TRANSPORTATION CABINET
Frankfort, Kentucky 40622
www.transportation.ky.gov/

Steven L. Beshear
Governor

Michael W. Hancock, P.E.
Secretary

January 25, 2012

CALL NO. 105
CONTRACT ID NO. 121302
ADDENDUM # 2

Subject: Pike County, BRZ 1203 (340)
Letting January 27, 2012

(1)Revised - Plan Sheet - R1
(2)Added - Plan Sheets - U1 through U6

Proposal revisions are available at http://transportation.ky.gov/contract/.
Plan revisions are available at http://www.lynnimaging.com/kytransportation/.

If you have any questions, please contact us at 502-564-3500.

Sincerely,

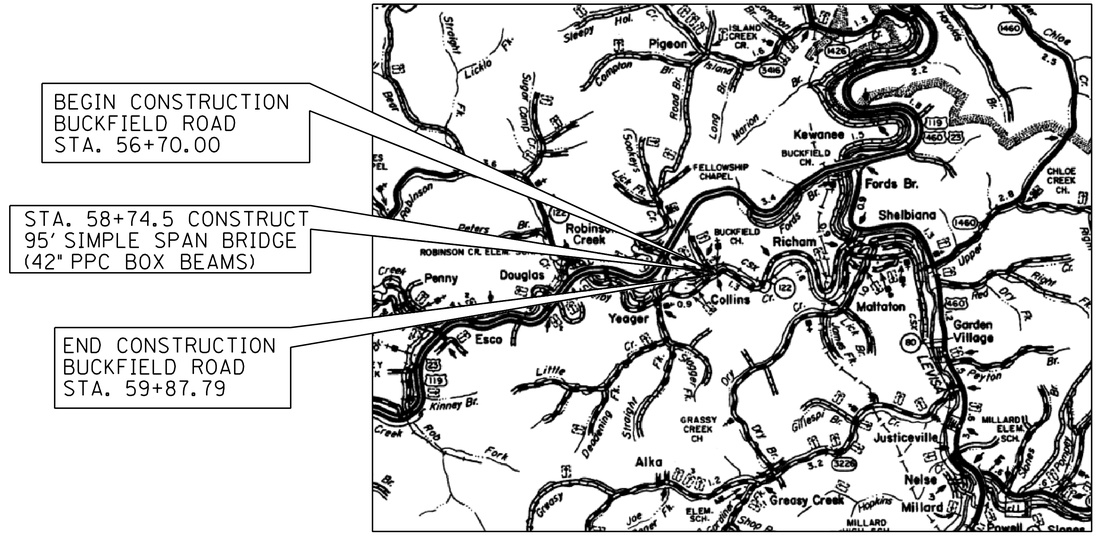
Ryan Griffith
Director
Division of Construction Procurement

RG:ks
Enclosures

COUNTY OF	ITEM NO.	SHEET NO.
PIKE	12-1100	R1

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

STATE ROADWAY DESIGN SERVICES
PROPOSED PROJECT
PIKE COUNTY
BUCKFIELD ROAD BRIDGE REPLACEMENT
THESE PLANS ARE FOR GRADE, DRAIN AND SURFACING
BRZ 1203 (340)



0 5000' 10000' 15000' 20000'

GRAPHIC SCALE IN FEET 1"=5000'

LAYOUT MAP

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
R1	LAYOUT SHEET
R2-R2B	TYPICAL SECTIONS-SUMMARY OF QUANTITIES
R3-R5	PLAN AND PROFILE SHEETS
-	UTILITY REFERENCE SHEETS
R6	RIGHT OF WAY SUMMARY SHEETS
R7	RIGHT OF WAY STRIP MAP SHEETS
R8-R8D	DETAIL SHEETS
R9-R12	TRAFFIC CONTROL SHEETS
R13	EROSION CONTROL SHEETS
-	MITIGATION PLAN SHEETS
R14	COORDINATE CONTROL SHEETS
-	SOIL PROFILE SHEETS
R15	PIPE DRAINAGE SHEETS
S1-S13	STRUCTURE PLANS
-	TRAFFIC PLANS
U1-U6	UTILITY RELOCATION PLANS
X1-X12	CROSS SECTION SHEETS

TOTAL SHEETS	
(R) ROADWAY	14
(S) STRUCTURE	13
(T) TRAFFIC	
(U) UTILITY	
(X) CROSS SECTION	12

SHEETS NOT INCLUDED IN TOTAL SHEETS

R2A, R2B, R8A, R8B, R8C, R8D

STANDARD DRAWINGS

NUMBER	
RBI-001-09	RDM-010-05
RBI-002-06	RDM-011-04
RBI-004-03	RDM-012-02
RBR-001-11	RDM-013-03
RBR-005-10	RDM-100-02
RBR-010-05	RDX-060-03
RBR-015-04	RDX-210-02
RBR-016-04	RDX-220-04
RBR-020-03	RDX-225
RDB-003-07	RDX-230
RDB-020-04	RGX-005-05
RDB-100-04	RGX-100-05
RDB-101-04	RGX-105-06
RDD-040-04	RPM-110-05
RDH-110-02	TPM-115-01
RDH-210-03	TTC-100-01
RDH-310-04	TTC-135-01
RDI-001-08	TTD-120
RDI-003-03	TTD-125
RDI-020-08	
RDI-021	

TOTAL STANDARD DRAWINGS = 40

DESIGN CRITERIA

CLASS OF HIGHWAY	RURAL
TYPE OF TERRAIN	MOUNTAINOUS
DESIGN SPEED	20 MPH
REQUIRED NPSD	
REQUIRED PSD	
LEVEL OF SERVICE	
ADT PRESENT (2009)	1410 (KY 122)
ADT FUTURE (2030)	2100 (KY 122)
DHV	N/A
D %	N/A
T %	N/A

GEOGRAPHIC COORDINATES

LATITUDE 37 DEGREES 24 MINUTES 11 SECONDS NORTH
LONGITUDE 82 DEGREES 31 MINUTES 02 SECONDS WEST

DESIGNED

% RESTRICTED SD
LEVEL OF SERVICE
MAX. DISTANCE W/O PASSING

LENGTH 222.79 LIN. FT. 0.0421 MILES	LENGTH LIN. FT. MILES	LENGTH LIN. FT. MILES	LENGTH LIN. FT. MILES
ADDED / DEDUCTED FOR EQUALITIES 0 LIN. FT.	ADDED / DEDUCTED FOR EQUALITIES LIN. FT.	ADDED / DEDUCTED FOR EQUALITIES LIN. FT.	ADDED / DEDUCTED FOR EQUALITIES LIN. FT.
NOT INCLUDED	NOT INCLUDED	NOT INCLUDED	NOT INCLUDED
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BEFORE YOU DIG

The contractor is instructed to call 1-800-752-6007 to reach KY 811, the one-call system for information on the location of existing underground utilities. The call is to be placed a minimum of two (2) and no more than ten (10) business days prior to excavation. The contractor should be aware that owners of underground facilities are not required to be members of the KY 811 one-call Before-U-Dig (BUD) service. The contractor must coordinate excavation with the utility owners, including those whom do not subscribe to KY 811. It may be necessary for the contractor to contact the County Court Clerk to determine what utility companies have facilities in the area.

