



October 28, 2016

Coal Township  
Floodplain Administrator  
805 West Lynn Street  
Coal Township, PA 17866

Re: Atlantic Sunrise Project  
Central Penn Line South  
Coal Township, Northumberland County  
Floodplain Management Analysis

Dear Sir or Madam:

Transcontinental Gas Pipeline Company, LLC (Transco) proposes to construct and operate the Atlantic Sunrise Project (Project) to provide 1.7 million dekatherms per day of incremental firm transportation of natural gas from the Marcellus Shale production areas in northern Pennsylvania (PA) to its existing market areas, extending to as far south as the Station 85 Pooling Point in Choctaw County, Alabama. The Project includes modifications to the existing Transco Mainline System to reverse the direction of flow, enabling new north-to-south capabilities (bi-directional flow) to transport this new source of natural gas to existing markets. The Project consists of the following primary components within PA:

- Installing greenfield pipeline facilities of approximately 58.6 miles of new 30-inch-diameter pipe from Susquehanna County, PA to Columbia County, PA.
- Installing greenfield pipeline facilities of approximately 127.3 miles of 42-inch-diameter pipe from Columbia County, PA to Lancaster County, PA.;
- Installing two pipeline loops (pipeline laid parallel to existing facilities):
  - 8.56 miles of 42-inch pipeline loop located in Lycoming County, PA known as the Unity Loop;
  - 2.50 miles of 36-inch pipeline in Clinton County, PA, known as the Chapman Loop;
- Constructing two new compressor stations, one in Wyoming County and one in Columbia County, PA;
- Additional ancillary facilities, such as mainline valves, cathodic protection, communication facilities, and internal inspection device (e.g., pig) launchers and receivers;
- Two new meter stations and three new regulator stations with interconnecting piping;
- Additional compression and related modifications to one existing compressor station; and,
- Modification to an existing meter station for use of shared facilities with a new meter station.

Transco's consultants, BL Companies and TRC Solutions (TRC), have completed an analysis of potential impacts on FEMA delineated floodways from the Project in accordance with 25 Pa. Code § 105.13. The analysis for Coal Township is provided below for your review and comment.

Coal Township  
October 28, 2016  
BL Project No. 14C4909  
Page 1 of 3

**ATLANTIC SUNRISE PROJECT  
FEMA FLOODPLAIN CROSSINGS  
COAL TOWNSHIP, NORTHUMBERLAND COUNTY, PENNSYLVANIA**

Description of Impact	Structure Type and Dimensions	Resource ID	Resource Name	Chapter 93 Classification, Wetland Classification (EV or Other), or Floodway Type	Floodway Fill (cu. yds.)	Impact area (acres)		Latitude	Longitude
						Temporary	Permanent		
Utility Pipeline Crossing	Equipment Access and E&S Controls	WW-T04-10001	Floodway to Shamokin Creek	FEMA Detailed	N/A	0.4351	0.0429 <sup>2</sup>	40.77539	-76.50755
Utility Pipeline Crossing	Equipment Access and E&S Controls	WW-T18-10002	Floodway to Quaker Run	FEMA Detailed	N/A	0.4716	0.0415 <sup>2</sup>	40.78460	-76.50903
Temporary Road Crossing	Equipment Access and E&S Controls	WW-T04-10001	Floodway to Shamokin Creek	FEMA Detailed	0.00 <sup>1</sup>	0.6308	0.000	40.77555	-76.50967

<sup>1</sup> Floodway fill is associated with a temporary access road. Pre development contours will be restored prior to permit termination.  
<sup>2</sup> Permanent impacts associated with utility pipeline crossings are based on the permanent pipe footprint within the floodplain (pipe trench width x pipe crossing length). No permanent alternation to the floodway contours and elevation is associated with these permanent impacts.

The floodway crossings listed above are depicted on the enclosed plans from the Project's PADEP Chapter 105 Permit Application.

Please note that construction activities are not expected to create permanent loss of flood storage capacity or hydraulic capacity, as all pre-construction surface elevations will be re-established during restoration. The temporary and permanent impacts noted above are associated with vegetation management and underground pipe installation and temporary access road grading only, and do not represent a permanent modification of ground elevation or loss of flood storage capacity or hydraulic capacity. No structures are proposed within the FEMA 100-year floodplain, no permanent fill will be placed in the floodways, and no increase in 100-year flood elevation is anticipated as a result of the proposed Project.

On behalf of Transco, BL and TRC respectfully request that Coal Township review this analysis and, if applicable, provide comments to:

Steve Crescenzo  
 TRC Environmental Corporation  
 2200 Liberty Avenue, Suite 100  
 Pittsburgh, PA 15222

**Please do not send comments directly to the PADEP**, as we must include them with our permit application. Should you have any questions or concerns regarding this notification, please contact Al Busher at (717)-651-9850 or via email at abusher@blcompanies.com.

Sincerely,



Alaric J. Busher, PE  
 Coal Township  
 October 28, 2016  
 BL Project No. 14C4909  
 Page 2 of 3

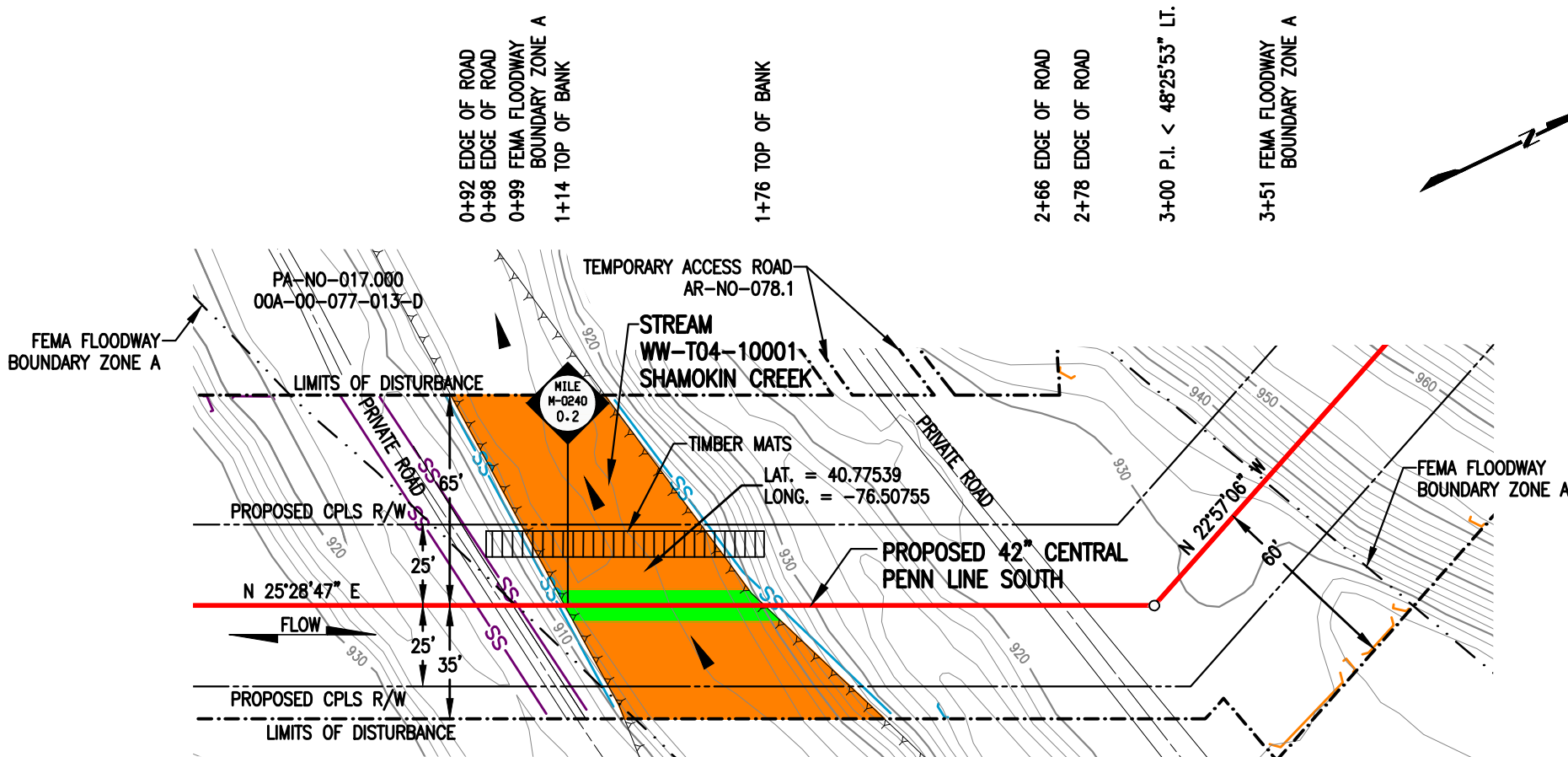
Senior Engineer

Enclosures: Water Obstruction and Encroachment Permit Impact Maps

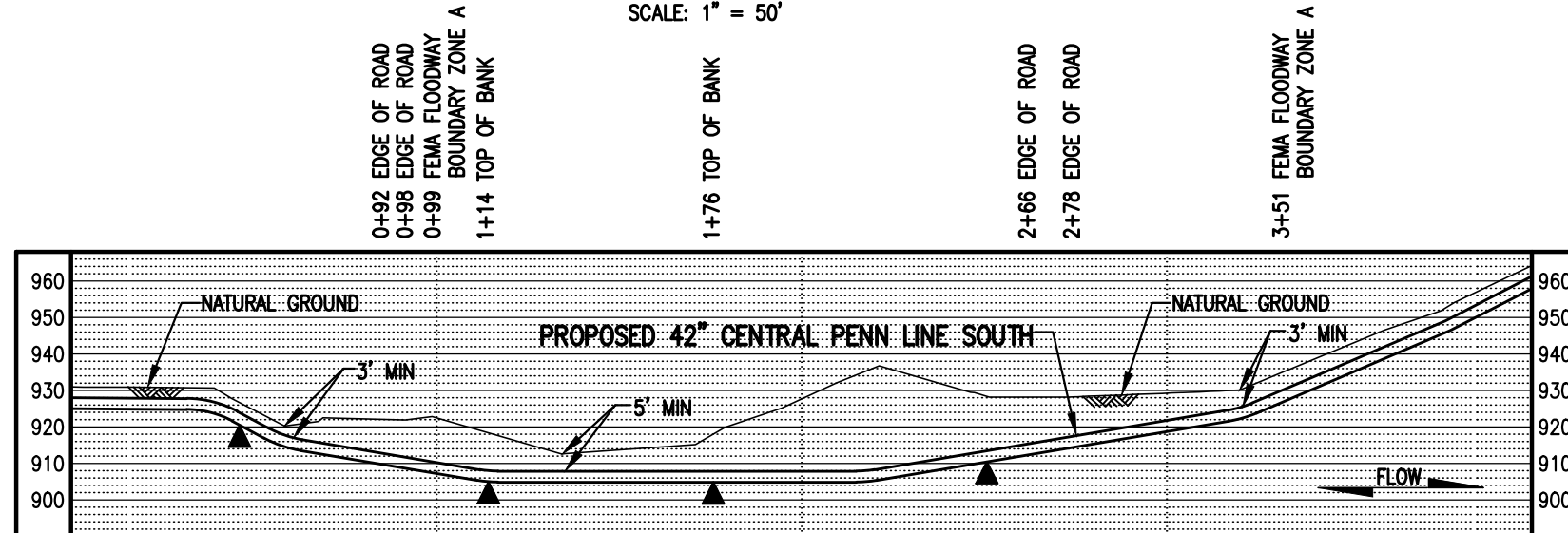
**STREAM DISTURBANCE:**

STREAM WW-T04-10001	ACRE
TEMPORARY STREAM DISTURBANCE	0.1233
PERMANENT STREAM DISTURBANCE	0.0142
TOTAL STREAM DISTURBANCE	0.1375
TEMPORARY FLOODWAY DISTURBANCE	0.4351
PERMANENT FLOODWAY DISTURBANCE	0.0429
TOTAL FLOODWAY DISTURBANCE	0.4780

STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	61.64
STREAM LENGTH	119.00



**PLAN**  
SCALE: 1" = 50'



**PROFILE**  
SCALE: 1" = 50' HORIZONTAL  
1" = 50' VERTICAL

**GENERAL NOTES:**

1. STREAM CROSSING METHOD SHALL BE DAM AND PUMP (DPX). EQUIPMENT TO CROSS STREAM UTILIZING A BRIDGE EQUIPMENT CROSSING (BEC).
2. THIS SITE IS LOCATED WITHIN THE 100 YEAR FLOOD PLAIN PER FEMA FLOOD MAP DATA.
3. STATION 1+00 SHOWN IS EQUAL TO M-0240 STATION 10+41 ON THE EROSION AND SEDIMENT CONTROL PLAN.

