

**ATLANTIC COAST PIPELINE, LLC
ATLANTIC COAST PIPELINE**

and

**DOMINION ENERGY TRANSMISSION, INC.
SUPPLY HEADER PROJECT**

Implementation Plan

EC30 Attachment 1

Site-Specific Crossing Plans for Major Waterbodies

LEGEND

- PERMANENT RIGHT-OF-WAY
- TEMPORARY RIGHT-OF-WAY
- TOPSOIL SEGREGATION AREA
- EXTRA WORK SPACE
- WETLAND
- DO NOT DISTURB
- STREAM
- LIMITS OF DISTURBANCE
- CONTOUR
- BSRF
- COMPOST FILTER SOCK
- SILT SOCK
- TRENCH PLUG
- WATER BAR
- TEMPORARY SLOPE BREAKER
- ROCK CONSTRUCTION ENTRANCE

WATERBODY IMPACT		
WATERBODY #	TEMP. IMPACT	PERMANENT IMPACT
-	0.75 ACRES	0.00 ACRES

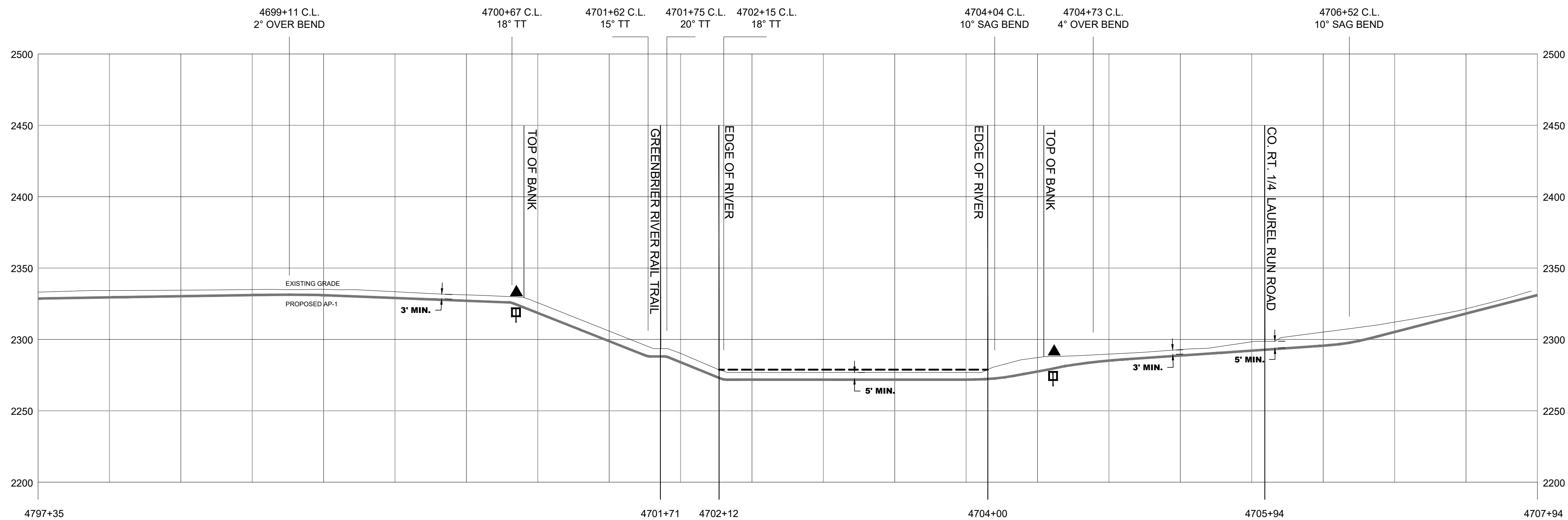
WATERBODY IMPACT

WATERBODY CONSTRUCTION NOTES:

