

North Central Texas Council of Governments Public Works Construction Standards, Fifth Edition, 2017
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| TEXT | COMMENT | NCTCOG RESPONSE |
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| 102.11 Rejection of Proposals | Change the second sentence to read: "Proposal may be rejected for any of the following specific reasons, but not necessarily limited thereto:" | This suggested language has been incorporated. The word 'specific' has been removed based on the PWCSS input. |
| 102.12 Disqualification of Bidders | Change the first sentence to read: "Bidders may be disqualified and their proposal not considered for any of the following specific reasons, but not necessarily limited thereto:" | This suggested language has been incorporated. The word 'specific' has been removed based on the PWCSS input. |
| 103.4 Insurance | Add the following sub-item: 103.4.6 Bonds and Insurance 103.4.6.1 Performance, Payment and Other Bonds Contractor shall furnish Performance and Payment Bonds as security for the faithful performance and payment of all his obligations under the Contract Documents. These Bonds shall be, at all times, in amounts equal to the total Contract Price, and in such form as set forth in the Contract Documents and with such corporate sureties as are licensed to conduct business in the state where the Project is located and are named in the current list of "Surety Companies Acceptable on Federal Bonds" as published in the Federal Register by the Audit Staff Bureau of Accounts, U.S. Treasury Department. The Performance and Payment Bonds shall be expanded to include any extension of the Contract Period of total Price. If the surety on any Bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business in terminated in any state where any part of the Project is located in revoked, Contractor shall within five (5) days thereafter substitute another Bond and surety, both of which may be acceptable to the City. | This suggested language is adequately addressed in Item 103.3. Surety Bonds and therefore was not incorporated. |
| 103.4.6.2 Additional Bonds and Insurance | Additional Bonds and Insurance Prior to delivery of the executed Contract by City to the Contractor, City may require CONTRACTOR to furnish such other Bonds and such additional insurance in such form and with such sureties or insurers as the City may be required. | This suggested language is not needed. |
| 103.7 Delay of Contract | Add the following: At such time as actual construction has been started, the work will not be stopped or delayed without written permission of the Owner, excluding delays caused by adverse weather conditions. The contractor shall maintain at all times sufficient equipment and personnel on the project to produce satisfactory progress during the construction period. | This suggested comment was not included based on the PWCSS input. The PWCSS felt this comment was not enforceable. |
| 104.2 Change and Modification of Contract 104.2.3 Extra Work | Add the following: No work shall be undertaken which requires extra payment without having an executed change order approved by the Contractor and the Owner, except when so ordered in writing. | This suggested language is adequately addressed in Sections 104.2.3 Extra Work and 109.3 Payment for Extra Work and therefore was not incorporated. |
| 105.3 Shop Drawings, Product Data and Samples | Add the following: Review of Shop Drawings by the Engineer shall be of the sole purpose of determining the sufficiency of the said drawings or schedules to result in finished improvements in conformance with the plans and specifications, and shall not relieve the Contractor of his duty as an independent contractor. It being understood and agreed that the Engineer does not assume any duty to pass upon the propriety or adequacy of such drawings | This suggested language is adequately addressed in the text and therefore was not incorporated. |

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| | or schedules or any means or methods reflected thereby in relation to the safety of either person or property during the contractor’s performance hereunder. | |
| 105.5 Means and Methods of Construction | Add the following: 105.5.1 Water for Construction The Contactor shall make the necessary arrangements for securing and transporting all water required in the construction, including water required for mixing of concrete, sprinkling, testing, flushing, flooding or jetting. The Contactor shall provide water as required at his own expenses. | This suggested language does not belong under Means and Methods. This language is adequately addressed under 107.12 Labor and Materials. |
| 105.7 Owner’s Responsibilities | Add the following: 105.7.3 Observation of Work by Engineer The Engineer shall make periodic visits to the site to familiarize himself/herself generally with the progress of the executed work and to determine if such work generally meets the essential performance and design features and the technical and functional engineering requirements of the Contract Documents; provided and except, however, that the Engineer shall not be responsible for making any detailed, exhaustive, comprehensive or continuous on-site inspection of the quality or quantity of the work or be in any way responsible, directly or indirectly, for the construction means, methods, techniques, sequences, quality, procedures, programs, safety precautions or lack of same incident thereto or in connection therewith. Notwithstanding any other provision of this agreement or any other Contract Document, the Engineer shall not be in any way responsible or liable for any acts, errors, omissions or negligence of the Contractor, any subcontractor or any of the Contractor’s or subcontractor’s agents, servants or employees or any other person, firm or corporation performing or attempting to perform any of the work. | This suggested comment was not included based on the PWCSS input. |
| ITEM 107 LEGAL RELATIONS AND CONTRACT RESPONSIBILITIES 107.2 Indemnification | Delete Item 107.2 in its entirety and substitute therefore the following: The Contractor and his sureties shall indemnify, defend and save harmless the OWNER and all of its officers, agents and employees, ENGINEER and all of its officers and employees from all suits, actions or claims of any character, name and description brought for or on account of any injuries, including death or damages received or sustained by any person, persons or property on account of the operations of the Contractor, his agents, employees or subcontractors; or on account of any negligent act or fault of the Contractor, his agents, employees or subcontractors in the execution of said contract; or on account of the failure of the Contractor to provide the necessary barricades, warning lights or signs; and shall be required to pay any judgment, with cost, which may be obtained against the Owner or Engineer growing out of such injury, including death or damage. | This suggested language is adequately addressed in the text and therefore was not incorporated. |
| 107.9 Performance of the Work | Add the following to the end of the first paragraph: “regardless of the expected completion date set forth in the Contract Documents.” | This suggested language has been incorporated. |
| 107.14 State and Local Sales and use Taxes | Delete in its entirety and substitute therefore the following; Recent legislation has removed the sales tax exemption previously provided by Section 151.311 of the Tax Code covering tangible personal property purchased by a contractor for use in the performance of a contract | This comment will be addressed in the next review. |

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| | <p>for the improvement of City–owned realty. It is still possible, however, for a contractor to make tax-free purchases of tangible personal property that will be incorporated into and become part of a City construction project through the use of a “separated contract” with the City. A “separated contract” is one, which separates charges for materials from charges for labor. Under such a contract, the contractor becomes a “seller” of those materials, which are incorporated into the project, such as bricks, lumber, concrete, paint, etc. The contractor issues a resale certificate in lieu of paying the sales tax at the time such items are purchased. The contractor then receives an exemption certificate from the City for those materials. (This procedure may not be used, however, for materials, which do not become a part of the finished product. For example, equipment rentals, form materials, etc. are not considered as becoming “incorporated” into the project.) Utilization of this “separated contract” approach eliminates the need for bidders to figure in sales tax for materials, which are to be incorporated into the project. Bid items, which contain non-taxable materials, are identified in the Bid Schedule or this project. The successful bidder will be required to complete a Contract Form provided by the Owner identifying and separating non-taxable materials from the labor and taxable materials which are not incorporated into the finished project. The completed contractor form will be used to develop the “separated contract” and will determine the extent of the tax exemption.</p> | |
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| <p>107.16 Compliance with Laws</p> | <p>Add the following sub item: 107.16.2 Antitrust The Contractor hereby assigns to the Owner any and all claims for over-charges associated with this contract which arise under the Antitrust Laws of the United States, 15 U.S.C.A. Section 1, et seq., (1973). Add the following sub item: 107.16.3 Wage Rate All employees of the Contractor on the work to be performed under this contract shall be paid the prevailing wage scale in this locality for work of a similar character, and in no event less than the rates shown in the Special conditions to the Specifications.</p> | <p>This suggested language is adequately addressed in 107.16 Compliance with Laws and therefore was not incorporated.</p> |
| <p>107.19 Protection of Work and Persons and Property 107.19.2 Protection of Persons and Property</p> | <p>Add the following: The Contractor shall at all times exercise reasonable precautions for the safety of employees and others on or near the work and shall comply with all applicable provisions of Federal, State, and Municipal Safety laws and building and construction codes. All machinery equipment and other physical hazards shall be guarded in accordance with the “Manual of Accident Prevention in Construction” of the Associated General Contractors of America except where incompatible with Federal, State and Municipal laws or regulations. The Contractor shall provide such machinery, guards, safe walkways, ladders, bridges, gangplanks and other safety devices. The safety precautions actually taken and their adequacy shall be the sole responsibility of the Contractor, acting at his discretion as an independent contractor. Add the following sub item: 107.19.4 Small Claims for Damages or Injury If any person files a</p> | <p>This suggested language is adequately addressed in the text and therefore was not incorporated. There is a “Manual of Accident Prevention in Construction” of the AGC of America that local governments could reference as appropriate.</p> |

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| | <p>claim against the OWNER or CONTRACTOR for personal injury or property damage resulting from, arising out of, or caused by the operations of the Contractor, or any work within the limits of the project, the Contractor must either submit to the Owner a duly executed full release within thirty (30) days from the date of written claim, or immediately report the claim to his liability insurance carrier for their action in adjusting the claim. If the Contractor fails to comply with this provision within the stipulated time limit, it will be Automatically deemed that the Contractor has appointed the Owner as its irrevocable Attorney in Fact authorizing the Owner to report the claim directly with the liability insurance carrier. This provision is in and of itself a Power of Attorney from the Contractor to the Owner which authorizes the Owner to take said action on behalf of the Contractor without the necessity of the execution of any other document. If the Contractor fails to comply with the provisions of this item the Owner, at its own discretion, may terminate this contract or take any other actions it deems appropriate. Any payment or portion thereof due the Contractor, whether it is a final payment, progress payment, payment out of retainage or refund payment may be withheld by the Owner as is authorized by item 109.4. Bankruptcy, insolvency or denial of liability by the insurance carrier shall not exonerate the Contractor from liability.</p> | |
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| <p>ITEM 109 MEASUREMENT AND PAYMENT 109.5 Monthly Estimate, Partial Payments, Retainage, Final Inspection, Acceptance and Final Payment 109.5.2 Retainage</p> | <p>Add the following: (4) On projects where the contract price, at the time of execution, is greater than \$400,000.00 the Owner may retain 10 percent of the amount due the Contractor, with the retainage above 5 percent deposited in an interest bearing account and interest earned on such 5 percent retained funds shall be paid to the Contractor upon completion of the contract.</p> | <p>This suggested comment was not incorporated due to the PWCSS input. Additionally, referring to 109.5.2 TxDOT has done away with retainage and adopted "Prompt Pay Act" (31USC chapter 39).</p> |
| <p>109.5.3 Final Inspection and Acceptance</p> | <p>Add the following: Within ten (10) days after the Contractor has given the Engineer written notice that the work has been completed, or substantially completed, the Engineer and the Owner shall inspect the work and within said time, if the work be found to be completed or substantially completed in accordance with the Contract Documents, the Engineer shall issue to the Owner and the Contractor his Certificate of Completion, and there upon it shall be the duty of the Owner within ten (10) days to insure a Certificate of acceptance of the work to the Contractor or to advise the Contractor in writing of the reason for non-acceptance. Definition of Substantially Complete: The date of substantial completion of a project or specified area of</p> | <p>This suggested comment was not incorporated due to the PWCSS input. Additionally, the definition of Substantially Complete was not included in the Fifth Edition as it is a regional document and there is not a standard definition to include.</p> |

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| | a project is the date when the construction is sufficiently completed, in accordance with the contract documents, as modified by any change order agreed to by the parties, so that the Owner can occupy or utilize the project or specified area of the project for the use for which it was intended. | |
| 103.1. CONTRACTOR'S WARRANTIES AND UNDERSTANDING | <p>"CONTRACTOR assumes all risks for differing site conditions, and all risks and costs." This clause is likely not enforceable</p> <p>"Unless otherwise stated in the Contract, the CONTRACTOR agrees that all or a portion of the work required by this Contract is a governmental function of the OWNER." The second clause is likely unenforceable due to state law.</p> | These clauses may be enforceable, as each City determines Contractor's Warranties and Understanding. |
| 103.8 ORDER OF WORK TO BE PERFORMED | "After a contract has been awarded and before the "Notice to Proceed" is issued, the OWNER reserves the right to prioritize the order of the Work to be performed." Very vague and likely violates the means and methods issue making owner responsible for delays, etc. | This suggested language was not incorporated and the current language will remain to include clauses for the Owner to weigh in. |
| 105.4. CONSTRUCTION STAKES | Good addition. | No response. |
| 105.5. MEANS AND METHODS OF CONSTRUCTION | Conflicts with new section 103.8 | The previous comment on 103.8 was not incorporated. |
| 107.3 INDEMNIFICATION | Section should be bolded | This suggested comment was incorporated. |
| 107.4.2. Financial Interest in Any Contract by OWNER'S Officers, Employees or Agents | They probably should add the 1295 form registration with the state ethics commission. | The current language states methods. This addition was not incorporated in the 5 th Edition. |
| 103.3 Surety Bonds | There is a definition for a maintenance bond but no language or section requiring a maintenance bond | This comment will be addressed in the next review. |
| 107.16.1 Storm Water Permit | This section overlaps much of 107.27.2. Texas Pollutant Discharge Elimination System. Are both sections needed? | 107.16.1 Storm Water Permit will be combined with 107.27.2. Texas Pollutant Discharge Elimination System to reduce redundancy. |

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| 107.16.1 Storm Water Permit | Reference to Item 201 should now be Item 202 Temporary Erosion, Sedimentation, ... | This reference will be updated in the final Fifth Edition document. |
| 107.27.2 Texas Pollutant Discharge Elimination System | Reference is made to Chapter 19, Article IX, Dallas City Code. Is this applicable for all jurisdictions in the region? | The reference to Chapter 19, Article IX, Dallas City Code will be removed as this is a regional document. |
| 107.27.2 Texas Pollutant Discharge Elimination System | This section overlaps much of 107.16.1. Are both sections needed? | 107.16.1 Storm Water Permit will be combined with 107.27.2. Texas Pollutant Discharge Elimination System to reduce redundancy. |

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| 202.5. Silt Fence 202.5.2. Materials 202.5.2.2. Posts | Delete the last sentence in its entirety and replace with the following: No wood stakes shall be allowed. | Wood stakes are utilized by communities in our region. No change will be made at this time. |
| 202.11. Stabilized Construction Exit 202.11.2. Materials 202.11.2.1 Stone | Delete the following subsection in its entirety and replace with the following: Stone material shall consist of 4 to 6-inch minimum course aggregate riprap and shall be place in a layer 12-inch thick. No crushed or recycled concrete shall be allowed. | This suggested comment was not included based on the PWCSS input as it is a regional document and materials should not be limited. |
| ITEM 204 LANDSCAPING 204.2. Topsoil 204.2.3. Construction Methods | Add the following: A minimum of four (4) inches of topsoil shall be provided on all major thoroughfare medians and rights-of-way and on all earthen channel slopes to the lines and grades established by the construction plans. This will be material imported from off site. The Owner will approve material prior to placement. | This suggested comment was not included based on the PWCSS input. The Fifth Edition includes a minimum thickness of 6-inches of topsoil unless otherwise specified on the plans. |
| 204.6 Seeding Turfgrass 204.6.1. General | Add the following: The Contractor shall maintain the seeded areas including watering until a "Stand of Grass" is obtained. A "Stand of Grass" shall consist of 75% to 80% coverage, a minimum of one (1) inch in height. Re-seeding will be required in washed areas. | This suggested comment was not included based on the PWCSS input. This suggested language is adequately addressed in 204.6.4.6. Watering, Maintaining, and Finishing Seeded Areas and therefore was not incorporated. |
| 204.6.3. Planting Season and Application Rate | Delete the mixture, rate, and planting dates in Table 204.6.3.(a) Seeding Turfgrass and substitute: Type I: Bermuda Grass - Hulled 50 lbs/acre April - June Type II: Annual Rye Grass 40 lbs/acre September - March Type III Bermuda Grass - Unhulled January - March/July - August - 50 lbs/acre A mix of seed shall be used in overlapping seasons. | Existing table is committee approved. This suggestion will be considered at next review. |
| 203.4. Borrow and Spoil 203.4.3. Construction Methods | Add to the second paragraph the following: Unless otherwise approved in writing by the Owner, where excavation to grade established in the field by the Owner terminates in loose or solid rock, the Contractor shall excavate 6 inches below the required subgrade elevations for the entire roadbed width and shall backfill with suitable selected materials as indicated on the plans. Suitable selected material shall include lime treated subgrade or a base material having a plasticity index not greater than 12. Payment for such work will be made under the items of unclassified street excavation, lime treated subgrade and hydrated lime. The 6-inch lime treated subgrade or base shall be compacted to 95% standard proctor density. | This suggested comment was not included based on the PWCSS input. |

