

CITY OF LATHROP

Department of Public Works

Design & Construction Standards



2022

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SECTION 1 GENERAL STANDARDS

1-1 PURPOSE

The Design and Construction Standards are intended to provide the minimum standards facilities and all appurtenances thereto in the City of Lathrop. The Design and Construction Standards include the Standard Details.

The primary scope of the Standards is for those improvements to be turned over to the City for operation and maintenance. However, the City recognizes that it has a responsibility to assure that certain privately owned improvements meet a minimum standard. In general, the Standards will be applied to privately owned and maintained improvements of an uninvolved third party property owner.

The design of each development is a special case, and the Standards shall not be construed as a maximum standard for any construction. Under certain conditions, any or all phases of a development may be required to exceed the Standards. It is also recognized that there may be developments where it is impossible to meet the Standards. It is suggested that these cases be reviewed with the City Engineer early in the design process to minimize reworking plans where deviations are not permitted.

Any items not included in the Standards shall be designed in accordance with the State Planning Manual, 2016 California Building Code (CBC), State Highway Design Manual, Subdivision Ordinance or Zoning Ordinance as defined below, or as directed by the City Engineer.

The Public Works Director shall be the final authority on all questions that may arise as to the interpretation of the Standards. The Director's decision shall be final and he/she shall have authority to enforce and make effective such decisions for design, construction, and repair of streets, utilities, drainage, sewerage, and water supply.

1-2 DEFINITIONS

In using these Standards, attention is directed to Section 1 of the State Standard Specifications and to the following additional and qualifying definitions:

**Average Dry Weather
Flow**

The average sewer flow during dry weather months, (July, August and September) typically measured in millions of gallons per day (MGD).

Agricultural Irrigation	Irrigation for crop or pasture.
Applicant	Any person, association, corporation, entity, or government agency requesting approval for design and construction of public infrastructure, often a sub divider or developer.
AWWA Guidelines	The American Water Works Association latest guidelines for recycled water facilities: (1) Guidelines for Distribution of Non-Potable Water and (2) Guidelines for the On-Site Retrofit of Facilities using Disinfected Tertiary Recycled Water.
Bicycle Way	An area either within or outside the right-of-way of a dedicated street where bicycle travel is the designated use.
Bidder	Any person or persons, firms, partnerships, joint ventures, corporations or combination thereof submitting proposal for work contemplated, acting directly or through a duly authorized representative.
Calendar Day	Every day shown on a calendar. Sundays and holidays are included.
California Department of Public Health	State of California, Department of Public Health
California Manual On Uniform Traffic Control Devices	The U.S. Department of Transportation, Federal Highway Administration, Manual on Uniform Traffic Control Devices, as amended for use in California (latest edition).
California Storm water Quality Association	Is an organization that provides information, tools, and education for storm water compliance. They have developed a series of fact sheets on how to implement and maintain best management practices. Their website is: www.casqa.org .

California Building Code (CBC)	The current edition of the California Building Code of the International Code Council as adopted by the Building Division of the City.
City	The City of Lathrop, a political subdivision of the State of California.
City Council	The City Council of the City of Lathrop, State of California.
City Engineer	The City Engineer is the head of the Engineering Division – not the same as the Public Works Director.
City Maintained Street	A street for which the City has accepted maintenance responsibilities.
Construction Standards	Are analogous to the meaning of and documents for the Design and Construction Standards as hereinafter defined.
Consulting Engineer	Any person(s), firm, partnership or corporation legally authorized to practice engineering in the State of California who prepares or submits improvement plans and specifications to the Public Works Department/City Engineer for approval. This term is used interchangeably with Design Engineer and Engineer of Record
Contract	Written agreement covering the performance of work.
Contractor	Any person(s), firm, partnership, corporation or combination thereof who have entered into a contract with any person(s), firm, special district, or the City or their legal representatives for the construction of any improvement within the City.
Date of Signing of Contract	The date upon which a properly executed contract is delivered to and executed by the City Manager or Mayor.
Day	A Calendar day or 24 hours measured from midnight to next midnight.

