Proposed Edits for the 2023 City of Seattle Construction Standards

Revised 11/01/2022

The table below displays edits to the 2020 edition of the City of Seattle's Standard Plans and Specifications for Municipal Construction. These edits were used to create the PROPOSED 2023 edition of the City of Seattle's Construction Standards.

Note: Cross reference links between Sections do not function in this document.

A summary of Standard Plan edits are included further down, with redline markups of revisions provided under a separate file.

Section # or/ Plan #	Current Title	Text
1-01.2(1)	Associations and Miscellaneous	**Delete the abbreviation and the definition for "METROKC" and replace with KCM, King County Metro**
1-01.3	Definitions Editor's Note – Also See Section 1-05.13	**Add the following:** **RED-LINE DRAWINGS** Full size (at least 22" by 34") prints or electronic files of the conformed Drawings used by the Contractor to mark-up and record changes to the daily Work. **AS-BUILT DRAWINGS** Electronic files of the conformed Drawings incorporating all changes to the Work. Shop Drawings and supplemental Drawings must be included where relevant. **RECORD DRAWINGS** As-Built Drawings in AutoCAD or AutoCAD Civil 3D electronic format in accordance with the City of Seattle's CAD Resource Website: www.Seattle.gov/util/CAD
1-05.3(1)	General Submittal Distribution and Format Summary	**With the exception of Bulk Samples, change all preferred submittal/correspondence formats in the table to read "electronic".**
1-05.5	Construction Stakes	**Delete the first sentence in this Section and replace with the following:** All Work constituting the practice of engineering or land surveying requires the vertical datum and horizontal datum used to match the current National Geodetic Survey (NGS) Datum. See Standard Plan 001.
1-05.13	As-Built Record Submittals	**Delete this Section and Title and replace with the following:** **1-05.3(13) RED-LINE DRAWINGS, AS-BUILT DRAWINGS AND RECORD DRAWINGS** **1-05.3(13)A RED-LINE DRAWINGS**

Section # or/ Plan #	Current Title	Text
		The Contractor must maintain one set of full size conformed Drawings for recording Red-Line Drawing mark-ups at the Project Site. The Red-Line Drawings must be updated with clear and accurate mark-ups on a daily basis, and within 2 Business Days after receipt of information a change to the Work has occurred. Red-Line Drawings must provide the applicable reference for all mark-ups including the date, change order number, the request for information (RFI) number, field directive (FD), design change (DC) or the approved Shop Drawing number. All mark-ups must clearly identify changes utilizing symbols and abbreviations found in the Contract. Mark-ups must be created using with minimum 1/8-inch lettering conforming to the following color code: Additions (Red), Deletions (Green), Comments, (Blue) and Dimensions (Graphite). The Red-Line Drawings must be available for review upon the Engineer's request. All costs associated with preparing, maintaining and submitting Red-Line Drawings are considered incidental to the Work. **1-05.3(13)B AS-BUILT DRAWINGS** As-Built Drawings are completed Red-Line Drawings as reviewed and approved by the Engineer. As-Built Drawings must incorporate all deviations from the conformed Drawings and graphically depict all information contained within Addendums, Change Orders, design changes, field memos, requests for information, substitution requests, Contractor notes and all other changes to the Work. As-Built Drawings must show accurate locations of Storm Drain, Sewer, Water Mains and other piping appurtenances, structures, conduits, light standards, vaults, width of roadways, sidewalks, landscaping areas, building footprints, channelization and pavement markings, pipe invert elevations, top of castings, maintenance holes, inlets, etc. Any buried utilities encountered and not shown on the conformed Drawings must be recorded on the As-Built Drawings and be reported to the Engineer. The Contractor must create and maintain As-Built Drawings within 10 Working Days of completed changes to that portion of the Work. The Contractor must submit to the Engineer As-Built Drawings monthly or when a progress estimate is submitted. Review and acceptance of the As-Built Drawing by the Engineer is a prerequisite for approval of the Contractor's progress estimate. Failure to maintain clear and up to date As-Built Drawings may delay the Contractor's monthly progress payment or the Owner may progressively withhold payment until the As-Built Drawings are properly updated. The Contractor must submit conformed Drawings and compiled draft As-Built Drawings post Substantial Completion and prior to punch list acceptance. Physical Completion will not be established until the Contractor has submitted and the Engineer has approved final As-Built Drawings. As-Built Drawing sheets must be stamped "AS-BUILT DRAWING". All costs associated with preparing, maintaining and submitting As-Built Drawings are considered incidental to the Work. For Record Drawing requirements, see www.seattle.gov/util/CAD.
1-05.13(2)	Performance	**Replace this Section with the following:** A Contractor Performance Evaluation is required for all projects with an engineer's estimate of $1,000,000 or more. The Contractor Performance Evaluation process consists of 2 reviews: 1. Mid-point Contractor Performance Evaluation will take place at mid-point of the project as determined by the Engineer. 2. Final Contractor Performance Evaluation will be completed prior to Project's Completion Date. The Final Contractor Performance Evaluation will record the permanent evaluation scores for the Contractor's performance. Deficient scores of 59 or below for any individual category may be grounds for a determination of non-responsibility on future City projects. Overall performance evaluation scores deemed deficient with scores of 59 or below from 3 separate projects may be grounds for Contractor debarment under Section 1-08.10(8) and SMC 20.70. The Contractor may contest final criteria scores by filing a protest in writing. Protests must be submitted to PC within 5 business days after receipt of the Final Contractor Performance Evaluation.

Section # or/ Plan #	Current Title	Text
		Submit protests to: Director, Purchasing and Contracting, Department of Facilities and Administrative Services. USPS Mailing Address: P.O. Box 94687 Seattle, WA 98104-4687 Email: FAS_PW_Admin@Seattle.gov Protests must comply with the following requirements: a. The protest must specifically identify which scoring criteria is contested; b. The protest must propose a score that reflects the protester's opinion of the Contractor's final performance; and c. The protest must provide the basis of information and facts that refute the final criteria score and supports a revision to the proposed score. The PC Director or designee will review and decide on all final criteria score protests. The Director's decision on the protest is final and exhausts all administrative remedies.
1-05.15	Method of Serving Notice	All notices must be in writing and are considered delivered and service complete when: 1. Delivered by certified or registered mail to the other party at their last provided address; or 2. Delivered in person to the other party; or 3. Delivered to an authorized representative of the other party at the Project Site; or 4. An electronic copy is delivered by electronic mail to the Engineer if sent to the City, and, if sent to the Contractor, to an authorized representative of the Contractor.
1-07.3(1)	General	**Insert the following paragraph after paragraph 5:** Loads of recyclable construction and demolition waste of a single material may be transported directly to a recycling facility. Mixed construction and demolition waste containing materials required to be recycled must be transported to a certified construction and demolition waste processor listed on the City's certified facilities website: https://www.seattle.gov/utilities/construction-resources/collection-and-disposal/construction-and-demolition/certified-facilities per SMC 21.36.089. Unrecyclable construction and demolition waste must be transported to a disposal facilities per SMC 21.36.112.
1-07.3(4)	Recyclable Materials	**Replace the 1st paragraph with the following:** The City requires specific types of construction and demolition waste to be recycled per SMC 21.36.089 and SPU Director's Rule SW-640 (https://www.seattle.gov/utilities/about/policies). Recyclable materials include but are not limited to asphalt and cement concrete, bricks, ferrous and non-ferrous metal, cardboard, untreated and unpainted wood, and new construction gypsum scrap.
1-07.8	High Visibility Apparel	**Replace the last sentence of this Section with the following:** High-visibility garments must be in a condition compliant with the ANSI 107-2015 (or later version) and must be used per manufacturer recommendations.
1-07,8(1)	Traffic Control Personnel	**Replace items one and two with the following:**

