

**T. L. Harpster**  
VP-Bell Bend Project-Development

**PPL Bell Bend, LLC**  
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November 14, 2011

Mr. Justin Dresch  
Pennsylvania DEP Northeast Regional Office  
Bureau of Watershed Management  
2 Public Square  
Wilkes-Barre, Pennsylvania 18711-1915

**BELL BEND NUCLEAR POWER PLANT  
JOINT PERMIT APPLICATION: PPL RESPONSE TO  
ADMINISTRATIVE INCOMPLETENESS NOTIFICATION  
BNP-2011-210 Docket No. 52-039**

References: 1) J. Dresch, PADEP, to T. L. Harpster, "Acknowledgement  
Letter/Administrative Incompleteness Notification, DEP Application  
No. E40-720", October 25, 2011

Attached are PPL's responses to the specific comments in the referenced notification letter. In addition, we are providing a cross reference table to facilitate your review.

The changes to the JPA requested in Reference 1 are being included in Revision 1 of the JPA, which we expect to provide to the PADEP within several days.

Please do not hesitate to contact Brad Wise of my staff [610-774-6508 or [bawise@pplweb.com](mailto:bawise@pplweb.com)] directly with any questions you may have regarding this response to your comments.

Respectfully,

Terry L. Harpster

TLH/kw

Enclosure: PPL Responses to PADEP Administrative Incompleteness Notification

cc: (W/ Enclosure)

Ms. Jamie Davis  
Office of Environmental Programs (3EA30)  
U.S. Environmental Protection Agency  
1650 Arch Street  
Philadelphia, PA 19103-2029

Ms. Stacey Imboden  
Senior Project Manager  
U.S. Nuclear Regulatory Commission  
11545 Rockville Pike  
Rockville, MD 20852

Mr. Tom Shervinskie  
Pa Fish & Boat Commission  
450 Robinson Lane  
Bellefonte, PA 16823

Ms. Amy Elliott  
U.S. Army Corps of Engineers - Baltimore  
District  
State College Field Office  
1631 South Atherton Street, Suite 102  
State College, PA 16801

Ms. Jennifer Kagel  
United States Fish & Wildlife Service  
Pennsylvania Field Office  
315 S. Allen St. #322  
State College, PA 16801

Mr. Eugene Trowbridge  
Pa Dept Environmental Resources  
Northeast Regional Office  
2 Public Square  
Wilkes-Barre, PA 18711

Ms. Paula B. Ballaron  
Susquehanna River Basin Commission  
1721 North Front Street  
Harrisburg, PA 17102-0425

Mr. Thomas W. Beauduy  
Susquehanna River Basin Commission  
1721 North Front Street  
Harrisburg, PA 17102-0425

Mr. Joshua Longmore  
Luzerne Conservation District  
485 Smiths Pond Road  
Shavertown, PA 18708

Ms. Karen J. Karchner  
Zoning/Building Code Official  
38 Bomboy Lane  
Berwick, Pa 18603

Enclosure

PPL Responses to PADEP Administrative Incompleteness Notification

Responses to the PADEP October 25, 2011:

Administrative Incompleteness Notification  
DEP Application No. E40-720  
APS No. 753143  
Bell Bend Nuclear Power Plant  
Salem Township, Luzerne County

**Comments:**

1. Please more clearly define which wetland areas are “to be created” and which wetland areas are existing natural features. This comment is applicable to Impacts: B,C,D,E, I, J, K, M, P, Q, and R.

**Response:** No wetland creation is proposed in conjunction with any impacts with letter identifiers. All Wetland impacts are depicted in detail on the Impacts Map (Enclosure D2, Section R, Binder 1B). Wetland mitigation areas are shown as a hatched area on the JPA Plans. More detailed information regarding creation and enhancement areas are provided in Section R (Binder 1C) in the mitigation design reports and plans.

2. Please provide a delineation of the 100-year floodway and the 100-year floodplain associated with all watercourses impacted by the project. If a FEMA Flood Insurance Rate Map depicting the limits of the 100-year floodway and/or the 100-year floodplain is not available, then the 100-year floodway is assumed to extend 50’ laterally from the point at which the normal water elevation within the stream channel meets the stream’s bank. This comment is applicable to watercourses altered as a result of Impacts: A, B, C, D, E, E, G, H, N, O, U, and V.

**Response:** The floodway has been added to the Impacts Map (Enclosure D2, Section R, Binder 1B). Enlargements have been added to this plan to depict all impacts affecting the regulatory floodway.

3. Please provide a “utility detail map” on sheet “B2-S2” for Bridge #6.

**Response:** A Utility Detail Table has been added to Sheet B2-S2 of the Bridge Drawings.

4. Please note that “Wetland #10” on sheet “B3-S1” should be labeled as “Wetland #12.” This comment is applicable to “Impact B.”

**Response:** The existing wetland boundary and wetland labels have been corrected on Sheet B3-S1 of the Bridge Drawings.

5. Please provide the size and material type utilized for the water intake and blowdown pipeline associated with "Impact M."

**Response:** The sizes and materials of the intake and blowdown lines have not yet been finalized. However, likely sizes and materials have been noted on Figure 8P on sheet CS3206 of the JPA Plans (Binder 1A), with a note that these are subject to final design. Text descriptions have also been added to Section H, Project Narrative (Binder 1) and Section J, Environmental Assessment, Enclosure D (Binder 1B).

6. Please provide more details on the intake structure ("Impact S") within the floodway.

**Response:** The existing and proposed floodway have been added to Figure 8F on Sheet CS3205 of the JPA Plans (Binder 1A). This figure shows a cross section of the intake structure area, including the existing river bank.

7. Please add the relocation of Walker Run to the overall impacts table under "Impact V."

**Response:** Enclosure D4 has been revised to clarify the proposed relocated length of Walker Run associated with the Walker Run mitigation area. Because this is not an impact associated directly with the construction of the power plant, this impact has not been assigned a letter. However the impacts quantities associated with the mitigation sites have now been clarified in the mitigation section of Enclosure D4 of the Environmental Assessment (Section J, Binder 1B)

**Attachments:**

1. Table of where to find various plans and tables within the JPA application.
2. Revised Enclosure D2 – BBNPP Wetland & Watercourse Impact Location Map – DEP
3. Revised Enclosure D2- Enlargements - BBNPP Wetland & Watercourse Impact Location Map – DEP
4. Revised Enclosure D4 – BBNPP Wetland & Watercourse Impacts – DEP
5. Revised Bridge drawings B2-S2, B3-S1 and revised drawings CS3205 and CS3206

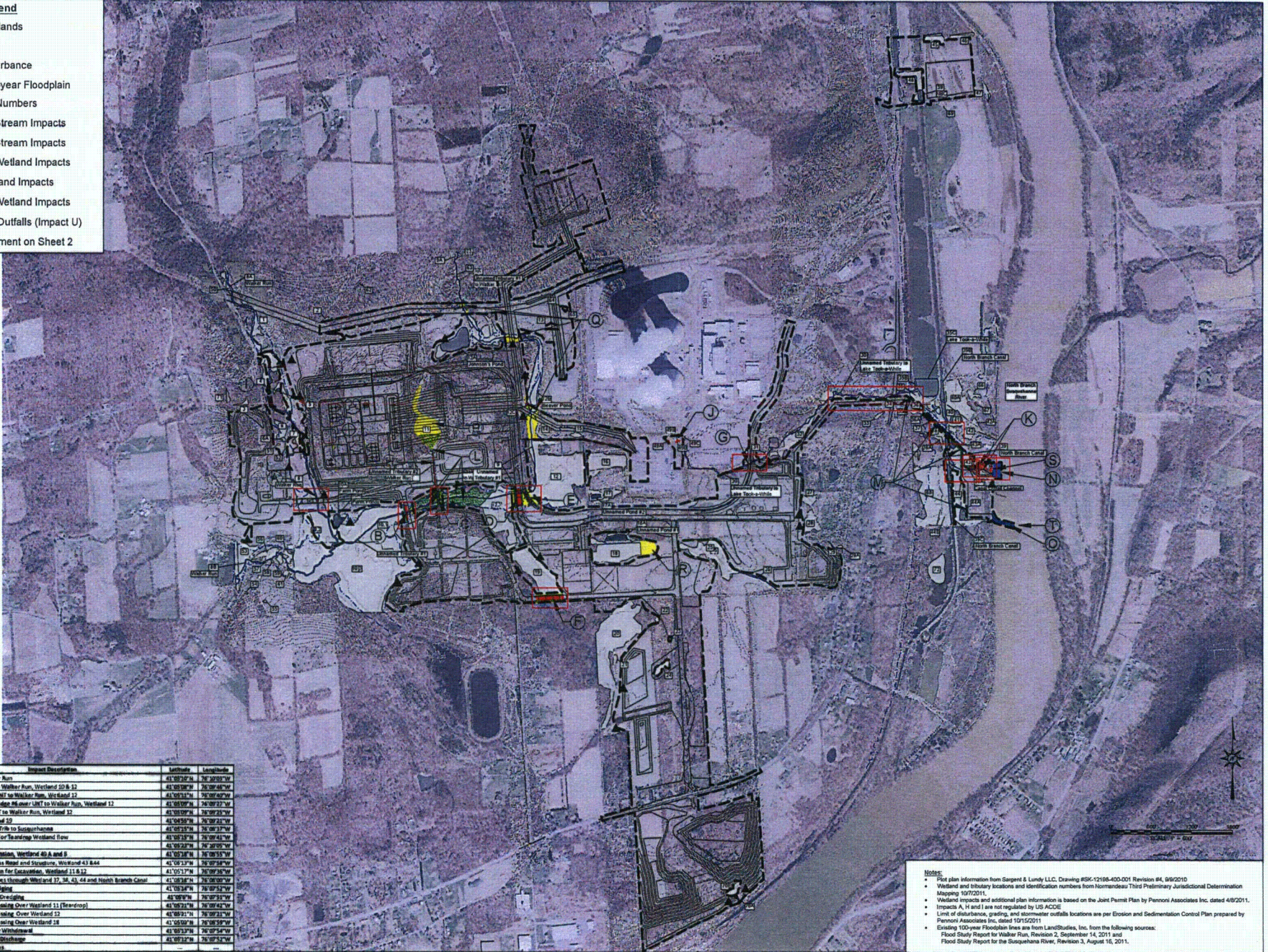
In an effort to aid DEP in the review of the BBNPP JPA, the following table is being provided with the intent of clarifying the purpose of the various plans and tables included in the JPA document and the identifying the pertinent information contained in those plans.

