

2015

FDOT



*Design Standards*

*For Construction Operations on the  
State Highway System*

*Topic No. 625-010-003*

*State of Florida Department of Transportation*

*Office of Design*

*Mail Station 32*

*605 Suwannee Street*

*Tallahassee, Florida 32399-0450*

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*The official version of the Design Standards is the PDF version and can be found at:  
<http://www.dot.state.fl.us/rddesign/DesignStandards/Standards.shtm>*

CERTIFICATION STATEMENT

I hereby certify that these Design Standards were compiled under my responsible charge from designs prepared, examined, adopted, and implemented by the Florida Department of Transportation in accordance with established procedures, and as approved by the Federal Highway Administration.

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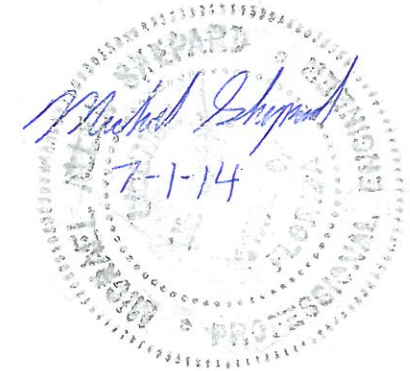
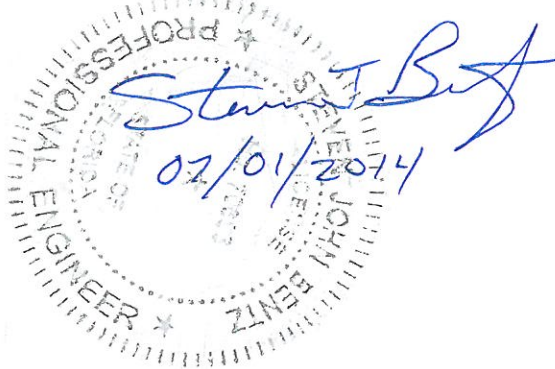
As To Planning  
Design Standards No.

17900

As To Roadway  
Design Standards Nos.

001-105  
200-288  
293-403  
410-415  
430, 461  
500  
505-535  
546, 560  
600-803  
870-880  
11200-11871  
13417-17890

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As To ITS  
Design Standards Nos.

18100-18300

As To Structures  
Design Standards Nos.

289-292  
404-405  
420-425  
470-484  
501, 540  
810-862  
5200-6201  
20005-21930

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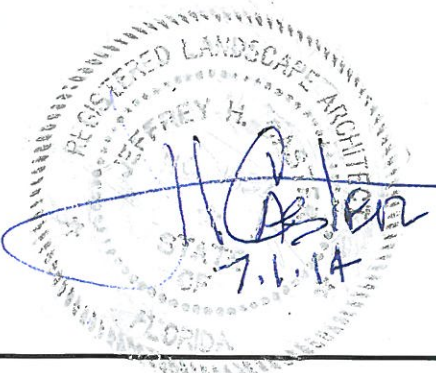
As To Landscape Architecture  
Design Standards Nos.

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Approved For Use On Federal Aid Projects

*James Christian* 7/1/14  
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**2015 REVISIONS**