Design & Construction Standards	The Design and Construction Standards, including the Standard Details of the City. When not covered by the Design and Construction Standards, the Standard Plans and Specifications of the State of California, Department of Transportation (latest edition) shall prevail.
Design Engineer	The Professional Engineer (registered by the State of California in a discipline appropriate to the project) employed by the applicant to design, prepare plans, and conduct related engineering activities. See Consulting Engineer.
Design Standards	See the definition for Design and Construction Standards
Detention Basin	A drainage basin with an outlet facility providing terminal drainage capable of emptying the full basin within a specified time.
Developer/Sub divider	A person(s) firm, corporation, partnership, association, or agent thereof who causes land to be subdivided or cause existing property to be improved.
Director	The Public Works Director of the City acting either directly or through properly authorized agents acting within the scope of the particular duties delegated to them.
Distribution System - Recycled Water	Recycled water mains, together with all appurtenances and necessary valves, meters, service laterals, and associated material and equipment to carry recycled water and distribute it to the end user.
Distribution System - Water	Water mains, together with all appurtenances and necessary valves, fire hydrants, meters, service laterals, blow offs, and associated material and equipment which carry potable water and distribute it to individual consumers.
Easement	An easement dedicated to the City or public utility that is continuing and irrevocable unless formally abandoned.
Engineer	Is identical to the definition of City Engineer as herein defined.

Engineering Division	The Engineering Division of the Public Works Department of the City.
Erosion and Sediment Control Plan (ESCP)	A site map that shows areas of disturbed soil, construction activity, and best management practices (BMPs) to be utilized by the contractor to control erosion and capture sediment. The ESCP must include adequate annotation to describe the BMP implementation and maintenance for each phase of the project. An ESCP is required of all projects that have soil disturbance. For projects that will apply for coverage under the State of California's Construction General Permit, the Storm Water Pollution Prevention Plan (SWPPP) required by that permit may be submitted by the developer in lieu of the ESCP.
Flood Protection Level (FPL)	Development of flood protection facilities equivalent to 100-year or 200-year storm frequency. The level of protection shall be determined by the Director of Public Works or the governing body.
Frontline Sprinklers	The closest sprinklers to an irrigation boundary, including sensitive and recreational areas.
Geomembrane	Synthetic liner comprised of polymer resins, plasticizers, and various additives.
Highway Design Manual	The State of California, Department of Transportation, Highway Design Manual (latest edition).
Improvements	Refers to street work, asphalt paving, sidewalk, curb, gutter, driveways, water, sanitary sewer and storm drainage facilities, street lights, fire hydrants, landscaping, fences, and public utilities to be installed by the developer in the street right-of-way or in an easement dedicated to the City or public utility.
Infiltration	The quantity of groundwater or surface water that leaks into a pipe through joints, breaks, or holes.
Inspector	The authorized representative of the City Engineer and/or the Public Works Director assigned to a jobsite.

International Building Code (IBC)	The current edition of the International Building Code of the International Code Council as adopted by the Building Division of the City.
Laboratory	Any testing agency or testing firm approved by the Public Works Department.
Landscape Irrigation	Irrigation for parks, schoolyards, playgrounds, medians, greenbelts, parkways, roadside landscaping, etc.
Lathrop Manteca Fire District	The fire and emergency safety response district for the City.
Low Impact Development	A system of sustainable landscaping approaches that can be used to replicate or restore natural watershed functions and/or address targeted watershed goals and objectives.
Main Extension:	An extension to the transmission and distribution system that is needed to serve a new development.
Main Replacement:	A replacement of an existing portion of the transmission and distribution system.
Map Act	The same as and is interchangeable with the term Subdivision Map Act as defined herein.
Maximum Day Demand (Potable Water)	The maximum day demand is the average demand multiplied by a factor of 1.7.
Maximum Day Demand (Recycled Water)	The highest daily recycled water demand. Used to size pumps and daily storage/hydro pneumatic tanks.
Maximum Hourly Demand (Potable Water)	The maximum hourly demand is the average day demand multiplied by a factor of 3.4.
Median	The portion of a divided highway separating the traveled way for traffic in opposite directions. A median may be raised, landscaped or painted.
Micro Irrigation	Micro irrigation refers to low-pressure irrigation systems that spray, mist, sprinkle, or drip.

