

Commercial/Industrial Floodplain Development Permit

Doddridge County, WV Floodplain Management

This permit has been issued to **Antero Resources**, and is for the approved commercial and/or industrial development project associated with this permit that impacts the FEMA-designated floodplain and/or floodway of Doddridge County, WV, pursuant to the rules and regulations established by all applicable Federal, State and local laws and ordinances, including the Doddridge County Floodplain Ordinance. This permit must be posted at the site of work as to be clearly visible, and must remain posted during entirety of development.

Permit: #15-335 ~ Antero Resources ~ Balli Pipeline

Date Approved: 01/27/2015 Expires: N/A

Issued to: Antero Resources POC: Rachel Grzybek 304-842-4008

Company Address: 535 White Oaks Blvd

Bridgeport, WV 26330

Project Address: Central District

Lat/Long: 39.302017N/80.843378W to 39.295869N/80.846699W

Purpose of development: Pipeline project. Project does not impact floodplain.

Issued by: Edwin J. "Bg" Wriston, Doddridge County FPM (or designee)

Date: 01/27/2015



Antero Resources 535 White Oaks Blvd. Bridgeport, WV 26330 Office 304.842.4100 Fax 304.842.4102

January 16, 2015

Doddridge County Commission Attn: Bo Wriston, Doddridge County Floodplain Manager 118 East Court Street, Room 102 West Union, WV 26456

Mr. Wriston:

Antero Resources Corporation (Antero) would like to submit a Doddridge County Floodplain permit application for our Balli Pipeline. Our project is located in Doddridge County, Central District where the waterline will be begin at the Balli Well Pad at coordinates 39.302017 N, 80.843378 W and will continue to the West Union Lateral at coordinates 39.295869 N, 80.846699 W. Per the FIRM Map #54017C0115C, this location is <u>out</u> of the floodplain.

Attached you will find the following:

- Doddridge County Floodplain Permit Application
- > Surface Owner Information
- ➤ Location Map
- Design Plans
- > FIRM Map
- > WV Flood Tool Map

Machel De

If you have any questions please feel free to contact me at (304) 842-4008.

Thank you in advance for your consideration.

Sincerely,

Rachel Grzybek Floodplain Engineer

Antero Resources Appalachian Corporation

Enclosures



Antero Resources 535 White Oaks Blvd. Bridgeport, WV 26330 Office 304.842.4100 Fax 304.842.4102

January 16, 2015

Doddridge County Commission Attn: Bo Wriston, Doddridge County Floodplain Manager 118 East Court Street, Room 102 West Union, WV 26456

Mr. Wriston:

Antero Resources Corporation (Antero) would like to submit a Doddridge County Floodplain permit application for our Balli Pipeline. Our project is located in Doddridge County, Central District where the waterline will be begin at the Balli Well Pad at coordinates 39.302017 N, 80.843378 W and will continue to the West Union Lateral at coordinates 39.295869 N, 80.846699 W. Per the FIRM Map #54017C0115C, this location is <u>out</u> of the floodplain.

Attached you will find the following:

- ➤ Doddridge County Floodplain Permit Application
- > Surface Owner Information
- Location Map
- Design Plans
- ➤ FIRM Map
- > WV Flood Tool Map

Thachl De

If you have any questions please feel free to contact me at (304) 842-4008.

Thank you in advance for your consideration.

Sincerely,

Rachel Grzybek Floodplain Engineer

Antero Resources Appalachian Corporation

Enclosures

DODDRIDGE COUNTY FLOODPLAIN DEVELOPMENT PERMIT APPLICATION

SECTION 1: GENERAL PROVISIONS (APPLICANT TO READ AND SIGN)

- 1. No work may start until a permit is issued.
- 2. The permit may be revoked if any false statements are made herein.
- 3. If revoked, all work must cease until permit is re-issued.
- **4.** Development shall not be used or occupied until a Certificate of Compliance is issued.
- 5. The permit will expire if no work is commenced within six months of issuance.
- **6.** Applicant is hereby informed that other permits may be required to fulfill local, state, and federal requirements.
- 7. Applicant hereby gives consent to the Floodplain Administrator/Manager or his/her representative to make inspections to verify compliance.
- 8. I, THE APPLICANT CERTIFY THAT ALL STATEMENTS HEREIN AND IN ATTACHMENTS TO THIS APPLICATION ARE, TO THE BEST OF MY KNOWLEDGE, TRUE AND ACCURATE.

APPLICANT'S SIGNATURE M3 DATE_January 16, 2015

SECTION 2: PROPOSE DEVELOPMENT (TO BE COMPLETED BY APPLICANT).

IF THE APPLICANT IS NOT A NATURAL PERSON, THE NAME, ADDRESS, AND TELEPHONE NUMBER OF A NATURAL PERSON WHO SHALL BE APPOINTED BY THE APPLICANT TO RECEIVE NOTICE PURSUANT TO ANY PROVISION OF THE CURRENT DODDRIDGE COUNTY FLOODPLAIN ORDINANCE.

APPLICANT'S NAME:_	Hntero Mids	tream LLC	
ADDRESS: 1615 Wynkoo	Street, Denver, CO 802	02	
TELEPHONE NUMBER:	Contact Rachel Grzybek	: (304) 842-4008	

BUILDER'S NAME: Antero Midstream LLC
ADDRESS: 1615 Wynkoop Street, Denver, CO 80202
TELEPHONE NUMBER: (303) 357-7310
ENGINEER'S NAME: Antero Midstream LLC
ADDRESS: 1615 Wynkoop Street, Denver, CO 80202
TELEHONE NUMBER: (303)357-7310
PROJECT LOCATION:
NAME OF SURFACE OWNER/OWNERS (IF NOT THE APPLICANT) Please See Property Owner Table
ADDRESS OF SURFACE OWNER/OWNERS (IF NOT THE APPLICANT) Please See Property Owner Table
DISTRICT:
DATE/FROM WHOM PROPERTY PURCHASED:
LAND BOOK DESCRIPTION:
DEED BOOK REFERENCE: Please See Property Owner Table
TAX MAP REFERENCE: Please See Property Owner Table
EXISTING BUILDINGS/USES OF PROPERTY: N/A
NAME OF AT LEAST ONE ADULT RESIDING IN EACH RESIDENCE LOCATED UPON THE SUBJECT PROPERTY Please See Property Owner Table
ADDRESS OF AT LEAST ONE ADULT RESIDING IN EACH RESIDENCE LOCATED UPON THE SUBJECT PROPERTY Please See Property Owner Table

To avoid delay in processing the application, please provide enough information to easily identify the project location.

DESCRIPTION OF WORK (CHECK ALL APPLICABLE BOXES) A. STRUCTURAL DEVELOPMENT

	<u>AC</u>	TIVITY				STRU	JCTUI	RAL TYPE
X	New Struct	ture			0	Resid	ential	(1 – 4 Family)
[]	Addition				[]			(more than 4 Family)
[]	Alteration				[]			ntial (floodproofing)
[]	Relocation				[]			Jse (res. & com.)
[]	Demolition)			Ö		cemer	•
[]	Manufactu	ured/Mo	bil Home			•		
В.	OTHER DE	VEOPLI	MENT ACTIV	VITIES:				
[]	Fill	[]	Mining	0	Drilling		X	Pipelining
[]	Grading		J	.,		•		· ·peig
[]	Excavation	(except	for STRUCTUI	RAL DEVE	ELOPMENT	Γ chec	ked ab	ove)
[]			ation (includi					
[]			nents (includir					
			dge Construct		•			:
			ng new expar					•
[]			Sewer Syster					
[]	Other (plea							

C. STANDARD SITE PLAN OR SKETCH

- 1. SUBMIT ALL STANDARD SITE PLANS, IF ANY HAVE BEEN PREPARED.
- 2. IF STANDARD SITE PLANS HAVE NOT BEEN PREPARED:

 SKETCH ON A SEPARATE 8 ½ X 11 INCH SHEET OF PAPER THE SHAPE AND LOCATION OF THE LOT. SHOW THE LOCATION OF THE INTENDED CONSTRUCTION OR LAND USE INDICATING BUILDING SETBACKS, SIZE & HEIGHT. IDENTIFY EXISTING BUILDINGS, STRUCTURES OR LAND USES ON THE PROPERTY.
- 3. SIGN AND DATE THE SKETCH.

ACTUAL TOTAL CONSTRUCTION COSTS OF THE COMPLETE DEVELOPMENT IRRESPECTIVE OF WHETHER ALL OR ANY PART OF THE SUBJECT PROPOSED CONSTRUCTION PROJECT IS WITHIN THE FLOODPLAIN \$ N/A - Location is not within the floodplain

D. ADJACENT AND/OR AFFECTED LANDOWNERS:

ACTIVITY WILL OCCUR AND ALL OTHER SURFACE OWNERS UP & DOWN STREAM) WHO OWN PROPERTY THAT MAY BE AFFECTED BY FLOODING AS IS DEMONSTRATED BY A FLOODPLAIN STUDY OR SURVEY (IF ONE HAS BEEN COMPLETED). **NAME:**____N/A-No properties sharing an NAME:_____ ADDRESS: immediate and common boundary ADDRESS:_____ up or down stream due to the location not being in floodplain NAME:_____ NAME:___ ADDRESS:_____ ADDRESS: 1. NAME AND ADDRESS OF AT LEAST ONE ADULT RESIDING IN EACH RESIDENCE LOCATED UPON ANY ADJACENT PROPERTY AT THE TIME THE FLOODPLAIN PERMIT APPLICATION IS FILED AND THE NAME AND ADDRESS OF AT LEAST ONE ADULT RESIDING IN ANY HOME ON ANY PROPERTY THAT MAY BE AFFECTED BY FLOODING AS IS DEMONSTRATED BY A FLOODPLAIN STUDY OR SURVEY. NAME: NAME:____ ADDRESS:____ ADDRESS:____ NAME:____ NAME:_____ ADDRESS:____ ADDRESS:_____

1. NAME AND ADDRESS OF ALL OWNERS OF SURFACE TRACTS ADJACENT TO THE AREA OF THE SURFACE TRACT (UP & DOWN STREAM) UPON WHICH THE PROPOSED

E. CONFIRMATION FORM

THE APPLICANT ACKNOWLEDGES, AGREES, AND CONFIRMS THAT HE/IT WILL PAY WITHIN 30 DAYS OF RECEIPT OF INVOICE BY THE COUNTY FOR ALL EXPENSES RELATIVE TO THE PERMIT APPLICATION PROCESS GREATER THAN THE REQUIRED DEPOSIT FOR EXPENSES INCLUDING:

- (A) PERSONAL SERVICE OF PROCESS BY THE DODDRIDGE COUNTY SHERIFF AT THE RATES PERMITTED BY LAW FOR SUCH SERVICE.
- (B) SERVICE BY CERTIFIED MAIL RETURN RECEIPT REQUESTED.
- (C) PUBLICATION.

- (D) COURT REPORTING SERVICES AT ANY HEARINGS REQUESTED BY THE APPLICANT.
- (E) CONSULTANTS AND/OR HEARING EXPERTS UTILIZED BY DODDRIDGE COUNTY FLOODPLAIN ADMINISTRATOR/MANAGER OR FLOODPLAIN APPEALS BOARD FOR REVIEW OF MATERIALS AND/OR TESTIMONY REGARDING THE EFFICACY OF GRANTING OR DENYING THE APPLICANT'S FLOODPLAIN PERMIT.

NAN	ME (PRINT): LUZ Slauter	•
	NATURE: Myslats	DATE: January 16, 2015
Afte Adm	er completing SECTION 2, APPLICANT should submit form to ninistrator/Manager or his/her representative for review.	o Floodplain
SEC Adr	TION 3: FLOODPLAIN DETERMINATION (to be conministrator/Manager or his/her representative)	mpleted by Floodplain
THE	PROPOSED DEVELOPMENT:	
THE	PROPOSED DEVELOPMENT IS LOCATED ON:	
FIRM	/I Panel:	
Date	ed:	
[] revie	Is <u>NOT</u> located in a Specific Flood Hazard Area (Notify a ew is complete and NO FLOOPLAIN DEVELOPMENT PERMI	pplicant that the application T IS REQUIRED).
[] .	Is located in Special Flood Hazard Area.	:
	FIRM zone designation	·
	100-Year flood elevation is:	NGVD (MSL)
]	Unavailable	
]	The proposed development is located in a floodway. FBFM Panel No	Dated

See section 4 for additional instructions.

	SIGNED DATE
SEC	TION 4: ADDITIONAL INFORMATION REQUIRED (To be completed by
	odplain Administrator/Manager or his/her representative)
	applicant must submit the documents checked below before the application can be essed.
	A plan showing the location of all existing structures, water bodies, adjacent roads, lot dimensions and proposed development.
0	Development plans, drawn to scale, and specifications, including where applicable: details for anchoring structures, storage tanks, proposed elevation of lowest floor, (including basement or crawl space), types of water resistant materials used below the first floor, details of flood proffing of utilities located below the first floor and details of enclosures below the first floor. Also
0	Subdivision or other development plans (If the subdivision or development exceeds 50 lots or 5 acres, whichever is the lesser, the applicant must provide 100-year flood elevations if they are not otherwise available).
[]	Plans showing the extent of watercourse relocation and/or landform alterations.
0	Top of new fill elevationFt. NGVD (MSL). For floodproofing structures applicant must attach certification from registered engineer or architect.
0	Certification from a registered engineer that the proposed activity in a regulatory floodway will not result in any increase in the height of the 100-year flood. A copy of all data and calculations supporting this finding must also be submitted.

