FY 2016-17 TABLE OF CONTENTS

Index Number — Title

Revisions
Booklet Revisions

Abbreviations and Symbols
1 Standard Abbreviations
2 Standard Symbols

Erosion Control and Water Quality
104 Permanent Erosion Control
105 Shoulder Sodding and Turf on Existing Facilities

Drainage
200 Structure Bottoms - Type J and P
201 Supplementary Details for Manholes and Inlets
206 Trench Drain
210 Curb Inlet Tops - Types 1, 2, 3 and 4
211 Curb Inlet Tops - Types 5 and 6
212 Curb Inlet - Type 7
213 Curb Inlet - Type 8
214 Curb Inlet Top - Type 9
215 Curb Inlet Top - Type 10
216 Closed Flume Inlet
217 Median Barrier Inlets Types 1, 2, 3, 4 and 5
218 Barrier Wall Inlet
219 Concrete Barrier Wall Inlet
220 Gutter Inlet - Type S
221 Gutter Inlet - Type V
230 Ditch Bottom Inlet - Type A
231 Ditch Bottom Inlet - Type B
232 Ditch Bottom Inlet - Type C, D, E and H
233 Ditch Bottom Inlet - Type F and G
234 Ditch Bottom Inlet - Type J
235 Ditch Bottom Inlet - Type K
240 Skimmer For Outlet Control Structures
241 Skimmers For French-Drain Outlets
245 Underdrain Inspection Box
250 Straight Concrete Endwalls - Single And Multiple Pipe
251 Straight Concrete Endwalls - Single And Double 60" Pipe
252 Straight Concrete Endwalls - Single And Double 66" Pipe
253 Straight Concrete Endwalls - Single And Double 72" Pipe
255 Straight Concrete Endwalls - Single 84" Pipe
258 Straight Sand-Cement Endwalls
260 U-Type Concrete Endwalls With Grates - 15" to 30" Pipe
261 U-Type Concrete Endwalls-Baffles and Grate Optional - 15" To 30" Pipe
264 U-Type Concrete Endwall-Energy Dissipator - 30" to 72" Pipe
266 Winged Concrete Endwalls - Single Round Pipe
268 U-Type Sand-Cement Endwalls
270 Flared End Section
272 Cross Drain Mitered End Section
273 Side Drain Mitered End Section
280 Miscellaneous Drainage Details
281 Ditch Pavement and Sodding
282 Back of Sidewalk Drainage
283 Median Opening Flume
284 Concrete Shoulder Gutter Spillway
285 French Drain
286 Underdrain
287 Concrete Pavement Subdrainage
288 Deep Well Injection Box
289 Concrete Box Culvert Details (LRFD)
291 Supplemental Details for Precast Concrete Box Culverts
292 Standard Precast Concrete Box Culverts
293 Safety Modifications for Inlets in Box Culverts
295 Safety Modifications for Endwalls

Index Number — Title

Curbs, Concrete Pavement and Sidewalks
300 Curb & Curb and Gutter
301 Turn Lanes
302 Traffic Separators
303 Curb Return Profiles
304 Detectable Warnings and Sidewalk Curb Ramps
305 Concrete Pavement Joints
306 Bridge Approach Expansion Joint -Concrete Pavement
307 Miscellaneous Utility Details
308 Concrete Slab Replacement
310 Concrete Sidewalk

Traffic Railings
400 Guardrail
402 Guardrail Transitions and Connections for Existing Bridges
404 Guardrail Transitions - Existing Post & Beam Bridge Railings (Narrow & Recessed Curbs)
405 Guardrail Transitions - Existing Post & Beam Bridge Railings (Wide Curbs)
410 Concrete Barrier Wall
411 Pier Protection Barrier
412 Low Profile Barrier
414 Type K Temporary Concrete Barrier System
415 Temporary Concrete Barrier
420 Traffic Railing - (32" F Shape)
421 Traffic Railing - (Median 32" F Shape)
422 Traffic Railing - (42" Vertical Shape)
423 Traffic Railing - (32" Vertical Shape)
424 Traffic Railing - (Corral Shape)
425 Traffic Railing - (42" F Shape)
430 Crash Cushion Details
461 Opaque Visual Barrier
470 Traffic Railing-(Thrie Beam Retrofit) General Note & Details
471 Traffic Railing-(Thrie Beam Retrofit) Narrow Curb
472 Traffic Railing-(Thrie Beam Retrofit) Wide Strong Curb Type 1
473 Traffic Railing-(Thrie Beam Retrofit) Wide Strong Curb Type 2
474 Traffic Railing-(Thrie Beam Retrofit) Intermediate Curb
475 Traffic Railing-(Thrie Beam Retrofit) Wide Curb Type 1
476 Traffic Railing-(Thrie Beam Retrofit) Wide Curb Type 2
477 Thrie-Beam Panel Retrofit (Concrete Handrail)
480 Traffic Railing-(Vertical Face Retrofit) General Notes & Details
481 Traffic Railing-(Vertical Face Retrofit) Narrow Curb
482 Traffic Railing-(Vertical Face Retrofit) Wide Curb
483 Traffic Railing-(Vertical Face Retrofit) Intermediate Curb
484 Traffic Railing- (Vertical Face Retrofit) Spread Footing Approach

