MAINE TURNPIKE AUTHORITY

ADDENDUM NO. 1

CONTRACT 2015.03

BRIDGE REPAIRS
EXIT 45 BRIDGE (MM 44.9)
EXIT 46 BRIDGE (MM 46.3)

PAVEMENT REHABILITATION
EXIT 46 (MM 46.3)

MISCELLANEOUS TURNPIKE REPAIRS
MM 44.0 TO MM 49.01AND F.S. MM 0.60

The bid opening date is Tuesday February 17 at 11am.

The following changes are made to the Proposal, Specifications and the Plans.

GENERAL

All questions regarding Contract 2015.03 shall be submitted by February 12, 2015 at 4pm. Questions received after that time may not be answered.

PROPOSAL

Proposal Sheet P-12 is deleted and replaced with P-12 (Revised 02/13/2015) attached hereto. The revision to this proposal sheet adds a fixed unit price of $125.00 for Item 652.45 Truck Mounted Attenuator.

SPECIFICATIONS

- Special Provision 104.4.6 Utility Coordination

Page SP-6, Add the following sentence to the first paragraph under the Portland Pipe Line section:

> The pipeline continues in a southerly direction from the northbound on-ramp beneath the northbound off-ramp at approximately Station 317+00.

Page SP-6, After the third paragraph of the Portland Pipe Line section, add the following:

> Only non-conductive conduit may be used when crossing the pipeline.

The Contractor must coordinate with Portland Pipe Line to ensure a Portland Pipe Line representative is on-site at all times during construction near or over the pipeline.

The Portland Pipe Line Construction Practices and Design of Projects requirements must be adhered to and are added here as Appendix E.

Page SP-7, Delete the three paragraphs under the UNITIL section and replace with the following:

UNITIL has a transmission pipeline running approximately parallel to the Turnpike crossing under the Exit 46 southbound off-ramp at approximately Station 110+00 and under the Exit 46 southbound on-ramp at approximately Station 205+00. A second distribution line runs parallel to Congress Street and crosses beneath the Turnpike at approximately Station 2302+00.

UNITIL does not propose any relocation in order to facilitate the Project. UNITIL requires the Contractor to contact Unitil directly to locate their pipleline as part of the DigSafe process prior to any construction. Unitil will flag and depth locate their lines.

The Contractor shall notify UNITIL two (2) weeks in advance of any work taking place over their pipeline. The Contractor shall specifically notify UNITIL two (2) weeks in advance of any pavement milling over their pipeline. No work shall take place without a UNITIL inspector present.

The Contractor shall not block access to the UNITIL Valve Station access road on Congress Street (directly across from Blueberry Road).

- Special Provision 105.8.2 Permit Requirements:
  Add the following to the end of the third paragraph: USACE has assigned permit number NAE-2015-00202 to this Exit 46 project. Permit conditions are as noted in the Specification.

- Special Provision 403 Hot Bituminous Pavements:
  Replace page SP-59 with SP-59 (Revised 2/13/15).

- Special Provision 652 Maintenance of Traffic (Specific Project Traffic Control),

  Page SP-205, Second paragraph, fourth line:
  Change the time limit from 5 minutes to 25 minutes.

  Page SP-205, Add the following paragraph after the second paragraph:

  The Contractor will reimburse the Authority at the rate of $2,500.00 per five-minute period for each roadway (northbound and southbound), in excess of the 25 minutes limit. Total penalty shall be deducted from the next pay estimate.

- Special Provision 652 Maintenance of Traffic (Work Requiring Complete Stoppages of Traffic),

  Page SP-210, sixth paragraph, third line:
  Change the time limit from 20 minutes to 25 minutes.

  Page SP-210, seventh paragraph:
  Delete the existing paragraph and replace with the following;

  The Contractor will reimburse the Authority at the rate of $2,500.00 per five-minute period for each roadway (northbound and southbound), in excess of the 25 minutes limit. Total penalty shall be deducted from the next pay estimate.

- Appendix C Railroad Specification:
  A copy of Pan Am's Standard Railroad Service Agreement is added to the Appendix.

- Appendix E Portland Pipe Line Corporation:
  Add new Appendix E – Portland Pipe Line Corporation Specification. A copy of Portland Pipe Line's Construction Practices and Design of Project is added to the new Appendix E.

PLANS

Sheet HP-05 Sheet 36 of 93: The contractor is advised that the (Portland Pipe Line) pipeline extends beneath the northbound on-ramp at approximately station 401+00 and to beneath the northbound off-ramp at approximately station 317+00. Similarly, the contractor is advised that the (Buckeye Partners) pipeline extends beneath the northbound on-ramp at approximately station 402+20. A revised plan sheet will not be issued.

Sheet WP-02 Sheet 43 of 93: The contractor is advised that the (Portland Pipe Line) pipeline extends beneath the northbound on-ramp at approximately station 401+00 and to beneath the northbound off-ramp at approximately station 317+00. Similarly, the contractor is advised that the (Buckeye Partners) pipeline extends beneath the northbound on-ramp at approximately station 402+20. A revised plan sheet will not be issued.

QUESTIONS

The following are questions asked at the pre-bid meeting held on February 10, 2015 or submitted to the Maine Turnpike Authority in writing. Answers to the questions are noted. Bidders shall utilize this information in preparing their bid.

Question 1: Will the Pre-Bid Sign-In Sheet be shared?

Answer: Yes, the Pre-Bid Agenda and sign-in sheet are attached to this Addenda.

Question 2: Nate Carll's contact information.

Answer: Nate Carll's phone number extension is 115, not 105 as stated in the Specifications. His email is ncarll@maineturnpike.com.

Question 3: How is the railroad Inspector-Flagman for Pan Am paid?

Answer: The Authority will make payment for the Inspector-Flagman directly to Pan Am as stated in Special Provision 104.4.8.

Question 4: Is railroad Protective Liability Insurance required?

Answer: Yes, per Special Provision 104.4.8 and as stated in general provision 110.3.2. Additionally, the Maine Turnpike Authority shall be named insured.

Question 5: Could the MTA add the item 403.213 to the Spec Provision Section 403 to explain mix types, location and desired depths?

Answer: Item 403.213 has been added to the Special Provision Section 403 to explain mix types, location and desired depths. Note the lift thicknesses and/or number of lifts has also been changed on Items 403.2083 and 403.207. Page SP-59 is deleted and replaced with SP-59 (Revised 2/13/15). See Sheets TS-01 to TS-04, and Sheets HP-01 to HP-05, Sheet WP-01, Sheets XS-01 to XS-05, Sheet WP-02, and Sheets XS-06 to XS-14 for additional information.

Question 6: Can an alternate Light-Weight barrier system be proposed?

Answer: The Contractor's proposal shall reflect the procurement, delivery, and installation of the BarrierGuard 800 MDS light-weight barrier system as noted in the specifications.

Question 7: Can construction equipment and materials be stored in the work zone at the Exit 46 Bridge during non-working hours?

