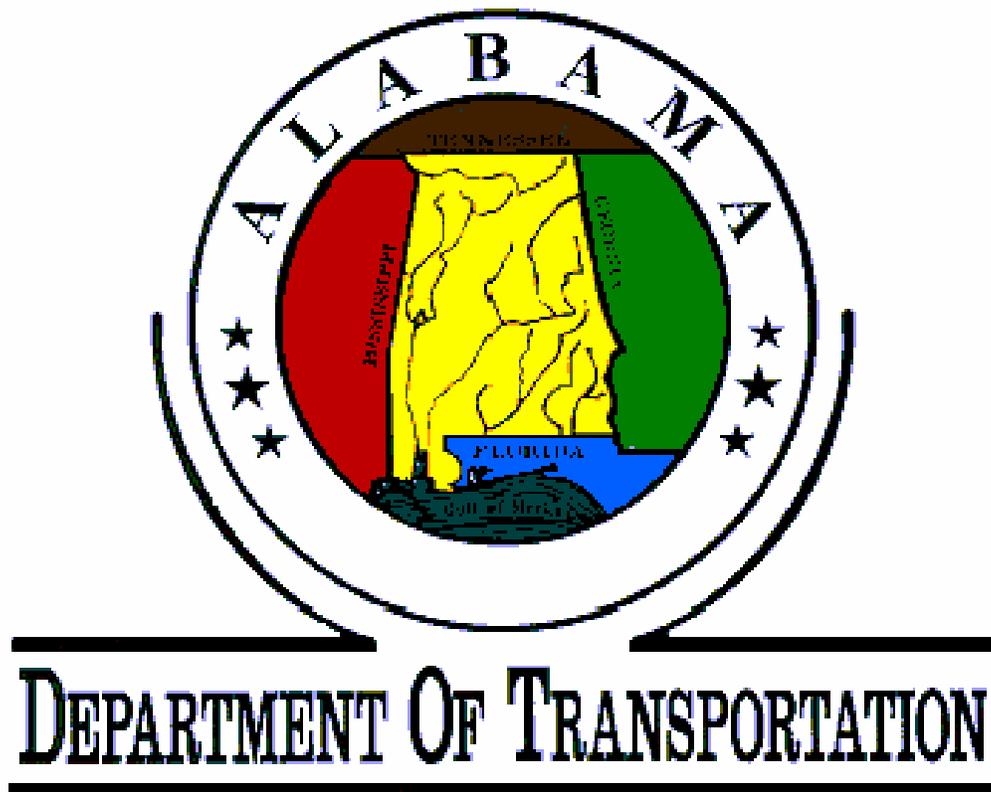


Alabama Department of Transportation Maintenance Bureau

2024 Annual Bridge Inspection Refresher Course
SNBI Edition



Specifications for the National Bridge Inventory Handout Material

Montgomery, AL

Mobile, AL

Huntsville, AL

2024 Bridge Inspection Refresher Agenda

Day 1

8:30 - 9:00	Welcome & General Comments
9:00 - 9:15	SNBI Intro & Section 1: Bridge Identification
9:15 - 10:15	Section 2: Bridge Material & Type
10:15 - 10:30	Break
10:30 - 11:30	Section 2: Bridge Material & Type
11:30 - 1:00	Lunch
1:00 - 1:30	Section 3: Bridge Geometry
1:30 - 2:00	Section 4: Feature Identification
2:00 - 2:30	Section 5: Loads, Load Rating, & Posting
2:30 - 2:45	Break
2:45 - 3:15	Section 6: Inspections
3:15 - 4:00	Section 7: Bridge Conditions

Day 2

8:30 - 8:45	Day 1 Review
8:45 - 10:00	SNBI Bridge Examples
10:00 - 10:15	Break
10:15 - 11:30	SNBI Bridge Examples cont'd
11:30 - 1:00	Lunch
1:00 - 2:30	BrM Update & Example
2:30 - 2:45	Break
2:45 - 3:45	Assessment
3:45 - 4:30	Assessment Review

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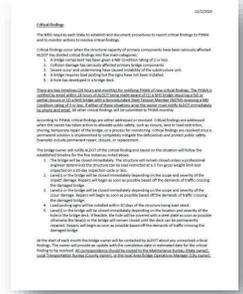
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Introduction	-	pg. 11
SNBI - Section 1	-	pg. 17
SNBI - Section 2.1	-	pg. 19
SNBI - Section 2.2	-	pg. 103
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2024 Bridge Inspection Refresher Training

(Two Day School)

Critical Findings

1. NBI Condition Rating of 2 or less
2. Collision Damage causing Structural Distress
3. Scour and Undermining causing Structural Instability
4. Load Posting Signs not Installed
5. Hole in a Bridge Deck



Critical Findings

The NBIS requires each State to establish and document procedures to report critical findings to FHWA and to monitor actions to resolve critical findings.

Critical findings occur when the structural capacity of primary components have been seriously affected. ALDOT has divided critical findings into five main categories:

1. A bridge component has been given a NBI Condition rating of 2 or less.
2. Collision damage has seriously affected primary bridge components.
3. Severe scour and undermining have caused instability of the substructure unit.
4. A bridge requires load posting but the signs have not been installed.
5. A hole has developed in a bridge deck.

There are two timelines (24 hours and monthly) for notifying FHWA of new critical findings. The FHWA is notified by email within 24 hours of ALDOT being made aware of (1) a NHS bridge requiring a full or partial closure or (2) a NHS bridge with a Nonredundant Steel Tension Member (NSTM) receiving a NBI Condition rating of 3 or less. If either of these situations arise the owner must notify ALDOT immediately by phone and email. All other critical findings will be submitted to FHWA monthly.

According to FHWA, critical findings are either addressed or resolved. Critical findings are addressed when the owner has taken action to alleviate public safety, such as closure, lane or load restriction, shoring, temporary repair of the bridge, or a process for monitoring. Critical findings are resolved once a permanent solution is implemented to completely mitigate the deficiencies and protect public safety. Examples include permanent repair, closure, or replacement.

The bridge owner will notify ALDOT of the critical finding and based on the situation will follow the established timeline for the five instances noted above.

1. The bridge will be closed immediately. The structure will remain closed unless a professional engineer determines the structure can be load restricted at a 3 Ton gross weight limit and inspected on a 30-day inspection cycle or less.
2. Lane(s) or the bridge will be closed immediately depending on the scope and severity of the impact damage. Repairs will begin as soon as possible based off the demands of traffic crossing the damaged bridge.
3. Lane(s) or the bridge will be closed immediately depending on the scope and severity of the scour damage. Repairs will begin as soon as possible based off the demands of traffic crossing the damaged bridge.
4. Load posting signs will be installed within 30 days of the structure being load rated.
5. Lane(s) or the bridge will be closed immediately depending on the location and severity of the hole in the bridge deck. If feasible, the hole will be covered with a steel plate as soon as possible otherwise the lane(s) or the bridge will remain closed until the deck can be permanently repaired. Repairs will begin as soon as possible based off the demands of traffic crossing the damaged bridge.

Critical Findings

At the start of each month the bridge owner will be contacted by ALDOT about any unresolved critical findings. The owner will provide an update with the completion date or estimated date for the critical finding to be resolved. All correspondence should be routed to the Maintenance Bureau (State owner), Local Transportation Bureau (County owner), or the local Area Bridge Operations Manager (City owner).

Most likely to be forgotten:

5. Hole in a Bridge Deck



Uncoated Weathering Steel

Weathering Steel Structures - Group 2							8/27/2024
BIN	Owner	Area	County	City	Facility Carried	Feature Intersected	Main Span
9192	County	Guntersville	Etowah		SMITH CHAPEL RD	OWENS CREEK	Girder
9992	County	Montgomery	Montgomery		OLD HAYNEVILLE RD.	PINTLALA CREEK	Girder
10630	City	Alexander City	Cleburne	HEFLIN	CAMPBELL STREET	CAHULGA CREEK	Girder
12028	State	Alexander City	Randolph		SR 48	TALLAPOOSA RIVER	Girder / FB
12263	County	Montgomery	Autauga		CO.RD 14	BIG MULBERRY CREEK	Girder
12347	County	Birmingham	Jefferson		SO SHADES CREST RD	NORFOLK SOUTHERN RR	Girder / FB
12350	State	Birmingham	Jefferson		AL - 5 SOUTH	LOCUST FORK WARRIOR RIVER	Girder
12415	County	Birmingham	Jefferson		LINNDALE ROAD	FIVE MILE CREEK	Girder
12455	State	Tuscaloosa	Sumter		US 11	SUMTER / GREENE COUNTY LINE	Girder / FB
12747	City	Montgomery	Lee	OPELIKA	AVE "B"	NS RAILROAD	Girder
12826	County	Birmingham	Jefferson		PARK AVENUE	FIVE MILE CREEK	Girder
12831	City	Birmingham	Jefferson	BIRMINGHAM	BROWNLEE RD.	SAL RR	Girder
17406	State	Montgomery	Montgomery		U.S 31 SBL	ALABAMA RIVER	Girder
17955	County	Fayette	Walker		BLUEWATER ROAD	WOLF CREEK	Truss
18483	County	Birmingham	Blount		DEAVERSTOWN ROAD	CALVERT PRONG LITTLE WAR	Truss
18641	State	Tuscumbia	Morgan		SR 53	TENNESSEE RIVER	Girder
19308	County	Guntersville	Dekalb		CO RD 207	BIG WILLS CREEK	Truss
19930	City	Guntersville	Marshall	ARAB	PINE LAKE DR	SPILLWAY OF PINE LAKE	Truss
20690	City	Birmingham	Jefferson	BIRMINGHAM	GRANTSMILL ROAD	LAKE PURDY	Girder
20693	County	Fayette	Winston		COUNTY ROAD 341	SPLUNGE CREEK	Girder
20711	County	Alexander City	Calhoun		WELLINGTON DR.	BRANCH	Girder
20887	City	Montgomery	Elmore	PRATTVILLE	CONSTITUTION AVE	FAY BRANCH	Truss
21315	City	Birmingham	Jefferson	TRUSSVILLE	ROEBUCK IND. PKWY	CREEK	Truss
21404	County	Guntersville	Dekalb		COUNTY ROAD 212	BIG WILLS CREEK	Truss
21622	County	Alexander City	Chambers		CO. 2	SOUTHERN RAILROAD	Truss
21722	County	Guntersville	Cullman		OHV 1	DORSEY CREEK	Girder
21723	County	Guntersville	Cullman		OHV 2	DORSEY CREEK	Girder

Uncoated Weathering Steel

4-8-2024

Uncoated Weathering Steel Bridges

Please place in the front of the bridge file and reference before performing the bridge inspection to help ensure uncoated weathering steel members reach their intended service life. All weathering steel should be given a Steel Protective Coating (Element Number – 515) quantity and divided appropriately into the corresponding Condition State for Weathering Steel Patina (Defect 3430).

This document is in response to the FHWA memorandum dated July 19, 2023, for bridges categorized as Group 2.

Below are maintenance action recommendations from the FHWA Technical Advisory 5140.22 (Uncoated Weathering Steel in Structures).

(1) Controlling Roadway Drainage - to the extent feasible the following should be done:

- (a) Divert approach roadway drainage away from the bridge structure.
- (b) Clean troughs of open (finger) joints and install "waterlog" deck joints.
- (c) Maintain down drainage systems (gutters, troughs, etc.) in order to divert deck drainage away from the superstructure steel and substructure units.
- (d) Periodically clean and repair all steel within a minimum distance of 1 1/2 times the girdle from bridge joints.

(2) Other Maintenance

- (a) Remove dirt, debris, and other deposits that hold moisture and maintain a wet surface condition on the steel.
- (b) Maintain screens over access holes in box sections to prevent entrance by animals and birds.
- (c) Remove growth of nearby vegetation that prevents the natural drying of surfaces wet by rain, spray or other sources of moisture.

In order to properly evaluate the patina of weathering steel, please quantify the appropriate condition state for Element Number 515 (Steel Protective Coating) by use of the Bridge Element Inspection Manual (Yellow Book) and pictures/ documentation from the Bridge Inspector's Reference Manual (gray).

Weathering Steel	Condition State Definition
Defect	CS 2 - Fair
Defect	CS 3 - Poor
Defect	CS 4 - Severe

1/4

4-8-2024

Bridge Inspector's Reference Manual (BIRM) pg. 7-57, 7-57, & 7-58

Weathering steel patina generally displays a number of the following characteristics:
 Laminar texture of steel surface, such as salt rust or fire and brimstone shreds of rust.
 Granular and flake rust texture of steel surface.
 A very coarse texture.
 Large granular (1/8 inch in diameter) texture.
 Flakes (1/2 inch in diameter).
 Surface ridged off by hand or wire brush revealing a black substrate.
 Surface is typically covered with deep pits.

The color of the surface of weathering steel is an indicator of the protective oxide film. The color changes as the oxide film matures to a fully protective coating.

A yellow orange, for new steel with initial exposure, is tolerable (see Figure 7.2.6). For bridges that have been in service for several years, purplebrown color is tolerable (see Figure 7.2.7 and Figure 7.2.8). However, flaking steel or black color indicates the improper formation of the protective oxide film (see Figure 7.2.9).

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4-8-2024

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7.2.9 Black - Non-protective Oxide

Black steel that is a different color than the surrounding steel indicates a potential problem. The area should be investigated to determine the cause of the discoloration. Color photographs are able way to record the changing condition of the weathering steel over time. A color coupon may also be used in each photograph to assist comparison.

Part of the oxide film also indicates the degree of protection of the film. An inspection of the film (stripping with a hammer and vigorously brushing the surface with a wire brush) can determine the amount of the oxide film to the steel substrate. Inspectors should take thickness measurements in remaining section during subsequent inspections. Surfaces, which have granules, flakes, or pits are examples of non-protective.

References

1. FHWA, *Bridge Inspector's Reference Manual (BIRM)*, revised September 2022.
2. FHWA, *Technical Advisory 5140.22 (Uncoated Weathering Steel in Structures)*, October 3, 1993.
3. ALDOT, *Bridge Element Inspection Manual (Yellow Book)*, August 2014.
4. FHWA, *Bridge Inspector's Reference Manual (BIRM)*, revised September 2022.

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Uncoated Weathering Steel

4-8-2024

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- (d) Periodically clean and repair all steel within a minimum distance of 1 1/2 times the girdle from bridge joints.

(2) Other Maintenance

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Weathering Steel	Condition State Definition
Defect	CS 2 - Fair
Defect	CS 3 - Poor
Defect	CS 4 - Severe

1/4

4-8-2024

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4-8-2024

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4/4

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Bridge Element Inspection Manual (Yellow Book)

Steel Protective Coating (Element Number – 515)				
Weathering Steel - Condition State Definitions				
Defect	CS 1 - Good	CS 2 - Fair	CS 3 - Poor	CS 4 - Severe
Oxide Film Degradation Color / Texture Adherence (weathering steel patina) 3430	Yellow-orange or light brown for early development. Chocolate-brown to purple-brown for fully developed. Tightly adhered, capable of withstanding hammering or vigorous wire brushing.	Granular texture.	Small flakes, less than 1/2 in. diameter.	Dark black color. Large flakes, 1/2 in. diameter or greater or laminar sheets or nodules.

Uncoated Weathering Steel



In summary, the inspection reports between 2005 and 2021 documented heavy section loss on the bridge legs' transverse stiffeners, growing holes in the web above the bearing stiffeners, debris accumulation on the surface of the superstructure, and clogged drains. For 15 years or more, the inspection reports recommended a series of maintenance and repair recommendations including

⁵¹ Twitter was rebranded as X in 2023.

⁵² See [Pittsburgh 311 Response Center Twitter post](#) and [City of Pittsburgh Service Request](#).

⁵³ See Pittsburgh Post-Gazette, "[Pittsburgh man's 2018 photo shows rusted support under bridge that collapsed in Frick Park.](#)"

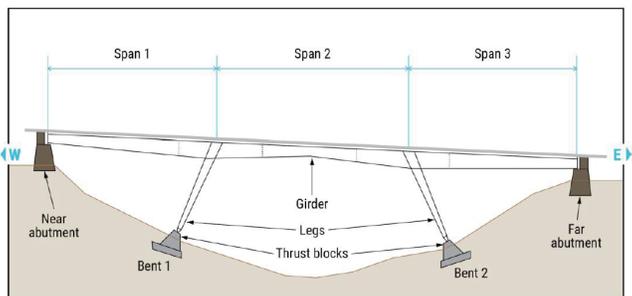


Figure 6. Simplified side (elevation) view of K-frame structure of Fern Hollow Bridge (looking north). Bents 1 and 2 were composed of two legs each; only the southwest and southeast legs are visible in this diagram.

repairing/reinforcing the transverse stiffeners that had been rusted through; repairing the holes; and cleaning and painting the deteriorated parts of the superstructure, particularly the legs.⁵⁴



Figure 29. Corrosion of inside face of southwest leg (B1R). (Source: 2021 inspection report)

Uncoated Weathering Steel

1.12.1 General Inspection Findings

The FHWA reviewed the inspection reports as well as bridge inventory information for the Fern Hollow Bridge. The following is a list of major findings from the FHWA review:

- The routine and FCM inspections were performed at intervals set in accordance with the NBIS. Interim inspections were performed in accordance with PennDOT requirements.
- Although section loss was documented, the inspection reports did not document the remaining material thicknesses adjacent to the corrosion holes or in areas where section loss did not result in holes. The size and shape of holes and the amount of material remaining in critical bridge members are needed for load rating calculations to accurately assess how much weight the bridge can safely carry in its reported condition.
- The inspection reports contained photographs showing corrosion on the legs, but most reports did not include evidence of cleaning the steel to obtain accurate measurements of remaining section. The MBE states that rust scale (or corrosion) needs to be "removed down to base metal" to obtain these measurements (AASHTO 2018).

- The bridge element data collected in September 2019, 2020, and 2021 for the bridge legs appropriately assessed the legs as CS4 (Severe), which

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Highway Investigation Report
HIR-24-02

warrants a structural review. There was no evidence that a structural review was performed.

- Repairs to the bridge legs to address the significant section loss to the web and the transverse stiffeners were not assigned a high priority on the PennDOT scale by inspectors and were never performed.

Uncoated Weathering Steel

Defect	Steel - Condition State Definitions			
	CS 1 - Good	CS 2 - Fair	CS 3 - Poor	CS 4 - Severe
Corrosion 1000	None.	Freckled Rust. Corrosion of the steel has initiated.	Section loss is evident or pack rust is present but does not warrant structural review.	The condition warrants a structural review to determine the effect on strength or serviceability of the element or bridge; OR a structural review has been completed and the defects impact strength or serviceability of the element or bridge.
Cracking 1010	None.	Crack that has self arrested or has been arrested with effective arrest holes, doubling plates, or similar.	Identified crack exists that is not arrested but does not warrant structural review	
Connection 1020	Connection is in place and functioning as intended.	Loose fasteners or pack rust without distortion is present but the connection is in place and functioning as intended.	Missing bolts, rivets, broken welds, fasteners or pack rust with distortion but does not warrant a structural review.	
Distortion 1900	None.	Distortion not requiring mitigation or mitigated distortion.	Distortion that requires mitigation that has not been addressed but does not warrant structural review.	
Settlement 4000	None.	Exists within tolerable limits or arrested with no observed structural distress.	Exceeds tolerable limits but does not warrant structural review.	
Scour 6000	None.	Exists within tolerable limits or has been arrested with effective countermeasures.	Exceeds tolerable limits, but is less than the critical limits determined by scour evaluation and does not warrant structural review.	
Damage 7000	Not applicable.	The element has impact damage. The specific damage caused by the impact has been captured in condition state 2 under the appropriate material defect entry.	The element has impact damage. The specific damage caused by the impact has been captured in condition state 3 under the appropriate material defect entry.	

The condition warrants a structural review to determine the effect on strength or serviceability of the element or bridge; OR a structural review has been completed and the defects impact strength or serviceability of the element or bridge.

Fracture Critical Inspection Procedures



5-28-2024

Nonredundant Steel Tension Member (NSTM)* Inspection Procedures
Construction Type: Two Girder / Floorbeam (Floor Truss) System
*Formerly known as Fracture Critical Member (FCM)

Please place this inspection procedure on top of the most recent BI-5 inspection report and reference before each NSTM inspection. Pair this document with the sketch, plan set, photo, etc., clearly identifying the Nonredundant Steel Tension Members. Each NSTM bridge will have a construction specific inspection procedure with slight modifications in the sections calling out the fatigue categories (page 3-6) and fabrication flaws (7-10). For example, the procedure for a truss will not match the procedure for a two girder / floorbeam floor truss system.

Table of Contents

Background (Pages 1-2)
 AASHTO Detail Categories for Load-Induced Fatigue (Pages 3-6)
 Fabrication Flaws (Pages 7-10)
 Nondestructive Evaluation Methods (Pages 11-15)
 References (Page 16)

Background (Pages 1-2)

According to the NBIS, a nonredundant steel tension member (NSTM) is a primary steel member fully or partially in tension, and without load path redundancy, system redundancy, or internal redundancy, whose failure may cause a portion of or the entire bridge to collapse (CFR 650.305). Bridges that contain NSTMs are considered fracture critical bridges.

Fatigue

Fatigue is the tendency of a member to fail at a stress level below its yield stress when subjected to cyclical loading.

Fatigue is the primary cause of failure in fracture critical members. Describing the process by which a member fails when subjected to fatigue is called fatigue mechanics.

7.3.2 Failure Mechanics

Failure mechanics involves describing the process by which a member fails when subjected to fatigue. The fatigue failure process of a member consists of three stages:

Crack Initiation - Cracks most commonly initiate from points of stress concentrations in structural or connection details. Stress concentrations can result from weld flaws, fatigue prone design and fabrication details, or out-of-plane distortions. The most critical conditions for crack initiation at structural details are those combining a flaw with a detail in a high stress concentration area.

Crack Propagation - Once a fatigue crack has initiated, applied cyclic stresses cause propagation, or growth, of a crack across the section of the member until it reaches a critical size.

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5-28-2024

Fabrication Flaws (Pages 7-10)

7.2.4.1 Concentrate-Induced Fracture
 Concentrate-induced fracture (CIF) is a type of fracture attributed to local constraint conditions in steel under tension, which may occur at details of certain geometries. It occurs due to the inability of steel to locally yield under a concentrated state of stress. One undesirable practice that is contributory to CIF is occurrence in the intersection of multiple welds at a common location, as shown in Figure 7.2.4.1. Although the figure shows a longitudinal stiffener as the attachment, CIF is also possible with other types (e.g., a lateral bracing gusset plate) and has also been noted at bearing stiffener to flange connections.

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5-28-2024

Nondestructive Evaluation Methods (Pages 11-15)

Nondestructive Evaluation Methods

Structive evaluation or testing (NDE or NDT) refers to inspection methods that do not compromise integrity or serviceability of a structural member.

3D ultrasonic technology provides further, more in-depth, information on many NDE methods (members discussed in this section). The website can be found at <https://www.fishnet.com/ndt-technology/>

Penetrant Testing (PT)

Penetrant test (PT), also often called a liquid penetrant test, can be used to determine the extent of surface flaws in steel or other metal members (see Figure 17.3.5). The test area should be fully wetted to remove contaminants, a penetrant is applied to the surface by spray or brush, of sufficient time for the penetrant to be pulled into the flaw, and then excess penetrant is removed. If white developer is then applied, which acts like a blotter, and draws the dye out of the flaw and delineates the extent and size of surface flaws (see Figure 17.3.6). Bridge inspectors who use this method since it does not necessitate extensive training or expensive equipment.

Figure 17.3.5 Penetrant Being Pulled into a Crack

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Fracture Critical Inspection Procedures



5-28-2024

Nonredundant Steel Tension Member (NSTM)* Inspection Procedures
Construction Type: Two Girder / Floorbeam (Floor Truss) System
*Formerly known as Fracture Critical Member (FCM)

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Figure 17.3.5 Penetrant Being Pulled into a Crack

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5-28-2024

AASHTO Detail Categories for Load-Induced Fatigue (Pages 3-6)

All welding processes result in high built-in residual tension stresses, which are at or near the yield point in the weldment and in the base metal adjacent to it. Load-induced stress concentrations also often occur at welded bridge connections, where these residual tensile stresses are high. This combination of stress concentrations and high residual tensile stress is conducive to fatigue crack initiation. Such cracks typically begin at the weld periphery, such as at the toe of a fillet weld, where there typically can be sharp discontinuities, or else at an internal discontinuity such as a slag inclusion or porosity. In the initial stages of fatigue crack growth, much of the fatigue life is expended by the time a crack has propagated out of the high residual tensile stress zone.

Each letter represents a rating given to a detail that indicates its level of fatigue strength. Category A offering the highest and Category E' having the lowest resistance. The details assigned to the same category have about equally severe stress concentrations and comparable fatigue lives. The alphabetical classification by the severity of the stress concentration is a useful method of identifying fatigue strength for a particular problematic detail.

When used in fracture critical inspections, these fatigue categories serve as a reminder of which details are more likely prone to fatigue cracking. They also prioritize the level of effort expended to inspect each detail. The AASHTO Detail Categories are defined as follows.

Two Girder / Floorbeam (Floor Truss) System Detail Categories for Load-Induced Fatigue

- Coping of Flanges / Webs at Connection Points – C
- Gusset Plates Framing into Main Girder (Welded Connection) – E
- Girder Splice (Bolted Connection) – B
- Girder Construction of Web to Flange (Welded Connection) – B
- Transverse / Vertical Stiffener (Bolted Connection) – B
- Transverse / Vertical Stiffener (Welded Connection) – C'
- Longitudinal / Horizontal Stiffener (Welded Connection) – B
- Termination of the Longitudinal / Horizontal Stiffener without Transition Radius (Welded Connection) – E

Detail Category A – Detail Category A includes base metal (except for noncoated weathering steel) with no changes in geometry (e.g., a slope) and steel with rolled or cleaned surfaces and flame-cut edges fabricated with specific surface finish requirements. Detail Category A details represent maximum fatigue resistance and therefore are unlikely to control the design of most steel structures since most steel members have details such as mechanical connections, welded connections, or welded attachments that reduce fatigue resistance.

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Each letter represents a rating given to a detail that indicates its level of fatigue strength, Category A offering the highest and Category E' having the lowest resistance. The details assigned to the same category have about equally severe stress concentrations and comparable fatigue lives. The alphabetical classification by the severity of the stress concentration is a useful method of identifying fatigue strength for a particular problematic detail.

When used in fracture critical inspections, these fatigue categories serve as a reminder of which details are more likely prone to fatigue cracking. They also prioritize the level of effort expended to inspect each detail. The AASHTO Detail Categories are defined as follows.

Two Girder / Floorbeam (Floor Truss) System Detail Categories for Load-Induced Fatigue

- Coping of Flanges / Webs at Connection Points – C
- Gusset Plates framing into Main Girder (Welded Connection) – E
- Girder Splice (Bolted Connection) – B
- Girder Construction of Web to Flange (Welded Connection) – B
- Transverse / Vertical Stiffener (Bolted Connection) – B
- Transverse / Vertical Stiffener (Welded Connection) – C'
- Longitudinal / Horizontal Stiffener (Welded Connection) – B
- Termination of the Longitudinal / Horizontal Stiffener without Transition Radius (Welded Connection) – E

5-28-2024

Nondestructive Evaluation Methods (Pages 11-15)

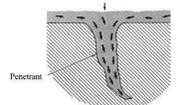
17.3.1 Nondestructive Evaluation Methods

Nondestructive evaluation or testing (NDE or NDT) refers to inspection methods that do not compromise the functionality or serviceability of a structural member.

The FHWA InfoTechnology website provides further, more in-depth, information on many NDE methods for steel members discussed in this section. The website can be found at <https://dot.fhwa.info/technology/>

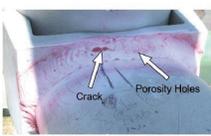
Dye Penetrant Testing (PT)

A dye penetrant test (PT), also often called a liquid penetrant test, can be used to determine the extent and size of surface flaws in steel or other metal members (see Figure 17.3.5). The test area should be cleaned to bare metal to remove contaminants, a penetrant is applied to the surface by spray or brush, provided sufficient time for the penetrant to be pulled into the flaws, and then excess penetrant is removed. A white developer is then applied, which acts like a blotter, and draws the dye out of the irregularities and delineates the extent and size of surface flaws (see Figure 17.3.6). Bridge inspectors commonly use this method since it does not necessitate extensive training or expensive equipment.



Penetrant

Figure 17.3.5 Penetrant Being Pulled into a Crack



Crack Porosity Holes

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Dye Penetrant Testing (PT)

A dye penetrant test (PT), also often called a liquid penetrant test, can be used to determine the extent and size of surface flaws in steel or other metal members (see Figure 17.3.5). The test area should be cleaned to bare metal to remove contaminants, a penetrant is applied to the surface by spray or brush, provided sufficient time for the penetrant to be pulled into the flaws, and then excess penetrant is removed. A white developer is then applied, which acts like a blotter, and draws the dye out of the irregularities and delineates the extent and size of surface flaws (see Figure 17.3.6). Bridge inspectors commonly use this method since it does not necessitate extensive training or expensive equipment.

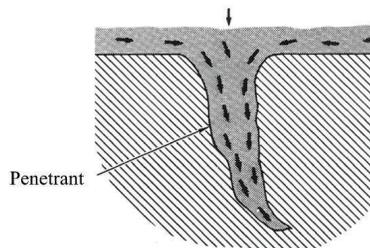
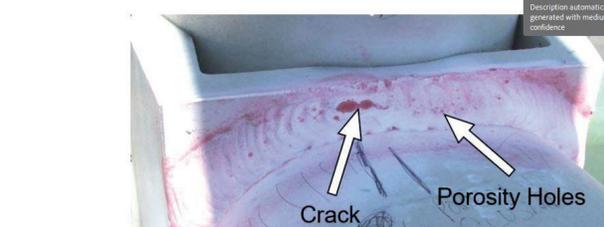


Figure 17.3.5 Penetrant Being Pulled into a Crack



Diagram, engineering drawing
Description automatically generated with medium confidence

Bridge Terms

A Structurally Deficient (Poor) bridge has defects that affect the strength and/or performance of the structure; however, the bridge is still able to carry traffic safely.

These defects are monitored on a more frequent basis than bridges not graded structurally deficient to ensure safety has not been impacted.

As the defect worsens with time, further action may be taken such as repair work, load posting restriction, or ultimately bridge closure.

Bridge Terms

Element Condition States should be consistent with NBI Condition Grades

- CS 1 (Good)  → NBI 9, 8, 7 (Good) 
- CS 2 (Fair)  → NBI 6 (Fair) 
- CS 3 (Poor)  → NBI 5 (Fair) 
- CS 4 (Severe)  → NBI 4, 3, 2, 1, 0 (Poor) 
Load Carrying Capacity has been affected

SNBI Schedule



Time	Action
October – December 2024 November 2024	Train Bridge Inspectors AASHTOWare BrM 7.0 Updated for SNBI
March 2025	FHWA Data Submittal Inspectors Entering SNBI Data into BrM 7.0
2025, 2026, & 2027	Transitional Period
March 2028	FHWA Data Submittal Entirely SNBI

Questions?



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ALDOT's SNBI Two Day Bridge Inspection Training

Introduction to the SNBI Manual

- Specification Format

Specification Format

SPECIFICATION FORMAT

These specifications provide information in a format modeled in part after the AASHTO design specifications, with the specification separated and presented parallel to the commentary. The format used to present the data items is as shown in the following table.

<i>Data Item Name</i>	
<u>Format</u>	<u>Frequency</u>
<u>Item ID</u>	
Specification	Commentary
Requirements for reporting the data item.	Expanded guidance on the specification.
Specification Continued, Commentary Continued, or Examples	
Additional space for Specification or Commentary, if needed. Examples are presented to further clarify the specification. Each item typically has brief examples. A more comprehensive example can be found at the end of each section or subsection.	

Specification Format

Field Name	Description
Format	<p>Designates the format of the data using one of the following:</p> <p>AN (X) – Alphanumeric, where X is the maximum number of characters. Use the pipe character () as the text or code delimiter when applicable.</p> <p>Example: Urban Code format is AN (5) – Alphanumeric data, up to 5 characters. Urban Code is 02629. Report 02629.</p> <p>Example: Bridge Name format is AN (300) – Alphanumeric data, up to 300 characters. Bridge Name is Indian River Inlet Bridge. Report Indian River Inlet Bridge.</p> <p>N (X,Y) – Numeric, where X is the maximum number of digits (<u>excludes decimal point</u>), and Y is the number of decimal places.</p> <p>Example: <u>Total</u> Bridge Length format is N (7,1) – Numeric data, up to 7 digits including 1 decimal place. Bridge Length is 25<u>1,105</u>.38 ft. Report 25<u>1105</u>.4.</p> <p>YYYYMMDD – Date, where leading zeroes are required.</p> <p>Example: July 1, 2016. Report 20160701.</p> <p>This information is provided to assist owners when establishing databases and reporting data to FHWA.</p>

Specification Format

Field Name	Description
Frequency	<p>I (Initial) – Data are recorded initially and updated when necessary, but would not typically change from inspection to inspection. Data are recorded or updated by the inspector or other agency personnel.</p> <p>EI (Each Inspection) – Data are verified and/or updated by the inspector during each inspection.</p> <p>C (Calculated) – Data are automatically calculated and stored by FHWA and are not recorded during inspections or reported to FHWA.</p>

Specification Format

Item ID	<p>This is a unique indicator assigned to each bridge item, following this format: B.X.Y, where B indicates that it is a bridge item, X is an alphabetic designation for the section or subsection of the Specifications in which the item appears, and Y is a unique numerical designation indicating the order of appearance for that item within the section or subsection. Section and Subsection designations are as follows:</p> <p>Section 1: Bridge Identification</p> <p style="padding-left: 40px;">ID – Identification L – Location CL – Classification</p>
---------	--

New NBIS & SNBI

Inspection Items

1995 Coding Guide			Specifications of the National Bridge Inventory		
ID	Item Name	Level of Effort →	ID	Item Name	
58	Deck	Already Captured	B.C.01	BC01	Deck Condition Rating
59	Superstructure	Already Captured	B.C.02	BC02	Superstructure Condition Rating
60	Substructure	Already Captured	B.C.03	BC03	Substructure Condition Rating
62	Culvert	Already Captured	B.C.04	BC04	Culvert Condition Rating
36A	Bridge railings	New	B.C.05	BC05	Bridge Railing Condition Rating
36B	Transitions	New	B.C.06	BC06	Bridge Railing Transitions Condition Rating
N/A		New	B.C.07	BC07	Bridge Bearings Condition Rating
N/A		New	B.C.08	BC08	Bridge Joints Condition Rating
61	Channel and Channel Protection	Already Captured	B.C.09	BC09	Channel Condition Rating
N/A		New	B.C.10	BC10	Channel Protection Condition Rating
113	Scour Critical Bridges	New	B.C.11	BC11	Scour Condition Rating
CAT10	Bridge Condition	Calculated	B.C.12	BC12	Bridge Condition Classification
CAT23	Lowest Condition Code	Calculated	B.C.13	BC13	Lowest Condition Rating Code
N/A		Another level of detail	B.C.14	BC14	NSTM Inspection Condition
N/A		Another level of detail	B.C.15	BC15	Underwater Inspection Condition

New NBIS & SNBI

Superstructure & Deck Items

1995 Coding Guide			Specifications of the National Bridge Inventory	
ID	Item Name	Level of Effort →	ID	Item Name
43/44	Structure Type, Main / Structure Types, Approach Spans	Another level of detail	B.SP.01	Span Configuration Designation
45/46	Number of Spans in Main Unit / Number of Approach Spans	Another level of detail	B.SP.02	Number of Spans
N/A	N/A	New	B.SP.03	Number of Beam Lines
43A/44A	Structure Type, Main / Structure Types, Approach Spans	Another level of detail	B.SP.04	Span Material
43/44	Structure Type, Main / Structure Types, Approach Spans	Another level of detail	B.SP.05	Span Continuity
43B/44B	Structure Type, Main / Structure Types, Approach Spans	Another level of detail	B.SP.06	Span Type
N/A	N/A	New - Plans	B.SP.07	Span Protective System
N/A	N/A	New - Plans	B.SP.08	Deck Interaction
107	Deck Structure Type	Another level of detail	B.SP.09	Deck Material and Type
108A	Type of Wearing Surface	Another level of detail - Plans	B.SP.10	Wearing Surface
108B	Type of Membrane	Another level of detail - Plans	B.SP.11	Deck Protective System
108C	Deck Protection	Another level of detail - Plans	B.SP.12	Deck Reinforcing Protective System
N/A	N/A	New	B.SP.13	Deck Stay-In-Place Forms

New NBIS & SNBI

Substructure Items

<u>1995 Coding Guide</u>			<u>Specifications of the National Bridge Inventory</u>	
ID	Item Name	Level of Effort →	ID	Item Name
N/A	N/A	Another level of detail	B.SB.01	Substructure Configuration Designation
N/A	N/A	Another level of detail	B.SB.02	Number of Substructure Units
N/A	State Items (244B, 245B, 246A, 247A)	Another level of detail	B.SB.03	Substructure Material
N/A	State Items (244A, 245A, 246B, 247B)	Another level of detail	B.SB.04	Substructure Type
N/A	N/A	New	B.SB.05	Substructure Protective System
N/A	State Items (244D, 245D, 246E, 247E)	Another level of detail	B.SB.06	Foundation Type
N/A	N/A	New	B.SB.07	Foundation Protective System

New NBIS & SNBI

SNBI Items – Level of Effort

Already Captured =	63	(42.9 %)
Calculated =	3	(2.0 %)
Another Level of Detail =	34	(23.1 %)
New =	47	(32.0 %)
	147*	

*Count excludes Element Inspection Items

Coding Guide = 116 ▲ (26.7 %)

Section 1: Bridge Identification

- Subsection 1.1: Identification
- Subsection 1.2: Location
- Subsection 1.3: Classification

Subsection 1.1: Identification

- B.ID.01 – Bridge Number *
- B.ID.02 – Bridge Name *
- B.ID.03 – Previous Bridge Number *

* Already Captured in BrM

Subsection 1.2: Location

- B.L.01 – State Code *
- B.L.02 – County Code *
- B.L.03 – Place Code *
- B.L.04 – Highway Agency District *
- B.L.05 – Latitude *
- B.L.06 – Longitude *
- B.L.07 – Border Bridge Number *
- B.L.08 – Border Bridge State or County Code *
- B.L.09 – Border Bridge Inspection Responsibility *
- B.L.10 – Border Bridge Designated Lead State *
- B.L.11 – Bridge Location *
- B.L.12 – Metropolitan Planning Organization *

* Already Captured in BrM

Subsection 1.3: Classification

- B.CL.01 – Owner *
- B.CL.02 – Maintenance Responsibility *
- B.CL.03 – Federal or Tribal Land Access *
- B.CL.04 – Historic Significance *
- B.CL.05 – Toll *
- B.CL.06 – Emergency Evacuation Designation *

* Already Captured in BrM

Section 2: Bridge Material & Type

- Subsection 2.1: Span Material & Type
- Subsection 2.2: Substructure Material & Type
- Subsection 2.3: Roadside Hardware

Subsection 2.1: Span Material & Type

- B.SP.01 – Span Configuration Designation
- B.SP.02 – Number of Spans
- B.SP.03 – Number of Beam Lines
- B.SP.04 – Span Material
- B.SP.05 – Span Continuity
- B.SP.06 – Span Type
- B.SP.07 – Span Protective System
- B.SP.08 – Deck Interactions
- B.SP.09 – Deck Material & Type
- B.SP.10 – Wearing Surface
- B.SP.11 – Deck Protective System
- B.SP.12 – Deck Reinforcing Protective System
- B.SP.13 – Deck Stay-In-Place Forms

B.SP.01 – Span Configuration Designation

<i>Span Configuration Designation</i>														
<u>Format</u> AN (3)	<u>Frequency</u> I	<u>Item ID</u> B.SP.01												
Specification		Commentary												
<p>Report the assigned span configuration designation using one of the following codes.</p> <table border="0"> <thead> <tr> <th><u>Code</u></th> <th><u>Description</u></th> </tr> </thead> <tbody> <tr> <td>M##</td> <td>Main</td> </tr> <tr> <td>A##</td> <td>Approach</td> </tr> <tr> <td>C##</td> <td>Culvert</td> </tr> <tr> <td>V##</td> <td>Culvert extension</td> </tr> <tr> <td>W##</td> <td>Widening</td> </tr> </tbody> </table> <p>Replace the ## characters in the above codes with sequential numbers, with leading zeros, assigned to each span configuration.</p>		<u>Code</u>	<u>Description</u>	M##	Main	A##	Approach	C##	Culvert	V##	Culvert extension	W##	Widening	<p>This item captures how spans of the reported bridge configuration are classified and designated.</p> <p>Except for culverts, each bridge has at least one main span. Main spans include all spans of most bridges or the major span(s) of a sizable bridge.</p> <p>Replacing the "##" characters in the codes with a sequential number (e.g., M01, A01, A02, etc.) identifies each unique span configuration present on the bridge.</p>
<u>Code</u>	<u>Description</u>													
M##	Main													
A##	Approach													
C##	Culvert													
V##	Culvert extension													
W##	Widening													

B.SP.01 – Span Configuration Designation – Example



Example for B.SP.01 = M01
Main

B.SP.01 – Span Configuration Designation – Example



Example for B.SP.01
= M01 (Main)
= A01 (Approach)

B.SP.01 – Span Configuration Designation – Example



Example for B.SP.01
= M01 (Main)
= A01 (Approach)

B.SP.01 – Span Configuration Designation – Example



Example for B.SP.01 = M01 (Main)

B.SP.01 – Span Configuration Designation – Example



Example for B.SP.01 = C01
Culvert

B.SP.01 – Span Configuration Designation – Example



Example for B.SP.01 = C01 (Culvert)

B.SP.01 – Span Configuration Designation – Example



Example for B.SP.01
= C01 (Culvert)
= V01 (Culvert Extension)

*Note the dissimilar construction.

B.SP.01 – Span Configuration Designation – Example



Example for B.SP.01
 = M01 (Main)
 = W01 (Widening)

*Note the dissimilar construction.
 Concrete girder & steel girder.

B.SP.02 – Number of Spans

<i>Number of Spans</i>		
<u>Format</u> N (4,0)	<u>Frequency</u> I	<u>Item ID</u> B.SP.02
Specification	Commentary	
Report the number of spans.	This item captures the number of spans of the configuration(s) designated in item B.SP.01 (<i>Span Configuration Designation</i>). If the number of barrels or spans varies, report the maximum number.	

B.SP.02 – Number of Spans – Example



Example for B.SP.02 = 1



Example for B.SP.02 = 2

B.SP.02 – Number of Spans – Example



Example for B.SP.02 = 3

B.SP.02 – Number of Spans – Example



Example for B.SP.02 = 2



Example for B.SP.02 = 4

B.SP.02 – Number of Spans – Example



Example for B.SP.02
Main = 3 (Yellow)
Approach = 2 (Red)

B.SP.03 – Number of Beam Lines

<i>Number of Beam Lines</i>		
<u>Format</u> N (3,0)	<u>Frequency</u> I	<u>Item ID</u> B.SP.03
Specification		Commentary
Report the number of principal beam lines. Report 1 for bridges where Item B.SP.06 (<i>Span Type</i>) is F01, F02, S01, or S02. Report 0 for bridges where Item B.SP.06 (<i>Span Type</i>) is P01 or P02.		Principal beam lines include the main longitudinal load-carrying members of the superstructure such as beams, girders, trusses, and arches or arch ribs, but do not include stringers of a floor beam system or spandrel walls of an arch. Use the average number of beam lines for bridges with variable number of beam lines within a span configuration, rounded down.

B.SP.03 – Number of Beam Lines – Example



Example for B.SP.03 = 4



Example for B.SP.03 = 6

B.SP.03 – Number of Beam Lines – Example



Example for B.SP.03 = 4



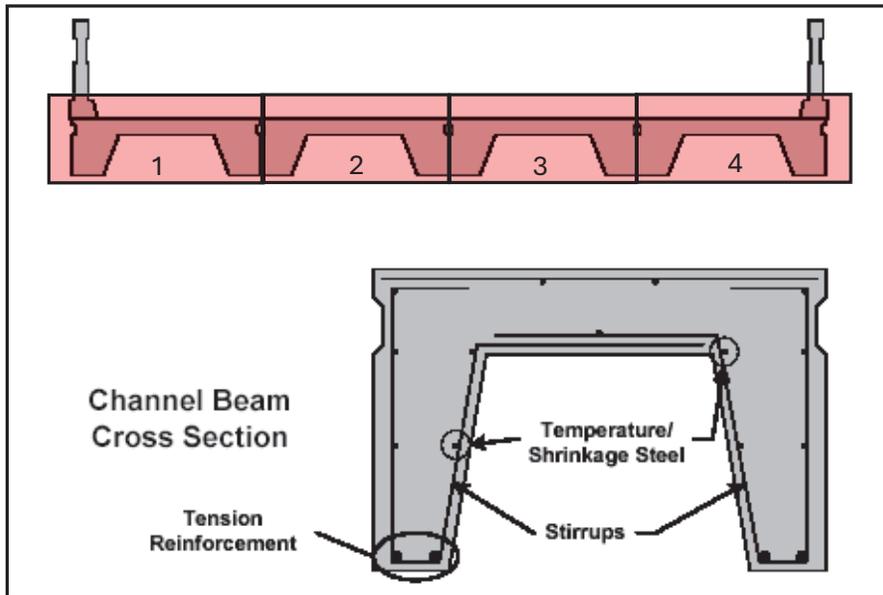
Example for B.SP.03 = 5

B.SP.03 – Number of Beam Lines – Example



Example for B.SP.03 = 13

B.SP.03 – Number of Beam Lines – Example



Example for B.SP.03 = 4

B.SP.03 – Number of Beam Lines – Example



Example for B.SP.03 = 7

B.SP.03 – Number of Beam Lines – Example



Example for B.SP.03 = 1



Example for B.SP.03 = 0

B.SP.03 – Number of Beam Lines – Example



Example for B.SP.03 = 2

B.SP.04 – Span Material

<i>Span Material</i>		Item ID B.SP.04
Format AN (3)	Frequency I	
Specification	Commentary	
Report the principal span material type using one of the following codes.		<p>A principal span member includes the main longitudinal load-carrying members of the span such as beams, girders, trusses, arches, or pipes, but does not include the floor system.</p> <p>Use code C04 or C05, as applicable, for prestressed concrete superstructures that utilize both pre-tensioning and post-tensioning.</p> <p>Use code M01 for masonry made from bricks or concrete blocks. Use code M02 for natural stone.</p> <p>Use code P01 for plastics that include HDPE and PE materials typically used for pipes.</p>
<u>Code</u>	<u>Description</u>	
A01	Aluminum	
C01	Reinforced concrete – cast-in-place	
C02	Reinforced concrete – precast	
C03	Prestressed concrete – pre-tensioned	
C04	Prestressed concrete – cast-in-place post-tensioned	
C05	Prestressed concrete – precast post-tensioned	
CX	Concrete – other	
F01	FRP composite – aramid fiber	
F02	FRP composite – carbon fiber	
F03	FRP composite – glass fiber	
FX	FRP composite – other	

- I01 Iron – cast
- I02 Iron – wrought

- M01 Masonry – block
- M02 Masonry – stone

- P01 Plastic – Polyethylene
- PX Plastic – other

- S01 Steel – rolled shapes
- S02 Steel – welded shapes
- S03 Steel – bolted shapes
- S04 Steel – riveted shapes
- S05 Steel – bolted and riveted shapes
- SX Steel – other

Codes continued next page.

Specification Continued – Span Material	
Code	Description
T01	Timber – glue laminated
T02	Timber – nail laminated
T03	Timber – solid sawn
T04	Timber – stress laminated
TX	Timber – other
X	Other

B.SP.04 – Span Material – Example

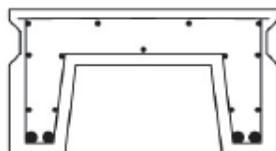


Example for B.SP.04 = C01
Reinforced Concrete –
Cast-in-Place

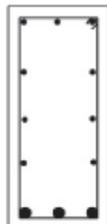
B.SP.04 – Span Material – Example



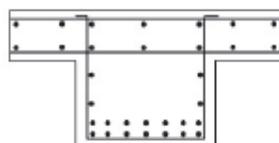
Slab/Deck



Channel



Rectangular



Tee

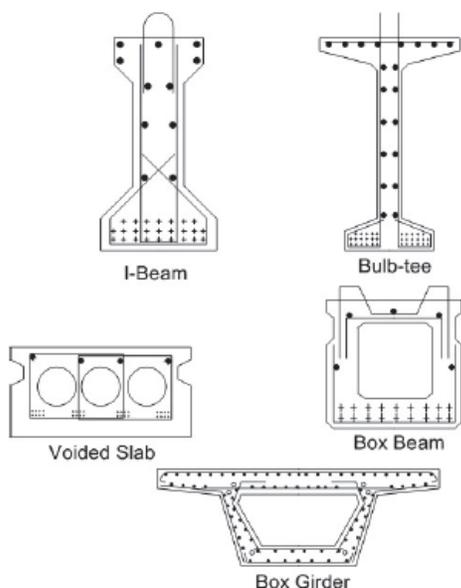
Typical Reinforced Concrete Shapes

B.SP.04 – Span Material – Example



Example for B.SP.04 = C02 Reinforced Concrete – Precast

B.SP.04 – Span Material – Example



Typical Prestressed Concrete Shapes

B.SP.04 – Span Material – Example



Example for B.SP.04 = C03
Prestressed Concrete –
Pre-tensioned

B.SP.04 – Span Material – Example



Example for B.SP.04 = C05
Prestressed Concrete –
Precast Post-tensioned

B.SP.04 – Span Material – Example

C04 – Prestressed Concrete – Cast-in-Place Post-tensioned
CX – Concrete Other

Not Commonly Used in Alabama

B.SP.04 – Span Material – Example

- F01 – FRP Composite – Aramid Fiber
- F02 – FRP Composite – Carbon Fiber
- F03 – FRP Composite – Glass Fiber
- FX – FRP Composite – Other

Not Commonly Used in Alabama

B.SP.04 – Span Material – Example

- I01 – Iron – Cast
- I02 – Iron – Wrought

Not Commonly Used in Alabama

B.SP.04 – Span Material – Example

M01 – Masonry – Block

M02 – Masonry – Stone

Not Commonly Used in Alabama

B.SP.04 – Span Material – Example

P01 – Plastic – Polyethylene

PX – Plastic – Other

Not Commonly Used in Alabama

B.SP.04 – Span Material – Example



Example for B.SP.04 = ?

M02 - Masonry – Stone – **NO**

**C01 – Reinforced Concrete –
Cast-in-Place – YES**

B.SP.04 – Span Material – Example



Example for B.SP.04 = S01
Steel – Rolled Shapes

B.SP.04 – Span Material – Example



Example for B.SP.04 = S02
Steel – Welded Shapes

B.SP.04 – Span Material – Example



Example for B.SP.04 = S03
Steel – Bolted Shapes

B.SP.04 – Span Material – Example



Example for B.SP.04 = S04
Steel – Riveted Shapes

B.SP.04 – Span Material – Example



Example for B.SP.04 = S05
Steel – Bolted & Riveted
Shapes

B.SP.04 – Span Material – Example



Example for B.SP.04 = T03
Timber – Solid Sawn

B.SP.04 – Span Material – Example

- T01 – Timber – Glue Laminated
- T02 – Timber – Nail Laminated
- T04 – Timber – Stress Laminated
- TX – Timber – Other

Rarely Used in Alabama

B.SP.05 – Span Continuity

<i>Span Continuity</i>																	
Format AN (1)	Frequency 1																
Item ID B.SP.05																	
Specification	Commentary																
<p>Report the span continuity using one of the following codes.</p> <table border="1"> <thead> <tr> <th>Code</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Simple or single span</td> </tr> <tr> <td>2</td> <td>Continuous</td> </tr> <tr> <td>3</td> <td>Continuous for live loads only</td> </tr> <tr> <td>4</td> <td>Cantilever</td> </tr> <tr> <td>5</td> <td>Cantilever with pin and hanger</td> </tr> <tr> <td>6</td> <td>Frame</td> </tr> <tr> <td>7</td> <td>Buried</td> </tr> </tbody> </table>	Code	Description	1	Simple or single span	2	Continuous	3	Continuous for live loads only	4	Cantilever	5	Cantilever with pin and hanger	6	Frame	7	Buried	<p>This item captures the continuity of the span(s) in the configuration.</p> <p>Use code 2 for bridges designed continuous for permanent (dead) loads and live loads. Also, use code 2 for cable stayed and suspension bridges, and for multi-span arches.</p> <p>Use code 3 for bridges designed as simple spans for permanent (dead) loads and continuous for live loads. When it is unknown if the superstructure was designed as continuous for live loads, code this item consistent with the assumption used in the load rating calculations.</p> <p>Use code 6 for three-sided and four-sided frames that are not buried.</p> <p>Use code 7 for pipe culverts and other structures that rely on soil-structure interaction to support vertical loads.</p>
Code	Description																
1	Simple or single span																
2	Continuous																
3	Continuous for live loads only																
4	Cantilever																
5	Cantilever with pin and hanger																
6	Frame																
7	Buried																

B.SP.05 – Span Continuity – Example



Example for B.SP.05 = 1
Simple or Single Span

B.SP.05 – Span Continuity – Example



Example for B.SP.05 = 1
Simple or Single Span



B.SP.05 – Span Continuity – Example



Example for B.SP.05 = 2
Continuous

B.SP.05 – Span Continuity – Example



Example for B.SP.05 = 3 (Continuous for Live Loads Only)

B.SP.05 – Span Continuity – Example

4 – Cantilever

Not Common in Alabama

B.SP.05 – Span Continuity – Example



Example for B.SP.05 = 5
Cantilever w/ Pin & Hanger

B.SP.05 – Span Continuity – Example



Example for B.SP.05 = 6
Frame

B.SP.05 – Span Continuity – Example



Example for B.SP.05 = 7 Buried

* Note – If a reinforced box culvert has soil (fill) then it should be coded “7-Buried”.

B.SP.06 – Span Type

<i>Span Type</i>	
Format AN (3)	Item ID B.SP.06
Frequency I	Commentary
Specification	Commentary
Report the span type using one of the following codes.	Adjacent girders/beams are those sections that are placed directly next to each other and are touching or nearly touching.
<u>Code</u> <u>Description</u>	
A01 Arch – under fill without spandrel	Spread girders/beams are those sections that are spaced so that the deck spans the space between the sections.
A02 Arch – open spandrel	
A03 Arch – closed spandrel	
A04 Arch – through	Box girder/beams include boxes, tubs, and cellular structures where interior surfaces may or may not be accessible. <u>Use code B04 for segmental construction and irrespective if the span type meets the description for B01, B02, or B03.</u>
A05 Arch – tied	
B01 Box girder/beam – single	Use code F01 for three-sided rigid frames.
B02 Box girder/beam – multiple adjacent	Use code F02 for rigid four-sided concrete box bridges.
B03 Box girder/beam – multiple spread	
B04 Box girder/beam – segmental	Use code G01 or G02, as applicable, for bulb-tee and deck bulb-tee girders/beams.
F01 Frame – three-sided	
F02 Frame – four-sided	
F03 Frame – K-shaped	
F04 Frame – delta-shaped	

B.SP.06 – Span Type

Specification	Commentary
G01 Girder/beam – I-shaped adjacent	Use code G09 for superstructures with girder and floor beam systems regardless of the girder shape.
G02 Girder/beam – I-shaped spread	
G03 Girder/beam – tee-beam	Use code G10 for through girder type superstructures regardless of the girder shape.
G04 Girder/beam – inverted tee-beam	
G05 Girder/beam – double-tee adjacent	
G06 Girder/beam – double-tee spread	Use code P02 for pipes that rely on the stability of surrounding soils to maintain their structural shape.
G07 Girder/beam – channel adjacent	
G08 Girder/beam – channel spread	
G09 Girder/beam – girder & floor beam	
G10 Girder/beam – through girder	
GX Girder/beam – other	

Codes continued next page.