INDEX No	SHEET No	DESCRIPTION
<b>ABBREVIATIONS AND SYMBOLS</b>		
1	3 of 4	Added NRTL Nationally Recognized Testing Laboratory; Deleted QPL Qualified Products List.
<b>STANDARD SYMBOLS</b>		
2	3 of 4	Deleted all lines that indicate quality level A.
<b>DRAINAGE</b>		
199	All	Deleted Index.
200	1 of 5	Clarify length/extension of #4 bars above pipe blockout as 6" beyond vertical bars.
201	3 of 5	Changed Notes #6 and #7.
216	1 of 3	Changed General Note #3 from 1 1/4" to 2" of cover; Changed drawings to show 2" of cover over steel; Added dimensions for cover.
	2 of 3	Added 3'-0" (Min) to Section BB for Clarification.
	3 of 3	Changed Drawings to show 2" of cover over steel; Added dimensions to INTER-WALL REINFORCING detail.
219	2 of 3	Corrected the Drainage Slot to show correct dimensions and change slot General Note to #5.
253	2 of 2	Correct missing reinforcing between pipe openings (see Index 251/252).
264	All	Clarification of dimensions f, k and n.
268	1 of 1	Changed Plastic Filter Fabric Type D-4 to see "Specifications Section 985".
273	7 of 7	Deleted Note #7 from the General Notes.
280	1 of 3	Changed Dissimilar Types detail callouts for "Bituminous coating required for All Metal Pipes" and Removed note for Flexible Pipe; Changed the Filter Fabric Jacket (Elliptical and Round Pipe) callouts (See Specifications Section 985)
281	1 of 2	Changed Note #7 to "See Specifications Section 985".
286	1 of 2	Changed Note #5 to "See Specifications Section 985".
287	2, 3 and 4 of 4	Changed Filter Fabric Type D-3 call out - "See Specifications Section 985"
289	8 of 8	Changed Asphaltic Concrete Base Note "See Specifications Section 985".
<b>CURBS, CONCRETE PAVEMENT AND SIDEWALKS</b>		
302	1 of 4	Changed Flexible Pavement to Asphalt Pavement; Labeled and Hatched the Base for clarification.
308	1 of 2	Added Figure 10.6 - MULTIPLE SLAB FULL DEPTH REPLACEMENT.
<b>TRAFFIC RAILINGS</b>		
400	8-14, 16-26 of 26	Changed Height of W-beam Guardrail.
	1 of 26	Changed Note #17: Holes are to be Punched, Burning is not permitted.
	2 of 26	Changed Panel Splice Location. Modified General Note
	8 of 26	Changed QPL to APL.
	10 of 26	Changed QPL to APL.
402	8-11, 16-24 of 24	Changed Height of W-beam Guardrail.

INDEX No	SHEET No	DESCRIPTION
403	1 of 3	Changed Height of W-beam Guardrail.
404	6 of 8	Guardrail Transitions-Existing Post & Beam Bridge Railings (Narrow & recessed Curbs).
	6 and 7 of 8	Changed Height of W-beam Guardrail.
410	All	Changed Height of W-beam Guardrail.
	14 of 25	Revised top width and back side shape of the F Shape Concrete Barrier wall to match the transition and direction of the Bridge Traffic Railings in Indexes 420 and 425.
412	1 of 5	Changed Note #1, 2 and 6.
414	1 of 15	Changed Qualified Products List (QPL) to Approved Products List (APL); Added General Notes #11 and #12.
	3 of 15	Changed the Drain Bar and Notes in Configuration One and Two for the Alternate Reinforcing Steel Detail Welded Wire Reinforcement.
	4 of 15	Note #7-Deleted Type C Steady Burn Lights and replaced with Barrier Delineators and deleted reference to Index 600; Note #13-Deleted Type C Steady Burn Lights payment information; Changed QPL to APL.
	5 of 15	Changed Type I or Q epoxy to Type F; Changed Anchor Bolts note, Removed the "Optional" in the PTFE Taping Details and updated tape note; Changed QPL to APL.
415	6 of 15	Changed Type I or Q epoxy to Type F; Changed Removal of Keeper Pins note; Changed QPL to APL.
	7 of 15	Changed Type I or Q epoxy to Type F; Changed Removal of Keeper Pins note; Changed QPL to APL; Changed the Geotextile Fabric Note; Changed Geotextile Fabric Notes to (with Specificatio Section 985).
	1 of 7	Note #8-Deleted Type C Steady Burn Lights and replaced with Barrier Delineators; Note #9-Deleted Type C Steady Burn Lights payment information; Added Note #11; Added note 12.
420	7 of 7	Added Notes 3, 4, 5 6, and 9 from Index 430; Changed QPL to APL.
	1 of 4	Changed height of W-Beam Railings.
421	2 of 4	Changed location of W-Beam & Thrie Beam Guardrail bolts in VIEW B-B; Clarified Guardrail Bolt callouts.
	1 of 3	Revised height of W-Beam Railings.
422	2 of 3	Changed location of W-Beam & Thrie-Beam Guardrail bolts in VIEW B-B; Clarified Guardrail Bolt callouts.
	1 of 3	Changed height of W-Beam Railings; Clarified naming of rail splice/expansion assemblies.
423	2 of 3	Changed location of W-Beam & Thrie-Beam Guardrail bolts in VIEW B-B; Clarified Guardrail Bolt callouts.
	1 of 3	Changed height of W-Beam Railings.
425	2 of 3	Clarified Guardrail Bolt callout.
	All	Changed Height of W-beam Guardrail; Changed Qualified Products List (QPL) to Approved Products List (APL).