Answer: No, the Contractor shall clear the work zone each day. The Contractor may use 10 parking spaces within the Exit 46 Park and Ride lot for equipment and material storage during construction per Special Provision 105.5.1.

Question 8: Can construction equipment and materials be stored in the bridge work zone at the Exit 45 Bridge during non-working hours?

Answer: No, the Contractor shall clear the bridge work zone (joint to joint) each day as specified in special provision 107.4.7. This requirement only applies to the bridge limits; the approaches within the work zone may be used for equipment and material storage if equipment and material are behind temporary barrier.

Question 9: What is the daily train traffic at each MCRR bridge for passenger trains? Freight?

Answer: Per Special Provision 104.4.8 "The MCRR at Mile 47.9 is an active single track serving an unknown number of freight trains per day which do not operate on a set daily schedule. The MCRR at Mile FS 0.5 is an active single track which serves an unknown number of freight trains per day which do not operate on a set daily schedule, and approximately four Amtrak trains per day which operate

on a set daily schedule.". The contractor can plan on work windows not exceeding 2 hours at a time at these locations. The railroad is a Main Line and also a commuter line with trains running all day and night.

Question 10: Plan Sheet 2 shows the quantity of snow fence on the Warren Avenue Bridges to be 224 LF. However, Plan Sheet 67 only shows a total of 112 LF. Is 224 LF the correct quantity for snow fence on Warren Avenue?

Answer: Yes 224 LF is the correct total quantity of snow fence for the Warren Avenue Bridges. Plan Sheet 67 dimensions the typical snow fence length of 56 LF per railing. The Warren Avenue Bridges as shown carry both Northbound and Southbound turnpike traffic. Therefore both Northbound and Southbound bridges each require 112 LF (56 LF x 2 railings) of snow fence. That results in 224 LF (112 LF x 2 bridges) of snow fence.

Question 11: In which phase does the Contractor install the permanent light-weight barrier and remove existing railing?

Answer: The construction phasing provided on Plan Sheets 18-21 is provided to accomplish wearing surface removal, deck and header repairs, median barrier removal, joint modifications, and wearing surface installation. The construction phasing shall use temporary light-weight barrier on the bridge and concrete temporary barrier on the approaches as shown in the Plan details. Per Special Provision 507.043 the final/permanent placement of the light-weight barrier shall occur after the bridge joint gland seal has been installed. Therefore the light-weight barrier final/permanent placement is intended to occur after the construction phasing has occurred and may be accomplished with temporary lane closures. Per Special Provision 107.4.7 the railing removal shall occur after the barrier is in its final position and permanently anchored.

Question 12: Can the permanent light-weight barrier be utilized for temporary traffic control?

Answer: The 1,090 LF of Light-Weight Barrier – Fabricated and Delivered (Item 507.11) may be used for temporary (Item 507.12) and permanent (Item 507.13) conditions.

Question 13: Page 18 of 93 of the plans shows 3 phases of construction, but does not shown when the light-weight median barrier is to be placed. It cannot be placed during phase I construction due to traffic straddling the median area during phase II and III. This will require a phase IV to install the light-weight barrier after II and III is complete, or switching the phasing around so that the median area work is completed last, rather than first. Please advise on how this work is to be accomplished.

Answer: The construction phasing provided on Plan Sheets 18-21 is provided to accomplish wearing surface removal, deck and header repairs, median barrier removal, joint modifications, and wearing surface installation. The construction phasing shall use temporary light-weight barrier on the bridge and concrete temporary barrier on the approaches as shown in the Plan details. The phasing presented was governed by the limited bridge deck width to accomplish paving

tasks while maintaining two travel lanes that are 11'-0" with two 1'-0" shoulders. The light-weight barrier final/permanent placement is intended to occur after the construction phasing has occurred and may be accomplished with temporary ramp closures. While an additional phase is required to achieve the final/permanent barrier placement, a phase IV was not explicitly presented because there are several ways to accomplish the final/permanent placement of the light-weight barrier.

Question 14: The Basis of Payment for Pay Item 507.12 Light-Weight Barrier – Placed (Temporary) does not include procurement of additional barrier required to maintain traffic as shown on Page 18 of 93 of the Plans, but only loading transporting, unloading, positioning, anchoring and resetting. How does the Authority intend to pay for the additional barrier required to maintain traffic as shown on page 18 of 93 when there is not enough permanent barrier to utilize in the temporary application?

Answer: The 1,090 LF of Light-Weight Barrier – Fabricated and Delivered (Item 507.11) was calculated based on three runs of light-weight barrier in the permanent condition running the full length of the bridge plus an additional 80 LF for future use. The construction phasing on Page 18 of 93 only requires two runs of light-weight barrier in the temporary condition running the full length of the bridge at any one time. Therefore at any given time there will be approximately 300 LF of light-weight barrier stockpiled during the construction phasing. Therefore it is not necessary for additional barrier to be purchased or rented to maintain traffic. Once the construction phasing is complete as shown then the light-weight barrier may be placed into the final/permanent condition.

Question 15: Please verify that the membrane waterproofing required on the bridge decks is NOT High Performance Membrane Waterproofing. The bid item is 508.13, which is NOT the bid item for High Performance Membrane Waterproofing (508.14). The special provision does not clarify this question.

Answer: The waterproofing membrane (Item 508.13) as stated in Special Provision section 508.02 Materials shall be selected from the "Prequalified Standard Systems" of the Maine Department of Transportation's Qualified Product List. The material shall be a "Standard" system, not a "High-Performance" system, due to the limited amount of pavement thickness proposed (1 1/2").

ATTACHMENTS

- Proposal Sheet P-12 (Revised 2/13/15) (1 page)
- Special Provision 403 page SP-59 (Revised 2/13/15) (1 page)
- Pre-Bid Agenda (6 pages)
- Pre-Bid Sign-In sheets (1 pages)
- Appendix C – Railroad Service Agreement (8 pages)
- Appendix E – Portland Pipe Line Requirements (6 pages)

Notes: The above items shall be considered as part of the bid submittal.

The total number of pages included with this addendum is Thirty (30).

All bidders are requested to acknowledge the receipt of the Addendum No. 1 by signing below and faxing this sheet to Nathaniel Carll, Purchasing Department, Maine Turnpike Authority at 207-871-7739. Bidders are also required to acknowledge receipt of this Addendum No. 1 on Page P-13 of the bid package.