Specification Continued – Span Type	
Code	Description
L01	Cable – suspension
L02	Cable – cable-stayed
L03	Cable – extradosed
LX	Cable – other
M01	Movable – vertical lift
M02	Movable – bascule
M03	Movable – swing
MX	Movable – other
P01	Pipe - Rigid
P02	Pipe - Flexible
S01	Slab – solid
S02	Slab – voided
T01	Truss – deck
T02	Truss – through
T03	Truss – pony
X01	Other – railroad flat car
X02	Other – ferry transfer
X03	Other – floating
X	Other

B.SP.06 – Span Type – Example



Example for B.SP.06 = A01
Arch – Under Fill without Spandrel

B.SP.06 – Span Type – Example



Example for B.SP.06 = A02
Arch – Open Spandrel

B.SP.06 – Span Type – Example



Example for B.SP.06 = A03
Arch – Closed Spandrel

B.SP.06 – Span Type – Example



Example for B.SP.06 = A04
Arch – Through

B.SP.06 – Span Type – Example



Example for B.SP.06 = A05
Arch – Tied

B.SP.06 – Span Type – Example



Example for B.SP.06 = B01
Box Girder/Beam – Single

B.SP.06 – Span Type – Example



Example for B.SP.06 = B02
Box Girder/Beam –
Multiple Adjacent

B.SP.06 – Span Type – Example

B03 – Box Girder/Beam – Multiple Spread

Not Commonly Used in Alabama

B.SP.06 – Span Type – Example



Example for B.SP.06 = B04
Box Girder/Beam –
Segmental

B.SP.06 – Span Type – Example



Example for B.SP.06 = F01
Frame – Three-Sided

B.SP.06 – Span Type – Example



Example for B.SP.06 = F02
Frame – Four-Sided

B.SP.06 – Span Type – Example

F03 – Frame – K-Shaped

F04 – Frame – Delta-Shaped

Not Commonly Used in Alabama

B.SP.06 – Span Type – Example



Example for B.SP.06 = G02
Girder/Beam – I-shaped
Spread

B.SP.06 – Span Type – Example



Example for B.SP.06 = G03
Girder/Beam – Tee-Beam

B.SP.06 – Span Type – Example



Example for B.SP.06 = G05
Girder/Beam – Double-Tee
Adjacent

B.SP.06 – Span Type – Example



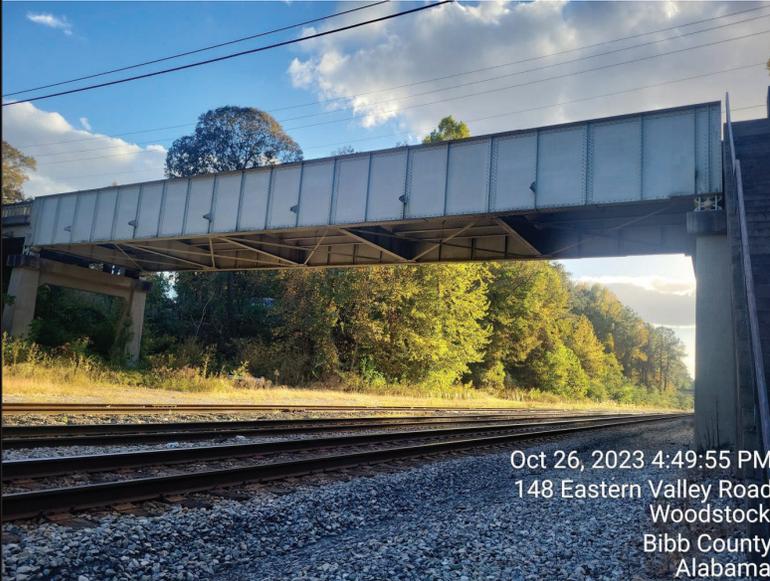
Example for B.SP.06 = G07
Girder/Beam – Channel
Adjacent

B.SP.06 – Span Type – Example



Example for B.SP.06 = G09
Girder/Beam – Girder &
Floor Beam

B.SP.06 – Span Type – Example



Example for B.SP.06 = G10 (Girder/Beam – Through Girder)

B.SP.06 – Span Type – Example



Example for B.SP.06 = GX
Girder/Beam – Other

*This could change in the next errata.

B.SP.06 – Span Type – Example

- G01 – Girder/Beam – I-Shaped Adjacent
- G04 – Girder/Beam – Inverted Tee-Beam
- G06 – Girder/Beam – Double-Tee Spread
- G08 – Girder/Beam – Channel Spread

Not Commonly Used in Alabama

B.SP.06 – Span Type – Example



Example for B.SP.06 = L02
Cable – Cable-Stayed

B.SP.06 – Span Type – Example

L01 – Cable – Suspension

L03 – Cable – Extradosed

LX – Cable – Other

Not Commonly Used in Alabama

B.SP.06 – Span Type – Example



Example for B.SP.06 = M01
Moveable – Vertical Lift

B.SP.06 – Span Type – Example

M02 – Movable – Bascule

M03 – Movable – Swing

MX – Movable – Other

Not Commonly Used in Alabama

B.SP.06 – Span Type – Example



Example for B.SP.06 = P01
Pipe – Rigid

B.SP.06 – Span Type – Example



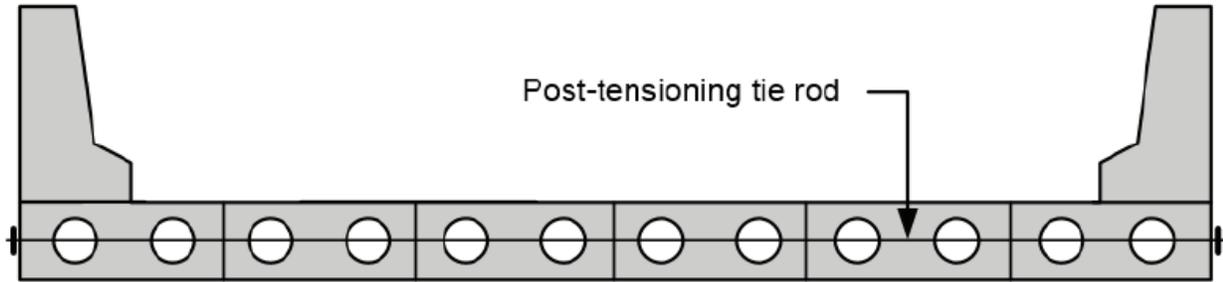
Example for B.SP.06 = P02
Pipe – Flexible

B.SP.06 – Span Type – Example



Example for B.SP.06 = S01
Slab – Solid

B.SP.06 – Span Type – Example



Cross Section - Precast Voided Slab Beam Bridge

Example for B.SP.06 = S02 (Slab – Voided)

B.SP.06 – Span Type – Example



Example for B.SP.06 = T01
Truss – Deck

B.SP.06 – Span Type – Example



Example for B.SP.06 = T02
Truss – Through

B.SP.06 – Span Type – Example



Example for B.SP.06 = T03
Truss – Pony

B.SP.06 – Span Type – Example

X01 – Other – Railroad Flat Car

X02 – Other – Ferry Transfer

X03 – Other – Floating

X – Other

Not Commonly Used in Alabama

B.SP.07 – Span Protective System

<i>Span Protective System</i>		
Format AN (3)	Frequency I	Item ID B.SP.07
Specification	Commentary	
Report the span protective system using one of the following codes.	Code this item consistent with the material reported for Item B.SP.04 (<i>Span Material</i>).	
<u>Code</u> <u>Description</u>	In cases where the span configuration may have a combination of protective systems, use the code for the predominant protective system based on protected area. In cases where multiple systems protect the same area, use the code for the outermost protective layer.	
0 None	Use code 0 when the span is unprotected.	
A01 Admixture – internally sealed	Use code 0 when unprotected steels either never were coated or currently have no signs of coating systems, and have no protective systems such as cathodic protection or weathering chemistry.	
A02 Admixture – low permeability		
A03 Admixture – polymer impregnated		
A04 Admixture – corrosion inhibitor		
A05 Admixture – ASR inhibitor		
AX Admixture – other		
C01 Coating – paint	Non-protective anti-graffiti and aesthetic coatings are not considered when coding this item.	
C02 Coating – sealer		
C03 Coating – methacrylate hot-dip galvanizing	Use code C01 for weathering steel that has been painted.	
C04 Coating – hot-dip galvanizing/metalizing/thermal-spray		
<u>C05</u> Coating – metalizing/thermal-spray		
CX Coating – other		

B.SP.07 – Span Protective System

Specification		Commentary
E01	Encasement – concrete	Use code C02 for sealers such as silanes, siloxanes, linseed oils, etc.
EX	Encasement – other	
M01	Membrane – built-up	Use code P01 only for weathering grades of steel.
M02	Membrane – sheet	
M03	Membrane – liquid applied	For timber, use code T01 for oil-based or water-borne timber preservatives. Use code C01 for paints and stains.
MU	Membrane – unknown	
MX	Membrane – other	
P01	Patina – uncoated weathering steel	Use the appropriate code for span members under fill that have a protective system.
Codes continued next page.		

Specification Continued –	
Code	Description
S01	Sacrificial – cathodic, passive
S02	Sacrificial – cathodic, active
SX	Sacrificial – other
T01	Treated – timber preservative
U	Unknown
X	Other

B.SP.07 – Span Protective System – Example



Example for B.SP.07 = C01
Coating – Paint

B.SP.07 – Span Protective System – Example



Example for B.SP.07 = C01
Coating – Paint

B.SP.07 – Span Protective System – Example



Example for B.SP.07 = P01
Patina – Uncoated
Weathering Steel

B.SP.07 – Span Protective System – Example



Example for B.SP.07 = T01
Treated – Timber Preservative

B.SP.07 – Span Protective System

* Review Plans in order to confirm if any Protective Systems are in place for protective systems that are not easily visible.

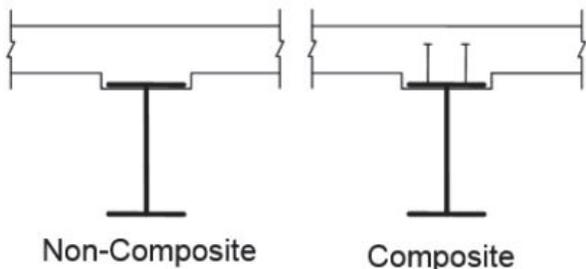
B.SP.08 – Deck Interaction

Deck Interaction											
Format AN (2)	Frequency I										
Item ID B.SP.08											
Specification	Commentary										
Report the type of interaction between the superstructure and deck for the span configuration using one of the following codes.	This item captures the type of structural interaction that occurs between the bridge deck and superstructure, which may indicate the importance of the deck to the overall stability and capacity of the bridge.										
<table border="0"> <tr> <td><u>Code</u></td> <td><u>Description</u></td> </tr> <tr> <td>CS</td> <td>Composite – shored construction</td> </tr> <tr> <td>CU</td> <td>Composite – unshored construction</td> </tr> <tr> <td>IM</td> <td>Integral or monolithic</td> </tr> <tr> <td>NC</td> <td>Non-composite</td> </tr> </table>	<u>Code</u>	<u>Description</u>	CS	Composite – shored construction	CU	Composite – unshored construction	IM	Integral or monolithic	NC	Non-composite	<p>Use code NC to indicate that the deck and the superstructure act independently.</p> <p>Use code CU to indicate that the deck acts composite with the superstructure, and that the superstructure can carry its own self-weight, plus that of the deck concrete prior to curing.</p>
<u>Code</u>	<u>Description</u>										
CS	Composite – shored construction										
CU	Composite – unshored construction										
IM	Integral or monolithic										
NC	Non-composite										
Do not report this item when Item B.SP.09 (<i>Deck Material and Type</i>) is 0.											
Commentary Continued											
Use code CS to indicate that the deck acts composite with the superstructure, but without the deck the superstructure requires shoring to carry its own self weight, the weight of the deck concrete prior to curing, or both.											
Use code IM to indicate that the deck was cast or fabricated of the same material and at the same time as the superstructure and the two can be expected to act as a unit. Use code IM for slabs and orthotropic steel decks.											
When the type of interaction is unknown, code this item consistent with the assumption used in the load rating calculations.											

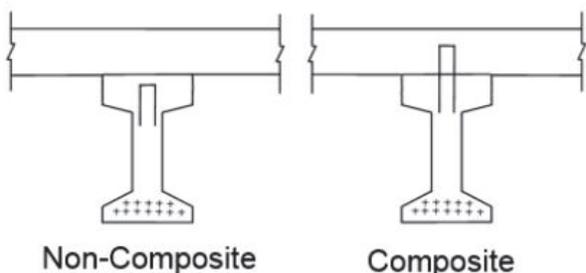
B.SP.08 – Deck Interaction – Example

- Timber Girders – (NC) Non-Composite
- Reinforced Concrete Deck Girders – (IM) Integral or Monolithic
- Precast Channels – (IM) Integral or Monolithic
- Slabs – (IM) Integral or Monolithic
- Prestress Girders – (CU) Composite – Unshored Construction
- Steel Girders – Need Plans to Verify
 - Studs Present – (CU) Composite – Unshored Construction
 - Studs Not Present / No Plans – (NC) Non-Composite

B.SP.08 – Deck Interaction – Example



Non-Composite vs Composite



B.SP.08 – Deck Interaction – Example



Example for B.SP.08
Do Not Report

B.SP.08 – Deck Interaction – Example



Example for B.SP.08 = NC
Non-Composite

*Timber Girders

B.SP.08 – Deck Interaction – Example



Example for B.SP.08 = IM
Integral or Monolithic

*Slabs

B.SP.08 – Deck Interaction – Example



Example for B.SP.08 = IM
Integral or Monolithic

*Precast Channels

B.SP.08 – Deck Interaction – Example



Example for B.SP.08 = IM
Integral or Monolithic

*Reinforced Concrete
Girders

B.SP.08 – Deck Interaction – Example



Example for B.SP.08 = CU Composite – Unshored Construction

*Prestressed Concrete Girders

B.SP.08 – Deck Interaction – Example



*Steel Girders

Example for B.SP.08 – ??

*Need Plans to Verify Shear Studs

Studs Present = CU Composite – Unshored Construction

Studs Not Present = NC Non-Composite

Plans Not Available = NC Non-Composite

B.SP.08 – Deck Interaction – Example



Example for B.SP.08 = CU Composite – Unshored Construction

B.SP.09 – Deck Material and Type

Deck Material and Type		Item ID
Format AN (3)	Frequency I	B.SP.09
Specification	Commentary	
Report the deck material and type for the span configuration using one of the following codes.	In cases where the superstructure configuration may have a combination of deck materials and/or types, code the predominant deck material and type based on the deck area.	F01 FRP composite – aramid fiber F02 FRP composite – carbon fiber F03 FRP composite – glass fiber FX FRP composite – other
Code Description	Use the applicable code for superstructure types with integral top flanges that serve as the deck, such as concrete tee-beams and box beams/girders.	S01 Steel – open grid S02 Steel – filled or partially filled grid S03 Steel – plate S04 Steel – orthotropic S05 Steel – corrugated SX Steel – other
0 None	For slabs, and for the slab portion of three-sided and four-sided concrete rigid frame bridges and culverts not under fill, use the same applicable material code as used in Item B.SP.04 (<i>Span Material</i>).	T01 Timber – glue laminated T02 Timber – nail laminated T03 Timber – solid sawn T04 Timber – stress laminated TX Timber – other
A01 Aluminum	Use code 0 for the following bridge and culvert types when under fill, as these do not have a deck component: slabs, arches without spandrels, closed spandrel arches, pipes, and three-sided or four-sided rigid frames.	X Other
C01 Reinforced concrete – cast-in-place	Use code C02, C03, or C05, as applicable, for full depth precast panels only. Use code C01 or C04, as applicable, for cast-in-place	
C02 Reinforced concrete – precast		
C03 Prestressed concrete – pre-tensioned		
C04 Prestressed concrete – cast-in-place post-tensioned		
C05 Prestressed concrete – precast post-tensioned		
CX Concrete – other		
F01 FRP composite – aramid fiber		
F02 FRP composite – carbon fiber		
F03 FRP composite – glass fiber		
FX FRP composite – other		

three-sided or four-sided rigid frames.
Use code C02, C03, or C05, as applicable, for full depth precast panels only. Use code C01 or C04, as applicable, for cast-in-place concrete on partial depth structural panels that are not just considered stay-in-place forms.

B.SP.09 – Deck Material and Type – Example



Example for B.SP.09 = 0
None

B.SP.09 – Deck Material and Type – Example

A01 – Aluminum

Not Commonly Used in Alabama

B.SP.09 – Deck Material and Type – Example



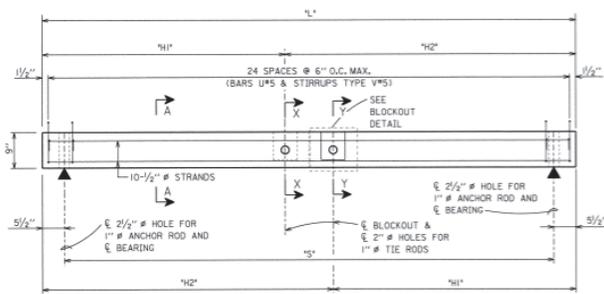
Example for B.SP.09 = C01
Reinforced Concrete –
Cast-in-Place

B.SP.09 – Deck Material and Type – Example

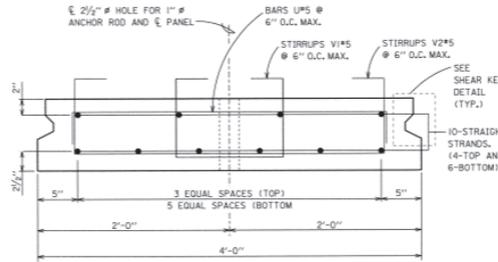


Example for B.SP.09 = C02
Reinforced Concrete –
Precast

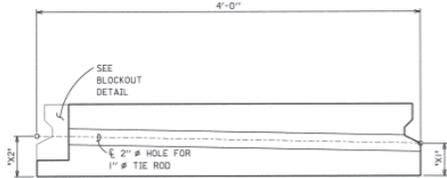
B.SP.09 – Deck Material and Type – Example



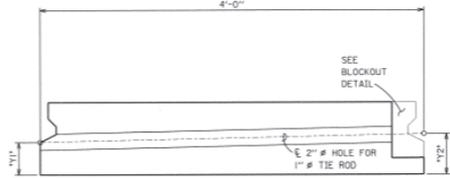
DECK PANEL 'E' ELEVATION
SCALE: 1" = 1'-0"



SECTION A-A



SECTION X-X



SECTION Y-Y

NOTES

1. PRESTRESSING STRANDS SHALL BE 1/2" Ø 270,000 PSI LOW RELAXATION WITH AN INITIAL TENSION OF 30,975 LBS./STRAND UNLESS OTHERWISE NOTED.
2. ALL STRANDS SHALL BE CUT FLUSH AT EACH END OF PANEL. COAT ENDS OF STRANDS WHERE CUT WITH AN APPROVED EPOXY COATING.
3. THE PANEL CONCRETE SHALL HAVE A MINIMUM OF 5,000 PSI COMPRESSION STRENGTH PRIOR TO RECEIVING PRESTRESSING FORCE AND A MINIMUM 28 DAY COMPRESSION STRENGTH OF 6,000 PSI.
4. COST OF 1" Ø X 1'-6" ANCHOR RODS, 1" Ø TIE RODS, 1/2" R. AND HEX NUTS SHALL BE INCLUDED IN THE BID ITEM 508-A "STRUCTURAL STEEL".
5. 1" Ø TIE RODS SHALL HAVE A 4" MINIMUM THREAD AT EACH END. 2" Ø HOLES SHALL BE GROUTED AFTER INSERTION OF TIE ROD.
6. 1" Ø TIE RODS, 1" Ø X 1'-6" ANCHOR RODS AND 1/2" R. AND HEX NUTS SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH AASHTO M232 SPECIFICATIONS.
7. PANEL ENDS SHALL BE VERTICAL IN FINAL ERECTED POSITION.
8. UNLESS OTHERWISE SHOWN, STIRRUPS AND CONFINEMENT STEEL SHALL BE SECURELY TIED TO THE PRESTRESSING STRANDS TO PROVIDE A MINIMUM OF 1" CONCRETE COVER.

Example for B.SP.09 = C03 (Prestressed Concrete – Pre-tensioned)

B.SP.09 – Deck Material and Type – Example

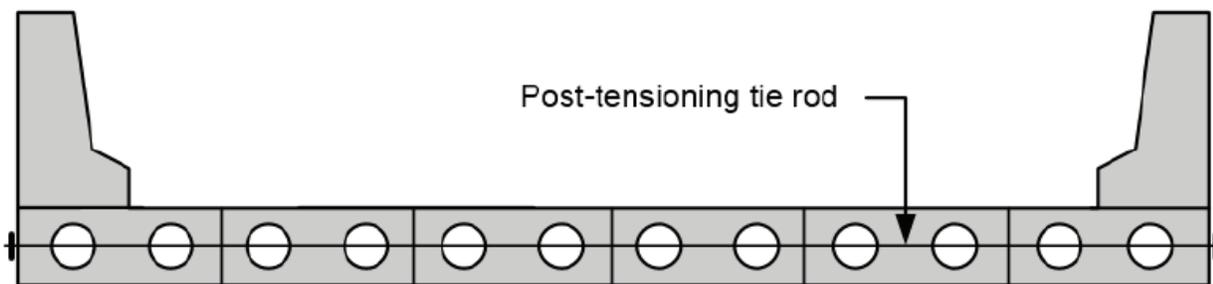


Figure 9.1.32 Cross Section - Precast Voided Slab Beam Bridge

Example for B.SP.09 = C05 (Prestressed Concrete – Precast Post-tensioned)

B.SP.09 – Deck Material and Type – Example

C04 – Prestressed Concrete – Cast-in-Place Post-tensioned
CX – Concrete – Other

Not Commonly Used in Alabama

B.SP.09 – Deck Material and Type – Example

F01 – FRP Composite – Aramid Fiber
F02 – FRP Composite – Carbon Fiber
F03 – FRP Composite – Glass Fiber
FX – FRP Composite – Other

Not Commonly Used in Alabama

B.SP.09 – Deck Material and Type – Example



Example for B.SP.09 = S01
Steel – Open Grid

* Not Commonly Used in Alabama.

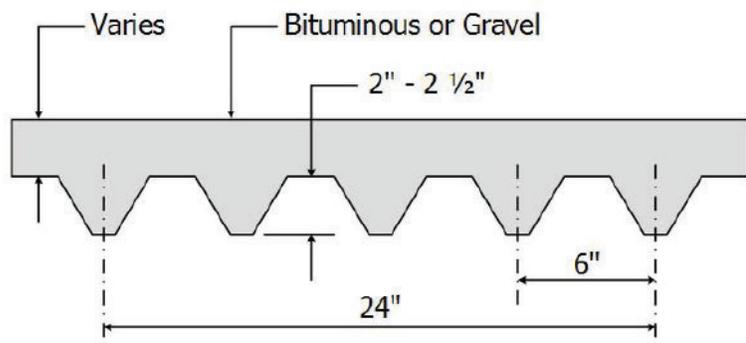
B.SP.09 – Deck Material and Type – Example



Example for B.SP.09 = S02
Steel – Filled or Partially
Filled Grid

* Not Commonly Used in Alabama.

B.SP.09 – Deck Material and Type – Example



Example for B.SP.09 = S05 (Steel – Corrugated)

B.SP.09 – Deck Material and Type – Example

- S03 – Steel – Plate
- S04 – Steel – Orthotropic
- SX – Steel – Other

Not Commonly Used in Alabama

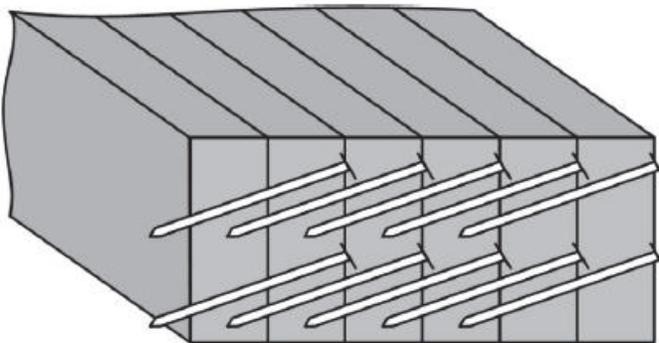
B.SP.09 – Deck Material and Type – Example



Example for B.SP.09 = T01
Timber – Glue Laminated

* Not Commonly Used in Alabama.

B.SP.09 – Deck Material and Type – Example



Example for B.SP.09 = T02
Timber – Nail Laminated

* Not Commonly Used in Alabama.

B.SP.09 – Deck Material and Type – Example



Example for B.SP.09 = T03
Timber – Solid Sawn

B.SP.09 – Deck Material and Type – Example

T04 – Timber – Stress Laminated

TX – Timber – Other

Not Commonly Used in Alabama

B.SP.10 – Wearing Surface

Wearing Surface		
Format AN (3)	Frequency I	Item ID B.SP.10
Specification	Commentary	
Report the predominant wearing surface material type protecting the deck or slab for the span configuration using one of the following codes.	When a span configuration has a combination of wearing surface types, code the predominant wearing surface type based on the deck or slab area.	
<u>Code</u> <u>Description</u>	Do not consider patching materials when coding this item.	
0 None	Use code 0 when no additional sacrificial concrete thickness or wearing surface is included on the deck or slab.	
B01 Bituminous (asphalt)	Use codes C01 through CU for overlays that contain portland cement.	
C01 Concrete – monolithic	Use code C01 when there is an additional sacrificial thickness cast concurrently with the structural deck or slab.	
C02 Concrete – unmodified	Use code C02 when an additional placement of concrete of the same concrete material as the deck or slab is placed after the deck or slab has cured.	
C03 Concrete – latex modified		
C04 Concrete – low slump		
C05 Concrete – fiber reinforced		
C06 Concrete – microsilica		
C07 Concrete – polyester		
CX Concrete – other		
CU Concrete – unknown		
E01 Earth – gravel or soil	Use code CU when a concrete wearing surface exists, but the specific material composition is unknown.	
P01 Polymer – epoxy		
P02 Polymer – polyester		
PX Polymer – other		
S01 Steel	Use code S01 when a steel grid deck is fabricated with an additional sacrificial thickness. Code S01 is not intended for temporary steel plates.	
T01 Timber – running planks	Use code T01 where running planks are added on timber decks or slabs.	
X Other		
Do not report this item when Item B.SP.09 (<i>Deck Material and Type</i>) is 0.		

B.SP.10 – Wearing Surface – Example



Example for B.SP.10
Do Not Report

B.SP.10 – Wearing Surface – Example



Example for B.SP.10 = 0
None

* No additional sacrificial
concrete thickness was
included on the deck.

B.SP.10 – Wearing Surface – Example



Example for B.SP.10 = B01
Bituminous (Asphalt)

B.SP.10 – Wearing Surface – Example



Example for B.SP.10 = P01
Polymer – Epoxy

B.SP.10 – Wearing Surface – Example



Example for B.SP.10 = T01
Timber – Running Planks

B.SP.11 – Deck Protective System

Deck Protective System																															
Format AN (3)	Frequency I	Item ID B.SP.11																													
Specification	Commentary																														
Report the deck protective system for the span configuration using one of the following codes.	Code this item consistent with the predominant material reported in Item B.SP.09 (<i>Deck Material and Type</i>).																														
<table border="0"> <tr> <td><u>Code</u></td> <td><u>Description</u></td> </tr> <tr> <td>0</td> <td>None</td> </tr> <tr> <td>A01</td> <td>Admixture – internally sealed</td> </tr> <tr> <td>A02</td> <td>Admixture – low permeability</td> </tr> <tr> <td>A03</td> <td>Admixture – polymer impregnated</td> </tr> <tr> <td>A04</td> <td>Admixture – corrosion inhibitor</td> </tr> <tr> <td>A05</td> <td>Admixture – ASR inhibitor</td> </tr> <tr> <td>AX</td> <td>Admixture – other</td> </tr> <tr> <td>C01</td> <td>Coating – paint</td> </tr> <tr> <td>C02</td> <td>Coating – <u>sealer/silane/siloxane</u></td> </tr> <tr> <td>C03</td> <td>Coating – methacrylate</td> </tr> <tr> <td><u>C04</u></td> <td><u>Coating – hot dip galvanizing</u></td> </tr> <tr> <td><u>C05</u></td> <td><u>Coating – metalizing/thermal spray</u></td> </tr> <tr> <td>CX</td> <td>Coating – other</td> </tr> </table>	<u>Code</u>	<u>Description</u>	0	None	A01	Admixture – internally sealed	A02	Admixture – low permeability	A03	Admixture – polymer impregnated	A04	Admixture – corrosion inhibitor	A05	Admixture – ASR inhibitor	AX	Admixture – other	C01	Coating – paint	C02	Coating – <u>sealer/silane/siloxane</u>	C03	Coating – methacrylate	<u>C04</u>	<u>Coating – hot dip galvanizing</u>	<u>C05</u>	<u>Coating – metalizing/thermal spray</u>	CX	Coating – other	<p>In cases where the deck may have a combination of protective systems, use the code for the predominant protective system based on protected area. In cases where multiple systems protect the same area, use the code for the outermost protective layer.</p> <p>Use code 0 when <u>the deck is unprotected, there is no known internal or external protective system in place.</u></p> <p>Use code A01 for internally sealed concrete systems that use wax beads in the concrete. After the concrete cures, it is heated to melt the wax and seal the concrete.</p> <p>Use code A02 when low permeability concrete is used with admixtures such as flyash, microsilica, or slag.</p>	<p>M01 Membrane – built up M02 Membrane – sheet M03 Membrane – liquid applied MU Membrane – unknown MX Membrane – other</p> <p>P01 Patina – <u>uncoated</u> weathering steel</p> <p><u>T01</u> <u>Treated – timber preservative</u></p> <p><u>U</u> <u>Unknown</u></p> <p>X Other</p> <p>Do not report this item when Item B.SP.09 (<i>Deck Material and Type</i>) is 0.</p>	<p>Use code A05 when admixtures are used to inhibit alkali-silica reactivity (ASR).</p> <p><u>Use code C02 for sealers such as silanes, siloxanes, linseed oils, etc.</u></p> <p>Do not use codes C02 and C03 when the material is applied for localized crack repair.</p> <p>Use code M01 when the membrane is built up using combined layers of liquid and preformed/sheet membranes.</p> <p>Use code MU when a membrane exists, but the type is unknown.</p> <p>Use code MX when a membrane type is known, but does not match the types specified for codes M01, M02, or M03.</p>
<u>Code</u>	<u>Description</u>																														
0	None																														
A01	Admixture – internally sealed																														
A02	Admixture – low permeability																														
A03	Admixture – polymer impregnated																														
A04	Admixture – corrosion inhibitor																														
A05	Admixture – ASR inhibitor																														
AX	Admixture – other																														
C01	Coating – paint																														
C02	Coating – <u>sealer/silane/siloxane</u>																														
C03	Coating – methacrylate																														
<u>C04</u>	<u>Coating – hot dip galvanizing</u>																														
<u>C05</u>	<u>Coating – metalizing/thermal spray</u>																														
CX	Coating – other																														

B.SP.11 – Deck Protective System – Example



Example for B.SP.11 = 0
None

* No known internal or external protective systems in place.

B.SP.11 – Deck Protective System – Example



Example for B.SP.11 = C02 Coating – Sealer

B.SP.12 – Deck Reinforcing Protective System

Deck Reinforcing Protective System		
Format AN (3)	Frequency I	Item ID B.SP.12
Specification	Commentary	
Report the type of deck reinforcing protective system for the span configuration using one of the following codes for concrete decks and slabs.	In cases where the span(s) may have a combination of protective systems, use the code for the predominant protective system based on protected area. In cases where multiple systems protect the same area, use the code for the outermost protective layer. If the top and bottom mat have different protective systems, report the protective system for the top mat.	
<u>Code</u> <u>Description</u>		
0	None	
C01	Coating – epoxy coated	
C02	Coating – galvanized	Do not consider bar chairs or other reinforcing steel supports when coding this item.
C03	Coating – metalized	
CX	Coating – other	Use code 0 when steel reinforcement is unprotected, such as with black steel.
R01	Reinforcing – stainless, clad	
R02	Reinforcing – stainless, solid	
R03	Reinforcing – high chromium	Use codes C01 to CX and R01 to RX when any (e.g., top mat only) or all the reinforcing steel in the deck is protected by the selected steel type.
R04	Reinforcing – FRP, aramid fiber	
R05	Reinforcing – FRP, carbon fiber	
R06	Reinforcing – FRP, glass fiber	Use code S02 when impressed currents are used as the cathodic protection system.
R07	Reinforcing – FRP, other	
RX	Reinforcing – other	

- S01 Sacrificial – cathodic, passive
- S02 Sacrificial – cathodic, active
- SX Sacrificial – other

U Unknown

X Other

Report this item only if Item B.SP.09 (*Deck Material and Type*) is concrete (i.e. codes C01 to CX).

B.SP.12 – Deck Reinforcing Protective System – Example



Example for B.SP.12 = 0
None

* The steel reinforcement is unprotected.

* Not Commonly Used in Alabama.

B.SP.13 – Deck Stay-In-Place Forms

<i>Deck Stay-In-Place Forms</i>		Item ID																
Format	Frequency	B.SP.13																
AN (3)	I																	
Specification	Commentary																	
Report the type of deck stay-in-place form for the span configuration using one of the following codes.	Use this item to identify forms used in construction that remain in place by design or owner preference.																	
<table border="0"> <tr> <td><u>Code</u></td> <td><u>Description</u></td> </tr> <tr> <td>0</td> <td>None</td> </tr> <tr> <td>C01</td> <td>Concrete – reinforced</td> </tr> <tr> <td>C02</td> <td>Concrete – prestressed</td> </tr> <tr> <td>F01</td> <td>FRP composite</td> </tr> <tr> <td>M01</td> <td>Metal</td> </tr> <tr> <td>T01</td> <td>Timber</td> </tr> <tr> <td>X</td> <td>Other</td> </tr> </table>	<u>Code</u>	<u>Description</u>	0	None	C01	Concrete – reinforced	C02	Concrete – prestressed	F01	FRP composite	M01	Metal	T01	Timber	X	Other	<p>When a span configuration has a combination of stay-in-place form types, code the predominant type based on the deck area.</p> <p>Use code C01 when a precast reinforced concrete panel (partial depth) is used with a cast-in-place reinforced concrete placement on top.</p> <p>Use code C02 when a precast prestressed concrete panel (partial depth) is used with a cast-in-place reinforced concrete placement on top.</p> <p>This item is not intended to be used for materials installed only for debris shielding, or when Item B.SP.09 (<i>Deck Material and Type</i>) is S05 (Steel – corrugated).</p>	
<u>Code</u>	<u>Description</u>																	
0	None																	
C01	Concrete – reinforced																	
C02	Concrete – prestressed																	
F01	FRP composite																	
M01	Metal																	
T01	Timber																	
X	Other																	
Do not report this item when Item B.SP.09 (<i>Deck Material and Type</i>) is 0.																		

B.SP.13 – Deck Stay-In-Place Forms – Example



Example for B.SP.13 = 0
None

B.SP.13 – Deck Stay-In-Place Forms – Example



Example for B.SP.13 = M01
Metal

B.SP.13 – Deck Stay-In-Place Forms – Example



Example for B.SP.13 = M01
Metal

(AASHTO Girders)

B.SP.13 – Deck Stay-In-Place Forms – Example



Example for B.SP.13 = X
Other

(Wire Mesh)

Example – Subsection 2.1: Span Material & Type

Example – Subsection 2.1: Span Material & Type



Example – Subsection 2.1: Span Material & Type



B.SP.01 – Span Configuration Designation

M01 – Main

Example – Subsection 2.1: Span Material & Type



Item	Data Item	Value (1)
B.SP.01	Span Configuration Designation	M01

Example – Subsection 2.1: Span Material & Type



B.SP.02 – Number of Spans

3

Example – Subsection 2.1: Span Material & Type



Item	Data Item	Value (1)
B.SP.01	Span Configuration Designation	M01
B.SP.02	Number of Spans	3

Example – Subsection 2.1: Span Material & Type



B.SP.03 – Number of Beam Lines

7

Example – Subsection 2.1: Span Material & Type



Item	Data Item	Value (1)
B.SP.01	Span Configuration Designation	M01
B.SP.02	Number of Spans	3
B.SP.03	Number of Beam Lines	7

Example – Subsection 2.1: Span Material & Type



B.SP.04 – Span Material

C02 – Reinforced Concrete – Precast

Example – Subsection 2.1: Span Material & Type



Item	Data Item	Value (1)
B.SP.01	Span Configuration Designation	M01
B.SP.02	Number of Spans	3
B.SP.03	Number of Beam Lines	7
B.SP.04	Span Material	C02

Example – Subsection 2.1: Span Material & Type



B.SP.05 – Span Continuity

1 – Simple or Single Span

Example – Subsection 2.1: Span Material & Type



Item	Data Item	Value (1)
B.SP.01	Span Configuration Designation	M01
B.SP.02	Number of Spans	3
B.SP.03	Number of Beam Lines	7
B.SP.04	Span Material	C02
B.SP.05	Span Continuity	1

Example – Subsection 2.1: Span Material & Type



B.SP.06 – Span Type

G07 – Girder/Beam – Channel Adjacent

Example – Subsection 2.1: Span Material & Type



Item	Data Item	Value (1)
B.SP.01	Span Configuration Designation	M01
B.SP.02	Number of Spans	3
B.SP.03	Number of Beam Lines	7
B.SP.04	Span Material	C02
B.SP.05	Span Continuity	1
B.SP.06	Span Type	G07

Example – Subsection 2.1: Span Material & Type



B.SP.07 – Span Protective System

0 – None

Example – Subsection 2.1: Span Material & Type



Item	Data Item	Value (1)
B.SP.01	Span Configuration Designation	M01
B.SP.02	Number of Spans	3
B.SP.03	Number of Beam Lines	7
B.SP.04	Span Material	C02
B.SP.05	Span Continuity	1
B.SP.06	Span Type	G07
B.SP.07	Span Protective System	0

Example – Subsection 2.1: Span Material & Type



B.SP.08 – Deck Interaction

IM – Integral or Monolithic

Example – Subsection 2.1: Span Material & Type



Item	Data Item	Value (1)
B.SP.01	Span Configuration Designation	M01
B.SP.02	Number of Spans	3
B.SP.03	Number of Beam Lines	7
B.SP.04	Span Material	C02
B.SP.05	Span Continuity	1
B.SP.06	Span Type	G07
B.SP.07	Span Protective System	0
B.SP.08	Deck Interaction	IM

Example – Subsection 2.1: Span Material & Type



B.SP.09 – Deck Material and Type

C02 – Reinforced Concrete - Precast

Example – Subsection 2.1: Span Material & Type



Item	Data Item	Value (1)
B.SP.01	Span Configuration Designation	M01
B.SP.02	Number of Spans	3
B.SP.03	Number of Beam Lines	7
B.SP.04	Span Material	C02
B.SP.05	Span Continuity	1
B.SP.06	Span Type	G07
B.SP.07	Span Protective System	0
B.SP.08	Deck Interaction	IM
B.SP.09	Deck Material & Type	C02

Example – Subsection 2.1: Span Material & Type



B.SP.10 – Wearing Surface
 B01 – Bituminous (Asphalt)

Example – Subsection 2.1: Span Material & Type



Item	Data Item	Value (1)
B.SP.01	Span Configuration Designation	M01
B.SP.02	Number of Spans	3
B.SP.03	Number of Beam Lines	7
B.SP.04	Span Material	C02
B.SP.05	Span Continuity	1
B.SP.06	Span Type	G07
B.SP.07	Span Protective System	0
B.SP.08	Deck Interaction	IM
B.SP.09	Deck Material & Type	C02
B.SP.10	Wearing Surface	B01

Example – Subsection 2.1: Span Material & Type



B.SP.11 – Deck Protective System

0 – None

Example – Subsection 2.1: Span Material & Type



Item	Data Item	Value (1)
B.SP.01	Span Configuration Designation	M01
B.SP.02	Number of Spans	3
B.SP.03	Number of Beam Lines	7
B.SP.04	Span Material	C02
B.SP.05	Span Continuity	1
B.SP.06	Span Type	G07
B.SP.07	Span Protective System	0
B.SP.08	Deck Interaction	IM
B.SP.09	Deck Material & Type	C02
B.SP.10	Wearing Surface	B01
B.SP.11	Deck Protective System	0

Example – Subsection 2.1: Span Material & Type



B.SP.12 – Deck Reinforcing Protective System

0 – None

Example – Subsection 2.1: Span Material & Type



Item	Data Item	Value (1)
B.SP.01	Span Configuration Designation	M01
B.SP.02	Number of Spans	3
B.SP.03	Number of Beam Lines	7
B.SP.04	Span Material	C02
B.SP.05	Span Continuity	1
B.SP.06	Span Type	G07
B.SP.07	Span Protective System	0
B.SP.08	Deck Interaction	IM
B.SP.09	Deck Material & Type	C02
B.SP.10	Wearing Surface	B01
B.SP.11	Deck Protective System	0
B.SP.12	Deck Reinforcing Protective System	0

Example – Subsection 2.1: Span Material & Type



B.SP.13 – Deck Stay-in-Place Forms

0 – None

Example – Subsection 2.1: Span Material & Type



Item	Data Item	Value (1)
B.SP.01	Span Configuration Designation	M01
B.SP.02	Number of Spans	3
B.SP.03	Number of Beam Lines	7
B.SP.04	Span Material	C02
B.SP.05	Span Continuity	1
B.SP.06	Span Type	G07
B.SP.07	Span Protective System	0
B.SP.08	Deck Interaction	IM
B.SP.09	Deck Material & Type	C02
B.SP.10	Wearing Surface	B01
B.SP.11	Deck Protective System	0
B.SP.12	Deck Reinforcing Protective System	0
B.SP.13	Deck Stay-in-Place Forms	0

Subsection 2.2: Substructure Material and Type

- B.SB.01 – Substructure Configuration Designation
- B.SB.02 – Number of Substructure Units
- B.SB.03 – Substructure Material
- B.SB.04 – Substructure Type
- B.SB.05 – Substructure Protective System
- B.SB.06 – Foundation Type
- B.SB.07 – Foundation Protective System

B.SB.01 – Substructure Configuration Designation

<i>Substructure Configuration Designation</i>										
<u>Format</u> AN (3)	<u>Frequency</u> I	<u>Item ID</u> B.SB.01								
<u>Specification</u>		<u>Commentary</u>								
<p>Report the substructure set designation using one of the following codes.</p> <table border="1"> <thead> <tr> <th><u>Code</u></th> <th><u>Description</u></th> </tr> </thead> <tbody> <tr> <td>A##</td> <td>Abutment</td> </tr> <tr> <td>P##</td> <td>Pier or Bent</td> </tr> <tr> <td>W##</td> <td>Widening</td> </tr> </tbody> </table> <p>Replace the ## characters in the above codes with sequential numbers, with leading zeros, assigned to each substructure configuration.</p> <p><u>Do not report this item when B.SP.06 (Span Type) is a pipe (i.e. code P01 or P02).</u></p>		<u>Code</u>	<u>Description</u>	A##	Abutment	P##	Pier or Bent	W##	Widening	<p>This item captures how the reported substructure configuration is designated.</p> <p>The substructure is the portion of a bridge below the bearings or below the springline of an arch, which transfers loads to the foundation. This includes the walls <u>and footings, caps, or floor slabs</u> of three-sided and four-sided rigid frame bridges <u>and culverts</u>.</p> <p>Replacing the "##" characters in the codes with a sequential number (e.g., A01, A02, P01, etc.) identifies each unique substructure configuration present on the bridge.</p>
<u>Code</u>	<u>Description</u>									
A##	Abutment									
P##	Pier or Bent									
W##	Widening									

B.SB.01 – Substructure Configuration Designation – Example



Example for B.SB.01 =
Do Not Code

B.SB.01 – Substructure Configuration Designation – Example



Example for B.SB.01 = A01
Abutment

Item ID	Data Item	Value (1)
B.SB.01	Substructure Configuration Designation	A01

B.SB.01 – Substructure Configuration Designation – Example



Example for B.SB.01
 = A01 (Abutment)
 = P01 (Pier or Bent)

Item ID	Data Item	Value (1)	Value (2)
B.SB.01	Substructure Configuration Designation	A01	P01

B.SB.01 – Substructure Configuration Designation – Example



Example for B.SB.01
 = A01 (Abutment)
 = P01 (Pier or Bent)

Item ID	Data Item	Value (1)	Value (2)
B.SB.01	Substructure Configuration Designation	A01	P01

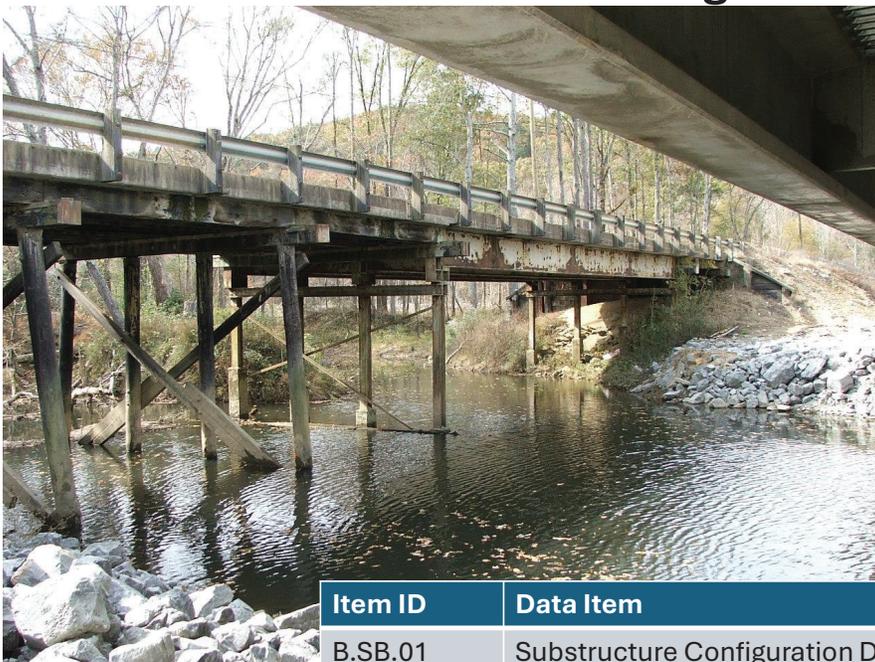
B.SB.01 – Substructure Configuration Designation – Example



Example for B.SB.01
 = P01 (Pier or Bent)
 Steel Piles
 = P02 (Pier or Bent)
 Conc. Pier Wall

Item ID	Data Item	Value (1)	Value (2)
B.SB.01	Substructure Configuration Designation	P01	P02

B.SB.01 – Substructure Configuration Designation – Example



Example for B.SB.01
 = A01 (Abutment)
 = P01 (Pier or Bent)
 Steel Piles
 = P02 (Pier or Bent)
 Timber Piles

Item ID	Data Item	Value (1)	Value (2)	Value (3)
B.SB.01	Substructure Configuration Designation	A01	P01	P02

B.SB.01 – Substructure Configuration Designation – Example



BIN 3993 RIGHT SIDE

Example for B.SB.01
 = A01 (Abutment)
 = P01 (Pier or Bent)

Item ID	Data Item	Value (1)	Value (2)
B.SB.01	Substructure Configuration Designation	A01	P01

B.SB.01 – Substructure Configuration Designation – Example



Example for B.SB.01
 = A01 (Abutment)
 = P01 (Pier or Bent)

Item ID	Data Item	Value (1)	Value (2)
B.SB.01	Substructure Configuration Designation	A01	P01

B.SB.02 – Number of Substructure Units

<i>Number of Substructure Units</i>		
<u>Format</u> N (3,0)	<u>Frequency</u> I	<u>Item ID</u> B.SB.02
Specification	Commentary	
Report the number of substructure units.	This item captures the number of substructure units of similar material, design, and foundation type that are being reported.	

B.SB.02 – Number of Substructure Units – Example



Example for B.SB.02 =
Do Not Code

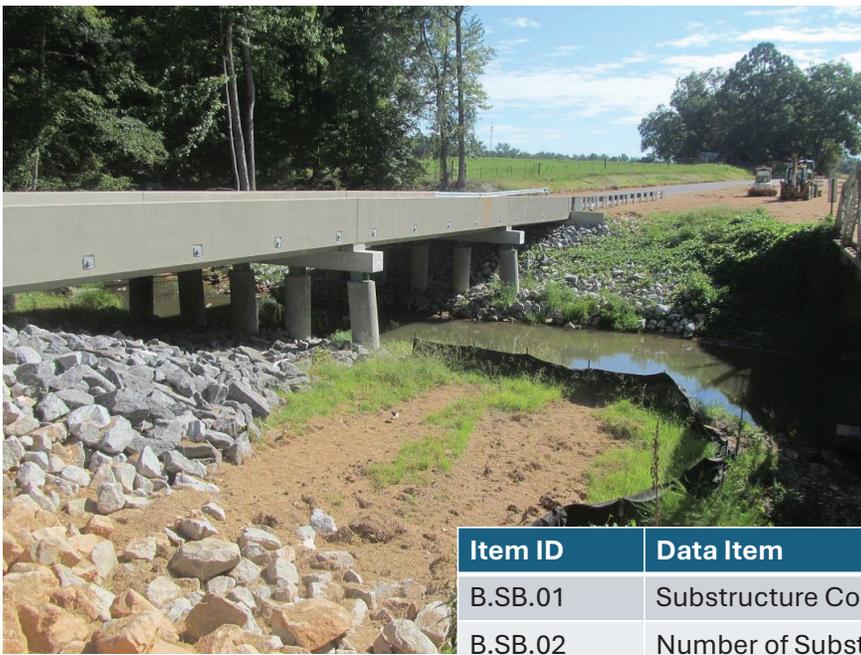
B.SB.02 – Number of Substructure Units – Example



Example for B.SB.02
A01 = 2

Item ID	Data Item	Value (1)
B.SB.01	Substructure Configuration Designation	A01
B.SB.02	Number of Substructure Units	2

B.SB.02 – Number of Substructure Units – Example



Example for B.SB.02
A01 = 2
P01 = 2

Item ID	Data Item	Value (1)	Value (2)
B.SB.01	Substructure Configuration Designation	A01	P01
B.SB.02	Number of Substructure Units	2	2

B.SB.02 – Number of Substructure Units – Example



Example for B.SB.02
 A01 = 2
 P01 = 7

Item ID	Data Item	Value (1)	Value (2)
B.SB.01	Substructure Configuration Designation	A01	P01
B.SB.02	Number of Substructure Units	2	7

B.SB.02 – Number of Substructure Units – Example



Example for B.SB.02
 A01 = 2
 P01 = 1

Item ID	Data Item	Value (1)	Value (2)
B.SB.01	Substructure Configuration Designation	A01	P01
B.SB.02	Number of Substructure Units	2	1

B.SB.02 – Number of Substructure Units – Example



Example for B.SB.02

A01 = 2

P01 = 2

Item ID	Data Item	Value (1)	Value (2)
B.SB.01	Substructure Configuration Designation	A01	P01
B.SB.02	Number of Substructure Units	2	2

B.SB.03 – Substructure Material

<i>Substructure Material</i>		
Format AN (3)	Frequency I	Item ID B.SB.03
Specification	Commentary	
Report the principal substructure material type using one of the following codes. <u>Do not report this item when B.SP.06 (Span Type) is a pipe (i.e. code P01 or P02).</u>	This item reflects the material which provides the support for the transfer of the superstructure load to the foundation. In cases where the substructure unit(s) may have a combination of materials, use the code for the predominant material that transfers load to the foundation.	
<u>Code</u> <u>Description</u>		
0 None	Use code 0 when the superstructure rests directly on the foundation (<u>i.e. on unreinforced soil or bedding material, reinforced soil or bedding material, or rock</u>).	
A01 Aluminum		
C01 Reinforced concrete – cast-in-place		
C02 Reinforced concrete – precast	Use code C04 or C05, as applicable, for prestressed concrete substructure unit(s) that utilize both pre-tensioning and post-tensioning.	
C03 Prestressed concrete – pre-tensioned		
C04 Prestressed concrete – cast-in-place post-tensioned		
C05 Prestressed concrete – precast post-tensioned	Use code E01 when the superstructure rests directly on the reinforced soil mass. Code E01 is not intended to be used for MSE walls when the superstructure does not rest directly on the reinforced soil mass.	
CX Concrete – other		
E01 Earth – reinforced soil <u>mass</u>		

B.SB.03 – Substructure Material

Specification	Commentary
F01 FRP composite – aramid fiber F02 FRP composite – carbon fiber F03 FRP composite – glass fiber FX FRP composite – other	Use code M01 for masonry made from bricks or concrete blocks. Use code M02 for natural stone.
I012 Iron – cast I024 Iron – wrought	Use code S06 for filled or unfilled steel pipe piles.
M01 Masonry – block M02 Masonry – stone	Use code C01 for cased and uncased cast-in-place concrete piles, and for driven corrugated, fluted, or spiral-welded shell-cased concrete piles.
P01 Plastic – Polyethylene PX Plastic – other	
Codes continued next page.	

