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# AASHTOWare Bridge Management Customizations

PENNSYLVANIA TURNPIKE COMMISSION

2016 BRM USER GROUP MEETING SEPTEMBER 20 - 21, 2016

Brad Updegrave, P.E, Pennsylvania Turnpike Commission Mehrdad Ordoobadi, PMP, Michael Baker International



### AASHTOWare BrM Customizations

- General Overview
- Technical Overview



### **General Overview**

BRAD UPDEGRAVE, P.E. BRIDGE & TUNNEL MAINTENANCE COORDINATOR, PENNSYLVANIA TURNPIKE COMMISSION



### PTC BrM

- Same User Interface
- Additional Tabs
  - PTC
  - Ancillary Structures
  - PennDOT
  - Structure Maintenance

Brm Bridge									Welcome: Pontis Admin tabase: PTCBrM-Production Help ? Account LogOut
Menu	Bridge	es Reports Admin	Inspection Gateway	Analysis PTC An	cillary Structures Per	nDOT Structure Main	tenance		
View List Select All	7	Filter: BrM - None		V 🔮 Layout: Default		♥ ♥	Jump to Brid	dge:	
Unselect All		Bridge ID	District	County	Facility Carried	Feature Intersected	Own	Maint	Built
Select Page	6	<b>T</b>	T	<b>T</b>	<b>T</b>	T	<b>T</b>	Ţ	<b>T</b>
Unselect Page		A020.43	District 6	Montgomery	PA TPK (I-476)	T-645	PTC	PTC	2014
Just Selected		A021.00	District 6	Montgomery	LR 46143,SR 3012	PA TPK(I-476)	PA DOT	PTC	2010
Apply Grid Settings		A021.43	Unknown	Montgomery			PTC	PTC	1954
Reset Grid Settings		A021.75	Unknown	Montgomery			PTC	PTC	1955
Printable View		A021.76	District 4	Montgomery	PA TPK (I-476)	LR46154, SR3001	PTC	PTC	2014
🐵 Manage Layouts		A022.10	Unknown	Montgomery			PTC	PTC	1954
Manage Filters		A022.62	District 6	Montgomery	PA TPK (I-476)	T-346	PTC	PTC	2014
New Inspection		A022.88	District 6	Montgomery	PA TPK (I-476)	Tributary to Stony Creek	PTC	PTC	1955
		A023.01	District 6	Montgomery	PA TPK (I-476)	T-369	PTC	PTC	2014
		A023.42	District 6	Montgomery	LR 178, SR 0202	PA TPK (I-476)	PA DOT	PTC	2010
Validate		A023.83	District 6	Montgomery	PA TPK (I-476)	S Branch Stony Creek	PTC	PTC	1955
Create Struct		A024.66	District 6	Montgomery	PA TPK (I-476)	SEPTA RR & CSX RR	PTC	PTC	2014
Copy Struct		A024.70	District 6	Montgomery	PA TPK (I-476)	N Branch of Stony Creek	PTC	PTC	1955
Remove Struct		A024.81	District 6	Montgomery	PA TPK (I-476)	T-377	PTC	PTC	2014
Manage Bridge		A024.87	District 6	Montgomery	PA TPK (I-476)	SR0073	PTC	PTC	2014
Mapping		A025.62	Unknown	Montgomery			PA DOT	PA DOT	2008
		A026.22	District 6	Montgomery	PA TPK (I-476)	T-379	PTC	PTC	2016
		A026.38	Unknown	Montgomery			PTC	PTC	1955
		A026.75	Unknown	Montgomery			PTC	PTC	1955
		A026.77	District 6	Montgomery	PA TPK (I-476)	SR 2002, LR46130	PTC	PTC	2016
		A027.20	District 6	Montgomery	LR 46159,SR 2001	PA TPK(I-476);NB-129	PA DOT	PTC	2011
		A027.59	Unknown	Montgomery			PTC	PTC	1955
	к	< 1 2 3 4 5 6 7 8	9 10 <b>&gt; &gt;</b>						1356 items in 62 pages
	Total B	Bridges: 1356			Matchin	g Filter: 1356			Selected: 1

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### Summary of BrM Customizations

- Bridge Module
- Ancillary Structures
- Data Exchange with PennDOT
- Integration with Structure Maintenance Application



### Bridge Module Customizations

- Custom BrM Forms
  - Makes Data from Legacy Bridge Management System (RAMS) Available in BrM
- Multimedia Attachments Enhancement
  - Allows BrM Multimedia Attachments to Be Stored in Hierarchical Folder Structure on a File Server.



### Bridge Module Customizations

#### History

- PTC Legacy Bridge Management System (RAMS)
  - 1400+ bridges and culverts
  - Data Storage
    - SQL Server
    - 25,000+ Attachments on File Server
  - Desktop Application

8	PTC Bridge Log					
<b>-</b>	General Bridge Information	✓ ¥ 🛐	- NEW -		M K= <=	
F	Route and Milepost: C	Current Bridge Number: NB-104	Previous Br	idge Numbers:	Structure Type: RCTB	Showing record 2 of 1404 records selected.
	Structure Data	Location Ins	pections Loa	d <u>R</u> atings <u>C</u> le	earances	Misc
	Structure Information					
	BMS Number:	46747699002043	Wearing Surface:	LMC	Skew Angle:	74/44/LT
	Structure Type:	RCTB	Overlay Year: 0		PennDOT Bridge	
	Structure Owner:	PTC	Deck Length:	32	Numbers:	
	Year Built:	1955	Deck Width:	69	Inspect?:	YES
	Year Reconstructed:	0	Deck Area:	2208	Last Inspection Date	e: 6/7/2002
	Span Information:					
	Number 1	Length Typ 29.08	)e	<u> </u>	Total Span Length:	29.08
				T		

🗗 PTC Bridge Log
General Bridge Information Boute and Milepost Current Bridge Number: Previous Bridge Numbers: Structure Type: Showing record 2 of
A     20.43     NB-104     RCTB     1414 records selected.
Structure Data     Location     Inspections     Load Batings     Clearances     Workorders     Misc       Location Information     Location Information
PTC Station:       UNITS       TYPE       STATION       Offset Direction:       Offset Distance:         English       Original       155+79,0RIG.42+85       Neither       0
County: Montgomery Crossing Indicator: over
Township: Plymouth Crossing Feature: T-645
Maintenance District: 4
Section: 35A Local Name: Hickory Road
Latitude: 40 07.0
Longitude: 75 16.0