[]

[]

[]

[]

[]

[]

Contractor's License and a Manufactured Home Installation License as required by the

Manufactured homes located in a floodplain area must have a West Virginia

Federal Emergency Management Agency (FEMA).

	MIT DETERMINATION (To be completed by Floodplain
Administra	ator/Manager or his/her representative)
County on M	mined that the proposed activity (type is or is not) in conformance wif the Floodplain Ordinance adopted by the County Commission of Doc lay 21, 2013. The permit is issued subject to the conditions attached to this permit.
SIGNED	DATE
with the pro	lain Administrator/Manager found that the above was not in conform visions of the Doddridge County Floodplain Ordinance and/or denied the applicant may complete an appealing process below.
APPEALS:	Appealed to the County Commission of Doddridge County? [] Yes {
	Hearing Date:

SECTION 6: AS-BUILT ELEVATIONS (To be submitted by APPLICANT before Certificate of Compliance is issued).

The following information must be provided for project structures. This section must be completed by a registered professional engineer or a licensed land surveyor (or attach a certification to this application).

C	O	٨	1	P	ı	F.	T	F	1	0	R	2	R	F	1	<u> </u>	۱۸	1.	,
·	v	•			•	-		_	•	$\mathbf{}$	11	_	u	_	L.	_	w	•	

1	Actual (As-Built) Elevation of the top of the lowest floor (including basement or crawl space isFT. NGVD (MSL)
2	Actual (As Built) elevation of floodproofing isFT. NGVD (MSL)
Note appli	: Any work performed prior to submittal of the above information is at risk of the cant.
SECT	TION 7: COMPLIANCE ACTION (To be completed by the Floodplain
<u>Adm</u>	ninistrator/Manager or his/her representative).
as ap	loodplain Administrator/Manager or his/her representative will complete this section plicable based on inspection of the project to ensure compliance with the Doddridge ty Floodplain Ordinance.
in	ISPECTIONS:
	DATE:BY:BY:
C	DMMENTS
<u>SECT</u>	ON 8: CERTIFICATE OF COMPLIANCE (To be completed by Floodplain
<u>Admi</u>	nistrator/Manager or his/her representative).
Certifi	Cate of Compliance issued: DATE:

CERTIFICATE OF COMPLIANCE FOR DEVELOPMENT IN SPECIAL FLOOD HAZARD AREA (OWNER MUST RETAIN)

PI PI	ERMIT NUMBER:ERMIT DATE:
PURPOS	
CONSTRUCTION LOCATION	l:
OWNER'S ADDRESS:	
	·
THE FOLLOWING MUST BE	COMPLETED BY THE FLOODPLAIN
ADMINISTRATOR/MANAGE	R OR HIS/HER AGENT.
COMPLIANCE IS HERE	BY CERTIFIED WITH THE REQUIREMENT OF THE
FLOODPLAIN ORDINANCE A	DOPTED BY THE COUNTY COMMISSION OF
DODDRIDGE COUNTY ON M	AY 21, 2013.
SIGNED	DATE

WV Flood Map



Map Created on 11/12/2014



Location of the mouse click



Flood Hazard Zone (1% annual chance floodplain)

User Notes:

Balli Pipeline

Disclaimer:

The online map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. To obtain more detailed information in areas where Base Flood Elevations have been determined, users are encouraged to consult the latest Flood Profile data contained in the official flood insurance study. These studies are available online at www.msc.fema.gov.

WV Flood Tool is supported by FEMA, WV NFIP Office, and WV GIS Technical Center (http://www.MapWV.gov/flood)

Flood Hazard Area:

Elevation: About 1058 feet

Location (long, lat): 80.843927 W, 39.298722 N

Location (UTM 17N): (513458, 4349939) **FEMA Issued Flood Map:** 54017C0115C

Contacts: Doddridge County **CRS Information:** N/A

Parcel Number:

WV Flood Map



-6-

Location of the mouse click



Flood Hazard Zone (1% annual chance floodplain)

User Notes:

Balli Pipeline

Disclaimer:

The online map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. To obtain more detailed information in areas where Base Flood Elevations have been determined, users are encouraged to consult the latest Flood Profile data contained in the official flood insurance study. These studies are available online at www.msc.fema.gov.

WV Flood Tool is supported by FEMA, WV NFIP Office, and WV GIS Technical Center (http://www.MapWV.gov/flood)

Flood Hazard Area:

Elevation: About 1058 feet

Location (long, lat): 80.843927 W, 39.298722 N

Map Created on 11/12/2014

Location (UTM 17N): (513458, 4349939) **FEMA Issued Flood Map:** 54017C0115C

Contacts: Doddridge County CRS Information: N/A

Parcel Number:

Legal Advertisement:

Doddridge County

Floodplain Permit Application

Please take notice that on the 26th day of January, 2015

Antero Resources

filed an application for a Floodplain Permit to develop land located at or about:

Central District

39.302017N/80.843378W to 39.295869N/80.846699W

Permit #15-335 Balli Pipeline

(Note: This project is not within the floodplain)

The Application is on file with the Clerk of the County Court and may be inspected or copied during regular business hours. As this project is outside the FEMA identified floodplain of Doddridge County, Doddridge County Floodplain Management has no regulatory authority. Any interested persons who desire to comment shall present the same in writing by **February 23, 2015,** delivered to:

Clerk of the County Court

118 E. Court Street, West Union, WV 26456

Beth A Rogers, Doddridge County Clerk

Edwin L. "Bo" Wriston. Doddridge County Flood Plain Manager

LEGAL ADVERTISEMENT:

Doddridge County
Floodplain Permit Application

Please take notice that on the 26th day of January, 2015
Antero Resources filed an application for a Floodplain
Permit to develop land located at or about: Central
District 39.302017 N/80.843378W to
39.295869N/80.846699W Permit #15-335 Balli Pipeline
(Note: This project is not within the floodplain) The
Application is on file with the Clerk of the County Court
and may be inspected or copied during regular business
hours. As this project is outside the FEMA identified
floodplain of Doddridge County, Doddridge County
Floodplain Management has no regulatory authority. Any
interested persons who desire to comment shall present
the same in writing by February 23, 2015.

Delivered to the:
Clerk of the County Court
118 E. Court Street, West Union, WV 26456
Beth A. Rogers, Doddridge County Clerk
Edwin L. "Bo" Wriston, Doddridge County Flood Plain
Manager

2-3-2xb

STATE OF WEST VIRGINIA, COUNTY OF DODDRIDGE, TO WIT I, Virginia Nicholson, Editor of THE HERALD RECORD, a weekly newspaper published regularly, in Doddridge County, West Virginia, Do Hereby Certify That the Accompanying Legal Notice Entitled: was published in said paper for . .? successive weeks beginning with the issue ending with the issue of 141ary 10 th 2015 and that said notice contains . . amounts to the sum of \$.00 FOR FIRST PUBLICATION, SECOND **PUBLICATION IS 75% OF THE FIRST PUBLICATION** and each publication thereafter **EDITOR** SWORN TO AND SUBSCRIBED DAY NOTARY PUBLIC OFFICIAL SEAL Notary Public, State Of West Virginia LAURA J STICKEL

212 Edmond Street West Union, WV 26456

The Doddridge Independent **PUBLISHER'S CERTIFICATE**

I, Michael D. Zorn, Publisher of The Doddridge Independent, A newspaper of general circulation published in the town of West Union, Doddridge County, West Virginia, do hereby certify that:

Antero Resources

filed an application for a Floodplain Permit to develop land located at or about:

NCentral District 39.302017N/80.843378W to 39.295869N/80.846699W Permit #15-335 Balli Pipeline

was published in The Doddridge Independent 2 times commencing on Friday, February 6, 2015 and Ending on Friday, February 13, 2015 at the request of:

Edwin Wriston, Doddridge County Floodplain Manager& Doddridge County Commission

Given under my hand this Tuesday, February 17, 2015

The publisher's fee for said publication is:

\$ 25.27 1st Run/\$ 18.95 Subsequent Runs This Legal Ad Total: \$ 44.22

Michael D. Zord Publisher of The Doddridge Independent

Subscribed to and sworn to before me on

this date:

11/295

Notary Public in and for Doddridge County

My Commission expires on

The 10 day of May 20 19

Legal Advertisement:
Doddridge County
Floodplain Permit Application

Please take notice that on the 20th day of January, 2015

Antero Resources

filed an application for a Floodplain Permit to develop land located at or about:

NCentral District 39.302017N/80.843378W to 39,295869N/80.846699W Permit #15-335 Balli Pipeline (Note: This project is not within the floodplain)

The Application is on file with the Clerk of the County Court and may be inspected or copied during regular business hours. Any interested persons who desire to comment shall present the same in writing by February 23, 2015, delivered to:

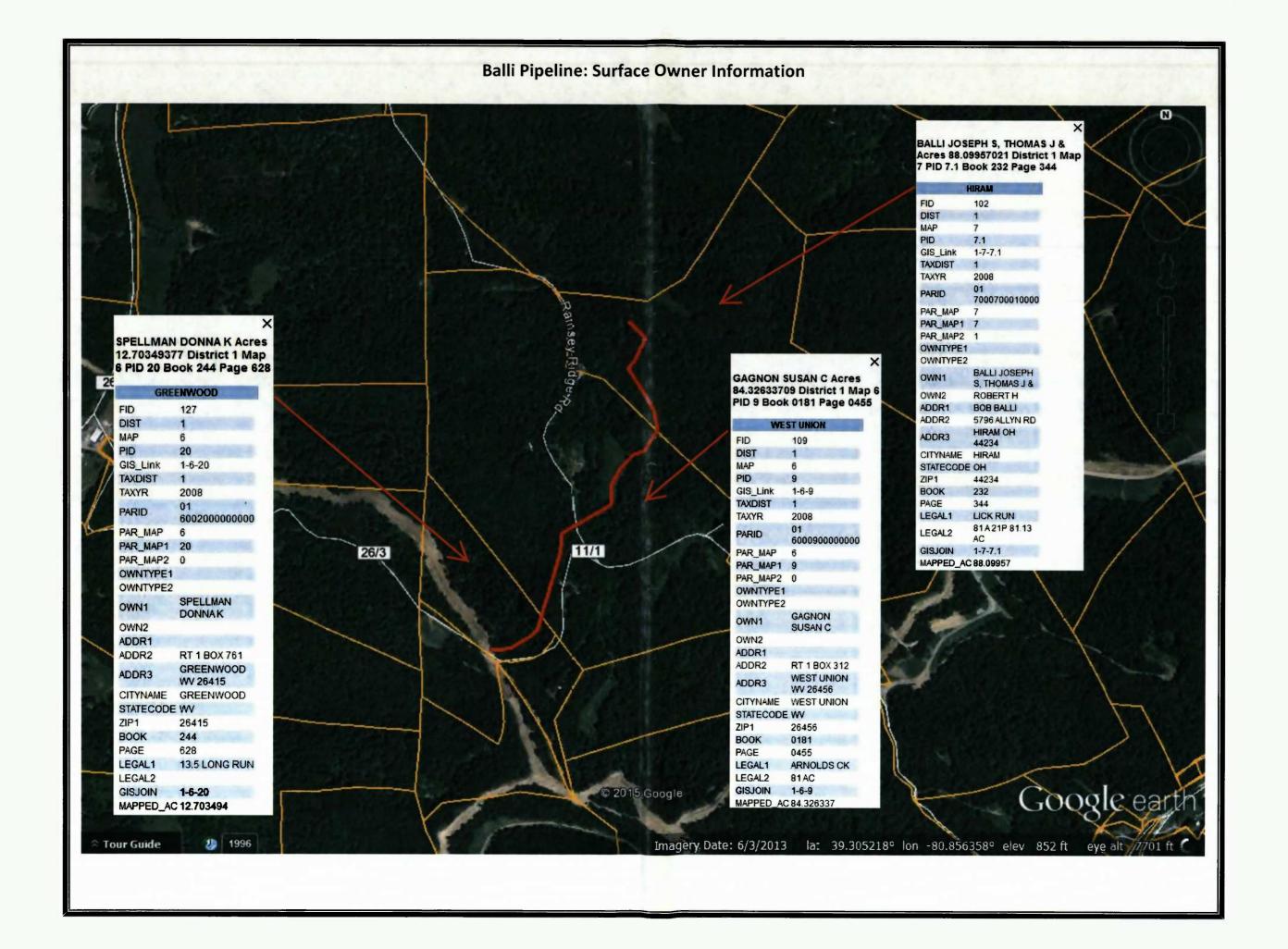
Clerk of the County Court

118 E. Court Street, West Union, WV 26456

Beth A Rogers, Doddridge County Clerk

Edwin L. "Bo" Wriston. Doddridge County Flood Plain Manager

OFFICIAL SEAL
NOTARY PUBLIC
STATE OF WEST VIRIGINIA
ROBERT E. BURNSIDE
100 SCHOOL ST.
WEST UNION, WV 26456
My commission expires May 16, 2019









PROJECT OWNER/APPLICANT

ANTERO MIDSTREAM LLC.

