

FLHBO BRIDGE PLAN CHECKLIST

Project Name & Number: _____ **Project Designer:** _____

Team Leader: _____ **Checker:** _____ **Date:** _____

I GENERAL	Checker Initials
<i>Follow these general detailing practices on all structural drawings as practical:</i>	
Dimension elements once on a drawing, unless repeating is necessary for clarity	
Present metric numbers with 5 or more digits with a single space between each group of three digits (except when used in rebar schedule)	
Identify reference lines and use consistently throughout plans. Reference lines include but are not limited to CL Rdwy., CL Bridge, Layout Line, Begin and End Bridge (defined as fill face of endwall or breastwall), CL Bearing, CL Pier	
Scale all drawings or note "Not to Scale" if applicable. Use the appropriate scale bar cell when specifying the scale on the sheet border, and for those details on the sheet at different scales call out the scale.	
Locate all exposed concrete faces and elements in relation to reference lines	
Provide sections and details at as many locations as required to clearly define the intended design, with economy of details in mind	
Provide separate drawings for detailing concrete dimensions and reinforcement layout for complex concrete shapes	
Arrowheads and section arrows are same size and style regardless of drawing scale	
Text font and size are consistent	
Use standard centerline symbol as produced by key function	
Order of PS&E bridge drawings follows the general order outlined in Section III (General Notes may appear on General Plan and Elevation sheet if there is sufficient room)	
Locate all reinforcement from exposed concrete faces	
Identify all reinforcement in two separate views	
Identify all bars that are to be epoxy coated with "E" (i.e. #4EA bars)	
Identify reinforcement clearances if other than 2"	
Identify all minimum lap splice lengths	
Refer to concrete faces as "fill face", "other face", or "each face" or respective abbreviations "f.f.", "o.f.", "e.f.". Use standard cell for abbreviation table.	
Detail bar placements following the convention "x spa. @ x = xx". Avoid designation "x equal spa. = x", for construction considerations.	
When dimensioning to centerlines, solidify that section of line to be dimensioned to	
Arrows used at ends of leader lines for pointing to specific points or surface lines. Squiggles (~) at ends of lines used for specifying surface areas.	
Main Title Blocks on all drawings shall be in the following format: PARTNER AGENCY BRIDGE NAME – STRUCTURE # COUNTY, STATE SHEET TITLE NAME Structure # will be supplied by BIP for those projects under the BIP program.	
Project block (upper right hand corner) shall contain Region, State, Project name, and sheet numbering (as established by Project Development)	
Information entered in the border blocks at the bottom of sheet (names, dates, revisions, etc.) first letter capitalized. Names spelled out unless abbreviations are necessary because of length.	
"PRELIMINARY NOT FOR CONSTRUCTION" label removed from all sheets for Advertisement Plan package	

II PRELIMINARY ENGINEERING BRIDGE PLANS – TYPE, SIZE AND LOCATION	Checker Initials
A) PLAN	
Existing topography (enough contours for a sufficient reach of stream to determine streamflow alignment)	
Plan view of structure including walls, approach slabs, railings (including transitions)	
Outline (ghost line) of existing structure (if applicable)	
North arrow	
Transverse width of traveled ways and shoulders of roadways below structure	
Skew angle to nearest 5 degrees (if applicable)	
Limits of slope paving or toe of fill (if applicable)	
Stream name and direction of flow or traffic direction below structure	
Estimated wingwall lengths and orientation	
Identify Sta. for intersection of CL Rdwy. of structure and CL Rdwy./RR below structure (if applicable)	
Utilities on and off bridge (if applicable)	
Horizontal Curve Data (if applicable)	
Horizontal PC and PT stations and other significant stations	
B) ELEVATION	
Elevation view of structure including railings, substructure, walls, slope protection, and aesthetic treatments	
Station and elevation of Begin and End bridge and CL piers	
Length of bridge and span lengths	
Label railing types (include pedestrian screen), superstructure type, slope protection type, foundation type, aesthetic treatments (as known)	
Elevation bar	
Minimum vertical clearance requirements and horizontal and vertical construction clearance requirements for bridges over Rdwys./RR (if applicable)	
Utilities off structure if known (if applicable)	
Existing ground line at CL Rdwy., and at left and right edges of deck if topography varies significantly	
CL Rdwy./RR below structure (if applicable)	
Design discharge and water surface elevation, and freeboard provided (at low point)	
External access doors located (if applicable)	
C) ROADWAY	
Typical roadway section at bridge	
Superelevation data (if applicable)	
Profile grade diagram (verify sag point of vertical curve not on structure)	
D) HYDRAULICS	
Hydraulic Data Table including discharges, velocities, and water surface elevations for 2, 50, 100, 500 year events and freeboard requirements (as provided)	
Slope protection and scour requirements (as known)	

