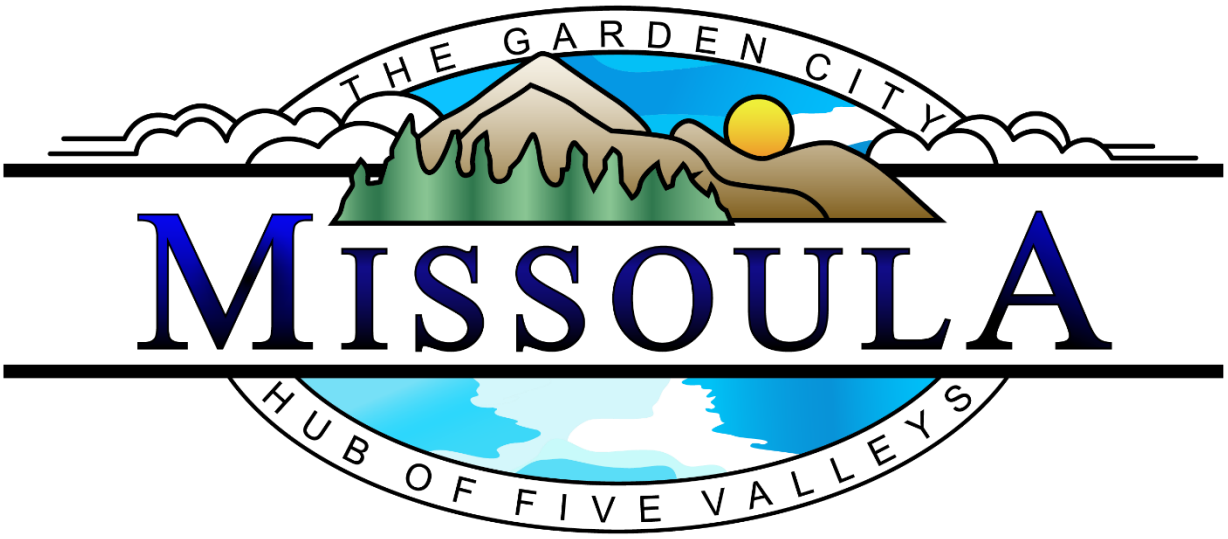

Missoula City Public Works
Standards and Specifications Manual

CHAPTER 3 – IMPROVEMENT PLANS

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CHAPTER 3 - IMPROVEMENT PLANS

3.1 Introduction

3.1.1 References

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B. Montana Code Annotated (MCA)
C. Administrative Rules of Montana (ARM)
D. Missoula County *Public Works Manual*
E. Missoula County Subdivision Regulations
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G. Missoula City-County Air Pollution Control Program
H. Missoula City-County Health Code
I. Missoula Municipal Code
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3.1.3 Revisions to the Public Works & Mobility Manual

A. It is the responsibility of the engineer of record, architect, developer, contractor, and/or permit holder to use the most current references, standards, and modifications for improvement plans and design reports.
B. This Manual is a living document and will be periodically updated when current standards and specifications are no longer in the best interest of the public. City staff will likely update these standards and specifications January 1st on a yearly basis.
C. The standards and specifications in place when Stage 3 is submitted will govern over the project's remaining design work and eventual construction. Stage 3 plans are approved for one (1) year. Stage 4 plans must be submitted before the year date or the project re-starts at Stage 3 and under

new standards and specifications. Stage 4 plans must be approved, including revisions, within six (6) months of submittal date. Construction and acceptance must occur within three (3) years from Stage 4 approval, or by DEQ plan approval date, whichever is earliest. . Once Stage 3 is submitted, the City will not require the remaining design or the eventual construction of a particular project to adhere to any updated standards and specifications until that particular project has been designed, constructed, and accepted.

D. Some updates may occur to standards and specifications related to process during the warranty period (typically 2 years). In these rare cases, the City will do its best to alleviate any warranty period concerns for individual projects affected by updates.

E. In general, the City will be reviewing and approving only those designs that are planned to be under construction within the upcoming construction season.

F. The design standards in this Manual, City of Missoula Standard Drawings, and City of Missoula Standard Modifications supersede the specifications in the *Montana Public Works Standard Specifications*, Seventh Edition, 2021.