Section # or/ Plan #	Current Title	Text
		1. During daylight hours with clear visibility, workers must wear a high-visibility ANSI/ISEA 107 Type R Class 2 or 3 vest or jacket, and hardhat meeting the high-visibility headwear requirements of WAC 296-155-305. 2. During hours of darkness (1/2 hour before sunset to1/2 hour after sunrise) or other low-visibility conditions such as snow or fog, workers must wear a high-visibility ANSI/ISEA 107 Type R Class 2 or 3 vest or jacket, high-visibility lower garment meeting ANSI/ISEA 107 Class E, and hardhat meeting the high-visibility headwear requirements of WAC 296-155-305.
1-07.13(1)	General	**Replace this Section with the following;** Except as provided for otherwise in the Contract, the Work, including Change Order Work, is at the sole risk of the Contractor until the Completion Date. Except as specifically limited for underground utilities by RCW 19.122.040(3), damage to or destruction of either permanent or temporary portions of the Work, and existing utilities, street improvements, Materials, or equipment and facilities on the Project Site must be promptly rebuilt, restored, repaired, corrected, or replaced by the Contractor, at the Contractor's expense, regardless of the cause of damage. Exceptions to the above are limited exclusively to the following: 1. Damage to the permanent Work caused by acts of nature, such as earthquake, flood, or other cataclysmic phenomenon of nature. 2. An act of the public enemy or a government authority. 3. A slide occurring on a finished slope after the Physical Completion Date of the Work. 4. Third party damage or vandalism occurring after the Physical Completion Date. The above exceptions do not apply when damages are due to the Contractor's failure to comply with any contractual responsibilities or to perform sound engineering and construction practices in the conduct of the Work, or to take reasonable precautions under the circumstances. If Work is delayed as a result of damage by others not party to the Contract, an extension of time will be evaluated as specified in Section 1-08.8. Damage qualifying under any of the exceptions listed in Section 1-07.13(1) must be corrected promptly upon request, and payment will be made as specified in Section 1-04.3. Where public safety is affected and an emergency exists, the Engineer may elect to accomplish repair by Owner or other forces as specified by Section 1-05.8. The contents of this Section do not relieve the Contractor of responsibility for, or damage resulting from, the Contractor's, or Subcontractors, operations or negligence, nor is the Contractor relieved from full responsibility for making good any defective Work or unauthorized Work. The Contractor is solely responsibility for: a. Damage to property located within or outside the Project Site limits as a result of the Contractor's construction operation, this includes, but is not limited to, damage caused by erosion, situation, or runoff; and b. Any pollution of a river, stream, ground water, or other water that may occur as a result of the Contractor's construction operation.:
1-07.13(4)	Repair of Damage	**Delete the first sentence of this paragraph and replace with the following:** The Contractor must promptly repair all damage as directed by the Engineer.
1-07.16.(2)	Tree Soil and Vegetation Protection	**Delete this Section and Replace with the following:** All trees, vegetation, and soil not designated for removal must be left in place and protected from damage in accordance with Standard Plan 132 and Section 8-01.3(2)B until the Substantial Completion Date has been established by the Engineer. Destroyed or damaged trees and vegetation not designated for removal must be replaced or mitigated by the Contractor at no cost to the Owner. The dollar value of impacted trees and vegetation will be determined by the Engineer in accordance with the current edition of the Guide for Establishing Values or Trees and Other Plants prepared by the Council of Tree and Landscape Appraisers. Unless otherwise required, replacements must be of the same species and size as the tree or vegetation destroyed or damaged by the Contractor during construction. Replacements for trees larger than 4-inch DBH must be provided in a 3-1/2 to 4-inch caliper size. When the replacement tree is smaller in caliper than the tree impacted by construction, the Contractor will be assessed damages equal to the difference in dollar value between the replacement tree and the impacted tree. Where physical limitations prevent the full restoration of destroyed or damaged trees and vegetation, the

Section # or/ Plan #	Current Title	Text
		Contractor will be assessed damages equal to the difference in the dollar value between the trees and vegetation provided and the trees and vegetation impacted. Damages are not to be construed as a penalty and the Owner may deduct these damages from any money due or to become due to the Contractor. Replacement trees and vegetation must be installed and maintained as specified in Section 8-02.3(6). The Contractor must allow at least 2 Working Days advance notice for inspection and approval of replacement stock by the Engineer. Soils in areas disturbed by construction, including but not limited to areas impacted by vehicle traffic, materials storage and areas that have been graded, ripped, stripped, or trenched, must be decompacted, amended, and restored as specified in Section 8-02.
1-07.28	Notifications Relative to Contractor's Activities	**Replace paragraph (e) in Section 2 with the following:** When signs are Owner furnished, signs will be provided by SDOT. To order signs, or to coordinate SDOT's installation of signs, the Contractor must provide at least 30 Working Days and no more than 40 Working Days advance notification to the Engineer and must verify signs and locations per the Contract for signs to be installed by the Contractor, and/or provide notification of signs to be installed by SDOT. The Contractor must provide a list of locations and specify the number and type of signs needed and include contract information for the coordination of work to be performed by SDOT crews. The Engineer will notify the Contractor of when the signs are ready for pickup and the signs must be picked up with 10 Working Days of notification. The Contractor must pick up the signs at the SDOT sign shop at 4200 Airport Way South on Business Days between the hours of 8:00 a.m. to 3:00 p.m.
1-09.1	Measurement and Quantities	**Replace Item 2 of the 3rd paragraph with the following:** 2. Linear Foot: Measure length along an element unless required otherwise.
2-01.3(1)	Clearing	**Delete Paragraphs 1, 2 and 3 and replace with the following:** The Contractor must fell trees marked for removal within the area to be cleared. The Contractor must notify the Engineer at least 10 Business Days in advance of tree removal and must post Engineer-provided placards on trees before removal. The Contractor must comply with Section 1-07.28 whenever tree removal is near overhead wires. For removal of trees larger than 6 inches diameter at 1 foot above the ground, see Section 2-02.3(3)I. If pruning is specified or approved in the TVSPP or otherwise deemed necessary in areas to be cleared, the Contractor must conduct pruning per Section 8-02.3(7)A.
2-02.3(3)I	Remove Tree	**Delete Paragraphs 2, 3 and 4 and replace with the following:** The Contractor must notify the Engineer at least 10 business days in advance of tree removal, and must post Engineer-provided placards on trees before removal. The Contractor must comply with Section 1-07.28 whenever tree removal is near overhead wires. In improved areas and/or areas to be paved, stump removal must be completed by grinding and removing the stump to a 2-1/2-foot depth below finished grade, unless otherwise specified in the Contract. In unimproved areas, removal of the tree does not include complete removal of the stump unless directed by the Engineer.
2-02.3(7)F	Drainage and Sewer Materials	**Delete this Section.**
2-02.3(3)A	Remove Non Rigid Pavement and Untreated Roadway Surfaces	**Move the 5th paragraph of Section 2-02.3(3)A to the end of Section 2-02.5, item 4** Required sawcutting on the perimeter of full depth non-rigid pavement openings is paid as "Sawcut Asphalt Concrete, Full Depth." All other sawcutting associated with removal of non-rigid pavement is considered incidental to the removal Bid Item.