INDEX No	SHEET No	DESCRIPTION
477	1 of 4	Changed "Reflective Railing Markers" to "Barrier Delineators".
	2 of 4	Changed height of W-Beam Railing and Thrie-Beam transition.
480	1 of 2	Corrected Payment Note.
	2 of 2	Corrected skew angles in Partial Plan Views.
<b>GENERAL</b>		
501	3 thru 11 of 11	Deleted Sheets 3 through 11.
505	3 of 4	Corrected inside shoulder cross slope to 0.05.
510	1 of 2	Changed SHOULDER ON HIGH SIDE note and added S/4 and S/2 on the Shoulder Construction With Superelevation detail.
	2 of 2	Added SPECIAL SHOULDER BREAK OVER DETAILS.
517	1 of 1	New Index. Sheet 1 from Index 518.
518	1 of 3	Deleted Sheet. Sheet 1 moved to Index 517.
546	2-6 of 6	Changed the table data.
<b>TRAFFIC CONTROL THROUGH WORK ZONES</b>		
600	1 of 13	Added Note "Except for emergencies" to the Preface Notes.
	2 of 13	Changed Qualified Products List (QPL) to Approved Products List (APL).
	4 of 13	Changed note #1; Deleted 40 or Less and 45 Speeds (mph) from Distance Between Signs Table.
	6 of 13	Clarified Note #1; Deleted Note #2 from Design Notes; Added 48"x24" Sign Size and Number of Posts to the Post and Foundation Table; Changed Qualified Products List (QPL) to Approved Products List (APL).
	9 of 13	Deleted Concrete Barrier Wall for the Steady-Burn note under Warning Lights.
	10 of 13	Changed Notes & Table 1 for clarification; Changed QPL to APL.
	11 of 13	Changed Table numbering from Table 2 to Table 3.
	12 of 13	Changed QPL to APL.
	13 of 13	Deleted Class D and E from the Use Of RPMS To Supplement Paint Or Removable Tape In Work Zones.
	603	1 of 2
604	1 of 1	Changed Note #7.
605	1 of 1	Changed Note #7.
606	1 of 4	Changed Note #8.
670	1 of 1	Changed Tables 1 & 2 to show posted speeds of 55 mph or higher and updated General Note #1.
<b>ROADSIDE SAFETY</b>		
700	2 of 2	Deleted nonfrangible from item #16 in Table C.
<b>FENCING AND PEDESTRIAN RAILINGS</b>		
820	1 of 1	Clarified that expansion joints are "Assemblies".
821	1 of 1	Added offset dimension to Splice Assembly; Clarified that Splice and Expansion Joints are "Assemblies".
822	2 of 3	Clarified difference between expansion and splice joint assemblies.
	3 of 3	Clarified naming of Rail Splice/Expansion Assemblies and RAIL INSTALLATION Note.

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INDEX No	SHEET No	DESCRIPTION
852	1 of 8	Changed GENERAL, COATINGS and ANCHOR BOLTS notes to clarify grinding, and JOINTS note to clarify bolt thread distortion and joint options for intermediate and bottom horizontal rails.
	2 of 8	Clarify that sawcut joints in sidewalks do not require 6" offset to anchor bolts.
	3 of 8	Added "(Intermediate Rail Similar)" to Rail Termination Details and changed weld type in Detail K.
	4 of 8	Clarified set screw note at expansion joint, Added locations for venting holes, and changed weld symbol in Detail A.
	5 of 8	Corrected dimension for SHBR Type 1.
	8 of 8	Added Handrail dimension to Case 1 with Note.
862	1 of 8	Changed JOINTS and PAYMENT Notes; Clarified COATINGS Note.
	2 of 8	Clarify that sawcut joints in sidewalks do not require 6" offset to anchor bolts.
	3 of 8	Added "(Intermediate Rail Similar)" to RAIL TERMINATION DETAILS; Changed weld symbol in Detail "K".
	4 of 8	Clarified Set Screw Note at expansion joint and changed weld symbol in Detail "A".
	5 of 8	Corrected dimension for SHBR -Type 1 drawing and picket designation in PICKET NOTES.
870	2 of 5	Changed the Structures Expansion Joints Note to reference Index 6011.
880	1 of 5	Changed Notes (Shim Plates, Anchor Bolts and Joints).
	2 of 5	Changed the Structures Expansion Joints Note to reference Index 6011.
	4 of 5	Added venting holes to Detail C.
<b>NOISE AND PERIMETER WALL SYSTEMS</b>		
5200	1 of 16	Changed Notes--all updated.
	3 of 16	Corrected minimum top panel height.
	4 of 16	Added note and dimension for Wall Embedment Depth; Changed Nominal embedment for Flush Type panel.
	5 of 16	Corrected Area of Steel in * note.
	7 of 16	Deleted fire access holes; Clarified Note 3.
	8, 10 & 11 of 16	Changed Notes.
	14 of 16	Changed mortar bed under caps from Type N to Type S in CAP PLACEMENT DETAIL, and Cap Dimensions.
	15 of 16	Changed Tables and BAR BENDING DETAILS.
	16 of 16	Changed Tables.
	5210	1 of 5
2 of 5		Changed REINFORCING STEEL NOTES; Deleted Fire Hose Access Details.
5211	1 of 3	Corrected note reference in Elevation drawing; Deleted Fire Access Hole.
	3 of 3	Deleted Fire Hose Access Details and Note 3.