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| 203.5 Embankment | Add the following paragraph: Excavated material from the channel which is used as embankment to complete the established alignment, grade and cross-section of the channel shall be compacted to 95% standard proctor density. | This suggested comment was not included based on the PWCSS input. The density requirement is adequately addressed in 203.5.3 Density and therefore no additional information is required. |
| 203.5 Embankment 203.5.3. Density | Add the following: Embankment shall be compacted to not less than 95% of the maximum standard proctor density. | This suggested comment was not included based on the PWCSS input. The density requirement is adequately addressed in 203.5.3 Density and therefore no additional information is required. |

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| 301.2 Lime Treatment | Add the following sentences: Quick Lime shall not be used in the construction of roadway work. Dry hydrated lime shall not be used for treating subgrade or base material unless specified on the plans | This document is not intended as a design manual. These comments were not incorporated. |
| 301.2.3. Lime Treatment Construction Methods 301.2.3.3. General Construction 301.2.3.3.1. Treatment for Materials in Place | Add the following: Prior to final compaction of subgrade, samples of the subgrade material shall be collected by a testing laboratory approved by the Owner, and laboratory tests made to determine the amount of lime required. The application rate for hydrated lime shall be selected to obtain at least the optimum lime percentage indicated by test method ASTM C977-83a, Appendix XI; however, not less than 27 lbs. per S.Y. shall be applied. A Geotechnical Engineer's report reflecting the recommended application rate and including supporting test data shall be submitted in writing to the Owner, for approval prior to beginning any lime treatment. A laboratory test may be waived provided a minimum of 36 lbs. per S.Y. is applied. Testing shall look for sulfates to see if Lime Treatment will cause and adverse effect on the subgrade. | The intent of this document is not to direct communities on how to determine design requirements. These best practices will be considered upon the next review of the document. |
| 301.2.3.7. Maintenance | Add the following to the first paragraph: The lime treated subgrade shall be moist cured until covered by other base or pavement up to fourteen (14) days after final compaction. After 14 days without covering an application of 0.10 to 0.20 gallons per square yard emulsified asphalt shall be applied at the Contractor's expense. Reapplication of emulsified asphalt may be required if lime treated subgrade is not covered shortly after first application. Lime treated subgrade may be covered by other base or pavement when density of 95% of maximum at optimum moisture content is obtained. | This document is not intended as a design manual. These comments were not incorporated. |
| 301.2.1.2. Quicklime 301.2.1.2.1. General | Add to the beginning of the first paragraph: Quicklime (dry) shall not be used in the City without written approval from the Owner. 301.3 Portland Cement Treatment Add the following: Portland cement modification of subgrade soils is not approved. Subgrade soils means natural ground or embankment encountered in the construction. | This document is not intended as a design manual. These comments were not incorporated. |
| 301.5 Flexible Subbase or base (Crushed stone/Concrete) 301.5.1. Material 301.5.1.1. General | Add the sentence: No local limestone material shall be used as flexible base (crushed limestone) on Rockwall paving projects, unless otherwise shown on the plans. | This document is not intended as a design manual. This comment was not incorporated. |
| 301.5.1.2 Tests and Physical Requirements | After the first sentence add the sentence: Samples of crushed limestone shall be submitted to the engineer testing laboratory employed by the Owner for testing and conformance with the specifications. | Each City has the ability to choose how they verify the specified product. This comment was not incorporated, and will be considered during the next review. |

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| 303.2.1.3. Coarse Aggregates Gradation | Add the sentence: For paving projects, the coarse aggregate's gradation shall meet the requirements of Size No. 4 shown in the table. | This document is not intended as a design manual. These comments were not incorporated. |
| 303.2.10. Steel Wire Reinforcement | Revise the first sentence to read: "At the OWNER'S option the use of..." | This is how the sentence referenced currently reads and therefore no edits were necessary. |
| 303.3 Mix Design and Mixing Concrete for Pavement 303.3.5. Mixing and Delivery 303.3.5.3. Central Mixing Plant | Add the following: When a fly ash admixture is used with Type I cement in the production of Portland cement concrete, separate silos shall be provided for fly ash and cement and provisions shall be made for individual measurements. | ASTM approved methods are already specified in this section. |
| 303.5 Construction Methods 303.5.6.Finishing | Delete 303.5.6. and add the following: The finished concrete pavement construction under these specifications is expected to meet certain quality standards for the surface of the concrete including the durability, texture, riding surface and appearance. The surface must be durable, firm, dense and well bonded to the aggregate to maintain an appearance and texture which is satisfactory to the Owner. Concrete pavement having a poor surface which has spalled (exposed aggregate) due to poor quality paste, high water-cement ratio, over-vibration, improper curing, extreme weather or any other reason, or does not have a satisfactory riding surface shall be removed and replaced at the Contractor's expense. It is extremely important that the pavement has a good rideable surface, free from undulations and rough joints. The Owner's Engineer shall determine the acceptability of the pavement. | Item 303.5.6 Finishing describes a process, rather than quality and should not be deleted. Quality is addressed throughout this section. A quality consolidation as recommended will be considered during the next review. |
| 303.5.6.1. Machine Finishing Machine | Finishing of pavement shall include the use of power-driven spreaders, reciprocating type power-driven vibrators, power-driven transverse strike-off, and screed. The concrete pavement shall be consolidated by a reciprocating type mechanical vibrator. As soon as the concrete has been spread between the forms, the mechanical vibrator shall be operated to consolidate the concrete and remove all voids. Hand manipulated vibrators shall be used for areas not covered by the mechanical vibratory unit. The transverse finishing machine shall first be operated to compact and finish the pavement to the required section and grade, without surface voids. The machine shall be operated over each area as many times and at such intervals as directed. At least two trips will be required and the last trip to a given area shall be a continuous run of not less than 40 feet. After completion of finishing with the transverse finishing machine, a transverse drag float may be used. After the floating has been completed | The intent of this document is not to direct communities on specific preferred practices to this level of detail without collaborative coordination. These best practices will be considered upon the next review of the document. |

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| | <p>and the excess water removed, but while the concrete is still plastic, the surface of the concrete shall be tested for trueness with an approved 10-foot steel straightedge furnished by the Contractor. The straightedge shall be operated from the side of the pavement, placed parallel to the pavement centerline and passed across the slab to reveal any high spots or depressions. The straightedge shall be advanced along the pavement in successive stages of not more than one-half its length. Practically perfect contact of the straightedge with the surface will be required, and the pavement shall be leveled to this condition, in order to insure conformity with the surface test required below after the pavement has fully hardened and to insure a smooth rideable surface. Any correction of the surface required shall be accomplished by adding concrete if required and by operating the longitudinal float over the area. The surface test with the straightedge shall then be repeated. After completion of the straightedge testing and surface correction, the surface of the pavement shall be finished by an approved method. Methods available for pavement surface finish including a burlap drag finish, a broom finish or a belt finish. Unless otherwise shown on the plans, the pavement surface shall be finished with the burlap drag.</p> | |
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| <p>303.5.6.1.1. Burlap Drag Finish</p> | <p>If the surface texture is to be a drag finish, a drag shall be used; it shall consist of a seamless strip of damp burlap or cotton fabric, and it shall produce a uniform surface of gritty texture after dragging it longitudinally along the full width of the pavement. For pavement 16 feet or more in width, the drag shall be mounted on a bridge which travels on the forms. The diameter of the drag shall be such that a strip of burlap or fabric at least 3 feet wide are in contact with the full width of pavement surface while the drag is used. The drag shall consist of not less than two layers of burlap with the bottom layer approximately 6 inches wider than the upper layer. The drag shall be maintained in such a condition that the resultant surface is of uniform appearance and reasonably free from gravels over 1/16-inch in depth. Drags shall be maintained clean and free from the encrusted mortar. Drags that cannot be cleaned shall be discarded and new drags substituted.</p> | <p>This would not be a replacement of Tolerance Limits but an additional insert. This comment was not incorporated, and will be considered during the next review.</p> |
| <p>303.5.6.1.2. Broom Finish</p> | <p>If the surface texture is to be broom finished, it shall be applied when the water sheen has practically disappeared. The broom shall be drawn from the center to the edge of the pavement with adjacent strokes slightly overlapping. The broom operation shall be so executed that the corrugation produced in the surface shall be uniform in appearance and not more than 1/16-inch in depth. Brooming shall be completed before the concrete is in such condition that the surface will be torn or unduly roughened by the operation. The surface thus finished shall be free from rough and porous areas, irregularities, and depressions resulting from improper handling of the broom. Brooms shall be of the quality, size, and construction and shall be operated to produce a surface finish meeting the approval of the Owner. Subject</p> | <p>This would not be a replacement of Edging but an additional insert. This comment was not incorporated, and will be considered during the next review.</p> |

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| | to the approval of the Owner, the Contractor may be permitted to substitute mechanical brooming in lieu of the manual brooming as herein described. | |
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| 303.5.6.1.3. Belt Finish | If the surface texture is to be belt finish when straight edging is completed and after sheen has practically disappeared and just before the concrete becomes non-plastic, the surface shall be belted with a 2-ply canvas belt not less than 8 inches wide and at least 3 feet longer than the pavement width. Hand belts shall have suitable handles to permit controlled, uniform manipulation. The belt shall be operated with short strokes transverse to the centerline and with a rapid advance parallel to the centerline. | This would not be a replacement of Belt Finish but an additional insert. This comment was not incorporated, and will be considered during the next review. |
| 303.5.6.2. Hand Finishing Hand | Finishing of concrete pavement will be permitted in areas where it is not practical or possible to construct with finishing machines. These areas include, but are not limited to, intersections, left turn lanes, crossovers, transition areas and where the pavement width is not uniform. In all hand finished areas, one-half (1/2) extra sack of cement per cubic yard of concrete shall be used in the mix. In hand finished areas, the concrete shall be struck off with an approved strike-off screed to such elevation that when consolidated and finished the surface of the pavement shall conform to the required section and grade. The strike template shall be moved forward with a combined transverse and longitudinal motion in the direction the work is progressing, maintaining a slight excess of material in front of the cutting edge. The concrete shall then be tamped with an approved tamping template to compact the concrete thoroughly and eliminate surface voids and the surface screeded to required section. After completion of a strike-off, consolidation and transverse screeding, a hand-operated longitudinal float shall be operated to test and level the surface to the required grade. Workmen shall operate the float from approved bridges riding on the forms and spanning the pavement. The longitudinal float shall be held in contact with the surface and parallel to the centerline and operated with short longitudinal strokes while being passed from one side of the pavement to the other. If contact with the pavement is not made at all points, additional concrete shall be placed, if required, and screeded, and the float shall be used to produce a satisfactory surface. Care shall be exercised to keep the ends of the float from digging into the surface of the pavement. After a section has been smoothed so that the float maintains contact with the surface at all points in being passed from one side to the other, the bridges may be moved forward half the length of the float and the operation repeated. Other operations and surfaces tests shall be as required for machine finishing. | Item 303.5.6.2. Hand already covers this method. This comment was not incorporated, and will be considered during the next review. |
| 303.5.6.3. Edging at Forms and Joints | After the final finish, but before the concrete has taken its initial set, the edges of the pavement along each side of each slab, and on each side of transverse expansion joints, formed joints, transverse construction joints, and emergency construction joints shall be worked with an approved tool and rounded to the radius required by the plans. A well-defined | Item 303.5.6.1.2. Edging already covers this method. This comment was not incorporated, and will be considered during the next review. |

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|---|---|---|
| | and continuous radius shall be produced and a smooth, dense mortar finish obtained. The surface of the slab shall not be unduly disturbed by tilting of the tool during use. At all joints, any tool marks appearing on the slab adjacent to the joints shall be eliminated by brooming the surface. In doing this, the rounding of the edge shall not be disturbed. All concrete on top of the joint filler shall be completely removed. All joints shall be tested with a straightedge before the concrete has set, and correction shall be made if one side of the joint is higher than the other or if they are higher or lower than the adjacent slabs. | |
| TEXT | COMMENT | NCTCOG RESPONSE |
| 303.8 Pavement Testing and Evaluation 303.8.2. Pavement Thickness Test | Delete in its entirety and substitute therefore the following: Upon completion of the work and before final acceptance and final payment shall be made, pavement thickness tests shall be made by the Contractor. Tests shall be made at 400-foot spacings along the length of the pavement. In the event a deficiency in the thickness of pavement is revealed, two (2) subsequent sets necessary to isolate the deficiency shall be made - one at a jointed section prior to the deficient station and one at a jointed section following the deficient station. Additional tests shall be obtained as necessary, at jointed section intervals to isolate the deficient area. Removal and replacement of concrete shall extend to joint boundaries, the full width of the pavement section. If the average thickness of pavement in a particular section is less than called for on the plans, the pavement section shall be removed and replaced with the correct thickness, extending to joint boundaries, the full width of the pavement section, at the Contractor's entire expense. No additional payment over the contract unit price shall be made for any pavement of a thickness exceeding that required on the plans. | This comment results in a very different approach than what is currently in the document, likely will consider suggestion at next review. |
| 303.8.3. Pavement Strength Test 303.8.3.1 For Standard Classes of Concrete | <p>Revise the first paragraph to read: During the progress of the work, the Inspector or a commercial laboratory shall cast test cylinders or beams to maintain a check on the strengths of the concrete being placed.</p> <p>Add the following sentence and table: A table titled "PAVEMENT STRENGTH REQUIREMENTS", is provided showing the required pavement thickness, 7-day strength, 28-day strength, minimum cement factor and maximum slump for each street type to be constructed in Rockwall.</p> <p>Add to the 5th paragraph: Test cores shall be obtained within ten (10) working days after the 28-day test results have been provided by the commercial laboratory. All test cores shall be obtained by a commercial laboratory, at the Contractors expense. One (1) core shall be obtained in the immediate area of the deficiency and two (2) additional cores shall be obtained - one at a jointed section prior to the deficient station and one at a jointed section following the deficient station. Additional cores shall be obtained as necessary, at jointed</p> | <p>Will be presented for consideration in next review.</p> <p>Design guidance is not included within these Construction Standards.</p> <p>Will be presented for consideration in next review.</p> |