_____
Business Name

_____
Print Name and Title

_____
Signature

_____
Date

February 13, 2015

Very truly yours,

MAINE TURNPIKE
AUTHORITY

_____
Nathaniel Carll
Purchasing Department
Maine Turnpike Authority

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
				BROUGHT FORWARD:			
652.361	Maintenance of Traffic Control Devices	Lump Sum	1				
652.38	Flaggers	Hour	360				
652.39	Portable - Light Tower	Each	3				
652.41	Portable - Changeable Message Sign	Each	6				
652.45	Truck Mounted Attenuator	Day	60	$125	00	$7500	00
656.5	Baled Hay, in place	Each	40				
656.6	Temporary Berms	Linear Foot	350				
656.62	Temporary Slope Drains	Linear Foot	40				
656.632	30 inch Temporary Silt Fence	Linear Foot	2,550				
659.1	Mobilization	Lump Sum	1				
					TOTAL:		

SPECIAL PROVISION

SECTION 403

HOT BITUMINOUS PAVEMENTS

Desc. of Course	Grad. Design	Item Number	Bit Cont. % of Mix	Total Thick	No. Of Layers	Comp. Notes
			Bridge Decks Exit 45 Bridge			
Wearing	12.5 mm	403.2081	5.2 min to 6.40	1 1/2 in.	1	A, C, E, G, H, & J
			Bridge Decks Exit 46 Bridge			
Wearing	12.5 mm	403.2081	5.2 min to 6.40	2 in.	1	A, C, E, G, H, & J
			Mill, Fill, Overlay, Full Depth Ramp and Mainline			
Wearing	12.5 mm	403.2083	5.2 min. to 6.4	1 1/2 in.	1	A, B, C, E F, G, H & I
Binder	12.5 mm	403.213	5.2 min. to 6.4	1 1/2 in. or 3 in.	1 2	A, B, C, E F, G, & H
Base	19 mm	403.207	4.7 min to 6.10	3 in.	1	A, B, C, E F and G
Shim	4.75 mm	403.211	6.0 min to 7.50	½ in.	1	A, B, C, E, F, & G

COMPLEMENTARY NOTES

A. The required PGAB for Items 403.2083 will meet a **PG 64E-28** grading. Refer to provisions of 403.02 – General for HMA, for additional testing and documentation requirements. The required minimum PGAB for Items 403.207, 403.208, 403.211and 403.213 shall be a **PG 64-28** grading.

B. A maximum of 15 percent RAP may be used in the Hot Mix Asphalt.

C. The MaineDOT will conduct the job mix verification. The aggregate qualities shall meet the design traffic level of 3 to < 10 million ESAL for mix placed under this Contract. The design, verification, Quality Control, and Acceptance tests for this mix will be performed at **75 gyrations**.

MAINE TURNPIKE AUTHORITY

Pre-Bid Conference

CONTRACT 2015.03

BRIDGE REPAIRS
EXIT 45 BRIDGE (MM 44.9)
EXIT 46 BRIDGE (MM 46.3)

PAVEMENT REHABILITATION
EXIT 46 (MM 46.3)

MISCELLANEOUS TURNPIKE REPAIRS
MM 44.0 TO MM 49.01AND F.S. MM 0.60

February 10, 2015, 10:00 AM

1) Location:

The general limits of work are from Mile 44.0 to Mile 49.01.

The major components of work are listed below:

- Bridge Repairs at Exit 45
- Bridge Repairs at Exit 46
- Pavement Rehabilitation at Exit 46
- Bridge Mounted Sign at Congress Street Bridge
- Pavement Stripping at Exit 44
- Bridge Mounted Conduit at two MCRR Bridges
- Snow Fence Installation at Running Hill Road (MM 45.4); Warren Avenue (MM48.9); and Auburn Street (FS 0.60)

2) General Description:

The work consists of bridge repairs at Exit 45 & 46, pavement rehabilitation at Exit 46, snow fence installation, bridge mounted sign installation, and railroad bridge conduit installation. The work also involves pavement markings, maintenance of traffic and all other work incidental thereto in accordance with the Plans and Specifications.

3) Bid:

a) Opening: February 17, 2015 at 11:00 A.M. at MTA Headquarters 2360 Congress Street, Portland

b) All bid and contractual questions shall be directed to Mr. Nathaniel Carll. Phone No. (207) 871-7771, Ext. 105.

c) All questions on plans and specifications shall be in writing and shall be directed to Nate Carll, Purchasing Manager, of the Maine Turnpike Authority. Fax No. (207) 871-7739.

4) Notification:

a) Contractor shall notify and obtain approval from the Authority prior to visiting the Project sites for field inspection. The contact person is Mr. Steve Tartre at (207) 871-7771, ext. 144.

5) Construction Schedule/Prosecution of Work:

a) March 23, 2015 – estimated Contract Start Date

b) July 31, 2015 – work on Exit 46 Bridge and the Exit 46 northbound on-ramp complete.

c) October 16, 2015 – Substantial Completion (defined in Special Provision Section 107.1.1)

d) November 13, 2015 – Contract Completion Date

6) Maine Department of Labor – Fair Hourly Wages (Special Provision 104.3.8)

a) Contract includes Heavy and Bridge as well as Highway and Earthwork wage rates

7) Response to Damage Claims (General Provision 104.3.11):

a) Contractor responsible for responding to all damage claims, in writing, within 30 days.

8) Utility Coordination (Special Provision 104.4.6)

a) There is no utility relocation work scheduled or anticipated by the utility owners in this contract.

b) BUCKEYE PARTNERS has an oil pipeline crossing under the Maine Turnpike northbound on-ramp at approximately Station 401+00 to 402+00 then running generally parallel to the mainline north to and beyond the project limit.

i) Buckeye has certain restrictions that need to be followed when excavating, filling, or compacting near or over their pipeline.

ii) The contractor shall notify BUCKEYE two (2) weeks in advance of any work taking place over their pipeline outside of the existing pavement limits.

c) PORTLAND PIPE LINE CORPORATION has a pipeline crossing under the Maine Turnpike northbound on-ramp at approximately 401+00 to 402+00 then running generally parallel to the mainline north to and beyond the project limit.

i) PPLC has certain restrictions that need to be followed when excavating, filling, or compacting near or over their pipeline.

ii) The contractor shall notify PPLC two (2) weeks in advance of any work taking place over their pipeline outside of the existing pavement limits.

d) UNITIL has a pipeline crossing under the Maine Turnpike at approximately 2301+75 just south of the Congress Street underpass and a line running generally parallel to the mainline on the southbound side of the turnpike and beneath the southbound off-ramp.

i) UNITIL has certain restrictions that need to be followed when excavating, filling, or compacting near or over their pipeline.

ii) The contractor shall notify UNITIL two (2) weeks in advance of any work taking place over their pipeline outside of the existing pavement limits.

e) PORTLAND WATER DISTRICT has a ductile iron water main crossing beneath the Maine Turnpike mainline at approximately station 2303+50 just north of the Congress Street underpass.

f) MAINE TURNPIKE AUTHORITY has underground electrical and communication conduits within the project limits. These utilities are live and the contractor shall coordinate construction activity with the Authority per the Plans.

9) Coordination With Railroads (Special Provision 104.4.8)

a) MAINE CENTRAL RAILROAD operates under two MTA bridges, one at Mile 47.9 and one at the Falmouth Spur Mile 0.5. The railroad is an active single track serving an unknown number of freight trains per day which do not operate on a set daily schedule.

i) Pan Am requires that any work on or affecting Pan Am property or operations requires the presence of a Pan Am Inspector-Flagger.

ii) The contractor is required to agree to and sign a Standard Railroad Service Agreement. A copy of this agreement is included in Appendix C.

