

INFORMATION ONLY

Significant differences between the 2012 and 2020 editions of the Spec Book.

Note: Section references are taken from the current 2020 draft.

Section	Change Type	Description of Change
Division 1		
101.03	Miscellaneous	Removed "progress schedule" from definition of Contract. See change item for section 108.05
101.03	Schedule	Revised definition of "Progress Schedule". Schedule to be submitted to Engineer after award and prior to starting work (previously was to be submitted to Department before award).
102.14	Miscellaneous	Added statement: "If the determined low bidder withdraws their Bid submittal after opening and at any time prior to contract award they forfeit their bid guaranty."
102.14; 102.16	Schedule	The determined low bidder has 21 calendar days to return signed contract, bond forms, etc. to the Department. (Was 28 calendar days previously. MITA requested 14 days, but final impasse meeting decision is for 21 days.)
102.14	Schedule	Determined low bidder may withdraw bid if Department does not execute the contract within 35 calendar days (was 49 calendar days previously. MITA requested 28 days, but final impasse meeting decision is for 35 days.)
102.14	Miscellaneous	Added a list of what is included as part of the required contract and bond forms
102.16	Miscellaneous	Added statement: "A Determined Low Bidder who withdraws their Bid prior to Contract Award cannot participate as a Subcontractor, supplier, or trucker on the Project."
102.17	Miscellaneous	Replaced 2nd and 3rd paragraphs to reflect updated FUSP 12SP-102E-06
102.17.A	Miscellaneous	Replaced first sentence to reflect updated FUSP 12SP-102E-06
103.02.B	Miscellaneous	Contract adjustments exclude anticipated profit (previously excluded profit). Impasse meeting decision
104.02	Schedule	Schedule added for the Department review of Working Drawings (14 Calendar Days for initial review; 7 Calendar Days for subsequent reviews)
104.06	Miscellaneous	Approved Working Drawings are part of the order of precedence now – same level as plans.
104.07.C	Miscellaneous	Sweep pavements as needed and as directed by the Engineer. Paved roadbeds must have a final cleaning 7 days prior to open to traffic. No additional payment.
105.01.A	Miscellaneous	Removed requirement that new materials and fabricated items be certified by the supplier in writing.
105.01.F	Miscellaneous	Added statement: "Regardless of the application, prohibit the use of the industrial byproducts covered in Part 115, Solid Waste Management, of the Natural Resources and Environmental Protection Act (MCL 324.11501 et seq.)."
105.03	Paymt Qtys/Methods	The Contractor must reimburse the Department for borrow material removed from the Project Limits at a rate of \$2.00/cyd (was \$1.00/cyd previously)
106	Organization	Former "Quality Assurance Acceptance Program" now Reserved. QA is incorporated into other respective sections and special provisions
107.04	Miscellaneous	\$10,000 fine for using false claims for obtaining payment against federal funds (was \$2,000 previously; change per CFR 635.119)
107.19	Schedule	Removed sentence "Before hauling materials on local roads and streets, the Contractor is responsible for obtaining approval from the respective local government agency."
107.22	Miscellaneous	Added restrictions against staging in public recreation areas
107.23	Miscellaneous	Added requirements for National Pollutant Discharge Elimination System inspection and response
107.24	Miscellaneous	Added requirements for Federal Aviation Administration notification for structure work
108.01	Miscellaneous	Added paragraph "All pay items identified as Designated or as Specialty Classifications must be performed by subcontract if the prime Contractor is not prequalified in the Designated or Specialty Classifications. All other work must be performed by subcontract. MDOT Form 1302-FED <i>Subcontract – FED</i> or MDOT Form 1302-State <i>Subcontract – State</i> must be used when subcontracting the contract work performed by others."
108.05	Miscellaneous	Changes to the Department process for submitting and approving progress schedule changes. Removes the progress schedule from incorporation into the actual contract. (requested by FHWA)
108.05.A	Schedule	Schedule added for the submittal and Department review of Progress Schedule
108.08.D.1-2	Schedule	Progress Schedule to use 5 Work Day week (was 4 Work Day week assuming 1 Work Day loss per week because of weather) For expedited projects, use 6 Work Day week (was 5)
Table 108-1	Paymt Qtys/Methods	Updates to Schedule of Liquidated Damages for Department Oversight
108.12	Miscellaneous	Added sentence "If the Department does not choose to purchase the acceptable materials that were obtained for the work but not used, the Department will pay for actual material costs, plus 15%, for disposal of the acceptable materials in an approved manner."
109.01.B.2.b	Paymt Qtys/Methods	Removed language for volume and weight measurement of asphaltic materials
109.01.B.6	Paymt Qtys/Methods	A Michigan Registered Service Agency must certify the calibration and working order of weighing systems annually
109.04.B	Paymt Qtys/Methods	Revision allows for a supplier invoice relating to stockpiled materials to be used temporarily in place of an authenticated proof of payment. Contractor must furnish the paid invoice within 10 days after receiving payment from the Engineer

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109.05.D.3	Paymt Qtys/Methods	For force account work, the Engineer will pay the Contractor an amount equal to 55% of the sum of labor costs for roadwork or 60% for bridge work to cover home office overhead, bond premium, insurance, payroll tax, etc. (previously was 35% for overhead, plus 11% insurance etc., plus 3.5% for business taxes)
109.05.E.2.e 110	Paymt Qtys/Methods Organization	Payment for field office overhead costs revised (was previously part of lump sum) Formerly Section 150
110.04	Paymt Qtys/Methods	Jobsite posters must be in place before Mobilizations payments will be made. Penalties established for not properly displaying jobsite posters
Division 2		
202.03.A	Materials	Removing Trees and Stumps – backfill with class III material within the influence of the subgrade, and sound earth outside the influence
204.03.A.2	Miscellaneous	Impact or vibratory type equipment is not permitted for use on pavement removal operations over utilities and other critical areas. Must be sawcut. (impasse item)
205.01	Miscellaneous	Now cites the Geotechnical Manual (Revised in 2019). Geotechnical Manual supersedes the Fifth Edition of the Field Manual of Soils Engineering and the 2004 Edition of the Geotechnical Investigation and Analysis Requirements for Structures
205.01	Materials	Updated definition of "Sound Earth": Natural homogeneous material composed of soil or aggregate that can be compacted to the required density, contains no visible organic material, and has a maximum unit weight of at least 95 pounds per cubic foot.
205.03.A.3	Miscellaneous	Excess topsoil, boulders, rocks, etc. becomes the property of the contractor rather than designed to be spoiled/buried within the project limits.
205.03.E.1	Miscellaneous	Frost heave susceptible material must be removed if within the subgrade surface limits
205.03.E.2	Materials	Created Undercutting, Type IV – backfill with 21AA or 4G Open Graded material. 4G Open Graded must be completely encapsulated in geotextile separator
205.03.K	Paymt Qtys/Methods	Removing soils/spoils from the project site is included as part of ditch cleanout
205.03.Q; 205.04.K	Paymt Qtys/Methods	Added new pay item: Berm Grading - \$Sta
205.04.A	Paymt Qtys/Methods	Engineer and Contractor may agree to plan quantity or alternative methods other than average end area or staked-section method may be used such as a comparison of digital terrain models
205.04.F.2	Paymt Qtys/Methods	Removed language for measuring excavation and embankment when plan quantities cannot be used (impasse meeting decision based on changes made in 205.04.A)
205.04.H	Paymt Qtys/Methods	Ditch Cleanout no longer includes restoration items
206.03.B.2	Miscellaneous	Backfill can be placed in 12" lifts between outer limits of the footing and surface elevation and slope paving (was 6 inches previously)
Division 3		
301.03	Miscellaneous	Place subbase in layers no greater than 18 inches (was 15 inches previously)
302.03.A	Miscellaneous	Compact aggregate layers no greater than 8 inches thick (was 6 inches previously). Additional language added to clarify blending requirements in subsections A & B (impasse meeting decision)
302.04.E	Paymt Qtys/Methods	Added pay item "Aggregate Base, Conditioning, Surplus and Unsuitable, Remove, LM - \$Cyd"
302.04.F	Paymt Qtys/Methods	Added pay item "Salv Aggregate Base, Conditioning, LM - \$Cyd"
303	Organization	Significantly expanded section on Open-Graded Drainage Courses to include Materials, Construction, and Measurement & Payment subsections rather than simply referencing the contract
304.03.B	Miscellaneous	Updated language: "Do not remove patching material until after rubblizing. Backfill the removal area with filler aggregate before compaction operations." 2012 language was: "Remove loose patching material before rubblizing, as directed by the Engineer. Do not fill voids before rubblizing."
304.04.A	Paymt Qtys/Methods	Added the removal of patching materials to the list of what is included in the cost of the pay item Pavt, Rubblize.
303.03.B; 306.03.B; 307.03.B	Paymt Qtys/Methods	Determine truck tare weight once daily for measuring aggregate by weight (was twice previously)
305.04.A	Paymt Qtys/Methods	Pay for HMA Base Crushing and Shaping based on width of proposed HMA surface (previously on plan quantity)
306.03.B	Miscellaneous	Compact aggregate layers no greater than 8 inches thick (was 6 inches previously)
306.04.C	Paymt Qtys/Methods	Added pay items: "Driveway Maintenance, Commercial - \$Ea", "Driveway Maintenance, Residential - \$Ea" and "Intersection Maintenance - \$Ea" (formerly a USP)
308.03.B, 308.04	Paymt Qtys/Methods	Added pay item "Road Grade Biaxial Geogrid - \$Syd "
308.04	Paymt Qtys/Methods	Added pay items: "Geotextile, Separator, Non-Woven - \$Syd" and "Geotextile, Stabilization, Non-Woven - \$Syd"
Division 4		
Table 401-1; Table 402-1 Table 401-1	Miscellaneous Materials	Regarding culverts and sewers: Special design is need for fill heights less than 1ft and greater than 33ft (previously just for greater than 33ft). Impasse meeting decision. Corrugated Polyvinyl Chloride (CPV) is allowed for Class F pipes