535 WHITE OAKS BLVD BRIDGEPORT, WV 26330 PH: (303) 357-6827 CONTACT: CHARLIE FRENCH

CIVIL ENGINEER

CIVIL & ENVIRONMENTAL CONSULTANTS, INC. 99 CAMBRIDGE PLACE BRIDGEPORT, WV. 26330 PH: (304) 933-3119 FAX: (304) 933-3327 CONTACT: GREG LINDER, P.E.



MISS UTILITY OF WEST VIRGINIA -800-245-4848

IT'S THE LAW

MISS UTILITY OF WEST VIRGINIA ONE CALL WAS PERFORMED ON OCTOBER 16, 2014. TICKET NUMBER 1428978138.

THE FOLLOWING UTILITY COMPANIES MAY BE PRESENT IN THE PROJECT AREA

- FRONTIER COMMUNICATIONS (FORMERLY VERIZON)
 ANTERO RESOURCES APPALACHIAN CORP
- CONSOL ENERGY
 ENERGY CORPORATION OF AMERICA
 EQT GATHERING LLC
 FIRSTENERGY CORP



EXISTING CONTOURS ARE DERIVED FROM THE WEST VIRGINIA GIS DIGITAL ELEVATION MODELS (USGS 3-METER) DATED 2003 (hp://htp.wgis.wvu.edu/pub/Clearinghouse/Elevation/3MeterDEM_SAMB_2003_utm83/).

- THIS IS NOT A BOUNDARY SURVEY. BOUNDARY LINES AS SHOWN HEREON ARE BASED ON AVAILABLE TAX PARCEL INFORMATION DERIVED FROM G.I.S. AND INFORMATION OF RECORD. THESE PLANS DO NOT REPRESENT A BOUNDARY SURVEY AND ARE INTENDED FOR GAS LINE UTILITY CONSTRUCTION ONLY.
- BY GRAPHIC PLOTTING ONLY, THIS PIPELINE IS NOT LOCATED IN A FLOODPLAIN ACCORDING TO THE FLOOD INSURANCE RATE MAP FOR DODDRIDGE COUNTY, MAP #54017C0115C, WITH A MAP REVISED DATE OF OCTOBER 04, 2011.
- USGS 7.5 MIN. TOPOGRAPHIC QUADRANGLE WEST UNION, WV, DATED 2014.
- WETLAND AND STREAM DELINEATION WAS BASED ON SURVEYS CONDUCTED BY CEC ON OCTOBER 20, 2014. WETLAND AND STREAM DATA WAS COLLECTED BY MAPPING GRADE G.P.S.

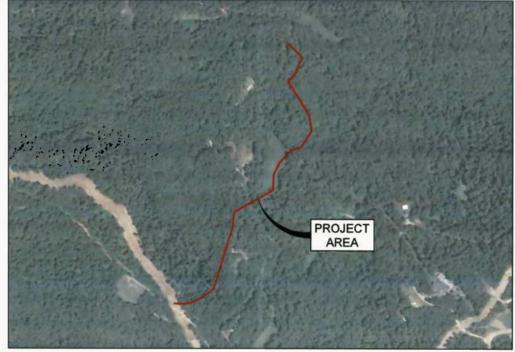
Civil & Environmental Consultants, Inc.

99 Cambridge Place - Bridgeport, WV 26330 Ph: 304.933,3119 · Fax: 304.933,3327

LINE TABULATION HORIZONTAL LENGTH SLOPE LENGTH BALLI PIPELINE SHEET 2 1,600 1,612 16* SHEET 3 1.360 1.394 16* TOTAL 3,006

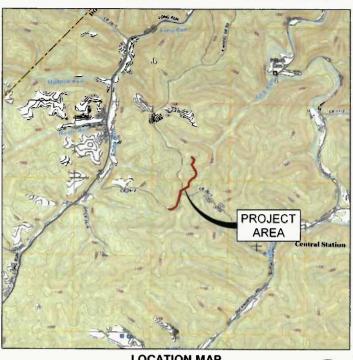
BALLI PIPELINE CENTRAL DISTRICT DODDRIDGE COUNTY WEST VIRGINIA

LAT./LONG: N 39° 17' 55.43" W 80° 50' 37.56" (APPROXIMATE CENTER OF PROJECT)









LOCATION MAP

WEST UNION USGS 7.5' QUAD SCALE IN FEET 2000 1 INCH = 2000 FEET



PLAN REPRODUCTION WARNING

THE PLANS HAVE BEEN CREATED ON ANSI D (22" X 34") SHEETS. FOR REDUCTIONS, REFER TO GRAPHIC SCALE.

THE PLANS HAVE BEEN CREATED FOR FULL COLOR PLOTTING. ANY SET OF THE PLANS THAT IS NOT PLOTTED IN FULL COLOR SHALL NOT BE CONSIDERED ADEQUATE FOR CONSTRUCTION PURPOSES.

RECEIVING WATERS				
AQUATIC RESOURCE NAME	WATERSHED			
UNT-5	LICK RUN			

	SHEET INDEX
SHEET 1 OF 9	COVER SHEET
SHEET 2 OF 9	ALIGNMENT SHEET STATIONS 0+00 TO 16+00
SHEET 3 OF 9	ALIGNMENT SHEET STATIONS 16+00 TO 29+59.79
SHEET 4 OF 9	STREAM LOCATION MAP
SHEET 5 OF 9	STREAM CROSSING DETAILS
SHEETS 6 TO 9	EROSION AND SEDIMENT CONTROL NOTES AND DETAILS

LIMITS OF CONSTRUCTION AND LIMITS OF DISTURBANCE - 6.88 AC

	SUMMARY OF MATERIA	LS
NO.	DESCRIPTION	QUANTITY
A	16" 0.375 WALL FBE COATED PIPE	2,883 LF
В	16" 0.500 WALL ARO COATED PIPE	123 LF
С	SILT-SAVER PRIORITY 2	2,293 LF
D	SILT-SAVER PRIORITY 1	243 LF
E	WATERBARS	16 EA
F	TRENCH PLUGS	8 EA
G	EROSION CONTROL BLANKET	17,950 SY
Н	TIMBER MAT BRIDGE	1 EA
1	STABILIZED CONSTRUCTION ENTRANCE	3 EA

"NOTE TO CONTRACTOR"

THE CONTRACTOR SHALL REFER TO ALL PLANS WITHIN THIS CONSTRUCTION SET. IT IS NOT THE ENGINEER'S INTENT THAT ANY SINGLE PLAN SHEET IN THIS SET OF DOCUMENTS FULLY DEPICT ALL WORK ASSOCIATED WITH THE PROJECT.

THE CONTRACTOR SHALL FIELD VERIFY ALL UTILITIES. THE CONTRACTOR IS REQUIRED TO CONTACT WEST VIRGINIA ONE CALL SYSTEM PRIOR TO PERFORMING ANY EXCAVATION.

CIVIL & ENVIRONMENTAL CONSULTANTS, INC. DOES NOT GUARANTEE THAT THIS SURVEY OR MAP DEPICTS COMPLETE OR CONCLUSIVE SUBSURFACE INFORMATION, NOR DOES IT REFLECT A COMPLETED ROUNDARY SURVEY.

ı	SEAL
	SPAKI
	Sh

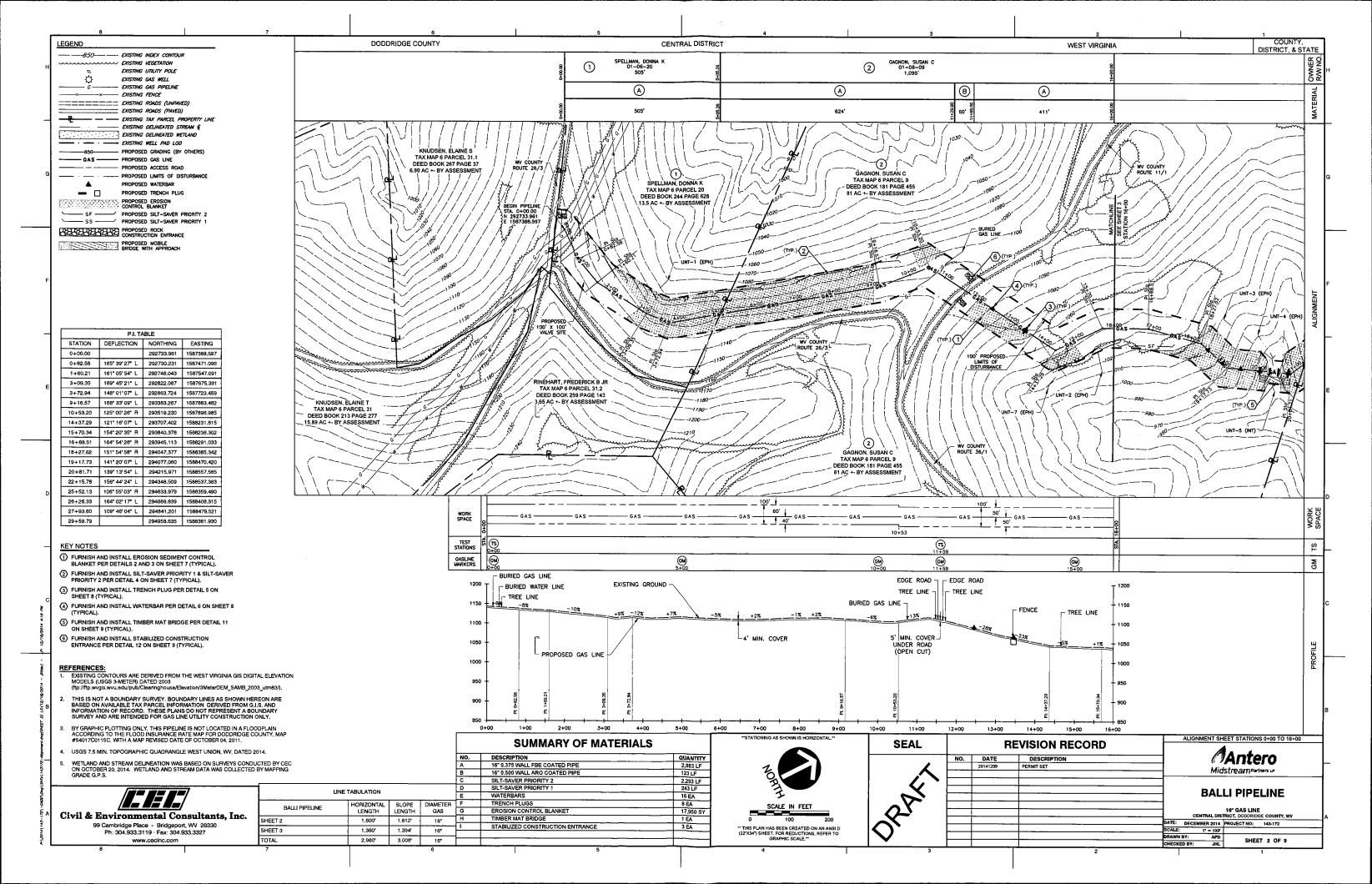
SEAL		R	EVISION RECORD	
	NO.	DATE	DESCRIPTION	_
		/ 		-
()			N	
6				
ΔY				