PTC Bridge Log	
General Bridge Information Route and Milepost: A 20.43 NB-104 Previous Bridge Numbers: Structure Type: Sh RCTB 14	iowing record 2 of 14 records selected.
Structure Data       Location       Inspections       Load Ratings       Clearances       Workorders         General Inspection Information Inspection Date:       06/15/2006       Consultant:       DMJMHARRIS       Snooper Hours:       0         Rigging Used:       NO       Next Inspection Date:       06/15/2008       Snooper Hours:       0         Inspection Man Hours and Cost:       Engineering Hours:       18       Condition Ratings:       N       Safety Features:       3567         Vear Surface Rating:       7       Paint Code:       NN       Deck Rating:       5       Substructure Rating:       5         Office Cost:       \$400.00       Substructure Rating:       6       Culvert Rating:       N         Intal Hours:       22       Engineering:       N       N       N	<u>Misc</u> Inspection Images View Inspection Photos Edit Inspection Photos Save Inspection Photos View Inspection Reports Edit Inspection Reports Save Inspection Reports
Other Inspections:	

PTC Bridge Log	
-√ √ 🗊 🥢 🔤 · 🎕 M ⊱ ← 🛶 🧐	
General Bridge Information         Route and Milepost:       Current Bridge Number:       Previous Bridge Numbers:       Structure Type:       Showing record 2 of 1414 records selected         A       20.43       NB-104       RCTB       1414 records selected	i.
<u>S</u> tructure Data <u>L</u> ocation <u>I</u> nspections <u>Load Ratings</u> <u>C</u> learances <u>W</u> orkorders <u>M</u> isc	
Design Load Ratings:       Ratings Performed By:       Load Rating Date:         Design Ratings Method:       PTC (JPC)       6/26/1998         Program and Controlling Member Used:       Ratings:       Inventory:       Operating:         Program Used:       Inventory:       Operating:       Load Type H:       28       47         Controlling Member:       Image:       Image:<	
Other Load Ratings: 6/26/1998	

🖻 PTC Bridge Log
General Bridge Information Route and Milepost: Current Bridge Number: Previous Bridge Numbers: Structure Type: Showing record 2 of 1414 records selected.
A     J20.43     INB-104       Structure Data     Location     Inspections     Load Batings
Clearances     Number of Lanes     Clearances       Horizontal     On:     4       Glearances     31.5       Clearances     31.4       Clearances     6/15/2006       (ft.ft.)     Under:       2     00.0
Vertical         PT A         PT 1         PT 2         PT 3         PT 4         PT B         PT C         PT 5         PT 6         PT 7         PT 8         PT D           Clearances         1409         1405         1405         1405         1603         1510         1509
Text Vertical Horizon

🖻 PTC Bridge Log
-√ √ ∞ · ∞ · ∞ · ∞ + +
General Bridge Information         Route and Milepost:       Current Bridge Number:       Previous Bridge Numbers:       Structure Type:       Showing record 2 of 1414 records selected.         A       20.43       NB-104       RCTB       1414 records selected.
<u>S</u> tructure Data <u>Location</u> Inspections Load <u>R</u> atings <u>C</u> learances <u>Workorders</u> <u>M</u> isc
WorkOrders         Work Order Number:       A20.43002         Submit Date:       08/07/2006         Box       08/07/2006         Work Required:       09/07/2006
*Stabilize roadway embankment erosion. *Monitor loose concrete and remove, if necessary. (beams 7 & 8)
Equipment Used:
Materials Used:
Transmit Work Order to SOMS View Workorder in SOMS SOMS Workorder Number: 40147

PTC Bridge Log			
General Bridge Information Route and Milepost: Current Bridge Number: F A 20.43 NB-104	Previous Bridge Numbers:	Structure Type:	Showing record 2 of 1414 records selected.
<u>Structure Data</u> <u>Location</u> Inspections	Load <u>R</u> atings <u>C</u> lea	arances <u>W</u> orkorder	s Misc
Miscellaneous information         Field Notes:         *Install hazard markers on all four corners         along T-645.         Miscellaneous:         Recent Repairs/Rehab:         Microfilm Numbers:	Misc Structural Fracture critical: 9 Critical Rate Factor: 9991 Sufficiency Rating: 9 Struct Deficient/ Functionally Obsolete:	Bridge Active? On Ten Year Plan: Year Painted: Paint Contract: Steel Area (Sq. Ft.): Paint System: Federal Paint Code: Paint Color:	NO NO O O
Stream/Scour Information: Over Water: Under Water Inspection: NO NO	Inspection Date:	Scour Report:	Report Date:



# Custom Bridge Module Forms

CUSTOM BRM FORMS

Brm Bridge			Welcome: Pontis Adm Database: PTCBrM-Productio Help? Account LogO
Menu	Bridges Reports Admin Inspection Gateway Analysis PTC Ancillary Structures PennDOT Structure Maintenance		
Structure Data	Bridge A020.43  Bridge Number: NB-104  Metric  English		
<ul> <li>Inspections</li> <li>Load Ratings</li> <li>Clearances</li> <li>Miscellaneous</li> <li>Attachments</li> <li>Work Requests</li> </ul>	Structure Information         Route (005D):       A         BMS Number (008):       46747699002043         Structure Type:       P/S SpBB         Structure Owner (022):       PTC         Year Built (027):       2014         Year Recon (106):       Deck Area:         Structure Type:       BMS2 Structure Type:         Main Spans       Material (043A):         Sprestressed Concrete       Material:         4 Prestressed precast co       Material:         Approach Spans       Material:         Material (043A):       Sprestressed Concrete         Design (043A):       Sprestressed Concrete         Design (043A):       Sprestressed Concrete         Paratement of Single/Spread Box       Material:	2/2016	
	Approach Spans       Span Interaction:       2 Simple, composite       Span Interaction:         Design (044B):       Not Applicable (P)       Image: Span Interaction:       Structure Configuration:       Structure Configuration:         Image: Number       Length       Type       Type       Image: Span Interaction:       Structure Configuration:	Not Applicabl	e V A VALUES) V
	Total Span Length: 48.00 ft Create New Bridge Span		
	Delete Structure Save & Close Cancel		
	AASHTOWare Bridge Management Version 5.2.1 SP2 (Release Build) [ Build Date : Tuesday, January 27, 2015 10:28:36 PM ] - aashtoware org - AASHTO Publications @ American Association of State Highway and Transportation Officials. All rights reserved. With Pennsylvania Tumpike Commission Customizations (Development Build) [ Build Date : Monday, October 28, 2015 12:00:00 PM ] - www.patumpike.com		