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Table 401-1; Table 402-1	Miscellaneous	Class E culverts are now <= 1-3' (were 0-3 previously)
401.03.C.1; 402.03.C.1	Miscellaneous	Laser Technology can be used to measure deflection in lieu of mandrel testing
401.04	Paymt Qtys/Methods	Added pay item "Outfall Label- $\$Ea$ " (FUSP 12SP-401A)
401.04	Paymt Qtys/Methods	Added new pay item: Culv, Outlet Headwall, _ inch - $\$Each$
401.04, 401.04.C.4	Unit of measurement change	Culv End Sect, Grate now measured in Each (was Pound previously)
404.02; 404.04.E	Miscellaneous	Eliminated rodent screens as a component of underdrains. They become plugged up with tufa from using RCC agg base.
404.03.E	Miscellaneous	Prohibits use of wyes, tees, or similar fittings to connect underdrain outlet pipe to the underdrain
404.03.F	Miscellaneous	Removed sentence "Excavate areas requiring sod to at least 4 inches deep and place topsoil and sod in accordance with subsection 816.03."
404.04	Paymt Qtys/Methods	Removed pay item "Underdrain, PDS, Open-Graded, __ inch - $\$Ft$ "
406.03.A	Schedule	Design for precast 3-sided, arch, or box culverts must be submitted to Engineer for approval at least 14 days prior to fabrication (was 7 previously)
406.03.B.1	Miscellaneous	If changes are made in the field a new load rating must be performed. Added sentences "Provide tongue and groove ends in accordance with ASTM C1577. Shop drawings must accurately depict the shape of the tongue and groove configuration. Joint configurations other than what is specified in ASTM C1577 are not acceptable. Box culvert sections installed with joints not meeting ASTM C1577 must be removed and replaced with materials that meet specification at no cost to the Department."
406.03.D.3.b	Miscellaneous	Language added for concrete mix design requirements and curing methods for precast culverts
406.03.D.4, 6	Miscellaneous	Cold Weather Precautions were updated to not allow placement of concrete if temperature is below 40 degrees unless they are preheated a quality control plan is in place
406.03.D.10	Miscellaneous	For precast 3-sided and arch culverts, wrap joints with 36-inch wide geotextile blanket. (was 24-inch wide previously)
406.03.G.2	Miscellaneous	Updated language regarding treatment of joints for box culverts. Box culverts must use 12" wide external rubber gasket seal (previously 9"). Both Box and 3-sided culverts must have exterior joints treated with a cold applied joint sealer
406.03.G.3	Miscellaneous	Added paragraph "The substructure design is specific to the three-sided or arch culvert detailed on the plans. The Contractor must use approved MDOT service vendors qualified in hydraulics, geotechnical engineering services, and short- and medium-span bridges to perform the required design and plan modifications, as directed by the Engineer, if the Contractor selects a culvert shape different than shown on the plans."
406.04.A	Materials	
Division 5		
501	Paymt Qtys/Methods	Number of HMA mixes reduced. Mixes renamed. Changes made to Spec Book tables (new mix design designations, etc.) and to HMA Mixture Selection Guidelines in the Road Design Manual
501.02.B-C	Schedule	HMA plants must be certified by MDOT at least 5 days before mix production begins (was 3 work days previously). Mix design must be submitted to the Engineer at least 4 days before production begins (was 2 work days previously).
501.03.A.7	Miscellaneous	Paver hopper should be kept 2/3 full of mix during paving. (Was 1/3 previously)
501.03.C.5	Miscellaneous	Cold-Milling QC Plan and Operations Plan now required; Specs expanded to include cold-milling HMA FUSP (12SP-501GG)
501.03.F.5; 501.04.J	Miscellaneous	Safety Edge specs added (FUSP 12SP-501L)
501.03.I.2	Miscellaneous	HMA seasonal limitations removed
501.03.N.2; Table 501-6	Paymt Qtys/Methods	Contract Adjustments for maintenance of temporary pavement added
501.04	Paymt Qtys/Methods	Pay Item added: "HMA, Temp Pavt (mix type) - $\$Ton$ " (12SP-501L)
501.04; 902	Paymt Qtys/Methods	Pay Item removed: HMA, LVSP - $\$Ton$
501.04.D	Paymt Qtys/Methods	Added list of work items included in cost of cold-milling and not paid for separately.
501.04.F	Paymt Qtys/Methods	Removed statement that joint cleanout methods in addition to compressed air will be paid for as extra work
502.03.C	Paymt Qtys/Methods	Added statement: "Any debris or vegetation removed from cracks in a curb and gutter section will be removed and disposed at no additional cost to the Department."
502.03.D.2	Miscellaneous	Adds minimum curing time for various fills prior to overlay
502.04	Unit of measurement change	Changed "Overband Crack Fill, Roadbed" and "HMA Crack Treatment, Roadbed" from "..., Roadbed" to "..., Lane" (and changed units from Roadbed Mile to Lane Mile)
503.03.D.3	Plan quantity determinations	Apply PPSS, Type B at a rate of 83 lb/syd (was 73 lb/syd previously) and Type C at a rate of 90 lb/syd (was 83 lb/syd previously).
503.03.E; 504.03.E.3	Miscellaneous	Ride Quality/International Roughness Index requirements for PPSS and micro-surfacing removed

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503.04; 505.04.E	Paymt Qtys/Methods	The Department will pay separately for removing pavt mrkgs associated with PPSS and Chip Seal
Table 504-2	Miscellaneous	JMF limits adjusted for micro-surfacing
504.03.D.2-3; 504.04.C-D	Paymt Qtys/Methods	Added specs for filling corrugations for micro-surfacing
504.03.E.2	Miscellaneous	Restore the driving lane cross section to within 1/4" of the planned elevation, measured with 10-ft straight-edge. (Was 1/8" with a 7-ft straight-edge previously)
504.03.G.2	Schedule	Season for placing micro-surfacing extended through Oct 15 in Lower Peninsula (was Oct 1 previously)
504.04.A	Paymt Qtys/Methods	Cost for traffic control no longer included in the Micro-Surface pay items
504.02.A; 504.04.E	Paymt Qtys/Methods	Changed "Micro-Surface, Std - \$Syd" to "Micro-Surface - \$Syd". Added pay item: "Micro-Surface, Longit - \$Ft"
505.03.C.3	Schedule	Season for placing chips seals in the Lower Peninsula (south of M-46) extended from August 1st to September 1st
505.03.E.1-2	Miscellaneous	Specs added for asphalt emulsion and coarse aggregate for double chip seal
505.03.H.2; 506.03.I.2	Schedule	Chip/Slurry Seal deficiencies must be corrected within 9 days (was 7 working days previously).
Division 6		
601	Organization	Moved to Division 10, Sections 1001 & 1004
602.02	Materials	Changes to naming of Concrete Grades. Pay item names updated throughout to match (ex. "Conc, Grade S2, Subfooting - \$Cyd" changed to "Conc, Grade 3500, Subfooting - \$Cyd")
602.03.F.5	Plan quantity determinations	Added language for a Intersection Joint Layout Plan to be submitted to the Engineer at least 7 days before concrete placement
602.03.N, P	Paymt Qtys/Methods	Added statements that spall repairs are to be performed at no additional cost to the Department
602.03.P.2	Miscellaneous	Saw cut at least 2" deep for spall repairs (was 1")
602.04	Paymt Qtys/Methods	Added pay item: Conc Pavt, Bridge Approach, Reinf - \$Syd (12SP-602E)
602.04	Paymt Qtys/Methods	Added pay item: Conc Pavt, Bridge Approach, Reinf, High Performance - \$Syd (12SP-706E)
602.04	Paymt Qtys/Methods	Added pay item: Conc Pavt, Nonreinf, ___ inch, High Performance - \$Syd (12SP-602D)
602.04	Paymt Qtys/Methods	Added pay item: Conc Pavt, Ovly, Furnishing and Placing, High Performance - \$Cyd (12SP-602D)
602.04	Paymt Qtys/Methods	Added pay item: Conc Pavt, Ovly, Finishing and Curing, High Performance - \$Syd (12SP-602D)
602.04	Paymt Qtys/Methods	Added pay item: Conc Pavt, Misc, Nonreinf, ___ inch, High Performance - \$Syd (12SP-602D)
602.04	Paymt Qtys/Methods	Added pay item: Conc Pavt, Ovly, Misc, Furnishing and Placing, High Performance - \$Cyd (12SP-602D)
602.04	Paymt Qtys/Methods	Added pay item: Conc Pavt, Ovly, Misc, Finishing and Curing, High Performance - \$Syd (12SP-602D)
602.04	Paymt Qtys/Methods	Added pay item: Shoulder, Nonreinf Conc, High Performance - \$Syd (12SP-602D)
602.04	Paymt Qtys/Methods	Added pay item: Joint, Contraction, (type), Intersection - \$Ft (12SP-602B)
602.04	Paymt Qtys/Methods	Added pay item: Joint, Expansion, (type), Intersection - \$Ft (12SP-602B)
602.04	Paymt Qtys/Methods	Added pay item: Joint, Plane-of-Weakness, (type), Intersection - \$Ft (12SP-602B)
602.04.C.3	Paymt Qtys/Methods	The Department will still allow, but will no longer pay the additional cost of substitutions for higher grades of concrete for overlays
603.02	Methods	Added flexural strength testing of field cured samples
603.03.A.5; 603.04.G	Paymt Qtys/Methods	Added pay items: "Diamond Grooving Conc Pavt - \$Syd" and "Diamond Grinding and Grooving Conc Pavt - \$Syd"
603.04	Paymt Qtys/Methods	Removed pay items: "Sawing and Sealing Longit Pavt Joints - \$Ft" and "Sawing and Sealing Trans Pavt Joints - \$Ft". Cost to be included in other pay items
604	Organization	Moved to Division 10, Section 1002
605	Organization	Moved to Division 10, Section 1003. Removed pay item "Conc Quality Adjustment - \$Dir"
Division 7		
701	Organization	Moved to Division 10, Section 1004
702	Organization	Moved to Division 10, Section 1005
703	Organization	Moved to Division 10, Section 1006
704.03.A	Plan quantity determinations	At cofferdam and steel sheet piling locations where the combined depth of retained water and/or soil is 6 ft or greater, the Working Drawings and design calculations must be prepared and sealed by a Michigan PE
704.03.A	Miscellaneous	For cofferdams with a tremie seal, the minimum top of cofferdam elevation must be the design water surface elevation for the tremie seal. (Impasse meeting decision)
704.03.B; 705.03.C.1	Schedule	Do not install or remove steel sheet piling within 25 ft of newly placed concrete until the concrete attains at least 70% of the required minimum 28-day flexural or compressive strength. (was 75% of minimum previously)
705.03.C.2.d; 705.04.A.8	Paymt Qtys/Methods	Added pay item: "Pile, Steel, Splice - \$Each". Expanded specs for pile splicing (FUSP 12SP-705A)
704.03.D	Miscellaneous	Added specs for Field Welding (AWS D1.1)
705.04.A.9	Paymt Qtys/Methods	Added pay item: "Pile Protection - \$Foot" (formerly a USP)