10) Cooperation With Other Contractors (Special Provision 104.4.7):

Numerous Maine Turnpike construction projects are scheduled between Mile 42 and Mile 53 in 2015. They include, but are not necessarily limited to:

a. Contract 2014.09 Cash Lane Conversion – Exits 19, 46, and 48;
b. Contract 2014.11 Bridge Rehabilitation – Stroudwater River Bridges and MCRR Bridges, construction schedule February 2015 through May 2015;
c. Contract 2014.14 Bridge Repairs – Forest Avenue Bridges and Riverside Street Bridges, construction schedule February 2015 through May 2015;
d. Contract 2015.01 Pavement Rehabilitation, Guardrail and Clear Zone Improvements MM 51.2 to MM 54.5 and F0.0 - F3.8, construction schedule April 2015 through October 2015;
e. Contract 2015.13 Falmouth Spur ORT Toll Conversion F0.0 - F3.8, construction schedule July 2015 through October 2016; and
f. Contract # TBD - Installation of Fiber Optics Cable - Interchange 46 to Interchange 48; construction schedule TBD - anticipated in Fall 2015.
g. STP-1785(800)X Congress Street & Skyway Drive - 7 Signals PACTS Tier 1 Improvements; construction schedule October 2014 through April 2015.
h. The above contracts, and any additional contracts tendered by the Authority between Mile 42 and Mile 54.5 and on the Falmouth Spur shall be considered adjacent Contracts

11) Permit Requirements

a) The Project is being constructed under the Maine Department of Environmental Protection (DEP) Natural Resources Protection Act Permit by Rule regulations Section 11 – State Transportation Facilities, updated July 15, 2009. Final permit authorization is anticipated by February 10, 2015. An addendum will be issued acknowledging the receipt or denial of the permit; providing the actual MaineDEP permit conditions, and providing Plan and Specification changes if required. A copy of the Section 11 – State Transportation Facilities Permit by Rule regulations are attached in Appendix B.

b) This Project is also subject to the requirements of the Maine Pollutant Discharge and Elimination System (MPDES) General Permit for the Discharge of Stormwater from MTA's Municipal Separate Storm Sewer Systems (MS4), because it is located within an Urbanized Area (UA) as defined by the 2000 census by the U.S. Bureau of the Census. MS4 compliance requires all Contractors to be properly trained in Erosion and Sedimentation Control (ESC) measures (as per Special Provision Subsections 105.8.1 and 656.07) and implement measures to reduce pollutants in stormwater runoff from construction activities. MS4 Awareness Plan and BMP Adoption Plan are contained in Appendix B. The Contractor is required to review, sign, and comply with these plans.

12) General Safety Requirements

a) U-Turns at toll plazas and median openings are not allowed (General Provision 105.5.1)

b) Contractor access to and from the mainline shall not negatively impact mainline traffic flow. The Contractor may be required to establish lane closures to provide for safe access. Refer to Special Provision 652, Specific Project Maintenance of Traffic Requirements, for lane closure requirements and restrictions.

c) All vehicles used on the Project, including company, personal, and delivery vehicles shall be equipped with amber flashing beacons in accordance with the General Provision 652.6.1.

d) Class III safety vests must be worn at all times in accordance with Special Provision 652.2.5

13) Limitations of Operations (Special Provision 107.4.7)

a) Mainline lane, ramp, and toll plaza area closure(s) will not be allowed over a weekend or Holidays unless approved otherwise by the Resident.

b) Work on both the left and right sides of active traffic lane(s) will not be permitted on the Exit 46 ramps at any time.

c) Wide loads will not be permitted to pass on Exit 46 Bridge, the Exit 46 exiting and entering ramps, and the Exit 45 southbound off and southbound on ramps during the project. Wide loads will be allowed to pass through all other project areas during daylight hours as authorized by the Authority.

d) The Contractor shall note the Exit 46 Interchange is under the flight path of the Portland Jetport and shall abide by all airport site lighting and flight path height restrictions.

e) Care shall be taken when working near catch basins to ensure foreign material and contaminants do not enter the basin. If foreign material and/or contaminants enter the basin, it shall be removed prior to the material exiting the basin into a waterway. Removal shall be completed to the satisfaction of the Resident and payment shall be incidental to the Contract.

f) The Contractor shall provide vertical shielding adjacent to the existing bridge rail system to prevent pavement, membrane, concrete demolition, pavement and other debris from falling onto mainline traffic during pavement removal, concrete demolition and paving activities at the Exit 45 Bridge.

g) The Contractor shall provide shielding, tarps, rope tie-offs, etc., to prevent any debris from falling onto oncoming traffic during demolition activities for removal of the existing railing at Exit 45

Bridge. Traffic will not be permitted to use the travel way directly under the demolition work and temporary mainline shoulder closures and lane closures shall be used whenever necessary to ensure the safety of the public during demolition.

h) The Exit 46 bridge repair work shall be completed (joint replacements, joint modifications, partial depth milling, and resurfacing) prior to the approach/ departure mill, shim and overlay paving work.

i) The Contractor shall steel plate any bridge joint work not behind concrete barrier at the end of each work shift and open the roadway up to two lanes of mainline traffic.

j) Traffic will not be permitted to travel on the waterproofing membrane or significantly deteriorated concrete surfaces at the Exit 45 bridge.

k) The temporary work zones within the bridge deck of the Exit 45 Bridge shall not be used for any staging or lay down areas. The bridge work zones shall be cleared each day of any equipment or material storage to remove unnecessary extra dead load.

14) Traffic Control (Special Provision Section 652):

a) Two lanes of traffic shall be maintained on the Turnpike mainline in each direction (each direction being 24 feet wide including the shoulder) in the non-widened portion of the Turnpike, unless otherwise shown on the plans, and except when Appendix A permits the roadway(s) to be reduced to one lane.

b) Temporary (5 minute) night work lane stoppages will be permitted for overhead sign erection at Congress Street, and bridge railing removal at Exit 45 when the single traffic lane cannot be shifted away from the work zone so materials and lifting equipment is not suspended over the traffic lane.

c) One lane of traffic shall be maintained on the Turnpike ramps in each direction (each direction being 14 feet wide including the shoulder) unless otherwise shown on the Plans, and except when Appendix A permits the Turnpike ramp(s) to be closed.

d) One lane of traffic shall be maintained on Skyway Drive in each direction (each direction being 20 feet wide including the shoulder) unless otherwise shown on the Plans, and except when Appendix A permits the on Skyway Drive to be reduced to one lane of alternating traffic controlled by flaggers.

e) All temporary lane closures shall be made utilizing drums. The Contractor will not be permitted to store drums on the traffic side of the guardrail (face of guardrail) during non-work hours or when drums are not required for a lane closure. All drums shall be placed behind guardrail, concrete barrier, or removed from the roadway.

f) Portable light towers will be required to illuminate the night construction work area.