INDEX No	SHEET No	DESCRIPTION
5212	1 of 2	Changed Note 1; Clarified Notes 3, 4 and 12.
	2 of 2	Added Note 6; Corrected Type 2 dimension in Section B-B; Changed minimum thickness of asphalt overlay and Note 2.
5215	1 of 1	Changed notations from SW to NW and Bars SU1 to 5A; Changed number of Dowel Load Transfer Devices.
5250	All	New Index.
<b>WALL SYSTEMS</b>		
6010	1 of 2	Removed Payment Note.
	2 of 2	Changed the Typical Backfill Detail and Section A-A Expansion Joint Detail callouts to Type D-5 "See Specifications Section 985".
6011	1 of 1	Added note on the assumed coping thickness for Scheme 3 quantities; Add description to Typical Section Title; Added Toe Slope dimensions; Changed Note 1; Clarified Notes 2 and 6 (reference to Index 199 changed to Specification Section 985); Deleted "C-I-P" from the Index title.
6020	1 of 1	Changed CONSTRUCTION Notes 3 and 13; Changed dimension at toe in TYPICAL MSE RETAINING WALL SECTION; Deleted Specifications Notes, DESIGN CRITERIA Notes 2, 3 and 4, MATERIALS Notes 1 and 3.
6040	1 of 4	Changed PLASTIC FILTER FABRIC note.
6100	1 of 2	Corrected dimension in Note 2; Corrected dimensions in SECTION B-B; Corrected dimension and note reference in PRECAST COPING-PARTIAL ELEVATION VIEW.
6110	1 of 6	Changed Notes 2 and 10; Changed dimensions and Corrected note reference in PARTIAL ELEVATION VIEW.
	2 of 6	Changed minimum thickness of asphalt overlay and note 2.
	3 of 6	Added Note 9; Corrected coping dimension in Typical Section and Buildup drawings; Changed minimum thickness of asphalt overlay and note 2.
	6 of 6	Changed C.I.P. to C-I-P
6120	1 of 3	Changed Notes 2 and 9; Changed buildup dimension in PARTIAL ELEVATION VIEW.
	2 of 3	Added "Level" callout and coping dimension to TYPICAL SECTION.
	3 of 3	Added note 3; Added "Level" callout to TYPICAL SECTION; Added Coping dimensions.
6130	1 of 2	Clarified Note 4
	2 of 2	Added Note 6, Corrected Buildup Concrete Depth dimension in TYPICAL SECTION THRU PRECAST; Added cover dimension in TYPICAL SECTION THRU C-I-P COPING.
6200	1 and 2 of 3	Added references to Index 5212 and to allow Precast option for Pedestal.
	3 of 3	Deleted various C-I-P callouts. Changed ESTIMATED QUANTITIES note.