**SURVEY NOTES:**

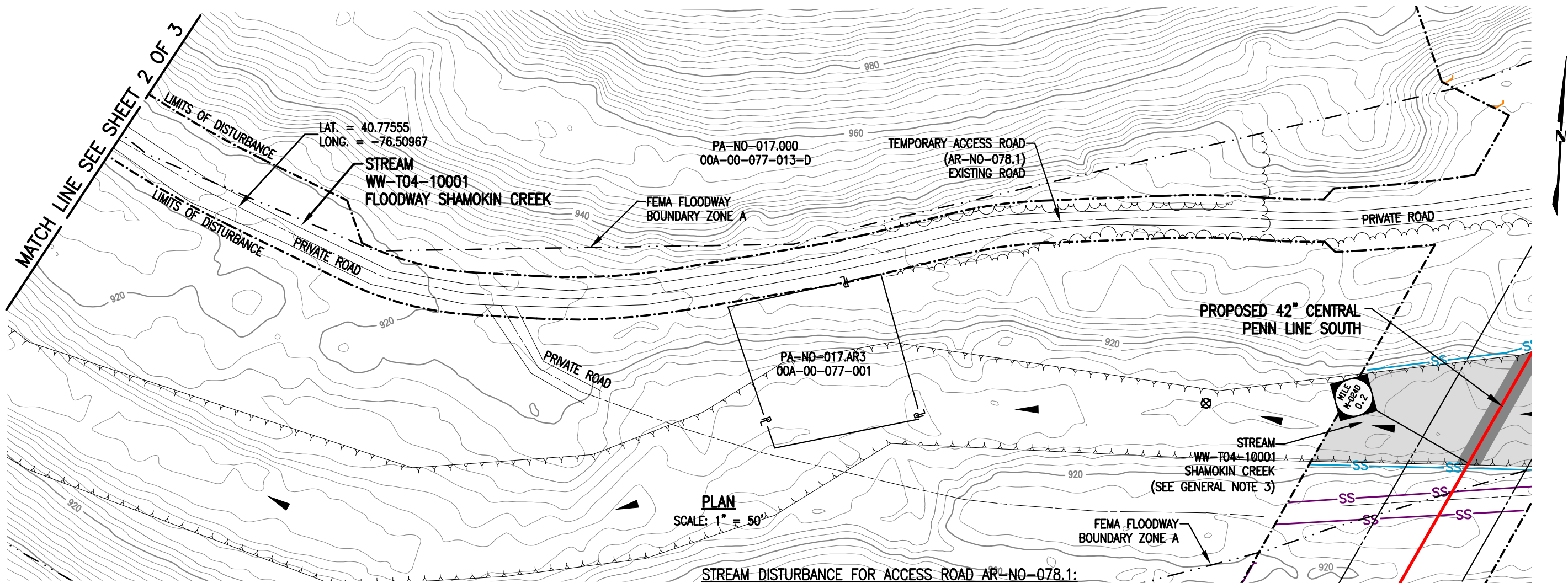
1. T.B.M. SURVEY CONTROL POINT - 67' LT. OF M-0240 M.P. 0.21, ELEV. = 923.294' (NAVD88).



**LEGEND**

	PROPOSED 42" CENTRAL PENN LINE SOUTH		WETLAND FLAGS		<b>WOOD GROUP MUSTANG, INC.</b>
	EXISTING PIPELINES		PHOTO DATA POINT		12" SEDIMENT BARRIER
	EXISTING TGPL R/W		WETLAND DATA POINT		18" SEDIMENT BARRIER
	LIMITS OF DISTURBANCE		UPLAND DATA POINT		24" SEDIMENT BARRIER
	PROPOSED CPLS R/W		WELL POINT		32" SEDIMENT BARRIER
	PROPERTY LINE		TRENCH PLUG		TOP OF BANK
	FOREIGN PIPELINE		WATERBODY		PERMANENT STREAM IMPACT
	WETLAND AREA		TREE LINE		TEMPORARY STREAM IMPACT
	STREAM FLOW		FLOODWAY BOUNDARY		
	EXISTING POWER LINE		FEMA FLOODWAY BOUNDARY		
	EXISTING FENCE				

DRAWING NO.		REFERENCE TITLE		<b>TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC</b> <b>WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS</b> <b>ATLANTIC SUNRISE PROJECT</b> <b>PROPOSED 42" CENTRAL PENN LINE SOUTH</b> <b>STREAM CROSSING WW-T04-10001</b> <b>● M-0240 M.P. 0.20</b> <b>COAL TOWNSHIP, NORTHUMBERLAND COUNTY, PENNSYLVANIA</b>			
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.	DRAWN BY: THL CHECKED BY: CLR APPROVED BY: MJH IW: 1161503
0	10/27/16	AD	ISSUED FOR PADEP SUBMITTAL #2	1161503	CLR	MJH	DATE: 01/20/16 DATE: 02/02/16 DATE: 02/03/16 ISSUED FOR BID: ISSUED FOR CONSTRUCTION: DRAWING NUMBER: 24-1600-70-09-A/M-0240-0.20-01 9/28/2016 t2le SCALE: 1" = 50' REVISION: 0 SHEET 1 OF 1



PLAN  
SCALE: 1" = 50'

STREAM DISTURBANCE FOR ACCESS ROAD AR-NO-078.1:

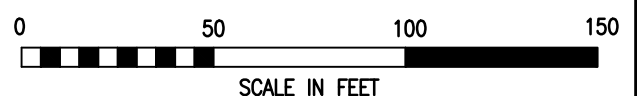
STREAM WW-T04-10001	ACRE
TEMPORARY STREAM DISTURBANCE	0.0000
PERMANENT STREAM DISTURBANCE	0.0000
TOTAL STREAM DISTURBANCE	0.0000
TEMPORARY FLOODWAY DISTURBANCE	0.6308
PERMANENT FLOODWAY DISTURBANCE	0.0000
TOTAL FLOODWAY DISTURBANCE	0.6308
STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	0.00
STREAM LENGTH	0.00

GENERAL NOTES:

1. THIS SITE IS LOCATED WITHIN THE 100 YEAR FLOODPLAIN PER FEMA FLOOD MAP DATA.
2. IMPACT FOR STREAM WW-T04-10001 IS SHOWN ON DRAWING 24-1600-70-A/M-0240-0.20-01.
3. PIPELINE IMPACT TO STREAM WW-T04-10001 IS SHOWN ON DWG. 24-1600-70-09-A/M-0240-0.02-01.

SURVEY NOTES:

1. T.B.M. SURVEY CONTROL POINT - 67' LT. OF M.P. M-0240-0.21, ELEV. = 923.29' (NAVD88).



**LEGEND**

- PROPOSED 42" CENTRAL PENN LINE SOUTH
- EXISTING PIPELINES
- EXISTING TGPL R/W
- LIMITS OF DISTURBANCE
- PROPOSED CPLS R/W
- PROPERTY LINE
- FOREIGN PIPELINE
- WETLAND AREA
- STREAM FLOW
- EXISTING POWER LINE
- EXISTING FENCE

- WETLAND FLAGS
- PHOTO DATA POINT
- WETLAND DATA POINT
- UPLAND DATA POINT
- WELL POINT
- TRENCH PLUG
- WATERBODY
- TREE LINE
- FLOODWAY BOUNDARY
- FEMA FLOODWAY BOUNDARY

**WOOD GROUP MUSTANG, INC.**

- 12" SEDIMENT BARRIER
- 18" SEDIMENT BARRIER
- 24" SEDIMENT BARRIER
- 32" SEDIMENT BARRIER
- TOP OF BANK
- PERMANENT STREAM IMPACT
- TEMPORARY STREAM IMPACT

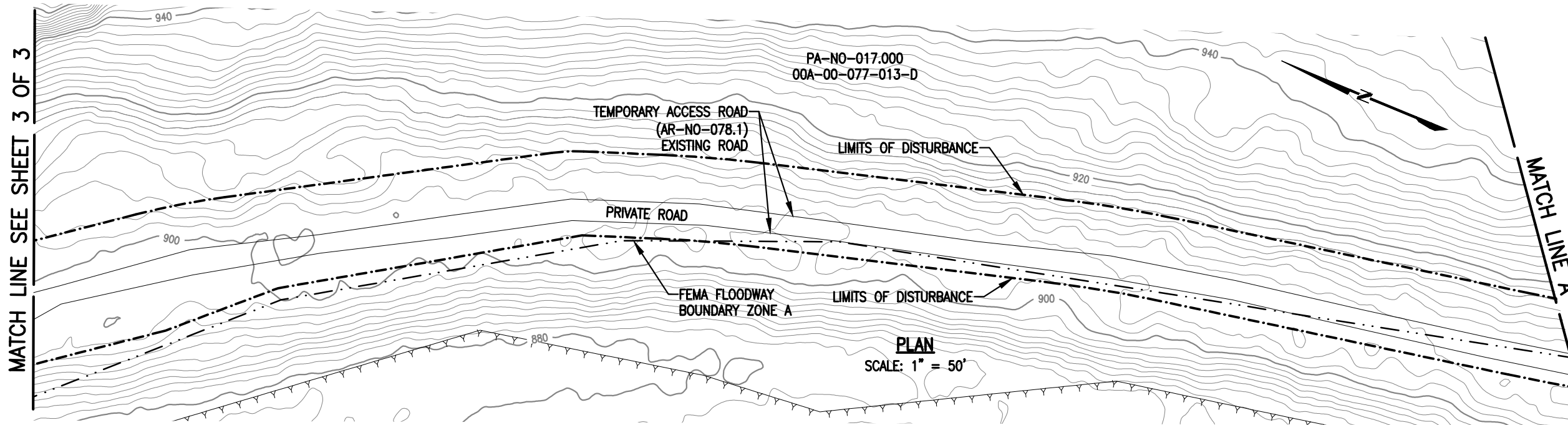
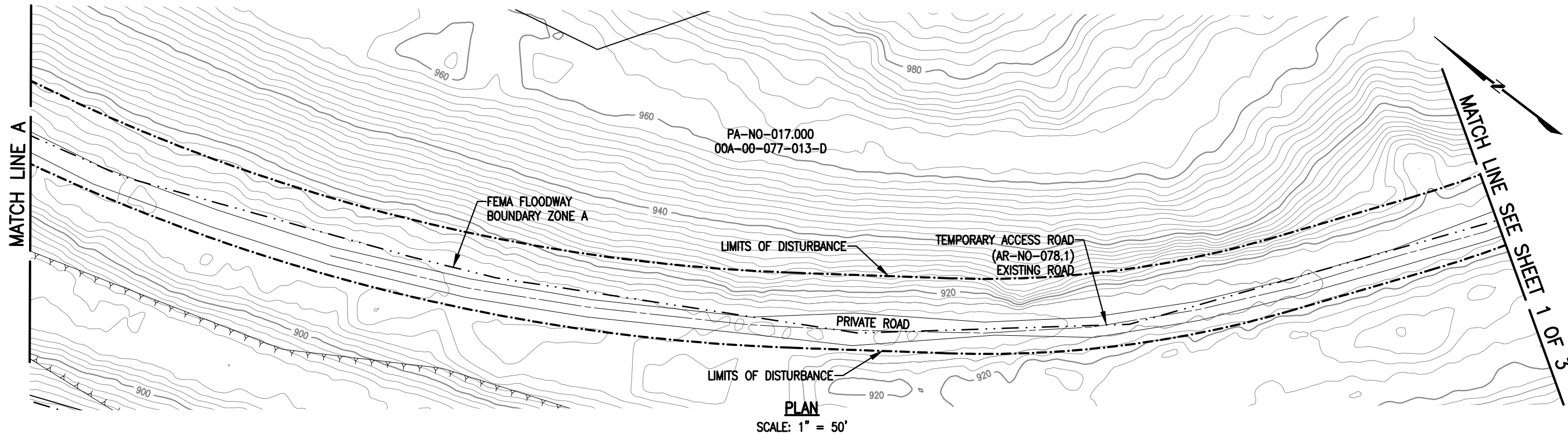
DRAWING NO.	REFERENCE TITLE					
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.
0	10/27/16	JB	ISSUED FOR PADEP SUBMITTAL #2	1161503	CLR	MJH

**TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC**  
**WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS**  
**ATLANTIC SUNRISE PROJECT**  
**PROPOSED 42" CENTRAL PENN LINE SOUTH**  
**STREAM CROSSING WW-T04-10001**  
**© M-0240 M.P. 0.20**  
**COAL TOWNSHIP, NORTHUMBERLAND COUNTY, PENNSYLVANIA**

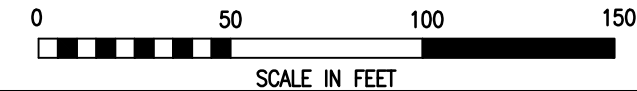
**Williams**

DRAWN BY: JB	DATE: 07/21/16	ISSUED FOR BID:	SCALE: 1" = 50'
CHECKED BY: CLR	DATE: 07/21/16	ISSUED FOR CONSTRUCTION:	REVISION: 0
APPROVED BY: MJH	DATE: 07/21/16	DRAWING NUMBER: 24-1600-70-09-A/AR-NO-078.1-01	SHEET 1
WO: 1161503	10/19/2016	7:04am	OF 3





STREAM DISTURBANCE FOR  
ACCESS ROAD OF AR-NO-078.1:  
SEE TABLE ON SHEET 1 OF 3

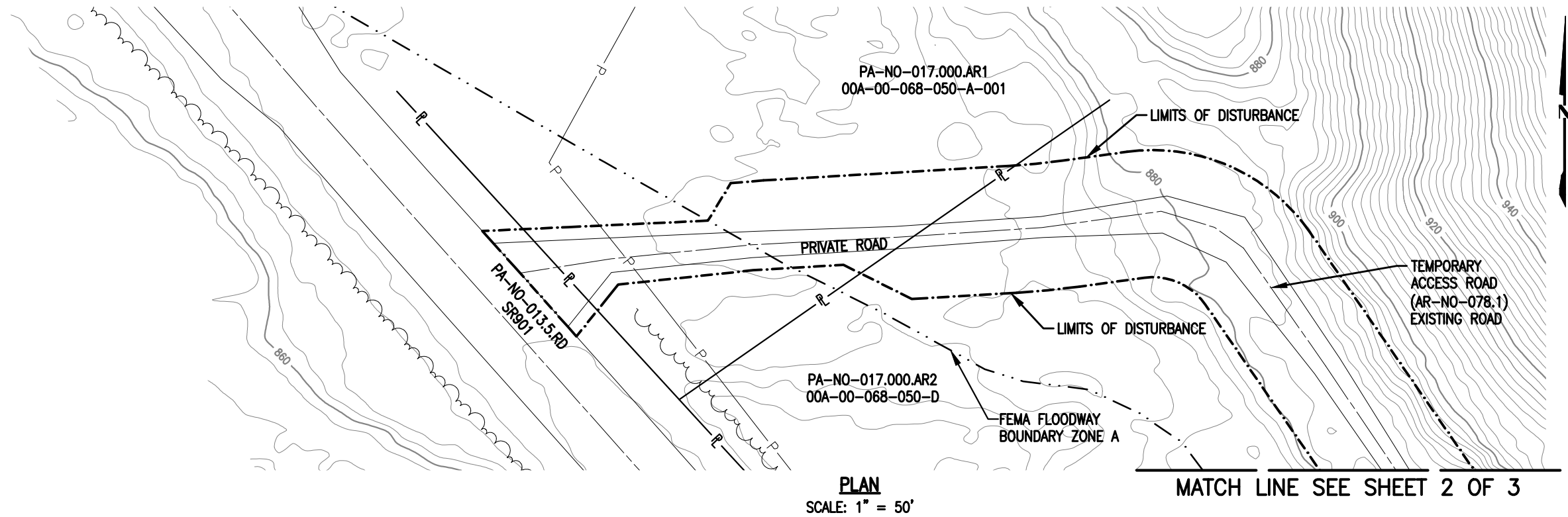


LEGEND		WOOD GROUP MUSTANG, INC.	
	PROPOSED 42" CENTRAL PENN LINE SOUTH		WETLAND FLAGS
	EXISTING PIPELINES		PHOTO DATA POINT
	EXISTING TGPL R/W		WETLAND DATA POINT
	LIMITS OF DISTURBANCE		UPLAND DATA POINT
	PROPOSED CPLS R/W		WELL POINT
	PROPERTY LINE		TRENCH PLUG
	FOREIGN PIPELINE		WATERBODY
	WETLAND AREA		TREE LINE
	STREAM FLOW		FLOODWAY BOUNDARY
	EXISTING POWER LINE		FEMA FLOODWAY BOUNDARY
	EXISTING FENCE		12" SEDIMENT BARRIER
			18" SEDIMENT BARRIER
			24" SEDIMENT BARRIER
			32" SEDIMENT BARRIER
			TOP OF BANK
			PERMANENT STREAM IMPACT
			TEMPORARY STREAM IMPACT

