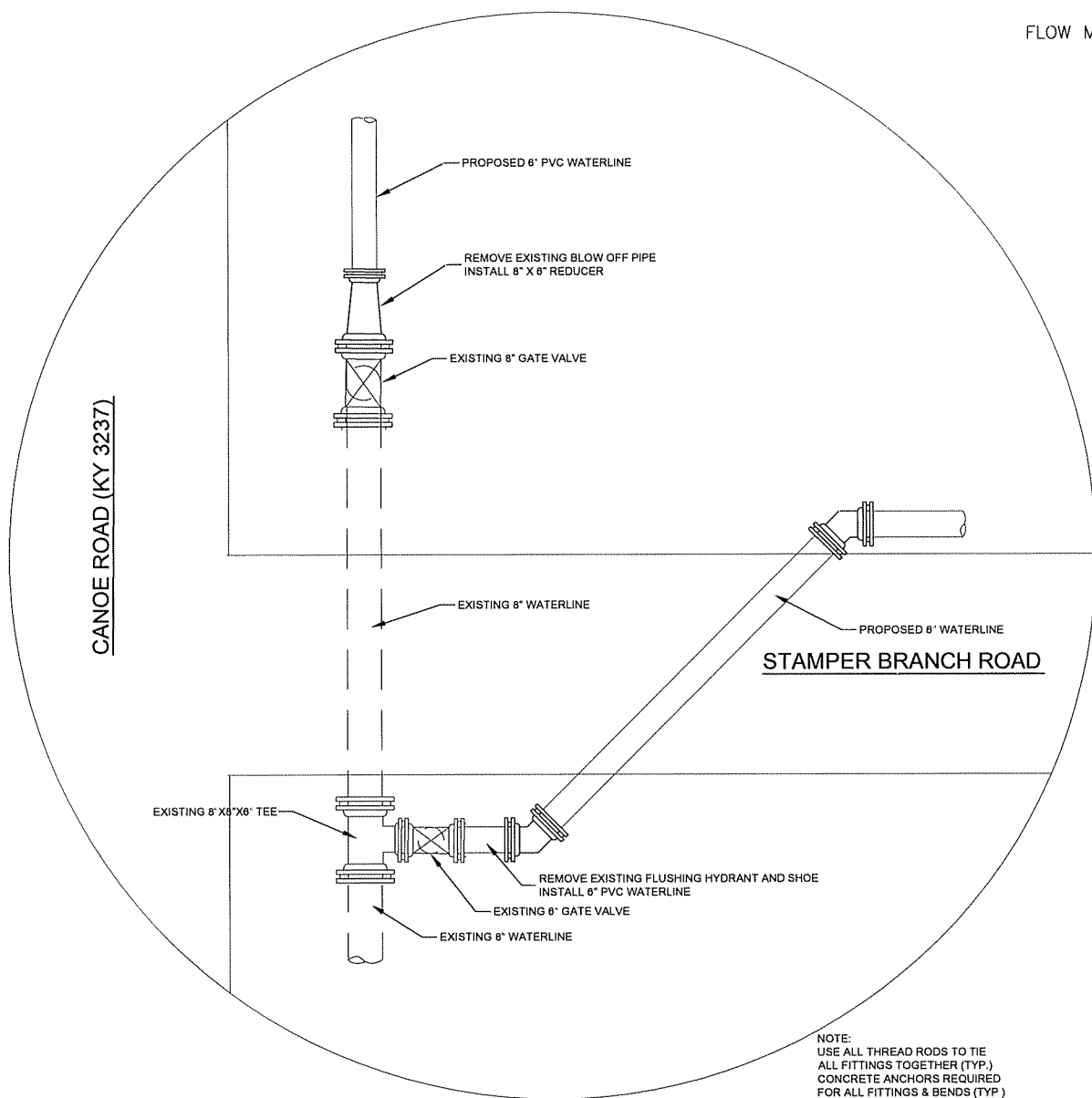


NOTES

- 1 MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS
- 2 THE BOTTOM 12 INCHES OF FABRIC SHALL BE BURIED IN A 6 INCH TRENCH CUT INTO THE GROUND OR COVERED BY 6 INCHES OF FILL MATERIAL TO PREVENT SEDIMENT ESCAPING UNDER FENCE ALL EARTHWORK SHALL BE ON THE UPSTREAM SIDE OF FENCE