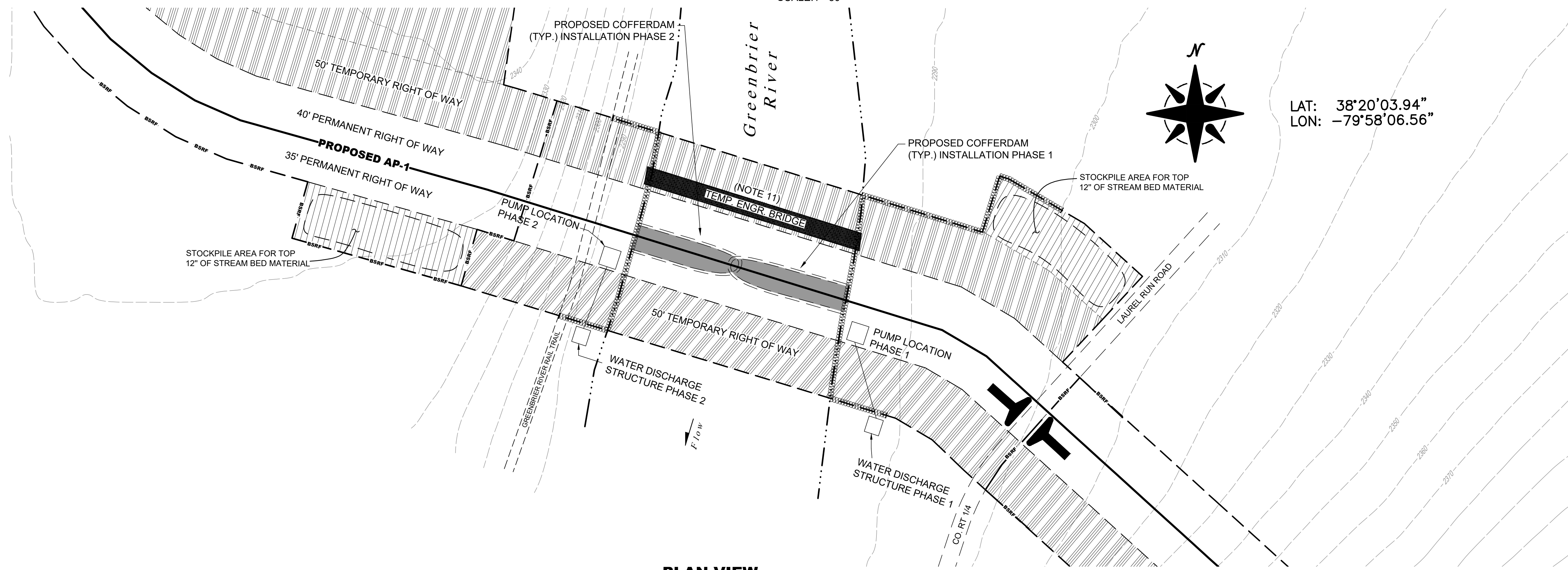
1. CROSSING TO BE COMPLETED VIA THE USE OF A COFFERDAM.
2. CONSTRUCTION TO BE PERFORMED IN LOW FLOW PERIODS. FLOW SHALL BE MAINTAINED AT ALL TIMES.
3. RIP RAP (OR OTHER NON-ERODIBLE MATERIALS) TO BE PLACED IN SEMICIRCLE ALONG SIDE OF STREAM, ABOVE THE ORDINARY HIGH WATER MARK.
4. DISCHARGE ALL WATER THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE.
5. STABILIZE WATER WATERBODY BANKS AND INSTALL TEMPORARY SEDIMENT BARRIERS WITHIN 24-HOURS OF COMPLETING IN-STREAM CONSTRUCTION ACTIVITIES.
6. RETURN ALL WATERBODY BANKS TO PRE-CONSTRUCTION CONTOURS OR TO A STABLE ANGLE OF REPOSE AS APPROVED BY THE ENVIRONMENTAL INSPECTOR. FILL BELOW THE ORDINARY HIGH WATER MARK SHOULD BE AVOIDED.
7. INSTALL TRENCH PLUGS AND WATERBARS AS DIRECTED BY THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN ON BOTH SIDES OF THE WATERWAY, AND AS DEPICTED ON THIS PLAN.
8. PIPELINE SHALL BE WEIGHTED WITH CONCRETE COATING IN THE RIVER CROSSING TO ACHIEVE NEGATIVE BUOYANCY.
9. RIVER TRAFFIC WILL NOT BE IMPENDED DURING CONSTRUCTION.
10. UPON COMPLETION OF CONSTRUCTION WITHIN THE COFFERDAM, THE COFFERDAM WILL BE RELOCATED TO OPPOSITE SIDE OF WATERBODY FOR COMPLETION OF PIPELINE CONSTRUCTION.
11. THE TEMPORARY BRIDGE WILL UTILIZE IN-STREAM SUPPORTS.

TIME OF YEAR RESTRICTIONS (TOYRS)

ALL WORK MUST BE COMPLETED FROM APRIL 1 TO JUNE 30



STREAM CROSSING PROFILE



PLAN VIEW



GENERAL NOTES AND COMMENTS:

REFERENCE
 ELEVATION DATA FROM THE USGS GIS DATA CLEARING HOUSE.
 PIPELINE SURVEY INFORMATION PROVIDED BY GAI CONSULTANTS.
 STREAM AND WETLAND DATA COLLECTED BY NATIONAL RESOURCE GROUP, LLC.
 MAPPING DATUM-UTM17-NAD 83
 CONTOUR INTERVAL - 10 FEET

SYM.	DATE	BY	REVISION INFORMATION	PROJECT/TASK	APP.
C	8/3/17	ALC	REVISED TEMPORARY R/W AND WORKSPACE		
B	1/06/17	ALC	ISSUED FOR REVIEW - ALIGNMENT RELOCATION		
A	4/5/16	RLR	ISSUED FOR REVIEW		



