

**City of Lawrence Department of Municipal Services &
Operations
Annual Review
of
Construction Material Specifications, Design Standards, and
Standard Details**

Summary of Changes

Reviewed By: Municipal Services & Operations Department Staff

Materials Reviewed: Construction Material Specifications:

Section 0010 – General Technical Provisions

Section 1000 – Site Preparation

Section 1100 – Grading and Trenching

Section 1200 – Subgrade Preparation

Section 1300 – Asphaltic Concrete Pavement

Section 1400 – Concrete Pavement.

Section 1500 – Concrete Curb, Curb and Gutter, Sidewalk, and Driveway Entrances

Section 1600 – Pavement Marking

Section 1650 – Signing

Section 1700 – Traffic Signals

Section 1800 – Pavement Maintenance

Section 2000 – Concrete

Section 2400 – Solid Waste

Section 2500 – Sanitary Sewer (8" to 18" Mains)

Section 2900 – Waterlines

Section 3000 – Fiber Optics

Section 6000 – Storm Sewers

Section 7200 – Seeding

Section 7300 – Landscaping

Design Standards:

Combined Plan Preparation and Design Criteria

Standard Detail Sheets:

0000 – Title Sheet

0010 – Erosion and Sediment Control

1300 – Asphaltic Concrete Streets

1400 – Concrete Alleys

1400 – Concrete Intersection

1400 – Portland Cement Concrete Streets

1500 – Concrete Driveways

1500 – Concrete Sidewalk

1501 – Concrete Sidewalk and Shared Use Path Repair

1502 – Concrete Retaining Wall and Integral Sidewalk Curb

1506 – Concrete Curb and Gutter

1600 – Pavement Marking

- 1650 – Signing
- 1700 – Roadway Lighting
- 1700 – Traffic Signals
- 1800 – Street Repair
- 2000 – Raised Crosswalks
- 2000 – Speed Cushions
- 2000 – Speed Humps
- 2000 – Traffic Circles (NEW)
- 2500 – Sanitary Sewer – Gravity
- 2900 – Waterline
- 2902.2 – Fireline Connection Detail
- 2902.6.1 – Backflow Manhole Detail
- 2902.6.1 – Backflow Vault Detail
- 2902.6.7 – Meter Vault Detail
- 3000 – Fiber
- 6000 – Storm Sewer
- 6000 – Underdrain

GENERAL NOTES:

Updates and corrections to the City of Lawrence Department of Municipal Services & Operations construction material specifications, design criteria, and standard details are as follows:

--Note that some materials contained grammatical or other minor corrections. Those corrections are not noted in this summation.

CONSTRUCTION MATERIAL SPECIFICATIONS:

Section 0010 – General Technical Provisions

2023 Comments

- 1) Headings numbered.
- 2) *General Requirements / Utilities Encountered* updated to include notification requirements. Note: This language was previously in the Water and Sanitary Sewer specifications.
- 3) *General Requirements / Access to Adjacent Properties* updated to include requirement for maintaining access for mail delivery. Note: This language was previously in the Water and Sanitary Sewer specifications.
- 4) *Measurement and Payment* updated to include sub-headings and re-structured.
 - a. *(Size)" Anchor Coupling*. New Section.
 - b. *(Size)" Cap or Plug and Block*. New Section.
 - c. *(Size)" Manifold Assembly*. New Section.
 - d. *(Size)" Tapping Sleeve and (Size)" Tapping Valve*. New section.
 - e. *Access Ramps*. Removed section.
 - f. *Detectable Warning Panels (All Types)*. New Section.
 - g. *Erosion Control*. New Section.
 - h. *Install New Meter Tile, Ring, and/or Lid. (All Types and Sizes)*. New Section.
 - i. *Integral Sidewalk and Retaining Wall*. New Section.
 - j. *Integral Sidewalk Curb*. New Section.
 - k. *Mobilization*. New section.
 - l. *Pavement Marking*. Revised to include 'per each'.
 - m. *Permanent Signage*. Revised from 'per each' to 'lump sum'.
 - n. *Reinforced Concrete Sidewalk (Adjacent to Curb)*. New Section.
 - o. *Seeding (Temporary or Permanent)*. Revised from 'per acre' to 'lump sum'.
 - p. *Traffic Signals*. Moved language from Section 1700.
 - q. *Water Meter Components (Tiles, Rings, Lids, Setters; All Types and Sizes)*. New Section.
- 5) *Material Testing*. Clarification of asphalt pavement cores obtained by Contractor per ASTM standard, in-place density "acceptance" determined by pavement cores unless otherwise specified, and pavement density requirements shall conform to the specifications of the Kansas City Metropolitan Materials Board (KCMMB) and more information is available on the website www.kcmmb.org and also referred to Section 1300- Asphaltic Concrete Pavement for Density and Surface Requirements.
- 6) *Material Testing*. Included language for use of "low-activity nuclear" density device throughout the Material Testing section.