II PRELIMINARY ENGINEERING BRIDGE PLANS – TYPE, SIZE AND LOCATION cont'd.	Checker Initials
E) TYPICAL SECTION	
Split section with abutment/pier section and midspan section	
Transverse width of traveled way, railings, sidewalks on structure	
Show all girders, slab, railings, sidewalks, wearing surface, drains, utilities	
Cross slopes including sidewalks	
Railing height, superstructure depths	
F) DESIGN DATA	
Live loads, overloads	
Superstructure type, railing and transition types	
Concrete strengths, epoxy reinforcement requirements	
Seismic requirements	
Special design requirements	
G) PROJECT DATA	
Bridge name, route name	
Structure Number (supplied by BIP if applicable)	
Stream or route name of crossing feature	
Project location (state and county)	
Bridge location by milepoint (if known)	
Owner government agency	
Estimated construction cost	
H) MISCELLANEOUS	
Construction sequence details (if applicable)	
Aesthetic treatments (if requested)	
Bridge railing and transition railing details (if requested)	

III PS&E BRIDGE PLANS – 1) GENERAL NOTES AND ESTIMATE	Checker Initials
A) GENERAL NOTES	
Specifications (Design and Construction)	
Design Loading	
Design Criteria	
Seismic Design Criteria (if applicable)	
Concrete	
Structural Steel	
Reinforcing Steel	
Prestressed Concrete Members	
Finishing Concrete	
Removal of Structures and Obstructions	
Utilities	
Dimension Nomenclature (metric only)	
B) ESTIMATE (CFL AND WFL only)	
Table with contract item #, contract item, and quantity	
Notes to describe payment for subsidiary items, and identify contract pay items	
C) MISCELLANEOUS	
Index of drawings (required for 15 or more total bridge drawings)	
Non-standard vehicle diagrams showing axle spacings and loads (if applicable)	
Scope of Work (for rehabilitation projects)	

III PS&E BRIDGE PLANS – 2) GENERAL PLAN AND ELEVATION	Checker Initials
A) PLAN	
Plan view of bridge including walls, approach slabs, expansion joints, railings (including transitions)	
North arrow	
Station and elevation of Begin and End bridge and CL piers	
Length of Bridge and span lengths	
Transverse width of traveled way, railings, and sidewalks on structure	
Transverse width of traveled ways and shoulders of roadways below structure	
Skew angle (if applicable)	
Limits of slope paving (if applicable)	
Deck drain/scupper locations (if applicable)	
Identify points of minimum vertical clearance (if applicable)	
Traffic direction below structure (if applicable)	
Label wingwalls if different geometry (i.e. “WINGWALL A”, “WINGWALL B”, etc.)	
Identify Sta. for intersection of CL Rdwy. of structure and CL Rdwy./RR below structure (if applicable)	
Utilities on and off bridge (if applicable)	
Horizontal PC and PT stations and other significant stations	
Sign and light standard locations (if applicable)	
B) ELEVATION	
Elevation view of bridge including railings, substructure, walls, slope protection, and aesthetic treatments	
Label railing types (include pedestrian screen), superstructure type, slope protection type, aesthetic treatments	
Elevation bar	
Identify minimum provided vertical clearances and horizontal and vertical construction clearances for bridges over Rdwys./RR (if applicable)	
Utilities off structure if known (if applicable)	
Existing ground line at CL Rdwy., and at left and right edges of deck if topography varies significantly	
CL Rdwy./RR below structure (if applicable)	
Design discharge and water surface elevation	
Label all bearings as FIX for fixed or EXP for expansion bearings	
Label external access door locations (if applicable)	
C) MISCELLANEOUS	
Profile Grade Diagram (if any part of structure on Vert. Curve)	
Horizontal Curve Data (if applicable)	
Hydraulic Data Table including discharges, velocities, and water surface elevations for 2, 50, 100, 500 year events and freeboard requirements (as provided)	
Superelevation Diagram (if applicable)	