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705.04.A.1	Paymt Qtys/Methods	The unit prices for driven piles include the cost of redrives due to preboring (was restrikes previously). Removed paragraph specifying that the Department will pay for restrikes as extra work.
705.04.A.1	Paymt Qtys/Methods	Added statement that "the unit price for Pile, CIP Conc, Furn and Driven includes the cost of furnishing and installing steel end plate as detailed on the plans."
705.04.A.7	Paymt Qtys/Methods	Added additional specs for test piles, including new Table 705-3, Maximum Number of Splices Measured per Pile Length
706.02	Materials	Conc Spec'd by Strength (e.g. 3500)
706.03.B	Miscellaneous	Barges used in place of false decking are to be left in place until the bridge deck over waterway has been cast (previously it was until bridge construction was complete.) Impasse meeting decision
706.03.C	Miscellaneous	Do not weld falsework to the structural steel or use mechanical fasteners that damage the structural steel or coatings.
706.03.C;	Plan quantity	Working drawings and design calcs for falsework and permanent metal deck forms must be sealed by Michigan PE
706.03.D.4.b	determinations	
706.03.D.5	Miscellaneous	Added specs for form liners for aesthetic texturing of concrete
706.03.H.1	Miscellaneous	Do not allow superstructure concrete to freefall more than 12" to the top of reinforcing steel (was 6" previously)
706.03.I.1	Schedule	Complete nighttime placement of concrete no later than 1 hour prior to sunrise or as approved by the Engineer...Submit any changes to the pour sequence to the Engineer for approval a minimum of 7 days prior to placing concrete.
706.03.N.2	Miscellaneous	No interruption of deck wet cure – period
706.03.J.2.b	Miscellaneous	Insulated deck forms should maintain a concrete temperate of 45 deg F (was 40 deg F previous)
706.03.K	Miscellaneous	Expansion Joints – most notes incorporated
706.03.L	Paymt Qtys/Methods	Added "at no additional cost to the Department" for drilling holes in hardened concrete and utilizing adhesive anchors or mechanical expansions anchors
706.03.M.4	Paymt Qtys/Methods	Added "at no additional cost to the Department" for correction of surface grinding
706.04.C	Paymt Qtys/Methods	Added pay item: Reinforcement, Stainless Steel - \$Pound (12SP-706A)
706.04	Paymt Qtys/Methods	Added pay items: "Substructure Conc, High Performance - \$Cyd", "Superstructure Conc, High Performance - \$Cyd" and "Superstructure Conc, Night Casting, High Performance - \$Cyd" (12SP-706C & 12SP-706G)
706.04.D	Paymt Qtys/Methods	Added statement: "The Engineer will not make deductions in concrete volumes for piles embedded 12 inches or less."
706.04.F	Paymt Qtys/Methods	The unit price for Expansion Joint Device includes "all materials and labor required for proper installation of the expansion joint, end plates, and terminal assemblies at the curbs, sidewalks, or barriers"
706.04.I	Paymt Qtys/Methods	Deleted pay item: "Support, Temp - \$Each"
706.04.N	Paymt Qtys/Methods	Added pay item: "Aesthetic Texturing - \$Syd"
707; 708	Miscellaneous	Expanded applicability beyond bridge elements
707	Organization	Re-ordered to follow typical fab process
707.01.B.6,		
707.02,	Miscellaneous	Fracture critical requirements incorporated
707.03.C		
707.03	Miscellaneous	Significant expansion of specs for structural steel construction
707.03.D.11.a;	Paymt Qtys/Methods	Added reference to ASTM E709 using dry powder and yoke method
707.03.D.12		
707.03.D.11.b	Paymt Qtys/Methods	Removed requirement of half-wave rectified alternating current.
707.03.E.6.b:		
Table 707-5	Paymt Qtys/Methods	Updated bolt tensions to meet ASTM F3125 grade A325
707.03.E.7.b	Miscellaneous	Added statement that a larger minimum weld size than specified in AWS D1.1 can be used if specified in the contract
708.02	Materials	Added paragraph "Provide structural steel for sole plates, position dowels, and other bearing components meeting the requirements of ASTM A709, Grade 36 or Grade 50. Hot-dip galvanize all structural steel in accordance with ASTM A123."
708.02	Miscellaneous	Tighter tolerances on strand tensioning
708.03.B.3	Miscellaneous	Added sentence "Metal-covered board or steel plate and stove for heating and drying aggregate are not required."
708.03.C.3.a	Miscellaneous	Specifies an "air content of fresh concrete of 5.5% to 8.5%" (was "air content of 5.0% to 8.0%" previously)
708.03.C.4.a-b	Miscellaneous	Revised specimen curing and testing
708.03.C.11	Miscellaneous	When curing elements using steam or radiant heat, increase concrete temp by no more than 36 deg F per hour (was 80 deg for ambient temp previously). Likewise reduce concrete temp by no more than 50 deg per hour (was 80 deg for ambient temp previously)
708.03.D.1	Miscellaneous	Changed "R-2 grout" to "R-2 mortar"

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708.04	Paymt Qtys/Methods	Added pay items "Prest Conc Bulb-Tee Beam, Furn, ___ inch by ___ inch - \$Ft" and "Prest Conc Bulb-Tee Beam, Erect, ___ inch by ___ inch - \$Ft" (12SP-708B)
708.04	Paymt Qtys/Methods	Added statement "The Department will pay for prestressed concrete box beams as Prest Conc Deck when the space between adjacent box beams is filled with grout."
708.04	Plan quantity determinations	For "Prest Conc Deck", plan width is the sum of the widths of the beams plus the sum of the spaces between beams. (Was plus the sum of the 1.5" spaces previously)
710.04	Paymt Qtys/Methods	Removed pay item: "Joint Waterproofing, Railroad - \$Sft"
710.04.A	Paymt Qtys/Methods	Added statement: "The unit price for Joint Waterproofing includes the cost of preparing the concrete surfaces and installing the joint waterproofing system."
711.03	Miscellaneous	Added language prohibiting slip forming all concrete railings
711.03.G; 711.04.B	Paymt Qtys/Methods	Added pay items: "Bridge Railing, Aesthetic Parapet Tube, High Performance - \$Ft", "Bridge Railing, Aesthetic Parapet Tube, Det ___ - \$Ft" and "Bridge Railing, Aesthetic Parapet Tube, Det ___, High Performance - \$Ft" (12SP-711B, 711C & 711D)
711.04.E	Paymt Qtys/Methods	Added pay items: "Bridge Barrier Railing, Type ___, High Performance - \$Ft", "Bridge Barrier Railing, Type ___, Replacement - \$Ft" and "Bridge Barrier Railing, Type ___, Replacement, High Performance - \$Ft" (12SP-711D)
711.03.G; 711.04.E	Paymt Qtys/Methods	Added pay items: "Bridge Barrier Railing, Aesthetic, Type ___, Det ___ - \$Ft", "Bridge Barrier Railing, Aesthetic, Type ___, Det ___, High Performance - \$Ft", "Bridge Barrier Railing, Aesthetic, Type ___, Det ___, Replacement - \$Ft" and "Bridge Barrier Railing, Aesthetic, Type ___, Det ___, Replacement, High Performance - \$Ft"
711.04	Paymt Qtys/Methods	Anchor bolts for lights – install only
712.02	Materials	Added concrete grades 3500Hp and 4500HP to the materials list
712.03.A.1.i	Miscellaneous	For removal of superstructure concrete over steel beams, limit the impact energy of machine-mounted hydraulic or pneumatic hammers to a maximum rating of 2,000 foot-pounds.
712.03.A.2.b	Miscellaneous	For deep overlays, calibrate equipment to remove sound concrete to the depth of the top surface of the top reinforcing bars. Top surface of reinforcing bars must be exposed over 75% of the trial area.
712.03.C	Miscellaneous	Added statement: "If damage occurs, submit a corrective action plan to the Engineer for review and approval prior to beginning repairs. Repairs for damage affecting structural elements must be designed by a Professional Engineer licensed in the state of Michigan."
712.03.D	Plan quantity determinations; Miscellaneous	Added specifications for joint glands and for revising existing expansion joint devices
712.03.E.1	Miscellaneous	Added statements: "Do not scarify deeper than 1 inch above the top of the top reinforcing bar...Locate the steel reinforcement with a pachometer, or other Department-approved method, before scarifying in locations as approved by the Engineer."
712.03.F.2	Miscellaneous	For hand chipping concrete other than deck concrete, saw cut areas requiring patching or filling to an edge depth of at least 1" (was 1/2" previously)
712.03.N	Miscellaneous	Dust control methods on bridge deck may include water blasting or vacuum equipment. (Previously a cleaner abrasive was allowed)
712.03.P-Q	Miscellaneous	Added statement: "Do not form or cast succeeding portions onto the [bridge deck/overlay] prior to completion of the [48-hour/7-day continuous] wet cure." (+additional miscellaneous specs added to these two sections: No heavy equipment on hydro'd deck, pour at night, etc.)
712.03.W	Miscellaneous	Added statement: "Complete cleaning and coating of exposed structural steel before installing deck forms and shear developers."
712.04.C.3	Paymt Qtys/Methods	Added pay item: "Hand Chipping, Full Depth - \$Cft" (formerly USP)
712.04.J	Paymt Qtys/Methods	Added pay item: "Bridge Joint, Strip Seal Gland Replacement - \$Ft" (formerly USP)
712.04	Paymt Qtys/Methods	Removed pay items: "Bridge Joint, Revise Compression Seal - \$Ft" and "Bridge Joints, Clean and Seal (Structure No.) - \$LSUM"
712.04.F	Paymt Qtys/Methods	Added statement that the unit price of Bolt, Mechanical Expansion Anchored includes providing bolts, drilling, cleaning holes, installing bolts and testing (was just testing previously)
712.04.J	Paymt Qtys/Methods	Added statement that removing barrier, sidewalk, and brush block concrete is included in Deck Joint, Rem
713.02.A	Miscellaneous	Removed paragraph regarding Department testing of sample rods. Rod material acceptance will be based on traceable MTRs. MDOT doesn't have the ability to test rods, so the spec was not being followed as written.
713.02.D	Miscellaneous	Added specifications for mat material for temporary supports
713.03.B	Miscellaneous	Added specifications for welding temporary supports for girder ends
713.03.B.4	Miscellaneous	Added specifications for salvaging existing column supports
713.03.C.1	Miscellaneous	Do not alter or damage pin and hanger assemblies while performing field measurements.
713.03.C.2.b	Miscellaneous; Paymt Qtys/Methods	If girder pin plate is damaged during removal of the pin and hanger assembly, a corrective action plan with repairs designed by a licensed PE must be submitted to the Engineer for approval. Perform repairs at no additional cost to Department
713.03.D	Miscellaneous	Added statement: "Achieve bearing fit at top and bottom flange by means of grinding or milling."