G. Specifications not specifically contained herein shall be in conformance with the *Montana Public Works Standard Specifications* (MPWSS), Seventh Edition, 2021.

H. Current City of Missoula modifications to the *Montana Public Works Standards and Specifications* are contained in Appendix 2-A.

I. Current City of Missoula Public Works Standard Drawings are contained in Appendix 2-B. Additional Parks Department specific standard detail can also be found as part of the *2018 City of Missoula Parks & Recreation Design Manual*, Appendix I.

3.1.4 Applicability

A. Projects requiring private or public infrastructure within the right-of-way and public easement(s) as outlined in this Manual shall submit improvement plans in accordance with these standards along with those applicable standards included in the *Parks and Recreation Design Manual*.

B. Public or private infrastructure generally consists of streets, curbs, gutter, sidewalks, transit facilities, bicycle facilities, shared use paths, green infrastructure, Boulevard Trees, water mains, sewer mains, storm sewer systems, and private utility mains.

C. A brief mention of site development projects is included in this chapter to differentiate between site development projects and public infrastructure projects. Site development projects are not subject to all the requirements listed in this chapter.

3.2 Plan Requirements

3.2.1 Project Submissions

A. Improvement plans include design drawings, specifications, and design reports for infrastructure within the right-of-way and public easement(s).

B. Improvement plans shall be submitted, reviewed, and approved by the City before any required permits will be issued for construction.

1. Improvement plans will generally fall into two categories and are processed as follows: **Site Development Projects**
    a. Site development projects are initiated through commercial and residential building permits, zoning compliance permits, conditional use permits, subdivision exemption affidavits, and townhome exemption developments.
    b. Site development projects that do not include public infrastructure within the right-of-way or public easement(s) shall be required to submit improvement plans with the building permit application.
    c. Residential and commercial site development improvement plans shall use the site plan checklists located in Appendix 3-A. Completed checklists shall be submitted with the permit application. The applicant is responsible for using the most current version of the checklists provided in the appendix and on the City permit information portal.
    d. Site development projects do not go through the Public Infrastructure Review Stage Process except as mentioned immediately below (in e.). However, these projects will be required to meet the standards and specifications within this Manual for public infrastructure designed and constructed within the right-of-way or public easement(s). The version of this Manual governing those public improvements will depend on when the building permit application is received by the City. If the application is received after new updates (generally January 1st each year), then the application shall follow the newest Manual's requirements.
    e. Site development projects that construct new public infrastructure are required to submit improvement plans through the Public Infrastructure Review Stage Process. New public infrastructure typically includes public utility main extensions for water, sewer, and stormwater; street improvements establishing alignment and grade; sidewalks; and all new fire hydrants.
    f. The site development project review process or plan requirements will not be discussed in additional detail in this Manual.
2. **Public Infrastructure Projects**
    a. Public infrastructure projects are initiated through the Public Works & Mobility Public Infrastructure Review Stage Process.
    b. Projects submitted within this process include public utility projects and surface improvement projects constructing new curb/gutter or sidewalk, City subdivisions, applicable County subdivisions, townhome exemption developments that will be constructing public infrastructure, and other projects that affect right-of-way or public easement(s) that are not initiated through a site development project process. All water, sewer, or storm main extensions and all new fire hydrants are required to be submitted through the Public Works & Mobility Public Infrastructure Review Stage Process.
    c. Public infrastructure improvement plans must be designed and/or prepared under the direction of a professional engineer of the appropriate discipline licensed in the

State of Montana. Landscape plans must be designed and/or prepared under the direction of a landscape architect licensed in the State of Montana. These licensed professionals will ultimately stamp the plans submitted for City approval.

d. All project improvements shall be shown in the plans.

e. Projects that involve both private site improvements and public infrastructure improvements must show and/or document how those improvements will be coordinated and phased during design and construction. A clear delineation between public infrastructure and site development infrastructure shall be made to separate the process for individual development projects that contain both public infrastructure improvements and site development improvements.

f. Detailed requirements for the Public Infrastructure Review Stage Process are found in Section 3.5 of this chapter. Improvement plan submittals that do not include the required information will be returned without review.

