

Florida Department of Transportation

RICK SCOTT GOVERNOR 605 Suwannee Street Tallahassee, FL 32399-0450

MIKE DEW SECRETARY

<u>ROADWAY DESIGN BULLETIN 17-06</u> <u>STRUCTURES DESIGN BULLETIN 17-05</u> (FHWA Approved: June 14, 2017)

DATE:	June 15, 2017
D_{111}	June 15, 2017

- TO: District Directors of Transportation Operations, District Directors of Transportation Development, District Design Engineers, District Construction Engineers, District Geotechnical Engineers, District Structures Design Engineers, District Maintenance Engineers, District Roadway Design Engineers, District Traffic Operations Engineers, District Program Management Engineers, District Materials Engineers
- FROM: Michael Shepard, P.E., State Roadway Design Engineer Robert Robertson, P.E., State Structures Design Engineer
- COPIES: Brian Blanchard, Courtney Drummond, Tim Lattner, David Sadler, Rudy Powell, Amy Tootle, Dan Scheer, John Krause, Gregory Schiess, Erik Fenniman, Stefanie Maxwell, Trey Tillander, Jeffrey Ger (FHWA), Nick Finch (FHWA), Rafiq Darji (FHWA), Chad Thompson (FHWA)
- SUBJECT: FDOT Standard Plans for Road and Bridge Construction -Index Crosswalk and Nomenclature

This Design Bulletin provides additional information on upcoming changes to the Department's **Design Standards** (Topic No. 625-010-003). As referenced in <u>Roadway and Structures Design</u> <u>Memorandums 17-01</u>, beginning with the Fiscal Year (FY) 2018-19 publication the **Design Standards** will be retitled to the **Standard Plans for Road and Bridge Construction (Standard Plans)** and renumbered to align with the associated primary **Standard Specifications for Road and Bridge Construction (Standard Specifications)** and Pay Item group (leading 3 digits).

Index Crosswalk – Design Standards to Standard Plans

Included as Attachment 'A' is an Index Crosswalk, which provides a transitional aid in identifying the new *Standard Plans* Index number based on the previous *Design Standards* Index number. The crosswalk is being provided at this time to aid designers in properly referencing Indexes prior to the release of the *FY 2018-19 Standard Plans for Road and Bridge Construction* in November 2017.

The crosswalk will be published with the first two releases of the *Standard Plans* (FY 2018-19 and FY 2019-20). This will allow for a transition period for Contract Documents referencing the old

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Design Standards Index numbers in accordance with the Implementation requirements below. This will also allow for a grace period for references to Index name and number contained in other publications or documents to be changed from **Design Standards** and **Standard Plans**.

<u>Standard Plans – Nomenclature</u>

To facilitate the name change from *Design Standards* to *Standard Plans*, the following is provided to ensure consistent nomenclature use:

- Design Standards, Index to Standard Plans, Index
 - Example Reference: <u>Standard Plans, Index 425-001</u> or <u>Index 425-001</u>
- Instruction for Design Standards (IDS) to Standard Plans Instructions (SPI)
 - Example Reference: <u>Standard Plans Instructions, Index 536-001</u> or <u>SPI 536-001</u>
- Design Standards Revision (DSR) to Standard Plans Interim Revision (Interim Revision)
 - Example Reference: <u>Standard Plans Interim Revision, Index IR521-001-##</u> or <u>IR521-001-## (##, Version of Interim Revision)</u>
- Developmental Design Standards (DDS) to Developmental Standard Plans
 - Example Reference: <u>Developmental Standard Plans, Index D540-001</u> or <u>Index D540-001</u>
- Instruction for Developmental Design Standards (IDS) to Developmental Standard Plans Instructions (DSPI)
 - Example Reference: Developmental Standard Plans Instructions, Index D536-001

or

DSPI-D536-001

Standard Plans for Bridge Construction

With the FY 2018-19 Standard Plans for Road and Bridge Construction and subsequent editions, the relevant Standard Plans for Bridge Construction will be required to be inserted into the Structures Component Plan Set. However, the Standard Plans for Road Construction will continue to be included in the contract by reference on the Lead Key Sheet. To accommodate this effort, the Standard Plans Indexes will be grouped by either "Road" or "Bridge". The Standard Plans for Bridge Construction will include all Indexes relating to the bridge approach slabs, substructure and superstructure. The Standard Plans for Road Construction will include all other Indexes not related to bridges (e.g. walls, drainage, embankment utilizations, lighting, signing, signals, etc.).