INDEX No	SHEET No	DESCRIPTION
<b>SIGNING AND MARKINGS</b>		
11200	1 of 3	Deleted the Foundation note from the General Notes; Deleted minimum panel section width for the TYPICAL ELEVATION Notes.
11300	1 of 1	Deleted minimum panel section width for the TYPICAL ELEVATION Notes.
11310	1 and 2 of 5	Changed Wire Screen to Grout Pad; Changed Spec. 649-6 to 649-7.
	3 of 5	Changed Splice Connection Detail option.
	5 of 5	Changed 'GA' PL on Detail O.
11320	2 of 5	Clarified anchor bolt embedment depth from DE/FE to DF/FF in Section A-A.
11860	2 of 8	Added "*" and note to the 1" Typ. Gap on the SIGN Cluster Detail.
	4 of 8	Added Note #4 in the BRACKET DETAIL and Rearranged page for clarification.
	5 of 8	Changed the Slip Base and Footing Detail to show similar Base Connection details from Index 11200 Sheet 2 of 3. Changed Note #5.
11861	All	New Index.
11862	All	New Index.
11870	1 of 2	Update Material notes to correct galvanizing of u-bolts and clarify galvanizing/point on weldament and/or post; Changed Geometry Note.
11871	1 of 2	Changed Max Sign Area for Temporary Signs in Table 1 from <20sf to ≤ 24sf.
13417	1 of 1	Deleted the DESIGN SPECIFICATION Note from the General Notes.
17344	5 of 6	Changed the outer dimension of the Rear View from 1'-9" to 1'-6".
17345	1 of 4	Deleted Note; Added leader from the text to 12" White pavement marker.
	2 of 4	Added leader from the text to 12" White pavement marker.
	3 of 4	Clarified end shoulder line, tapered the end and adjusted edge of pavement.
17346	1 of 14	Changed Types of Pavement Markings Lines and Contrast Markings for Clarification.
	4 of 14	Changed the Detail Note for the Typical Intersection 2 Thru Lanes Plus Left Turn Lane, With Crosswalk, To see Sheet 11.
	9 of 14	Additional Text to General Note 6. "Longitudinal lines in Special Emphasis Crosswalk shall be preformed Thermoplastic."
	10 of 14	Changed Note #4. "Crosswalk marking shall be preformed marking materials."
	All	Reorganized sheets for clarification.
17355	4 of 11	Deleted Sign - Move Accident Vehicles From Travel lane 4'-0" x 2'-6" and 8'-6" x 4'-6". Added Signs G20-1 and G20-2. Deleted Sheet 12.
	7 of 11	Deleted Call Box sign from the Sheet.
	11 of 11	Added signs G20-1 and G20-2.
	11 of 12	Deleted Sheet 12.

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INDEX No	SHEET No	DESCRIPTION
<b>ROADWAY LIGHTING</b>		
17500	1 of 3	Changed pole ground connector to Pull Box.
	3 of 3	Changed QPL to APL.
17501	1 of 1	Changed Breakaway Feature notes.
17502	2 of 6	Changed the Pole Design Table.
	6 of 6	Changed QPL to APL.
17504	1 of 2	Changed Service Main to Service Disconnect.
	2 of 2	Corrected the Photo Cell location; Changed Key Note #11; Added Neutral Bar in Electrical Panel.
17515	1 of 8	Added Standard Roadway Aluminum Light Pole With Top Mount.
	2 of 8	Changed Note #9.
	4 of 8	Added Top Mount Tenon Detail; Added Pole Table and Foundation Table W/Top Mount.
<b>TRAFFIC SIGNAL AND EQUIPMENT</b>		
17721	2 of 2	Clarified the index to show 3" warning tape to be consistent with the Specifications.
17725	1 of 8	Changed ASTM for Spiral Reinforcing.
	4-8 of 8	Changed the I-Bolt hole from 3/4" to 7/8".
17727	1 of 2	Renumbered Note #4 to #5; Added a new Note #4.
	2 of 2	Changed Qualified Products List (QPL) to Approved Products List (APL).
17736	1 of 1	Changed Main Disconnect to Service Disconnect.
17743	1 of 2	Deleted the last two columns in the ARM CONNECTION & WELDS; Changed column "UC" in the Pole, Connection and Shaft Design Table.
	2 of 2	Changed Column "FJ/SJ" in the Arm Design Table; Changed column "UC" and "FJ/SJ" in the Pole, Connection and Shaft Design Table.
17745	1 of 5	Changed Wire Screen to Grout Pad; Changed to show 3'-0" (Min) between the center of the Mast Arm Extension and the Pole Cap.
	2 and 5 of 5	Changed Wire Screen to Grout Pad; Changed Spec. 649-6 to 649-7.
17748	1 of 1	Changed Notes; Added a 10' Max. between the Mast Arm Pole and the Sign; Added Option for Cantilever on Mast Arm Pole.
17764	1 of 1	Changed Pedestal Concrete Bases and Concrete Pedestal.
17784	1 of 2	Changed Pedestal Concrete Bases and Concrete Pedestal.
17882	2 of 4	Corrected minimum vertical clearance to 17'-6".
17890	3 of 3	Changed Note #2.
<b>INTELLIGENT TRANSPORTATION SYSTEMS (ITS)</b>		
18102	1 and 2 of 4	Added Pull Box, changed Min. Depth of Ground Rods B-D. Moved Inset "A" to Sheet 4. Moved Ground Rod Placement Detail to Sheet 3. Removed General Notes.
	3 and 4 of 4	New Sheets.
18113	1 of 4	Updated Note 1 ASTM for Spiral Reinforcing. Revise Note 3, and Note 6 - Revised Pole Notes 1d, 3 and 6.
18300	All	Redevelopment of Index.

