

**CITY OF LEE'S SUMMIT
DESIGN AND CONSTRUCTION MANUAL
SECTION 1000 - GENERAL REQUIREMENTS**

1001 PURPOSE

The purpose of the City of Lee's Summit Design and Construction Manual ("DCM") is to provide minimum design and construction standards to safeguard life, limb, health, property and public welfare by regulating and controlling the design, construction, quality materials, and location of public and private infrastructure within the City of Lee's Summit.

1002 SCOPE

The DCM is composed of four parts: General Requirements, Design Criteria, Standard Specifications, and Standard Details. The requirements of the DCM shall apply to the design and construction of infrastructure including, but not limited to: streets, sidewalks, pavements, water lines, sanitary sewers, storm sewers, and stormwater detention.

Where, in any specific case, different sections of the DCM specify different requirements, the most restrictive shall govern. Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall be applicable.

The regulations are not intended to interfere with, abrogate, or annul any other ordinance, rule or regulation, statute, or other provision of law. Where any provision of these regulations imposes restriction different from any provision of these regulations or any other ordinance, rule, or regulation or other provision of law, whichever requirements are more restrictive or impose higher standards shall control.

- A. Modifications: Wherever there are practical difficulties involved in carrying out the requirements of this DCM, the City Engineer shall have the authority to grant modifications for individual cases, upon application in writing by the property owner or owner's representative, provided the City Engineer shall first find that special individual reasons exist that make the strict letter of this DCM impractical and the modification is in compliance with the intent and purpose of this DCM and that such modification does not lessen health, accessibility, life and safety, or functional requirements. The details of action granting modifications shall be copied to the project file.
- B. Alternative Materials, Design and Methods of Construction and Equipment: The requirements of this DCM are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this DCM, provided that any such alternative has been approved. Requests for use of alternative materials shall be submitted in writing to the City. An alternative material, design or method of construction shall be approved where the City Engineer finds that the proposed design is satisfactory and complies with the intent of the requirements of the DCM, and that the material, method or work offered is, for the purpose intended, at least the equivalent of that prescribed in this DCM in quality, strength, effectiveness, durability, and safety.

- C. Tests: Quality Control (QC) and Quality Assurance (QA)
1. QC testing shall be performed by a qualified testing lab hired by the Contractor. Any work by Contractor prior to test submittals and subsequent City's review and approval shall be work done at the Contractor's risk.
 2. QC test reports shall be submitted to the City daily. The reports shall clearly indicate the location of all tests by street name, station and/or lot number, type of material, and elevation of test. The reports shall include the results of all tests (pass or fail) and all re-tests.
 3. Types of tests and frequencies are presented in the applicable sections of the technical specifications. For clarity, a summary of typical testing requirements is presented in Appendix A to Section 1000 of the DCM.
 4. Test methods shall be as specified in the DCM or by other recognized test standards. In the absence of recognized and accepted test methods, the City Engineer shall be authorized to approve the testing procedures.
 5. Tests shall be performed by an independent, accredited testing lab meeting the criteria in Appendix B to Section 1000 of the DCM.
 6. QA tests shall be performed in accordance with Appendix A to Section 1000 of the DCM and shall be the responsibility of the City.
 7. QA tests shall be the responsibility of the City.
- D. Appeals: Appeals of orders, decisions or determinations made by the City Engineer relative to the application and interpretation of this DCM shall be made to the Board of Appeals as established by Sec. 7-173 of the City of Lee's Summit Code of Ordinances. The City Engineer's decision shall be final when mailed by U.S. mail postage prepaid to the owner or the owner's representative and may be appealed within ten (10) days from the date of such mailing.

1003 DEFINITIONS

Whenever the following words, phrases or abbreviations appear in this ordinance, they shall have the following meanings, unless further defined in other sections of the DCM:

Bond shall mean performance, payment and/or maintenance bonds and other instruments of security (i.e. cash escrow or letter of credit) furnished by the Contractor/Developer and his surety in accordance with these specifications.

City shall mean the City of Lee's Summit, a municipal Corporation, acting by and through its duly elected governing body and its duly appointed officials.

City Engineer shall mean the Engineer of the City of Lee's Summit or an authorized representative acting on behalf of the City.

Contractor shall mean a person, partnership, or corporation duly licensed to perform construction operations within the City of Lee's Summit.

Contractor/Developer shall mean either a Contractor and / or Developer who is applying for or has applied for and received approval of Engineering Plans for infrastructure improvements.

Day shall mean a calendar day of 24 hours measured from midnight to the next midnight unless otherwise defined by specific project contract documents.