Specification Continued – Substructure Material	
Code	Description
S01	Steel – rolled shapes
S02	Steel – welded shapes
S03	Steel – bolted shapes
S04	Steel – riveted shapes
S05	Steel – bolted and riveted shapes
S06	Steel – pipe
SX	Steel – other
T01	Timber – glue laminated
T02	Timber – nail laminated
T03	Timber – solid sawn
T04	Timber – stress laminated
TX	Timber – other
X	Other

B.SB.03 – Substructure Material – Example



Example for B.SB.03 =
Do Not Code

B.SB.03 – Substructure Material – Example

A01 – Aluminum

Not Commonly Used in Alabama

B.SB.03 – Substructure Material – Example



Example for B.SB.03 = C01
Reinforced Concrete –
Cast-in-Place

B.SB.03 – Substructure Material – Example



Example for B.SB.03 = C01
Reinforced Concrete –
Cast-in-Place

B.SB.03 – Substructure Material – Example



Example for B.SB.03 = C02
Reinforced Concrete –
Precast

B.SB.03 – Substructure Material – Example



Example for B.SB.03 = C02
Reinforced Concrete –
Precast

B.SB.03 – Substructure Material – Example

C03 – Prestressed Concrete – Pre-tensioned

C04 – Prestressed Concrete – Cast-in-Place Post-tensioned

C05 – Prestressed Concrete – Precast Post-tensioned

CX – Concrete – Other

Not Commonly Used in Alabama

B.SB.03 – Substructure Material – Example

E01 – Earth – Reinforced Soil

F01 – FRP Composite – Aramid Fiber

F02 – FRP Composite – Carbon Fiber

F03 – FRP Composite – Glass Fiber

FX – FRP Composite – Other

I01 – Iron – Cast

I02 – Iron – Wrought

Not Commonly Used in Alabama

B.SB.03 – Substructure Material – Example



Example for B.SB.03 = M01
Masonry – Block

B.SB.03 – Substructure Material – Example



Example for B.SB.03 = M02
Masonry – Stone

B.SB.03 – Substructure Material – Example

P01 – Plastic – Polyethylene

PX – Plastic – Other

Not Commonly Used in Alabama

B.SB.03 – Substructure Material – Example



Example for B.SB.03 = S01
Steel – Rolled Shapes

B.SB.03 – Substructure Material – Example



Example for B.SB.03 = S01
Steel – Rolled Shapes

B.SB.03 – Substructure Material – Example



Example for B.SB.03 = S02
Steel – Welded Shapes

B.SB.03 – Substructure Material – Example



Example for B.SB.03 = S04 (Steel – Riveted Shapes)

B.SB.03 – Substructure Material – Example



Example for B.SB.03 = S05 (Steel – Bolted & Riveted Shapes)

B.SB.03 – Substructure Material – Example

S03 – Steel – Bolted Shapes

S06 – Steel – Pipe

SX – Steel – Other

Not Commonly Used in Alabama

B.SB.03 – Substructure Material – Example



Example for B.SB.03 = T03
Timber – Solid Sawn

B.SB.03 – Substructure Material – Example



Example for B.SB.03 = T03
Timber – Solid Sawn

B.SB.03 – Substructure Material – Example



Example for B.SB.03 = T03
Timber – Solid Sawn

B.SB.03 – Substructure Material – Example

- T01 – Timber – Glue Laminated
- T02 – Timber – Nail Laminated
- T04 – Timber – Stress Laminated
- TX – Timber – Other

X – Other

Not Commonly Used in Alabama

B.SB.04 – Substructure Type

<i>Substructure Type</i>		
Format AN (3)	Frequency I	Item ID B.SB.04
Specification		Commentary
Report the abutment, pier, or bent design type using one of the following codes. <u>Do not report this item when B.SP.06 (Span Type) is a pipe (i.e. code P01 or P02).</u>		In cases where the substructure may have a combination of designs due to retrofitting actions, use the code for the predominant design.
<u>Code</u>	<u>Description</u>	
0	None	Both piers and bents provide the same function; however, a pier has only one footing at each substructure unit (the footing may serve as a pile cap) while a bent has several footings or no footing, as is the case with a pile bent.
A01	Abutment – cantilever/wall	
A02	Abutment – stub	
A03	Abutment – open/spill through	Use code 0 when the superstructure rests directly on the foundation (<u>i.e. on unreinforced soil or bedding material, reinforced soil or bedding material, or rock</u>).
A04	Abutment – integral	
A05	Abutment – semi-integral	
A06	Abutment – gravity	
A07	Abutment – counterfort <u>or buttressed</u>	Use codes A01 to A10, as appropriate, if the superstructure load is supported by a substructure unit, which is in turn supported by piles or the reinforced soil mass. Use code A11 when the superstructure rests directly on the reinforced soil mass.
A08	Abutment – pile bent with lagging	
A09	Abutment – crib	
A10	Abutment – cellular/vaulted	
A11	Abutment – reinforced soil <u>mass</u>	
A12	Abutment – footing <u>or cap only</u>	
AX	Abutment – other	<u>Use code A02 for partial height abutments that do not extend to near the bottom of the</u>

B.SB.04 – Substructure Type

Specification	Commentary	
A12 AX	Abutment – footing <u>or cap only</u> Abutment – other	<u>Use code A02 for partial height abutments that do not extend to near the bottom of the embankment fill. Use code A02 for abutments that are larger height than a pile cap or have features such as a backwall that exceed the purpose of a pile cap.</u>
B01	Bent – column or open	
B02	Bent – column with web wall	
B03	Bent – pile	
B04	Bent – straddle or c-shaped	
BX	Bent – other	Use code A10 when the space between wingwalls, abutment stem, approach slab, and footings is hollow.
P01	Pier – wall	
P02	Pier – single column	
P03	Pier – multiple column	
P04	Pier – multiple column with web wall	Use code A12 or P08 when the superstructure rests only on a footing, grade beam, or thrust block, <u>or pile or shaft cap with embedded piles or shafts that are not part of a bent.</u>
P05	Pier – straddle or c-shaped	
P06	Pier – movable bridge	Use code B04 when a highway or railroad passes directly beneath or through the bent.
P07	Pier – tower	
P08	Pier – footing <u>or cap only</u>	
PX	Pier – other	

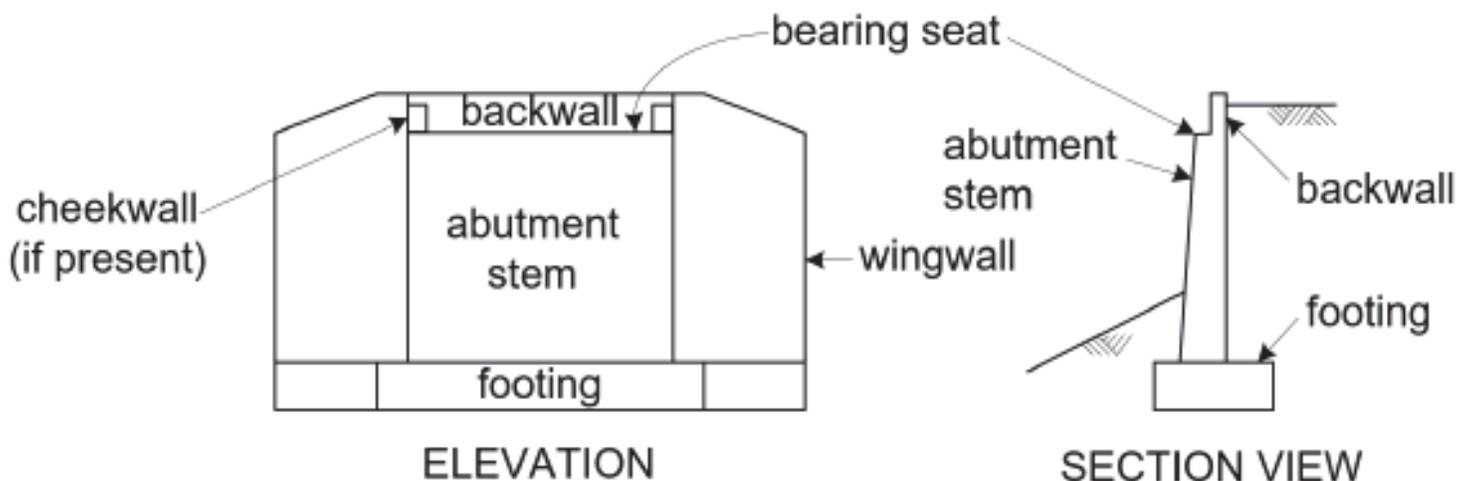
Codes continued next page.	Use code P06 for piers that support movable bridges and the equipment needed to open and close the bridge.
	Use code P07 for towers of complex bridges such as cable-stayed and suspension bridges.
Specification Continued – Substructure Type	
<u>Code</u>	<u>Description</u>
U	Unknown
X	Other

B.SB.04 – Substructure Type – Example



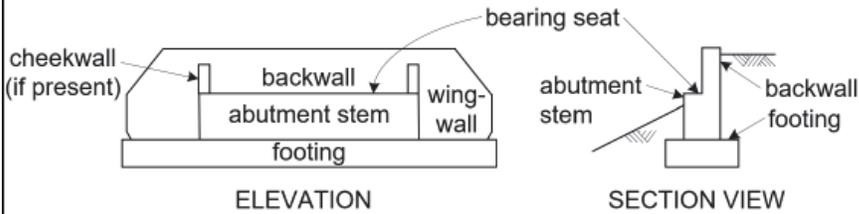
Example for B.SB.04 =
Do Not Report

B.SB.04 – Substructure Type – Example



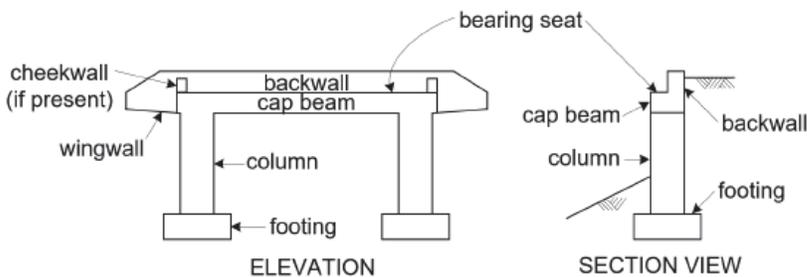
Example for B.SB.04 = A01 (Abutment – Cantilever/Wall)

B.SB.04 – Substructure Type – Example



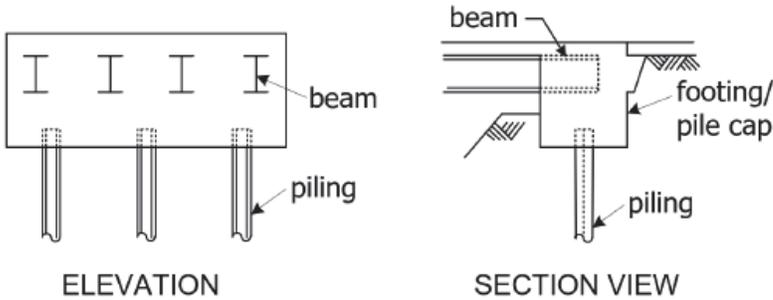
Example for B.SB.04 = A02 (Abutment – Stub)

B.SB.04 – Substructure Type – Example



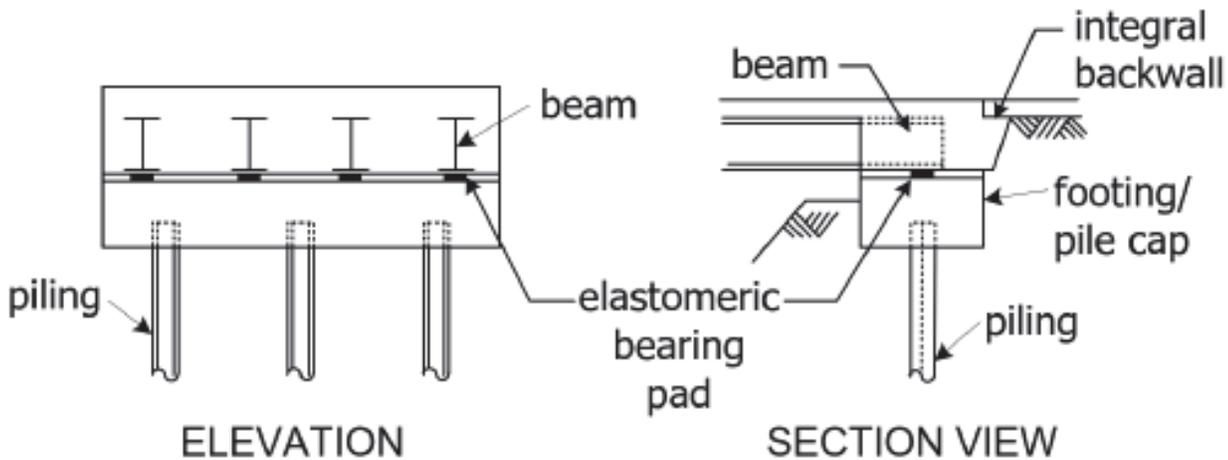
Example for B.SB.04 = A03 (Abutment – Open/Spill Through)

B.SB.04 – Substructure Type – Example



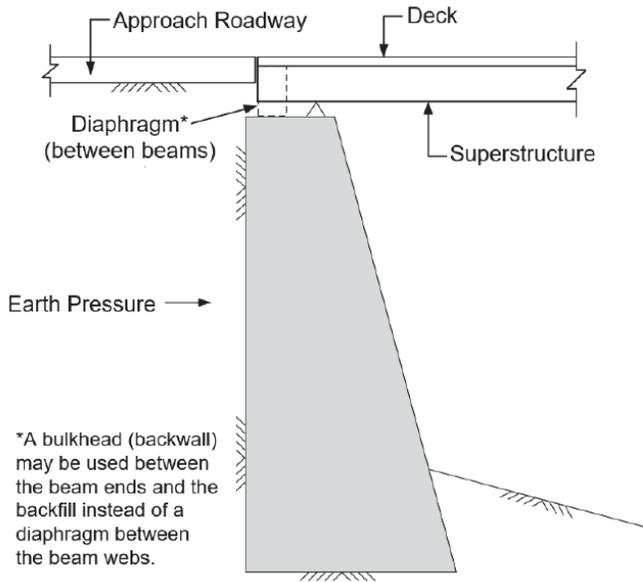
Example for B.SB.04 = A04 (Abutment – Integral) * Not Commonly Used in Alabama.

B.SB.04 – Substructure Type – Example



Example for B.SB.04 = A05 (Abutment – Semi-Integral)

B.SB.04 – Substructure Type – Example



Example for B.SB.04 = A06 (Abutment – Gravity)

B.SB.04 – Substructure Type – Example



Example for B.SB.04 = A08 (Abutment – Pile Bent with Lagging)

B.SB.04 – Substructure Type – Example

- A07 – Abutment – Counterfort
- A09 – Abutment – Crib
- A10 – Abutment – Cellular / Vaulted
- A11 – Abutment – Reinforced Soil
- A12 – Abutment – Footing Only
- AX – Abutment – Other

Not Commonly Used in Alabama

B.SB.04 – Substructure Type – Example

Both piers and bents provide the same function; however, a pier has only one footing at each substructure unit (the footing may serve as a pile cap) while a bent has several footings or no footing, as is the case with a pile bent.

B.SB.04 – Substructure Type – Example



Example for B.SB.04 = B01
Bent – Column or Open

B.SB.04 – Substructure Type – Example



Example for B.SB.04 = B03
Bent – Pile

B.SB.04 – Substructure Type – Example

B02 – Bent – Column with Web Wall

B04 – Bent – Straddle or C-Shaped

BX – Bent – Other

Not Commonly Used in Alabama

B.SB.04 – Substructure Type – Example



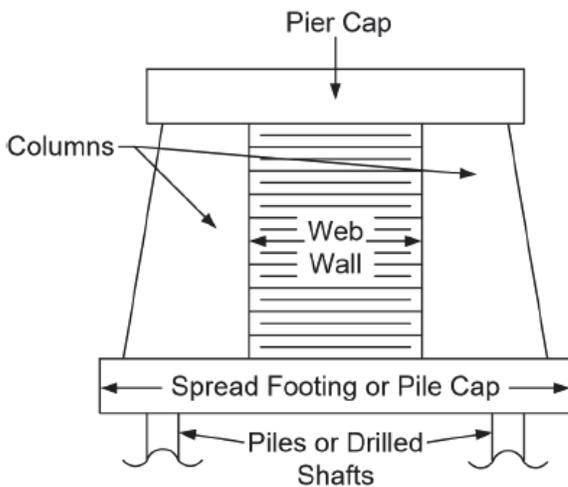
Example for B.SB.04 = P01
Pier – Wall

B.SB.04 – Substructure Type – Example



Example for B.SB.04 = P02
Pier – Single Column

B.SB.04 – Substructure Type – Example



Example for B.SB.04 = P04 (Pier – Multiple Column with Web Wall)

B.SB.04 – Substructure Type – Example

- P03 – Pier – Multiple Column
- P05 – Pier – Straddle or C-Shaped
- P06 – Pier – Movable Bridge
- P07 – Pier – Tower
- P08 – Pier – Footing Only
- PX – Pier – Other

- U – Unknown
- X – Other

Not Commonly Used in Alabama

B.SB.05 – Substructure Protective System

<i>Substructure Protective System</i>																			
<u>Format</u> AN (3)	<u>Frequency</u> I																		
<u>Item ID</u> B.SB.05																			
Specification	Commentary																		
<p>Report the substructure protective system using one of the following codes.</p> <p><u>Do not report this item when B.SP.06 (Span Type) is a pipe (i.e. code P01 or P02).</u></p> <table border="1"> <thead> <tr> <th><u>Code</u></th> <th><u>Description</u></th> </tr> </thead> <tbody> <tr> <td>0</td> <td>None</td> </tr> <tr> <td>A01</td> <td>Admixture – internally sealed</td> </tr> <tr> <td>A02</td> <td>Admixture – low permeability</td> </tr> <tr> <td>A03</td> <td>Admixture – polymer impregnated</td> </tr> <tr> <td>A04</td> <td>Admixture – corrosion inhibitor</td> </tr> <tr> <td>A05</td> <td>Admixture – ASR inhibitor</td> </tr> <tr> <td>AX</td> <td>Admixture – other</td> </tr> <tr> <td>C01</td> <td>Coating – paint</td> </tr> </tbody> </table>	<u>Code</u>	<u>Description</u>	0	None	A01	Admixture – internally sealed	A02	Admixture – low permeability	A03	Admixture – polymer impregnated	A04	Admixture – corrosion inhibitor	A05	Admixture – ASR inhibitor	AX	Admixture – other	C01	Coating – paint	<p>Code this item consistent with the predominant material reported in Item B.SB.03 (<i>Substructure Material</i>).</p> <p>In cases where the substructure may have a combination of protective systems, use the code for the predominant protective system based on protected area. In cases where multiple systems protect the same area, use the code for the outermost protective layer.</p> <p>Use code 0 when the substructure is unprotected.</p> <p>Use code 0 when unprotected steels either never were coated or currently have no signs of coating systems and have no protective systems, such as, cathodic protection or weathering chemistry.</p>
<u>Code</u>	<u>Description</u>																		
0	None																		
A01	Admixture – internally sealed																		
A02	Admixture – low permeability																		
A03	Admixture – polymer impregnated																		
A04	Admixture – corrosion inhibitor																		
A05	Admixture – ASR inhibitor																		
AX	Admixture – other																		
C01	Coating – paint																		

This is **Not** used for Substructure Type B.SB.04

B.SB.05 – Substructure Protective System

Specification	Commentary
C01 Coating – paint	weathering chemistry.
C02 Coating – sealer	Anti-graffiti coatings are not considered when coding this item.
C03 Coating – methacrylate galvanizing/metalizing	
C04 Coating – hot dip galvanizing	
C05 Coating – metalizing/thermal spray	Use code C01 for weathering steel that has been painted.
CX Coating – other	Use code C02 for sealers such as silanes, siloxanes, linseed oils, etc.
E01 Encasement – concrete	Use code E01 for steel piles of pile bents that are encased in concrete.
EX Encasement – other	
P01 Patina – uncoated weathering steel	Use code P01 only for weathering grades of steel.
S01 Sacrificial – cathodic, passive	For timber, use code T01 for oil-based or water-borne timber preservatives. Use code C01 for paints and stains.
S02 Sacrificial – cathodic, active	
SX Sacrificial – other	
T01 Treated – timber preservative	
U Unknown	Do not report this item when Item B.SB.04 (<i>Substructure Type</i>) is 0.
X Other	

B.SB.05 – Substructure Protective System – Example



Example for B.SB.05 =
Do Not Report

B.SB.05 – Substructure Protective System – Example



Example for B.SB.05 = 0
None

* No Protective System has been used on the Concrete Cap

B.SB.05 – Substructure Protective System – Example



Example for B.SB.05 = C01
Coating – Paint

B.SB.06 – Foundation Type

Foundation Type															
Format AN (3)	Frequency I														
Specification	Item ID B.SB.06														
Specification	Commentary														
<p>Report the foundation type using one of the following codes.</p> <p><u>Do not report this item when B.SP.06 (Span Type) is a pipe (i.e. code P01 or P02).</u></p> <table border="0"> <tr> <td><u>Code</u></td> <td><u>Description</u></td> </tr> <tr> <td>E01</td> <td>Earth – reinforced soil</td> </tr> <tr> <td><u>E02</u></td> <td><u>Earth – unreinforced soil</u></td> </tr> <tr> <td><u>E03</u></td> <td><u>Rock</u></td> </tr> <tr> <td>F01</td> <td>Footing – not on rock</td> </tr> <tr> <td>F02</td> <td>Footing – on rock</td> </tr> <tr> <td>F03</td> <td>Footing – on reinforced soil</td> </tr> </table>	<u>Code</u>	<u>Description</u>	E01	Earth – reinforced soil	<u>E02</u>	<u>Earth – unreinforced soil</u>	<u>E03</u>	<u>Rock</u>	F01	Footing – not on rock	F02	Footing – on rock	F03	Footing – on reinforced soil	<p>In cases where the substructure has a combination of foundations due to retrofitting actions, use the code for the predominant foundation.</p> <p>Do not consider localized repairs to original foundation types when reporting this item.</p> <p>Use code E01 when the superstructure bears directly on <u>reinforced soil, reinforced bedding material, or</u> the reinforced soil mass. <u>Use code E02 when the superstructure bears directly on unreinforced soil or unreinforced bedding material. Use code E03 when the superstructure bears entirely on rock.</u></p>
<u>Code</u>	<u>Description</u>														
E01	Earth – reinforced soil														
<u>E02</u>	<u>Earth – unreinforced soil</u>														
<u>E03</u>	<u>Rock</u>														
F01	Footing – not on rock														
F02	Footing – on rock														
F03	Footing – on reinforced soil														

B.SB.06 – Foundation Type

Specification	Commentary
P01 Pile – steel H-shape	<p>Use codes F01 to F03 <u>for footings or when the substructure bears directly on ground at grade or below grade, e.g. grade beams, floor slabs, gravity walls, crib walls, etc., as appropriate, when the substructure or footing bears directly on the ground, such as a grade beam, floor, or gravity wall.</u></p> <p>Use code F02 only if the design plans, or subsequent subsurface investigation, indicate that the entire foundation is supported by rock.</p> <p>Use code F03 if the superstructure load is supported by a substructure unit, which is in turn supported by the reinforced soil mass.</p> <p>Use code P02 for filled or unfilled steel pipe piles.</p> <p>Use code P03 for cased and uncased cast-in-place concrete piles, and for driven corrugated, fluted, or spiral-welded shell-cased concrete piles.</p> <p>Use code P04 for solid or hollow-core square, octagonal, or cylindrical piles.</p>
P02 Pile – steel pipe	
P03 Pile – concrete, cast-in-place	
P04 Pile – prestressed concrete	
P05 Pile – timber	
P06 Pile – auger cast	
P07 Pile – micropile	Use code P07 for small diameter piles, typically less than 12 inches, that are drilled, then grouted.
P08 Pile – composite	Use code P08 for piles in which the length is composed of two or more pile types or materials, excluding pile tips.
P09 Pile – FRP composite	Use code P09 when FRP composite piles are used for construction but not as repairs to existing piles of a different type.
PX Pile – other	Use codes S01 and S02 for cased or uncased drilled shafts.
S01 Drilled shaft – single	Use code S03 for footings sunk into position by excavation through or beneath the caisson structure.
S02 Drilled shafts – multiple	
S03 Caisson	
U Unknown	
X Other	

B.SB.06 – Foundation Type – Example



Example for B.SB.06 =
Do Not Code

B.SB.06 – Foundation Type – Example

E01 – Earth – Reinforced Soil

Not Commonly Used in Alabama

B.SB.06 – Foundation Type – Example



Example for B.SB.06 = F01
Footing – Not on Rock

B.SB.06 – Foundation Type – Example



Example for B.SB.06 = F02
Footing – On Rock

B.SB.06 – Foundation Type – Example

F03 – Footing – On Reinforced Soil

Not Commonly Used in Alabama

B.SB.06 – Foundation Type – Example



Example for B.SB.06 = P01
Pile – Steel H-Shape

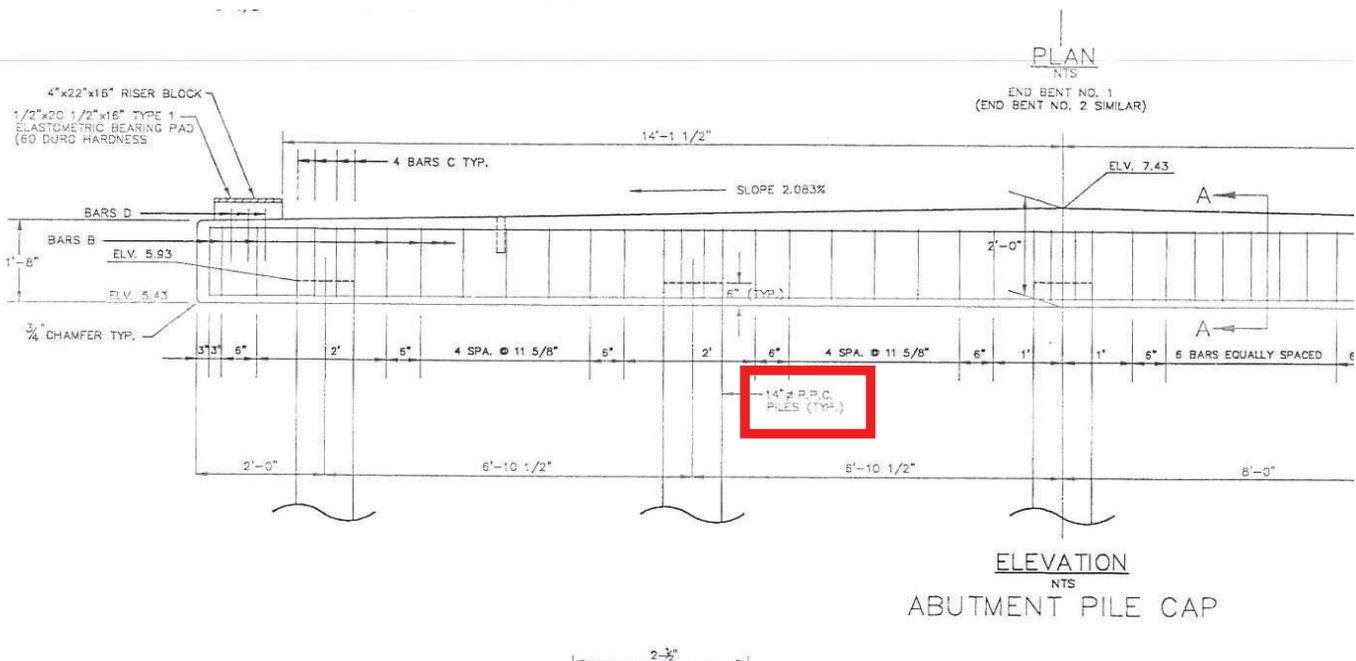
B.SB.06 – Foundation Type – Example



Example for B.SB.06 = P04
Pile – Prestressed Concrete

* Common in south Alabama.

B.SB.06 – Foundation Type – Example



B.SB.06 – Foundation Type – Example



Example for B.SB.06 = P05
Pile – Timber

B.SB.06 – Foundation Type – Example

- P02 – Pile – Steel Pipe
- P03 – Pile – Concrete, Cast-in-Place
- P06 – Pile – Auger cast
- P07 – Pile – Micropile
- P08 – Pile – Composite
- P09 – Pile – FRP Composite
- PX – Pile – Other

Not Commonly Used in Alabama

B.SB.06 – Foundation Type – Example



Example for B.SB.06 = S01
Drilled Shaft – Single

B.SB.06 – Foundation Type – Example



Example for B.SB.06 = S02
Drilled Shafts – Multiple

B.SB.06 – Foundation Type – Example

S03 – Caisson

U – Unknown

X – Other

Not Commonly Used in Alabama

B.SB.07 – Foundation Protective System

<i>Foundation Protective System</i>																								
Format AN (3)	Frequency I	Item ID B.SB.07																						
Specification	Commentary																							
Report the foundation protective system using one of the following codes. <u>Do not report this item when B.SP.06 (Span Type) is a pipe (i.e. code P01 or P02).</u>	Code this item consistent with the predominant material reported in Item B.SB.06 (Foundation Type).																							
<table border="0"> <thead> <tr> <th><u>Code</u></th> <th><u>Description</u></th> </tr> </thead> <tbody> <tr> <td>0</td> <td>None</td> </tr> <tr> <td>A01</td> <td>Admixture – internally sealed</td> </tr> <tr> <td>A02</td> <td>Admixture – low permeability</td> </tr> <tr> <td>A03</td> <td>Admixture – polymer impregnated</td> </tr> <tr> <td>A04</td> <td>Admixture – corrosion inhibitor</td> </tr> <tr> <td>A05</td> <td>Admixture – ASR inhibitor</td> </tr> <tr> <td>AX</td> <td>Admixture – other</td> </tr> <tr> <td>C01</td> <td>Coating – paint</td> </tr> <tr> <td>C02</td> <td>Coating – sealer</td> </tr> <tr> <td>C03</td> <td>Coating –</td> </tr> </tbody> </table>	<u>Code</u>	<u>Description</u>	0	None	A01	Admixture – internally sealed	A02	Admixture – low permeability	A03	Admixture – polymer impregnated	A04	Admixture – corrosion inhibitor	A05	Admixture – ASR inhibitor	AX	Admixture – other	C01	Coating – paint	C02	Coating – sealer	C03	Coating –	<p>In cases where the foundation may have a combination of protective systems, use the code for the predominant protective system based on protected area. In cases where multiple systems protect the same area, use the code for the outermost protective layer.</p> <p>Use code 0 when the foundation is unprotected.</p> <p>Use code 0 when unprotected steels either never were coated or currently have no signs of coating systems and have no protective systems, such as cathodic protection or weathering chemistry.</p> <p>Anti-graffiti coatings are not considered when coding this item.</p>	
<u>Code</u>	<u>Description</u>																							
0	None																							
A01	Admixture – internally sealed																							
A02	Admixture – low permeability																							
A03	Admixture – polymer impregnated																							
A04	Admixture – corrosion inhibitor																							
A05	Admixture – ASR inhibitor																							
AX	Admixture – other																							
C01	Coating – paint																							
C02	Coating – sealer																							
C03	Coating –																							

This is to be used for B.SB.06 Only.

B.SB.07 – Foundation Protective System

Specification	Commentary
C01 Coating – paint	weathering chemistry.
C02 Coating – sealer	Anti-graffiti coatings are not considered when coding this item.
C03 Coating – methacrylate galvanizing/metalizing	
C04 Coating – hot dip galvanizing	
C05 Coating – metalizing/thermal spray	Use code C02 for sealers such as silanes, siloxanes, linseed oils, etc.
CX Coating – other	Use code E01 for steel piles of pile bents that are encased in concrete.
E01 Encasement – concrete	Use code P01 only for weathering grades of steel.
EX Encasement – other	
P01 Patina – uncoated weathering steel	For timber, use code T01 for oil-based or water-borne timber preservatives. Use code C01 for paints and stains.
S01 Sacrificial – cathodic, passive	
S02 Sacrificial – cathodic, active	
SX Sacrificial – other	
T01 Treated – timber preservative	
U Unknown	
X Other	

B.SB.07 – Foundation Protective System – Example



Example for B.SB.07 =
Do Not Report

B.SB.07 – Foundation Protective System – Example



Example for B.SB.07 = C01
Coating – Paint

B.SB.07 – Foundation Protective System – Example



Example for B.SB.07 = E01
Encasement – Concrete

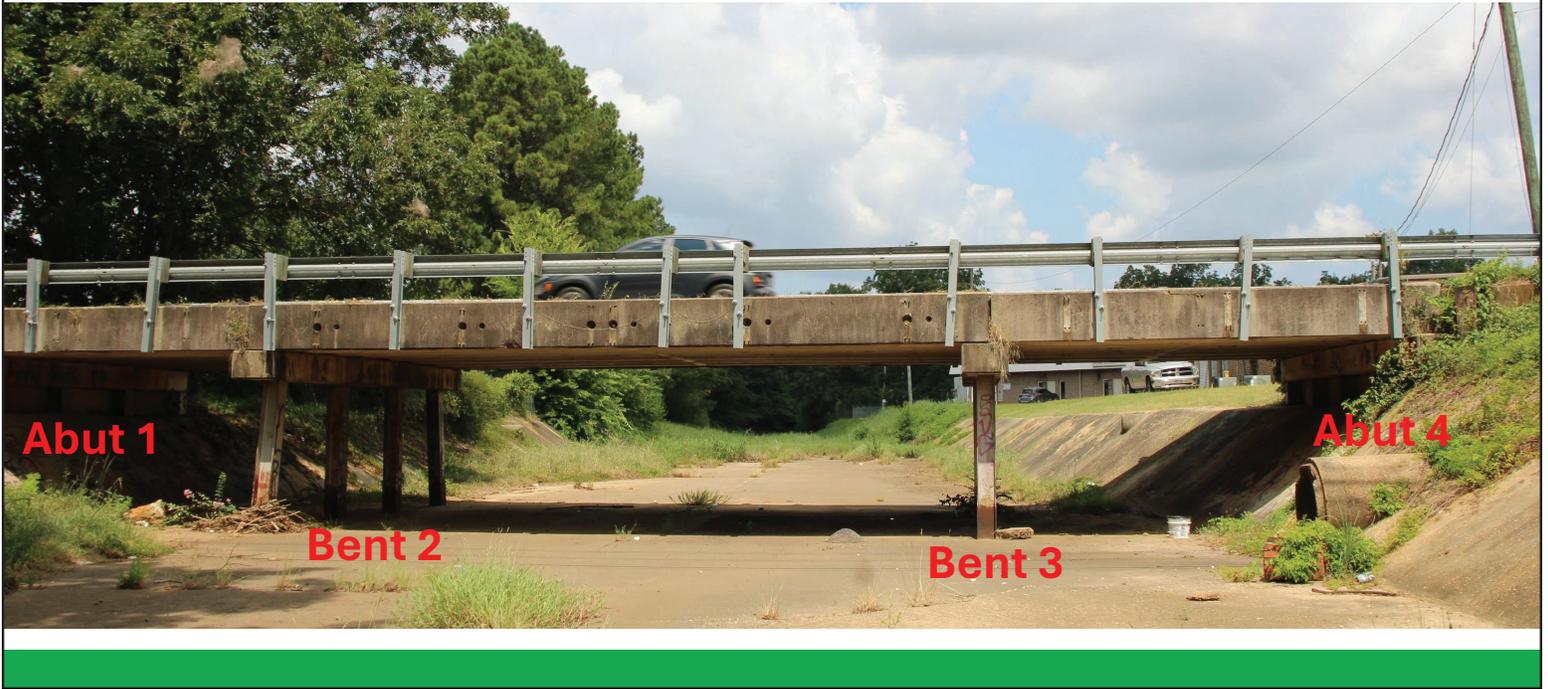
B.SB.07 – Foundation Protective System – Example



Example for B.SB.07 = T01
Treated – Timber Preservative

Example – Subsection 2.2: Substructure Material & Type

Example – Subsection 2.2: Substructure Material & Type



Example – Subsection 2.2: Substructure Material & Type



B.SB.01 – Substructure Configuration Designation

A01 – Abutment

Example – Subsection 2.2: Substructure Material & Type



B.SB.01 – Substructure Configuration Designation

P01 – Pier or Bent

Example – Subsection 2.2: Substructure Material & Type



Item	Data Item	Value (1)	Value (2)
B.SB.01	Substructure Configuration	A01	P01

Example – Subsection 2.2: Substructure Material & Type



B.SB.02 – Number of Substructure Units

A01 – 2
P01 – 2

Example – Subsection 2.2: Substructure Material & Type



Item	Data Item	Value (1)	Value (2)
B.SB.01	Substructure Configuration	A01	P01
B.SB.02	# of Substructure Units	2	2

Example – Subsection 2.2: Substructure Material & Type



B.SB.03 – Substructure Material

C02 – Reinforced Concrete – Precast

Example – Subsection 2.2: Substructure Material & Type



B.SB.03 – Substructure Material

C02 – Reinforced Concrete – Precast

Example – Subsection 2.2: Substructure Material & Type



Item	Data Item	Value (1)	Value (2)
B.SB.01	Substructure Configuration	A01	P01
B.SB.02	# of Substructure Units	2	2
B.SB.03	Substructure Material	C02	C02

Example – Subsection 2.2: Substructure Material & Type



B.SB.04 – Substructure Type

A08 – Abutment – Pile Bent with Lagging

Example – Subsection 2.2: Substructure Material & Type



B.SB.04 – Substructure Type

B03 – Bent Pile

Example – Subsection 2.2: Substructure Material & Type



Item	Data Item	Value (1)	Value (2)
B.SB.01	Substructure Configuration	A01	P01
B.SB.02	# of Substructure Units	2	2
B.SB.03	Substructure Material	C02	C02
B.SB.04	Substructure Type	A08	B03

Example – Subsection 2.2: Substructure Material & Type



B.SB.05 – Substructure Protective System

0 – None

Example – Subsection 2.2: Substructure Material & Type



B.SB.05 – Substructure Protective System

0 – None

Example – Subsection 2.2: Substructure Material & Type



Item	Data Item	Value (1)	Value (2)
B.SB.01	Substructure Configuration	A01	P01
B.SB.02	# of Substructure Units	2	2
B.SB.03	Substructure Material	C02	C02
B.SB.04	Substructure Type	A08	B03
B.SB.05	Sub. Protective System	0	0

Example – Subsection 2.2: Substructure Material & Type



B.SB.06 – Foundation Type

P01 – Pile – Steel H-Shape

Example – Subsection 2.2: Substructure Material & Type



B.SB.06 – Foundation Type

P01 – Pile – Steel H-Shape

Example – Subsection 2.2: Substructure Material & Type



Item	Data Item	Value (1)	Value (2)
B.SB.01	Substructure Configuration	A01	P01
B.SB.02	# of Substructure Units	2	2
B.SB.03	Substructure Material	C02	C02
B.SB.04	Substructure Type	A08	B03
B.SB.05	Sub. Protective System	0	0
B.SB.06	Foundation Type	P01	P01

Example – Subsection 2.2: Substructure Material & Type



B.SB.07 – Foundation Protective System

C01 – Coating – Paint

Example – Subsection 2.2: Substructure Material & Type



B.SB.07 – Foundation Protective System

C01 – Coating – Paint

Example – Subsection 2.2: Substructure Material & Type



Item	Data Item	Value (1)	Value (2)
B.SB.01	Substructure Configuration	A01	P01
B.SB.02	# of Substructure Units	2	2
B.SB.03	Substructure Material	C02	C02
B.SB.04	Substructure Type	A08	B03
B.SB.05	Sub. Protective System	0	0
B.SB.06	Foundation Type	P01	P01
B.SB.07	Foundation Protective System	C01	C01

Subsection 2.3: Roadside Hardware

- B.RH.01 – Bridge Railings
- B.RH.02 – Transitions

B.RH.01 – Bridge Railings

Bridge Railings		
<u>Format</u> AN (4)	<u>Frequency</u> I	<u>Item ID</u> B.RH.01
Specification		Commentary
Report the crash-test level for the bridge railings using one of the codes in <i>Table 6</i> .		<p>This roadside hardware includes all types and shapes of bridge railings (parapets, median barriers, or structure mounted) located on the bridge or that cross over culverts.</p> <p>Use the code that first applies going from the bottom (Code 0) of <i>Table 6</i> to the top (MYY), if there are more than one type of bridge railing on the bridge.</p>

B.RH.01 – Bridge Railings

Commentary Continued

A list of crash-tested bridge railings may be obtained from the FHWA Office of Highway Safety website at: http://safety.fhwa.dot.gov/roadway_dept/policy_guide/road_hardware/.

~~Bridge railings designed to meet AASHTO specifications prior to 1964 may not meet current specifications.~~

Prior to 1993, bridge railings were tested according to the AASHTO Guide Specifications for Bridge Railings, NCHRP Report 230, or NCHRP Report 239.

Since 1993, bridge railings were crash-tested and classified according to the guidelines shown in NCHRP Report 350.

~~Refer to the May 30, 1997 memo at the FHWA Office of Highway Safety website for a list of crash-tested bridge railings with equivalent NCHRP Report 350 test levels.~~

In 2009 the AASHTO Manual for Assessing Safety Hardware (MASH) replaced NCHRP 350. ~~In 2015 AASHTO and FHWA entered into a MASH joint implementation agreement.~~

Refer to State, Federal agency, or Tribal government policies for ~~acceptable~~ bridge railing standards.

Use code I when no information is known about the crash test level or an agency approved standard. Also, use code I when an overlay is applied to the deck/slab and the height no longer meets the original geometry requirements of the crash-tested rail.

B.RH.01 – Bridge Railings

Table 6. Roadside Hardware codes.

Code	Test Level Code						Description
	1	2	3	4	5	6	
N							Not applicable – roadside hardware is not required.
	MY1	MY2	MY3	MY4	MY5	MY6	Roadside hardware successfully crash-tested for AASHTO MASH.
	3501	3502	3503	3504	3505	3506	Roadside hardware successfully crash-tested for NCHRP Report 350.
	2301	2302	2303				Roadside hardware successfully crash-tested for NCHRP Report 230.
	2391	2392	2393				Roadside hardware successfully crash-tested for NCHRP Report 239.
	891	892	893				Roadside hardware successfully crash-tested for 1989 AASHTO Guide Specifications for Bridge Railings.
X							Roadside hardware successfully crash-tested for other criteria.
AYY							Roadside hardware has not been crash-tested but meets AASHTO Standard Specifications for Highway Bridges.
SY							Roadside hardware has not been crash-tested but meets approved agency standards.
I							Roadside hardware has not been crash-tested and does not meet approved agency standards.
0 (zero)							None - roadside hardware is required, but required roadside hardware is not present.

B.RH.01 – Bridge Railings – Example



Example for B.RH.01 = M164
MASH Compliant
Constant Slope Face Barrier

B.RH.01 – Bridge Railings – Example



Example for B.RH.01 = M164
MASH Compliant
New Jersey Barrier

B.RH.01 – Bridge Railings – Example



Example for B.RH.01 = 3502
NCHRP 350
Steel Beam Guardrail, Class B, Type 2

B.RH.01 – Bridge Railings – Example



Example for B.RH.01 = 2302
NCHRP 230
Concrete Bridge Rail w/ Curb

B.RH.01 – Bridge Railings – Example



Example for B.RH.01 = M163
MASH Compliant
Case 3 – Posts attached to
back of parapet wall

B.RH.01 – Bridge Railings – Example



Example for B.RH.01 = M163
MASH Compliant
Case 1 – Posts attached to
top of barrel

B.RH.02 – Transitions

<i>Transitions</i>		
<u>Format</u> AN (4)	<u>Frequency</u> I	<u>Item ID</u> B.RH.02
Specification		Commentary
Report the crash-test level for transition railings using one of the codes in <i>Table 6</i> .		<p>This roadside hardware serves as the transition from the roadside approach railing to the bridge railing and is firmly attached and anchored to the bridge railing to provide sufficient tension in the transition rail upon impact.</p> <p>Use the code that first applies going from the bottom (Code 0) of <i>Table 6</i> to the top (MYY), if there are more than one type of transition.</p>

B.RH.02 – Transitions

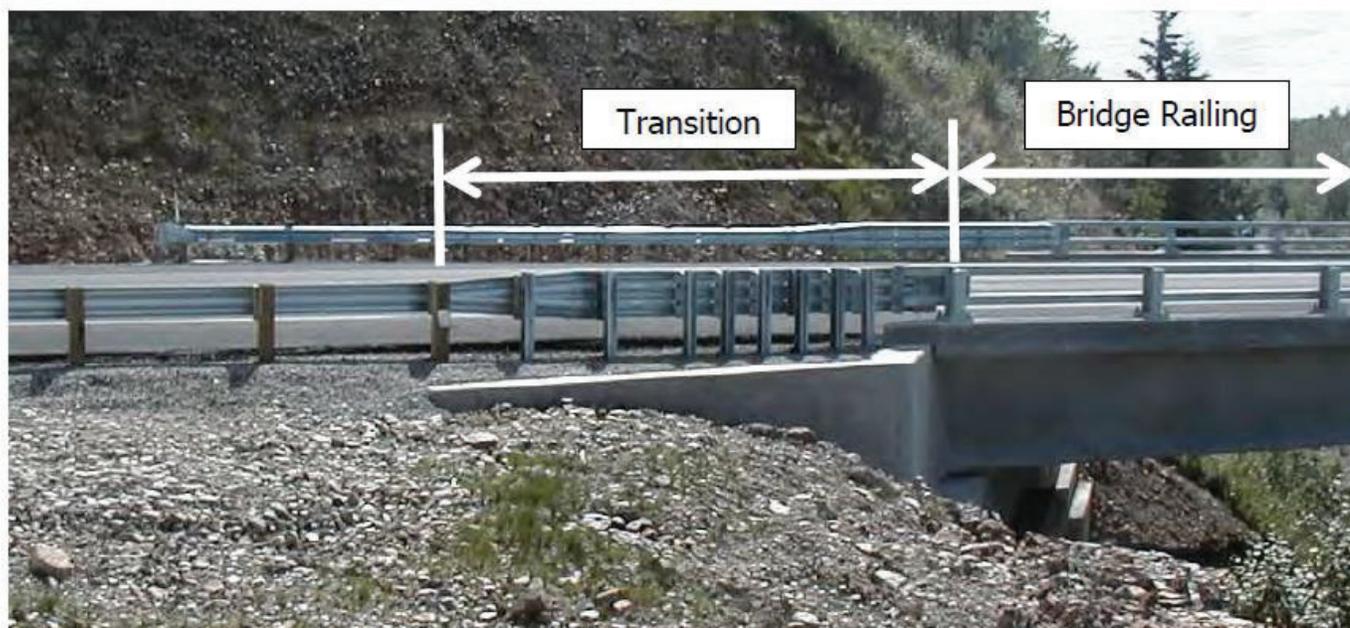
Commentary Continued
<p>A list of crash-tested transitions may be obtained from the FHWA Office of Highway Safety website at: http://safety.fhwa.dot.gov/roadway_dept/policy_guide/road_hardware/.</p> <p>Since 1993, transitions to bridge railings have been crash tested and classified according to the guidelines shown in NCHRP Report 350.</p> <p>In 2009 the AASHTO Manual for Assessing Safety Hardware (MASH) replaced NCHRP 350. In 2015 AASHTO and FHWA entered into a MASH joint implementation agreement.</p> <p>Refer to State, Federal agency, or Tribal government policies for acceptable transition railing standards.</p> <p>Use code I when no information is known about the crash test level or an agency approved standard. Also, use code I when an overlay is applied to the deck/slab and the height no longer meets the original geometry requirements of the crash-tested transition.</p> <p><u>For bridges with one-way traffic, and which a transition on the departure end of the bridge is not warranted (i.e. only a connection to develop the departure rail strength is warranted), the crash-test level of the departure end does not need to be reported when it is lower crash test level than the approach end.</u></p>

B.RH.02 – Transitions

Table 6. Roadside Hardware codes.

Code	Test Level Code						Description
	1	2	3	4	5	6	
N							Not applicable – roadside hardware is not required.
	MY1	MY2	MY3	MY4	MY5	MY6	Roadside hardware successfully crash-tested for AASHTO MASH.
	3501	3502	3503	3504	3505	3506	Roadside hardware successfully crash-tested for NCHRP Report 350.
	2301	2302	2303				Roadside hardware successfully crash-tested for NCHRP Report 230.
	2391	2392	2393				Roadside hardware successfully crash-tested for NCHRP Report 239.
	891	892	893				Roadside hardware successfully crash-tested for 1989 AASHTO Guide Specifications for Bridge Railings.
X							Roadside hardware successfully crash-tested for other criteria.
AYY							Roadside hardware has not been crash-tested but meets AASHTO Standard Specifications for Highway Bridges.
SY							Roadside hardware has not been crash-tested but meets approved agency standards.
I							Roadside hardware has not been crash-tested and does not meet approved agency standards.
0 (zero)							None - roadside hardware is required, but required roadside hardware is not present.

Bridge Railing vs. Transitions – Example



B.RH.02 – Transitions – Example



Example for B.RH.02 = M163
MASH Compliant
Type 13 (MASH) End Anchor

B.RH.02 – Transitions – Example



Example for B.RH.02 = 3503
NCHRP 350 (TL-3)
Type 13 End Anchor

B.RH.02 – Transitions – Example



Example for B.RH.02 = 3503
NCHRP 350 (TL-3)
Type 13 End Anchor, Bridge
Rail Retrofit

B.RH.02 – Transitions – Example



Example for B.RH.01 = 3502
NCHRP 350
End Anchor, Type Special
(Steel Beam Guardrail
Across Bridge)

B.RH.02 – Transitions – Example



Example for B.RH.01 = 3502
NCHRP 350
End Anchor, Type Special
(Concrete Rail on Bridge)

B.RH.02 – Transitions – Example



Example for B.RH.02 = 2302
NCHRP 230
Type 2A End Anchor

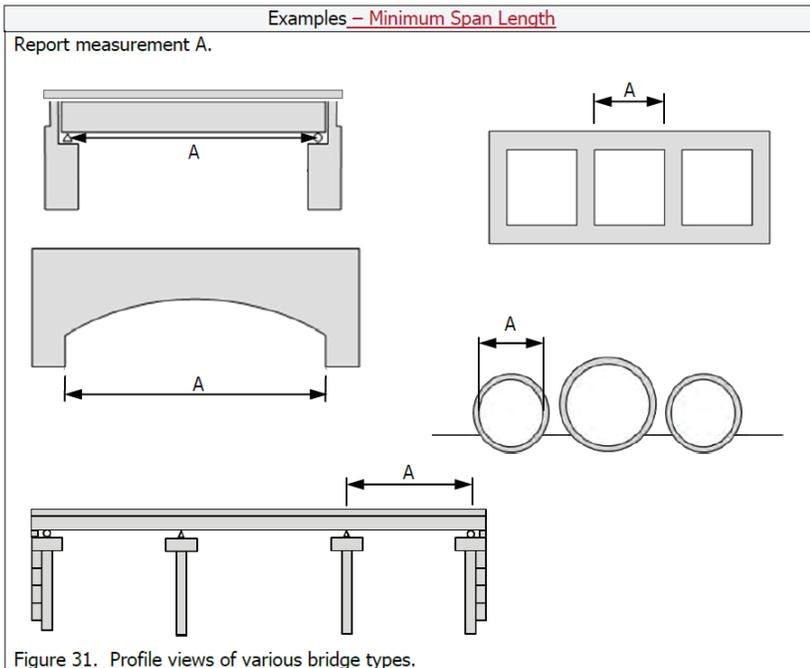
Section 3: Bridge Geometry

- B.G.01 – NBIS Bridge Length*
 - B.G.02 – Total Bridge Length*
 - B.G.03 – Maximum Span Length*
 - B.G.04 – Minimum Span Length
 - B.G.05 – Bridge Width Out-to-Out*
 - B.G.06 – Bridge Width Curb-to-Curb*
 - B.G.07 – Left Curb or Sidewalk Width*
 - B.G.08 – Right Curb or Sidewalk Width*
 - B.G.09 – Approach Roadway Width*
 - B.G.10 – Bridge Median*
 - B.G.11 – Skew*
 - B.G.12 – Curved Bridge
 - B.G.13 – Maximum Bridge Height
 - B.G.14 – Sidehill Bridge
 - B.G.15 – Irregular Deck Area
 - B.G.16 – Calculated Deck Area*
- * Already Captured in BrM

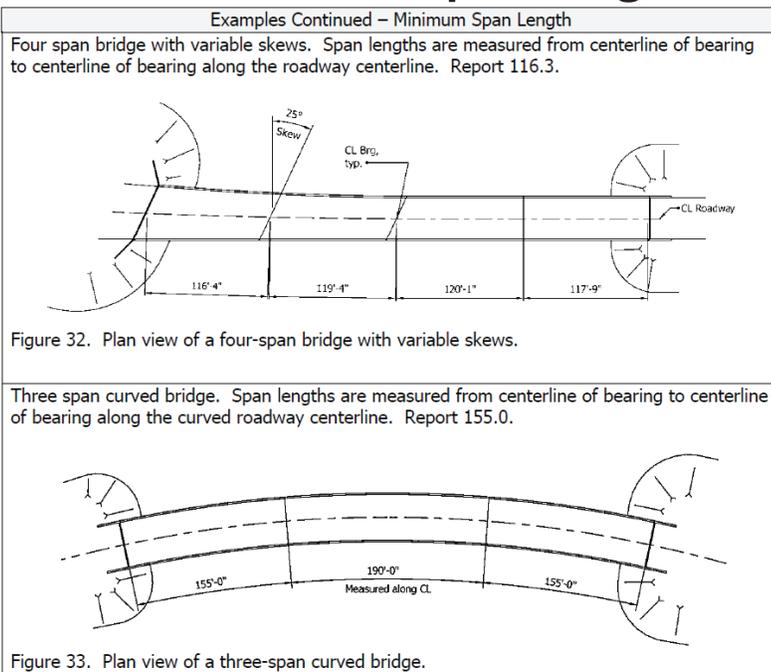
B.G.04 – Minimum Span Length

<i>Minimum Span Length</i>	
Format N (5,1)	Frequency I
Specification	Item ID B.G.04
<p>Report the length of the minimum span to the nearest tenth of foot, measured from centerline of bearing to centerline of bearing, along the roadway centerline.</p>	<p>For rigid frames, arches, pipes, integral abutments, or similar type bridges where there is not a clear centerline of bearing, use the clear open distance between piers, bents, or abutments.</p>
<p>Commentary Continued</p>	
<p>The roadway centerline is the physical center of the portion of the roadway for the movement of vehicles, regardless of striping, and exclusive of shoulders. The length for curved bridges is measured along the curved centerline.</p> <p><u>For bridges with in-span hinges or bearings, measure from centerline of substructure bearing to centerline of substructure bearing, or clear open distance between substructure units when there is not a clear centerline of bearing.</u></p> <p>For bridges with single spans this item has the same value as B.G.03 (<i>Maximum Span Length</i>).</p>	

B.G.04 – Minimum Span Length



B.G.04 – Minimum Span Length



B.G.12 – Curved Bridge

Curved Bridge												
Format AN (2)	Frequency I	Item ID B.G.12										
Specification	Commentary											
Report whether the bridge is horizontally curved using one of the following codes.	A bridge is considered horizontally curved when at least one partial or full length girder line forms a curve using either a curved girder(s), piecewise straight girders forming a segmented/chorded curve, or a kinked girder(s).											
<table border="0"> <tr> <td><u>Code</u></td> <td><u>Description</u></td> </tr> <tr> <td>CU</td> <td>Curved girder(s)</td> </tr> <tr> <td>CP</td> <td>Piecewise straight girders</td> </tr> <tr> <td>CK</td> <td>Kinked girder(s)</td> </tr> <tr> <td>N</td> <td>Not curved</td> </tr> </table>	<u>Code</u>	<u>Description</u>	CU	Curved girder(s)	CP	Piecewise straight girders	CK	Kinked girder(s)	N	Not curved	<p>For this specification, a piecewise straight girder line is comprised of girders with a longitudinal axis that changes orientation at one or more supports. The girder line may be simply supported or continuous at supports. A kinked girder is a girder with a longitudinal axis that changes orientation at a location(s) along the girder length excluding at the supports.</p> <p>Diaphragm and cross frame members in horizontally curved bridges are primary members.</p> <p>Use code N for bridges that have curved deck geometry, or may be striped as curved, but the girders do not form a curve.</p>	
<u>Code</u>	<u>Description</u>											
CU	Curved girder(s)											
CP	Piecewise straight girders											
CK	Kinked girder(s)											
N	Not curved											

B.G.12 – Curved Bridge

Example
<p>Report CU.</p>  <p>Figure 71. Curved bridge with curved girders. (Source: Alaska DOT)</p>

B.G.12 – Curved Bridge

Examples Continued – Curved Bridge

Report CP.

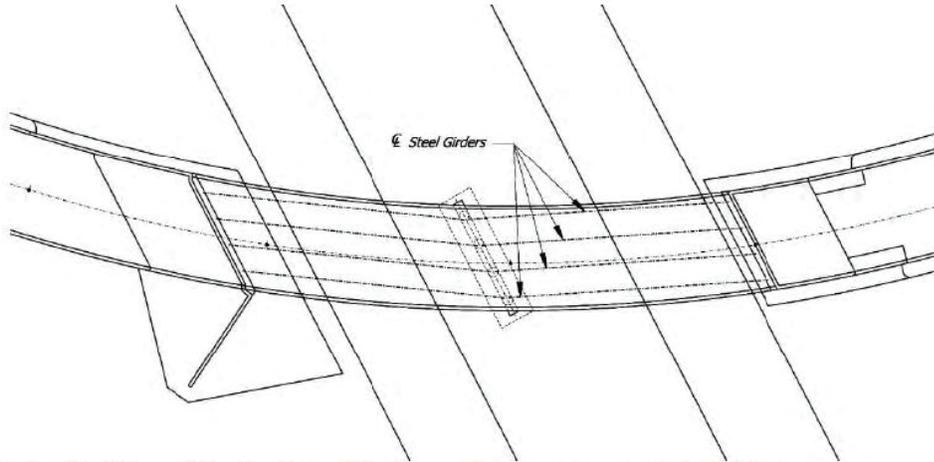


Figure 72. Plan view of a curved bridge with piecewise straight girders.

B.G.12 – Curved Bridge

Report CK.

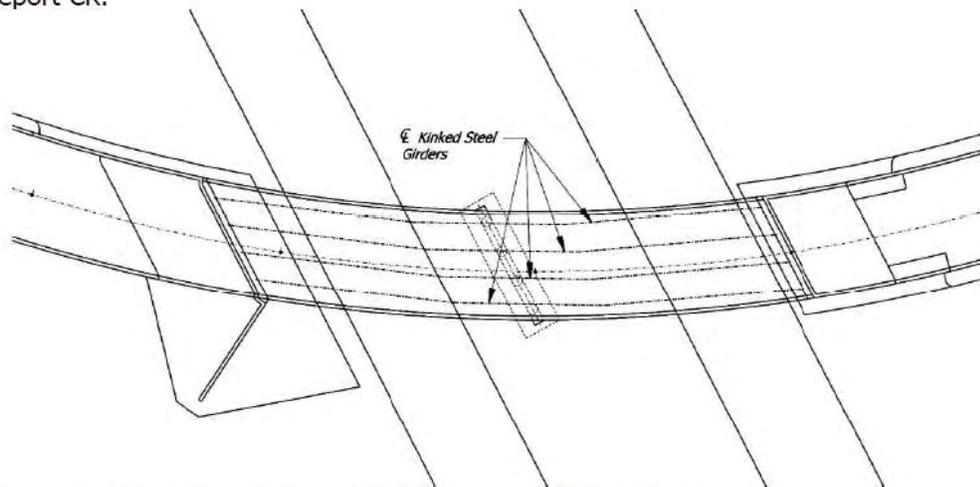


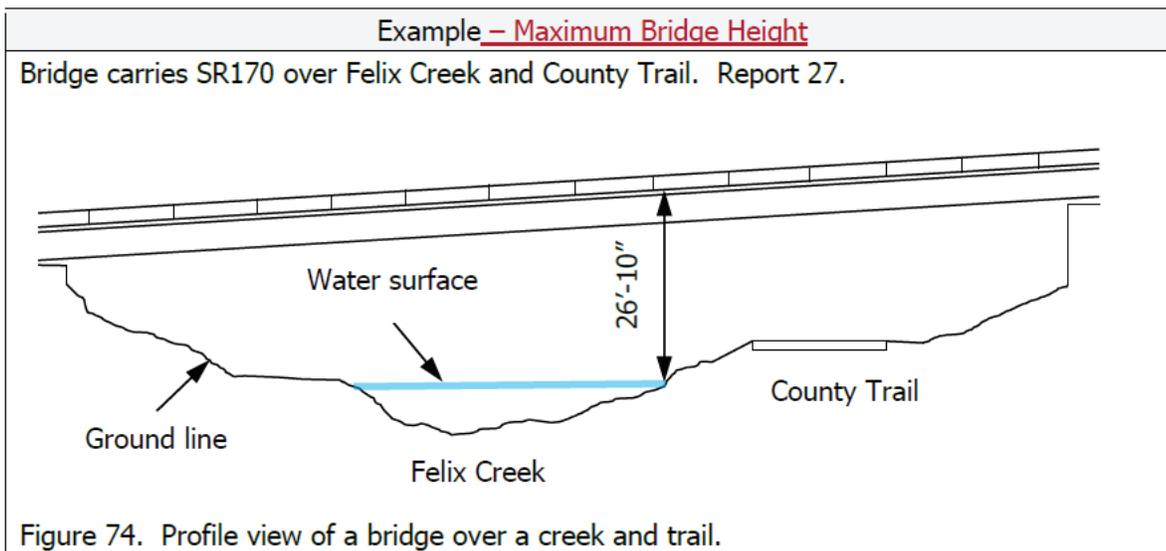
Figure 73. Plan view of a curved bridge with kinked girders.