III PS&E BRIDGE PLANS – 3) FOUNDATION LAYOUT	Checker Initials
A) PLAN	
North arrow	
Label stations at reference lines	
Pile/shaft sizes	
Geometry to locate piles/shafts and or footings	
Indicate batter piles	
Stage construction details (if applicable)	
Existing contours	
Stream name, direction of flow, and edge of stream	
Outline (ghostline) of existing structures (if applicable)	
Temporary shoring and bracing limits (if applicable)	
Limits of slope protection and associated details (if complex shown on separate sheet)	
B) ELEVATION	
Foundation with cap/footing bottom elevation, and embedment depths	
Existing groundline	
Estimated tip elevation and minimum tip elevation (if scour)	
Indicate pile batter	
C) MISCELLANEOUS	
Foundation Notes	
Foundation Data Table with location, required ultimate capacity, design capacity (or bearing capacity), maximum applied structural load, and length of piles/shafts (or estimated tip and minimum tip elevations)	
Pile tip details (if applicable)	
D) PRESTRESSED PILES	
Cross section and side views of pile showing reinforcement and prestressing steel details and concrete dimensions	
Notes including material specifications	

III PS&E BRIDGE PLANS – 4) SUMMARY OF BORING LOGS	Checker Initials
Not required for WFLHD projects	
Elevation view of each test hole	
Plan view of structure locating and identifying each test hole	
Typical test hole log symbology	
Legend of test hole material types	
Boring log notes	
III PS&E BRIDGE PLANS – 5) SLOPE PROTECTION	Checker Initials
A) RIPRAP	
Existing contour plan	
Plan view including substructure units, stream limits, and direction of flow	
Horizontal limits	
Cross section indicating slope, slope protection type, size, class, depth, geotextile type	
Elevations at berm, toe, streambed, and other points as needed	
North arrow	
Existing bridge (if applicable)	
B) CONCRETE SLOPE PAVING	
Plan view showing horiz. limits dimensioned from reference lines	
Cross section showing reinforcement details	
Expansion and construction joint details	
Label toe of slope, face of breastwall	
III PS&E BRIDGE PLANS – 6) CONSTRUCTION SEQUENCING/STAGING	Checker Initials
Sequence of work with corresponding bridge sections illustrating the assumed routing of traffic and construction sequence	
Identify existing structures as ghost lines and new construction with solid lines	
Verify travel lane widths	
Transverse widths of traveled ways, barriers, offsets, clearances	
Temporary barrier and attachment details	
Saw cut lines for existing structure and construction joints for new structure	
Direction of traffic (or orientation of sections)	

III PS&E BRIDGE PLANS – 7) ABUTMENTS	Checker Initials
General layout plan and elevation views	
Pedestals, shear blocks, weepholes, utility blockouts, steel embedments	
Bearings and joint fillers	
Elevations at bearings, bottom of substructure units, top of walls, construction joints	
Keys, fillets, chamfers	
Typical sections	
Wingwall section and elevation	
Drainage details (if applicable)	
Identify berms and finished ground lines	
North arrow	
Piles/shafts	
Identify special seismic details (if applicable)	
Guard angle details	

III PS&E BRIDGE PLANS – 8) PIERS/BENTS	Checker Initials
Pier layout	
General layout plan and elevation views	
Pedestals, shear blocks, blockouts, steel embedments	
Bearings and joint fillers	
Elevations at bearings, bottom of substructure units, construction joints	
Keys, fillets, chamfers, column flairs	
Identify finished ground lines	
Typical sections	
North arrow	
Piles/shafts	
Identify special seismic details (if applicable)	