						Database: PTCBrM-Production Help? Account LogOut
Menu Bri	idges Reports Admin	Inspection Gateway Analy	ysis PTC Ancillary Structures P	ennDOT Structure M	laintenance	
Structure Data		Bridge Numbers NP 4				
♀ Location	Bridge A020.43	Bhuge Number: ND-1		letric 🖲 English		
♀ Inspections	Location Information					
Coad Ratings	PTC Station:	155+79,ORIG.42+85	County (003): Montgome	ry 🗸		
Clearances	Offset Direction:	Neither	Township (004): Plymouth			
<b>Wiscellaneous</b>	Offset Distance:	ft	Maintenance District: 4	$\checkmark$		
<b>Attachments</b>	Crossing Indicator:	ver 🗸		_		
Work Requests		T-645	^			
	Crossing Feature:		×			
		Hickory Road	/			
	Local Name:		$\sim$			
		<	>			
				]		
			Save Save & C	lose Cancel		
	AA:	SHTOWare Bridge Management Version 5.2.1	I SP2 (Release Build) [ Build Date : Tuesday, Janua an Association of State Highway and Transportation	ry 27, 2015 10:26:36 PM ] - 885 Officials All rights reserved	shtoware.org - AASHTO Publications	

Brm Bridge			Welcome: Pontis Adm Database: PTCBrM-Producti Help? Account LogO
Menu	Bridges Reports Admin Inspection Gateway Analysis PTC Ancillary Structures PennDOT Structure Maintenance		
Structure Data	Bridge A020.43 Bridge Number: NB-104 Inspection: 2016-06-22 (BEQC V Type: P/S SpB	BB	
Inspections	Metric O English		
Clearances Miscellaneous Attachments	General Inspection Information         Inspection Date (090):       6/22/2016         Next Inspection Date:       6/22/2018         Snooper Used:		
Work Requests	Inspection Man Hours and Cost       Engineering Hours:       8         Engineering Hours:       6       Approach Slab Rating:       8 Very Good       S         Office Hours:       6       Deck Rating (058):       8 Very Good       S         Office Cost:       630       Deck Rating (058):       8 Very Good       S         Substructure Rating (060):       7 Good       S       Substructural Evaluation (067):       7 Above Min Criteria       S	Safety Features: 8888 Paint Code: NN	
	Misc Structural Fracture Critical: Critical Rate Factor: Sufficiency Rating: Struct Deficient/Functionally Obsolete: Delete Inspection Save Save & Close Cancel		

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BrM Addressee Bridge examples							TURN PIKE Databas	Welcome: Pontis Adm se: PTCBrM-Production Help ? Account LogO
Menu	Bridges Reports	Admin Inspection	Gateway Analysis PTC A	ncillary Structures Pennl	DOT Structure Mainte	enance		
Structure Data	Bridge A020.43	- Bridg	e Number: NB-104	Clearan	ce Date: 6/22/2016 (60	Metric	🔿 English 🖲	
V Location								
V Inspections	- Horizontal Clea	irances	Number of Lans		Loft		Diabt	
Load Ratings		Horizontal	On: 6	]	ft		ft	
Clearances		Clearances	Under: 2	Distance A:	10.750 ft	Distance B:	9.750 ft	
Attachments	Lagand F			Distance C:	10.500 ft	Distance D:	10.000 ft	
Work Requests	Vertical Cleara	nces						
	Portiour circura	PT A	PT 1	PT 2	PT 3	PT 4	РТ В	
	Vertical Clearances	16.910 ft	16.290 ft	15.720 ft	15.810 ft	21.660 ft	15.910 ft	
	Changed			$\checkmark$				
		PT C	PT 5	РТ 6	PT 7	PT 8	PT D	
	Vertical Clearances	21.580 ft	20.910 ft	20.770 ft	ft	ft	20.830 ft	
	Changed	$\checkmark$					$\checkmark$	
	Legend ±							
		Consultant:	Parsons Brinckerhoff	Clearance Date:	6/22/2016	1	New Clearance	
	Save Save &	Close Cancel Delete	Clearances					

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Brm Bridge				Velcome: Pontis Admin TURN PIKE Help? Account LogOut
Menu Structure Data	Bridges Reports Admin Inspection Gateway Bridge A020.43  → Bridge Number: N	Analysis PTC Ancillary Structures PennD B-104	OT Structure Maintenance	
Inspections       Load Ratings	Miscellaneous Information			
Image: Clearances       Image	<			
Work Requests	Miscellaneous			
	Recent Repairs/Rehab			
	Misc Structural Fracture Critical: 9 Critical Rate Factor: 9993 Sufficiency Rating: Structure Rating:	Year Painted:     0       Paint Contract:		
	Stream/Scour Information	Scour Report: Rep	port Date:	
	Save Save & Close Cancel AASHTOWare Bridge Management V	ersion 5.2.1 SP2 (Release Build) [Build Date : Tuesday, January 27, 7	2015 10:28:38 PM ] - asshtoware.org - AASHTO Pu	blications

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# Ancillary Structures



### **Ancillary Structures**

#### History

- RAMS
  - Supported only Sign Structures
  - Data Storage in SQL Server
  - User Interface
    - Structure Data
    - Inspections

#### Ancillary Structures Tab In BrM 5.2.1

- Supports
  - Sign Structures
  - Noise Barriers
  - Retaining Walls
  - High Mast Lighting Poles