Section # or/ Plan #	Current Title	Text
2-02.3(3)B	Remove Asphalt Overlay	**Move the 3rd paragraph of Section 2-02.3(3)B to be the last paragraph of Section 2-02.5, item 4** Required sawcutting on the perimeter of an asphalt overlay removal area will be paid as “Sawcut Asphalt Concrete, Full Depth.” All other sawcutting associated with removal of asphalt overlay is considered incidental to the removal Bid Item.
2-04.3(7)	Drain Pipe Excavations	**Replace the title of this Section with “Subsurface Drain Excavation”**
2-09.3(5)	Subgrade for Structure	**Replace this Section with the following:** When a foundation will rest on rock, excavation must penetrate it at least 1 foot, or more if the Contract requires, to form a key for the footing. The Contractor must cut the bottom of the excavation to a firm surface, level, stepped, or serrated as the Engineer directs, and remove all loose material. For an arch abutment, the back face must be trimmed to true lines so that concrete can be poured against undisturbed material. If concrete will rest on any excavated surface other than solid rock, the Contractor must not disturb the bottom of the excavation. The Contractor must also remove all loose or soft material just before pouring the concrete. Upon completing any foundation excavation, the Contractor must notify the Engineer. No concrete or other permanent part of the Structure may be placed until the Engineer has given permission to proceed.
2-13.3(1)A	General	**Replace this Section with the following:** Rock facings except fire hydrant wall requirements per Standard Plan 313 must be constructed, rebuilt, or relocated at the locations and to the limits shown on the Drawings. The subgrade elevation and location of the rock facing must be as shown on the Drawings or established by the Engineer.
2-16.3(3)E	Visual Verification of Existing Underground Facilities	**Replace the first sentence of this Section with the following:** When the proposed bore path is within 36 inches of an existing underground facility or service lateral, or where shown on the Drawings, the Contractor must visually verify the DHA safely clears an underground facility and that the underground facility is isolated from drilling fluid.
2-17.3(3)E	Visual Verification of Existing Underground Facilities	**Replace the first sentence of this Section with the following:** When the proposed auger bore alignment is within 24 inches of an existing underground facility or service lateral, or where shown on the Drawings, the Contractor must visually verify that the leading edge of the casing safely clears the underground facility by exposing the underground facility while the leading edge advances.
6-02.3(6)E	Tolerances	**Insert New Section:** **Section 6-02.3(6)E TOLERANCES** Unless noted otherwise, concrete construction tolerances must be in accordance with this section. Tolerances in this section do not apply to cement concrete pavement. Deviation from plane: ±0.5 inch in 10 feet. Deviation from plumb or specified batter: ±0.5 inch in 10 feet, but not to exceed a total of ±1.5 inches.

Section # or/ Plan #	Current Title	Text
		Vertical deviation of top surfaces (except roadway surfaces): ±0.75 inch. Thickness of bridge decks and other structural slabs not at grade: ±0.25 inch. Length, width and thickness of elements such as columns, beams, crossbeams, diaphragms, corbels, piers, abutments and walls, including dimensions to construction joints in initial placements: +0.5 inch, -0.25 inch. Length, width and thickness of spread footing foundations: +2 inches, -0.5 inch. Horizontal location of the as-placed edge of spread footing foundations: The greater of ±2% of the horizontal dimension of the foundation perpendicular to the edge and ±0.5 inch. However, the tolerance must not exceed ±2 inches. Location of opening, insert or embedded item at concrete surface: ±0.5 inch. Cross-sectional dimensions of opening: ±0.5 inch. Bridge deck, bridge approach slab, and bridge traffic barrier expansion joint gaps with a specified temperature range, measured at a stable temperature: ±0.25 inch. Horizontal deviation of centerline of bearing pad, oak block or other bearing assembly:±0.125 inch. Horizontal deviation of centerline of supported element from centerline of bearing pad, oak block or other bearing assembly ±0.25 inch. Vertical deviation of top of bearing pad, oak block or other bearing assembly: ±0.125 inch.
6-03.3(14)	Edge Finishing	**Replace this Section with the following:** All rolled, sheared, and thermal cut edges must be true to line and free of rough corners and projections. Corners along exposed sheared or cut edges must be broken by light grinding or another method acceptable to the Engineer to achieve an approximate 1⁄16- inch chamfer or rounding. Sheared edges on plates more than ⅝ inch thick must be planed, milled, ground, or thermal cut to a depth of at least ⅛ inch. Re-entrant corners or cuts must be filleted to a minimum radius of 1 inch. Exposed edges of main load-carrying tension members or tension components of flexural members must have a surface roughness no greater than 250-micro inches as defined by the American National Standards Institute, ANSI B46.1, Surface Texture. Exposed edges of other members must have surface roughness no greater than 1,000-micro inches. The Rockwell hardness of thermal-cut edges of structural low alloy or high-strength steel flanges, as specified in Sections 9-06.2 and 9-06.3, for main load-carrying tension members or tension components of flexural members must not exceed RHC 30 when tested in accordance with ASTM A1038. The fabricator must prevent excessive hardening of flange edges through preheating, post heating, or control of the burning process as recommended by the steel manufacturer. Hardness testing must consist of testing thermal-cut edges with a portable hardness tester. The Contractor must submit the hardness tester, and its operating test procedures to the Engineer for approval. The hardness tester must be convertible to Rockwell C scale values. At two locations, two tests must be performed on each thermal-cut edge, one each within ¼ inch of the top and bottom surfaces. The tests must be located ¼ the length of each thermal-cut edge from each end of the cut. If one or more readings are greater than RHC 30, the entire length of the edge must be ground or machined to a depth sufficient to provide acceptable readings upon further retests. If thermal-cutting operations conform to procedures established by the steel manufacturer, and hardness testing results are consistently within acceptable limits, the Engineer may authorize a reduction in the testing frequency. Hardness testing is the responsibility of the fabricator. The hardness testing device operator must be trained in its operation and competent in its use. Documentation of operator training must be made available to the Engineer upon request. Results of all hardness testing must be submitted to the Engineer.

Section # or/ Plan #	Current Title	Text
6-12.3(9)B	Inspection of Access Tubes	**Replace this Section with the following:** After placing the shaft concrete and before beginning the crosshole sonic log testing of a shaft, the Contractor must inspect the access tubes. Each access tube that the test probe cannot pass through must be replaced, at the Contractor's expense, with a 2-inch diameter hole cored through the concrete for the entire length of the shaft. Unless directed otherwise by the Engineer, cored holes must be located approximately 6 inches inside the reinforcement and must not damage the shaft reinforcement. The Contractor must submit to the Engineer, for review and approval per Section 1-05.3(3), a plan describing the conduct of the core hole drilling operation including measures to ensure core hole verticality and avoidance of reinforcement. Descriptions of inclusions and voids in cored holes must be logged and a copy of the log must be submitted to the Engineer. Findings from cored holes must be preserved, identified as to location, and made available for inspection by the Engineer.
7-08.5	Payment	**Add the following to item 7. Other Payment Information:** The cost for removal and disposal of existing pipe within trench neat line limits of new pipe to be installed is incidental to the new pipe installation and no separate payment will be made.
7-11.3(6)E	Insulated Couplings and Flange Kits	**Add the following new Section (Moved from 7-11.3(9)C1):** **7-11.3(6)E INSULATED COUPLINGS AND FLANGE KITS** Install insulated couplings and flange kits to electrically isolate the Water Main from other Structures. Locate insulated joints as shown on the Drawings. Carefully align and install insulating couplings and flange kits according to the manufacturer's recommendations to avoid damaging insulating Materials. Coat all exposed surfaces of insulating flange, including fasteners, with petroleum impregnated wax tape as specified in AWWA C217. Submit the manufacturer's installation recommendations to the Engineer for review at least 3 Working Days before use.
7-11.3(9)	Connections	**Replace this Title and Section with the following:** **7-11.3(9) WORK ON EXISTING WATER MAINS** **7-11.3(9)A GENERAL** Do not operate any valve on an existing Water Main. SPU Water Operations will make all connections to charged Water Mains and will operate all valves to accomplish shutdowns and subsequent reactivation. The Contractor must contact the Engineer at least 10 Working Days in advance to schedule Work requiring SPU Water Operations per Section 1-07.28. However, the Contractor is encouraged to communicate and coordinate with the Engineer as early in the project as possible regarding the scheduling of these connections as SPU Water Operations' shutting down and starting up portions of the water system will take into consideration: 1. Size of Water Main and total system impacts. 2. Coordination with Fire Department. 3. End user Customer needs and coordination. 4. SPU Water Operation's workforce availability. 5. Contractor's workforce availability. 6. Notifications of the scheduled shutdown will be made by SPU Customer Service / Inspection Services personnel to the affected consumers a minimum of 5 Working Days in advance of the shutdown. Also see Section 7-15 Water Service Connections. **7-11.3(9)B CONNECTIONS TO EXISTING WATER MAIN** Newly installed Water Main must be pressure tested and must be acceptable as specified in Sections 7-11.3(11) and 7-11.3(12) before making any connection. When required, newly installed Water Main must pass the taste and odor rating test as specified in Sections 7-11.2(2) and 7-11.2(3) before and/or after making any connection.