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Significant differences between the 2012 and 2020 editions of the Spec Book.

Note: Section references are taken from the current 2020 draft.

Section	Change Type	Description of Change
713.03.G	Miscellaneous	Heat straightening spec incorporated (mostly). Includes visual testing and welding specs
713.03.I	Paymt Qtys/Methods	When cutting simple span beam ends, replace damaged welds at no additional cost to the Department
713.04.E	Paymt Qtys/Methods	Added statement: "The unit price for Support, __, Temp, of the type required, includes the cost of lateral bracing as detailed in the contract."
713.04.F	Paymt Qtys/Methods	Removed statement that the cost of prime coating concrete surfaces is included in the pay item Rocker, Realign
713.04.I	Paymt Qtys/Methods	Added pay item "Salvage Support, Column, Temp - \$Ea" (formerly a USP)
715.02	Materials	Removed "epoxy grout" from materials list
715.02	Miscellaneous	Multiple changes to material specifications for cleaning and coating existing structural steel (some of the new language is old language moved from section 716)
715.03.B.1	Miscellaneous	Added statement: "For work completed in multiple enclosure set-ups for a single element, overlap enclosures at least 1 foot between successive stages."
715.03.C	Miscellaneous	Added specifications for compressed air used in cleaning structures
715.03.D.1	Miscellaneous	Multiple changes to specifications for applying coating to structural steel
715.03.D.5	Miscellaneous	Include the MDOT structure ID with the information stenciled onto the structure. Stencil characters on inside of each fascia beam (was outside previously)
715.03.E	Miscellaneous	Apply the prime coat and allow to cure in accordance with the requirements of the zinc primer's Slip-Coefficient and Creep Resistance Test Certificate for slip critical connections at 75 °F or higher (was in accordance with the manufacturer's requirements at 50°F previously)
715.04.D	Materials	Change "epoxy resin" to "epoxy grout"
716.03.A / 716.03.B.1	Miscellaneous	Moved last sentence to 716.03.B.1 as an exception to the referenced subsections. When cleaning structure steel, provide a primer DFT for the top flange between 4.0 mils and 8.0 mils. (was between 1 and 2.5 mils previously)
716.03.B.4	Miscellaneous	Added specifications for preparing surfaces to be galvanized
717.04	Paymt Qtys/Methods	Changed pay item "Drain Casting, Assembly" to "Drain Casting Assembly, Type _"
717.03.A; 717.04.A-B	Paymt Qtys/Methods	Added pay item: "Drain Casting, Type __, Accessible - \$Ea" and "Drain Casting Assembly, Type __, Accessible - \$Ea"
717.04.E	Paymt Qtys/Methods	Added statement that "The unit price for Deck Drain, Extension includes the cost of providing and installing the deck drain extension."
718.02	Miscellaneous	Added statement: "Provide concrete with natural aggregate with a maximum absorption of 2.50 percent in accordance with ASTM C127. Do not use slag aggregate."
718.03.A.8; 718.03.F	Miscellaneous	Do not allow excavated material and slurry from entering sewers
718.03.D	Miscellaneous	Expanded specifications regarding casings
718.03.H	Miscellaneous	Added italicized text: "Do not vibrate concrete with a vibrator, <i>except for the top 5 feet for concrete placed with dry methods.</i> "
718.04.B	Paymt Qtys/Methods	Removed pay item: "Temp Casing - \$Ft"
718.04.A	Paymt Qtys/Methods	Steel reinforcement is included in its own pay item (706) and is no longer included in the Drilled Shafts pay items
718.04.D	Miscellaneous	Added statement: "Notify the Engineer immediately when an impenetrable obstruction requiring the use of special procedures and tools is encountered"
Division 8		
802.04	Paymt Qtys/Methods	Consolidated pay items "Divider, Reinf Conc, Type I" and "Divider, Nonreinf Conc, Type __" into "Divider, Conc, Type __"
802.04; 802.04.B	Paymt Qtys/Methods	Changed "Curb and Gutter, Bridge Approach" to "Curb and Gutter, Bridge Approach, Det__"
802.04.B	Plan quantity determinations	Deleted statement: "The plans will show the pay limits for Valley Gutter, Conc."
803.04.C	Paymt Qtys/Methods	"Sidewalk Ramp, Conc, __ inch" renamed "Curb, Ramp, Conc, __ inch".
803.04.D	Paymt Qtys/Methods	Removed statement that the unit price for Detectable Warning Surface includes the cost of removing sidewalk/ramp and restoration. Will include cost of surface preparation
803.04.G	Paymt Qtys/Methods	Added pay item "Curb Ramp Opening, Conc - \$Ft" (12SP-803B)
806.03.A.3	Paymt Qtys/Methods	Added statement to repair damage caused by roller equipment at no additional cost to the Department
806.04.A.5	Paymt Qtys/Methods	Removed statement that "Shared Used Path, Grading" includes the cost of fine grading of existing ground that requires no further shaping than the removal or root mat or vegetable cover
806.04.D	Paymt Qtys/Methods	Removed statement that "the Department will make deductions for structures, crossroads, sidewalk ramps, and other discontinuities in the shared used path paving."
806.04.E	Paymt Qtys/Methods	Added statement that slope restoration for shared use paths will be paid for separately (was previously included in the Shared Used Path, HMA or Conc pay item
807.03.G; 807.04.B	Paymt Qtys/Methods	Added pay item: "Guardrail, Reconst, Type_ - \$Ft" (12SP-807A)

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Section	Change Type	Description of Change
807.04.B	Paymt Qtys/Methods	Added pay items: "Guardrail Post, Furn and Install, ___ inch - Ea", "Guardrail Height, Adj - \$Ft", "Guardrail Anchored in Backslope, Type ___ - \$Ea", and "Guardrail Anch Bridge, Det ___, Curved - \$Each". (12SP-807A, 807B)
808.02.D; 808.03.B.6; 808.04	Paymt Qtys/Methods	Added pay items: "Fence, Chain Link, ___ inch, Vinyl Coated - \$Ft", "Fence Gate, ___ foot, for ___ inch Chain Link Fence, Vinyl Coated - \$Ea" (formerly USPs)
809.03	Paymt Qtys/Methods	Added statement that "any costs associated with suspension or extension of the field office will be paid for separately".
809.03.A	Miscellaneous	Added statement: "When the trailer, building, or space is occupied by both the Contractor and the Engineer, separate the Engineer's space and the Contractor's space".
809.03.A.4	Miscellaneous	Field office must provide internet service (telephone service no longer required)
809.03.B.1	Miscellaneous	Refrigerator, freezer, and microwave required for Class 1 field office
809.03.B	Miscellaneous	Field offices required to provide at least one office space with a keyed lock
809.04.A-B	Paymt Qtys/Methods	Cost of monthly water and san service fees moved from "Field Office, Cl _" to "Field Office, Utility Fees"
809.04.C	Paymt Qtys/Methods	Added pay item "Field Office, Secure Storage, Survey Equipment - \$Month"
809.04.D	Paymt Qtys/Methods	Added pay items "Field Office, Secure Storage, Testing Samples and Supplies - \$Month"
810.03.L-M	Miscellaneous	Multiple revisions to Cantilever and Truss Sign Support specifications
810.03.N	Miscellaneous	Multiple revisions to Anchor Bolts for Sign Support Structures and Lighting specifications, including specs for using a calibrated torque wrench for anchor bolt tightening
810.03.U	Miscellaneous	Signs and Signs Supports are to be salvaged and transported to the specified Dept location. Additional specifications added for removing supports on concrete
810.04	Paymt Qtys/Methods	Removed pay item "Truss Fdn Anchor Bolts, Replace - \$Ea"
810.04	Paymt Qtys/Methods	Removed pay items "Glare Screen Connection, Conc - \$Ea" and "Median Barrier Connection, Conc - \$Ea"
810.4.N	Paymt Qtys/Methods	Added pay item "Bracket, H - \$Ea"
810.03.B.4; 810.04.A.3	Paymt Qtys/Methods	Added pay item "Reflective Panel for Permanent Sign Support, ___foot - \$Ea"
810.04.A.4	Paymt Qtys/Methods	Added M&P info for multiple "...Connection, Conc, Perforated Steel Square Tube" pay items
810.04	Paymt Qtys/Methods	Added pay item "Truss Connection, Hanger Mtd - \$Ea" (12SP-810J)
810.04	Paymt Qtys/Methods	Added pay item "Sign Connection, Wall Mtd - \$Ea" (12SP-810J)
810.04	Paymt Qtys/Methods	Added pay item "Fdn, Perforated Steel Square Tube Sign Breakaway System, Rem - \$Ea"
810.04	Paymt Qtys/Methods	Added pay item "Delineator, Rem - \$Ea"
Table 811-1	Plan quantity determinations	Changes to Pavement Marking Material Application Rates per Mile
811.03.A	Miscellaneous	Added specification that, for freeways with at least three lanes, the right lane line should be applied with the right edgeline only "when the right lane line and edgeline are the same material."
811.03.B	Plan quantity determinations	Added language regarding the pavement marking layout, including pavement marking layout plan
811.03.D.1	Schedule	For waterborne pavement markings, wait 30 days before applying second waterborne application or first sprayable thermoplastic application
811.03.D.2	Schedule	Wait 5 days after placing pavement surface before applying low temp waterborne pavement markings to new HMA (was 30 days previously)
811.03.D.8	Paymt Qtys/Methods	Added 6 "Pavt Mrkg, Modified Epoxy..." pay items (12SP-811Q)
811.03.D.9	Paymt Qtys/Methods	Added 6 "Pavt Mrkg, Preformed Thermoplastic..." pay items (12SP-811Q)
811.03.G; 811.04.G	Paymt Qtys/Methods	Added 3 "Recessed Pavt Mrkg,..." pay items (12SP-811F)
811.03.H; 811.04.H	Paymt Qtys/Methods	Added pay item: Pavt Mrkg, Thermopl, Rumble Strip - \$Ft (12SP-811J)
811.03.J	Paymt Qtys/Methods	Added pay items: "Pavt Mrkg, Wet Reflective Waterborne, 2nd Application ___ inch, (color)- \$Ft" and "Pavt Mrkg, Wet Reflective (binder), ___ inch, (color) - \$Ea" (12SP-811K, 811Q)
811.03.K; 811.04.I	Paymt Qtys/Methods	Added pay items: "Pavt Mrkg, (binder), ___ inch, Solid Thru Guide Line, (color) - \$Ft", "Pavt Mrkg, (binder), ___ inch, Solid Turning Guide Line, (color) - \$Ft", "Pavt Mrkg, (material), ___ inch, Dotted Thru Guide Line, (color) - \$Ft", and "Pavt Mrkg, Ovly Cold Plastic, ___ inch, Dotted Turning Guide Line, (color) - \$Ft" (12SP-811O)
811.04	Paymt Qtys/Methods	Added pay items: "Pavt Mrkg, (binder), ___ inch, Shadow Liquid, Black - \$Ft" and "Pavt Mrkg, (binder), For On-Street Parking, ___ inch, White - \$Ft" (12SP-811Q, 811R)
811.04	Paymt Qtys/Methods	Added pay items: "Pavt Mrkg, Ovly Cold Plastic, ___ inch, Shadow Tape, Black - \$Ft" and "Pavt Mrkg, Ovly Cold Plastic, ___ inch, Wet Reflective, (color) - \$Ft" (12SP-811Q)
811.04	Paymt Qtys/Methods	Removed pay items: "Call Back, Mobilization - Each" and "Call Back, Intermediate Transportation - Mi"
811.04	Paymt Qtys/Methods	Changed "Pavt Mrkg, Ovly Cold Plastic, 12 inch, Cross Hatching, (color)" to "Pavt Mrkg, Ovly Cold Plastic, ___ inch, Cross Hatching, (color)"