**BBNPP Joint Permit Application Roadmap**

<b>Document</b>	<b>Location in JPA</b>	<b>Purpose</b>	<b>Pertinent information</b>
Joint Permit Application (JPA) Plans	Section F, Binder 1A	Meets the requirement of Item F of the JPA Checklist. Provides plan view of entire site, with details of features to be permitted as well as overall site improvements for context.	Includes plan view showing locations of existing and proposed features as well as cross sections, profiles, and details of proposed improvements. Existing wetlands, streams, and floodplains are shown, as well as the overall extent of proposed impacts and mitigation sites.
Bridge Drawings	Section F, Binder 1A	Depicts the structural design of the proposed bridges	Details bridge configurations, materials, and dimensions. Shows plan view, profile, and cross sections, as well as typical details of structural components. Existing jurisdictional features are shown for reference only
Impacts Map, Enclosure D2	Section R, Binder 1B	Defines extent and categorizes water obstructions and encroachments per Chapter 105 regulations. <b>This plan should be the primary source for the identification of the extent of and type of project impacts to Waters of the Commonwealth, as it provides more specific detail on impacts than the JPA plans.</b>	Defines the extent of permanent, temporary, and indirect project impacts to Waters of the Commonwealth. Impacts are identified by a letter, which is consistently shown on the JPA Plans and Impacts Table. Existing wetlands, watercourses, floodway, and floodplain are shown and identified. Enlargements of impact areas are provided for clarity where needed.
Impacts Table, Enclosure D4	Section R, Binder 1B	Companion to Impacts Map, this table quantifies wetland impacts in terms of permanent (by Cowardin Classification and total), temporary, and indirect, as well as stream impacts (temporary and permanent). Wetland and stream mitigation acreages and lengths are also provided in a separate section of this table. <b>This table should be the primary source for impact and mitigation quantities.</b>	Includes latitude/ longitude, EV status, water-dependent status, GP or waiver qualification, permanent and temporary stream and wetland impacts, indirect impacts, lost functions/ values, and PFO loss. Also includes Summary of mitigation quantities including net wetland creation (by Cowardin classification and total), net stream restoration, functions/ values gained and PFO created.
Walker Run Floodplain Map	Section N, Binder 1	As part of the Flood Study Report for Walker Run and Unnamed Tributary #1, this plan delineates existing and proposed floodplains and floodways.	Delineates the existing and proposed 100-yr and 500-yr floodplain and the proposed floodway. Current Effective FEMA floodway, 100-yr and 500-yr floodplain are also shown. Proposed site features are shown for reference.
Susquehanna River Floodplain Map	Section N, Binder 1	As part of the Flood Study Report for the North Branch of the Susquehanna River, this plan delineates existing and proposed floodplains and floodways.	Delineates the existing and proposed 100-yr and 500-yr floodplain and existing and proposed floodway. Current Effective FEMA floodway, 100-yr and 500-yr floodplain are also shown. Proposed site features are shown for reference.
Mitigation Plans	Section R, Binder 1C	Provides detailed information regarding proposed mitigation sites	Detailed Mitigation Plans and Design reports are provided for the mitigation sites along Walker Run, at Confers Lane, and in and along the North Branch Canal at the Riverlands. Mitigation plans provide detailed grading, cross sections, and construction details as well as planting plans for all mitigation areas. Design reports include all pertinent design information and wetland and stream creation and enhancement quantities.

**Legend**

- Existing Wetlands
- Streams
- Limit of Disturbance
- Existing 100-year Floodplain
- Wetland ID Numbers
- Permanent Stream Impacts
- Temporary Stream Impacts
- Permanent Wetland Impacts
- Indirect Wetland Impacts
- Temporary Wetland Impacts
- Stormwater Outfalls (Impact U)
- See Enlargement on Sheet 2



Impact ID	Impact Description	Latitude	Longitude
A	Bridge #6 over Walker Run	43°09'32"N	76°09'00"W
B	Bridge #3 over LINT to Walker Run, Wetland 10 B, 12	43°09'30"N	76°08'40"W
C	Pipe Bridge #7 over LINT to Walker Run, Wetland 12	43°09'31"N	76°08'40"W
D	Bridge #2 and pipe bridge #6 over LINT to Walker Run, Wetland 12	43°09'30"N	76°08'37"W
E	HR Bridge #5 over LINT to Walker Run, Wetland 12	43°09'30"N	76°08'23"W
F	Bridge #1 over Wetland 12	43°09'30"N	76°08'21"W
G	Outfall culvert over T-1 to Susquehanna	43°09'33"N	76°08'37"W
H	Culvert replacement for Teanagar Wetland flow	43°09'33"N	76°08'41"W
I	Power Bank Fill	43°09'32"N	76°08'20"W
J	SES Switchyard Expansion, Wetland 40 A and B	43°09'34"N	76°08'55"W
K	Intake Structure Access Road and Structure, Wetland 43 B, 44	43°09'37"N	76°08'38"W
L	Dewatering Overditch for Excavation, Wetland 11 B 12	43°09'37"N	76°08'38"W
M	Intake Structure Lines through Wetland 17, 30, 43, 44 and North Branch Canal	43°09'37"N	76°08'38"W
N	Intake Line River Dredging	43°09'37"N	76°08'37"W
O	Headroom Line River Dredging	43°09'37"N	76°08'37"W
P	Transmission Line Crossing Over Wetland 11 (Teardrop)	43°09'37"N	76°08'42"W
Q	Transmission Line Crossing Over Wetland 12	43°09'37"N	76°08'37"W
R	Transmission Line Crossing Over Wetland 28	43°09'37"N	76°08'39"W
S	Intake Structure River Withdrawal	43°09'37"N	76°08'34"W
T	Headroom Line River Discharge	43°09'37"N	76°08'34"W
U	Stormwater Outfalls		

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 3115 North Street | Lititz, PA 17543



PROJECT:  
**PPL, BELL BEND**  
 Bombay Lane  
 Berwyn, PA 19003

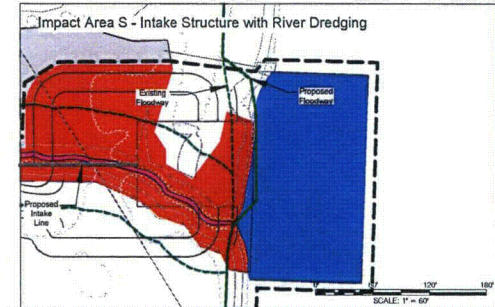
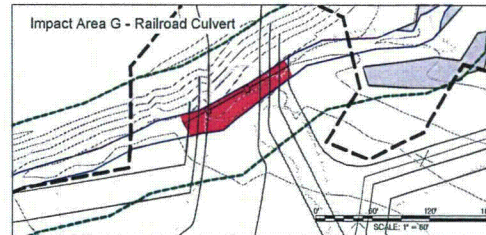
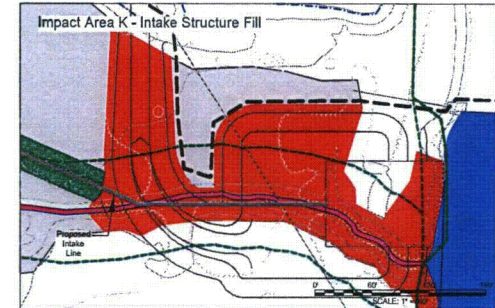
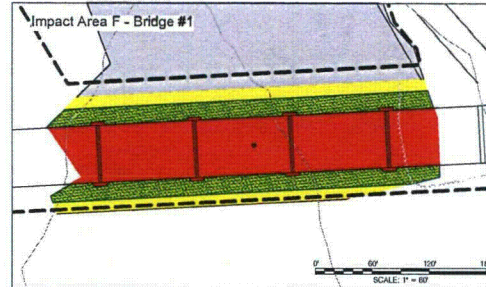
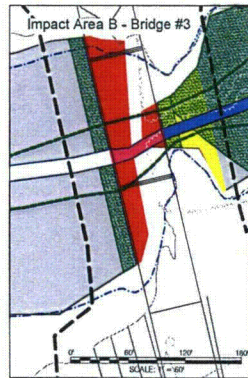
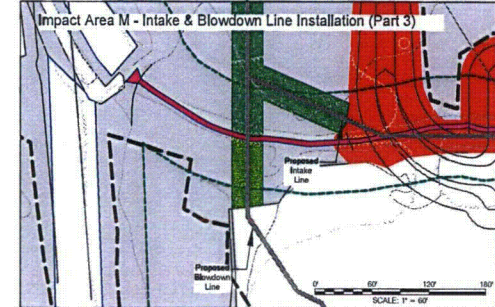
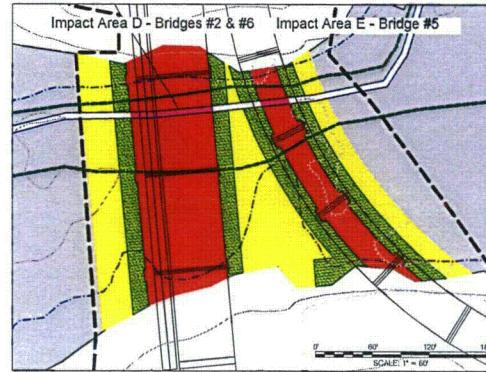
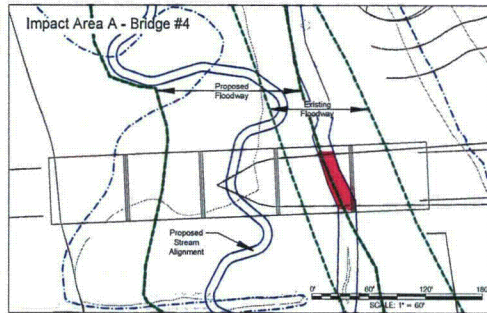
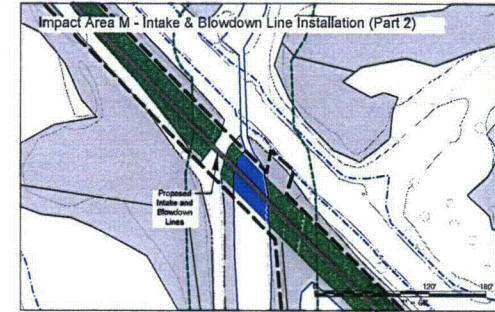
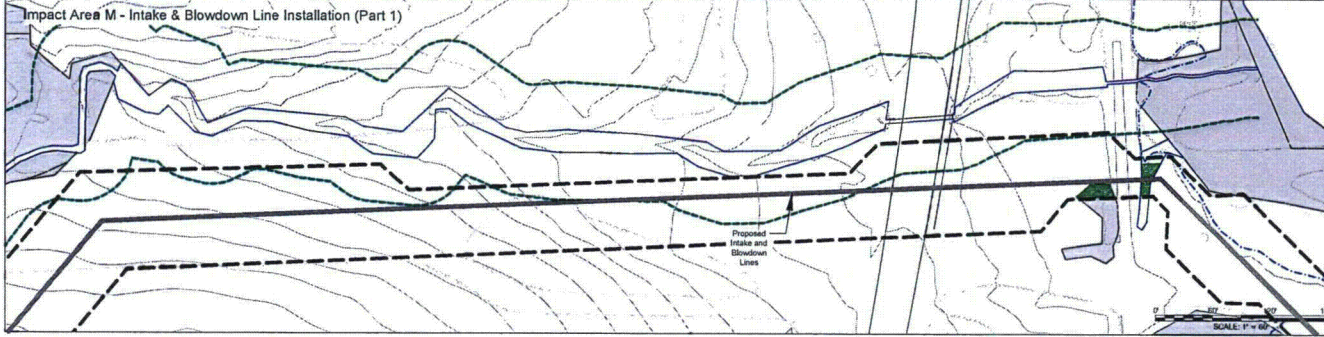
SHEET TITLE:  
**ENCLOSURE D2 - BBNPP WETLAND & WATERCOURSE IMPACT LOCATION MAP - DEP**  
 Nuclear Power Plant  
 Bell Bend Nuclear Power Plant  
 Luzerne County, PA

Rev	Date	Description
1	07/4/11	UPDATE LOGS FOR WETLANDS AND WATERCOURSES
2	10/14/11	UPDATE LOGS FOR WETLANDS AND WATERCOURSES
3	11/01/11	ADD WETLANDS AND WATERCOURSES

Drawn by: JS  
 Checked by: BE  
 Date: April 29, 2011  
 Scale: 1" = 600'  
 Drawing Number: WFOEP-001  
 Sheet Number:

**Notes:**

- Plot plan information from Gargent & Lundy LLC, Drawing #SIC-12198-400-001 Revision #4, 9/9/2010
- Wetland and tributary locations and identification numbers from Normandeau Third Preliminary Jurisdictional Determination Mapping 10/7/2011.
- Wetland impacts and additional plan information is based on the Joint Permit Plan by Pennoni Associates Inc. dated 4/9/2011.
- Impacts A, H and I are not regulated by US AC02E
- Limit of disturbance, grading, and stormwater outfalls locations are per Erosion and Sedimentation Control Plan, prepared by Pennoni Associates Inc., dated 10/15/2011
- Existing 100-year Floodplain lines are from LandStudies, Inc. from the following sources:  
 Flood Study Report for Walker Run, Revision 2, September 14, 2011 and  
 Flood Study Report for the Susquehanna River, Revision 3, August 16, 2011.