General
500 Removal of Organic and Plastic Material
505 Embankment Utilization
506 Miscellaneous Earthwork Details
510 Superelevation - Rural Highways, Urban Freeways and High Speed Urban Highways
511 Superelevation - Urban Highways and Streets
514 Optional Base Group and Structural Numbers
515 Turnouts
516 Turnouts - Resurfacing Projects
517 Raised Rumble Strips
518 Shoulder Rumble Strips
519 Rumble Striping
521 Concrete Steps
525 Ramp Terminals
526 Roadway Transitions
527 Directional Median Opening
530 Rest Area Pavilion
532 Mailboxes

Index Number — Title

535 Tractor Crossings
540 Settlement Plate
544 Landscape Installation
546 Sight Distance at Intersections
560 Railroad Crossings

Traffic Control Through Work Zones
600 General Information for Traffic Control Through Work Zones
601 Two-Lane, Two-Way, Work Outside Shoulder
602 Two-Lane, Two-Way, Work On Shoulder
603 Two-Lane, Two-Way, Work Within The Travel Way
604 Two-Lane, Two-Way, Work in Intersection
605 Two-Lane, Two-Way, Work Near Intersection
606 Two-Lane, Two-Way, Work Within the Travel Way - Signal Control
607 Two-Lane, Two-Way, Mobile Operation, Work On Shoulder and Work Within the Travel Way
608 Two-Lane, Two-Way, Temporary Diversion Connection
611 Multilane, Work Outside Shoulder
612 Multilane, Work On Shoulder
613 Multilane, Work Within Travel Way-Median or Outside Lane
614 Multilane, Work Within Travel Way-Center Lane
615 Multilane, Work in Intersection
616 Multilane, Work Near Intersection-Median or Outside Lane
617 Multilane, Work In Intersection - Center Lane
618 Multilane, Work In Intersection -Two Lanes Closed-45mph or Less
619 Multilane, Mobile Operations Work on Shoulder, Work Within Travel Way
620 Multilane, Divided, Temporary Diversion Connection
621 Multilane Undivided, Temporary Diversion Connection
622 Multilane, Work Near Intersection-Temporary Diversion Connection 35mph or Less
623 Multilane, Work Within the Travel Way Double Lane Closure
625 Temporary Road Closure- 5 Minutes or Less
628 Two Way Left Turn Lane Closure
630 Crossover for Paving Train Operations, Rural
631 Temporary Crossover
640 Converting Two-Lanes to Four-Lanes Divided, Rural
641 Converting Two-Lanes to Four-Lanes Divided, Urban
642 Transitions for Temporary Concrete Barrier Wall on Freeway Facilities
650 Two-Lane Two-Way, Rural Structure Replacement
651 Multilane Divided, Maintenance and Construction
655 Traffic Pacing
660 Pedestrian Control for Closure of Sidewalks
665 Limited Access, Temporary Opening
667 Toll Plaza, Traffic Control Standards
670 Motorist Awareness System

Roadside Safety
700 Roadside Offsets

Fencing and Pedestrian Railings
800 Fence Location
801 Fence - Type A
802 Fence - Type B
803 Cantilever Slide Gate - Type B Fence
810 Bridge Fencing (Vertical)
811 Bridge Fencing (Curved Top)
812 Bridge Fencing (Enclosed)
820 27" Concrete Parapet With Pedestrian/Bicycle With Bullet Railing
821 Bridge Aluminum Pedestrian/Bicycle Bullet Railing for Traffic Railing (32" F Shape)
822 Bridge Aluminum Pedestrian/Bicycle Bullet Railing Details
825 42" Concrete Pedestrian/Bicycle Railing
851 Bridge Pedestrian/Bicycle Railing (Steel)
852 Steel Pedestrian/Bicycle Railing