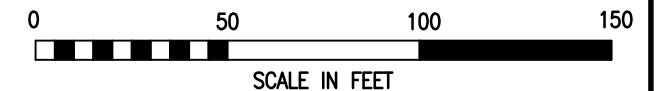
DRAWING NO.	REFERENCE TITLE

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.
0	10/27/16	JB	ISSUED FOR PADEP SUBMITTAL #2	1161503	CLR	MJH

TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS ATLANTIC SUNRISE PROJECT PROPOSED 42" CENTRAL PENN LINE SOUTH STREAM CROSSING WW-T04-10001 M-0240 M.P. 0.20 COAL TOWNSHIP, NORTHUMBERLAND COUNTY, PENNSYLVANIA			
DRAWN BY: JB	DATE: 07/21/16	ISSUED FOR BID:	SCALE: 1" = 50'
CHECKED BY: CLR	DATE: 07/21/16	ISSUED FOR CONSTRUCTION:	REVISION: 0
APPROVED BY: MJH	DATE: 07/21/16	DRAWING NUMBER: 24-1600-70-09-A/AR-NO-078.1-01	SHEET 2
WO: 1161503		7-06am 10/19/2016 vqtran	OF 3



PLAN  
SCALE: 1" = 50'



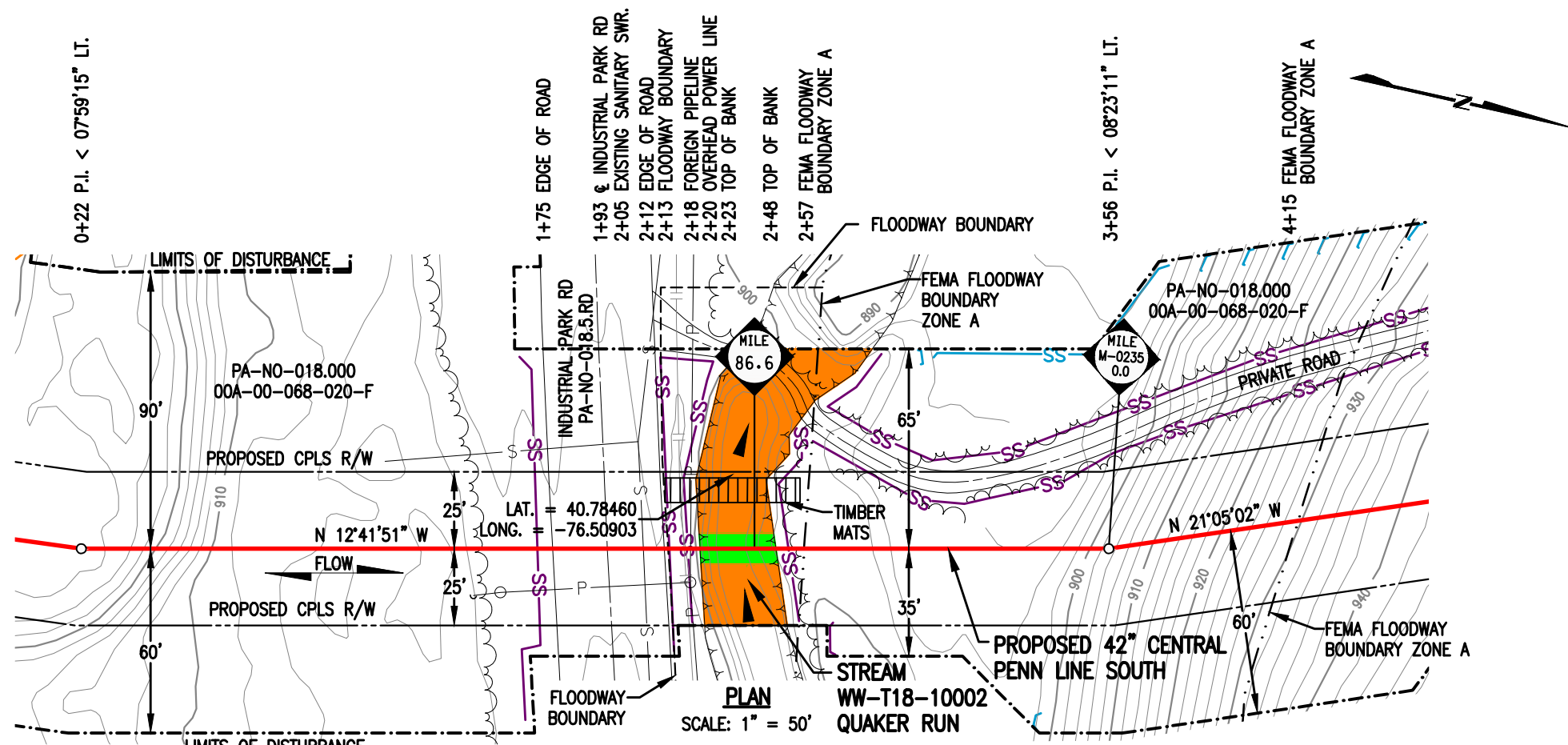
LEGEND		WOOD GROUP MUSTANG, INC.	
	PROPOSED 42" CENTRAL PENN LINE SOUTH		WETLAND FLAGS
	EXISTING PIPELINES		PHOTO DATA POINT
	EXISTING TGPL R/W		WETLAND DATA POINT
	LIMITS OF DISTURBANCE		UPLAND DATA POINT
	PROPOSED CPLS R/W		WELL POINT
	PROPERTY LINE		TRENCH PLUG
	FOREIGN PIPELINE		WATERBODY
	WETLAND AREA		TREE LINE
	STREAM FLOW		FLOODWAY BOUNDARY
	EXISTING POWER LINE		FEMA FLOODWAY BOUNDARY
	EXISTING FENCE		12" SEDIMENT BARRIER
			18" SEDIMENT BARRIER
			24" SEDIMENT BARRIER
			32" SEDIMENT BARRIER
			TOP OF BANK
			PERMANENT STREAM IMPACT
			TEMPORARY STREAM IMPACT

DRAWING NO.		REFERENCE TITLE	
NO.	DATE	BY	REVISION DESCRIPTION
0	10/27/16	JB	ISSUED FOR PADEP SUBMITTAL #2

TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC  
WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS  
ATLANTIC SUNRISE PROJECT  
PROPOSED 42" CENTRAL PENN LINE SOUTH  
STREAM CROSSING WW-T04-10001  
M-0240 M.P. 0.20  
COAL TOWNSHIP, NORTHUMBERLAND COUNTY, PENNSYLVANIA

DRAWN BY: THL	DATE: 07/22/16	ISSUED FOR BID:	SCALE: 1" = 50'
CHECKED BY: CLR	DATE: 07/22/16	ISSUED FOR CONSTRUCTION:	REVISION: 0
APPROVED BY: MJH	DATE: 07/23/16	DRAWING NUMBER: 24-1600-70-09-A/AR-NO-078.1-01	SHEET 3
WO: 1161503		7:07am 10/19/2016 vqtran	OF 3





**STREAM DISTURBANCE:**

STREAM WW-T18-10002	ACRE
TEMPORARY STREAM DISTURBANCE	0.0533
PERMANENT STREAM DISTURBANCE	0.0057
TOTAL STREAM DISTURBANCE	0.0590
TEMPORARY FLOODWAY DISTURBANCE	0.4716
PERMANENT FLOODWAY DISTURBANCE	0.0415
TOTAL FLOODWAY DISTURBANCE	0.5131

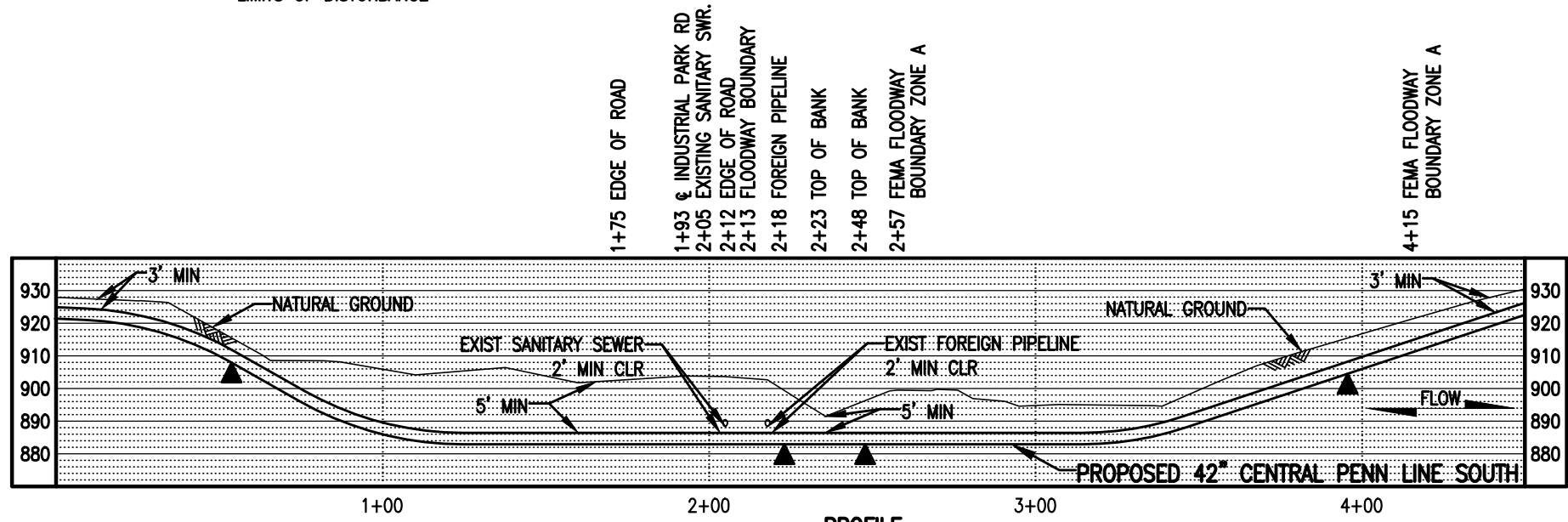
STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	24.70
STREAM LENGTH	94.88

**GENERAL NOTES:**

1. STREAM CROSSING METHOD SHALL BE FLUME (FX). EQUIPMENT TO CROSS STREAM UTILIZING A BRIDGE EQUIPMENT CROSSING (BEC).
2. THIS SITE IS LOCATED WITHIN THE 100 YEAR FLOOD PLAIN PER FEMA FLOOD MAP DATA.
3. STATION 1+00 SHOWN IS EQUAL TO STATION 4571+07 ON THE EROSION AND SEDIMENT CONTROL PLAN.