3.2.2 Required Information for Public Infrastructure Projects

A. Improvement Plan Information. Improvement plans shall include a cover sheet with project title, vicinity map showing project limits, street names, true north arrow, scale bar; developer name and email address; engineer information, including name, address, telephone number, and engineer's stamp; utility note (811); sheet index; and legal description of the parcel. The following standard information shall be used on all plans:

1. General Information

a. True north arrow

b. Scale bar

c. Right-of-way and public easement(s) (existing and proposed)

d. Property boundaries

e. Montana licensed professional stamp

f. City project number

g. Date of submittal

h. Revision callouts and revision date

i. Plan and profiles having a horizontal scale of not more than 20 feet to the inch and a vertical scale of not more than 10 feet to the inch, when printed on D-size paper, with both scales clearly indicated. Vertical engineering scale bar may be exaggerated to adequately show slope.

j. Grades depicted as the absolute percent slope with the grade arrow always pointing downhill

2. Coordinate System

a. Horizontal (X/Y): NAD 1983 (2011) State Plane Montana FIPS 2500 (Intl ft.), WKID Code: 6515 Otherwise commonly referred to NSRS2011 Montana State Plane, EPSC Code: 6515

1) Projection: Lambert Conformal Conic

2) False Easting: 1968503.937007874

3) False Northing: 0.0
4) Central Meridian: -109.5
5) Standard Parallel 1: 45.0
6) Standard Parallel 2: 49.0
7) Latitude of Origin: 44.25
8) Linear Unit: Foot (0.3048)
9) Geographic Coordinate System: GCS NAD 1983 2011
10) Angular Unit: Degree (0.0174532925199433)
11) Prime Meridian: Greenwich (0.0)
12) Datum: D NAD 1983 2011
13) Spheroid: GRS 1980
14) Semimajor Axis: 6378137.0
15) Semi-minor Axis: 6356752.314140356
16) Inverse Flattening: 298.257222101

b. Vertical (Z): North American Vertical Datum 1988 (NAVD 88) (Intl ft.) for inverts and other vertical information

3. **Contours**. (existing – dashed line-style; proposed – continuous line-style)
   a. 5-foot major contour interval
   b. 1-foot minor contour interval
      1) ½-foot minor contour intervals may be used for very flat sites; if using ½-foot contour intervals, label appropriately
4. **Plan View and Alignment Data**
   a. Coordinate data (beginning of alignment, changes in direction, end of alignment)
   b. Curve Data (length of curve, curve radius, chord length, and bearing)
   c. Angle and distances between points on alignments
5. **Detail Sheets, Sections, and Modifications**
   a. Applicable, up-to-date, standard drawings (City, MDT, other) must be included within plan set.
   b. Detail requirements of system components
6. **Existing Conditions and Demolition Plans**. Plans shall show existing site conditions, including source of utility locations (e.g., ticket # or record drawings), landscaping elements including existing trees and specific tree protection, proposed demolition, limits of construction activity, and safety notes. Any existing streetlight to be moved, removed, or replaced must be highlighted on the demolition plans.
7. **Utility System Plans.** Utility system improvement plans shall include all proposed and existing underground and overhead utilities, including water, sewer, and stormwater facilities (public and private facilities); irrigation culverts; utility poles; electric, fiber optic, communication, and gas lines; transformer boxes; and communications junction boxes. Additional requirements for these utility system improvement plans can be found in Section 2.7 (Construction within Right-of-Way) – this section includes approval process, plan submission, and design requirements for private utility mains, Section 4.2.2 (Water System),

Section 5.2.2 (Sanitary Sewer System), and Section 6.2.2 (Stormwater System) in this Manual.

8. **Transportation System Plans**. Transportation system improvement plans for streets, alleys, sidewalks, and trails shall show existing and proposed curb and gutter, sidewalk, bike facilities, transit facilities, trails and shared use paths, bridges, fire hydrants, traffic control devices, traffic calming elements, streetlights, boulevard trees, asphalt repair limits, streets (names), and alleys. Detailed requirements for these plans can be found in Section 7.2.2 (Transportation System) of this Manual.
9. **Erosion Control Plans**. Plans shall show key locations (street, driveway, building corners, etc.), flow arrows, and flow grades of key features (sidewalk, existing and proposed stormwater structures, catch/spill curb and gutter, street, etc.). Detailed requirements for these plans can be found in Section 8.2.2 (Erosion Control) of this Manual.