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| | <p>section intervals to isolate the deficient area. Removal and replacement of concrete shall extend to joint boundaries, the full width of the pavement section.</p> <p>Amend the second sentence of the 7th paragraph to read: "Pavement not meeting the minimum specified 28-day strength after cores have been tested shall be removed and replaced at the Contractor's expense." Delete the table 303.8.3.1.(a) and the paragraph below it.</p> <p>Add the following table: Pavement Strength Requirements</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Street Type</th> <th style="text-align: left;">Minimum Thick-ness (inches)</th> <th style="text-align: left;">Compr. 7-Day (psi)</th> <th style="text-align: left;">Strength 28-Day (psi)</th> <th style="text-align: left;">Minimum Cement (sacks / CY)</th> <th style="text-align: left;">Slump (inches)</th> </tr> </thead> <tbody> <tr> <td>Machine placed</td> <td>Hand Placed</td> <td>* Arterial</td> <td>10"</td> <td>2,500</td> <td>3,600</td> <td>6.0</td> <td>6.5</td> <td>3" to 5"</td> <td>* Collector</td> <td>8"</td> <td>2,500</td> <td>3,600</td> <td>6.0</td> <td>6.5</td> <td>3" to 5"</td> </tr> <tr> <td>Residential</td> <td>6"</td> <td>2,500</td> <td>3,600</td> <td>6.0</td> <td>6.5</td> <td>3" to 5"</td> <td>Alley</td> <td>7"-5"-7"</td> <td>2,500</td> <td>3,600</td> <td>6.0</td> <td>6.5</td> <td>3" to 5"</td> <td>Fire Lane</td> <td>6"</td> <td>2,500</td> <td>3,600</td> <td>6.0</td> <td>6.5</td> <td>3" to 5"</td> </tr> <tr> <td>Driveways</td> <td>6"</td> <td>2,500</td> <td>3,600</td> <td>6.0</td> <td>6.5</td> <td>3" to 5"</td> <td>Barrier Free Ramps</td> <td>5"</td> <td>2,500</td> <td>3,600</td> <td>N/A</td> <td>6.5</td> <td>3" to 5"</td> <td>Sidewalks</td> <td>4"</td> <td>2,100</td> <td>3,000</td> <td>N/A</td> <td>5.5</td> <td>3" to 5"</td> </tr> <tr> <td>Parking Lot/ Drive Aisles</td> <td>5"</td> <td>2,100</td> <td>3,000</td> <td>5.0</td> <td>5.5</td> <td>3" to 5"</td> <td>Dumpster Pads</td> <td>7"</td> <td>2,500</td> <td>3,600</td> <td>6.0</td> <td>6.5</td> <td>3" to 5"</td> <td colspan="3">* Paving section designs for arterials and collectors shall be based off 30 years projected traffic volumes and geotechnical analysis/report. (Paving section design shall include but not limited to the following: pavement thickness, reinforcing size and spacing, pavement strength, subgrade thickness, subgrade treatment type (lime or cement))</td> </tr> </tbody> </table> | Street Type | Minimum Thick-ness (inches) | Compr. 7-Day (psi) | Strength 28-Day (psi) | Minimum Cement (sacks / CY) | Slump (inches) | Machine placed | Hand Placed | * Arterial | 10" | 2,500 | 3,600 | 6.0 | 6.5 | 3" to 5" | * Collector | 8" | 2,500 | 3,600 | 6.0 | 6.5 | 3" to 5" | Residential | 6" | 2,500 | 3,600 | 6.0 | 6.5 | 3" to 5" | Alley | 7"-5"-7" | 2,500 | 3,600 | 6.0 | 6.5 | 3" to 5" | Fire Lane | 6" | 2,500 | 3,600 | 6.0 | 6.5 | 3" to 5" | Driveways | 6" | 2,500 | 3,600 | 6.0 | 6.5 | 3" to 5" | Barrier Free Ramps | 5" | 2,500 | 3,600 | N/A | 6.5 | 3" to 5" | Sidewalks | 4" | 2,100 | 3,000 | N/A | 5.5 | 3" to 5" | Parking Lot/ Drive Aisles | 5" | 2,100 | 3,000 | 5.0 | 5.5 | 3" to 5" | Dumpster Pads | 7" | 2,500 | 3,600 | 6.0 | 6.5 | 3" to 5" | * Paving section designs for arterials and collectors shall be based off 30 years projected traffic volumes and geotechnical analysis/report. (Paving section design shall include but not limited to the following: pavement thickness, reinforcing size and spacing, pavement strength, subgrade thickness, subgrade treatment type (lime or cement)) | | | <p>This guidance will be considered in the next review cycle.</p> <p>Design guidance is not included within these Construction Standards.</p> |
|--|---|---|-----------------------------|-----------------------------|-----------------------|-----------------------------|--------------------|----------------|-------------|------------|-------|-------|----------|---|----------|----------|-------------|-----|-------|----------|-----|-----|----------|-------------|----|-------|-------|-----|-----|----------|-------|----------|-------|-------|-----|-----|----------|-----------|----|-------|-------|-----|-----|----------|-----------|----|-------|-------|-----|-----|----------|--------------------|----|-------|-------|-----|-----|----------|-----------|----|-------|-------|-----|-----|----------|---------------------------|----|-------|-------|-----|-----|----------|---------------|----|-------|-------|-----|-----|----------|---|--|--|---|
| Street Type | Minimum Thick-ness (inches) | Compr. 7-Day (psi) | Strength 28-Day (psi) | Minimum Cement (sacks / CY) | Slump (inches) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Machine placed | Hand Placed | * Arterial | 10" | 2,500 | 3,600 | 6.0 | 6.5 | 3" to 5" | * Collector | 8" | 2,500 | 3,600 | 6.0 | 6.5 | 3" to 5" | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Residential | 6" | 2,500 | 3,600 | 6.0 | 6.5 | 3" to 5" | Alley | 7"-5"-7" | 2,500 | 3,600 | 6.0 | 6.5 | 3" to 5" | Fire Lane | 6" | 2,500 | 3,600 | 6.0 | 6.5 | 3" to 5" | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Driveways | 6" | 2,500 | 3,600 | 6.0 | 6.5 | 3" to 5" | Barrier Free Ramps | 5" | 2,500 | 3,600 | N/A | 6.5 | 3" to 5" | Sidewalks | 4" | 2,100 | 3,000 | N/A | 5.5 | 3" to 5" | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Parking Lot/ Drive Aisles | 5" | 2,100 | 3,000 | 5.0 | 5.5 | 3" to 5" | Dumpster Pads | 7" | 2,500 | 3,600 | 6.0 | 6.5 | 3" to 5" | * Paving section designs for arterials and collectors shall be based off 30 years projected traffic volumes and geotechnical analysis/report. (Paving section design shall include but not limited to the following: pavement thickness, reinforcing size and spacing, pavement strength, subgrade thickness, subgrade treatment type (lime or cement)) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TEXT | COMMENT | NCTCOG RESPONSE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>304.1. Solid Concrete Interlocking Paving Units</p> <p>304.1.2. Materials</p> <p>304.1.2.2. Base</p> | <p>Delete in its entirety and replace with the following: The base shall be constructed of 3,600 psi reinforced concrete meeting the requirements of Item 5.8 of the Standard Specifications. #4 reinforcing bars shall be placed 18 inches on center, both ways, in all concrete.</p> | <p>Design guidance is not included within these Construction Standards.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>304.1.3. Construction Methods</p> <p>304.1.3.3. Construction Procedures</p> <p>304.1.3.3.3 Paving Units and Joints</p> | <p>Delete paragraph two in its entirety and replace with the following: Joints between paving units shall have a spacing of (1/8").</p> <p>304.1.4. Measurement and Payment Delete in its entirety and replace with the following: Interlocking Concrete Paving Stone shall be measured and paid for by the square foot of stone, sand and concrete base furnished and installed, which price shall include all labor, including excavation, materials, equipment, tools, and incidentals necessary to complete the work. No separate payment shall be made for 6" concrete base or washed sand. Payment for removal and disposal of existing concrete median pavement, if required, shall be made by the square</p> | <p>Design guidance is not included within these Construction Standards.</p> <p>This guidance will be considered during the next review.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| | foot. Payment shall include all labor, equipment, materials, tools, and incidentals necessary to complete the work. | |
| 305.1.3.2. Reinforcing Steel | The third sentence, the first paragraph shall be revised to read: All bars at splices shall be lapped a minimum of 30 diameters of the bar or 12-inches, whichever is greater. | This suggestion is a very slight modification from what currently is included in the document, this guidance will be considered during the next review. |
| 305.2 Concrete Sidewalks, Driveway Approaches, and Barrier Free Ramps 305.2.2. Materials 305.2.2.2. Reinforcement | Revise the first sentence to read: Driveway approaches and walk reinforcing shall be No. 3 bars on 24-inch centers. | This suggestion is already included as one of the options provided in this section. |
| 305.2.3. Construction Methods 305.2.3.1. General | Add to end of the first paragraph: The drive approach shall have a minimum thickness equal to the thickness of the adjacent street or 6 inches, whichever is greater. | This comment will be incorporated into the 5 th Edition. |
| 305.2.3.8. Joints | Revise the second sentence to read: Expansion joints shall be placed in the sidewalk at 20-foot intervals or as otherwise specified by the Owner. | This guidance will be considered during the next review. |
| 305.3. Concrete Medians | Delete in entirety. | This option should remain for consideration by other communities. |
| 301.1.2.2. | Should “the Engineer” be “the OWNER”? | All references to “Engineer” have been changed to “Owner,” as needed. |
| 301.2.1.2.1. | Is it necessary or prudent to caution the CONTRACTOR about how to use the products of which they are supposed to be experts? This is a contract specification, not a Material Data sheet. I suggest this should be removed. | This carry over caution from previous versions was not removed during this review process. |
| 301.2.3.6 Compaction | Does “thoroughly rolled sufficiently lightly” make sense? Should this be revised? | The words “thoroughly” and “lightly” will be removed in the 5 th Edition. |
| 301.3.3.2.1 | Should “the Engineer” be “the OWNER”? | All references to “Engineer” have been changed to “Owner”. |
| 301.3.3.2.1 | Should “the Engineer” be “the OWNER”? | All references to “Engineer” have been changed to “Owner”. |

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| TEXT | COMMENT | NCTCOG RESPONSE |
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| 301.3.3.3.2 | Should “the Engineer” be “the OWNER”? | All references to “Engineer” have been changed to “Owner”. |
| 301.3.3.3.2 | Should “the Engineer” be “the OWNER”? | All references to “Engineer” have been changed to “Owner”. |
| 301.4.3.6. | Should “the Engineer” be “the OWNER”? | All references to “Engineer” have been changed to “Owner”. |
| Table 302.2.2.(a) Page 302-1 | There is a wide space between “Magnesium” and “Sulfate”. Should this be fixed? | All formatting errors will be corrected in the 5 th Edition. |
| Table 302.3.2.(a) Page 302-4 | <p>It looks like this Table extends into the right margin. Should this be fixed?</p> <p>It appears that the temperatures presented are in Centigrade. Is it possible to convert these to Fahrenheit?</p> <p>I did a Google Search for this program and found it on the TxDOT site. However, I was not successful in downloading a working copy because the Program contains a VBA procedure and the current version of Excel striped the VBA Procedure away. Should something be done to update the program and modify it so that it may be downloaded?</p> | <p>All formatting errors will be corrected in the 5th Edition.</p> <p>Although the conversion is possible, further research into the original source of the table should be included in this task and will be undertaken within the next review.</p> <p>As noted in the footnote, this software is a resource for understanding air temperatures provided in the table. TxDOT can be contacted if the software is needed.</p> |
| 302.3.2.2 Page 302-4 | <p>Does this sentence make sense? If the PG was manufactured at the Job Site, then why was the SBR injected at the Plant?</p> <p>Should “the Engineer” be “the OWNER”?</p> | <p>This reference heading advises for when the binders are manufactured at the job site. Clarification of language can be approved during the next review.</p> <p>All references to “Engineer” have been changed to “Owner”.</p> |
| Table 302.3.3.1.(a) Page 302-6 | These seem to be miss-formatted. | All formatting errors will be corrected in the 5 th Edition. |
| Table 302.3.3.(a) Page 302-5 | <p>Are the temperature conversions correct? (I convert 220° C to 428° F, not the 425° F that is shown.)</p> <p>I looked up an ASTM Spec D3381-09a “Standard Spec for Viscosity Graded Asphalt Cement for Use in Pavement Construction”, that has 3 tables similar to this table, but the values are quite different. Is this chart up to date? See: http://www.axeonsp.com/wp-content/uploads/2013/08/ASTM-D-3381-09a.pdf</p> <p>For instance, this table shows an AC-3, whereas the ASTM D3381 shows an AC-2.5 – and so on....</p> <p>Should the correct ASTM Spec be cited?</p> | <p>This slight temperature difference can be clarified during the next review.</p> <p>This guidance will be considered during the next review.</p> |

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| TEXT | COMMENT | NCTCOG RESPONSE |
|---|---|---|
| 302.3.4 Page 302-6 | Is there an ASTM or and AASHTO Spec that covers Emulsified Asphalt? Where did this information come from? Should the reference be listed? | Further guidance on this topic and a reference to the source of the table can be included in the next review. |
| Table 302.3.4.(a) Page 302-7 | It appears that the left column is not correctly shown. It seems that all of the rows are misaligned. Should “the Engineer” be changed to “the OWNER”? | All formatting errors will be corrected in the 5 th Edition. All references to “Engineer” have been changed to “Owner”. |
| Table 302.3.4.(b) Page 302-8 | It appears that the left column is not correctly shown. It seems that all of the rows are misaligned. | All formatting errors will be corrected in the 5 th Edition. |
| Table 302.3.4.(c) Page 302-8 | It appears that the left column is not correctly shown. It seems that some of the rows are misaligned. | All formatting errors will be corrected in the 5 th Edition. |
| Table 302.3.4.(d) Page 302-8 | It appears that the left column is not correctly shown. It seems that some of the rows are misaligned. The OWNER does not have a contract with the Emulsion Supplier; therefore, these specs cannot direct the Emulsion Supplier to do anything. Perhaps this should be: “1. The CONTRACTOR shall provide the OWNER samples of the asphalt cement and polymer used in making the finished emulsion with a certified statement from the Emulsion Supplier stating that the provided asphalt cement and polymer used in the finished product are the same as provided”? How quickly is “Slowly”? Is there an ASTM that covers this? | All formatting errors will be corrected in the 5 th Edition. This substitution will be included in the 5 th Edition. This guidance will be considered during the next review. |
| 302.3.5 Page 302-8 | Orphaned title: Move to next page? | All formatting errors will be corrected in the 5 th Edition. |
| Table 302.3.5.1.(a) Page 302-9 | It appears that the temperatures presented in this table are in Centigrade rather than Fahrenheit. Is it possible to convert these temperatures to Fahrenheit? | Although the conversion is possible, further research into the original source of the table should be included in this task and will be undertaken within the next review. |
| Table 302.3.6.(a) Page 302-11 | Some of the temperatures presented in this table are in Centigrade, which may be deleted. | This comment will be incorporated in the 5 th Edition. |
| Table 302.3.7.(a) Page 302-13 | Should this be “Saybolt” rather than “saybot”? | This comment will be incorporated in the 5 th Edition. |

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| TEXT | COMMENT | NCTCOG RESPONSE |
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| 302.4. Page 302-13 | This Title is very close to the bottom of Table 302.3.7.(a) – which makes it look like a “note”. Should more space be provided between the bottom of the table and the Title of the next section? | All formatting errors will be corrected in the 5 th Edition. |
| 302.5 Page 302-13 | What does the term “should” mean in a contract? I do not know what “practical limits” means? Is there a definition somewhere? After what is stated in the preceding sentences, this statement negates them. Which is correct: the temperatures should stay within practical limits or the temperatures shall not be above the maximum shown in the Table? Should this be fixed? Isn’t separation of the modifier expected or suspected – in every case? What is the purpose of this sentence? Should this be rewritten? Is it necessary or prudent to warn the CONTRACTOR about how to use the products of which they are supposed to be experts? This is a contract specification, not a Material Data sheet. With the exception of the last line (which <u>is</u> a contract specification), I suggest that this warning be removed. | This is a cautionary paragraph with some general guidance. This paragraph will be reviewed with the next edition. |
| Table 302.5.(a) Page 302-13 | This table include temperatures in Celsius. Should the Celsius temperatures be removed? | All Celsius references have been removed in this table. |
| 302.6.4 Page 302-14 | Remove the reference to (L) [Liter?] | The reference to Liter (L) has been removed. |
| 302.7.4 Page 302-14 | What are “other approved methods”? Should this be “or other methods approved by the OWNER”? | This suggestion will be incorporated in the 5th Edition. |
| Table 302.8.2.3.(b) Page 302-15 | Table is split between pages. Move entire table to next page. In this context, what does “same as above” mean? | This table has been corrected to incorporate comments. |
| Page 302-16 | There is a great deal of wasted space on page 302-16. Should this be reduced? | All formatting errors will be corrected in the 5 th Edition. |
| Table 302.8.2.3.(c) Page 302-17 | What are the units shown for wet ball mill and sand equivalent? Are the definitions of the Wet Ball Mill and Sand Equivalent defined in an ASTM or an AASHTO document? Should this be mentioned? | This comment will be addressed in the next review. |
| 302.8.3 Page 302-17 | In looking through Item 302.9.5, I do not find “Type ‘B’ and ‘D’ mixtures mentioned. What was this supposed to say? I find mention of Type “B” and “D” Mixtures in item 302.9.5.1, but I do not understand how the separation of aggregates may be deleted from the process. Should there be more explanation? What happens to the material that has been laid down if it does not have the specified qualities? | This language remains the same as the language included in the 4 th Edition-Public Works Construction Standards. This comment will be addressed in the next review. |
| 302.9.2.2.1 Page 302-18 | Is it fair to the CONTRACTOR to be on the hook for the materials if they do not know what the materials will be until after tests have been made? | Design tests are performed as part of the design before going to construction. |

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| 302.9.2.3 Page 302-18 | Has the term “draindown” been defined? Should it be? Item 302.4 no longer exists. What should be done? | Item 302.4 was previously removed. Item 302.9.2.3. Cellulose Fiber will be removed in the 5 th Edition. |
| 302.9.3 Page 302-18 | This sentence does not allow for asphalt to be mixed by a “continuous mixing type plant”, which has been defined and mentioned in several locations throughout this section. What should be done? Drum Mixing Plants are mentioned, too. | This allowance is included in 302.9.5. Mixing Plants. |
| 302.9.3.1 Page 302-20 | Does it seem odd that this is mixing unit systems? Should this be made to be in the same unit system? (What is a gram-inch?) | This comment will be evaluated during the next review. |
| 302.9.4.2 Page 302-21 | Referencing [All scales must be a tare beam for balancing.] Is this a correct statement? What does this mean? | Tare is a type of balancing. We will include this in the next review. |
| 302.9.5.4.1 Page 302-24 | Should “the Engineer” be changed to “the OWNER”? | All references to “Engineer” have been changed to “Owner”. |
| 302.9.5.4.3 Page 302-24 | Should “the Engineer” be changed to “the OWNER”? Should “Engineer” be changed to “OWNER”? | All references to “Engineer” have been changed to “Owner”. |
| 302.9.6.3.1 Page 302-24 | No longer need the “(10 cm)”. The word “considered” is unwarranted. Should it be removed? | 10 cm will be removed and the word “considered” will remain in the sentence as is. |
| 302.9.6.3.2 Page 302-24 | The word “considered” is unwarranted. Should it be removed? | The word “considered” will remain in the sentence as is. |
| 302.9.6.5 Page 302-24 | Referencing [Restrictions on maximum mixture temperatures placed by environmental regulatory agencies supersede the maximum temperature listed above.] Where is this information going to come from? Whose job is it to enforce? | This comment will be addressed in the next review. |
| 302.9.6.7 Page 302-25 | In the first paragraph, with the exception of removing the “3 wheel and” and adding “vibratory” this section is exactly the same as previous version. In the second paragraph, a sentence was removed. Otherwise, this paragraph is exactly the same as the previous version. How was this section “beefed up”? | The language for this section was recommended by our working group, as they believed appropriate. |
| 303.1 Page 303-1 | This is very picky, but the title of this Table is: “Table 303.5.5.(a) Concrete Placement”. (Notice the “.” Between “5” and “(“. | All formatting errors will be corrected in the 5 th Edition. |
| 303.2.1.1.1. Page 303-1 | Should the “must” be “shall”? | The word “shall” has been substituted for the word “must.” |
| 303.2.1.2.1 Page 303-2 | How much is an “excess amount of salt or alkali” and how will the inspector know? | This comment will be addressed in the next review. |
| 303.2.1.3 Page 303-3 | ASTM C989 seems to cover only Blast Furnace Slag. It does not cover crushed gravel or crushed stone. ASTM C125, C127, C128, and others mentioned in Table 303.2.1.1.3.(a), seem to cover crushed gravel and crushed stone. Should these ASTMs be mentioned here? | This comment will be addressed in the next review. |