Section # or/ Plan #	Current Title	Text
		After all tests, flushing, and disinfection have been completed and the installed Water Main has been approved by the Engineer, the Contractor may submit a request to the Engineer to schedule the shutdown and connection with SPU Water Operations. Connections must be made within 14 Calendar Days after the date of written notice that flushing and disinfection sample analysis indicated acceptable results per Section 7-11.3(12)A. Provide the Engineer 2 Working Days advance notice for scheduling inspections for approval of Water Main installations for connection. Within 2 Working Days after the inspection, the Contractor will be provided with written approval or with a list of items to be corrected. Items to be corrected will be reinspected. The notification requirement and reinspection response times are the same as the initial inspection. Approval is contingent on the Water Main and appurtenances being completely installed and tested per Contract. The Contractor's scheduling of connections requires the Engineer's approval on the following items: 1. Verification of existing Water Main grade and alignment per Section 7-11.3(4)B. The Contractor must match the grade and alignment of the new Water Main to the existing Water Main. 2. Contractor's written list of materials being supplied. 3. Verification and inspection of Contractor's supplied materials. All connections to existing Water Main will be performed by SPU Water Operations. Contractor must assist SPU Water Operations with connections and the Contractor is responsible for the following elements of work: a. Protection of the Water Main and services during construction. b. Coordination with Engineer and SPU Water Operations staff including scheduling per Section 7-11.3(9)A. c. Preparation of the Project Site prior to arrival of SPU Water Operations, including excavation, dewatering, support and safety systems, and traffic control. d. The Contractor must furnish all materials and equipment required to complete the connection not specifically called out in the Contract as being furnished by SPU Water Operations. The Contractor must furnish and install the connection fitting on new Water Mains (see Standard Plan 300a, 300b, and 300c). SPU will furnish connection fittings to existing Water Mains, unless otherwise specified. All required materials and equipment supplied by the Contractor must be available on the Project Site during the shutdown. e. Provide equipment and operators required for trench excavation and to move and lower the component parts of the connection into position. A dedicated crew must be provided for the duration of the Work and must be solely dedicated to assist SPU Water Operations. Additional equipment and operators must be provided as necessary for multiple connections during the same shutdown. f. Removal of abandoned pipes, appurtenances, and blocking. g. Coat, wrap, and joint bond the connection to conform with the requirements of the new Water Main. h. Provide pipe bedding per Standard Plan 350, backfill, compaction, and temporary pavement patch. In addition to those connections shown on the Drawings, segments of a new Water Main may be placed in service before completion of the entire Water Main. All connections between the charged and uncharged segments of the new Water Main will be done by SPU Water Operations. Locations of connections between segments of new Water Main are dependent on Contractor's operations and are not shown. The Contractor must furnish all Materials for such connections. **7-11.3(9)C CUT, CAP, AND BLOCKING FOR EXISTING WATER MAIN** Where indicated in the Drawings or as directed by the Engineer, a cut, cap, and blocking to isolate existing Water Main will be performed by SPU Water Operations. The Contractor must verify the existing Water Main grade and alignment per Section 7-11.3(4)B prior to scheduling the cut and cap. The Contractor must assist SPU Water Operations with the cut, cap, and blocking, and is responsible for the following elements of work:: 1. Protection of the Water Main and services during construction. 2. Coordination with Engineer and SPU Water Operations staff including scheduling per Section 7-11.3(9)A. 3. Preparation of the Project Site prior to arrival of SPU Water Operations, including excavation, dewatering, support and safety systems, and traffic control. 4. Provide equipment and operators required for trench excavation and to move component parts of the cut and cap into position. A dedicated crew must be provided for the duration of the work and must be solely dedicated to assist SPU Water Operations. Additional equipment and operators must be provided as necessary for multiple cut and caps during the same shutdown. 5. Furnish and install precast Ecology Block or Dailey Block as indicated in the Contract or as directed by the Engineer. 6. Removal of abandoned pipes and appurtenances. 7. Backfill, compaction, and placement of temporary pavement patch. **7-11.3(9)D TEMPORARY WATER MAINS AND SERVICES** Temporary Water Mains 4" diameter and larger must be installed and maintained by the Contractor in such a manner as to provide constant, adequate water supply to customers and to avoid impeding traffic and access to abutting properties. Temporary Water Mains 2" and smaller will be installed by SPU Water Operations unless otherwise noted on the Drawings or Project Manual. The Contractor's critical path schedule must allow adequate time for installation and connection of these temporary Water Mains and services. Provide the Engineer a minimum of 10 Working Days advance written notice for scheduling of the temporary Water Main and service work. Support SPU Water Operations by performing all required excavation, backfill, and compaction. SPU Water Operations will furnish the necessary equipment and pipe for 2" and smaller temporary Water Mains, unless otherwise noted in the Contract.

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		All temporary Water Mains will be disinfected, flushed, and sampled for bacteriological testing by the SPU Customer Service / Inspection Services. When found acceptable, the temporary Water Mains will be placed in service per 7-11.3(9)B. The Contractor is solely responsible for maintaining private water service laterals in service. When it is necessary to provide temporary water supply, the Contractor is responsible for providing temporary services on the private side of the water service. Should construction activity damage or disrupt private water service laterals or appurtenances, immediately notify the Engineer of any such damage or disruption. The Contractor must start repairs immediately as directed by the Engineer, and work continuously until the water service lateral is restored.
7-11.3(9)C1	Insulated Couplings and flange kits	**Editor's Note – This Section was moved verbatim to a new section: Section 7-11.3(6)E**
7-14.3(1)	Setting Hydrants	**Replace the third paragraph with the following:** For each new hydrant requiring vertical adjustment, see Section 7-14.3(5).
7-15.3	Construction Requirements	**Replace this Section with the following:** **7-15.3 CONSTRUCTION REQUIREMENTS** Where existing services are transferred from old to new Water Mains, the Contractor must plan and coordinate the Work with SPU Water Operations to ensure service is resumed with the least possible inconvenience to customers. Water service connections, number and type of connections, sequencing of work, operation and construction needs and related work will be addressed at the preconstruction conference. Service transfers must not be connected until the new Water Main has been tested and accepted by the Engineer. Provide the Engineer at least 10 Working Days advance notice when transfer of existing water service is required per Section 1-07.28. SPU will, at no cost to the Contractor, mark the exact field locations of service taps and tees on services 2 inches and smaller. Locations of services larger than 2 inches will be identified on the Drawings. The Contractor must assist SPU Water Operations and the Contractor is responsible for the following elements of work: 1. Protection of the Water Main and services during construction. 2. Excavation for the water service connections, including shoring and dewatering. 3. Furnish and install tees, valves, plugs, and valve boxes for 4-inch, 6-inch, or 8-inch service connections. A 3-inch water service is considered a 4-inch water service. The tees must be mechanical joint (MJ) x mechanical joint x flange (FLG). Valves must be MJ x FLG, and removable plugs must be MJ for the service connection. The MJ plugs will be returned to the Contractor after SPU Water Operations completes the service connections. 4. Removal of abandoned pipes, appurtenances, and blocking. 5. Backfill, compaction, and placement of temporary pavement patch. Maintain the temporary pavement patch until completion of all work by SPU Water Operations. 6. Upon completion of work by SPU Water Operations, make all final adjustments of valve boxes, water meter boxes, and rings and covers to final grade at no cost to the Owner, and then make the final surface restorations as specified in the Contract. If existing water service material to be reconnected to the new or existing Water Main is considered substandard material, such as plastic, cast iron, or galvanized iron pipe, SPU Water Operations will replace it with copper, for 2-inch and smaller, or ductile iron for, 3-inch and larger, from the water service union to the new or existing Water Main. To supply customers with water during the construction, where any section of pipe has passed the required hydrostatic and bacteriological tests, SPU Water Operations may tap corporation stops into a section of a new Water Main and install corporation stops and service connections at locations where SPU Water Operations deems necessary, at no expense to the Contractor. The attaching of any such service connections by SPU Water Operations does not constitute acceptance by the Engineer of any part of the Work required under the Contract. The Contractor must not remove or abandon existing Water Main until all existing service connections have been transferred to the new Water Main or temporary service has been provided, and the Engineer has provided approval. See also Section 7-11.3(9) Work on existing Water Mains.
7-17.3(2)H2	Casing Pipe, Spacers and End Sealing	**Delete the second sentence of the second paragraph:** ~~The annular space between the casing and carrier pipes must be filled with Material specified in the Contract.~~
7-17.3(3)G4	Television Inspection Record Submittal Requirements	**Replace item 3. of the first paragraph with the following:** 3. A complete video recording of the television inspection in MP4 format.