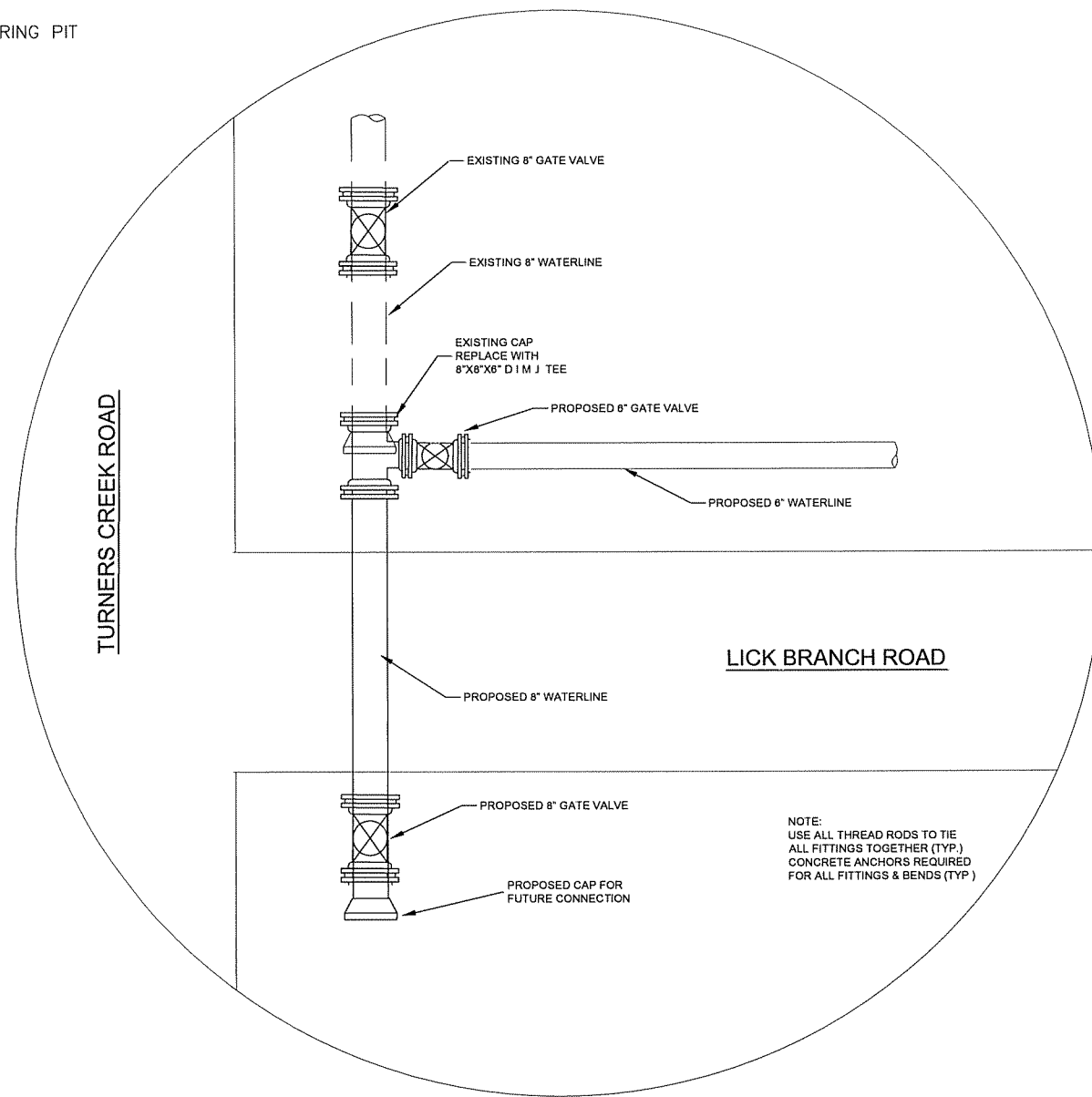
SILT CHECK FENCE SEDIMENTATION CONTROL

NOT TO SCALE



CONNECTION TO EXISTING WATERLINE ON CANOE ROAD AT STAMPER BRANCH ROAD

NOTE: USE ALL THREAD RODS TO TIE ALL FITTINGS TOGETHER (TYP.) CONCRETE ANCHORS REQUIRED FOR ALL FITTINGS & BENDS (TYP.)