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| 303.2.1.3.1 Page 303-3 | How much are “injurious amounts’ of salt, alkali, vegetable matter...”, etc? Is this defined anywhere? Should it be? How will an inspector know if there is an “injurious” amount present? | This comment will be addressed in the next review. |
| Table 303.2.1.3.2.(a) Page 303-4 | This Table is in very small type. Is there a way to make this table easier to read? Perhaps horizontal lines would help? | All formatting errors will be corrected in the 5 th Edition. |
| 303.2.4 303-6 | What does this mean and why was the section left “as is”? | The language for this section was recommended by our working group, as they believed appropriate. |
| 303.2.8.1 Page 303-7 | What does “rightly closed” mean? | The word “rightly” was removed from this sentence. |
| 303.2.9 Page 303-7 | To me, there is a difference between “driving vehicles on steel mat” and “reinforcement subjected to Construction traffic”. Is everyone OK with this sentence change? | This comment will be addressed in the next review. |
| 303.2.12.1 Page 303-8 | Is this OK – to leave for a future revision? It has been 16 years since the last revision... | The language for this section was recommended by our working group, as they believed appropriate. |
| 303.2.12.2 Page 303-9 | Is this contradictory? What is the difference between the “thickness” and the “width” of the joint filler? | The language references “thickness” and “width” as shown on the plans. In this case it appears that “thickness” is depth. |
| 303.2.14 Page 303-10 | Is there a difference in different colored silicones? No mention is made in the changed version. Although the words “silicone joint sealant” have been included in paragraph 303.2.14, there are no specifications to back the “silicone joint sealant” up. There is no mention of the constituent chemicals, how to apply, or temperatures when the material may be applied. I think there needs to be another section defining this material and how to apply in section 303.2.14.1.X. I do not find a note about “Green Concrete” Is there one somewhere? What about NOx certifications? Should these be included? | The language for this section was recommended by our working group, as they believed appropriate. |
| 303.2.14.1.1. Page 303-10 | There is a centigrade temperature alternative shown that may be removed. | All Centigrade references have been removed in this table. |
| Table 303.2.14.1.2.(a) Page 303-10 | This table contains equivalent temperatures in Centigrade, which may be removed. Is this a complete sentence? Is this correct? | All Centigrade references have been removed in this table. This sentence is a directive. |
| 303.3.3 Page 303-11 | Should “the Engineer” be changed to “the OWNER”? What “Approved form”? Is there an “approved form” somewhere? Should the location of the “approved form” be included in this sentence? Should this be “L.A. Abrasion tests of coarse aggregates”? Should the ASTM spec be defined? | All references to “Engineer” have been changed to “Owner”. Form to be approved by Owner. This comment will be addressed in the next review. |
| 303.3.4 Page 303-11 | Is this punctuated correctly? (Notice the “and” in number 5, the period in number 6, and the Capital “The” in number 7.) Should this be modified? | All formatting errors will be corrected in the 5 th Edition. |

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| | I do not believe I have ever seen water applied to a working concrete surface with a “fog”. Usually, they use a spray nozzle on the hose from the truck, or splash water from a bucket. Is this correct? Should this be revised? Should “fog” be defined? This is a very confusing sentence – I am not sure it is enforceable. Should this sentence be revised? | “Fog spray” will be replaced with “misting.” |
| TEXT | COMMENT | NCTCOG RESPONSE |
| 303.3.5.4 Page 303-14 | Is there a standard or recommended form for this? Where is it or should one be developed? | This comment will be addressed in the next review. |
| 303.5 Page 303-16 | The information contained in this section are clearly “Pavement” Construction Methods. Should the title be revised so as not to confuse this construction methods with, say, and structural construction methods?? | Item 303 heading is Portland Cement Concrete Pavement. |
| 303.5.2.3 Page 303-16 | The comment asked that forms be removed in a manner that is consistent with the TxDOT spec of 24-hours. The wording got changed to 12-hours. Is this OK? (I think that forms should be required to stay on a minimum of 24-hours.) | The language for this section was recommended by our working group, as they believed appropriate. |
| 303.5.4.2 | Is this Item relevant to the topic? | This reference will be updated in the 5 th Edition to show 702.5.4.1. Expansion Joints. |
| 303.5.4.2.4 Page 303-17 | What does “extensive” mean in this context? | “Extensive” likely means fabrication and mass in this sentence. |
| 303.5.4.3 Page 303-17 | What happens if the pavement is being cured with an alternative method such as Blankets, or membranes? | This comment will be addressed in the next review. |
| 303.5.4.4 Page 303-18 | Is this Item relevant to the topic? | This reference will be updated in the 5 th Edition. |
| 303.5.5.1 Page 303-18 | If ACI 305 and 306 are not referenced, to what specifications shall a CONTRACTOR place the concrete? Should the word “may” be used here? If ACI 305 and 306 are not referenced, to what specifications shall a CONTRACTOR place the concrete? (duplicate comment) How much chilled or heated water is allowed? What does the phrase “It is to be distinctly understood” in this context mean? How about: “The CONTRACTOR is responsible for the quality and strength of the concrete placed in any weather conditions...” | The language for this section was recommended by our working group, as they believed appropriate. |
| 303.5.6.1.3. Page 303-19 | Should “the Engineer” be changed to “the OWNER”? | All references to “Engineer” have been changed to “Owner”. |
| 303.5.7 Page 303-19 | Why is the phrase “considered as sufficient” used? Rewrite? Item 303.2.13 allows for Membrane-forming compounds, Cotton Mats, Waterproof Paper, and Polyethylene Film. I do not believe I have seen a CONTRACTOR use Poly film or cotton mats on the back of curb after removing the forms. Is this allowing the use of Poly Film or Cotton Mats? I don’t know how it is going to work – trying to spray cotton mats or Poly film | This comment will be addressed in the next review. |

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| TEXT | COMMENT | NCTCOG RESPONSE |
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| | under pressure... Rewrite? I seems to me that this Item (Item 303.5.7) should be under Item 303.2.13. | |
| 303.5.9 Page 303-19 | Is this true – a wooden flat? I have seen them use aluminum, but not wood, for quite a while. | The words “wooden flat” were removed and replaced to read “worked with a float” in the 5 th Edition. |
| 303.8.2 Page 303-21 | Actually, what was added is “upon discretion of the OWNER...” The problem with this is that the text offers one outcome to be at the “discretion of the OWNER” – (i.e.) Table 303.8.2.(a); however, what other alternative does the OWNER have? Without another alternative, there is no discretion for the OWNER. Does the CONTRACTOR not have the right to remove and replace? Should this be rethought? Should this read: “ at the discretion...” rather than “upon discretion...”? | The language for this section was recommended by our working group, as they believed appropriate. |
| 303.8.3.2 | The CONTRACTOR shall cast the test cylinders? How is that fair and impartial testing? | The ASTM standard for testing is specified. |
| 303.8.4 Page 303-23 | In the new version, the “or its representative”, may be deleted. | This language will be removed in the 5 th Edition. |
| 304.1. Page 304-1 | Should “The Engineer” be changed to “The OWNER”? | All references to “Engineer” have been changed to “Owner”. |
| 304.1.1 Page 304-1 | Should “The Engineer” be changed to “The OWNER”? | All references to “Engineer” have been changed to “Owner”. |
| 304.1.2.2 Page 301-1 | Should “The Engineer” be changed to “The OWNER”? Should “The Engineer” be changed to “The OWNER”? | All references to “Engineer” have been changed to “Owner”. |
| 304.1.2.3 Page 304-1 | What does “practically” mean in this context? Should there be a better spec for this? Do not need the (75-µm). Remove? | This comment will be addressed in the next review. The 75-µm will be removed. |
| Table 304-1.2.3.(a) Page 304-1 | Do not need the metric measurements in this table. Remove? | The metric measurements will be removed. |
| Table 304-1.2.3.(b) Page 304-2 | Do not need the metric measurements in this table. Remove? | The metric measurements will be removed. |
| 304.1.2.4 Page 304-2 | Should “the Engineer” be changed to “the OWNER”? | All references to “Engineer” have been changed to “Owner”. |
| 304.1.3. Page 304-2 | Should “the Engineer” be changed to “the OWNER”? Rewrite to: “For curves with a radius of less than 250-ft., flexible metal or wood forms acceptable to the OWNER , may be used.” | All references to “Engineer” have been changed to “Owner”. This comment reference is found in 303.4.4. Forms and the current language already references approval by the Owner. |
| 304.1.3.3.1. Page 304-2 | Should “The Engineer” be changed to “The OWNER”? | All references to “Engineer” have been changed to “Owner”. |

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| TEXT | COMMENT | NCTCOG RESPONSE |
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| 305.1.3.4 Page 305-1 | This item is under a heading marked "Concrete Curb and Gutter". Is it possible to get 4 round, smooth dowels in a 6" curb and gutter? Is this detailed somewhere? Should the detail reference be included? | This callout has not changed, three ¼ in. bars would fit inside a 6"x6" area. The detail may be an addition in future standards. |
| 305.1.3.7 Page 305-2 | I found no reference to "3 days" in this section. What was being discussed? I think forms should remain for a minimum of 24-hours. | The language for this section was recommended by our working group, as they believed appropriate. |
| 305.1.3.8 Page 305-2 | Is this Item relevant to the topic? | This reference will be updated in the 5 th Edition. |
| 305.2.3.7 Page 305-3 | Separate "sidewalk" and "and". | All formatting errors will be corrected in the 5 th Edition. |
| 305.2.3.2 Page 305-3 | In most cases, the OWNER no longer establishes lines and grades. Should this be revised? | This comment will be addressed in the next review. |
| 305.3.1 Page 305-4 | In most cases, the OWNER no longer establishes lines and grades. Should this be revised? | This comment will be addressed in the next review. |
| 305.3.3.1 Page 305-4 | Is this item relevant to the topic? | This reference will be updated in the 5 th Edition to 203.2. Unclassified Excavation. |
| 303.2.2 Portland Cement | As noted in this 2004 edition allowable cement shall be ASTM C150 Type I, Type II or Type III or ASTM C595 Type IP. There have been many improvements/changes to the Portland cements that represent the ASTM C150 and C595 specifications over the past 13 years. I believe it is important that specifying agencies remain current in their standards, which includes keeping up-to-date with changes in materials. With that said, I would like the NCTCOG to consider adding all cements manufactured under ASTM C595 to the approved list of cements in addition to the Types previously listed for ASTM C150 allowed for construction use under the Standard Specifications for Public Works Construction. I would also like to point out that the cements now manufactured under the ASTM C595 specification are considered more environmentally friendly; a direction the industry is now moving towards. TxDOT has already added cements from the ASTM C595 specification to their approved list of cements allowed in state construction projects. | This section will be updated to read: Cement shall be of a standard brand of Portland cement which shall conform to the requirements of ASTM C150 Portland Cement, ASTM C595 Blended Hydraulic Cements, or other applicable test methods of the ASTM and shall be as approved by the Owner. |
| 303.5.4.2 | References Item 702.4.4.1 but should reference 702.5.4.1 | All formatting and references will be corrected in the 5 th Edition. |
| Table 303.8.3.2.(a) | Change title to Performance Class Concrete Deficiency Penalties | The table title will be changed to Performance Class Concrete Deficiency Penalties. |
| 303.8.4 | Consider deleting "one-year" from "...those for which the one-year maintenance bond has not expired." | One-year is an attempt at defining recently. This comment will be addressed in the next review. |

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| TEXT | COMMENT | NCTCOG RESPONSE |
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| <p>402.1.2 Page 402-1</p> | <p>Do other Cities require notification of Local Fire Department and Emergency Services when a street is closed? Should that be mentioned here or in the Contract itself? Is this item relevant to the topic [<i>Referencing Item 201.3 Maintenance of Streets During Construction</i>]?</p> | <p>The sentence “Notice of street closures should be provided to the appropriate emergency and/or other department personnel.” has been added in response to this comment.</p> |
| <p>402.2.2 Page 402-1</p> | <p>I am not sure I understand what this means. Should a Detail be provided? Referencing [<i>In a concrete paved street or alley, no horizontal dimension of any cut along the street path shall be less than 3-ft. or no less than 1-ft. from the edge of the trench on each end, whichever is greater.</i>]</p> | <p>Paragraph as written is clear and standard drawings are referenced.</p> |
| <p>402.3 Sawing 402.3.2. Equipment</p> | <p>Revise the second paragraph to read: Saw blades shall make a clean, smooth cut, producing a groove a minimum of 3/8-inch wide and to the full depth required by these specifications or as shown on the plans.</p> | <p>This comment will be taken under advisement during preparation and review of the next Edition of the Public Works Construction Standards.</p> |
| <p>402.3.2 Page 402-2</p> | <p>Is this getting too close to telling the CONTRACTORS how to do their job? Referencing [<i>The saw shall be power driven, shall be manufactured especially for the purpose of sawing pavement, shall be suitable for the work to be performed including dust control and shall be maintained in good operating condition.</i>]</p> | <p>This comment will be taken under advisement during preparation and review of the next Edition of the Public Works Construction Standards.</p> |
| <p>402.4.1 Page 402-2</p> | <p>I do not understand this sentence/ The math does not add up... Should this be rethought? Referencing [<i>Removal of unsatisfactory work shall begin within 15-days and replacement shall be completed within 30-days of written notification by the OWNER.</i>]</p> <p>Are these the relevant specs?</p> | <p>The referenced sentence recommends 10 days for the work, but requires 15 days with work beginning 15 days after notification.</p> <p>The relevant specifications will be updated as the 5th Edition is finalized.</p> |
| <p>403.2.2 Page 403-1</p> | <p>Should “the Engineer” be changed to “the OWNER”? Should “the Engineer” be changed to “the OWNER”? The OWNER and the “Supplier” do not have a contract; the OWNER has not paid the Supplier anything; hence it is not possible to make the “Supplier” pay the OWNER back. How should this be rewritten? See above comment</p> | <p>In the Draft Public Works Construction Standards posted for public comment, all references to “Engineer” have been changed to “Owner”.</p> <p>The word “Supplier” will be replaced with “Contractor.”</p> |
| <p>403.2.3.3 Page 403-1</p> | <p>Should “the Engineer” be changed to “the OWNER”?</p> | <p>All references to “Engineer” have been changed to “Owner”.</p> |
| <p>403.2.3.5 Page 403-2</p> | <p>Varnishes? What do Varnishes have to do with water in Asphalt? Is this the correct spec? Referencing [<i>Water in an amount not to exceed 3% by weight of the mixture, as determined by ASTM D1641 Practice for Conducting Outdoor Exposure Tests of Varnishes, may be used in preparing the mixture.</i>]</p> | <p>The reference to as determined by ASTM D1641 Practice for Conducting Outdoor Exposure Tests of Varnishes will be removed.</p> |