B.G.13 – Maximum Bridge Height

Maximum Bridge Height		
Format N (4,0)	Frequency I	Item ID B.G.13
Specification	Commentary	
Record the maximum height from top of deck to ground line or water surface elevation, whichever yield the largest value, rounded to the nearest foot.	<p>For double-deck bridges inventoried as one bridge, measure from top of deck of the lower deck. For double-deck bridges inventoried as two bridges, measure from the top of deck of the inventoried bridge.</p> <p><u>For bridges under fill, excluding closed spandrel arches, measure from top of slab, or top of pipe, to water surface elevation. When there is no waterway feature, measure to inside bottom of pipe, inside of floor slab, or ground line when the bottom is unexposed or the bridge is bottomless. For closed spandrel arches measure from top of roadway surface.</u></p> <p>Ground line represents dry terrain <u>or pavement, pavement, or waterway bottom.</u></p> <p>Use the water surface elevation at the time the value for this item is established.</p>	

Commentary
Use the water surface elevation at the time the value for this item is established.
This item may be estimated by field observation or from plans when it is not practical or is infeasible to measure, or height is more than 30 ft.
This item does not need to be updated due to fluctuations in water surface elevation.

B.G.13 – Maximum Bridge Height – Example



B.G.13 – Maximum Bridge Height – Example



Example for B.G.13 =
Measurement

B.G.13 – Maximum Bridge Height – Example



Example for B.G.13 =
Measurement

B.G.13 – Maximum Bridge Height – Example



Example for B.G.13 = Measurement

B.G.14 – Sidehill Bridge

Sidehill Bridge							
Format AN (1)	Frequency I						
Item ID B.G.14							
Specification	Commentary						
Report whether any portion of the bridge is a sidehill structure.	A sidehill bridge is a structure built onto the side of terrain or earth material with the roadway centerline running nearly parallel to the face of the terrain or material. The roadway is carried partially on structure and partially on terrain that has been modified by cutting or filling to form the required roadway subgrade elevation.						
<table border="0"> <tr> <td><u>Code</u></td> <td><u>Description</u></td> </tr> <tr> <td>N</td> <td>Not a sidehill bridge</td> </tr> <tr> <td>Y</td> <td>Is a sidehill bridge</td> </tr> </table>	<u>Code</u>	<u>Description</u>	N	Not a sidehill bridge	Y	Is a sidehill bridge	<p>For sidehill bridges, Item B.G.06 (<i>Bridge Width Curb-to-Curb</i>) is typically larger than Item B.G.05 (<i>Bridge Width Out-to-Out</i>).</p> <p>For sidehill bridges with irregular geometry, reporting the actual deck area in Item B.G.15 (<i>Irregular Deck Area</i>) provides a more accurate value than using the default calculation described for that item.</p> <p>Use code N when no portion of the bridge is a sidehill structure.</p>
<u>Code</u>	<u>Description</u>						
N	Not a sidehill bridge						
Y	Is a sidehill bridge						

B.G.14 – Sidehill Bridge

Example

A bridge is built onto the side of a hill with the roadway partially on ground and partially on structure. Report Y.

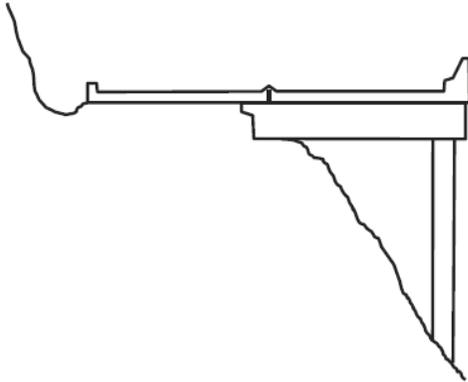
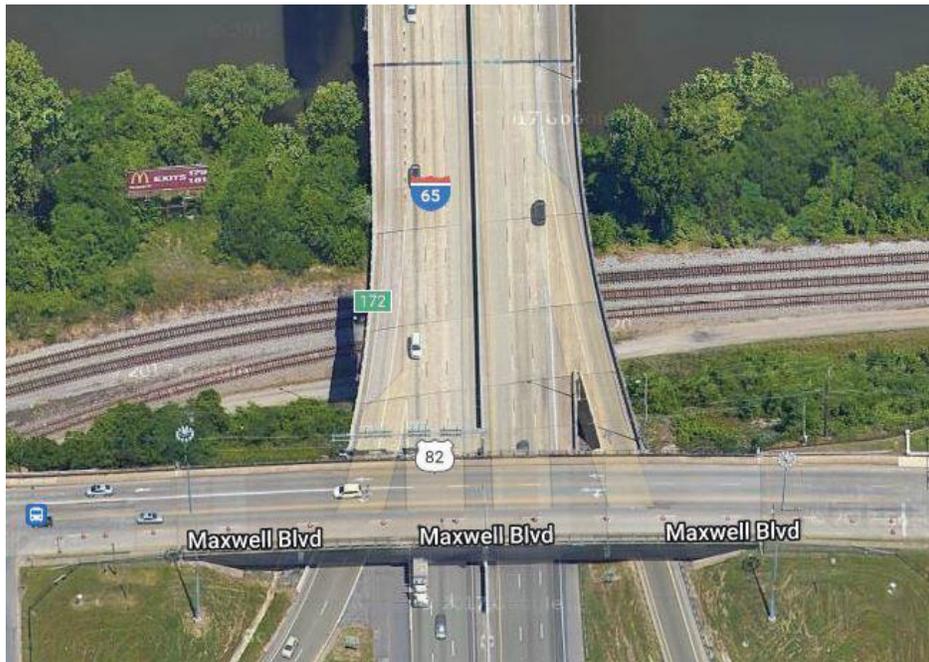


Figure 75. Cross-section view of a sidehill bridge.

B.G.15 – Irregular Deck Area

<i>Irregular Deck Area</i>		
<u>Format</u> N (10,1)	<u>Frequency</u> I	<u>Item ID</u> B.G.15
Specification	Commentary	
<p>Report the total deck area rounded to the nearest tenth of a square foot.</p> <p>Only report this item when the actual area is obtained from plans or measurement of bridges with irregular geometry.</p> <p>The limits of measurement shall be in accordance with Items B.G.05 (<i>Bridge Width Out-to-Out</i>) and B.G.02 (<i>Total Bridge Length</i>).</p> <p>For bridges that carry multiple types of service, for example highway and railroad, report the deck area that encompasses all service types.</p>	<p>Reporting the deck area calculated from plans may more accurately reflect the deck area for bridges with unusual geometry (e.g. flared, sidehill, or bifurcated structures), or through structures with cantilevered sidewalks.</p> <p>This item can improve the accuracy of national performance measure computations, estimating cost, etc.</p>	

B.G.15 – Irregular Deck Area – Example



Example for B.G.15

Section 4: Features

- Subsection 4.1: Feature Identification
- Subsection 4.2: Routes
- Subsection 4.3: Highways
- Subsection 4.4: Railroads
- Subsection 4.5: Navigable Waterways

Subsection 4.1: Feature Identification

- B.F.01 – Feature Type
- B.F.02 – Feature Location
- B.F.03 – Feature Name

B.F.01 – Feature Type

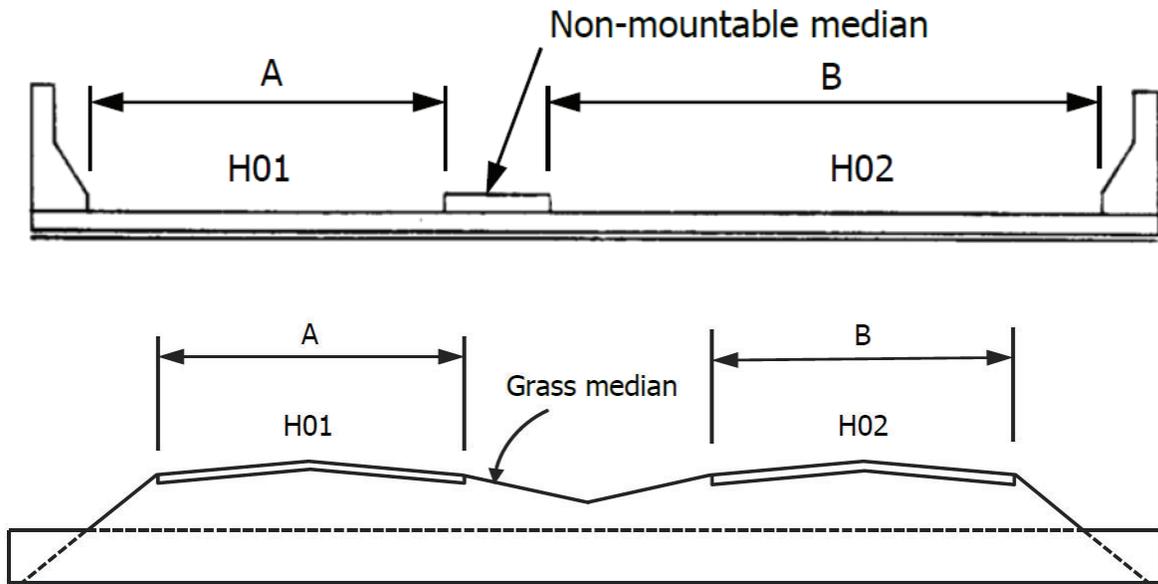
Feature Type																			
Format AN (3)	Item ID B.F.01																		
Specification	Commentary																		
<p>Report the feature that is above, below, or carried on the bridge using one of the following codes.</p> <table border="1"> <thead> <tr> <th>Code</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>H##</td> <td>Highway</td> </tr> <tr> <td>R##</td> <td>Railroad</td> </tr> <tr> <td>P##</td> <td>Pathway</td> </tr> <tr> <td>W##</td> <td>Waterway</td> </tr> <tr> <td>F##</td> <td>Relief for waterway</td> </tr> <tr> <td>B##</td> <td>Urban feature</td> </tr> <tr> <td>D##</td> <td>Dry terrain or side slope</td> </tr> <tr> <td>X##</td> <td>Other</td> </tr> </tbody> </table> <p>Replace the ## characters in the above codes with sequential numbers, with leading zeros, assigned to each feature type.</p> <p>For a double deck bridge that is inventoried with one unique bridge number, report a feature for each deck level.</p>	Code	Description	H##	Highway	R##	Railroad	P##	Pathway	W##	Waterway	F##	Relief for waterway	B##	Urban feature	D##	Dry terrain or side slope	X##	Other	<p>All bridges have at least one feature carried on the bridge and one feature below the bridge. Some bridges have several features that are above, below, or carried on the bridge.</p> <p>Each feature type is numbered sequentially, starting with one (H01, R01, etc.). Highway features should be numbered beginning with the features carried on the bridge, followed by those below and above (H01, H02, H03, etc.).</p> <p>This item does not include ancillary structures and utilities.</p> <p>Reporting more than one Urban feature or Other feature is optional.</p> <p>For multi-level interchanges, report highway features directly above and below the bridge.</p> <p>The presence of a flush or mountable median on the bridge does not in itself indicate that</p>
Code	Description																		
H##	Highway																		
R##	Railroad																		
P##	Pathway																		
W##	Waterway																		
F##	Relief for waterway																		
B##	Urban feature																		
D##	Dry terrain or side slope																		
X##	Other																		

B.F.01 – Feature Type

Specification	Commentary
For a double deck bridge that is inventoried with one unique bridge number, report a feature for each deck level.	The presence of a flush or mountable median on the bridge does not in itself indicate that the highway is divided.
Report a railroad feature for each separate railroad service type, as identified in Item B.RR.01 (<i>Railroad Service Type</i>), that is carried on or passes below the bridge. When a track carries multiple railroad service types, report only one feature. When multiple tracks carry the same railroad service type(s), report only one feature.	Use code R for each railroad service type listed in Item B.RR.01 (<i>Railroad Service Type</i>). Use code P for separated pathways dedicated for pedestrian, bicycle, equestrian, or other non-highway modes of human transportation not covered in other codes.
Report one highway feature for a highway that is designated with two or more route numbers.	Use code W for each unique waterway. Do not use for roadside ditches or pipes that typically only carry roadway runoff from rain events.
Report multiple highway features when the highway is divided at the bridge.	Use code F for bridges where one or more spans provide waterway openings for flow only during flood stages to provide additional hydraulic capacity, such as relief channels.

Commentary Continued – Feature Type
Use code B for urban features such as buildings, parking lots, etc.
Use code D for features such as a natural depression or sidehill slope when there is no discernable waterway channel and none of the other feature codes apply.
Use code X when no other code applies for features that exist below the bridge.
For border bridges, the Neighboring State reports this item for all highway features carried on or passing above the bridge, as part of their abbreviated bridge record. For more information, see the Border Bridges section of this document.

B.F.01 – Feature Type – Divided Highway Examples



B.F.01 – Feature Type – Example



Example for B.F.01 Report
 H01 – Highway
 W01 – Waterway

Item ID	Data Item	Value (1)	Value (2)
B.F.01	Feature Type	H01	W01

B.F.01 – Feature Type – Example



Example for B.F.01 Report
 H01 – Highway
 R01 – Railroad

Item ID	Data Item	Value (1)	Value (2)
B.F.01	Feature Type	H01	R01

B.F.01 – Feature Type – Example



Example for B.F.01 Report
 H01 – Highway (on)
 H02 – Highway (under)
 R01 – Railroad

Item ID	Data Item	Value (1)	Value (2)	Value (3)
B.F.01	Feature Type	H01	H02	R01

B.F.01 – Feature Type – Example



Example for B.F.01 Report
 H01 – Highway (on)
 H02 – Highway (under)
 W01 – Waterway

Item ID	Data Item	Value (1)	Value (2)	Value (3)
B.F.01	Feature Type	H01	H02	W01

B.F.01 – Feature Type – Example



Example for B.F.01 Report
 H01 – Highway
 P01 – Pathway
 W01 – Waterway

Item ID	Data Item	Value (1)	Value (2)	Value (3)
B.F.01	Feature Type	H01	P01	W01

B.F.01 – Feature Type – Example



Example for B.F.01 Report
 H01 – Highway
 P01 – Pathway
 B01 – Urban Feature

Item ID	Data Item	Value (1)	Value (2)	Value (3)
B.F.01	Feature Type	H01	P01	B01

B.F.01 – Feature Type – Example



Example for B.F.01 Report
 R01 – Railroad
 H01 – Highway
 P01 – Pathway

Item ID	Data Item	Value (1)	Value (2)	Value (3)
B.F.01	Feature Type	R01	H01	P01

B.F.01 – Feature Type – Example



Example for B.F.01 Report
 H01 – Highway (SB)
 H02 - Highway (NB)
 F01 – Relief for Waterway

Item ID	Data Item	Value (1)	Value (2)	Value (3)
B.F.01	Feature Type	H01	H02	F01

B.F.01 – Feature Type – Example



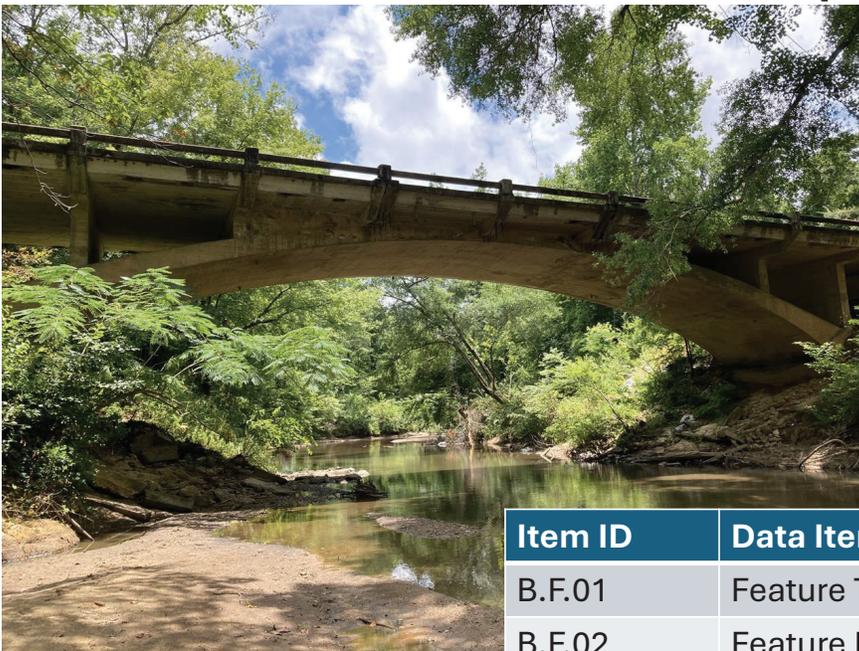
Example for B.F.01 Report
 H01 – I 20/59 (WB/SB)
 H02 – I 20/59 (EB/NB)
 H03 – US82/AL 6/McFarland (WB)
 H04 – US82/AL 6/McFarland (EB)
 P01 – Pathway

Item ID	Data Item	Value (1)	Value (2)	Value (3)	Value (4)	Value (5)
B.F.01	Feature Type	H01	H02	H03	H04	P01

B.F.02 – Feature Location

<i>Feature Location</i>													
Format AN (1)	Frequency I												
Item ID B.F.02													
Specification	Commentary												
<p>Report the location for the feature reported in Item B.F.01 (<i>Feature Type</i>) that is above, below, or carried on the bridge using one of the following codes.</p> <table border="1"> <thead> <tr> <th>Code</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>C</td> <td>Carried on bridge</td> </tr> <tr> <td>A</td> <td>Above bridge</td> </tr> <tr> <td>B</td> <td>Below bridge</td> </tr> <tr> <td>T</td> <td>Top level</td> </tr> <tr> <td>L</td> <td>Lower level</td> </tr> </tbody> </table>	Code	Description	C	Carried on bridge	A	Above bridge	B	Below bridge	T	Top level	L	Lower level	<p>This item has a corresponding code for each feature reported for Item B.F.01 (<i>Feature Type</i>).</p> <p>Use code T for the top level of a double deck bridge that is inventoried using one unique bridge number.</p> <p>Use code L for the lower level of a double deck bridge that is inventoried using one unique bridge number.</p> <p>For border bridges, the Neighboring State reports this item for all highway features carried on or passing above the bridge, as part of their abbreviated bridge record. For more information, see the Border Bridges section of this document.</p>
Code	Description												
C	Carried on bridge												
A	Above bridge												
B	Below bridge												
T	Top level												
L	Lower level												

B.F.02 – Feature Location – Example



Example for B.F.02 Report
 C – Highway
 B – Waterway

Item ID	Data Item	Value (1)	Value (2)
B.F.01	Feature Type	H01	W01
B.F.02	Feature Location	C	B

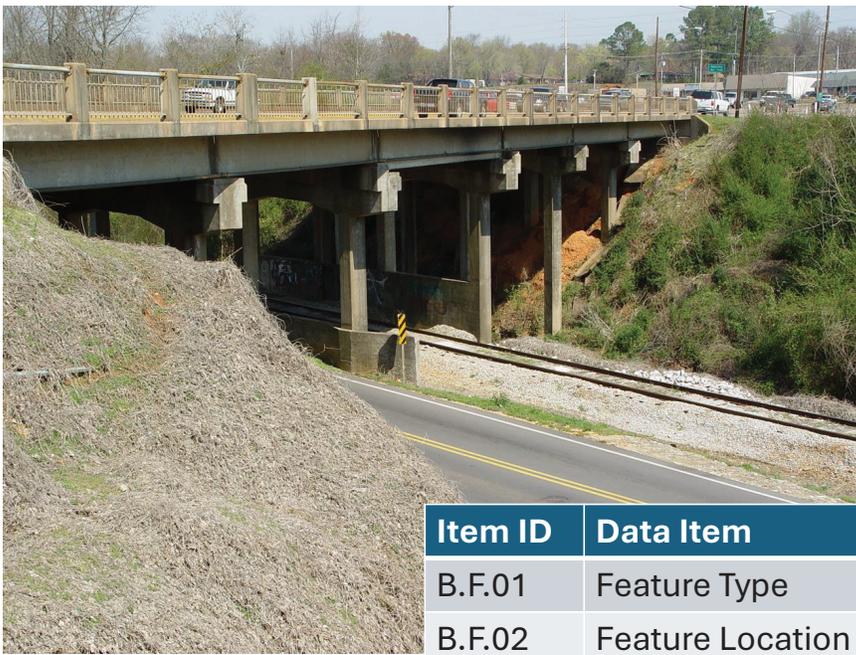
B.F.02 – Feature Location – Example



Example for B.F.02 Report
 C – Highway
 B – Railroad

Item ID	Data Item	Value (1)	Value (2)
B.F.01	Feature Type	H01	R01
B.F.02	Feature Location	C	B

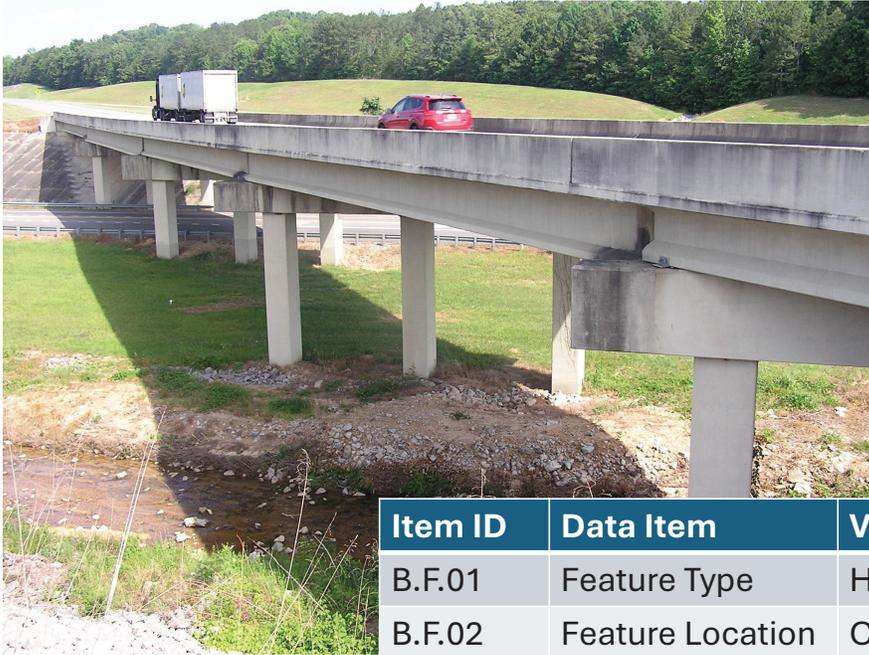
B.F.02 – Feature Location – Example



Example for B.F.02 Report
 C – Highway (on)
 B – Highway (under)
 B – Railroad

Item ID	Data Item	Value (1)	Value(2)	Value (3)
B.F.01	Feature Type	H01	H02	R01
B.F.02	Feature Location	C	B	B

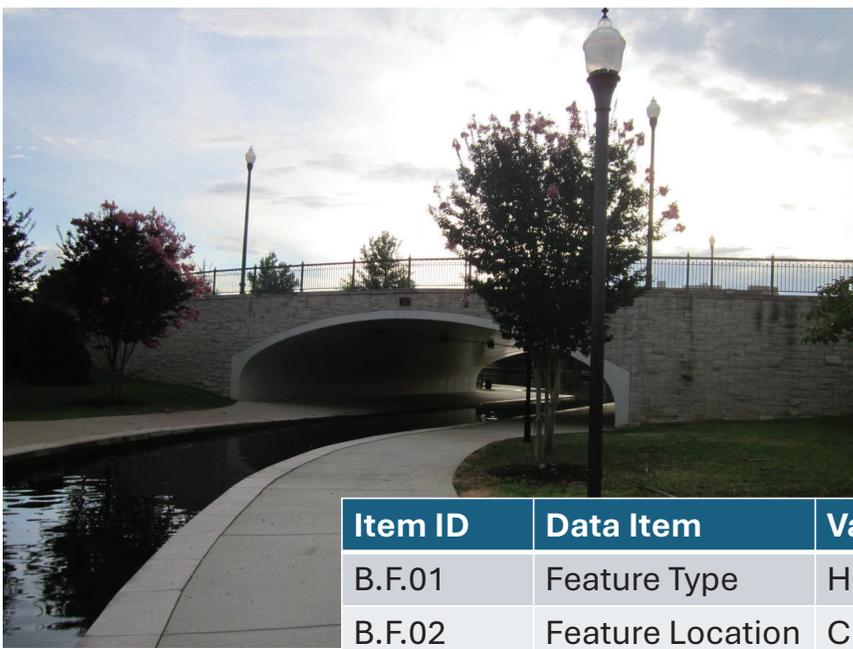
B.F.02 – Feature Location – Example



Example for B.F.02 Report
 C – Highway (on)
 B – Highway (under)
 B – Creek

Item ID	Data Item	Value (1)	Value(2)	Value (3)
B.F.01	Feature Type	H01	H02	W01
B.F.02	Feature Location	C	B	B

B.F.02 – Feature Location – Example



Example for B.F.02 Report
 C – Highway
 B – Pathway
 B – Waterway

Item ID	Data Item	Value (1)	Value(2)	Value (3)
B.F.01	Feature Type	H01	P01	W01
B.F.02	Feature Location	C	B	B

B.F.02 – Feature Location – Example



Example for B.F.02 Report
 C – Highway
 B – Pathway
 B – Urban Feature

Item ID	Data Item	Value (1)	Value(2)	Value (3)
B.F.01	Feature Type	H01	P01	B01
B.F.02	Feature Location	C	B	B

B.F.02 – Feature Location – Example



Example for B.F.02 Report
 C – Railroad
 B – Highway
 B – Pathway

Item ID	Data Item	Value (1)	Value(2)	Value (3)
B.F.01	Feature Type	R01	H01	P01
B.F.02	Feature Location	C	B	B

B.F.02 – Feature Location – Example



Example for B.F.02 Report
 C – Highway
 B – Relief

Item ID	Data Item	Value (1)	Value (2)	Value (3)
B.F.01	Feature Type	H01	H02	F01
B.F.02	Feature Location	C	C	B

B.F.02 – Feature Location – Example



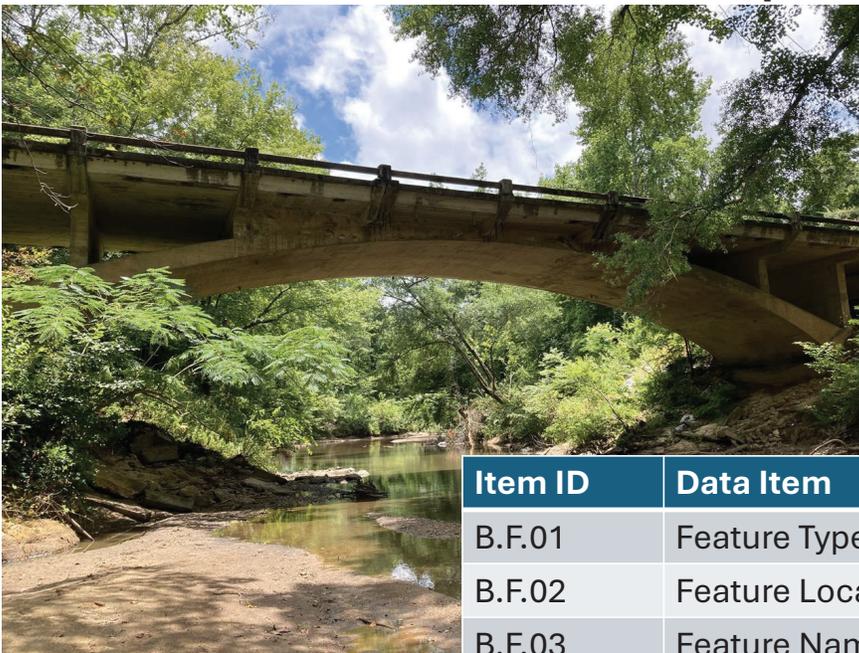
Example for B.F.02 Report
 H01 – I 20/59 (WB/SB)
 H02 – I 20/59 (EB/NB)
 H03 – US 82/AL 6/McFarland (WB)
 H04 – US 82/AL 6/McFarland (EB)
 P01 – Pathway

Item ID	Data Item	Value (1)	Value (2)	Value (3)	Value (4)	Value (5)
B.F.01	Feature Type	H01	H02	H03	H04	P01
B.F.02	Feature Location	C	C	B	B	B

B.F.03 – Feature Name

<i>Feature Name</i>	
<u>Format</u> AN (300)	<u>Frequency</u> I
<u>Item ID</u> B.F.03	
Specification	Commentary
<p>Report the commonly known name(s) for the feature reported in Item B.F.01 (<i>Feature Type</i>). If the feature has no commonly known name, provide a general description.</p> <p>For more than one name, report all names with the most common name first.</p> <p>When applicable, report the route number first followed by other names.</p> <p>Report multiple names separated by pipe () delimiters.</p>	<p>This item has correlating data for each feature reported for Item B.F.01 (<i>Feature Type</i>).</p> <p>The owner may include directional or other descriptive information in this field. Official names and local names may be included.</p> <p>For border bridges, the Neighboring State reports this item for all highway features carried on or passing above the bridge, as part of their abbreviated bridge record. For more information, see the Border Bridges section of this document.</p>

B.F.03 – Feature Name – Example



Example for B.F.03 Report
County Road 1
Dry Branch

Item ID	Data Item	Value (1)	Value(2)
B.F.01	Feature Type	H01	W01
B.F.02	Feature Location	C	B
B.F.03	Feature Name	County Road 1	Dry Branch

B.F.03 – Feature Name – Example



Example for B.F.03 Report
AL 123
Railroad Name

Item ID	Data Item	Value (1)	Value(2)
B.F.01	Feature Type	H01	R01
B.F.02	Feature Location	C	B
B.F.03	Feature Name	AL 123	Railroad Name

B.F.03 – Feature Name – Example



Example for B.F.03 Report
US 01
US 10
Railroad Name

Item ID	Data Item	Value (1)	Value(2)	Value(3)
B.F.01	Feature Type	H01	H02	R01
B.F.02	Feature Location	C	B	B
B.F.03	Feature Name	US 01	US 10	Railroad Name

B.F.03 – Feature Name – Example



Example for B.F.03 Report
 US 21
 AL 19
 Small River

Item ID	Data Item	Value (1)	Value(2)	Value(3)
B.F.01	Feature Type	H01	H02	W01
B.F.02	Feature Location	C	B	B
B.F.03	Feature Name	US 21	AL 19	Small River

B.F.03 – Feature Name – Example



Example for B.F.03 Report
 Monroe Street
 Big Spring Branch
 Big Spring Trail

Item ID	Data Item	Value (1)	Value(2)	Value(3)
B.F.01	Feature Type	H01	P01	W01
B.F.02	Feature Location	C	B	B
B.F.03	Feature Name	Monroe St	Big Spring Trail	Big Spring Branch

B.F.03 – Feature Name – Example



Example for B.F.03 Report
 I-20/59
 Sidewalk
 City Walk

Item ID	Data Item	Value (1)	Value(2)	Value(3)
B.F.01	Feature Type	H01	P01	B01
B.F.02	Feature Location	C	B	B
B.F.03	Feature Name	I-20 I-59	Sidewalk	City Walk

B.F.03 – Feature Name – Example



Example for B.F.03 Report
 Railroad Name
 AL 123
 Sidewalk

Item ID	Data Item	Value (1)	Value(2)	Value (3)
B.F.01	Feature Type	R01	H01	P01
B.F.02	Feature Location	C	B	B
B.F.03	Feature Name	Railroad Name	AL 123	Sidewalk

B.F.03 – Feature Name – Example



Example for B.F.03 Report
I 65
Relief for Dry River

Item ID	Data Item	Value (1)	Value (2)	Value (3)
B.F.01	Feature Type	H01	H02	F01
B.F.02	Feature Location	C	C	B
B.F.03	Feature Name	I-65 SB	I-65 NB	Relief for Dry River

B.F.03 – Feature Name – Example



Example for B.F.03 Report
H01 – I 20/59 (WB/SB)
H02 – I 20/59 (EB/NB)
H03 – US 82/AL 6/McFarland (WB)
H04 – US 82/AL 6/McFarland (EB)
P01 – Pathway

Item ID	Data Item	Value (1)	Value (2)	Value (3)	Value (4)	Value (5)
B.F.01	Feature Type	H01	H02	H03	H04	P01
B.F.02	Feature Location	C	C	B	B	B
B.F.03	Feature Name	I-20 WB I-59 SB	I-20 EB I-59 NB	US 82 WB AL 6 WB McFarland Blvd.	US 82 EB AL 6 EB McFarland Blvd.	Sidewalk

Subsection 4.2: Routes

- B.RT.01 – Route Designation
- B.RT.02 – Route Number
- B.RT.03 – Route Direction
- B.RT.04 – Route Type
- B.RT.05 – Service Type

B.RT.01 – Route Designation

<i>Route Designation</i>						
Format	Frequency	Item ID				
AN (3)	I	B.RT.01				
Specification	Commentary					
<p>Report the assigned route designation for the highway reported in Item B.F.01 (<i>Feature Type</i>) using the following code.</p> <table border="1"> <thead> <tr> <th>Code</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>R##</td> <td>Unique Route Designation</td> </tr> </tbody> </table> <p>Replace the ## characters in the above code with sequential numbers, with leading zeros, assigned to each unique route designation carried on the highway feature (e.g., R01, R02, etc.).</p> <p>If a highway carries multiple routes, report only those routes that have a route number. If a highway carries only routes without route numbers, report one route designation.</p>	Code	Description	R##	Unique Route Designation	<p>This item captures how routes that share the reported highway feature are designated.</p> <p>Each highway feature has at least one route designation.</p> <p>Typically, the route with the highest-class route type is listed first, using the hierarchy shown in Item B.RT.04 (<i>Route Type</i>). An interstate is considered the highest-class route.</p> <p>If the highway feature is carried on a ramp bridge, report all applicable routes for the highways that are being connected.</p> <p>For border bridges, the Neighboring State reports this item for all highway features carried on the bridge, as part of their abbreviated bridge record. For more information, see the Border Bridges section of this document.</p>	
Code	Description					
R##	Unique Route Designation					

B.RT.01 – Route Designation – Example



Example for B.RT.01 Report
R01 – County Road 1

Item ID	Data Item	Value (1)
B.RT.01	Route Designation	R01

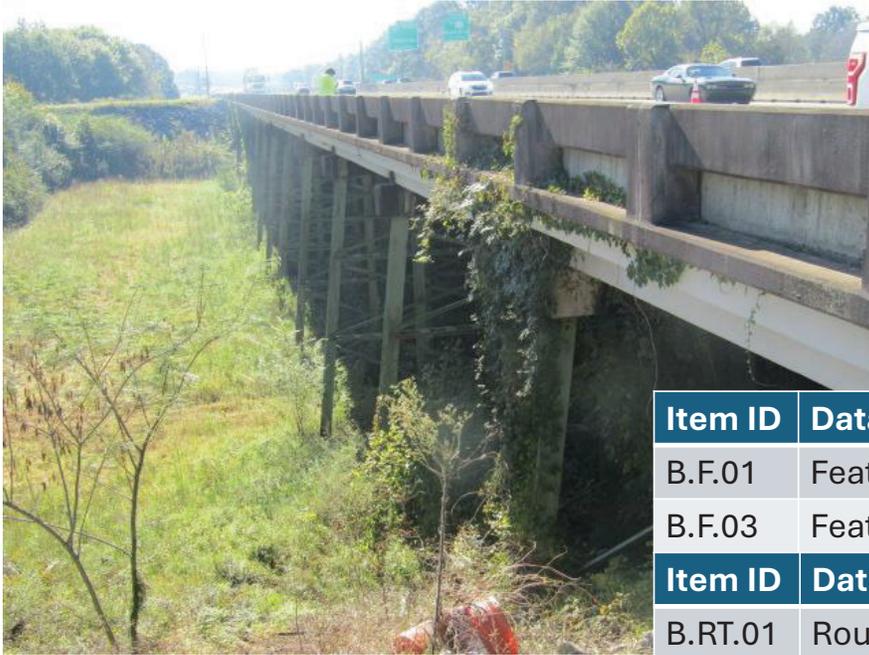
B.RT.01 – Route Designation – Example



Example for B.RT.01 Report
R01 – Monroe Street

Item ID	Data Item	Value (1)
B.RT.01	Route Designation	R01

B.RT.01 – Route Designation – Example



Example for B.RT.01 Report
R01 – I 65

Item ID	Data Item	Value (1)	Value (2)
B.F.01	Feature Type	H01	H02
B.F.03	Feature Name	I-65 SB	I-65 NB
Item ID	Data Item	Value (1)	Value (1)
B.RT.01	Route Designation	R01	R01

B.RT.01 – Route Designation – Example



Example for B.RT.01 Report
 H01 – I 20/59 (WB/SB)
 H02 – I 20/59 (EB/NB)
 H03 – US 82/AL 6 (WB)
 H04 – US 82/AL 6 (EB)
 *Do Not Report McFarland Blvd.

Item ID	Data Item	Value (1)		Value (2)		Value (3)		Value (4)	
B.F.01	Feature Type	H01		H02		H03		H04	
Item ID	Data Item	Value (1)	Value (2)	Value (1)	Value (2)	Value (1)	Value(2)	Value (1)	Value (2)
B.RT.01	Route Designation	R01	R02	R01	R02	R01	R02	R01	R02

B.RT.02 – Route Number

<i>Route Number</i>		
<u>Format</u> AN (15)	<u>Frequency</u> I	<u>Item ID</u> B.RT.02
Specification	Commentary	
<p>Report the route number for the route reported in Item B.RT.01 (<i>Route Designation</i>).</p> <p>Include letters that are used as part of the route numbers.</p> <p>Report 0 for routes without route numbers.</p>	<p>For divided highways, do not report the route direction. Identify that information in Item B.RT.03 (<i>Route Direction</i>).</p> <p>For border bridges, the Neighboring State reports this item for all highway features carried on the bridge, as part of their abbreviated bridge record. For more information, see the Border Bridges section of this document.</p>	

B.RT.02 – Route Number – Example



Example for B.RT.02 Report R01 – County Road 1

Item ID	Data Item	Value (1)
B.RT.01	Route Designation	R01
B.RT.02	Route Number	1

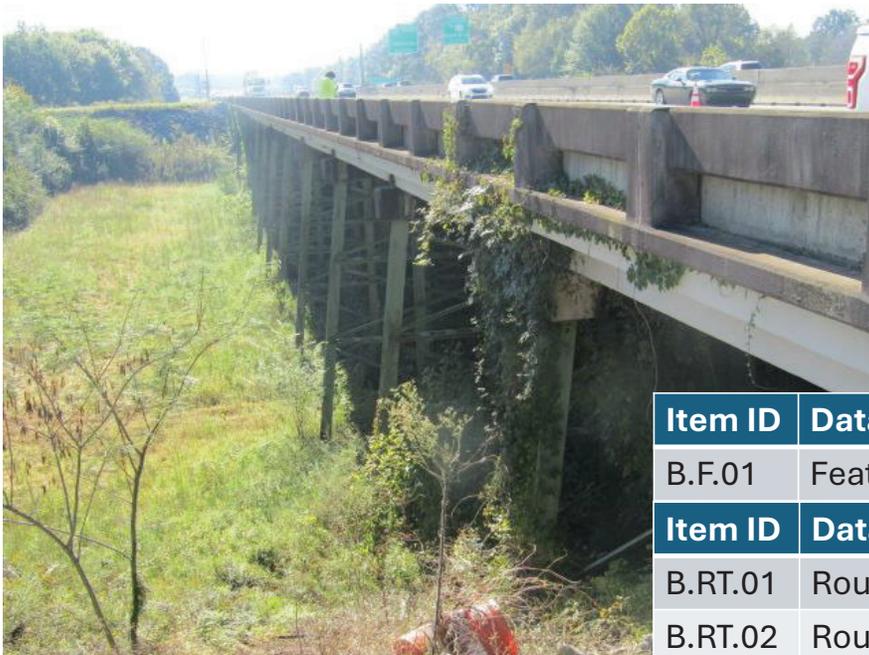
B.RT.02 – Route Number – Example



Example for B.RT.02 Report
R01 – Monroe Street

Item ID	Data Item	Value (1)
B.RT.01	Route Designation	R01
B.RT.02	Route Number	0

B.RT.02 – Route Number – Example



Example for B.RT.02 Report
Route – I 65

Item ID	Data Item	Value (1)	Value (2)
B.F.01	Feature Type	H01	H02
Item ID	Data Item	Value (1)	Value (1)
B.RT.01	Route Designation	R01	R01
B.RT.02	Route Number	65	65

B.RT.02 – Route Number – Example



Example for B.RT.02 Report

H01 – I 20/59 (WB/SB)

H02 – I 20/59 (EB/NB)

H03 – US 82/AL 6 (WB)

H04 – US 82/AL 6 (EB)

*Do Not Report McFarland Blvd.

Item ID	Data Item	Value (1)		Value (2)		Value (3)		Value (4)	
B.F.01	Feature Type	H01		H02		H03		H04	
Item ID	Data Item	Value (1)	Value (2)	Value (1)	Value (2)	Value (1)	Value(2)	Value (1)	Value (2)
B.RT.01	Route Designation	R01	R02	R01	R02	R01	R02	R01	R02
B.RT.02	Route Number	20	59	20	59	82	6	82	6

B.RT.03 – Route Direction

<i>Route Direction</i>															
Format AN (2)	Frequency I														
Specification	Item ID B.RT.03 Commentary														
Report the designated route direction for the route reported in Item B.RT.01 (<i>Route Designation</i>) using one of the following codes.	Use code NS when the route is not divided at the bridge, and carries traffic in both north and south directions.														
<table border="0"> <tr> <td><u>Code</u></td> <td><u>Description</u></td> </tr> <tr> <td>NB</td> <td>Northbound</td> </tr> <tr> <td>EB</td> <td>Eastbound</td> </tr> <tr> <td>SB</td> <td>Southbound</td> </tr> <tr> <td>WB</td> <td>Westbound</td> </tr> <tr> <td>NS</td> <td>Northbound and Southbound</td> </tr> <tr> <td>EW</td> <td>Eastbound and Westbound</td> </tr> </table>	<u>Code</u>	<u>Description</u>	NB	Northbound	EB	Eastbound	SB	Southbound	WB	Westbound	NS	Northbound and Southbound	EW	Eastbound and Westbound	<p>Use code EW when the route is not divided at the bridge, and carries traffic in both east and west directions.</p> <p>Use the designated route direction for the departure or entrance route when a bridge only carries a ramp; i.e. Item B.RT.05 (<i>Service Type</i>) is 7.</p> <p>Use the most applicable code when a route does not have a designated route direction.</p> <p>For border bridges, the Neighboring State reports this item for all highway features carried on the bridge, as part of their abbreviated bridge record. For more information, see the Border Bridges section of this document.</p>
<u>Code</u>	<u>Description</u>														
NB	Northbound														
EB	Eastbound														
SB	Southbound														
WB	Westbound														
NS	Northbound and Southbound														
EW	Eastbound and Westbound														

B.RT.03 – Route Direction – Example



Example for B.RT.03 Report
NS – County Road 1
Travels South to North

Item ID	Data Item	Value (1)
B.RT.01	Route Designation	R01
B.RT.02	Route Number	1
B.RT.03	Route Direction	NS

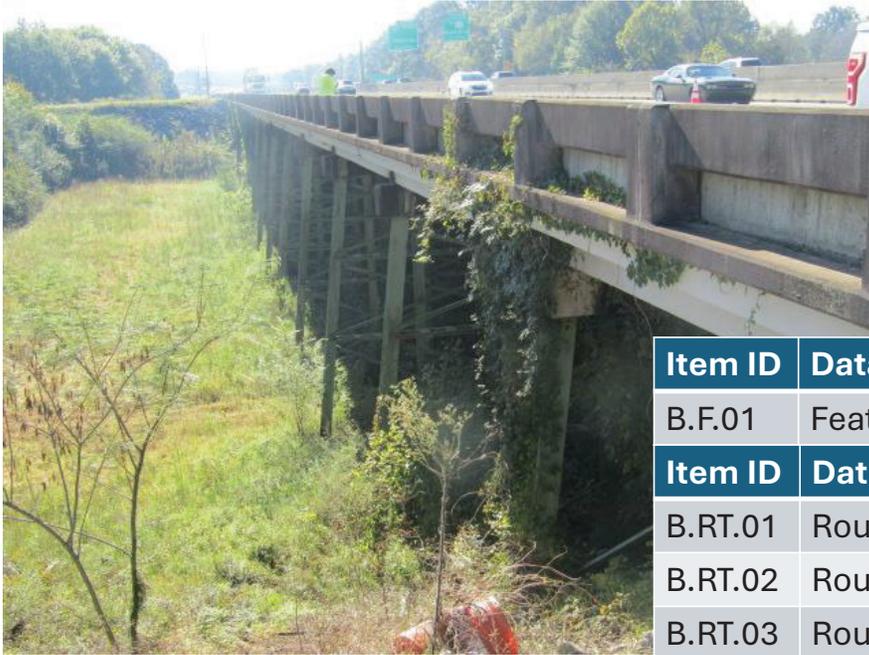
B.RT.03 – Route Direction – Example



Example for B.RT.03 Report
NS – Monroe Street
Travels South to North

Item ID	Data Item	Value (1)
B.RT.01	Route Designation	R01
B.RT.02	Route Number	0
B.RT.03	Route Direction	NS

B.RT.03 – Route Direction – Example



Example for B.RT.03 Report
 SB – Southbound
 NB – Northbound

Item ID	Data Item	Value (1)	Value (2)
B.F.01	Feature Type	H01	H02
Item ID	Data Item	Value (1)	Value (1)
B.RT.01	Route Designation	R01	R01
B.RT.02	Route Number	65	65
B.RT.03	Route Direction	SB	NB

B.RT.03 – Route Direction – Example



Example for B.RT.03 Report
 H01 – I 20/59 (WB/SB)
 H02 – I 20/59 (EB/NB)
 H03 – US 82/AL 6 (WB)
 H04 – US 82/AL 6 (EB)
 *Do Not Report McFarland Blvd.

Item ID	Data Item	Value (1)		Value (2)		Value (3)		Value (4)	
B.F.01	Feature Type	H01		H02		H03		H04	
Item ID	Data Item	Value (1)	Value (2)	Value (1)	Value (2)	Value (1)	Value(2)	Value (1)	Value (2)
B.RT.01	Route Designation	R01	R02	R01	R02	R01	R02	R01	R02
B.RT.02	Route Number	20	59	20	59	82	6	82	6
B.RT.03	Route Direction	WB	SB	EB	NB	WB	WB	EB	EB

B.RT.04 – Route Type

Route Type		
Format AN (1)	Frequency I	Item ID B.RT.04
Specification	Commentary	
Report the route type for the route reported in Item B.RT.01 (<i>Route Designation</i>) using one of the following codes.	Use code 4 for parish routes or other county route equivalents.	
	Use code 5 for city or other municipal streets.	
	Use code 6 when a public highway passes through Federal lands such as national parks, national forests, or DOD facilities and does not meet the description of codes 1 through 5.	
	Use code 7 when a public highway passes through State lands such as State parks or State forests and does not meet the description of codes 1 through 5.	
	Use code X when a public highway is not designated as one of the defined route type codes.	
	For border bridges, the Neighboring State reports this item for all highway features carried on the bridge, as part of their abbreviated bridge record. For more information, see the Border Bridges section of this document.	
<u>Code</u> <u>Description</u>		
1	Interstate route	
2	U.S. route	
3	State route	
4	County route	
5	City street	
6	Federal lands road	
7	State lands road	
X	Other	

B.RT.04 – Route Type – Example



Example for B.RT.04 = 4
County Route (County Rd 1)

Item ID	Data Item	Value (1)
B.RT.01	Route Designation	R01
B.RT.02	Route Number	1
B.RT.03	Route Direction	NS
B.RT.04	Route Type	4

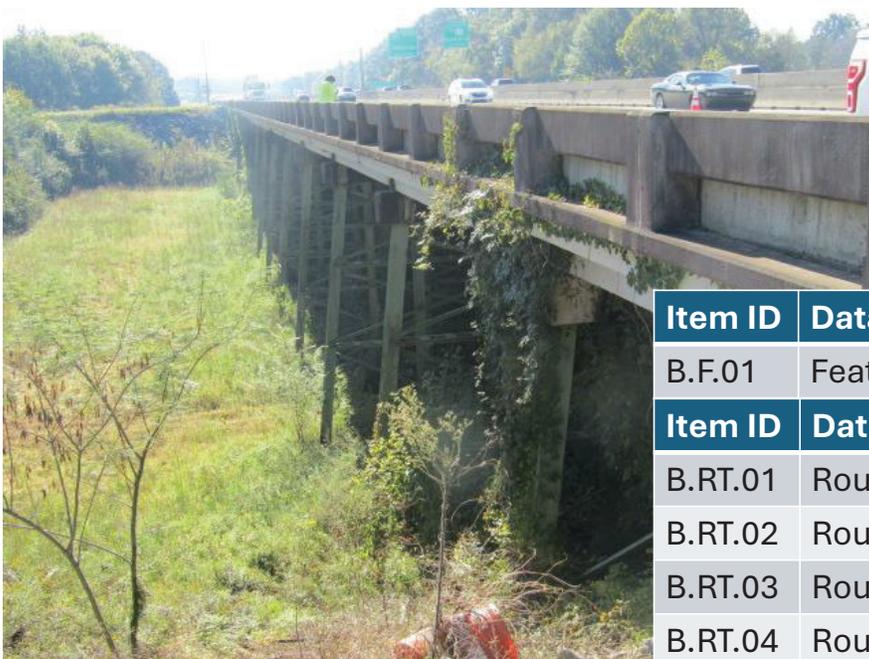
B.RT.04 – Route Type – Example



Example for B.RT.04 = 5
City Street (Monroe Street)

Item ID	Data Item	Value (1)
B.RT.01	Route Designation	R01
B.RT.02	Route Number	0
B.RT.03	Route Direction	NS
B.RT.04	Route Type	5

B.RT.04 – Route Type – Example



Example for B.RT.04 = 1
Interstate (I 65)

Item ID	Data Item	Value (1)	Value (2)
B.F.01	Feature Type	H01	H02
Item ID	Data Item	Value (1)	Value (1)
B.RT.01	Route Designation	R01	R01
B.RT.02	Route Number	65	65
B.RT.03	Route Direction	SB	NB
B.RT.04	Route Type	1	1

B.RT.04 – Route Type – Example



Example for B.RT.04 Report

H01 – I 20/59 (WB/SB)

H02 – I 20/59 (EB/NB)

H03 – US 82/AL 6 (WB)

H04 – US 82/AL 6 (EB)

*Do Not Report McFarland Blvd.

Item ID	Data Item	Value (1)		Value (2)		Value (3)		Value (4)	
B.F.01	Feature Type	H01		H02		H03		H04	
Item ID	Data Item	Value (1)	Value (2)	Value (1)	Value (2)	Value (1)	Value(2)	Value (1)	Value (2)
B.RT.01	Route Designation	R01	R02	R01	R02	R01	R02	R01	R02
B.RT.02	Route Number	20	59	20	59	82	6	82	6
B.RT.03	Route Direction	WB	SB	EB	NB	WB	WB	EB	EB
B.RT.04	Route Type	1	1	1	1	2	3	2	3

B.RT.05 – Service Type

<i>Service Type</i>																			
Format AN (1)	Frequency I																		
Item ID B.RT.05																			
Specification	Commentary																		
Report the designated service type for the route reported in Item B.RT.01 (<i>Route Designation</i>), using one of the following codes.	The service type designation is determined by the agency, and typically included as part of the signage for the route.																		
<table border="0"> <tr> <td><u>Code</u></td> <td><u>Description</u></td> </tr> <tr> <td>1</td> <td>Mainline</td> </tr> <tr> <td>2</td> <td>Alternate</td> </tr> <tr> <td>3</td> <td>Bypass</td> </tr> <tr> <td>4</td> <td>Spur</td> </tr> <tr> <td>6</td> <td>Business</td> </tr> <tr> <td>7</td> <td>Ramp, connector, etc.</td> </tr> <tr> <td>8</td> <td>Service or frontage road</td> </tr> <tr> <td>X</td> <td>Other</td> </tr> </table>	<u>Code</u>	<u>Description</u>	1	Mainline	2	Alternate	3	Bypass	4	Spur	6	Business	7	Ramp, connector, etc.	8	Service or frontage road	X	Other	<p>Use code 7 for all types, arrangements, and sizes of turning roadways that connect two or more highways at an interchange.</p> <p>Use code 8 for frontage roads. These are typically parallel to the traveled way, may be provided on one or both sides of the mainline, and may or may not be continuous. A frontage road may include a U-turn lane.</p> <p>For Federal agency roads, report the most logical description of the service type compared to other routes within the facility.</p> <p>For border bridges, the Neighboring State reports this item for all highway features carried on the bridge, as part of their abbreviated bridge record. For more information, see the Border Bridges section of this document.</p>
<u>Code</u>	<u>Description</u>																		
1	Mainline																		
2	Alternate																		
3	Bypass																		
4	Spur																		
6	Business																		
7	Ramp, connector, etc.																		
8	Service or frontage road																		
X	Other																		

B.RT.05 – Service Type – Example



Example for B.RT.05 = 1
Mainline

Item ID	Data Item	Value (1)
B.RT.01	Route Designation	R01
B.RT.02	Route Number	1
B.RT.03	Route Direction	NS
B.RT.04	Route Type	4
B.RT.05	Service Type	1

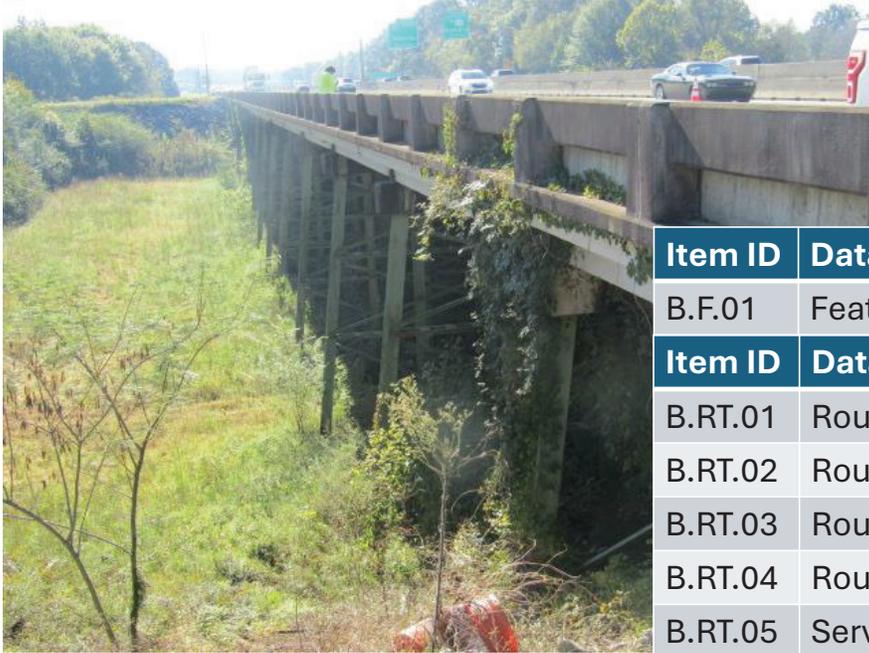
B.RT.05 – Service Type – Example



Example for B.RT.05 = 1
Mainline

Item ID	Data Item	Value (1)
B.RT.01	Route Designation	R01
B.RT.02	Route Number	0
B.RT.03	Route Direction	NS
B.RT.04	Route Type	5
B.RT.05	Service Type	1

B.RT.05 – Service Type – Example



Example for B.RT.05 = 1
Mainline

Item ID	Data Item	Value (1)	Value (2)
B.F.01	Feature Type	H01	H02
Item ID	Data Item	Value (1)	Value (1)
B.RT.01	Route Designation	R01	R01
B.RT.02	Route Number	65	65
B.RT.03	Route Direction	SB	NB
B.RT.04	Route Type	1	1
B.RT.05	Service Type	1	1

B.RT.05 – Service Type – Example



Example for B.RT.05 Report
 H01 – I 20/59 (WB/SB)
 H02 – I 20/59 (EB/NB)
 H03 – US 82/AL 6 (WB)
 H04 – US 82/AL 6 (EB)
 *Do Not Report McFarland Blvd.

Item ID	Data Item	Value (1)		Value (2)		Value (3)		Value (4)	
B.F.01	Feature Type	H01		H02		H03		H04	
Item ID	Data Item	Value (1)	Value (2)	Value (1)	Value (2)	Value (1)	Value(2)	Value (1)	Value (2)
B.RT.01	Route Designation	R01	R02	R01	R02	R01	R02	R01	R02
B.RT.02	Route Number	20	59	20	59	82	6	82	6
B.RT.03	Route Direction	WB	SB	EB	NB	WB	WB	EB	EB
B.RT.04	Route Type	1	1	1	1	2	3	2	3
B.RT.05	Service Type	1	1	1	1	1	1	1	1

Subsection 4.3: Highways

- B.H.01 – Functional Classification*
- B.H.02 – Urban Code*
- B.H.03 – NHS Designation*
- B.H.04 – National Highway Freight Network*
- B.H.05 – STRAHNET Designation*
- B.H.06 – LRS Route ID*
- B.H.07 – LRS Mile Point*
- B.H.08 – Lanes on Highway*
- B.H.09 – Annual Avg. Daily Traffic*
- B.H.10 – Annual Avg. Daily Truck Traffic*
- B.H.11 – Year of Annual Avg. Daily Traffic*
- B.H.12 – Highway Maximum Usable Vertical Clearance*
- B.H.13 – Highway Minimum Vertical Clearance*

* Already Captured in BrM

Subsection 4.3: Highways

- B.H.14 – Highway Minimum Horizontal Clearance, Left*
- B.H.15 – Highway minimum Horizontal Clearance, Right*
- B.H.16 – Highway Maximum Usable Surface Width*
- B.H.17 – Bypass Detour Length*
- B.H.18 – Crossing Bridge Number

* Already Captured in BrM

B.H.18 – Crossing Bridge Number

<i>Crossing Bridge Number</i>	
<u>Format</u> AN (15)	<u>Frequency</u> I
<u>Item ID</u> B.H.18	<u>Item ID</u> B.H.18
Specification	Commentary
<p>Report the exact bridge number(s) as assigned in Item B.ID.01 (<i>Bridge Number</i>) for the bridge carrying a highway feature that is located directly above or below the inventoried highway bridge.</p> <p>Do not report this item when the highway bridge does not pass above or below another bridge, or passes above or below a bridge that is not reportable to the NBI.</p>	<p>The intent of this item is to capture the bridge number for bridges of a multi-level interchange, where bridges pass directly above or below other bridges.</p> <p>For border bridges, the Neighboring State reports this item for all highway features that pass above the bridge, as part of their abbreviated bridge record. For more information, see the Border Bridges section of this document.</p>

B.H.18 – Crossing Bridge Number – Example



Example for B.H.18
BIN 18798 crosses above
BIN 17146.

Report:
18798 for the bridge above.

B.H.18 – Crossing Bridge Number – Example



Example for B.H.18
BIN 18798 crosses above
BIN 17146.

Report:
18798 for the bridge above.

Subsection 4.4: Railroads

- B.RR.01 – Railroad Service Type
- B.RR.02 – Railroad Minimum Vertical Clearance*
- B.RR.03 – Railroad Minimum Horizontal Offset

* Already Captured in BrM

B.RR.01 – Railroad Service Type

<i>Railroad Service Type</i>																	
<u>Format</u> AN (2)	<u>Frequency</u> I																
<u>Item ID</u> B.RR.01																	
Specification	Commentary																
<p>Report the designated railroad service type for the railroad feature reported in Item B.F.01 (<i>Feature Type</i>) using one of the following codes.</p> <table border="1"> <thead> <tr> <th><u>Code</u></th> <th><u>Description</u></th> </tr> </thead> <tbody> <tr> <td>F</td> <td>Freight</td> </tr> <tr> <td>FE</td> <td>Freight - electrified</td> </tr> <tr> <td>P</td> <td>Passenger</td> </tr> <tr> <td>PE</td> <td>Passenger - electrified</td> </tr> <tr> <td>M</td> <td>Multiple services - not electrified</td> </tr> <tr> <td>ME</td> <td>Multiple services - electrified</td> </tr> <tr> <td>I</td> <td>Inactive</td> </tr> </tbody> </table>	<u>Code</u>	<u>Description</u>	F	Freight	FE	Freight - electrified	P	Passenger	PE	Passenger - electrified	M	Multiple services - not electrified	ME	Multiple services - electrified	I	Inactive	<p>Electrified is intended for electricity-powered rail lines and third-rails, but not for battery or fuel cell powered lines.</p> <p>Use code M when multiple rail services (such as freight and passenger rail) use the same tracks and both services are not electrified.</p> <p>Use code ME when multiple rail services (such as freight and passenger rail) use the same tracks, and at least one is electrified.</p>
<u>Code</u>	<u>Description</u>																
F	Freight																
FE	Freight - electrified																
P	Passenger																
PE	Passenger - electrified																
M	Multiple services - not electrified																
ME	Multiple services - electrified																
I	Inactive																

B.RR.01 – Railroad Service Type

Link to Federal Rail Administration Website

<https://railroads.dot.gov/rail-network-development/maps-and-data/maps-geographic-information-system/maps-geographic>

B.RR.01 – Railroad Service Type



Home / Rail Network Development / Maps GIS

- Rail Network Development Overview
- Passenger Rail
- Freight Rail >
- Environment
- Planning >
- Rural
- International
- Maps and Data
- Training & Guidance

Maps – Geographic Information System

Overview

The Federal Railroad Administration (FRA) is the authoritative source of information on passenger and freight rail networks for the U.S. federal government. FRA provides geospatial resources to the public on rail networks, including data on grade crossings, Amtrak stations, and more. This page contains information about and links to FRA's [Safety Map](#), [Trespassers Casualty Map](#), and [Grade Crossing Inventory](#).

FRA also provides rail data to the Bureau of Transportation Statistics (BTS) to support the Open Data Catalog, which includes information on the North American Rail Network (NARN).

FRA Safety Map

The [FRA Safety Map](#) is an interactive map that outlines rail networks for:

- Class I Railroads
- Passenger Rail
- Commuter Rail
- Amtrak

Users can manipulate data to view maps by topography or street view, and add additional data layers including:

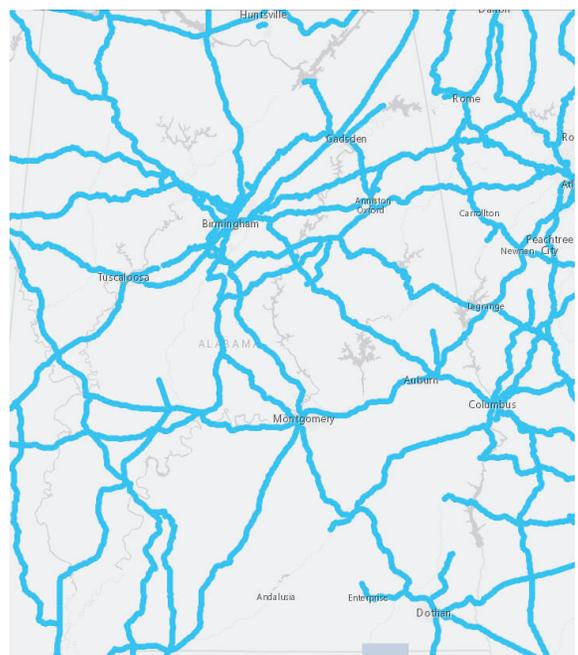
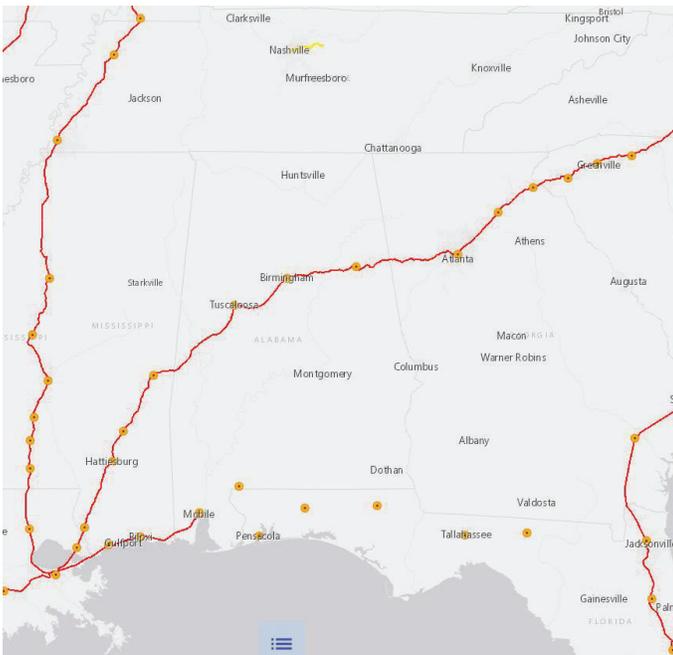
- Freight Stations
- Grade Crossings (updated weekly)
- Mileposts



Related Links

- [*NEW* Rail Crossing Locator Mobile Application](#)
- [Office of Safety Analysis website](#)

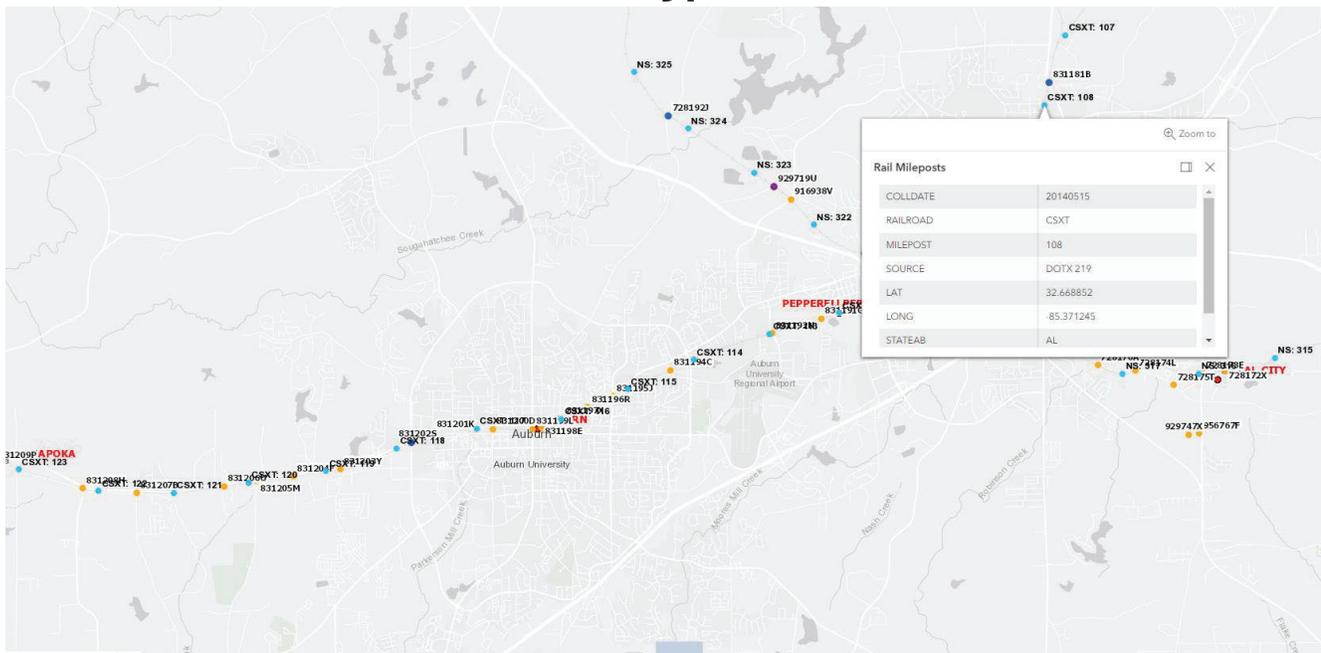
B.RR.01 – Railroad Service Type



B.RR.01 – Railroad Service Type



B.RR.01 – Railroad Service Type



B.RR.01 – Railroad Service Type – Example



Example for B.RR.01 = F Freight

B.RR.03 – Railroad Minimum Horizontal Offset

<i>Railroad Minimum Horizontal Offset</i>		
<u>Format</u> N (3,1)	<u>Frequency</u> I	<u>Item ID</u> B.RR.03
<u>Specification</u>		<u>Commentary</u>
<p>Report the minimum horizontal offset for the railroad feature reported in Item B.F.01 (<i>Feature Type</i>), rounded down to the nearest tenth of a foot.</p> <p>Measure perpendicular from the centerline of the tracks to the nearest substructure unit or toe of slope that is steeper than 1 to 3 (vertical to horizontal).</p> <p>For multiple tracks with the same railroad service type, report the minimum distance after measuring the offsets in both directions from all tracks.</p> <p>Report 99.9 when the minimum horizontal offset is 100 feet or greater.</p> <p>Report this item only when Item B.F.02 (<i>Feature Location</i>) is B.</p>		<p>The intent of this item is to collect the minimum distance from the centerline of the railroad track to a bridge related obstruction.</p> <p>Offsets greater than 30 feet may be estimated.</p>

B.RR.03 – Railroad Minimum Horizontal Offset – Example

Examples

One railroad track below the bridge. Report 20.3.

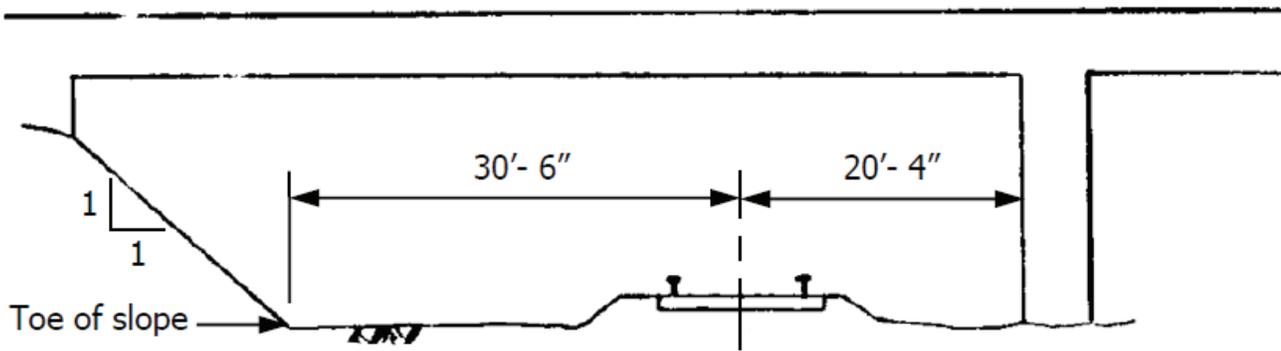


Figure 111. Bridge elevation view indicating horizontal offset for one railroad track below the bridge.

B.RR.03 – Railroad Minimum Horizontal Offset – Example

Examples Continued – Railroad Minimum Horizontal Offset

Two railroad tracks that both carry freight (i.e. one railroad feature). Report 18.5.

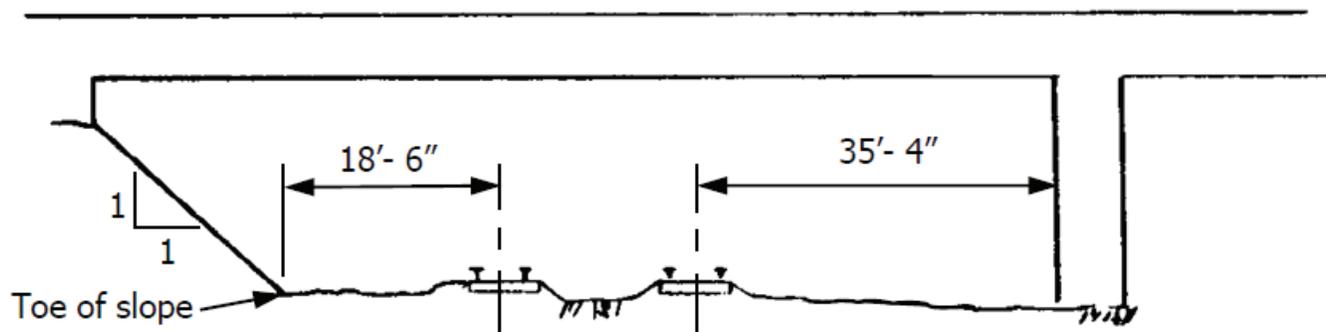


Figure 112. Bridge elevation view indicating horizontal offset for two railroad tracks below the bridge.

Subsection 4.5: Navigable Waterways

- B.N.01 – Navigable Waterway
- B.N.02 – Navigable Minimum Vertical Clearance *
- B.N.03 – Movable Bridge Maximum Navigation Vertical Clearance *
- B.N.04 – Navigation Channel Width *
- B.N.05 – Navigation Channel Minimum Horizontal Clearance
- B.N.06 – Substructure Navigation Protection

* Already Captured in BrM

B.N.01 – Navigable Waterway

<i>Navigable Waterway</i>										
<u>Format</u> AN (1)	<u>Frequency</u> I	<u>Item ID</u> B.N.01								
Specification		Commentary								
<p>Report whether the waterway feature reported in Item B.F.01 (<i>Feature Type</i>) is considered navigable waters of the United States using one of the following codes.</p> <table border="1"> <thead> <tr> <th><u>Code</u></th> <th><u>Description</u></th> </tr> </thead> <tbody> <tr> <td>N</td> <td>Not navigable waters</td> </tr> <tr> <td>Y</td> <td>Navigable waters</td> </tr> <tr> <td>U</td> <td>Navigable waters designation is undetermined</td> </tr> </tbody> </table>		<u>Code</u>	<u>Description</u>	N	Not navigable waters	Y	Navigable waters	U	Navigable waters designation is undetermined	<p>This item identifies bridges over navigable waters where the United States Coast Guard may exercise jurisdiction, as defined in 33 CFR, Part 2. This information helps identify bridges at risk from vessel collision and bridges where a Coast Guard permit may be required for modifications to the structure.</p> <p>Information helpful in coding this item may be found in design and construction documentation or prior correspondence with the Coast Guard.</p> <p>Navigable waterways are determined by the Commandant of the United States Coast Guard per Title 33 of the Code of Federal Regulations, Section 2.36.</p>
<u>Code</u>	<u>Description</u>									
N	Not navigable waters									
Y	Navigable waters									
U	Navigable waters designation is undetermined									

B.N.01 – Navigable Waterway

Link to Navigable Waterways

<https://geodata.bts.gov/datasets/usdot::navigable-waterway-network-lines/explore?location=32.553491%2C-85.025564%2C5.94>

B.N.01 – Navigable Waterway

B.N.01 – Navigable Waterway



If your bridge is over a Navigable Waterway code B.N.01 = Y .

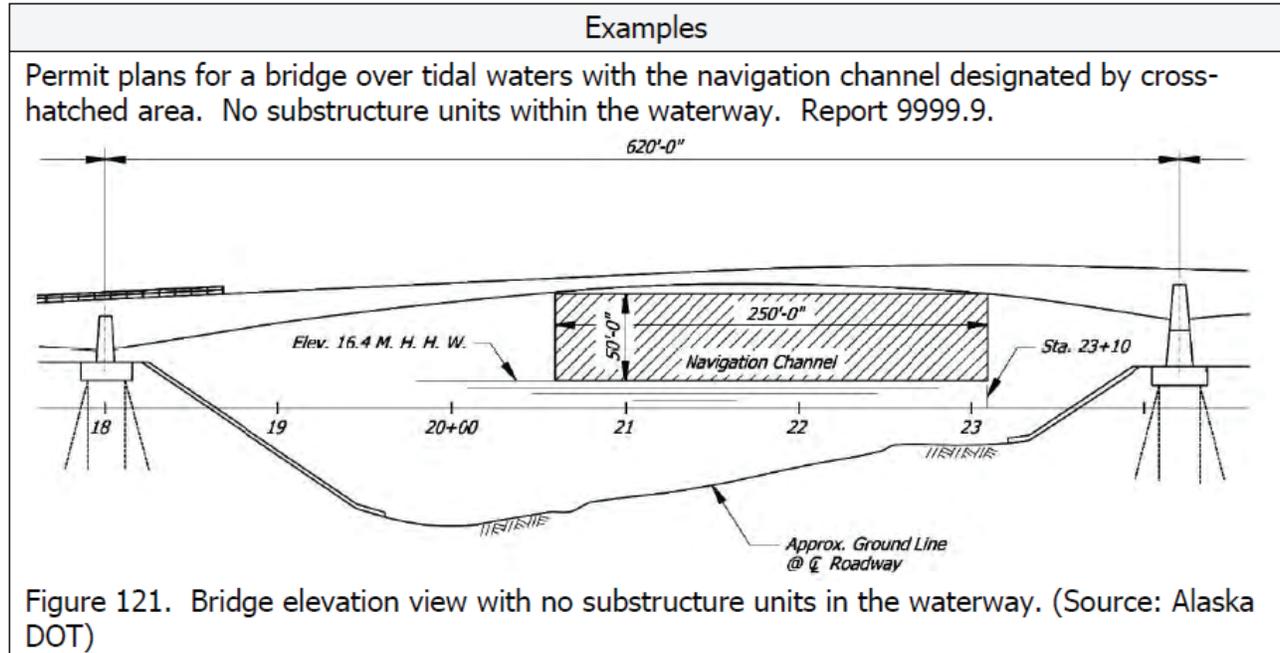
If B.N.01 = N do not report Items B.N.02 – B.N.06 .

B.N.05 – Navigation Channel Minimum Horizontal Clearance

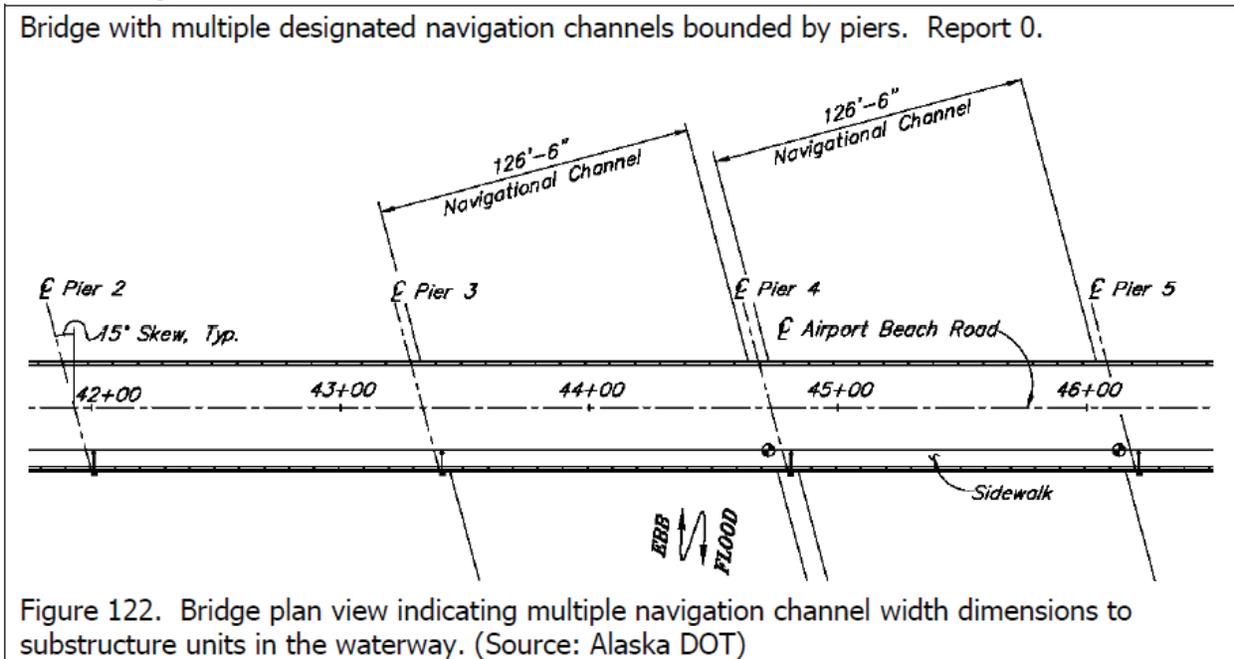
<i>Navigation Channel Minimum Horizontal Clearance</i>		
Format N (5,1)	Frequency I	Item ID B.N.05
Specification	Commentary	
<p>Report the minimum horizontal clearance for the waterway feature reported in Item B.F.01 (<i>Feature Type</i>), rounded down to the nearest tenth of a foot.</p> <p>The clearance is the minimum distance from either edge of the navigation channel shown on the approved permit plans, to the face of the nearest bridge substructure unit located within the waterway.</p> <p>The clearance may be field measured when the placement of navigation markers at the bridge is inconsistent with the permit plans, or if the presence of navigation markers indicates a navigation channel and no permit plans are available.</p> <p>For field measurements, measure the horizontal distance perpendicular to the centerline of the navigation channel from the markers designating the limits of the channel at the bridge, to the face of the nearest bridge substructure unit located within the waterway.</p>	<p>The intent of this item is to collect the most restrictive distance from the edge of the navigational channel to a bridge substructure to assess risk for vessel collision.</p> <p>The clearance provided here should be consistent with the navigation channel used in Item B.N.04 (<i>Navigation Channel Width</i>).</p>	

Specification
Report 0 when substructure units in the waterway are the boundaries for the navigation channel.
Report 9999.9 when no substructure unit is within the waterway.
Report this item only when Item B.N.01 (<i>Navigable Waterway</i>) is Y.

B.N.05 – Navigation Channel Minimum Horizontal Clearance – Example



B.N.05 – Navigation Channel Minimum Horizontal Clearance – Example



B.N.05 – Navigation Channel Minimum Horizontal Clearance – Example

Bridge with navigation channel designated by cross-hatched area. Substructure units within the waterway. Report 135.6.

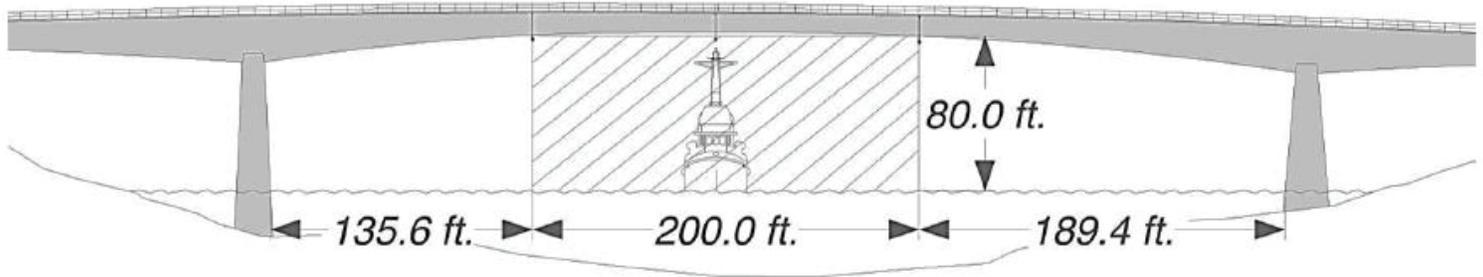


Figure 123. Bridge elevation view indicating navigation channel clearances to substructure units in the waterway.

B.N.06 – Substructure Navigation Protection

Substructure Navigation Protection	
Format AN (1)	Item ID B.N.06
Frequency EI	Commentary
Specification	Commentary
Report the presence and adequacy of substructure navigation protection for the waterway feature reported in Item B.F.01 (<i>Feature Type</i>), using one of the following codes.	Substructure navigation protection systems can be fender systems, dolphins, or other systems that either prevent the substructure from being impacted or adequately reduce the impact load that is transferred into the substructure.
Code Description	
0 Navigation protection not required; bridge has been designed or assessed to have adequate capacity to resist anticipated impact loads without collapse.	Use codes 0 and 1 to indicate that an assessment of vessel traffic characteristics and/or bridge capacity has determined that navigation protection is not required. AASHTO's Guide Specifications and Commentary for Vessel Collision Design of Highway Bridges provides a method for assessing an existing bridge's vulnerability to vessel collision. Codes 0 and 1 should not be assigned based on field observation.
1 Navigation protection not required; assessment of navigation opening and vessel traffic has determined that there is a low probability that an errant vessel could impact the bridge.	Use codes 4 and 5 to indicate that observed

Specification	Commentary
bridge.	
2 Protective system in place and functioning.	Use codes 4 and 5 to indicate that observed conditions necessitate a review of vessel traffic characteristics, bridge capacity, and protective system capability to determine whether the bridge is adequately protected from vessel collision.
3 Protective system in place, but damage or deterioration impacts ability to protect.	
4 Protective system in place, but reevaluation of design suggested.	
5 No protective system in place, but reevaluation of the need for a protective system is recommended.	
Report this item only when Item B.N.01 (<i>Navigable Waterway</i>) is Y.	

Section 5: Loads, Load Rating, and Posting

- Subsection 5.1: Loads and Load Rating
- Subsection 5.2: Load Posting Status
- Subsection 5.3: Load Evaluation and Posting

Subsection 5.1: Loads and Load Rating

- B.LR.01 – Design Load **
- B.LR.02 – Design Method **
- B.LR.03 – Load Rating Date **
- B.LR.04 – Load Rating Method **
- B.LR.05 – Inventory Load Rating Factor **
- B.LR.06 – Operating Load Rating Factor **
- B.LR.07 – Controlling Legal load Rating Factor **
- B.LR.08 – Routine Permit Loads **

* Already Captured in BrM

** ALDOT – Central Office

Subsection 5.2: Load Posting Status

- B.PS.01 – Load Posting Status
- B.PS.02 – Posting Status Change Date

B.PS.01 – Load Posting Status

<i>Load Posting Status</i>		
<u>Format</u> AN (2)	<u>Frequency</u> I	<u>Item ID</u> B.PS.01
Specification		Commentary
Report the load posting status of the bridge using one of the codes in <i>Table 15</i> .		<p>When temporary or supported conditions exist ensure that data items related to physical characteristics of the bridge (e.g. geometry, clearances, condition, and load rating) represent those characteristics of the temporary or supported bridge.</p> <p>When both a weight and other load restriction exist at the bridge, use the code for the weight restriction (code PP, TP, or SP).</p>

B.PS.01 – Load Posting Status – Table 15

	No restriction			Posted or restricted				Closed
	New	Open	Needs Action	Weight	Other	Needs Reduction	Missing	
Permanent	N	PO	PA	PP	PR	PD	PM	C
Temporary		TO	TA	TP	TR	TD	TM	C
Supported		SO	SA	SP	SR	SD	SM	C

Terms:

Permanent (P) – Permanent bridge in place with no temporary supports.

Temporary (T) – Temporary bridge in place to carry traffic while the permanent bridge is closed and awaiting repair, rehabilitation, or replacement.

Supported (S) – Bridge with temporary shoring, supports, repairs, or supplemental members in place to keep the bridge open pending the completion of active or imminent repair, or replacement projects.

New (N) – Bridge is newly constructed and not yet open to traffic, but is expected to be open within 12 months.

Open (O) – Bridge is open with no restrictions.

Needs Action (A) – Bridge that is open with load posting recommended, but no posting signs in place, or a posting sign that is not legally enforceable.

Weight (P) – Bridge is posted with a weight limit sign or signs.

Other (R) – A posting sign or other traffic control device(s) at the bridge that reduces loading by reducing speed (to reduce impact), limiting the number of lanes or vehicles, or restricting commercial vehicles in general.

Needs Reduction (D) – Bridge is posted, with posting reduction recommended but not implemented.

Missing (M) – Bridge has a legally enforceable load posting and was posted, but one or more required signs are missing or illegible.

Closed (C) – Bridge is closed to all traffic.

B.PS.01 – Load Posting Status – Table 15

	No restriction			Posted or restricted				Closed
	New	Open	Needs Action	Weight	Other	Needs Reduction	Missing	
Permanent	N	PO	PA	PP	PR	PD	PM	C
Temporary		TO	TA	TP	TR	TD	TM	C
Supported		SO	SA	SP	SR	SD	SM	C

Terms:

Permanent (P) – Permanent bridge in place with no temporary supports.

Temporary (T) – Temporary bridge in place to carry traffic while the permanent bridge is closed and awaiting repair, rehabilitation, or replacement.

Supported (S) – Bridge with temporary shoring, supports, repairs, or supplemental members in place to keep the bridge open pending the completion of active or imminent repair, or replacement projects.

New (N) – Bridge is newly constructed and not yet open to traffic, but is expected to be open within 12 months.

Open (O) – Bridge is open with no restrictions.

Needs Action (A) – Bridge that is open with load posting recommended, but no posting signs in place, or a posting sign that is not legally enforceable.

Weight (P) – Bridge is posted with a weight limit sign or signs.

Other (R) – A posting sign or other traffic control device(s) at the bridge that reduces loading by reducing speed (to reduce impact), limiting the number of lanes or vehicles, or restricting commercial vehicles in general.

Needs Reduction (D) – Bridge is posted, with posting reduction recommended but not implemented.

Missing (M) – Bridge has a legally enforceable load posting and was posted, but one or more required signs are missing or illegible.

Closed (C) – Bridge is closed to all traffic.

Typical Timeline

Inspector
 BRLT / ALDOT

- N – New, not open
- PO-Bridge open-no restrictions
- PA-Requires posting-No signs
- PP-Posted (Weight)
- PD-Posted, needs reduction
- PP-Posted (Weight)
- PM-Signs Missing
- PP-Posted (Weight)
- C-Closed

B.PS.02 – Posting Status Change Date

<i>Posting Status Change Date</i>	
<u>Format</u> YYYYMMDD	<u>Frequency</u> I
<u>Item ID</u> B.PS.02	
Specification	Commentary
Report the date the bridge entered the status reported in Item B.PS.01 (<i>Load Posting Status</i>).	For bridges entering posted status, it is preferable that the reported date represent the date on which signs were properly installed at the bridge. The date the load posting became legally enforceable can also be used for this item when the installation date is unknown. When neither the installation nor legal enforcement date are known, the date the posting was first documented to be in place can be used for this item.

Subsection 5.3: Load Evaluation and Posting

- B.EP.01 – Legal Load Configuration **
- B.EP.02 – Legal Load Rating Factor **
- B.EP.03 – Posting Type
- B.EP.04 – Posting Value

* Already Captured in BrM

** ALDOT – Central Office

B.EP.01 – Legal Load Configuration

Legal Load Configuration		
Format AN (315)	Frequency I	Item ID B.EP.01
Specification	Commentary	
Report the configuration of the AASHTO, FHWA, State transportation department, Federal agency, or Tribal government defined legal load using one of the following codes.	Refer to the AASHTO Manual for Bridge Evaluation for details of AASHTO legal load rating vehicle configurations. Refer to the AASHTO Manual for Bridge Evaluation for details of legal loading configurations.	
Code Description		
3 AASHTO Type 3	Some State transportation departments, Federal agencies, and Tribal governments have legal load rating vehicle configurations representing loads that exceed the 23 U.S.C. 127(a)(1) and (2) interstate weight limits or that have force effects more severe than AASHTO legal load rating vehicles. The use of codes S#, F#, and T# allows for reporting the correlated legal load configurations used for load rating evaluation, load rating factors, and postings (when present at a bridge). This is supported by the establishment of a unique code for reporting each State, Federal, or Tribal defined legal load configuration, and the consistent use of that code throughout the inventory.	
3S2 AASHTO Type 3S2		
3-3 AASHTO Type 3-3		
SU4 AASHTO SU4 truck		
SU5 AASHTO SU5 truck		
SU6 AASHTO SU6 truck		
SU7 AASHTO SU7 truck		
NRL AASHTO Notional Rating Load		
EV2 FHWA Type EV2 emergency vehicle		
EV3 FHWA Type EV3 emergency vehicle		
S# State-defined legal load		

BRLT enters these items

Specification	Commentary
S# State-defined legal load	inventory.
F# Federal-defined legal load	Only configurations that are used to evaluate the capacity to carry legal loads and their posting requirements are reported.
T# Tribal-defined legal load	For information on the load rating and load posting of emergency vehicles, refer to the November 3, 2016 FHWA memorandum at: https://www.fhwa.dot.gov/bridge/loadrating/161103.cfm
Replace the # character in the S#, F#, and T# codes with as many as 14 characters that serve as a unique identifier of each legal load configuration. Use consistent codes for all bridges in a State, Federal, or Tribal jurisdiction.	
Use codes for AASHTO and FHWA legal load configurations when the configuration is identical to those configurations (identical axles, axle spacings, and axle weights).	
Do not report State, Federal, or Tribal defined configurations that represent loads which exceed legal loads (e.g. special or routine permit vehicles).	

B.EP.02 – Legal Load Rating Factor

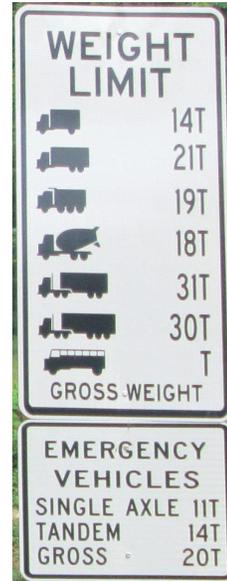
Legal Load Rating Factor		
Format N (4,2)	Frequency I	Item ID B.EP.02
Specification	Commentary	
Report the rating factor for the legal load configuration truncated to the hundredth.	For LRFR method this would be the rating factor of "Legal Load Rating", a second-level rating that provides a single safe load capacity for a given AASHTO legal load.	
Report the rating factor for the legal load configuration without consideration of reduced force effects from postings or restrictions that affect traffic operation, e.g. that limit speed, number of lanes, number of trucks, or do not allow commercial vehicles.	For Allowable Stress and Load Factor rating methods this would be the operating rating factor. For allowable stress and load factor rating this would be the operating load rating factor calculated for a given AASHTO legal load as part of a posting analysis.	
Do not report this item when a bridge posting includes the legal load configuration, but there is not a calculated legal load rating factor for the configuration.	When the legal load configuration does not have a load rating evaluation because it is enveloped by a design load type and corresponding calculated design load rating factor, a value is not reported for the legal load configuration.	
When temporary or supported conditions exist, as indicated in Item B.PS.01 (Load Posting Status), report the rating factor for the bridge including the temporary or supported conditions.	Enveloped as used here means that the legal	

Specification	Commentary
the bridge including the temporary or supported conditions.	Enveloped as used here means that the legal load rating factor or the operating rating factor for the legal load configuration will be greater than or equal to 1.0 when the design load has a legal load rating factor or operating rating factor that exceeds a threshold value established by an engineering study.
	When the legal load configuration does not have a load rating evaluation because it is enveloped by a screening level legal load model, e.g. AASHTO Notional Rating Load, and corresponding calculated screening load rating factor, a value is not reported for the legal load configuration. A value is reported for the screening load.
	Enveloped as used here means that the legal load rating factor or the operating rating factor for the legal load configuration will be greater than or equal to 1.0 when the screening level legal load has a legal load rating factor or operating rating factor that exceeds a threshold value established by an engineering study.

BRLT Entry

B.EP.03 – Posting Type

Posting Type																					
Format AN (17)	Item ID B.EP.03																				
Specification	Commentary																				
<p>Report the type of posting at the bridge restricting the vehicle reported in Item B.EP.01 (<i>Legal Load Configuration</i>) using one or more of the following codes.</p> <p><u>Report multiple codes in the order shown separated by pipe () delimiters.</u></p> <table border="1"> <thead> <tr> <th>Code</th> <th>Description</th> </tr> </thead> <tbody> <tr><td>G</td><td>Gross Load</td></tr> <tr><td>A</td><td>Single Axle Load</td></tr> <tr><td>D</td><td>Tandem Axle Load</td></tr> <tr><td>T</td><td>Truck Load</td></tr> <tr><td>C</td><td>No commercial vehicles</td></tr> <tr><td>S</td><td>Speed reduction</td></tr> <tr><td>L</td><td>Number of lanes restricted</td></tr> <tr><td>V</td><td>Number of vehicles restricted</td></tr> <tr><td>X</td><td>Other</td></tr> </tbody> </table> <p>Do not report this item if no posting sign is used for the legal load configuration.</p>	Code	Description	G	Gross Load	A	Single Axle Load	D	Tandem Axle Load	T	Truck Load	C	No commercial vehicles	S	Speed reduction	L	Number of lanes restricted	V	Number of vehicles restricted	X	Other	<p><u>This item is reported when a bridge is posted for the legal load configuration. Roadway postings are excluded.</u></p> <p><u>This item is only reported for legal load configurations with a rating factor less than 1.0, as reported in Item B.EP.02 (<i>Legal Load Rating Factor</i>).</u></p>
Code	Description																				
G	Gross Load																				
A	Single Axle Load																				
D	Tandem Axle Load																				
T	Truck Load																				
C	No commercial vehicles																				
S	Speed reduction																				
L	Number of lanes restricted																				
V	Number of vehicles restricted																				
X	Other																				



- H-Truck - T
- Tandem - T
- Triaxle - T
- Concrete - T
- 18-Wheeler - T
- 6-Axle - T
- EV2 - A
- EV2 - G
- EV3 - D
- EV3 - G

B.EP.03 – Posting Type

Posting Type																					
Format AN (17)	Item ID B.EP.03																				
Specification	Commentary																				
<p>Report the type of posting at the bridge restricting the vehicle reported in Item B.EP.01 (<i>Legal Load Configuration</i>) using one or more of the following codes.</p> <p><u>Report multiple codes in the order shown separated by pipe () delimiters.</u></p> <table border="1"> <thead> <tr> <th>Code</th> <th>Description</th> </tr> </thead> <tbody> <tr><td>G</td><td>Gross Load</td></tr> <tr><td>A</td><td>Single Axle Load</td></tr> <tr><td>D</td><td>Tandem Axle Load</td></tr> <tr><td>T</td><td>Truck Load</td></tr> <tr><td>C</td><td>No commercial vehicles</td></tr> <tr><td>S</td><td>Speed reduction</td></tr> <tr><td>L</td><td>Number of lanes restricted</td></tr> <tr><td>V</td><td>Number of vehicles restricted</td></tr> <tr><td>X</td><td>Other</td></tr> </tbody> </table> <p>Do not report this item if no posting sign is used for the legal load configuration.</p>	Code	Description	G	Gross Load	A	Single Axle Load	D	Tandem Axle Load	T	Truck Load	C	No commercial vehicles	S	Speed reduction	L	Number of lanes restricted	V	Number of vehicles restricted	X	Other	<p><u>This item is reported when a bridge is posted for the legal load configuration. Roadway postings are excluded.</u></p> <p><u>This item is only reported for legal load configurations with a rating factor less than 1.0, as reported in Item B.EP.02 (<i>Legal Load Rating Factor</i>).</u></p>
Code	Description																				
G	Gross Load																				
A	Single Axle Load																				
D	Tandem Axle Load																				
T	Truck Load																				
C	No commercial vehicles																				
S	Speed reduction																				
L	Number of lanes restricted																				
V	Number of vehicles restricted																				
X	Other																				



- H-Truck - G
- Tandem - G
- Triaxle - G
- Concrete - G
- 18-Wheeler - G
- 6-Axle - G
- School Bus - G
- EV2 - A
- EV2 - G
- EV3 - D
- EV3 - G

B.EP.04 – Posting Value

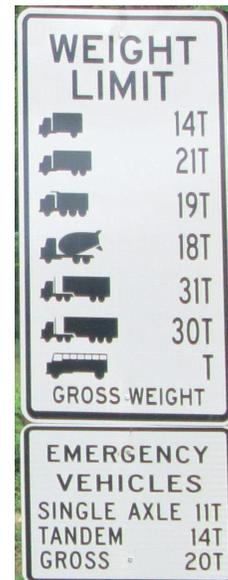
Posting Value		
Format <i>AN (15)N(2,0)</i>	Frequency I	Item ID B.EP.04
Specification	Commentary	
<p>Report the weight limit value(s) shown on the load posting sign for the vehicle reported in Item B.EP.02 (<i>Legal Load Rating Factor</i>) rounded down to the nearest U.S. ton.</p> <p><u>Report multiple weight limit values in the order shown in Item B.EP.01 (<i>Posting Type</i>) separated by pipe () delimiters.</u></p> <p>Do not report this item if no posting sign is used for the legal load configuration.</p> <p>Do not report this item if Item B.EP.03 (<i>Posting Type</i>) <u>only</u> has codes C, S, L, or V reported.</p>	<p><u>This item is reported when a bridge is posted. Roadway postings are excluded.</u></p> <p><u>Multiple weight limit values are reported when a posting sign has more than one weight limit that restricts the legal load configuration, e.g. a single axle and tandem axle weight limit. This item is only reported for legal load configurations with a rating factor less than 1.0, as reported in Item B.EP.02 (<i>Legal Load Rating Factor</i>).</u></p>	

B.EP.03 – Posting Type

B.EP.04 – Posting Value

Sign Type ↑	Posting Type (B.EP.03) ↓	Posting Value (B.EP.04) ↓
1) ALDOT H Truck	Truck Load	14
2) ALDOT Two-Axle	Truck Load	21
3) ALDOT Tri Axle	Truck Load	19
4) ALDOT Concrete	Truck Load	18
5) ALDOT 18 Wheeler	Truck Load	31
6) ALDOT Six Axle	Truck Load	30
8) EV2 - Single	Single Axle Load	11
9) EV3 - Tandem	Tandem Axle Load	14
10) EV - Gross	Gross Load	20

Navigation: << < 1 > >> 15 ▾ 1 - 9 of 9



Section 6: Inspections

- Subsection 6.1: Inspection Requirements
- Subsection 6.2: Inspection Events

Subsection 6.1: Inspection Requirements

- B.IR.01 – NSTM Inspection Required
- B.IR.02 – Fatigue Details
- B.IR.03 – Underwater Inspection Required
- B.IR.04 – Complex Feature

B.IR.01 – NSTM Inspection Required

<i>NSTM Inspection Required</i>											
<u>Format</u> AN (1)	<u>Frequency</u> I										
<u>Item ID</u> B.IR.01											
Specification	Commentary										
<p>Report whether the bridge requires an NSTM inspection using one of the following codes.</p> <table border="1"> <thead> <tr> <th>Code</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>N</td> <td>NSTM inspection not required.</td> </tr> <tr> <td>Y</td> <td>NSTM inspection required.</td> </tr> <tr> <td>I</td> <td>NSTM inspection not required – Internal Redundancy</td> </tr> <tr> <td>S</td> <td>NSTM inspection not required – System Redundancy</td> </tr> </tbody> </table> <p>Do not report this item for bridges that do not have steel members, as indicated in Items B.SP.04 (<i>Span Material</i>) and B.SB.03 (<i>Substructure Material</i>).</p>	Code	Description	N	NSTM inspection not required.	Y	NSTM inspection required.	I	NSTM inspection not required – Internal Redundancy	S	NSTM inspection not required – System Redundancy	<p>The intent of this item is to identify bridges that require NSTM inspection for any part of the bridge, to ensure they are inspected in accordance with the NBIS.</p> <p>It is the State’s option to record a required NSTM inspection for any bridges meeting a State definition more rigorous than the FHWA definition of NSTM inspection.</p> <p>Use code N when an NSTM inspection is not required and codes I and S do not apply.</p> <p>Use code I when the bridge owner has demonstrated to FHWA, through the use of nationally recognized methods, that a member without load path redundancy is internally redundant, and it is determined that the bridge does not require an NSTM inspection.</p> <p>Use code S when the bridge owner has demonstrated to FHWA, through the use of nationally recognized methods, that a bridge without load path redundancy is system redundant, and it is determined that the bridge does not require an NSTM inspection.</p>
Code	Description										
N	NSTM inspection not required.										
Y	NSTM inspection required.										
I	NSTM inspection not required – Internal Redundancy										
S	NSTM inspection not required – System Redundancy										

B.IR.01 – NSTM Inspection Required – Example



Example for B.IR.01 =
Do Not Report

B.IR.01 – NSTM Inspection Required – Example



Example for B.IR.01 = N
NSTM Inspection Not
Required

B.IR.01 – NSTM Inspection Required – Example



Example for B.IR.01 = Y
NSTM Inspection Required

B.IR.02 – Fatigue Details

<i>Fatigue Details</i>							
Format AN (1)	Frequency I						
Specification	Item ID B.IR.02						
Specification	Commentary						
<p>Report whether the bridge has AASHTO fatigue category E or E' details using one of the following codes.</p> <table border="0"> <tr> <td style="padding-right: 20px;"><u>Code</u></td> <td><u>Description</u></td> </tr> <tr> <td>N</td> <td>No E/E' details</td> </tr> <tr> <td>Y</td> <td>E/E' details are present</td> </tr> </table> <p>Do not report this item for bridges that do not have steel members as indicated in Items B.SP.04 (Span Material) and B.SB.03 (Substructure Material).</p>	<u>Code</u>	<u>Description</u>	N	No E/E' details	Y	E/E' details are present	<p>This item provides data to identify bridges that have details most prone to fatigue.</p> <p>Refer to the BIRM or AASHTO LRFD Bridge Design Specifications for fatigue categories.</p>
<u>Code</u>	<u>Description</u>						
N	No E/E' details						
Y	E/E' details are present						

B.IR.02 – Fatigue Details – Example: Eyebars Truss Member, Pin & Hanger

Description	Category	Constant <i>A</i> (ksi) ³	Threshold (ΔF) _{TH} ksi	Potential Crack Initiation Point	Illustrative Examples
Section 2—Connected Material in Mechanically Fastened Joints					
2.4 Base metal at the net section of eyebars heads or pin plates (Note: for base metal in the shank of eyebars or through the gross section of pin plates, see Condition 1.1 or 1.2, as applicable.)	E	11×10^8	4.5	In the net section originating at the side of the hole	

B.IR.02 – Fatigue Details – Example: Rolled Steel w/ Welded Cover Plates

Description	Category	Constant A (ksi) ³	Threshold $(\Delta F)_{TH}$ ksi	Potential Crack Initiation Point	Illustrative Examples
Section 3—Welded Joints Joining Components of Built-up Members					
3.5 Base metal at the termination of partial length welded cover plates having square or tapered ends that are narrower than the flange, with or without welds across the ends, or cover plates that are wider than the flange with welds across the ends:				In the flange at the toe of the end weld or in the flange at the termination of the longitudinal weld or in the edge of the flange with wide cover plates	
Flange thickness ≤ 0.8 in.	E	11×10^8	4.5		
Flange thickness > 0.8 in.	E'	3.9×10^8	2.6		<i>continued on next page</i>

B.IR.02 – Fatigue Details – Example: Not Common

Description	Category	Constant A (ksi) ³	Threshold $(\Delta F)_{TH}$ ksi	Potential Crack Initiation Point	Illustrative Examples
Section 3—Welded Joints Joining Components of Built-up Members					
3.7 Base metal at the termination of partial length welded cover plates that are wider than the flange and without welds across the ends.	E'	3.9×10^8	2.6	In the edge of the flange at the end of the cover plate weld	

B.IR.02 – Fatigue Details – Example: Welded Longitudinal Stiffener

Description	Category	Constant A (ksi) ³	Threshold $(\Delta F)/M$ ksi	Potential Crack Initiation Point	Illustrative Examples
Section 4—Welded Stiffener Connections (continued)					
<p>4.3 Base metal at the termination of longitudinal stiffener-to-web or longitudinal stiffener-to-box flange welds:</p> <p>With the stiffener attached by welds and with no transition radius provided at the termination:</p> <p>Stiffener thickness < 1.0 in.</p> <p>Stiffener thickness ≥ 1.0 in.</p> <p>With the stiffener attached by welds and with a transition radius R provided at the termination with the weld termination ground smooth:</p> <p>$R \geq 24$ in.</p> <p>24 in. > $R \geq 6$ in.</p> <p>6 in. > $R \geq 2$ in.</p> <p>2 in. > R</p>	<p>E</p> <p>E'</p> <p>B</p> <p>C</p> <p>D</p> <p>E</p>	<p>11×10^8</p> <p>3.9×10^8</p> <p>120×10^8</p> <p>44×10^8</p> <p>22×10^8</p> <p>11×10^8</p>	<p>4.5</p> <p>2.6</p> <p>16</p> <p>10</p> <p>7</p> <p>4.5</p>	<p>In the primary member at the end of the weld at the weld toe</p> <p>In the primary member near the point of tangency of the radius</p>	

B.IR.02 – Fatigue Details – Example: Welded Lateral Bracing Gusset Connection

Description	Category	Constant A (ksi) ³	Threshold $(\Delta F)/M$ ksi	Potential Crack Initiation Point	Illustrative Examples
Section 6—Transversely Loaded Welded Attachments					
<p>6.1 Base metal in a longitudinally loaded component at a transversely loaded detail (e.g. a lateral connection plate) attached by a weld parallel to the direction of primary stress and incorporating a transition radius R:</p> <p>With the weld termination ground smooth:</p> <p>$R \geq 24$ in.</p> <p>24 in. > $R \geq 6$ in.</p> <p>6 in. > $R \geq 2$ in.</p> <p>2 in. > R</p> <p>For any transition radius with the weld termination not ground smooth.</p> <p>(Note: Condition 6.2, 6.3 or 6.4, as applicable, shall also be checked.)</p>	<p>B</p> <p>C</p> <p>D</p> <p>E</p> <p>E</p>	<p>120×10^8</p> <p>44×10^8</p> <p>22×10^8</p> <p>11×10^8</p> <p>11×10^8</p>	<p>16</p> <p>10</p> <p>7</p> <p>4.5</p> <p>4.5</p>	<p>Near point of tangency of the radius at the edge of the longitudinally loaded component or at the toe of the weld at the weld termination if not ground smooth</p>	

B.IR.03 – Underwater Inspection Required

<i>Underwater Inspection Required</i>	
<u>Format</u> AN (1)	<u>Frequency</u> I
<u>Item ID</u> B.IR.03	
Specification	Commentary
<p>Report whether an underwater inspection is required under normal flow conditions using one of the following codes.</p> <p><u>Code</u> <u>Description</u></p> <p>N Underwater inspection not required</p> <p>Y Underwater inspection required</p> <p>Do not report this item for bridges that do not pass over water as indicated in Item B.F.01 (<i>Feature Type</i>).</p>	<p>The intent of this item is to identify bridges that require an underwater inspection per the NBIS.</p> <p>Use code Y when during a typical routine inspection, any portion of a bridge substructure and the surrounding channel cannot be inspected to the mudline at low water by wading or probing, generally requiring diving or other appropriate technique.</p> <p>Use code N when during a typical routine inspection, all portions of a bridge substructure and the surrounding channel can be inspected to the mudline at low water by wading or probing.</p>

Commentary
<p>If this item was previously reported as Y because an underwater inspection is generally required, it should continue to be reported as Y even for instances of unusually low flow where all portions of the substructure can be inspected by wading and probing, and an underwater inspection is not required. This applies only if the low flow condition is truly unusual and is not likely to reoccur during the next inspection interval.</p> <p>The reported code for this item may change in the rare circumstance where long-term environmental conditions change for inspection access to underwater portions of the substructure.</p>

B.IR.04 – Complex Features

<i>Complex Feature</i>	
<u>Format</u> AN (1)	<u>Frequency</u> I
<u>Item ID</u> B.IR.04	
Specification	Commentary
<p>Report whether the bridge has a complex feature by using one of the following codes.</p> <p><u>Code</u> <u>Description</u></p> <p>N Bridge does not have complex feature</p> <p>Y Bridge has complex feature</p>	<p>The intent of this item is to identify bridges with complex features as defined by the NBIS.</p> <p>Bridges with complex features are typically identified in agency policies and procedures.</p>

B.IR.04 – Complex Features

- Complex Feature: Bridge component(s) or member(s) with advanced or unique structural members or operational characteristics, construction methods, and/or requiring specific inspection procedures. This includes mechanical and electrical elements of movable spans and cable-related members of suspension and cable-stayed superstructures. (23 CFR 650.305)
- Structures requiring NSTM inspections such as trusses or two girder floorbeam (floor truss) system are **NOT** considered complex.

B.IR.04 – Complex Features – Example



Example for B.IR.04 = N
Bridge Does Not Have
Complex Features

B.IR.04 – Complex Features – Example



Example for B.IR.04 = Y
Bridge Has Complex
Features

B.IR.04 – Complex Features – Example



Example for B.IR.04 = Y
Bridge Has Complex
Features

Subsection 6.2: Inspection Events

- B.IE.01 – Inspection Type
- B.IE.02 – Inspection Begin Date
- B.IE.03 – Inspection Completion Date
- B.IE.04 – Nationally Certified Bridge Inspector
- B.IE.05 – Inspection Interval
- B.IE.06 – Inspection Due Date
- B.IE.07 – Risk-Based Inspection Interval Method
- B.IE.08 – Inspection Quality Control Date
- B.IE.09 – Inspection Quality Assurance Date
- B.IE.10 – Inspection Date Update Date
- B.IE.11 – Inspection Note
- B.IE.12 – Inspection Equipment

B.IE.01 – Inspection Type

<i>Inspection Type</i>																					
Format AN (1)	Frequency EI																				
Specification	Item ID B.IE.01 Commentary																				
<p>Report the inspection type or scour monitoring performed using one of the following codes.</p> <table border="1"> <thead> <tr> <th>Code</th> <th>Description</th> </tr> </thead> <tbody> <tr><td>1</td><td>Initial</td></tr> <tr><td>2</td><td>Routine</td></tr> <tr><td>3</td><td>Underwater</td></tr> <tr><td>4</td><td>NSTM</td></tr> <tr><td>5</td><td>Damage</td></tr> <tr><td>6</td><td>In-Depth</td></tr> <tr><td>7</td><td>Special</td></tr> <tr><td>8</td><td>Service</td></tr> <tr><td>9</td><td>Scour Monitoring</td></tr> </tbody> </table>	Code	Description	1	Initial	2	Routine	3	Underwater	4	NSTM	5	Damage	6	In-Depth	7	Special	8	Service	9	Scour Monitoring	<p>Use code 2 when all portions of a bridge substructure and the surrounding channel have been inspected to the mudline at low water visually, or by wading or probing during routine inspections.</p> <p>Use code 3 when all portions of a bridge substructure reported Y for Item B.IR.03 (<i>Underwater Inspection Required</i>) is inspected by wading and probing in an instance of unusually low flow. If this is performed during a Routine inspection, record both a routine and underwater inspection.</p> <p>Use code 9 when scour monitoring is performed as required by a Scour POA for a triggering storm event. This can include periodic remote electronic readings of streambed changes when required in the POA. If multiple site visits occur for a triggering storm event, record this item once for that storm event.</p> <p>Use code 8 when a Service Inspection is performed for a bridge with a risk-based routine inspection interval that exceeds 48 months.</p>
Code	Description																				
1	Initial																				
2	Routine																				
3	Underwater																				
4	NSTM																				
5	Damage																				
6	In-Depth																				
7	Special																				
8	Service																				
9	Scour Monitoring																				

B.IE.02 – Inspection Begin Date

<i>Inspection Begin Date</i>	
<u>Format</u> YYYYMMDD	<u>Frequency</u> EI
<u>Item ID</u> B.IE.02	
Specification	Commentary
Report the date for the inspection type performed. For multiple day inspections, record the first day that field inspection begins.	<p>The intent of this item is to report<u>record</u> the inspection dates for the inspection types in Item B.IE.01 (<i>Inspection Type</i>), since the previous data submittal to FHWA.</p> <p>If multiple site visits occur for scour monitoring inspections, for a triggering storm event, report the first site visit date for that storm event.</p>

B.IE.03 – Inspection Completion Date

<i>Inspection Completion Date</i>	
<u>Format</u> YYYYMMDD	<u>Frequency</u> EI
<u>Item ID</u> B.IE.03	
Specification	Commentary
<p>Report the completion date for the inspection type performed.</p> <p>For single day inspections, report the same date that field inspection begins.</p>	<p>The intent of this item is to report<u>record</u> the field inspection completion dates for all inspections.</p> <p>If multiple site visits occur for scour monitoring inspections, for a triggering storm event, report the last site visit date for that storm event.</p>

B.IE.04 – Nationally Certified Bridge Inspector

<i>Nationally Certified Bridge Inspector</i>		
<u>Format</u> AN (15)	<u>Frequency</u> EI	<u>Item ID</u> B.IE.04
Specification		Commentary
Report the unique code identifying the Nationally Certified Bridge Inspector (team leader) responsible for the inspection type performed.		<p>The intent of this item is to indicate the Nationally Certified Bridge Inspector (team leader) present at the inspection, for each inspection type required by the NBIS.</p> <p>The unique identifier code is assigned by the State DOT, Federal agency, or Tribal government.</p> <p>Agencies may choose not to report this item for inspection types defined in the NBIS that do not require a Nationally Certified Bridge Inspector (team leader), even if one is present during the inspection.</p>

B.IE.05 – Inspection Interval

<i>Inspection Interval</i>		
<u>Format</u> N (2,0)	<u>Frequency</u> EI	<u>Item ID</u> B.IE.05
Specification		Commentary
<p>Report the planned interval in number of months between the current and next scheduled inspection for the type associated with Items B.IE.01 (<i>Inspection Type</i>) and B.IE.03 (<i>Inspection Completion Date</i>) items.</p> <p>Report 0 for damage inspections, scour monitoring inspections, or when a special inspection does not have a defined inspection interval.</p>		<p>The intent of this item is to reportrecord the planned interval at which the bridge is to be inspected per the NBIS and agency policies and procedures.</p> <p>This interval should be evaluated after each inspection, and adjusted as necessary.</p>

B.IE.06 – Inspection Due Date

<i>Inspection Due Date</i>		
<u>Format</u> YYYYMMDD	<u>Frequency</u> C	<u>Item ID</u> B.IE.06
Specification		Commentary
<p>Do not report this item as it is calculated by the FHWA.</p> <p>The default calculation is the value reported in Item B.IE.03 (<i>Inspection Completion Date</i>) plus the value reported in Item B.IE.05 (<i>Inspection Interval</i>).</p>		<p>The intent of this item is to provide the inspection due date for the inspection types defined in the B.IE.01 (<i>Inspection Type</i>) where applicable.</p> <p>This item is only calculated for inspection types which have an inspection interval.</p>

B.IE.07 – Risk-Based Inspection Interval Method

<i>Risk-Based Inspection Interval Method</i>										
<u>Format</u> AN (1)	<u>Frequency</u> EI	<u>Item ID</u> B.IE.07								
Specification		Commentary								
<p>Report the risk-based inspection interval method using one of the following codes.</p> <table border="1"> <thead> <tr> <th><u>Code</u></th> <th><u>Description</u></th> </tr> </thead> <tbody> <tr> <td>N</td> <td>Not applicable</td> </tr> <tr> <td>1</td> <td>Method 1</td> </tr> <tr> <td>2</td> <td>Method 2</td> </tr> </tbody> </table>		<u>Code</u>	<u>Description</u>	N	Not applicable	1	Method 1	2	Method 2	<p>The intent of this item is to report record the risk-based inspection interval method, described in the NBIS, for determining the inspection interval.</p> <p>Method 1, as described in the NBIS, is when inspection intervals are determined by a simplified assessment of risk to classify each bridge into one of three risk levels with an inspection interval not to exceed 12, 24, or 48 months.</p> <p>Method 2, as described in the NBIS, is when inspection intervals are determined by a more rigorous assessment of risk to classify each bridge, or a group of bridges, into one of four risk levels with an inspection interval not to exceed 12, 24, 48, or 72 months.</p> <p>Use code N when Item B.IE.01 (<i>Inspection Type</i>) is 1, 5, 6, 7, 8 or 9.</p>
<u>Code</u>	<u>Description</u>									
N	Not applicable									
1	Method 1									
2	Method 2									

B.IE.08 – Inspection Quality Control Date

<i>Inspection Quality Control Date</i>		
<u>Format</u> YYYYMMDD	<u>Frequency</u> EI	<u>Item ID</u> B.IE.08
Specification		Commentary
<p>Report the date that the QC review was completed.</p> <p>Do not report when a QC review was not performed.</p>		<p>The intent of this item is to identify inspections that have had independent QC reviews to maintain inspection quality at or above a specified level.</p> <p>Agency QC procedures often vary, and every inspection might not receive an independent QC review. Bridge inspections might be selected for QC reviews based on representative bridge types or other agency defined methods.</p>

B.IE.09 – Inspection Quality Assurance Date

<i>Inspection Quality Assurance Date</i>		
<u>Format</u> YYYYMMDD	<u>Frequency</u> EI	<u>Item ID</u> B.IE.09
Specification		Commentary
<p>Report the date that the QA review was completed.</p> <p>Do not report when a QA review was not performed.</p>		<p>The intent of this item is to identify inspections that have had independent QA reviews to measure or verify the overall quality of the inspection program.</p> <p>Agency QA procedures often vary in the definition of a review period and number of inspections reviewed. Bridge inspections might be randomly selected for agency QA reviews or selected based on representative bridge type, region, district, or other agency defined bridge populations.</p>

B.IE.10 – Inspection Data Update Date

<i>Inspection Data Update Date</i>		
<u>Format</u> YYYYMMDD	<u>Frequency</u> EI	<u>Item ID</u> B.IE.10
Specification	Commentary	
Report the date that the NBI inspection data were entered or updated in the State transportation department, Federal agency, or Tribal government inventory.	The intent of this item is to verify that a complete NBI inspection data set is accepted and is entered or updated in the inventory within the timeframes required by the NBIS.	

B.IE.11 – Inspection Note

<i>Inspection Note</i>		
<u>Format</u> AN (300)	<u>Frequency</u> EI	<u>Item ID</u> B.IE.11
Specification	Commentary	
Report a brief description of the members or features inspected when limited portions of the bridge are inspected. Use consistent terms to describe similar inspections.	<p>This item is intended to capture a brief description of the members inspected when limited portions of the bridge are inspected such as for Underwater, NSTM, In-depth, Special, and Damage inspections, or for scour monitoring.</p> <p>This item is also used to describe the purpose for Special inspections performed following extreme events such as floods, hurricanes, and earthquakes.</p>	

B.IE.12 – Inspection Equipment

<i>Inspection Equipment</i>													
Format AN (120)	Frequency EI												
Item ID B.IE.12													
Specification	Commentary												
<p>Report all access and inspection equipment used to perform the inspection using one or more of the following codes.</p> <p>Report multiple codes separated by pipe () delimiters.</p> <p>Do not report this item if none of the access and inspection equipment below was used.</p> <table border="1"> <thead> <tr> <th>Code</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td></td> <td style="text-align: center;"><u>Access</u></td> </tr> <tr> <td>AN</td> <td>No access equipment used</td> </tr> <tr> <td>A01</td> <td>Ladder</td> </tr> <tr> <td>A02</td> <td>Bucket lift vehicle</td> </tr> <tr> <td>A03</td> <td>Under bridge inspection vehicle</td> </tr> </tbody> </table>	Code	Description		<u>Access</u>	AN	No access equipment used	A01	Ladder	A02	Bucket lift vehicle	A03	Under bridge inspection vehicle	<p>This item is used to provide information about access and inspection equipment used in addition to standard equipment for each inspection. Refer to the BIRM for a listing of standard equipment.</p> <p>Remotely operated vehicles include any remotely controlled device used to provide video access to members of a bridge via ground, water surface, or underwater.</p> <p>Use code AN when none of the listed access equipment codes apply for the inspection performed.</p> <p>Use code A13 when unmanned aerial systems (UAS), also referred to as drones, are used to supplement inspections.</p>
Code	Description												
	<u>Access</u>												
AN	No access equipment used												
A01	Ladder												
A02	Bucket lift vehicle												
A03	Under bridge inspection vehicle												

B.IE.12 – Inspection Equipment

Specification		Commentary	Specification Continued – Inspection Equipment	
			Code	Description
A04	Rigging	<p>Use code IN when none of the listed inspection equipment codes apply for the inspection performed.</p> <p>Use code I13 when underwater imaging technologies such as side scan sonar are used to supplement underwater inspections.</p> <p>NDE and testing inspection equipment listed represent only more common or general types. Use the most closely related code, or use code IX for types not listed.</p>	IN	No inspection equipment used
A05	Waders		I01	Ultrasonic
A06	Boat		I02	Ground-penetrating radar
A07	Snorkel		I03	Infrared thermography
A08	SCUBA		I04	Radiographic testing
A09	Surface supplied air		I05	Impact echo
A10	Remotely Operated Vehicle (ROV)		I06	Electromagnetic methods
A11	Video pole		I07	Rebound & penetration methods
A12	Borescope		I08	Acoustic emissions testing
A13	Unmanned aerial systems (UAS)		I09	Dye penetrant
A14	Service Traveler	I10	Magnetic particle	
A15	Rope	I11	Eddy current	
AX	Other	I12	Boring or drilling	
		I13	Underwater imaging	
		I14	Depth finder/fathometer	
		I15	Stress wave timer	
		I16	Chain drag	
		IX	Other	

Codes continued next page.

Section 7: Bridge Condition

- Subsection 7.1: Component Condition Ratings
- Subsection 7.2: Element Identification
- Subsection 7.3: Element Conditions
- Subsection 7.4: Appraisal
- Subsection 7.5: Work Events

Subsection 7.1: Component Condition Ratings

- B.C.01 – Deck Condition Rating (Table 20)
- B.C.02 – Superstructure Condition Rating (Table 20)
- B.C.03 – Substructure Condition Rating (Table 20)
- B.C.04 – Culvert Condition Rating (Table 20)
- B.C.05 – Bridge Railing Condition Rating (Table 20)
- B.C.06 – Bridge Railing Transitions Condition Rating (Table 20)
- B.C.07 – Bridge Bearings Condition Rating (Table 20)
- B.C.08 – Bridge Joints Condition Rating (Bridge Joints Table)
- B.C.09 – Channel Condition Rating (Channel Table)

Subsection 7.1: Component Condition Ratings

- B.C.10 – Channel Protection Condition Rating (Channel Protection Table)
- B.C.11 – Scour Condition Rating (Scour Table)
- B.C.12 – Bridge Condition Classification (Calculated)
- B.C.13 – Lowest Condition Rating Code (Calculated)
- B.C.14 – NSTM Inspection Condition (Table 20)
- B.C.15 – Underwater Inspection Condition (Table 20)

Table 20 – B.C.01 through B.C.07, B.C.14, & B.C.15

Code	Condition	Description
N	NOT APPLICABLE	Component does not exist.
9	EXCELLENT	Isolated inherent defects.
8	VERY GOOD	Some inherent defects.
7	GOOD	Some minor defects.
6	SATISFACTORY	Widespread minor or isolated moderate defects.
5	FAIR	Some moderate defects; strength and performance of the component are not affected.
4	POOR	Widespread moderate or isolated major defects; strength and/or performance of the component is affected.
3	SERIOUS	Major defects; strength and/or performance of the component is seriously affected. Condition typically necessitates more frequent monitoring, load restrictions, and/or corrective actions.
2	CRITICAL	Major defects; component is severely compromised. Condition typically necessitates frequent monitoring, significant load restrictions, and/or corrective actions in order to keep the bridge open.
1	IMMINENT FAILURE	Bridge is closed to traffic due to component condition. Repair or rehabilitation may return the bridge to service.
0	FAILED	Bridge is closed due to component condition, and is beyond corrective action. Replacement is required to restore service.

Table 20 – B.C.01 through B.C.07, B.C.14, & B.C.15

Use Table 20 to determine condition rating codes for the bridge component items in this section (Items B.C.01 through B.C.07, B.C.14, & B.C.15). The entire code description must be satisfied for the code to apply.

Defect Extent + Defect Severity = Condition Rating

Defect Extent

Isolated – Occurs in one or a few concentrated locations

Some – Prevalence is more than isolated and less than widespread

Widespread – Present in many separate areas of the component

Table 20 – B.C.01 through B.C.07, B.C.14, & B.C.15Defect Severity

Inherent – Not indicative of damage or deterioration, but is characteristic of the material or results from normal construction practices

Minor – Damage or deterioration has initiated but is not yet considered significant

Moderate – Damage or deterioration are significant, but the strength and performance of the component are not affected

Major – Affects the strength and/or performance of the component

Table 20 – B.C.01 through B.C.07, B.C.14, & B.C.15

Code	Condition	Description
N	NOT APPLICABLE	Component does not exist.
9	EXCELLENT	Isolated inherent defects.
8	VERY GOOD	Some inherent defects.
7	GOOD	Some minor defects.
6	SATISFACTORY	Widespread minor or isolated moderate defects.
5	FAIR	Some moderate defects; strength and performance of the component are not affected.
4	POOR	Widespread moderate or isolated major defects; strength and/or performance of the component is affected.

9	EXCELLENT CONDITION
8	VERY GOOD CONDITION - no problems noted.
7	GOOD CONDITION - some minor problems.
6	SATISFACTORY CONDITION - structural elements show some minor deterioration.
5	FAIR CONDITION- all primary structural elements are sound but may have minor section loss, cracking, spalling or scour.
4	POOR CONDITION - advanced section loss, deterioration, spalling or scour.

Table 20 – B.C.01 through B.C.07, B.C.14, & B.C.15

3	SERIOUS	Major defects; strength and/or performance of the component is seriously affected. Condition typically necessitates more frequent monitoring, load restrictions, and/or corrective actions.
2	CRITICAL	Major defects; component is severely compromised. Condition typically necessitates frequent monitoring, significant load restrictions, and/or corrective actions in order to keep the bridge open.
1	IMMINENT FAILURE	Bridge is closed to traffic due to component condition. Repair or rehabilitation may return the bridge to service.
0	FAILED	Bridge is closed due to component condition, and is beyond corrective action. Replacement is required to restore service.

3 SERIOUS CONDITION - loss of section, deterioration, spalling or scour have seriously affected primary structural components. Local failures are possible. Fatigue cracks in steel or shear cracks in concrete may be present.

2 CRITICAL CONDITION - advanced deterioration of primary structural elements. Fatigue cracks in steel or shear cracks in concrete may be present or scour may have removed substructure support. Unless closely monitored it may be necessary to close the bridge until corrective action is taken.

1 IMMINENT FAILURE CONDITION - major deterioration or section loss present in critical structural components or obvious vertical or horizontal movement affecting structure stability. Structure is closed to traffic but corrective action may put it back in light service.

0 FAILED CONDITION - out of service; beyond corrective action.

Table 20 – B.C.01 through B.C.07, B.C.14, & B.C.15

5	FAIR	Some moderate defects; strength and performance of the component are not affected.
4	POOR	Widespread moderate or isolated major defects; strength and/or performance of the component is affected.

Dividing line between a rating of “5” or “4”, strength has been affected so load posting restriction is most likely necessary.

Include the condition of all **temporary members** for determination of the overall component condition rating.

B.C.01 – Deck Condition Rating

<i>Deck Condition Rating</i>		
Format AN (1)	Frequency EI	Item ID B.C.01
Specification	Commentary	
Report the deck component condition rating using one of the codes in <i>Table 20</i> . Report N when Item B.SP.09 (<i>Deck Material and Type</i>) is 0.	This item represents the condition of the deck as determined from the inspection of all deck surfaces (top, underside, and edges). Visual assessments may be supplemented with non-destructive or destructive testing results.	
Commentary Continued		
Use destructive or non-destructive testing results or visual condition indicators of materials covering the surfaces being assessed when top, underside or both surfaces are not visible for assessment. Past inspection reports and repair records may also provide supplemental information to aid in the determination of the condition rating.		
Do not consider the condition of non-monolithic wearing surfaces (i.e. overlays), stay-in-place deck forms, joint assemblies, expansion devices, bridge rails, or scuppers when determining the condition rating code for this item, except insofar as they indicate the condition of the deck itself.		
Consider the condition of a joint header only when the deck serves as a joint header.		
For bridges with integral decks/top flanges (e.g. rigid frames, decked girders or tee beams, voided slab beams, box girders, etc.), the deck condition may affect the superstructure condition rating; however, the superstructure condition does not affect the deck condition rating.		
The deck and superstructure condition ratings are the same for <u>solid</u> slab bridges.		

B.C.02 – Superstructure Condition Rating

Superstructure Condition Rating	
Format AN (1)	Frequency EI
Item ID B.C.02	
Specification	Commentary
<p>Report the superstructure component condition rating using one of the codes in <i>Table 20</i>.</p> <p>Report N when M, A, or W is not reported for Item B.SP.01 (<i>Span Configuration Designation</i>).</p>	<p>This item represents the condition of the superstructure as determined from the inspection of all superstructure members.</p>
Commentary Continued	
<p>Consider primary load carrying members when determining the condition rating code for this item, which includes cross-frames and diaphragms for curved girder bridges. Consider secondary members only if they adversely impact the primary members. Visual assessments may be supplemented with non-destructive or destructive testing results.</p> <p>The superstructure includes:</p> <ul style="list-style-type: none"> members above the bearings for bridges with non-integral superstructure and substructure; girders/beams for integral superstructures; members above the spring line for arch bridges; slabs of concrete rigid frame bridges; and legs, knees and girders for concrete and steel rigid K-Frame or Delta-Frame bridges. 	

B.C.02 – Superstructure Condition Rating

<p>Consider the condition of <u>integral headwalls and spandrel walls that are integral with the superstructure</u>. Consider the condition of wingwalls <u>that are integral with the superstructure (continuation of the superstructure)</u>, to the first expansion joint.</p> <p>Do not consider the condition of bearings when determining the condition rating code for this item except to the extent that the bearings are causing distress in the superstructure.</p> <p>Do not consider the condition of protective coating systems when determining the condition rating code for this item except to the extent that problems with the protective coating system are indicative of problems with the underlying superstructure material. A well-formed patina on weathering steel is considered a protective coating and is not considered a defect.</p> <p>Do not consider the presence of drift, debris, and soil accumulation when determining the condition rating code for this item, except to the extent that these items are causing distress in the superstructure.</p> <p>Superstructure types without substructures may be affected by scour. When observed conditions are not consistent with the scour design or the assumptions used in the scour appraisal, scour is considered when reporting the code for this item. In this case, observed conditions also indicate a need to reevaluate Item B.AP.03 (<i>Scour Vulnerability</i>). Observed scour that is less than the tolerable limit determined in the scour appraisal does not affect this item.</p>
Commentary Continued – Superstructure Condition Rating
<p>For structures with integral decks/top flanges (e.g. rigid frames, decked girders or tee beams, voided slab beams, box girders, etc.), the deck condition may affect the superstructure condition rating; however, the superstructure condition does not affect the deck condition rating.</p> <p>The deck and superstructure condition ratings are the same for <u>solid</u> slab bridges. </p>

B.C.03 – Substructure Condition Rating

Substructure Condition Rating		
<u>Format</u> AN (1)	<u>Frequency</u> EI	<u>Item ID</u> B.C.03
Specification	Commentary	
<p>Report the substructure component condition rating using one of the codes in <i>Table 20</i>.</p> <p>Report N when only C and/or V is reported for Item B.SP.01 (<i>Span Configuration Designation</i>).</p>	<p>This item addresses the condition of piers, abutments, piles, footings, and other substructure members.</p>	
Commentary Continued		
<p>For bridges that have substructures not visible for inspection, use appropriate visual condition indicators from the superstructure or surrounding foundation materials to determine the applicable code. Visual assessments may be supplemented with non-destructive or destructive testing results.</p> <p>Consider the condition of integral abutment wingwalls to the first construction or expansion joint when determining the condition rating code for this item.</p>		

B.C.03 – Substructure Condition Rating

Do not consider the condition of protective coatings, fenders and other substructure protection systems when determining the condition rating code for this item, except to the extent that these items indicate distress of the substructure, or adversely affect its condition.

Do not consider the presence of drift, debris, and soil accumulation when determining the condition rating code for this item, except to the extent that these items are causing distress in the substructure.

The substructure includes:

- backwalls and the members below the bearings for bridges with non-integral superstructure and substructure;
- members below the girders/beams for integral superstructures;
- thrust blocks and other members below the spring line for arch bridges;
- legs of concrete rigid frame bridges;
- abutments and footings/foundations below the leg bearings for concrete and steel rigid K-Frame or Delta-Frame bridges; and
- foundation piles exposed by erosion or scour.

When observed conditions are not consistent with the scour design or the assumptions used in the scour appraisal, scour is considered in the coding of this item. In this case, observed conditions also indicate a need to reevaluate Item B.AP.03 (*Scour Vulnerability*). Observed scour that is less than the tolerable limit determined in the scour appraisal does not affect this item.



B.C.04 – Culvert Condition Rating

<i>Culvert Condition Rating</i>		
<u>Format</u> AN (1)	<u>Frequency</u> EI	<u>Item ID</u> B.C.04
Specification	Commentary	
Report the culvert component condition rating using one of the codes in <i>Table 20</i> . Report N when C or V is not reported for Item B.SP.01 (<i>Span Configuration Designation</i>).	This item addresses the condition of culverts. The condition assessment includes footings, piles, and other foundation members when present.	
Commentary Continued		
For culverts that have components not visible for inspection, use appropriate visual condition indicators from the roadway or surrounding foundation materials to determine the applicable code. Visual assessments may be supplemented with non-destructive or destructive testing results. Consider the condition of integral wingwalls and headwalls to the first construction or expansion joint when determining the condition rating code for this item.		

B.C.04 – Culvert Condition Rating

Do not consider the condition of protective coatings and other culvert protection systems when determining the condition rating code for this item, except to the extent that these items indicate distress of the culvert, or adversely affect its condition.

Do not consider the presence of drift, debris, and soil accumulation when determining the condition rating code for this item, except to the extent that these items are causing distress in the culvert.

The culvert includes:

- buried pipe or box;
- footings below the walls of a 3-sided box; and
- foundation piles exposed by erosion or scour.

When observed conditions are not consistent with the scour design or the assumptions used in the scour appraisal, scour is considered in the coding of this item. In this case, observed conditions also indicate a need to reevaluate Item B.AP.03 (*Scour Vulnerability*). Observed scour that is less than the tolerable limit determined in the scour appraisal does not affect this item.



B.C.05 – Bridge Railings Condition Rating

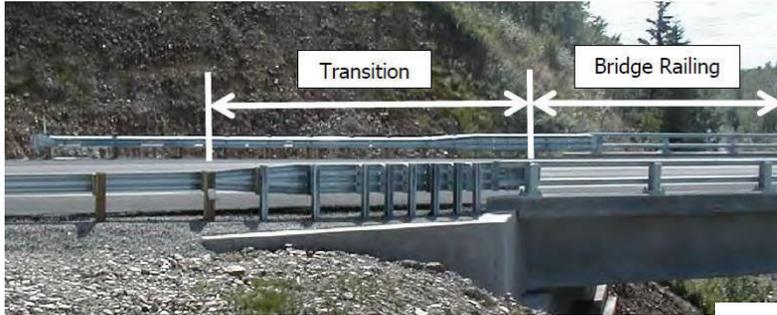
Bridge Railings Condition Rating		
<u>Format</u> AN (1)	<u>Frequency</u> EI	<u>Item ID</u> B.C.05
Specification	Commentary	
<p>Report the bridge railing condition rating using one of the codes in <i>Table 20</i>.</p> <p>Report N when there are no bridge railings present.</p>	<p>This item addresses the condition of all types and shapes of bridge railings (parapets, median barriers, or structure mounted) located on the bridge or that cross over buried structures. The condition assessment includes the portions of the railings, posts, blocking, and curbs that are part of the bridge railing system.</p>	
Commentary Continued		
<p>Do not consider pedestrian railings when coding this item, except to the extent that the pedestrian railing is integral to the traffic barrier.</p> <p>Do not consider the condition of protective coatings and other protection systems when determining the condition rating code for this item, except to the extent that problems with the protective coating system are indicative of problems with the underlying railing material.</p>		

B.C.06 – Bridge Railing Transitions Condition Rating

Bridge Railing Transitions Condition Rating		
<u>Format</u> AN (1)	<u>Frequency</u> EI	<u>Item ID</u> B.C.06
Specification	Commentary	
<p>Report the bridge railing transitions condition rating using one of the codes in <i>Table 20</i>.</p> <p>Report N when there are no bridge railing transitions present.</p>	<p>This item addresses the condition of the transition from the bridge railing to the approach guardrail. The condition assessment includes the portions of the railings, posts, blocking, and curbs that are part of the bridge railing transitions.</p> <p>Do not consider the condition of protective coatings and other protection systems when determining the condition rating code for this item, except to the extent that problems with the protective coating system are indicative of problems with the underlying railing transition material.</p>	



B.C.06 – Bridge Railing Transitions Condition Rating



B.C.07 – Bridge Bearings Condition Rating

<i>Bridge Bearings Condition Rating</i>		
<u>Format</u> AN (1)	<u>Frequency</u> EI	<u>Item ID</u> B.C.07
Specification		Commentary
Report the bridge bearing condition rating using one of the codes in <i>Table 20</i> . Report N for bridges without bearings.		This item addresses the condition of all types and shapes of bridge bearings. Do not consider the condition of protective coatings and other protection systems when determining the condition rating code for this item, except to the extent that problems with the protective coating system are indicative of problems with the underlying bearing material. In cases where the bearing device is not visible, the condition can be assessed based on alignment, grade across the joint, or other indirect indicators of the condition.

B.C.08 – Bridge Joints Condition Rating

<i>Bridge Joints Condition Rating</i>		
Format AN (1)	Frequency EI	Item ID B.C.08
Specification		
Report the bridge deck joint condition using one of the following codes. The entire code description must be satisfied for the code to apply.		
Code	Condition	Description
N	NOT APPLICABLE	Bridge does not have deck joints.
9	EXCELLENT	Isolated inherent defects.
8	VERY GOOD	Some inherent defects.
7	GOOD	Some minor defects.
6	SATISFACTORY	Widespread minor or isolated moderate defects.
5	FAIR	Some moderate defects.
4	POOR	Widespread moderate or isolated major defects.
3	SERIOUS	Some major defects.
2	CRITICAL	Widespread major defects.
1	IMMINENT FAILURE	Joints have failed and are ineffective.
0	FAILED	Joints have failed and present a safety hazard.

B.C.08 – Bridge Joints Condition Rating

Commentary
<p>This item addresses the condition of all types and shapes of bridge deck joints. The condition assessment includes all aspects of the joints such as any seals, headers (metal or concrete), connections, and other metal members.</p> <p>When a joint is designed as an open joint, leakage or lack of a seal is not considered a defect.</p> <p>Do not consider the condition of protective coatings and other protection systems when determining the condition rating code for this item, except to the extent that problems with the protective coating system are indicative of problems with the underlying joint material.</p> <p>In cases where the joint is not visible, the condition can be assessed based on other indirect indicators of the condition.</p>



B.C.09 – Channel Condition Rating

Channel Condition Rating		
<u>Format</u> AN (1)	<u>Frequency</u> EI	<u>Item ID</u> B.C.09
Specification		
Report the channel condition using one of the following codes. The entire code description must be satisfied for the code to apply.		
Commentary		
<p>This item is used to provide a condition rating for the channel at the bridge. Consider the channel upstream and downstream only insofar as it threatens the bridge and approach roadway. </p> <p>The condition of channel protection devices is addressed under a separate item. Refer to Item B.C.10 (<i>Channel Protection Condition Rating</i>).</p> <p>For concrete lined channels, channel defects typically do not apply, except for Aggradation and Debris. The condition of the channel lining would be addressed by Item B.C.10 (<i>Channel Protection Condition Rating</i>).</p>		

B.C.09 – Channel Condition Rating

Code	Condition	Description
N	NOT APPLICABLE	Bridge does not cross over water.
9	EXCELLENT	No defects.
8	VERY GOOD	Inherent defects only.
7	GOOD	Some minor defects.
6	SATISFACTORY	Widespread minor or isolated moderate defects.
5	FAIR	Moderate defects; bridge and approach roadway are not threatened.
4	POOR	Widespread moderate or isolated major defects; bridge and/or approach roadway is threatened.
3	SERIOUS	Major defects; bridge or approach roadway is seriously threatened. Condition typically necessitates more frequent monitoring, load restrictions, and/or corrective actions.
2	CRITICAL	Major defects. Bridge or approach roadway is severely threatened. Condition typically necessitates frequent monitoring, significant load restrictions, and/or corrective actions in order to keep the bridge open.
1	IMMINENT FAILURE	Bridge is closed to traffic due to channel condition. Channel rehabilitation may return the bridge to service.
0	FAILED	Bridge is closed due to channel condition, and is beyond corrective action. Bridge location or design can no longer accommodate the channel, and bridge replacement is needed to restore service.

B.C.09 – Channel Condition Rating

APPENDIX C

Table 54. Channel - defect severity guidance for component condition ratings.

Defect	Minor	Moderate	Major
Alignment	Flow angle of attack 15-30 degrees with respect to the bridge substructure, or 5-15 degrees with respect to wall piers.	Flow angle of attack 30-45 degrees with respect to the bridge substructure, or 15-30 degrees with respect to wall piers.	Flow angle of attack more than 45 degrees with respect to the bridge substructure, or more than 30 degrees with respect to wall piers.
Migration	Thalweg has moved from its baseline location, but movement has arrested or does not threaten the bridge or approach roadway.	Thalweg movement has not arrested and impacts embankment stability.	Thalweg movement has begun to undermine approach roadway.
Degradation	Exists within tolerable limits or has arrested.	Sloughing of banks, resulting in vertical embankments on both sides of the channel. Bridge is not yet impacted.	Sloughing of banks, resulting in vertical embankments on both sides of the channel. Bridge is impacted.
Aggradation	Exists within tolerable limits or has arrested.	Exceeds tolerable limits. Hydraulic opening is significantly blocked, increasing potential for overtopping or channel restriction.	Hydraulic opening is mostly blocked. May cause frequent overtopping or channel restriction.
Debris	Restricts channel slightly, or is prone to build-up.	Large deposits exist and restrict the channel, causing increased water velocities, redirecting stream flow, or eroding banks.	Hydraulic opening mostly blocked, significantly redirecting stream flow or impacting waterway capacity.
Bank Erosion/Instability	Erosion/instability that does not impact the bridge or approach roadway.	Significant erosion/instability that is progressing toward the bridge or approach roadway.	Stability of the approach roadway embankment is impacted.

B.C.10 – Channel Protection Condition Rating

<i>Channel Protection Condition Rating</i>		
Format AN (1)	Frequency EI	Item ID B.C.10
Specification		
Report the condition of the channel protection device(s) using one of the following codes. The entire code description must be satisfied for the code to apply.		
Code	Condition	Description
N	NOT APPLICABLE	Bridge does not cross over water or channel protection devices do not exist.
9	EXCELLENT	Isolated inherent defects.
8	VERY GOOD	Some inherent defects.
7	GOOD	Some minor defects.
6	SATISFACTORY	Widespread minor or isolated moderate defects.
5	FAIR	Some moderate defects; performance of the channel protection is not affected.
4	POOR	Widespread moderate or isolated major defects; performance of channel protection is affected.
3	SERIOUS	Major defects; performance of channel protection is seriously affected. Condition typically necessitates more frequent monitoring or corrective actions.
2	CRITICAL	Major defects; channel protection is severely compromised. Condition typically necessitates more frequent monitoring or corrective actions.
1	IMMINENT FAILURE	Channel protection has failed, but corrective action could restore it to working condition.
0	FAILED	Channel protection is beyond repair and must be replaced.

B.C.10 – Channel Protection Condition Rating

Commentary

This item is used to provide a condition rating for channel protection devices.

Evaluate the condition and effectiveness of channel protection devices installed on banks or in the stream to mitigate channel issues that may impact the bridge. When reporting this item, consider erosion and scour, damage (unraveling, displacement, separation, and sagging), and material defects (scaling, abrasion, spalling, corrosion, cracking, splitting, and decay).

Channel protection devices are considered countermeasures that control, inhibit, delay, or minimize stream instability and scour problems, including river training and armoring countermeasures.

River training countermeasures may include: spurs, bendway weirs, guide banks, drop structures, and check dams. Additional river training countermeasures can be found in HEC-23 and elsewhere.

B.C.10 – Channel Protection Condition Rating

Commentary Continued – Channel Protection Condition Rating

Armoring countermeasures may include: rock riprap, grouted riprap, concrete slope paving, articulating concrete blocks, gabion mattresses, and grout-filled mats. Additional armoring countermeasures can be found in HEC-23 and elsewhere.

For bridges that have countermeasures not visible for inspection, use appropriate visual condition indicators to determine the applicable code. These may include measurements taken at the bridge face(s) during every inspection to help determine degree of degradation, aggradation, and/or channel migration.

For this item, a minor defect does not limit the effectiveness of the channel protection, while a moderate defect may limit its effectiveness. A major defect indicates that the channel protection is missing or is no longer effective as determined by a hydraulic review.

B.C.11 – Scour Condition Rating

<i>Scour Condition Rating</i>		
Format	Frequency	Item ID
AN (1)	EI	B.C.11
Specification		
Report the scour condition that represents the observed or measured scour using one of the following codes. The entire code description must be satisfied for the code to apply.		
Code	Condition Description	
N	Bridge does not cross over water.	
9	No scour.	
8	Insignificant scour.	
7	Some minor scour.	
6	Widespread minor or isolated moderate scour.	
5	Moderate scour; strength and stability of the bridge are not affected.	
4	Widespread moderate or isolated major scour; strength and/or stability of the bridge is affected.	
3	Major scour; strength and/or stability of the bridge is seriously affected. Condition typically necessitates more frequent monitoring, load restrictions, and/or corrective actions.	
2	Major scour; strength and/or stability of the bridge is severely compromised. Condition typically necessitates frequent monitoring, significant load restrictions, and/or corrective actions to keep the bridge open.	
1	Bridge is closed to traffic due to scour condition. Channel rehabilitation may return the bridge to service.	
0	Bridge is closed due to scour condition, and is beyond corrective action. Bridge replacement is needed to restore service.	

B.C.11 – Scour Condition Rating

Commentary
Refer to Item B.AP.03 (<i>Scour Vulnerability</i>) to verify if the bridge has been determined to be stable or unstable for appraised scour conditions.
Consider design scour depth and critical scour depth, commonly found in hydraulic designs, scour evaluations, and POAs, when determining the scour condition ratings.
When observed conditions are not consistent with the scour design or the assumptions used in the scour appraisal, this indicates a need to reevaluate Item B.AP.03 (<i>Scour Vulnerability</i>).



B.C.12 – Bridge Condition Classification

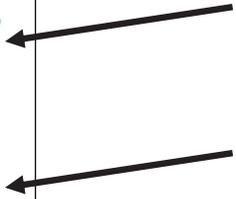
Bridge Condition Classification															
<u>Format</u> AN (1)	<u>Frequency</u> C		<u>Item ID</u> B.C.12												
Specification			Commentary												
<p>This item is calculated by FHWA and is not required to be reported. The bridge condition classification is indicated using one of the following codes.</p> <table border="1"> <thead> <tr> <th><u>Code</u></th> <th><u>Condition</u></th> <th><u>Lowest Condition Rating</u></th> </tr> </thead> <tbody> <tr> <td>G</td> <td>Good</td> <td>7, 8, or 9</td> </tr> <tr> <td>F</td> <td>Fair</td> <td>5 or 6</td> </tr> <tr> <td>P</td> <td>Poor</td> <td>4, 3, 2, 1, or 0</td> </tr> </tbody> </table>			<u>Code</u>	<u>Condition</u>	<u>Lowest Condition Rating</u>	G	Good	7, 8, or 9	F	Fair	5 or 6	P	Poor	4, 3, 2, 1, or 0	<p>For the purposes of national performance measures, the method of assessment to determine the classification of a bridge is the minimum (i.e. lowest) condition rating code from the following items:</p> <p>B.C.01 (<i>Deck Condition Rating</i>), B.C.02 (<i>Superstructure Condition Rating</i>), B.C.03 (<i>Substructure Condition Rating</i>), and B.C.04 (<i>Culvert Condition Rating</i>).</p>
<u>Code</u>	<u>Condition</u>	<u>Lowest Condition Rating</u>													
G	Good	7, 8, or 9													
F	Fair	5 or 6													
P	Poor	4, 3, 2, 1, or 0													

B.C.13 – Lowest Condition Rating Code

Lowest Condition Rating Code			
<u>Format</u> AN (1)	<u>Frequency</u> C		<u>Item ID</u> B.C.13
Specification			Commentary
<p>This item is calculated by FHWA and is not required to be reported. The code for this item is the lowest condition rating code from the following items:</p> <p>B.C.01 (<i>Deck Condition Rating</i>), B.C.02 (<i>Superstructure Condition Rating</i>), B.C.03 (<i>Substructure Condition Rating</i>), and B.C.04 (<i>Culvert Condition Rating</i>).</p>			

B.C.14 – NSTM Inspection Condition

<i>NSTM Inspection Condition</i>	
<u>Format</u> AN (1)	<u>Frequency</u> EI
<u>Item ID</u> B.C.14	<u>Item ID</u> B.C.14
Specification	Commentary
<p>Report the condition rating of the Non-Redundant Steel Tension Members (NSTM) using one of the codes in <i>Table 20</i>.</p> <p>Do not report this item when Item B.IR.01 (<i>NSTM Inspection Required</i>) is N.</p>	<p>This item represents the condition of NSTM(s) identified to be inspected in the NSTM inspection procedures, and incorporated into the superstructure or substructure condition rating.</p> <p>For a bridge with NSTM(s) in both the superstructure and substructure, report only the lower of the two condition values for the condition of the NSTM(s).</p>



B.C.14 – NSTM Inspection Condition

Compare B.C.02 – Superstructure Condition Rating to
 B.C.14 – NSTM Inspection Condition (Superstructure Member)

or

Compare B.C.03 – Substructure Condition Rating to
 B.C.14 – NSTM Inspection Condition (Substructure Member)

The NSTM Inspection Condition should be appropriately reflected in determining the overall Superstructure or Substructure Condition Rating.

The NSTM Inspection Condition should never be less than the overall Superstructure or Substructure Condition Rating.

B.C.15 – Underwater Inspection Condition

<i>Underwater Inspection Condition</i>	
Format AN (1)	Frequency EI
Item ID B.C.15	
Specification	Commentary
<p>Report the condition rating of the underwater members of the substructure <u>or culvert</u> based on the underwater inspection using one of the codes in <i>Table 20</i>.</p> <p>Do not report this item when Item B.IR.03 (<i>Underwater Inspection Required</i>) is N.</p>	<p>This item represents the condition of underwater members identified to be inspected in the underwater inspection procedures, and incorporated into the substructure <u>or culvert</u> condition rating.</p> <p>If this item has previously been reported because an underwater inspection is generally required, it should continue to be reported even for instances of unusually low flow where all portions of the substructure can be inspected by wading and probing, and an underwater inspection is not required. This applies only if the low flow condition is truly unusual and is not likely to reoccur during the next inspection interval.</p> <p>The requirement to report this item may change in the rare circumstance where long-term environmental conditions change for inspection access to underwater portions of the substructure <u>or culvert</u>.</p>



B.C.15 – Underwater Inspection Condition

Compare B.C.03 – Substructure Condition Rating to

B.C.15 – Underwater Inspection Condition

or

Compare B.C.04 – Culvert Condition Rating to

B.C.15 – Underwater Inspection Condition

The Underwater Inspection Condition should be appropriately reflected in determining the overall Substructure or Culvert Condition Rating.

The Underwater Inspection Condition should never be less than the overall Substructure or Culvert Condition Rating.

Subsection 7.2: Element Identification

- B.E.01 – Element Number
- B.E.02 – Element Parent Number
- B.E.03 – Element Total Quantity

Element	B.E.01	B.E.02	B.E.03
	EN	EPN	Total Qty
RC Deck (ft ²)	12		16217
Wearing Surface (ft ²)	510	12	15783
Open Joint (ft)	304		158
RC Bridge Railing (ft)	331		412
Steel Beam/Girder (ft)	107		2054
Steel Protective Coating (ft ²)	515	107	15728
Elastomeric Bearings (each)	310		40
RC Columns (each)	205		8
RC Pier Wall (ft)	210		54
RC Abutment (ft)	215		182
RC Pier Cap (ft)	234		150

Subsection 7.3: Element Conditions

- B.CS.01 – Element Quantity Condition State One
- B.CS.02 – Element Quantity Condition State Two
- B.CS.03 – Element Quantity Condition State Three
- B.CS.04 – Element Quantity Condition State Four

Table 20 – B.C.01 through B.C.07, B.C.14, & B.C.15

Code	Condition	Description	
N	NOT APPLICABLE	Component does not exist.	
9	EXCELLENT	Isolated inherent defects.	CS 1
8	VERY GOOD	Some inherent defects.	CS 1
7	GOOD	Some minor defects.	CS 1 - 2
6	SATISFACTORY	Widespread minor or isolated moderate defects.	CS 2 - 3
5	FAIR	Some moderate defects; strength and performance of the component are not affected.	CS 3
4	POOR	Widespread moderate or isolated major defects; strength and/or performance of the component is affected.	CS 4 ↓

Reinforced Concrete - Condition State Definitions				
Defect	CS 1 - Good	CS 2 - Fair	CS 3 - Poor	CS 4 - Severe
Cracking 1130	Width less than 0.012 in. or width 0.012–0.05 in. that have been sealed.	Width 0.012–0.05 in. or moderate pattern (map) cracking.	Width greater than 0.05 in. or heavy pattern (map) cracking.	The condition warrants a structural review to determine the effect on strength or serviceability of the element or bridge; OR a structural review has been completed and the defects impact strength or serviceability of the element or bridge.

Subsection 7.4: Appraisal

- B.AP.01 – Approach Roadway Alignment*
- B.AP.02 – Overtopping Likelihood
- B.AP.03 – Scour Vulnerability**
- B.AP.04 – Scour Plan of Action**
- B.AP.05 – Seismic Vulnerability**

* Already Captured in BrM
 ** ALDOT – Central Office

B.AP.02 – Overtopping Likelihood

Overtopping Likelihood		
Format AN (1)	Frequency EI	Item ID B.AP.02
Specification		Commentary
Report the likelihood of the waterway overtopping the bridge using one of the following codes.		An overtopping occurrence is when the waterway overtops the riding surface carried on the bridge.
<u>Code</u>	<u>Description</u>	Bridge overtopping likelihood, since the year built (B.W.01), is typically determined from historical bridge inspection or maintenance records, hydraulic studies, local residents/landowners, and/or site indicators including highwater marks on the bridge or its surroundings, debris remains on bridge upper members, etc. For newer bridges with limited historical inspection or maintenance information, hydraulic design information can be used to establish an overtopping likelihood. This item does not apply to the likelihood of the waterway overtopping approach roadways.
0	Never	
1	Remote – once every 100 years or less frequently	
2	Very low – once every 51 to 99 years	
3	Low – once every 26 to 50 years	
4	Moderate – once every 11 to 25 years	
5	High – once every 3 to 10 years	
6	Very High – once every 2 years or more frequently	
Do not report this item if the bridge does not cross over a waterway as indicated in Item B.F.01 (Feature Type).		



B.AP.03 – Scour Vulnerability

Scour Vulnerability		
Format AN (1)	Frequency I	Item ID B.AP.03
Specification		Commentary
Report the scour vulnerability of the bridge using one of the following codes.		The intent of this item is to report the status and vulnerability determination from scour appraisals required by the NBIS.
<u>Code</u>	<u>Description</u>	The codes for this item are based on the appraised scour vulnerability as described in HEC-18, Evaluating Scour at Bridges; HEC-23, Bridge Scour and Stream Instability Countermeasures; and HEC-20, Stream Stability at Highway Structures. Scour appraisals are typically performed by a multidisciplinary team of hydraulic, geotechnical, and structural engineers (Scour Appraisal Team). FHWA Hydraulic Technical Advisories, manuals, and software can be found at: https://www.fhwa.dot.gov/engineering/hydraulics/index.cfm . Refer to item B.C.11 (Scour Condition Rating) in the Component Condition Ratings
0	Scour appraisal has not been completed.	
A	Scour appraisal completed. Bridge determined to be stable for scour.	
B	Scour appraisal completed. Bridge determined to be stable for scour, dependent upon designed, and functioning countermeasures.	
C	Scour appraisal completed. Bridge could become unstable for scour. Temporary (not designed) countermeasure installed to mitigate scour. Bridge is scour critical.	
D	Scour appraisal completed. Bridge is, or may become, unstable for scour. Bridge is scour critical.	

B.AP.03 – Scour Vulnerability

- D Scour appraisal completed. Bridge is, or may become, unstable for scour. Bridge is scour critical.
- E Scour appraisal has not been completed. Temporary (not designed) countermeasure installed to mitigate scour.
- U Scour appraisal has not been completed due to unknown foundations.

Do not report this item if the bridge does not cross over a waterway as indicated in Item B.F.01 (*Feature Type*).

[ulics/index.cfm](#).

Refer to item B.C.11 (*Scour Condition Rating*) in the Component Condition Ratings subsection to address field observed scour conditions and the effect on bridge components.

Use code B when designed, installed, and functioning countermeasures are used to address potential scour and to maintain bridge stability for new or existing bridges, or bridges with unknown foundations.

Use code B when the Scour Appraisal Team determines that the in-place, non-designed countermeasures are fully functioning and are appropriate to mitigate the risk of scour.

Use code C for bridges that could become unstable for the potential scour, and temporary countermeasures are installed that were not designed.



B.AP.04 – Scour Plan of Action

Scour Plan of Action									
Format AN (1)	Frequency I								
Item ID B.AP.04	Item ID B.AP.04								
Specification	Commentary								
<p>Report whether the bridge has a scour plan of action (POA) implemented using one of the following codes.</p> <table border="0"> <tr> <td style="padding-right: 10px;"><u>Code</u></td> <td><u>Description</u></td> </tr> <tr> <td>0</td> <td>A scour POA is not required.</td> </tr> <tr> <td>N</td> <td>A scour POA is required, but not implemented.</td> </tr> <tr> <td>Y</td> <td>A scour POA is required and implemented.</td> </tr> </table> <p>Do not report this item if the bridge does not cross over a waterway as indicated in Item B.F.01 (<i>Feature Type</i>).</p>	<u>Code</u>	<u>Description</u>	0	A scour POA is not required.	N	A scour POA is required, but not implemented.	Y	A scour POA is required and implemented.	<p>The NBIS requires a scour POA for bridges over water that are determined to be scour critical or have unknown foundations.</p> <p>More information on scour POA can be found at the FHWA Hydraulics Engineering website: https://www.fhwa.dot.gov/engineering/hydraulics/bridgehyd/poa.cfm.</p> <p>Use code 0 if a bridge was considered scour critical, but now has designed, installed, and fully functional scour countermeasures.</p> <p>A scour POA is a document that addresses, based on risk, a schedule for repair or installation of scour countermeasures, and/or the monitoring, inspection, closing, and opening a bridge to traffic during and after flood events to protect the traveling public.</p>
<u>Code</u>	<u>Description</u>								
0	A scour POA is not required.								
N	A scour POA is required, but not implemented.								
Y	A scour POA is required and implemented.								

B.AP.04 – Scour Plan of Action

Specification	Commentary
	<p>A scour POA is implemented when those responsible for actions under the plan are aware of their responsibilities, and are exercising them when called for during or after a triggering event.</p> <p>A bridge should have a scour POA when it could become unstable for scour, and temporary countermeasures are installed that were not designed.</p>

B.AP.05 – Seismic Vulnerability

<i>Seismic Vulnerability</i>														
Format AN (1)	Frequency I	Item ID B.AP.05												
Specification	Commentary													
Report the seismic vulnerability of the bridge using one of the following codes.	This item provides available information resulting from seismic evaluation and retrofit programs that an agency may have performed of their own volition. The codes allow for a broad interpretation based on the reporting agency's methods and evaluation criteria.													
<table border="0"> <thead> <tr> <th style="text-align: left;"><u>Code</u></th> <th style="text-align: left;"><u>Description</u></th> </tr> </thead> <tbody> <tr> <td>0</td> <td>Seismic evaluation not completed.</td> </tr> <tr> <td>N</td> <td>Bridge does not require seismic evaluation due to low anticipated ground motion or agency prioritization.</td> </tr> <tr> <td>A</td> <td>Seismic evaluation completed. Bridge determined to meet the agency's performance criteria established for the evaluation without need for retrofit.</td> </tr> <tr> <td>B</td> <td>Seismic evaluation completed. Satisfactory performance is dependent upon a designed, installed, and functioning retrofit.</td> </tr> <tr> <td>C</td> <td>Seismic evaluation completed. Satisfactory performance is dependent upon a designed,</td> </tr> </tbody> </table>	<u>Code</u>	<u>Description</u>	0	Seismic evaluation not completed.	N	Bridge does not require seismic evaluation due to low anticipated ground motion or agency prioritization.	A	Seismic evaluation completed. Bridge determined to meet the agency's performance criteria established for the evaluation without need for retrofit.	B	Seismic evaluation completed. Satisfactory performance is dependent upon a designed, installed, and functioning retrofit.	C	Seismic evaluation completed. Satisfactory performance is dependent upon a designed,	<p>In lieu of agency-developed evaluation criteria, refer to the FHWA Seismic Retrofitting Manual for Highway Structures: Part 1 – Bridges, Publication No. FHWA-HRT-06-032, January 2006, for guidance on assessing the vulnerability of highway structures to the effects of earthquakes, and implementing retrofit measures to improve performance.</p> <p>Use code A when bridge is designed to meet applicable performance criteria established by the design specifications in effect at the time of construction and bridge would be expected to meet current agency established performance criteria.</p>	
<u>Code</u>	<u>Description</u>													
0	Seismic evaluation not completed.													
N	Bridge does not require seismic evaluation due to low anticipated ground motion or agency prioritization.													
A	Seismic evaluation completed. Bridge determined to meet the agency's performance criteria established for the evaluation without need for retrofit.													
B	Seismic evaluation completed. Satisfactory performance is dependent upon a designed, installed, and functioning retrofit.													
C	Seismic evaluation completed. Satisfactory performance is dependent upon a designed,													

B.AP.05 – Seismic Vulnerability

	Specification	Commentary
B	Seismic evaluation completed. Satisfactory performance is dependent upon a designed, installed, and functioning retrofit. Retrofit is in place.	retrofit measures to improve performance.
C	Seismic evaluation completed. Satisfactory performance is dependent upon a designed, installed, and functioning retrofit. Partial retrofit is in place.	Use code A when bridge is designed to meet applicable performance criteria established by the design specifications in effect at the time of construction and bridge would be expected to meet current agency established performance criteria.
D	Seismic evaluation completed. Satisfactory performance is dependent upon a designed, installed, and functioning retrofit. Retrofit is not in place.	Use code C when only certain portions of the bridge have been retrofitted but not all portions of the bridge have been retrofitted to meet agency performance criteria.

Subsection 7.5: Work Events

- B.W.01 – Year Built*
- B.W.02 – Year Work Performed
- B.W.03 – Work Performed

* Already Captured in BrM

B.W.01 – Year Built

<i>Year Built</i>		
<u>Format</u> N (4,0)	<u>Frequency</u> I	<u>Item ID</u> B.W.01
Specification		Commentary
<p>Report the year in which original construction was completed and the bridge was able to carry traffic.</p> <p>For phased construction, report the year in which the first phase was completed and the bridge was able to carry traffic.</p>		<p>This date reflects the date when construction was completed, regardless of when the bridge was opened to traffic.</p> <p>Rehabilitation and/or widening of a bridge does not change the year built. If any portion of the bridge remains, the year built does not change.</p> <p>Provide a best estimate when the year built is unknown; do not assign a default value.</p>



B.W.02 – Year Work Performed

<i>Year Work Performed</i>		
<u>Format</u> N (4,0)	<u>Frequency</u> I	<u>Item ID</u> B.W.02
Specification		Commentary
<p>Report the year that work was completed on a bridge.</p> <p>For phased construction, report the year in which the first phase was completed and the bridge was able to carry traffic.</p> <p>This item is reported for each year regardless of whether work was completed on a bridge in that year.</p>		<p>This item identifies when work was completed to improve the functionality of a bridge, prevent deterioration from occurring, preserve a bridge, or restore the strength or performance of a bridge.</p> <p>Work performed should be identifiable by inspectors conducting an initial inspection following bridge replacement or rehabilitation. For other work types, information can be obtained from work tracking systems. When tracking systems are not readily accessible, estimate based on knowledge, observed changes and condition improvements since the previous inspection, applied stencils or stamps, wear, etc.</p>

B.W.03 – Work Performed

<i>Work Performed</i>		
Format AN (120)	Frequency I	Item ID B.W.03
Specification		
<p>Report all work completed on the bridge in each year, using one or more of the codes shown in the work category tables below.</p> <p>Report multiple codes separated by pipe () delimiters.</p> <p>Report all types of work when improvement, rehabilitation, or preservation work categories were performed in combination (one or more work types from Table 30, 31, 32, and/or 33).</p> <p>Do not report bridge improvement or bridge preservation (Table 30, 32, or 33) when the work resulted from replacement of a bridge (including replacement of all culvert barrels), or replacement of the deck, superstructure, or substructure, (Table 29 or Table 31 replacement work types).</p> <p>Report only major rehabilitation when both major and minor rehabilitation were completed on the same component (e.g. the deck, superstructure, substructure, or culvert).</p> <p>Do not report routine maintenance or routine repair. ←</p> <p>Report 0 when no work is completed or when work is completed that does not correspond with the work included in the following work category tables.</p>		

B.W.03 – Work Performed

Specification																												
<p>Table 29. Bridge replacement code.</p> <table border="1"> <thead> <tr> <th>Code</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>BR1</td> <td>Replaced</td> </tr> </tbody> </table>					Code	Description	BR1	Replaced																				
Code	Description																											
BR1	Replaced																											
<p>Table 30. Bridge improvement codes.</p> <table border="1"> <thead> <tr> <th>Code</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>IP1</td> <td>Widened</td> </tr> <tr> <td>IP2</td> <td>Raised</td> </tr> <tr> <td>IP3</td> <td>Strengthened by retrofit</td> </tr> <tr> <td>IP4</td> <td>Seismic retrofit</td> </tr> </tbody> </table>					Code	Description	IP1	Widened	IP2	Raised	IP3	Strengthened by retrofit	IP4	Seismic retrofit														
Code	Description																											
IP1	Widened																											
IP2	Raised																											
IP3	Strengthened by retrofit																											
IP4	Seismic retrofit																											
<p>Table 31. Rehabilitation codes for deck, superstructure, substructure, and culvert.</p> <table border="1"> <thead> <tr> <th colspan="4">Code</th> <th rowspan="2">Description</th> </tr> <tr> <th>Deck</th> <th>Superstructure</th> <th>Substructure</th> <th>Culvert</th> </tr> </thead> <tbody> <tr> <td>DK1</td> <td>SP1</td> <td>SB1</td> <td></td> <td>Replaced</td> </tr> <tr> <td>DK2</td> <td>SP2</td> <td>SB2</td> <td>CU2</td> <td>Major Rehabilitation</td> </tr> <tr> <td>DK3</td> <td>SP3</td> <td>SB3</td> <td>CU3</td> <td>Minor Rehabilitation</td> </tr> </tbody> </table>					Code				Description	Deck	Superstructure	Substructure	Culvert	DK1	SP1	SB1		Replaced	DK2	SP2	SB2	CU2	Major Rehabilitation	DK3	SP3	SB3	CU3	Minor Rehabilitation
Code				Description																								
Deck	Superstructure	Substructure	Culvert																									
DK1	SP1	SB1		Replaced																								
DK2	SP2	SB2	CU2	Major Rehabilitation																								
DK3	SP3	SB3	CU3	Minor Rehabilitation																								

B.W.03 – Work Performed

Specification Continued – Work Performed

Table 32. Preservation codes for deck, superstructure, substructure, and culvert.

Code				Description
Deck	Superstructure	Substructure	Culvert	
DK4			CU4	Overlaid
DK5	SP5	SB5	CU5	Sealed
<u>DK6</u>	SP6	SB6	CU6	Coating (New or Replaced)
<u>DK7</u>	SP7	SB7	CU7	Coating (Preserved)

Table 33. Other preservation codes.

Code						Description
Bearings	Deck Joints	Bridge Railings or Transitions	Scour Counter-measures	Channel Protection	Channel	
BG1	JT1	RT1	SC1	CP1		Installed or Replaced
BG2	JT2	RT2	SC2	CP2		Repaired
					CH1	Condition Improved

B.W.03 – Work Performed

Commentary – Work Performed

This item is used to indicate work that was completed to improve the functionality of a bridge, prevent deterioration from occurring, preserve a bridge, or restore the strength or performance of a bridge.

Use deck, superstructure, and substructure work codes as applicable, and only when work is performed on span configurations that are not reported as culverts in Item B.SP.01 (*Span Configuration Designation*); i.e. M, A, or W is reported. Use culvert work codes as applicable, and only when work is performed on span configurations that are reported as culverts in Item B.SP.01 (*Span Configuration Designation*); i.e. C or V is reported.

Routine maintenance or routine repair work to be excluded from reporting include actions that may be performed on isolated deficiencies, may be reactive in nature, and do not add measurable service life given the small work quantity. Instead, they are intended to maintain a minimum acceptable performance level. Generally, routine maintenance or routine repair does not improve component condition ratings. Examples of routine maintenance or routine repairs that are not reported are: deck patching to correct isolated spalls or punctures that are affecting rideability or safety, sidewalk repairs to correct isolated defects that affect public safety, and repair of isolated impact damage to railings or transitions.

Work performed should be identifiable by inspectors conducting an initial inspection following bridge replacement or rehabilitation. For other work types, information can be obtained from work tracking systems. When tracking systems are not readily accessible, estimate based on knowledge, observed changes and condition improvements since the previous inspection, applied stencils or stamps, wear, etc.

Use code BR1 (*Table 29*) when the bridge is replaced and the same bridge number is retained. This item is generally not reported when a bridge is replaced, because it is preferable that a new bridge number is assigned.



B.W.03 – Work Performed

Commentary Continued – Work Performed

Use code BR1 when all barrels of a culvert were replaced and the same bridge number is retained.

Use codes IP1, IP2, IP3, and IP4 (*Table 30*) for functional and seismic improvements. Use code IP3 when the bridge was retrofitted to increase its load capacity beyond the original design capacity.

Use codes DK1, SP1, and SB1 (*Table 31*) for replacement of the deck, superstructure, and substructure, respectively. Use these codes only when the whole component on the bridge is replaced.

Use codes DK2, SP2, SB2, and CU2 (*Table 31*) for major rehabilitation work. Major rehabilitation is defined as the major work required to restore the structural integrity or serviceability of a bridge as well as the work to correct major safety defects. These codes also apply when one or more spans, barrels, or units were replaced, but not all.

Use codes DK3, SP3, SB3, and CU3 (*Table 31*) for minor rehabilitation work, not to include minor repairs. Minor rehabilitation is defined as minor work required to preserve or restore the structural integrity or serviceability of a bridge, as well as the work to correct minor safety defects. For this specification, it generally should include work that affects no more than 25 percent of the deck area within any span, or 25 percent of any one substructure unit or culvert barrel.



B.W.03 – Work Performed

Commentary Continued – Work Performed

Use codes CU2 or CU3, as applicable, when culvert invert paving or encasement restores strength or performance, although it may also prevent deterioration.

Use deck, superstructure, substructure, and culvert preservation codes (*Table 32*) for preventive maintenance and preservation work that may also include some minor repairs.

Use code DK4 (*Table 32*) for overlay work. Also use codes DK2 or DK3 (*Table 31*), if applicable based on quantity, when work includes exposing the top mat of deck reinforcing steel.

Use codes SP7, SB7, and CU7 (*Table 32*) when zone coating, spot coating, or overcoating was applied to repair and extend the life of existing coatings.

Use codes CU6 or CU7, as applicable, for culvert pipe invert paving or encasement intended only to prevent deterioration.

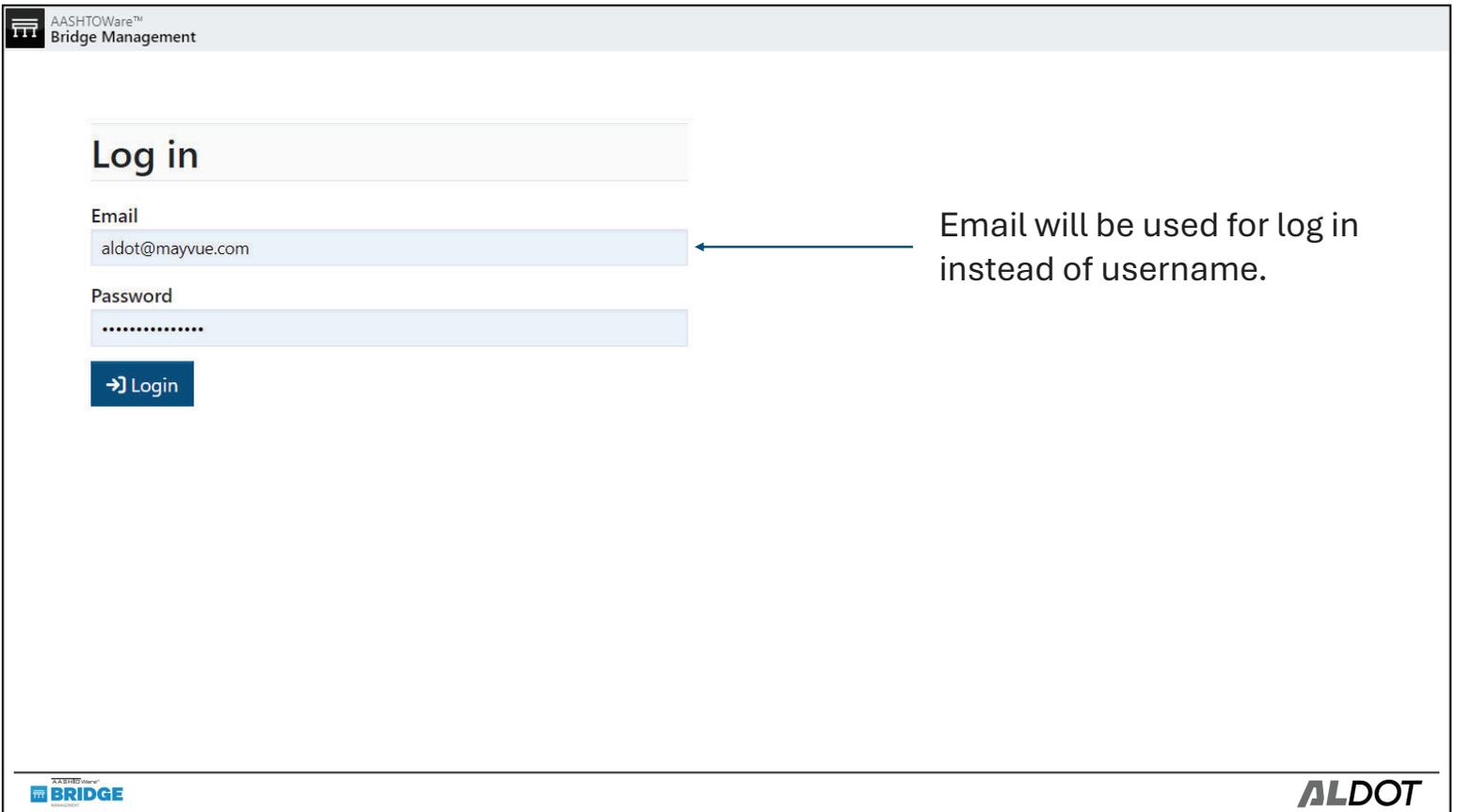
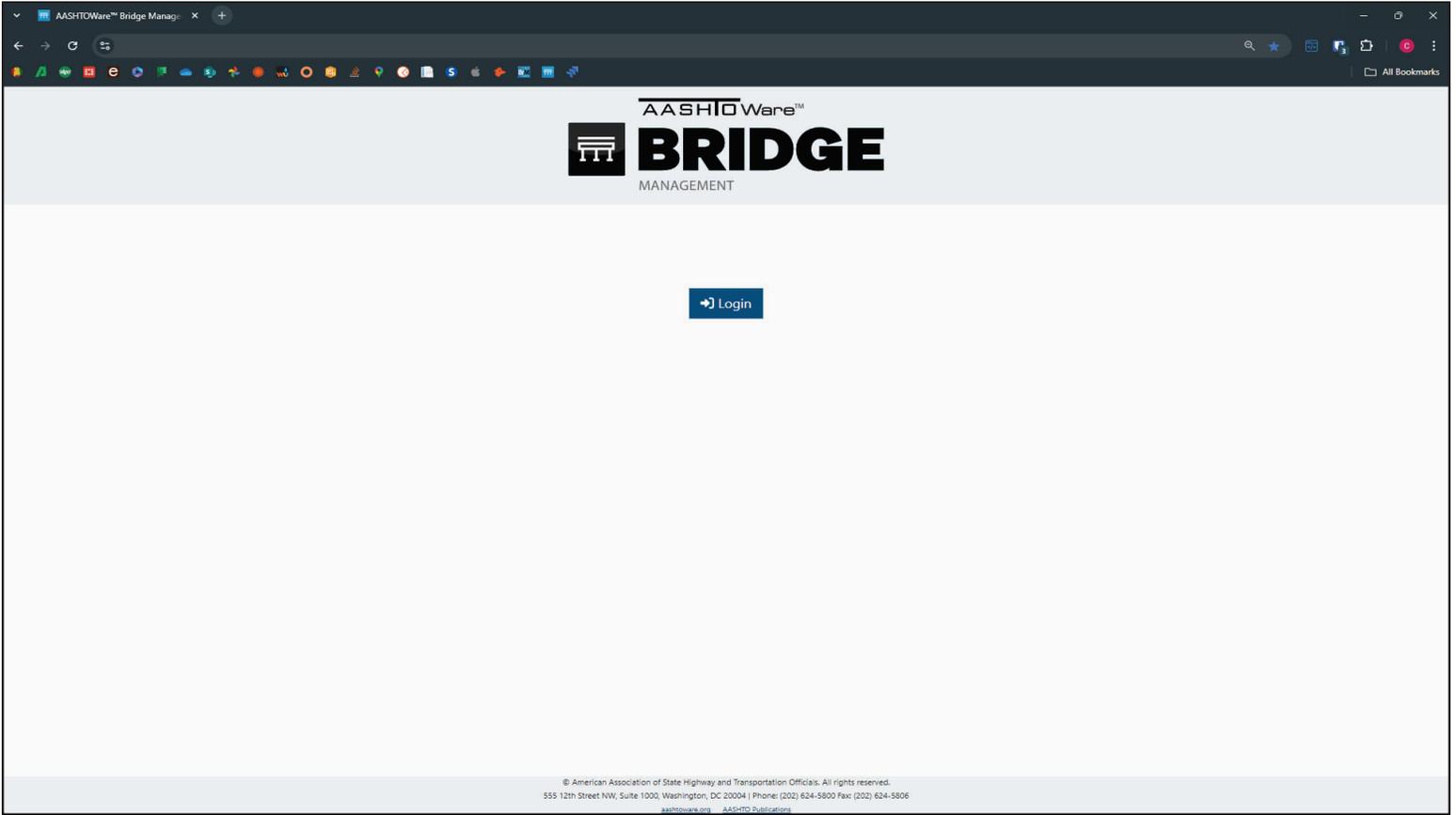
Use codes CP1 or CP2 (*Table 33*) when channel protection work was completed at or adjacent to the bridge to mitigate channel issues that may impact the bridge.

Use code CH1 (*Table 33*) when the channel was improved by means other than protection systems or in addition to protection systems (e.g. horizontal realignment, excavation of aggregated material, or removal of large debris deposits). Use this code when work was completed at or adjacent to the bridge to mitigate channel issues that may impact the bridge.



Welcome to AASHTOWare™ Bridge Management version 7.0!

Getting Started



Navigation

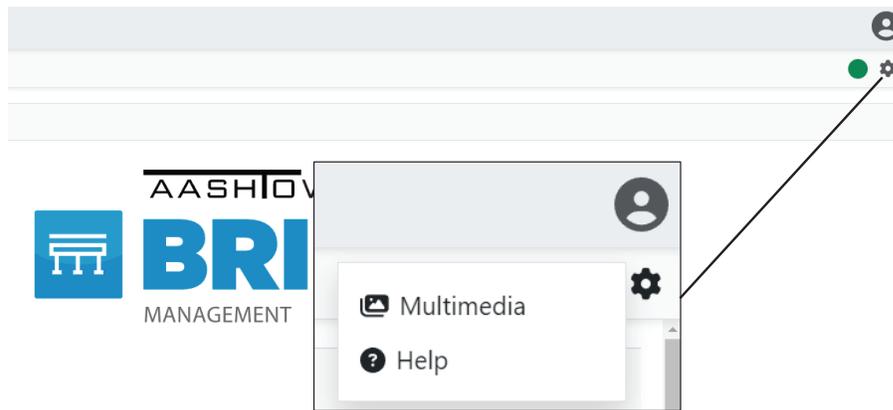
The screenshot shows the home page of the AASHTOWare Bridge Management system. The left sidebar contains a menu with 'Assets' highlighted, and arrows pointing to 'Bridges', 'Tunnels', and 'Signs'. The main content area features the AASHTOWare BRIDGE MANAGEMENT logo and a welcome message. The top right corner includes a 'User Profile' icon, a 'Status' indicator (a green dot), and a 'Widgets' settings icon (a gear).

Navigation

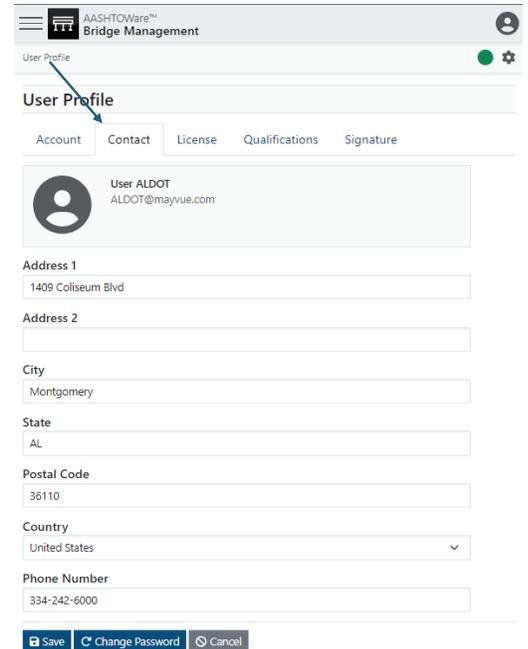
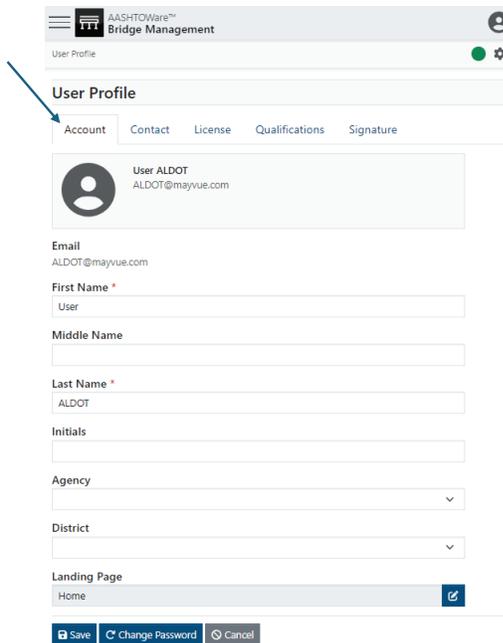
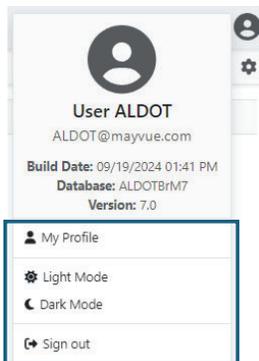
The screenshot shows the 'Bridge List' page in the AASHTOWare Bridge Management system. A callout box labeled 'Collapsable left side menu' has an arrow pointing to the left sidebar. The sidebar lists various navigation options, with 'Bridge List' selected. The main content area displays a table of bridge data with filters and an export button.

BridgeID	Highway Agency District (B.L.04)
<input type="radio"/> 021106	Mobile
<input type="radio"/> 021107	Mobile
<input type="radio"/> 021108	Mobile
<input type="radio"/> 021110	Guntersville
<input type="radio"/> 021112	Fayette
<input type="radio"/> 021113	Fayette
<input type="radio"/> 021114	Fayette
<input type="radio"/> 021123	Fayette
<input type="radio"/> 021129	Fayette
<input type="radio"/> 021130	Mobile
<input type="radio"/> 021131	Alexander City
<input type="radio"/> 021132	Alexander City
<input type="radio"/> 021135	Grove Hill
<input type="radio"/> 021136	Tuscumbia
<input type="radio"/> 021137	Tusculoochee

Widgets



User Profile



User Profile

AASHTOWare™ Bridge Management

User Profile

User Profile

Account Contact License Qualifications Signature

Bridge Inspector
inspectorbob@dot.state.al.us

Nationally Certified Bridge Inspector ID
1221

License

Name

Expiration Date

Save Change Password Cancel

Same as your current CBI number

User Profile

AASHTOWare™ Bridge Management

User Profile

User Profile

Account Contact License Qualifications Signature

User ALDOT
ALDOT@mayvue.com

Years of Experience

Experience Type | Experience Start | Experience End | Number of Years

No records to display.

Filter

Category | Certification | Date Completed | Expiration Date | Hours | Status | Approved/Denied By | Denial Reason

No records to display.

Filter

Display User Active Qualifications

Name | Active for User | Expiration | Suspended | Suspension Comment | Temporary | Temporary Qualification Comment

No records to display.

Years of Experience

- Experience is only populated if you have an active CBI.

Certifications

- Your training history will display in this section.

Qualifications

- Any qualifications you have are displayed in this section. Ex: CBI, NSTM

User Profile

AASHTOWare™
Bridge Management

User Profile

User Profile

Account Contact License Qualifications **Signature**

User ALDOT
ALDOT@mayvue.com

Signature

Choose File No file chosen

Stamp

Choose File No file chosen

Save Change Password Cancel

- Signature / Stamp are **not** required.

Buttons



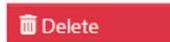
Save changes and remain on current screen.



Save changes and return to previous screen.



Don't save changes and return to previous screen.
Also functions as a "back" button



Delete – Inspection, Cross Section, Feature, etc.

Bridge List

AASHTOWare™
Bridge Management

Bridge List

Selected Bridge: none

Filter: Layout: Jump to Bridge: [Export](#)

<input checked="" type="checkbox"/>	BridgeID ↑	Highway Agency District (B.L.04) ↑	County Code (B.L.02) ↑	Owner (B.CL.01) ↑	Maintenance Responsibility (B.CL.02) ↑	Year Built (B.W.01) ↑
<input type="checkbox"/>	000002	Fayette	Walker	L01 County highway agency	L01 County highway agency	1898
<input type="checkbox"/>	000003	Fayette	Walker	L01 County highway agency	L01 County highway agency	1900
<input type="checkbox"/>	000004	Fayette	Walker	L01 County highway agency	L01 County highway agency	1900
<input type="checkbox"/>	000005	Fayette	Lamar	L03 City or municipal highway agency	L03 City or municipal highway agency	1900
<input type="checkbox"/>	000006	Montgomery	Lee	L03 City or municipal highway agency	L03 City or municipal highway agency	1940
<input type="checkbox"/>	000007	Guntersville	Dekalb	L01 County highway agency	L01 County highway agency	1993
<input type="checkbox"/>	000008	Tuscaloosa	Bibb	L01 County highway agency	L01 County highway agency	1927
<input type="checkbox"/>	000009	Tuscumbia	Morgan	L01 County highway agency	L01 County highway agency	1900
<input type="checkbox"/>	000010	Tuscaloosa	Sumter	L01 County highway agency	L01 County highway agency	1900
<input type="checkbox"/>	000011	Montgomery	Autauga	L01 County highway agency	L01 County highway agency	1900
<input type="checkbox"/>	000012	Guntersville	Jackson	L03 City or municipal highway agency	L03 City or municipal highway agency	1900
<input type="checkbox"/>	000013	Guntersville	Jackson	L01 County highway agency	L01 County highway agency	1900
<input type="checkbox"/>	000014	Guntersville	Madison	L01 County highway agency	L01 County highway agency	1910
<input type="checkbox"/>	000015	Guntersville	Jackson	L01 County highway agency	L01 County highway agency	1900
<input type="checkbox"/>	000016	Guntersville	Madison	L01 County highway agency	L01 County highway agency	1900

<< < 1 2 3 4 5 > >> 1 - 15 of 21450 15 ▾

AASHTOWare™
BRIDGE
MANAGEMENT

ALDOT

Inventory & Appraisal Pages

Inventory & Appraisal

Identification

Design

Features

Identification

Bridge ID *

015757

Details

Bridge Number (B.ID.01) * ⓘ

015757

Agency Bridge ID * ⓘ

015757

Bridge Name (B.ID.02) * ⓘ

COL. WILLIAM LAWLEY

Bridge Nickname ⓘ

Bridge Status ⓘ

3 Active

Bridge Life Cycle Phase ⓘ

1 Service

Report Bridge to FHWA ⓘ

Report Elements to FHWA ⓘ

Bridge Notes ⓘ

Imported with XML on 01/12/2015 00:00:00.

Inventory & Appraisal

Identification

Design

Features

Past and Future Bridges

Past Bridge ID (B.ID.03) ⓘ

000184

Future Bridge ID ⓘ

Past Bridge Number

000184

Location Data

State Code (B.L.01) * ⓘ

1 Alabama

County Code (B.L.02) * ⓘ

Montgomery

Place Code (B.L.03) ⓘ

MONTGOMERY

Highway Agency District (B.L.04) * ⓘ

Montgomery

Metro Planning Org 1 (B.L.12) ⓘ

Metro Planning Org 2 (B.L.12) ⓘ

Inventory & Appraisal

Identification

Design

Features

Location



Export

Add New

Type ↑↓	Latitude ↑↓	Longitude ↑↓	Elevation (ft) ↑↓	Report for Location B.L.05 and B.L.06 ↑↓
Beginning of Bridge	32.444583	-87.180872		★   
End of Bridge	32.444675	-87.179212		  

<< < 1 > >> 15 1 - 2 of 2

Bridge Location (B.L.11) * ⓘ

5.5 MI. W. OF AL 219

Inventory & Appraisal

Identification

Design

Features

Classification

Owner (B.CL.01) * ⓘ

S01 State transportation department

Maintenance Responsibility (B.CL.02) * ⓘ

S01 State transportation department

Federal or Tribal Land Access (B.CL.03) * ⓘ

N Not applicable

Edit

Historical Significance (B.CL.04) * ⓘ

N Not eligible & not in historic eligible district

Toll (B.CL.05) * ⓘ

N Does not carry toll road and is not toll bridge

Emergency Evacuation Designation (B.CL.06) * ⓘ

N Not an Emergency evacuation route

Construction

Year Built (B.W.01) ⓘ

1993

Design Load (B.LR.01) ⓘ

HS-20

Design Method (B.LR.02) ⓘ

LFD Load Factor Design

Inventory & Appraisal

Identification

Design

Features

Geometry

NBIS Bridge Length (B.G.01) ⓘ

1076.1

Total Bridge Length (B.G.02) ⓘ

1076.1

Maximum Span Length (B.G.03) ⓘ

125

Minimum Span Length (B.G.04) ⓘ

Bridge Width Out-to-Out (B.G.05) ⓘ

43

Bridge Width Curb-to-Curb (B.G.06) ⓘ

40

Left Curb or Sidewalk Width (B.G.07) ⓘ

0

Right Curb or Sidewalk Width (B.G.08) ⓘ

0

Approach Roadway Width (B.G.09) ⓘ

40

Bridge Median (B.G.10) ⓘ

1 Open median

Skew (B.G.11) ⓘ

0

Curved Bridge (B.G.12) ⓘ

N Not curved

Maximum Bridge Height (B.G.13) ⓘ

Sidehill Bridge (B.G.14) ⓘ

N Not a sidehill bridge

Irregular Deck Area (B.G.15) ⓘ

46272.3

Calculated Deck Area (B.G.16) ⓘ

46272.3

Inventory & Appraisal

Identification

Design

Features

Appraisal

Approach Roadway Alignment (B.AP.01) ⓘ

G Good

Overtopping Likelihood (B.AP.02) ⓘ

1 Remote - once every 100 years or less frequently

Scour Vulnerability (B.AP.03) ⓘ

A Stable for scour

Scour Plan of Action (B.AP.04) ⓘ

0 A scour POA is not required.

Seismic Vulnerability (B.AP.05) ⓘ

N Does not require seismic eval

Railings and Transitions

Railings (B.RH.01) ⓘ

Transitions (B.RH.02) ⓘ

Inventory & Appraisal

Identification

Design

Features

Design

Bridge ID *

015757

Bridge Name ⓘ

COL. WILLIAM LAWLEY

Bridge Nickname ⓘ

Super Sets

SNBI Section 2.1

Export

Add New

Order #	Span Configuration Designation (B.SB.01)	Name	Number of Spans (B.SP.02)	Span Type (B.SP.06)	
1	A01	A01	11	G02 Girder/beam - I-shaped spread	
2	M01	M01	5	G02 Girder/beam - I-shaped spread	

Sub Sets

SNBI Section 2.2

Export

Add New

Order #	Substructure Configuration Designation (B.SB.01)	Name	Number of Substructure Units (B.SB.02)	Substructure Type (B.SB.04)	
1	P01	P01	9	B03 Bent - pile	
2	P03	P02	6	P02 Pier - single column	
3	A02	A01	2	A02 Abutment - stub	

AASHTOWare™ Bridge Management

Inventory & Appraisal

Identification

Design

Features

Add New
 ✎
 ✖
 ✎
 ✖

Export

Order #	Span Configuration Designation (B.SB.01)	Name	Number of Spans (B.SP.02)	Span Type (B.SP.06)
↓	1 A01	A01	11	G02 Girder/beam - I-shaped spread
↓	2 M01	M01	5	G02 Girder/beam - I-shaped spread

Edit Super Set

Name *

Span Protective System (B.SP.07) *

Description Code *

Deck Interaction (B.SP.08)

Span Configuration Designation (B.SP.01)

Deck Material and Type (B.SP.09) *

Number of Spans (B.SP.02) *

Wearing Surface (B.SP.10)

Number of Beam Lines (B.SP.03) *

Deck Protective System (B.SP.11)

Span Material (B.SP.04) *

Deck Reinforcing Protective System (B.SP.12)

Span Continuity (B.SP.05) *

Deck Stay-in-Place Forms (B.SP.13)

Span Type (B.SP.06) *

Save
Cancel
Delete

AASHTOWare™ Bridge Management

Inventory & Appraisal

Identification

Design

Features

Add New
 ✎
 ✖
 ✎
 ✖

Export

Order #	Substructure Configuration Designation (B.SB.01)	Name	Number of Substructure Units (B.SB.02)	Substructure Type (B.SB.04)
↓	1 P01	P01	9	B03 Bent - pile
↓	2 P03	P02	6	P02 Pier - single-column
↓	3 A02	A01	2	A02 Abutment - stub

Edit Sub Set

Name *

Description Code *

Substructure Configuration Designation (B.SB.01)

Number of Substructure Units (B.SB.02) *

Substructure Material (B.SB.03) *

Substructure Type (B.SB.04) *

Substructure Protective System (B.SB.05)

Foundation Type (B.SB.06) *

Foundation Protective System (B.SB.07) *

Save
Cancel
Delete

ALDOT

Inventory & Appraisal

Identification

Design

Features

Features

Bridge

015757

+ Add New

Order ↑↓	Feature Name	Feature Type (B.F.01)	Feature Location (B.F.02)	Report to FHWA	
1	US-231/AL-9/AL-21/AL-53	H01	C Carried on bridge	True	
2	Tallapoosa River	W01	B Below bridge	True	
3	Relief	F01	B Below bridge	True	
4	Railroad	R01	B Below bridge	True	
5	Pathway	P01	B Below bridge	True	
6	Urban Feature Example	B01	B Below bridge	True	
7	Dry Terrain	D01	B Below bridge	True	
8	Other Example	X01	B Below bridge	True	

Inventory & Appraisal

Identification

Design

Features

Highway Feature

Features

Agency Bridge ID ⓘ
015757

Bridge Name (B.ID.02) ⓘ
COL. WILLIAM LAWLEY

Bridge Nickname ⓘ

Feature Details

Name *

US-231/AL-9/AL-21/AL-53

Feature Type (B.F.01) *

H Highway

Feature Location (B.F.02) *

C Carried on bridge

Report to FHWA

Features

Agency Bridge ID ⓘ
015757

Feature Details

Name *
US-231/AL-9/AL-21/AL-53

Feature Type (B.F.01) *
H Highway

Feature Location (B.F.02) *
C Carried on bridge

Example: Single highway feature, multiple routes

Route Information

+ Add New

Designation (B.RT.01) ↑↓	Route Number (B.RT.02) ↑↓	Route Direction (B.RT.03) ↑↓	Route Type (B.RT.04) ↑↓	Service Type (B.RT.05) ↑↓	
R01	0231	NB Northbound	2 U.S. route	1 Mainline	
R02	0009	NB Northbound	3 State route	1 Mainline	
R03	0021	NB Northbound	3 State route	1 Mainline	
R04	0053	NB Northbound	3 State route	1 Mainline	

Edit Route Information

Designation (B.RT.01)
R01

Route Number (B.RT.02) *
0231

Route Direction (B.RT.03) *
NB Northbound

Route Type (B.RT.04) *
2 U.S. route

Service Type (B.RT.05) *
1 Mainline

Save

Cancel

Delete

Highway Feature

Highway Information

LRS Route ID (B.H.06) ⓘ

AL0000090000

LRS Data as of Date ⓘ

10/11/2022

LRS Mile Point (B.H.07) ⓘ

116.78

Lanes on Highway (B.H.08) ⓘ

3

Functional Classification (B.H.01) ⓘ

2 Principal Arterial - Other Freeways and Express

Urban Code (B.H.02) ⓘ

NHS Designation (B.H.03) ⓘ

Y NHS

National Highway Freight Network (B.H.04) ⓘ

N Not on the NHFN

STRAHNET Designation (B.H.05) ⓘ

N Not a STRAHNET route

Highway Feature

AADT

AADT (B.H.09) ⓘ

16115

Future AADT ⓘ

21962

ADTT (B.H.10) ⓘ

645

Future ADTT ⓘ

878

Year of AADT (B.H.11) ⓘ

2013

Future Year ⓘ

2033

Percent Truck Traffic ⓘ

4

Directional Percentage ⓘ

Clearances

Highway Maximum Usable Vertical Clearance (B.H.12) * ⓘ

99.9

Highway Minimum Vertical Clearance (B.H.13) * ⓘ

99.9

Highway Minimum Horizontal Clearance, Left (B.H.14) ⓘ

Highway Minimum Horizontal Clearance, Right (B.H.15) ⓘ

Highway Maximum Usable Surface Width (B.H.16) * ⓘ

39.9

AASHTOWare™ Bridge Management

Inventory & Appraisal
Identification
Design
Features

Highway Feature

User Costs

Route Speed ⓘ

Bypass Detour Length (B.H.17) ⓘ

Bypass Average Speed ⓘ

Lanes on Bypass ⓘ

AASHTOWare™ BRIDGE MANAGEMENT

ALDOT

AASHTOWare™ Bridge Management

Inventory & Appraisal
Identification
Design
Features

Waterway Feature

Edit Feature

Agency Bridge ID ⓘ
015757

Bridge Name (B.ID.02) ⓘ
COL. WILLIAM LAWLEY

Bridge Nickname ⓘ
US 231 NBL OVER TALLAPOOSA RIVER

Bridge Facility Carried ⓘ
US 231 NBL

Bridge Feature Intersected ⓘ
TALLAPOOSA RIVER

Feature Details

Feature Name (B.F.03) *

Feature Type (B.F.01) *
W Waterway

Feature Location (B.F.02) *
B Below bridge

Report to FHWA

Waterway Details

Navigable Waterway (B.N.01) ⓘ
N Not navigable waters

Navigation Minimum Vertical Clearance (B.N.02) ⓘ

Movable Bridge Max Navigation Vertical Clearance (B.N.03) ⓘ

Navigation Channel Width (B.N.04) ⓘ

Navigation Channel Minimum Horizontal Clearance (B.N.05) ⓘ

Substructure Navigation Protection (B.N.06) ⓘ
1 Not required; low probability of impact

AASHTOWare™ BRIDGE MANAGEMENT

ALDOT

Inventory & Appraisal

Relief for Waterway Feature

Identification

Edit Feature

Design

Agency Bridge ID ⓘ
015757

Bridge Name (B.ID.02) ⓘ
COL. WILLIAM LAWLEY

Bridge Nickname ⓘ
US 231 NBL OVER TALLAPOOSA RIVER

Features

Bridge Facility Carried ⓘ
US 231 NBL

Bridge Feature Intersected ⓘ
TALLAPOOSA RIVER

Feature Details

Feature Name (B.F.03) *

Tallapoosa River Relief

Feature Type (B.F.01) *

F Relief for Waterway

Feature Location (B.F.02) *

B Below bridge

Report to FHWA

Inventory & Appraisal

Railroad Feature

Identification

Edit Feature

Design

Agency Bridge ID ⓘ
015757

Bridge Name (B.ID.02) ⓘ
COL. WILLIAM LAWLEY

Bridge Nickname ⓘ
US 231 NBL OVER TALLAPOOSA RIVER

Features

Bridge Facility Carried ⓘ
US 231 NBL

Bridge Feature Intersected ⓘ
TALLAPOOSA RIVER

Feature Details

Feature Name (B.F.03) *

Railroad

Feature Type (B.F.01) *

R Railroad

Feature Location (B.F.02) *

B Below bridge

Report to FHWA

Railroad Details

Railroad Bridge Agency Bridge ID ⓘ

Railroad Service Type (B.RR.01) ⓘ

F Freight

Railroad Minimum Vertical Clearance (B.RR.02) *

32

Railroad Minimum Horizontal Offset (B.RR.03) *

55

Pathway Feature

Edit Feature

Agency Bridge ID ⓘ
015757

Bridge Name (B.ID.02) ⓘ
COL. WILLIAM LAWLEY

Bridge Nickname ⓘ
US 231 NBL OVER TALLAPOOSA RIVER

Bridge Facility Carried ⓘ
US 231 NBL

Bridge Feature Intersected ⓘ
TALLAPOOSA RIVER

Feature Details

Feature Name (B.F.03) *

Pathway

Feature Type (B.F.01) *

P Pathway

Feature Location (B.F.02) *

B Below bridge

Report to FHWA

Urban Feature

Edit Feature

Agency Bridge ID ⓘ
015757

Bridge Name (B.ID.02) ⓘ
COL. WILLIAM LAWLEY

Bridge Nickname ⓘ
US 231 NBL OVER TALLAPOOSA RIVER

Bridge Facility Carried ⓘ
US 231 NBL

Bridge Feature Intersected ⓘ
TALLAPOOSA RIVER

Feature Details

Feature Name (B.F.03) *

Urban Feature Example

Feature Type (B.F.01) *

B Urban Feature

Feature Location (B.F.02) *

B Below bridge

Report to FHWA

Inventory & Appraisal

Dry Terrain Feature

Identification

Edit Feature

Design

Agency Bridge ID ⓘ
015757

Bridge Name (B.ID.02) ⓘ
COL. WILLIAM LAWLEY

Bridge Nickname ⓘ
US 231 NBL OVER TALLAPOOSA RIVER

Features

Bridge Facility Carried ⓘ
US 231 NBL

Bridge Feature Intersected ⓘ
TALLAPOOSA RIVER

Feature Details

Feature Name (B.F.03) *

Dry Terrain

Feature Type (B.F.01) *

D Dry terrain or side slope

Feature Location (B.F.02) *

B Below bridge

Report to FHWA

Inventory & Appraisal

Other Feature

Identification

Edit Feature

Design

Agency Bridge ID ⓘ
015757

Bridge Name (B.ID.02) ⓘ
COL. WILLIAM LAWLEY

Bridge Nickname ⓘ
US 231 NBL OVER TALLAPOOSA RIVER

Features

Bridge Facility Carried ⓘ
US 231 NBL

Bridge Feature Intersected ⓘ
TALLAPOOSA RIVER

Feature Details

Feature Name (B.F.03) *

Other Example

Feature Type (B.F.01) *

X Other

Feature Location (B.F.02) *

B Below bridge

Report to FHWA

Inspection Pages

Inspection Pages

✕ **AASHTOWare™**
Bridge Management

- Bridges >
- Tunnels >
- Signs >



✕ **AASHTOWare™**
Bridge Management

- < Back
- Bridges
- Bridge Dashboard
- Bridge List
- Inventory & Appraisal >
- Inspection >**
- Load Ratings >
- Work Events
- Validate
- Enhanced Mapping

✕ **AASHTOWare™**
Bridge Management

- < Back
- Inspection**
- Inspection List
- Inspection Plan
- Condition
- Sketches
- Cross Sections
- Scour Plan of Action
- Work Candidates
- Schedule
- Future Inspection Plan >

AASHTOWare™ Bridge Management

Bridges > Inspection > Inspection List

Inspection List

Bridge: 015757 Bridge Name: COL. WILLIAM LAWLEY

List View | Element Condition History

[Add New](#)

Inspection Begin Date (B.IE.02) ↓	Inspection Types	Status	Deck Rating (B.C.01)	Super Rating (B.C.02)	Sub Rating (B.C.03)	Culvert Rating (B.C.04)
07/08/2024	Routine	3 Active				
09/13/2022	Routine	3 Active	6 Satisfactory	6 Satisfactory	6 Satisfactory	N Not Applicable
08/24/2021	Underwater	3 Active	5 Fair	6 Satisfactory	6 Satisfactory	N Not Applicable
09/29/2020	Routine	3 Active	5 Fair	6 Satisfactory	6 Satisfactory	N Not Applicable
08/06/2019	Underwater	3 Active	6 Satisfactory	6 Satisfactory	7 Good	N Not Applicable
09/13/2018	Routine	3 Active	6 Satisfactory	6 Satisfactory	7 Good	N Not Applicable
08/23/2017	Underwater	3 Active	6 Satisfactory	6 Satisfactory	7 Good	N Not Applicable
09/20/2016	Routine	3 Active	6 Satisfactory	6 Satisfactory	7 Good	N Not Applicable
06/23/2015	Underwater	3 Active	7 Good	6 Satisfactory	7 Good	N Not Applicable
10/20/2014	Routine	3 Active	7 Good	6 Satisfactory	7 Good	N Not Applicable
06/01/2013	Underwater	3 Active	7 Good	6 Satisfactory	7 Good	N Not Applicable
10/29/2012	Routine	3 Active	7 Good	6 Satisfactory	7 Good	N Not Applicable

<< < 1 2 > >> 1 - 15 of 24 15 ▾

BRIDGE **ALDOT**

AASHTOWare™ Bridge Management

Inspection Plan

Bridge: 018018 Bridge Name (B.ID.02): 018018 Bridge Nickname: US 80 WBL OVER CAHABA RIVER

Inspection: 09/13/2022 (DFWS) Bridge Facility Carried: US 80 WBL Bridge Feature Intersected: CAHABA RIVER

Inspection Procedures

Search [] Export

Complete	Type ↑	Name ↑	Inspection Type ↓	Details ↑
<input type="checkbox"/>	Routine	General Procedure	Routine	Inspect entire structure hands-on. Assign general condition ratings per SNBL. Collect/verify quantit ...

Procedure Notes

Equipment Used in This Inspection

Routine Equipment

Export Add From Previous Add New

Name ↑	Hours ↑	Bridge-Level Equipment Detail ↓
A03 Under bridge inspection vehicle		Entered by ALDOT migration from BrM6
A04 Rigging		Entered by ALDOT migration from BrM6
A06 Boat		Entered by ALDOT migration from BrM6

Equipment Notes

BRIDGE **ALDOT**

Inspection

Inspection List

Inspection Plan

Condition

Sketches

Cross Sections

Work Candidates

Schedule

Equipment

Procedures

Inspection *

09/13/2022 (DFWS)

Condition Ratings

Deck (B.C.01) ⓘ

6 Satisfactory

Superstructure (B.C.02) ⓘ

6 Satisfactory

Substructure (B.C.03) ⓘ

6 Satisfactory

Culvert (B.C.04) ⓘ

N Not Applicable

Bridge Condition Classification (B.C.12) ⓘ

F Fair

Lowest Condition Rating Code (B.C.13) ⓘ

6

Railing (B.C.05) ⓘ

Railing Transition (B.C.06) ⓘ

Bearing (B.C.07) ⓘ

Joints (B.C.08) ⓘ

Other Condition Ratings

Channel (B.C.09) ⓘ

7 Good

Channel Protection (B.C.10) ⓘ

Scour (B.C.11) ⓘ

[MI-T] FIX PARAM VALUES

NSTM Inspection Condition (B.C.14) ⓘ

Underwater Inspection (B.C.15) ⓘ

Appraisal

Approach Roadway Alignment (B.AP01) ⓘ

Overtopping Likelihood (B.AP02) ⓘ

Scour Vulnerability (B.AP03) ⓘ

Scour Plan of Action (B.AP04) ⓘ

Seismic Vulnerability (B.AP05) ⓘ

Inspection

Inspection List

Inspection Plan

Condition

Sketches

Cross Sections

Work Candidates

Schedule

Equipment

Procedures

Inspection *

09/13/2022 (DFWS)

Element Conditions

Quantity/Percentage Structure Unit Environment

Quantity All All

Q Search

Expand All Add New

Inspected	ID	Name	Structure Unit	Type	Environment	Total Quantity	Units	CS 1 Qty	CS 2 Qty	CS 3 Qty	CS 4 Qty	
> <input type="checkbox"/>	109	Pre Opn Conc Girder/Beam	1_1	Element	Benign	6456	ft	6403	23	11	19	
> <input type="checkbox"/>	12	Re Concrete Deck	1_1	Element	Benign	46272	sq.ft	6383	39339	550	0	
> <input type="checkbox"/>	205	Re Conc Column	1_1	Element	Benign	6	each	0	5	1	0	
> <input type="checkbox"/>	215	Re Conc Abutment	1_1	Element	Benign	110	ft	104	4	2	0	
> <input type="checkbox"/>	225	Steel Pile	1_1	Element	Benign	54	each	0	54	0	0	
> <input type="checkbox"/>	234	Re Conc Pier Cap	1_1	Element	Benign	587	ft	469	39	79	0	
> <input type="checkbox"/>	304	Open Expansion Joint	1_1	Element	Benign	387	ft	342	0	45	0	
> <input type="checkbox"/>	310	Elastomeric Bearing	1_1	Element	Benign	96	each	96	0	0	0	
> <input type="checkbox"/>	321	Re Conc Approach Slab	1_1	Element	Benign	2408	sq.ft	2408	0	0	0	
> <input type="checkbox"/>	331	Re Conc Bridge Railing	1_1	Element	Benign	2152	ft	1827	195	130	0	

Notes

Narrative of Inspection Elements (B.IE.11) ⓘ

Agency Inspection Notes ⓘ

Save Cancel Delete Bridge Inspection

- Inspection
- Inspection List
- Inspection Plan
- Condition
- Sketches**
- Cross Sections
- Work Candidates
- Schedule
- Equipment
- Procedures

Sketches

Bridge
Bridge Name COL. WILLIAM LAWLEY
 Bridge Nickname

Bridge Inspection

Name ↑↓	Span ↑↓	Beam ↑↓	Downstation Bent ↑↓	Upstation Bent ↑↓
No records to display.				

Select Source

Start from *

- Existing Sketch
- Multimedia Image
- New
- Sketch Template

- Inspection
- Inspection List
- Inspection Plan
- Condition
- Sketches
- Work Candidates**
- Cross Sections
- Schedule
- Equipment
- Procedures

Work Candidates

Bridge *
Name (B.ID.02) COL. WILLIAM LAWLEY
 Nickname US 231 NBL OVER TALLAPOOSA RIVER

Bridge Facility Carried US 231 NBL
 Bridge Feature Intersected TALLAPOOSA RIVER

Work Candidate

Filter: Source:

Name ↑↓	Action ↑↓	Date Recommended ↑↓	Target Year ↑↓	Estimated Cost ↑↓	Status ↑↓	Work Assignment ↑↓	Priority ↑↓	Structure Unit ↑↓	Date
27798	B12 MINOR SUPER REP-CONCRETE	10/20/2012	2014	\$11,040.00	Under Review	Agency	High		
27801	B42 BENT CAP/BEAMS/BEAM SEAT	10/20/2014	2014	\$2,020.00	Under Review	Agency	High		
27800	B29 DRIFT REMOVAL	10/20/2014	2014	\$8,010.00	Under Review	Agency	High	1_1	
27799	B18 MINOR SUB REPAIR-CONCRETE	10/20/2014	2014	\$5,200.00	Under Review	Agency	High		

<< < 1 > >> 1 - 4 of 4 15

Work Candidates

- Inspection
- Inspection List
- Inspection Plan
- Condition
- Sketches
- Cross Sections
- Work Candidates**
- Schedule
- Equipment
- Procedures

Bridge * 015757
 Name (B.ID.02) 1 COL. WILLIAM LAWLEY
 Nickname 1 US 231 NBL OVER TALLAPOOSA RIVER
Bridge Facility Carried 1 US 231 NBL
 Bridge Feature Intersected 1 TALLAPOOSA RIVER

Work Candidate

Filter Open
 Source All
 Search

Create Work Candidate

Type of Work

Name *

Action Type
NA

Action *

Bridge Inspection

Structure Unit

Date Recommended *
mm/dd/yyyy

Priority *
High

Add New

- Inspection
- Inspection List
- Inspection Plan
- Condition
- Sketches
- Cross Sections
- Work Candidates**
- Schedule
- Equipment
- Procedures

Create Work Candidate

Type of Work

Name *

Action Type
NA

Action *

Bridge Inspection

Structure Unit

Date Recommended *
mm/dd/yyyy

Priority *
High

Contact/User

Number of Locations

Date Reviewed
mm/dd/yyyy

Target Year
2024

Assigned *
No

Work Assignment *
Contractor

Status
Unknown

Source *
Inspector Recommended

Description
ALDOT, User on 09/24/2024

Work Estimate

Estimated Quantity

Cost per Unit
\$

Estimated Cost
\$.00

Completion Details

Final Cost
\$

Federal Funds Percentage
%

Date Completed
mm/dd/yyyy

Calculate

Save Cancel

AASHTOWare™ Bridge Management

Inspection
 09/13/2022 (DFWS)

Schedule

Bridge * 015757 **Name (B.ID.02) i** COL. WILLIAM LAWLEY **Nickname i**

Inspection * 07/08/2024

Summary

Inspection Begin Date (B.IE.02) * i 07/08/2024 **Inspection Completion Date (B.IE.03) i** mm/dd/yyyy **Inspector i**

Date Entered i 07/08/2024 **Entered By i** ALDOT, User **QA Date (B.IE.08) i** mm/dd/yyyy

QC Date (B.IE.09) i mm/dd/yyyy **Inspection Data Update Date (B.IE.10) i** mm/dd/yyyy

Inspection Needs

NSTM Inspection Required (B.IR.01) i **Fatigue Details (B.IR.02) i** **Complex Features (B.IR.04) i**

AASHTOWare™ Bridge Management

Inspection
 09/13/2022 (DFWS)

Inspection Type ↕	Required for Bridge	Inspection Being Performed (B.IE.01)	Most Recent Inspection Date	Interval Method (B.IE.07)	Interval (months) (B.IE.05)	Inspection Due Date (B.IE.06)
Damage	<input type="checkbox"/>	<input type="checkbox"/>				
In-Depth	<input type="checkbox"/>	<input type="checkbox"/>				
Initial	<input type="checkbox"/>	<input type="checkbox"/>				
NSTM	<input type="checkbox"/>	<input type="checkbox"/>	01/01/1901		24	01/01/1901
Routine	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	07/08/2024	<input type="text" value="v"/>	24	07/08/2026 <input type="text" value="v"/>
Routine Complex	<input type="checkbox"/>	<input type="checkbox"/>				
Scour Monitoring	<input type="checkbox"/>	<input type="checkbox"/>				
Service	<input type="checkbox"/>	<input type="checkbox"/>				
Special	<input type="checkbox"/>	<input type="checkbox"/>	12/02/1997		12	01/01/1901
Underwater	<input checked="" type="checkbox"/>	<input type="checkbox"/>	08/24/2021	<input type="text" value="v"/>	24	08/24/2023 <input type="text" value="v"/>

AASHTOWare™ Bridge Management

Inspection *
09/13/2022 (DFWS)

Inspection

Inspection List

Inspection Plan

Condition

Sketches

Cross Sections

Work Candidates

Schedule

Equipment

Procedures

Inspection Type ↑↓	Required for Bridge	Inspection Being Performed (B.IE.01)
Damage	<input type="checkbox"/>	<input type="checkbox"/>
In-Depth	<input type="checkbox"/>	<input type="checkbox"/>
Initial	<input type="checkbox"/>	<input type="checkbox"/>
NSTM	<input type="checkbox"/>	<input type="checkbox"/>
Routine	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Routine Complex	<input type="checkbox"/>	<input type="checkbox"/>
Scour Monitoring	<input type="checkbox"/>	<input type="checkbox"/>
Service	<input type="checkbox"/>	<input type="checkbox"/>
Special	<input type="checkbox"/>	<input type="checkbox"/>
Underwater	<input checked="" type="checkbox"/>	<input type="checkbox"/>

AASHTOWare™ BRIDGE MANAGEMENT

ALDOT

AASHTOWare™ Bridge Management

Equipment

Bridge: 015757 Bridge Name: COL. WILLIAM LAWLEY Bridge Nickname:

Inspection Types: All

Search: [Export](#) [Add New](#)

Name ↑↓	Alternative ↑↓	Inspection Types	Description ↑↓
A03 Under bridge inspection vehicle		Routine	Edit Delete
A06 Boat		Underwater	Edit Delete

<< < 1 > >> 15 1 - 2 of 2

- Bridge level equipment setup
- Equipment added on this page will show up on Inspection Plan page based on inspection type being performed
- Indicate inspection types for each equipment

AASHTOWare™ BRIDGE MANAGEMENT

ALDOT

- Inspection
- Inspection List
- Inspection Plan
- Condition
- Sketches
- Cross Sections
- Work Candidates
- Schedule
- Equipment**
- Procedures

ALDOT Equipment			SNBI Equipment	
Code	Description		Code	Description
1	Snooper	→	A03	Under Bridge Inspection Vehicle
2	ATV	→	AX	Other
3	Special Ladder	→	A01	Ladder
4	Aerial Bucket	→	A02	Bucket Lift Vehicle
5	Boat	→	A06	Boat
8	Safety belt / line	→	A04	Rigging
9	Traffic Control			Drop
A	Catwalk			Drop

- Inspection
- Inspection List
- Inspection Plan
- Condition
- Sketches
- Cross Sections
- Work Candidates
- Schedule
- Equipment**
- Procedures

Equipment

Bridge: Bridge Name: COL. WILLIAM LAWLEY Bridge Nickname:

Inspection Types:

Name ↑	Alternative ↑↓	Inspection Types	Description ↑↓	
A03 Under bridge inspection vehicle		Routine	Entered by ALDOT migration from BrM6	<input type="checkbox"/> <input type="checkbox"/>
A04 Rigging		Routine	Entered by ALDOT migration from BrM6	<input type="checkbox"/> <input type="checkbox"/>
A06 Boat		Routine	Entered by ALDOT migration from BrM6	<input type="checkbox"/> <input type="checkbox"/>

« < 1 > » 15 1 - 3 of 3

- Bridge level equipment setup
- Equipment added on this page will show up on Inspection Plan page based on inspection type being performed
- Indicate inspection types for each equipment

AASHTOWare™ Bridge Management

Inspection

Inspection List

Inspection Plan

Condition

Sketches

Cross Sections

Work Candidates

Schedule

Equipment

Procedures

Edit Equipment

Details
Inspection Types

Name *
A03 Under bridge inspection vehicle

Alternative

Description

Save Save & Close Cancel Delete

Edit Equipment

Details
Inspection Types

Edit

Routine

Save Save & Close Cancel Delete

Edit Inspection Types

Search

- Select All
- Damage
- In-Depth
- Initial
- NSTM
- Routine
- Routine Complex
- Scour Monitoring
- Service
- Special
- Underwater

Ok Cancel




AASHTOWare™ Bridge Management

Inspection

Inspection List

Inspection Plan

Condition

Sketches

Cross Sections

Work Candidates

Schedule

Equipment

Procedures

Procedures

Bridge: 015757 Bridge Name: COL WILLIAM LAWLEY Bridge Nickname:

Search Export

Procedure Type 1 Inspection Type 2 Procedure Template Frequency Date Custom Details Details

Procedure Type	Inspection Type	Procedure Template	Frequency	Date	Custom Details	Details
Routine	Inspection Procedures	Routine	Routine Inspection Template	Every	False	Inspection all bridge elements "hands-on". Take streambed cross-section measurements for stru

<< < 1 > >> 1 - 1 of 1 15

- Assigned procedures will show up here




AASHTOWare™ Bridge Management

Procedures

Bridge: 015757 Bridge Name: COL. WILLIAM LAWLEY

Procedure Type 1: 1 Inspection Type 1: Routine

1 - 1 of 1 15

Edit Procedure

Procedure Type *
Routine Inspection Procedures

Inspection Type *
Routine

Procedure Template *
Routine Inspection Template

Frequency *
Every

Customize Details

Details
Inspect all bridge elements "hands-on". Take streambed cross-section measurements for structures over water. Verify inventory information. Assign general condition ratings and update element condition state

Save Cancel Delete

Take streambed cross-section measurements for stru

BRIDGE **ALDOT**

AASHTOWare™ Bridge Management

Cross Sections

Bridge: 015757 Bridge Name: COL. WILLIAM LAWLEY

Orientation: Left View

Graph Settings

BRIDGE ID: 015757
MONTGOMERY-ELMORE CO LINE
TALLAPOOSA RIVER
101 COUNTY
LEFT SIDE OF THE BRIDGE - DOWNSTREAM
DATA SOURCE: PLANS-PROJ #BRF-86(7) & (9)
DRAW STATIONS FROM: 38065 ft TO 39141 ft
STATION SCALE 150 ft:1 in ELEVATION SCALE 30 ft:1 in

Legend: Pile, Pile Footing, High Water

BRIDGE **ALDOT**

- Inspection
- Inspection List
- Inspection Plan
- Condition
- Sketches
- Cross Sections**
- Work Candidates
- Schedule
- Equipment
- Procedures

Cross Sections



Graph Settings

Plot Background Color: White

Latest Cross Section Color: #FF0000

Lines to Draw

Select First 10 Clear Selection

<input type="checkbox"/>	Month/Year	Offset	Orientation	Water Surface
<input type="checkbox"/>	09/2022 Sounding	21.2927	Left View	<input type="checkbox"/>
<input type="checkbox"/>	09/2022 Sounding	21.29	Left View	<input type="checkbox"/>
<input type="checkbox"/>	09/2020 Sounding	21.29	Left View	
<input type="checkbox"/>	09/2018 Sounding	21.29	Left View	
<input type="checkbox"/>	09/2016 Sounding	21.29	Left View	
<input type="checkbox"/>	10/2014 Sounding	21.29	Left View	
<input type="checkbox"/>	10/2012 Sounding	21.29	Left View	
<input type="checkbox"/>	09/2010 Sounding	21.29	Left View	

- Inspection
- Inspection List
- Inspection Plan
- Condition
- Sketches
- Cross Sections**
- Work Candidates
- Schedule
- Equipment
- Procedures

Streambed Cross Sections Scour Potential Evaluation Structure Detail Original Streambed Elevation Scour Resistant Layer

Offset: 21.2927 Month/Year: 09/2022

Copy to Right View Delete Streambed Cross Section

Graph Line Settings

Name: Streambed Cross-Section

Style: Solid

Color: #0000FF

Show in Graph

Show in Legend When Graphed

General Information

Station Equation

0 Stations

+ 380 ft

= 0 Stations

+ 67.7822 ft

Elevation Equation

0 ft

= 0 ft

Soundings/Elevations Indicator: Soundings

Location of Base Measurement: TOP OF RAIL

Offset Remark: FROM C/L OF BRIDGE

Elevation Basis: Plans

Water Surface: 135.3685 ft

Bridge Inspection

AASHTOWare™ Bridge Management

Streambed Cross Sections | Scour Potential Evaluation | Structure Detail | Original Streambed Elevation | Scour Resistant Layer

Offset: 21.2927 | Month/Year: 09/2022

Copy to Right View | Delete Streambed Cross Section

Details

Station	Sounding/Elevation (ft)	Remarks	
0 + 0	8.66	TOP OF R.R. SLOPE	
0 + 22.2999	17.1	TOE OF R.R. SLOPE	
0 + 37.9987	19.61	BT. 2 & ON R.R.	
0 + 58.7992	21.23		
0 + 78.9993	22.25	BT. 3	
0 + 99.7014	23		
1 + 20	23.5	BT. 4	
1 + 40.6004	24.35		
1 + 60.8005	25	BT. 5	
1 + 81.601	25.6		
2 + 1.6995	25.7	BT. 6	
2 + 22.7001	25.99	ON R.R. (BEGINNING)	

BRIDGE **ALDOT**

AASHTOWare™ Bridge Management

Streambed Cross Sections | Scour Potential Ev

Offset: 21.2927 | Month/Year: 09/2022

Edit Streambed Cross Sections Detail

Orientation: Left View

Offset: 21.2927

Month/Year: 09/2022

Station *
 Stations
 +
 ft

Sounding/Elevation
 ft

Remarks

Save | Cancel | Delete

BRIDGE **ALDOT**

AASHTOWare™ Bridge Management

Streambed Cross Sections Scour Potential Evaluation **Structure Detail** Original Streambed Elevation Scour Resistant Layer

Inspection

Inspection List

Inspection Plan

Condition

Sketches

Cross Sections

Work Candidates

Schedule

Equipment

Procedures

Graph Line Settings

Name *
Structure Details

Style *
Solid

Color *
#00FF00

General Information

High Water Elevation
170.0131 ft

High Water Year
1993

Upstream Side
Right

Downstream Side
Left

Station Equation
0 Stations
+
0 ft
=
0 Stations
+
0 ft

Elevation Equation
0 ft
=
0 ft

Station Direction
Increasing

Location of Base Measurement
Top of Rail

Bent Direction
Increasing

Elevation Basis
Plans

Source
PLANS-PROJ.#BRF-86(7) & (9)

[Copy to Right View](#) [Delete Structure Detail](#)




AASHTOWare™ Bridge Management

Streambed Cross Sections Scour Potential Evaluation **Structure Detail** Original Streambed Elevation Scour Resistant Layer

Inspection

Inspection List

Inspection Plan

Condition

Sketches

Cross Sections

Work Candidates

Schedule

Equipment

Procedures

Details

[Add New](#)

Station ±	Reference Curb/Rail Elevation (ft)	Deck Elevation (ft)	Bottom Footing Elevation (ft)	Critical Pier Scour Depth (ft)	Pile Tip Elevation (ft)	Footing Type	Support
380 + 65	181.0105	178.2612			130.8301	Pile Bent	
380 + 67.7986	181.0499	178.3005				No Footing	
380 + 90.0984	181.3812	178.6286				No Footing	
381 + 5.8005	181.601	178.8484			127.6214	Pile Bent	
381 + 26.601	181.8799	179.1306				No Footing	
381 + 46.8012	182.1391	179.3898			112.6115	Pile Bent	
381 + 67.5	182.3885	179.6391				No Footing	
381 + 87.7986	182.6214	179.8688			108.7992	Pile Bent	
382 + 8.399	182.851	180.0984				No Footing	
382 + 28.5991	183.061	180.3084			95.0197	Pile Bent	
382 + 49.3996	183.2612	180.5085				No Footing	
382 + 69.5013	183.4416	180.689			100.6299	Pile Bent	
382 + 90.4987	183.6089	180.8596				No Footing	

[Copy to Right View](#) [Delete Structure Detail](#)




AASHTOWare™ Bridge Management

Streambed Cross Sections Scour Potential Evaluation Structure Detail **Original Streambed Elevation** Scour Resistant Layer

Inspection

- Inspection List
- Inspection Plan
- Condition
- Sketches
- Cross Sections**
- Work Candidates
- Schedule
- Equipment
- Procedures

Copy to Right View Delete Original Streambed Elevation

Details

Add New

Station	Sounding/Elevation (ft)	Remarks
380 + 75	172.0144	
380 + 92.9987	160.0066	
382 + 0	156.9882	
383 + 0	156.9882	
383 + 27.0013	154.9869	
383 + 35	147.0144	
383 + 46.0007	139.9934	
384 + 0	131.0039	
384 + 50	129.0026	
385 + 0	127.4934	
385 + 50	127.0013	
386 + 0	127.0013	
386 + 86.0007	127.0013	BT. 10
387 + 0	127.9856	

AASHTOWare™ BRIDGE MANAGEMENT

ALDOT

AASHTOWare™ Bridge Management

Streambed Cross Sections Scour Potential Evaluation Structure Detail **Original Streambed Elevation** Scour Resistant Layer

Inspection

- Inspection List
- Inspection Plan
- Condition
- Sketches
- Cross Sections**
- Work Candidates
- Schedule
- Equipment
- Procedures

Copy to Right View Delete Original Streambed Elevation

Details

Add New

Edit Original Streambed Elevations Detail

Orientation
Left View

Station *

380 Stations

+

75 ft

Sounding/Elevation

172.0144 ft

Remarks

Save Cancel Delete

Station	Sounding/Elevation (ft)	Remarks
380 + 75	172.0144	
380 + 92.9987	160.0066	
382 + 0	156.9882	
383 + 0	156.9882	
383 + 27.0013	154.9869	
383 + 35	147.0144	
383 + 46.0007	139.9934	
384 + 0	131.0039	
384 + 50	129.0026	
385 + 0	127.4934	
385 + 50	127.0013	
386 + 0	127.0013	
386 + 86.0007	127.0013	BT. 10
387 + 0	127.9856	

AASHTOWare™ BRIDGE MANAGEMENT

ALDOT

Load Ratings

AASHTOware™ Bridge Management

Load Ratings

Bridge: 015757

Q Search [Export](#) [Add New](#)

Load Rating Date	Name	Report This Event	Load Rater	Reviewer	Software Used	Secondary Software	Load Rating Method	Routine Permit Loads	Category
06/18/2014	01_9700		TRM	1			LFM Load Factor Rating		

<< < 1 > >> 1 - 1 of 1 15 ▾

Load Ratings

Load Ratings

Load Ratings

Load Posting Status

Agency Bridge ID ⓘ
015757

Bridge Name (B.ID.02) ⓘ
COL. WILLIAM LAWLEY

Bridge Nickname ⓘ

Event Name ⓘ
01_9701

Load Rating Date (B.LR.03) ⓘ
6/18/2014

Report This Event ⓘ

Load Rater ⓘ
TRM

Reviewer ⓘ
1

Software Used ⓘ
F FIX PARAM VALUES

Secondary Software ⓘ
N FIX PARAM VALUES

Load Rating Method (B.LR.04) ⓘ

Routine Permit Loads (B.LR.08) ⓘ

Description ⓘ

Wearing Surface / Fill Depth (in) ⓘ
0

Category ⓘ

Ratings

Load Ratings

Load Ratings

Load Posting Status

Q Search

Export

Add New

Vehicle (B.EP.01) ↑↓	Rating (B.EP.02) ↑↓	Tons ↑↓	Analysis Type ↑↓	Limit State ↑↓	Location ↑↓	Description ↑↓	Inventory (B.LR.05) ↑↓	Operating (B.LR.06) ↑↓	Controlling Legal (B.LR.07) ↑↓
HS-20 Operating	1.85	37.00	0 Design					★	
HS-20 Inventory	1.00	20.00	0 Design				★		
H-TRUCK	1.20	24.00	1 Legal						
TANDEM AXLE	1.44	42.48	1 Legal						
TRIAXLE DUMP	1.40	52.50	1 Legal						
CONCRETE	1.58	52.14	1 Legal						
18-WHEELER	2.45	98.00	1 Legal						
6-AXLE	2.14	89.88	1 Legal						
SCHOOL BUS	1.65	20.63	1 Legal						

<< < 1 > >> 1 - 9 of 9 15

- Load Ratings
- Load Ratings
- Load Posting Status

Load Posting Status								
Format AN (2)	Frequency I			Item ID B.PS.01				
Specification				Commentary				
Report the load posting status of the bridge using one of the codes in <i>Table 15</i> .				When temporary or supported conditions exist ensure that data items related to physical characteristics of the bridge (e.g. geometry, clearances, condition, and load rating) represent those characteristics of the temporary or supported bridge. When both a weight and other load restriction exist at the bridge, use the code for the weight restriction (code PP, TP, or SP).				
Specification Continued								
Table 15. Load Posting Status Codes.								
	No restriction			Posted or restricted				Closed
	New	Open	Needs Action	Weight	Other	Needs Reduction	Missing	
Permanent	N	PO	PA	PP	PR	PD	PM	C
Temporary		TO	TA	TP	TR	TD	TM	C
Supported		SO	SA	SP	SR	SD	SM	C

- Load Ratings
- Load Ratings
- Load Posting Status

Example: Bridge is open with no restrictions

Load Posting Status

Bridge

Search

+ Add New

Posting Status Change Date (B.PS.02) ↓↑ Open/Posted/Closed ↑↓ Permanent/Temp/Supported ↑↓ Load Posting Status (B.PS.01) ↑↓

No records to display.

<<
<
>
>>
15
0 - 0 of 0

Example: Bridge is open with no restrictions

Add Bridge Load Posting Status

Agency Bridge ID ⓘ
008599

Bridge Name (B.ID.02) ⓘ
008599

Bridge Nickname ⓘ
185 S.B.L. OVER MILES CREEK

Bridge Facility Carried ⓘ
185 S.B.L.

Bridge Feature Intersected ⓘ
MILES CREEK

Load Posting Status & Values

Posting Status Change Date (B.PS.02) *

10/15/2024

Open/Posted/Closed *

Permanent/Temp/Supported *

Load Posting Status (B.PS.01)

Save Save & Close Cancel

Example: Bridge is open with no restrictions

Load Posting Status & Values

Posting Status Change Date (B.PS.02) *

10/15/2024

Open/Posted/Closed *

- Closed
- Missing
- Needs Action
- Needs Reduction
- New
- Open
- Other
- Weight

Load Posting Status & Values

Posting Status Change Date (B.PS.02) *

10/15/2024

Open/Posted/Closed *

Open

Permanent/Temp/Supported *

- Permanent
- Supported
- Temporary

Load Posting Status & Values

Posting Status Change Date (B.PS.02) *

10/15/2024

Open/Posted/Closed *

Open

Permanent/Temp/Supported *

Permanent

Load Posting Status (B.PS.01)

PO

Save Save & Close Cancel

Load Ratings

Load Ratings

Load Posting Status

Example: Bridge is open with no restrictions

Load Posting Status

Bridge

008599

Q Search [Export](#)

[Add New](#)

Posting Status Change Date (B.PS.02) ↓ Open/Posted/Closed ↑↓ Permanent/Temp/Supported ↑↓ Load Posting Status (B.PS.01) ↑↓

10/15/2024	Open	Permanent	PO	Edit Delete
------------	------	-----------	----	---

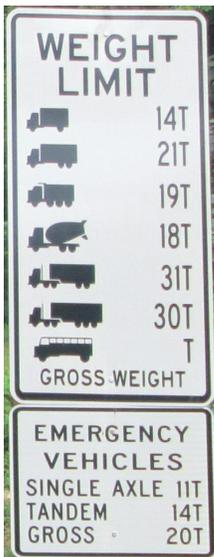
<< < 1 > >> 15 ▾ 1 - 1 of 1

Load Ratings

Load Ratings

Load Posting Status

Example: Bridge is posted for weight



Load Posting Status

Bridge

008599

Q Search

[Add New](#)

Posting Status Change Date (B.PS.02) ↓ Open/Posted/Closed ↑↓ Permanent/Temp/Supported ↑↓ Load Posting Status (B.PS.01) ↑↓

No records to display.

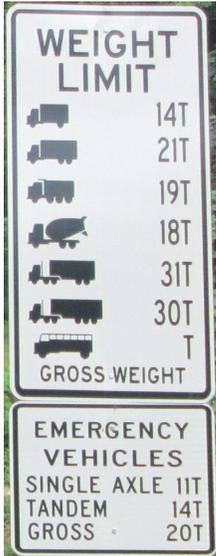
<< < > >> 15 ▾ 0 - 0 of 0

Load Ratings

Load Ratings

Load Posting Status

Example: Bridge is posted for weight



Load Posting Status & Values

Posting Status Change Date (B.PS.02) *

10/15/2024

Open/Posted/Closed *

Weight

Permanent/Temp/Supported *

Permanent

Load Posting Status (B.PS.01)

PP

Save

Save & Close

Cancel

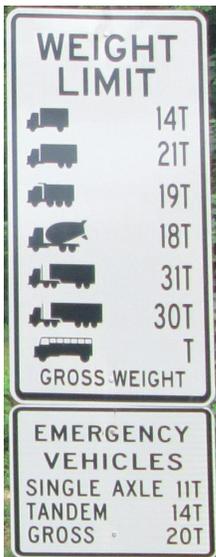


Load Ratings

Load Ratings

Load Posting Status

Example: Bridge is posted for weight



Load Posting Status & Values

Posting Status Change Date (B.PS.02) *

10/17/2024

Open/Posted/Closed *

Weight

Permanent/Temp/Supported *

Permanent

Load Posting Status (B.PS.01)

PP

Load Posting Status & Signs

Text of Load Posting Signs

Add New

Sign Type ↑

Posting Type (B.EP.03) ↑↓

Posting Value (B.EP.04) ↑↓

No records to display.

<< < > >> 15 0 - 0 of 0



Load Ratings

Load Ratings

Load Posting Status

Example: Bridge is posted for weight



Create Load Posting Status Sign

Sign Type *

Posting Type (B.EP.03)

Posting Value (B.EP.04) *

Vehicle (B.EP.01) ↑	Rating Factor (B.EP.02) ↑↓	Tons ↓
No records to display.		

Create Load Posting Status Sign

Sign Type *

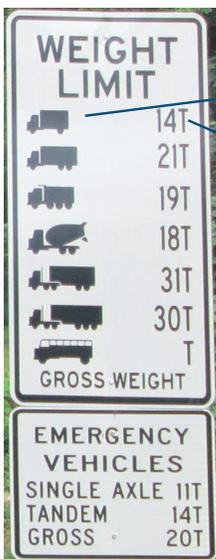
- 1) ALDOT H Truck
- 2) ALDOT Two-Axle
- 3) ALDOT Tri Axle
- 4) ALDOT Concrete
- 5) ALDOT 18 Wheeler
- 6) ALDOT Six Axle
- 7) ALDOT School Bus
- 8) EV2 - Single
- 9) EV3 - Tandem
- 10) EV - Gross
- Gross Load

Load Ratings

Load Ratings

Load Posting Status

Example: Bridge is posted for weight



Create Load Posting Status Sign

Sign Type *
1) ALDOT H Truck

Posting Type (B.EP.03)
Truck Load

Posting Value (B.EP.04) *
14

Vehicle (B.EP.01) ↑	Rating Factor (B.EP.02) ↑↓	Tons ↓
1) H-TRUCK	1.12	22.400000000000002

Save Cancel

Load Posting Status & Signs

Text of Load Posting Signs

Text of Load Posting Signs

Add New

Sign Type ↑	Posting Type (B.EP.03) ↑↓	Posting Value (B.EP.04) ↑↓
1) ALDOT H Truck	Truck Load	14

Example: Bridge is posted for weight



Create Load Posting Status Sign

Sign Type *

2) ALDOT Two-Axle

Posting Type (B.EP.03)

Truck Load

Posting Value (B.EP.04) *

21

Vehicle (B.EP.01) ↑	Rating Factor (B.EP.02) ↑↓	Tons ↓
2) TANDEM AXLE	1.35	39.825

Save Cancel

Load Posting Status & Signs

Text of Load Posting Signs

Add New

Sign Type ↑	Posting Type (B.EP.03) ↑↓	Posting Value (B.EP.04) ↑↓	
1) ALDOT H Truck	Truck Load	14	
2) ALDOT Two-Axle	Truck Load	21	

Example: Bridge is posted for weight



Load Posting Status & Signs

Text of Load Posting Signs

Add New

Sign Type ↑	Posting Type (B.EP.03) ↑↓	Posting Value (B.EP.04) ↑↓	
1) ALDOT H Truck	Truck Load	14	
2) ALDOT Two-Axle	Truck Load	21	
3) ALDOT Tri Axle	Truck Load	19	
4) ALDOT Concrete	Truck Load	18	
5) ALDOT 18 Wheeler	Truck Load	31	
6) ALDOT Six Axle	Truck Load	30	

<< < 1 > >> 15 1 - 6 of 6

Only add posting types / values for vehicles that have values on the sign. In this example no entry is required for the school bus.

Example: Bridge is posted for weight



Create Load Posting Status Sign

Sign Type *

- 1) ALDOT H Truck
- 2) ALDOT Two-Axle
- 3) ALDOT Tri Axle
- 4) ALDOT Concrete
- 5) ALDOT 18 Wheeler
- 6) ALDOT Six Axle
- 7) ALDOT School Bus
- 8) EV2 - Single
- 9) EV3 - Tandem
- 10) EV - Gross
- Gross Load

Edit Load Posting Status Sign

Sign Type *

8) EV2 - Single

Posting Type (B.EP.03)

Single Axle Load

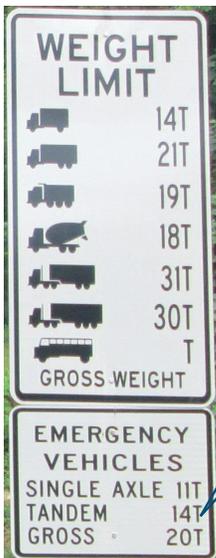
Posting Value (B.EP.04) *

11

Vehicle (B.EP.01) ↑	Rating Factor (B.EP.02) ↑↓	Tons ↓
FHWA Type EV2 emergency vehicle	1.28	36.800000000000004

Save Cancel Delete

Example: Bridge is posted for weight



Create Load Posting Status Sign

Sign Type *

9) EV3 - Tandem

Posting Type (B.EP.03)

Tandem Axle Load

Posting Value (B.EP.04) *

14

Vehicle (B.EP.01) ↑	Rating Factor (B.EP.02) ↑↓	Tons ↓
FHWA Type EV3 emergency vehicle	1.32	56.760000000000005

Save Cancel

Load Ratings

Load Ratings

Load Posting Status

Example: Bridge is posted for weight



Create Load Posting Status Sign

Sign Type *
10) EV - Gross

Posting Type (B.EP.03)
Gross Load

Posting Value (B.EP.04) *
20

Vehicle (B.EP.01) ↑	Rating Factor (B.EP.02) ↑↓	Tons ↑↓
FHWA Type EV2 emergency vehicle	1.28	36.800000000000004
FHWA Type EV3 emergency vehicle	1.32	56.760000000000005

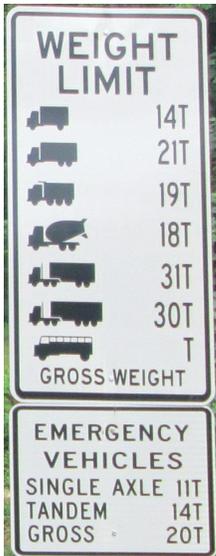
Save Cancel

Load Ratings

Load Ratings

Load Posting Status

Example: Bridge is posted for weight



Sign Type ↑	Posting Type (B.EP.03) ↑↓	Posting Value (B.EP.04) ↑↓		
1) ALDOT H Truck	Truck Load	14		
2) ALDOT Two-Axle	Truck Load	21		
3) ALDOT Tri Axle	Truck Load	19		
4) ALDOT Concrete	Truck Load	18		
5) ALDOT 18 Wheeler	Truck Load	31		
6) ALDOT Six Axle	Truck Load	30		
8) EV2 - Single	Single Axle Load	11		
9) EV3 - Tandem	Tandem Axle Load	14		
10) EV - Gross	Gross Load	20		

<< < 1 > >> 15 1 - 9 of 9

Load Ratings

Load Ratings

Load Posting Status

Example: Bridge is posted for weight (Gross Load Posted)



Load Posting Status

Bridge
008599

Q Search

Add New

Add Bridge Load Posting Status

Agency Bridge ID 008599 Bridge Name (B.ID.02) 008599 Bridge Nickname 185 S.B.L. OVER MILES CREEK

Bridge Facility Carried 185 S.B.L. Bridge Feature Intersected 1 MILES CREEK

Load Posting Status & Values

Posting Status Change Date (B.P5.02) * 10/15/2024

Open/Posted/Closed * Weight

Permanent/Temp/Supported * Permanent

Load Posting Status (B.P5.01) PP

Save Save & Close Cancel

Load Ratings

Load Ratings

Load Posting Status

Example: Bridge is posted for weight (Gross Load Posted)



Edit Load Posting Status Sign

Sign Type * Gross Load

Posting Type (B.EP.03) Gross Load

Posting Value (B.EP.04) * 31

Vehicle (B.EP.01) ↑	Rating Factor (B.EP.02) ↓	Tons ↑↓
1) H-TRUCK	1.12	22.400000000000002
2) TANDEM AXLE	1.35	39.825
3) TRIAXLE DUMP	1.3	48.75
4) CONCRETE	1.26	41.58
5) 18-WHEELER	2.15	86
6) SIX-AXLE	2.15	90.3
7) SCHOOL BUS	1.33	16.625

Save Cancel Delete

Example: Bridge is posted for weight (Gross Load Posted)



Create Load Posting Status Sign

Sign Type *

8) EV2 - Single

Posting Type (B.EP.03)

Single Axle Load

Posting Value (B.EP.04) *

17

Vehicle (B.EP.01) ↑

Rating Factor (B.EP.02) ↑↓

Tons ↑↓

FHWA Type EV2 emergency vehicle

1.28

36.800000000000004

Save

Cancel

Example: Bridge is posted for weight (Gross Load Posted)



Edit Load Posting Status Sign

Sign Type *

9) EV3 - Tandem

Posting Type (B.EP.03)

Tandem Axle Load

Posting Value (B.EP.04) *

23

Vehicle (B.EP.01) ↑

Rating Factor (B.EP.02) ↑↓

Tons ↑↓

FHWA Type EV3 emergency vehicle

1.32

56.760000000000005

Save

Cancel

Delete

Example: Bridge is posted for weight (Gross Load Posted)



Create Load Posting Status Sign

Sign Type *
10) EV - Gross

Posting Type (B.EP.03)
Gross Load

Posting Value (B.EP.04) *
32

Vehicle (B.EP.01) ↑	Rating Factor (B.EP.02) ↑↓	Tons ↑↓
FHWA Type EV2 emergency vehicle	1.28	36.800000000000004
FHWA Type EV3 emergency vehicle	1.32	56.760000000000005

Save Cancel

Example: Bridge is posted for weight (Gross Load Posted)



Sign Type ↑	Posting Type (B.EP.03) ↑↓	Posting Value (B.EP.04) ↑↓	
8) EV2 - Single	Single Axle Load	17	
9) EV3 - Tandem	Tandem Axle Load	23	
10) EV - Gross	Gross Load	32	
Gross Load	Gross Load	31	

Example: Bridge is closed

Load Posting Status & Signs

Text of Load Posting Signs

 Add New

Sign Type ↑

Posting Type (B.EP03) ↑↓

Posting Value (B.EP04) ↑↓

Load Posting Status & Values

Posting Status Change Date (B.PS.02) *

10/15/2024

Open/Posted/Closed *

- Closed
- Missing
- Needs Action
- Needs Reduction
- New
- Open
- Other
- Weight

Load Posting Status & Values

Posting Status Change Date (B.PS.02) *

10/15/2024

Open/Posted/Closed *

Closed

Load Posting Status (B.PS.01)

C

 Save

 Save & Close

 Cancel

Example: Bridge is closed

Bridge

008599



Search

 Export

 Add New

Posting Status Change Date (B.PS.02) ↓↑

Open/Posted/Closed ↑↓

Permanent/Temp/Supported ↑

10/15/2024

Closed



Work Events

AASHTOWare™
Bridge Management

Bridges

Bridge List

Inventory & Appraisal

Inspection

Load Ratings

Work Events

Validate

Enhanced Mapping

Work Events

Bridge *
015757

Work Events for Bridge

Q Search Export Add New

Year Performed ↓↑ 1	Work Performed ↓↑ 2	Description ↑↓
2023	SP6 Coating (New or Replaced)	Replaced entire superstructure steel protective coating (paint). ✎ 🗑️

<< < 1 > >> 15 1 - 1 of 1

Edit Work Event

Year Performed *
2023

Type of Work *
Main Preservation

Component *
Super

Work Performed (B.W.03) *
SP6 Coating (New or Replaced)

Description
Replaced entire superstructure steel protective coating (paint).

Save Cancel Delete

Create Work Event

Year Performed *
2024

Type of Work *
Main Preservation

Work Performed (B.W.03) *
[Blank]

Description
[Blank]

Save Save & Reset Cancel

Create Work Event

Year Performed *
2024

Type of Work *
Main Preservation

Component *
Deck

Work Performed (B.W.03) *
DKS Sealed

Description
Applied healer sealer to entire bridge deck.

Save Save & Reset Cancel

Validate

AASHTOware™
Bridge Management

Validate

Assets

Filter: None | Layout: None | Export | Validate

<input type="checkbox"/>	BridgeID ↑↓	BridgeLocation ↑↓	BridgeNumber ↑↓	CountyCode ↑↓	EvacuationDesignation ↑↓	HighwayAgency
<input type="checkbox"/>	000002	1 MILE EAST HWY 195	000002	Walker	N Not an Emergency evacuation route	Fayette
<input type="checkbox"/>	000003	3 MILES N HWY 5	000003	Walker	N Not an Emergency evacuation route	Fayette
<input type="checkbox"/>	000004	1 MILE N OAKMAN HWY	000004	Walker	N Not an Emergency evacuation route	Fayette
<input type="checkbox"/>	000005	0.5 MI E SR#17	000005	Lamar	N Not an Emergency evacuation route	Fayette
<input type="checkbox"/>	000006	OPELIKA	000006	Lee	N Not an Emergency evacuation route	Montgomery
<input type="checkbox"/>	000007	1.25 MI N ARONEY T9SR5E	000007	Dekalb	N Not an Emergency evacuation route	Guntersville
<input type="checkbox"/>	000008	OLD AL 5 AT WOODSTK	000008	Bibb	N Not an Emergency evacuation route	Tuscaloosa
<input type="checkbox"/>	000009	1.0 MILE EAST SR 31	000009	Morgan	N Not an Emergency evacuation route	Tuscumbia
<input type="checkbox"/>	000010	0.2 MI SW CO RT 1067	000010	Sumter	N Not an Emergency evacuation route	Tuscaloosa
<input type="checkbox"/>	000011	2 MILES S OF BILLINGSLEY	000011	Autauga	N Not an Emergency evacuation route	Montgomery

AASHTOware™
BRIDGE

AASHTOWare™ Bridge Management

Validate

Assets

Filter: None | Layout: None | Export

Validate

BridgeID	BridgeLocation	BridgeNumber	CountyCode	EvacuationDesignation	HighwayAgency
000002	Match All	000002	Walker	N Not an Emergency evacuation route	Fayette
000003	Contains	000003	Walker	N Not an Emergency evacuation route	Fayette
000004	15757	000004	Walker	N Not an Emergency evacuation route	Fayette
000005		000005	Lamar	N Not an Emergency evacuation route	Fayette
000006		000006	Lee	N Not an Emergency evacuation route	Montgomery
000007		000007	Dekalb	N Not an Emergency evacuation route	Guntersville
000008		000008	Bibb	N Not an Emergency evacuation route	Tuscaloosa
000009	1.0 MILE EAST SR 31	000009	Morgan	N Not an Emergency evacuation route	Tuscumbia
000010	0.2 MI SW CO RT 1067	000010	Sumter	N Not an Emergency evacuation route	Tuscaloosa
000011	2 MILES S OF BILLINGSLEY	000011	Autauga	N Not an Emergency evacuation route	Montgomery

BRIDGE MANAGEMENT

ALDOT

AASHTOWare™ Bridge Management

1 Validate

Assets

Filter: None | Layout: None | Export

Validate

BridgeID	BridgeLocation	BridgeNumber	CountyCode	EvacuationDesignation	HighwayAgency
015757	MONTGOMERY-ELMORE CO LINE	015757	Montgomery	N Not an Emergency evacuation route	Montgomery

Records Selected: 1

2 Success 1s X

The Assets were validated successfully!

Validate

Assets: Summary Results

Filter: None | Layout: None | Export

Validate

BridgeID	BridgeLocation	BridgeNumber	CountyCode	EvacuationDesignation	HighwayAgency
015757	MONTGOMERY-ELMORE CO LINE	015757	Montgomery	N Not an Emergency evacuation route	Montgomery

BRIDGE MANAGEMENT

ALDOT

Validate

Assets Summary Results

Export

Bridge ID ↑↓	Highway Agency District (B.L.04) ↑↓	County Code (B.L.02) ↑↓	Critical Errors ↑↓	General Errors ↑↓
015757	Montgomery	Montgomery	7	23

<< < 1 > >> 15 1 - 1 of 1

Validate

Assets Summary Results

Export

Bridge ID ↑↓	Highway Agency District (B.L.04) ↑↓	County Code (B.L.02) ↑↓	Severity ↑↓	Name ↑↓	Description ↑↓
015757	Montgomery	Montgomery	Warning	BL02	'BL02' must be a valid county code.
015757	Montgomery	Montgomery	Warning	BL03	'BL03' must not be empty.
015757	Montgomery	Montgomery	Error	BL08	'BL08' must be a valid option or temp code.
015757	Montgomery	Montgomery	Warning	BRH01	'BRH01' must be a valid roadside hardware code.
015757	Montgomery	Montgomery	Error	BG04	'BG04' must contain 5 digits 1 of which can be in the decimal place.
015757	Montgomery	Montgomery	Error	BG11	'BG11' must not be empty.
015757	Montgomery	Montgomery	Warning	BG12	'BG12' must be a valid option or temp code.
015757	Montgomery	Montgomery	Warning	BG13	'BG13' must not be empty.

Mapping

Enhanced Mapping

Bridges

Show surrounding Bridges

Bridge List

Status

Inventory & Appraisal

All

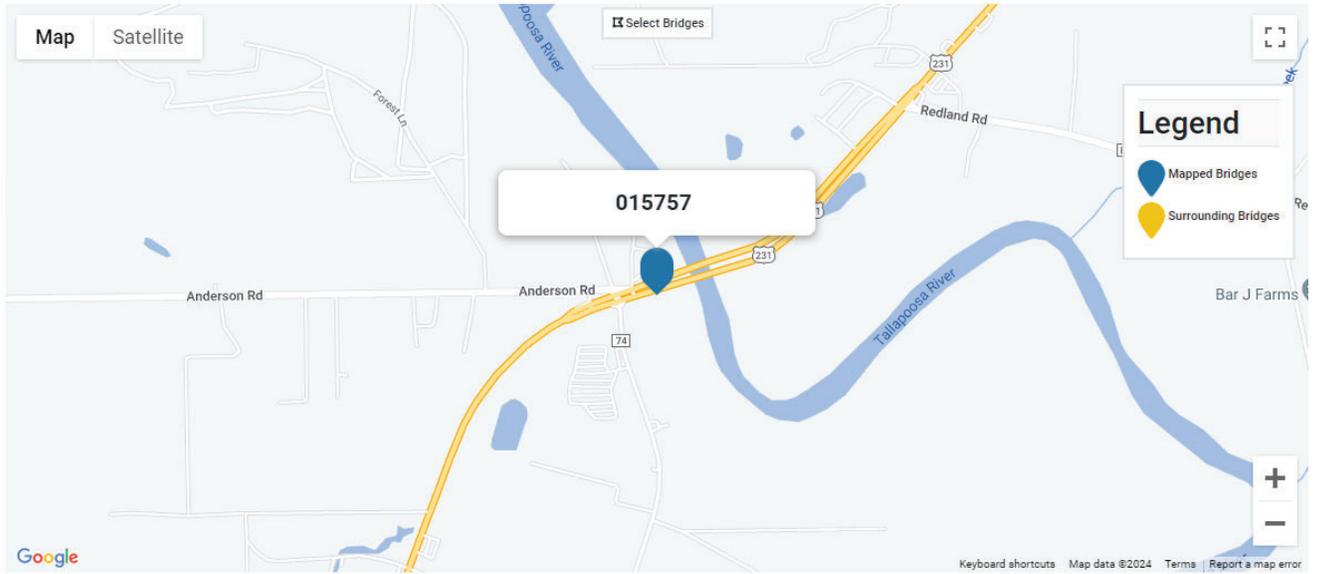
Inspection

Load Ratings

Work Events

Validate

Enhanced Mapping



Enhanced Mapping

Bridges

Show surrounding Bridges

Bridge List

Status

Inventory & Appraisal

All

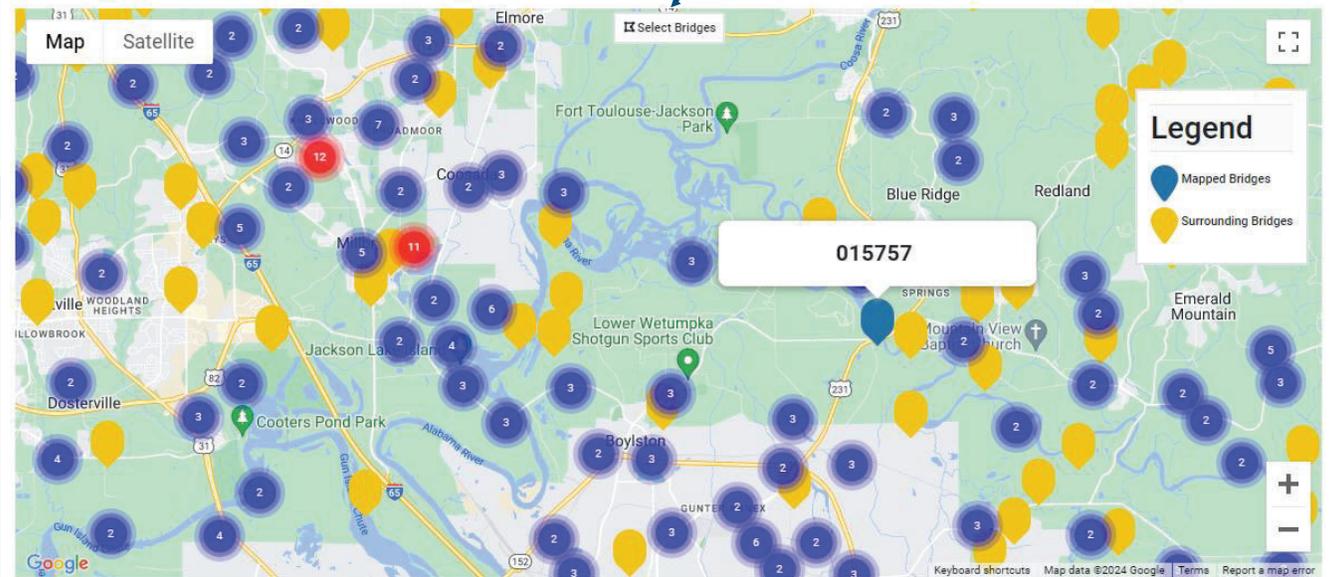
Inspection

Load Ratings

Work Events

Validate

Enhanced Mapping



AASHTOWare™
Bridge Management

Enhanced Mapping

Show surrounding Bridges

Status
All

Select Bridges

Map Satellite

Legend

- Mapped Bridges
- Surrounding Bridges

Anderson Rd

Boosa River

Redland

Tallahassee River

74

231

Google

Keyboard shortcuts Map data ©2024 Terms Report a map error

ALDOT

Creating New Inspections

AASHTOWare™ Bridge Management

Bridges > Inspection > Inspection List

Inspection List

Bridge: 015757 Bridge Name: COL. WILLIAM LAWLEY

List View | Element Condition History

[Add New](#)

Inspection Begin Date (B.IE.02) ↓	Inspection Types	Status	Deck Rating (B.C.01)	Super Rating (B.C.02)	Sub Rating (B.C.03)	Culvert Rating (B.C.04)
07/08/2024	Routine	3 Active				
09/13/2022	Routine	3 Active	6 Satisfactory	6 Satisfactory	6 Satisfactory	N Not Applicable
08/24/2021	Underwater	3 Active	5 Fair	6 Satisfactory	6 Satisfactory	N Not Applicable
09/29/2020	Routine	3 Active	5 Fair	6 Satisfactory	6 Satisfactory	N Not Applicable
08/06/2019	Underwater	3 Active	6 Satisfactory	6 Satisfactory	7 Good	N Not Applicable
09/13/2018	Routine	3 Active	6 Satisfactory	6 Satisfactory	7 Good	N Not Applicable
08/23/2017	Underwater	3 Active	6 Satisfactory	6 Satisfactory	7 Good	N Not Applicable
09/20/2016	Routine	3 Active	6 Satisfactory	6 Satisfactory	7 Good	N Not Applicable
06/23/2015	Underwater	3 Active	7 Good	6 Satisfactory	7 Good	N Not Applicable
10/20/2014	Routine	3 Active	7 Good	6 Satisfactory	7 Good	N Not Applicable
06/01/2013	Underwater	3 Active	7 Good	6 Satisfactory	7 Good	N Not Applicable
10/29/2012	Routine	3 Active	7 Good	6 Satisfactory	7 Good	N Not Applicable

<< < 1 2 > >> 1 - 15 of 24 15 ▾

AASHTOWare™ BRIDGE MANAGEMENT

ALDOT

AASHTOWare™ Bridge Management

Create Bridge Inspection

Bridge: 015757

Bridge Name: COL. WILLIAM LAWLEY

Bridge Nickname:

Inspection Begin Date (B.IE.02) *: 07/08/2024

Entered By *: ALDOT, User

Inspection Types

[Add New](#)

Inspection Type ↑	Inspector
No records to display.	

AASHTOWare™ BRIDGE MANAGEMENT

ALDOT

- Inspection
- Inspection List**
- Inspection Plan
- Condition
- Sketches
- Cross Sections
- Work Candidates
- Schedule
- Equipment
- Procedures

Do this for all inspection types performed during the inspection

Create Inspection Type

Inspection Type *

▼

- Damage
- In-Depth
- Initial
- NSTM
- Routine**
- Scour Monitoring
- Service
- Special
- Underwater

Create Inspection Type

Inspection Type *

▼

Routine

Inspector *

ALDOT, User

Ok
Cancel

- Inspection
- Inspection List**
- Inspection Plan
- Condition
- Sketches
- Cross Sections
- Work Candidates
- Schedule
- Equipment
- Procedures

Create Bridge Inspection

Bridge

015757

Bridge Name

COL. WILLIAM LAWLEY

Bridge Nickname

Inspection Begin Date (B.IE.02) *

09/03/2024

Entered By *

ALDOT, User

Inspection Types

+ Add New

Inspection Type 1	Inspector	
Routine	ALDOT, User	✎ ✖

Parking Location

Latitude

32.454792

Longitude

-86.204638

Inspection

Inspection List

Inspection Plan

Condition

Sketches

Cross Sections

Work Candidates

Schedule

Equipment

Procedures

Bridges > Inspection > Inspection Plan

Inspection Plan

Bridge *
015757

Bridge Name (B.ID.02) ⓘ

Bridge Nickname ⓘ

Inspection *
09/03/2024 (TNAI)

Bridge Facility Carried ⓘ

Bridge Feature Intersected ⓘ

Parking Location

Latitude
32.27172

Longitude
-86.121672

Parking Notes



Inspection Procedures

Inspection

Inspection List

Inspection Plan

Condition

Sketches

Cross Sections

Work Candidates

Schedule

Equipment

Procedures

Inspection Procedures

Search Export

Complete	Type ↕ 1	Name ↕ 2	Inspection Type ↕	Details ↕
<input type="checkbox"/>	Routine Inspection Procedure	Routine	Routine	Inspect entire structure hands-on. Assign general condition ratings per SNBI. Collect/verify quantit ...

Procedure Notes ⓘ

Equipment Used in This Inspection

Routine Equipment

Export Add From Previous Add New

Name ↕	Hours ↕	Bridge-Level Equipment Detail ↕
A04 Rigging		Entered by ALDOT migration from BrM6 ✎ 🗑
A06 Boat		Entered by ALDOT migration from BrM6 ✎ 🗑

Equipment Notes ⓘ

Inspection *
09/13/2022 (DFWS)

Bridges > Inspection > Condition

- Inspection
- Inspection List
- Inspection Plan
- Condition**
- Sketches
- Cross Sections
- Work Candidates
- Schedule
- Equipment
- Procedures

Condition Ratings

Deck Condition Rating (B.C.01) ⓘ 6 Satisfactory	Superstructure Condition Rating (B.C.02) ⓘ 6 Satisfactory
Substructure Condition Rating (B.C.03) ⓘ 6 Satisfactory	Culvert Condition Rating (B.C.04) ⓘ N Not Applicable
Bridge Condition Classification (B.C.12) ⓘ F Fair	Lowest Condition Rating Code (B.C.13) ⓘ 6
Bridge Railing Condition Rating (B.C.05) ⓘ	Bridge Railing Transitions Condition Rating (B.C.06) ⓘ
Bridge Bearings Condition Rating (B.C.07) ⓘ	Bridge Joints Condition Rating (B.C.08) ⓘ
Channel Condition Rating (B.C.09) ⓘ 7 Good	Channel Protection Condition Rating (B.C.10) ⓘ
Scour Condition Rating (B.C.11) ⓘ [MI-T] FIX PARAM VALUES	NSTM Inspection Condition (B.C.14) ⓘ
Underwater Inspection Condition (B.C.15) ⓘ	



Inspection *
09/13/2022 (DFWS)

Element Conditions

Quantity/Percentage Structure Unit Environment
 Quantity All All

Q Search

Expand All Add New

- Inspection
- Inspection List
- Inspection Plan
- Condition**
- Sketches
- Cross Sections
- Work Candidates
- Schedule
- Equipment
- Procedures

Inspected	ID	Name	Structure Unit	Type	Environment	Total Quantity	Units	CS 1 Qty	CS 2 Qty	CS 3 Qty	CS 4 Qty	
> <input type="checkbox"/>	12	Re Concrete Deck	1_1	Element	Benign	46272	sq.ft	6383	39339	550	0	
> <input type="checkbox"/>	109	Pre Opn Conc Girder/Beam	1_1	Element	Benign	6456	ft	6403	23	11	19	
> <input type="checkbox"/>	205	Re Conc Column	1_1	Element	Benign	6	each	0	5	1	0	
> <input type="checkbox"/>	215	Re Conc Abutment	1_1	Element	Benign	110	ft	104	4	2	0	
> <input type="checkbox"/>	225	Steel Pile	1_1	Element	Benign	54	each	0	54	0	0	
> <input type="checkbox"/>	234	Re Conc Pier Cap	1_1	Element	Benign	587	ft	469	39	79	0	
> <input type="checkbox"/>	304	Open Expansion Joint	1_1	Element	Benign	387	ft	342	0	45	0	
<input type="checkbox"/>	310	Elastomeric Bearing	1_1	Element	Benign	96	each	96	0	0	0	
> <input type="checkbox"/>	321	Re Conc Approach Slab	1_1	Element	Benign	2408	sq.ft	2408	0	0	0	
> <input type="checkbox"/>	331	Re Conc Bridge Railing	1_1	Element	Benign	2152	ft	1827	195	130	0	

Notes

Narrative of Inspection Elements (B.IE.11) ⓘ

Agency Inspection Notes ⓘ



Inspection *
09/13/2022 (DFWS)

Must indicate which elements were inspected to edit

- Inspection
- Inspection List
- Inspection Plan
- Condition**
- Sketches
- Cross Sections
- Work Candidates
- Schedule
- Equipment
- Procedures

Inspected	ID	Name	Structure Unit	Type	Environment	Total Quantity	Units	CS 1 Qty	CS 2 Qty	CS 3 Qty	CS 4 Qty	
<input checked="" type="checkbox"/>	12	Re Concrete Deck	1_1	Element	Benign	46272	sq.ft	6383	39339	550	0	
	1080	Delamination/Spall/Patched Area	1_1	Defect	Benign	8	sq.ft	0	8	0	0	
	1130	Cracking (RC and Other)	1_1	Defect	Benign	39881	sq.ft	0	39331	550	0	
<input type="checkbox"/>	109	Pre Opn Conc Girder/Beam	1_1	Element	Benign	6456	ft	6403	23	11	19	
	1080	Delamination/Spall/Patched Area	1_1	Defect	Benign	20	ft	0	7	3	10	
	1100	Exposed Prestressing	1_1	Defect	Benign	10	ft	0	0	2	8	
	1110	Cracking (PSC)	1_1	Defect	Benign	23	ft	0	16	6	1	
<input checked="" type="checkbox"/>	205	Re Conc Column	1_1	Element	Benign	6	each	0	5	1	0	

Inspected	ID	Name
<input checked="" type="checkbox"/>	12	Re Concrete Deck
	1080	Delamination/Spall/Patched Area
	1130	Cracking (RC and Other)
<input type="checkbox"/>	109	Pre Opn Conc Girder/Beam
	1080	Delamination/Spall/Patched Area

CS 1 Qty	CS 2 Qty	CS 3 Qty	CS 4 Qty	
6383	39339	550	0	
0	8	0	0	
0	39331	550	0	
6403	23	11	19	
0	7	3	10	

Reports

Reports

Reports that run for specified user-selected BINs

1. Use bridge list on the **Assets** tab to select the BINs
2. Use the **Reports** tab to generate the report

Reports that run based on pre-defined parameters (Maint Resp, County, Bridge Status, etc.)

1. Skip to the **Reports** tab to generate the report.

<input type="checkbox"/>	BridgeID ↑	Highway Agency District (B.L.04) ↑↓	County Code (B.L.02) ↑↓	Owner (B.CL.01) ↑↓	Maintenance Responsibility (B.CL.02) ↑↓	Year Built (B.W.)
<input type="checkbox"/>	000002	Fayette	Walker	L01 County highway agency	L01 County highway agency	1898
<input type="checkbox"/>	000003	Fayette	Walker	L01 County highway agency	L01 County highway agency	1900
<input type="checkbox"/>	000004	Fayette	Walker	L01 County highway agency	L01 County highway agency	1900
<input type="checkbox"/>	000005	Fayette	Lamar	L03 City or municipal highway agency	L03 City or municipal highway agency	1900
<input type="checkbox"/>	000006	Montgomery	Lee	L03 City or municipal highway agency	L03 City or municipal highway agency	1940
<input type="checkbox"/>	000007	Guntersville	Dekalb	L01 County highway agency	L01 County highway agency	1993
<input type="checkbox"/>	000008	Tuscaloosa	Bibb	L01 County highway agency	L01 County highway agency	1927
<input type="checkbox"/>	000009	Tuscumbia	Morgan	L01 County highway agency	L01 County highway agency	1900
<input type="checkbox"/>	000010	Tuscaloosa	Sumter	L01 County highway agency	L01 County highway agency	1900
<input type="checkbox"/>	000011	Montgomery	Autauga	L01 County highway agency	L01 County highway agency	1900

AASHTOWare™ Bridge Management

Generate

Asset Type: Bridge

Assets Reports

Filter: None Layout: Bridge List

BridgeID	Highway Agency District (B.L.04)	County Code (B.L.02)
<input checked="" type="checkbox"/> 009324	Match Any	Montgomery
<input checked="" type="checkbox"/> 015757	Contains	Montgomery
<input type="checkbox"/> 019324	015757	Calhoun

Records Selected: 2

Apply Clear

Example selecting BINs 009324 and 015757

When selecting multiple BINs make sure **Match Any** is selected in the filter

BRIDGE **ALDOT**

AASHTOWare™ Bridge Management

Generate

Asset Type: Bridge

Assets Reports

Filter: None Layout: Bridge List

BridgeID	Highway Agency District (B.L.04)
<input checked="" type="checkbox"/> 009324	Montgomery
<input checked="" type="checkbox"/> 015757	Montgomery

Records Selected: 2

Generate Report

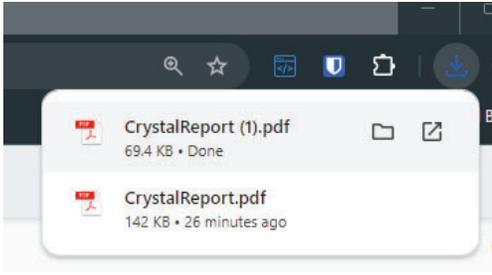
Report Name: AL Insp v0.2

File Format: PDF

Arguments: BI.6 All BI.4

Generate Cancel

BRIDGE **ALDOT**



The generated PDF will appear in your browser's downloads, or your downloads folder

Example

Example

- Creating Superstructure Sets
- Creating Substructure Sets

AASHTOWare™
Bridge Management

Bridges > Inventory & Appraisal > Design

Inventory & Appraisal

Identification

Design

Features

Superstructure Sets

Substructure Sets

Structure Units

Order #	Span Configuration Designation (B.SP.01)	Name	Number of Spans (B.SP.02)	Span Material (B.SP.04)	Span Continuity (B.SP.05)	Span Type (B.SP.06)	Deck Material and Type (B.SP.09)	Wearing Surface (B.SP.10)	Deck Protective System (B.SF)
No records to display.									

Order #	Substructure Configuration Designation (B.SB.01)	Name	Number of Substructure Units (B.SB.02)	Substructure Material (B.SB.03)	Substructure Type (B.SB.04)	Foundation Type (B.SB.06)
No records to display.						

Order #	Name	Unit Number	Default	Number of Elements	Superstructure Set Name	Substructure Set Name
1	1_1	1	★	14		

Superstructure Sets

Order #	Span Configuration Designation (B.SB.01)	Name	Number of Spans (B.SP.02)	Span Material (B.SP.04)	Span Continuity (B.SP.05)	Span Type (B.SP.06)	Deck Material and Type (B.SP.09)	Wearing Surface (B.SP.10)	Deck Protective System (B.SF
No records to display.									

Add New

Create Superstructure Set

Name *

Description Code *

Number of Spans (B.SP.02) *

Number of Beam Lines (B.SP.03) *

Span Material (B.SP.04) *

Span Continuity (B.SP.05) *

Span Type (B.SP.06) *

Span Protective System (B.SP.07) *

Deck Interaction (B.SP.08)

Deck Material and Type (B.SP.09) *

Wearing Surface (B.SP.10)

Deck Protective System (B.SP.11)

Deck Reinforcing Protective System (B.SP.12)

Deck Stay-in-Place Forms (B.SP.13)

Save Cancel

Item	Data Item	Value (1)
B.SP.01	Span Configuration Designation	M01
B.SP.02	Number of Spans	3
B.SP.03	Number of Beam Lines	7
B.SP.04	Span Material	C02
B.SP.05	Span Continuity	1
B.SP.06	Span Type	G07
B.SP.07	Span Protective System	0
B.SP.08	Deck Interaction	IM
B.SP.09	Deck Material & Type	C02
B.SP.10	Wearing Surface	B01
B.SP.11	Deck Protective System	0
B.SP.12	Deck Reinforcing Protective System	0
B.SP.13	Deck Stay-in-Place Forms	0

Create Superstructure Set

Name *

Description Code *

- M Main
- A Approach
- C Culvert
- V Culvert extension
- W Widening

Inventory & Appraisal

Identification

Design

Features

Create Superstructure Set

Name *
Main Spans

Description Code *
M Main

Span Configuration Designation (B.SB.01)
M01

Number of Spans (B.SP.02) *
3

Number of Beam Lines (B.SP.03) *
7

Span Material (B.SP.04) *
C02 Reinforced concrete - precast

Span Continuity (B.SP.05) *
1 Simple or single span

Span Type (B.SP.06) *
G07 Girder/beam - channel adjacent

Span Protective System (B.SP.07) *
0 None

Deck Interaction (B.SP.08)
IM Integral or monolithic

Deck Material and Type (B.SP.09) *
C02 Reinforced concrete - precast

Wearing Surface (B.SP.10)
B01 Bituminous (asphalt)

Deck Protective System (B.SP.11)
0 None

Deck Reinforcing Protective System (B.SP.12)
0 None

Deck Stay-in-Place Forms (B.SP.13)
0 None

Save Cancel



Inventory & Appraisal

Identification

Design

Features

Superstructure Sets

Export

Order #	Span Configuration Designation (B.SB.01)	Name	Number of Spans (B.SP.02)	Span Material (B.SP.04)	Span Continuity (B.SP.05)
1	M01	Main Spans	3	C02 Reinforced concrete - precast	1 Simple or single span

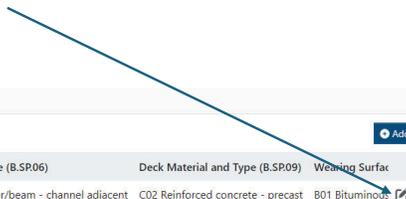
If edits are needed after entry click the pencil icon

Superstructure Sets

Export

Add New

Order #	Span Configuration Designation (B.SB.01)	Name	Number of Spans (B.SP.02)	Span Material (B.SP.04)	Span Continuity (B.SP.05)	Span Type (B.SP.06)	Deck Material and Type (B.SP.09)	Wearing Surface
1	M01	Main Spans	3	C02 Reinforced concrete - precast	1 Simple or single span	G07 Girder/beam - channel adjacent	C02 Reinforced concrete - precast	B01 Bituminous



Inventory & Appraisal

Identification

Design

Features

Substructure Sets

Order #	Substructure Configuration Designation (B.SB.01)	Name	Number of Substructure Units (B.SB.02)	Substructure Material (B.SB.03)	Substructure Type (B.SB.04)	Foundation Type (B.SB.06)
No records to display.						

Add New

Item	Data Item	Value (1)	Value (2)
B.SB.01	Substructure Configuration	A01	P01
B.SB.02	# of Substructure Units	2	2
B.SB.03	Substructure Material	C02	C02
B.SB.04	Substructure Type	A02	B03
B.SB.05	Sub. Protective System	0	0
B.SB.06	Foundation Type	P01	P01
B.SB.07	Foundation Protective System	E01	C01

Create Substructure Set

Name *

Description Code *

Number of Substructure Units (B.SB.02) *

Substructure Material (B.SB.03) *

Substructure Type (B.SB.04) *

Substructure Protective System (B.SB.05)

Foundation Type (B.SB.06) *

Foundation Protective System (B.SB.07) *

Save Cancel

Item	Data Item	Value (1)	Value (2)
B.SB.01	Substructure Configuration	A01	P01
B.SB.02	# of Substructure Units	2	2
B.SB.03	Substructure Material	C02	C02
B.SB.04	Substructure Type	A02	B03
B.SB.05	Sub. Protective System	0	0
B.SB.06	Foundation Type	P01	P01
B.SB.07	Foundation Protective System	E01	C01

Create Substructure Set

Name *

Abutments

Description Code *

A Abutment

P Pier or Bent

W Widening

Create Substructure Set

Name *

Abutments

Description Code *

A Abutment

Substructure Configuration Designation (B.SB.01)

A01

Number of Substructure Units (B.SB.02) *

2

Substructure Material (B.SB.03) *

C02 Reinforced concrete - precast

Substructure Type (B.SB.04) *

A02 Abutment - stub

Substructure Protective System (B.SB.05)

0 None

Foundation Type (B.SB.06) *

P01 Pile - steel H-shape

Foundation Protective System (B.SB.07) *

E01 Encasement - concrete

Save Cancel

Item	Data Item	Value (1)	Value (2)
B.SB.01	Substructure Configuration	A01	P01
B.SB.02	# of Substructure Units	2	2
B.SB.03	Substructure Material	C02	C02
B.SB.04	Substructure Type	A02	B03
B.SB.05	Sub. Protective System	0	0
B.SB.06	Foundation Type	P01	P01
B.SB.07	Foundation Protective System	E01	C01

Create Substructure Set

Name *

Description Code *

- A Abutment
- P Pier or Bent
- W Widening

Create Substructure Set

Name *

Description Code *

Substructure Configuration Designation (B.SB.01)
P01

Number of Substructure Units (B.SB.02) *

Substructure Material (B.SB.03) *

Substructure Type (B.SB.04) *

Substructure Protective System (B.SB.05)

Foundation Type (B.SB.06) *

Foundation Protective System (B.SB.07) *

- Inventory & Appraisal
- Identification
- Design
- Features

Substructure Sets

Order #	Substructure Configuration Designation (B.SB.01)	Name	Number of Substructure Units (B.SB.02)	Substructure Material (B.SB.03)	Substructure Type (B.SB.04)
1	A01	Abutments	2	C02 Reinforced concrete - precast	A02 Abutment - stub
2	P01	Intermediate Pile Bents	2	C02 Reinforced concrete - precast	B03 Bent - pile

If edits are needed after entry click the pencil icon

Substructure Sets

Order #	Substructure Configuration Designation (B.SB.01)	Name	Number of Substructure Units (B.SB.02)	Substructure Material (B.SB.03)	Substructure Type (B.SB.04)	Foundation Type (B.SB.06)	
1	A01	Abutments	2	C02 Reinforced concrete - precast	A02 Abutment - stub	P01 Pile - steel H-shape	
2	P01	Intermediate Pile Bents	2	C02 Reinforced concrete - precast	B03 Bent - pile	P01 Pile - steel H-shape	

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Alabama Department of Transportation - Maintenance Bureau
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