Moratorium Streets	Newly constructed or reconstructed streets within five (5) years of the acceptance by the City.
Overland Release Path	An alignment that allows the passage of floodwater through a development at surface grades independent of underground pipe systems without damaging structures.
Parkway	The area adjoining the outer edge of the roadbed, extending to the right-of-way line in which sidewalks, plantings, utilities, bank slopes and related facilities may be located.
Peak Hour	Used to size irrigation piping system components and other facilities.
Precipitation Depth	The precipitation measured in inches occurring during specified duration of storm.
Private Pipe Extension:	An extension that provides on-site domestic service or fire protection service on the consumer's side of the City's water meter.
Private Street/Road	A roadway within a private development or a planned residential development whereby the street improvements remain in private ownership.
Public Road	Any road, which is open for unrestricted travel by the general public. A public road may or may not be dedicated to or maintained by the City.
Public Works Department	The Public Works Department of the City.
Peak Wet Weather Flow (Sewer)	Peak Wet Weather Flow = (ADWFxPF), where ADWF is the Average Dry Weather Flow and PF is the Peaking Factor.
Recreational Areas	Recreational areas are defined as play areas that do not include equipment for children to play on, such as sand volleyball courts, horseshoe pits, etc.
Recycled Water	Water resulting from wastewater treatment to tertiary Title 22 standards suitable for direct beneficial use or controlled use.

Retention Basin	A drainage basin with no outlet facilities for terminal drainage, that is capable of storing the required storm-water runoff volume and will empty through percolation and evaporation over a specified time.
Road	Includes streets and highways both public and private. The terms streets, road, roadways, and highways are used interchangeably. Road includes the roadbed, all slopes, shoulders, side ditches, curb, gutters, sidewalks, and all other related facilities within the right-of-way.
Road Commissioner	The Public Works Director of the City.
Sensitive Areas	Sensitive areas are defined as children's play areas and areas with picnic tables, benches, or water fountains.
Service Lateral - Recycled Water	The pipe or tubing, fittings, valves, and appurtenances necessary to convey recycled water from the recycled water main to the City's recycled water meter or curb stop.
Service Lateral - Sewer	The pipe from the sewer main to the right-of-way or easement line which provides a point of connection for each property.
Service Lateral - Water	The pipe or tubing, fittings, valves, and appurtenances necessary to convey water from the water main to the City's water meter or curb stop.
Sewer System	Sanitary sewer system or wastewater collection system including pipe, manholes, flushing branches, laterals and cleanouts.
Soils Report	The project geotechnical report prepared by an engineer legally licensed to prepare "Soils Reports" in the State of California.
Standard Plans and Specifications	The Standard Plans and Specifications of the State of California, Department of Transportation (latest edition) including any revisions per the Design and Construction Standards of the City.
Standards	See definition of Design and Construction Standards.

Standard Drawings	Standard Details of the City of Lathrop.
State	As used in the State Standard Specifications, shall mean City
State Materials Manual	The Materials Manual of Testing and Control Procedures of the State of California, Public Transportation Laboratory Manual of Tests, Department of Transportation (latest edition) unless otherwise stated.
State Planning Manual	The Planning Manual of Instructions of the State of California, Public Works Department, Department of Transportation (latest edition) unless otherwise stated.
State Standard Specifications	See previous definition of Standard Plans and Specifications.
Storm Frequency	The probability of the occurrence of a hydrological event of specified severity; also referred to as recurrence interval or return period.
Storm Water Runoff	Water that results from the precipitation which is not absorbed by the soil, evaporated into the atmosphere, or entrapped by ground surface depressions and vegetation and which flows over the ground surface.
Subdivision Map Act	§66410 to and inclusive of §66499.58 of the Government Code of the State of California as currently amended.
Subdivision Ordinance	The Subdivision Ordinance of the City.
Supplemental Water	Potable water, raw water, or ground water used to supplement the recycled water shortfalls.
Supply System - Recycled Water	A general term covering all facilities related to obtaining recycled water and delivering it for agricultural, irrigation, or other end use.
Supply System - Water	A general term covering all facilities related to obtaining potable water and delivering it for residential, commercial, industrial, agricultural, irrigation or other end use.

Tap	Physical connection to a water main which, together with appropriate metering, affects water service to individual consumers.
Terminal Drain	A storm drainage system or portion thereof, which conveys storm runoff into a terminal waterway.
Terminal Waterway	A natural or man-made channel that receives runoff and which by gravity carries storm water to the final receiving body of water.
Transmission Line - Recycled Water	A pipeline together with all appurtenances primarily used to transport recycled water between two points.
Transmission Line - Water	A pipeline together with all appurtenances primarily used to transport raw or treated water between two points.
Traveled Way	The portion of the road for the movement of vehicles, exclusive of shoulders and auxiliary lanes.
Typical Street Cross Section	Is a cross section of the various street types indicating pavement widths, curbs, gutter types and locations, and right of ways as shown on the City Standard Details R-1 and R-2.
Zoning Ordinance	The Zoning Ordinance of the City.