DRAWN:	RLR	4/5/16
CHECKED:	RVS / DLM	4/5/16
APP. FOR BID:		
APP. FOR CONST.:		
SCALE:	AS SHOWN	

Atlantic Coast Pipeline, LLC
 925 White Oaks Blvd. Bridgeport, West Virginia 26330 / 681-842-8000

AP-1 SITE SPECIFIC PLAN FOR GREENBRIER RIVER

DISTRICT: HUNTERSVILLE	COUNTY: POCAHONTAS	STATE: WV	GROUP	DWG. NO.	REV.
DIR/FILE: DOM/ACP/Site Specific/Greenbrier River Rev C					C

LEGEND

- PERMANENT RIGHT-OF-WAY
- TEMPORARY RIGHT-OF-WAY
- TOPSOIL SEGREGATION AREA
- EXTRA WORK SPACE
- WETLAND
- DO NOT DISTURB
- STREAM
- LIMITS OF DISTURBANCE
- CONTOUR
- BSRF
- COMPOST FILTER SOCK
- SILT SOCK
- ROCK CONSTRUCTION ENTRANCE
- TRENCH PLUG
- WATER BAR
- TEMPORARY SLOPE BREAKER

WATERBODY IMPACT		
WATERBODY #	TEMP. IMPACT	PERMANENT IMPACT
	0.25 ACRES	0.00 ACRES

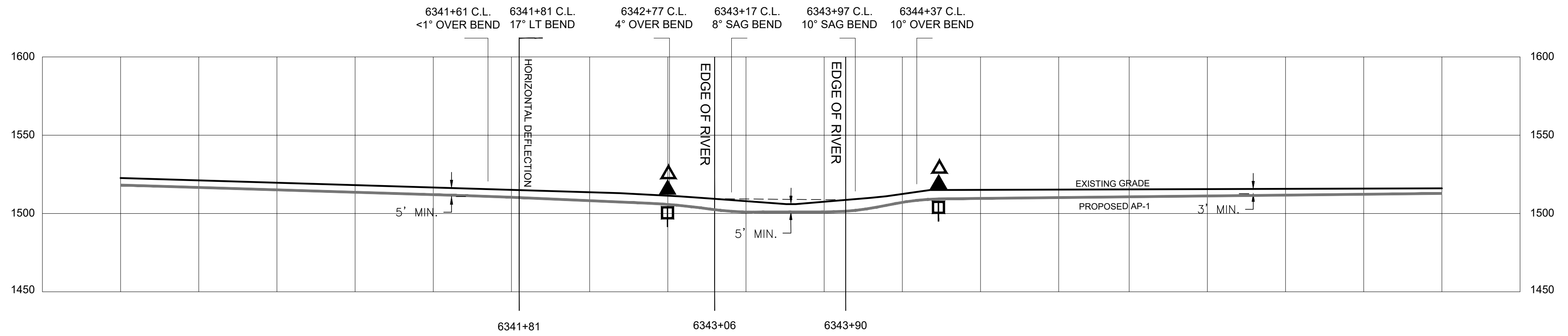
WATERBODY IMPACT

WATERBODY CONSTRUCTION NOTES:

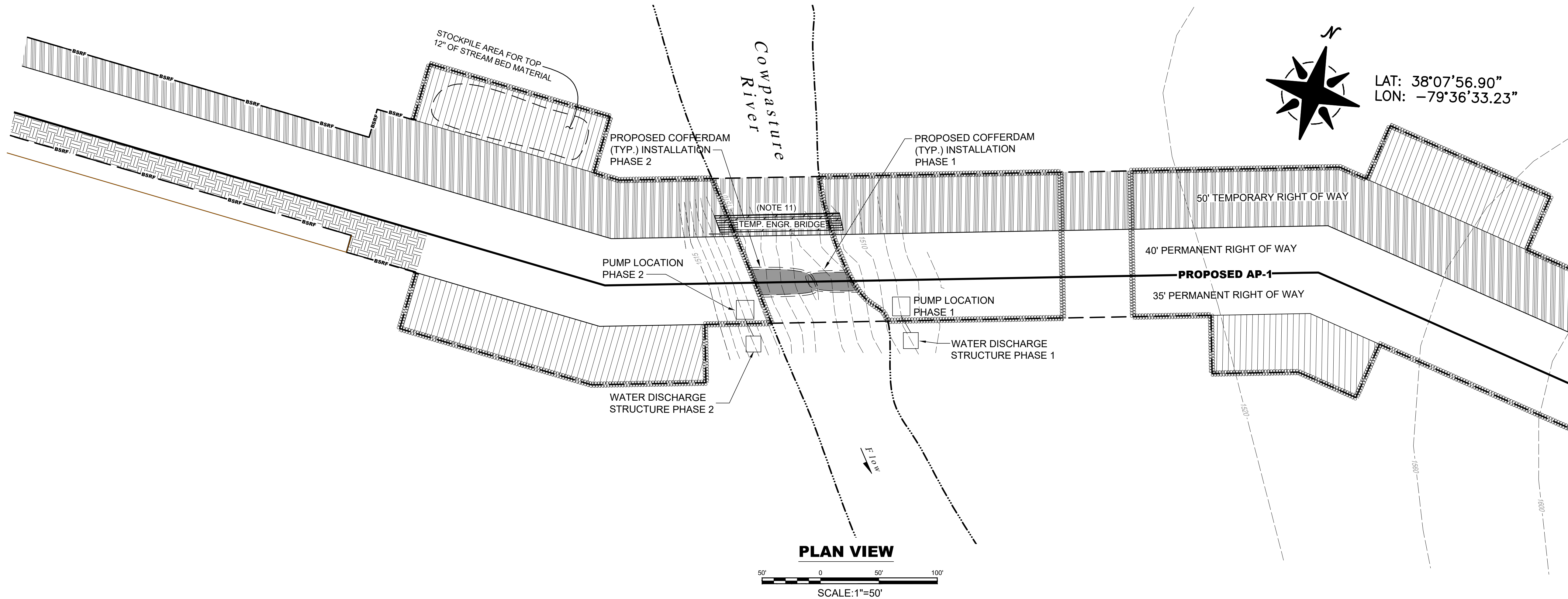
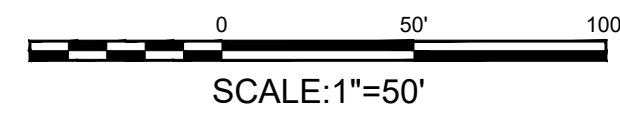
1. CROSSING TO BE COMPLETED VIA THE USE OF A COFFERDAM.
2. CONSTRUCTION TO BE PERFORMED IN LOW FLOW PERIODS. FLOW SHALL BE MAINTAINED AT ALL TIMES.
3. RIP RAP (OR OTHER NON-ERODIBLE MATERIALS) TO BE PLACED IN SEMICIRCLE ALONG SIDE OF STREAM, ABOVE THE ORDINARY HIGH WATER MARK.
4. DISCHARGE ALL WATER THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE.
5. STABILIZE WATER WATERBODY BANKS AND INSTALL TEMPORARY SEDIMENT BARRIERS WITHIN 24-HOURS OF COMPLETING IN-STREAM CONSTRUCTION ACTIVITIES.
6. RETURN ALL WATERBODY BANKS TO PRE-CONSTRUCTION CONTOURS OR TO A STABLE ANGLE OF REPOSE AS APPROVED BY THE ENVIRONMENTAL INSPECTOR. FILL BELOW THE ORDINARY HIGH WATER MARK SHOULD BE AVOIDED.
7. INSTALL TRENCH PLUGS AND WATERBARS AS DIRECTED BY THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN ON BOTH SIDES OF THE WATERWAY, AND AS DEPICTED ON THIS PLAN.
8. PIPELINE SHALL BE WEIGHTED WITH CONCRETE COATING IN THE RIVER CROSSING TO ACHIEVE NEGATIVE BUOYANCY.
9. RIVER TRAFFIC WILL NOT BE IMPENDED DURING CONSTRUCTION.
10. UPON COMPLETION OF CONSTRUCTION WITHIN THE COFFERDAM, THE COFFERDAM WILL BE RELOCATED TO OPPOSITE SIDE OF WATERBODY FOR COMPLETION OF PIPELINE CONSTRUCTION.
11. THE TEMPORARY BRIDGE WILL UTILIZE IN-STREAM SUPPORTS.

TIME OF YEAR RESTRICTIONS (TOYRS)

ALL WORK MUST BE COMPLETED FROM MARCH 15 to JUNE 30 & MAY 15 to JULY 31



STREAM CROSSING PROFILE



PLAN VIEW



LAT: 38°07'56.90"
LON: -79°36'33.23"

GENERAL NOTES AND COMMENTS:
REFERENCE
 ELEVATION DATA PROVIDED BY GAI CONSULTANTS.
 PIPELINE SURVEY INFORMATION PROVIDED BY GAI CONSULTANTS.
 STREAM AND WETLAND DATA COLLECTED BY NATIONAL RESOURCE GROUP, LLC.
 MAPPING DATUM-UTM 17-NAD 83
 CONTOUR INTERVAL - 1 FOOT & 40 FOOT

SYM.	DATE	BY	REVISION INFORMATION	PROJECT/TASK	APP.	SEAL
B	8/31/17	ALC	REVISED TEMPORARY RW AND WORKSPACE			
A	11/16/15	RLR	ISSUED FOR REVIEW			