**SURVEY NOTES:**

1. T.B.M. SURVEY CONTROL POINT - 14' LT. OF M.P. 86.59, ELEV. = 902.43' (NAVD88).



**LEGEND**

	PROPOSED 42" CENTRAL PENN LINE SOUTH		WETLAND FLAGS		<b>WOOD GROUP MUSTANG, INC.</b>
	EXISTING PIPELINES		PHOTO DATA POINT		
	EXISTING TGPL R/W		WETLAND DATA POINT		
	LIMITS OF DISTURBANCE		UPLAND DATA POINT		
	PROPOSED CPLS R/W		WELL POINT		
	PROPERTY LINE		TRENCH PLUG		
	FOREIGN PIPELINE		WATERBODY		
	WETLAND AREA		TREE LINE		
	STREAM FLOW		FLOODWAY BOUNDARY		PERMANENT STREAM IMPACT
	EXISTING POWER LINE		FEMA FLOODWAY BOUNDARY		TEMPORARY STREAM IMPACT
	EXISTING FENCE				

THIS DRAWING SUPERCEDES 25-1600-70-09-A/86.59-01

DRAWING NO.		REFERENCE TITLE		<b>TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC</b> <b>WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS</b> <b>ATLANTIC SUNRISE PROJECT</b> <b>PROPOSED 42" CENTRAL PENN LINE SOUTH</b> <b>STREAM CROSSING WW-T18-10002</b> <b>M.P. 86.60</b> <b>COAL TOWNSHIP, NORTHUMBERLAND COUNTY, PENNSYLVANIA</b>						
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.	DRAWN BY: AO	DATE: 03/02/15	ISSUED FOR BID:	SCALE: 1" = 50'
0	07/30/15	MBS	ISSUED FOR PADEP 105 PERMIT	1161503	CLR	MJH	CHECKED BY: ML	DATE: 03/07/15	ISSUED FOR CONSTRUCTION:	REVISION: 2
1	02/03/16	AKB	ISSUED FOR INTERNAL USE	1161503	CLR	MJH	APPROVED BY: MJH	DATE: 05/22/15	DRAWING NUMBER: 24-1600-70-09-A/86.59-02	SHEET 1
2	10/27/16	AT	ISSUED FOR PADEP SUBMITTAL #2	1161503	CLR	MJH	IWO: 1161503	DATE: 10/5/2016	altraha	OF 1





October 28, 2016

East Cameron Township  
Floodplain Administrator  
4628 Upper Road  
Shamokin, PA 17872

Re: Atlantic Sunrise Project  
Central Penn Line South  
East Cameron Township, Northumberland County  
Floodplain Management Analysis

Dear Sir or Madam:

Transcontinental Gas Pipeline Company, LLC (Transco) proposes to construct and operate the Atlantic Sunrise Project (Project) to provide 1.7 million dekatherms per day of incremental firm transportation of natural gas from the Marcellus Shale production areas in northern Pennsylvania (PA) to its existing market areas, extending to as far south as the Station 85 Pooling Point in Choctaw County, Alabama. The Project includes modifications to the existing Transco Mainline System to reverse the direction of flow, enabling new north-to-south capabilities (bi-directional flow) to transport this new source of natural gas to existing markets. The Project consists of the following primary components within PA:

- Installing greenfield pipeline facilities of approximately 58.6 miles of new 30-inch-diameter pipe from Susquehanna County, PA to Columbia County, PA.
- Installing greenfield pipeline facilities of approximately 127.3 miles of 42-inch-diameter pipe from Columbia County, PA to Lancaster County, PA.;
- Installing two pipeline loops (pipeline laid parallel to existing facilities):
  - 8.56 miles of 42-inch pipeline loop located in Lycoming County, PA known as the Unity Loop;
  - 2.50 miles of 36-inch pipeline in Clinton County, PA, known as the Chapman Loop;
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- Additional ancillary facilities, such as mainline valves, cathodic protection, communication facilities, and internal inspection device (e.g., pig) launchers and receivers;
- Two new meter stations and three new regulator stations with interconnecting piping;
- Additional compression and related modifications to one existing compressor station; and,
- Modification to an existing meter station for use of shared facilities with a new meter station.

Transco's consultants, BL Companies and TRC Solutions (TRC), have completed an analysis of potential impacts on FEMA delineated floodways from the Project in accordance with 25 Pa. Code § 105.13. The analysis for East Cameron Township is provided below for your review and comment.

East Cameron Township  
October 28, 2016  
BL Project No. 14C4909  
Page 1 of 3

**ATLANTIC SUNRISE PROJECT  
FEMA FLOODPLAIN CROSSINGS  
EAST CAMERON TOWNSHIP, NORTHUMBERLAND COUNTY, PENNSYLVANIA**

Description of Impact	Structure Type and Dimensions	Resource ID)	Resource Name	Chapter 93 Classification, Wetland Classification (EV or Other), or Floodway Type	Floodway Fill (cu. yds.)	Impact area (acres)		Latitude	Longitude
						Temporary	Permanent		
Utility Pipeline Crossing	Equipment Access and E&S Controls	WW-T01-10001	Floodway to Mahonoy Creek	FEMA Detailed <sup>1</sup>	N/A	0.8970	0.0670 <sup>2</sup>	40.73981	-76.49594
Temporary Road Crossing	Equipment Access and E&S Controls	WW-T01-10001	Floodway to Shamokin Creek	FEMA Detailed	1929.76 <sup>3</sup>	0.00	0.000	40.74156	-76.47665

Notes:  
<sup>1</sup> Multiple streams are included in these calculations as the floodways overlap.  
<sup>2</sup> Permanent impacts associated with utility pipeline crossings are based on the permanent pipe footprint within the floodplain (pipe trench width x pipe crossing length). No permanent alternation to the floodway contours and elevation is associated with these permanent impacts.  
<sup>3</sup> Floodway fill is associated with a temporary access road. Pre development contours will be restored prior to permit termination.

The floodway crossing listed above is depicted on the enclosed plans from the Project’s PADEP Chapter 105 Permit Application.

Please note that construction activities are not expected to create permanent loss of flood storage capacity or hydraulic capacity, as all pre-construction surface elevations will be re-established during restoration. The temporary and permanent impacts noted above are associated with vegetation management and underground pipe installation and temporary access road grading only, and do not represent a permanent modification of ground elevation or loss of flood storage capacity or hydraulic capacity. No structures are proposed within the FEMA 100-year floodplain, no permanent fill will be placed in the floodways, and no increase in 100-year flood elevation is anticipated as a result of the proposed Project.

On behalf of Transco, BL and TRC respectfully request that East Cameron Township review this analysis and, if applicable, provide comments to:

Steve Crescenzo  
 TRC Environmental Corporation  
 2200 Liberty Avenue, Suite 100  
 Pittsburgh, PA 15222

**Please do not send comments directly to the PADEP.** as we must include them with our permit application. Should you have any questions or concerns regarding this notification, please contact Al Busher at (717)-651-9850 or via email at [abusher@blcompanies.com](mailto:abusher@blcompanies.com).

Sincerely,



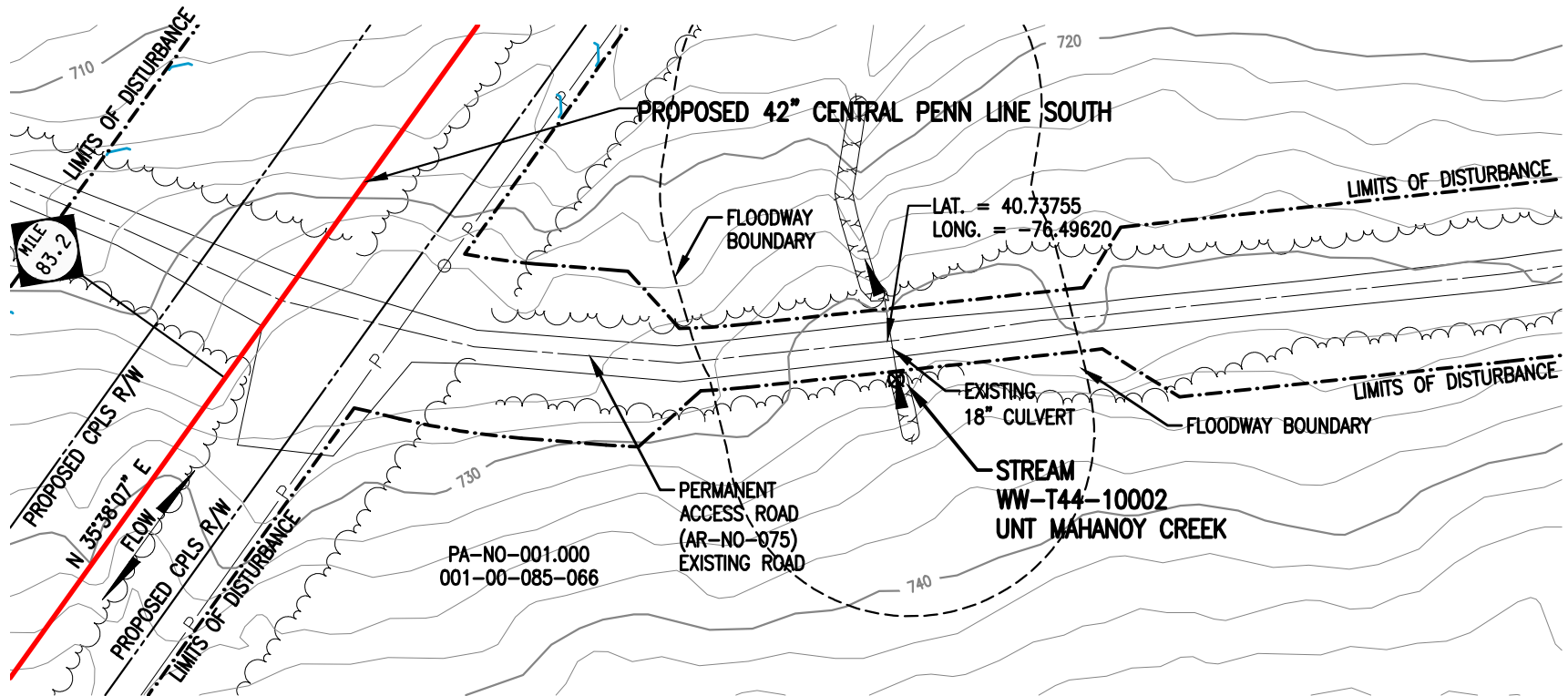
Alaric J. Busher, PE  
 Senior Engineer

Enclosures: Water Obstruction and Encroachment Permit Impact Maps

STREAM DISTURBANCE FOR ACCESS ROAD AR-NO-075:

STREAM WW-T44-10002	ACRE
TEMPORARY STREAM DISTURBANCE	0.0000
PERMANENT STREAM DISTURBANCE	0.0000
TOTAL STREAM DISTURBANCE	0.0000
TEMPORARY FLOODWAY DISTURBANCE	0.0098
PERMANENT FLOODWAY DISTURBANCE	0.0344
TOTAL FLOODWAY DISTURBANCE	0.0442

STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	0.00
STREAM LENGTH	0.00



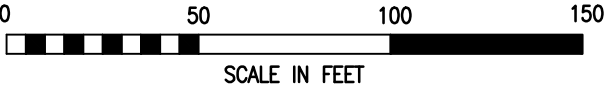
**PLAN**  
SCALE: 1" = 50'

**GENERAL NOTES:**

1. STREAM IS BEING CROSSED BY EXISTING CULVERT.
2. WATERBODIES WITHOUT A FEMA-ESTABLISHED FLOODPLAIN, THE FLOODWAY IS COINCIDENT WITH A 50-FOOT OFFSET MEASURED Laterally FROM THE PHYSICAL TOP OF BANK OF THE WATERBODY.

**SURVEY NOTES:**

1. T.B.M. SURVEY CONTROL POINT - 24.3' RT. OF M.P. 83.20, ELEV. = 724.86' (NAVD88).



**LEGEND**

- PROPOSED 42" CENTRAL PENN LINE SOUTH
- EXISTING PIPELINES
- EXISTING TGPL R/W
- - - - - LIMITS OF DISTURBANCE
- PROPOSED CPLS R/W
- PROPERTY LINE
- FOREIGN PIPELINE
- WETLAND AREA
- STREAM FLOW
- EXISTING POWER LINE
- EXISTING FENCE

**WOOD GROUP MUSTANG, INC.**

- WETLAND FLAGS
- PHOTO DATA POINT
- WETLAND DATA POINT
- UPLAND DATA POINT
- WELL POINT
- TRENCH PLUG
- WATERBODY
- TREE LINE
- FLOODWAY BOUNDARY
- FEMA FLOODWAY BOUNDARY

- 12" SEDIMENT BARRIER
- 18" SEDIMENT BARRIER
- 24" SEDIMENT BARRIER
- 32" SEDIMENT BARRIER
- TOP OF BANK
- PERMANENT STREAM IMPACT
- TEMPORARY STREAM IMPACT

DRAWING NO.		REFERENCE TITLE		<b>TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC</b> <b>WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS</b> <b>ATLANTIC SUNRISE PROJECT</b> <b>PROPOSED 42" CENTRAL PENN LINE SOUTH</b> <b>STREAM CROSSING WW-T44-10002</b> <b>● M.P. 83.21</b> <b>EAST CAMERON TOWNSHIP, NORTHUMBERLAND COUNTY, PENNSYLVANIA</b>							
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.	DRAWN BY: TL	DATE: 06/21/16	ISSUED FOR BID:	SCALE: 1" = 50'	
0	10/27/16	TL	ISSUED FOR PADEP SUBMITTAL #2	1161503	CLR	MJH	CHECKED BY: CLR	DATE: 07/06/16	ISSUED FOR CONSTRUCTION:	REVISION: 0	
							APPROVED BY: MJH	DATE: 07/06/16	DRAWING NUMBER: 24-1600-70-09-A/AR-NO-075-01	SHEET 1	
							WO: 1161503	10/11/2016 12:01pm	OF 4		