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS
COUNTY OF
PIKE

ITEM NO. 12-1100
PROJECT NUMBER: BRZ 1203 (340) FD52 098 5270 000-001
LETTING DATE:

RECOMMENDED BY: John Michael Johnson (PROJECT MANAGER) DATE: 11-28-2011
PLAN APPROVED BY: (STATE HIGHWAY ENGINEER) DATE: 12-06-2011

HDR Engineering, Inc.
2517 Sir Barton Way
Lexington, KY 40509

STATE OF KENTUCKY
DONALD E. HORN 21504
LICENSED PROFESSIONAL ENGINEER

REVIEWED BY _____ XXX
DIVISION OF CONSTRUCTION

	NO. SETS	DATE
RECORD PLANS		
CONSTRUCTION PLANS		

PREPARED BY HDR DATE 4-22-2010
CHECKED BY HDR DATE
APPROVED BY HDR DATE 11-23-2011

USER: HDR
DATE: 4-22-2010
FILE NAME: L:\HWY\49953\13.0 CAD\R00100LS.dgn
E-SHEET NAME:

COUNTY OF	ITEM NO.	SHEET NO.
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1 REVISED 01-23-2012

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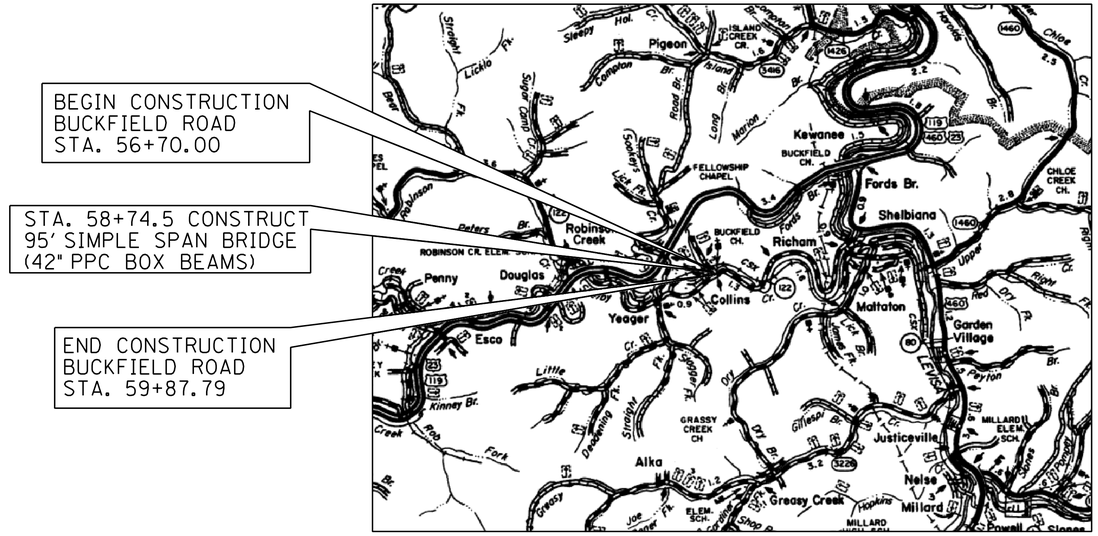

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Donald E. Horn

12-1100.00
BUCKFIELD BRIDGE UTILITY RELOCATION
Mountain Water District
Robinson Creek, Kentucky

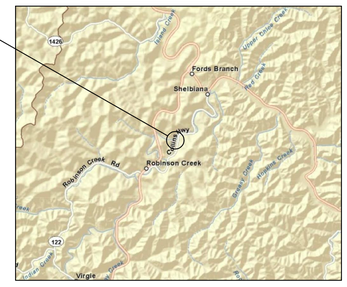
INDEX OF DRAWINGS

811 Know what's below. Call before you dig.

BUD-BEFORE YOU DIG
1-800-752-0007
2-10 Business Days Prior to Digging

PROJECT AREA

Project Location



PLANS PREPARED BY:

SUMMIT ENGINEERING, INC.

131 SUMMIT DRIVE
PIKEVILLE, KENTUCKY 41501
(606) 432-1447

Project No.	12-1100.00
Paradox Number	
Owner Approval Date	

Buckfield Bridge Utility Relocation
2011

LEGEND

EXISTING (FOUND)	PROPOSED (SET)	
		SURVEY BASE LINE/ROAD CENTER LINE
		FLOODWAY
		PROPERTY LINE
R/W	R/W	RIGHT OF WAY
		ROADWAY
		EASEMENT (TYPE NOTED)
(B)	(4)	PARCEL/LOT IDENTIFIER
		MONUMENT (I.P. – Iron Pin W/ Summit Eng. Cap, PK Nail W/ Summit Cap, F.D. – Found)
		BOUNDARY POINT – No Monument
		BENCH MARK
		REFERENCE MARK
Denotes Lining		FB SURFACE DITCH
		'V' SURFACE DITCH
		SPECIAL DITCH
		STREAM
		BREAK IN SLOPE, TOP BANK, TOE HILL, ETC.
990	990	CONTOUR LINES
x 989.5	+ 989.5	SPOT ELEVATION
		GAS LINE – SIZE INDICATED
		WATER LINE – SIZE INDICATED
	TANDEM SINGLE	SANITARY SEWER, MANHOLE & SERVICE LATERAL
		STORM SEWER & CATCH BASINS
		FORCE MAIN
		SIPHON
		ENCASEMENT – BORE
		ENCASEMENT – OPEN CUT
		BOX CULVERT
	P	OVERHEAD POWER LINE
		OVERHEAD TELEPHONE LINE
UGx	UGx	UNDERGROUND POWER OR TELEPHONE
		LIGHTING POLE
		POWER POLE
		JOINT POWER & TELEPHONE POLE
		TELEPHONE & TELEGRAPH POLE
		ANCHOR, POWER OR TELEPHONE
		STUB POWER
		STUB TELEPHONE
		TRANSFORMER
		VALVE (Normal = Gate, P = Plug, B = Butterfly, C = Curb Stop)
		CURB STOP
		PRESSURE REDUCING VALVE
PIV	PIV	POST INDICATOR VALVE
		FIRE HYDRANT ASSEMBLY (INC. Valve and Valve Box)
A	A	AIR RELEASE
B	B	FLUSH HYDRANT/BLOWOFF (INC. Valve and Valve Box)
	DC	WATER SERVICE LINE & METER SET W/ ACCESS) SHADED W/ PRV-OPEN W/O PRV, DC INDICATES DOUBLE CUT REGULATION
	DC	WATER SERVICE LINE & METER SET W/ ACCESS) SHADED W/ PRV-OPEN W/O PRV, DC INDICATES DOUBLE CUT REGULATION (Not to be set without ENGINEER's written approval)
	DC	WATER SERVICE LINE & DOUBLE METER SET W/ ACCESS) SHADED W/ PRV-OPEN W/O PRV, DC INDICATES DOUBLE CUT REGULATION
		TEE
		HYDRANT TEE
G	G	GAS METER
G	G	GAS WELL
	S	STOP SIGN
	N	STREET SIGN
		TREE LINE
		BRUSH LINE
		SILT FENCE
		DAYLIGHT LINES (CUT / FILL LIMITS)
		GUARD RAIL
X	X	FENCE LINE
		RAILROAD
		CHANNEL LINING