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The requirements and resources needed to insert the *Standard Plans for Bridge Construction* into the Structures Components Plan Set will be provided in a Structures Design Bulletin in the near future.

Implementation

For conventionally let projects, the *Standard Plans* Index numbers and nomenclature must be used for projects;

- with lettings between July 2018 and June 2020 where the Phase III Submittal has not been completed. Projects beyond the Phase III Submittal may be implemented at the discretion of the Districts.
- with lettings on or after July 2020.

Design-Build projects utilizing the FY 2018-19 or later *Standard Plans* must include the appropriate Index numbers and nomenclature identified herein.

Do not include the *Standard Plans* Index numbers and nomenclature on any projects let prior to July 2018.

CONTACTS

Gevin McDaniel, P.E. Roadway Design Standards Administrator Phone 850-414-4324 *gevin.mcdaniel@dot.state.fl.us* Derwood Sheppard, P.E. Roadway Design Engineer Phone 850-414-4334 <u>derwood.sheppard@dot.state.fl.us</u>

MS/RVR/dcs

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Attachment 'A' Index Crosswalk

INDEX CROSSWALK FY 2018-19 - FDOT STANDARD PLANS FOR ROAD AND BRIDGE CONSTRUCTION Design Design Standard Standard Standards Index Title Standards Index Title Plans Index Plans Index Index Index Erosion Control and Water Quality Drainage (cont.) Permanent Erosion Control 261 104 570-001 430-011 105 570-010 Shoulder Sodding and Turf on Existing Facilities 264 430-012 U-Type Concrete Endwall-Energy Dissipator - 30" to 72" Pipe Drainage 266 430-040 Winged Concrete Endwalls - Single Round Pipe 200 425-010 Structure Bottoms - Type J and P 268 Deleted U-Type Sand-Cement Endwalls 425-001 270 430-020 201 Supplementary Details for Manholes and Inlets Flared End Section 206 436-001 Trench Drain 272 430-021 Cross Drain Mitered End Section 210 425-020 Curb Inlet Tops - Types 1, 2, 3 and 4 273 430-022 Side Drain Mitered End Section 211 425-021 Curb Inlet Tops – Types 5 and 6 280 430-001 Miscellaneous Drainage Details 212 425-022 Curb Inlet - Type 7 281 524-001 