DRAWN:	RLR	11/16/16
CHECKED:	RVS / DLM	11/16/16
APP. FOR BID:		
APP. FOR CONST.:		
SCALE:	AS SHOWN	

Atlantic Coast Pipeline, LLC
 445 West Main St. Clarksburg, West Virginia 26301 / Phone: (304) 623-8000

TITLE: AP-1 SITE SPECIFIC PLAN FOR COWPASTURE RIVER - OPTION A (COFFERDAM)

DISTRICT:	COUNTY:	BATH	STATE:	VA	GROUP:	DWG. NO.:	REV.:
DIR/FILE:	DOM/ACP/Site Specific/Cowpasture Rev B						B

LEGEND

- PERMANENT RIGHT-OF-WAY
- TEMPORARY RIGHT-OF-WAY
- TOPSOIL SEGREGATION AREA
- EXTRA WORK SPACE
- WETLAND
- DO NOT DISTURB
- STREAM
- LIMITS OF DISTURBANCE
- CONTOUR
- BSRF
- COMPOST FILTER SOCK
- SILT SOCK
- ROCK CONSTRUCTION ENTRANCE
- TRENCH PLUG
- WATER BAR
- TEMPORARY SLOPE BREAKER

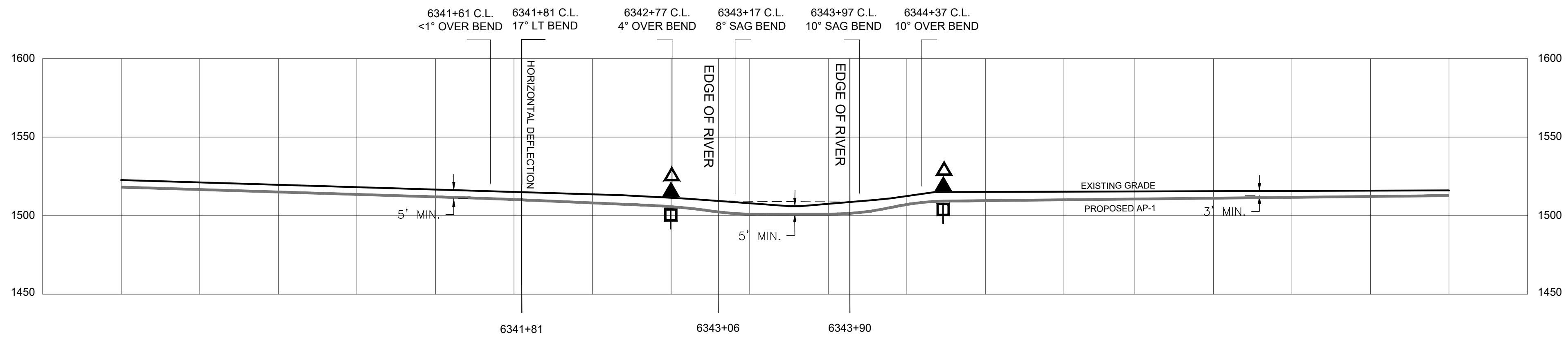
WATERBODY IMPACT		
WATERBODY #	TEMP. IMPACT	PERMANENT IMPACT
	0.25 ACRES	0.00 ACRES