BrM Bridge									Welcome: Pontis Adm Database: PTCBrM-Productic Help ? Account LogO
Menu	Bridges Repor	ts Admin Inspecti	ion Gateway	Analysis PTC Ancil	lary Structures Pen	nDOT Structure Main	tenance		
Structures Structure List	Select Filter: All S	tructures 🗸		Select to Open Structure	A020.00	~			
♀ Create Structure	Structure ID	Structure Name	Route	Milepost	District	County	Year Built	Structure Type	Last Inspection Date
Create Filter	A020.00	A020.00	A	20				Sign Structure	
	A020.01	SS A020.01	A	20.01	District 4	Montgomery		Sign Structure	7/29/2014 12:00:00 AM
e con riners	A020.09	RE A020.09	A	20.09	District 4	Montgomery		Retaining Wall	10/17/2012 12:00:00 AM
Structure	A020.12	N A020.12	A	20.12	District 4	Montgomery	2013	Noise Barrier	12/23/2013 12:00:00 AM
0	A020.19	N A020.19	A	20.19	District 4	Montgomery	2013	Noise Barrier	12/23/2013 12:00:00 AM
Attachments	A020.20	RE A020.20	А	20.2	District 4	Montgomery	1992	Retaining Wall	10/17/2012 12:00:00 AM
Work Requests	A020.22	RE A020.22	А	20.22	District 4	Montgomery	2013	Retaining Wall	12/23/2013 12:00:00 AM
	A020.36	RE A020.36	А	20.36	District 4	Montgomery		Retaining Wall	10/17/2012 12:00:00 AM
	A020.45	SS A020.45	А	20.45	District 4	Montgomery	2014	Sign Structure	7/10/2014 12:00:00 AM
	A020.67	SS A020.67	A	20.67	District 4	Montgomery	2014	Sign Structure	
	A020.92	SS A020.92	A	20.92	District 4	Montgomery		Sign Structure	
	A021.18	SS A021.18	А	21.18	District 4	Montgomery		Sign Structure	12/14/2014 12:00:00 AM
	A021.23	N A021.23	A	21.23	District 4	Montgomery	2013	Noise Barrier	12/11/2013 12:00:00 AM
	A021.31	N A021.31	A	21.31	District 4	Montgomery	2013	Noise Barrier	12/11/2013 12:00:00 AM
	A021.40	RE A021.40	A	21.4	District 4	Montgomery	2013	Retaining Wall	12/11/2013 12:00:00 AM
	A021.55	SS A021.55	A	21.55	District 4	Montgomery		Sign Structure	9/25/2014 12:00:00 AM
	A021.74	RE A021.74	A	21.74	District 4	Montgomery	2013	Retaining Wall	12/11/2013 12:00:00 AM
	A021.80	RE A021.80	A	21.8	District 4	Montgomery	2013	Retaining Wall	12/11/2013 12:00:00 AM
	A021.95	SS A021.95	A	22.3	District 4	Montgomery		Sign Structure	9/26/2014 12:00:00 AM
	A022.03	RE A022.03	A	22.03	District 4	Montgomery	2013	Retaining Wall	12/11/2013 12:00:00 AM
	A022.21	SS A022.21	A	22.21	District 4	Montgomery	2014	Sign Structure	
	A022.30	SS A022.30	A	22.3	District 4	Montgomery		Sign Structure	12/14/2014 12:00:00 AM
	A022.36	SS A022.36	A	22.36	District 4	Montgomery	2014	Sign Structure	5/7/2015 12:00:00 AM
	A022.48	N A022.48	A	22.48	District 4	Montgomery	2013	Noise Barrier	12/11/2013 12:00:00 AM
	A022.62	RE A022.62	A	22.62	District 4	Montgomery	2013	Retaining Wall	12/11/2013 12:00:00 AM
	A022.84	N A022.84	A	22.84	District 4	Montgomery	2013	Noise Barrier	12/11/2013 12:00:00 AM
	A022.87	RE A022.87	A	22.87	District 4	Montgomery	2013	Retaining Wall	12/11/2013 12:00:00 AM
	A022.92	RE A022.92	A	22.92	District 4	Montgomery	2013	Retaining Wall	12/11/2013 12:00:00 AM
	A022.99	N A022.99	А	22.99	District 4	Montgomery	2013	Noise Barrier	12/11/2013 12:00:00 AM
	A023.02	N A023.02	A	23.02	District 4	Montgomery	2013	Noise Barrier	12/11/2013 12:00:00 AM
	A023.30	SN A023.30	А	23.3	District 4	Montgomery	2013	Retaining Wall	12/23/2013 12:00:00 AM
	Page 1 of 21 (632 item	ıs) [1] <u>2 3 4 5 6 7</u>	<u>8 9 10 17 18</u>	<u>19 20 21</u>					

TURN /

BrM Bridge		Velcome: Pontis Admin Database: PTCBrM-Production PIKE Help ? Account LogOut
Wenu       Structures       Structure       Structure Data       Inspections       Attachments       Work Requests	Bridges       Reports       Admin       Inspection       Gateway       Analysis       PTC       Ancillary Structures       PennDOT       Structure Maintenance         Structure:       A020.01       Image: Structure ID: A020.01       Image: Structure ID: A020.01       Structure Type:       Sign Structure       Image: Structure Structure Structure Configuration:       Steel Truss       Image: Structure ID: Structure ID: Structure Owner:       Image: Structure ID: Structure ID: Structure Owner:       Image: Structure ID: Structure ID: Structure ID: Structure ID: Structure Owner:       Image: Structure ID: Structure	
	Location       District:       District 4       ✓       PTC Station:         County:       Montgomery       ✓       0ffset:       -0.08         Township:       Plymouth       ✓       Interchange Number:       -         Latitude:       40d 06' 46.11"       Interchange Name:       -       -         Longitude:       -75d 16' 41.57"       Facility/Facility Intersected:       -         Inventory Data	
	Sign Structure         Mounting type:       Overhead         Column Height:       33.50 ft         Direction:       South         Length:       62.50 ft         Vertical Clearance:       19.40 ft         Number of Lanes:       3	
	Save & Close Cancel Delete Structure	

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Brim Bridge		Velcome: Pontis Admin Database: PTCBrM-Production PIKE Help ? Account LogOut
Menu	Bridges Reports Admin Inspection Gateway Analysis PTC Ancillary Structures PennDOT Structure Maintenance	
Structures	Structure: A020.01 Structure ID: A020.01 Inspection: 7/29/2014 (abab ) V Create New Inspec	ction
Structure Data	Inspection Information	
Inspections           Attachments	Inspection: 7/29/2014     Inspection Man Hours:     16.00       Inspected By:     Ammann & Whitney     Inspection Type:     Routine       Weather Condition:     Sunny & Clear, 85 degrees F	
<b>Work Requests</b>		
	Sign Condition Ratings         Horizontal Member:       8 - Very Good         Column:       8 - Very Good         Light:       N - N/A (NBI)         Base:       8 - Very Good         Access:       N - N/A (NBI)    Overall Inspection Rating:          8 - Very Good	
	Overall Condition	
	Sign structure is in good condition overall. West guiderail and concrete curb has 20' long severe collision damage in front of structure.	
	Paint the areas of worn galvanization and light surface rust at the columns and truss members. Repair or replace west guiderail and concrete curb with severe collision damage.	
	Possible Problem Area	
	Save Save & Close Cancel Delete Inspection	North

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Management	Help? Account LogO
Menu Bridges Reports Admin Inspection Gateway Analysis PTC Ancillary Structures PennDOT Structure Maintenance	
Structures Structure A020.12 Structure ID: A020.12	
Structure Data	]
Inspections         Structure ID:         A020.12         Structure Type:         Noise Barrier	
Attachments Structure Name: N A020.12 Structure Configuration: Concrete Posts and Concrete Panels	
Work Requests         Route:         A         Structure Owner:         PTC         V	
Milepost: 20.120	
Description	
Location	]
District: District 4 V PTC Station:	
County: Montgomery V Offset:	
Township: Plymouth   Facility/Facility Intersected:	
Latitude:	
Longitude:	
	]
Inventory Data	
Year Built: 2013 Roadway Side: North-bound	
Milepost Start: 20.120 Post Type: _ (FIX PARAM VALUES) V	
Milepost End: 20.180 Panel Type: _ (FIX PARAM VALUES) V	
Maximum Height: ft Restrainer Type: [ (FIX PARAM VALUES)	
Save Save & Close Cancel Delete Structure	