Ditch Pavement and Sodding 213 425-023 282 425-060 Curb Inlet - Type 8 Back of Sidewalk Drainage 214 425-024 Curb Inlet Top - Type 9 283 520-010 Median Opening Flume 215 425-025 Curb Inlet Top - Type 10 284 520-005 Concrete Shoulder Gutter Spillway 285 216 425-061 Closed Flume Inlet 443-001 French Drain 217 425-030 286 440-001 Underdrain Median Barrier Inlets Types 1, 2, 3, 4 and 5 218 425-031 Barrier Wall Inlet 287 446-001 Concrete Pavement Subdrainage 219 425-032 Concrete Barrier Wall Inlet 288 444-T01 Deep Well Injection Box 220 425-040 Gutter Inlet - Type S 289 400-289 Concrete Box Culvert Details (LRFD) 291 221 425-041 Gutter Inlet - Type V 400-291 Supplemental Details for Precast Concrete Box Culverts 230 425-050 Ditch Bottom Inlet - Type A 292 400-292 Standard Precast Concrete Box Culverts 425-051 293 425-090 231 Ditch Bottom Inlet - Type B Safety Modifications for Inlets in Box Culverts 232 425-052 Ditch Bottom Inlet - Type C, D, E and H 295 430-090 Safety Modifications for Endwalls 233 425-053 Ditch Bottom Inlet – Type F and G Curbs, Concrete Pavement and Sidewalks 234 425-054 Ditch Bottom Inlet - Type J 300 520-001 Curb & Curb and Gutter 301 235 425-055 Ditch Bottom Inlet - Type K Deleted* Turn Lanes [*Content moved to the FDM] 240 425-070 Skimmer For Outlet Control Structures 302 520-020 Traffic Separators 241 443-002 Skimmers For French-Drain Outlets 303 Deleted Curb Return Profiles 245 440-002 Underdrain Inspection Box 304 522-002 Detectable Warnings and Sidewalk Curb Ramps 430-030 305 350-001 250 Straight Concrete Endwalls - Single And Multiple Pipe Concrete Pavement Joints 251 430-031 Straight Concrete Endwalls - Single And Double 60" Pipe 306 370-001 Bridge Approach Expansion Joint - Concrete Pavement 252 430-032 Straight Concrete Endwalls - Single And Double 66" Pipe 307 125-001 Miscellaneous Utility Details 253 430-033 307 425-080 Straight Concrete Endwalls - Single And Double 72" Pipe 255 430-034 308 353-001 Straight Concrete Endwalls - Single 84" Pipe Concrete Slab Replacement 258 Deleted Straight Sand-Cement Endwalls 310 522-001 Concrete Sidewalk 260 430-010 U-Type Concrete Endwalls With Grates - 15" to 30" Pipe