WATERBODY IMPACT

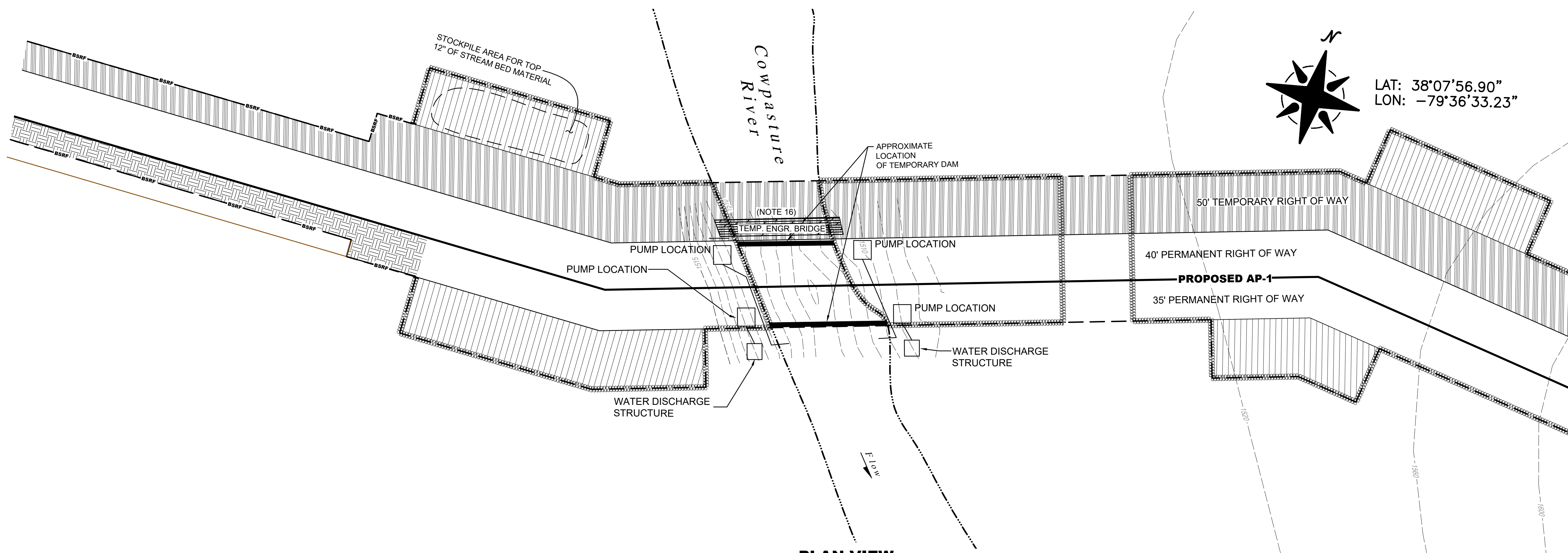
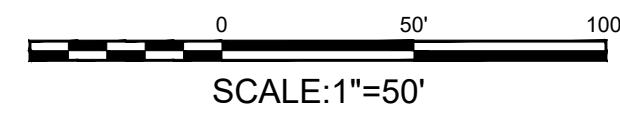
- WATERBODY CONSTRUCTION NOTES:**
1. CROSSING TO BE COMPLETED VIA THE DAM AND PUMP METHOD.
 2. SUFFICIENT PUMPS TO MAINTAIN 1.5 TIMES THE FLOW PRESENT IN THE STREAM DURING CONSTRUCTION.
 3. MAINTAIN ONE BACKUP PUMP ON SITE.
 4. DAMS CONSTRUCTED WITH MATERIALS THAT PREVENT SEDIMENT AND OTHER POLLUTANTS FROM ENTERING THE WATERBODY (E.G. SANDBAGS OR CLEAN GRAVEL WITH PLASTIC LINER).
 5. SCREENS SHALL BE INSTALLED ON PUMP INTAKES.
 6. STREAMBED SCOUR PREVENTED AT PUMP DISCHARGE.
 7. STABILIZE WATER WATERBODY BANKS AND INSTALL TEMPORARY SEDIMENT BARRIERS WITHIN 24-HOURS OF COMPLETING IN-STREAM CONSTRUCTION ACTIVITIES.
 8. RETURN ALL WATERBODY BANKS TO PRE-CONSTRUCTION CONTOURS OR TO A STABLE ANGLE OF REPOSE AS APPROVED BY THE ENVIRONMENTAL INSPECTOR. FILL BELOW THE ORDINARY HIGH WATER MARK SHOULD BE AVOIDED.
 9. INSTALL TRENCH PLUGS AND WATERBARS AS DIRECTED BY THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN ON BOTH SIDES OF THE WATERWAY, AND AS DEPICTED ON THIS PLAN.
 10. PUMPS SHALL BE INSTALLED IN SECONDARY CONTAINMENT.
 11. FUEL SHALL BE STORED IN SECONDARY CONTAINMENT AND AT LEAST 100 FEET FROM WATERBODY.
 12. SEGREGATE TOP 12" OF STREAM BED MATERIAL AND STORE WITHIN APPROVED CONSTRUCTION WORKSPACE.
 13. EQUIPMENT BRIDGE WILL BE CONSTRUCTED ACROSS STREAM CHANNEL IN A MANNER THAT WILL MAINTAIN UNRESTRICTED FLOW, PREVENT SOIL FROM ENTERING WATERBODY, AND WITH STAND THE HIGHEST FLOW EXPECTED TO OCCUR WHILE BRIDGE IS IN PLACE.
 14. OPTION A (COFFERDAM) OR OPTION B (DAM & PUMP) WILL BE DETERMINED AT TIME OF CONSTRUCTION AND BASED ON SITE CONDITIONS.
 15. PUMP LOCATIONS SHOULD BE SELECTED ON AS NEEDED BASIS BY CONTRACTOR. MULTIPLE LOCATIONS PROVIDED.
 16. THE TEMPORARY ENGINEERED BRIDGE WILL UTILIZE IN-STREAM SUPPORTS.