INDEX No	SHEET No	DESCRIPTION
<b>PRESTRESSED CONCRETE BEAMS</b>		
20010	1 of 2	Changed Note 7; Changed Chamfer dimensions CASE 2 & 3, and top flange clip CASE 1; Clarified Note 4.
	2 of 2	Changed Chamfer; Clarified Strand Detail.
20120	1 of 4	Changed Note 7; Corrected Note 4 sheet reference; Deleted top flange clip from Case 1.
	2 of 4	Clarified Strand Detail.
<b>BRIDGE BEARINGS</b>		
20510	1 of 1	Changed AASHTO Type II Bearing Pad sizes, renamed as AA & AB. Added dimensions from bearing pad to edge of Type II in PARTIAL PLAN Views.
20511	All	Remove exception for Type A & C Bearing Pads.
	1 of 2	Added Type K Beveled Bearing Plate Detail and CROSS REFERENCE; Clarified Note 8; Corrected dimension in PLAN for AASHTO Type II to screw holes, Changed Corner clip for FIB's; Deleted Detail "A".
	2 of 2	Added Detail "A"; Corrected Dimensioning for J & H; Deleted LEGEND.
20512	1 of 2	Added CROSS REFERENCE note; Corrected dimension to holes and studs for AASHTO Type II in PLAN, Deleted exception for Type A & C bearing pads and Detail "A".
	2 of 2	Added CROSS REFERENCE note and DETAIL "A", Corrected Bearing Plate A Dimension, Deleted AASHTO dimensions in END ELEVATION.
<b>SQUARE AND ROUND CONCRETE PILES</b>		
20600	1 of 1	Changed Qualified Products List (QPL) to Approved Products List (APL); Changed Notes REINFORCING STEEL and CORROSION PROTECTION OF EXPOSED STRANDS.
20601	1 of 1	Note 3: Changed Qualified Products List (QPL) to Approved Products List (APL).
20602	1 of 1	Changed dimension "2D" at tip of pile to 3'-0".
20654	1 of 2	Changed Qualified Products List (QPL) to Approved Products List (APL); Changed REINFORCING STEEL Note.
20660	1 of 2	Changed Qualified Products List (QPL) to Approved Products List (APL); Changed REINFORCING STEEL Note.
<b>APPROACH SLABS</b>		
20900	1 of 2	Clarified Notes 2 and 8, Changed Notes 6 and 7.
	2 of 2	Changed Optional Base.
20910	1 of 2	Added note 9; Changed Notes 2, 6, and 8; Changed Optional Base.
	2 of 2	Changed Optional Base.
<b>BRIDGE EXPANSION JOINTS</b>		
21100	2 of 3	Changed cross slope threshold to 1% for Uprturned Joint in PARTIAL SECTIONS.
21110	1 of 2	Delete Notes 2 and 3; Clarified Note 1 to specify Type D silicone is to be used; Clarified "Typical Section Thru Joint" detail to show 1/2" recess and silicone thickness. Changed cross slope threshold to 1% for Uprturned Joint in PARTIAL SECTIONS.

INDEX No	SHEET No	DESCRIPTION
<b>STRUCTURES ACCESS AND LIGHTING</b>		
21210	1 of 4	Changed Note 2; Clarified Note 8.
21240	1 of 2	Delete Notes 16 and 18 and relocated notes to proper publications.
21250	1 of 1	Change Access Door locking mechanism to enable unlocking from inside of box girder.
21251	1 of 1	Change Access Door locking mechanism to enable unlocking from inside of box girder.
21252	1 of 1	New Index.
<b>STANDARD BAR BENDING DETAILS</b>		
21300	1 of 1	Changed ASTM callout for Cold Drawn steel wire.
<b>STANDARD BAR BENDING DETAILS</b>		
21801	All	General drafting clean-ups and remove "Strand" from Legend.
	1 of 2	Notes 1, 2 and 6 cleanup.
<b>FENDER SYSTEM DETAILS</b>		
21900	All	Deleted Index.
21930	1 of 7	Changed CLEARANCE GAUGE AND LIGHT note for Contractor to supply Clearance Gauge sign panel; Clarified convention in PLASTIC LUMBER AND STRUCTURAL COMPOSITE LUMBER WALES note.