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Section	Change Type	Description of Change
811.04	Paymt Qtys/Methods	Increase the fixed price of "Witness, Log" from \$1,000 to \$1,250
811.04.F	Paymt Qtys/Methods	Added pay items: "Scarification, for Polyurea Spec Mrkg - \$Sft" and "Scarification, for Modified Epoxy Spec Mrkg - \$Sft"
811.04.C	Paymt Qtys/Methods	Added statement "When two applications of waterborne pavement markings are substituted for a single application of sprayable thermoplastic due to placing 10,000 feet or less (per color) per work day, the two applications of waterborne are paid for as a single application of sprayable thermoplastic under the sprayable thermoplastic pay items in the Contract."
811.04.K	Paymt Qtys/Methods	Added statement "The unit price for Rem Raised Pavt Marker includes the cost of the required patching material."
812.03.C	Miscellaneous	Significant expansion of specs for Deficient Traffic Control Operations. Includes added requirement that Contractor has 1 hour to acknowledge and 4 hours to correct/schedule a response to issues after being notified by the Engineer (impassé meeting decision).
812.03.D.1	Miscellaneous	In regards to temporary signs, "Signs must not be fabricated with vertical seams. Horizontal seams are not to cross through the sign legend...If the sign is located in a closed section of a walkway the bottom height must be at least 5 feet...Do not store signs against cable."
812-1	Miscellaneous	Added new specs for maximum spacing for 42-inch Channelizing Devices for work zone speeds greater or equal to 45mph
812.03.D.8	Miscellaneous	The lighted arrow board must not be in travel mode when stored within 30 feet of the traffic lanes.
812.03.D.11	Miscellaneous	Temporary barrier endings subject to approach traffic and not terminated behind guardrail must be attenuated or, if applicable shielded with a temporary concrete barrier sloped end section. (Added from R-126)
812.03.D.12.a	Miscellaneous	Multiple revisions to Temporary Pavement Marking specifications
812.03.D.12.c.ii	Materials	Added the following exception to the prohibition on utilizing 4-or 6-inch lines to create a symbol or stop bar: "Exceptions will only be made when the pay items are added to a project in the field and the appropriate materials are not on hand."
812.03.D.13; 922.06.C	Miscellaneous	Gray tape is no longer to be used as a temporary pavement marking cover on PCC (use black)
812.03.D.13	Schedule	Added specs regarding pavement marking cover: "Pavement Marking Cover is prohibited from use between November 1 and April 14 due to temperature and weather limitations as defined by manufacturer's recommendations."
812.03.D.16	Schedule	Regarding Temporary PTS system: "When work operations are suspended and traffic lanes are to be opened for less than 72 hours, the temporary signal may remain in place in flash mode. Remove the temporary signal from the roadway if it will be non-functional for longer than 72 hours."
812.03.D.17	Miscellaneous	Revised instructions for what to display on a PCMS in the even of a malfunction or loss of power. Added specs for technical assistance, warranty and security
812.03.F	Miscellaneous	Marking Removal section revised to clearly state requirements
812.03.G.5	Miscellaneous	Storage of Materials and Equipment section revised to clearly define what is to take place during working and nonworking times.
812.03.G.8.c; 922.11.D	Miscellaneous	Two-way radios used by traffic regulators must be hand-held. The hand-held radio system must not be attached to a vehicle.
812.03.G.8	Miscellaneous	Ensure that persons designated to regulate traffic receive annual training on proper traffic regulating procedures. At a minimum, this training must consist of viewing the video "How to Safely Regulate Traffic in Michigan" and reading the current MDOT handbook, Traffic Regulators Instruction Manual. Maintain documentation on the persons who have been trained and the dates of the training and provide to the Engineer upon request.
812.03.H	Miscellaneous	Significantly expanded specifications for lighting for night work
812.03.D.1.a; 812.04.C-D	Paymt Qtys/Methods	Added pay items "Sign, Type B, Temp, Prismatic, Special, Furn/Oper - \$Sft" (12SP-812G)
812.03.D.17; 812.04.I-J	Paymt Qtys/Methods	Added pay items "Sign, Portable, Changeable Message, NTCIP-Compliant, Furn/Oper - \$Ea" (12RC812-A680)
812.04	Paymt Qtys/Methods	Changed "Plastic Drum, High Intensity, Furn/Oper - \$Ea" to "Plastic Drum, Fluorescent, Furn/Oper - \$Ea" (12SP-812AA)
812.04.A.1-2	Paymt Qtys/Methods	Revised how plastic drums are paid for. Removed pay items "Plastic Drum, High Intensity, Lighted, Furn/Oper - \$Ea"
812.04	Paymt Qtys/Methods	Removed "Barricade, Type III, High Intensity, Lighted, Furn/Oper - \$Ea" (4 non-lighted Barricade, Type III items removed prior to 2020 rewrite. Type III barricades must be lighted. Follow MMUTCD section 6F-7 directional indications)
812.04.N.1.b	Paymt Qtys/Methods	Added pay items: "Pavt Mrkg, Longit, Water Blasting, 6 inch or less Width, Rem - \$Ft" and "Pavt Mrkg, Longit, Water Blasting, Greater than 6 inch Width, Rem - \$Ft" (12SP-812P)
812.04.N.2	Paymt Qtys/Methods	Added "Wet Reflective" to temp pavt mrkg pay item names and added 6" wet reflective pay items. (12SP-812V, 812Y)
812.04.N.3	Paymt Qtys/Methods	Added 5 "Pavt Mrkg, Type NR, Paint..." pay items (12SP-812Y). Removed maintenance from list of what is included in the cost of temporary special markings