**Legend**

- Existing Wetlands
- Streams
- Limit of Disturbance
- Existing 100-year Floodplain
- Floodway (FEMA, LandStudies Inc. & 50' Buffer\*)
- Wetland ID Numbers
- Permanent Stream Impacts
- Temporary Stream Impacts
- Permanent Wetland Impacts
- Indirect Wetland Impacts
- Temporary Wetland Impacts
- Stormwater Outfalls (Impact U)

\* Regulatory floodways delineated on this plan are from the following sources:  
 • Susquehanna River: Bell Bend Nuclear Power Plant Flood Study Report Susquehanna River (LSI Doc. No. FS-SR-07) by LandStudies, Inc. Revision 3, August 16, 2011  
 • Walker Run: FEMA Flood Insurance Study Panel 20 of 20 for the Township of Salem, Pennsylvania, Luzerne County Community-Panel Number 420625 0020 B, Effective March 18, 1980 and Bell Bend Nuclear Power Plant Flood Study Report Walker Run (LSI Doc. No. FS-MR-07) by LandStudies Inc. Revision 2, September 14, 2011  
 • All Other Areas: 50' from existing edge of water

Attachment 3  
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 landstudies@comcast.net  
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**Land STUDIES**

PROJECT: **PPL, BELL BEND**  
 Bombay Lane  
 Berwick, PA 18803

SHEET TITLE: **ENCLOSURE D2, ENLARGEMENTS -  
 BENPP WETLAND & WATERCOURSE IMPACT  
 LOCATION MAP - DEP**  
 Bell Bend Nuclear Power Plant  
 Luzerne County, PA

Rev.	Date	Description
1	07/17/11	UPRNL CO & BENPP WETLAND & WATERCOURSE IMPACT
2	10/14/11	UPRNL CO & BENPP WETLAND & WATERCOURSE IMPACT
3	11/01/11	ADD FLOODWAY AND FLOODPLAIN

Project Number: ECTP-LS  
 Designer: JIS  
 Checker: BE  
 Date: April 29, 2011  
 Scale: 1" = 60'  
 Drawing Number: WKSEP-001A  
 Sheet Number:

**2 OF 3**



**Enclosure D4**  
**BNPP Wetland and Watercourse Impacts and Mitigation**  
**DEP Impacts and Mitigation**

11/A/2011

Impact ID	Impact Description	Latitude	Longitude	EV Wetland?	Water Dependent?	Qualifies for OW or Walker?	DEP Subtidal Wetland Impacts					DEP Stream Impacts				Fxn./ Values Lost	PFO Loss (ac.)		
							Temporary	Permanent *	PFO	FS	PBA	Permanent*	Temporary	Indirect Impacts					
							(ac.)	(ac.)	(ac.)	(ac.)	(ac.)	(U)	(ac.)	(U)	(ac.)				
A	Bridge #4 over Walker Run	41°05'19"N	76°09'01"W	NO	YES	YES-#P2	---	---	---	---	65	0.80	---	---	None	---			
B	Bridge #3 over URF to Walker Run, Wetland 10 & 12	41°09'08"N	76°09'46"W	YES	YES	NO	0.09	0.54	0.81	---	0.13	62	0.62	---	0.87	PFO wildlife habitat	0.09		
C	Pipe Bridge #7 over URF to Walker Run, Wetland 12	41°05'11"N	76°09'40"W	YES	YES	NO	0.18	0.05	0.05	---	---	12	0.09	---	0.27	PFO wildlife habitat	0.42		
D	Bridge #2 and pipe bridge #6 over URF to Walker Run, Wetland 12	41°05'09"N	76°09'27"W	YES	YES	NO	0.19	0.50	0.36	---	---	27	0.81	---	0.50	PFO wildlife habitat	1.80		
E	RR Bridge #5 over URF to Walker Run, Wetland 12	41°05'09"N	76°09'25"W	YES	YES	NO	0.23	0.17	0.17	---	---	29	0.80	---	0.47	PFO wildlife habitat	0.68		
F	Bridge #1 over Wetland 10	41°04'50"N	76°09'21"W	NO	YES	NO	0.33	0.55	0.55	---	---	---	---	---	0.52	PFO wildlife habitat	1.07		
G	Railroad culvert over URF to Sycamore Run	41°05'15"N	76°09'37"W	NO	YES	NO	---	---	---	---	---	125	0.00	---	---	---	---		
H	Culvert replacement for Trenching Wetland #10	41°05'15"N	76°09'41"W	YES	YES	YES - Walker 2	---	---	---	---	---	---	267	0.83	---	---	---		
I	Power Block #8	41°05'22"N	76°09'05"W	NO	NO	NO	0.00	0.12	---	---	0.12	---	---	---	---	---	---		
J	SES Switchyard Expansion, Wetland 49 A and B	41°05'18"N	76°08'58"W	NO	NO	NO	---	0.08	---	---	0.08	---	---	---	---	---	---		
K	Intake Structure Access Road and Structures, Wetland 43 & 44	41°05'13"N	76°07'38"W	NO	YES	NO	---	0.98	0.30	---	0.68	617	0.67	---	---	PFO wildlife habitat, fish habitat, foundation alteration of 4 values	0.30		
L	Demolishing Structures for Excavation, Wetland 11 & 12	41°05'17"N	76°09'36"W	YES	YES	NO	---	---	---	---	---	---	---	---	---	---	---		
M	Intake/ Return/Flow Lines through Wetland 37, 38, 43, 44 and North Branch Canal	41°05'16"N	76°09'07"W	NO	YES	YES - #P5	5.55	---	---	---	---	---	---	---	---	Groundwater discharge	---		
N	Intake Line River Dredging	41°05'14"N	76°07'52"W	NO	YES	NO	---	---	---	---	---	---	---	---	---	Temporary PFO wildlife habitat	0.87		
O	Offstream Line River Dredging	41°05'09"N	76°08'31"W	NO	YES	NO	---	---	---	---	---	---	---	---	---	---	---		
P	Transmission Line Crossing Over Wetland 11 (Bypass)	41°05'23"N	76°09'02"W	YES	NO	YES-#P5	---	---	---	---	---	---	---	---	---	---	---		
Q	Transmission Line Crossing Over Wetland 12	41°05'21"N	76°09'21"W	YES	NO	YES-#P5	---	---	---	---	---	---	---	---	---	---	---		
R	Transmission Line Crossing Over Wetland 38	41°05'03"N	76°08'50"W	NO	NO	YES-#P5	---	---	---	---	---	---	---	---	---	---	---		
S	Intake Structure River Withdrawal	41°05'13"N	76°07'54"W	NO	YES	YES-#P4	---	---	---	---	---	---	---	---	---	---	---		
T	Minimum Line River Discharge	41°05'12"N	76°07'52"W	NO	YES	NO	---	---	---	---	---	---	---	---	---	---	---		
U	Steamer Discharge	---	---	YES/NO	YES	YES-#P4	---	---	---	---	---	---	---	---	---	---	---		
							Subtotal	7.93	2.37	1.58	0.60	0.99	997	8.21	2280	1.42	7.85	---	
							EV Totals	6.22	8.86	0.78	0.00	0.13	190.00	0.84	1980	8.31	6.39	---	7.82
							Remaining Wetland	8.69	1.39	0.51	0.00	0.88	742.00	0.14	8	0.89	7.93	---	0.51

\*Bridges open streamlines over wetlands and streams are permanent DEP impacts that do not require mitigation.

<b>Minimum Wetland Replacement Acreage</b>		
DEP (1:1 Ratio)	1.39	ac.

Mitigation Sites	Wetland Creation						Stream Restoration				Description of Primary Functions and Values Created/Enhanced	PFO created/avoided (ac.)	
	Total (ac.)	PFO Created (ac.)	PFO Impacted* (ac.)	FS	PBA Created	FCM Impacted*	Total Abandoned* (BF)	Created (BF)	Net Creation (BF)	Enhancement (BF)			
Walker Run, Site A and B	7.87	8.29	-0.08	0.00	0.00	-0.25	2213	-2799	4159	1360	153	PFO wildlife habitat, fish habitat, stream stabilization, groundwater recharge, sediment reductions, flood flow alteration	11.72
Riverlands-North Branch Canal Restoration	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Uniqueness, heritage, recreation, educational/scientific value, flood flow alteration, PFO wildlife habitat	0.48
Confers Lane Removal	0.16	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	PFO wildlife habitat	0.40
<b>Total Mitigation Sites</b>	<b>8.23</b>	<b>8.56</b>	<b>-0.08</b>	<b>0.00</b>	<b>0.00</b>	<b>-0.25</b>	<b>2213</b>	<b>-2799</b>	<b>4159</b>	<b>1360</b>	<b>153.00</b>		<b>14.60</b>

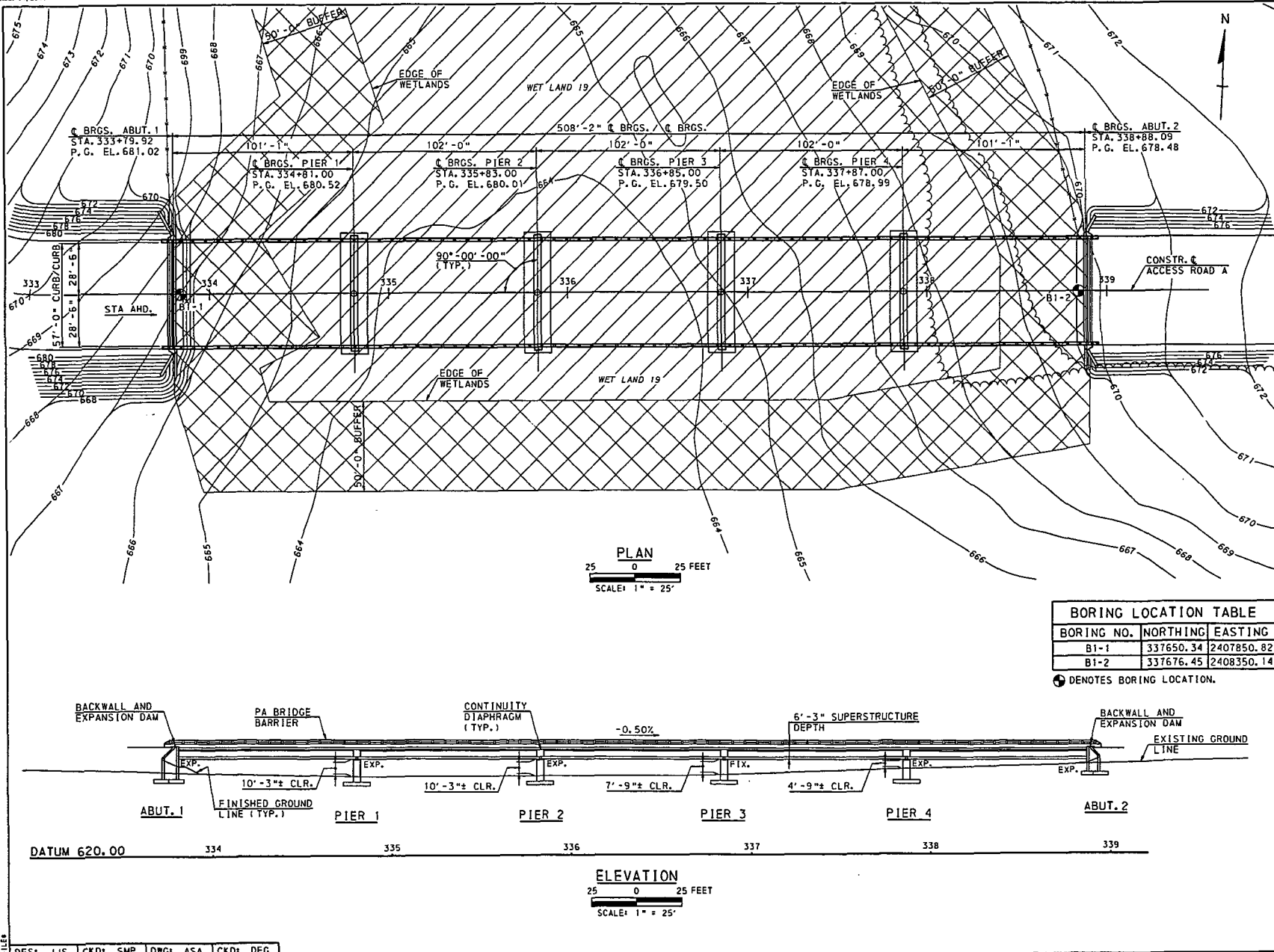
\*Impacts associated with the relocation of the Walker Run stream channel are reported as negative values. Permanent wetland impacts are a result of the channel being relocated to wetland areas. Abandoned stream channel to be converted to wetland. See Mitigation Narrative for more details.