B. Digital Data Submissions

1. **Accepted Formats**
   a. All digital files must be submitted in bookmarked, page-referenced pdfs and DWG, GIS shapefile, or geodatabase format, as applicable. Bookmarks for drawings must include labels for sheet number and sheet name. All digital drawings must include a legend and exclude borders and backgrounds.
   b. Data must be submitted/transmitted by cloud server, but not through an FTP site. The submitted media shall be labeled with:
      1) City project number,
      2) The project name (subdivision name, accepted project name, etc.),
      3) Submission date,
      4) Registered land surveyor or professional engineer's name, and
      5) Any other established project identifier.
2. **Coordinate System.** Shall be georeferenced and projected horizontally.
3. **Ground vs. Grid**. The City requires that digital data for improvement plans be submitted in state plane grid. The City is required to keep our data in state plane projection for inter-jurisdictional consistency. The City recognizes there will be slight differences between ground distances and distances reported in state plane. The City understands that plats will show/list ground distances. The City encourages consulting a licensed surveyor when inconsistencies are encountered.
4. **Accuracy**
   a. Submissions shall be horizontally accurate to 1/10 of a foot for as-builts (Stage 6). For other submissions, a horizontal accuracy of 1/10 of a foot is recommended. Items include all utilities and property corners within the project area or affected by the project.
   b. For local control points tied to the NSRS, contact the Missoula County Surveyors Office.

c. If derived from GNSS measurements, the submissions must also note the geoid model. Valid models for the Missoula area include: GEOID18, GEOID12A, GEOID12B.

5. **Symbols**. Symbols used on improvement plans are required to be identified in a legend and are to follow the United States National CAD Standards. The use of the standard will improve efficiency and benefit projects through design and construction.
6. **Annotations**
   a. Utility point features shall be annotated with the corresponding feature type. In the case of valves, provide the valve type, such as butterfly, gate, etc. Include invert elevations where applicable, such as dry wells, inlets, and manholes.
   b. Utility line features, such as water, storm, and sanitary sewer pipes, shall be annotated according to the feature type, material type, and diameter, as well as the upstream and downstream elevations.

C. **Resubmittal**. If any of these requirements or additional information is needed, the City of Missoula reserves the right to request further corrections and additional submissions. The City has a fee structure established for resubmittal of design packages. There is no fee associated with the first submittal of the Stage 3– Preliminary Design Package or Stage 4 –Final Design Package. Subsequent resubmittals, in either of these stages, will require a review fee as established by City Council and shown in the Public Works and Mobility Fee Schedule.

3.3 Design Reports

Design reports, as required by the appropriate chapters in this Manual, shall be submitted with improvement plans as applicable. All design reports shall be prepared by a professional engineer licensed by the State of Montana with the engineer stamp on the cover page.

3.3.1 Water Design Report

Water system projects involving new water mains shall include a design report addressing the fire, irrigation, and domestic flow requirements at each phase and full buildout. The design report shall demonstrate compliance with these requirements and provide an overview of the proposed project or development, proposed water system improvements, water service demands, system impact, feasibility, and basic design standards, as required by Chapter 1 of DEQ Circular-1. Water system modeling is available from Missoula Water. Additional requirements for this design report can be found in Section 4.2.3 (Water System) of this Manual.

3.3.2 Sanitary Sewer Design Report

Sanitary sewer system projects involving new sewer mains shall include a design report addressing sewer flows at each phase and full buildout of the development. The design report must demonstrate all sanitary sewer facilities have adequate capacity to convey wastewater from the anticipated service area and meet the minimum flow velocities and/or flow depth requirements in Chapter 30 of DEQ Circular-2.

The engineer of record shall be responsible for all modeling input. Additional requirements for this design report can be found in Section 5.2.3 (Sanitary Sewer System) of this Manual.