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Section	Change Type	Description of Change
812.03.D.14; 812.04.U	Paymt Qtys/Methods	Added 2 pay items for "Temp Rumble Strips (Orange)... - \$Ft" (formerly USP)
812.03.D.7; 812.04.V	Paymt Qtys/Methods	Added pay items "Delineator, Flexible, Temp, Furn/Oper - \$Ea" and "Delineator, Panels, Temp, Furn/Oper - \$Ea" (12RC812-A340)
812.03.D.10.a; 812.04.W	Paymt Qtys/Methods	Added 3 pay items for "Glare Screen, Temp..." (12RC812-A230)
812.03.D.6.b; 812.04.Y-Z	Paymt Qtys/Methods	Added pay items "Tubular Marker - \$Ea" and "Tubular Marker, Replacement - \$Ea" (12DS812-G945)
812.03.D.1.b; 812.04.AA	Paymt Qtys/Methods	Added pay items "Conc Barrier-Mtd Temp Sign System, Furn/Oper - \$Ea" (formerly USP)
812.03.D.3.a; 812.04.BB	Paymt Qtys/Methods	Added pay items "Reflective Panel for Temp Sign Support, Furn/Oper - \$Ea" (formerly USP)
812.04.M	Paymt Qtys/Methods	Multiple changes to how Temporary Concrete Barrier Ending is paid for (includes Impasse Meeting decisions)
813.03.C.3; 814.03.E.5	Miscellaneous	Cure the concrete for slope paving by applying a transparent membrane curing compound. (Previous also had the option of curing by keeping the concrete surface continuously wet for four days)
813.04.D	Paymt Qtys/Methods	Revised M&P info for riprap: "The unit prices for riprap items include furnishing all materials, equipment, and labor to divert stream flow, clear and prepare grades, excavate and dispose of surplus or unsuitable materials, furnish and place geotextile liner or heavy geotextile liner as applicable and place the riprap, including headers." (Impasse Meeting item)
814.02.A	Miscellaneous	HMA paved ditches to match shoulder leveling coarse HMA
814.03.A	Miscellaneous	Extend geotextile liner under the HMA paved ditch to create at least a 1 foot overlap
814.03.B	Miscellaneous	Do not place crushed concrete within 100 feet of any water course (stream, river, county drain, etc.) and lake, regardless of the application or location of the water course or lake relative to the project limits.
814.03.D	Miscellaneous	Prepared bases for HMA paved ditches should be at least 3 inches thick, and at least 330 pounds per square yard (was 2in and 220 lb/syd previously). Feather down the top course mixture at the location of the paved ditch when the top course is constructed.
814.04	Paymt Qtys/Methods	Riprap used in conjunction with cobble and paved ditch items will be measured and paid for separately. (previously was included in related ditch item)
815	Miscellaneous	Removed all specification language relating to tree wrapping material
815.01; 815.03.K	Schedule	The Engineer may inspect, select and reject plants anytime until final acceptance (was through the second year of the establishment period previously)
815.03.B	Miscellaneous	Excavate holes (for planting) from the center of staked location, extending a minimum of 1.5 times the diameter of the root ball or bare roots (Previous specification was to excavate holes, centered at staked locations, to a diameter that allows 18 inches of prepared soil beyond the ends of bare roots or root balls.)
815.03.F.5; 815.03.I	Plan quantity determinations	Place mulch in a four inch layer (was 5 to 6 inches previously)
815.03.I.2	Plan quantity determinations	Inserted an additional water quantity spec: "A volume that saturates the soil to a depth of 3 inches for perennials and container grown stock"
815.03.J	Schedule	Maintain guying for one full growing season, and then remove. (Was until project completion previously)
815.04.C.1.d	Paymt Qtys/Methods	Added to the unit price for watering and cultivating, first season: "Removal of all guying material at the end of the first growing season"
816.03.A.2	Miscellaneous	When placing topsoil, incorporate topsoil and compost into the upper three inches of the prepared earth bed. (was 2 inches previously)
816.03.A.2	Miscellaneous	Added specifications for soil tracking
816.03.B.1	Plan quantity determinations	For Class A fertilizer, evenly apply 176 pounds of chemical fertilizer nutrient per acre on a prepared seed bed. (Was 228 pounds previously)
816.03.B	Miscellaneous	Do not use fertilizer within 15 feet of waters of the state or on frozen or saturated soil.
Table 816-1	Miscellaneous	Medium to high salt tolerance required for Turf Urban Freeway (TUF) seed mix (was low to high previously)
Table 816-2	Miscellaneous	Renamed as Temporary Seeding Mixtures Table (previously the Specialty Seed Mix Selection Guide). Upland area seeding (Environmental Seeding) removed from table
816.03.C.5; 816.03.E	Paymt Qtys/Methods	Removed statements: "If using hay mulch, provide weed control/apply herbicide at no additional cost to the Department"
816.03.H.1	Paymt Qtys/Methods	Multiple revisions to watering specifications after placing sod
816.03.I	Miscellaneous	Submit label and Material Safety Data Sheets of herbicides to the Engineer (in addition to the name and application rate required previously)
816.03.I	Paymt Qtys/Methods	If the first application of weed control does not eliminate all target weeds, apply additional weed control at no additional cost to the Department. Control target weeds until final acceptance

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Section	Change Type	Description of Change
816.03.J	Paymt Qtys/Methods	Added specifications for mowing (paid for as Weed Control)
816.03.K	Miscellaneous	"Turf will be accepted when there is sufficient growth across 90% of the restored area to establish the turf bed and prevent soil erosion." (Impasse Meeting decision)
816.04.C	Paymt Qtys/Methods	Removed statement "The unit price for Fertilizer, Chemical Nutrient, Cl ___ includes the cost of conducting soil test to determine need for phosphorus before applying fertilizer."
816.03.G; 816.04.F	Paymt Qtys/Methods	Replaced pay item "Mulch Netting - \$Syd" with "Turf Reinforcement Mat - \$Syd". Removed Mulching Netting specs and added Turf Reinforcement Mat specs
817	Paymt Qtys/Methods	Rescinded old Section 817 and pay item "Mowing - \$Acre"
818	Paymt Qtys/Methods	Rescinded old Section 818 and pay item "Dune Grass Planting - \$Syd"
818/819	Organization	Section 819 (Electrical and Lighting) has been divided into Section 818 (Electrical) and Section 819 (Lighting)
818.02.A.1,5	Miscellaneous	Schedule 40 conduit no longer an option for direct burial or encased conduit (Impasse Meeting decision)
818.03; 818.04	Schedule	"Contact the MDLARA for electrical service inspection prior to energizing services...Pay applicable fees for electrical service inspection per MDLARA."
818.03.A	Miscellaneous	"Do not install more than 360 degrees of bends per conduit run between junction boxes per NEC code"
818.03.A.9.b	Schedule	Notify the Engineer prior to encasing the conduit in concrete" (required Engineer to inspect conduit previously) Impasse Meeting item
818.03.A.10	Miscellaneous	Removes wing cutter as an option for directional boring
818.03.D	Miscellaneous	Multiple revisions to specifications for equipment grounding and bonding
818.03.F; 818.04.I-K	Miscellaneous	Added specifications for unmetered and metered service and for electrical service removal. Added pay items "Unmetered Serv - \$Ea" and "Unmetered Serv, Rem - \$Ea".
818.03.G	Miscellaneous	Added underlined language: "Provide and install, relocate, or remove wood poles and associated hardware for supporting span wire and bracket-arm-mounted traffic signals, and guying the pole <u>per span</u> " (was "...if required" previously) Impasse Meeting item
818.04	Paymt Qtys/Methods	Removed pay item "Elec Serv, Rem - \$Ea"
818.04; 819.04; 820	Paymt Qtys/Methods	Restoring the site in kind (associated with electrical, lighting work, and signal) will be paid for separately (Impasse Meeting Item)
818.04.C	Paymt Qtys/Methods	The cost of installing guying is no longer included in Cable, Removal pay items (Impasse Meeting item)
818.04.H.3	Paymt Qtys/Methods	The cost of restoring the site is no longer included in the handhole removal pay item (Impasse Meeting item)
818.02.C; 818.04.O	Paymt Qtys/Methods	Added pay items "Bracket Arm, Clamp On, _ Foot, with _ Foot Rise - \$Ea" and "Bracket Arm, Clamp On, Rem - \$Ea" (12SP-819A)
819.03.C.1	Miscellaneous	Removed requirement to "Paint the hood and refractor supporting member of cobra head luminaires gray." (pertains to luminaires)
819.03.C.4	Miscellaneous	Clean the luminaire reflector and glassware at time of installation in accordance with the manufacturer's recommendations. (requirement was to clean after installation previously) Impasse Meeting item
819.03.D	Miscellaneous	Removed fused safety switches and lighting arresters from list of items to be provided with tower lighting units
819.03.D.1	Miscellaneous	Calculations associated with light standard design must be sealed by MI licensed PE
819.03.D.2	Miscellaneous	Added Fabrication specifications (pertaining to tower lighting units). Includes welding, magnetic particle testing, ultrasonic testing, equipment & calibration, and UT acceptance criteria
819.03.D.5	Schedule	Submit manufacturer's pole assembly method, Contractor's assembly method, and pole alignment method to the Engineer prior to beginning work (Impasse Meeting item)
819.04	Paymt Qtys/Methods	Changed "Luminaire, (watt) High Pressure Sodium..." pay items to "Luminaire, (watt) LED..."
819.04.B.1	Paymt Qtys/Methods	"The unit price for light standard shaft pay items includes the cost of furnishing the light standard anchor bolt assembly"
820	Miscellaneous	Added specifications for temporary traffic signals and bagging/unbagging signal heads
820.03.A	Miscellaneous	Remove or install foundations as shown on the plans unless soil or site conditions require additional direction from the Engineer. (Site condition clause is Impasse Meeting decision)
820.03.A.1	Schedule	Before installing poles, cure foundation concrete until concrete attains at least 70 percent of its required minimum 28-day flexural or compressive strength (Impasse Meeting decision)
820.03.A.3	Miscellaneous	Added new specifications for backfill and restoration. New specs include drill shafts, etc.
820.03.H	Miscellaneous	"Use only straight pipe threads for mounting assemblies fabricated from pipe."
820.03.I	Miscellaneous	"Face handholes away from traffic" (pertaining to traffic signal pedestals)
820.03.Q	Schedule	"If sealing detector loops, ensure that the roadway surface and wire reservoir are dry. The roadway temperature must be at least 40 °F and rising for at least 4 hours after sealant application." (was 12 hours previously)
820.03.W, etc.	Miscellaneous	Expanded spec language for Traffic Signal Antennas (incorporated FUSP)