<b>Replacement Ratios Provided (Recommended Sites)</b>				
Total (ac.)	PFO (ac.)	FS (ac.)	PBA (ac.)	
Replacement Ratio (DEP)	5.94	16.78	N/A	-0.29

Note: Replacement Ratios based on impacts from project, excluding mitigation impacts

Rev	Date	Description
0	10/14/11	---
1	11/07/11	REVISED TABLE

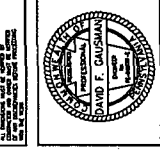
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Client:	JS
Created By:	BE
Date:	October 14, 2011
Scale:	NA
Drawing Number:	W8-DEP-002
Drawn by:	---



**Pennoni Associates Inc.** 100 N. WILKES-BARRE BLVD. WILKES-BARRE, PA. 18702  
**Engineers Surveyors Planners Landscape Architects**



DATE	NO.	ISSUED FOR USE	DFG	BT
1-18-11	A	ISSUED FOR USE		



**CONCEPTUAL BRIDGE TYPE STUDIES**  
 BELL BEND NUCLEAR PLANT, SALEM TOWNSHIP  
 LUZERNE COUNTY, PENNSYLVANIA  
**BRIDGE NO. 1 ACCESS ROAD A OVER WETLAND 19**  
**STATION 336+34.00**  
**FIVE-SPAN CONTINUOUS COMPOSITE PRESTRESSED**  
**CONCRETE I-BEAM BRIDGE**  
**GENERAL PLAN AND ELEVATION**

All drawings prepared by or under the supervision of a professional engineer or architect registered in the State of Pennsylvania. The engineer or architect shall be responsible for the accuracy of the information and data furnished to him and for the proper application of the same. The engineer or architect shall also be responsible for the proper application of the same. The engineer or architect shall also be responsible for the proper application of the same.

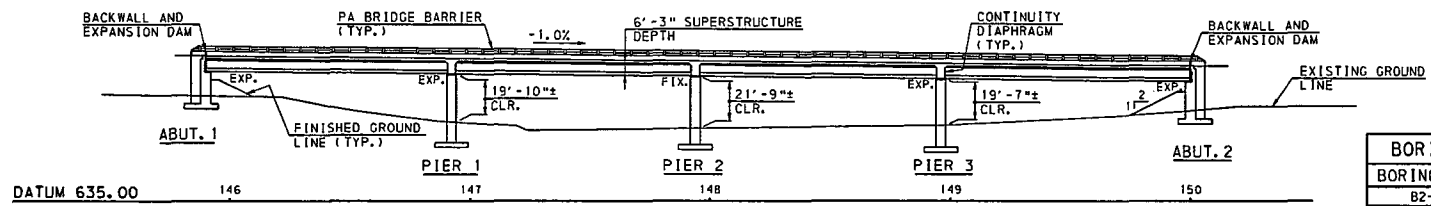
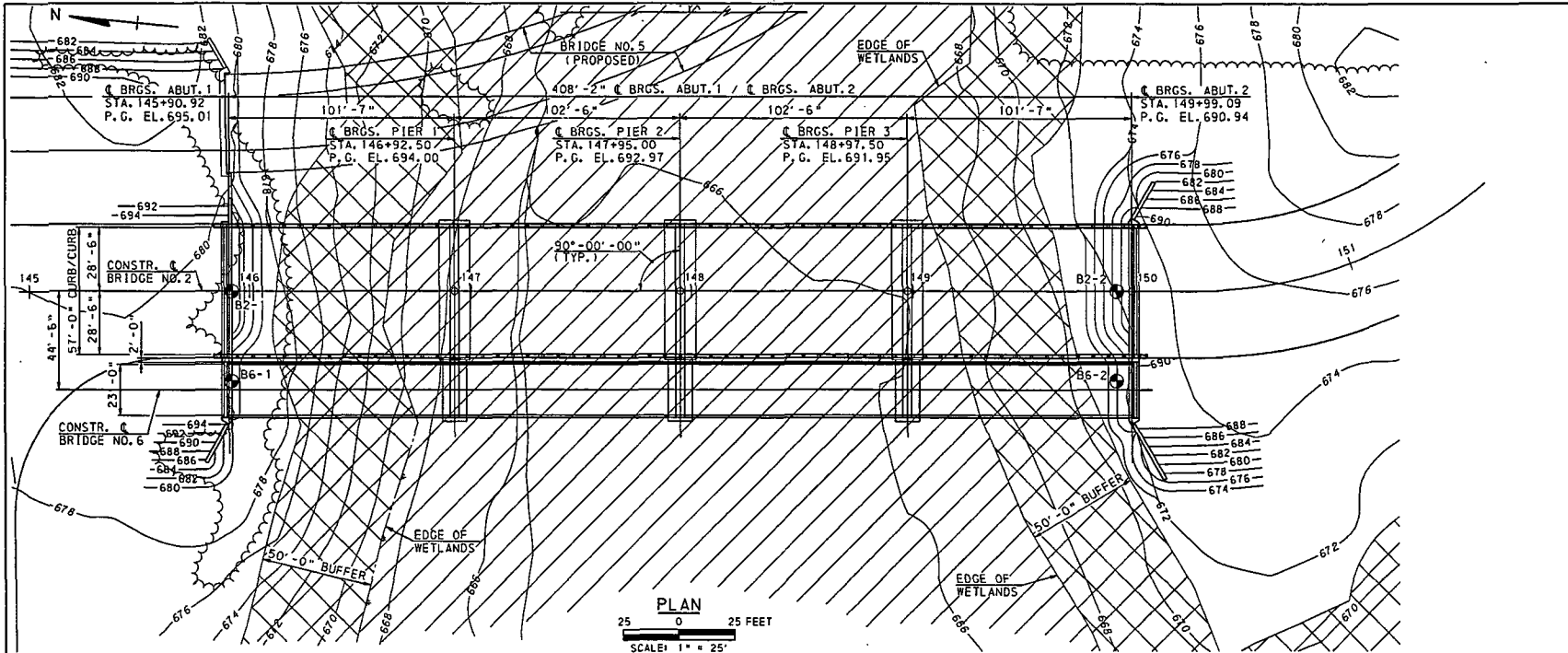
JOB NO.	PPLS 0902
SHEET	1 OF 2

SCALE	1" = 25'	DRAWING NO.	
DRAWN BY	ASA		
DATE	1-28-11		
APPROVED	4-18-11		

**B1-S1**

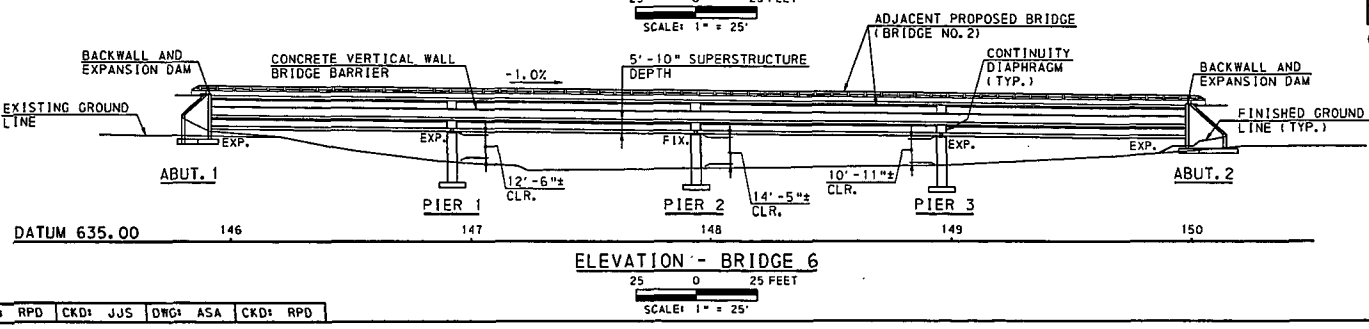
10/31/2011 2:33:32 PM





BORING LOCATION TABLE		
BORING NO.	NORTHING	EASTING
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B2-2	338943.57	2407676.65
B6-1	339338.07	2407599.16
B6-2	338939.80	2407636.32

⊙ DENOTES BORING LOCATION.



DES: RPD CKD: JJS DWG: ASA CKD: RPD

**Pennoni Associates Inc.** 100 N. WILKES-BARRE BLVD. WILKES-BARRE, PA 18702  
 Engineers Surveyors Planners Landscape Architects

DATE	BY	ISSUED FOR USE	BY	BY
4-18-11	AS	AS	AS	AS

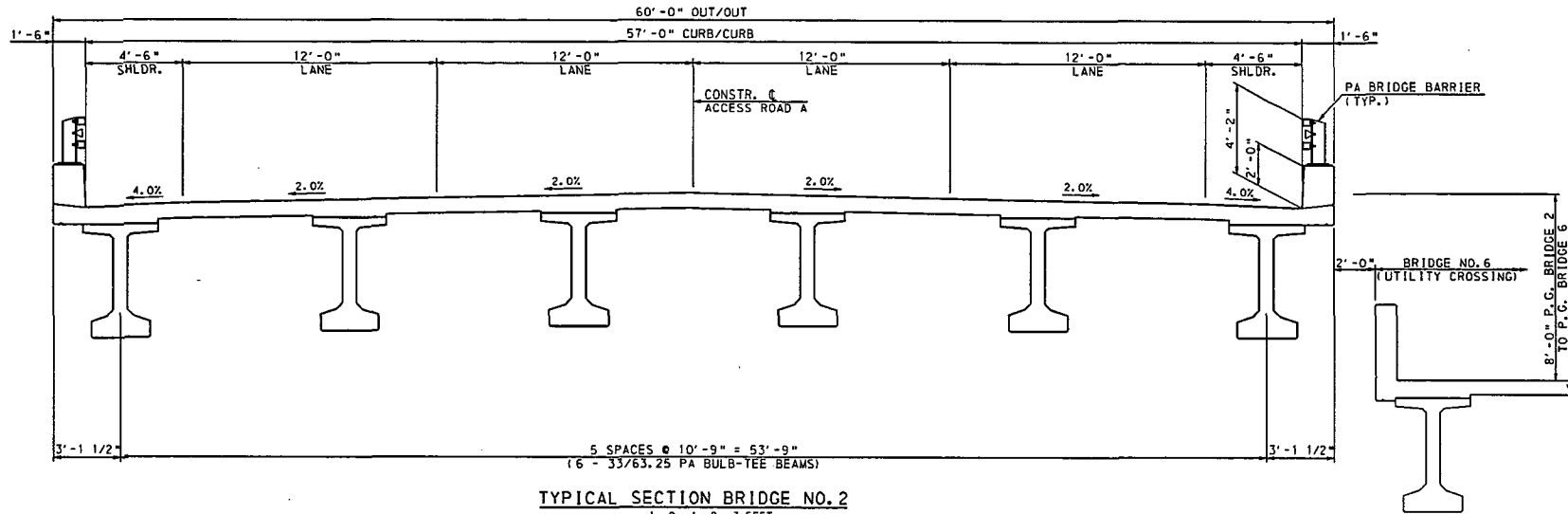
CONCEPTUAL BRIDGE TYPE STUDIES  
 BELL BEND NUCLEAR PLANT, SALEM TOWNSHIP  
 LUZERNE COUNTY, PENNSYLVANIA  
 BRIDGE NO. 2 (MAIN ACCESS ROAD) & BRIDGE NO. 6  
 (UTILITY CROSSING) OVER WETLAND 12 & UNNAMED  
 TRIBUT. TO WALKER RUN, STATION 147+95.00  
 FOUR-SPAN CONTINUOUS COMPOSITE PRESTRESSED  
 CONCRETE PA BULB-TEE BEAM BRIDGE  
 GENERAL PLAN AND ELEVATION