1-3 ACRONYMS AND ABBREVIATIONS

Any acronyms and abbreviations as defined in the Standards shall apply and include but not necessarily be limited to the following:

AASHTO	American Association of State Highway Transportation Officials
AC	Acre
ACI	American Concrete Institute
ACP	Asbestos Cement Pipe
ADWF	Average Dry Weather Flow
AFBMA	Anti-Friction Bearing Manufacturer's Association
AFY	Acre Feet Per Year
AISC	American Institute of Steel Construction
ASCE	American Society of Civil Engineering
ASTM	American Society of Testing and Materials
AWWA	American Water Works Association
BMPs	Best Management Practices
CADD	Computer-Aided Design and Drafting
CALTRANS	California Department of Transportation
CASQA	California Storm Water Quality Association
CBC	California Building Code
CDPH	California Department of Public Health
CEQA	California Environmental Quality Act
CFF	Capital Facility Fees
CPTED	Crime Prevention Through Environmental Design
CSI	Construction Specifications Institute

DU	Dwelling Unit
ECU	Equivalent Capacity Unit
ESCP	Erosion and Sediment Control Plan
FEMA	Federal Emergency Management Agency
FOG	Fats, Oils and Greases
GPD	Gallons Per Day
HGL	Hydraulic Grade Line
HPSV	High Pressure Sodium Vapor
IBC	International Building Code
ISA	Instrument Society of America
IWRMP	Integrated Water Resources Master Plan
LCTF	Lathrop Consolidated Treatment Facility
LED	Light-Emitting Diode
LID	Low Impact Development
LMC	Lathrop Municipal Code
LMFD	Lathrop Manteca Fire District
LPSV	Low Pressure Sodium Vapor
MUTCD	California Manual on Uniform Traffic Control Devices
MWQCF	Manteca Water Quality Control Facility
NEC	National Electric Code
NPDES	National Pollution Discharge Elimination System
OSHA	Occupational Safety and Health Administration
PF	Peaking Factor

PSP	Project Stormwater Plan
PUE	Public Utility Easement
PVC	Polyvinyl Chloride
PWWF	Peak Wet Weather Flow
RCP	Reinforced Concrete Pipe
REAP	Rain Event Action Plan
RWQCB	Regional Water Quality Control Board
SSJID	South San Joaquin Irrigation District
SJVAPCD	San Joaquin Valley Air Pollution Control District
SSMP	Sanitary Sewer Management Plan
SWPPP	Storm Water Pollution Prevention Plan
SWMP	Storm Water Management Plan
UBC	Uniform Building Code
UDC	Urban Design Concept
UPC	Uniform Plumbing Code
VCP	Vitrified Clay Pipe
WDID#	Waste Discharger Identification (number)
WWPA	Western Wood Products Association
WDRs	Waste Discharge Requirements

1-4 VARIANCES

The Director may consider deviations from these Standards. The Design Engineer is advised to obtain preliminary approval from the Director prior to proceeding with any design based on deviations from the Standards. The Design Engineer shall submit written supporting justification and technical documentation with any request for a deviation. The Director, at his/her sole discretion, may approve, modify, or deny any deviation.

1-5 APPEALS

The Design Engineer may appeal any disagreement with the Standards or any changes required by the Department as a result of the Department's review of the improvement plans. All appeals shall be made to the Director for resolution prior to the approval of the improvement plans. All appeals shall be in writing and accompanied by supporting technical data and other supporting evidence. The Director's decisions thereon shall be final.

1-6 EFFECTIVE DATE OF STANDARDS

The Standards are effective upon approval by the Director and shall supersede all prior Design and Construction Standards.

1-7 REVISIONS

The Standards may be revised, amended, or added to, and such revisions, amendments, and additions shall be binding and of full force and effect upon approval by the Director.