GENERAL NOTES

1) IDENTIFICATION OF PARTIES

OWNER – Mountain Water District

OPERATOR – Mountain Water District

ENGINEER – The registered professional engineer designated by the OWNER to provide design, construction, and certification services.

CONTRACTOR – The entity responsible under contract to OWNER to furnish labor, equipment, etc. to complete the work specified herein

2) GENERAL PROJECT REQUIREMENTS

In the event of a conflict between any portion of the Contract Documents, THE MORE STRINGENT REQUIREMENT SHALL GOVERN.

3) BASE MAPPING

Site mapping provided by Kentucky Transportation Cabinet.

4) PROJECT COMMUNICATIONS / INSPECTION

The ENGINEER shall be the OWNER'S designated site representative. All communication from the CONTRACTOR, and to the CONTRACTOR, shall be through the ENGINEER.

5) SAFETY

The CONTRACTOR shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. The CONTRACTOR shall select the means, methods, sequences, and techniques of construction he deems appropriate for accomplishing the Work in a safe manner. The CONTRACTOR shall be responsible for all damage to persons and property resulting from his activities.

6) EMERGENCY SHUTOFF

The CONTRACTOR shall locate existing water and gas valves prior to starting work so that in the event of an emergency the utility service may be quickly shut off.

7) SURVEYS

The CONTRACTOR shall retain the services of a registered surveyor to establish the project limits. All surveys by the CONTRACTOR'S surveyor shall be subject to periodic checks by the ENGINEER. This checking shall in no way relieve the CONTRACTOR of his obligation to accurately lay out the work.

8) EASEMENTS AND RIGHT-OF-WAY

The OWNER is responsible for the procurement of all permanent easements necessary or required for the project. The CONTRACTOR is responsible for temporary easements for his staging areas. It is the CONTRACTOR'S responsibility to observe the conditions of these agreements and confine his activities to the limits of the easements.

9) EXCAVATION

The CONTRACTOR shall perform all excavation necessary or required for completion of the project. This work shall include the removal and proper disposal of all materials of whatever nature encountered. All excavation is UNCLASSIFIED. Excavation shall be considered incidental to the cost of the work and shall not be measured for payment.

10) TOTAL SITE RESPONSIBILITY

In occupying the site and commencing work in accordance with the Notice to Proceed, the CONTRACTOR assumes total and complete responsibility for the work until final payment and release of claims. Any portion of the Work damaged in this time period shall be corrected, repaired, or replaced by the CONTRACTOR at NO additional cost to the OWNER.

11) ACCESS TO WORK

The ENGINEER, his representatives, and representatives of the OWNER shall have full access to the work at all times.

12) BLASTING

NO BLASTING SHALL BE PERMITTED ON THIS PROJECT.

13) BURNING

Burning on this project shall conform to the applicable local, state and federal burning ordinances.

14) WASTE AREAS

The CONTRACTOR will necessarily generate waste materials in the form of brush chippings, oversize boulders, muck, etc. THE CONTRACTOR SHALL SUBMIT A WRITTEN PLAN DETAILING THE MANNER IN WHICH WASTE MATERIALS WILL BE HANDLED. The CONTRACTOR shall strictly comply with all local, state, and federal laws and regulations pertaining to the disposition of construction related waste products. In no event shall waste materials be placed in a regulatory floodway (or flood plain) without a DOW permit to Construct Along or Across a Stream. OWNER will not assume responsibility for waste areas.

15) SILT CONTROL

The CONTRACTOR shall conduct his work in an environmentally sound manner and shall utilize "Best Management Practices" to minimize erosion. The CONTRACTOR shall hold harmless the OWNER from any violations associated with the Clean Water Act. (Also see Permits Note hereon).

16) DRAINAGE

CONTRACTOR shall maintain drainage of work areas during all Phases of contraction. The OWNER may direct the CONTRACTOR to construct ditches or berms to alleviate site drainage problems. Construction and maintenance of minor drainage works shall be considered an integral part of the overall accomplishment of the project and shall not be measured for separate payment.

17) ADHERENCE TO PERMITS

Permits acquired by the OWNER are:

Department of Highways Encroachment Permit

The CONTRACTOR shall conduct his activities in strict accordance with the following:

Revegetation and cleanup of areas adjacent to streams shall occur concurrently with the progress of the work. Concurrently is herein defined to mean that revegetation and cleanup shall be completed within seven calendar days of pipe placement.

Best management practices shall be employed to minimize sediment runoff and soil erosion to a water course.

Extreme care shall be taken to prevent spills of fuels and lubricants into water courses.

The CONTRACTOR shall obtain a storm water general permit prior to initiating his work. Storm water permits are handled by:

Section Supervisor
Inventory & Data Management Section
KPDES Branch
Kentucky Division of Water
14 Reilly Road
Frankfort, Kentucky 40601

18) EXISTING UTILITIES & UNDERGROUND FACILITIES

The CONTRACTOR'S attention is called to the presence of existing utilities in close proximity to the project site. The CONTRACTOR is advised to carefully review the project requirements regarding utility relocations. The CONTRACTOR can call 1-800-752-6007 a minimum of two and no more than ten business days prior to excavation for information on the location of existing underground utilities which subscribe to the Before-U-Dig (BUD) Service. All utility repair and relocation work shall be incidental to other items of work.