JOB NO. PPLS 0902	DRAWING NO.
SHEET 1 OF 2	

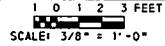
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 DRAWN BY: ASA  
 DATE: 1-28-11  
 APPROVED: 4-19-11

B2-S1

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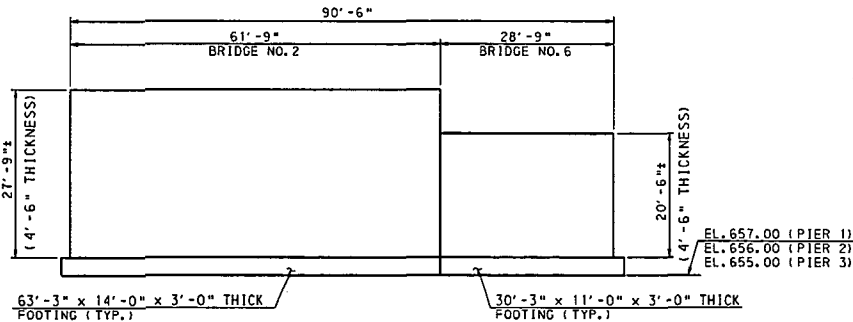


TYPICAL SECTION BRIDGE NO. 2



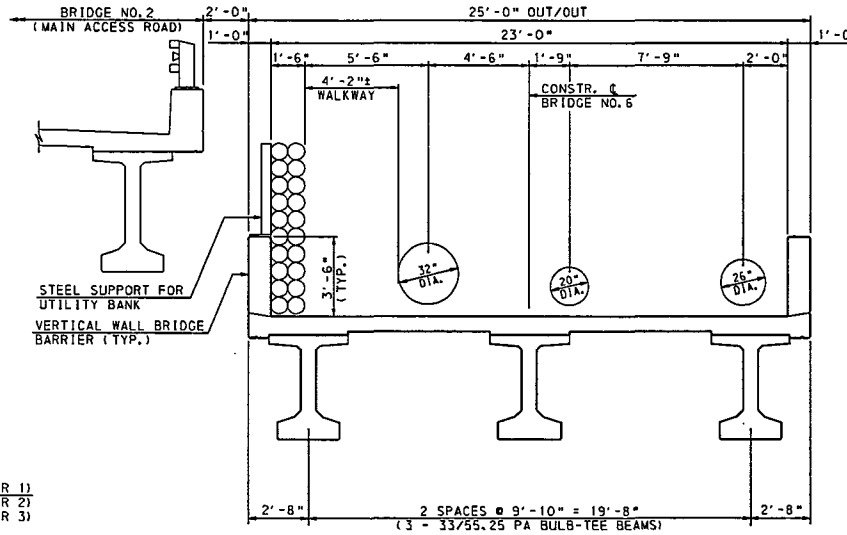
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CLASS AAA CEMENT CONCRETE	
CLASS AA CEMENT CONCRETE	
CLASS A CEMENT CONCRETE	
PRESTRESSED CONCRETE I-BEAMS	
NEOPRENE STRIP SEAL DAMS	
METAL RAILING	
REINFORCEMENT BARS	
HP12 x 74 PILES	
CLASS 3 EXCAVATION	
SELECTED BORROW EXCAVATION, STRUCTURE BACKFILL	

TABLE OF PROPOSED UTILITIES			
TYPE	MATERIAL	DJAMETER	QUANTITY
ELECTRICAL	GALV. RIGID STEEL	6"	20
CIRC. WATER	CARBON STEEL	32"	1
BLOW DOWN WATER	HDPE	26"	1
WATER	CARBON STEEL	20"	1

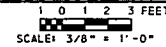


TYPICAL PIER AND FOOTING DIMENSIONS

NOT TO SCALE



TYPICAL SECTION BRIDGE NO. 6



Pennoni Associates Inc. 100 N. WILKES-BARRE BLVD. WILKES-BARRE, PA 18702

DATE	BY	REVISIONS
10-28-11	ASA	REVISED PER THICKNESS
4-19-11	ASA	ISSUED FOR USE

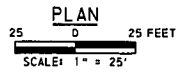
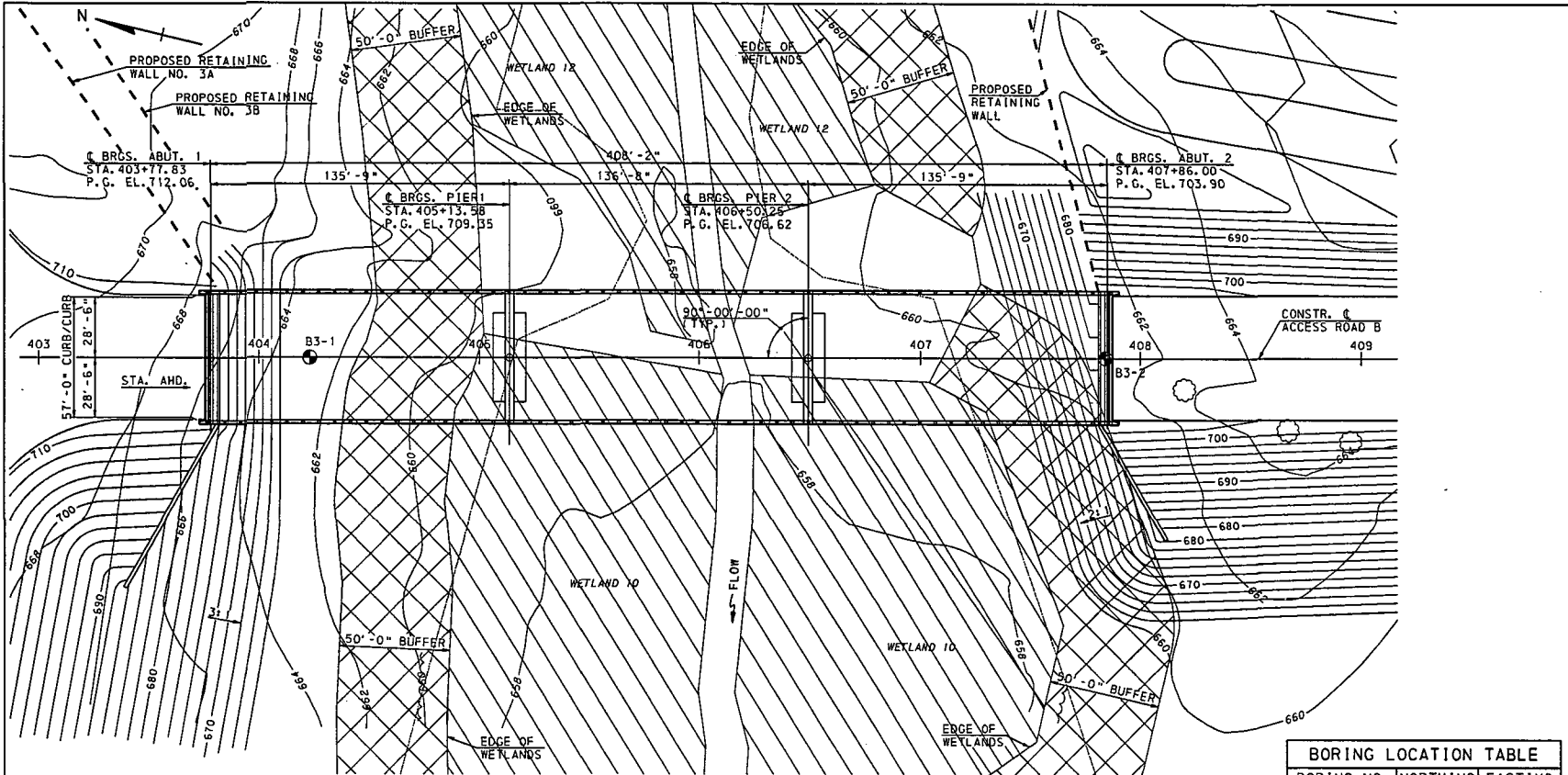


CONCEPTUAL BRIDGE TYPE STUDIES  
 BELL BEND NUCLEAR PLANT, SALEM TOWNSHIP  
 LUZERNE COUNTY, PENNSYLVANIA  
 BRIDGE NO. 2 (MAIN ACCESS ROAD) & BRIDGE NO. 6  
 (UTILITY CROSSING) OVER WETLAND 12 & UNNAMED  
 TRIBUT. TO WALKER RUN, STATION 147+95.00  
 FOUR-SPAN CONTINUOUS COMPOSITE PRESTRESSED  
 CONCRETE PA BULB-TEE-BEAM BRIDGE  
 TYPICAL SECTIONS

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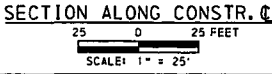
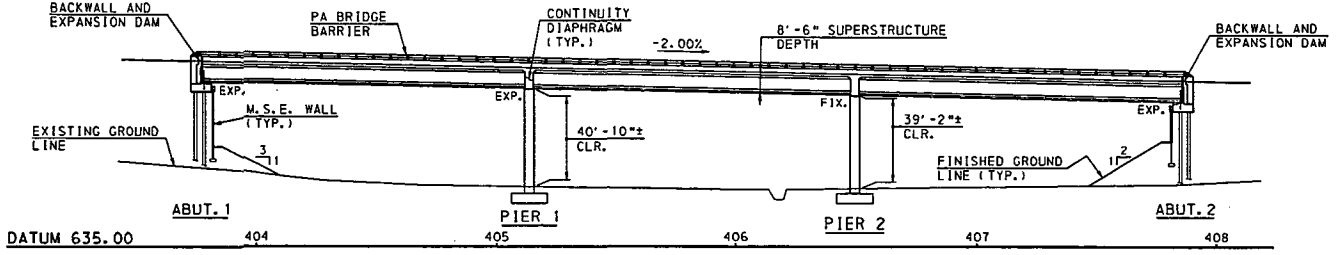
JOB NO. PPLS 0902
SHEET 2 OF 2

SCALE AS NOTED	DRAWING NO. B2-S2
DESIGNED BY ASA	DATE 1-28-11
APPROVED 4-19-11	



BORING NO.	NORTHING	EASTING
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B3-2	338756.32	2406035.35

● DENOTES BORING LOCATION.