1-8 GENERAL REQUIREMENTS

The City requires strict compliance with the Professional Engineers Act of the California Business and Professions Code. All plans, specifications, reports, and documents required by the City shall be signed and stamped with the seal of a Registered Engineer in a discipline appropriate to the project, currently licensed to practice in the State of California.

All facilities covered by these Standards shall be constructed by Contractors holding a valid contractor's license issued by the Contractors State License Board, Department of Professional and Vocational Standards, State of California. The Contractor may hold a General Engineering, Class A license or a specialty license covering the specialty work being performed.

Contractors performing work for the applicant shall be competent with adequate manpower and equipment to accomplish the work in accordance with the approved plans and specifications. A representative of the Applicant or the Contractor shall be present at the job site whenever subcontractors are conducting work.

1-8.1 Conflicts and Inconsistencies between Standards

If Standards, Specifications, Plans, Drawings, and Details referenced conflict with each other, the most stringent shall prevail at the discretion of the Director or City Engineer,

1-8.2 Preparation of Improvement Plans

Improvement plans shall be prepared in accordance with Section 2, Submittal Standards, of these Standards. Designs shall at a minimum comply with all pertinent sections of these

Standards. The Director or the City Engineer may require or impose more stringent requirements in the engineering design as deemed necessary for the adequate protection of the public health and safety. The additional requirements do not relieve the Designer from complying with any other provisions or requirements of the Standards.

The plans and maps shall be drawn in AutoCAD (.dwg) format in the latest release version approved by the City. Upon approval of the plans by the Director, the Design Engineer shall supply the City Engineer with the plans and disk required in Section 1-8.10, Final Plans.

1-8.3 **Approved Plans**

Complete plans and specifications for all public improvements, including street work, traffic signals, traffic striping, traffic signage, asphalt paving, sidewalk, curb, gutter, driveways, water, sanitary sewer and storm drainage facilities, street lights, fire hydrants, monuments, bench marks, landscaping, fences and public utilities to be installed by the developer in the street right-of-way or in an easement dedicated to the City or public utility, shall be submitted to the City Engineer for approval. The signature and seal of the Design Engineer on the plans will signify that he/she has reviewed, approved, and authorized the plans for construction. The signature of the City Engineer must be obtained before the plans are approved. The City Engineer may order any Contractor to cease work on any project at no cost or liability to the City if said Contractor does not have properly approved plans and a City encroachment permit or subdivision agreement in his/her possession.

1-8.4 **Reference to City Standards**

The General Notes and Special Provisions of all plans shall include the following note:

“All construction and materials shall conform to the City of Lathrop Design and Construction Standards”.

1-8.5 **Improvement Plan Submittal**

The initial submittal of improvement plans to the Engineering Division shall consist of the items as identified in Section 2, Submittal Standards, of these Standards. The initial improvement plan submittal shall consist of three (3) black line prints

After the plan check is completed, the City Engineer will return one copy with the corrections or revisions marked on the plans. If the submitted plans are not prepared in accordance with these Standards, or if they are not in keeping with the standards of the profession, the City Engineer may return them as unacceptable, stating the reason for rejection.

1-8.6 **Improvement Plan Re-submittal**

Plans being resubmitted shall consist of two (2) complete sets of revised plans and any

other submittals or supporting information required by the City Engineer, plus the plan set previously marked for correction. The City Engineer may require additional sets.

1-8.7 **Partial Plans**

If the improvement plans consist of only a portion of the ultimate development, the plans shall be accompanied by a master plan showing all topographic features for the entire development. The topographic information shall be at an adequate scale to clearly show the proposed storm drain system and the grades for curb and gutter and asphalt pavement improvements.

1-8.8 **Plan Check and Construction Inspection Fees**

The plan check and construction inspection fees are due in full with the first plan check submittal. The final fees will be adjusted based on the final approved engineer's construction estimate. The final engineer's construction estimate shall be approved by the City Engineer. The fees must be paid before Public Works will release the plans for construction. The plan checking and inspection fees shall be set by resolution of the City Council. Inspection fees for work performed before 8:00 A.M. and after 5:00 P.M. or on weekends or holidays that requires City inspection shall be at an overtime rate. Funds to cover overtime cost **must** be deposited by the contractor or developer before the work is authorized.