Section 1000 – Site Preparation

- 1) No change.

Section 1100 – Grading and Trenching

2023 Comments

- 1) Revised section title to include "Trenching"
- 2) Revised headings and numbering.

- 3) *Scope*. Added the following: "This section covers the performance of all trenching activities for general pipeline and utility construction. Refer to the Specification Sections of City-Owned utilities (2500 – Sanitary Sewers, 2900 – Waterlines, 3000 – Fiber Optics, and 6000 – Storm Sewers) for additional requirements. All sub-sections demarked as "General" shall also be applicable to related sub-sections.
- 4) *Materials and Definitions*. Added language previously found within the Water and Sanitary Sewer specifications.
 - a. *Pipe Embedment*. Revised embedment to PB-2 or SB-2 as specified in Division 1100 of the Kansas Department of Transportation (KDOT) specifications.
- 5) *Construction – General*. Added language previously found within the Water and Sanitary Sewer specifications.
- 6) *Excavation – Trenching*. New section. Note: This language was previously in the Water and Sanitary Sewer specifications.
- 7) *Backfill – General / Structures*. Revised to language previously found within the Water and Sanitary Sewer specifications.
- 8) *Backfill – Trenches*. Clarified flowable fill locations to match details.

Section 1200 – Subgrade Preparation

2023 Comments

- 1) *Compaction Testing and Proof Rolling*. Included language for use of "low-activity nuclear" density device.

Section 1300 – Asphaltic Concrete Pavement

2023 Comments

- 1) *General*. Revised language for referencing and use of new KCMMB (www.kcmmb.org) Asphaltic Concrete mix design specifications for KCMMB A1/A2/A3 and inclusion of an Intermediate Course of asphalt.
- 2) *Placing Requirements*. Revised language to adhere to KCMMB specifications with max mixture temperature of 315°F, revised maximum depth of asphalt lifts to include intermediate and leveling courses, and intermediate paving course within the ambient air and road surface temperature table.
- 3) *Density and Surface Requirements*. Revised language for referencing KCMMB KCMMB Asphaltic Concrete mix design density requirements, clarification of asphalt pavement cores obtained by Contractor but tested by the City per ASTM standards, and in-place density "acceptance" determined by pavement cores unless otherwise specified.
- 4) *Rolling Procedure*. Included language for use of "low-activity nuclear" density measuring device.

Section 1400 – Concrete Pavement

2023 Comments

- 1) *Contraction Joints – Sawing and "Sealing"*. Added sentence for "Sawed contraction joints shall be joint sealed."
- 2) *Longitudinal and Transverse Construction joints – Sawing and Sealing*. Clarification that "if sawed," construction joints shall be "joint sealed."

Section 1500 – Concrete Curb, Curb and Gutter, Sidewalk, and Driveway Entrances.

2023 Comments

- 1) *Finishing* – Sidewalk, “Shared Use Path,” and Driveway Entrances. Added sentence for “Any concrete pavement greater than 4 inches thick shall be vibrated for consolidation.”