CONNECTION TO EXISTING WATERLINE ON TURNERS CREEK AT LICK BRANCH ROAD

NOTE: USE ALL THREAD RODS TO TIE ALL FITTINGS TOGETHER (TYP.) CONCRETE ANCHORS REQUIRED FOR ALL FITTINGS & BENDS (TYP.)

Handwritten signature and date: 12/19/12

BREATHITT COUNTY WATER DISTRICT
 1137 MAIN STREET
 JACKSON, KENTUCKY 41339
 CANOE ROAD WATERLINE EXTENSION PHASE 2

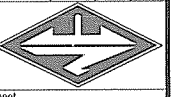
STANDARD DETAILS 2

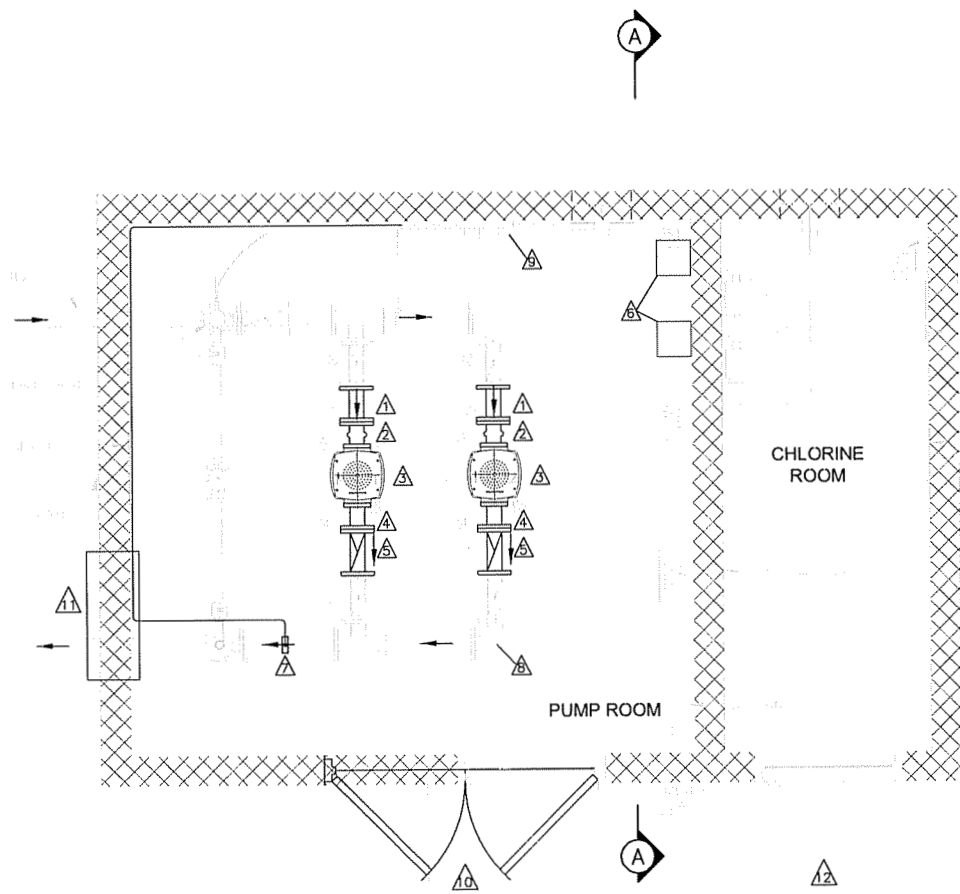


nesbitt engineering, inc.