III PS&E BRIDGE PLANS – 9) SUPERSTRUCTURE – A) PRESTRESSED CONCRETE GIRDERS AND BEAMS	Checker Initials
1. GIRDER FRAMING PLAN	
Geometry to locate girders	
Label girders	
Locate diaphragms	
Dimension span lengths (parallel to girders)	
2. GIRDER ELEVATION	
Length of girder	
Transverse reinforcement including railing embedments	
Locate CL bearing and CL lifting eye	
Blockouts and connection inserts	
Label strands	
Locate strand hold-downs and debonding points (if applicable)	
Endblocks (if applicable)	
3. GIRDER MISCELLANEOUS	
Girder cross sections at midspan and end	
Strand layout	
Show embedments and verify clearances with strands and reinforcement	
End zone details	
Lifting eye detail (if applicable)	
Provide Estimate Table with quantities for concrete, reinforcing steel, and strands (per girder for each unique girder)	
Label beam (if applicable)	
4. DECK PLAN	
Locate diaphragms	
CL girders	
Reinforcement cutoff locations for negative moment (if applicable)	
Longitudinal and transverse bars, top and bottom, in deck slab including those that protrude into railing	
Bar marks match those of Typical Section	
Stage construction details (if applicable)	
Superstructure Concrete Placement Diagram (if applicable)	
Transverse Slab Construction Joint detail (if applicable)	

III PS&E BRIDGE PLANS – 9) SUPERSTRUCTURE – B) STEEL GIRDERS	Checker Initials
1. GIRDER FRAMING PLAN	
Geometry to locate girders	
Label girders	
Locate diaphragms	
Splice locations	
Dimension span lengths (parallel to girders)	
2. GIRDER ELEVATION	
Length of girder	
Locate CL bearing, CL Piers, splice locations	
Shear connectors and transverse stiffeners	
Identify girder section or plate sizes	
Weld details	
Identify different steel grades (hybrid girders)	
3. GIRDER MISCELLANEOUS	
Girder cross sections with plate sizes, weld details, copes	
Shear connector detail	
Bearing stiffener, transverse stiffener, longitudinal stiffener details	
Field splice details (if applicable)	
Diaphragm details including connection details	
Dead Load Camber Diagram	
4. DECK PLAN	
Locate diaphragms	
CL girders	
Reinforcement cutoff locations for negative moment (if applicable)	
Longitudinal and transverse bars, top and bottom, in deck slab including those that protrude into railing	
Bar marks match those of Typical Section	
Stage construction details	
Superstructure Concrete Placement Diagram (if applicable)	
Transverse Slab Construction Joint detail (if applicable)	
5. TYPICAL SECTION	
Split section with pier section and midspan section	
Show all girders, slab, railings, sidewalks, wearing surface, diaphragms, drains, utilities (including supports)	
Dimension transversally out-to-out including widths of traveled ways, sidewalk, railings	
Longitudinal and transverse bars in slab including those that protrude into railing	
Cross slopes including sidewalk	
Slab thickness at midspan, deck edge, and soffit	
Label girders	
Drip groove	
Stage construction details including closure pours, keys, construction joints (if applicable)	

III PS&E BRIDGE PLANS – 9) SUPERSTRUCTURE – C) CAST IN PLACE SLABS	Checker Initials
1. DECK PLAN	
Reinforcement cutoff locations for negative moment (if applicable)	
Longitudinal and transverse bars, top and bottom in slab including those that protrude into railing	
Bar marks match those of typical section	
Stage construction details	
Superstructure Concrete Placement Diagram (if applicable)	
Transverse Slab Construction Joint detail (if applicable)	
2. TYPICAL SECTION	
Split section with pier section and midspan section	
Show slab, railings, sidewalks, wearing surface, utilities	
Dimension transversally out-to-out including widths of traveled ways, sidewalk, railings	
Longitudinal and transverse bars in slab including those that protrude into railing	
Cross slopes including sidewalk	
Slab thickness at midspan, deck edge, and soffit	
Drip groove	
Stage construction details including closure pours, keys, construction joints	
Void spacing (if applicable)	
3. MISCELLANEOUS	
Dimension void layout (if applicable)	
Cell drainage details (if applicable)	
Dead Load Deflection Diagram	
Hold down details for void form (if applicable)	