Section 1600 – Pavement Marking

- 1) No change.

Section 1650 – Signing

- 2) No change.

Section 1700 – Traffic Signals

- 1) No change.

Section 1700 – Traffic Signals Appendix A

- 1) No change.

Section 1800 – Pavement Maintenance

- 1) No change.

Section 2000 – Concrete

- 1) No change.

Section 2400 – Solid Waste

2023 Comments

- 1) New section.

Section 2500 – Sanitary Sewer (8” to 18” Mains)

2023 Comments

- 1) Revised formatting to conform with other MSO Specification Sections.
- 2) Removed general open cut/trenching requirements and added to Grading and Trenching.
- 3) *Materials / PVC Pressure Rated Plastic Pipe and Fittings / Service Lines*. Modified to allow for SDR 26 PVC service lines.
- 4) *Installation / Sanitary Sewer Installation / Service Connections*. Modified to allow for SDR 26 PVC service lines.

Section 2900 – Waterlines

2023 Comments

- 1) Revised formatting to conform with other MSO Specification Sections.
- 2) Removed general open cut/trenching requirements and added to Grading and Trenching.
- 3) *Materials / Fire Hydrants / General*. Removed AVK models.
- 4) *Materials / Specials / Meter Assembly*. Modified Meter Box Cover to include “Trumbull 367-5464 & 367-5815” for 5/8” meters. Added “or approved equals” to section.

5) *Installation by Horizontal Directional Drilling (HDD)*. New section.

Section 3000 – Fiber Optics

2023 Comments

- 1) *Conduit / General*. Added the following:
 - a. "All new conduit shall be installed with pull tape."
 - b. "Pull boxes installed along new conduit runs should be spaced between 500-800 feet apart. The contractor should place pull boxes at road intersections whenever possible. The Contractor shall notify the Engineer of deviations and request approval for exceptions."
- 2) *Fiber Optic Cable*. Revised to read:
 - a. "Fiber optic cable will be installed in both new and existing conduit. The existing system consists of multiple 1 1/4" conduits owned by the City or other entities that enter into separate pull boxes. The contractor shall have access to only City of Lawrence property. Care should be taken to not disrupt or damage the remaining infrastructure within the duct bank."

Section 3000 – Fiber Optics Appendix A

2023 Comments

- 1) *Ethernet Switches*. Revised as follows:
 - a. *1G Switch*. IE-3300-8T2S-E
 - b. *10G Switch*. New Section.
 - c. *Power Supply*. GLC-LX-SM-RGD-A

Section 6000 – Storm Sewer

- 1) No change.

Section 7200 – Seeding

- 1) No change.

Section 7300 – Landscaping

- 1) No change.

PLAN PREPARATION AND DESIGN CRITERIA:

Section	Changes:
2.1 General, 6	Color in plans - Sewer = Brown, Fiber = Orange
2.1 General, 7, p	Fiber Optic Plan added
2.3 General Notes, Quantities	Subsidiary abandonment of flowable fill and backfill deleted
2.3 General Notes, Quantities	Pavement - Access Ramp added with SY quantity
2.3 General Notes, Quantities	Removed detectable warning panels as they are subsidiary to ramp items
2.3 General Notes, 4 Project Control Points, e	Although US Survey Feet was phased out of standards on 12/31/22, <i>"Kansas should *not* switch to the international foot (ift) for SPCS 83 after Dec 31, 2022. The state should instead continue using the U.S. survey foot (sft). The ift will be used in all zones in every state for SPCS2022, but that won't be implemented until sometime in 2025."</i> Beginning in 2023 we encourage use of KS RCS Zone 11
4.1.4 Sewer Service Line Requirements, 8	no services on interceptor sewers
Section 6 - Fiber Optics	separate fiber optics document was edited and integrated into combined criteria with edits, updated standards, hard copy requirements ommitted

STANDARD DETAIL SHEETS

0000-Title Sheet Template

- 1) Contact for ATT changed to Randall Gaskin.