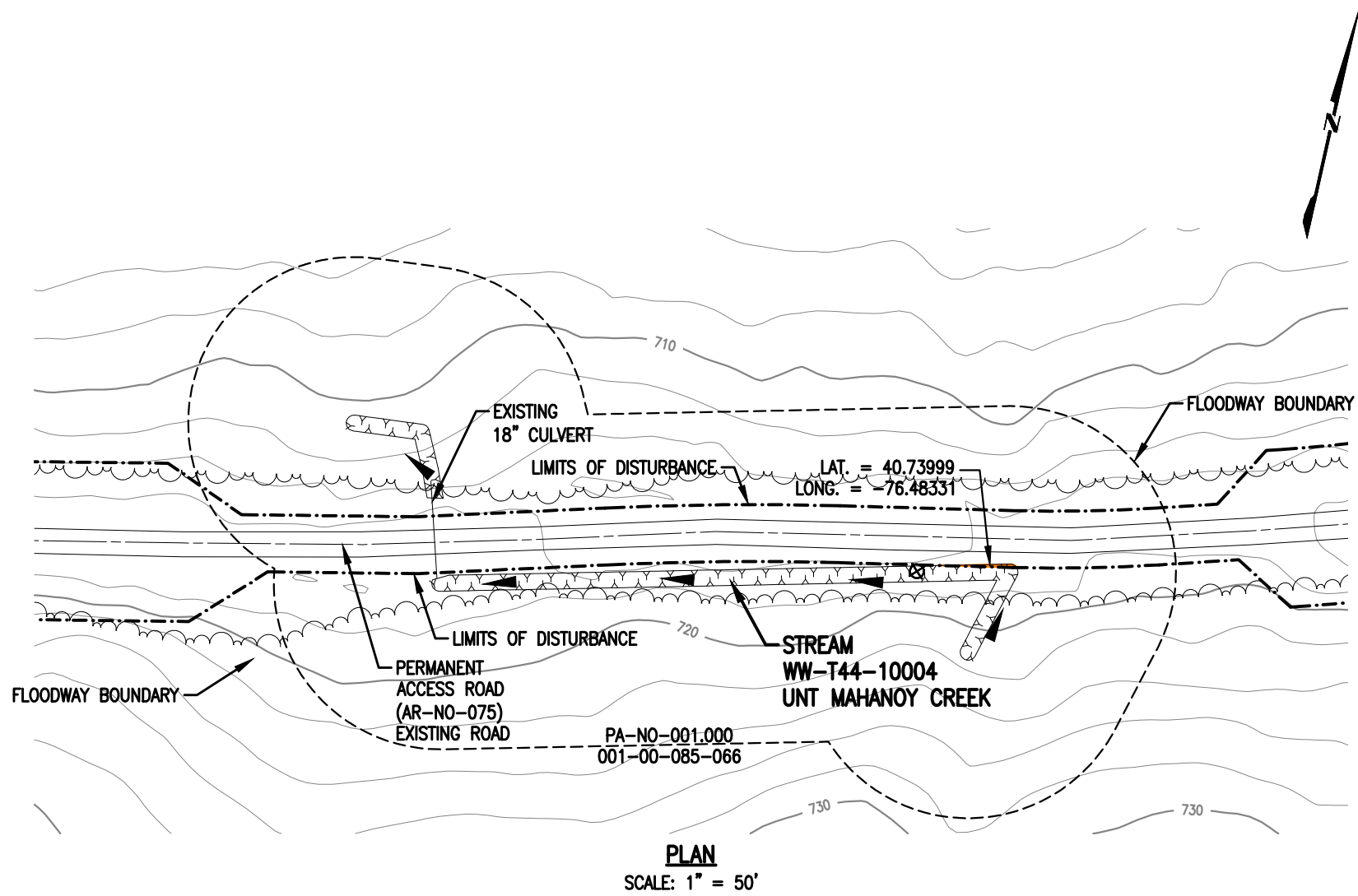




STREAM DISTURBANCE FOR ACCESS ROAD AR-NO-075:

STREAM WW-T44-10004	ACRE
TEMPORARY STREAM DISTURBANCE	0.0003
PERMANENT STREAM DISTURBANCE	0.0000
TOTAL STREAM DISTURBANCE	0.0003
TEMPORARY FLOODWAY DISTURBANCE	0.0274
PERMANENT FLOODWAY DISTURBANCE	0.0946
TOTAL FLOODWAY DISTURBANCE	0.1220

STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	1.04
STREAM LENGTH	4.09

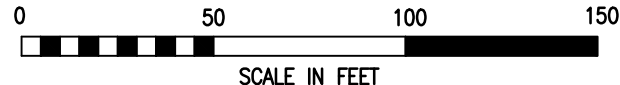


GENERAL NOTES:

1. STREAM IS BEING CROSSED BY EXISTING CULVERT.
2. WATERBODIES WITHOUT A FEMA-ESTABLISHED FLOODPLAIN, THE FLOODWAY IS COINCIDENT WITH A 50-FOOT OFFSET MEASURED Laterally FROM THE PHYSICAL TOP OF BANK OF THE WATERBODY.

SURVEY NOTES:

1. T.B.M. SURVEY CONTROL POINT - 24.3' RT. OF M.P. 83.20, ELEV. = 724.86' (NAVD88).



**LEGEND**

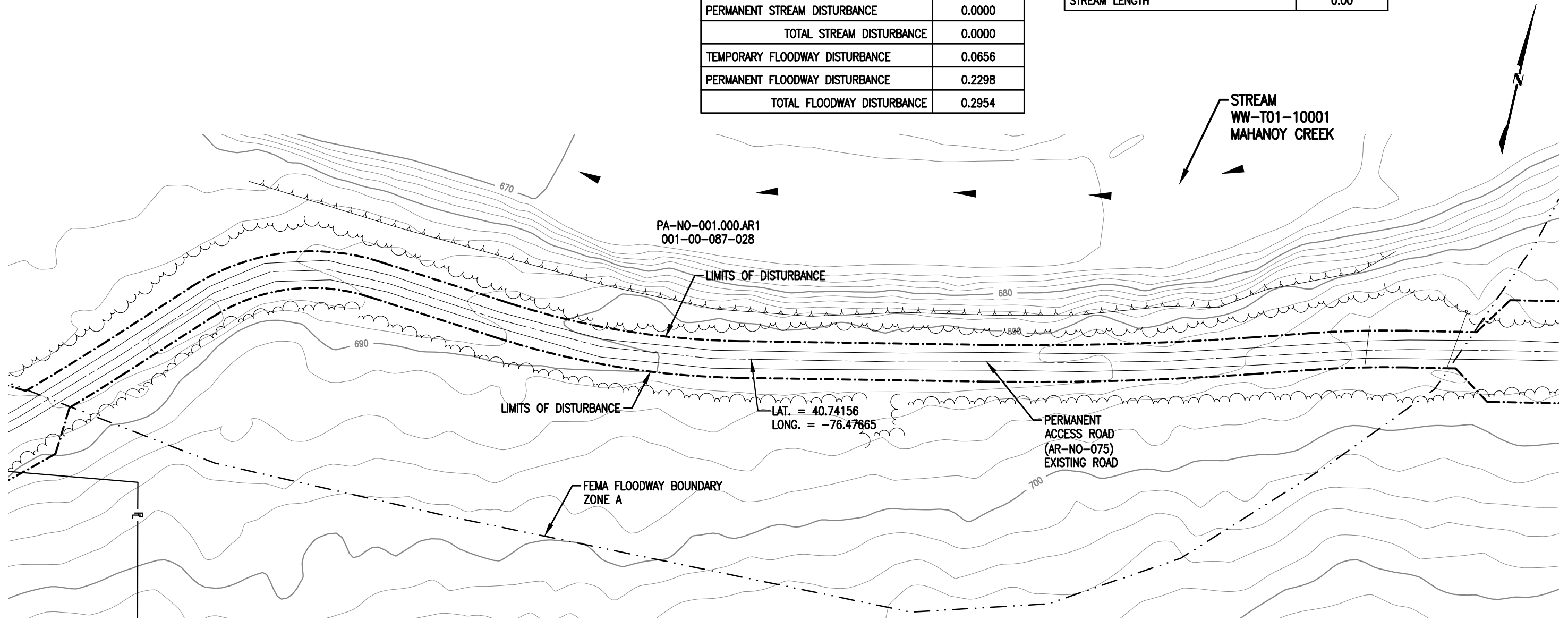
	PROPOSED 42" CENTRAL PENN LINE SOUTH		WETLAND FLAGS		<b>WOOD GROUP MUSTANG, INC.</b>
	EXISTING PIPELINES		PHOTO DATA POINT		12" SEDIMENT BARRIER
	EXISTING TGPL R/W		WETLAND DATA POINT		18" SEDIMENT BARRIER
	LIMITS OF DISTURBANCE		UPLAND DATA POINT		24" SEDIMENT BARRIER
	PROPOSED CPLS R/W		WELL POINT		32" SEDIMENT BARRIER
	PROPERTY LINE		TRENCH PLUG		PERMANENT STREAM IMPACT
	FOREIGN PIPELINE		WATERBODY		TEMPORARY STREAM IMPACT
	WETLAND AREA		TREE LINE		
	STREAM FLOW		FLOODWAY BOUNDARY		
	EXISTING POWER LINE		FEMA FLOODWAY BOUNDARY		
	EXISTING FENCE				

DRAWING NO.		REFERENCE TITLE		TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS ATLANTIC SUNRISE PROJECT PROPOSED 42" CENTRAL PENN LINE SOUTH STREAM CROSSING WW-T44-10004 @ M.P. 83.21 EAST CAMERON TOWNSHIP, NORTHUMBERLAND COUNTY, PENNSYLVANIA				
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.	DRAWN BY: TL DATE: 06/21/16 ISSUED FOR BID:	SCALE: 1" = 50'
0	10/27/16	TL	ISSUED FOR PADEP SUBMITTAL #2	1161503	CLR	MJH	CHECKED BY: CLR DATE: 07/06/16 ISSUED FOR CONSTRUCTION:	REVISION: 0
				APPROVED BY: MJH DATE: 07/06/16		DRAWING NUMBER: 24-1600-70-09-A/AR-NO-075-01 12:15pm 10/11/2016 o1traha K:\103643-CPLS\Mapping\Waterbodies\CPLS_PAN\Revised 105\24-1600-70-09-A_AR-NO-075-01_03.dwg OF 4		

STREAM DISTURBANCE FOR ACCESS ROAD AR-NO-075:

STREAM FLOODWAY TO WW-T01-10001	ACRE
TEMPORARY STREAM DISTURBANCE	0.0000
PERMANENT STREAM DISTURBANCE	0.0000
TOTAL STREAM DISTURBANCE	0.0000
TEMPORARY FLOODWAY DISTURBANCE	0.0656
PERMANENT FLOODWAY DISTURBANCE	0.2298
TOTAL FLOODWAY DISTURBANCE	0.2954

STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	0.00
STREAM LENGTH	0.00



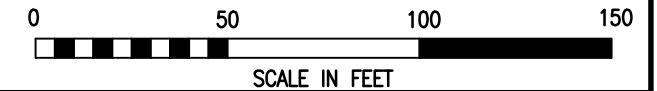
PLAN  
SCALE: 1" = 50'

GENERAL NOTES:

1. STREAM DOES NOT CROSS PROPOSED PIPELINE.
2. THIS SITE IS LOCATED WITHIN THE 100 YEAR FLOOD PLAIN PER FEMA FLOOD MAP DATA.

SURVEY NOTES:

1. T.B.M. SURVEY CONTROL POINT - 24.3' RT. OF M.P. 83.20, ELEV. = 724.86' (NAVD88).



LEGEND

	PROPOSED 42" CENTRAL PENN LINE SOUTH		WETLAND FLAGS		<b>WOOD GROUP MUSTANG, INC.</b>
	EXISTING PIPELINES		PHOTO DATA POINT		12" SEDIMENT BARRIER
	EXISTING TGPL R/W		WETLAND DATA POINT		18" SEDIMENT BARRIER
	LIMITS OF DISTURBANCE		UPLAND DATA POINT		24" SEDIMENT BARRIER
	PROPOSED CPLS R/W		WELL POINT		32" SEDIMENT BARRIER
	PROPERTY LINE		TRENCH PLUG		PERMANENT STREAM IMPACT
	FOREIGN PIPELINE		WATERBODY		TEMPORARY STREAM IMPACT
	WETLAND AREA		TREE LINE		FLOODWAY BOUNDARY
	STREAM FLOW		FEMA FLOODWAY BOUNDARY		FEMA FLOODWAY BOUNDARY
	EXISTING POWER LINE				
	EXISTING FENCE				

DRAWING NO.		REFERENCE TITLE		TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC						
				WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS						
				ATLANTIC SUNRISE PROJECT						
				PROPOSED 42" CENTRAL PENN LINE SOUTH						
				STREAM CROSSING WW-T01-10001						
				© M.P. 83.21						
				EAST CAMERON TOWNSHIP, NORTHUMBERLAND COUNTY, PENNSYLVANIA						
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.	DRAWN BY: TL	DATE: 06/21/16	ISSUED FOR BID:	SCALE: 1" = 50'
0	10/27/16	MF	ISSUED FOR PADEP SUBMITTAL #2	1161503	CLR	MJH	CHECKED BY: CLR	DATE: 07/06/16	ISSUED FOR CONSTRUCTION:	REVISION: 0
							APPROVED BY: MJH	DATE: 07/06/16	DRAWING NUMBER: 24-1600-70-09-A/AR-NO-075-01	SHEET 4
							WO: 1161503		10/11/2016 12:23pm	OF 4

**STREAM DISTURBANCE:**

STREAM WW-T01-10001	ACRE
TEMPORARY STREAM DISTURBANCE	0.1990
PERMANENT STREAM DISTURBANCE	0.0219
<b>TOTAL STREAM DISTURBANCE</b>	<b>0.2209</b>
TEMPORARY FLOODWAY DISTURBANCE	0.6937
PERMANENT FLOODWAY DISTURBANCE	0.0613
<b>TOTAL FLOODWAY DISTURBANCE</b>	<b>0.7550</b>
<b>STREAM DIMENSION</b>	<b>FT.</b>
STREAM WIDTH (TOB TO TOB)	95.32
STREAM LENGTH	101.31