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Section	Change Type	Description of Change
820.03.H; 820.04.B	Paymt Qtys/Methods	Added pay items "TS Head, Adj - \$Ea", "TS Head, Temp - \$Ea", "TS Face, Bag - \$Ea" and "TS Face, Bag, Rem - \$Ea" (12SP-820DD, 820EE, 820Q)
820.04.C	Paymt Qtys/Methods	Added pay items "Strain Pole Fdn, 6 Bolt - \$Ft" and "Strain Pole, Steel, 6 bolt, ___ foot - \$Ea". Added materials specs under the heading 921.05.Traffic Signal Strain Pole (12SP-820A, 820B)
820.04.D	Paymt Qtys/Methods	Added pay items "Mast Arm Pole, Cat___ - \$Ea", "Mast Arm, ___Foot, Cat___ - \$Ea" and "Mast Arm Pole Fdn, 6 Bolt - \$Ft" (12SP-810C, 810D)
820.01.M-N; 820.03.J-K; 820.04.D	Paymt Qtys/Methods	Added pay items "Mast Arm, Remove - \$Ea" and "Mast Arm Std, Rem - \$Ea". Includes disposal of materials. Added materials specs under the heading 820.02.Traffic Signal Mast Arm Pole and Mast Arm.A-B (12SP-810F, 810G)
820.04	Paymt Qtys/Methods	Added pay items "Pedestal, Pushbutton, Alum - \$Ea" and "Pedestal, Pushbutton, Rem - \$Ea"
820.02.B; 820.04	Paymt Qtys/Methods	Added pay item "Casing - \$Ft" (used with strain poles and mast arm poles) (12SP-820C)
820.04	Paymt Qtys/Methods	Added pay item "Case Sign, Sav - \$Ea" (12SP-820R)
820.01.F; 820.04	Paymt Qtys/Methods	Added pay item "Guy, Rem - \$Ea". Disposal of material included. (12SP-820I)
820.04.E	Paymt Qtys/Methods	The cost of installing conduit is not included in the unit price of Pushbutton Pedestal, Alum (Impasse Meeting decision)
820.04.G	Paymt Qtys/Methods	Regarding the unit price of span wire: "The messenger wire is incidental to the traffic signal installation, and includes the quarter inch messenger wire, insulators, guys, and anchors." (Impasse Meeting decision)
820.04.M	Paymt Qtys/Methods	The cost of repairing the concrete encasement is no longer included in the unit price of Conduit Repair pay items (Impasse Meeting decision)
820.04.N	Paymt Qtys/Methods	Added underlined text: "The unit prices for removing controllers and cabinets, and installing salvaged controllers and cabinets include the cost of...cables <u>within the cabinet</u> , grounding, conduits <u>attached to the cabinet</u> , and other material." (Impasse Meeting decision)
820.04.N, O	Paymt Qtys/Methods	The cost of storage removed from the unit price of controllers, cabinets and warning signs
820.04.Q	Paymt Qtys/Methods	Removed "conduit" from list of what is included in the unit price for TS, Antenna
820.04.R	Paymt Qtys/Methods	The unit price for Emergency Preemption includes the cost of conduit on pole. (Was the cost of conduit previously) Impasse Meeting decision
821.04	Paymt Qtys/Methods	Deleted pay item: "Monument Preservation, Vertical - \$Ea"
822.03.A	Miscellaneous	New equipment specs for pavement corrugations: "Use equipment that will continuously mill the required pattern and is able to provide a smoothness profile of up to ¼ inch within the cut depression between peaks and valleys. The cutting head(s) must be independently suspended from the power unit to allow the cutting tool to self-align with the pavement slope. Equip the cutting tool with guides to provide consistent alignment of each cut in relation to the centerline or edge line."
822.03.B	Schedule	Added specifications for when pavement corrugations and pavement markings are to be placed in the same location (whether to place corrugations or pavement markings first, etc.)
822.04	Paymt Qtys/Methods	Replaced pay items "Shoulder Corrugations, Ground or Cut, HMA/Conc - \$Ft" with "Freeway/Non-Freeway, Shld Corrugations, Milled, HMA/Conc - \$Ft" (12SP-822B)
822.04	Paymt Qtys/Methods	Added pay items: "Centerline Corrugations, Milled, HMA/Conc - \$Ft" (12SP-822A, 822C)
822.04.A	Paymt Qtys/Methods	Revised M&P info for corrugations to include the following: "all labor, material, and equipment necessary to complete the work as described, including containment, collection, and disposal of spoils. The completed work will be measured by the foot along the outside edge of pavement from the center of the first corrugation placed to the center of the last corrugation placed, excluding sections gapped for intersections, bridges, rail crossings, or other locations, as shown on the plans and as directed by the Engineer. No additional payment will be made for beadless waterborne layout lines. All other pavement marking payments will be paid for under the appropriate pavement marking pay items."
823.03.D	Miscellaneous	Added specifications for relocating water mains to avoid utilities
823.03.D, S	Miscellaneous	Added specifications for using casing chocks or wooden skids for positioning of the carrier pipe (pertaining to laying water mains)
823.03.D	Miscellaneous	Added specifications for grouting both ends of casing (pertaining to laying water mains)
823.03.M	Paymt Qtys/Methods	Water Mains, Cut and Plug pay item does not apply to bulkheading abandoned pipe
823.03.T	Miscellaneous	Place backfill in horizontal layers no greater than 8 inches deep and to a height of 12 inches above the pipe. Place backfill equally on opposite sides of the water main at the same time. (was no greater than 6 inches deep previously)
823.03.T	Miscellaneous	When backfilling around water main, compact, by tamping, each successive layer to at least 95% of the maximum unit weight (percentage not specified previously)
823.03.U	Schedule	For hydrostatic testing of water mains, give the Municipality personnel at least 3 working days notice before testing. (was 1 full working day previously)
823.04.A	Paymt Qtys/Methods	Added pay item "Water Main, DI, ___ inch (used for water main in a casing) - \$Ft" (formerly a USP). Expanded list of what is included in the cost of Water Main, DI pay items

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Section	Change Type	Description of Change
823.03.H; 823.04	Paymt Qtys/Methods	Added pay item "Water Main Line Stop, ___ inch - \$Ea" (formerly USP)
823.04.C	Paymt Qtys/Methods	Added pay item "Gate Well Cover - \$Ea"
823.04.G	Paymt Qtys/Methods	Added pay item "Water Main Conflict, ___ inch - \$Ea" (formerly USP)
824.03.L	miscellaneous	Added "position dowels" to the list of substructure work to be staked when verifying the foundation line and grade upon completion of the foundation excavation for bridge substructures. (Removed "anchor bolts")
824.03.V	Plan quantity determinations	Determine final staking quantities by plan sheet (was by plan sheet breakdown previously) Impasse Meeting decision
824.03.V	Plan quantity determinations	Removed requirement requiring cross sections to represent the same scale shown on the plans (Impasse Meeting decision)
824.04	Paymt Qtys/Methods	Removed pay item "Contractor Staking, Road Only - \$LSUM"
824.04	Paymt Qtys/Methods	Combined "Staking Plan Errors and Extras, One/Two/Three Person - \$Hour" into one pay item. Maximum rate is \$180/hour regardless of crew size
825	Paymt Qtys/Methods	Added new Sanitary Sewer System section and associated pay items
825.04	Paymt Qtys/Methods	Added additional pay items, modified existing pay items, rearranged pay items, updated descriptions based on changes
Division 9		
900	Miscellaneous	Numerous updates/adjustments to references to other standards (ASTM, AASHTO, QPL, etc.). Including changes to which type, class, etc. from each standard should be conformed to.
902.03	Materials	Removed Class 4AA as an option for coarse aggregates for PCC
902.07	Miscellaneous	Granular material from crushed PCC no longer permitted for fill and subbase (Impasse Meeting decision)
Table 902-1	Miscellaneous	Increased number of aggregate types applicable for use in section 406 work items (precast three-sided, arch, and box culverts)
Table 902-6	Miscellaneous	Consolidated certain HMA mix types and associated aggregate blend requirements
903.07.C	Materials	For insulating blankets, removed requirement to meet "Federal Specification HH-1-521f, Insulation, Building, Mineral-Wool; Batts, Loose-Fill, and Granular-Fill, Type 1-Batts, Class C, with enveloping membranes." Added requirement that insulating blankets must have vapor-retarding liners and one reflective face.
904.03.A	Materials	Changed "asphalt cement" to "asphalt binder". Changed "used motor-oil" to "reclaimed engine oil-based products"
904.03.D	Miscellaneous	Removed specifications for polyester fibers for overband crack fill
Tables 904-1-3	Miscellaneous	Removed Direction Tension specifications for Performance Graded Asphalt Binder
Table 904-5	Miscellaneous	Added LTBC-1 and LTBC-2 type anionic emulsified asphalts. Added associated Settle & Storage Stability Test and Softening Point specifications
906.04	Miscellaneous	Revised structural steel specifications to be different for non-fracture critical and fracture critical main members.
906.04	Miscellaneous	"Fill plates, less than 3/8 inch thick, may be fabricated from steel conforming to ASTM A1011/A1011M or ASTM A606/A606M."
906.04	Miscellaneous	Removed specifications specific to M270 Grade 36 and High-Strength structure steel
906.05.B	Miscellaneous	Expanded specifications regarding steel shells for Cast-in-Place Concrete Piles
906.05.C	Materials	Removed Grade 36 steel as a material option for pile points
906.05.D	Miscellaneous	Added specifications for pile protection (polypropylene sheets)
907.03.D.2.a	Miscellaneous	Angle sections must be nominal 2 1/2 inch by 2 1/2 inch by 1/4 inch. (was "...by 1/2" inch previously)
907.03.D.2.b	Miscellaneous	Removed specifications for how many braces to provide for various post types
908.09.B	Miscellaneous	Added specifications for providing documentation of suitability of rail elements. Transfers responsibility for testing from the Department to the Contractor
908.09.C	Miscellaneous	Removed specifications for hex nuts
908.11.A	Miscellaneous	Removed specifications for back-up elements (as pertaining to steel beam elements and end sections)
908.11.B	Miscellaneous	Updated bolt head configuration requirements for steel beam guardrail elements (Incorporated FUSP)
908.12	Miscellaneous	Removed statement: "The Engineer will allow nominal 6 inch by 4 inch joist sections that weigh at least 8.5 pound per linear foot, including the zinc coating."
908.13	Miscellaneous	Use Type XI reflective sheeting for guardrail reflectors (was Type III previously)
908.14.A	Miscellaneous	Galvanize the exposed threaded end of anchor bolts a minimum of 20 inches
908.14.C	Miscellaneous	Multiple changes to list of exceptions and additions to anchor bolt materials specifications
909.04.E	Materials	For concrete end sections, specifies an "air content of 5.5% to 8.5%". (was an "air content of 6.0% to 8.5%" previously)
909.05.A.1	Miscellaneous	Removed prohibition against using the continuous welded seam process for aluminum coated sheets and the use of riveted pipe (pertaining to corrugated steel pipe)