Department shall mean the Public Works Department or the individual assigned to perform a function for the Public Works Department.

Design Engineer shall mean a registered professional engineer, licensed in the state of Missouri, under contract to the Contractor/Developer or the City of Lee's Summit for the purpose of preparing and sealing engineering studies, design drawings, specifications, etc.

Developer shall mean a person whose intent or function is to bring about any change of land use or improvement on any parcel of land within the City of Lee's Summit.

Development shall mean any change of land use or improvement on any parcel of land within the City of Lee's Summit.

Drainage Facility shall mean a manmade structure or natural watercourse for the conveyance of storm runoff. Examples are open channels, pipes, ditches, swales, catch basins, street gutters, slopes, berms, dry detention basins, wet (retention) detention basins and other features affecting the flow of water.

Engineering Plans shall mean all engineering drawings including plan and profile drawings, a Master Drainage Plan, engineering details, calculations; and / or reports prepared and sealed by a Design Engineer as defined with this DCM, and meeting City standards and standard engineering practices.

Engineering Plan Review and Inspection (EPRI) Fees shall mean the fees paid to the City for a review of the Engineering Plans and for construction inspection.

Final Acceptance shall mean the time when all requirements for the required Improvements have been fully met.

Final Affidavit and Agreement shall mean lien waivers indicating all subcontractors and suppliers have been paid; affidavits certifying all contractors and subcontractors have complied with prevailing wage laws for work subject to prevailing wage; necessary bonds or other financial securities have been provided to the City as required by this DCM

Improvements shall mean the entire construction required to be provided in accordance with the approved Engineering Plans. Improvements include and are the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the approved Engineering Plans.

Inspector shall mean an authorized representative of the City who has been assigned to monitor conformance to the requirements of the DCM by the Contractor/Developer.

Land Disturbance shall mean any activity including, but not limited to, clearing, grading, grubbing or excavation, which removes the vegetative ground cover or creates sediment movement potential from a site.

Owner shall mean any person having legal title to, or a proprietary interest in real property. Proprietary interest shall include, but not be limited to, estate administration, trusteeship, guardianship, and actions under a valid power of attorney.

Record Drawings shall mean the drawings bearing the seal and signature of a professional engineer that reflect the modifications made to the Engineering Plans, documenting actual constructed conditions of Public or Private Infrastructure.

Site shall mean the total area of the parcel, tract, lot or ownership of land upon which development or land disturbance is proposed irrespective of the actual limits or size of the proposed development or land disturbance activity.

Substantial Completion shall mean the time at which the Improvements have progressed to the point where, in the opinion of the City Engineer, the Improvements are sufficiently complete, in accordance with the requirements of this DCM, so that the Improvements can be utilized for the purposes for which they are intended.

1004 REFERENCED STANDARDS

Whenever references are made to national or industry standards and specifications, methods of testing, materials codes, practices, and requirements, it shall be understood that the latest revision of said references shall govern unless a specific revision is stated. Whenever a reference, standard, or specification is not explicit or not specifically covered by this DCM for any engineering and/or construction application, it shall be understood that generally accepted practices, references, standards, and specifications shall govern and shall be approved by the City Engineer.

1005 INFRASTRUCTURE UPSIZING

City financial assistance may be made available for upsizing of water lines, sanitary sewers, and/or streets to serve private development. The amount of upsizing assistance shall be based upon City infrastructure planning requirements versus the minimum infrastructure requirements to serve the development. General terms for upsizing of water and sewer projects are covered in Sections 32.5 and 32.8 of the Lee's Summit Code of Ordinances.

- A. During the planning and/or design of a development project, areas of possible upsizing may either be identified by the City Engineer or be proposed by the Contractor/Developer. The Contractor/Developer shall provide the following information to the City Engineer:
 1. A cover letter stating the specifics of the upsizing proposal.
 2. An Engineer's Opinion of Probable Construction Costs that illustrates the cost of the proposed minimum improvements required to serve the development versus the cost of the proposed improvements generated through the City's CIP construction bids or accepted construction means.
- B. Following the City Engineer's evaluation of the proposal, an upsizing agreement will be drafted by the City Attorney for execution by the City and Contractor/Developer.
- C. After the Contractor/Developer has executed the agreement and returned the originals to the City, the proposal will be presented to the Public Works Committee and City Council for approval of the City's estimated cost share of the project and for approval of the agreement.