15) Specific Contract Items

a) Section 507 – Light Weight Barrier

i) A light weight bridge barrier system shall be furnished for the temporary and permanent use at the Exit 45 bridge. The light weight bridge barrier shall include expansion devices, transition

devices, and end treatment and shall meet NCHRP 350 Test Level III (TL-3) crash test requirements as a minimum deflection system.

ii) The light weight bridge barrier system shall be model BarrierGuard 800 MDS by US Reflector of East Hartford, CT with performance requirements as listed in the specifications.

b) Section 515 – Re-caulking Existing Concrete Barrier Construction / Control Joints

i) The work shall include the removal of existing caulking and backer rod, routing of the joint (if necessary), surface preparation and installation of premium-grade, high-performance, moisture-cured, single component, polyurethane-based, non-sag elastomeric professional grade sealant to protect existing concrete structures at the Exit 46 Interchange.

c) Section 518 – Repair of Vertical Surfaces – Approach Slab Modifications

i) This specific repair item occurs at the Exit 46 bridge joints where the approach roadway surfaces exhibit significant subsidence in the area immediately behind the abutments. The subsidence appears to be the result of significant rotation and possible settlement of the approach slabs. The work will consist of excavation behind the backwall to enable the Resident to inspect the condition and location of the approach slab, as well as furnishing and installing steel reinforcement and concrete to complete the necessary asphaltic plug joint replacement.

d) Section 607 – Snow Fence

i) There are three bridges which are to receive snow fence as shown on the plans:

(1) Running Hill Road Bridge (MM 45.4)
(2) Warren Avenue Bridges (MM 49.01)
(3) Auburn Street Bridge (FS 0.60)

e) Section 645 – Highway Signing

i) The existing road-side sign at Exit 46 shall be removed, stacked, and remounted to the north fascia of the Congress Street Bridge using a steel support bracket as shown on the Plans.

ii) There is a small bridge label/name sign that shall be added to the Skyway Drive Bridge (Exit 46 Bridge).

16) Other:

a) The MaineDOT Standard Specifications, 2002, shall be used for this project NOT the new 2014 edition.

17) <u>Questions</u>

MAINE TURNPIKE AUTHORITY

Pre-Bid Meeting
for

CONTRACT 2015.03

Bridge Repairs, Pavement Rehabilitation, and Miscellaneous Turnpike Repairs

Bridge Repairs: Exit 45 and Exit 46
Pavement Rehabilitation: Exit 46
Miscellaneous Turnpike Repairs: MM 44.0 to 49.01 and FS 0.60

PLEASE PRINT

NAME	COMPANY	PHONE	EMAIL
Jason Griffiths	Pike Ind.	557-8227	jgriffiths@pikeindustries.com
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Jacob Hall	CPM	754-1582	jhall@cpmconstructors.com
GREG SAVONIA	PRATT + SONS	345-3311	greg@prattandsons.net
BOB BRADY	Shaw Brothers	838-2552	BBRADY@shawbrothers.com
GREG SCOTT	Scott Const. Corp	632-0521	gscott207@gmail.com
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Scott Warchol	MTA	482-8121	swarchol@maineturnpike.com
Nate Carll	MTA	482-8115	ncarll@maineturnpike.com
Ralph Norwood	MTA	482-8348	rnorwood@maineturnpike.com
Dale Mitchell	HNTB	774-5155	damitchell@hntb.com
Kevin Brayley	HNTB	774-5155	kbrayley@hntb.com

BOSTON AND MAINE CORPORATION
SPRINGFIELD TERMINAL RAILWAY COMPANY

RAILROAD SERVICE AGREEMENT

AGREEMENT made as of this day of , 2011 by and between the "Railroad" as described in paragraph 1.A. below and "Contractor" as described in paragraph 1.B. below.

In consideration of the mutual promises, covenants and undertakings contained herein, and other good and valuable consideration, the receipt and sufficiency of which the parties hereby expressly acknowledge, the parties agree as follows:

1. The following terms shall have the meanings specified whenever used in this Agreement:

A. RAILROAD:

Boston and Maine Corporation and
Springfield Terminal Railway Company
c/o Pan Am Systems Incorporated
Iron Horse Park
North Billerica, Massachusetts 01862

B. CONTRACTOR: The following described party, together with its agents, servants, employees, subcontractors, suppliers, consultants and engineers:

C. PROPERTY:

D. RAILROAD SERVICES: The Railroad shall perform such services and provide such equipment and materials which it deems, in its sole discretion, necessary for the safe performance by the Contractor of the Construction Project, including, without limitation, the performance of all preliminary, office and field engineering; internal record keeping and accounting; railroad flagging and signaling; restoration of replacement of the Railroad's track or ballast; and all railroad inspection; and the Railroad shall provide all railroad communication equipment and materials.

E. **INITIAL RAILROAD SERVICE FEE:** To be invoiced by the Engineering Department of the Railroad.

F. **CONSTRUCTION PROJECT:**

G. **TERM:** One (1) year from the date first written above or completion of the construction project whichever occurs first.

H. **EXHIBITS:** The following Exhibits annexed hereto are hereby incorporated in this Agreement by this reference:

Intentionally omitted.

2. **ENTRY UPON RAILROAD PROPERTY.** The Railroad hereby agrees to permit the Contractor to enter upon the Railroad Property for the Term for the limited purpose of performing the Construction Project, provided that the Contractor complies with all of the several terms, conditions and covenants contained in this Agreement, the Construction Project hereinabove described, and all work requirements and directions of the Vice President-Engineering of the Railroad, or his authorized representative (the "Vice President-Engineering").

3. **RAILROAD SERVICES**. In connection with the Contractor's performance of the Construction Project, the Railroad shall provide the Railroad Services.

4. **RAILROAD SERVICE FEES**. In consideration of the performance by the Railroad of the Railroad Services, the Contractor shall pay to the Railroad the Initial Railroad Service Fee. The Railroad hereby reserves the right to require additional Railroad Service Fees for Railroad Services necessary to complete the Construction Project. The Contractor further agrees to pay the Railroad a non-refundable fee of five hundred ($500.00) dollars as reimbursement for the costs and expenses incident to the preparation of this Agreement.

5. **NOTICE OF INTENTION TO COMMENCE THE CONSTRUCTION PROJECT**. The Contractor shall provide the Vice President - Engineering of the Railroad with seven (7) days' notice in advance of its intention to commence the Construction Project.

6. **COVENANTS OF THE CONTRACTOR**. The Contractor hereby covenants and agrees that it will observe the following affirmative and negative covenants during the term of this Agreement:

(a) The Contractor shall perform the Construction Project in a safe, good and workmanlike manner and in accordance with the description of the Construction Project herein contained and all work requirements and directions of the Vice President-Engineering.

(b) The Contractor shall permit to enter upon the Railroad Property and perform the Construction Project only those contractors and/or subcontractors having, in the exclusive opinion of the Vice President-Engineering, sufficient engineering, construction expertise and

financial ability to accomplish the Construction Project. The Railroad shall have the right to disqualify any contractor or subcontractor employed by the Contractor from performing the Construction Project for the following reasons:

(i) Failure to pay in full Monies owed to the Railroad; or

(ii) Use of, or reputation for use of, construction methods or procedures which, in the exclusive opinion of the Vice President-Engineering, are unsafe, technically deficient, or not in compliance with the Railroad's standards.