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| TEXT | COMMENT | NCTCOG RESPONSE |
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| | Should “the Engineer” be changed to “the OWNER”? Should “the Engineer” be changed to “the OWNER”? | All references to “Engineer” have been changed to “Owner”. |
| 403.2.3.6 Page 403-2 | Is this sentence correct? Should this be revised? Referencing [<i>Mixtures that do not remain workable a sufficient period of time to permit unloading by normal means, proper spreading, blading and rolling shall not be acceptable.</i>] | This comment will be taken under advisement during preparation and review of the next Edition of the Public Works Construction Standards. |
| 404.2 Page 404-1 | Should “the Engineer” be changed to “the OWNER”? | All references to “Engineer” have been changed to “Owner”. |
| 404.2.2. Page 404-1 | Should “The Engineer” be changed to “The OWNER”? Should this be “debris” or “material”? Should this be “contamination”? If it is “combination”, what might be combined? Referencing [<i>The CONTRACTOR shall be responsible for the proper preparation of all stockpile debris necessary for protection of the aggregate and to prevent any combination thereof.</i>] | All references to “Engineer” have been changed to “Owner”. “Debris” will be changed to “material” and “combination” will be changed to “contamination.” |
| 404.3.2.3 Page 404-2 | Suggest: “... shown on the mix design and approved by the OWNER”. | This comment will be incorporated into the 5 th Edition. |
| Table 404.3.2.4 (a) and (b) | Change 3/8 to 3/8-in, consider adding metric units to be consistent with table in 304 (see 304.2.3 (b)). | This comment will be incorporated. |
| 404.3.2.5.2. Page 404-3 | There is a centigrade temperature equivalent that may be removed. | In the Draft Public works Construction Standards posted for public comment, references to centigrade were removed. |
| 404.3.3. Page 404-3 | Should “the Engineer” be changed to “the OWNER”? | All references to “Engineer” have been changed to “Owner”. |
| 404.3.3.1. Page 404-3 | Should “the Engineer” be changed to “the OWNER”? | All references to “Engineer” have been changed to “Owner”. |
| 404.3.3.2 Page 404-3 | Should “the Engineer” be changed to “the OWNER”? The “(m ²)” may be removed. | All references to “Engineer” have been changed to “Owner”. The (m ²) has been removed. |
| 404.3.4 Page 404-4 | The OWNER should repair breakdowns, base failures, and other defects? Should this be the CONTRACTOR? Should “the Engineer” be changed to “the OWNER”? Should “the Engineer” be changed to “the OWNER”? | All references to “Engineer” have been changed to “Owner”. |
| 404.3.5. Page 404-5 | Should “the Engineer” be changed to “the OWNER”? | All references to “Engineer” have been changed to “Owner”. |
| 404.3.5.1 Page 404-5 | Should “the Engineer” be changed to “the OWNER”? | All references to “Engineer” have been changed to “Owner”. |
| 404.3.5.3 Page 404-5 | Should “the Engineer” be changed to “the OWNER”? | All references to “Engineer” have been changed to “Owner”. |

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| TEXT | COMMENT | NCTCOG RESPONSE |
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| 404.3.5.6 Page 404-5 | Should “the Engineer” be changed to “the OWNER”? Should “the Engineer” be changed to “the OWNER”? | All references to “Engineer” have been changed to “Owner”. |
| 404.4.2.1 Page 404-5 | Is it necessary or prudent to warn the CONTRACTOR about how to use the products of which they are supposed to be experts? This is a contract specification, not a Material Data sheet. With the exception of the last line (which <u>is</u> a contract specification), I suggest that this warning be removed. Referencing [<i>WARNING TO CONTRACTOR: Attention is called to the fact that asphaltic materials are highly flammable. The utmost care shall be taken to prevent open flames from coming in contact with the asphaltic materials or the gases of same. The CONTRACTOR shall be responsible for any fires or accidents that may result from heating the asphaltic materials.</i>] | This comment will be taken under advisement during preparation and review of the next Edition of the Public Works Construction Standards. |
| 404.4.2.2 Page 404-6 | Should “the Engineer” be changed to “the OWNER”? | All references to “Engineer” have been changed to “Owner”. |
| 404.2.2.1 Page 404-6 | Should “the Engineer” be changed to “the OWNER”? | All references to “Engineer” have been changed to “Owner”. |
| 404.4.3.1 Page 404-6 | With what should the surface be lightly sprinkled? Referencing [<i>If it is found necessary by the OWNER, the surface shall be lightly sprinkled just prior to the application of the asphaltic material</i>] | This comment will be taken under advisement during preparation and review of the next Edition of the Public Works Construction Standards. |
| 404.4.3.2. Page 404-6 | No maximum temperature (usually 450°F has been suggested. Should a maximum temperature be spec’ed? Referencing [<i>404.4.3.2. Application of Asphalt. The OWNER shall select the temperature of application based on the temperature-viscosity relationship that shall permit application of the asphalt with the limits recommended in Item 302.5. Storage, Heating and Application Temperature of Bituminous Materials. The CONTRACTOR shall apply the asphalt at a temperature within 15°F of the temperature selected. It shall be the responsibility of the CONTRACTOR to provide and maintain in good working order a recording thermometer at the storage heating unit at all times.</i>] What about the surface temperature of the roadway, should the minimum temperature be spec’ed? Referencing [<i>Asphaltic material may be placed by preheating aggregate to 280°F when the air temperature is 70°F and falling or when the air temperature is 50°F and rising.</i>] | This comment will be taken under advisement during preparation and review of the next Edition of the Public Works Construction Standards. |
| 404.4.3.4 Page 404-7 | Should “the Engineer” be changed to “the OWNER”? | All references to “Engineer” have been changed to “Owner”. |
| 405.2 Page 405-1 | Suggest adding” “... (7) sacks of Type III cement per cubic yard”. | This comment has been incorporated into the 5 th Edition. |

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| TEXT | COMMENT | NCTCOG RESPONSE |
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| 405.3.1 Page 405-1 | Should “the Engineer” be changed to “the OWNER”? | All references to “Engineer” have been changed to “Owner”. |
| 405.3.4 Page 405-1 | Should “the Engineer” be changed to “the OWNER”? | All references to “Engineer” have been changed to “Owner”. |
| 405.3.7. Page 405-2 | Should “the Engineer” be changed to “the OWNER”? | All references to “Engineer” have been changed to “Owner”. |
| DETAILS | DETAILS | |
| 2010 | Still there Still there. Why is cross off? Verified Change Verified change. Verified Change Verified change. Why is this cross off? Found on turn-lane section, but not on “normal” section. Should be on both. | The Standard Drawings were not updated as part of the development of the 5th Edition Public Works Construction Standards. These comments will be taken under advisement during preparation and update of the Standard Drawings. |
| 2020 | Verified Change Still there. Why is cross off? Verified Change Verified Change Verified Change Only referenced “Sidewalk Detail” – no number (should be 2170); Why? Not Found. Why not included? | |
| 2030 | The Title for 50’ One Travel Lane and Two Parking Lanes, is not titled “Residential Thoroughfare. This, to me is incorrect. The “Residential Thoroughfare should be an additional title. Drawing broken into 2 drawings, 2030A and 2030B. I see NO difference between the two. Why? What is the point of having two exact same drawings? I do not understand this note. I note that there are two plates labeled 2030 – 2030A and 2030B. 2030A shows a “housetop” street section while 2030B shows a parabolic section. These were not mentioned in the notes. On 2030B, the Parabolic street section, there is not enough information to be able to build the section. At minimum, I think that a horizontal and vertical offset to each of the key points are required. | |
| 2040 | I do not understand this note. The Section without curb did not have a 6” curb. | |
| 2050 | Verified Change | |

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| | <p>The Note seems to be in a “General Note” location. This should be specifically for an Expansion Joint, only. Verified Change On printout, shading for “Hot Poured Rubber Joint...” not visible. On saw-cut for “Keyway Joint”, at the saw-cut, there is a top line that should be removed. In several locations, arrows overlap text. Text overlaps sheet border in several locations Expansion Joint does not show how usual reinforcement is supposed to work with the Dowel Rods.</p> | |
| 2060 | <p>Verified Change. Horizontal Centerline joint not provided on drawing? Not provided. Note 2 states: “Refer to typical pavement section for longitudinal joint spacing”. There was and is no detail titled “Typical Pavement Section” or “Longitudinal Joint Spacing”. To what is this referring – include Detail number?</p> | |
| 2070 | <p>Verified Change Verified Change. Should this be labeled as 45° Chamfer? Why cross off? I agree that this is still here. I do not find a reference to this on the drawing. There should be a min and max vertical distance between surface of Street header and railroad driving surface. Rebar size not spec. Should it be?</p> | |
| 2080 | <p>Verified Change. Should this this be labeled as 45° Chamfer?</p> | |
| 2090 | <p>Verified Change. Verified Binder Type B; did not find any info on D or C. Verified Change. I think the Specs mention that max lift is 2”. According to this drawing the max lift is 4”. Which is correct?</p> | |
| 2100 | <p>Verified Change Verified Change Verified Change Verified Change. Verified Change. Apparently, note 6 has been added to reference this; however, no book title or location is given so the user is lost. Should this be fixed? (Note: the URL in the comments document is not working)</p> | |

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| | <p>Verified Change. Arrow heads going past lines or objects; should bring back to line or object.</p> | |
| 2110B | <p>Verified Change Verified Change Verified Change Verified Change Verified Change Verified Change I prefer “House top” crowns. Why make this change? This is detail 2110B, which is out of order. Why have two drawings? Should this detail be before 2110B? On the bottom section, the text is overwriting the detail. Fix?</p> | |
| 2210A | <p>Drawing seems to be the same as 2110B, except this has a “House top” section. On the bottom section, the text is overwriting the detail. Fix?</p> | |
| 2120 | <p>This detail not in package. This is a question with no answer. What should be done?</p> | |
| 2125A & B | <p>These Details not in Package True – this needs to be reconsidered. Has this been done? This seems to be discussing Detail 2125B, Where is it here?</p> | |
| 2130 | <p>Detail not in package Not able to make comment.</p> | |
| 2140 | <p>Detail not in package Not able to make comments</p> | |
| 2150A | <p>Verified Change Verified Change Verified Change What happens on a property when the Driveway is close to the property line – such as on “Zero-Lot-Line”, Townhouses, “Hammer-Head lots” or “Flagged lots” and the transition cannot be made? Should there be some sort of note regarding what to do? Verified Change</p> | |
| 2150B | <p>I did not find this change to be made. Note still indicates “Driveway shall not be tied to pavement”. Which should it be? Transition slopes appear to be unchanged at 1”/1’ – which I think is ADA required as a max slope. What was supposed to happen with this comment?</p> | |

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| | <p>Verified Change Verified Change I disagree with Note #5, where it states “to respect the principles of barrier free construction”. I suggest “per current ADA requirements.” Has “ADA” or “A.D.A.” been defined in the definitions section?</p> | |
| <p>2155</p> | <p>Verified Change Verified Change; although I don’t think this was necessary because “Class A” concrete was spec’ed... Verified Change Verified Change Verified Change. To me, it was, and still is, unclear where the block-out is located. I think this should be a different line type. Verified Change Verified Change. However, this drawing represents a dramatic change from the previous standard. In the previous standard, the radius was not 90°; rather, it was about 80° and included a short tangent section and an angle point at the sidewalk. This drawing has removed the tangent section. Was this intended? Not Verified; I do not find any note about expansion joints on this drawing. Should it be there? Not Verified; I do not find this note on this drawing. The drafting on this drawing is not very good. The curves do not meet the driveway edge, the text is on top of the sheet border, etc. Should this drawing be made to look more professional I note that this driveway section shows dowels or rebar tying to the pavement whereas in Plate # 2150B, note #4 specifically states that the driveway will not be tied to the pavement. Does this seem inconsistent? Should one or the other be changed?</p> | |
| | <p>Verified Change Verified Change Not Verified; I do not find it. Verified Change; but the drafting is poor. Verified Change Table Remains; Why? Did not find any wording concerning Minimum alley width. These dimensions remain. What is supposed to happen with this comment? I think the Table should remain. A new note was placed on this drawing and there was no comment that it should be added. Why did the note “Use table unless dictated by Owner” get added? Is this the best wording for this note? (“Unless required by OWNER, Use the above Table”?)</p> | |

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| | <p>I note that this driveway section shows dowels or rebar tying to the pavement whereas in Plate # 2150B, note #4 specifically states that the driveway will not be tied to the pavement. Does this seem inconsistent? Should one or the other be changed?</p> <p>Neither in the previous standard nor in this standard is steel shown in the transition between the alley section and the Alley Approach. Is this intentional? Is there no steel in the transition? Is the transition not tied to the apron or the alley section?</p> <p>There is a note indicating that the radius is "10' Radius – Usual". Where is it explained that the radius could be something other than 10 feet?</p> | |
| 2170 | <p>Verified Changed</p> <p>Verified Change; Why this change?</p> <p>Verified Change</p> <p>Verified Change</p> <p>?</p> <p>Not Verified; I do not find any note about "Proof-Roll Subgrade". Should there be?</p> <p>Drafting is poor: Text overwrites border, Arrows are confusing and inconsistent, arrow tips do not intersect with what is being pointed out, in Section AA – the "dot" in the middle of a circle pointing out rebar is missing, etc.</p> | |
| 2180 | <p>Not Verified; I do not find any mention of continuous rebar on the "L" rebar. In fact, the drafting seems to suggest that the rebar is not continuous. There should be a rounded bend in the rebar, which will help to point out that the rebar is continuous.</p> <p>Note #2 States: "Wall Design assumes no surcharge. A special engineering analysis is required for all other conditions." A surcharge could mean several things: It could be additional weight from a building in close proximity, it could mean a water head behind the wall, or other loads from many potential sources. Should the word "surcharge" be defined or should something indicating what a surcharge is in this case be included on this drawing?</p> <p>Note #3 states: "Above 4', retaining wall needs to be engineered" I suggest: "For wall heights above 4', an Engineer is required to seal the design. (In fact, I think this should be for wall heights above 2 feet.)</p> <p>The tails on several of the arrows overwrite the text, Should this be fixed?</p> <p>The side-slope on the sidewalk is shown to be ¼" / foot, which is actually 2.08% and exceeds the current ADA Standard of 2.00%. Please change the side-slope to 2.00% If a 2% slope is indicated, the thickness of the concrete on one side or the other should be adjusted. (Remember, the side-slope may be less than 2%, just not greater than 2%.)</p> | |
| 2190 | <p>Not Verified. I do not find this change. Should the change be made?</p> <p>There is new wording, but it does not match the yellow note. Should it?</p> | |
| 2260 | <p>Verified Change</p> | |

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| | <p>Standard #2160. Which shows an alley / street intersection allows either #3 @ 18" both ways or #4 @ 24" both ways. Should this detail be updated to include the #4 option? A sidewalk is not shown on this detail, should there be one? I am a little confused by this detail. It appears that a 1 foot wide strip of the concrete street on the opposite side of the alley should be removed. Additionally, the 1' strip does not seem to be replaced. Should the other side be cut at all? Should this be updated? To me, a "point of Curve (PC)" or a "Point of Tangency (PT) may be called out on either side of a curve. But, it is not required to call out a "PC or PT" on the drawing, only one of them will do.</p> | |
| 2290 | <p>Not Verified. Why was the Title omitted? The 3" Dome on Post is not pointing to a post. Should this be corrected? The diameter of the wood post is not mentioned. Should it be?</p> | |
| 3070A | <p>Verified Change I see that the note "Refer to Embedment Details" has taken the place of what was there. But, where are the embedment details?</p> | |
| 3070C | No Comment | |
| 3070D | Not Verified. | |
| General Comments | <ol style="list-style-type: none"> 1. Do not know what this is about. 2. Do not know what this is about. 3. Do not know what this is about. 4. Do not know what this is about. 5. Do not know what this is about. 6. Do not know what this is about. 7. Do not know what this is about. 8. Is this wise? Depending on the soil, loose sand in particular, the soil might not be stable at greater than a 3:1 slope. 9. See details 2030A and 2030B 10. Do not know what this is about. | |

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| TEXT | COMMENT | NCTCOG RESPONSE |
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| 501.4 Concrete Pressure Pipe and Fittings | Add the following: C302 Reinforced Concrete Pressure Pipe, Non Cylinder Type, for Water and Other Liquids, and C300 Reinforced Concrete Pressure Pipe, Steel Cylinder Type, for Water and Other Liquids are not approved for use in the City, unless otherwise shown on the plans or approved in writing. Reinforced concrete cylinder pipe in sizes 16 inches through 21 inches shall be Bar-Wrapped Concrete Cylinder Pipe AWWA Type C303. For pipe 42 inches in diameter and above the pipe shall be Prestressed Concrete Pressure Pipe, Steel Cylinder Type, AWWA Type C301. Between 24 inches and 36 inches the pipe furnished may be either type. All pipe shall be designed to withstand the working pressure and external load as shown in the plans. | This comment will be taken under advisement during preparation and review of the next Edition of the Public Works Construction Standards. |
| 501.5.1. General | Add the following: All reinforced concrete pipe used in the sanitary sewer system shall conform to ASTM Designation C76 and shall be of the Thick Wall Pipe design with aggregates consisting of limestone aggregate in the proportion of at least 75 percent by weight of the total aggregates unless otherwise provided in the Special Conditions to the Specifications. | This comment will be taken under advisement during preparation and review of the next Edition of the Public Works Construction Standards. |
| 501.7 Ductile-Iron Pressure Pipe and Fittings 501.7.1. General | Add the following: Minimum design thickness for all Ductile-Iron Pipe installed shall be Class 51 in sizes 12 inches and smaller, and Class 52 on sizes 14 inches and larger. | This comment will be taken under advisement during preparation and review of the next Edition of the Public Works Construction Standards. A reference exists in the current phrasing for American National Standard for Ductile-Iron Pipe Centrifugally Cast for Water or Other Liquids, AWWA C151. The sentence below was added to the first paragraph: “In accordance with C151, Section III.A, purchaser options and alternatives shall be provided by the specifier, including pipe size, joint type, special joints, thickness or class, and laying length. Purchaser options and alternatives shall be specified in the supplemental conditions, plans, or technical specifications.” |
| 501.9.2. Applicable Standard Specifications | Add the following: Contractor shall submit a written certification that the pipe has been manufactured and tested in accordance with the applicable standards. The pipe shall be manufactured, fabricated, coated and lined by a single manufacture being a certified member in good standing of the Steel Plate Fabricators Association (SPFA). | This comment will be incorporated into the 5 th Edition. |
| 501.9.3. Pipe and Fitting Requirements | Substitute the second to last sentence with the following: All steel pipe to be furnished for this project shall be designed in accordance with AWWA M11 for the most critical application of internal pressures and external loads. The following design conditions shall apply: Internal Pressure (Design to account for working and surge together) Working Pressure of 200 psi Surge allowance of 250 psi External Loading for Buried Pipe External | This document is not intended as a design manual. This comment was not incorporated. |