- D. Following the City Council action:
 - 1. Engineering Plan approval will be given in accordance with the procedures outlined in the Design and Construction Manual.
 - 2. The required improvements of the project shall be constructed by the Contractor/Developer.
- E. Reimbursement will be issued following final acceptance of the entire project. Following the acceptance of the improvements of the entire project by the City Engineer, the Contractor/Developer shall submit a written request for reimbursement in the final dollar amount for the City's cost share.
- F. Reimbursement will be made to the Contractor/Developer in the form of a check, provided the request does not exceed the amount included in the upsizing agreement.
- G. In the event the request does exceed the previously approved amount, the request will be reviewed by the City Engineer and will be presented to the Public Works Committee and City Council for final approval prior to payment.

1006 INSURANCE

The Contractor/Developer shall secure and maintain, throughout the duration of the project, insurance of such types and in at least amounts as set forth in the “Standard Insurance and Indemnification Requirements” as approved by the Director of Development Service, which may be updated and amended as needed from time to time.

Appendix A: Quality Control and Quality Assurance

Appendix B: Testing Laboratory Services

Appendix C: Project Closeout for Public Improvements Using Public Funds or Work on Existing Public Infrastructure

APPENDIX A: QUALITY CONTROL AND QUALITY ASSURANCE

1.01 QUALITY CONTROL (QC)

- A. QC shall be the responsibility of the Contractor/Developer.
- B. The minimum testing frequency for QC is shown in the following table. Where multiple tests are required, samples shall be distributed such that the entire day's production is represented.

Activity	Required Test	Minimum QC Testing Frequency
Grading – Embankment	Density/Moisture Curve	1 per material type
	In-Place Density/Moisture	4 per day per spread, minimum 1 per lift.
	Roll tested per APWA	Prior to placing aggregate base
Soil Subgrade	Density/Moisture Curve	1 per material type
	In-Place Density/Moisture	1 per 750 square yards of subgrade
	Roll tested per APWA	Prior to placing aggregate base
Chemically Stabilized Subgrade	Refer to Section 2200	
Subgrade Stabilized with Geogrid	Density/Moisture Curve	1 per material type
	In-Place Density/Moisture	1 per 750 square yards of subgrade
	Roll tested per APWA	After placing geogrid and aggregate base
Aggregate Base	Density/Moisture Curve	1 per material type
	Gradation	1 per day per source per material type
	In-Place Density/Moisture	4 per day
	Plasticity Index	One per source.
	Roll tested per APWA	Prior to placing pavement
Trenches (Earth Backfill)	Density/Moisture Curve	1 per material type
	In-Place Density/Moisture	Refer to Section 2100
Asphaltic Concrete	Gradation (in-place behind paver)	1 per day per spread.
	Oil Content	1 per day.
	Oil Type	1 per mix.
	Density (1000 tons or greater)	10 per day per spread / lift
	Density (less than 1000 tons)	6 per day per spread / lift
Concrete (Curb, Sidewalk, Driveways, etc.) Required for each mix design	Air Content	1 at beginning of each daily pour per mix and 1 per 50 CY thereafter.
	Slump	1 at beginning of each daily pour per mix and 1 per 50 CY thereafter.
	Compressive strength	1 set of 4 cylinders at beginning of each daily pour per mix and 1 per 100 CY thereafter
Concrete for Structures (Pavement, Boxes, etc.) Required for each mix design.	Air Content	1 at beginning of each daily pour per mix and 1 per 100 CY thereafter.
	Slump	1 at beginning of each daily pour per mix and 1 per 100 CY thereafter.

- C. QC test results and documentation shall be submitted to City as the results are made available by the laboratory.
- D. Initial QC test results shall be delivered to the City within 24 hours of the test.
- E. Summary reports of QC testing shall be submitted to the City no less than monthly.
- F. Materials that fail testing shall be corrected and retested or removed, at the discretion of the City, and shall be the Contractor / Developer's expense. Retesting will clearly identify the corresponding failures.

APPENDIX A: QUALITY CONTROL AND QUALITY ASSURANCE

1.02 QUALITY ASSURANCE (QA)

- A. QA shall be the responsibility of the City.
- B. The minimum testing frequency for QA is shown in the following table. Where multiple tests are required, samples shall be distributed such that the entire day's production is represented.