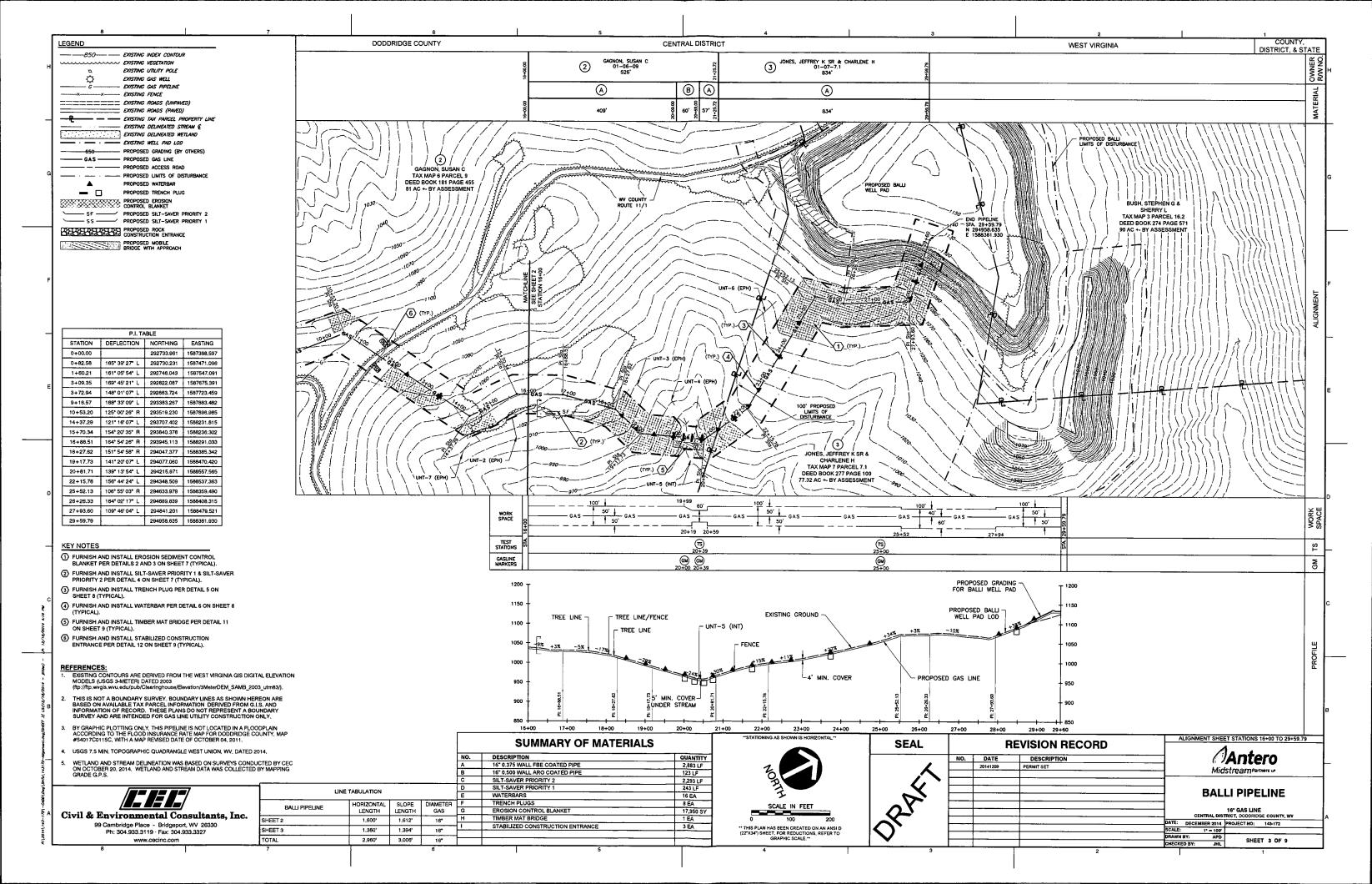
OAntero Midstream Partners or

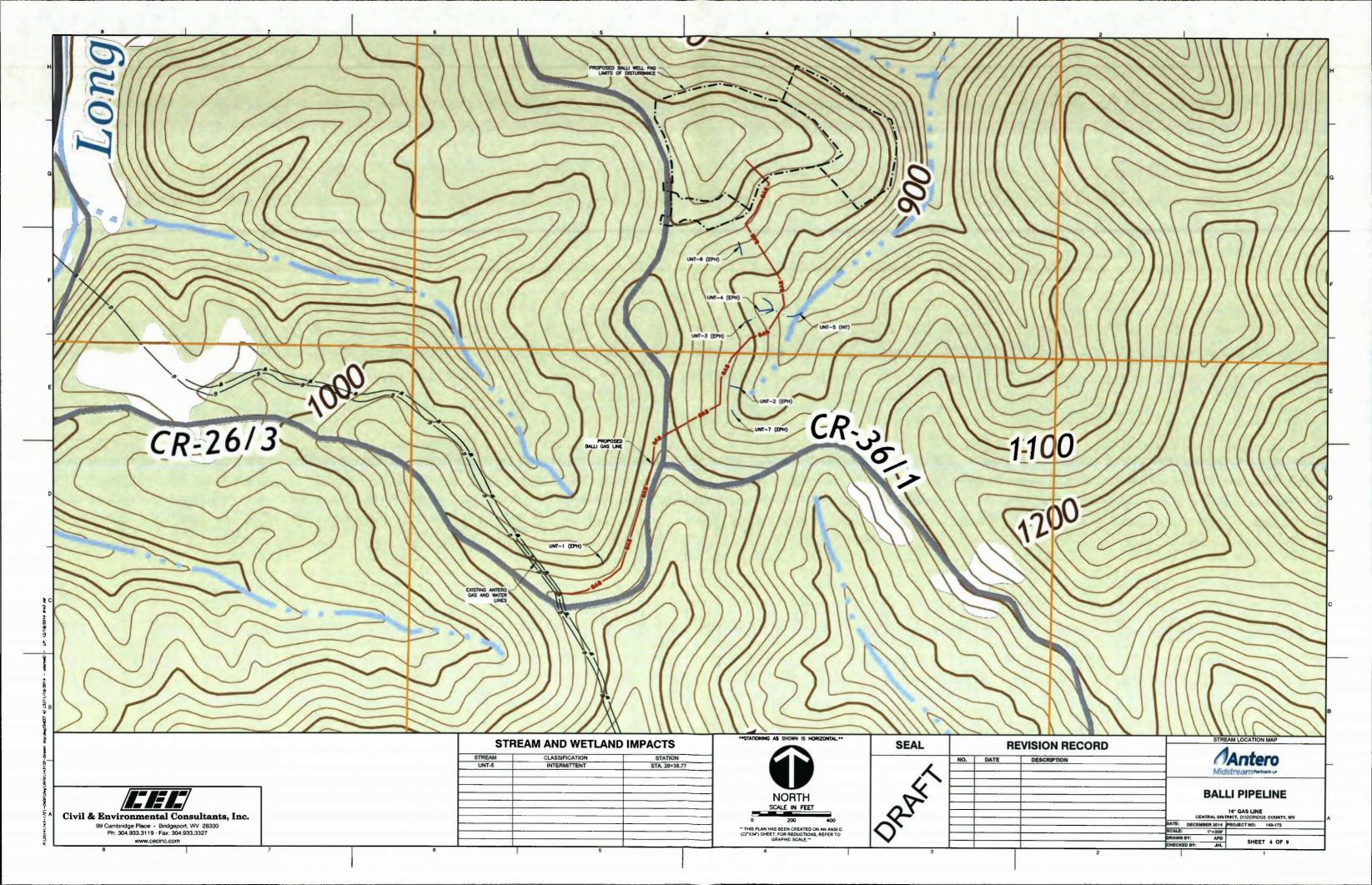
BALLI PIPELINE

16" GAS LINE CENTRAL DISTRICT, DODDRIDGE COUNTY. DECEMBER 2014 PROJECT NO: 143-172

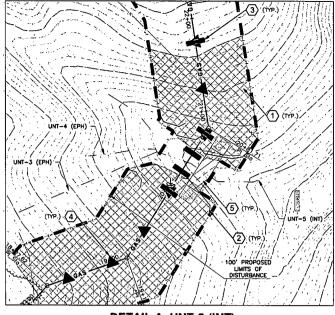
AS SHOW







PROPOSED MOBILE BRIDGE WITH APPROACH



DETAIL A: UNT-5 (INT)
STREAM IMPACT

NOTES:

- INSTALL WATERBARS AT APPROACH TO STREAM CROSSING AS SHOWN.
 INSTALL SILT FENCE AT OUTLET OF WATERBARS.
- 2. REFER TO DETAIL 8 OR 9 ON SHEET 9 FOR CROSS SECTION OF FLUME PIPE WITH SAND BAG COFFERDAM.
- 3. INSTALL FLUME PIPE ON EXISTING STREAMBED IMMEDIATELY PRIOR TO UTILITY LINE INSTALLATION. FLUME PIPE SHALL ONLY REMAIN IN PLACE DURING THE UTILITY LINE INSTALLATION TIME PERIOD. THE UTILITY LINE INSTALLATION TIME PERIOD IS 74-HOURS FOR A STREAM WITH A 10'- BOTTOM WIDTH OR LESS AND 48-HOURS FOR A STREAM WITH A 10'-100' BOTTOM WIDTH UNLESS OTHERWISE APPROVED IN WRITING BY THE WYDEP.
- INSTALL WATERBARS AT APPROACH TO STREAM CROSSING AND SILT FENCE ALONG STREAM BANKS. INSTALL SILT FENCE AT OUTLET OF WATERBARS.
- . INSTALL A ROCK PAD APPROACH 10' PRIOR TO THE TIMBER MATS.
- 6. APPROACHES TO CROSSINGS ARE NOT TO EXCEED A DEPTH OF 6-INCHES ABOVE ORIGINAL GRADE.
- MOBILE BRIDGE IS TO EXTEND FROM TOP OF BANK TO TOP OF BANK OF THE STREAM, CONTRACTOR SHALL NOT PLACE FILL UNDER THE MOBILE BRIDGE, FLUME PIPE SHALL NOT SUPPORT MOBILE BRIDGE,
- CONTRACTOR MAY SUPPLEMENT FLUME PIPE SHOWN WITH ADDITIONAL FLUME PIPES OR PUMPS TO ACCOMMODATE STREAM FLOW DURING CONSTRUCTION.
- 9. DEWATERING ZONE IS TO BE PUMPED OUT USING A PUMP AND FILTER BAG.
- GEOTEXTILE SHALL BE ATTACHED TO THE UNDERSIDE OF THE TIMBER MAT BRIDGE.
- THESE NOTES PERTAIN TO A FLUME CROSSING, REFER TO DETAIL 8 NOTES ON SHEET 9 IF TRENCHING OPTION IS USED.

KEY NOTES

- 1 FURNISH AND INSTALL EROSION SEDIMENT CONTROL BLANKET PER DETAILS 2 AND 3 ON SHEET 7 (TYPICAL).
- (2) FURNISH AND INSTALL SILT-SAVER PRIORITY 1 & SILT-SAVER PRIORITY 2 PER DETAIL 4 ON SHEET 7 (TYPICAL).
- 3 FURNISH AND INSTALL TRENCH PLUG PER DETAIL 5 ON SHEET 8 (TYPICAL).
- FURNISH AND INSTALL WATERBAR PER DETAIL 6 ON SHEET 8 (TYPICAL).
- (5) FURNISH AND INSTALL TIMBER MAT BRIDGE PER DETAIL 11 ON SHEET 9 (TYPICAL).
- ON SHEET 9 (TYPICAL).

 (6) FURNISH AND INSTALL STABILIZED CONSTRUCTION ENTRANCE PER DETAIL 12 ON SHEET 9 (TYPICAL).



SEAL		F	REVISION RECORD	4 - 4
人	NO.	DATE 20141209	DESCRIPTION PERMIT SET	Antero Midstreampartners o
×,				BALLI PIPELINE
07				16" GAS LINE CENTRAL DISTRICT, DODDRIDGE COUNTY, WV
\wedge	<u> </u>	 -		DATE: DECEMBER 2014 PROJECT NO: 143-172
$\langle \ \rangle$				SCALE: 1" = 50"
				DRAWN BY: APD SHEET 5 OF 9

STREAM CROSSING DETAILS

Civil & Environmental Cons

Civil & Environmental Consultants, Inc.

99 Cambridge Place - Bridgeport, WV 26330 Ph: 304,933,3119 · Fax: 304,933,3327 www.cecinc.com

② FURN PRIOF

*102/81/21 ist - (settill - \$102/81/21)/S

2. ALL CONTRACTORS/SUBCONTRACTORS PERFORMING WORK ON THIS PROJECT SHALL FAMILIARIZE THEMSELVES WITH THE SITE AND SHALL BE SOLELY RESPONSIBLE FOR ANY DAMAGE TO EXISTING FACILITIES RESULTING DIRECTLY OR INDIRECTLY FROM THEIR OPERATIONS. SAID TO EXISTING PACIFIES RESULTING BIRECELY OR INDIRECTLY PROM THEIR DEPARTIONS. SAID EXISTING IMPROVEMENTS SHALL INCLUDE BUT NOT BE LIMITED TO BERMS, DITCHES, FENCES AND PLANTS. ANY REMOVAL OR DAMAGE TO EXISTING IMPROVEMENTS SHALL BE REPLACED OR REPAIRED BY THE CONTRACTORS AT THEIR EXPENSE AND SHALL BE APPROVED BY THE

3. ALL CONSTRUCTION SHALL MEET OR EXCEED ALL REQUIREMENTS OF THE "PERMITTING ENTITY" AND WWDOT, WYDDR & WYDEP.

4. ALL TESTING SHALL BE DONE BY AN APPROVED LABORATORY AT THE EXPENSE OF THE

RIOR TO CONSTRUCTION, ALL CONTRACTORS SHALL FAMILIARIZE THEMSELVES WITH THE CONTRACT DOCUMENTS AND SPECIFICATIONS, THE PLANS INCLUDING ALL NOTES, THE CONDITIONS OF ALL PERMITS AND ANY OTHER APPLICABLE STANDARDS OR SPECIFICATIONS RELEVANT TO THE OF ALL PERMITS AND MAY OTHER APPLICABLE STANDARDS OR SPECIFICATIONS RELEVANT TO THE PROPER COMPLETION OF THE WORK SPECIFIED. FAILURE ON THE PART OF THE CONTRACTOR TO FAMILIARIZE HIMSELF WITH ALL STANDARDS OR SPECIFICATIONS PERTAINING TO THIS WORK SHALL IN NO WAY RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR PERFORMING THE WORK IN ACCORDANCE WITH ALL SUCH APPLICABLE STANDARDS AND SPECIFICATIONS.