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| | <p>loads shall be comprised of the weight of the backfill together with live and impact loads. Earth loads shall be calculated based on ditch and positive projecting conduit. The earth load for the pipe design shall be the greater of the above two conditions. External live loads shall be at least equivalent to AASHTO HS-20 loading. Modulus of soil reaction < 1000 psi Unit weight of fill (w) > 120 pcf Deflection lag factor (D1) (1.0) Bedding constant (K) = 0.100 hw = h = depth of cover above top of pipe Maximum deflection in percent of pipe diameter shall be as determined by AWWA M11, latest edition, as calculated using moment of inertia of steel cross section of pipe wall. Moment of inertia of cement mortar shall not be included in calculation of maximum deflection. Available Deflections Mortar-lined and coated = 2 percent of pipe diameter Maximum Working Stress The maximum combined stress based on working pressure shall be no greater than 50 percent of the minimum yield strength or 18,000 psi, whichever is less. The maximum combined stress based on test pressure shall be no greater than 75 percent of the minimum yield strength or 24,000 psi, whichever is less.</p> | |
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| TEXT | COMMENT | NCTCOG RESPONSE |
| <p>501.9.4. Joints</p> | <p>Add the following: In general, pipe joints shall be as follows, as indicated on the Drawings or as specified. Flanged joints shall be provided as a minimum at all flanged valves, meters and other equipment. Flanges: Unless otherwise noted, flanges shall conform to the requirements of AWWA C207, Table D, E or F as required. Flange Bolts and Nuts: Shall be furnished in size and numbers stipulated in AWWA C207. Unless otherwise indicated, bolts shall be carbon steel to meet the requirements of ASTM Designation A307, Grade B for regular joints. Restrained Lap-Welded slip joints (expanded bell) with a single fillet weld. Carnegie-Shape Rubber Gasket Joint: Bell and spigot rubber gasket joint will be furnished with the bell end of the pipe mechanically expanded to the required internal diameter and the spigot end furnished as a sized Carnegie shape welded to the opposite end of the pipe. The expanded bell and Carnegie spigot shall be designed such that when the pipe is laid and jointed, it will be self-centered, and the O-ring rubber gasket will be enclosed tightly on all four sides and confined under compression adequate to ensure water tightness. Gaskets to be full-face for use with flat face flanges and ring type for use with raised face flanges. Gasket material for water service pipe shall be cloth inserted rubber sheet, 1/8-inch thick or red rubber, ASTM D1330, Grade 1. Gasket material for air piping shall be as above, but of EPDM. Mechanical Couplings: Mechanical couplings designed to provide a stress relieving flexible joint shall consist of a cylindrical sleeve, two gaskets, two follower rings and a set of bolts and nuts. Sleeves: Manufactured of ASTM A53 steel for sizes 10-inches and smaller. ASTM A36 steel for sizes 12-inches and larger. Minimum sleeve length shall be five inches for pipe 12-inches and smaller, 7 inches for pipe 14-inches through 24-</p> | <p>This comment will be taken under advisement during preparation and review of the next Edition of the Public Works Construction Standards.</p> |

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| | inches, and 10-inches for pipe larger than 24-inches. Follower Rings: Ductile Iron ASTM A536 or AISI C1020 Steel. Bolts and Nuts: High strength low alloy steel with heavy semi-finished hexagon nuts. Gaskets: Shall be of synthetic rubber suitable for operating conditions. Shop Finish: Manufacture’s standard unless otherwise noted. Manufacturer: Baker 200, Dresser Style 39, Rockwell Series 411 or approved equal. | |
| TEXT | COMMENT | NCTCOG RESPONSE |
| 501.14 Polyvinyl Chlorine (PVC) Water Pipe | Add the following: All PVC water pipelines shall be AWWA C900 PVC Pipe, DR 14 PC 305 (blue in color) for pipeline sizes 12-inch and smaller. For 14-inch and larger water pipelines shall be AWWA C905 PVC Pipe, DR 18 PC 235 (blue in color). All PVC water pipe shall be extruded PVC pipe of the rubber gasket type joint and shall be furnished in 20-foot nominal laying lengths. All fittings shall be ductile-iron of bell and spigot or mechanical joint, Class 250, in accordance with AWWA Specification C 110, C 111 or C 153 (Compact), and shall be tar coated on the outside surface and shall have an interior cement lining with seal coat per AWWA Specification C104, unless otherwise shown on the plans. | This comment will be taken under advisement during preparation and review of the next Edition of the Public Works Construction Standards. |
| 502 Appurtenances 502.1 Manholes 502.1.1. Manhole Materials 502.1.1.1. Precast Reinforced Manhole Sections 502.1.1.1.1. Joints | Add the following: All sanitary sewer manholes installed shall have "O" ring joints conforming to ASTM Designation C443 502.1.4. Manhole Construction 502.1.4.1. Manhole Types and Requirements 502.1.4.1.1. Cast-In-Place Concrete Manholes 502.1.4.1.1. Add the following: 502.1.4.1.1.1. Forms Manholes shall be constructed in place in accordance with the details shown in the plans and using forms as market by Improved Construction Methods, Inc., Jacksonville, Arkansas or Symons Corp., DePlaines, Illinois, or an approved equal. | This comment will be taken under advisement during preparation and review of the next Edition of the Public Works Construction Standards. |
| 502.1.4.1.1.2. Base | Add the following: The base shall be cast monolithically with the rest of the manhole. The invert and flow channel shall be formed during or immediately after the placing of the concrete and trowel-finished as soon as the concrete has set sufficiently. The concrete must set for 24 hours before any pipe inside the manhole is trimmed. Concrete shall be minimum 4200 psi. The base concrete shall be 4200 psi, maximum slump 4 inches vibrated or tamped on undisturbed bearing. The base shall have a minimum diameter or width of at least 1'-0" greater than the outside diameter of the manhole, and a minimum thickness including the area under the pipe as follows: 0' to 12' manhole, 12" to 20' manhole, etc. | This comment will be taken under advisement during preparation and review of the next Edition of the Public Works Construction Standards. |
| 502.1.4.1.1.3. Invert All | Add the following: Invert channels shall be smooth and accurately shaped to a semi-circular bottom conforming to the inside of the adjacent sewer section. Inverts shall be formed directly in the concrete of the manhole base or may be constructed by laying full section sewer pipe through the manhole and breaking out the top half after the base is | This comment will be taken under advisement during preparation and review of the next Edition of the Public Works Construction Standards. |

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| | constructed. Inverts shall extend up at least half of the diameter of the pipe. Changes in the direction of the sewer and entering branches shall have a true curve of as large a radius as the size of the manhole will permit. Where the pipe is laid through the manhole, the invert shall be finished to 1/4-inch below the center of the pipe. The pipe shall be trimmed down to 1/4-inch below the surface of the invert, and the edges of the pipe along the invert and at the walls of the manhole shall be plastered and brush-finished. Plaster shall be 2-parts of masonry sand to 1-part of Portland cement, or an approved non-shrink grout. | |
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| TEXT | COMMENT | NCTCOG RESPONSE |
| 502.1.4.1.1.4. Manhole Barrel Section | Add the following: The vertical forms, wall spaces, and placing cone must be carefully positioned and firmly clamped in place before any placement is made. The wall spacers must be located 90 degrees from each other. The manhole shall be cast of 4200 psi concrete with a maximum slump of 4 inches. The first placement shall consist of approximately 1/2 yard of concrete evenly around the walls and vibrated until there is a minimum slump of 60 degrees from the bottom of the forms to the bearing surface both inside and outside of the manhole. When this is complete and before additional concrete is added, the concrete must be carefully vibrated on each side of each pipe. Additional concrete must be deposited in evenly distributed layers of about 18 inches with each layer vibrated to bond it to the preceding layer. The wall spacers must be raised as the placements are made with the area from which the spacer is withdrawn being carefully vibrated. Excessive vibration is to be avoided. A maximum of 2% calcium chloride may be added to the concrete, at the Contractor's option, to speed the set. The forms may be removed as soon as the concrete has sufficiently set (approximately 2 hours after placement depending on field conditions). Form marks and offsets up to 1-inch will be permitted on the outside surface of the manhole. Form marks and offsets up to 1/2-inch will be permitted inside the manhole. All offsets on the inside surface of the manhole will be smoothed and plastered so there is no projection or irregularity capable of scratching a worker or catching and holding water or solid materials. Honeycomb will be plastered with a mortar consisting of 3 parts of masonry sand and 1-part Portland cement upon removal of the forms. Manholes deemed to be structurally unsound shall be replaced. | This comment will be taken under advisement during preparation and review of the next Edition of the Public Works Construction Standards. |
| 502.1.4.1.1.5. Backfilling | Will be performed evenly and carefully around the manhole 24 hours or more after the placement of concrete is completed and shall conform to these specifications. | This comment will be taken under advisement during preparation and review of the next Edition of the Public Works Construction Standards. |
| 502.1.4.1.1.6. Cold Joints | Should circumstances make a cold joint necessary, a formed groove or reinforcing dowels will be required in the top of the first placement for shear protection. Immediately before the second placement is made, the surface of the cold joint shall be thoroughly cleaned | This comment will be taken under advisement during preparation and review of the next Edition of the Public Works Construction Standards. |

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| | and wetted with a 1-1/2 inch layer of mortar (2 parts sand and 1-part cement) being deposited on the surface. Cold joints below the natural water table or in the bottom 4 feet of the manhole shall include an approved waterstop material. Waterstops shall be heavy duty polyvinyl conforming to Corps of Engineers Specification CRD-572, latest edition, as manufactured by Serviced Products Division of W.R. Grace and Co.; B.F. Goodrich Company; Electrovert, Inc.; W.R. Meadows, Inc.; or approved equal. | |
| TEXT | COMMENT | NCTCOG RESPONSE |
| 502.3 Fire Hydrants 302.3.1. Materials | Delete all parts of Item 502.3.1 in its entirety except sub items 502.3.1.3, 502.3.1.4., 502.3.1.10, and 502.3.1.14. Add the following: All fire hydrants furnished shall conform strictly to the latest specification C-502 of the American Water Works Association Standards for dry barrel fire hydrants and must comply with the following supplementary details and changes or addition. Inlet Connection: Unless otherwise specified the inlet connection shall be a six (6) inch standard mechanical joint complete with all joint accessories. The inlet shoe shall be cast of the same or stronger metal than the lower barrel to prevent impact damage of the shoe. The interior of the shoe, including the lower valve plate and/or cap nut shall have a protective epoxy coating of at least 4 mils applied in the shop. If a cap nut is utilized it must be locked in place with a stainless steel lock washer or similar non-corrosive device and all machined surfaces must be protected from water intrusion to prevent corrosion and assure ease of field teardown or maintenance. Main Valve: The main valve shall be reversible compression type, closing with the pressure and shall be not less than 5-1/4" in diameter. Composition of the main valve shall be molded rubber or neoprene having a durometer hardness of 90 5 and shall be not less than 1" thick to protect against hydrant chatter and give long term durability. Outlet Nozzles: All hydrants shall be "three way", equipped with two hose nozzles and one pumper nozzle. Diameter Outlet Nozzles: The hydrant shall have two hose nozzles, two and one-half (2 1/2") inches nominal I.D., and one pumper nozzle four and one-half (4-1/2") inches nominal I.D. with Natural Standard Hose Threads. Nozzle Attachment: All nozzles shall be mechanically connected to the barrel and have "O" Ring pressure seals to provide a positive seal between nozzles and hydrant barrel. A suitable nozzle lock shall be provided and shall be stainless steel or bronze. Nozzles shall not be caulked in. Nozzle caps shall be furnished with pentagon nut the same size as the operating nut. They shall be furnished with interior rubber gaskets that will seat against bronze nozzles. All caps shall be secured to hydrant barrel by heavy duty non-kinking chains with a chain loop on each cap that permits free turning of the cap, for speed and ease of removal by fire fighters. Operating Nut: The operating nut shall be non-rising, pentagonal shape, measuring 1-1/8" at the top and 1-1/4" at the base from point to flat. Pentagon shall have a depth of at least one and | This comment will be taken under advisement during preparation and review of the next Edition of the Public Works Construction Standards. |

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| | <p>one-quarter inch (1-1/4"). The hydrant shall be constructed in such a manner that the operating nut, "O" Rings and washers can be removed and replaced without removing the bonnet. All bearing surfaces of the operating nut shall be bronze. Holddown Nut: The holddown nut must have integral weather seal. Resilient seal between the holddown nut and operating nut shall prevent debris entry to protect operating nut from damage. Lubrication Reservoir: The hydrant shall have a completely "O" Ring sealed oil reservoir with a minimum of two (2) "O" Ring pressure seals to prevent contamination of the oil around the operating parts of the hydrant. The oil reservoir shall be cast in such a manner that all operating parts shall be repairable without removal of the bonnet to facilitate repairs and shall be of a design that all bearing surfaces and threaded parts will be automatically lubricated upon each operation of the hydrant. If bearing surfaces are not lubricated, the design shall keep operating friction to a minimum. A high wear resistant thermoset plastic anti-friction washer shall be in place above the thrust collar to minimize operation torque and facilitate long term ease of operation. The operating threads must be sealed against contact with water at all times regardless of open or closed position of main valve. The hydrant shall have the capability of field personnel to visually check oil level and add additional oil if needed. Filler and inspection plug shall be recessed or flush type. Traffic Feature: Hydrants shall be "traffic model" having upper and lower barrel joined approximately two inches (2") above the groundline by a breakable "swivel" flange providing 360 degree rotation of the upper barrel for nozzle positioning and must be capable of rotating barrel with line pressure on. The groundline shall not be less than eighteen inches (18") below the centerline of the lowest nozzle and shall be clearly marked in a permanent manner on the lower barrel. A breakable stainless steel stem coupling shall join the two-piece stem adjacent to the ground line flange. Screws, clevis pins, fasteners or bolts used in the coupling shall be Series 300 stainless steel. The weakened portion of the stem coupling shall be located to divert pressure from the stem coupling directly to the upper and lower stems when torque is applied in seat ring removal. Design of the coupling shall be such that when the coupling is broken, no part of the coupling will shatter or come loose and fall into hydrant and the break will not occur through the pins or bolts holding the coupling to the stem. Drain Valve Assembly: Hydrants shall be equipped with two drain valves which drain the barrel when the hydrant is closed and seal shut when the hydrant is in the open position. The upper valve plate, seat ring and drain ring (shoe bushing) must be bronze and work in conjunction to form an all bronze drainway. Upper valve plate if not bronze, must be epoxy coated. The bronze seat ring shall be a minimum 5-1/4" inside diameter and shall thread into a bronze drain ring forming an all bronze drain-way with two (2) drain outlets for double protection against drain clogging and corrosive damage. All</p> | |
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| | <p>bronze components shall have less than 16% zinc alloy, Grade A to give high corrosion resistance as recommended in Section 2.1, Table I of American Water Works Association Standard C-502. Seat ring seals shall be "O" Rings. Hydrant shall be designed so that during opening and closing operation(s), water pressure force flushes the drain valve and drain openings to prevent clogging, thus allowing barrel drainage. Repair: All internal operating parts shall be removable from above ground level with a lightweight stem wrench. Provisions for Extension: All hydrants shall be capable of being extended to accommodate future grade changes without excavation. Extension of the hydrant shall be made by adding at the groundline flange a new coupling and stem section equal to the length of the extension. This must facilitate easy field grade adjustment. Stem extensions made by adding new section of stem to the threaded section of the stem at the top of the hydrant will not be accepted. Extension kits must be available from manufacturer in six-inch (6") increments. Pressure Loss and Working Pressure Pressure loss through one (1) four and one-half inch (4-1/2") nozzle at 1000 GPM shall not be more than 5.0 psi. Nuts and Bolts Body Bolts, studs, and nuts shall be 316 stainless steel. Add the following: 502.3.4. Paint and Protective Coatings All fire hydrants furnished under these specifications shall have paint and protective coatings applied at the factory or in the field as specified herein. Factory Coating: All hydrants shall be cleaned at the factory by shot blasting and shall be painted above the groundline (at the factory) with two (2) coats of neutral orange rust-prohibitive primer which shall be compatible with the finished coating. All continuously wetted ferrous metal surfaces in the hydrant shoe shall be protected with a two-part thermoset epoxy coating to a nominal thickness of 4 mils of corrosion protection and shall be of a color that is easily identified as an epoxy coating. All other exposed exterior surfaces below ground level shall be coated with asphalt varnish as specified in American Water Works Association Standard C-502, Section 4.2 or as otherwise outlined in these specifications. All remaining interior surfaces above the main valve, except machined surfaces such as the threaded portion of the operating stem or nut, shall be coated with asphalt varnish. The thermoset epoxy coating shall be a two-part epoxy and shall function as a physical, chemical and electrical barrier between the base metal to which it is applied and the surroundings. The coating shall be non-toxic and shall not impart taste to water. The coating must be formulated from materials deemed acceptable per the Food</p> | |
| <p>501.14 PVC Water Pipe</p> | <p>On 8/1/16 AWWA revised C900 and C905 into a new C-900-16. Please revise this section accordingly.</p> | <p>This comment will be incorporated. The table and the reference to C900 and C905 will be updated accordingly.</p> |