THE CONTRACTOR MUST MAKE A DILIGENT EFFORT TO MAINTAIN THE SERVICE OF EXISTING UTILITIES.

The CONTRACTOR shall provide by-pass pumping of wastewater to the nearest public sanitary sewer whenever his activities interrupt the flow of an existing sanitary wastewater disposal facility (sewer, septic tank, leach field, etc.) By-pass pumping shall be considered an incidental part of the pipe laying activity and shall not be measured for separate payment.

19) REPLACEMENT OF EXISTING FACILITIES

The CONTRACTOR shall replace existing entrance pipes, retaining walls, catch basins, ditches, etc. that are damaged by construction unless said facilities are specifically shown to be removed. In particular, all entrance pipes and drainage ditches shall be restored to a condition equal or better than that which existed prior to construction. Unless said facility replacement is identified as a pay item in the Design Drawings or Technical Specifications, this work shall be considered incidental to the cost of laying pipe and shall not be measured for payment.

20) DAMAGE TO GUARDRAIL, SIGNS, FENCES, ETC.

All guardrail, signs, fences, etc. damaged as a result of the construction shall be restored in like kind and character to the satisfaction of the OWNER. Unless said replacement is identified as a pay item in the Design Drawings or Technical Specifications, this work shall be considered incidental to the cost of laying pipe and shall not be measured for payment.

21) STORED MATERIALS

Request for payment for stored materials MUST be prepared in compliance with Paragraph 14.2 of the General Conditions.

22) STREAM CROSSING

Mechanical joint ductile iron pipe shall be employed for all stream crossings. The last 18" of backfill in all stream beds shall consist of Kentucky Department of Highways Channel Lining Class III.

23) NOTICE

The CONTRACTOR shall not move equipment or material to the work site, nor begin any construction prior to the date specified in the "Notice to Proceed." The CONTRACTOR must notify the OWNER and ENGINEER seven (7) calendar days in advance of his occupying the site.

24) THRUST BLOCKS

Concrete thrust or "kicker" blocks shall be installed in all pressurized lines at intersections and changes of direction to resist forces acting upon the pipeline. Thrust blocks are considered incidental to pipeline installation.

25) ANCHORS / RESTRAINT

Concrete anchors shall be provided when the pipe slope exceeds 20 percent. Anchors are considered incidental to the pipeline installation. The plans also identify special areas where restrained mechanical joint pipe is required.

26) VALVES

Valve locations can not be shown with precision on 100 scale mapping! Valve locations shall be coordinated with resident inspector prior to installation. CONTRACTOR'S record drawings shall include an 8 1/2" X 11" valve location diagram for every valve constructed. See specifications.

27) SEPARATION OF WATER AND SEWER

Horizontal – Water lines shall be laid at least 10 feet horizontally from any existing sanitary sewer. This distance shall be measured edge to edge. If field conditions do not allow this separation, the water line shall be located such that the crown of the sewer pipe is 18 inches below the invert of the water line. If field conditions do not allow this condition to be met – then the existing sewer pipe shall be removed and replaced with mechanical joint ductile iron pipe and encased in concrete.

Crossing – Water lines shall cross over existing sewers with a minimum of 18 inches of separation between the crown of the sewer and the invert of the water main. If field conditions are such that this separation can not be maintained, the existing sewer shall be removed and reconstructed of mechanical joint ductile iron pipe. The ductile iron pipe must be centered on the crossing so that the joints are at least 5 feet on either side of the crossing.

No separate payment shall be made for work to insure compliance with this separation criterion. Maintenance of adequate separation shall be considered an integral part of the unit price bid for sewer pipe.

28) SUB PAVEMENT DRAINS

KYDOH sub pavement drains might be encountered within the limits of the project. Upon encountering sub drains, the CONTRACTOR shall carefully excavate around the sub drain. Any sub drains that are damaged during construction shall be restored to a condition equal or better than that which existed prior to construction. Said facility replacement shall be considered incidental to the cost of laying pipe and shall not be measured for payment.

29) TESTING

Completed water lines shall be subjected to the acceptance tests described in the specifications. Water lines shall be pressure tested in accordance with AWWA C-600 and disinfected in accordance with AWWA C-651.

30) NOTICE

The CONTRACTOR shall provide Mountain Water District with at least 48 hour notice before performing any tie-ins.

31) TRAFFIC CONTROL

The CONTRACTOR'S work will disturb numerous private driveways and substantial portions of public thoroughfares. The terrain does not lend itself to detours. Consequently, the CONTRACTOR must observe the following traffic control principles:

a. Access to a residence drive may not be interrupted for more than three (3) hours at any one time.

b. Access to all driveways and public thoroughfares must be restored at the end of each work day.

c. Work within the limits of a public thoroughfare may only be conducted between the hours of 8:30 AM and 12:00 Noon, between 12:30 PM and 3:30 PM, and between 6:00 PM and 9:30 PM. The CONTRACTOR must post signs adjacent the work stating the roadway will be closed during the posted hours at least one day in advance of the proposed road closure.

d. The CONTRACTOR must make special provision for access for emergency vehicles: police, fire, and ambulance.

e. The CONTRACTOR shall provide all necessary safety devices in the forms of signs, flashers, barricades, etc. The CONTRACTOR shall be solely responsible for claims arising from the public with respect to his traffic control activities.

32) SEEDING

All disturbed areas shall be seeded in accordance with the Technical Specifications.

33) PROTECTION OF TREES

Care shall be taken during construction to avoid damage to vegetation. Ornamental shrubbery and tree branches shall be temporarily tied back, where appropriate, to minimize damage. Trees which receive damage to branches shall be trimmed of those branches to improve the appearance of the tree. Tree trunks receiving damage from equipment shall be treated with a tree dressing.