						Welcome: Pontis A Database: PTCBrM-Prod Help ? Account L
Bridg	es Reports Admin I	nspection Gateway Analysis F	PTC Ancillary Structures PennDOT	Structure Maintenance		
Struc	cture: A020.09	<b>v</b> S	tructure ID: A020.09			
- St	tructure Information					
	Structure ID:	A020.09	Structure Type:	Retaining Wall	~	
	Structure Name:	RE A020.09	Structure Configuration:	Reinforced Earth	~	J
	Route:	A	Structure Owner:	PTC	~	
	Milepost:	20.090		·		
	Description	,				
	MSE wall along left sh	oulder of Ramp N, 476 NB, sepa	arating Ramp N and Ramp M. Sw	itched from SB to NB.	~	
					v 🗣	]
	<					
L						
	ocation					
	District:	District 4	PTC Station:			
	County	Montgomery	Offect			
	Townshin:	Plymouth	Facility/Facility Intersected:			
	Latitude:	- Tymouth				
	Longitude:					
	Longitude.		]			
n In	ventory Data					
	Year Built:		Length	160.00 ft		
	Milepost Start:	20.090	Roadway Side	: North-bound		
	Milepost End:	20.060	Maximum Height	: ft		
1						

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Menu       Bridges       Reports       Admin       Inspection       Gateway       Analysis       PTC       Ancillary Structures       PennDOT       Structure Maintenance         V       Structure       Structure       F000.00       Structure ID:       F000.00         Structure Data       Structure Information       Structure ID:       F000.00       Structure Type:       High Mast Lighting Pole         Attachments       Structure Name:       E000.00       Structure Configuration:       HMLP	
✓ Structures         ✓ Structure Data         ✓ Inspections         ✓ Attachments    Structure Name: E000.00  Structure Configuration: HMLP	
V Structure Data         V Inspections         Structure ID:         F000.00         Structure Name:         F000.00         Structure Configuration:         HMLP	
V Inspections         Structure ID:         F000.00         Structure Type:         High Mast Lighting Pole           V Attachments         Structure Name:         F000.00         Structure Configuration:         HMLP	
Attachments Structure Name: F000.00 Structure Configuration: HMLP	
Work Requests Route: F Structure Owner: PA DOT	
Milepost: 0.000	
Description	
Location	
District: Unknown V PTC Station:	
County: Unknown (P) V Offset:	
Township: Unknown V Facility Name:	
Latitude: 40d 07' 27.31" Facility Type: Unknown	
Longitude: -74d 51' 29.30" Facility/Facility Intersected:	
Inventory Data	
Year Built: 2016 Height (ft): 100.00 ft	
Roadway Side: West-bound V Pole Material: Galvanized Steel V	
Pole Manufacturer: Light Poles Plus	
Number of Lamps: 8 Number of Base Plate Bolts: 16	
Save Save & Class Canad Delete Structure	
Save Save & Close Cancel Delete Structure	

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# Enhanced Multimedia Attachments

STORAGE OF FILES IN A HIERARCHICAL FOLDER STRUCTURE

BrM Astrower Bridge			Velcome: Pontis Admin TURN PIKE Help? Account LogOut
EIN Electronic Management Menu ✓ Structures ✓ Attachments ✓ Manage Folders ✓ Manage Files ✓ Work Requests	Bridges       Reports       Admin       Inspection         Structure:       T353.02         Target Location       Base Folder Name:       T353.02         Full Path to Base Folder:       ~\Multimedia\T33         Subfolders	Sateway Analysis PTC Ancillary Structures PennDOT Structure Maintenance     Structure ID: T353.02     53.02     Create Folders   Current Selected Folder: ~/Multimedia/T353.02/   Enter New Folder Name Below:   Create New Folder     Create Basic Folders	Welcome: Pontis Admin Database: PTCBrM-Production Help? Account LogOut
	Delete Folder Cancel		

nagement		AMERICA									PIKE	Help ?
	Bridges Reports Admin Inspection	on Gateway Analysis	s PTC Ancillary	Structu	ires 📑	ennDOT	Struct	ure Main	tenance	_	_	_
	Structure: T353.02	Structure ID: T353.	.02									
	Multimedia											
nts	Context: STRUCTURE	Root Directory: ~	Multimedia\T353.02									
Iders	Target Folder	File List										
les	<b>⊟</b> •⊡T353.02	Name	Agency Type	Report	Sort	Created	Modified	Size	Status	Notes	View	
lests	Correspondence	T353 02 Sign Structure -	Design Document	Flag	Order	1/5/2016		2760704	Available	<b>00</b> -		
	inspection Files	T353 02 Sign Structure -	Design Document		-	1/5/2016		73216	Available			
	2014-2015 Inspection	T353.02 Sign Structure	Design Document		L	1/5/2016		616960	Available	 		
	Decision	T353.02 Sign Structure	Design Document		_	1/20/2010		bytes 11198464	Available			
		1353.02 Sign Structure -			<u> </u>	1/28/2016	<u>'</u>	bytes	Available			
											Unli	ik
	Upload File											
	Current Link Context: STRUCTURE Current Target Folder: ~/Multimedia/T3	153.02/Correspondence/									Bro	wse

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# Structure Maintenance

Brm Adortower Bridge Management			Velcome: Pontis Admin TURN PIKE Help? Account LogOut
Brind Bridge         Menu         Structure Data         Dispections         Location         Locat Ratings         Clearances         Miscellaneous         Attachments         Work Requests	Bridges       Reports       Admin       Inspection       Gateway       Analy         Bridge       T069.15       Image: Bridge Number:       Bridge Number:       Bridge Number:       B-432         Functional Location Number:       PTC-D01-LRD-HARC-T       Equipment Number:       PTC-D01-LRD-HARC-T         Equipment Number:       Pontis Work Request       Work Request       Use Number:       Mathematical State Stat	sis PTC Ancillary Structures PennDOT Work Request Da T-B-X-069.15 846e-3f4da6e48058 xpansion joint wer the mainline Turnpike (I-76) in emove, collect, and properly dispose	Welcome: Pontis Admin         Database: PTCBrM-Production         Pike         Structure Maintenance         te:         8/18/2016 (8058)         Create Work Request         Copy Work Request         Submit Work Request         Submit Work Request         Edit Submitted Work Request         Edit Submitted Work Request         SAP Notification         Notification Status:         Notification in Process         SAP Work Order Number:         000004265044         Work Order Receipt Date:         8/19/2016         Technically Complete Date:         Browse       Upload Attachment
	Save Save & Close Cancel Delete Work Request		