III PS&E BRIDGE PLANS – 9) SUPERSTRUCTURE – D) CAST IN PLACE BOX GIRDERS	Checker Initials
1. GIRDER FRAMING PLAN	
Geometry to locate girders	
Label girders	
Locate diaphragms	
Girder lengths (parallel to girder)	
Cell drains	
2. GIRDER ELEVATION	
Length of girder	
Transverse and longitudinal reinforcement	
Blockouts and inserts	
Post-tensioning profile (locate low point, high point, and inflection points as applicable)	
3. GIRDER MISCELLANEOUS	
Construction Joint details	
Abutment diaphragm details including post-tensioning anchorage reinforcement in end block	
Pier diaphragms	
Anchorage blockouts	
Verify clearances between reinforcement and post-tensioning ducts	
Notes including Concrete, Prestressing, Design Assumptions, Construction, Submittal Requirements	
Access door reinforcement details (if applicable)	
Access door details (if applicable)	
Verify opening size of access openings (if applicable)	
Locate access door for optimum inspection accessibility (if applicable)	
Cell drain details	
Dead Load Camber Diagram	
4. DECK PLAN	
Locate diaphragms	
Identify CL girders	
Longitudinal and transverse (top and bottom) bars in deck slab including those that protrude into railing	
Bar marks match those of typical section	
Stage construction details	
Construction joint details (if applicable)	

III PS&E BRIDGE PLANS – 9) SUPERSTRUCTURE – BEARINGS & EXPANSION JOINTS	Checker Initials
E) BEARINGS	
Identify bearings (fixed or expansion)	
Quantity of each bearing	
Vertical loads, horizontal loads, rotation (as applicable)	
Grout pads (if applicable)	
Detail bearing pads including layer thickness, overall thickness, shims required, hardness, width and length and orientation to CL bearing and CL girder	
Geometry to locate bearings including orientation to structure	
Sole plates, and bearing plates (if applicable)	
F) EXPANSION JOINTS	
Geometry to locate joint	
Table with temperature settings and joint design movements	
Steel extrusion and anchorage details	
Section, Plan, and Elevation	
Seal type	

III PS&E BRIDGE PLANS – 10) AESTHETICS	Checker Initials
A) STONE MASONRY	
Locate and identify working lines	
Critical stone dimensions including bulge and size requirements	
Mortar requirements including joint widths, bed depth, and stone embedment	
Hardware details including dovetail slots, anchor types and configurations, anchor bolt or rebar sizes	
Cross sections and details where attachment details are unique	
Dimension Stone Layout (if applicable)	
Notes including material requirements, stone specifications, construction requirements, etc.	
Dovetail slot spacing on the appropriate drawings	
B) SURFACE TREATMENTS	
Locate and orient lettering to reference lines (if applicable)	
Horizontal and vertical size of letters, and recess depth	
Formliner working lines and critical dimensions	
Identify all surfaces that are to receive surface treatments	

III PS&E BRIDGE PLANS – 11) SIDEWALKS AND RAILINGS	Checker Initials
A) SIDEWALKS	
General layout plan view	
Typical section	
Longitudinal and transverse bars including those protruding into railing	
Score joint and contraction joint details	
Chamfers	
B) BRIDGE RAILINGS	
Elevation view from end of wing to end of wing, dimensioning (along gutterline) post spacing, joint locations, splice locations, panel lengths	
Expansion and contraction joint details (if applicable)	
Typical sections at post and at unique sections	
Verify crash tested requirements (if applicable)	
Chamfers	
Embedded plates, anchorages, blockouts, utility conduits, formed holes for transition railing connections	
Post connection details	
Detail welds, bolted connections, splices, and fabrication details	
Concrete endblock (if applicable)	
Isometric view of endblock (if applicable)	
Verify pedestrian screen (if applicable)	
Railing notes (if applicable)	
C) TRANSITION RAILINGS	
Elevation and plan views dimensioning length, post spacing, offsets, pay length	
Connection between endblock or bridge railing and transition railing	
Terminal connector, connection hardware, railing elements, post and blockout sizes	
Transition notes (if applicable)	
Verify crash tested requirements (if applicable)	