U-Type Concrete Endwalls-Baffles and Grate Optional - 15" To 30" Pipe

NEW: Utility Conflicts thru Drainage Structures (Note: Index 307, Sheet 2 of 3)

INDEX CROSSWALK FY 2018-19 - FDOT STANDARD PLANS FOR ROAD AND BRIDGE CONSTRUCTION

Design Standards Index	Standard Plans Index	Index Title	Design Standards Index	Standard Plans Index	Index Title
Traffic Railin	ngs		General		
400	536-001	Guardrail	500	120-002	Removal of Organic and Plastic M
402	536-002	Guardrail Transitions and Connections for Existing Bridges	505	120-001	Embankment Utilization
404	521-404	Guardrail Transitions – Existing Post & Beam Bridge Railings (Narrow & Recessed Curbs)	506	000-506	Miscellaneous Earthwork Details
405	521-405	Guardrail Transitions - Existing Post & Beam Bridge Railings (Wide Curbs)	510	000-510	Superelevation - Rural Highways,
410	521-001	Concrete Barrier	511	000-511	Superelevation – Urban Highways
411	521-002	Pier Protection Barrier	515	000-515	Turnouts
412	102-120	Low Profile Barrier	516	000-516	Turnouts - Resurfacing Projects
414	102-110	Type K Temporary Concrete Barrier System	517	546-001	Raised Rumble Strips
415	102-100	Temporary Concrete Barrier	518	546-010	Shoulder Rumble Strips
420	Deleted	Traffic Railing – (32" F Shape)	519	546-020	Rumble Striping
421	Deleted	Traffic Railing – (Median 32" F Shape)	521	400-021	Concrete Steps
422	521-422	Traffic Railing – (42" Vertical Shape)	525	000-525	Ramp Terminals
423	521-423	Traffic Railing – (32" Vertical Shape)	526	Deleted*	Roadway Transitions [*Content mo
424	Deleted	Traffic Railing – (Corral Shape)	527	Deleted*	Directional Median Opening [*Cont
425	Deleted	Traffic Railing – (42" F Shape)	530	Deleted	Rest Area Pavilion
426	521-426	Traffic Railing - (Median 36" Single-Slope)	532	110-200	Mailboxes
427	521-427	Traffic Railing – (36" Single-Slope)	535	Deleted	Tractor Crossing
428	521-428	Traffic Railing – (42" Single–Slope)	540	141-T01	Settlement Plate
430	544-001	Crash Cushion Details	542	110-100	Tree Protection and Preservation
461	521-010	Opaque Visual Barrier	544	580-001	Landscape Installation
470	460-470	Traffic Railing - (Thrie-Beam Retrofit) General Note & Details	546	Deleted*	Sight Distance at Intersections [
471	460-471	Traffic Railing – (Thrie-Beam Retrofit) Narrow Curb	560	830-T01	Railroad Crossings
472	460-472	Traffic Railing - (Thrie-Beam Retrofit) Wide Strong Curb Type 1	Traffic Conti	rol Through Woi	rk Zones
473	460-473	Traffic Railing - (Thrie-Beam Retrofit) Wide Strong Curb Type 2	600	102-600	General Information for Traffic C
474	460-474	Traffic Railing – (Thrie-Beam Retrofit) Intermediate Curb	601	102-601	Two-Lane, Two-Way, Work Outside
475	460-475	Traffic Railing - (Thrie-Beam Retrofit) Wide Curb Type 1	602	102-602	Two-Lane, Two-Way, Work On Sho
476	460-476	Traffic Railing - (Thrie-Beam Retrofit) Wide Curb Type 2	603	102-603	Two-Lane, Two-Way, Work Within
477	460-477	Thrie-Beam Panel Retrofit (Concrete Handrail)	604	102-604	Two-Lane, Two-Way, Work in Inte
480	521-480	Traffic Railing - (Vertical Face Retrofit) General Notes & Details	605	102-605	Two-Lane, Two-Way, Work Near II
481	521-481	Traffic Railing – (Vertical Face Retrofit) Narrow Curb	606	102-606	Two-Lane, Two-Way, Work Within
482	521-482	Traffic Railing – (Vertical Face Retrofit) Wide Curb	607	102-607	Two-Lane, Two-Way, Mobile Opera
483	521-483	Traffic Railing – (Vertical Face Retrofit) Intermediate Curb	608	102-608	Two-Lane, Two-Way, Temporary D
484	521-484	Traffic Railing – (Vertical Face Retrofit) Spread Footing Approach	611	102-611	Multilane, Work Outside Shoulder
			612	102-612	Multilane, Work on Shoulder