TIME OF YEAR RESTRICTIONS (TOYRS)

ALL WORK MUST BE COMPLETED FROM MARCH 15 TO JUNE 30 & MAY 15 TO JULY 31



STREAM CROSSING PROFILE



PLAN VIEW



GENERAL NOTES AND COMMENTS:

REFERENCE
 ELEVATION DATA PROVIDED BY GAI CONSULTANTS.
 PIPELINE SURVEY INFORMATION PROVIDED BY GAI CONSULTANTS.
 STREAM AND WETLAND DATA COLLECTED BY NATIONAL RESOURCE GROUP, LLC.
 MAPPING DATUM-UTM 17-NAD 83
 CONTOUR INTERVAL - 1 FOOT & 40 FOOT

SYM.	DATE	BY	REVISION INFORMATION	PROJECT/TASK	APP.	SEAL
B	8/3/17	ALC	REVISED TEMPORARY RW AND WORKSPACE			
A	11/16/15	RLR	ISSUED FOR REVIEW			

DRAWN:	RLR	11/16/16
CHECKED:	RVS / DLM	11/16/16
APP. FOR BID:		
APP. FOR CONST.:		
SCALE:	AS SHOWN	

Atlantic Coast Pipeline, LLC
 445 West Main St. Clarksburg, West Virginia 26301 / Phone: (304) 623-8000

TITLE: AP-1 SITE SPECIFIC PLAN FOR COWPASTURE RIVER - OPTION B (DAM & PUMP)

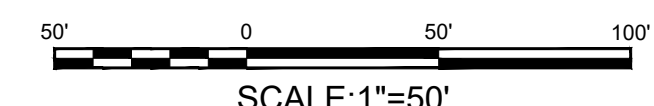
DISTRICT:	COUNTY:	BATH	STATE:	VA	GROUP:	DWG. NO.:	REV.:
DIR/FILE:	DOM/ACP/Site Specific/Cowpasture Rev B						B

LEGEND

- PERMANENT RIGHT-OF-WAY
- TEMPORARY RIGHT-OF-WAY
- TOPSOIL SEGREGATION AREA
- EXTRA WORK SPACE
- WETLAND
- DO NOT DISTURB
- STREAM
- LIMITS OF DISTURBANCE
- CONTOUR
- BSRF
- COMPOST FILTER SOCK
- SILT SOCK
- ROCK CONSTRUCTION ENTRANCE
- TRENCH PLUG
- WATER BAR
- TEMPORARY SLOPE BREAKER