III PS&E BRIDGE PLANS – 12) APPROACH SLABS	Checker Initials
Skew	
Longitudinal and transverse bars, top and bottom, in Plan View	
Reinforcement, bar clearances, and slab depth in Section View	
Identify joint filler locations	
Provide steel and concrete quantities (in table form) per approach slab (if applicable)	
Detail end of approach slab for movement if required (Type II)	
Sleeper slab details (if applicable)	

IV PS&E RETAINING WALL PLANS – 1) SITE PLAN	Checker Initials
Section IV applies to concrete cantilever (CC), tieback/soldier pile (T), and soil nail (SN) including SMSE retaining walls	
General plan of entire project length identifying all wall sites within the project	
Label wall sites sequentially starting from begin project	
Identify all wall sites in a table presenting begin and end station limits of each wall site, with a brief description of each wall type	
IV PS&E RETAINING WALL PLANS – 2) GENERAL NOTES AND ESTIMATE	Checker Initials
A) GENERAL NOTES	
Specifications (Design and Construction)	
Design Loading	
Design Criteria	
Seismic Design Criteria (if applicable)	
Concrete	
Structural Steel	
Reinforcing Steel	
Facing Treatments (masonry and formlined)	
Soil Nails	
Ground Anchors	
Timber Lagging	
Dimension Nomenclature (metric only)	
Geotechnical	
B) ESTIMATE (CFL AND WFL only)	
Table with contract item #, contract item, and quantity	
Notes to describe payment for subsidiary items, and identify contract pay items	
C) MISCELLANEOUS	
Index of drawings (required for 15 or more total bridge drawings)	
Summary of Quantities Table (optional)	

IV PS&E RETAINING WALL PLANS – 3) PLAN AND ELEVATION	Checker Initials
A) GENERAL	
Plan and elevation views on same sheets	
Sequence sheets to follow sequence of wall sites	
For walls on right side of roadway, lay out walls progressing upstation from left to right side of sheet. Walls on left side of roadway progress downstation from left to right side of sheet.	
Applicable wall notes (material requirements, design specifications, construction requirements, as applicable)	
B) PLAN	
Rdwy. Alignment with horizontal PC and PT stations, begin and end wall stations, matchline stations, and other significant stations	
Contours (SN)	
North arrow	
Wall plan with footing and stems, identifying gutterline, traffic face, other face of wall (CC)	
Layout geometry including offset dimensions (mainline to gutterline)	
Dimension wall sections (identifying design heights), steps, and joint locations along gutterline (CC)	
Identify approximate limits of existing structures when known	
Wall plan identifying existing ground cut line and toe of footing or toe of wall (SN)	
Railing post spacing	
C) ELEVATION	
Wall elevation drawing containing all elements of the wall (including parapet or railing)	
Identify expansion and contraction joints	
Stations, elevations, and offsets at top of wall at joint locations (at gutterline) (CC)	
Stations and elevations at top of proposed cut slope at joint locations (SN)	
Top of lagging elevations (T)	
Bottom of footing elevations (CC) or bottom of soil nail wall (SN)	
Existing groundline at toe of footing (CC), existing groundline at top of cut slope (SN), existing groundline at face of wall (T)	
Proposed groundline at gutterline of wall (CC)	
Drainage details	
Vertical scale bar (SN)	
Wall length measured along top of footing (SN)	
Detail soil nail horizontal and vertical typical spacings (SN)	
Identify verification soil nail locations (SN)	
Pile spacing and lagging heights (T)	