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		INDEX CROSSWALK				
Design Standards Index	Standard Plans Index	FY 2018-19 - FDOT STANDARD PLA	NS FOR ROAD AND Design Standards Index	BRIDGE CONSTRU Standard Plans Index	CTION Index Title	
Traffic Contr	ol Through Work	Zones (Cont.)	Fencing and	Pedestrian Rail	ings (Cont.)	
613	102-613	Multilane, Work Within Travel Way-Median or Outside Lane	821	515-021	Bridge Aluminum Pedestrian/Bicy	
614	102-614	Multilane, Work Within Travel Way-Center Lane	822	515-022	Bridge Aluminum Pedestrian/Bicy	
615	102-615	Multilane, Work in Intersection	825	521-825	42" Concrete Pedestrian/Bicycle	
616	102-616	Multilane, Work Near Intersection-Median or Outside Lane	851	515-051	Bridge Pedestrian/Bicycle Railing	
617	102-617	Multilane, Work In Intersection - Center Lane	852	515-052	Steel Pedestrian/Bicycle Railing	
618	102-618	Multilane, Work In Intersection - Two Lanes Closed-45mph or Less	861	515-061	Bridge Pedestrian/Bicycle Railing	
619	102-619	Multilane, Mobile Operations Work on Shoulder, Work Within Travel Way	862	515-062	Aluminum Pedestrian/Bicycle Rain	
620	102-620	Multilane, Divided, Temporary Diversion Connection	870	515-070	Aluminum Pipe Guiderail	
621	102-621	Multilane Undivided, Temporary Diversion Connection	880	515-080	Steel Pipe Guiderail	
622	102-622	Multilane, Work Near Intersection - Temporary Diversion Connection 35mph or Less	Noise And Perimeter Wall Systems			
623	102-623	Multilane, Work Within the Travel Way Double Lane Closure	5200	534-200	Precast Noise Walls	
625	102-625	Temporary Road Closure - 5 Minutes or Less	5210	521-510	Traffic Railing/Noise Wall (8'-0")	
628	102-628	Two Way Left Turn Lane Closure	5211	521-511	Traffic Railing/Noise Wall (14'-0'	
630	102-630	Crossover for Paving Train Operations, Rural	5212	521-512	Traffic Railing/Noise Wall (8'-0")	
631	102-631	Temporary Crossover	5213	521-513	Traffic Railing/Noise Wall T-Sha	
640	102-640	Converting Two-Lanes to Four-Lanes Divided, Rural	5214	521-514	Traffic Railing/Noise Wall L-Sha	
641	102-641	Converting Two-Lanes to Four-Lanes Divided, Urban	5215	521-515	Traffic Railing/Noise Wall Trench	
642	102-642	Transitions for Temporary Concrete Barrier Wall on Freeway Facilities	5250	534-250	Perimeter Walls	
650	102-650	Two-Lane Two-Way, Rural Structure Replacement	Wall Systems	5		
651	102-651	Multilane Divided, Maintenance and Construction	6010	400-010	C-I-P Cantilever Retaining Wall	
655	102-655	Traffic Pacing	6011	400-011	Gravity Wall	
660	102-660	Pedestrian Control for Closure of Sidewalks	6020	548-020	Permanent MSE Retaining Wall S	
665	102-665	Limited Access, Temporary Opening	6030	548-030	Temporary MSE Retaining Wall S	
667	102-667	Toll Plaza, Traffic Control Standards	6040	455-400	Precast Concrete Sheet Pile Wal	
670	102-670	Motorist Awareness System	6100	521-600	MSE Wall Coping (Precast or C-I-	
Fencing and i	Pedestrian Railii	ngs	6110	521-610	Wall Coping With Traffic Railing/	
800	550-004	Fence Location	6120	521-620	Wall Coping With Traffic Railing/	
801	550-001	Fence – Type A	6130	521-630	Wall Coping/Parapet With C-I-P	
802	550-002	Fence – Type B	6200	521-650	Coping Mounted Light Pole Pedes	
803	550-003	Cantilever Slide Gate – Type B Fence	6201	521-640	Junction Slab at Drainage Inlet (
810	550-010	Bridge Fencing (Vertical)	Signing and	<u>Marking</u>		
811	550-011	Bridge Fencing (Curved Top)	11200	700-020	Multi-Column Ground Sign	
812	550-012	Bridge Fencing (Enclosed)	11300	700-030	Steel Overhead Sign Structures	
820	521-820	27" Concrete Parapet with Pedestrian/Bicycle Bullet Railing	11310	700-040	Cantilever Sign Structure	

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)") -0") O") Junction Slab haped Spread Footing naped Spread Footing nch Footing