FY 2016-17 TABLE OF CONTENTS

Index Number	Title
Noise And Perimeter Wall Systems	
861	Bridge Pedestrian/Bicycle Railing (Aluminum)
862	Aluminum Pedestrian/Bicycle Railing
870	Aluminum Pipe Guiderail
880	Steel Pipe Guiderail
5200	Precast Noise Walls
5210	Traffic Railing/Noise Wall (8'-0")
5211	Traffic Railing/Noise Wall (14'-0")
5212	Traffic Railing/Noise Wall (8'-0") Junction Slab
5213	Traffic Railing/Noise Wall T-Shaped Spread Footing
5214	Traffic Railing/Noise Wall L-Shaped Spread Footing
5215	Traffic Railing/Noise Wall Trench Footing
5250	Perimeter Walls
Wall Systems	
6010	C-I-P Cantilever Retaining Wall
6011	Gravity Wall
6020	Permanent MSE Retaining Wall Systems
6030	Temporary MSE Retaining Wall Systems
6040	Precast Concrete Sheet Pile Wall
6100	MSE Wall Coping (Precast or C-I-P)
6110	Wall Coping With Traffic Railing/Junction Slab
6120	Wall Coping With Traffic Railing/Raised Sidewalk
6130	Wall Coping/Parapet With C-I-P Sidewalk
6200	Coping Mounted Light Pole Pedestal
6201	Junction Slab at Drainage Inlet Openings
Signing and Markings	
11200	Multi-Column Ground Sign
11300	Steel Overhead Sign Structures
11310	Cantilever Sign Structure
11320	Span Sign Structure
11860	Single Column Ground Signs
11861	Single Column Cantilever Ground Mounted Sign
11862	Roadside Flashing Beacon Assembly
11870	Single Post Bridge Mounted Sign Support
11871	Single Post Median Barrier Mounted Sign Support
13417	Mounting Exit Number Panels To Highway Signs
17302	Typical Sections For Placement of Single & Multi-Column Signs
17328	Typical Signing for Truck Weigh & Inspection Stations
17344	School Signs & Markings
17345	Interchange Markings
17346	Special Marking Areas
17347	Bicycle Markings
17349	Traffic Controls For Street Terminations
17350	Signing For Motorist Services
17351	Welcome Center Signing
17352	Typical Placement Of Reflective Pavement Markers
17354	Tourist Oriented Directional Signs
17355	Special Sign Details
17356	Span Wire Mounted Sign Details
17357	Bridge Weight Restrictions
17359	Rural Narrow Bridge Treatment
Roadway Lighting	
17500	Conventional Lighting
17501	Highway Lighting General Notes
17502	High Mast Lighting
17504	Service Point Details
17505	External Lighting For Signs
17515	Standard Aluminum Lighting
Traffic Signal and Equipment	
17700	Pull & Splice Box
17721	Conduit Installation Details
17723	Steel Strain Pole
17725	Concrete Poles
17727	Signal Cable & Span Wire Installation Details
17733	Aerial Interconnect
17736	Electrical Power Service
17743	Standard Mast Arm Assemblies
17745	Mast Arm Assemblies
17748	Free-Swinging Internally-Illuminated Street Sign Assemblies
17764	Pedestrian Control Signal Installation Details
17781	Vehicle Loop Installation Details
17784	Pedestrian Detector Assembly Installation Details
17841	Cabinet Installation Details
17870	Standard Signal Operating Plans
17881	Advance Warning For R/R Crossing
17882	Railroad Grade Crossing Traffic Control Devices
17890	Traffic Control Devices For Movable Span Bridge Signals
Planning	
17900	Traffic Monitoring Site
Intelligent Transportation Systems (ITS)	
18100	CCTV Pole Placement
18101	Typical CCTV Site
18102	Grounding And Lightning Protection
18104	Typical CCTV Cabinet Equipment Layout
18105	CCTV Block Diagram
18107	Ground Mounted CCTV Cabinet
18108	Pole Mounted CCTV Cabinet
18110	Camera Mounting Details
18111	Steel CCTV Pole
18113	Concrete CCTV Pole
18300	Dynamic Message Sign Walk-In
Prestressed Concrete Beams	