IV PS&E RETAINING WALL PLANS – 4) TYPICAL SECTIONS	Checker Initials
A) CAST IN PLACE CONCRETE WALLS	
Typical section for each wall design height identified on plan and elevation drawing (consider designing but not including in plans one higher typical section than required as precautionary measure)	
Detail wall and footing critical dimensions	
Label all keys, construction joints, working lines (for formliner), wall facing, wall batter	
Vertical, horizontal, and longitudinal bars noting required splice lengths	
Wall notes	
B) SOIL NAIL WALLS	
Dimension shotcrete sections, wall facing, (and footing if applicable)	
Wall (and footing if applicable) reinforcement	
Identify wall facing/texturing, wall batter, soil nail, bearing plates, anchors (if applicable), drainage	
Soil nail detail identifying slope, spacers, bar sizes, lengths, hole diameters, grout	
C) TIEBACK WALLS	
Roadway/wall geometry with existing groundline	
Identify timbers, piles, shafts, anchors, wales, railing, wall facing, drainage	
Anchor slopes and anchor embedment requirements	
Anchor detail identifying all structural components and critical lengths	
Wall height and ground anchor spacing	
Pile embedment requirements	
Wall notes for construction sequence	

IV PS&E RETAINING WALL PLANS – 5) RAILINGS & GUARDWALLS	Checker Initials
A) BRIDGE RAILINGS	
Typical panel length detailing reinforcement	
Expansion and contraction joint details (if applicable)	
Typical sections at post and at unique sections	
Verify crash tested requirements (if applicable)	
Chamfers	
Embedded plates, anchorages, blockouts, utility conduits, formed holes for transition railing connections	
Post connection details	
Detail welds, bolted connections, splices, and steel fabrication details	
Railing notes	
B) TRANSITION RAILINGS	
Elevation and plan views dimensioning length, post spacing, offsets, pay length	
Connection between bridge railing and transition railing	
Transition notes (if applicable)	
Verify crash tested requirements (if applicable)	
C) GUARDWALLS	
Typical panel reinforcement detail	
Footing setback and embedment requirements	
Typical section	
Flared end treatment detail	
D) ANCHOR SLABS	
Typical panel reinforcement detail	
Footing setback and embedment requirements	
Typical section	

IV PS&E RETAINING WALL PLANS – 6) AESTHETICS	Checker Initials
A) STONE MASONRY	
Locate and identify working lines	
Critical stone dimensions including bulge and size requirements	
Mortar requirements including joint widths, bed depth, and stone embedment	
Hardware details including dovetail slots, anchor types and configurations, anchor bolt or rebar sizes	
Typical sections and details where connections are unique	
Dimension stone layout (if applicable)	
Dovetail slot spacing	
Pay limits (if applicable)	
Notes including material requirements, stone specifications, construction requirements, etc.	
B) SURFACE TREATMENTS	
Formliner working lines and critical dimensions	
Identify all surfaces that are to receive surface treatments	
Typical sections	
Texture plan (if applicable)	
Typical gang form dimension and pattern details (if applicable)	
Wall facing elevation and end details	

IV PS&E RETAINING WALL PLANS – 7) MISCELLANEOUS DETAILS	Checker Initials
A) CONCRETE CANTILEVER WALLS	
Footing setback and embedment requirements and pay limits of wall	
Construction slope limits	
Shoring limits	
Stem offset detail	
Step details	
Corner and reinforcement details at wall transitions (if applicable)	
Typical wall panel reinforcement detail	
Drainage details including sheet drains, pipes, connections, and weep holes	
Expansion and contraction joint sections and details	
Pipe outlet and scupper details (if applicable)	
Flared end treatment detail	
Backfill and excavation limit diagrams	
Estimated quantity table for standard wall sections and steps	
B) SOIL NAIL WALLS	
Drainage details including sheet drains, pipes, connections, and weep holes	
Expansion and contraction joint sections and details	
Stage excavation details	
Verification soil nail details	
Nail installation through temporary stabilizing berm detail	
Shotcrete facing and footing reinforcement details	
Pay limits	
Bearing plate detail	
Wall notes for construction sequence and verification testing	
C) TIEBACK/SOLDIER PILE WALLS	
Fabrication details for all structural components (piles, brackets, bearing plates, stiffeners, caps, etc.)	
Wale details.	