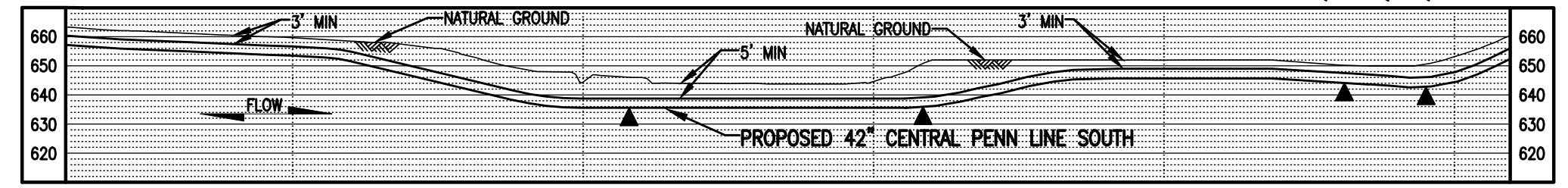
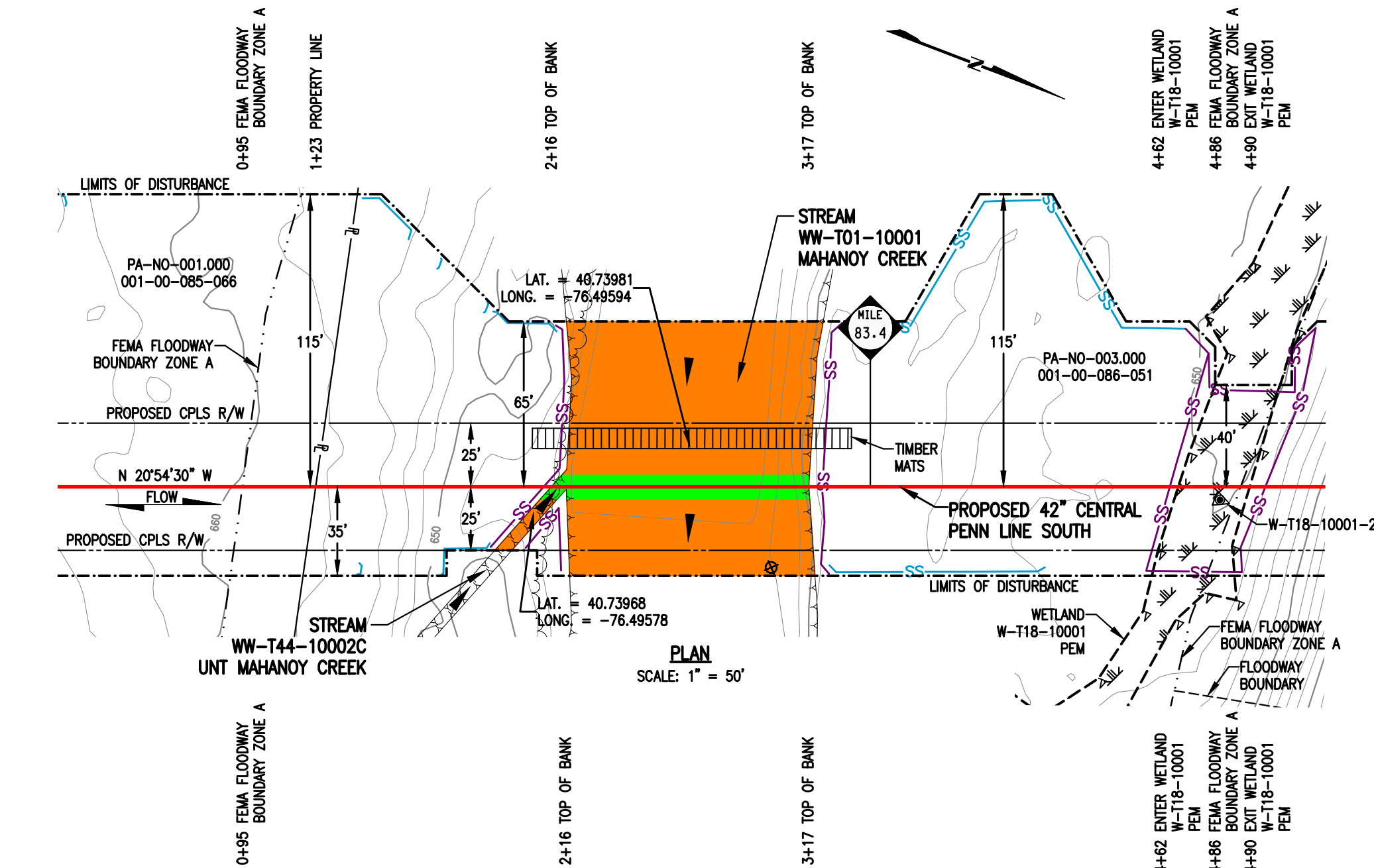
STREAM WW-T44-10002C	ACRE
TEMPORARY STREAM DISTURBANCE	0.0031
PERMANENT STREAM DISTURBANCE	0.0012
<b>TOTAL STREAM DISTURBANCE</b>	<b>0.0043</b>
TEMPORARY FLOODWAY DISTURBANCE	0.0000
PERMANENT FLOODWAY DISTURBANCE	0.0000
<b>TOTAL FLOODWAY DISTURBANCE</b>	<b>0.0000</b>
<b>STREAM DIMENSION</b>	<b>FT.</b>
STREAM WIDTH (TOB TO TOB)	5.88
STREAM LENGTH	98.21

**GENERAL NOTES:**

1. STREAM CROSSING METHOD SHALL BE FLUME (FX). EQUIPMENT TO CROSS STREAM UTILIZING A BRIDGE EQUIPMENT CROSSING (BEC).
2. THIS SITE IS LOCATED WITHIN THE 100 YEAR FLOOD PLAIN PER FEMA FLOOD MAP DATA.
3. STATION 4+00 SHOWN IS EQUAL TO STATION 4404+11 ON THE EROSION AND SEDIMENT CONTROL PLAN.

**SURVEY NOTES:**

1. T.B.M. SURVEY CONTROL POINT - 32' RT. OF M.P. 83.37, ELEV. = 650.07' (NAVD88).



**LEGEND**

	PROPOSED 42" CENTRAL PENN LINE SOUTH		WETLAND FLAGS
	EXISTING PIPELINES		PHOTO DATA POINT
	EXISTING TGPL R/W		WETLAND DATA POINT
	LIMITS OF DISTURBANCE		UPLAND DATA POINT
	PROPOSED CPLS R/W		WELL POINT
	PROPERTY LINE		TRENCH PLUG
	FOREIGN PIPELINE		WATERBODY
	WETLAND AREA		TREE LINE
	STREAM FLOW		FLOODWAY BOUNDARY
	EXISTING POWER LINE		FEMA FLOODWAY BOUNDARY
	EXISTING FENCE		PERMANENT STREAM IMPACT
			TEMPORARY STREAM IMPACT

THIS DRAWING SUPERCEDES 25-1600-70-09-A/83.39-01

NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.
0	05/22/15	MBS	ISSUED FOR PADEP 105 PERMIT	1161503	CLR	MJH
1	10/27/16	AT	ISSUED FOR PADEP SUBMITTAL #2	1161503	CLR	MJH

**TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC**  
**WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS**  
**ATLANTIC SUNRISE PROJECT**  
**PROPOSED 42" CENTRAL PENN LINE SOUTH**  
**STREAM CROSSING WW-T01-10001 & WW-T44-10002C**  
**© M.P. 83.39**  
**EAST CAMERON TOWNSHIP, NORTHUMBERLAND COUNTY, PENNSYLVANIA**

**Williams**

DRAWING NO.	1161503
DATE	10/18/2016
SCALE	1" = 50'
ISSUED FOR CONSTRUCTION	24-1600-70-09-A/83.39-02
REVISION	1
DRAWING NUMBER	3-32pm
W.O. NO.	1161503





October 28, 2016

Ralpho Township  
Floodplain Administrator  
4628 Upper Road  
Shamokin, PA 17872

Re: Atlantic Sunrise Project  
Central Penn Line South  
Ralpho Township, Northumberland County  
Floodplain Management Analysis

Dear Sir or Madam:

Transcontinental Gas Pipeline Company, LLC (Transco) proposes to construct and operate the Atlantic Sunrise Project (Project) to provide 1.7 million dekatherms per day of incremental firm transportation of natural gas from the Marcellus Shale production areas in northern Pennsylvania (PA) to its existing market areas, extending to as far south as the Station 85 Pooling Point in Choctaw County, Alabama. The Project includes modifications to the existing Transco Mainline System to reverse the direction of flow, enabling new north-to-south capabilities (bi-directional flow) to transport this new source of natural gas to existing markets. The Project consists of the following primary components within PA:

- Installing greenfield pipeline facilities of approximately 58.6 miles of new 30-inch-diameter pipe from Susquehanna County, PA to Columbia County, PA.
- Installing greenfield pipeline facilities of approximately 127.3 miles of 42-inch-diameter pipe from Columbia County, PA to Lancaster County, PA.;
- Installing two pipeline loops (pipeline laid parallel to existing facilities):
  - 8.56 miles of 42-inch pipeline loop located in Lycoming County, PA known as the Unity Loop;
  - 2.50 miles of 36-inch pipeline in Clinton County, PA, known as the Chapman Loop;
- Constructing two new compressor stations, one in Wyoming County and one in Columbia County, PA;
- Additional ancillary facilities, such as mainline valves, cathodic protection, communication facilities, and internal inspection device (e.g., pig) launchers and receivers;
- Two new meter stations and three new regulator stations with interconnecting piping;
- Additional compression and related modifications to one existing compressor station; and,
- Modification to an existing meter station for use of shared facilities with a new meter station.

Transco's consultants, BL Companies and TRC Solutions (TRC), have completed an analysis of potential impacts on FEMA delineated floodways from the Project in accordance with 25 Pa. Code § 105.13. The analysis for Ralpho Township is provided below for your review and comment.

Ralpho Township  
October 28, 2016  
BL Project No. 14C4909  
Page 1 of 3

**ATLANTIC SUNRISE PROJECT  
FEMA FLOODPLAIN CROSSINGS  
RALPHO TOWNSHIP, NORTHUMBERLAND COUNTY, PENNSYLVANIA**

Description of Impact	Structure Type and Dimensions	Resource ID)	Resource Name	Chapter 93 Classification, Wetland Classification (EV or Other), or Floodway Type	Floodway Fill (cu. yds.)	Impact area (acres)		Latitude	Longitude
						Temporary	Permanent		
Utility Pipeline Crossing	Equipment Access and E&S Controls	WW-T45-11001	Floodway to South Branch Roaring Creek	FEMA Detailed	N/A	0.593	0.0073 <sup>1</sup>	40.83992	-76.50717
Utility Pipeline Crossing	Equipment Access and E&S Controls	WW-T44-11001	Floodway to South Branch Roaring Creek	FEMA Detailed <sup>2</sup>	N/A	0.5611	0.0492 <sup>1</sup>	40.85479	-76.49852
Utility Pipeline Crossing	Equipment Access and E&S Controls	WW-T47-11001	Floodway to UNT to South Branch Roaring Creek	FEMA Detailed	N/A	0.2658	0.0262 <sup>1</sup>	40.84917	-76.50304

Notes:  
<sup>1</sup> Permanent impacts associated with utility pipeline crossings are based on the permanent pipe footprint within the floodplain (pipe trench width x pipe crossing length). No permanent alternation to the floodway contours and elevation is associated with these permanent impacts.  
<sup>2</sup> Multiple streams are included in these calculations as the floodways overlap.

The floodway crossing listed above is depicted on the enclosed plans from the Project’s PADEP Chapter 105 Permit Application.

Please note that construction activities are not expected to create permanent loss of flood storage capacity or hydraulic capacity, as all pre-construction surface elevations will be re-established during restoration. The temporary and permanent impacts noted above are associated with vegetation management and underground pipe installation and temporary access road grading only, and do not represent a permanent modification of ground elevation or loss of flood storage capacity or hydraulic capacity. No structures are proposed within the FEMA 100-year floodplain, no permanent fill will be placed in the floodways, and no increase in 100-year flood elevation is anticipated as a result of the proposed Project.

On behalf of Transco, BL and TRC respectfully request that Ralpho Township review this analysis and, if applicable, provide comments to:

Steve Crescenzo  
 TRC Environmental Corporation  
 2200 Liberty Avenue, Suite 100  
 Pittsburgh, PA 15222

**Please do not send comments directly to the PADEP**, as we must include them with our permit application. Should you have any questions or concerns regarding this notification, please contact Al Busher at (717)-651-9850 or via email at abusher@blcompanies.com.

Sincerely,

Ralpho Township  
 October 28, 2016  
 BL Project No. 14C4909  
 Page 2 of 3



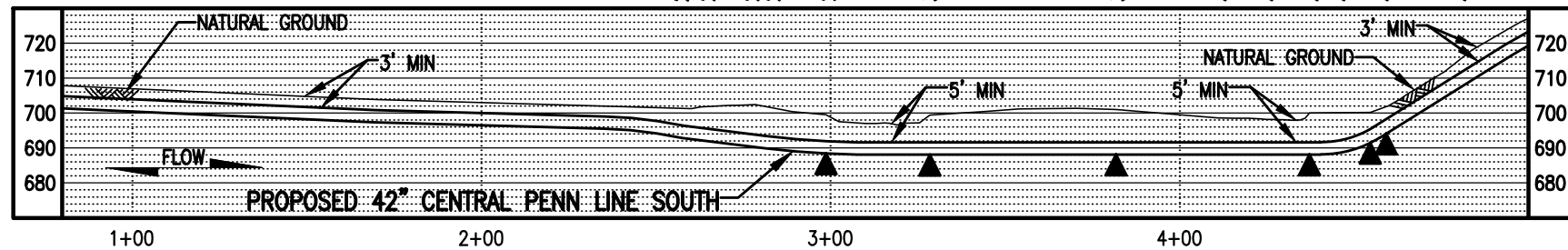
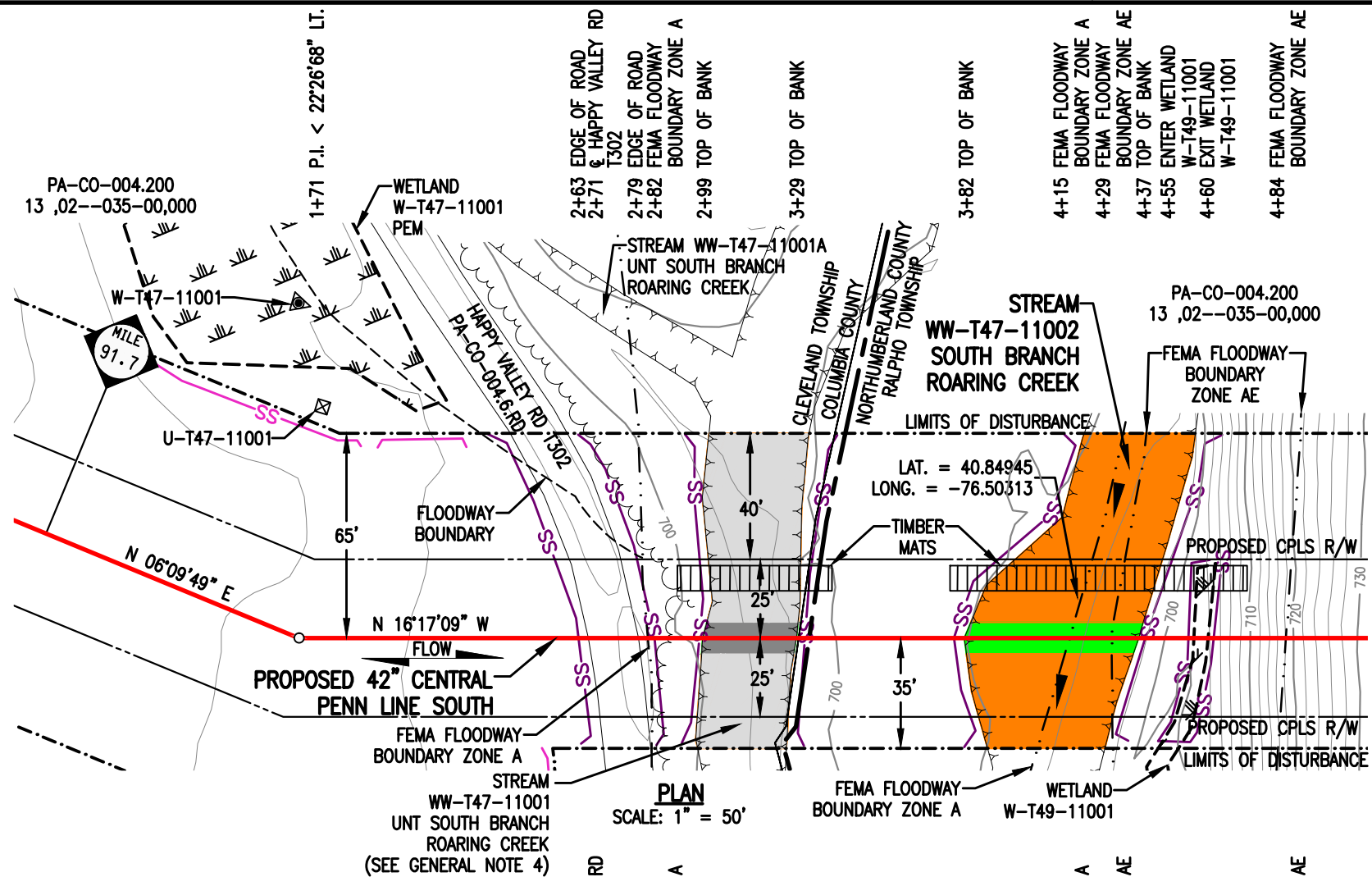
Alaric J. Busher, PE  
Senior Engineer