3.3.3 Stormwater Drainage Design Report

Medium- and high-priority projects, per the Stormwater Site Evaluation Form (Appendix 6-B), shall be required to submit a Stormwater Management Site Plan and Design Report addressing pre- and post-development runoff conditions and off-site drainage areas both up gradient and down gradient. The type of design report required is dependent on the development type and size. Additional requirements for this report can be found in Section 6.2.3 (Stormwater System) of this Manual.

3.3.4 Geotechnical Report

A. A geotechnical report (soils report) is required for the following types of projects:
   1. If a building permit is necessary using hillside standards (greater than 15% slope),
   2. If a building foundation is within 40 feet of a 3:1 or steeper slope,
   3. If proposed street sections differ from city standard sections,
   4. If an improvement plan is proposing infiltration as part of a stormwater facilities design, and
   5. If required by City Engineering.

B. Additional requirements for a geotechnical report can be found in Section 6.2.3 (Stormwater System) and Section 7.2.3.B (Transportation System) of this Manual.

3.3.5 Traffic Impact Study

Developments or redevelopments that will contribute 200 or more additional average daily (weekday) trips to City streets based on the latest edition of the Institute of Transportation Engineers' *Trip Generation Manual* shall submit a traffic impact study with the improvement plans. The traffic impact study shall include analysis and/or impacts to all transportation facilities, including transit, bicycle, and pedestrian. It shall include considerations for access management, transportation demand management, traffic calming, and mitigation measures. If the development or redevelopment affects infrastructure under MDT's jurisdiction, those plans and the traffic impact study may also require MDT review and approval. Additional requirements for this traffic impact study can be found in Section 7.2.3.A (Transportation System) of this Manual. A meeting with the City Engineer of Surface Transportation, to determine the study scope, is required .

3.4 External Coordination

External coordination may be required for improvement plan development and ultimately for approval. This coordination may involve federal, state, and local agencies or private organizations and should take place prior to submission of improvement plans. Example agencies and private utility companies are listed below with links to their websites, where applicable. In general, various City of Missoula departments will be included in the Public Infrastructure Review Stage Process and therefore will not need to be contacted separately or outside of this review process.

3.4.1 Federal Agencies

A. Environmental Protection Agency
B. Federal Emergency Management Agency

3.4.2 State Agencies

A. Montana Department of Environmental Quality (MDEQ)
B. Montana Department of Transportation (MDT)
C. Montana Department of Natural Resources and Conservation (MDNRC)

3.4.3 Local Agencies

A. City of Missoula departments
B. Missoula Redevelopment Agency
C. Missoula Development Authority
D. Missoula City-County Health Department
E. Missoula Conservation District
F. Missoula County
G. Downtown Missoula Partnership
H. Mountain Line Transit

3.4.4 Private Utility Companies

Coordination with private utility companies shall be conducted prior to submitting improvement plans. This coordination should include impacts on existing overhead and underground utilities as well as proposed development conditions.

3.4.5 Private Property Owners

Coordinate public infrastructure projects with affected property owners, homeowners' associations, and others as necessary for potential public and private impacts.

3.5 Public Infrastructure Project Submissions

Public infrastructure projects shall utilize the Public Infrastructure Review Stage Process. This process was set up to guide consulting firms, developers, and developer representatives through the City's review process for projects involving public infrastructure. The Public Infrastructure Review Stage Process contains seven stages. Which stages are applicable depends on the specifics of each public infrastructure project. General information for each stage can be found below, and additional information and submission requirements can be found in Public Infrastructure Review Stage Process.

3.5.1 Stage 1 – Project Intake

A. Stage 1 identifies the project location, contact information, and project details to include the project name, general description, project type, and related applications.

B. In accordance with Resolution 8181, if Utility Service Review Committee (USRC) approval is required, it must be obtained prior to submitting Stage 1.

C. If requested, an Intent to Serve letter can be provided at Stage 1. An Intent to Serve letter is not the same as the Utility Capacity letter required for DEQ review which will be provided at Stage 3.

D. Generally, the City needs a minimum of 1 week to process, review, and provide comments on Stage 1 submittals.

3.5.2 Stage 2 – Conceptual Design Review

A. Stage 2 identifies the major design features, including but not limited to, constraints, alignments, external connections, pipe sizing, lane configurations, typical sections, and design alternatives, as applicable to the project. See the Stage 2 – Conceptual Design Review Summary and Checklist document.