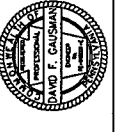
DES: JJS CKD: SMP DWG: ASA CKD: DFG

Pennoni Associates Inc. 100 N. WILKES-BARRE BLVD. WILKES-BARRE, PA 18702



Engineers Surveyors Planners Landscape Architects

DATE	NO.	REVISION
1-28-11	1	WETLAND REVISION
4-19-11	2	ISSUED FOR USE

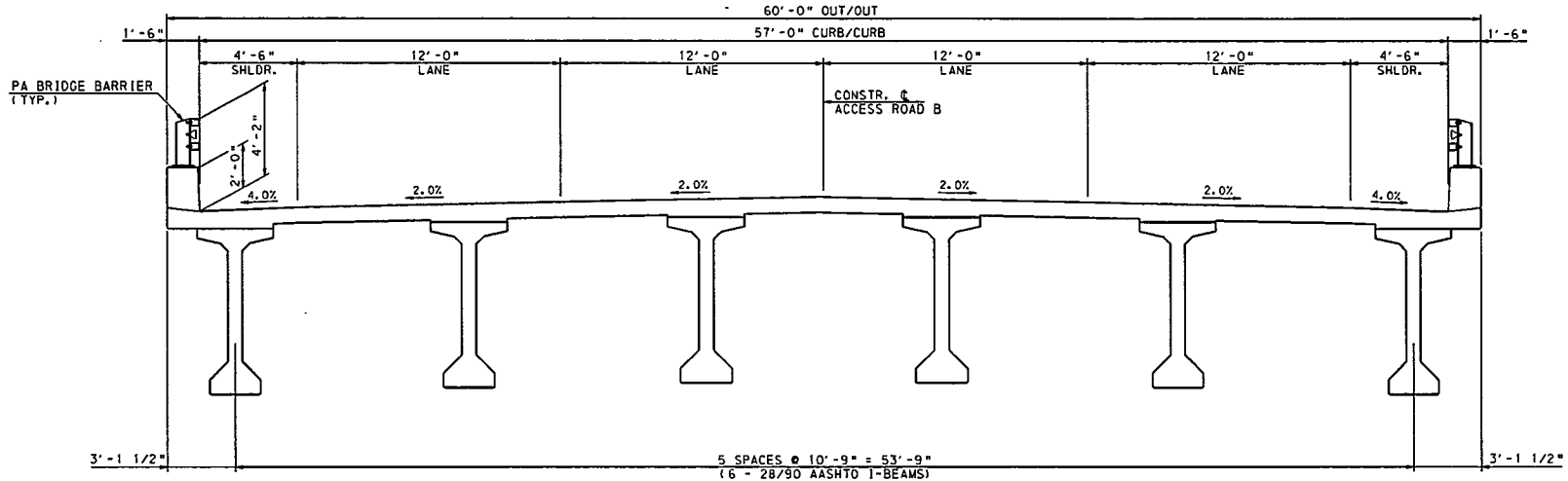


**CONCEPTUAL BRIDGE TYPE STUDIES**  
 BELL BEND NUCLEAR PLANT, SALEM TOWNSHIP  
 LUZERNE COUNTY, PENNSYLVANIA  
 BRIDGE NO. 3 ACCESS ROAD B OVER WETLAND 10 & 12  
 STATION 405+81.92  
 THREE-SPAN CONTINUOUS COMPOSITE PRESSED  
 CONCRETE I-BEAM BRIDGE  
 GENERAL PLAN AND ELEVATION

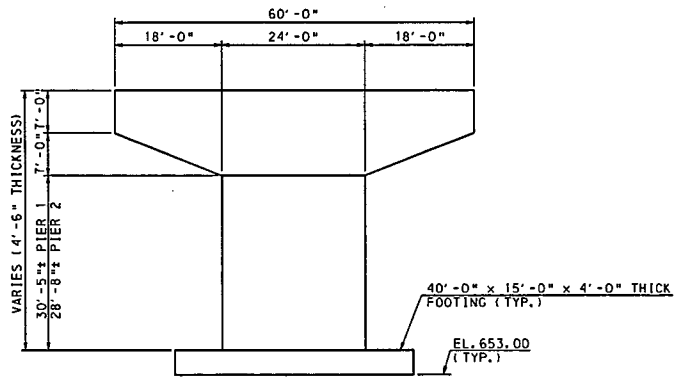
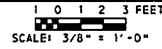
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JOB NO. PPLS 0902
SHEET 1 OF 2

SCALE 1" = 25'	DRAWING NO.
DRAWN BY ASA	
DATE 1-28-11	<b>B3-S1</b>
APPROVED 4-19-11	



TYPICAL SECTION BRIDGE NO. 3



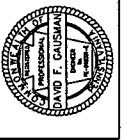
TYPICAL PIER AND FOOTING DIMENSIONS  
NOT TO SCALE

ANTICIPATED BRIDGE CONSTRUCTION ITEMS
CLASS AAA CEMENT CONCRETE
CLASS AA CEMENT CONCRETE
CLASS A CEMENT CONCRETE
PRESTRESSED CONCRETE I-BEAMS
NEOPRENE STRIP SEAL DAMS
METAL RAILING
REINFORCEMENT BARS
HP12 x 74 PILES
MECHANICALLY STABILIZED EARTH ABUTMENTS
CLASS 3 EXCAVATION
SELECTED BORROW EXCAVATION, STRUCTURE BACKFILL
NO. 2 COARSE AGGREGATE

Pennoni Associates Inc. 100 N. WILKES-BARRE BLVD. WILKES-BARRE, PA 18702



DATE	4-18-11	ISSUED FOR USE	DFG
INCH		BY	
REVISIONS			

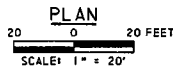
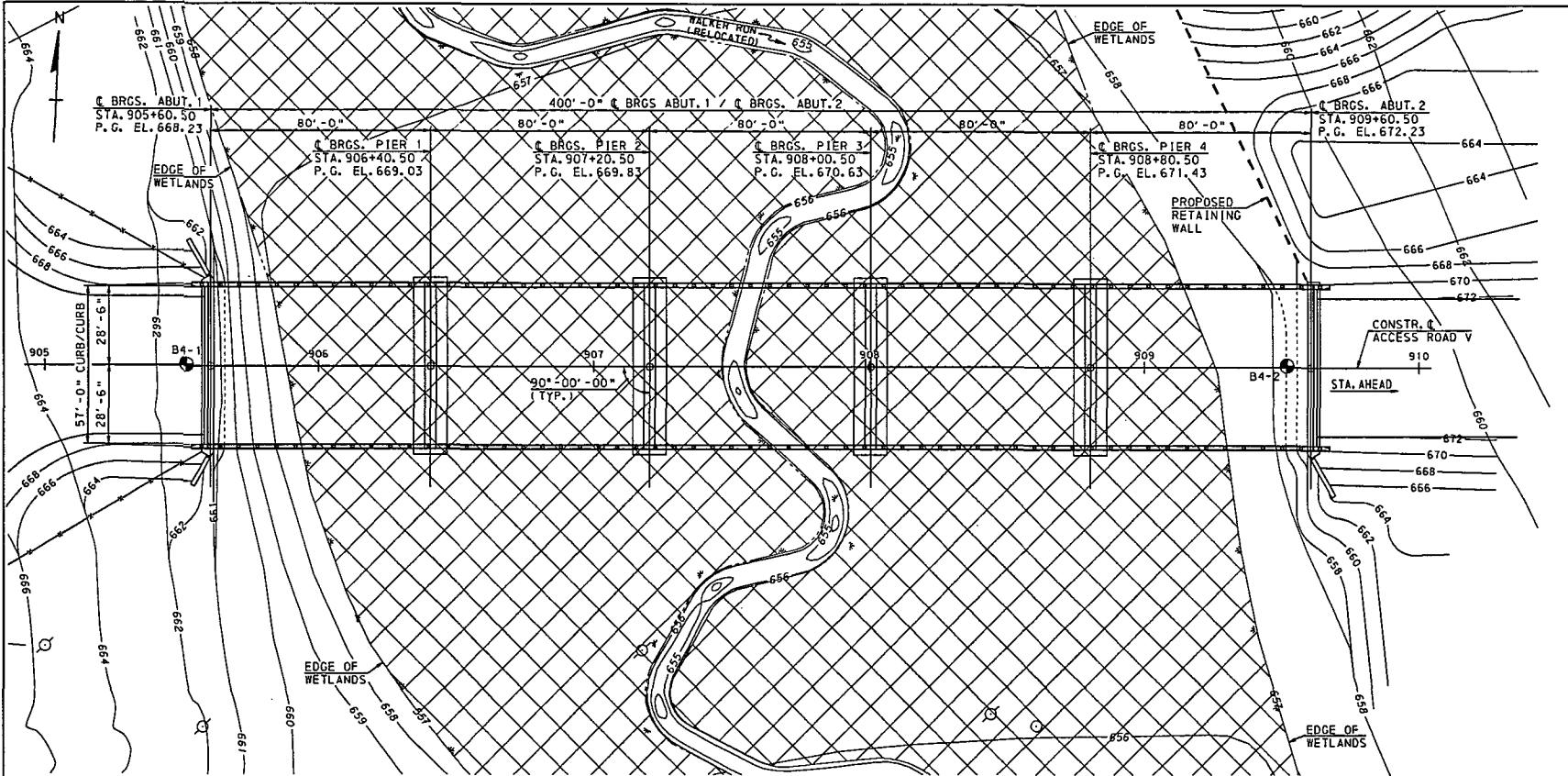


CONCEPTUAL BRIDGE TYPE STUDIES  
 BELL BEND NUCLEAR PLANT, SALEM TOWNSHIP  
 LUZERNE COUNTY, PENNSYLVANIA  
 BRIDGE NO. 3 ACCESS ROAD B OVER WETLAND 10  
 STATION 405+81.92  
 THREE-SPAN CONTINUOUS COMPOSITE PRESTRESSED  
 CONCRETE I-BEAM BRIDGE  
 TYPICAL SECTION

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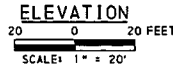
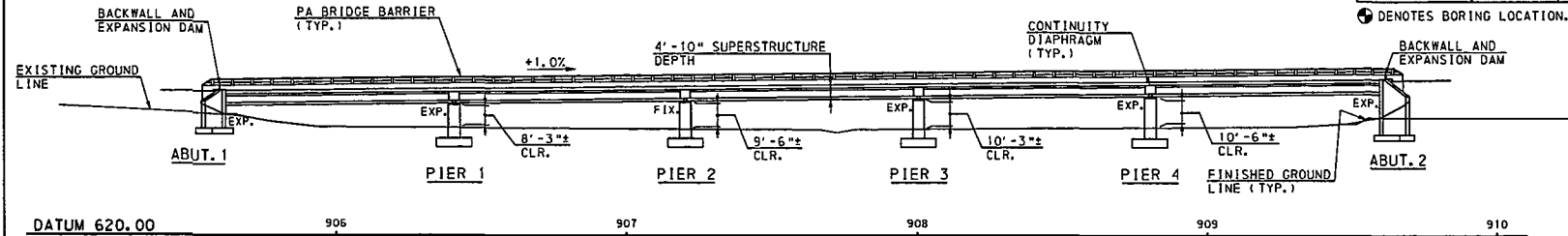
JOB NO.	PPLS 0902
SHEET	2 OF 2

SCALE	AS NOTED	DRAWING NO.	B3-S2
DESIGNED BY	ASA	DATE	01-28-11
APPROVED		DATE	4-18-11



BORING NO.	NORTHING	EASTING
B4-1	339073.30	2404355.94
B4-2	339090.50	2404755.57

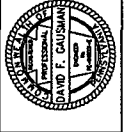
⊕ DENOTES BORING LOCATION.