Enclosures: Water Obstruction and Encroachment Permit Impact Maps

**STREAM DISTURBANCE:**

STREAM WW-T47-11002 (HQ)	ACRE
TEMPORARY STREAM DISTURBANCE	0.0899
PERMANENT STREAM DISTURBANCE	0.0125
<b>TOTAL STREAM DISTURBANCE</b>	<b>0.1024</b>
TEMPORARY FLOODWAY DISTURBANCE	0.0000
PERMANENT FLOODWAY DISTURBANCE	0.0000
<b>TOTAL FLOODWAY DISTURBANCE</b>	<b>0.0000</b>

STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	55.43
STREAM LENGTH	103.19



**GENERAL NOTES:**

1. STREAM CROSSING METHOD FOR WW-T47-11002 SHALL BE DAM AND PUMP (DPX). EQUIPMENT TO CROSS STREAM UTILIZING A BRIDGE EQUIPMENT CROSSING (BEC).
2. THIS SITE IS WITHIN THE 100 YEAR FLOOD PLAIN PER FEMA FLOOD MAP DATA.
3. STATION 4+00 SHOWN IS EQUAL TO STATION 4844+93 ON THE EROSION AND SEDIMENT CONTROL PLAN.
4. IMPACT FOR STREAM WW-T47-11001 IS SHOWN ON DRAWING 24-1600-70-09-A/91.73-01, IN THE COLUMBIA CPLS PACKAGE.

**SURVEY NOTES:**

1. T.B.M. SURVEY CONTROL POINT - 21' LT. OF M.P. 91.77, ELEV. = 700.28' (NAVD88).



**LEGEND**

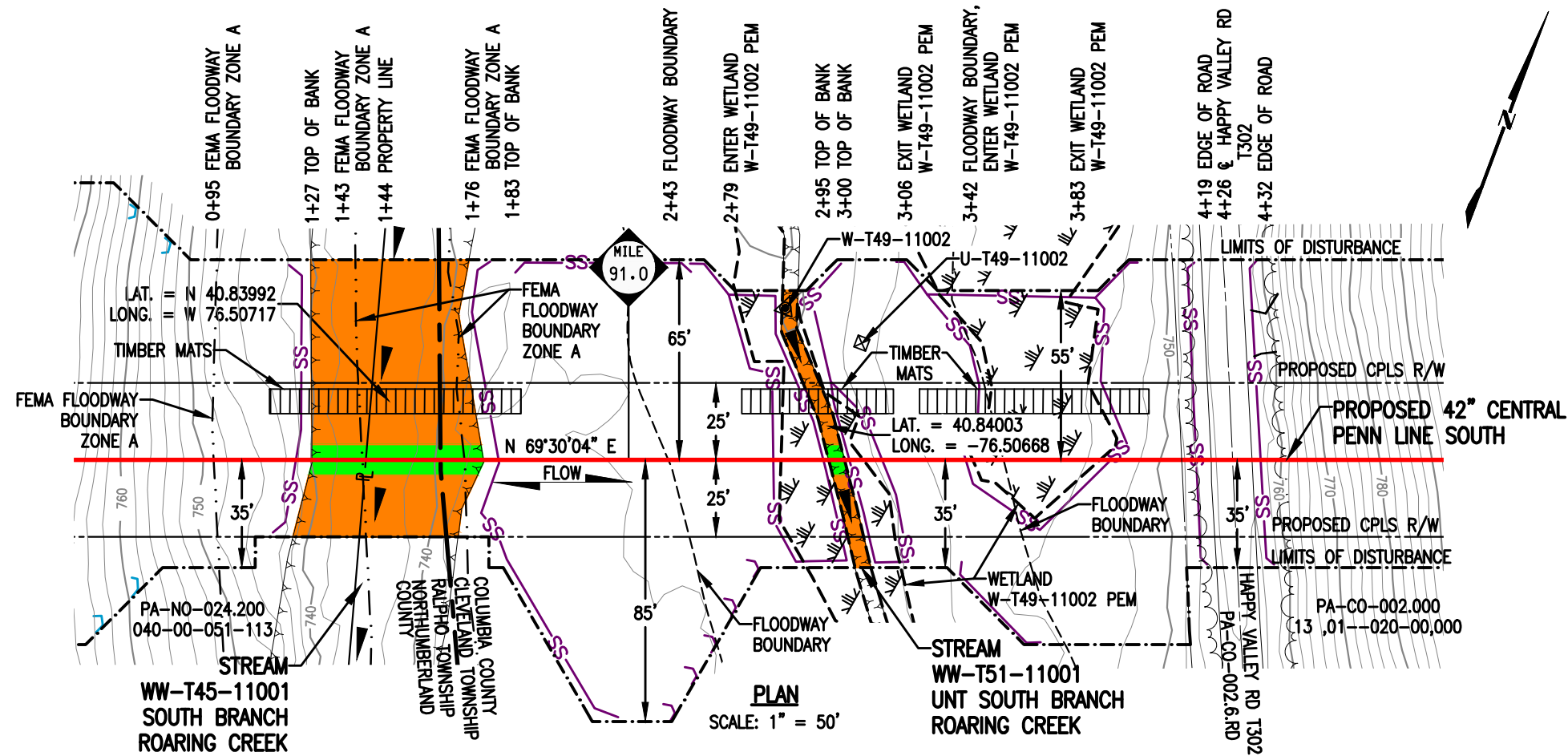
	PROPOSED 42" CENTRAL PENN LINE SOUTH		WETLAND FLAGS		<b>WOOD GROUP MUSTANG, INC.</b>
	EXISTING PIPELINES		PHOTO DATA POINT		12" SEDIMENT BARRIER
	EXISTING TGPL R/W		WETLAND DATA POINT		18" SEDIMENT BARRIER
	LIMITS OF DISTURBANCE		UPLAND DATA POINT		24" SEDIMENT BARRIER
	PROPOSED CPLS R/W		WELL POINT		32" SEDIMENT BARRIER
	PROPERTY LINE		TRENCH PLUG		TOP OF BANK
	FOREIGN PIPELINE		WATERBODY		PERMANENT STREAM IMPACT
	WETLAND AREA		TREE LINE		TEMPORARY STREAM IMPACT
	STREAM FLOW		FLOODWAY BOUNDARY		
	EXISTING POWER LINE		FEMA FLOODWAY BOUNDARY		
	EXISTING FENCE				

DRAWING NO.		REFERENCE TITLE		NO.		DATE		BY		REVISION DESCRIPTION		W.O. NO.		CHK.		APP.		DRAWN BY:		DATE:		ISSUED FOR BID:		SCALE:	
				0		02/03/16		LN		ISSUED FOR INTERNAL USE		1161503		CLR		MJH		PJM		07/08/15		ISSUED FOR CONSTRUCTION:		1" = 50'	
				1		10/27/16		AT		ISSUED FOR PADEP SUBMITTAL #2		1161503		CLR		MJH		JM		07/17/15		REVISION: 1			
																		APPROVED BY: MJH		DATE: 08/04/15		DRAWING NUMBER: 24-1600-70-09-A/91.74-01		SHEET 1 OF 1	

**TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC**  
**WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS**  
**ATLANTIC SUNRISE PROJECT**  
**PROPOSED 42" CENTRAL PENN LINE SOUTH**  
**STREAM CROSSING WW-T47-11002**  
**© M.P. 91.76**  
**RALPHO & CLEVELAND TOWNSHIP, NORTHUMBERLAND & COLUMBIA COUNTY, PENNSYLVANIA**

IWC: 1161503  
 DATE: 9/28/2016  
 T3le  
 K:\103643-CPLS\Maping\Waterbodies\CPLS\_PAN\Revised 105\24-1600-70-09-A\_91.74-01.dwg





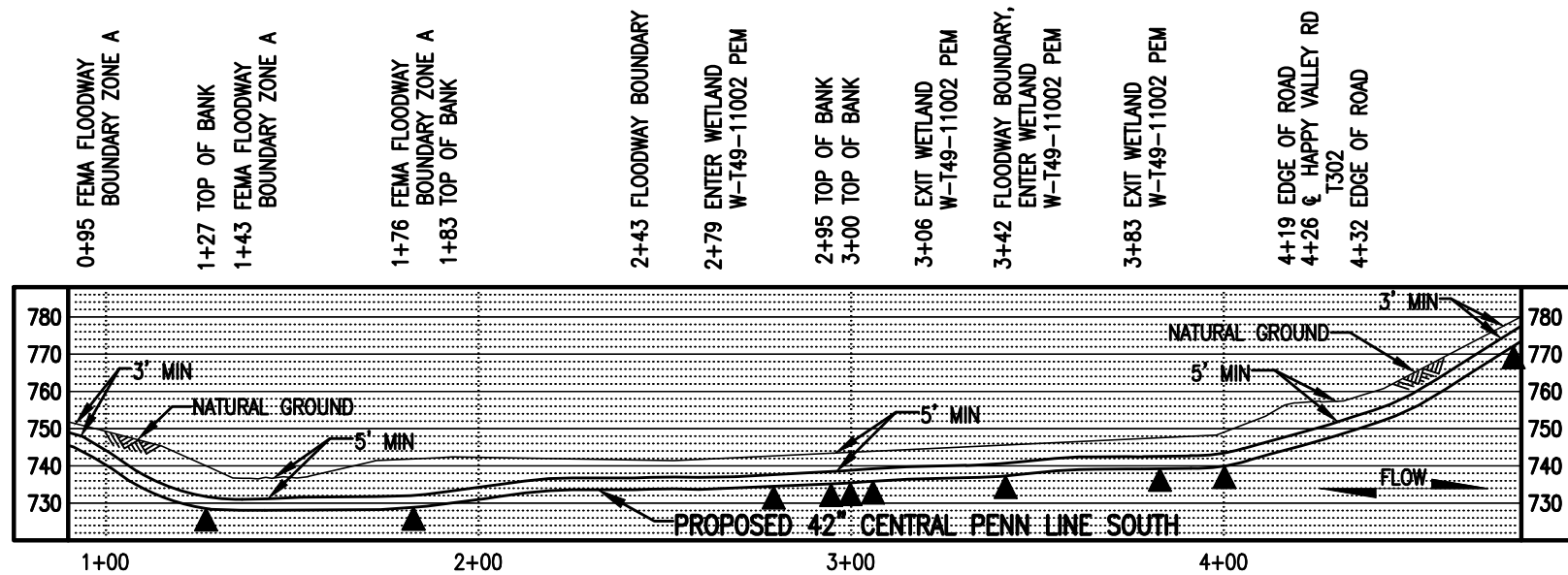
**STREAM DISTURBANCE:**

STREAM WW-T45-11001 (HQ)	ACRE
TEMPORARY STREAM DISTURBANCE	0.0946
PERMANENT STREAM DISTURBANCE	0.0127
TOTAL STREAM DISTURBANCE	0.1073
TEMPORARY FLOODWAY DISTURBANCE	0.0593
PERMANENT FLOODWAY DISTURBANCE	0.0073
TOTAL FLOODWAY DISTURBANCE	0.0666

STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	55.71
STREAM LENGTH	90.49

STREAM WW-T51-11001 (HQ)	ACRE
TEMPORARY STREAM DISTURBANCE	0.0096
PERMANENT STREAM DISTURBANCE	0.0012
TOTAL STREAM DISTURBANCE	0.0108
TEMPORARY FLOODWAY DISTURBANCE	0.1860
PERMANENT FLOODWAY DISTURBANCE	0.0168
TOTAL FLOODWAY DISTURBANCE	0.2028

STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	5.16
STREAM LENGTH	93.88

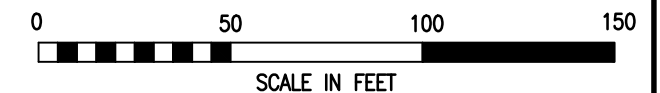


**GENERAL NOTES:**

1. STREAM CROSSING METHOD SHALL BE DAM AND PUMP (DPX). EQUIPMENT TO CROSS STREAM UTILIZING A BRIDGE EQUIPMENT CROSSING (BEC).
2. WATERBODIES WITHOUT A FEMA-ESTABLISHED FLOODPLAIN, THE FLOODWAY IS COINCIDENT WITH A 50-FOOT OFFSET MEASURED LATERALLY FROM THE PHYSICAL TOP OF BANK OF THE WATERBODY. (PERTAINS TO STREAM WW-T51-11001)
3. THIS STREAM WW-T45-1101 IS LOCATED WITHIN THE 100 YEAR FLOOD PLAIN PER FEMA FLOOD MAP DATA.
4. STATION 1+00 SHOWN IS EQUAL TO STATION 4803+50 ON THE EROSION AND SEDIMENT CONTROL PLAN.