Section # or/ Plan #	Current Title	Text
7-20.3(1)A	Adjustment of Maintenance Holes, Catch Basins and similar Structures General	**Revise the second paragraph to read:** To meet the new grade elevation, remove the pavement around the casting; remove the casting and install or remove leveling or adjustment brick or block; or excavate around the utility Structure, remove a portion of it as necessary and rebuild the Structure. Minimize pavement removal to the amount required to facilitate the adjustment. Adjustment of drainage Structure to finished grade elevation, by whatever method, must result in a finished Structure meeting the requirements for new construction as specified in Sections 7-05.3(1)L, 7-05.3(2)C, or 7-05.3(2)D corresponding to Structure type. Ring extensions are not allowed. The overall distance between the top of the casting to the bottom of the adjustment brick must not exceed 26 inches.
7-20.3(4)	Adjustment of Valve Box Castings	**Replace this Section with the following:** The flange of the valve box casting must be set into the surrounding pavement as shown on Standard Plan 315a. Other requirements for adjustment of valve box castings and Water Main castings are specified in Sections 7-20.3(1)A and 7-20.3(5). .
8-01.3(2)A	Construction Stormwater and Erosion Control Plan	**Add note 5a. to this Section:** 5a. Show locations of existing surface waters and natural or vegetated buffers to be maintained.
8-01.3(2)B	Tree, Vegetation and Soil Protection	**Replace this Section with the following:** The construction stormwater pollution prevention submittals must include a TVSPP. The Contractor must develop a TVSPP for the specific Project Site. The TVSPP must be accepted by the Engineer before any mobilization occurs at the Project Site. Alteration of protective measures described in the TVSPP must be approved by the Engineer. The TVSPP must show the location of BMPs used to protect existing trees (not designated for removal), vegetation, and soil for the duration of the Contract. The TVSPP may be submitted in phases when specified or approved by the Engineer. The Contractor must maintain and regularly update the TVSPP submittal as necessary to document site conditions and show required BMPs. The Contractor's schedule for installation of protective measures must be shown in the Critical Path Schedule and applicable weekly look-ahead schedules. Locations, extent, and type of BMPs must be approved by the Engineer during a joint field review with the Contractor. Conflicts between protection measures and Work required under the Contract must be brought to the attention of the Engineer during the joint field review and during weekly project meetings. Trees, vegetation, soil, and other areas to be protected may include any of the following: 1. Trees identified by the note "Protect Trees" on the Drawings or trees not identified for removal where Zone B (see Standard Plan 133) is within the construction limits. 2. Vegetation identified by the note "Protect Landscaping" on the Drawings or vegetation identified for protection during the TVSPP joint field review. 3. Soil and existing tree and vegetation roots in areas identified by the note "Do Not Disturb" on the Drawings. 4. Tree roots encountered during excavation, except when the roots are less than 2 inches in diameter and are within roadway surfacing section, driveway surfacing section, sidewalk surfacing section, utility prisms, and within 1-foot of improvement structures geometrics (such as retaining walls, bridge abutments, and pole foundations.) A utility prism is the volume centered about the utility equal to the trench width in both vertical and horizontal dimensions. Utility prisms are not defined for conduit or for trenchless construction methods. 5. Areas marked "Pervious Concrete" on the Drawings. 6. Areas marked "Rain Garden" or "Bioretention" on the Drawings. 7. Other areas to be protected as directed by the Engineer during the joint field review and as documented in the approved TVSPP.

Section # or/ Plan #	Current Title	Text
		Storage of equipment or materials is not allowed within the areas marked on the Drawings as “Do Not Disturb” or within the Zone B of a tree unless BMPs per the approved TVSPP are in place. BMPs for approved storage within Zone B or areas marked as “Do Not Disturb” must be at a minimum 1-inch steel plate or 4-inch thick timber planking over 2 to 3 inches of AWCM, or a minimum 3/4-inch plywood over 6 to 8 inches of AWCM. For protection of trees, as specified in item 1. above, the TVSPP must address the following protective measures unless otherwise approved by the Engineer in writing: a. Where construction operations are within the limits of Zone B for a duration of more than 30 Calendar Days, protect trees in unpaved planting strips or in tree pits per Standard Plan 132a. b. Where construction operations are within the limits of Zone B for a duration of 30 Calendar Days or less, protect trees in tree pits per Standard Plan 132b. The temporary tree protection fence must surround the entire tree pit area and be anchored and maintained in a stable upright condition. c. Where excavation will occur within the limits of Zone B, show the limits of each excavation location and review the excavation method with the Engineer during the joint field review. Within Zone B, excavation methods may include tunneling, air spade or hand digging to minimize root damage. The method of excavation must allow for all roots 2 inches and larger in diameter to be protected. Where roots 2 inches in diameter and larger are discovered, the Contractor must promptly notify the Engineer. If allowed, root pruning must be as specified in Section 8-02.3(7)A. For protection of soil conditions and existing roots, as specified in items 3. and 4. above, the TVSPP must include the following specific protective measures to prevent damage to existing soils and roots during all construction activities within Zone B: 1) Double-layered burlap cover for all newly exposed soil and/or roots and daily watering for exposure of 5 Working Days or less. 2) 6 inches of AWCM cover for all newly exposed soil and/or roots and twice weekly watering to protect soil from compaction, retain soil moisture, and control erosion. 3) Temporary or chain link construction fencing enclosing all newly exposed soil and/or roots associated with trees and other vegetation beyond the construction limits. For protection of pervious concrete sidewalks and pavements, as specified in item 5. above, following the removal of any existing pavement, a Standard Plan 132b enclosure must surround the entire area where pavement was removed, and the enclosure must be anchored and maintained in a stable upright condition. For protection of rain gardens or bioretention areas, as specified in item 6. above, and where construction operations abut, impact, or are within the limits of rain gardens or bioretention areas for a duration of more than 30 Calendar Days, protection per Standard Plan 132a, Option 2, surrounding the entire area as shown on the Drawings is required. Where construction operations are within the limits shown on the Drawings for a duration of 30 Calendar Days or less, a Standard Plan 132b enclosure must surround the entire area and be anchored and maintained in a stable upright condition. The TVSPP must also address the following general protective measures unless otherwise approved by the Engineer in writing: a) If canopy/clearance pruning is required to perform the Work within standard vertical clearances, the Contractor must notify the Engineer at the TVSPP joint field review, or at least 15 Working Days in advance to allow pruning by the Owner or private property owner. The Engineer may require that this canopy/clearance pruning be performed by the Contractor as specified in Section 1-04.3. Standard vertical clearances are 14 feet for roadway, 10 feet for bicycle paths, 8 feet for sidewalks, and as specified in the Contract. b) Pruning of canopy for construction clearance above standard vertical clearances is not allowed unless no alternative options, such as temporary tie-up of low limbs or alternative construction methods, are feasible, as determined by the Engineer. c) Where canopy/clearance pruning above standard vertical clearances is approved by the Engineer, the Contractor is responsible for this pruning and all associated costs. d) If the Contractor performs canopy/clearance pruning, the Work must be done by a registered Tree Service Provider with a current registration on file with SDOT Urban Forestry, and the pruning work must be performed by technicians with current ISA certification. See Section 8-02.3(7)A for pruning specifications. When pruning is necessary to perform the work and the pruning is not identified and brought to the attention of the Engineer during the TVSPP joint field review, the Contractor must submit a canopy/clearance plan for approval by the Engineer. The canopy/clearance plan must include the current registration and ISA certification as an addendum to the TVSPP. A separate TVSPP-canopy/clearance pruning submittal must be submitted at least 5 Working Days in advance as specified in Section 1-05.3. If pruning is performed at both the Owner’s and Contractor’s cost as described here within, the cost will be prorated.

