

## NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION



## BUREAU OF BRIDGE DESIGN



## Expansion Joints & Asphaltic Plug for Crack Control Bridge Details - REVISION HISTORY

Date of Revision	Name of Detail	Revision Description	Background
7/31/2023	All Expansion Joint and Asphaltic Plug for Crack Control Detail Sheets	Converted from MicroStation V8i to MicroStation Connect. Changes made are shown with highlights on <a href="#">Detail Sheet</a> .	
1/5/2021	Expansion Joints: Backer Bar Details	Added 2 new details: Backing Bar Detail for Plow Protection Plate (3/4" Plates) Backing Bar Detail for Plow Protection Plate (3/4" Plates)	The weld changes when plates are used instead of angles.
7/17/2020	Expansion Joints: Backer Bar Details	Changed name <del>From: Backing Plate</del> To: Backing Bar  Removed Phase Construction Detail	The name was changed to prevent confusion when backing plates are used for phase construction. Put the phase construction detail with the Field Splice Weld Details.
7/17/2020	Expansion Joints: Field Splice Weld Details	Removed 5/8" weld description from CJP weld Renamed plate on top to "backing bar" Added Detail: Phase Construction with Backing Bar	The 5/8" was dropped on the CJP because the bevel dimension is the thickness of the angle leg, which could be greater. The 5/8" stays on the PJP weld because we specify a bevel dimension regardless of the leg thickness.  If have phase construction and a finger or plow plate, then the Phase Construction with Backing Bar Detail should be used.
4/27/2020	Expansion Joints: Section A-A Drawn on a Profile Grade	Revised compression seal stop bar welds: <del>From: 3/16" bottom</del> To: 1/4" bottom  Revised all Section A-A: new expansion anchors	The lower weld holds the stop bar securely in place and the top bar holds the bar from rotating and provides a seal to exclude moisture. It was decided to increase the lower weld to 1/4".
4/27/2020	Expansion Joints: Strip Seal Expansion Joint (behind backwall, in front of backwall, brush curb)	Revised Anchor Detail and Section A-A to new anchor detail. See Anchor Details revision noted below.	
4/27/2020	Expansion Joints: Compression Seal Expansion Joint (behind backwall, in front of back wall, sidewalk, brush curb, sleeper slab)	Revised Section C-C, Section A-A & Section F-F with a Sidewalk: Weld to stop bar: From 3/16" Bottom To: 1/4" Bottom  Revised Anchor Detail and Section A-A to new anchor detail. See Anchor Details revision noted below.	The lower weld holds the stop bar securely in place and the top bar holds the bar from rotating and provides a seal to exclude moisture. It was decided to increase the lower weld to 1/4".

## NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION



## BUREAU OF BRIDGE DESIGN



## Expansion Joints & Asphaltic Plug for Crack Control Bridge Details - REVISION HISTORY

Date of Revision	Name of Detail	Revision Description	Background
4/27/2020	Expansion Joints - Anchor Details	Revised 1/2" plate: <b>From: 1/2"x8"x5" To: 1/2"x6.5"x4.5"</b> Revised: <b>From: 1/4" clear To: 3/4" clear</b> <b>From: 2" min. weld To: 3" min. weld length</b>	A Fabricator asked if we could change our anchor detail because of the difficulties of welding it to the top leg of the expansion joint angle. Also, our old detail noted a 2" min. weld length but it actually came to a weld length of 5" for the vertical leg for a 5" plate and which not cost-effective. So the plate size was made smaller to have a 3" weld length of the reinforcing and provide more room on the top of the plate for welding to the angle.
4/17/2019	Strip Seal Expansion Joint (behind backwall, brush curb)  Strip Seal Expansion Joint (behind backwall, brush curb, precast deck panel)	Added curb plate dimension "6" (TYP)" to Plan View Detail	
11/14/2018	Asphaltic Plug Expansion Joint - Deck Panel, Steel Girder	Added new detail to use with partial depth precast deck panels.	
11/14/2018	Asphaltic Plug Exp. Joint - Joint Rehab	Revised chamfer from 2" to 3/4".	Bureau of Construction said a 3/4" chamfer was adequate.
11/14/2018	Expansion Joints - Backing Plate Detail for Plow Protection Plate	Added new detail to use with Plow Protection Plate	
11/14/2018	Expansion Joints - Backing Plate Detail for Finger Joint	Revised outline of finger plate to show flat bottom.	
11/14/2018	Expansion Joints - Backing Plate Detail for Phase Construction Splicing	Added new detail to use with phase construction projects.	
11/14/2018	Expansion Joints - Plate/Angle Connection - Plan & Detail	Added new details to use when have plates attached to angle for breaks in slope.	Detail shows fabricator how to connect plates and angles.
11/14/2018	Expansion Joints - Finger Expansion Joint Partial Plan	Added new detail to use when have plates attached to angle for breaks in slope.	Detail shows how to show location of plates and angles.

## NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION



## BUREAU OF BRIDGE DESIGN



## Expansion Joints & Asphaltic Plug for Crack Control Bridge Details - REVISION HISTORY

Date of Revision	Name of Detail	Revision Description	Background
11/14/2018	Expansion Joints - Plow Protection Plate Finger Detail "A" & Finger Cutting Detail	Added new details to use with Plow Protection Plate	
11/14/2018	Expansion Joints on Profile Grades Cutting Detail	Added new details showing Section A-A along the profile and a note to Contractor on how to set profile grade.	Section A-A of the armored expansion joint sheets shall be shown along the profile for projects.
11/14/2018	Expansion Joints - Weld Detail for Field Splice: Finger Joint	Revised outline of finger plate to show flat bottom.	
11/14/2018	Expansion Joints - Anchor Detail for 90° Crossing	Added plan view.	
11/14/2018	Expansion Joints - Anchor Detail for Skew Bridges	Changed plate size from 1/2"x10"x5" to 1/2"x9.5"x5". Added 2" bent plate dimension.	
11/14/2018	Compression Seal Expansion Joint (behind backwall, brush curb, deck panel)  Strip Seal Expansion Joint (behind backwall, brush curb, deck panel)	Added new details showing deck panels.	Use these new details when have partial depth deck panels.
11/14/2018	Compression Seal Expansion Joint (behind backwall, in front of back wall, sidewalk, brush curb, sleeper slab)  Strip Seal Expansion Joint (behind backwall, in front of backwall, brush curb)	Updated Anchor Detail to new detail	

## NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION



## BUREAU OF BRIDGE DESIGN



## Expansion Joints & Asphaltic Plug for Crack Control Bridge Details - REVISION HISTORY

Date of Revision	Name of Detail	Revision Description	Background
6/14/2018	Compression Seal Expansion Joint (behind backwall, brush curb)  Compression Seal Expansion Joint (approach slab- sleeper slab)  Strip Seal Expansion Joint (behind backwall, brush curb)	Section A-A: Added note: <i>All material used to form joint opening shall be removed.</i>	Joint forming material such as "blue board"/form board has been used to form the joint opening. The Contractor has been leaving the material in since it is difficult to get out. This material is stiff (compressive strength is 25 psi) and will prevent the joint from working properly.
4/9/2018	All Compression and Strip Seal Expansion Joint Sheets	Section A-A: Added 3/4" chamfer to top concrete edges.	3/4" chamfer was added to top concrete edges to reduce the possibility of concrete spalling from snow plows hitting the concrete edges after the pavement has settled at the edges.
4/4/2018	Compression Seal Expansion Joint (sleeper slab)	Added new compression seal expansion joint sheet for expansion joints located at sleeper sleeps.	Compression seals area joint option type that can be used at sleeper slabs.
5/18/2016	Strip Seal Expansion Joint (behind backwall, brush curb)  Strip Seal Expansion Joint (in front of backwall, brush curb)	<u>Expansion Joint Notes</u> Revised note (9) added: <i>"as noted in the QPL."</i>  Revised note (11) added: <i>"See QPL for approved products."</i>	Clarification for Contractor to see the QPL for what type of expansion joint is approved including the type of steel extrusions for strip seals.
5/18/2016	Compression Seal Expansion Joint (behind backwall, brush curb)  Compression Seal Expansion Joint (in front of backwall, brush curb)  Compression Seal Expansion Joint (in front of backwall, brush curb, sidewalk)  Compression Seal Expansion Joint (in front of backwall, sidewalk)	<u>Expansion Joint Notes</u> Revised note (9) added: <i>"as noted in the QPL."</i>	Clarification for Contractor to see the QPL for what type of expansion joint is approved.

NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION



BUREAU OF BRIDGE DESIGN



**Expansion Joints & Asphaltic Plug for Crack Control Bridge Details -  
REVISION HISTORY**

Date of Revision	Name of Detail	Revision Description	Background
5/2/2016	<p>Compression Seal Expansion Joint (behind backwall, brush curb)</p> <p>Compression Seal Expansion Joint (in front of backwall, brush curb)</p> <p>Compression Seal Expansion Joint (in front of backwall, brush curb, sidewalk)</p> <p>Compression Seal Expansion Joint (in front of backwall, sidewalk)</p>	<p><u>Section A-A:</u> Revised note: <b>To:</b> <i>Item 538.6 (Seal at edges per section 538)</i> <b>From:</b> <del>Item 538.6 (Seal at vertical face of concrete armorings @ deck and approach slab with pavement joint adhesive, roadway item)</del></p> <p>Revised PVC drain note: <b>To:</b> <i>... subsidiary to Item 520.7x02 or Item 520.7x026</i> <b>From:</b> <del>... subsidiary to Item 520.7002x.</del></p> <p>Revised WT/anchor bolt note: <b>To:</b> <i>... subsidiary to Item 520.7x02 or Item 520.7x026</i> <b>From:</b> <del>... subsidiary to Item 520.700xx.</del></p> <p>Revised 3" Ø split PVC note: <b>To:</b> <i>... subsidiary to Item 560.1001</i> <b>From:</b> <del>... subsidiary to Item 560.101</del></p> <p><u>Bearing Strip Detail</u> Revised note: <b>To:</b> <i>... all costs subsidiary to Item 520.7x02 or Item 520.7x026</i> <b>From:</b> <del>... all costs subsidiary to Item 520.70xx</del></p>	<p>Note was incorrect - membrane is sealed with a product as noted in Section 538.</p> <p>Revised item numbers to current number used for new decks.</p> <p>Removed AASHTO steel references - no longer used.</p> <p>Revised note #1, #12 and #13.</p> <p>Temporary seal is required for phase construction projects when the joint will be in place over the winter to help prevent salt and debris falling onto the shoes and bridge seat.</p>

NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION



BUREAU OF BRIDGE DESIGN



**Expansion Joints & Asphaltic Plug for Crack Control Bridge Details -  
REVISION HISTORY**

Date of Revision	Name of Detail	Revision Description	Background
		<p><u>Expansion Joint Notes</u></p> <p>Revised note (1) <b>To:</b> All expansion joint steel, including anchors, shall be galvanized. Steel angles shall be ASTM A572 Grade 50. Minor steel plates may conform to ASTM A36. The entire assembly, including compression seal, shall be paid for as Item 560.1001, Prefabricated Compression Seal Expansion Joint (F).</p> <p>Revised note (12) <b>To:</b> Prior to installing the seal, all temporary form work shall be removed. Steel angles and stop bars shall be maintained free from dirt, water and any other loose debris, with the use of compressed air, to ensure proper fit of the seal. Care shall be taken not to damage galvanized surfaces.</p> <p><del><b>From:</b> Steel angles and stop bars shall be maintained free from dirt, water and any other loose debris with the use of compressed air. To ensure proper fit of the seal, care shall be taken not to damage galvanized surfaces.</del></p> <p>Revised note (13): <b>To:</b> A temporary seal(s) shall be installed prior to the start of the winter maintenance period for all joint assemblies or portion thereof that will be in place throughout the winter. All temporary seals shall be removed and joint openings and substructure shall be cleaned prior to installing the final seal. All costs shall be subsidiary to Item 560.1001.</p> <p><del><b>From:</b> If joint assembly is in place over a winter without a seal, the joint opening and abutment shall be washed prior to installation of the seal. Alternately, a temporary seal can be placed and removed for installation of the final seal. All costs shall be subsidiary to the expansion joint.</del></p>	

NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION



BUREAU OF BRIDGE DESIGN



**Expansion Joints & Asphaltic Plug for Crack Control Bridge Details -  
REVISION HISTORY**

Date of Revision	Name of Detail	Revision Description	Background
5/2/2016	<p>Strip Seal Expansion Joint (behind backwall, brush curb)</p> <p>Strip Seal Expansion Joint (in front of backwall, brush curb)</p>	<p><u>Section A-A:</u> Revised note: <b>To:</b> <i>Item 538.6 (Seal at edges per section 538)</i> <b>From:</b> <del>Item 538.6 (Seal at vertical face of concrete armorings @ deck and approach slab with pavement joint adhesive, roadway item)</del></p> <p>Revised PVC drain note: <b>To:</b> <i>... subsidiary to Item 520.7x02 or Item 520.7x026</i> <b>From:</b> <del>... subsidiary to Item 520.7002x.</del></p> <p>Revised WT/anchor bolt note: <b>To:</b> <i>... subsidiary to Item 520.7x02 or Item 520.7x026</i> <b>From:</b> <del>... subsidiary to Item 520.700xx.</del></p> <p>Revised 3" Ø split PVC note: <b>To:</b> <i>... subsidiary to Item 561.1001</i> <b>From:</b> <del>... subsidiary to Item 561.101</del></p> <p><u>Bearing Strip Detail</u> Revised note: <b>To:</b> <i>... all costs subsidiary to Item 520.7x02 or Item 520.7x026</i> <b>From:</b> <del>... all costs subsidiary to Item 520.70xx</del></p> <p><u>Expansion Joint Notes</u></p>	<p>Note was incorrect - membrane is sealed with a product as noted in Section 538.</p> <p>Revised item numbers to current number used for new decks.</p> <p>Removed AASHTO steel references - no longer used. Revised note #1, #12 and #13.</p> <p>Temporary seal is required for phase construction projects when the joint will be in place over the winter to help prevent salt and debris falling onto the shoes and bridge seat.</p>

NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION



BUREAU OF BRIDGE DESIGN



**Expansion Joints & Asphaltic Plug for Crack Control Bridge Details -  
REVISION HISTORY**

Date of Revision	Name of Detail	Revision Description	Background
		<p>Revised note (1) <b>To:</b> All expansion joint steel, including anchors, shall be galvanized. Steel angles shall be ASTM A572 Grade 50. Minor steel plates may conform to ASTM A36. The entire assembly, including compression seal, shall be paid for as Item 561.1001, Prefabricated Strip Seal Expansion Joint (F).</p> <p>Revised note (12) <b>To:</b> Prior to installing the seal, all temporary form work shall be removed. Steel angles and extrusions shall be maintained free from dirt, water and any other loose debris, with the use of compressed air, to ensure proper fit of the seal. Care shall be taken not to damage galvanized surfaces.</p> <p><del><b>From:</b> Steel angles and extrusions shall be maintained free from dirt, water and any other loose debris with the use of compressed air. To ensure proper fit of the seal, care shall be taken not to damage galvanized surfaces.</del></p> <p>Revised note (13) <b>To:</b> A temporary seal(s) shall be installed prior to the start of the winter maintenance period for all joint assemblies or portion thereof that will be in place throughout the winter. All temporary seals shall be removed and joint openings and substructure shall be cleaned prior to installing the final seal. All costs shall be subsidiary to Item 561.1001.</p> <p><del><b>From:</b> If joint assembly is in place over a winter without a seal, the joint opening and abutment shall be washed prior to installation of the seal. Alternately, a temporary seal can be placed and removed for installation of the final seal. All costs shall be subsidiary to the expansion joint.</del></p>	
2/8/2016	Asphaltic Plug Expansion Joint	<p>Revised curb details. Drew in in galvanized plate and pin. Flipped section arrows to the correct location view.</p> <p>Revised spacing of 3" dia. split pvc drain pipe from 3'-0" o.c. to 6'-0" o.c.</p>	<p>Updated detail.</p> <p>3-ft. spacing of split pvc pipes becomes tight when there is a skew. It was felt 6-ft. spacing is adequate.</p>



NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION



BUREAU OF BRIDGE DESIGN



**Expansion Joints & Asphaltic Plug for Crack Control Bridge Details -  
REVISION HISTORY**

Date of Revision	Name of Detail	Revision Description	Background
10/1/2015	Compression Seal Expansion Joint (behind backwall, brush curb)	Revised spacing of 3" dia. split pvc drain pipe from 3'-0" o.c. to 6'-0" o.c.	3-ft. spacing of split pvc pipes becomes tight when there is a skew. It was felt 6-ft. spacing is adequate.
10/1/2015	Strip Seal Expansion Joint (behind backwall, brush curb)	Revised spacing of 3" dia. split pvc drain pipe from 3'-0" o.c. to 6'-0" o.c.	3-ft. spacing of split pvc pipes becomes tight when there is a skew. It was felt 6-ft. spacing is adequate.
10/1/2015	Compression Seal Expansion Joint (behind backwall, brush curb)  Strip Seal Expansion Joint (behind backwall, brush curb)	Revised note #3 to: <i>Expansion joint opening shall be adjusted to temperature anticipated just prior to pouring deck blockout. Final setting in the field shall be determined by the Contract Administrator. See Temperature Adjustment Table &amp; Notes.</i>  <b>From:</b> <del>Approach slab and pilaster concrete shall be poured prior to pouring the deck blockout concrete.</del>  Revised note #5 to note #4: <i>The compression seal shall be furnished in one continous length. No splices will be allowed. Seal shall be installed in the field by the Contractor, in accordance with the Manufacturer of the seal, using an approved tool that will not damage the seal.</i>  <b>From:</b> <del>The compression seal shall be furnished in one continous length. No splices will be allowed. Seal shall be installed using an approved tool, recommended by the Manufacturer of the seal, that will not damage the seal.</del>  Renumbered notes.	Note #3 was revised because Contractor Administrators have indicated that forming the deck overhang after the approach slab was poured would be very difficult because there is only a small opening between the armoring to remove the forming under the deck overhang. If left the forming there, it would collect water. It was indicated that the face of the approach slab could be formed, the armoring adjusted and the deck blockout poured first.  Note #5 was revised to include wording that the seal shall be installed in the field. Expansion joints have been shipped to the project sites with the seal installed and not adjusted in the field prior to pouring the blockouts. The seal shall be installed by the Contractor in accordance with the minimum installation opening. If it is a compression seal, an approved adhesive is applied to the seal prior to installation.

NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION



BUREAU OF BRIDGE DESIGN



**Expansion Joints & Asphaltic Plug for Crack Control Bridge Details -  
REVISION HISTORY**

Date of Revision	Name of Detail	Revision Description	Background
10/1/2015	<p>Compression Seal Expansion Joint (in front of backwall, brush curb)</p> <p>Compression Seal Expansion Joint (in front of backwall, brush curb, sidewalk)</p> <p>Strip Seal Expansion Joint (in front of backwall, brush curb)</p>	<p>Revised note #3 to: <i>Expansion joint opening shall be adjusted to temperature anticipated just prior to pouring deck blockout. Final setting in the field shall be determined by the Contract Administrator. See Temperature Adjustment Table &amp; Notes.</i></p> <p><b>From:</b> <del>The expansion joint opening shall be preset to temperature anticipated at the time of installation. Final setting in the field shall be determined by the Contract Administrator. See Temperature Adjustment Table &amp; Notes.</del></p> <p>Revised note #4 to: <i>The compression seal shall be furnished in one continuous length. No splices will be allowed. Seal shall be installed in the field by the Contractor, in accordance with the Manufacturer of the seal, using an approved tool that will not damage the seal.</i></p> <p><b>From:</b> <del>The compression seal shall be furnished in one continuous length. No splices will be allowed. Seal shall be installed using an approved tool, recommended by the Manufacturer of the seal, that will not damage the seal.</del></p>	<p>Clarified note #3 &amp; #4.</p>
7/22/2015	<p>Asphaltic Plug Exp. Joint - Steel Girder,</p> <p>Asphaltic Plug Expansion Joint - Joint Rehab</p>	<p>Revised Bearing Strip Detail: Removed strip dimension 1'-6" and 1'-3" and inserted "D" for deck strip and "B" for backwall strip.</p> <p>Revised Asphaltic Plug Expansion Joint: Added dimensions "D" for deck strip and "B" for backwall strip.</p>	<p>Deck bearing strip dimension was incorrectly noted as 1'-6". The bearing strip dimension would need to change if the backwall dimension is not 1'-3", so "D" label was inserted. The dimension now needs to be determined from the Asphaltic Plug Expansion Joint Detail.</p>

## NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION



## BUREAU OF BRIDGE DESIGN



## Expansion Joints & Asphaltic Plug for Crack Control Bridge Details - REVISION HISTORY

Date of Revision	Name of Detail	Revision Description	Background
4/15/2015	Compression Seal Expansion Joint (in front of backwall, brush curb, sidewalk)  Compression Seal Expansion Joint (in front of backwall, sidewalk)	Revised Plan View, Section C-C & Section B-B: Extended vertical steel curb plate (backwall side) to granite curb and labled 9" long for sidewalk plates. Added 1/2"x 3/4" bar to sidewalk plate (backwall side).  Plan View in front of backwall, brush curb, sidewalk: Removed "(TYP)" from sidewalk plate call outs.	The vertical plate was extended to the granite curb so a plywood form isn't needed along the curb line when the concrete is poured. A 1/2" bar x 3/4" bar is needed so the concrete doesn't spall when the top sidewalk plate is removed for maintenace. A 1/2" x 2 1/4" bar was already on the otherside of the sidewalk plate.
2/27/2015	Asphaltic Plug Exp. Joint - Steel Girder,  Asphaltic Plug Exp. Joint - Concrete Girder,  Asphaltic Plug Expansion Joint - Joint Rehab	Revised Ashpaltic Plug for Crack Control Item number <b>to:</b> <i>Item 559.4</i> <b>From:</b> <del>Item 559.4001</del>	Item number didn't get changed on one of the descriptions.
2/24/2015	Asphaltic Plug for Crack Control - Steel Girder,  Asphaltic Plug for Crack Control - Concrete Girder,  Asphaltic Plug for Crack Control - No Approach Slab	Revised Ashpaltic Plug for Crack Control Item number <b>to:</b> <i>Item 559.41</i> <b>From:</b> <del>Item 559.4101</del>	Item number didn't get changed on one of the descriptions.
1/15/2015	Asphaltic Plug Exp. Joint - Steel Girder,  Asphaltic Plug Expansion Joint - Joint Rehab	Revised Bearing Strip Detail to match expansion joint detail. The back of deck was edited to be in line with the backwall.	Bearing Strip Detail wasn't drawn correctly.
12/18/2014	Asphaltic Plug for Crack Control - No Approach Slab	Revised top layer of pavement.	Revised detail to more clearly show top layer of pavement.

## NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION



## BUREAU OF BRIDGE DESIGN



## Expansion Joints & Asphaltic Plug for Crack Control Bridge Details - REVISION HISTORY

Date of Revision	Name of Detail	Revision Description	Background
12/12/2014	Strip Seal Expansion Joint (behind backwall, brush curb)  Strip Seal Expansion Joint (in front of backwall, brush curb)	Revised note #5 <b>to:</b> <i>The compression seal shall be furnished in one continuous length. No splices will be allowed. Seal shall be installed using an approved tool, recommended by the manufacturer of the seal, that will not damage the seal.</i>  <b>From:</b> <del>The compression seal shall be furnished in one continuous length. No splices will be allowed.</del>  Note #6: Added words "and extrusions".  Added notes #13 & #14.	Clarified notes.
12/12/2014	Compression Seal Expansion Joint (behind backwall, brush curb)  Compression Seal Expansion Joint (in front of backwall, brush curb)  Compression Seal Expansion Joint (in front of backwall, brush curb, sidewalk)	Revised stop bar location to bottom of seal.  Revised note #4 <b>to:</b> <i>The compression seal shall be furnished in one continuous length. No splices will be allowed. Seal shall be installed using an approved tool, recommended by the manufacturer of the seal, that will not damage the seal.</i>  <b>From:</b> <del>The compression seal shall be furnished in one continuous length. No splices will be allowed.</del>  Note #5: Replaced word "vertical" with "normal to grade".  Note #11: Replace " 4" " with " 5" ".  Added notes #12 and #13.	There was a discrepancy between Watson Bowman and D.S. Brown regarding the location of the stop bars. After some discussion with the manufacturers and testing of the seals, it was concluded that both manufacturers' seals will move up (not down) when compressed, and therefore can be placed on the stop bars.  Clarified notes.
11/4/2014	Asphaltic Plug Exp. Joint - Steel Girder,  Asphaltic Plug Exp. Joint - Concrete Girder,  Asphaltic Plug Expansion Joint - Joint Rehab	Revised Asphaltic Plug for Crack Control Item number <b>to:</b> <i>Item 559.4</i>  <b>From:</b> <del>Item 559.4001</del>	Item number changed back to original. The extended digits are not needed for plug joints since they are all the same. One item number can be used for all the plug joints in the contract and the lengths can be added together for a total quantity. Item description stays the same.

## NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION



## BUREAU OF BRIDGE DESIGN



## Expansion Joints & Asphaltic Plug for Crack Control Bridge Details - REVISION HISTORY

Date of Revision	Name of Detail	Revision Description	Background
11/4/2014	Asphaltic Plug for Crack Control - Steel Girder,  Asphaltic Plug for Crack Control - Concrete Girder,  Asphaltic Plug for Crack Control - No Approach Slab	Revised Asphaltic Plug for Crack Control Item number <b>to:</b> <i>Item 559.41</i> <b>From:</b> <del>Item 559.4101</del>	Item number changed back to original. The extended digits are not needed for plug joints since they are all the same. One item number can be used for all the plug joints in the contract and the lengths can be added together for a total quantity. Item description stays the same.
9/18/2014	Compression Seal Expansion Joint (in front of backwall, brush curb, sidewalk)  Compression Seal Expansion Joint (in front of backwall, sidewalk)	Revised Section C-C note <b>to:</b> <i>Tack weld nut to plate and wrap end of bolt with teflon tape (weld 3/16" fillet for one face minimum) (TYP)</i> <b>From:</b> <del>3/4" stainless steel countersunk head bolt with socket head @ 1'-0" (tack weld nut to plate)</del> <b>Add note to Section B-B:</b> <i>3/4" stainless steel countersunk head bolt with socket head @ 1'-0"</i>	The bolts in the sidewalk plate need teflon tape for removal and maintenance of joint.
8/11/2014	Expansion Joints - Backing Plate Detail for Finger Jt. or Plow Plate	Revised backing plate from bent plate to a straight plate.	The gap between the joint angle and the bent backing plate caused problems when galvanizing the joint.
4/22/2014	Asphaltic Plug Exp. Joint - Steel Girder,  Asphaltic Plug Expansion Joint - Joint Rehab	Revised Section A-A note <b>to:</b> <i>3-1" Ø PVC drains at low end only (typical both curb lines). Set pipes to discharge away from girders and abutment seat. Provide breaks through membrane and seal. Attach drain pipes to bottom flange with clips and extend drains 6" minimum below bottom of structural steel. All costs subsidiary to item 520.7002X.</i> <b>From:</b> <del>At low end only provide, 3-1" Ø PVC drains (typical both curb lines). Provide breaks through membrane and seal with asphalt. Attach drain pipes to the bottom flange of girders with clips and extend drains to 6" minimum below the bottom of structural steel. Set drains to discharge away from girders and the abutment seat. All costs subsidiary to item 520.7XXXX.</del>	Clarified wording. The membrane is sealed around the pipes with a blow torch, not asphalt.

NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION



BUREAU OF BRIDGE DESIGN



**Expansion Joints & Asphaltic Plug for Crack Control Bridge Details -  
REVISION HISTORY**

Date of Revision	Name of Detail	Revision Description	Background
4/22/2014	Compression Seal Expansion Joint (behind backwall, brush curb)  Compression Seal Expansion Joint (in front of backwall, brush curb)  Compression Seal Expansion Joint (in front of backwall, brush curb, sidewalk)  Strip Seal Expansion Joint (behind backwall, brush curb)  Strip Seal Expansion Joint (in front of backwall, brush curb)	Revised Section A-A note to: <i>3-1" Ø PVC drains at low end only. Set pipes to discharge away from girders and abutment (pier) seat. Provide breaks through membrane and seal. Attach drain pipes to bottom flange with clip and extend drains 6" minimum below bottom of structural steel. All costs subsidiary to item 520.7002X.</i>  <b>From:</b> <del><i>3-1" Ø PVC drains at low end only. Set pipes to discharge away from girders and abutment (pier) seat. Provide breaks through membrane and seal around with asphalt. All costs subsidiary to item 520.70XX. Attach drain pipes to bottom flange with clip and extend drains 1" minimum below bottom of structural steel.</i></del>	Clarified wording. Extended drains to 6" below girders and the membrane is sealed around the pipes with a blow torch, not asphalt.

## NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION



## BUREAU OF BRIDGE DESIGN



## Expansion Joints & Asphaltic Plug for Crack Control Bridge Details - REVISION HISTORY

Date of Revision	Name of Detail	Revision Description	Background
4/10/2014	<p>Compression Seal Expansion Joint (behind backwall, brush curb)</p> <p>Compression Seal Expansion Joint (in front of backwall, brush curb)</p> <p>Compression Seal Expansion Joint (in front of backwall, brush curb, sidewalk)</p> <p>Strip Seal Expansion Joint (behind backwall, brush curb)</p> <p>Strip Seal Expansion Joint (in front of backwall, brush curb)</p>	<p>Revised Prefabricated Compression Seal Expansion Joint Item number to: <i>Item 560.1001</i></p> <p><b>From:</b> <del>Item 560.101</del></p> <p>Revised Prefabricated Strip Seal Expansion Joint Item number to: <i>Item 561.1001</i></p> <p><b>From:</b> <del>Item 561.101</del></p> <p>Revised "Bearing Strip Detail" note to: <i>Deck haunch strip. Bond rubber backed side to top of deck strip for full length of deck strip section.</i></p> <p><b>From:</b> <del>Deck haunch strip. Bond rubber backed side, for full length of deck strip section, to top of deck strip.</del></p> <p>Revised note to: <i>Embed deck strip: 1'-6" wide section (rubber side up) into deck haunch for the entire width of the deck.</i></p> <p><b>From:</b> <del>Deck Strip: 1'-6" wide section embedded into deck haunch for the entire width of deck with rubber backed side face up.</del></p> <p>Revised Prefabricated Strip Seal Expansion Joint Item number to: <i>Item 561.10XX</i></p> <p><b>From:</b> <del>Item 561.101</del></p>	<p>Item number changed to include additional digits. This allows numbering for projects with more than 9 joints. Item description stays the same.</p> <p>Clarified wording in notes.</p>
4/10/2014	<p>Asphaltic Plug for Crack Control - Steel Girder,</p> <p>Asphaltic Plug for Crack Control - Concrete Girder,</p> <p>Asphaltic Plug for Crack Control - No Approach Slab</p>	<p>Revised Asphaltic Plug for Crack Control Item number to: <i>Item 559.4101</i></p> <p><b>From:</b> <del>Item 559.41</del></p>	<p>Item number changed to include additional digits. This allows numbering for projects with more than 9 joints. Item description stays the same.</p>

## NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION



## BUREAU OF BRIDGE DESIGN



## Expansion Joints & Asphaltic Plug for Crack Control Bridge Details - REVISION HISTORY

Date of Revision	Name of Detail	Revision Description	Background
4/10/2014	<p>Asphaltic Plug Exp. Joint - Steel Girder,</p> <p>Asphaltic Plug Exp. Joint - Concrete Girder,</p> <p>Asphaltic Plug Expansion Joint - Joint Rehab</p>	<p>Revised Asphaltic Plug Expansion Joint Item number <b>to:</b> <i>Item 559.4001</i> <b>From:</b> <del>Item 559.4</del></p> <p>Revised "Bearing Strip Detail" note <b>to:</b> <i>Deck haunch strip. Bond rubber backed side to top of deck strip for full length of deck strip section.</i> <b>From:</b> <del>Deck haunch strip. Bond rubber backed side, for full length of deck strip section, to top of deck strip.</del></p> <p>Revised note <b>to:</b> <i>Embed deck strip: 1'-6" wide section (rubber side up) into deck haunch for the entire width of the deck.</i> <b>From:</b> <del>Deck Strip: 1'-6" wide section embedded into deck haunch for the entire width of deck with rubber backed side face up.</del></p>	<p>Item number changed to include additional digits. This allows numbering for projects with more than 9 joints. Item description stays the same.</p> <p>Clarified wording in notes.</p>
3/4/2014	<p>Asphaltic Plug Exp. Joint - Steel Girder,</p> <p>Asphaltic Plug Exp. Joint - Concrete Girder,</p> <p>Asphaltic Plug Expansion Joint - Joint Rehab</p>	<p>Revised "Sawed bituminous pavement" note <b>to:</b> <i>Sawed bituminous pavement (Notch curbs at end of deck before paving. Remove pavement and membrane to saw cut line.) (All costs subsidiary to Item 559.41)</i></p> <p><b>From:</b> <del>Sawed bituminous pavement (Remove pavement and membrane back to sawcut) (All costs subsidiary to Item 559.41)</del></p>	Clarified wording.
3/4/2014	<p>Asphaltic Plug for Crack Control - Steel Girder,</p> <p>Asphaltic Plug for Crack Control - Concrete Girder,</p> <p>Asphaltic Plug for Crack Control - No Approach Slab</p>	<p>Revised "Sawed bituminous pavement" note <b>to:</b> <i>Sawed bituminous pavement (Notch curbs at end of deck before paving. Remove pavement, top layer only, to saw cut line.) (All costs subsidiary to Item 559.41)</i></p> <p><b>From:</b> <del>Sawed bituminous pavement (Notch curbs at backwall line before paving. Remove pavement, top coat only, to saw cut line.) (All costs subsidiary to Item 559.41)</del></p>	Clarified wording.



NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION



BUREAU OF BRIDGE DESIGN



**Expansion Joints & Asphaltic Plug for Crack Control Bridge Details -  
REVISION HISTORY**

Date of Revision	Name of Detail	Revision Description	Background
3/1/2014	Compression Seal Expansion Joint (behind backwall, brush curb)  Compression Seal Expansion Joint (in front of backwall, brush curb)  Compression Seal Expansion Joint (in front of backwall, brush curb, sidewalk)  Strip Seal Expansion Joint (behind backwall, brush curb)  Strip Seal Expansion Joint (in front of backwall, brush curb)	Removed the <u>top</u> 1/2" x 5" steel curb plates. Vertical steel curb plates will remain and shall have length of 6". Sidewalk plates protecting the joint opening and top plates protecting the hooper for finger joints will remain.	The top plates were originally installed to protect the granite curb on the bridge. The bridges no longer use granite curb. When the fabricated joint is installed, the top plates typically will not match curb concrete. From discussion at the Bridge Issues of Common Concerns Meeting 1/28/14.
2/5/2014	Asphaltic Plug for Crack Control - Steel Girder,  Asphaltic Plug for Crack Control - Concrete Girder,  Asphaltic Plug for Crack Control - No Approach Slab	Revised "Sawed bituminous pavement" note to: <i>Sawed bituminous pavement (Notch curbs at backwall line before paving. Remove pavement, top coat only, to saw cut line.) (All costs subsidiary to Item 559.41)</i>  <b>From:</b> <del>Sawed bituminous pavement (Remove pavement and membrane back to sawcut) (All costs subsidiary to Item 559.41)</del>	Removing the membrane takes away the protection to the deck. Bureau of Bridge Maintenance has seen the sawcut go into the concrete bridge deck and felt removing the top coat depth is adequate for crack control. From discussion at the Bridge Issues of Common Concerns Meeting 1/28/14.