6. CONTRACTORS SHALL HAVE IN THEIR POSSESSION, PRIOR TO CONSTRUCTION, ALL NECESSARY PERMITS, LICENSES, BONDS, INSURANCE, ETC. CONTRACTORS SHALL EACH HAVE AT LEAST ONE SET OF APPROVED ENGINEERING PLANS AND SPECIFICATIONS, SWPPP, AND GPP ON-SITE AT ALL

7. CONTRACTORS MUST CONFINE THEIR ACTIVITIES TO THE WORK AREA. NO ENCROACHMENTS ONTO DEVELOPED AREAS WILL BE ALLOWED. ANY DAMAGE RESULTING THEREFROM SHALL BE THE

8. IT WILL BE THE RESPONSIBILITY OF EACH CONTRACTOR TO PROTECT ALL EXISTING PUBLIC AND PRIVATE UTILITIES THROUGHOUT THE CONSTRUCTION OF THIS PROJECT. CONTRACTORS SHALL CALL WEST VIRGINIA UTILITIES PROTECTION SERVICE AT 1-800-245-4848 OR 811 AND CONTACT THE APPROPRIATE LITH ITY COMPANIES OR LINE LOCATIONS AT LEAST 2 WORKING DAYS (48 HOLIPS) PRIOR TO CONSTRUCTION AND SHALL ASSUME FULL LIABILITY TO THOSE COMPANIES FOR AN DAMAGES CAUSED TO THEIR FACILITIES.

9. TRENCHES WHICH LIE OUTSIDE EXISTING OR FUTURE PAVEMENTS SHALL RE BACK-FILLED AROVE THE TOP OF THE EMBEDMENT AND COMPACTED TO 95% PROCTOR DENSITY

10. TOP OF NATURAL GAS PIPELINE SHALL BE A MINIMUM OF 3'-0" BELOW THE FINISHED GROUND ELEVATION EXCEPT IN AGRICULTURAL FIELDS IN WHICH THE DEPTH SHALL BE 4'-0".

11. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TRENCH SAFETY REQUIREMENTS IN ACCORDANCE WITH STANDARD ANTERO RESOURCES CORPORATION TRENCH SAFETY GUIDELINES AND SHALL BE IN ACCORDANCE WITH THE U.S. DEPARTMENT OF LABOR OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATOR'S STANDARDS

12. THIS IS NOT A BOUNDARY SURVEY. BOUNDARY LINES AS SHOWN HEREON ARE BASED ON TAX PARCEL INFORMATION DERIVED FROM THE WEST VIRGINIA DEPARTMENT OF REVENUE, DATED 2008

13. CONTRACTOR IS RESPONSIBLE FOR NOTIFICATION TO THE PROJECT DESIGN ENGINEER FOR ANY DEVIATION FOUND RELATIVE TO PROJECT.

14.. EXISTING EASEMENTS AND/OR RIGHT-OF-WAYS WERE NOT ADDRESSED DURING THIS SURVEY,

15. FENCE LINES ENCOUNTERED DURING CONSTRUCTION SHOULD BE RELOCATED AND REPLACED PER THE GUIDANCE OF THE LANDOWNER AND THE ANTERO RESOURCES CORPORATION REPRESENTATIVE. CONTRACTOR SHALL SURVEY THE LOCATION OF ALL EXISTING FENCES PRIOR TO REMOVAL AND RECONSTRUCT AFTER CONSTRUCTION IS COMPLETE.

16. CONTRACTOR IS TO VERIFY HEIGHT OF OVERHEAD POWER LINE PRIOR TO CONSTRUCTION

17. CONTRACTOR IS TO INSTALL TEMPORARY DIVERSION DITCHES WITH STABILIZED OUTLETS IN ACCORDANCE WITH THE PLANS AND THE OWNER'S CONSTRUCTION SPECIALIST OR THE CHIEF INSPECTOR IN ACCORDANCE WITH WY DEP EROSION AND SEDIMENT CONTROL BMP MANUA

PRODUCT TRANSPORTED: NATURAL GAS

EROSION CONTROL NOTES:

1. ADEQUATE MEASURES SHALL BE TAKEN TO PREVENT EROSION. IN THE EVENT THAT EROSION OCCURS AS A RESULT OF CONSTRUCTION, THE CONTRACTOR SHALL RESTORE THE ERODED AREA TO ITS ORIGINAL CONDITION PRIOR TO MULCHING.

2. ALL CONSTRUCTION, EROSION CONTROL MEASURES, AND STORM WATER DISCHARGES FROM THE SITE SHALL ADHERE TO THE CONDITIONS OF THE WEST VIRGINIA OIL AND GAS CONSTRUCTION STORM GENERAL PERMIT.

WATER QUALITY THE CONTRACTOR WILL BE RESPONSIBLE FOR WATER QUALITY THROUGHOUT THE OPERATION OF CONSTRUCTION. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE FOLLOWING:

IMPLEMENTING THE EROSION CONTROL PLAN.

DIRECTING THE CONSTRUCTION OPERATING AND DISMANTLING OF TEMPORARY FROSION CONTROL FEATURES

IMPLEMENTING REMEDIAL ACTION REQUIRED TO REPAIR FAILING EROSION AND SEDIMENTATION CONTROL FEATURES.

IMPLEMENTING STORM AND WINTER SHUTDOWN PROCEDURES AS REQUIRED.

THE CONTRACTOR MILL SHAPE EARTHWORK PRIOR TO THE SUSPENSION OF GRADING OPERATIONS EACH DAY IN A MANNER THAT WILL PERMIT STORM RUNOFF WITH A MINIMUM AMOUNT OF EROSION.

EROSION CONTROL FEATURES INSTALLED BY THE CONTRACTOR WILL BE

OPERATED AND MAINTAINED IN AN ACCEPTABLE CONDITION.

WHEN ANY EROSION OR SEDIMENT CONTROL FEATURE HAS REACHED HALF OF ITS CAPACITY, THE DEVICE IS TO BE CLEANED OUT AND RESTORED

CONTACTOR IS ADVISED TO CLOSELY EXAMINE THE WATERBAR DETAILS TO ENSURE THAT A SILT FENCE BARRIER IS PLACED AROUND THE OUTLET OF EACH WATERBA

Civil & Environmental Consultants, Inc.

99 Cambridge Place - Bridgeport, WV 26330 Ph; 304.933.3119 · Fax; 304.933.3327 www.cecinc.com

CONSTRUCTION NOTES:

1. DATUM BASED ON WEST VIRGINIA STATE PLANÉ COORDINATES SYSTEM, NAD 83 NORTH ZONE, NAVD 88, ELEVATIONS

2. PRIOR TO CONSTRUCTION AND CALL WEST VIRGINIA UTILITIES PROTECTION SERVICE AT 1-800-245-4848 OR 811 AND ALL OTHER UTILITY COMPANIES AT LEAST 2 WORKING DAYS (48 HOURS) PRIOR TO CONSTRUCTION.

3. ALL EXCAVATION AND EARTH MOVING ACTIVITIES INCLUDING BUT NOT LIMITED TO OPEN EXCAVATIONS, OVERBURDEN AND BACKFILL REQUIREMENTS, FINAL CUT AND FILL SLOPES AND BENCHING REQUIREMENTS WILL BE IN SUBSTANTIA CONFORMANCE CONSTRUCTION STANDARDS

4.EXCAVATION WILL NOT BE CLASSIFIED AND WILL INCLUDE ALL MATERIALS ENCOUNTERED, REGARDLESS OF NATURE.

- GENERAL CONSTRUCTION SEQUENCE
 1. PRIOR TO BEGINNING LAND DISTURBING ACTIVITIES, CLEARLY MARK ALL CLEARING LIMITS, SENSITIVE AREAS AND THEIR BUFFERS, AND TREES THAT ARE TO BE PRESERVED WITHIN THE CONSTRUCTION AREA. THESE SHALL BE CLEARLY MARKED, BOTH IN THE FIELD AND ON THE PLANS, TO PREVENT DAMAGE AND OFFSITE IMPACTS.
- 2. INSTALL STONE CONSTRUCTION ENTRANCES AT ALL LOCATIONS WHERE TEMPORARY ACCESS ROADS WILL BE ACCESSING A PAVED ROADWAY
- 3. INSTALL TEMPORARY E&S CONTROLS (SILT FENCE, ROW DIVERSIONS, ETC.) PRIOR TO ANY EXCAVATION WORK TO ENSURE. TO THE MAXIMUM EXTENT PRACTICABLE. THAT NO SIGNIFICANT FROSION OR SEDIMENTATION OCCURS
- 4. ROW DIVERSIONS AND/OR OTHER EROSION AND SEDIMENT CONTROL DEVICES WILL BE INSTALLED AS NEEDED, IF CLEARING AND GRUBBING IS REQUIRED. SEE BELOW REGARDING THE MANAGEMENT AND DISPOSAL OF DEBRIS.
- 5. AFTER ACCESS TO AND ALONG THE PROPOSED UTILITY LINE HAS BEEN PROVIDED, TOGETHER WITH THE E&S CONTROLS, THE GENERAL CLEARING AND GRUBBING OF THE TREES AND BRUSH ALONG THE ROW FOR PIPE TRENCHING MAY COMMENCE TO THE WIDTH SPECIFIED IN THE EASC PLANS, TREES SHALL BE WINDROWED ON LOW SIDE OF RIGHT-OF-WAY, ALL POLLUTANTS, INCLUDING WASTE MATERIALS AND DEMOLITION DEBRIS, THAT OCCUR ON-SITE DURING CONSTRUCTION SHALL BE HANDLED AND DISPOSED OF IN A MANNER THAT DOES NOT CAUSE CONTAMINATION OF SURFACE WATERS. WOODY DEBRIS MAY BE CHOPPED AND SPREAD ON-SITE. IF BURNING IS CHOSEN METHOD FOR DISPOSAL OF WOODY DEBRIS. CHECK LOCAL ORDINANCE AND REGULATIONS FOR EQUIREMENTS AND OBTAIN ANY NECESSARY PERMITS.
- 6. MINOR GRADING WITHIN THE ROW WILL BE CONDUCTED WHERE NECESSARY TO PROVIDE AN EVEN SURFACE FOR SAFE AND EFFICIENT OPERATION OF CONSTRUCTION EQUIPMENT, GRADING WILL BE THE MINIMUM AMOUNT NECESSARY AND BMPS WILL BE INSTALLED PROMPTLY, TREE STUMPS, AND LARGE ROCKS AND BOULDERS WILL ALSO BE REMOVED FOR SAFETY AT THIS TIME
- PIPELINE TRENCH SHALL BE EXCAVATED TO A WIDTH OF APPROXIMATELY 5' AND A MINIMUM COVER OF 3' SHALL BE PROVIDED ABOVE PIPELINE AT ALL LOCATIONS EXCEPT FOR WETLANDS AND STREAMS. A MINIMUM COVER OF 5' SHALL BE PROVIDED ALONG PIPELINE AT WETLAND AND STREAM CROSSINGS
- 8. THE PROPOSED CONSTRUCTION ROW WILL BE USED AS A WORK AREA FOR TRENCH EXCAVATION, EQUIPMENT MOVEMENT, AND THE STORAGE OF SOIL STOCKPILES, AS NEEDED. EQUIPMENT, SOIL STOCKPILES, AND OTHER MATERIALS ARE TO REMAIN UPSLOPE OF BMPS DURING CONSTRUCTION ACTIVITIES.
- 9. SEGREGATION OF TOPSOIL AND SUBSOIL WILL BE PERFORMED WHERE TRENCH EXCAVATION TAKES PLACE IN AN AGRICULTURAL, WETLAND, OR RESIDENTIAL AREA.
- 10. TEMPORARY E&S CONTROLS FOR STREAM CROSSINGS SHALL BE INSTALLED AT LOCATIONS SHOWN ON THE E&SC PLANS AND ASSOCIATED DETAIL SHEETS.
- 11. STREAM AND RIVER PIPELINE CROSSING CONSTRUCTION METHODS WILL BE INSTALLED AT LOCATIONS SHOWN ON THE EASC PLAN SHEETS AND AS SPECIFIED ON THE DETAIL SHEETS. WATERBODIES WILL BE CROSSED WITH TEMPORARY BRIDGES, SUCH AS TIMBER MATS OR APPROVED EQUAL CROSSINGS, PRIOR TO CROSSING THE CONVEYANCE. IF FLOWING WATER IS PRESENT AT THE TIME OF THE CONSTRUCTION OF THAT WATERBODY STREAMBANK STABILIZATION WILL BE PERFORMED IMMEDIATELY FOLLOWING COMPLETION OF THE PIPELINE
- 12. WETLAND CROSSING WIDTHS FOR UTILITY CROSSINGS WILL BE KEPT TO A MINIMUM AND WILL BE STABILIZED BY PLACING TIMBER MATS, RIPRAP, OR PRE-FABRICATED SWAMP MATS, AS SHOWN ON THE DETAIL SHEETS. NO WETLAND IMPACTS OR DISTURBANCES ARE ASSOCIATED WITH THE 12-INCH PEARL JEAN TO CANTON PIPELINE PROJECT. ALL MATERIALS USED TO STABILIZE ACCESS ROADS IN WETLAND AREAS WILL BE REMOVED FROM THE WETLAND UPON COMPLETION OF THE PIPELINE CONSTRUCTION.
- 13. PIPELINE SECTIONS WILL BE TRANSPORTED TO THE WORK AREA AND STRUNG ALONG THE WORKING SIDE OF THE ROW PARALLEL TO THE TRENCH LINE. THE PIPELINE WILL BE BENT TO CONFORM TO THE TRENCH CONTOUR ALIGNED, WELDED, SEALED AND PLACED ON TEMPORARY SUPPORTS ALONGSIDE THE TRENCH. WELDS WILL BE VISUALLY AND RADIO-GRAPHICALLY INSPECTED AND REPAIRED AS NECESSARY. THE PIPE SECTION WILL BE LOWERED INTO THE TRENCH AND PLACED ON PADDING MATERIAL LAID ON THE TRENCH BOTTOM TO PROTECT THE PIPE COATING. ANY WETNESS ENCOUNTERED DURING CONSTRUCTION WORK WILL BE DEWATERED BY USING PUMPS, HOSES, AND DEWATERING BAGS, AND WILL BE DISCHARGED TO A WELL-VEGETATED UPLAND AREA.
- 14. INSTALL TRENCH BREAKERS (PLUGS) AT LOCATIONS AS SHOWN ON THE E&SC PLAN SHEETS AND AS SPECIFIED ON
- 15. THE TRENCH WILL BE SUBSEQUENTLY BACKFILLED WITH SUITABLE EXCAVATED MATERIAL TO PREVENT ANY SUBSIDENCE, THE BACKFILL MATERIAL WILL BE SLIGHTLY CROWNED IN UPLAND AREAS TO ALLOW FOR SETTLEMENT THAT MAY OCCUR, CROWNING THE SOIL SLIGHTLY OVER THE PIPELINE WILL HELP PREVENT FUTURE STORMWATER-RELATED PROBLEMS FROM SETTLING OF THE BACKFILLED AREA. NO CROWNING OF THE SOILS WILL TAKE PLACE IN WETLANDS, STREAMS, OR FLOODPLAINS, DISTURBED AREAS WILL BE RESTORED TO THEIR
- 16. EXPOSED AND UNWORKED SOILS SHALL BE STABILIZED BY APPLICATION OF EFFECTIVE BMPS THAT PROTECT THE SOIL FROM EROSIVE FORCES OF RAINDROPS, FLOWING WATER AND WIND. ALL DISTURBED AREAS THAT ARE AT FINAL GRADE MUST BE SEEDED AND MULCHED WITHIN 7 DAYS AND AREAS THAT WILL NOT BE WORKED AGAIN FOR 21 DAYS OR MORE MUST BE SEEDED AND MULCHED WITHIN SEVEN DAYS, FOR DISTURBED AREAS WITH SLOPES OF 3:1 OR GREATER, THE AREA WILL BE VERTICALLY TRACKED AND EROSION CONTROL FABRIC SHALL BE INSTALLED AFTER SEED, MULCH, AND SOIL SUPPLEMENTS HAVE BEEN APPLIED. THE TEMPORARY/PERMANENT SEEDING AND MULCH TABLES, ON THE DETAIL SHEETS, CONSIST OF THE TYPE OF SEED AND APPLICATION RATE THAT SHALL BE APPLIED, INCLUDING THE NURSE CROP THAT SHALL BE USED DURING CERTAIN TIME OF THE YEAR TO PROMOTE STABILIZATION OF THE SOIL UNTIL THE PERENNIAL SEEDLINGS ESTABLISH.
- 17. IN THE UNLIKELY EVENT THAT THERE ARE EXCESS EXCAVATED MATERIALS REMAINING AFTER THE TRENCH HAS BEEN BACKFILLED, THE MATERIAL WILL BE DISPOSED OF WITHIN THE EXISTING ROW IN AN UPLAND AREA, MATERIAL WILL BE SPREAD IN A THIN LAYER AND TIED INTO EXISTING CONTOURS TO CREATE POSITIVE DRAINAGE FOR
- 18. ALL E&S CONTROLS WILL BE INSPECTED. AT A MINIMUM, ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN 0.5-INCH PER 24-HOUR PERIOD UNTIL THERE IS A UNIFORM, PERENNIAL 70 PERCENT VEGETATIVE COVERAGE ESTABLISHED. TEMPORARY BMPS WILL BE REMOVED UPON ACHIEVING VEGETATIVE STABILIZATION. THE 70 PERCENT REQUIREMENT REFERS TO THE TOTAL AREA VEGETATED AND NOT A PERCENT OF THE SITE.