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| TEXT | COMMENT | NCTCOG RESPONSE |
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| <p>702.3.4. Quality of Concrete 702.3.4.2. Standard Classes</p> | <p>Add the following: Type "G" Concrete: Min.- Sacks Cement per C.Y. – 7.0; min. 28-day Comp. Strength - 5,000 psi; Min. 7-day Strength 3600 psi; Max. Water Cement Ratio - 5.0; Course Aggregate 1-1/2".</p> | <p>This comment will be taken under advisement during preparation and review of the next Edition of the Public Works Construction Standards.</p> |
| <p>701.2.1.1 Removal of Existing Structures</p> | <p>Referencing [Existing structures which are to be abandoned shall be broken off or removed to a depth of not less than 1 foot below the foundation or subgrade of the new work, unless otherwise provided for in the plans and specifications.</p> <p>After removal of structures, all excavations not to be occupied by new work, and all holes created, shall be backfilled in accordance with Item 504 of the Standard Specifications with approved materials thoroughly compacted in place in lifts of no more than 8 inch thickness (before compaction) and to a density of at least 90 percent of the maximum density determined by ASTM D698 with moisture content within minus 2 to plus 4 of optimum, except that under paved areas, compaction shall be to a density of at least 95 percent.]</p> <p>Should "... unless otherwise provided for in the plans and specifications or approved by the OWNER" be added? Which "Standard Specifications"? Density? By whom – Standard Proctor or something else?</p> | <p>This comment will be incorporated into the 5th Edition.</p> <p>The word "these" will be included in the reference to Item 504.4. BACKFILL – GENERAL REQUIREMENTS.</p> <p>The density determined by ASTM D698 is already established in this sentence.</p> |
| <p>701.2.1.2 Removal of Existing Pavement</p> | <p>Referencing [Any additional removal required after the initial removal has been made will be performed to the limits directed by the OWNER and be paid for in the manner as prescribed under Item 104.2. Change or Modification of Contract of the Standard Specifications.</p> <p>When provided for in the proposal and contract, payment for removal of existing structures performed under this special provision shall be made at the unit price bid per each or per lump sum, as specified, for removal of existing structures, which price shall be full compensation for all excavation and backfill; for all breaking up and removal of concrete, steel and associated materials; for loading, hauling, unloading, storage, and disposal of materials and structures, including any disposal fees; and for all materials, labor, tools and incidentals necessary to complete the work in accordance with the plans, specifications and this special provision.]</p> <p>Is this still the correct specification? Which "Standard Specifications"? Is this a "Special Provision"?</p> | <p>The relevant references will be updated as the 5th Edition is finalized. This comment will be incorporated to include reference to the 5th Edition Standard Specifications.</p> <p>All references to "special provision" have been removed.</p> |

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| TEXT | COMMENT | NCTCOG RESPONSE |
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| <p>701.2.2.1 Removal and salvage of existing structures</p> | <p>Referencing [Materials or parts of the structures not designated for salvage or which are designated for salvage but which in the opinion of the OWNER are not salvageable or which are designated as surplus shall become the property of the CONTRACTOR and shall be disposed of by him at his own cost and expense at sites approved by the OWNER.]</p> <p>OWNER? Suppose a sidewalk was designated to remain, but when the demolition begins, it is discovered that the Sidewalk is not salvageable. The CONTRACTOR did not bid the removal of the sidewalk because it was supposed to remain. So, is this fair and reasonable to the CONTRACTOR?</p> | <p>This paragraph was removed in the 5th Edition.</p> |
| <p>701.2.2.2 Measurement and Payment</p> | <p>Referencing [If the removal and salvage work is called for in the plans and specifications, with separate bid items for such work included, measurement for payment shall be as required in this special provision.]</p> <p>Is this a “Special Provision”?</p> | <p>All references to “special provision” have been removed.</p> |
| <p>701.3. STRUCTURAL BOLTING 701.3.1. Materials</p> | <p>Referencing [Materials shall be as specified and meet the requirements of Item 806.6. Bolts, Nuts and Washers.]</p> <p>Is this still the correct specification?</p> | <p>This comment will be incorporated into the 5th Edition. The relevant references and Item Numbers will be updated as the 5th Edition is finalized.</p> |
| <p>ITEM 702. CONCRETE STRUCTURES</p> | <p>To be consistent with other Sections, I agree that the first paragraph be numbered 702.1 Description and that all numbering in the section be increased by 1 (i.e.) 702.1 becomes 702.2, etc.</p> | <p>The relevant references and Item Numbers will be updated as the 5th Edition is finalized.</p> |
| <p>702.1.1.1 General Requirements</p> | <p>Referencing [702.1.1.1. General Requirements. Aggregates shall conform to the provisions of Item 303.2.1.1. General Requirements in Item 303.2.1. Aggregates for Portland Cement Concrete Pavement.]</p> <p>Have these Items changed?</p> | <p>The relevant references and Item Numbers will be updated as the 5th Edition is finalized.</p> |
| <p>702.1.1.2. Fine Aggregates</p> | <p>Referencing [702.1.1.2. Fine Aggregates. Fine aggregates shall conform to the provisions of Item 303.2.1.2. Fine Aggregates.]</p> <p>Have these Items changed?</p> | <p>The relevant references and Item Numbers will be updated as the 5th Edition is finalized.</p> |
| <p>702.1.1.3 Coarse Aggregates</p> | <p>Referencing [702.1.1.3. Coarse Aggregates. Coarse aggregates shall conform to the provisions of Item 303.2.1.3. Coarse Aggregates.]</p> <p>Have these Items changed?</p> | <p>The relevant references and Item Numbers will be updated as the 5th Edition is finalized.</p> |

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| TEXT | COMMENT | NCTCOG RESPONSE |
|---|---|---|
| <p>702.1.1.4.1 Foreign Material and Deleterious Substances</p> | <p>Referencing [Deleterious substances, elements, or components are those that are damaging, harmful, undesirable, or adulterating to the integrity or purity of the specified base material.]</p> <p>I believe that “Deleterious Substances” are defined in Section 100. Does it need to be defined here?</p> | <p>Deleterious substances are defined in ITEM 101. DEFINITIONS AND ABBREVIATIONS. This definition does not need to be included in this section.</p> |
| <p>702.1.1.4.3 Natural Fine Aggregate</p> | <p>Referencing [Natural fine aggregate shall meet the grading requirements of Table 303.2.1.2.2. (a) Grading Requirements for Fine Aggregates.]</p> <p>Has this Item changed?</p> | <p>The relevant references and Item Numbers will be updated as the 5th Edition is finalized.</p> |
| <p>702.2.1.4.4. Rejection</p> | <p>Referencing [Lightweight aggregate sources from which materials with properties not meeting these specifications are delivered may be rejected as a further supply source to the project by the OWNER. Such rejection shall incur no cost to the OWNER.]</p> <p>Does this say what it is supposed to say? What about: “If lightweight aggregate with properties not meeting these specifications are delivered to the project, the source of the material may be rejected as a further supply source by the OWNER. Such rejection shall incur no cost to the OWNER.”</p> | <p>This comment will be incorporated into the 5th Edition.</p> |
| <p>702.2.3 Concrete Additives and Modifiers</p> | <p>Referencing [Concrete additives and modifiers shall conform to the applicable requirements of Item 303.2.3. Chemical Admixtures, Item 303.2.4. Mineral Admixtures, Item 303.2.5. Mineral Filler, and/or Item 303.2.6. Fibrous Reinforcement.]</p> <p>Have these Items changed?</p> | <p>The relevant references and Item Numbers will be updated as the 5th Edition is finalized.</p> |
| <p>702.2.4 Water</p> | <p>Referencing [Water shall conform to the requirements of Item 303.2.7. Water.]</p> <p>Have these Items changed?</p> | <p>The relevant references and Item Numbers will be updated as the 5th Edition is finalized.</p> |
| <p>702.2.5 Reinforcement</p> | <p>Referencing [Reinforcement, if any, shall conform to the requirements of Item 303.2.9. Steel Reinforcement, except that axle steel shall not be permitted on structures and the use of rail steel or axle steel shall not be permitted for use in railroad underpass structures. At the OWNER’S option the use of welded wire fabric in accordance with Item 303.2.10. Steel Wire Reinforcement may be used.]</p> <p>Have these Items changed?</p> | <p>The relevant references and Item Numbers will be updated as the 5th Edition is finalized.</p> |

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| TEXT | COMMENT | NCTCOG RESPONSE |
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| 702.2.6 Joint Filler and Joint Sealer | Referencing [Joint filler shall conform to the requirements of Item 303.2.12. Joint Filler . Joint sealer shall conform to the requirements of Item 303.2.14. Joint Sealant .] Have these Items changed? | The relevant references and Item Numbers will be updated as the 5 th Edition is finalized. |
| 702.2.7 Curing Materials | Referencing [Curing materials shall conform to the requirements of Item 303.2.13. Curing Materials .] Have these Items changed? | The relevant references and Item Numbers will be updated as the 5 th Edition is finalized. |
| 702.2.8 Elastomeric Materials | Referencing [Elastomeric materials shall conform to the requirements of Item 303.2.15. Elastomeric Materials .] Have these Items changed? | The relevant references and Item Numbers will be updated as the 5 th Edition is finalized. |
| 702.3.3 Concrete Mix Design and Control | Referencing [The OWNER shall furnish plant control of the concrete by securing the services of an independent local testing laboratory.] Has the term “local” been defined? | In this sentence, local can be determined by the Owner. |
| 702.3.4.2.(a) Standard Classes of Structural Concrete | It looks like this Table is outside of the printable Margins of the paper on some printers. Should the table location be adjusted? To be consistent, this should be Item 303.2.3. Chemical Admixtures. Should “Chemical Admixtures” be BOLD? | This comment will be incorporated into the 5 th Edition. Final format of the document will ensure all tables are included on one page, as appropriate. All referencing and formatting will be updated as the 5 th Edition is finalized. |
| 702.3.4.3.(a) Performance Classes of Structural Concrete | I agree with the comment that the Table should be presented as a whole, rather than split between two pages. It looks like this Table is outside of the printable Margins of the paper on some printers. Should the table location be adjusted? | This comment will be incorporated into the 5 th Edition. Final format of the document will ensure all tables are included on one page, as appropriate. |
| 702.3.4.4. Slump | Referencing [Any concrete mix failing to meet the above consistency requirements, although meeting the slump requirements, shall be considered unsatisfactory, and the mix shall be changed to correct such unsatisfactory conditions .] Is the concrete allowed in the structure? Should there be wording to the effect that “any concrete not meeting these specifications shall be rejected at no cost to the OWNER”? | This sentence will be changed to read: Any concrete mix failing to meet the above consistency requirements, although meeting the slump requirements, shall be considered unsatisfactory, and the mix shall be rejected and changed to correct such unsatisfactory conditions at no cost to the Owner. |
| 702.3.4.5 Tests | To be consistent with the other Specs, we need an Item Number. | The relevant references and Item Numbers will be updated as the 5 th Edition is finalized. |

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| TEXT | COMMENT | NCTCOG RESPONSE |
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| 702.3.5 Mixing | I agree that the Section number should be moved to the following page. | This comment will be incorporated into the 5 th Edition. Final format of the document will ensure all Section numbers are moved to the top of the page, as appropriate. |
| 702.3.5.3 Continuous Volumetric Mix Concrete | Referencing [The mixing time shall be in accordance with the recommendations of the manufacturer of the mixer unless otherwise revised by the Engineer .] OWNER? | All references to “Engineer” have been changed to “Owner”. |
| 702.4.2.2. Classification and Proportions | Referencing [At the option of the CONTRACTOR , natural fine aggregate may be substituted for fine lightweight aggregate, provided such substitution does not result in producing concrete that has a weight in excess of the permissible maximum specified herein.] Should this be the CONTRACTOR rather than the OWNER ? | This paragraph was removed in the 5 th Edition. |
| 702.5 CONSTRUCTING CONCRETE STRUCTURES 702.5.1 Submittals | Referencing [The plans shall be prepared on standard 24-in. by 36-in. sheets .] Many organizations are going to 11” x 17” sized sheets. Should this be something like: “The plans shall be prepared on mutually agreeable standard sheet sizes”? Or maybe this should not be addressed at all? Item 703.3.1.1 states in the paragraph just after a similar sentence: “At the request of the OWNER , shop drawings may be submitted electronically in lieu of printed copies, or a combination of printed and electronic copies.” Does this seem to be in conflict with the paragraph shown above? Should this be reviewed? | This suggestion will be incorporated to read: “on standard 24-in. by 36-in. sheets or on mutually agreeable standard sheet sizes, such as, 11-in. by 17-in. sheets.” This wording just provides additional options, but is not in conflict. |
| 702.5.4.2. Construction Joints | Referencing [When concrete is to be placed monolithically, the term monolithic shall be interpreted to mean that the manner and sequence of concrete placing shall be such that construction joints shall not be created.] Has the term “monolithic” been defined in the definitions area of Section 100? If not, should it be? | The term “monolithic” is defined in Item 101.2 ABBREVIATIONS AND ACRONYMS. |
| 702.5.6.3. Form Ties and Spreaders | Referencing [The cavities produced shall be carefully cleaned and completely filled with retempered sand-cement mortar mixed in proportions of 1-to-3 and the concrete shall be left smooth and even.] Is this a valid spec? (I am unsure what “retempered” means.) | Retempering is “the practice of adding water to mortar to restore workability.” Mortar mix proportions are often one part cement and three parts sand, in accordance to Mortar Cement Mortar - Proportions by Volume (ASTM C270). |
| 702.5.7 Placing Reinforcement | Referencing [Reinforcement in concrete structures shall be placed carefully and accurately and rigidly supported as provided in Item 303.5.3. Placing Reinforcing Steel , Tie, and Dowel Bars and as shown on the plans.] Is this the correct Item? | The relevant references and Item Numbers will be updated as the 5 th Edition is finalized. |

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| TEXT | COMMENT | NCTCOG RESPONSE |
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| <p>702.5.8. Placing Concrete 702.5.8.1. General</p> | <p>Referencing [For simple spans, retardation shall be required only if necessary to complete finishing operations or as required by Item 303. Portland Cement Concrete Pavement.</p> <p>When conditions are such that additional moisture is needed for finishing, the required water shall be applied to the surface by fog spray only and shall be held to a minimum amount.]</p> <p>Is this the correct Item?</p> <p>The term “fog spray” has been used several times in this specification. Has it been defined somewhere? Does it need to be? [See section 702.4.10.2.2. Water Suring. If this is the only definition of Fog Sprays, then I have never seen a CONTRACTOR do this when placing concrete.]</p> | <p>The relevant references and Item Numbers will be updated as the 5th Edition is finalized.</p> <p>The term “misting” will replace to term “fog spray.” “Fogging” is defined in Item 702.5.10.2.2. Water Curing.</p> |
| <p>702.5.8.1 General</p> | <p>Referencing [Carting or wheeling concrete batches over a completed slab shall not be permitted until the slab has reached its specified compressive strength.]</p> <p>Is this statement in conflict with Item 702.4.2 Time Sequence: “(1) No superstructure members, forms, false-work or erection equipment shall be placed on the substructure before the substructure concrete has attained 75% design strength, as indicated by field-cured test specimens as approved by the OWNER.”</p> | <p>This comment will be considered during the next review. This comment references two different scenarios and we do not believe there is a conflict.</p> |
| <p>702.5.8.8.1. Construction</p> | <p>Referencing [Vaults may be of concrete, reinforced concrete, or precast reinforced concrete pipe as detailed in Item 501.6. Reinforced Concrete Culvert, Storm Drain, Pipe and Box Section or as shown on the project plans.</p> <p>(1) Vaults used for blow-off manhole applications shall be of water containment construction, utilizing either the monolithic pour-in-place concrete or precast reinforced concrete pipe with trapped O-ring gasket as further defined in Item 501.6. Reinforced Concrete Culvert, Storm Drain, Pipe and Box Section.</p> <p>(3) Material requirements for vaults shall be as controlled under the material requirements of these specifications and the contract documents, as applicable, with specific inference placed on material specifications.</p> | <p>The relevant references and Item Numbers will be updated as the 5th Edition is finalized.</p> <p>This comment will be incorporated into the 5th Edition. Final format of the document will ensure all formatting issues will be fixed.</p> <p>As referenced, manholes are addressed in the manhole section, Item 502.1. Manholes.</p> |