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Br M Account										Γ	TURN Database	/elcome: Pontis Admin : PTCBrM-Production Help ? Account LogOut
Menu	Bri	dges Reports A	dmin Inspect	ion Gateway Analy	sis PTC Ancillar	y Structures PennDOT Structure Maintenance	_	_	_	_		_
Maintenance Work Requests	Num All V	ber of Records: 277 Vork Requests										
Exchange Loge		View Structure/Bridge	ID Structure Type	SAP Structure Description	Work Request Date	Short Work Description	Approval Status	Ready to Submit	Submission Status	Notification Status	Notification Number	Work Order Number
Associations		🔍 A020.43	Bridge	Bridges	7/18/2016 12:00:00 AM		None	No	None	None		
Associations		🔍 A021.00	Bridge	Bridges	3/3/2015 12:00:00 AM	MPT for PennDOT Bridge Inspection	Approved	Yes	Submitted	Notification Completed	000010208606	000004208282
		Q A021.00	Bridge	Bridges	2/11/2016 12:00:00 AM	MPT for PennDOT Bridge Inspection	None	No	None	None		
		🔍 A021.76	Bridge	Bridges	7/21/2016 12:00:00 AM	Clean/Flush deck joints; Patch pothole in approach	Approved	Yes	Submitted	Notification in Process	000010266031	000004262261
		Q A022.10	Culvert	Culverts	3/16/2016 12:00:00 AM		None	No	None	None		
		🔍 A022.88	Culvert	Culverts	7/21/2016 12:00:00 AM	Cut/trim trees and vegetation at culvert headwalls.	Approved	Yes	Submitted	Notification Completed	000010266029	000004262263
		Q A023.42	Bridge	Bridges	3/3/2015 12:00:00 AM	MPT for PennDOT Bridge Inspection	Approved	Yes	Submitted	Notification Completed	000010208607	000004208283
		🔍 A024.70	Culvert	Culverts	7/21/2016 12:00:00 AM	Cut/trim the trees growing at Southeast headwall	Approved	Yes	Submitted	Notification Completed	000010266030	000004262264
		Q A024.87	Bridge	Bridges	9/30/2015 12:00:00 AM	Replace Damaged ITS JB Lid	Approved	Yes	Submitted	Notification Completed	000010233374	000004229662
		🔍 A030.90	Bridge	Bridges	1/20/2015 12:00:00 AM	Recommended Maintenance Repairs	Approved	Yes	Submitted	Notification Completed	000010217186	000004213812
		Q A033.03	Bridge	Bridges	11/13/2015 12:00:00 AM	Various Bridge Repairs	Approved	Yes	Submitted	Notification Completed	000010237653	000004233867
		🔍 A033.62	Culvert	Culverts	11/25/2015 12:00:00 AM	Repair Embankment Erosion	Approved	Yes	Submitted	Notification Completed	000010239000	000004235174
			<b>Annotherity</b>	a second and	and the second	and a second second second					1010037	
		1355.21	Bridge	E. S	4/22/2016 12:00:00 AM	Remove loose concrete	Approved	Yes	Submitted	Notification in Process	000010256571	000004252871
		🔍 т355.76	Bridge	Bridges	10/2/2015 12:00:00 AM	MPT FOr PennDOT Bridge Inspection - Overhead	Approved	Yes	Submitted	Notification Completed	000010233587	000004229982
		🔍 тз55.77	Bridge	Bridges	10/2/2015 12:00:00 AM	MPT For PennDOT bridge Inspection - overhead	Approved	Yes	Submitted	Notification Completed	000010233680	000004229983
		🔍 тз57.10	Bridge	Bridges	10/15/2015 12:00:00 AM	MPT for PennDOT Bridge Inspection	Approved	Yes	None	None		
		🔍 тз57.70	Bridge	Bridges	5/16/2016 12:00:00 AM	Remove loose concrete	Approved	Yes	Submitted	Notification in Process	000010259231	000004255167
		🔍 тз59.57	Sign Structure	Sign Structures	2/11/2016 12:00:00 AM		None	No	None	None		
	Del	lete Selected Work Reque	ets									

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BrM Bridge								Welcome: Pontis Admin Database: PTCBrM.Production Help ? Account LogOut
Menu	Bridges Reports	Admin Inspection Gat	eway Analysis PT	C Ancillary Structures Pen	nDOT Structure Maintenance		_	
General Maintenance	□ 2016	View Les Ture	Tia			Anni Error	2	
Exchange Logs	September		9/4	2/2046 4:00:03 AM		Any Errors		
Q Associations	09/12/2016		3/1	2/2010 4.00.03 AM		NO		
• Associations	09/09/2016	Interface B	9/1	2/2016 3:00:03 AM		No		
	09/07/2016	Interface A Log Report at 9/12/2	16 4·00·03 AM					
	09/06/2016	Concert Information						
	09/05/2016	Export Summary						
	09/02/2016	Processing Messages Export Processing Messages						
		General Information	2					
	. July	General mornation	1					
	∃ June	XML file name: Inte Export started at: 9/1/	rfaceA.xml					
	May	Number of records found: 1	52010 4.00.01 AM					
	April     March	Number of records exported: 1 Total number of attachments: 1						
	February	Number of errors: 0 Export completed at: 9/12	2016 4-00-03 AM					
	🗄 January	Export completed at. 571	2010 4.00.05 AM					
		Export Summary						
		Record ID	Functional Location	Equipment Pontis Structure ID	Pontis Work Request	Successful? Num Attac	chments	
		A-20160912-040001-0001 PTC	D01-LRD-DNGL-T-B-X-087.7	75 T087.75	6e772254-6b52-4454-8302-7b9e8caa9e	e0 Yes 1		
		Processing Messag	jes					
		APPBASEFOLDER is C:\websites	www.pontis.com\BrM\					
		Attempting to remove existing uplo 250 RMD command successful.	ad folder /PTCExchange/Inte	rfaceA/				
		Attempting to create new upload for 257 "PTCExchange/InterfaceA" for	Ider /PTCExchange/Interface	A/				
		226 Transfer complete. 919136 by	tes transferred. 919136 bps.					
		Attempting to upload file C:\websit 226 Transfer complete. 912 bytes	es\www.pontis.com\BrM\Worł transferred. 912 bps.	<requestsubmissions\archive\interface <="" th=""><th>A\20160912-040001\InterfaceA.xml to ftps</th><th>secure.mbakercorp.com</th><th></th><th></th></requestsubmissions\archive\interface>	A\20160912-040001\InterfaceA.xml to ftps	secure.mbakercorp.com		
		C:\websites\www.pontis.com\BrM\	WorkRequestSubmissions\Ar	chive\InterfaceA\20160912-040001\Inter	faceA.xml upload successful.			
		Export Processing	Messages					
		Record ID Fun	ctional Location		Message	s		
		A-20160912-040001- 0001 PTC-D0 087.75	11-LRD-DNGL-T-B-X- Main C:\w	essing Record ID: A-20160912-040001- line Bridges 087.75 ebsites\www.pontis.com\BrM\WorkRequ	0001 Functional Location ID: PTC-D01-L lestAttachments\MPT087.75,B-437A\T08	RD-DNGL-T-B-X-087.75, Equip	pment Number: air.pdf upload s	((Empty)) Object : Donegal
					7 0045 40 00 00 0143			