CONSTRUCTION NOTES:

- GENERAL CONSTRUCTION SEQUENCE CONTINUED

 19. NO SEDIMENT TRACKING ON THE ROADWAY IS ALLOWED. IN THE EVENT THAT SEDIMENT IS INADVERTENTLY TRACKED ONTO THE ROAD, THE ROAD SHALL BE CLEANED THOROUGHLY BY THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED FROM ROADS BY SHOVELING OR PICKUP SWEEPING AND SHALL BE TRANSPORTED TO A CONTROLLED SEDIMENT DISPOSAL AREA, STREET WASHING OF SEDIMENTS TO THE STORM DRAIN SYSTEM IS NOT ALLOWED. IF STREET WASH WASTEWATER CAN RE CONTROLLED FROM ENTERING THE STORM DRAINAGE SYSTEM THEN IT SHALL BE PUMPED BACK
- 20. CONSTRUCTION ACCESS RESTORATION SHALL BE EQUAL OR BETTER THAN THE PRE-CONSTRUCTION CONDITION AND GRADES THAT WERE ALTERED DURING CONSTRUCTION ACTIVITIES SHALL BE RESTORED TO ORIGINAL GRADES AND MATCH EXISTING DRAINAGE PATTERN
- 21. APPLICABLE PRACTICES INCLUDE, BUT ARE NOT LIMITED TO, TEMPORARY AND PERMANENT SEEDING SODDING, MULCHING, EROSION CONTROL FABRICS AND MATTING, SOIL APPLICATION OF POLYACRYLAMIDE (PAM), THE EARLY APPLICATION OF GRAVEL BASE ON AREAS TO BE PAVED, AND
- SELECTED SOIL STABILIZATION MEASURES SHALL BE APPROPRIATE FOR THE TIME OF YEAR, SITE CONDITIONS, AND ESTIMATED DURATION OF USE.
- 23. SOIL STOCKPILES MUST BE STABILIZED AND PROTECTED WITH SEDIMENT TRAPPING MEASURES.
- 24. LINEAR CONSTRUCTION ACTIVITIES SUCH AS ROW AND EASEMENT CLEARING, ROADWA DEVELOPMENT PIPELINES AND TRENCHING FOR LITHLITIES SHALL BE CONDUCTED TO MEET THE SOIL STABILIZATION TIMEFRAME REQUIREMENTS, CONTRACTORS SHALL INSTALL THE BEDDING MATERIALS, ROADBEDS, STRUCTURES, PIPELINES, OR UTILITIES AND RE-STABILIZE THE DISTURBED SOILS SO THAT
- 25. EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES, CONSISTENT WITH SAFETY AND SPACE CONSIDERATIONS.

EROSION & SEDIMENT CONTROL NARRATIVE

EROSION CONTROL PROGRAM.

EROSION CONTROL SHALL BE MAXIMIZED THROUGH RAPID STABILIZATION OF THE DISTURBED AREAS AND BY DIVERTING.
CLEAN WATER AND EROSINE FLOWS AROUND OR THROUGH DISTURBED AREAS IN A NON-EROSINE MAINER. WHERE GRADE IS ESTABLISHED IF NO WORK IS PLANNED IN THAT AREA DURING THE FOLLOWING 14 DAYS (I.E. 21 CONSECUTIVE DAYS), REVEGETATION ACTIVITIES SHALL BE PERFORMED IN AN AGGRESSIVE MANNER THROUGHOUT TH

SEDIMENT CONTROL PROGRAM
SEDIMENT CONTROL SHALL BE ACCOMPLISHED THROUGH RAPID STABILIZATION AND BY THE INSTALLATION OF STRUCTURAL DEVICES, AS SHOWN ON THE CONSTRUCTION PLANS.

VEGETATIVE PRACTICES

1. SURFACE ROUGHENING - AREAS TO BE SEEDED SHALL BE LIGHTLY ROUGHENED AND LOOSE TO A DEPTH OF 2 TO 4" PRIOR TO SEEDING AREAS WHICH HAVE BEEN GRADED AND WILL NOT BE STABILIZED IMMEDIATELY, MAY BE ROUGHENED TO REDUCE VELOCITY UNTIL SEEDING TAKES PLACE

TOP SOILING (STOCKPILE)-TOPSOIL WILL BE STRIPPED FROM AREAS TO BE GRADED AND STOCKPILED FOR LATER USE. STOCKPILE LOCATION SHALL BE LOCATED WITHIN CONSTRUCTION RW, AND TO BE STABILIZED WITH TEMPORARY VEGETATION, AREAS OF STOCKPILE, ONCE REMOVED, SHALL BE GRADED/RESTORED & PERMANENTLY

TEMPORARY STABILIZATION - SELECTION OF THE SEED MIXTURE WILL DEPEND ON THE TIME OF THE YEAR IT IS APPLIED AND SHALL BE DONE WITH TEMPORARY SEEDING MEASURES SPECIFIED BELOW. MULCHING SHALL BE APPLIED AT A RATE OF TWO TONS OF STRAW O RWEED FREE HAY PER ACRE. EXCEPT IN STREAMWETLAND CROSSING AREAS, FERTILIZER SHALL BE APPLIED AT A RATE OF 1,000 LBS/ACRE AND

PERMANENT STABILIZATION
ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE STABILIZED WITH PERMANENT SEEDING IMMEDIATELY
FOLLOWING FINISHED GRADING. SEEDING SHALL BE DONE WITH PERMANENT SEEDING MEASURES AS
SPECIFIED BELOW. IN ALL SEEDING OPERATIONS, SEED WILL BE APPLIED PRIOR TO MULCHING, MULCHING SHALL BE APPLIED AT A RATE OF TWO TONS OF STRAW OR WEED FREE HAY PER ACRE OUTSIDE OF ETLAND CROSSING AREAS, FERTILIZER SHALL BE APPLIED AT A RATE OF 1000 LBS/ACRE AND LIME

"NOTE: SEED MIXES SHALL NOT BE MODIFIED WITHOUT APPROVAL OF ENGINEER

SEED MIXTURE: OUTSIDE STREAM/WETLAND CROSSING

PERMANENT SEEDING					
SPECIES	PLANTING DATES	APPLICATION RATE LBS/ACRE			
SWITCHGRASS	3/1-6/5 8/15-9/15	15			
PERENNIAL RYEGRASS	3/1-6/5 8/15-9/15	20			
REDTOP	3/1-6/15	5			
BIRDSFOOT TREFOIL	3/1-6/5 8/15-9/15	15			
JAPANESE MILLET	06/16-08/14	15			
WINTER RYE	09/16-08/28	85			

LIME: AGRICULTURAL GROUND LIMESTONE AT 1 TON PER ACRE. FERTILIZER: 10-20-10 AT A RATE OF 1,000 POUNDS PER ACRE.
MULCH: GRASS HAY OR CEREAL STRAW AT 2 TONS PER
ACRE. ANCHOR STRAW AND HAY WITH ASPHALT

(IND OF SEED	PLANTING DATES	APPLICATION RATE LBS/ACRE	
ANNUAL RYEGRASS	2/16-5/15 8/1-11/1	40	
FIELD ROMEGRASS	3/1-8/15 8/1-9/5	40	
PRING OATS	3/1-6/15	100	
WINTER RYE	8/15-2/28	170	
INTER WHEAT	8/15-2/28	180	
JAPANESE MILLET	5/15-8/15	30	
REDTOP	3/1-6/15	10	
ANNUAL RYEGRASS AND SPRING OATS	3/1-6/15	30 70	
ERMAN/POXT AIL MILLET	5/1-8/1	40	
IAIRY VÉTCH	8/15-4/1	60	

TEMPORARY SEEDING

MINIMUM CONSTRUCTION STANDARDS NARRATIVE

- FERTILIZING, SEEDING, AND MULCH SHALL BE APPLIED TO ALL DISTURBED AREAS WHERE CONSTRUCTION IS NOT TO BE CONDUCTED FOR A PERIOD OF 21 DAYS OR MORE AND TO ALL AREAS WHERE FINAL GRADE HAS BEEN REACHED, WHERE CONSTRUCTION ACTIVITY
 WILL RESUME ON A PORTION OF THE SITE WITHIN 21 DAYS FROM WHEN ACTIVITIES VALL RESUME UNFORMERS HE STEE WHITH ZE DATS FROM WHEN ALTHREES