Any contractor or subcontractor so disqualified by the Railroad shall immediately vacate the Railroad Property and shall not re-enter the Railroad Property without the prior written approval of the Vice President-Engineering.

(c) The Contractor shall not, at any time, except with the prior approval of the Vice President-Engineering, enter upon the Railroad Property or perform the Construction Project without the presence at the Railroad Property of a foreman, inspector, or flagman as may be assigned or required by the Vice President-Engineering, in his exclusive opinion.

(d) The Contractor shall procure and maintain, at its sole cost and expense, the following insurance coverage's naming the Railroad, exactly as designated in Paragraph 1, as insured, in forms and with companies and coverage limits satisfactory to the Railroad:

(i) Comprehensive General Liability Insurance protecting against liability from bodily injury or property damage arising out of the Construction Project.

(ii) Workers Compensation and Occupational Disease Insurance, as required by law.

(iii) Automobile Liability Insurance covering all motor vehicles used about or in connection with the Construction Project.

(iv) Railroad Protective Liability Insurance.

(e) The Contractor shall procure and maintain, at its sole cost and expense, all permits, licenses and approvals of all governmental authorities and all consents of all third parties necessary for the Contractor to perform the Construction Project. The Contractor shall comply with, and shall cause the Railroad Property to comply with, all applicable local, county, state or federal laws, codes or ordinances of any description, including, but not limited to: zoning, building, engineering, sanitation, health or environmental laws, particularly, the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (42 U.S.C. 9601, et seq., as amended) ("Law"). The Contractor shall promptly remedy any breach of any Law.

7. **INTERRUPTION OF CONSTRUCTION PROJECT**.

(a) Upon demand by the Railroad, the Contractor hereby agrees to immediately:

(i) Cease performance of the Construction Project;

(ii) Clear the Railroad Property of all personnel, materials, equipment or obstructions and render the Railroad Property safe for the passage of trains; and

(iii) Vacate the Railroad Property until such time as the Railroad gives notice of permission to re-enter the Railroad Property.

(b) In the event that the Contractor ceases work on the Construction Project, for any reason whatsoever, the Contractor shall provide notice of the same to the Vice President-Engineering and shall leave the Railroad Property in a safe condition, satisfactory to the Vice President - Engineering.

8. **PRIORITY OF RAILROAD OPERATIONS**. The operations of the Railroad, Pan Am Railway Incorporated ("Pan Am"), the affiliated railroads of Pan Am, (in general, and those running through the Railroad Property in particular) and the operations of the lessees, licensees and other lawful occupants of the Railroad Property shall have absolute priority over the performance of the Construction Project. The Contractor hereby agrees that the Construction Project shall be performed only at such hours and times and under such conditions as specified by the Railroad. Such hours and times shall be subject to change without prior notice to the Contractor. The Contractor hereby acknowledges and agrees that the Contractor may suffer delays and increased costs due to said agreed upon priority of the Railroad's and others' operations. Causes for such delay and increased cost may include: (i) the inability or default of the Railroad in providing adequate personnel to allow work; and/or (ii) passage of trains. The Parties agree that had the Contractor desired to proceed with the work without being subject to the aforementioned delay and increased cost, the terms of this Agreement would have been substantially different, and per diem costs to the Contractor, depending on job location, rail traffic, etc. could have far exceeded the Railroad Service Fee.

9. **INDEMNIFICATION OF RAILROAD.**

(a) The Contractor hereby agrees to defend with counsel acceptable to the Railroad, release, indemnify, protect and hold harmless the Railroad, Pan Am, their affiliates, successors and assigns, their lessees and licensees and all other lawful occupants of the Railroad Property from and against any and all loss, cost, damage, or expense arising in any way out of the Construction Project or Contractor's use or possession of the Railroad Property including, without limitation, (i) all claims or suits for loss or damage to property of any description or natural resources, (ii) personal injury, sickness or death of any person, (iii)

delay damages, (iv) consequential damages, (v) all matters relating to the alteration of wetlands, (vi) breach of any Law, particularly any alleged release of oil or hazardous or otherwise harmful materials or substances (including, but not limited to costs for assessment, remedial or response actions), or (vii) other damages arising in any way out of the Construction Project or Contractor's use or possession of Railroad Property, whether such loss, cost, damage, or expense is suffered by the Contractor, the Railroad, Guilford, their affiliates, successors, assigns, lessees, licensees and all other lawful occupants of the Railroad Property, or the officers, agents employees, or representatives of any of them, or by others.

(b) In addition to the provisions above, the Contractor expressly agrees to assume responsibility for; and to release Railroad, Pan Am and their affiliates from, any and all claims, costs, suits, judgments arising from or related to any actual, alleged or potential violations of any federal, state or local environmental law, regulation, rule, ordinance, or code discovered by Contractor in a manner that relates in any way to the performance of the Construction Project, including, but not limited to, any actual, alleged potential violations that existed prior to the execution of this Agreement.

(c) In the event that at any time during the performance of the Construction Project, the Contractor discovers any contamination or suspected contamination that triggers notification requirements under any applicable federal, state or local law, rule, regulation or ordinance, the Contractor agrees to promptly notify the Railroad, who will assume responsibility for performing any notification, if necessary, in accordance with good environmental practice, and if any further investigation or remediation is determined necessary the Railroad will perform the investigation and remediation. The Contractor agrees to to indemnify the Railroad of any and all costs associated with the environmental contamination. The Contractor shall be held solely responsible for the cost of any necessary investigation and/or remediation

10. **GENERAL PROVISIONS.**

(a) Any notice or other communication in connection with this Agreement shall be deemed duly served when received (or upon attempted delivery if delivery is not accepted). Such notice shall be in writing and either delivered by hand or mailed (i) by registered or certified mail (return receipt requested) with the United States Postal Service, or (ii) by Federal Express or other overnight mail carrier furnishing evidence of receipt to the sender, at the address for such party set forth in Section 1. Either party may change the address at which it is to receive notices by notice given as hereinabove set forth.

(b) Failure of the Railroad to complain of any act or omission hereunder on the part of the Contractor, no matter how long the same may continue, shall not be deemed a waiver by the Railroad of any of its rights hereunder. No waiver by the Railroad

at any time, express or implied, of any breach of any provision of this Agreement shall ever be deemed a waiver of a breach of any other provision of this Agreement, or a consent to any subsequent breach of the same or any other provision. If any action by the Contractor shall require the Railroad's consent or approval, such consent or approval on any particular occasion shall not be deemed a consent or approval of any other action on any subsequent occasion.

(c) If any provision of this Agreement, or the application thereof to any person or circumstance, shall to any extent be invalid or unenforceable, the remainder of the Agreement, or the application of such provision to persons or circumstances other than those as to which it is invalid or unenforceable, shall not be affected. Each provision of this Agreement shall be deemed valid and enforceable to the fullest extent permitted by law.