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| | <p>Walls. For in-place vaults, walls shall be formed on all sides to the thickness specified. Unless specified otherwise, walls shall not be less than 6-in. thick</p> <p>Manhole grade rings, covers, vents, etc. shall be installed as detailed in Item 502.1. Manholes, shown on project plans, or as directed by the OWNER.]</p> <p>Is this the correct Item? Is this the correct Item Number? While I am unable to show it here, the formatting on the “Walls” statement seems to be incorrect. Should this be fixed? Is this the correct Item Number? Why are discussions of Manholes here rather than in the Manhole section? If someone were looking for information on manholes, how could they find this sentence?</p> | |
| TEXT | COMMENT | NCTCOG RESPONSE |
| 702.5.8.8.2. Testing | <p>Referencing [Water-containment vault structures shall be tested for exfiltration as required in Item 507.5.1.2. Exfiltration of this specification.]</p> <p>Is this the correct Item Number?</p> | The relevant references and Item Numbers will be updated as the 5 th Edition is finalized. |
| 702.5.9. Finishing Concrete | <p>Referencing [Other surfaces shall be wood float finished and striped with a fine brush leaving a fine-grained texture.]</p> <p>What if the structure is a garage or a driving surface where a course finish is desired? Should something be mentioned here?</p> | A special surface course due to the specific conditions should be included as a special design component; however, this comment will be considered in the next review. |
| 702.5.10.2.2 Water Curing | Is this the correct Item Number? | The relevant references and Item Numbers will be updated as the 5 th Edition is finalized. |
| 702.5.10.2.3 Membrane Curing | Is this the correct Item Number? | The relevant references and Item Numbers will be updated as the 5 th Edition is finalized. |
| Table 702.5.10.2.(a) Curing Methods | <p>Referencing [1. Polyethylene sheeting or burlap polyethylene mats fastened to prevent outside air from entering shall be considered equivalent to water or membrane curing per this item.]</p> <p>This footnote seems to be formatted inconsistently. Should it be formatted like other footnotes?</p> | This comment will be incorporated into the 5 th Edition. Final format of the document will ensure all footnotes are formatted consistently. |
| 702.5.13. Exposed Surfaces | Is this the correct Item Number? | The relevant references and Item Numbers will be updated as the 5 th Edition is finalized. |

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| TEXT | COMMENT | NCTCOG RESPONSE |
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| 702.6.3 Materials | Are these the correct Item Numbers? | The relevant references and Item Numbers will be updated as the 5 th Edition is finalized. |
| 702.6.5 Defects and Breakage | <p>Referencing [Diagonal cracks on the vertical surfaces which indicate damage from torsion shall be subject to a structural review prior to acceptance. Vertical and horizontal cracks which are 1/16-in. or less in width and which tend to close upon release of stress are acceptable. Cracks in excess of this are subject to review prior to acceptance.</p> <p>Repair. Small areas of honeycomb which are purely surface in nature (not over 1-in.) may be repaired. Honeycomb extending to the plane of the prestressed strands shall be rejected tentatively, subject to structural review prior to acceptance.]</p> <p>Does this say that the member will be reviewed and accepted, only? Is it possible for the OWNER to reject? Same Question... Same Question...</p> | This comment will be incorporated into the 5 th Edition. The sentences will read “subject to review prior to acceptance or rejection by the Owner.” |
| 702.7.2 Materials | Are these the correct Item Numbers? | The relevant references and Item Numbers will be updated as the 5 th Edition is finalized. |
| 702.7.5. Construction Methods 702.7.5.1 Placement | <p>Referencing [Asphaltic concrete surfaces shall be thoroughly cleaned of any organic material, silt and clay, or any other material detrimental to the concrete and then washed with water under pressure.]</p> <p>Isn't asphalt (a bitumen) an organic material... how can an organic material be cleaned of an organic material? Should this be rewritten?</p> | This comment will be taken under advisement during preparation and review of the next Edition of the Public Works Construction Standards. |
| 702.7.6 | Is this the correct Item Number? | The relevant references and Item Numbers will be updated as the 5 th Edition is finalized. |
| 702.7.2 | Is this the correct Item Number? | The relevant references and Item Numbers will be updated as the 5 th Edition is finalized. |
| 702.7.3.1 | Is this the correct Item Number? | The relevant references and Item Numbers will be updated as the 5 th Edition is finalized. |
| 702.8.3.1 | Referencing [702.8.3.1. Concrete. Unless otherwise shown on the plans, concrete for cast-in-place and precast formed concrete units shall be Class A or Class PA (as specified by the OWNER) conforming to the requirements of Item 702.2. Mix Design and Mixing Concrete for Structures except that Class C or Class PC concrete (as specified by the OWNER) shall be required when a unit is used with monolithic pipe sewer construction. | This comment will be taken under advisement during preparation and review of the next Edition of the Public Works Construction Standards. |

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| | <p>Concrete for precast machine-made units shall meet the requirements of ASTM C76 Sections: Reinforced Concrete, Cement, Aggregate, Mixture and Concrete Test Requirements for Concrete and shall have a minimum 28-day compressive strength of 4,000-psi.]</p> <p>Why are Class A and Class PA (both 28-day compressive strength of 3000 psi) concrete specified here, when the next paragraph specifies neither a Class of concrete nor a “standard” 28-day compressive strength?</p> <p>Table 702.2.4.2.(a) Standard Classes of Structural Concrete, shows that Class F Concrete is a 28-day strength of 4200 psi and Table 702.2.4.3.(a) Performance Classes of Structural Concrete, shows that Class PF has a 28-day strength of 4200 psi. Why does this spec not identify the class of concrete? Why is it that the strength specified does not meet a standard Concrete Class?</p> <p>Does this seem confusing? Should this be revisited?</p> | |
| TEXT | COMMENT | NCTCOG RESPONSE |
| 702.8.3.2 | Is this the correct Item Number? | The relevant references and Item Numbers will be updated as the 5 th Edition is finalized. |
| 702.8.10 | Is this the correct Item Number? | The relevant references and Item Numbers will be updated as the 5 th Edition is finalized. |
| 702.8.11 | Is this the correct Item Number? | The relevant references and Item Numbers will be updated as the 5 th Edition is finalized. |
| 703.2 | Is this the correct Item Number? | The relevant references and Item Numbers will be updated as the 5 th Edition is finalized. |
| 703.3.1.1 | <p>Referencing The drawings shall be prepared on sheets 24-in. x 36-in.</p> <p>At the request of the OWNER, shop drawings may be submitted electronically in lieu of printed copies, or a combination of printed and electronic copies.]</p> <p>Many organizations are going to 11” x 17” sized sheets. Should this be something like: “The plans shall be prepared on mutually agreeable standard sheet sizes”? Or maybe this should not be addressed at all?</p> <p>Does this seem to be in conflict with the first paragraph shown above? Should this be reviewed?</p> | <p>This suggestion will be incorporated to read: “on standard 24-in. by 36-in. sheets or on mutually agreeable standard sheet sizes, such as, 11-in. by 17-in. sheets.”</p> <p>This wording just provides additional options, but is not in conflict.</p> |

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| TEXT | COMMENT | NCTCOG RESPONSE |
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| 703.3.2 | Is this the correct Item Number? | The relevant references and Item Numbers will be updated as the 5 th Edition is finalized. |
| 703.3.2.1 | Referencing [When the extent of the reaming is such that the holes cannot be properly filled or accurately adjusted after reaming, the faulty member shall be discarded and replaced.] Add "... at no cost to the OWNER." | This comment will be incorporated into the 5 th Edition. |
| 703.3.5 | Is this the correct Item Number? | The relevant references and Item Numbers will be updated as the 5 th Edition is finalized. |
| 703.4 | Is this the correct Item Number? | The relevant references and Item Numbers will be updated as the 5 th Edition is finalized. |
| 704.1.2. | Referencing [704.1.2. Concrete Piling. Concrete piling shall be designed by the Engineer.] Replace with: "Concrete piling shall be designed by a Texas Licensed Engineer." | The Engineer is defined in ITEM 101. DEFINITIONS AND ABBREVIATIONS. |
| 704.2.2. | Referencing [704.2.2. General. Unless otherwise shown on the plans, the embankment at bridge ends shall be made to grade and thoroughly compacted as provided in the governing specifications prior to the driving of abutment piling. Foundation piling shall not be driven until after the excavation is approximately complete.] Is piling never used in places other than on Bridges? If so, then should this be rewritten or the section retitled "Driving Bridge Piles"? | This comment will be taken under advisement during preparation and review of the next Edition of the Public Works Construction Standards. |
| 704.2.3. | Referencing [If the center of gravity of a pile group varies by more than 3-in. from the center of gravity determined from plan location, a structural analysis shall be required to see if the group shall be acceptable.] Who is responsible to pay for the structural analysis? Should wording be included that the analysis shall be done by a licenses Texas Engineer and a signed and sealed report provided to the OWNER? | This comment will be taken under advisement during preparation and review of the next Edition of the Public Works Construction Standards. |
| 704.4 | The formulas shown in this section do not seem to be formatted very well. Is it possible to make these formulas look a little more like a mathematical formulas rather than typed? | This comment will be incorporated into the 5 th Edition. Final format of the document will ensure formulas will be appear more like mathematical formulas. |

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| TEXT | COMMENT | NCTCOG RESPONSE |
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| 801.1 | Should this be "BARRIERS, WARNING AND DETOUR SIGNS"? | This comment will be incorporated into the 5 th Edition. |
| 801.1.1 | Are these the correct Item Numbers? | The relevant references and Item Numbers will be updated as the 5 th Edition is finalized. |
| 801.1.3 | <p>Referencing [Payment. <i>The furnishing, placing and maintaining of <u>barriers and warning and/or detour devices, lights and/or signs or any other precautionary measures required by law or otherwise for the protection of persons or property shall be paid for at the contract unit price for the time they are maintained by the CONTRACTOR before final acceptance and written permission from the OWNER to cease maintenance.</u></i>]</p> <p>Should this be: "... barriers, warning devices, detour devices, lights, signs, or other precautionary measures...?"</p> <p>I am not sure what an "otherwise" is. Should this be "the OWNER"?</p> <p>This seems to be in conflict with 801.1.2. General, where it states: "The CONTRACTOR'S responsibility for the maintenance of barricades, signs and lights and for providing watchmen <u>shall not cease until the project is finally accepted by the OWNER.</u>" Should this be reconciled?</p> | 801.1.3 will be modified to "The furnishing, placing and maintaining of barriers, warning devices, detour devices, lights, signs, or other precautionary measures required by law or by the OWNER for the protection of persons or property shall be paid for at the contract unit price for the time they are maintained by the CONTRACTOR until the project is finally accepted by the OWNER." |
| 801.3.3 | <p>Referencing [The fabrication and erection of metal for railing shall conform to the pertinent provisions of <u>Item 703.3. Steel Structure Construction</u>, and to the requirements of this specification.] Is this the correct Item Number?</p> <p>Referencing [If sleeves are used, the railing shall be placed in the sleeves and set with <u>molten sulfur compound</u>.] Is there a spec for "molten sulfur compound"?</p> <p>Referencing [Unless otherwise indicated, aluminum members shall be separated from concrete or steel by a bearing pad conforming to the requirements for preformed rubber fabric pads as described in <u>Item 703.3. Steel Structure Construction</u>.] Is this the correct Item Number?</p> <p>Referencing [<u>Steel railing shall be given on shop coat of the type of paint specified on the plans.</u>] What does this sentence mean? Should it be rewritten?</p> <p>Referencing [During the construction of railing, <u>care shall be exercised to</u> insure proper functioning of expansion joints, if any.] Has the word "care" in this context been defined? Should this be rewritten?</p> | <p>The relevant references and Item Numbers will be updated as the 5th Edition is finalized.</p> <p>This comment will be taken under advisement during preparation and review of the next Edition of the Public Works Construction Standards.</p> <p>The relevant references and Item Numbers will be updated as the 5th Edition is finalized.</p> <p>This sentence will be changed to read: "be given a top coat."</p> <p>This comment will be taken under advisement during preparation and review of the next Edition of the Public Works Construction Standards.</p> |

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| TEXT | COMMENT | NCTCOG RESPONSE |
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| 801.4.3.3 | Referencing [In setting the gate posts, great care must be taken to make sure that gate posts are set the <u>exact</u> distance apart as shown on the plans.] Is the word “exact” too harsh for this situation? Should a tolerance be provided? | This sentence will be modified to “In setting the gate posts, great care must be taken to make sure that gate posts are set apart by the distance shown on the plans.” |
| 801.5.2.2.2 | Referencing [Posts shall be preservative treated according to <u>American Wood-Preservers' Association (AWPA) Standards</u> .] Should the actual standard number be listed? | This comment will be taken under advisement during preparation and review of the next Edition of the Public Works Construction Standards. |
| 802.2.2. | I agree with red mark; this should be 802.2.2.2. | This comment will be incorporated into the 5 th Edition. |
| 802.2.4 | Referencing [Payment for all work prescribed under this item shall be made at the unit prices bid for the various items delineated in <u>this item above</u> .] I am not sure what this means. Should this be rewritten? | This will be modified to “Payment for all work prescribed under this item shall be made at the unit prices bid for the various items.” |
| 802.3.2 | Referencing [Should the soil conditions encountered during construction differ from those used for the design, the OWNER shall review the design. Work found to be deficient according to these specifications or the construction drawings <u>must be corrected at the CONTRACTOR’S expense</u> .] Is this adequate? I do not know what the OWNER or the CONTRACTOR will do once the design has been reviewed... Should any action take place? Does it seem fair to the CONTRACTOR to have to suffer costs to fix a design problem on the constructions drawings if the parameters for the design were incorrect – such as a different kind of soil than what the design was based on? Should this be rethought? | The first sentence has been modified to “Should the soil conditions encountered during construction differ from those used for the design, the OWNER shall review the design, and provide the Contractor with any design revisions.” The second sentence has been modified to “Wall systems that are found to be deficient and not in conformance with the construction drawings must be corrected at the CONTRACTOR’S expense.” |
| 802.3.3.3 | Referencing [802.3.3.3. SRW Systems]. Should the “SRW” (Segmental Retaining Wall System) be spelled out in the title at the beginning of this subsection? | This comment will be incorporated. |
| Table 802.3.3.3.1.(a) | I agree with the comment in red that the title should read: Table 802.3.3.1.(a) Segmental Retaining Wall Unit Standards | This comment has been incorporated. |
| Table 802.3.3.3.2.(a) | I agree with the comment in red that the title should read: Table 802.3.3.3.2.(a) Segmental Retaining Wall Unit Tests. I agree with the comment in red on page 802-3: Place this entire table on one page. | This comment has been incorporated. Final format of the document will ensure all tables are included on one page, as appropriate. |
| 802.3.3.3.5 | Referencing [<u>Owner</u> may require video inspection of completed underdrain.] Should the word “owner” be formatted to be consistent with all of the other “OWNER” formatting? | In the Draft Public Works Construction Standards posted for public comment, all references to “Engineer” have been changed to “Owner”. |
| 802.3.3.3.7 | Does this geotextile spec meet the same standards as other Geotextile specs located in other chapters? | This comment will be taken under advisement during preparation and review of the next Edition of the Public Works Construction Standards. |

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| TEXT | COMMENT | NCTCOG RESPONSE |
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| 802.3.4.2 | Referencing [802.3.4.2. Excavation. Excavation shall be carried out to the lines and grades as shown on the plans and in accordance with methods in <u>Item 701.2. Structural Excavation.</u>] Is this the correct Item Number? | The relevant references and Item Numbers will be updated as the 5 th Edition is finalized. |
| 802.4.3.1 | I agree with the comment in red on page 802-6 This paragraph and subsequent paragraphs in this section should be indented to the right one more stop. | This comment has been incorporated. |
| 802.4.3.2. | I agree with the comment in red on page 802-7 This paragraph should be indented to the right one more stop. | This comment has been incorporated. |
| 802.4.3.1 | Is this the correct Item Number? | The relevant references and Item Numbers will be updated as the 5 th Edition is finalized. |
| 803.3.2.2.3 | I agree with the comment in red on page 803-5: Move this topic to the next page. | This comment has been incorporated. |