0010-Erosion and Sediment Control

- 1) No change.

1300-Asphlatic Concrete Streets

2023 Comments

- 1) Revised typical pavement section(s) cross slope to 3%.
- 2) Included an "Intermediate Course" of asphalt in the typical pavement sections to match specifications section 1300 for KCMMB asphalt mix design "Intermediate Course" use and reference.

1400-Concrete Alleys

2023 Comments

- 1) Revised typical pavement section cross slope to 3%.
- 2) Revised dimensions on longitudinal joint placement and included monolithically poured option.

1400-Concrete Intersection

- 1) No change.

1400-Portland Cement Concrete Streets

2023 Comments

- 1) Revised typical pavement section(s) cross slope to 3%.

1500-Concrete Driveways

2023 Comments

- 1) Added detail for sealed contraction joint.

1500-Concrete Sidewalk

2023 Comments

- 1) Removed specific reference to "Tuftile wet set" language for detectable warning surface.
- 2) Revised the "curb and gutter through access ramp" detail with 3/4" rise instead of 1-1/4" such that the bottom of the curb cross slope will match the updated 3% typical street section cross slope and removed the "paid as curb type adjacent to curb ramp by linear foot" since it conflicted with the "subsidiary" note number 9.

1501-Concrete Sidewalk and Shared Use Path Repair

- 1) No change.

1502-Concrete Retaining Wall and Integral Sidewalk Curb

2023 Comments

- 1) Clarified reinforcement spacing for both directions.

1506-Concrete Curb and Gutter

2023 Comments

- 1) Revised all typical curb and gutter detail sections with 3/4" rise instead of 1-1/4" such that the bottom of the curb cross slope will match the updated 3% typical street section cross slope.
- 2) Removed notation for sawing and sealing of curb jointing.
- 3) Updated the notation for "curb and gutter through access ramp" reference to sidewalk details and removed the "paid by linear foot" language.

1600-Pavement Marking

2023 Comments

- 1) Updated sharrow placement immediately after an intersection to include "typically 25 feet past the end of radius return."
- 2) Added details for parking lots, spaces, ADA parking requirements.
- 3) Revised "Pavement Marking Summary" tables.
- 4) Added layout detail for 24" white stop line and 4" double yellow lane line.

1650-Signing

- 1) No change.

1700-Roadway Lighting

- 1) No change.

1700-Traffic Signals

- 1) No change.

1800-Street Repair

2023 Comments

- 1) Removed repetitive general notes that did not apply to "asphaltic concrete edge patch" detail and added " 18" Min" width dimension for the milling and patch size.

2000-Raised Crosswalks

2023 Comments

- 1) Revised to include more details and notations for "access ramp" tie-ins and transitions with the raised crosswalk, curb and gutter, and adjacent areas.
- 2) Revised typical cross slope to "3% typical or slope to match existing roadway" to coincide with typical pavement section cross slope update.

2000-Roundabout Pavement Marking and Signs

- 1) No change.

2000-Speed Cushions

2023 Comments

- 1) Revised typical cross slope to "3% typical or slope to match existing roadway" to coincide with typical pavement section cross slope update.

2000-Speed Humps

2023 Comments

- 1) Revised typical cross slope to "3% typical or slope to match existing roadway" to coincide with typical pavement section cross slope update.

2000-Traffic Circles

2023 Comments

- 1) A new detail for Traffic Circles.

2500-Sanitary Sewer-Gravity

- 1) No change.

2900-Waterline

- 1) No change.

2902.2-Fireline Connection Detail

- 1) No change.

2902.6.1-Backflow Manhole Detail

- 1) No change.

2902.6.1-Backflow Vault Detail

- 1) No change.

2902.6.7-Meter Vault Detail

- 1) No change.

3000-Fiber

- 1) No change.

6000-Storm Sewer

- 1) No change.

6000-Underdrain

- 1) No change.