ABBREVIATIONS

Abbr.	Miscellaneous
BW	Bottom of Wall
FL	Flow Line
IE	Inlet Elevation
OE	Outlet Elevation
TC	Top of Concrete
TG	Top of Grate
TOT	Top of Tank
TP	Top of Pavement
TS	Top of Sidewalk
TW	Top of Wall
	Appurtenances
CBI	Curb Box Inlet
CO	Clean Out
DBI	Drop Box Inlet
DS	Down Spout
FH	Fire Hydrant
MH	Man Hole
	Pipe
BCCMP	Bituminous Coated Corrugated Metal Pipe
CMP	Corrugated Metal Pipe
CPEP	Corrugated Polyethylene Pipe
DI	Ductile Iron
PVC	Polyvinyl Chloride Pipe
SICPEP	Smooth Interior Corrugated Polyethylene Pipe
	Utilities
PP	Power Pole
SS	Sanitary Sewer
ST	Storm Sewer

DESCRIPTION OF REVISION	DATE

SUMMIT ENGINEERING, INC.
LEXINGTON, KY
ASHLAND, KY
HAZARD, KY
PIKEVILLE, KY
CHARLESTON, WV
BRISTOL, VA
BLUEFIELD, VA

Mountain Water District
P.O. Box 3157
Pikeville, Kentucky 41501

Buckfield Bridge Utility Relocation
General Notes and Master Legend

DATE: 9/13/11
SCALE: NOTED
DRAWN BY: J. Newman
CHECKED: J. Hunt
PROJECT NO:

SHEET: U-2
OF:

GENERAL NOTES

G1 Culvert, channel, and other drainage structures to be constructed by KYTC road contractor.

G2 All utilities shall be constructed under or around existing and proposed KYTC drainage structures. Top of pipe shall be a minimum of 42" below final grade. The Contractor shall coordinate all work with the KYTC road contractor.

G3 Pipe used for potable water service shall be ductile iron, push joint of the indicated size.

G4 Pipe used for sanitary sewer force main shall be HDPE, SDR 11 of the indicated size.

G5 The Contractor shall notify Mountain Water District at least 48 hours before performing any tie–ins.

KEYED NOTES

(1) Connect to Existing 6–inch Water Line

(2) Connect to Existing 4–inch Sanitary Sewer Force Main

(3) Abandon In–place Existing Utility

(4) Open Cut and Encase 20 LF of 6–inch D.I., P.J.

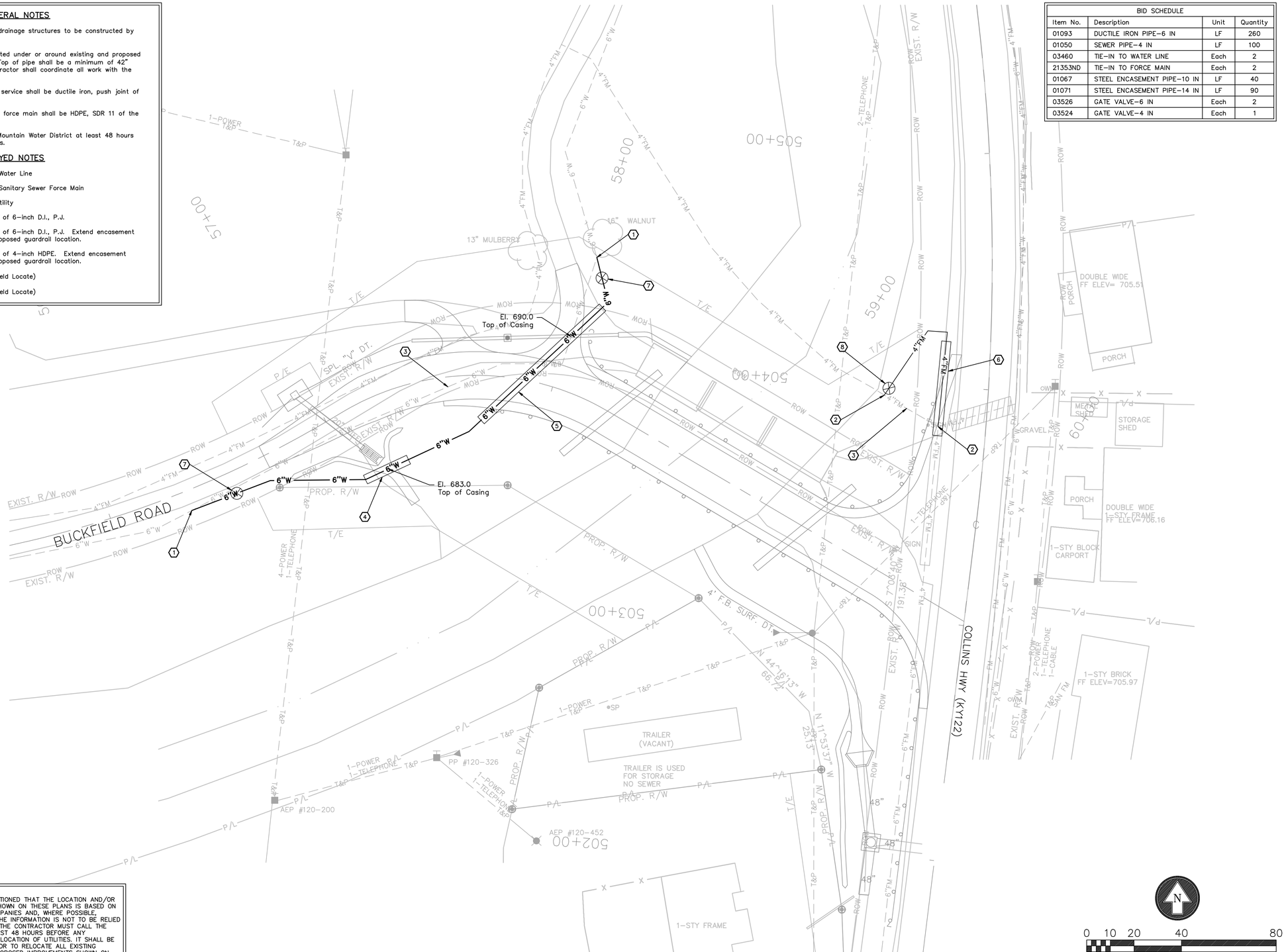
(5) Open Cut and Encase 70 LF of 6–inch D.I., P.J. Extend encasement minimum of 5 LF beyond proposed guardrail location.

(6) Open Cut and Encase 40 LF of 4–inch HDPE. Extend encasement minimum of 5 LF beyond proposed guardrail location.