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# Data Exchange with PennDOT

Bidges       Roports       Admin       Inspection       Galeway       Analysis       PIC       Ancillary Structures       PennDOT       Structure Maintenance         Selected Bridges       Bidge 1D       District       County       Ad41.20       Unknown       Bucks         A041.65       Unknown       Bucks       District 6       Bucks       District 7067.40       District 12       Westmoreland         T069.15       District 12       Westmoreland       District 12       Westmoreland       District 12       Westmoreland         Selected: 5       Total: 1356       Total: 1356       Total: 1356       Total: 1356       Total: 1356       Total: 1356       Total: 1356						TURN PIKE
Selected Bridges         Bridge ID       District       County         AQ41.20       Unknown       Bucks         AQ41.65       Unknown       Bucks         AQ41.85       District 6       Bucks         T067.40       District 12       Westmoreland         T069.15       District 12       Westmoreland         Selected: 5       Total: 1366         Export what? PTC Pontis To BMS2 File (XML)         V       Include:       Inventory and Inspection Data         © Selected Bridges       All Bridges in the Database	Bridges Reports Ad	min Inspection Gatewa	ay Analysis PTC Ancil	Structures PennDOT	Structure Maintenance	
Bridge ID       District       County         AQ41.20       Unknown       Bucks         AQ41.65       Unknown       Bucks         AQ41.85       District 6       Bucks         T067.40       District 12       Westmoreland         T069.15       District 12       Westmoreland         Selected: 5       Total: 1356         Export what? PTC Pontis To BMS2 File (XML)         Include:       Inventory and Inspection Data         Export which bridges ?       Selected Bridges         All Bridges in the Database       All Bridges in the Database	Selected Bridges					
A041.20       Unknown       Bucks         A041.65       Unknown       Bucks         A041.85       District 6       Bucks         T067.40       District 12       Westmoreland         T069.15       District 12       Westmoreland         Selected: 5       Total: 1356         Export what? PTC Pontis To BMS2 File (XML)         Include:       Inventory and Inspection Data         Export which bridges?       Selected Bridges         All Bridges in the Database       All Bridges in the Database	Bridge ID	District	County			
A041.65       Unknown       Bucks         A041.85       District 6       Bucks         T067.40       District 12       Westmoreland         T069.15       District 12       Westmoreland         Selected: 5       Total: 1356	A041.20	Unknown	Bucks			
A041.85       District 6       Bucks         T067.40       District 12       Westmoreland         T069.15       District 12       Westmoreland         Selected: 5       Total: 1356         Export what? PTC Pontis To BMS2 File (XML)         Include:       Inventory and Inspection Data         Export which bridges?       Image: Selected Bridges         All Bridges in the Database       All Bridges in the Database	A041.65	Unknown	Bucks			
T067.40       District 12       Westmoreland         T069.15       District 12       Westmoreland         selected: 5       Total: 1356	A041.85	District 6	Bucks			
T069.15 District 12   Westmoreland     Selected: 5     Total: 1356     Export what?   PTC Pontis To BMS2 File (XML)   Include:   Inventory and Inspection Data   Export which bridges?   Include:   Selected Bridges   All Bridges in the Database	T067.40	District 12	Westmoreland			
Selected: 5 Total: 1356     Export what? PTC Pontis To BMS2 File (XML)   Include: Inventory and Inspection Data   Export which bridges? <ul> <li>Selected Bridges</li> <li>All Bridges in the Database</li> </ul>	T069.15	District 12	Westmoreland			
Export what? PTC Pontis To BMS2 File (XML)	Selected: 5 Tota	l: 1356				
O All Bridges in the Database	Export what? PTC Include: Inve Export which brid Selected Bridg	Pontis To BMS2 File (XML ntory and Inspection Data dges?	.)			
Export	O All Bridges in t	he Database				

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# **Technical Overview**

MEHRDAD ORDOOBADI, PMP, CSM PROJECT MANAGER, MICHAEL BAKER INTERNATIONAL



#### **Technical Overview**

- Business Values
- Phases of Implementation



#### **Business Values**

- Conversion of Legacy BMS to BrM
- Implementation of Ancillary Structures Asset Management in BrM
- Integration With Internal Structure Maintenance Application (SAP)
- Bridge Inspection Data Exchange with PennDOT
- BrM Hosting and Software Maintenance



### Phases of Implementation

- Phase I Conversion of Inventory Data for Element Level Evaluation 2007-2009
- Phase II Conversion of PTC Bridge Inspection Application to Pontis 5.1.0 2008-2010
- Phase III Integration of Pontis and SAP (Structure Maintenance Application) 2014-2015
- Phase IV Expanding Pontis for Other Assets (Ancillary Structures) 2011-2013
- Phase V Transfer of Bridge Inspection Data from PTC to PennDOT 2013
- Phase VI Collection of Element Level Data for National Highway System Bridges (BrM 5.2.1) 2015-2016



#### Phase I

- Conversion of Inventory Data for Element Level Evaluation
- Project Manager: Thomas Ryan, Michael Baker International
- 2007 2009
- This Phase Included Efforts to Determine:
  - CoRe Elements of the Commission's 831 bridges and culverts.
  - Calculate Total Quantities of the Identified CoRe Elements
  - Calculate the Scale Factor Measurements for the Appropriate CoRe Elements



#### Phase II

- Conversion of PTC Bridge Inspection Application to Pontis 5.1.0
- 2008 2010
- This Phase Included:
  - Transferring Bridge Inventory and Inspection Data from RAMS to Pontis Database
  - Importing CoRe Elements and Quantities for 831 PTC Bridges and Culverts from Phase I
  - Creating Pontis Custom Forms



#### Phase IV

- Expanding Pontis for Other Assets (Ancillary Structures)
- 2011 2013
- This Phase Included:
  - Transferring Existing Sign Structure Data from RAMS to Pontis Database
  - Creating Custom Pontis Forms to Support Ancillary Structure Types
    - Sign Structures
    - Retaining Walls
    - Noise Barriers
    - High Mast Lighting Poles



#### Phase V

- Transfer of Bridge Inspection Data from PTC to PennDOT
- 2013
- This Phase Included:
  - Cross Referencing PTC and PennDOT Bridges
  - Developing Capability to Export Bridge and Inspection Data to PennDOT's BMS<sub>2</sub> XML Format.
  - Creating PennDOT Tab Custom Pontis Forms