Section # or/ Plan #	Current Title	Text
		e) Where construction activity involves the operation of equipment or redirection of traffic from established travel lanes into Zone B of trees within or overhanging the Right Of Way, the Contractor must depict these conditions on the TVSPP. f) Protective measures installed over grass, groundcover, or vegetation to be preserved must be removed in a timely manner to minimize impacts to plant health. g) Soil management/protective measures must include eradication of ivy and other invasive weed species before placement of AWCM in areas to be protected from disturbance. h) Excavation or tunneling of any kind within the Critical Root Zone (Zone A) of a tree requires approval by the Engineer. The Contractor must provide at least 2 Working Days advance written notice for review and must not proceed without field inspection and approval. i) Excavation excluded from specific protective measures but within Zone B of a tree must be performed with care to minimize damage to roots. In all excavations, if roots 2 inches and larger are encountered, the excavation at the root location must stop and the Contractor must promptly notify the Engineer. If root pruning is required, see Section 8-02.3(7)A for pruning cuts and methods. j) Protect trees from exhaust heat. Exhaust deflection panels may be required on some equipment to prevent burning of foliage and branches of trees to be protected. See Standard Plans 132a and 132b for additional tree protection guidance. See Standard Plan 133 for a description of tree root Zones A, B, and C.
8-02.3(9)B	Flexible Porous Surface Treatment	**Replace this Section with the following:** Flexible porous surface treatment must be designed, mixed, and installed per the manufacturer's recommendations. Flexible porous surface treatment must be Porous Pave XL, KBI Flexipave, or approved equal. Color must be grey-black or granite, or an approved equivalent or alternate color. Mix must have 25 to 30-percent void ratio and be comprised of 50-percent recycled rubber chips and 50-percent kiln-dried aggregate. For approval of equal material, the Contractor must submit product information, including limitations related to weather conditions or site-specific conditions, to the Engineer for approval. Submittal must also include a minimum of three examples of product installations within the last five years at a project location within 75 miles of the work site. All material submittals must include confirmation from the manufacturer that the Contractor or Subcontractor installing the flexible porous surface treatment has been trained and is currently certified to install the product. Install a base course of Mineral Aggregate Type 22 to a minimum 2-inch depth prior to placement of flexible porous surface treatment to provide a stable and uniform base. Flexible porous surface treatment must be placed to a minimum depth of 2 inches where applied adjacent to a sidewalk or curb, or a minimum depth of 4 inches where applied adjacent to multi-use trails. The finished surface of the flexible porous surface treatment must be uniform and flush with adjacent surfaces. Uniform and flush surface conditions must be maintained throughout the landscape establishment period. Flexible porous surface treatment must not be placed adjacent to trees within 10 Working Days of when the tree was installed and the pit and surrounding areas were backfilled and allowed to settle under natural conditions. See Section 8-02.3(6)B. Flexible porous surface treatment is subject to inspection and repair at the time of project acceptance, at quarterly inspections, and at the end of the landscape establishment period or warranty period described in Section 1-05.10.
8-19.3(3)	Placing and Finishing Cement Concrete Driveway and Alley	**Replace the first sentence of the second paragraph with the following:** Through joints as shown on the Standard Plans must be 3/8-inch thick premolded joint filler.
8-22.1(2)D	Pavement Marking Callout Examples	**Replace the last row of the table with the following:**

Section # or/ Plan #	Current Title	Text
		S-T720c Right Arrow per Standard Plan 720 detail 720c
8-22.3(7)	Temporary Pavement Marking	**Delete the reference to Section 1-10.3(4)C.**
8-31.3(3)B	Vehicle Signal Heads Editor's Note: See also 9-32.1(1)A	**Replace the seventh paragraph with the following:** Vehicle signal heads must be attached to the mast arm either with a signal coupling unit or bracket mounted as detailed on Standard Plan 510A and 562b. Signal head attachment type is shown on the Drawings. Coupling mounts must include elevator straight plumbizer units between the red and yellow signal sections, or 90 degree plumbizers. Bracket mounts must include a cable mount kit and a clamp kit.
8-31.3(14)	Owner Furnished Equipment and Materials	**Add the following to this Section:** The Contractor must provide written notice to the SDOT Signal Operations Engineer at least 5 months in advance of the proposed pickup date for any traffic signal controller cabinets that are needed for permanent or temporary signal work. For installation of the traffic signal controller cabinet, the Contractor is required to have power service at the cabinet location and to be hooked up to keep the electronics warm and dry until energizing the traffic signal.
8-31.3(16)	Turn On/Cut Over Procedure	**Replace the third sentence of the first paragraph with the following:** A request for "turn on" of a new signalized intersection or "cut over" modifications to existing signalized intersection must be submitted in writing to the Engineer at least 15 Working Days before the proposed date of an existing signal cut over, and 15 Working Days before the proposed date of a new signal turn on. **Add the following to the third paragraph:** Any alternative times must be submitted by the Contractor at least 15 Working Days before the proposed date and time of the signal turn on or cut over. Alternative times must be approved by the Engineer. **Replace the first sentence of the sixth paragraph with the following**: Do not install signal heads at any intersection earlier than 10 Working Days before turn on or cut over. All new vehicular and pedestrian signals including backplate and illuminated signs must be temporarily covered completely with a 6 mil opaque polyethylene sheeting, or approved equal until the new signals are ready to be energized.
8-31.3(19)	CCTV Camera	**Replace this Section number with 8-31.3(19)A**
8-31.3(19)B	Fish-Eye Camera	**Insert this new Section:** Contractor must submit for approval to the Engineer the manufacturer's recommended video camera cable. Contractor must furnish and install a continuous cable between the camera and the termination in the controller cabinet. Camera cable must be coiled in the handhole adjacent to the controller cabinet. The Contractor must notify the Engineer 10 Working Days before final pull into cabinet. Sufficient cable slack must be provided in the adjacent controller handhole to enable final connection to the camera processor. Contractor must furnish all camera mounting bracket and hardware to mount the luminaire bracket arm, mast arm, or pole as specified on the Drawings. Mounting hardware must include a camera mount kit and a clamp kit. All external screws, nuts and locking washers must be stainless steel or galvanized. Self-tapping screws must not be used. All parts must be made of corrosion resistant materials. All materials used in construction must be resistant to fungus growth and moisture deterioration. An inert dielectric material must separate dissimilar metals. The camera assemblies must be capable of accurate detection when mounted greater than 30 feet above the road surface. The camera assemblies must be capable of accurate detection when mounted up to 150 feet from the stop bar. Installation of the camera must require no aiming or focusing of the camera assembly. The minimum Video Imaging Vehicle Detection System (VIVDS) set-up, as needed for detector setup and viewing of vehicle detections, must consist of a field setup computer with application software and/or a video monitor with