Activity	Required Test	Minimum QA Testing Frequency
Grading – Embankment	Density/Moisture Curve	1 per material type
	In-Place Density/Moisture	1 per day per spread, minimum 1 per lift.
Aggregate Base	Density/Moisture Curve	1 per material type
	Gradation	1 per source per material type
	In-Place Density/Moisture	1 per day
	Plasticity Index	One per source.
Trenches (Earth Backfill)	Density/Moisture Curve	1 per material type
	In-Place Density/Moisture	Refer to Section 2100
Asphaltic Concrete	Gradation (in-place Behind Paver)	1 per mix design per spread
	Oil Content	1 per mix design.
	Oil Type	1 per mix design.
	Density (1000 tons or greater)	4 per day per spread
	Density (less than 1000 tons)	2 per day per spread
Concrete (Curb, Sidewalk, Driveways, etc.) Required for each mix design	Air Content	1 at beginning of each daily pour per mix and 1 per 100 CY thereafter.
	Slump	1 at beginning of each daily pour per mix and 1 per 100 CY thereafter.
	Compressive strength	1 set of 4 cylinders per 100 CY, 1 set minimum per mix design.
Concrete for Structures (Pavement, Boxes, etc.) Required for each mix design	Air Content	1 at beginning of each daily pour per mix and 1 per 400 CY thereafter.
	Slump	1 at beginning of each daily pour per mix and 1 per 400 CY thereafter.
	Compressive strength	1 set of 4 cylinders per 100 CY, 1 set minimum per mix design.

1.03 QC AND QA RESULTS COMPARISON

If differences are found between QC and QA results, then City and Developer/Contractor shall identify any procedural differences between QC and QA and correct any improper procedures. If no procedural differences are found and City and Developer/Contractor cannot agree on the results and subsequent impact to the work, then an independent third party lab will be utilized. If the final results of the third party testing indicate the City's test results were correct, then the Developer / Contractor shall be responsible for the cost associated with the third party testing. Likewise, if the final results of the third party testing indicate the Developer / Contractor's test results were correct, then the City shall be responsible for the cost associated with the third party testing. Unless City or Developer / Contractor cannot agree, the results of the third party lab will be final and binding.

APPENDIX B: TESTING LABORATORY SERVICES

Independent testing laboratories shall meet at least one of the following qualifications:

1. Participate in AASHTO Accreditation Program (AAP) and maintain current and applicable AASHTO Laboratory Accreditation for materials testing as appropriate for the project, including but not limited to: soil, aggregate, Portland Cement Concrete and hot-mix asphalt. The Laboratory's accreditation shall be listed in AASHTO R-18 accredited laboratory list.
2. Provide adequate proof of compliance with the most current edition of ASTM E 329, Standard Specification for Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction for the construction materials specified for sampling and testing during the project.

Laboratory is not authorized to:

1. Release, revoke, alter or expand on requirements of the DCM.
2. Approve or accept any part of work.
3. Perform any duties of Developer / Contractor.

CONTRACTOR / DEVELOPER RESPONSIBILITIES

1. Cooperate with laboratory personnel and provide access to work.
2. As required, secure and deliver to the laboratory adequate quantities of representational samples of materials proposed for use and which require testing.
3. Provide to the laboratory the approved design mix proposed to be used for concrete and other materials mixes which require control by the testing laboratory.
4. Furnish copies of products' test reports.
5. As required, furnish incidental labor and facilities to:
 - a. Provide access to work that requires testing.
 - b. Facilitate tests including obtaining and handling samples at project, if so requested.

APPENDIX C: PROJECT CLOSEOUT FOR PUBLIC IMPROVEMENTS USING PUBLIC FUNDS OR
WORK ON EXISTING PUBLIC INFRASTRUCTURE

For portions of the development improvements that are funded with public money, for portions of the work within pre-existing public right of way, or portions of work on existing public infrastructure (usually this work subject to Prevailing Wage labor laws), Contractor shall file with the City the following:

- A. All items as required for final acceptance as described in by Section 1027, Substantial Completion and Final Acceptance, of the DCM.
- B. Any remaining submittals.
- C. Any record documents which indicate changes to the original plans.
- D. Any requirements outlined in the permits that were issued for the Work.
- E. Any instructions, manuals or schedules which are due to City.
- F. Any guaranties, warranties, parts or tools that are due to City.
- G. Notification of any pending or unresolved property or injury insurance claims.
- H. Any remaining or corrected payrolls for the Contractor or any of their Subcontractors.
- I. A notarized original of the Certificate and Release or Waiver and Release of Lien from the Contractor and all Subcontractors.
- J. A notarized original of the Affidavit of Compliance with Prevailing Wage Law from the Contractor and all Subcontractors.
- K. The no tax certificate(s) issued by City (if any).
- L. If Payment is due from the City, a notarized original of the Consent of Surety to Final Payment.