BREATHITT COUNTY WATER DISTRICT
CANOE WATERLINE EXTENSION

drawn by: JKF
 date: 3/12/12
 job no.: 998-33
 scale: NOT TO SCALE
 file name: \03 design\design\03 STANDARD DETAILS.dwg





BOOSTER PUMP STATION PLAN
 SCALE: 1/2" = 1'-0"

EXISTING PIPING LEGEND	
NUMBER	DESCRIPTION
1	PUMP 1 & 2 GRUNDFOS, MODEL CR32-4-2
2	4" D I FLG D GATE VALVE
3	4" D I FLG D SPOOL
4	4" x 2 1/2" D I FLG D ECCENTRIC REDUCER
5	CONCRETE PUMP PAD 1'-6" SQUARE
6	4" D I FLG D BERMAD 7400-3 CHECK VALVE
7	CHLORINE INJECTION TAP

KY 30 W BOOSTER STATION IMPROVEMENTS:

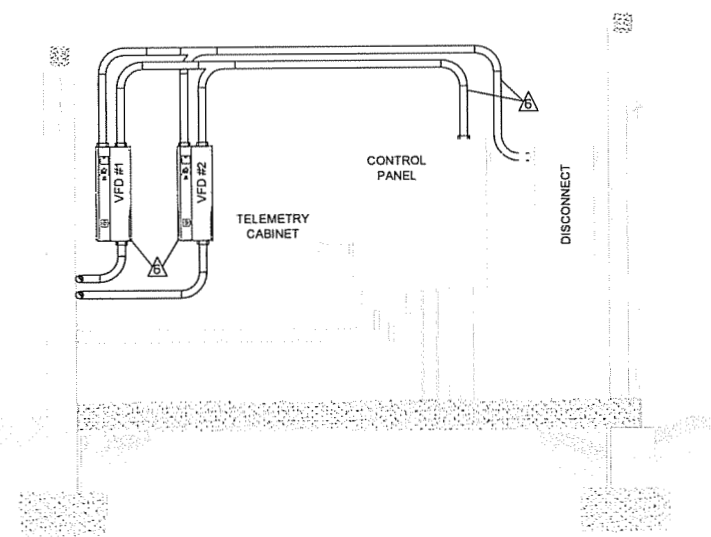
- △ EXISTING 4" D I FLG D SPOOL PIECE TO BE REPLACED WITH THE APPROPRIATE SIZED 4" D I FLG D SPOOL PIECE. LAY LENGTH TO BE DETERMINED UPON FINAL APPROVED SELECTION OF OTHER MATERIALS TO ALLOW FOR PROPER FITTING OF EXISTING PIPING
- △ REPLACE EXISTING 4" X 2 1/2" D I FLG D REDUCER WITH NEW 4" SPOOL BY PROCO, 8" STYLE RE-231 OR APPROVED EQUAL. GASKETS SHALL BE HIGH PRESSURE GASKETS.
- △ PUMP REPLACE WITH GRUNDFOS CR 90-3 (TEFC)
- △ REPLACE EXISTING 4" X 2 1/2" D I FLG D REDUCER WITH NEW 4" D I SPOOL PIECE TO FIT (-7')
- △ REPLACE EXISTING BERMAD CONTROL VALVE WITH NEW BERMAD HYDRAULIC CHECK VALVE, MODEL 760-03-V OR APPROVED EQUAL
- △ INSTALL TWO (2) VFD PER SPECIFICATIONS. VFD'S SHOULD BE LOCATED IN AREA AS SHOWN ON PLANS. INSTALL NEW CONDUIT FROM DISCONNECT TO VFD AND FROM VFD TO CONTROL PANEL
- △ INSTALL NEW 4" D I SERVICE SADDLE FOR NEW CHLORINE INJECTION POINT. ALL NEW HARDWARE/FITTINGS SHALL BE INSTALLED IN A SIMILAR MANNER AS THE EXISTING HARDWARE/FITTINGS. EXISTING INJECTION POINT TO ABANDON IN PLACE FROM CORPORATION STOP DOWN. NEW TUBING SHALL BE RAN FROM EXISTING CHEMICAL PUMPS TO NEW INJECTION POINT
- △ ALL D I PIPE & FITTINGS SHALL BE CLEANED (ALL RUST AND SCALING MECHANICALLY REMOVED & CHEMICALLY CLEANED), PRIMED AND PAINTED IN ACCORDANCE WITH SPECIFICATION 09900
- △ REPLACE THREE (3) 100 PSI PRESSURE GAUGES & ONE (1) 400 PSI PRESSURE GAUGE WITH BOURDON TUBE GLYCERINE FILLED PRESSURE GAUGES, WITH 4 1/2" GAUGE FACE (TYP.) TO BE INSTALLED ON EXISTING GAUGE MOUNTS DWYER OR APPROVED EQUAL
- △ INSTALL NEW 66" HIGH DOUBLE 36" STEEL DOORS
- △ INSTALL NEW HEATING AND AIR CONDITIONING UNIT.
- △ INSTALL NEW DOOR HANDLES AND LOCKS ON NEW DOUBLE DOOR AND EXISTING CHLORINE DOOR. PAINT BOTH SETS OF DOORS