#### Phase III

 Integration of Pontis and SAP (Structure Maintenance Application)

<u>\_</u>

Secure FTP

- 2014-2015
- Automates Entering of Maintenance Requests:
  - Requests Are Only Entered Once in Pontis
  - Requests Are Automatically Submitted to SAP
  - Status Updates for Maintenance Requests Communicated Back to Pontis

Bridae

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Pontis

- This Phase Included:
  - Adding Software Components to Pontis and SAP for Periodic Exchange of Bridge and Ancillary Structure Maintenance Request Data
  - Creating Custom Pontis Forms for Bridge and Ancillary Structure Maintenance Requests



#### Phase VI

- Collection of Element Level Data for National Highway System Bridges and Upgrade to BrM 5.2.1
- 2015-2016
- This Phase Included:
  - Upgrading the Application and Database from Pontis 5.1.0.3 to BrM 5.2.1
  - Porting Pontis 5.1 Custom Forms to BrM 5.2.1
  - Migrating CoRe Element Inspection Data to NBE's Using Custom Migration Rules and Rules from PennDOT.



#### **Custom BrM Forms**

- Created Using BrM API and Agency "Navigation & Field Security" Feature in BrM
- No Changes Were Made to Official Pontis or BrM Source Code.
- ASP .NET
- Same Look and Feel as Standard BrM Forms

Brm Bridge		Welcome: Pontis Admin TURN PIKE Help? Account LogOut
Menu Security Parameters Element Spec	Bridges       Reports       Admin       Inspection       Gateway       Analysis       PTC       Ancillary Structures       PennDOT       Structure Maintenance         Type       Object       Object       Other transmission       Other transmission       Other transmission       Other transmission         Table Name       Table Name       Other transmission       Other transmission       Other transmission	
♀       Definitions         ♀       Options         ♀       Cost Index         ♀       Formulas         ♀       Export Options         ♀       Data Dict.         ♀       Checked Out Bridges         ♥       Renumber Brkey         ■       Logging         ●       Asency         ♀       Sync Mapping         ♀       Utility	Pic Properties         Name         PendOT         Stucture Maintenance         Read Only:         Enabled:         Pennsylvania Tumpike Commission Specific Module         TooTTip:         Pennsylvania Tumpike Commission Specific Module         TooTTip:         Delete         Delete AJ         Add New Tab         Tab Name:         Add New	
	Save	linge

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BrM Bridge			Velcome: Pontis Admin TURN PIKE Database: PTCBrM-Production Help ? Account LogOut
Menu	Bridges Reports Admin Inspecti	on Gateway Analysis PTC Ancillary Structures PennDOT Structure Maintenance	
Security			
Parameters	Object Object Tabs OT Tabs T	asks O Groups O Controls Tab: PTC V	
P Element Spec			
<b>Openations</b>	Task Name	PTC_StructureData Properties	
♀ Options	Multimedia Notes PTC_Attachments	Label: Structure Data	
♀ Cost Index	PTC_BridgeWorkRequest PTC_Clearances PTC_Inspections	Visible: 🗸	
💡 Formulas	PTC_Load Ratings PTC_Location	Read Only:	
<b>Export Options</b>	PTC_ManageFiles PTC_ManageFolders PTC_Misc	Click to See Structure Information	
💡 Data Dict.	PTC_Misc_Notes	ToolTip:	
Checked Out Bridges	PTC_WorkOrders		
<b>Renumber Brkey</b>			
Logging			
Navigation & Field Security			
Standard			
💡 Agency			
Sync Mapping			
💡 Utility			
	Delete Delete All		
	Add New Task		
	Parent Task: None		
	Add New		
	Save		

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BrM Additionart Bridge			Velcome: Pontis Admin TURN PIKE Database: PTCBrM-Production Help ? Account LogOut
Menu	Bridges Reports Admin Inspection	Gateway Analysis PTC Ancillary Structures PennDOT Structure Maintenance	
Security	Type		
Parameters	Object     Other Classe	Groups Controls     Select     Task: PTC_Structurel	
C Element Spec	Navigation Security		
P Definitions	Group Name	Approach Spans Properties	
O Orting	BMS Approach Spans	Name: Approach Spans	
⊕ Options	BMS Main Spans BMS Structure Type	Parent Group: Structure Type	
💡 Cost Index	Culvert Info	DeskTon Url: None	
· Formulas	HeaderSub1 - brkey	Label: Approach Spans	
C. Event Outlines	Inspection Footer	Visible: 🗸	
# Export Options	Main Spans No Caption	Read Only:	
💡 Data Dict.	Struct Data Header Struct Data Span grid box	Span Across:	
Checked Out	Struct-BMS Types Structure Info	Collapsable:	
Renumber Brkey	Structure Info Sub 1 Structure Info Sub 12	Horizontal Alignment: None V Height: None V	
😑 Logging	Structure Info Sub 2 Structure Info Sub 3	Vertical Alignment: None V Width: None V	
	Structure Type	Repeat Direction: Vertical Cell Spacing:	
Security		Repeat Count: 2 Cell Padding:	
Standard		SkinID: None	
💡 Agency			
💡 Sync Mapping			
ှ Utility			
	Delata Delata All		
	Add New Group		
	Parent Group: None		
	Group Type: Content Group		
	Desktop Url: None		
	Add New		
	Save		

Brm Bridge					Velcome: Pontis Admin TURN PIKE Help? Account LogOut
Menu	Bridges Reports Admin Inspec	ection Gateway	Analysis PTC Ancillary Structures PennDOT Structure Mair	ntenance	
Security					
Parameters	Type Object	0	Select		
Clement Spee	Navigation Security Tabs Tasks	ks Groups Controls	Tab: PTC V Task: PTC_Structure V Group: Approach Spans		
ê ciement spec	Control Name	Material Main Spa	ns Properties		
Upper Definitions	Material Main Spans	Name	Material Main Spans		
♀ Options	Design Main Spans	Control Typ	: DropDownList		
Cost Index		Table Name	bridge		
. Comulas		Column Name	materialappr		
¥ Formulas		Table Overri	le: None		
© Export Options		Field Overri	ie: None		
💡 Data Dict.		Order			
Checked Out		Labe	Material		
Bridges		Visible			
P Renumber Brkey		Read Only			
Logging		ValueBoldind			
Navigation & Field		Value Colo	r: None		
Security		Field Width	150 px 🗸		
∀ Standard		Label Width	100 % 🗸		
Y Agency					
💡 Sync Mapping					
유 Utility					
	Delete Delete All				
	Save				



#### Questions?



#### **Contact Information**

#### Brad Updegrave

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