DES: SMP CKD: JJS DWG: ASA CKD: JJS



DATE	BY	NO.	REVISIONS
4-10-11	ASA	1	ISSUED FOR USE



**Pennoni Associates Inc.** 100 N. WILKES-BARRE BLVD. WILKES-BARRE, PA 18702  
**Engineers Surveyors Planners Landscape Architects**

**CONCEPTUAL BRIDGE TYPE STUDIES**  
 BELL COUNTY, PENNSYLVANIA  
 BRIDGE NO. 4 ACCESS ROAD V OVER WALKER RUN  
 STATION 907+60.50  
 FIVE-SPAN CONTINUOUS COMPOSITE PRESTRESSED CONCRETE I-BEAM BRIDGE  
 GENERAL PLAN AND ELEVATION

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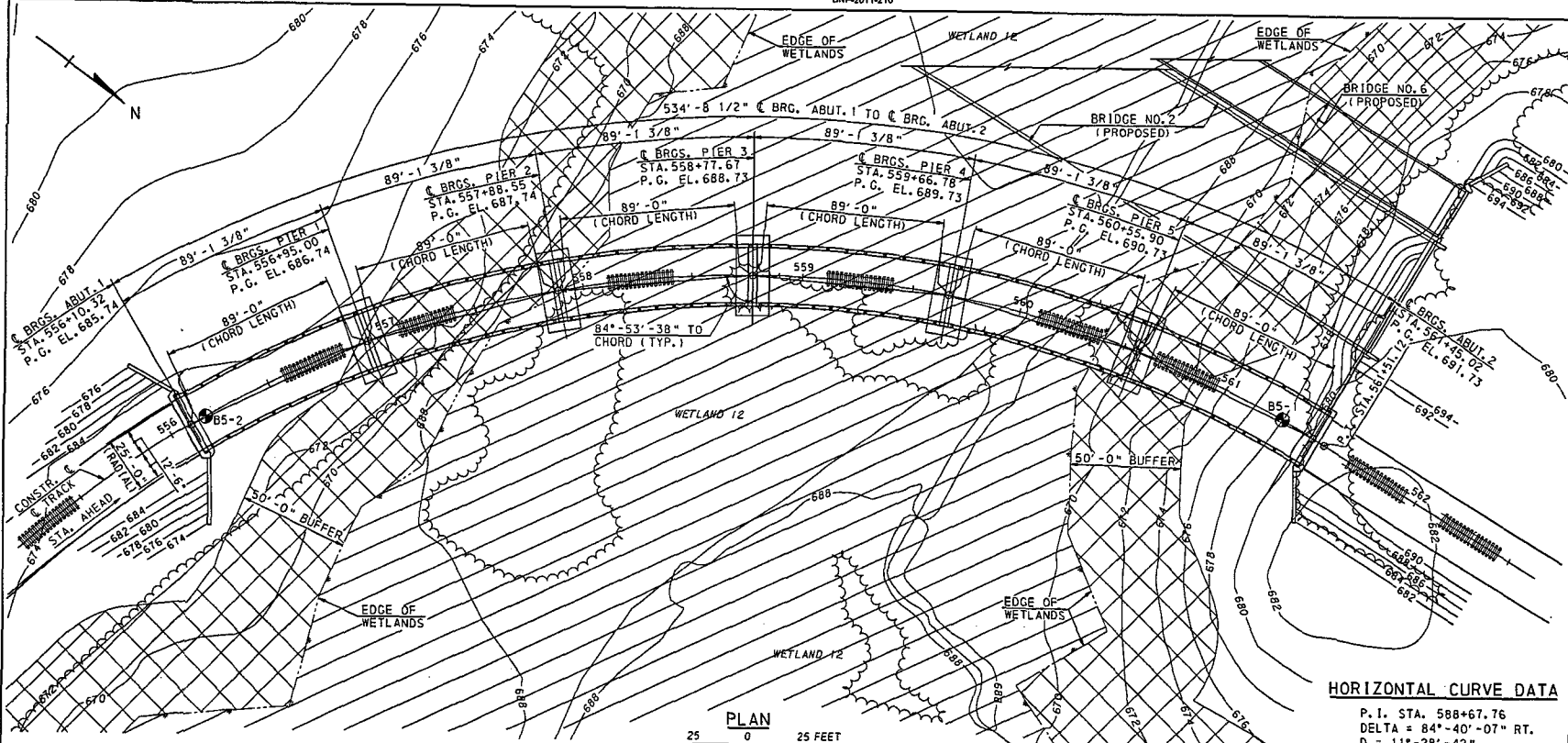
JOB NO. PPLS 0902  
 SHEET 1 OF 2

SCALE 1" = 20'  
 DRAWN BY ASA  
 DATE 1-28-11  
 APPROVED 4-10-11  
**B4-S1**

10/28/2011 11:10:13 AM  
 WILKES

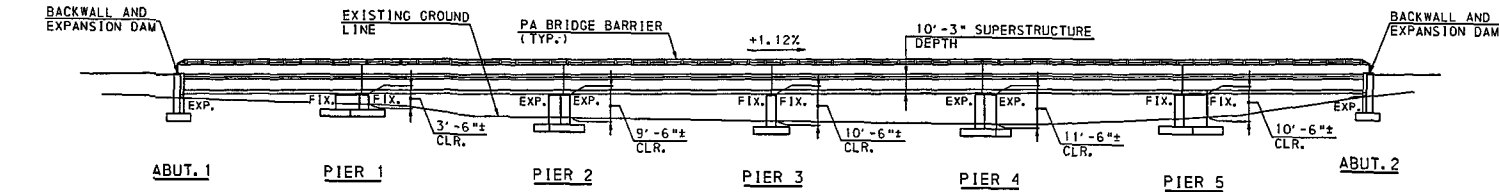
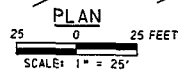




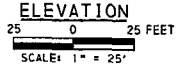


**HORIZONTAL CURVE DATA**

P. I. STA. 588+67.76  
 DELTA = 84°-40'-07" RT.  
 D = 11°-28'-42"  
 T = 455.51'  
 L = 738.87'  
 E = 500.00'  
 R = 130.39'



DATUM 620.00



**BORING LOCATION TABLE**

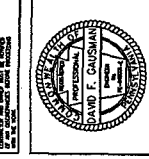
BORING NO.	NORTHING	EASTING
B5-1	339334.45	2407715.99
B5-2	338944.70	2408011.37

● DENOTES BORING LOCATION.

**Pennoni Associates Inc.** 100 N. WILKES-BARRE BLVD. WILKES-BARRE, PA. 18702  
**Engineers Surveyors Planners Landscape Architects**



DATE	BY	REVISION
4-19-11	ASA	ISSUED FOR USE



**CONCEPTUAL BRIDGE TYPE STUDIES**  
 BELL BEACH NUCLEAR PLANT, SALEM TOWNSHIP  
 LUZERNE COUNTY, PENNSYLVANIA  
 BRIDGE NO. 5 (RAILROAD) OVER WETLAND 12  
 STATION 558+77.67  
 SIX-SPAN COMPOSITE PRESTRESSED CONCRETE  
 AASHTO I-BEAM BRIDGE  
 GENERAL PLAN AND ELEVATION

ALL OCCUPANCY, FINISHES OR WEIGHTS SHOWN ON THIS DRAWING ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.

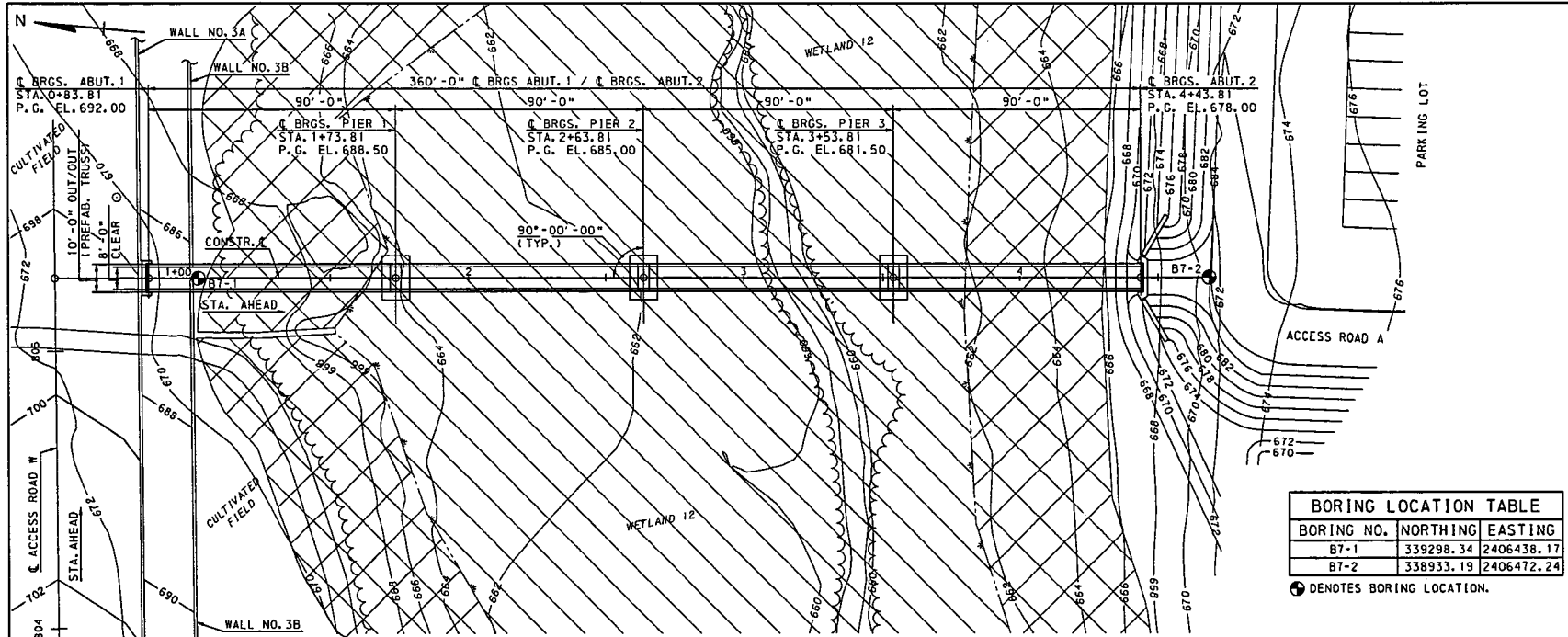
JOB NO. PPLS 0902
SHEET 1 OF 2

SCALE 1" = 25'	DRAWING NO. <b>B5-S1</b>
DRAWN BY ASA	
CHECKED BY 1-28-11	
APPROVED BY 4-19-11	

10/28/2011 11:12:15 AM

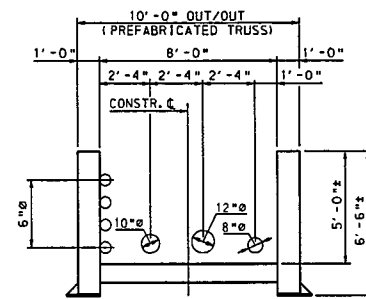
DES: JDF CKD: SMP DWG: ASA CKD: DFG





BORING NO.	NORTHING	EASTING
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B7-2	338933.19	2406472.24

● DENOTES BORING LOCATION.