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909.05.A.3	Miscellaneous	Removed channel bands as an alternative option to coupling bands to connect sections of pipe. Added option to use universal bands or dimple bands
909.08.A	Miscellaneous	"PVC pipe [for bridge deck downspouts] must be in accordance with ASTM D1785 and ASTM D4216, to prevent changes in color, physical properties and appearance due to weathering."
909.09	Miscellaneous	Removed some of the test requirements/specifications for asphaltic sealer used as a cold-applied joint sealer
Table 909-7 thru 909-17	Miscellaneous	Removed notes addressing gage requirements for pipe-arch shape corrugated steel pipe. Added new Tables 909-21 through 909-24 addressing pipe-arch shape corrugated steel pipe.
910.03.D	Miscellaneous	"Stabilization geotextile with grab tensile elongation-at-break less than 50 percent must meet the requirements shown in Table 910-1 for woven stabilization geotextile. Geotextiles with grab tensile elongation-at-break equal to or greater than 50 percent must meet the strength requirements shown in Table 910-1 for non-woven stabilization geotextile."
910.05.A	Miscellaneous	Removed specifications for Prefabricated Drainage System (PDS)
910.06	Miscellaneous	Added specifications for Road Grade Biaxial Geogrid
Table 910-1	Miscellaneous	Minimum grab tensile strength for geotextile blanket 120lb (was 90lb previously)
Table 910-2	Miscellaneous	Added aperture size (nominal value) to table for physical requirements for road grade biaxial geogrid (Impasse Meeting Decision)
911.01	Miscellaneous	Added chlorides to the list of materials water must be clean of
911.03	Miscellaneous	Expanded specifications for non-potable water, including testing requirements
912.08.C	Materials	Added language stating incising specifications apply to Douglas-fir, western hemlock, and western larch timber posts. Removed statement that "the Contractor may incise southern pine with ¼ inch teeth".
Table 912-10	Miscellaneous	Expanded table for Minimum Retention Requirements for preservatives used with timber/lumber (added preservative types)
914.03.C	Miscellaneous	Added closed-cell polypropylene foam as an option for joint filler for concrete construction
914.05	Miscellaneous	Reduced specifications for epoxy binder and joint spall repair. References contract instead
914.07.A	Miscellaneous	"The epoxy powder [used for coating dowel bars] must be pigmented either purple or gray."
914.07.B	Miscellaneous	Removed specifications for sleeves for dowel bars
914.12	Miscellaneous	Added polyisoprene (natural rubber) as a material option for elastomeric bearings (must be low temperature grade). Added testing specifications for elastomeric bearings
916.01.A; 916.01.D.1	Miscellaneous	Cobblestone used in SESC measures to have average dimensions of 3-10 inches (was 3-12 inches previously)
916.01.C.1	Miscellaneous	The in-place thickness of plain riprap must be at least 16 inches (was 8 inches previously)
916.01.C.2	Miscellaneous	The in-place thickness of heavy riprap must be at least 36 inches (was 8 inches previously)
917.06	Miscellaneous	Expanded specifications for topsoil (organic matter, pH, gradation, nutrients, etc.)
917.13	Miscellaneous	Do not use recycled construction material as shredded bark mulch
917.14.B	Miscellaneous	Metal stakes or staples not allowed for anchoring turf mulch blankets
917.16	Miscellaneous	Added specifications for growth preventative material
918.03.A	Miscellaneous	Service cables to consist of three insulated stranded conductors (was two previously). Single conductors rated for direct burial in a dedicated service conduit are permitted.
918.04.A	Miscellaneous	Expanded specifications for color coding electrical cables
918.06.F.1.c	Miscellaneous	Precast handholes to have a height of 44 or 48 inches (was just 48 inches previously)
918.07.B	Miscellaneous	Where reinforcement meets the requirements of the NEC it must be used for grounding.
918.07.C	Miscellaneous	Provide anchor bolts threaded 4 inches beyond the anchor bolt projection shown on the plans. (was 1 inch previously)
918.08.A, B.4; 918.10.A.2-3	Miscellaneous	Removed specifications for welds and galvanizing (pertaining to electrical and lighting materials)
918.09	Miscellaneous	Removed specifications for luminaires
918.11	Miscellaneous	Replaced reference to "P.L.D. Specification for Wood Poles" with "ASC O5 and ANSI O5.1".
918.10.B-C	Miscellaneous	Added specifications for anchor base and anchor bolts, nuts, and washers
Table 919-1	Miscellaneous	Multiple changes to Sign Panel and Face Types specifications (added a Type V and reduced size limits for Types I and II)
919.02.A.1	Miscellaneous	Aluminum sign panels: "Position the 6 inch panel between two 12-inch panel sections. Do not use 6-inch panel for the signs top or bottom"
919.02.B.5	Miscellaneous	Added specifications for reflective panels
919.03.A,C	Miscellaneous	Removed plastic reflectors as an option for use as delineators. Added specifications for aluminum reflectors. (and associated mounting hardware)
919.04.B	Miscellaneous	Removed statement that telescoping characteristics should be maintained when cutting tubular steel sign support ends
919.08	Miscellaneous	Multiple changes to specifications for truss sign supports
920.01	Miscellaneous	Additional materials specifications for preformed thermoplastic, black shadow liquid shadow markings and blue markings, and other liquid applied pavement markings

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920.02.A	Miscellaneous	Added specifications for arsenic/lead levels in glass beads and wet reflective optics used in permanent pavement marking
920.02.C	Miscellaneous	Added specifications for retro-reflectivity of wet reflective optics
921.02	Miscellaneous	Added size specifications for messenger wire and span wire (used with traffic signals)
921.03, etc.	Miscellaneous	Removed 8 inches as an option for lens diameter for traffic signals (also removed associated visor size)
921.03.C.2; 921.04.C.2	Miscellaneous	Screw terminals for terminal blocks to be stainless steel or chrome-plated brass (used with traffic signals)
921.03.E.1	Miscellaneous	Use 1.5 inch standard steel pipe with straight threads for mounting assemblies (used with traffic signals) (was 1 inch standard steel pipe with tapered threads previously)
921.03.E.8	Miscellaneous	"Bottom-tethering span assemblies must have breakaway attachment points on both ends."
921.04.C.3	Miscellaneous	Pedestrian signals to be no more than 10 watts for "walking person" icon and 8 watts for the count down digits (was 6 and 5 watts previously)
921.05.B	Miscellaneous	Added yield point specifications for shaft bases for traffic signal strain poles. Removed specifications pertaining to welding, bolts and handholes. Removed specifications for air circulation, anchor bolts, repairing galvanized surfaces
921.07	Miscellaneous	Use LED light sources for Case Signs (was halogen type lamps previously)
921.07.C	Miscellaneous	"Provide a toggle switch as a disconnecting means [for case signs]."
921.07.C.1	Miscellaneous	Added option to use Edison-based sockets for case signs when LED modules are not used
921.07.F	Miscellaneous	Added stainless steel as a materials option for wire connecting screws, tab, washers, and strips used in case signs
921.09	Miscellaneous	Removed two-channel option for loop vehicle detectors
921.12	Materials	Added material language for Traffic Signal Antennas (incorporated FUSP)
922.02-04	Materials	Separated out 350 and MASH requirements. Under MASH we do not list materials it's just called out as crash tested.
922.02.A.2.a-b	Materials	Added corrugated plastic as material option for rigid sign panels up to 8 in wide
922.03	Miscellaneous	Added specifications for sheeting for channelizing devices
922.03.D	Miscellaneous	Added specifications for temporary tubular markers
922.03.F	Miscellaneous	Added specifications for temporary delineators panels and temporary flexible delineators
922.05	Miscellaneous	Removed statement allowing Contractor to reuse existing guardrail posts in good condition for reconstructing guardrail
922.06	Miscellaneous	Added specifications for Wet Night Retro Reflective Optics and binder material used in temporary pavement markings
922.07.C	Miscellaneous	Multiple revisions to specifications for Portable Changeable Message Signs
922.10.A.8	Miscellaneous	PTS Trailers to be delineated with 2x36 inch strip of conspicuity tape (was 4x18 inch previously)
922.10.D.3	Miscellaneous	Removed statement requiring Contractor to ensure that monitoring system for PTS remains operable regardless of weather conditions (Impasse Meeting decision)
922.11.B	Materials	Traffic regulators must wear high-visibility safety apparel as specified in the MMUTCD.
923.10.	Miscellaneous	Added specifications for casing chocks (pertaining to water main materials)
Division 10		
General	Organization	This division covers guidelines, batch plant and mixing requirements, concrete grades, and other mixtures. This division does not cover precast, construction specifications, and "unique" mixes (like 5000psi mixes)
1001	Organization	Replaces Section 601. Covers the concrete production process from the bins to the allowable water that may be added at the jobsite. Does not address mix designs or work progress specimens
1001.03.A.1	Schedule	Check the batching accuracy of volumetric admixture dispensers and volumetric water batching devices (including water meters) at intervals no longer than six months. (was 90 days previously)
1001.03.A.4	Miscellaneous	Added list of items to be included on the computer-generated concrete batch ticket
Table 1001-1	Miscellaneous	The low temperature for time between charging mixer and placing concrete was increased from 60° to 65°
1001.03.E.4	Miscellaneous	Additional water may be added to the concrete mixer/agitator at the placement site only once (but may be added in one or more increments within a 15 minute period)
1001.03.E.5; 1004.03.F	Miscellaneous	Removed specifications for concrete accelerators (formerly part of 601.03.F.2). Set accelerating admixtures are prohibited, unless otherwise specified in the contract.
1002	Organization	Replaces Section 604 and 12SP-604B. Almost entirely from 12SP-604B with a few snippets from 601. All QC related information from 12SP-604B except what is directly involved with PWL analysis.
1002.03.F.2; 1003.03.M.6	Miscellaneous	Table 1002-1 (QC Action and Suspension Limits) contains footnote "Suspend work if the air content of fresh concrete after adjusting for the change through a pump exceeds the suspension limits after the pump or paver, regardless of the air content change." This is a change from the previous footnote "Suspend work if air content is < 5.0 or > 9.0 percent after pump or paver, regardless of the air content loss."
1002.03.G	Miscellaneous	Changes to work progress specimen specifications. Non-destructive testing no longer allowed? Work progress specimens are defined as an average of two specimens

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1003	Organization	Replaces Section 605 and 12SP-604B. All QA related content from 12SP-604B except that is directly about PWL analysis
1003.03.J	Organization	Changed reference from 1002.03.G to 1002.03.H Changed because 1002.03.G = Work Progress Specimens and 1002.03.H = Reduced QC for Small Incidental Quantities
1004	Organization	Replaces Section 601, 701, and 12SP-604B. Cover all concrete grade information (cementitious materials, optimized aggregate, etc.)
1004	Materials	Condensed 11 grades of concrete down to 7
1004	Materials	Nomenclature of concrete grades (e.g. Grade 3500 instead of P1)
1004.03.C	Materials	Optimized Aggregate required for pumped concrete, except tremie
1004.03-04	Materials	Replaced modified (M) with high performance (HP)
Table 1004-1	Materials	Concrete air content range: 5.5-8.5% (was 5.0-8.5 previously)
1005	Organization	Replaces Section 702
1005.03	Miscellaneous	Maintain a temperature of 45°F or higher during curing period.
1006	Organization	Replaces Section 703
1006	Materials	Addition of Grade P-NC Pavement Repair Mixture
1006	Materials	Minor changes in the sequence, such as where latex curing