B. The Stage 2 checklist shall be submitted to City Engineering when submitting a sufficient subdivision packet for agency review. City Engineering will also review a zoning compliance permit (ZCP) for a townhome exemption development (TED) as part of the Stage 2 process. Therefore, if a TED includes public infrastructure as defined above, the project representative must submit a Stage 2 checklist to City Engineering when submitting a ZCP for a TED. The Stage 2 checklist required at the time these developments are being reviewed by the City within other processes will help City staff identify infrastructure needs to support the development as referenced in Section 3.5.2.A. above.

C. Stage 2 may be required for water and sewer main extensions, stormwater, or surface infrastructure projects, depending on the size and complexity of the project, as determined by City review staff at the start of the project.

D. City staff may require a Stage 2 review when the subdivision is outside the city limits if annexation may occur.

E. Generally, the City needs a minimum of 3 weeks to process, review, and provide comments on Stage 2 submittals.

3.5.3 Stage 3 – Preliminary Construction Plan Review

A. Stage 3 requires the submittal, review, and approval of the preliminary construction improvement documents, as listed in the Stage 3 – Preliminary Construction Plan Review Summary and Checklist*t*.

B. Insufficient submittals will be rejected and must be corrected before being resubmitted. Sufficient submittals will be reviewed and comments, if any, will be distributed back to the developer's representative.

C. City staff recommends the developer's representative schedule a meeting with appropriate City staff to go over all comments provided by City staff during their review.

D. If the project requires a main extension and/or other physical system improvements in order for the system to have "capacity" or be available for use, then a DEQ Capacity Letter may be requested by the developer's representative. This letter won't be signed by the City until Stage 3 is approved as

"capacity" of system(s) can only be determined once improvement plans (including design reports) are submitted for City review.

E. If a Municipal Facilities Exclusion is needed, refer to the required DEQ application and additional City required information in Appendix 3-C.

F. It is required that the developer's representative wait to submit plans for DEQ's approval until after Stage 3 review and approval.

G. If a DEQ deviation is required for City approval, the developer's representative shall submit a draft deviation request during Stage 3 and the final, approved deviation request in Stage 4.

H. Generally, the City needs a minimum of 3 weeks to process, review, and provide comments on fully compliant Stage 3 submittals.

3.5.4 Stage 4 – Released for Construction Plan Review

A. Stage 4 requires submittal and review of final construction improvement documents, stamped by a professional engineer and/or landscape architect, as applicable, as listed in the Stage 4 checklist.

B. Stage 4 requires addressing any outstanding Stage 3 City review comments. Submittals that do not fully address Stage 3 comments will be rejected and deemed insufficient. Once all City comments are addressed, the documents may be resubmitted. Sufficient plans will receive a Released for Construction (RFC) stamp as referenced in the Stage 4 – Released for Construction Plan Review Summary and Checklist.

C. A proposed final plat or recorded final plat shall be submitted in Stage 4 so that City staff can determine if all public infrastructure as proposed will be located within proposed or actual right-of-way or public easement(s).

D. Any and all applicable public easements shall be finalized (signed and notarized) and delivered to the City in Stage 4. All public easements shall be shown on the final plat in addition to the recorded document. Easement templates are available through the City's GIS division.

E. A DEQ approval letter and any approved deviation request shall be submitted as part of Stage 4.

F. Public infrastructure improvements shall be constructed in accordance with the RFC plans and corresponding specifications. Any changes to RFC plans and corresponding specifications must be approved by the City prior to being constructed. Substantial changes to the plans and/or specifications, such as major alignment changes or new infrastructure design, may require construction to halt while the City reviews and approves a Stage 4 resubmittal. City Engineering shall determine if a proposed change requires a Stage 4 resubmittal.

G. Generally, the City needs a minimum of 2 weeks to process, review, and approve fully compliant Stage 4 submittals.

3.5.5 Stage 5 – Utility Inspection and Testing

A. Stage 5 includes inspection and testing during and after construction.

B. When construction of all sub-surface infrastructure is complete, inspection and testing shall be performed prior to final paving or surface restoration.