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			DEX CROSSWALK	RIDGE CONSTRUC	TION
Design Standards Index	Standard Plans Index	Index Title	Design Standards Index	Standard Plans Index	Index Title
Signing and I	Marking (Cont.)		Traffic Signal	and Equipment	t (Cont.)
11320	700-041	Span Sign Structure	17733	634-002	Aerial Interconnect
11860	700-010	Single Column Ground Signs	17736	639-002	Electrical Power Service
11861	700-011	Single Column Cantilever Ground Mounted Sign	17743	649-030	Standard Mast Arm Assemblies
11862	700-120	Roadside Flashing Beacon Assembly	17745	649-031	Mast Arm Assemblies
11870	700-012	Single Post Bridge Mounted Sign Support	17748	700-050	Free-Swinging Internally-Illumina
11871	700-013	Single Post Median Barrier Mounted Sign Support	17764	653-001	Pedestrian Control Signal Install
13417	700-110	Mounting Exit Number Panels To Highway Signs	17781	660-001	Vehicle Loop Installation Details
17302	700-101	Typical Sections For Placement of Single & Multi-Column Signs	17784	665-001	Pedestrian Detector Assembly In
17328	700-108	Typical Signing for Truck Weigh & Inspection Stations	17841	676-010	Cabinet Installation Details
17344	Deleted*	School Signs & Markings [*Content moved to Speed Zone Manual]	17870	671-001	Standard Signal Operating Plans
17345	711-003	Interchange Markings	17881	509-100	Advance Warning For R/R Crossin
17346	711-001	Pavement Markings	17882	509-070	Railroad Grade Crossing Traffic
17347	711-002	Bicycle Markings	17890	508-T01	Traffic Control Devices For Mova
17349	700-109	Traffic Controls For Street Terminations	Planning		
17350	700-104	Signing For Motorist Services	17900	695-001	Traffic Monitoring Site
17351	700-105	Welcome Center Signing	Intelligent Tra	ansportation Sy	stems (ITS)
17352	706-001	Typical Placement Of Reflective Pavement Markers	18100	Deleted	CCTV Pole Placement
17354	700-103	Tourist Oriented Directional Signs	18101	Deleted*	Typical CCTV Site [*Combined wit
17355	700-102	Special Sign Details	18102	Deleted*	Grounding And Lightning Protection
17356	659-010	Span Wire Mounted Sign Details	18104	Deleted	Typical CCTV Cabinet Equipment
17357	700-107	Bridge Weight Restrictions	18105	Deleted	CCTV Block Diagram
17359	700-106	Rural Narrow Bridge Treatment	18107	Deleted*	Ground Mounted CCTV Cabinet [*C
Roadway Ligh	nting		18108	Deleted*	Pole Mounted CCTV Cabinet [*Con
17500	715-001	Conventional Lighting	18110	659-020	Camera Mounting Details
17502	715-010	High Mast Lighting	18111	649-020	Steel CCTV Pole
17504	639-001	Service Point Details	18113	641-020	Concrete CCTV Pole
17505	700-031	External Lighting For Signs	18300	700-090	Dynamic Message Sign Walk-In
17515	715-002	Standard Aluminum Lighting	Prestressed (Concrete Beams	
Traffic Signal and Equipment		20010	450-010	Typical Florida-I Beam Details a	
17700	635-001	– Pull & Splice Box	20036	450-036	Florida-I 36 Beam - Standard De
17721	630-001	Conduit Installation Details	20045	450-045	Florida-I 45 Beam – Standard De
17723	649-010	Steel Strain Pole	20054	450-054	Florida-I 54 Beam – Standard De
17725	641-010	Concrete Poles	20063	450-063	Florida-I 63 Beam – Standard De
17727	634-001	Signal Cable & Span Wire Installation Details	20072	450-072	Florida-I 72 Beam - Standard De