Section # or/ Plan #	Current Title	Text
		interface software built-in to the VIVDS processor unit. The field-setup computer must have an Ethernet port for connection to the Machine Vision Processor (MVP).
8-31.4	Measurement	**Add the following:** Measurement for “Fish- Eye Detection Camera ” will be per each installed.
8-31.5	Payment	**Delete the first paragraph of this Section.** **Edit item 24. to read**: “Service Cabinet (Type)”, per each. **Add item 27. “Fish-Eye Detection Camera”, per each.** The Bid item price for “Fish-Eye Detection Camera” must include all costs for the work required to furnish and install a fully functioning camera, including all wiring, testing, mounting hardware and other appurtenances.
8-32.3(6)	Chief Seattle Base and Collar	**Replace this Section with the following:** Where shown on the Drawings, the Contractor must install decorative Chief Seattle base and collar at the foundations of poles. Chief Seattle base and collar materials must be purchased from SCL. For information on Chief Seattle base and collar purchase costs, lead times, and delivery requests, contact a SCL Electrical Service representative at (206) 615-0600 for orders north of Denny Way, or (206) 386-4200 for orders South of Denny Way. Contractor must coordinate with SCL Electrical Service representative at the preconstruction meeting or a minimum of 120 Working Days advance notice for Chief Seattle base and collar pick up schedule. The Contractor must pick up the Chief Seattle base and collar and deliver to Project Site for installation. Install decorative Chief Seattle base and collars as specified in Seattle City Light Construction Standard 1716.38.
9-02.1(4)	Asphalt Cement	**Replace the word “shall” with “must” in the second paragraph.**
9-05.2(1)	Concrete Pipe General	**Replace the last sentence of this Section with the following:** The identification of the minor axis of elliptical reinforcement must be in accordance with Section 7-17.2(1).
9-07.5	Dowell Bars (For Cement Concrete Pavement)	**Replace this Section with the following:** Corrosion resistant dowel bars must be the dimensions specified in Standard Plan 405c and meet the requirements of one of the following: 1. Stainless Steel Clad dowel bars must have a minimum 0.06 inches clad to a plain steel inner bar meeting the chemical and physical properties of AASHTO M31, Grade 60, or AASHTO M255, Grade 60. Stainless Steel Clad must meet the chemical properties of ASTM A249 or A269, Grade TP 316L. 2. Stainless Steel Tube dowel bars must have a minimum 0.06-inch-thick tube press fitted onto a plain steel inner bar meeting the chemical and physical properties of AASHTO M31, Grade 60, or AASHTO M255, Grade 60. A lubricant/adhesive must be used between the tube and the plain steel bar to fill any voids. Stainless Steel Tube material must meet the chemical properties of ASTM A249 or A269, Grade TP 316L. 3. Stainless Steel Solid dowel bars must be ASTM A276, Type 316L. 4. Corrosion-resistant, low-carbon, chromium plain steel bars for concrete reinforcement meeting all the requirements of ASTM A 1035 Alloy Type CS Grade 100 or Alloy Type CS Grade 120. 5. Zinc Clad dowel bars must be solid bars or tubular bars with the dimensions specified in Standard Plan 405c and meet the chemical and physical

<table>
<tr><th>Section # or/ Plan #</th><th>Current Title</th><th>Text</th></tr>
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properties of AASHTO M 31, Grade 60 or AASHTO M 255, Grade 60. The bars must have a minimum 0.035 inches A710 Zinc alloy clad in addition to the to the plain steel solid bar or tube dimensions. A710 Zinc must be composed of: zinc: 99.5 percent, by weight, minimum; copper: 0.1 – 0.25 percent, by weight; and iron: 0.0020 percent, by weight, maximum. Each end of tubular bars must be plugged using a snug-fitting insert to prohibit any intrusion of concrete or other materials.
6. Multicoated fusion bonded epoxy bars must consist of an ASTM A615 bar with alternating layers of ASTM A934 coating and an abrasion resistant overcoat (ARO). The ASTM A934 coating must form the base and there must be two layers of each coating material. The minimum thickness of the combined layers of the ASTM A934 coating and ARO coating must be 20 mils. The ARO must meet the following requirements:
<table>
<tr><th>Test</th><th>Method</th><th>Specification</th></tr>
<tr><td>Gouge Resistance</td><td>NACE TM0215, 30 kg wt., LS-1 bit @ 25°C</td><td>< 0.22 mm</td></tr>
<tr><td>Gouge Resistance</td><td>NACE TM0215, 50 kg wt., LS-1 bit @ 25°C</td><td>< 0.44 mm</td></tr>
</table>
7. ASTM A513 steel tubes made from Grade 60 Carbon Steel Tube with the dimensions specified in Standard Plan 405c. Both the inside and outside of the tube must be zinc coated with G90 galvanizing in accordance with ASTM A653. The bars may be cut to length after being galvanized. Following zinc coating, the tubes must be coated with ASTM A1078 Type 2 epoxy coating. The thickness of the epoxy coating must be 10 mils plus or minus 2 mils. After all coatings have been applied, to prevent intrusion of concrete or other materials, the ends of the tube must be capped with a plug style insert cap with a diameter less than the outer dimension of the tube. The Contractor must furnish a written certification that properly identifies the coating materials, the number of each batch of coating material used, quantity represented, date of manufacture, name and address of manufacturer, and a statement that the supplied coating materials meet the requirements of ASTM A653 G90 and ASTM A1078 Type 2. An ASTM A1078 patching material, compatible with the coatings, inert in concrete, and recommended by the manufacturer must be supplied with each shipment for field repairs by the Contractor.
The surface of the finished cut-to-length corrosion-resistant, low-carbon, chromium plain steel bars for concrete reinforcement meeting all the requirements of ASTM A1035 dowels must be provided with a hot- rolled, as-rolled finish, including mill scale. The surface of all other finished cut-to-length dowels must be provided with a smooth “ground” or “cold drawn” finish.
Stainless Steel Clad and Stainless Steel Tube Dowel bar ends must be sealed with a patching material (primer and finish coat) used for patching epoxy-coated reinforcing steel as required in Section 9-07.3, item 7.
</td></tr>
<tr><td>9-32.1(1)A</td><td>Signal Head Components

Editor’s Note – See also 8-31.3(3)B</td><td>
Add after the seventh paragraph:
The mounting type must be as specified on the Drawings. There are two types of signal head mounting types: a coupling mount or a bracket mount. Coupling mounts must be installed by the manufacture prior to galvanization and use a stainless steel plumbizer. Bracket mounting to a mast arm must consist of a clamp kit and a cable mount . A 2 “ diameter hole is field drilled, and tapped, and a clamp kit is fitted over the hole. N Vehicle signal heads must be attached to the mast arm either with a signal coupling unit or bracket mounted as detailed on Standard Plan 510A and 562b. Signal head attachment type is shown on the Drawings. Coupling mounts must include elevator straight plumbizer units between the red and yellow signal sections, or 90 degree plumbizers. Bracket mounts must include a cable mount kit and a clamp kit. No other field drilling is permitted besides for the bracket arm mount.
The cable mount must be constructed of aluminum gusseted tube with vinyl insert, and must specify the number of signals sections in the Model #. The cable must be stainless steel, coated and 84 inches long.
The clamp kit must allow for 360-degree rotation, be hinged, adjustable and with multi-directional tube saddle. The Clamp kit must have stainless steel cable bands with two set screws.
Fittings for bracket mounts must be unpainted. All other hardware for the mounts must be dark green in color, or to match the signal head housing. All parts must be treated to resist corrosion per 3112 Trivalent Chromate Conversion Coating.
</td></tr>
<tr><td>9-32.3</td><td>Pedestrian or Bicycle Pushbutton Assembly</td><td>
Replace Item 5 of this Section with the following:

The central control unit must be shelf mounted and include all necessary, compatible components and cables to the traffic signal controller system. Contact the Traffic Signal Shop at (206) 386-1517 for compatibility approval. The central control unit must have a minimum of 12 feet of power connecting cable.
</td></tr>
</table>

Section # or/ Plan #	Current Title	Text
9-32.5(1)	Fish-Eye Detection Camera	**Insert new Section:** The components of the Fish-Eye Detection Camera must meet the following requirements: 1. The camera enclosure must be waterproof and dust-tight to the latest (National Electrical Manufacturers Association) NEMA-4 specifications. 2. The camera must meet FCC class B requirements for electromagnetic interference emissions. 3. Vibration and shock resistance must meet the requirements of Sections 2.1.9 and 2.1.10, respectively, of NEMA TS 2 4. System components must comply with the environmental requirements detailed in the NEMA TS 2 standard. 5. The system must be designed to operate reliably in an operating temperature ranging from -34°C (-30° F) to +74°C (+165°F) degrees Celsius at 0 percent to 95 percent relative humidity, noncondensing. 6. The camera, mounting hardware, and any related material, when properly installed, must be able to withstand 150 mph wind speeds. 7. Detection system field hardware must meet the requirements listed in the Federal Communications Commission (FCC) 2005 Code of Federal Regulation (CFR) Title 47, Part 15 and must not interfere with any known equipment. Must be ALDIS GRID SMART or equal. 8. The camera must feature an additional warranty to require no aiming or focusing for a period of five (5) years, following successful installation and configuration. This excludes any changes required due to extraordinary impact or duress on the camera. The VIVDS must consist of the following components: a. Camera assembly(ies), machine vision processor (MVP), detection algorithms, application software, and all associated equipment required to setup and operate in a field environment including a field setup computer (if required), connectors and camera mounting hardware. b. The VIVDS must use camera assembly(ies) to collect video image data for the MVP for purposes of detecting vehicle presence and generating traffic data.
STANDARD PLAN (SP) 002e	Abbreviations	**Revised abbreviations to include SDCI for Seattle Department of Construction Inspection .**
SP 003f	Standard Symbols Paving	**Revised Standard Symbols for different types of paving.**
SP 003G	Standard Symbols Paving	**Revised Standard Symbols for different types of paving.**
SP 020c	Survey Monument	**Revised call-out for Cap Details A and B.**
SP 030	Desirable Locations for Utilities	**Revised title, wording, tree clearance notes, and removed incorrect reference.**
SP 132a	Tree Protection During Construction	**Revised Tree Protection features and notes to align with proposed Specification changes.**
SP 132b	Reusable Temporary Protection Fence	**Revised by adding note.**
SP 133	Tree Protection during Trenching Tunneling or Excavation	**Revised Tree Protection features and notes to align with proposed Specification changes.**