C. Inspection and testing of all sub-surface utility work shall be performed and submitted to City Engineering prior to conditional acceptance of those sub-surface utility improvements. The submittals required for this stage include, but are not limited to, daily inspection logs, proctor/compaction/density tests, photographs, stub drawings, survey points, draft as-builts, pressure tests, TV tests, lamp tests, and vacuum tests and are based on that portion of the infrastructure desired to be conditionally accepted by the City.

D. Once the City reviews this inspection and testing information, the City shall schedule an inspection/walk-through with all appropriate people.

E. Any and all identified outstanding punch list items identified during Stage 5 shall be completed to City satisfaction prior to progressing to Stage 6 or receiving conditional acceptance.

F. Reductions in a security granted to the City for outstanding improvements can be obtained at Stage 5 if substantial completion is achieved. Additional details can be obtained in the Stage 5 Utility Inspection and Testing Summary and Checklist.

G. Generally, the City needs a minimum of 3 weeks to process, review, conduct inspections, and generate a punch list or conditionally accept infrastructure for fully compliant Stage 5 submittals. This timeframe does not include the time it takes the contractor to correct any and all punch list items.

3.5.6 Stage 6 – Final Inspection and Acceptance

A. Stage 6 includes a final site inspection and submission of all surface-related construction closeout documents, including final as-built drawings (electronic pdf and CAD or other), remaining testing results, survey points, service drawings, construction diaries, construction photos, final quantities, cost information, and other project-related documentation as identified in the Stage 6 checklist.

B. Once City staff has received all final documentation and determined that the constructed infrastructure meets all requirements, City staff will write an acceptance letter. The letter defines the warranty period, which is typically two years, starting from the date of final acceptance.

C. Generally, the City needs a minimum of 3 weeks to process, review, conduct inspections, generate punch list items, and accept infrastructure for fully compliant Stage 6 submittals. This timeframe does not include the time it takes the contractor to correct any and all punch list items. The time needed for the City's infrastructure acceptance does not increase the length of time for the warranty period because the City typically back-dates the warranty period so that it begins at the time when a fully compliant Stage 6 submittal is received.

3.5.7 Stage 7 – Warranty Inspection

A. Independent warranty inspections shall be conducted by the engineer of record and City Engineering, and the contractor must correct any deficiencies.

B. If at the end of the warranty period, all previously constructed improvements are deemed adequate, then the City will issue a warranty inspection approval letter, and the project is considered complete.

C. Generally, the City needs a minimum of 2 weeks to process, review, conduct an inspection, and close-out the project for fully compliant Stage 7 submittals.

3.6 Design Deviation

Improvement plan submittals are required to make every reasonable effort to meet the design standards and specifications within this Manual. Innovative products/materials and methods are encouraged if they meet the intent of the design and best construction practices. Where it is not practical or appropriate to meet specific design standards and specifications or to document innovations, design deviations will be considered on a case-by-case basis. Design deviations are intended to provide flexibility where a customized approach is necessary to better meet the project context, desired outcomes, or other constraints.

A. A design deviation shall be requested in writing by the engineer of record to the City when either of the following circumstances occur:
   1. Non-standard/innovative methods, analysis, design elements, products/materials, or construction practices are proposed; or
   2. The project proposes design elements that are below the minimum criteria found in this Manual.

B. Design deviation submittals shall include the following supporting documentation at a minimum:
   1. The applicable standard proposed for deviation;
   2. The special or unique physical circumstances or conditions affecting the project that prohibit the application of existing requirements;
   3. How the deviation advances adopted plans, policies, and/or goals; and
   4. The alternatives considered.

C. Design deviations will only be approved when all the following apply:
   1. The proposed deviation does not conflict with or modify a condition of approval;
   2. The proposed deviation is based on sound engineering principals and/or are supported by nationally recognized design guidelines/manuals;
   3. The proposed deviation is consistent with other federal, state, and local regulations; and
   4. The deviation is in the public interest.

D. Analysis of the risks and benefits of deviating from the standard, including demonstration that the deviation will not result in any adverse impact on surrounding development, adopted plans, or public health and safety.