(7) Install 6–inch Gate Valve (Field Locate)

(8) Install 4–inch Gate Valve (Field Locate)

BID SCHEDULE			
Item No.	Description	Unit	Quantity
01093	DUCTILE IRON PIPE–6 IN	LF	260
01050	SEWER PIPE–4 IN	LF	100
03460	TIE–IN TO WATER LINE	Each	2
21353ND	TIE–IN TO FORCE MAIN	Each	2
01067	STEEL ENCASEMENT PIPE–10 IN	LF	40
01071	STEEL ENCASEMENT PIPE–14 IN	LF	90
03526	GATE VALVE–6 IN	Each	2
03524	GATE VALVE–4 IN	Each	1



NOTICE TO CONTRACTOR:
THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

N

0 10 20 40 80

GRAPHIC SCALE: 1" = 20'

DATE	DESCRIPTION OF REVISION

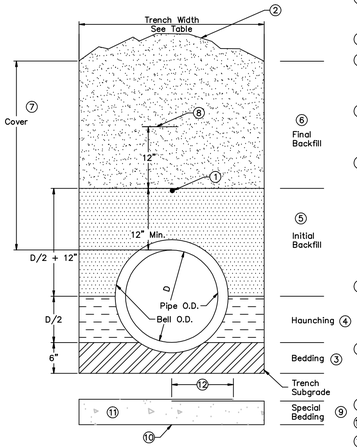
SUMMIT ENGINEERING, INC.
LEXINGTON, KY
HAZARD, KY
CHARLESTON, WV
BLUEFIELD, VA
BRISTOL, VA

Mountain Water District
P.O. Box 357
Pikeville, Kentucky 41501

Buckfield Bridge Utility Relocation

DATE:	9/13/11
SCALE:	1" = 20'
DRAWN BY:	J. Newman
CHECKED:	J. Hunt
PROJECT NO:	

SHEET:
U–3
OF:



1. Trace Wire – No. 12 copper trace wire required for all plastic pipe. Extend to inside of valve boxes, pump stations, etc.
2. Surface Replacement – For construction in existing streets and roads see pavement replacement details. For Construction in advance of new roadway construction last lift of backfill shall be 6" dense graded aggregate. For open areas, heap slightly and seed in accordance with specifications.
3. Bedding – KYDOH No. 9 Crushed Stone
4. Haunching – Ductile Iron and Corrugated Metal Pipes
   Select Fine Soil Free of Stones larger than 3/4" in diameter (Hand tamped).
   Plastic Pipes
   KY DOH No. 9 Crushed Stone or KY DOH Sand for Pipe Bedding (804.07). No Alternate!
5. Initial Backfill – Ductile Iron and Corrugated Metal Pipes
   Select Fine Soil Free of Stones larger than 3/4" in diameter (Hand tamped).
   Plastic Pipes
   KY DOH No. 9 Crushed Stone or KY DOH Sand for Pipe Bedding (804.07). No Alternate!
6. Final Backfill – See Pavement Replacement Detail for Appropriate Method

   Method 'A' (Open Areas) – Backfill placed in 12" lifts, and mechanically compacted. Trench may be left heaped until seeding at which time backfill shall be graded to approximate original contours. No rock larger than 1/4 cubic foot allowed.
   Method 'B' (Graveled Areas) – Backfill placed in 6" lifts, and mechanically compacted to 95% of ASTM D-698 Final 6" of Backfill to be DGA.
   Method 'C' (Paved Areas) – Backfill placed in 6" lifts, and mechanically compacted to 100% of ASTM D-698 Final 6" of Backfill to be DGA.
   Alternate Method 'C' – Final backfill shall be KYDOH No. 9 Crushed Stone in 6" Lifts.
7. Cover – 30" Minimum cover for Water Mains, Water Service Lines and Sanitary Sewers, except in KYDOH right of way. Provide 42" of cover on highway right of way.

   24" Minimum cover for Storm Sewers, Telephone Conduit and Electrical Conduit.
8. Marking Tape – "Caution Buried Water" or "Caution Sanitary Sewer"

Special Pipe Bedding Detail

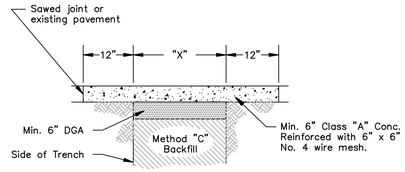
9. Soft, Mucky Subgrade shall be overexcavated to the depth designated by the Engineer.
10. Install Geotextile Type III.
11. Install Bedding Stone to depth of overexcavation.
12. Close Geotextile envelope with one (1) foot of overlap.
13. Order – Special Pipe Bedding shall only be installed on written order of the Engineer.

Bedding & Backfill Detail

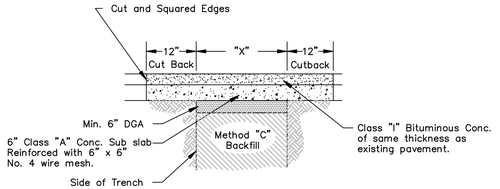
SCALE: NTS

TRENCH WIDTH TABLE

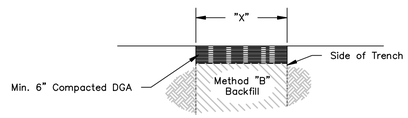
Pipe Size	"X" Unsupported Trench	"X" Trench Box
< 4"	12"	N.A.
4" – 12"	30"	42"
14" – 18"	36"	48"
20" – 24"	42"	52
26" – 36"	54"	68"
54"	78"	84"



CONCRETE PAVEMENT REPLACEMENT



BITUMINOUS PAVEMENT REPLACEMENT



GRAVEL SURFACE REPLACEMENT

Pavement Replacement Methods

SCALE: NTS

DESCRIPTION OF REVISION	DATE

SUMMIT ENGINEERING, INC.
LEXINGTON, KY
PIKEVILLE, KY
HAZARD, KY
CHARLESTON, WV
ABINGDON, VA
BRISTOL, VA

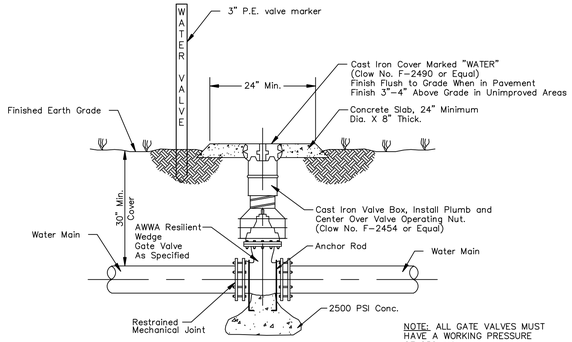
Mountain Water District
P.O. Box 3157
Pikeville, Kentucky 41501

Buckfield Bridge Utility Relocation
Standard Details

DATE:	9/13/11
SCALE:	NOTED
DRAWN BY:	J. Newman
CHECKED:	J. Hunt
PROJECT NO:	