Section # or/ Plan #	Current Title	Text
SP 141	Rock Facing	**Revised off set and fencing requirement notes.**
SP 230	2’ 0” Diameter Frame and Cover	**Revised notes concerning height of castings in the Roadway.**
SP 240	Type 240 Catch Basin	**Revised inlet and outlet call-outs for knock outs.**
SP 260a	Inlet/Catch Basin Location and Installation	**Revised to require ADA accessible castings in crosswalks.**
SP 260b	Catch Basin and Inlet Installation	**Revised to update Welded Wire Fabric (WWF) call-outs.**
SP 262	Type 262 Inlet Frame	**Revised to show more dimensions.**
SP 263a	Type 263 Inlet Frame and Hood	**Revised to show more dimensions.**
SP 265a	Vaned grate	**Revised notes to expand the different types of grates that are acceptable to use.**
SP 265b	Vaned grates	**New Standard Plan showing different types of grates**
SP 266	Type 266 Replacement Vaned Grate	**Revised notes to expand the different types of grates that are acceptable to use.**
SP 270	Flow Control Structure With Detention Pipe	**Revised to remove restrictive sizing table for maintenance hole diameters and adjusted notes accordingly.**
SP 283	Side Sewer Installation	**Revised to update notes and add a legend.**
SP 286a	Sewer & Water Spacing & Clearances	**Revised note to include an approval requirement for any exceptions.**
SP 286b	Sewer & Water Spacing & Clearances	**Revised call-out to include an SDOT inspection requirement.**
SP 296	Curb Weep Channel Box	**New Standard Plan**
SP 301		**New Standard Plan showing water service location, construction requirements and clearance requirements in relation to bioretention cells.**

Section # or/ Plan #	Current Title	Text
	Water Service Relocation for up to 2” Service Pipe Through Bioretention	
SP 302	Watermain Setback Requirement for C.I. Lead Joint and D.I. Slip Joint Pipe	**New Standard Plan showing watermain clearances in relation to bioretention cells and notification requirements.**
SP 310a	Type 310 Hydrant Setting Detail	**Revised to clarify jointing requirements for Hydrant Connection Pipe to the watermain.**
SP 310b	Type 310 Hydrant Setting Detail	**Revised to clarify jointing requirements for Hydrant Connection Pipe to the watermain.**
SP 312	Fire Hydrant Marker Layout	**Revised to correct location of hydrant nut.**
SP 313	Wall Requirements for Hydrants	**Revised to correct location of hydrant nut.**
SP 314a	Fire Hydrant Locations and Clearances	**Revised graphics and notes to clarify clearance requirements for fire hydrant locations near curb ramp.**
SP 314b	Clearances for Typical Water Service Vaults	**Revised graphics and notes to clarify clearance requirements from water service vaults.**
SP 340a	2” Blow Off Type A Non Traffic Installation	**Revised to include an additional Valve Box located above the isolation valve, where the watermain connects to the copper pipe leading to the blow off assembly.**
SP 340b	2” Blow Off Detail Type B Traffic Installation	**Revised to include an additional Valve Box located above the isolation valve, where the watermain connects to the copper pipe leading to the blow off assembly.**
SP 350	Water Main Trench and Bedding	**Revised to correct Specification Section reference.**
SP 359	Rebuild Existing Brick Water Valve Chamber	**New Standard Plan**
SP 401	Residential Pavement Sections	**Revised subtitles to better match Specification bid items.**

Section # or/ Plan #	Current Title	Text
SP 402	Commercial and Arterial Pavement Sections	**Revised titles to better match Specification bid items.**
SP 405a	Roadway Concrete Pavement Repair	**Revised to match new dowel bar requirements**
SP 405c	Roadway Concrete Pavement Joints	**Revised to match new dowel bar requirements**
SP 406	Frame & Cover Cement Concrete Reinforcement Detail	**Revised to change steel spacing requirement.**
SP 410	Type 410 curb	**Revised to change requirement of concrete thickness.**
SP 422a	Curb Ramp Details	**Revised notes and call-outs.**
SP 422b	Curb Ramp Details	**Revised notes and call-outs.**
SP 422c	Curb Ramp Details	**Revised notes and call-outs.**
SP 422d	Curb Ramp Details	**Revised notes and call-outs.**
SP 422e	Curb Ramp Details	**Revised notes and call-outs.**
SP 422f	Curb Ramp Details	**Revised notes and call-outs.**
SP 422g	Curb Ramp Details	**Revised notes and call-outs.**
SP 422h	Curb Ramp Details	**Revised notes and call-outs.**
SP 422i	Curb Ramp Details	**New Standard Plan**
SP 422k	Curb Ramp Details	**Revised notes and call-outs.**
SP 422l	Curb Ramp Details	**Revised dimensions, notes and call-outs.**
SP 422f	Curb Ramp Details	**Revised to allow for clear space to fall within extended face of curb.**

Section # or/ Plan #	Current Title	Text
SP 424a	Expandable Tree Pit Detail	**Revised call-outs for mineral aggregate.**
SP 430a	Type 430a Driveway	**Revised Standard Plan 430 and made two Standard Plans 430a and 430b to visually clarify direction of broom finish and jointing requirements.**
SP 430b	Type 430b Driveway	**Revised Standard Plan 430 and made two Standard Plans 430a and 430b to visually clarify direction of broom finish and jointing requirements.**
SP 431	Cement Concrete Driveway placed with Cement Concrete Sidewalk	**Revised to visually clarify direction of broom finish and jointing requirements.**
SP 440b	Cement Concrete Stairway and Handrail	**Revised spacing call out.**
SP 510a	Vehicular Signal Mounting	**Revised to add additional mounting bracket options.**
SP 541**a**	Traffic Signal Pole Foundation	**Revised to change call-outs and detail dimensions.**
SP 543a	Street Light Pole Foundations	**Revised to clarify concrete collar requirements and add shrubbery and foliage planting clearance note.**
SP 543b	Pedestrian Street Light Pole Foundations	**Revised to clarify concrete collar requirements and add shrubbery and foliage planting clearance note.**
SP 550a	Handholes	**Revised to add shrubbery and foliage planting clearance note.**
SP 562b	Steel mast Arm Pole Foundation Schedule & Detail W/O Metro Trolley Loads	**Revised to add new detail.**
SP 710b	Typical Lane Drop Channelization and Legend Placement	**Revised call-outs.**
SP 710C	Typical Intersection Guideline Channelization	**Revised notes and call-outs.**

Section # or/ Plan #	Current Title	Text
SP 712	Typical Crosswalk & Stop Line Installation Details	**Revised notes and graphic.**
SP 750	Red Bus Lane Markings	**Revised details and notes for Red Bus Lane Markings**
SP 775	Narrow Bike Lane Turn Arrow Symbols	**New Standard Plan**
SP 780	Cross Bike Pavement	**Revised bike lane dimension notes**

End of document