**SURVEY NOTES:**

1. T.B.M. SURVEY CONTROL POINT - 79' RT. OF M.P. 90.98, ELEV. = 750.51' (NAVD88).



**LEGEND**

- PROPOSED 42" CENTRAL PENN LINE SOUTH
- EXISTING PIPELINES
- EXISTING TGPL R/W
- LIMITS OF DISTURBANCE
- PROPOSED CPLS R/W
- PROPERTY LINE
- FOREIGN PIPELINE
- WETLAND AREA
- STREAM FLOW
- EXISTING POWER LINE
- EXISTING FENCE
- WETLAND FLAGS
- PHOTO DATA POINT
- WETLAND DATA POINT
- UPLAND DATA POINT
- WELL POINT
- TRENCH PLUG
- WATERBODY
- TREE LINE
- FLOODWAY BOUNDARY
- FEMA FLOODWAY BOUNDARY
- 12" SEDIMENT BARRIER
- 18" SEDIMENT BARRIER
- 24" SEDIMENT BARRIER
- 32" SEDIMENT BARRIER
- TOP OF BANK
- PERMANENT STREAM IMPACT
- TEMPORARY STREAM IMPACT

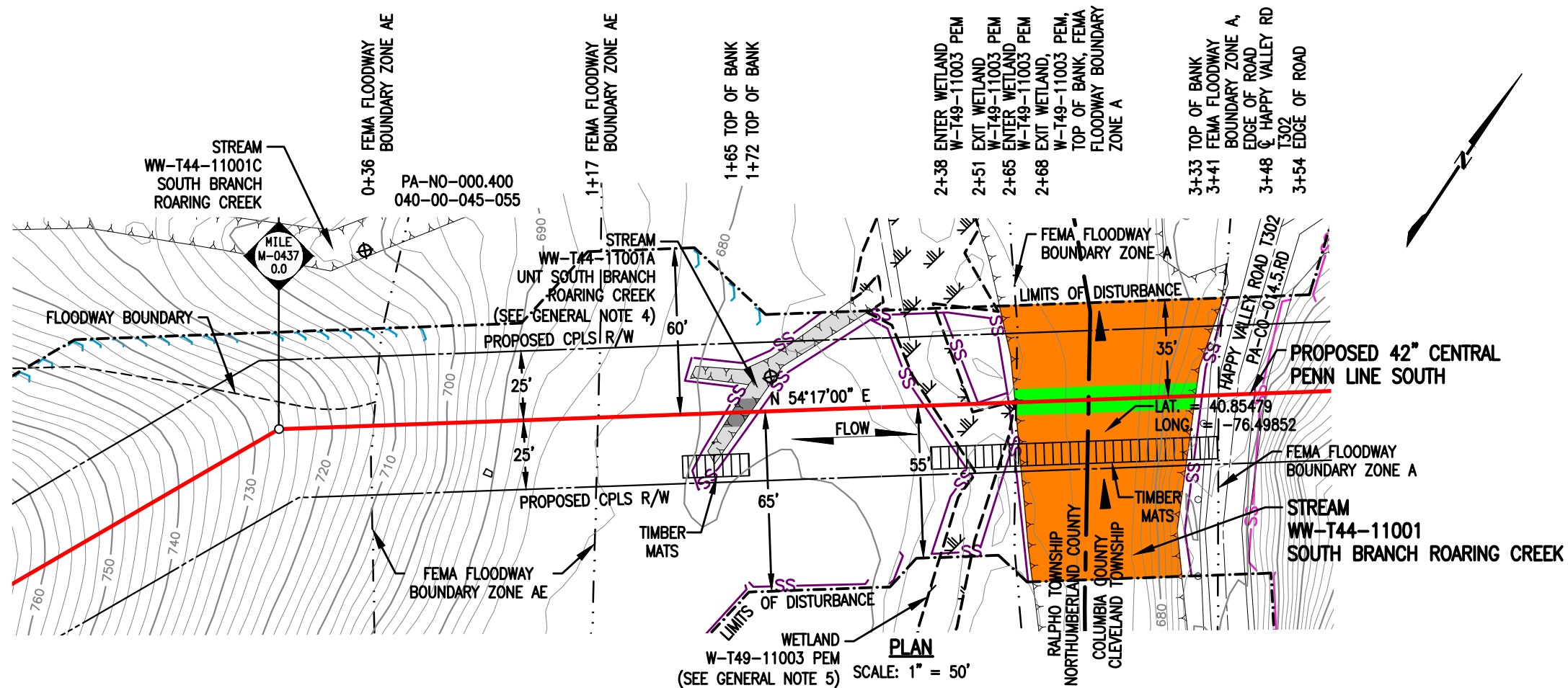
**WOOD GROUP MUSTANG, INC.**

DRAWING NO. REFERENCE TITLE

**TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC**  
**WATER OBSTRUCTION AND ENCRoACHMENT PERMIT IMPACT MAPS**  
**ATLANTIC SUNRISE PROJECT**  
**PROPOSED 42" CENTRAL PENN LINE SOUTH**  
**STREAM CROSSING WW-T45-11001 @ M.P. 90.99**  
**& WW-T51-11001 @ M.P. 91.01**  
**CLEVELAND TOWNSHIP, COLUMBIA COUNTY, PENNSYLVANIA**

**Williams**

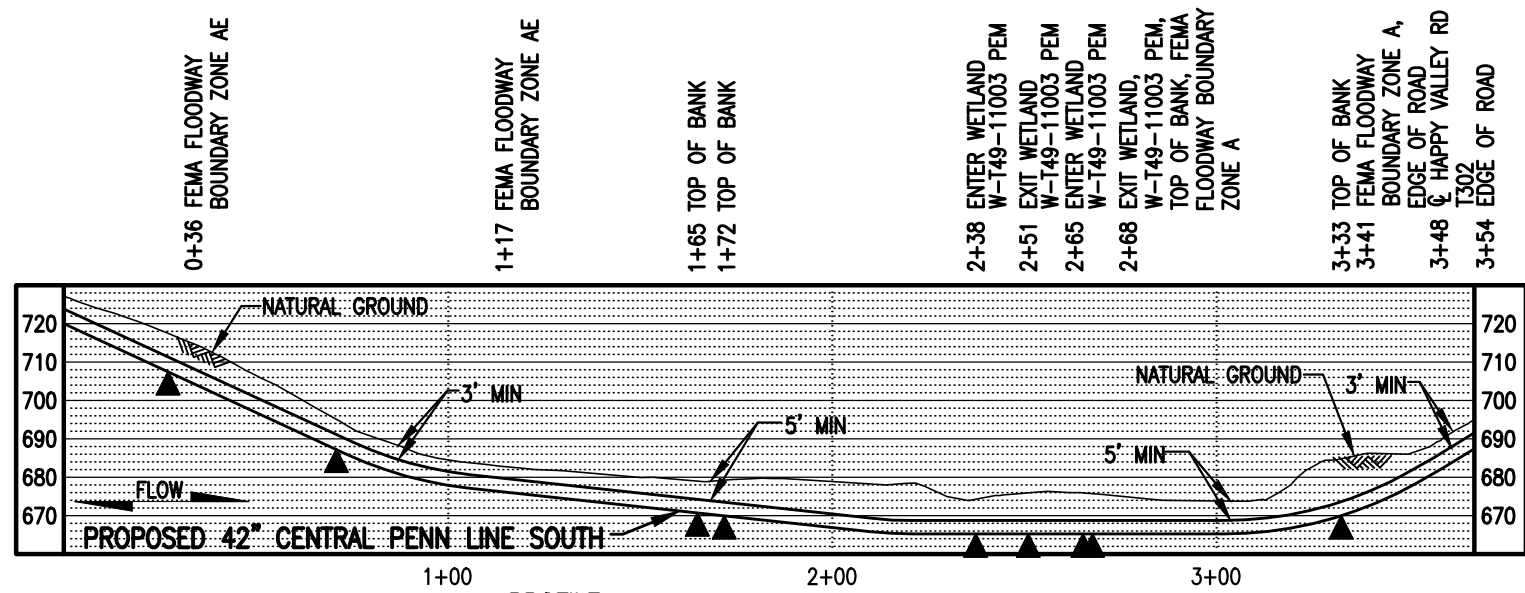
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.	DRAWN BY: THL	DATE: 05/18/15	ISSUED FOR BID:	SCALE: 1" = 50'
0	08/20/15	THL	ISSUED FOR PADEP 105 PERMIT	1161503	CLR	MJH	CHECKED BY: JM	DATE: 06/05/15	ISSUED FOR CONSTRUCTION:	REVISION: 2
1	03/03/16	LN	ISSUED FOR INTERNAL USE	1161503	CLR	MJH	APPROVED BY: MJH	DATE: 06/08/15	DRAWING NUMBER: 24-1600-70-09-A/90.99-01	SHEET 1
2	10/25/16	AT	ISSUED FOR PADEP SUBMITTAL #2	1161503	CLR	MJH	IWO: 1161503	DATE: 10/5/2016	11beosl	OF 1



**STREAM DISTURBANCE:**

STREAM WW-T44-11001 (HQ)	ACRE
TEMPORARY STREAM DISTURBANCE	0.1294
PERMANENT STREAM DISTURBANCE	0.0150
<b>TOTAL STREAM DISTURBANCE</b>	<b>0.1444</b>
TEMPORARY FLOODWAY DISTURBANCE	0.5611
PERMANENT FLOODWAY DISTURBANCE	0.0492
<b>TOTAL FLOODWAY DISTURBANCE</b>	<b>0.6103</b>

STREAM DIMENSION	FT.
STREAM WIDTH (TOB TO TOB)	65.13
STREAM LENGTH	100.10



**GENERAL NOTES:**

1. STREAM CROSSING METHOD FOR WW-T44-11001 SHALL BE DAM AND PUMP (DPX). EQUIPMENT TO CROSS STREAM UTILIZING A BRIDGE EQUIPMENT CROSSING (BEC).
2. THIS SITE IS LOCATED WITHIN THE 100 YEAR FLOOD PLAIN PER FEMA FLOOD MAP DATA.
3. STATION 1+00 SHOWN IS EQUAL TO M-0437 STATION 0+98 ON THE EROSION AND SEDIMENT CONTROL PLAN.
4. IMPACT FOR STREAM WW-T44-11001A IS SHOWN ON DRAWING NUMBER 24-1600-70-09-A/M-0437-0.03-01 IN NORTHUMBERLAND PACKAGE.
5. IMPACT FOR WETLAND W-T49-11003 IS SHOWN ON DRAWING 24-1600-70-20-A/M-0437-0.05-01 IN NORTHUMBERLAND PACKAGE.

**SURVEY NOTES:**

1. T.B.M. SURVEY CONTROL POINT - 176' RT. OF M-0437 M.P. 0.00, ELEV. = 679.48' (NAVD88).



**LEGEND**

	PROPOSED 42" CENTRAL PENN LINE SOUTH		WETLAND FLAGS
	EXISTING PIPELINES		PHOTO DATA POINT
	EXISTING TGPL R/W		WETLAND DATA POINT
	LIMITS OF DISTURBANCE		UPLAND DATA POINT
	PROPOSED CPLS R/W		WELL POINT
	PROPERTY LINE		TRENCH PLUG
	FOREIGN PIPELINE		WATERBODY
	WETLAND AREA		TREE LINE
	STREAM FLOW		FLOODWAY BOUNDARY
	EXISTING POWER LINE		FEMA FLOODWAY BOUNDARY
	EXISTING FENCE		PERMANENT STREAM IMPACT
			TEMPORARY STREAM IMPACT

**WOOD GROUP MUSTANG, INC.**

SS 12" SEDIMENT BARRIER  
 SS 18" SEDIMENT BARRIER  
 SS 24" SEDIMENT BARRIER  
 SS 32" SEDIMENT BARRIER  
 Y Y Y Y Y Y TOP OF BANK

DRAWING NO.		REFERENCE TITLE		TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC						
				WATER OBSTRUCTION AND ENCROACHMENT PERMIT IMPACT MAPS						
				ATLANTIC SUNRISE PROJECT						
				PROPOSED 42" CENTRAL PENN LINE SOUTH						
				STREAM CROSSING WW-T44-11001						
				@ M-0437 M.P. 0.06						
				CLEVELAND TOWNSHIP, COLUMBIA COUNTY, PENNSYLVANIA						
NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.	DRAWN BY: THL	DATE: 01/28/16	ISSUED FOR BID:	SCALE: 1" = 50'
0	10/25/16	AT	ISSUED FOR PADEP SUBMITTAL #2	1161503	CLR	MJH	CHECKED BY: CLR	DATE: 01/30/16	ISSUED FOR CONSTRUCTION:	REVISION: 0
							APPROVED BY: MJH	DATE: 02/03/16	DRAWING NUMBER: 24-1600-70-09-A/M-0437-0.06-01	SHEET 1
							W.O. NO: 1161503			OF 1