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		INDEX CROSSWALK FY 2018-19 - FDOT STANDARD PLANS FOR ROAD AND BRIDGE CONSTRUCTION			
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Prestressed	Concrete Beam	ns (Cont.)	Structures A	ccess and Light	ting
20078	450-078	Florida-I 78 Beam – Standard Details	21200	521-660	Light Pole Pedestal
20084	450-084	Florida-I 84 Beam – Standard Details	21210	630-010	Conduit Details
20096	450-096	Florida-I 96 Beam – Standard Details	21220	510-001	Navigation Light System Details (
20120	450-120	AASHTO Type II Beam	21240	715-240	Maintenance Lighting For Box Gir
20199	450-199	Build-Up & Deflection Data For Prestressed I-Beams	21250	460-250	Access Hatch Assembly For Steel
20210	450-210	Typical Florida-U Beam Details and Notes	21251	460-251	Access Hatch Assembly For Conci
20248	450-248	Florida-U 48 Beam - Standard Details	21252	460-252	Access Door Assembly For Concre
20254	450-254	Florida-U 54 Beam - Standard Details	Standard Bar Bending Details		
20263	450-263	Florida-U 63 Beam - Standard Details	21300	415-001	Standard Bar Bending Details
20272	450-272	Florida-U 72 Beam - Standard Details	Temporary D	etour Bridges	
20299	450-299	Build-Up and Deflection Data For Florida-U Beams	21600	102-200	Temporary Detour Bridge Genera
Bridge Beari	ngs		21610	102-210	Temporary Detour Bridge Details
20502	450-502	Beveled Bearing Plate Details – Prestressed Florida–U Beams	21620	102-220	Temporary Detour Bridge Details
20510	400-510	Composite Elastomeric Bearing Pads-Prestressed Florida-I & AASHTO Type II Beams	21630	102-230	Temporary Detour Bridge Details
20511	450-511	Bearing Plates (Type I) - Prestressed Florida-I & AASHTO Type II Beams	21640	102-240	Temporary Detour Bridge Thrie-E
20512	450-512	Bearing Plates (Type 2) - Prestressed Florida-I & AASHTO Type II Beams	Post-Tension	ing	
Square and	Round Concrete	Piles (With Carbon Steel)	21801	462-001	Post-Tensioning Vertical Profile
20600	455-001	Notes and Details For Square Prestressed Concrete Piles	21802	462-002	Post-Tensioning Anchorage Protec
20601	455-002	Square Prestressed Concrete Pile Splices	21803	462-003	Post-Tensioning Anchorage and G
20602	455-003	EDC Instrumentation For Square Prestressed Concrete Piles	Fender Syste	m Details	
20612	455-012	12" Square Prestressed Concrete Pile	21930	471-030	Fender System – Prestressed Co
20614	455-014	14" Square Prestressed Concrete Pile	Wall Systems	(Corrosion Re.	sistant)
20618	455-018	18" Square Prestressed Concrete Pile	22440	455-440	Precast Concrete CFRP/GFRP & F
20620	455-020	20" Square Prestressed Concrete Pile	Square and F	Round Concrete	Piles (Corrosion Resistant)
20624	455-024	24" Square Prestressed Concrete Pile	22600	455-101	Notes and Details for Square CF
20630	455-030	30" Square Prestressed Concrete Pile	22601	455-102	Square CFRP and SS Prestressed
20631	455-031	High Moment Capacity 30" Square Prestressed Concrete Pile	22612	455-112	12" Square CFRP and SS Prestre
20654	455-054	54" Precast/Post- Tensioned Concrete Cylinder Pile	22614	455-114	14" Square CFRP and SS Prestre
20660	455-060	60" Prestressed Concrete Cylinder Pile	22618	455-118	18" Square CFRP and SS Prestre
Approach Sla	abs		22624	455-124	24" Square CFRP and SS Prestre
20900	400-090	Approach Slabs (Flexible Pavement Approaches)	22630	455-130	30" Square CFRP and SS Prestre
20910	400-091	Approach Slabs (Rigid Pavement Approaches)	22654	455-154	54" Square CFRP and SS Prestre
Bridge Expa	nsion Joints		22660	455-160	60" Square CFRP and SS Prestre
21100	458-100	Strip Seal Expansion Joint			
21110	458-110	Poured Joint With Backer Rod Expansion Joint System			

s (Fixed Bridges) Girders eel Box Sections ncrete Box Sections crete Box Sections

ral Notes and Details ils - Timber Pile Foundations ils - Steel H Pile Foundations ils - Steel Pipe Pile Foundations e-Beam Guardrail

e tection Grouting Details

Concrete Piles

HSSS/GFRP Sheet Pile Wall

CFRP & SS Prestressed Concrete Piles sed Concrete Pile Splices ressed Concrete Pile ressed Concrete Pile ressed Concrete Pile ressed Concrete Pile ressed Concrete Pile

ressed Concrete Pile