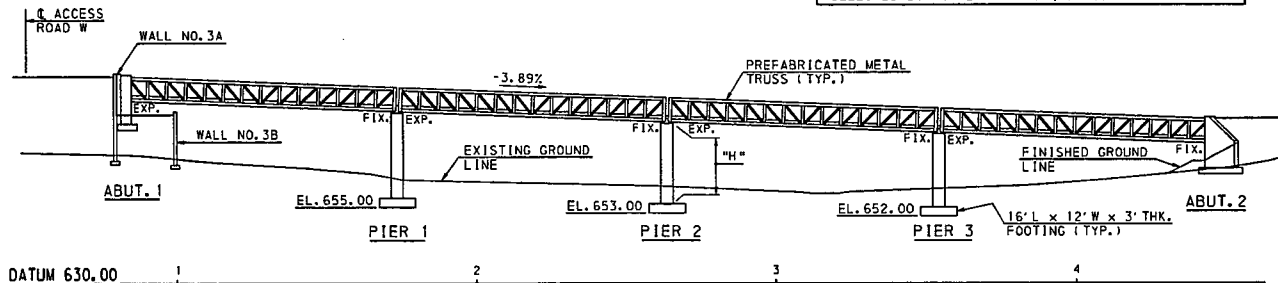


TYPICAL SECTION  
SCALE: 1" = 20'

TYPE	MATERIAL	DIAMETER	QUANTITY
WATER	D. I. P.	8"	1
SEWER	D. I. P.	10"	1
FIRE	CEMENT LINED D. I. P.	12"	1
ELECTRICAL	GALV. RIGID STEEL	6"	4

PIER LOCATION	"H"
PIER 1	30'-6"±
PIER 2	29'-0"±
PIER 3	26'-6"±

PREFABRICATED TRUSS BRIDGE
CLASS A CEMENT CONCRETE
REINFORCEMENT BARS
CLASS 3 EXCAVATION
SELECTED BORROW EXCAVATION, STRUCTURE BACK-FILL

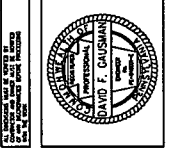


ELEVATION  
SCALE: 1" = 20'

DES: SMP CKD: JJS DWG: ASA CKD: DFC



DATE	BY	REV
4-19-11	ASA	ISSUED FOR USE
		REVIEWS



Pennoni Associates Inc. 100 N. WILKES-BARRE BLVD. WILKES-BARRE, PA 18702

Engineers Surveyors Planners Landscape Architects

CONCEPTUAL BRIDGE TYPE STUDIES  
BELL BEND NUCLEAR PLANT, SALEM TOWNSHIP  
LEUZERNE COUNTY, PENNSYLVANIA

BRIDGE NO. 7 OVER WETLAND 12  
STATION 2+63.81  
FOUR-SPAN PREFABRICATED METAL TRUSS  
UTILITY BRIDGE  
GENERAL PLAN AND ELEVATION

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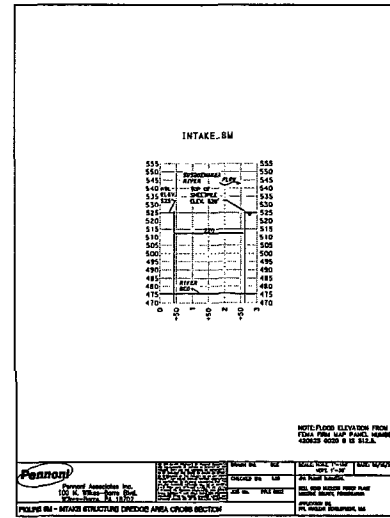
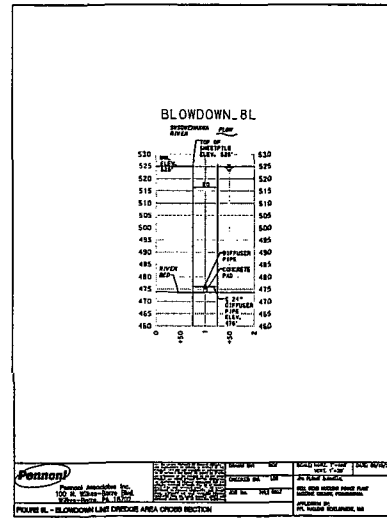
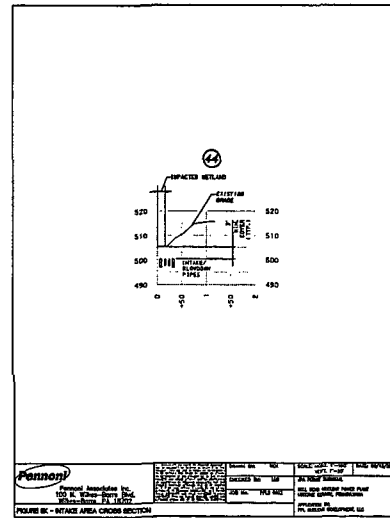
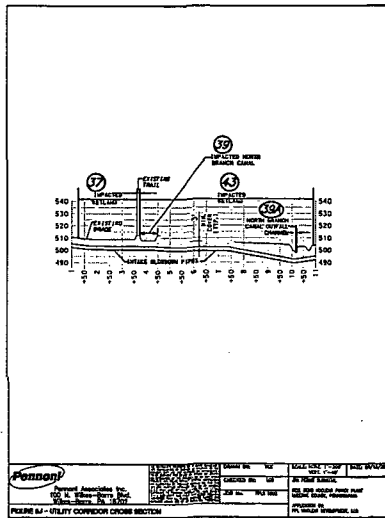
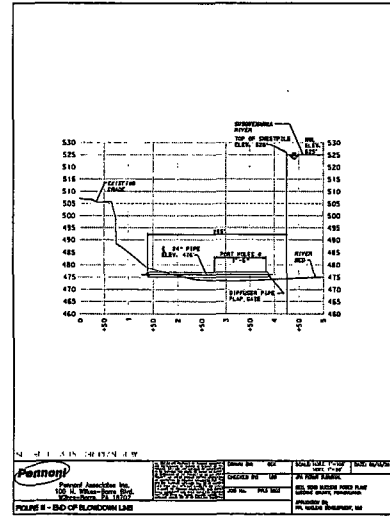
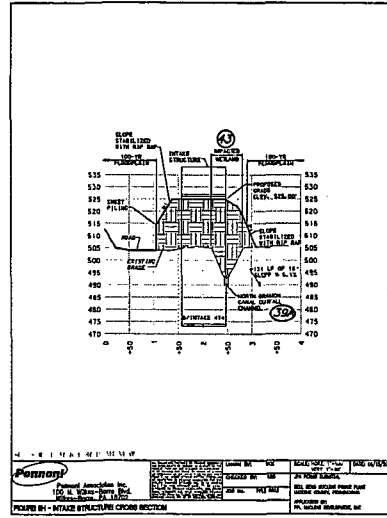
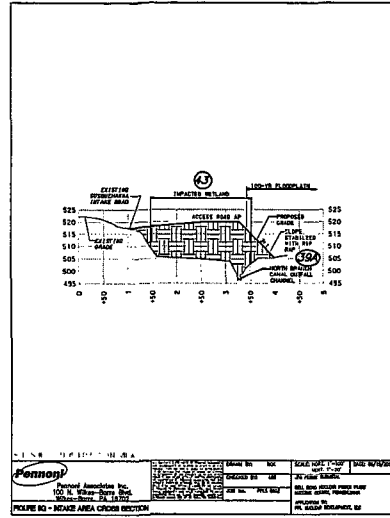
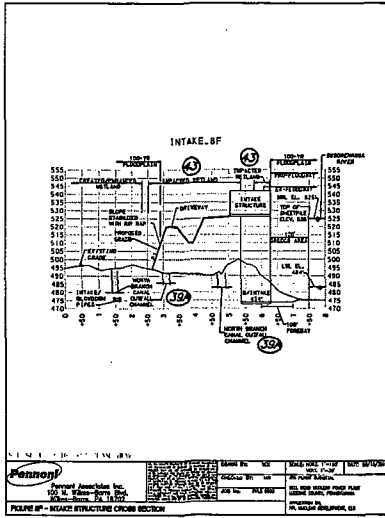
JOB NO.	PPLS 0902
SHEET	1 OF 1

SCALE	1" = 25'	DRAWING NO.
DATE	1-28-11	<b>B7-S1</b>
APPROVED	4-19-11	

Engineers • Surveyors • Planners • Landscape Architects



NO.	DATE	BY	REVISIONS
1	04/15/2011	JPL	ISSUED PERMIT SET
2	04/15/2011	JPL	REVISED PERMIT SET
3	04/15/2011	JPL	REVISED PERMIT SET
4	04/15/2011	JPL	REVISED PERMIT SET



NOTE: INFORMATION FROM MISSING POLYLINES ARE PROVIDED THROUGHOUT THE PLAN SET.

100 N. Wilson-Berry Boulevard  
Ft. Belvoir, VA 22190 (703) 681-6200

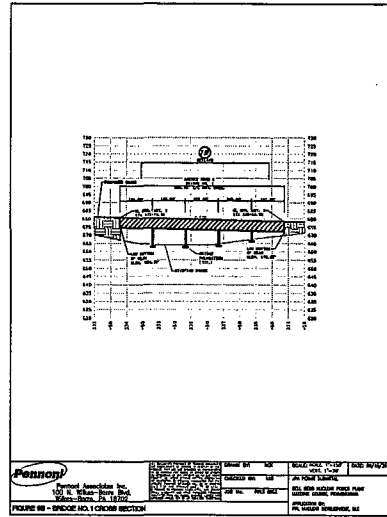
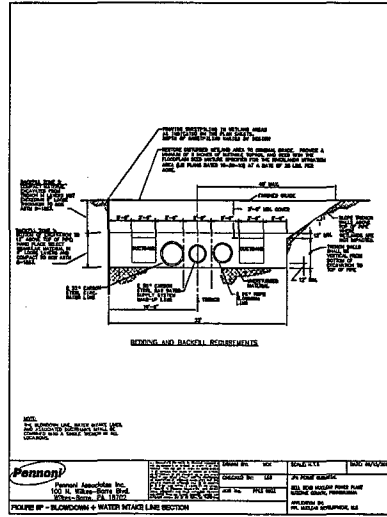
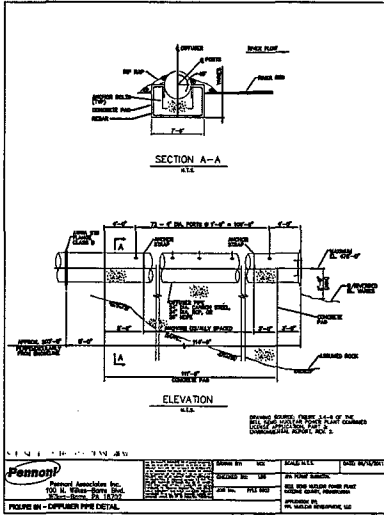
BELL BEND NUCLEAR POWER PLANT  
SOLID WASTE, FORT BELVOIR

JOINT PERMIT DETAILS  
PPL BELL BEND, LLC  
38 BARKER LANE, SUITE 1  
DUNN, VA 22024

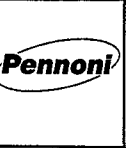
Pennoni Associates Inc.

DATE	04/15/2011	PROJECT NO.	CS3205
SCALE	AS SHOWN	SHEET NO.	43 OF 44

DATE	04/15/2011	PROJECT NO.	CS3205
SCALE	AS SHOWN	SHEET NO.	43 OF 44



NOTE: INFORMATION FROM MISSING FIGURES ARE PROVIDED THROUGHOUT THE PLAN SET.



Pennoni Associates Inc. Engineers • Surveyors • Planners • Landscape Architects

NO.	DATE	BY
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1000 N. Willow-Road, Suite 100  
Willsboro, NY 12895 (518) 851-2800

BELL BEND NUCLEAR POWER PLANT  
JOINT PERMIT DETAILS  
PPL BELL BEND, LLC  
1000 N. Willow-Road, Suite 100  
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Pennoni Associates Inc.

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JOB NO.	PPLS0002
SHEET	44 OF 44

SCALE	AS SHOWN
DATE	
BY	
CHK'D BY	
APP'D BY	
DATE	06/15/2011
PROJECT	
PL	CS3206