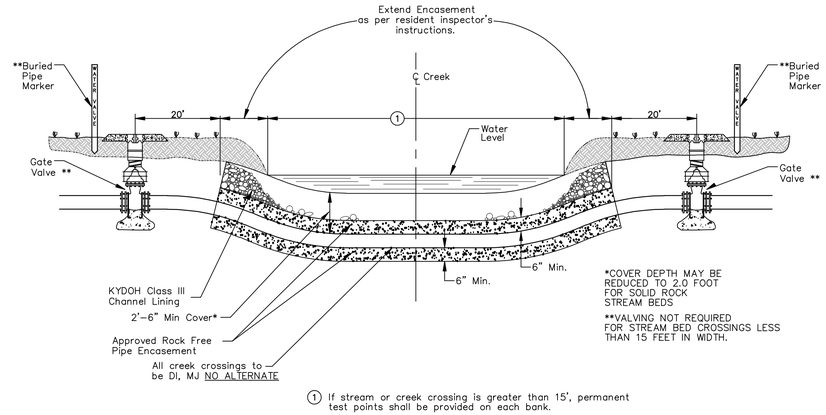
SHEET: U-4

OF:



Gate Valve Setting

SCALE: NTS



1 If stream or creek crossing is greater than 15', permanent test points shall be provided on each bank.

TYPICAL CREEK CROSSING for PRESSURIZED PIPE >2" IN DIAMETER

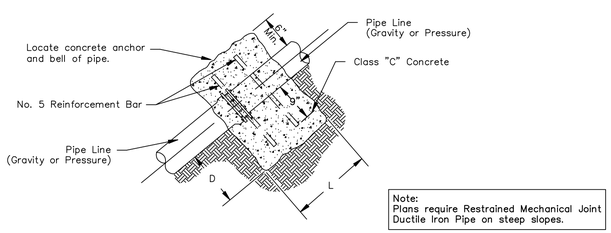
SCALE: NTS

Vertical Bends

VERTICAL BEND & STRAIGHT PIPE							
SIZE	2"	3"	4"	6"	8"	10"	12"
"D"	10"	12"	12"	15"	15"	18"	18"
"L"	12"	18"	18"	24"	24"	30"	30"

Note:
Anchors To Be Full Width of Trench
Anchors Must Be Placed Against Undisturbed Earth

Pipes on 20% Slopes or Greater shall be securely anchored with Concrete Anchors Spaced as Follows:
a) Not Over 36' C-C on Grades of 20% to 35%
b) Not Over 24' C-C on Grades of 35% to 50%
c) Not Over 16' C-C on Grades of 50% and Over

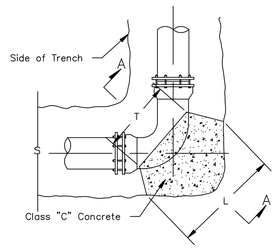


Note:
Plans require Restrained Mechanical Joint Ductile Iron Pipe on steep slopes.

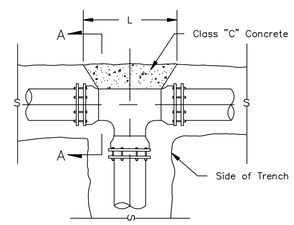
Straight Pipe

Concrete Anchor Blocking for Vertical Bends & Steep Slopes

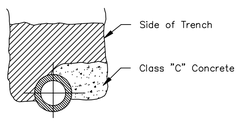
SCALE: NTS



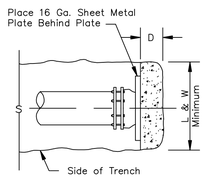
45° & 90° BENDS



TEES



Section A-A



PLUGS

NOTE : ALL FITTINGS SHALL BE RESTRAINED MECHANICAL JOINT

PLUGS & TEES							
SIZE	2"	3"	4"	6"	8"	10"	12"
D	6"	6"	6"	6"	6"	6"	6"
L & W	14"	16"	18"	20"	22"	24"	24"

(45°) EIGHTH BENDS							
SIZE	2"	3"	4"	6"	8"	10"	12"
D	6"	6"	6"	6"	6"	6"	6"
L	12"	14"	16"	18"	20"	22"	24"
T	10"	12"	14"	16"	16"	18"	18"

(90°) QUARTER BENDS							
SIZE	2"	3"	4"	6"	8"	10"	12"
D	6"	6"	6"	8"	10"	12"	12"
L	15"	18"	21"	24"	27"	30"	34"
T	10"	12"	14"	16"	18"	20"	22"

Conctrete Thrust Blocking

SCALE: NTS

DESCRIPTION OF REVISION	DATE

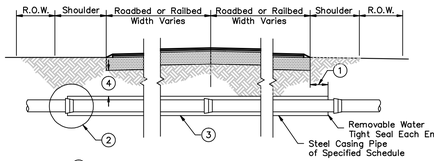
SUMMIT ENGINEERING, INC.
LEXINGTON, KY
FLORENCE, KY
HAZARD, KY
SHARPSBURG, KY
CHARLESTON, WV
ABINGDON, VA
BRUNDY, VA

Mountain Water District
P.O. Box 3157
Pikeville, Kentucky 41501

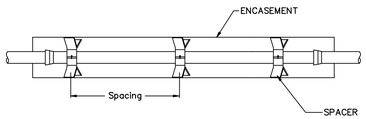
Buckfield Bridge Utility Relocation
Standard Details

DATE: 9/13/11
SCALE: NOTED
DRAWN BY: J. Newman
CHECKED: J. Hunt
PROJECT NO:

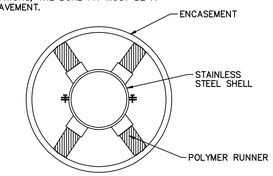
SHEET: U-5
OF:



1. EXTENSION OF ENCASEMENT BEYOND EDGE OF PAVEMENT AS DESCRIBED IN TECHNICAL SPECIFICATIONS OR PLANS. FIVE FEET BEYOND EDGE OF PAVEMENT FOR HIGHWAYS.
2. SEE "TYPICAL PIPE CASING SKIDS" DETAIL HEREON.
3. ENCASEMENT PIPE I.D. SHALL BE AT LEAST 4" GREATER THAN THE BELL O.D. OF CARRIER PIPE.
4. STATE HIGHWAYS 2'-0" BELOW SUBGRADE OR 36" BELOW GRADE, WHICHEVER IS GREATER. RAILROAD 5'-6" BELOW RAIL.
5. WHEN PERFORMING BORES ADJACENT TO SLOPE AREAS, BORE PITS SHALL BE PLACED BEYOND THE TOE OF THE SLOPE. EXCAVATION OF THE SLOPE SHALL NOT BE ALLOWED.
6. WHEN PREFORMING BORES ADJACEENT TO A DITCHLINE, BORE PITS MUST BE PLACED OUTSIDE OF THE DITCH.
7. WHEN PREFORMING BORES AT RELATIVELY FLAT LOCATIONS, THE BORE PIT MUST BE A MINIMUM OF FIVE (5) FEET BEYOND THE EDGE OF PAVEMENT.