(d) The Section headings contained in this Agreement are for reference and convenience only and in no way define or limit the scope and contents of this Agreement or in any way affect its provisions.

(e) This Agreement constitutes the entire understanding between the parties relating to the subject matter hereof, supersedes all prior oral and written offers, negotiations, proposals, representations, agreements, courses of dealing and understandings between the parties relating to the subject matter hereof and is subject to no understandings, conditions, or representations other than those expressly stated herein.

(f) This Agreement may only be amended or modified by a writing signed by all of the parties hereto which refers to this Agreement.

(g) This Agreement shall be governed by and construed in accordance with the laws of the state wherein the Railroad Property is located.

(h) Neither party to this Agreement shall be responsible to the other for delays or errors in its performance or other breach of this Agreement occurring solely by reason of circumstances beyond its control, including acts of civil or military authority, national emergencies, fire, labor disputes, flood or catastrophe, acts of God, insurrection, war, riots, delays of suppliers, or failure of transportation, communication or power supply.

(i) The parties agree that neither this Agreement nor any memorandum thereof shall be recorded at any registry of deeds and that any such recording by the Contractor shall constitute a breach of this Agreement.

(j) If the Contractor executes this Agreement through an agent or representative, each such agent or representative hereby warrants and represents to the Railroad that he is authorized to execute, acknowledge, and deliver this Agreement on behalf of the Contractor and to thereby bind the Contractor to the same.

(k) This Agreement: (i) may be executed in any number of counterparts, each of which when executed by all parties to this Agreement shall be deemed to be an original, and all of which counterparts together shall constitute one and the same instrument, (ii) shall take effect as a sealed instrument, (iii) shall bind and inure to the benefit of the parties and their respective legal representatives, successors and assigns, except that the Contractor may not delegate any of its obligations under this Agreement or assign this Agreement without obtaining the Railroad's express written consent, and (iv) is not intended to inure to the benefit of any third party beneficiary.

(l) This Agreement shall not be construed as creating or vesting in the Contractor any estate in the Railroad Property, but only the limited right of using the Railroad Property in the manner hereinabove described.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed as a sealed instrument as of the date first set forth above by their duly authorized representatives.

BOSTON AND MAINE CORPORATION
AND
SPRINGFIELD TERMINAL RAILWAY COMPANY

By:_____
George S. Thayer,
Chief Design Engineer
Iron Horse Park
N. Billerica, MA 01862

CONTRACTOR

By:_____
Name:_____
Title:_____
Address:_____

APPENDIX E

PORTLAND PIPE LINE CORPORATION
CONSTRUCTION PRACTICES
AND
DESIGN OF PROJECTS

PORTLAND PIPE LINE CORPORATION
Safety, Environment, Customer, Community

Dig Safe System, Inc.
It's Smart. It's Free. It's the Law.

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Know what's below.
Call before you dig.

CONSTRUCTION PRACTICES

TO BE OBSERVED BY OTHERS WHEN ON OR NEAR PORTLAND PIPE LINE CORPORATION RIGHTS-OF-WAY

The guidelines and construction practices listed below shall be followed by other pipeline, utility, construction organizations, and others performing work in the Portland Pipe Line Corporation right-of-way:

1. A minimum distance of 50 feet should be maintained between new structures and nearest pipeline (49 CFR 195.210).

2. Crossings of the pipelines should ideally be 90°, but in no case less than 45°.

3. A minimum vertical distance between lines crossing beneath the pipelines shall be 18 inches. Compaction near the pipelines shall be equal to original soil compaction. Certain soil conditions may dictate additional vertical clearance.

4. Lines crossing over the pipelines shall have an 18-inch minimum vertical clearance with 90% or greater Proctor compaction density or pipeline-approved supports on both sides of the pipeline crossed.

5. Excavation in questionable soils conditions, where shear failure or trench collapse might occur, must be investigated by a soils engineering consultant; and where conditions warrant it, suitable plans for soils stabilization shall be designed and carried out by a qualified engineer.

6. No excavation in the vicinity of pipelines is to be made without a pipeline representative being present. Excavation within five (5) feet of a pipeline shall be done with extreme caution and only by hand digging under a Pipe Line representative's direction. The pipelines and the required separation distance must be exposed for observation during trenchless crossings, for example by directional drilling, to ensure safety and clearance.

7. Where heavy construction vehicles must cross a pipeline, suitable compacted cover and padding shall be placed over the pipeline to provide generally not less than four (4) feet of suitable protective material over the pipeline. Pipe Line representative will locate pipelines for landowner or contractor upon request.

8. In no case shall cover be less than that required by the Department of Transportation, Code of Federal Regulation for transportation of hazardous liquids by pipeline (49 CFR 195.248).

9. All blasting is to be kept to an absolute minimum and shall be done according to good construction practices, using experienced, qualified blasting personnel and only then with Pipe Line approval.

10. Be aware of potential interference between Portland Pipe Line's DC electric rectifier systems and AC power line or power cable networks. If a pole line anchor is placed near a ground bed, contact a corrosion department representative for assistance.

11. Portland Pipe Line is to be notified at least 48 hours before work is performed in the vicinity of its pipelines. In extreme emergencies, when this is not possible, notification should be given at the earliest possible time.

12. No spoil, either of a permanent or temporary nature, is to be deposited on the pipelines.

13. Portland Pipe Line should be notified during initial planning stages for future installations located near pipelines so that the best mutually acceptable design practices are adopted.

14. Projects involving grading or access or utility crossings of Portland Pipe Line Corporation pipelines or rights of way must be submitted to PPLC for review and written approval prior to construction, with supporting documentation to demonstrate that the work will comply with the above requirements.

15. Portland Pipe Line Corporation supports the use of the Best Practices for project planning, design, and construction developed by the Common Ground Alliance and available at www.commongroundalliance.com.

Contact Information:

Director of Operations
(207) 767-0440

Maintenance Supervisor – Maine
(207) 767-0437

Maintenance Supervisor – New Hampshire/Vermont
(207) 232-7084

This document is provided for general technical guidance. All site and project specifics should be coordinated with a Portland Pipe Line Corporation representative.

PORTLAND PIPE LINE CORPORATION
Safety, Environment, Customer, Community

Dig Safe System, Inc.
It's Smart. It's Free. It's the Law.

811
Know what's below.
Call before you dig.

DESIGN OF PROJECTS

ON OR NEAR PORTLAND PIPE LINE CORPORATION RIGHTS-OF-WAY

Portland Pipe Line Corporation (PPLC) operates several high-pressure, welded steel pipelines transporting crude oil from a marine terminal in South Portland, Maine to refineries in Montreal, Province of Quebec, Canada. The pipelines are designed, maintained and operated to ensure the safety of the communities and the environment through which they pass.

