ITEMS INCLUDED IN SAFETY & UTILITY (RC 03)

Type of Guide Rail
Guide Rail Transition
Guide Rail Terminus
Curb Transition
Appraisal of Approach Roadway Alignment
Type of Median Barrier
Type of Railing (Left & Right-Bridge)
Gore Area
Type of Attenuator
Utilities
Light Standards On
Light Fixtures On/Under
ITEM: Type of Guide Rail
FHWA 36C Translated

PROCEDURE:
Record the least desirable Type of Approach Guide Rail immediately adjacent to each end of the bridge. It may be physically attached to the bridge and will generally terminate within 300m of the bridge. If the bridge carries two-way traffic, evaluate the guide rail at each corner of the bridge. For example, if one of the corners has no guide rail, record this Item with “NN - No Approach Guide Rail.”

If the bridge carries one-way traffic, record only the guide rail type at the end where traffic is coming onto the bridge. If vertical posts are used on the approaches with no horizontal rails or cable connecting them, record this Item with “NN - No Approach Guide Rail”, since this does not constitute a guide rail system. If a guide rail system has been damaged or destroyed, it still should be recorded, based on the type of system that was originally in place.

CODING:
01 - Bridge does not carry highway traffic.
02 - Box Beam, Weak Steel Post (W3x5.7 section or equivalent).
03 - Safety Shape (Jersey or GM Shape).
04 - Three Beam, Weak Post (Three beam is a corrugated shape similar to a W-Section, except that it has 3 corrugations and it is approximately 500mm wide).
05 - Three Beam, Strong Post.
06 - W-Section, Weak Steel Post (Post equal to a W3x5.7 section or equivalent).
07 - W-Section, Strong Steel Post (Post larger than a W3x5.7 section)
08 - W-Section, with Concrete Posts.
09 - W-Section, with Wood Posts.
10 - Cable with Weak Steel Post (W3x5.7 section or equivalent).
11 - Cable with Strong Steel Post.
12 - Cable with Concrete Posts.
13 - Cable with Wood Posts.
14 - Steel Pipe.
15 - Concrete Wall with Vertical Face, 27" and higher.
16 - Masonry Wall, 700mm and higher.
17 - Masonry Wall, lower than 700mm.
18 - Concrete Wall with Vertical Face, lower than 700mm.
19 - W-Section, Blocked-out, Strong Steel Post (Post W6x8.5 or W6x9).
97 - Other (railing meets current NYSDOT, NCHRP, or applicable Federal standards).
98 - Other (does not meet current standards).
00 - No Approach Guide Rail

ITEM: Guide Rail Transition
FHWA 36B Translated

PROCEDURE:
Record the Type of Guide Rail Transition used to connect the approach guide rail to the bridge railing. For bridges carrying two-way traffic, evaluate each corner of the bridge and record the least desirable
transition. For bridges carrying one-way traffic, record the least desirable Transition, considering only the end where traffic is coming onto the bridge. Unacceptable Transitions have one or more of the following details:

1. Bridge railing not continuous with the guide rail.
2. An unprotected pylon between the end of the bridge and the guide rail.
3. Cable guide rail. There is no acceptable cable transition.
4. Unstiffened W-Section (no backup channel) connected to, or carried continuously across, the face of the bridge railing.

CODING:

01 - Single box beam guide rail connected to the bridge railing. No pylon is present.
03 - Single box beam guide rail connected to a concrete parapet. There is no pylon.
05 - W-Section guide rail connected to, or carried continuously across, the bridge railing. It is stiffened longitudinally with a channel in the area of the transition. There is no pylon.
06 - W-Section guide rail connected to, or carried continuously across, the bridge railing. It is stiffened longitudinally with a channel in the area of the transition with a weak post spacing. There is no pylon.
07 - Guide Rail (box beam, W-Section not stiffened with a channel, channel wide flange) carried continuously across the bridge. There is no pylon.
09 - Guide Rail is connected to the bridge railing posts. It is not carried continuously across the bridge. There is no pylon.
11 - Pylon is present between the end of the bridge railing and the guide rail. The guide rail has been extended and runs continuously in front of the pylon and bridge railing.
12 - Continuous, Vertical-Faced Concrete Parapet (with Railing Code 16) is present along the entire length of the bridge. The transition guide rail (upper tube or lower and upper tube) has been extended so that it runs continuously between end transitions and is bolted to the front vertical face of the parapet. The one or two continuous tubes serve as rub rails.
13 - Pylon is present between the end of the bridge railing and guide rail. Either the guide rail or the bridge railing is discontinuous at the pylon.
14 - There is no continuity between the guide rail and bridge railing. There is no pylon.
15 - Double box beam guide rail connected to a concrete barrier and properly stiffened.
16 - Thrie beam bridge railing to W-Section. Strong posts (with block-outs) between the bridge rail and the end of transition section.
17 - Four-rail steel bridge railing to box beam guide rail.
18 - Two-rail steel bridge railing to box beam guide rail.
19 - Box beam bridge railing to box beam guide rail on trussed structures.
20 - Two-rail steel bridge railing to W-Section guide rail.
21 - Four-rail steel bridge railing to W-Section guide rail.
22 - W-Section bridge railing upgrade to W-Section guide rail with block-outs and a continuous channel stiffener.
23 - Concrete vertical-facade parapet to box beam guide rail.
24 - Blocked-out box beam upgrade on steel bridge rail to box beam guide rail.
97 - Other type guide rail transition (meets current NYSDOT, NCHRP, or applicable Federal standards).
98 - Other (does not meet current standards).
NN - Bridge does not carry highway traffic.
00 - No bridge approach guide rail.
ITEM: Guide Rail Terminus
FHWA 36D Translated

PROCEDURE:
Record the least desirable type of approach Guide Rail Terminus. (The terminus is the section of guide rail immediately adjacent to the ends of the bridge). For two-way bridges, the approach termini at all four corners of the bridge must be evaluated. For one-way bridges, only the end where traffic is coming onto the bridge is to be evaluated.

CODING:
01 - Approach guide rail is made continuous with the guide rail along the highway.
02 - The highway guide rail is merged with the approach guide rail by “ducking” it under the approach guide rail.
03 - Approach guide rail is transitioned horizontally and sloped to the ground as shown in Standard Sheet 606-3R4.
04 - Approach guide rail has a sloped end, but is not transitioned horizontally.
05 - Approach guide rail is horizontally transitioned and terminates at a vertical post (does not slope to the ground).
06 - Approach guide rail is not horizontally transitioned and terminates at a vertical post (does not slope to the ground).
97 - Other (meets current NYSDOT, NCHRP, or applicable Federal standards.).
98 - Other (Does not meet current standards).
NN - Bridge does not carry highway traffic.
00 - No approach guide rail.

ITEM: Curb Transition
NYSDoT

PROCEDURE:
Record the least desirable type of Curb Transition on the bridge. For two-way bridges, all four corners must be evaluated to determine the least desirable Curb Transition. For one-way bridges, only the end where traffic is coming onto the bridge is to be evaluated to determine the least desirable Transition. If curbs are carried on the approaches, they should be carried across the bridge. The distance from the curb to the edge of the travel lane, including auxiliary lanes, should be the same on the approaches as it is on the bridge. This is the best practice when approach curbs are involved. An undesirable condition will exist if the difference in curb-to-curb width is not properly transitioned between the approaches and the bridge. A proper Curb Transition is any horizontal slope equal to or less than 1 transverse to 8 longitudinal.

CODING:
01 - The curb is transitioned under the approach guide rail in an acceptable manner and the distance from the face of the bridge rail to the face of the curb is less than or equal to 300mm.
02 - The curb height is 80mm or less (in the transition area) and is transitioned under the approach guide rail in an acceptable manner.
03 - The curb height is greater than 80mm, but its face is more than 300mm from the face of the rail or guide rail. The curb is transitioned under the guide rail in a proper manner.
04 - Curb and/or sidewalk are sloped into the ground.
05 - Curb is carried on the approaches and continued across the bridge. The distance between the edge
of the travel lane and the curb is the same on both sides of the bridge and the approaches.
06 - Curb is carried on the approaches and continued across the bridge. The curb-to-curb distance on the approaches is different than it is on the bridge, but the transition, as described in the procedure, is properly made.
07 - Curb is carried on the approaches and continued across the bridge. The curb-to-curb distance on the approaches is different than it is on the bridge and the transition, as described in the procedure, is improperly made.
08 - Curb is carried on the approaches, but the bridge has no curb.
09 - Curb and/or sidewalk end in a vertical face (perpendicular to traffic) without a proper transition. Distance from face of rail to face of curb is equal to, or less than 300mm.
10 - Curb and/or sidewalk end in a vertical face (perpendicular to traffic) without a proper transition. Distance from face of rail to face of curb is greater than 300mm.
97 - Other (meets current NYSDOT, NCHRP, or applicable Federal standards.).
98 - Other (Does not meet current standards).
NN - Bridge does not carry highway traffic.
00 - No curb on the bridge OR the approaches.

ITEM: Appraisal of Approach Roadway Alignment
FHWA 72

PROCEDURE:
Record the adequacy of the Approach Roadway Alignment. This rating provides an indication of the affect that the horizontal and vertical alignment of the approach highway is having on vehicle operating speed. Speed reductions which are caused by structure width, rather than alignment, shall not be included.

CODING:
Enter a rating from 1 to 9 using the following values as a guide:

8 - No reduction of vehicle operating speed required.
6 - Minor reduction of vehicle operating speed required.
3 - Substantial reduction of vehicle operating speed required.
N - Bridge does not carry a highway.

ITEM: Type of Median Barrier
NYSDoT

PROCEDURE:
Record the type of median barrier used on the bridge.

CODING:
01 - No barrier.
02 - Steel, design conforms to current AASHTO specifications.
03 - Steel, design does not conform to current AASHTO Specifications.
04 - Aluminum, design conforms to current AASHTO specifications.
05 - Aluminum, design does not conform to current AASHTO specifications.
06 - Cable
07 - Concrete
08 - Chain link fence
09 - Steel, Balustrade
10 - Concrete, Balustrade
11 - Pipe
12 - Timber
13 - Double W-Section, Post S3 x 5.7
14 - Double W-Section w/Block-Out, Post W6 x 8.5 or W6 x 9
00 - Other

ITEM: Type of Railing (Left and Right)
FHWA 36A Translated

PROCEDURE:
Record the type of railing used on each side of the bridge.

This Item has two fields. These are Type of Railing Left and Type of Railing Right to record the predominant type of railing on each side of the bridge. The left and right sides are determined by looking in the Direction of Orientation, as described previously. If the type of railing cannot be found among the railing types shown, use one of the types indicated by Codes "02","05", "07","12", "17", or "00".

Two types of railing are sometimes required on the same side of a bridge. An example would be when a railing is required for both pedestrians and vehicular traffic. When this situation occurs, the railing type recorded should always be for the railing which restricts vehicular traffic.

Culverts which have the approach guide rail carried across the structure continuously should be coded 06; the railing type was already described in the “Type of guide rail” item. Continuity clips and continuous cable backup of bridge rails are to be ignored when determining the railing type.

CODING:
An asterisk following a Code indicates that the type of railing meets current NYSDOT, NCHRP, or applicable Federal standards.

01 - No railing.
02* - Generic steel in compliance with current standards but not describable under specific items.
03 - Generic steel, design does not conform to current standards.
04* - Aluminum (As of 2006, there are no aluminum systems that meet standards, but this code has been retained in the event that an acceptable system is introduced at a future date).
05 - Aluminum, not conforming to current standards. Includes former items 30, 31, 32, and 33.
06 - Highway guide rail continued over the structure. Includes former items 06, 13, 14, 17, 18 and 19.
07 - Concrete including, but not limited to, parapets less than 700mm high without bridge rail, parapets less than 700mm high with an attached discontinuous railing, or with any aluminum railing system includes former item 34.
08 - Chain link fence
09 - Steel balustrade
10* - Concrete balustrade, including Texas Aesthetic Barrier
11 - Pipe
12* - Timber.
15* - Concrete barrier – safety or Jersey type. Do not code single-slope barrier under this item.
16* - Vertical faced concrete parapets 700mm and higher without bridge rail
17 - Timber, not conforming to current standards.
20 - Four-Rail Steel, discontinuous rails.
21 - Three-Rail Steel, discontinuous rails.
22 - Steel with cast poles and discontinuous rails. *Includes former items 23, 24, 26, and 27.*
25 - Two-Rail "picket fence" railing with vertical pipes at 6" centers between the rails and the discontinuous rails.
29 - Four-Rail Steel with open web posts and continuous Box Section rails. Top rail is not strong enough to withstand vehicular impacts.
35* - Four-Rail Steel with open web posts and continuous box section rails.
36* - Two-Rail Steel with open web posts and continuous box Section rails. *Includes former items 28 and 36.*
37* - One-Rail Steel with open web posts and continuous rail tube on concrete parapet.
38* - Two-Rail Steel with open web posts and continuous box Section rails for curbless bridges.
39* - Two-Rail Steel with wide-flange section posts.
40* - Three-Rail Steel with wide-flange section posts.
41* - Four-Rail Steel with wide-flange section posts.
42* - Five-Rail Steel for bicycles with wide-flange section posts.
43* - Thrie Beam Rail for low-volume (non-NHS) bridges.
44* - Double Box Beam Rail for low-volume (non-NHS) bridges.
45 - Obsolete railing upgraded by attaching a continuous box section to the face of railing. *Includes former items 45 through 52.*
53 - Obsolete continuous Box Section mounted on the stiffeners of a thru girder. *Includes former items 53, 54, and 55.*
56 - Obsolete continuous Box Section attached directly to the main members of a truss. *Includes former items 56 and 57.*
58 - Obsolete railing upgraded with a continuous W-Section attached to the face of the railing. *Includes former items 58 through 67.*
68* - Obsolete railing upgraded by attaching a continuous W-Section and a continuous channel, with a block-out, to the face of the railing. *Includes former items 68 through 72.*
73* - Obsolete railing upgraded by attaching a continuous Thrie Beam Section to the face of the railing. *Includes former items 73 through 79.*
80* - Continuous Thrie Beam Section mounted on steel posts which are attached to the top flange of a thru girder.
81* - Continuous Thrie Beam Section mounted on steel posts which are attached to the sidewalk. This is used in conjunction with a thru girder superstructure.
82* - Four-Rail (Code "20") railing, upgraded by attaching a continuous Box Section to the face of the railing with a block-out. *Includes former items 82 through 88.*
89* - Continuous Box Section mounted on A steel post with a block-out.
90* - Continuous Box Section mounted on The stiffeners of a thru girder.
91* - Continuous Box Section mounted on steel posts which are attached to the top flange of a thru girder.
92* - Double Continuous Box Sections mounted on steel posts WHICH ARE mounted on the traffic side of the main members of a truss.
93* - Double Continuous Box Sections attached with block-outs to the main members of a truss.
95* - Concrete Barrier – single slope section.
96* - Concrete Barrier – F shaped.
97* - Continuous steel bicycle railing on type 15 concrete barrier.
00 - Other
ITEM: Gore Area

PROCEDURE:
Record whether Gore Areas are present on the bridge and whether they are the type that require impact attenuators. The Gore Area is to be recorded with the main bridge inventory, not with the ramp inventory.

CODING:
1 - No Gore Areas are present on bridge.
2 - Gore Area/Areas that do not normally require the protection of an impact attenuator (most “ON” ramps).
3 - Gore Area/Areas that are present that require the protection of an impact attenuator (most “OFF” ramps).
4 - Gore Areas are present and some of them require the protection of an impact attenuator.

ITEM: Type of Attenuator

PROCEDURE:
Record the type of Impact Attenuators on the bridge.

CODING:
1 - No Impact Attenuators on the bridge.
2 - Connected steel drums (empty).
3 - Configuration of water-filled bags.
4 - Connected plastic barrels filled to various levels with sand.
0 - Others

ITEM: Utilities

PROCEDURE:
Record up to eight Utilities that are carried by the bridge. If there are no Utilities carried by the bridge, enter 01 - None, left justified with the rest of the field left blank. If Utilities are supported by the bridge, list each of them without a space or comma, entering 01 - None for the last entry; e.g., “020901. When removing or adding a new Utility, all Utilities must be re-entered.

CODING:

<table>
<thead>
<tr>
<th>Visible Utilities</th>
<th>09 - Steam Line</th>
</tr>
</thead>
<tbody>
<tr>
<td>01 - None</td>
<td>10 - Cable TV</td>
</tr>
<tr>
<td>02 - Gas Line</td>
<td>11 - Sewer</td>
</tr>
<tr>
<td>03 - Water Line</td>
<td>12 - Chemical Line</td>
</tr>
<tr>
<td>04 - Electric</td>
<td>13 - Fuel Line</td>
</tr>
<tr>
<td>05 - Telephone</td>
<td>14 - Unknown Duct</td>
</tr>
<tr>
<td>06 - Fire Alarm</td>
<td>15 - Fiber Optic Cable</td>
</tr>
<tr>
<td>07 - Police Call</td>
<td>00 - Other</td>
</tr>
<tr>
<td>08 - Navigation</td>
<td></td>
</tr>
</tbody>
</table>
Not Visible or Encased Utilities

22 - Gas Line
23 - Water Line
24 - Electric
25 - Telephone
26 - Fire Alarm
27 - Police Call
28 - Navigation
29 - Steam Line
30 - Cable TV
31 - Sewer
32 - Chemical Line
33 - Fuel Line
34 - Unknown Duct
35 - Fiber Optic (encased)
36 - Other

ITEM: Light Standards On
NYSDoT

PROCEDURE:
Record the type of Light Standard used on the bridge.

CODING:
1 - None
2 - Steel, Painted
3 - Steel, Stainless
4 - Steel, Galvanized
5 - Aluminum
6 - Concrete
7 - Wood
8 - Rail Lighting
0 - Other

ITEM: Light Fixtures (On/Under)
NYSDoT

PROCEDURE:
Record the type of Light Fixture on the bridge and the type of lighting under the bridge.

CODING:
1 - None
2 - Fluorescent
3 - Mercury Vapor
4 - Incandescent
5 - Sodium Vapor
0 - Other