 CEASED, THE STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION

 OF THE STITE BY THE 7TH DAY AFTER CONSTRUCTION ACTIVITIES HAVE TEMPORARILY

 CEASED, REVEGETATION ACTIVITIES SHALL BE PERFORMED IN AN AGGRESSIVE MANNER THROUGHOUT THE CONSTRUCTION PROCESS.
- DURING CONSTRUCTION OF THE PROJECT, SOIL STOCKPILES SHALL BE STABILIZED WITH APPROPRIATE BEST MANAGEMENT PRACTICES.
- PERMANENT VEGETATION SHALL NOT BE CONSIDERED ESTABLISHED LINTIL A GROUND. COVER IS ACHEVED THAT IS UNIFORM, MATURE ENOUGH TO SURVIVE, AND WILL INHIBIT EROSION, 70% VEGETATIVE COVER SHALL BE CONSIDERED STABILIZED.
- WHERE CONSTRUCTION VEHICLE ACCESS ROUTES INTERSECT PAVED OR PUBIC ROADS. PROVISIONS SHALL BE MADE TO MINIMIZE THE TRANSPORT OF SEDIMENT BY VEHICLILAR TRACKING ONTO THE PAVED SURFACE, WHERE SEDIMENT IS TRANSPORTED ONTO A TRACEURS DATIO THE PAVED SUPPLICE, WHERE SEDIMENT IS TRANSPORTED ONLOAD PAVED OR PULL ROAD SURFACE, THE ROAD SURFACE SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY, SEDIMENT SHALL BE REMOVED FROM THE ROADS BY SHOVELING OR SWEEPING AND TRANSPORTED TO A SEDIMENT CONTROL
- ALL TEMPORARY SEDIMENT CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL.
 VEGETATION IS WELL ESTABLISHED ON ALL AREAS TO WHICH THE STRUCTURE IS BEING UTILIZED, NO EROSION CONTROL MEASURE CAN BE CHANGED OR REMOVED WITHOUT THE PERMISSION OF THE WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
- PROPERTIES AND WATERWAYS DOWNSTREAM FROM DEVELOPMENT SITES SHALL BE PROTECTED FROM SEDMENT DEPOSITION, EROSION AND DAMAGE DUE TO INCREASES IN VOLUME, VELOCITY AND PEAK FLOW RATE OF STORMWATER RUNOFF.
- ALL MEASURES USED TO PROTECT PROPERTIES AND WATERWAYS SHALL BE EMPLOYED IN A MANNER WHICH MINIMIZES IMPACTS ON THE PHYSICAL, CHEMICAL, AND BIOLOGICAL INTEGRITY OF RIVERS, STREAMS, AND OTHER WATERS OF THE STATE.
- STABILIZATION MEASURES SHALL BE APPLIED IMMEDIATELY TO EARTHEN STRUCTURES AREAS WHERE THE SEED HAS FAILED TO GERMINATE ADEQUATELY (UNFORM PERENNIAL VEGETATIVE COVER WITH A DENSITY OF 70%) WITHIN 30 DAYS AFTER SEEDING AND MULCHING MUST BE RESEEDED IMMEDIATELY, OR AS SOON AS WEATHER CONDITIONS
- 10. CLEAN WATER DIVERSIONS MUST BE STABILIZED PRIOR TO BECOMING FUNCTIONAL

MAINTENANCE PROGRAM
ALL PERSONNEL INVOLVED IN THE INSTALLATION OF THE TEMPORARY SEDMENT CONTROL
STRUCTURES SHALL BE PROPERLY INSTRUCTED ON THE CORRECT INSTALLMENT PROCEDURES
OF EACH MEASURE ON-THE-JOB TRAINING SHALL BE CONDUCTED TO ENSURE THOSE
PERSONNEL PERFORMING CONSTRUCTION ACTIVITIES ON THE PROJECT SITE ARE AWARE OF THE COMPONENTS, METHODS, AND EXPECTED PERFORMANCE OF THE EROSION & SEDIMEN

AT A MINIMUM, ALL EROSION CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF RAIN PER 24 HOUR PERIOD.

ALL STRUCTURES ARE TO BE REPAIRED OR REPLACED IMMEDIATELY UPON THE FINDING OF ANY DEHCHENCY, REPER TO NOTES ON EROSION CONTROL MEASURE DETAILS FOR ADDITIONAL

CONSTRUCTION ENTRANCES: INSPECTION SHALL BE MADE DALLY FOR ENTRANCE INTEGRITY; REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY. THE EXISTING ROAD/DRIVEWAY SHALL BE MADE AND REMAIN ACCESSIBLE TO USERS.

RIGHT OF WAY INTERCEPTOR DIVERSION: INSPECTION SHALL BE MADE ONCE EVERY WEEK AND AFTER EVERY RAINFALL EVENT OF 0.5 INCH OR MORE WHETHER A STORM EVENT HAS OCCURRED OR NOT AND REPAIRS SHALL BE MADE AS NECESSARY. IN AREAS WHERE CONSTRUCTION IS ACTIVELY OCCURRING, INSPECTIONS SHALL BE PERFORMED DAILY AND ANY DAMAGE SHALL BE REPAIRED BY THE END OF THE DAY.

SILT FENCE/SILT SOCK: INSPECTION SHALL BE MADE DAILY FOR FENCE INTEGRITY; REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY. FENCES SHOULD BE INSPECTED AFTER RAINFALL OF 0.5 INCH OR GREATER SEDIMENT IS TO BE REMOVED WHEN DEPOSITS REACH ONE-HALF THE FENCE

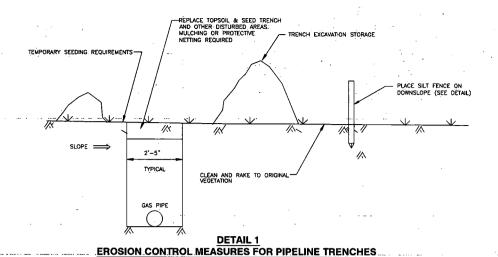
PERMANENT SEEDING: SEEDED AREAS SHALL BE CHECKED REGULARLY TO ENSURE A GOOD STAND OF GRASS IS BEING MANTAINED, AREAS THAT FAIL TO ESTABLISH VEGETATIVE COVER ADEQUATE TO PREVENT RILL EROSION SHALL BE RE-SEEDED AS SOON AS THEY ARE IDENTIFIED.

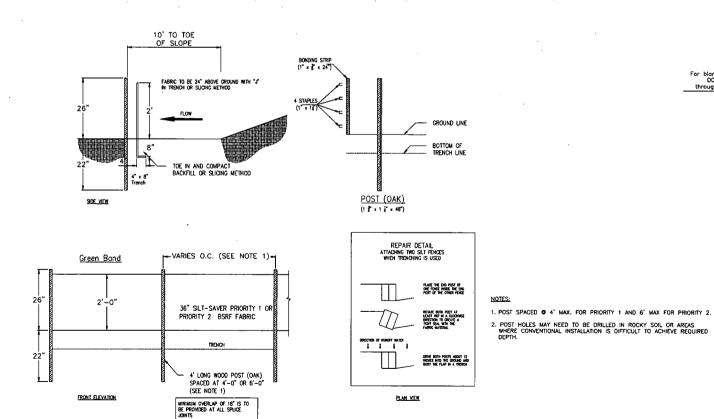
MULCHING: ALL MULCHED AREAS SHALL BE INSPECTED PERIODICALLY, PARTICULARLY AFTER RAINSTORMS, TO CHECK FOR EROSION, REPAIR AS NEEDED.

DEVICES SHOWN ARE TO BE CONSIDERED AS MINIMUM EROSION AND SEDIMENTATION CONTROLS, ADDITIONAL CONTROLS MAY BE NECESSARY DUE TO CONTRACTOR'S PHASING OR OTHER UNANTICIPATED CONDITIONS, IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE OTHER UNANTICIPATED CONDITIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ADDITIONAL DEVICES AS NECESSARY IN ORDER TO CONTROL EROSION AND SEDIMENTATION. EROSION AND SEDIMENTATION MEASURES SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE POLICIES AND REQUIREMENTS OF THE WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION BEST MANAGEMENT PRACTICES IMANULL CONTROLS MAY BE REMOVED AFTER THE AREAS ABOVE THEM HAVE BEEN STABILIZED AND WITH THE APPROVAL OF

SPECIAL CARE NOTES
IT IS THE INTENT OF THIS PLAN TO PRECLUDE SEDIMENT POLLUTION FROM LEAVING THE DELINEATED CONSTRUCTION ZONES. THE CONTRACTOR AND THE DEVELOPER SHALL TAKE SPECIAL CARE TO PREVENT CONSTRUCTION DEBRIS AND MUD FROM BEING THACKED ONTO SURROUNDING PUBLIC AND PRIVATE ROADS. CONSTRUCTION TRAFFIC SHALL ONLY ENTER AND EXIT THE CONSTRUCTION SITE VIA DESIGNATED LOCATIONS. THE CONTRACTOR AND DEVELOPER SHALL TAKE SPECIAL CARE TO PROTECT THE EXISTING VEGETATION AND WATERWAYS OUTSIDE OF THE DESIGNATED LIMITS OF WORK SHOWN ON THE PLANS.

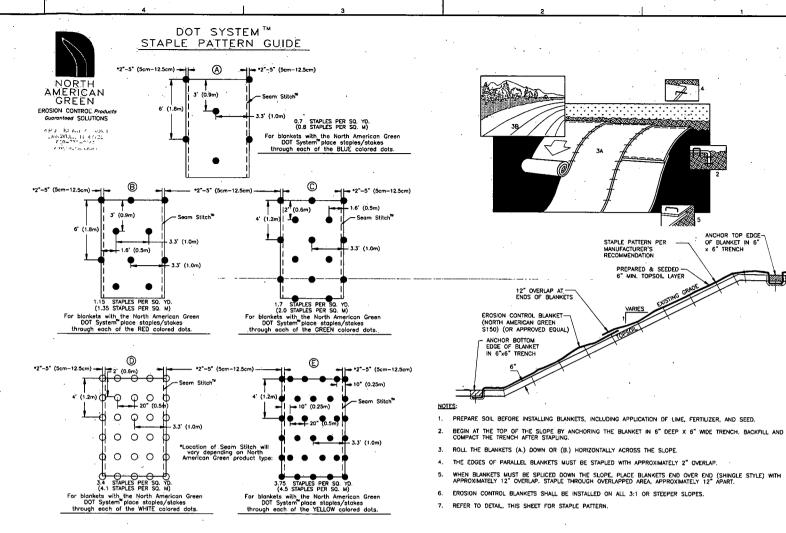
NO. DATE DESCRIPTION MidstreamPertners of BALLI PIPELINE 16' GAS LINE CENTRAL DISTRICT, COODRIGGE COUNTY, WY DATE: DECEMBER 2014 PROJECT NO: 145-172	SEAL	REVISION RECORD			EROSION AND SEDIMENT CONTROL NOTE:
THE CENTRAL DISTRICT, COODRIDGE COUNTY, WY DATE: DECEMBER 2014 PROJECT NO: 143-172	<u> </u>	NO.	DATE	DESCRIPTION	
DATE: DECEMBER 2014 PROJECT NO: 143-172	×,				BALLI PIPELINE
BESTER 11 11 11 11 11 11 11 11 11 11 11 11 11	07				
	1	—			DATE: DECEMBER 2014 PROJECT NO: 145-172 SCALE: AS SHOWN
	•				CHECKED BY: JAL SHEET 6 OF 9





DETAIL 4 SILT-SAVER SILT FENCE PRIORITY 1 & 2 NOT TO SCALE





DETAIL 2
EROSION CONTROL BLANKET STAPLE PATTERN
NOT TO SCALE

DETAIL 3 EROSION CONTROL BLANKET

SEAL REVISION RECORD

NO. DATE DESCRIPTION

BALLI PIPELINE

16° GAS LINE
CENTRAL DESTRIP, DODORIDOE COUNTY, WY

DATE: DECEMBER 2014 PROJECT NO: 145-172

SCALE: AS SHOWN
DRAWN BY: APD
CHECKED BY: JUL.
SHEET 7 OF 9

1. TRENCH PLUG SHALL BE INSTALLED:

ON SLOPES ALONG THE TRENCH LINE WHERE THE NATURAL DRAINAGE PATTERN, PROFILE, AND TYPE OF BACKFILL MATERIAL MAY RESULT IN 'LOSS OF BACKFILL MATERIAL OR ALTERATION OF NATURAL PATTERN:

AT THE BASE OF SLOPES ADJACENT TO WATERBOODES AND WETLANDS

WHERE NEEDED TO AVIOLD DRAINING A WETLAND

ON UPLAND SLOPES, AT THE SAME SPACING AS SLOPE BREAKERS AND UP SLOPE OF SLOPE BREAKERS

IN CULTIVATED LAND AND RESIDENTIAL AREAS WHERE PERMANENT SLOPE BREAKERS AND IN STALLED, AT THE SAME SPACING AS IF PERMANENT SLOPE BREAKERS WHERE REGIONED.

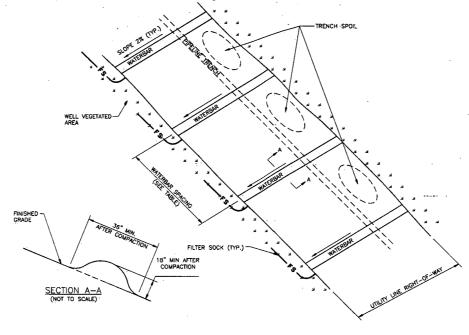
- TRENCH PLUG SPACING AND CONFIGURATION MAY BE CHANGED AS DIRECTED BY COMPANY. DEPTH OF DITCH MAY VARY WITH SITE CONDITIONS.
- 4. ALL MATERIALS SHALL BE SUPPLIED BY CONTRACTOR.
- 5. GEOTECHNICAL POLYURETHANE FOAM TRENCH PLUGS MAY BE USED IN LIEU OF SACKS FILLED WITH CEMENT / SOIL MIXTURE.
- TRENCH PLUG SPACING SHOWN BELOW IS THE MAXIMUM ALLOWABLE PER PADEP REGULATIONS. ALL TRENCH PLUG LOCATIONS SHOWN ARE APPROXIMATE. FINAL LOCATIONS WILL BE FIELD IDENTIFIED BY A QUALIFIED INDIVIDUAL TO ACCOMMODATE PIPELINE FITTINGS, SIDE BENDS, OVER BENDS AND SAG BENDS TO ASSURE THAT ALL TRENCH PLUG INDUCED STRESSES ARE MINIMIZED.