PUMP SPECIFICATION

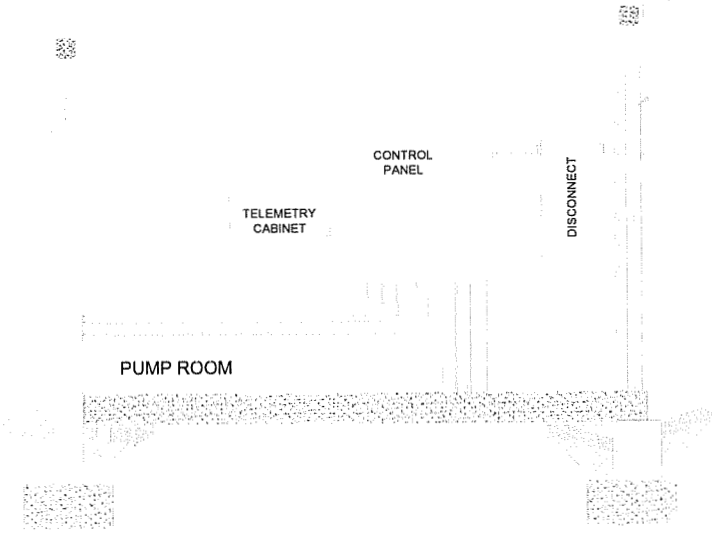
- BOTH PUMPS SHALL BE REPLACED WITH GRUNDFOS CR 90-3 OR APPROVED EQUAL
- BOTH EXISTING PUMPS ARE GRUNDFOS CR 32-4-2
- PUMP WILL NEED TO BE RESEATED WITH NEW S S HARDWARE

VFD SPECIFICATION

- VFD SHALL BE A 50 HP 3Ø/460 DRIVE DANFOSS VLT AQUA DRIVE OR APPROVED EQUAL WITH BUILT-IN DISCONNECT SWITCH
- WIRING & CONDUIT SHALL BE SIZE PER STRAEFFER PUMP & SUPPLY, INC
- CONTRACTOR SHALL MOUNT THE VFD PANELS AND PROVIDE FLEXIBLE CONDUIT FROM EACH VFD PANEL TO THE EXISTING CONTROL PANEL. THE VFD'S SHALL BE WIRED & INTERFACED WITH THE EXISTING CONTROL PANEL & TELEMETRY SYSTEM
- CONTRACTOR SHALL SUPPLY OWNER WITH TRAINING ON VFD/CONTROL PANEL OPERATION & MAINTENANCE
- ALL ELECTRICAL WORK, WIRING AND CONDUIT SHALL BE PER NEC CODE. ANY ELECTRICAL WIRING UPGRADES AND/OR SERVICE CHANGES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR
- SUBMITTALS AND O&M MANUALS SHALL INCLUDE DRAWINGS AND NEW ELECTRICAL SCHEMATICS DETAILING WIRING CHANGES, ALONG WITH A COMPLETE BILL OF MATERIALS



PROPOSED SECTION "A-A"
 SCALE: 1/2" = 1'-0"



EXISTING SECTION "A-A"
 SCALE: 1/2" = 1'-0"

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BREATHITT COUNTY WATER DISTRICT
 1137 MAIN STREET
 JACKSON, KENTUCKY 41339
 CANOE ROAD WATERLINE EXTENSION - PHASE II
 KY 30 WEST BOOSTER STATION IMPROVEMENTS



nesbitt engineering, inc.
 BREATHITT COUNTY WATER DISTRICT
 CANOE ROAD WATERLINE EXTENSION - PHASE II
 Project No.: 998-33
 Date: 03/21/2012
 Scale: 1/2" = 1'-0"