SPACING = 6 FT. ON CENTER OR
3 TO A PIPE SEGMENT.



CENTERED CASING SPACER

Typical Pipe Encasement Details

SCALE: NTS

TABLE of STEEL PIPE ENCASEMENT SIZES

NOMINAL CARRIER	CARRIER PIPE PVC ASTM D-3034			CARRIER PIPE DUCTILE IRON - PUSH JOINT			CARRIER PIPE DUCTILE IRON - MECHANICAL JOINT		
PIPE DIAMETER (INCHES)	BELL O.D. (INCHES) (Note 1)	BARREL O.D. (INCHES)	ENCMT I.D. (INCHES) (Note 2)	BELL O.D. (INCHES)	BARREL O.D. (INCHES)	ENCMT I.D. (INCHES) (Note 2)	BELL O.D. (INCHES)	BARREL O.D. (INCHES)	ENCMT I.D. (INCHES) (Note 2)
4	5.2	4.22	9.2	6.86	4.8	10.86	9.12	4.8	13.12
6	7.5	6.28	11.5	8.75	6.9	12.75	11.12	6.9	15.12
8	10.1	8.4	14.1	11.05	9.05	15.05	13.37	9.05	17.37
10	12.4	10.5	16.4	13.15	11.1	17.15	15.62	11.1	19.62
12	14.5	12.5	18.5	15.3	13.2	19.3	17.88	13.2	21.88

NOTES
1. PVC Bell O.D. based on JM Pipe Green Tite. Bell OD may vary with manufacturer.
2. See Table of Minimum Wall Thickness to determine Nominal Casing O.D.

TABLE of SERVICE TUBING ENCASEMENT SIZES

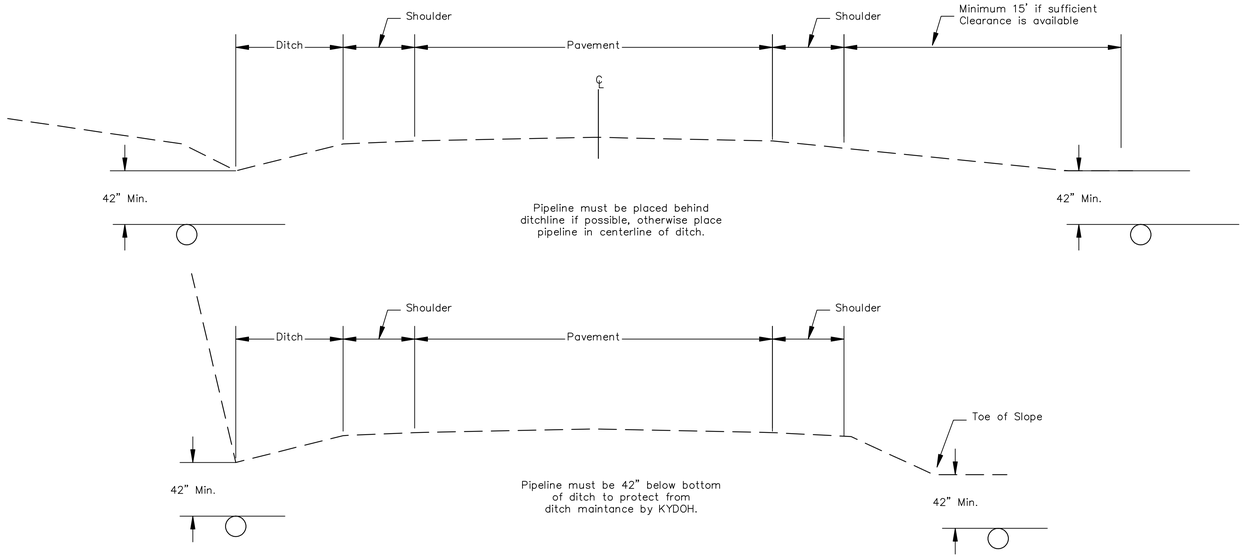
NOMINAL PIPE DIAMETER (INCHES)	COPPER & PE SERVICE TUBING CARRIER PIPE O.D. (INCHES)	NOMINAL ENCASEMENT RR CROSS (STEEL) (INCHES) (Note 1)	STATE HWY (STEEL) (INCHES) (Note 2)	LOCAL STREET (PVC) (INCHES) (Note 3)
0.75	0.875	5	Note 4	Note 4
1	1.125	5	Note 4	Note 4
1.25	1.375	6	3	3
2	2.125	6	4	4

NOTES
1. Nominal Steel Pipe Size. Minimum wall 0.188 Inches.
2. Nominal Steel Pipe Size. STD Schedule 40 Steel.
3. Nominal PVC Pipe Size. STD Schedule 40 PVC.
4. Encasement not required.

TABLE of MINIMUM WALL THICKNESS for STEEL PIPE ENCASEMENTS

STEEL ENC O.D. (INCHES)	MIN. WALL THICKNESS (INCHES)	PIPE I.D. (INCHES)
6.625	0.188	6.249
8.625	0.188	8.249
10.75	0.188	10.374
12.75	0.188	12.374
14	0.188	13.624
16	0.219	15.562
18	0.250	17.500
20	0.281	19.438
22	0.281	21.438
24	0.312	23.376
26	0.344	25.312
28	0.375	27.250
30	0.406	29.188
32	0.438	31.124
34	0.469	33.062
36	0.469	35.062
38	0.500	37.000
40	0.531	38.938
42	0.563	40.874
44	0.594	42.812
46	0.594	44.812
48	0.625	46.750
50	0.656	48.688

NOTES
1. Casing thickness based on Cooper E80 loading.
2. For casing beneath railways, when casing is installed without the benefit of a protective coating or cathodic protection casing wall thickness shown hereon shall be increased to the next largest standard size.



Detail "A" Typical Construction on KYDOH Right of Way

SCALE: NTS

DESCRIPTION OF REVISION | DATE

SUMMIT ENGINEERING, INC.
LEXINGTON, KY
HIGHLAND, KY
HAZARD, KY
CHARLESTON, WV
BRISTOL, VA

Mountain Water District
P.O. Box 3157
Pikeville, Kentucky 41501

Buckfield Bridge Utility Relocation
Standard Details

DATE: 9/13/11
SCALE: NOTED
DRAWN BY: J. Newman
CHECKED: J. Hunt
PROJECT NO:
SHEET: U-6
OF: