

# Precast Concrete Arch or Rigid Frame Bridge Submission Checklist

## **DIRECTIONS FOR COMPLETING THE CHECKLIST**

Contract No. \_\_\_\_\_ F.A.P. No. \_\_\_\_\_

Contract Title: \_\_\_\_\_

Bridge No. \_\_\_\_\_

- This checklist indicates, in general, what content should be included on each plan sheet at each submission. Managers and designers should use engineering judgment to determine any additional information to be included or unnecessary information to be omitted.
- Items may need to be added for some projects and may not be required for others. If the Project Manager determines an item is not required, place an "N/A" in the white box next to the item.
- The gray boxes indicate that information *IS NOT* required at that plan submission. 
- The white boxes indicate that information *IS* required and must be included in that plan submission. 
- For each submission, initial in the white boxes under the current submission, to indicate the required information is included in the plan submission.
- DelDOT's Project Manager shall review this checklist with the Designer/Consultant at each submission to verify that all necessary information has been included in the plans and shall sign below for each submission to attest to the completeness of the plan submission.
- A TS&L Submission is only required for certain structures. Please refer to DelDOT's *Bridge Design Manual* for clarification.

### **TS&L Plans:**

Designer: \_\_\_\_\_ Project Manager: \_\_\_\_\_

### **Preliminary Plans:**

Designer: \_\_\_\_\_ Project Manager: \_\_\_\_\_

### **Semi-Final Construction Plans:**

Designer: \_\_\_\_\_ Project Manager: \_\_\_\_\_

### **Final Construction Plans:**

Designer: \_\_\_\_\_ Project Manager: \_\_\_\_\_

## Precast Concrete Arch or Rigid Frame Bridge Submission Checklist

<b>PLAN, SECTION, &amp; ELEVATION</b>				
	TS&L	Prelim	Semi	Final
<b>General</b>				
Sheet Title ( <i>Bridge Plan, Section, &amp; Elevation</i> )				
Detail Title ( <i>Plan, Typical Bridge Section, Elevation, etc.</i> )				
Scale Bar or Written Scale ( <i>1/16" = 1'-0", 1/2" = 1'-0", etc.</i> )				
<b>Plan</b>				
North Arrow				
Lane Direction Arrows				
Flow Arrow or Tidal Arrow				
Construction Baseline with Stationing ( <i>labeled left to right or bottom to top</i> )				
Secondary Baseline(s) with Stationing ( <i>as required</i> )				
Proposed Structure Centerline				
Riprap Area ( <i>Optional – use appropriate cell pattern</i> )				
Stream Channel ( <i>Optional – use appropriate line style</i> )				
Top and Bottom of Bank Lines w/ Labels & Slope Markings ( <i>Optional</i> )				
Proposed Structure Using Appropriate Line Types ( <i>use assigned solid lines for visible edges and assigned dashed lines for hidden or buried edges</i> )				
Proposed Guardrail, Parapet and Barrier ( <i>as required</i> )				
Proposed Handrail ( <i>as required-verify no post spacing conflicts</i> )				
Proposed Deck Drainage ( <i>as required</i> )				
Slope Drain and Stabilized Outlet ( <i>as required</i> )				
Label and/or Dimension the Following:				
Working Point Numbers				
Dimensions of Structure and Wingwalls				
Proposed Structure Centerline Including Skew Angle				
Travel Lanes, Shoulders, and Offsets				
Limit of Riprap Areas ( <i>as required</i> )				
Proposed Guardrail				
Proposed Handrail ( <i>as required</i> )				
Angles of all Wingwalls				
Riprap and Stone Layer Thicknesses ( <i>as required</i> )				
All Baseline Tangent Bearings				
Road Name and Maintenance Number				
Watercourse Name				
Proposed Miscellaneous Structure or Roadway Elements				
Proposed Miscellaneous Drainage Elements				
Proposed Pavement, Curb, Sidewalk, etc.				
<b>End Elevation (<i>Can be typical or location specific depending on proposed structural geometry</i>)</b>				
Proposed Structure Opening				
Proposed Wingwalls ( <i>showing any applicable drainage</i> )				
Proposed Barrier (Including Scuppers) and/or Guardrail				

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Proposed Handrail ( <i>as required-verify no post spacing conflicts</i> )				
Aesthetic Surface Treatment-Veneered/Textured ( <i>as required</i> )				
V-Notches at Joints Between Sections				
Structure Opening Chamfers				
Coarse Aggregate for Foundation Stabilization Layer				
Riprap over Stone over Geotextiles ( <i>types and thicknesses</i> )				
Roadway Edge/Top of Slope				
Proposed Headwall				
Design Water Elevation Line				
Channel Bed Fill				
Low Flow Channel ( <i>as required</i> )				
Stone Outlets ( <i>as required</i> )				
<b>Label and/or Dimension the Following:</b>				
Structure Opening Height, Width, Radius and/or Chamfer				
Design Water Elevation				
Invert Elevations of Inlet and Outlet				
Bottom of Footing Elevation				
Coarse Aggregate for Foundation Stabilization Thickness and Overhang Beyond Structures				
Stream Bank Slopes				
Riprap over Stone over Geotextiles ( <i>types and thicknesses</i> )				
Barrier Heights and Section Lengths				
Aesthetic Surface Treatment ( <i>as required</i> )				
Barrier Joint Types				
Proposed Handrail ( <i>as required</i> )				
V-Notches				
Weep Hole Diameters and Inverts ( <i>as required</i> )				
Low Flow Channel Dimensions ( <i>as required</i> )				
Channel Bed Fill Thickness				
Standard Note About In-Filling Riprap Voids With Topsoil				
<b>Bridge Section (Typical or As Denoted by Section Arrows)</b>				
Proposed Structure				
Proposed Wingwalls ( <i>specific to view</i> )				
Proposed Parapet/Barrier ( <i>showing handrail – as required</i> )				
Proposed Headwalls				
Aesthetic Surface Treatment-Veneered/Textured ( <i>as required</i> )				
Pavement Section				
Streambed Material/Channel Bed Fill Through Structure				
Riprap Over Stone Over Geotextiles				
Roadway Centerline and/or Construction Baseline				
Flow Arrow				
<b>Label and/or Dimension the Following:</b>				
Travel Lanes, Shoulders, and Offsets				
Streambed Material/Channel Bed Fill ( <i>types and thicknesses</i> )				

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Riprap Over Stone ( <i>types and thicknesses</i> )				
Bottom of Structure Elevation				
Coarse Aggregate for Foundation Stabilization ( <i>thickness and overhang beyond structures</i> )				
Parapet, Barrier, Sidewalk, Guardrail and/or Handrail				
Proposed Headwall ( <i>as required</i> )				
Aesthetic Surface Treatment ( <i>as required</i> )				
Stream Bank Slope				
P.G.A.				
Cross Slope				
Pavement Section				
<b>Working Points Schedule</b>				
Point Number				
Station				
Offset				
Northing				
Easting				

<b>PRECAST CONCRETE STRUCTURE AND WINGWALL DETAILS</b>				
	TS&L	Prelim	Semi	Final
<b>General</b> ( <i>Can be one sheet or multiple sheets as necessary</i> )				
Sheet Title				
Detail Title				
Scale Bar or Written Scale ( <i>1/16" = 1'-0", 1/2" = 1'-0", etc.</i> )				
<b>Notes for Precast Elements</b>				
<i>Use Standard Precast Concrete Notes Edited as Needed</i>				
<b>Typical Structure Section</b>				
Proposed Arch or Frame				
Arch Radii or Frame Chamfer				
Headwall ( <i>can use a separate detail if a separate precast element</i> )				
Label and/or Dimension the Following:				
Opening Width and Height				
Top Slab Thickness				
Wall Thickness				
Headwall Width and Height				
Bar Reinforcement ( <i>size and spacing</i> )				
Lap Splices				
<b>Structure Footing Section</b>				
Proposed Arch or Frame Footing				
Cut-Out For Arch or Frame Seat				
Label and/or Dimension the Following:				
Footing Width and Thickness				
Cut-Out for Arch or Frame Seat				

## Precast Concrete Arch or Rigid Frame Bridge Submission Checklist

Grout for Arch or Frame Seat				
Bar Reinforcement ( <i>size and spacing</i> )				
<b>Wingwall Section</b>				
Proposed Wingwall and Footer				
Aesthetic Surface Treatment-Veneered/Textured ( <i>as required</i> )				
Bar Reinforcement				
Shear Key				
Label and/or Dimension the Following:				
Footing Width and Thickness				
Stem Height and Thickness				
Aesthetic Surface Treatment ( <i>as required</i> )				
Bar Reinforcement (Bar Mark and Spacing)				
Lap Splices				

<b>CAST-IN-PLACE CONCRETE PARAPET/BARRIER DETAILS</b>				
	TS&L	Prelim	Semi	Final
<b>General</b>				
Sheet Title				
Detail Title (Plan, Typical Bridge Section, Elevation)				
Scale Bar or Written Scale				
<b>Elevations</b> ( <i>Can be a single elevation view of entire parapet/barrier or be broken into typical section elevation views</i> )				
Proposed Structure ( <i>use assigned solid and hidden lines where appropriate</i> )				
Bar Reinforcement				
V-Notches & Joints				
Scuppers ( <i>if applicable</i> )				
Label and/or Dimension the Following:				
End Section Taper Length and Height ( <i>if applicable</i> )				
All Bar Reinforcement ( <i>quantity, mark and spacing</i> )				
Section Lengths and Height(s)				
Joint Type and Material				
<b>Typical Sections</b>				
Proposed Parapet/Barrier ( <i>use assigned solid and hidden lines where appropriate</i> )				
Bar Reinforcement				
Scuppers ( <i>if applicable, include one section with scupper and one section without scupper for bar reinforcement detail</i> )				
Shear Key				
Chamfers and V-Notches				
Proposed Handrail ( <i>as required</i> )				
Label and/or Dimension the Following:				
Parapet Height and Width				
Bar Reinforcement ( <i>quantity, mark and spacing</i> )				

## Precast Concrete Arch or Rigid Frame Bridge Submission Checklist

Scupper Type, Size and Slope ( <i>if applicable</i> )				
Shear Key ( <i>height and width</i> )				
Chamfers and V-Notches				
Proposed Handrail, Details, Type and Placement ( <i>as required/applicable, separate sheet may be required</i> )				

### REINFORCING BAR LIST

	TS&L	Prelim	Semi	Final
<b>General</b>				
<i>Use Standard Reinforcing Bar Sheet With DelDOT Rebar Program</i>				

### SOIL BORINGS

	TS&L	Prelim	Semi	Final
<b>General</b>				
<i>Use Standard Soil Boring Sheet Including Rock Coring Information (where applicable) and Standard Notes</i>				
Heading ( <i>includes Boring Number, Station, Offset, Northing, Easting, Elevation and Date</i> )				
Table Shall Include the Following Columns:				
Sample No. (Numbered Sequentially Based on Depth)				
Depth (Depth of Each 6" Sample)				
Blows/6"				
Sample Description (Include Sample Recovery)				
Remarks (Include Bottom of Footing, Estimated Pile Tip, and Water Table Elevations)				
Class (AASHTO Soil Classification)				