		·
	MAXIMUM S	PACING AND MATERIALS FOR TRENCH PLUGS
TRENCH SLOPE (%)	SPACING L (FEET)	TRENCH PLUG MATERIAL
0 - 5	1,000	*CLAY, BENTONITE, OR CONCRETE FILLED SACKS, OR AS SPECIFIED IN NOTES 2 AND 5
5 - 15	500	*CLAY, BENTONITE, OR CONCRETE FILLED SACKS, OR AS SPECIFIED IN NOTES 2 AND 5
15 - 25	300	*CLAY, BENTONITE, OR CONCRETE FILLED SACKS, OR AS SPECIFIED IN NOTES 2 AND 5
25 - 35	200	*CLAY, BENTONITE, OR CONCRETE FILLED SACKS, OR AS SPECIFIED IN NOTES 2 AND 5
35 - 100	100	*CLAY, BENTONITE, OR CONCRETE FILLED SACKS, OR AS SPECIFIED IN NOTES 2 AND 5
OVER 100	50	CEMENT FILLED BAGS. (WETTED). MORTARED STONE OR GEOTECHNICAL POLYLIRETHANE FOAM

*TOPSOIL MAY NOT BE USED TO FILL SACKS.

**IMPERVIOUS TRENCH PLUGS ARE REQUIRED AT ALL STREAM, RIVER, WETLAND, OR OTHER WATERBODY CROSSINGS

TRENCH PLUG



- ERBARS SHALL BE PLACED AT 2% SLOPE DOWNHILL. THEY SHALL BE SPACED THE INCREMENTS AS SHOWN ON THE PLANS, AND IN ACCORDANCE WITH THE EEP EROSION AND SEDMENT CONTROL BEST MANAGEMENT PRACTICE MANUAL AND "WIDEP EROSION AND SEDMENT CONTROL FIELD MANUAL."
- A SOFT TRENCH PLUG WILL BE USED IN AREAS WHERE WATER MUST BE CONVEYED ACROSS THE PIPELINE TRENCH.

REQUIRED SPACE	CING FOR PERMANENT/TEMPO	RARY WATERBARS
PERCENT SLOPE	>200' FROM STREAMS	<200' FROM STREAMS
2-5%	400	200
6-12%	. 300	150
13-21%	200	100
22-34%	100	50
35-50%	50	25

* IT IS DIFFICULT TO INSTALL DIVERSIONS ON SLOPES STEEPER THAN 35%. OTHER CONTROL MEASURES MAY BE REQUIRED

DETAIL 6
TYPICAL WATERBAR INSTALLATION



- THE PUMP RATE SHALL BE NO GREATER THAN 750 CPM OR 1/2 THE MAXIMUM SPECIFIED BY THE MANUFACTURER, WHICHEVER IS LESS. PUMP INTAKES SHOULD BE FLOATING AND SCREENED.

DETAIL 7 GEOTEXTILE FILTER BAG

VEGETATED AREA

FILTER BAG

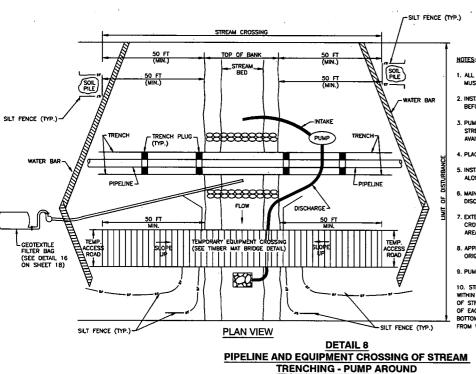
VEGETATED AREA

PLAN VIEW

EROSION AND SEDIMENT CONTROL DETAILS SEAL **REVISION RECORD** Antero NO. DATE Midstream Partners & **BALLI PIPELINE**

Civil & Environmental Consultants, Inc. 99 Cambridge Place - Bridgeport, WV 26330 Ph: 304.933.3119 · Fax: 304.933.3327

www.cecinc.com



2. INSTALL SILT FENCE, TRENCH PLUGS, PUMP, ENERGY DISSIPATER, AND DAMS BEFORE TRENCHING WITHIN STREAM BED.

3. PUMP MUST BE OF SUFFICIENT CAPACITY TO CONVEY NORMAL AND/OR EXISTING STREAM FLOW OVER TRENCH, A BACK-UP PUMP OF EQUAL CAPACITY MUST BE AVAILABLE ON-SITE DURING EXCAVATION AND THE 6 MONTH MAINTENANCE PERIOD

4. PLACE SPOIL PILES A MINIMUM OF 50 FEET FROM TOP OF BANK

5. INSTALL WATER BARS AT APPROACHES TO STREAM CROSSING AND SILT FENCE ALONG STREAM BANKS AND AT DOWNSLOPE END OF WATER BARS.

MAINTAIN SURFACE OF TEMPORARY EQUIPMENT CROSSING TO PREVENT SOIL

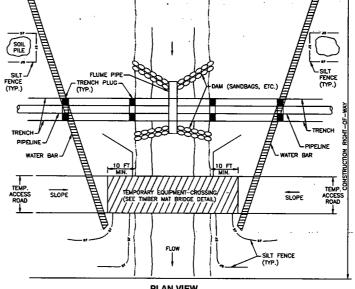
7. EXTEND TIMBER MAT 50 FEET, FROM TOP OF BANK, ON BOTH SIDES OF STREAM CROSSING IN ORDER TO MINIMIZE DISTURBANCE OF STREAM BANKS AND RIPARIAN

8. APPROACHES TO CROSSINGS ARE NOT TO EXCEED A DEPTH OF 6 INCHES ABOVE ORIGINAL GRADE.

9. PUMP INTAKE SHALL HAVE AN ANTI-AQUATIC IMPEDIMENT SCREEN.

10. Stream Channels 10 feet in Bottom width or less shall be completed within 24 hours from start to pinish, including trench backfill, stabilization of stream banks and stabilization of the area 50 feet back from the top of each stream bank. Stream Channels between 10 feet and 100 feet in

CONSTRUCTION ACCESS ROAD



PLAN VIEW

PLAN VIEW

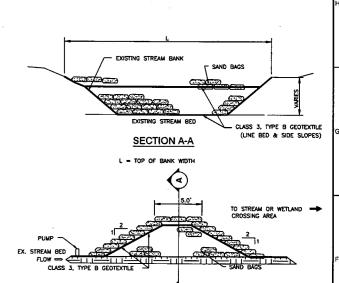
1. ALL RUNOFF FROM DISTURBED UP-SLOPE AREAS WITHIN CONSTRUCTION RIGHT-OF-WAY MUST BE TREATED FOR SEDIMENT BEFORE IT REACHES THE STREAM CROSSING.
2. INSTALL SILT FENCE, TRENCE PLUGS, PUMP, ENERGY DISSIPATER, AND DANS BEFORE TRENCHING STREAM.
3. FOR FILME PIPE AND ROCK FILL CROSSINGS, INSTALL FILME PIPE ON EXISTING STREAMBED. MORE THAN 1 FILME PIPE MAY BE NEEDED TO SPAN STREAM CHANNEL.
4. PLACE SPOIL PLES A MINIMUM OF 50 FEET FROM TOP OF BAIN.
5. INSTALL WATER BAIRS AT APPROACHES TO STREAM CROSSING AND SILT FENCE ALONG STREAM BAINS AND AT DOWN SLOPE END OF WATER BAIRS.
6. MAINTAIN SURFACE OF TEMPORARY EQUIPMENT CROSSING TO PREVENT SOIL DISCHARGES TO STREAM.
7. APPROACHES TO CROSSINGS ARE NOT TO EXCEED A DEPTH OF 8 INCHES ABOVE ORIGINAL GRADE.

PTAIL 19

DETAIL 9

PIPELINE AND EQUIPMENT CROSSING OF STREAM **TRENCHING - FLUME PIPE DIVERSION**

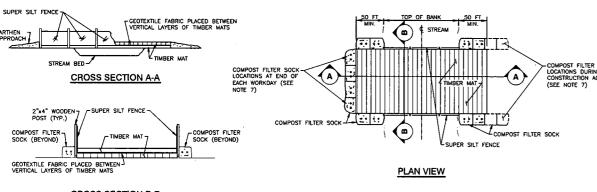
NOT TO SCALE



PAVED ROADWAY

- PUMP OUTLET PIPE TO BE LOCATED AT APPROXIMATE LOCATION SHOWN ON THE PLAN. R-2 STONE TO BE PLACED AT OUTLET. SEE DETAILS FOR CONSTRUCTION SEQUENCE OF STREAM AND WETLAND CROSSINGS.
- ADDITIONAL SAND BAGS SHALL BE PLACED AS NEEDED TO PREVENT LEAKAGE INTO CONSTRUCTION AREA.

DETAIL 10 SANDBAG DAM



NOT TO SCALE

CROSS SECTION B-B

- THIS TYPE OF BRIDGE IS GENERALLY USED FOR SMALL STREAM CROSSINGS LESS THAN 25 FEET IN WIDTH AND A PROPER STREAM BANK CONFIGURATION.
- EXTEND TIMBER MAT 50 FEET, FROM TOP OF BANK, ON BOTH SIDES OF STREAM CROSSING IN ORDER TO MINIMIZE DISTURBANCE OF STREAM BANKS AND RIPARIAN AREAS.
- 4. BRIDGE TO REMAIN IN PLACE UNTIL COMPLETION OF FINAL RESTORATION.
- 6. INDIVIDUAL MATS SHALL BE ANCHORED AND BUTTED TIGHTLY TO MINIMIZE THE INTRODUCTION OF SEDIMENT TO THE WATERBODY
- COMPOST FILTER SOCK WILL BE PLACED AT THE EDGE OF THE EQUIPMENT BRIDGE AT THE END OF EACH WORK DAY TO PREVENT EROSION, BUT WILL BE REMOVED DURING CONSTRUCTION ACTIVITY.
- 8. TEMPORARY STREAM CROSSINGS SHALL BE INSPECTED ON A DAILY BASIS.
- 9. DAMAGED CROSSINGS SHALL BE REPAIRED WITHIN 24 HOURS OF THE INSPECTION, AND BEFORE ANY SUBSEQUENT USE.
- 10. SEDIMENT DEPOSITS ON THE CROSSING OR ITS APPROACHES SHALL BE REMOVED WITHIN 24 HOURS OF THE INSPECTION.

DETAIL 11 TIMBER MAT BRIDGE EQUIPMENT CROSSING OVER STREAM

IS IS IS Civil & Environmental Consultants, Inc. 99 Cambridge Place - Bridgeport, WV 26330 Ph: 304.933,3119 · Fax: 304.933,3327 www.cecinc.com

3", MIN., OF STONE PLACED ABOVE 6", MIN. 4" TO 6" STONE EXISTING GRADE AND 3", MIN., OF STONE PLACED BELOW EXISTING GRADE -0.7 FT., MIN PROFILE, TYP. SCALE: 1" = 10 FEET 10.0 FT. MIN. 3", MIN., OF STONE PLACED BELOW EXISTING GRADE SLOPE = 2% SLOPE = 2%

WOVEN SEPARATION FABRIC

EXISTING GRADE CONSTRUCTION 10.0 FT., MIN. 70 0 FT CROSS SECTION AT ROAD DITCH, TYP. PLAN VIEW, TYP.

> **DETAIL 12** STABILIZED CONSTRUCTION ENTRANCE

- 4" to 6" STONE SHALL EXTEND THE FULL WIDTH OF THE ACCESS ROAD.
- 4" to 6" STONE SHALL MEET THE GRADATION REQUIREMENTS FOR CLASS 7 AGGREGATE IN TABLE 704.6.2A OF THE WYDOH STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES.
- TURNOUTS ONTO PAVED ROADS FROM TURNOUTS ONTO PAVED ROADS FROM STONE CONSTRUCTION ENTRANCES SHALL BE A MINIMUM OF 10.0 FEET AS MEASURED ALONG THE PAVED ROAD, REGARDLESS OF THE ANGLE AT WHICH THE STONE CONSTRUCTION ENTRANCE ENCOUNTERS THE PAVED

EROSION AND SEDIMENT CONTROL DETAILS SEAL **REVISION RECORD OAntero** NO. DATE DESCRIPTION Midstream Partners or **BALLI PIPELINE** CENTRAL DISTRICT, DODDRIDGE COUNTY, WY SCALE: AS SHOWN DRAWN BY: DECEMBER 2014 PROJECT NO: 143-172 SHEET 9 OF 9

SCALE: 1" = 20 FEET

NOT TO SCALE