20010	Typical Florida-I Beam Details and Notes
20036	Florida-I 36 Beam - Standard Details
20045	Florida-I 45 Beam - Standard Details
20054	Florida-I 54 Beam - Standard Details
20063	Florida-I 63 Beam - Standard Details
20072	Florida-I 72 Beam - Standard Details
20078	Florida-I 78 Beam - Standard Details
20084	Florida-I 84 Beam - Standard Details
20096	Florida-I 96 Beam - Standard Details
20120	AASHTO Type II Beam
20199	Build-Up & Deflection Data For Prestressed I-Beams
20210	Typical Florida-U Beam Details and Notes
20248	Florida-U 48 Beam - Standard Details
20254	Florida-U 54 Beam - Standard Details
20263	Florida-U 63 Beam - Standard Details
20272	Florida-U 72 Beam - Standard Details
20299	Build-Up and Deflection Data For Florida-U Beams
Bridge Bearings	
20502	Beveled Bearing Plate Details - Prestressed Florida-U Beams
20510	Composite Elastomeric Bearing Pads-Prestressed Florida-I & AASHTO Type II Beams
20511	Bearing Plates (Type 1) - Prestressed Florida-I & AASHTO Type II Beams
20512	Bearing Plates (Type 2) - Prestressed Florida-I & AASHTO Type II Beams
Square and Round Concrete Piles	
20600	Notes and Details For Square Prestressed Concrete Piles
20601	Square Prestressed Concrete Pile Splices
20602	EDC Instrumentation For Square Prestressed Concrete Piles
20612	12" Square Prestressed Concrete Pile
20614	14" Square Prestressed Concrete Pile
20618	18" Square Prestressed Concrete Pile
20620	20" Square Prestressed Concrete Pile
20624	24" Square Prestressed Concrete Pile
20630	30" Square Prestressed Concrete Pile
20631	High Moment Capacity 30" Square Prestressed Concrete Pile
20654	54" Precast/Post- Tensioned Concrete Cylinder Pile
20660	60" Prestressed Concrete Cylinder Pile
Approach Slabs	
20900	Approach Slabs (Flexible Pavement Approaches)
20910	Approach Slabs (Rigid Pavement Approaches)
Bridge Expansion Joints	
21100	Strip Seal Expansion Joint
21110	Poured Joint With Backer Rod Expansion Joint System
Structures Access and Lighting	
21200	Light Pole Pedestal
21210	Conduit Details
21220	Navigation Light System Details (Fixed Bridges)
21240	Maintenance Lighting For Box Girders
21250	Access Hatch Assembly For Steel Box Sections
21251	Access Hatch Assembly For Concrete Box Sections
21252	Access Door Assembly For Concrete Box Sections
Standard Bar Bending Details	
21300	Standard Bar Bending Details
Temporary Detour Bridges	
21600	Temporary Detour Bridge General Notes and Details
21610	Temporary Detour Bridge Details - Timber Pile Foundations
21620	Temporary Detour Bridge Details - Steel H Pile Foundations
21630	Temporary Detour Bridge Details - Steel Pipe Pile Foundations
21640	Temporary Detour Bridge Thrie-Beam Guardrail
Post-Tension Details	
21801	Post-Tensioning Vertical Profiles
21802	Post-Tensioning Anchorage Protection
21803	Post-Tensioning Anchorage and Grouting Details
Fender System Details	
21930	Fender System - Prestressed Concrete Piles
Prestressed Concrete Pile System Details	
22600	Notes and Details for Square CFRP & SS Prestressed Concrete Piles
22601	Square CFRP and SS Prestressed Concrete Pile Splices
22612	12" Square CFRP and SS Prestressed Concrete Pile
22614	14" Square CFRP and SS Prestressed Concrete Pile
22618	18" Square CFRP and SS Prestressed Concrete Pile
22624	24" Square CFRP and SS Prestressed Concrete Pile
22630	30" Square CFRP and SS Prestressed Concrete Pile
22654	54" Square CFRP and SS Prestressed Concrete Pile
22660	60" Square CFRP and SS Prestressed Concrete Pile