Construction projects near the Portland Pipe Line Corporation pipelines have the potential to affect the integrity and safety of the lines, both directly and indirectly. Portland Pipe Line Corporation must ensure that the integrity and safety of the pipelines is maintained, from the standpoints of structural strength, hydraulic integrity, corrosion prevention, pipeline accessibility, and regulatory compliance. For this reason, PPLC requires that projects that affect our pipelines or rights of way be submitted for review and written approval by PPLC prior to construction.

This fact sheet has been prepared as a guide to those planning or designing projects near the PPLC rights-of-way. A companion fact sheet, *Construction Practices To Be Observed By Others When On Or Near Portland Pipe Line Corporation Rights-Of-Way,* is also available to land owners and contractors, and must be followed for construction practices near the pipelines. In addition, PPLC supports the use of the Best Practices for project planning, design, and construction developed by the Common Ground Alliance and available at www.commongroundalliance.com.

The design issues presented in this fact sheet are the focus of both PPLC and federal requirements (49 CFR Part 195) to protect the integrity and safety of the pipelines. Project designers are encouraged to contact PPLC early in the project planning stages to facilitate the development of plans that will be compatible with land owner needs, pipeline integrity, and the safety of the public. The basic design requirements are outlined below, followed by a discussion of the application of the requirements to typical projects.

Basic Design Guidelines

- no structures, paved areas, parking areas, trees or deep-rooted vegetation over the pipelines or within the pipeline rights-of-way; new structures should be located at least 50 feet away from the pipelines
- paved crossings of the rights-of-way limited to the least number and as near to perpendicular as possible, and in no case less than 45 degrees to the pipelines
- 4 feet of cover over the pipelines under roadways and near buildings
- 3 feet of cover over the pipelines elsewhere
- 18 inches minimum vertical separation between crossing utilities and the pipelines
- utility crossings of the pipelines limited to the least number and as near to perpendicular as possible, and in no case less than 45 degrees to the pipelines
- proper compacted bedding and support required for all piping and excavations
- non-conductive or electrically isolated piping materials for utility crossings of the pipeline
- non-corrosive fill materials near the pipeline
- controlled superimposed loads on the pipelines (dead load from fill and live load from traffic) to maintain the pipeline pressure rating, avoiding pipeline casings
- controlled construction equipment loads on the pipeline
- controlled induced settlement from superimposed loads to avoid excessive pipeline movements and stresses

Structures, Pavement, and Vegetation
Structures, paved parking areas, trees and deep-rooted vegetation are not permitted over PPLC pipelines or within the pipeline rights-of-way. Such facilities result in applied loads and settlements interfere with or prevent pipeline maintenance, repair and inspection (including aerial surveillance), and increase the safety exposure of the public. For safety and security reasons, PMPL strongly recommends that new buildings should be located at least 50 feet from the pipelines. Trees and deep-rooted plants are prohibited in order to prevent their roots from penetrating and damaging the pipeline protective coatings, increasing the risk of corrosion damage. Paved crossings are limited to the least number possible and as near to perpendicular to the pipelines as possible, and in no case less than 45 degrees to the pipelines.

Pipeline Cover / Depth of Burial
Federal rules specify minimum depths of cover and design loading requirements at various locations. PPLC requires 48 inches of cover under roads and near buildings and 36 inches elsewhere near projects. Where deep cover is proposed, loading and settlement analyses may be required.

Separation Distances for Crossing Utilities
Federal rules specify minimum separations to underground utilities and structures. PPLC requires that utility crossings maintain an 18-inch vertical separation from our pipelines to permit future excavation and welded repairs, and to reduce any repercussions of shifting or thermal movements of either our pipelines or the crossing utility. Where possible, it is requested that 24 inches of vertical separation be provided. Utility lines shall cross under the pipelines to minimize utility disruptions in the event of pipeline maintenance or emergencies, and to avoid interference with or prevention of pipeline maintenance, repair and inspection. Utility crossings are limited to the least number possible, and must be as near to perpendicular to the pipelines as possible, but in no case less than 45 degrees to the pipelines. Utility structures such as manholes, light pole bases and guy wire anchors are not permitted within the rights-of-way, and must be at least 10 feet from the pipelines.

Corrosion Protection
Utility Crossings: The PPLC pipelines are protected by an impressed-current cathodic protection system. Any crossing pipes or utilities that could offer a preferred path of current flow must be constructed of non-conductive materials or must be electrically isolated to protect both the PPLC pipelines and the crossing utility from electrically accelerated corrosion. Examples of crossing utilities include electrical conduits and water, gas, sewer and storm drain lines.

Pipe Casings: Petroleum pipeline companies and federal regulations discourage the practice of providing a steel casing around oil pipelines to protect them from superimposed loading, since the casing interrupts the cathodic protection of the lines and can accelerate corrosion.

Corrosive Fill: Certain fill materials can create a corrosive environment for the pipelines and must be avoided. For example, lightweight cinder fill can accelerate corrosion and is not acceptable. Lightweight tire-derived fill can be acceptable under certain circumstances, provided that the steel-belted tire chips are segregated from contact with the pipelines.

Superimposed Loading
Permanent Loads: The dead load and live load to be imposed on the pipelines must be controlled in order to maintain the rated pressure of the pipelines. As noted above, pipe casings are discouraged for corrosion reasons. If required, lower-density fills, cover slabs, or other approaches can be utilized to reduce the loading to acceptable levels. PPLC can assist in evaluating the acceptability of load- reducing design proposals.

Construction Loads: Construction equipment must not operate over the pipelines unless precautions are taken to control the loads on the pipelines. For example, crane mats and raised equipment crossings have been successfully designed and employed to address construction loads in a variety of soil conditions.

Induced Settlement: Settlement induced by superimposed loading must be controlled to a level that the pipelines can withstand. Geotechnical analysis must be provided for any significant superimposed loading to demonstrate that excessive settlement will not be induced at the pipeline crossing. Load- and settlement-reducing design approaches can be developed for these circumstances.

Accessibility

Utility Crossings: Accessibility of the pipelines must be maintained for both routine and emergency repairs and maintenance. For this reason, crossings by utility lines must be installed below the pipeline and limited to as few as possible, since such crossings can interfere with pipeline excavation and welded repairs. Where crossing are unavoidable, it is preferable that they be located outside of congested and paved areas that would complicate pipeline exhumation at the crossing, should it ever be required. Vertical and horizontal clearances to be maintained at pipeline crossings are discussed above, along with cathodic protection implications.

Paved Areas, Structures, and Vegetation: Federal regulations require that pipelines be accessible for routine and emergency inspection and maintenance. Required inspection include periodic aerial surveillance to monitor third-party impacts and to check for signs of damage, and cathodic protection surveys to verify the level of corrosion protection applied to the pipelines. In addition to their other impacts discussed above, pavement, structures, and trees interfere with or prevent both inspection and maintenance activities, and therefore are prohibited from the right-of-way. Limited paved crossings can usually be accommodated where necessary to allow access to property on opposite sides of the rights-of-way, with prior approval and in concert with the considerations discussed above.

Contact Information:

Director of Operations
(207) 767-0440

Maintenance Supervisor - Maine
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