STREAM CROSSING PROFILE



WATERBODY IMPACT		
WATERBODY #	TEMP. IMPACT	PERMANENT IMPACT
	0.22 ACRES	0.0 ACRES

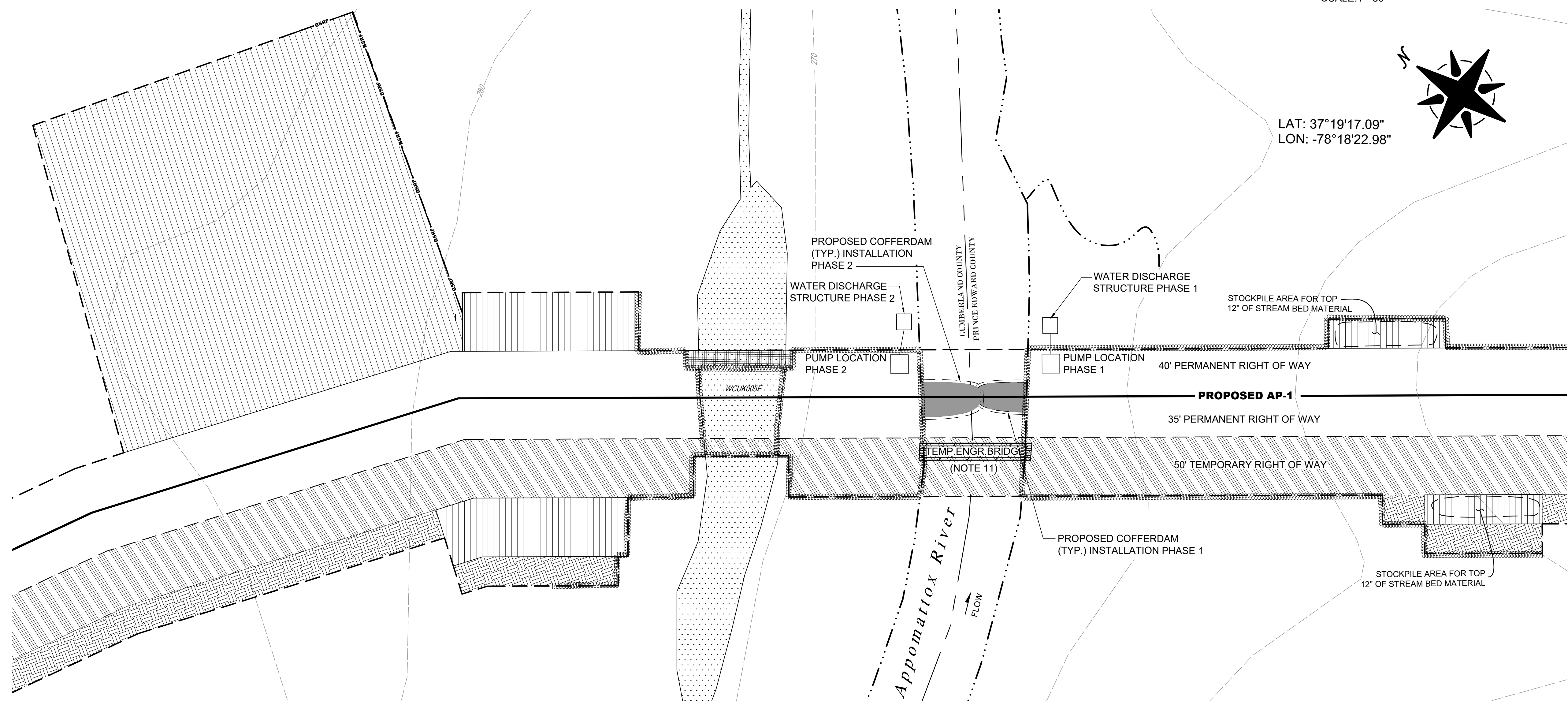
WATERBODY IMPACT

WATERBODY CONSTRUCTION NOTES:

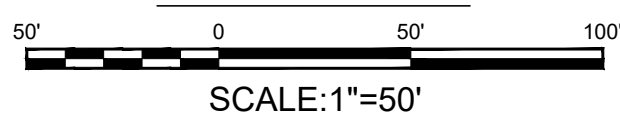
1. CROSSING TO BE COMPLETED VIA THE USE OF A COFFERDAM.
2. CONSTRUCTION TO BE PERFORMED IN LOW FLOW PERIODS. FLOW SHALL BE MAINTAINED AT ALL TIMES.
3. RIP RAP (OR OTHER NON-ERODIBLE MATERIALS) TO BE PLACED IN SEMICIRCLE ALONG SIDE OF STREAM, ABOVE THE ORDINARY HIGH WATER MARK.
4. DISCHARGE ALL WATER THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE.
5. STABILIZE WATER WATERBODY BANKS AND INSTALL TEMPORARY SEDIMENT BARRIERS WITHIN 24-HOURS OF COMPLETING IN-STREAM CONSTRUCTION ACTIVITIES.
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8. PIPELINE SHALL BE WEIGHTED WITH CONCRETE COATING IN THE RIVER CROSSING TO ACHIEVE NEGATIVE BUOYANCY.
9. RIVER TRAFFIC WILL NOT BE IMPENDED DURING CONSTRUCTION.
10. UPON COMPLETION OF CONSTRUCTION WITHIN THE COFFERDAM, THE COFFERDAM WILL BE RELOCATED TO OPPOSITE SIDE OF WATERBODY FOR COMPLETION OF PIPELINE CONSTRUCTION.
11. THE TEMPORARY BRIDGE WILL UTILIZE IN-STREAM SUPPORTS.

TIME OF YEAR RESTRICTIONS (TOYRS)

ALL WORK MUST BE COMPLETED FROM MAY 15 TO JULY 31



PLAN VIEW



GENERAL NOTES AND COMMENTS:

- REFERENCE**
- ELEVATION DATA FROM THE USGS GIS DATA CLEARING HOUSE.
 - PIPELINE SURVEY INFORMATION AND BATHOMETRIC DATA PROVIDED BY GAI CONSULTANTS.
 - STREAM AND WETLAND DATA COLLECTED BY NATIONAL RESOURCE GROUP, LLC.
 - MAPPING DATUM-VA STATE PLANE SOUTH-NAD 83
 - CONTOUR INTERVAL - 10 FEET

SYM.	DATE	BY	REVISION INFORMATION	PROJECT/TASK	APP.
E	8/7/17	RLR	REVISED TEMPORARY R/W, WORKSPACE & LIMITS OF DISTURBANCE PER REV 0		
D	4/8/16	RLR	CENTERLINE CHANGE		
C	8/18/15	RRC	REVISED PER CLIENT COMMENTS		
B	8/4/15	RLR	ISSUED FOR REVIEW - BATHOMETRIC DATA ADDED		
A	7/13/15	RRC	ISSUED FOR REVIEW		

SEAL

Engineering and Consulting, LLC
INTEGRITY • INITIATIVE • INNOVATION

DRAWN: RRC/RLR 7/13/15
CHECKED: RVS / DLM 7/13/15
APP. FOR BID:
APP. FOR CONST.:
SCALE: AS SHOWN

Atlantic Coast Pipeline, LLC
 925 White Oaks Blvd. Bridgeport, West Virginia 26330 / 681-842-8000

TITLE: AP-1 SITE SPECIFIC PLAN FOR APPOMATTOX RIVER					
DISTRICT:	COUNTY: CUMBERLAND	STATE: VA	GROUP:	DWG. NO.:	REV.:
DIR/FILE: DOM/ACP/Site Specific/Appomattox River Rev E					E