1-8.9 **Plan Approval**

Plans are not considered approved for construction until the City Engineer has signed the Mylar title sheet of the original drawings. Plan approval is valid for twelve months from the date of approval. If construction has not begun within the twelve-month period, the approval shall expire and the plans and engineer's estimate shall be resubmitted for review and re-approval. The plan check fee for re-approval of plans shall be twenty-five percent (25%) of the normal plan check fees, unless the plan check fee for re-approval of plans is modified by resolution of the City Council.

1-8.10 **Final Plans**

- A. The following copies are required for final maps and parcel maps: one (1) photographic mylar reproducible copy with one (1) mylar reproducible copy reduced to 8 ½"x11" with two (2) black line prints, one (1) CD containing scanned files of the final map or parcel map in .GIF, .JPG, or .TIF format, and one (1) CD containing approved map in AutoCAD format. A cash guarantee of \$1000 is required prior to the release of the map to the title company to insure the timely completion of the copies and submittal of the CD's and AutoCAD files.
- B. The following copies are required for improvement plans: The Design Engineer shall provide a full set of reproducible drawings for City Engineer approval and the

Mylar title sheet for signatures. From the approved original improvement plans, Design Engineer shall provide a CD containing the improvement plans in AutoCAD and PDF format, five (5) full size black lines, and five (5) half size back lines, before the City will release the plans for construction.

1-8.11 Plan Revisions During Construction

Changes in the plans may be required during construction. The Design Engineer shall first obtain the City Engineer's approval for any revisions in the plans. Revisions to the plan shall be made in the following manner:

- A.** The Design Engineer shall submit three copies of the proposed revisions to the City Engineer for review.
- B.** The changes shall be clearly shown on the plans with the changes and approval noted on the revision signature block. The Design Engineer and the City Engineer shall both initial the revision block to confirm responsibility and approval.
- C.** The changes shall be identified by the revision number in a triangle delineated on the plans adjacent to the change and on the revision signature block.

Minor changes, which do not affect the basic design or contract, may be made upon the written authorization of the City Engineer. ALL changes must be shown on the "As-Built" drawings before the "As Built" drawings are submitted to the City Engineer.

The City may order changes in the plans in order to complete the necessary facilities. Changes in the plans ordered by the City shall conform to all of the above.

1-8.12 Record Drawings (As-Built)

The Design Engineer shall keep an accurate record of all approved deviations from the plans and shall provide a copy of these records to the City Engineer upon completion of the work. The records are to be utilized with the inspector's plans and notes to permit the Design Engineer to prepare a complete and accurate set of "As Built" drawings for the permanent records of the City. "As Built" drawings preparation is the responsibility of the Developer and his/her contractor and Design Engineer.

The following will be required prior to acceptance of improvements by the City Engineer or the City Council:

- A.** One (1) mylar duplicate copy of record drawings (a conformed set of drawings that

incorporates all of the changes from the “as-built” drawings); and

- B.** Digital submittal (file share service or storage device) in PDF file type; and
- C.** Signed and stamped document with all vertical control elevations; and
- D.** GIS/AutoCAD
 - 1. Digital submittal (file share service or storage device) of AutoCAD Civil 3D files containing all attributes listed and in compliance with the drafting standards of Appendix I; or
 - 2. Payment of staff time to migrate AutoCAD files to the City’s GIS system pursuant to the City’s Fee Schedule adopted at the time of acceptance.

1-8.13 Conflicts, Errors and Omissions

Features of the plans that are contrary to, in conflict with, or do not conform to California State Law, City of Lathrop Code of Ordinances, conditions of approval, or are not in keeping with the standards of the profession are excepted from approval. This condition applies even though such errors, omissions or conflict may have been overlooked in the Public Works Department’s review of the plans.

1-8.14 Change in Design Engineer

The Developer may elect to have a licensed engineer or land surveyor, other than the Engineer who prepared the plans, provide the construction staking. The Developer shall provide the City Engineer with written notification of the name of the new individual or firm at least seven (7) calendar days prior to the staking of the project for construction. The Developer shall then be responsible for providing all professional engineering services that may be required during construction, the preparation of revised plans for construction changes, and the preparation of “Record Drawings” upon completion of construction. In the Developer’s notification of a change in the firm providing construction staking, he/she shall acknowledge that he/she accepts responsibility for design changes and “Record Drawing” information as noted above.

1-8.15 Tunnel Safety Requirements

Any boring or jacking operation of 100 foot or greater length and involving an opening greater than 30 inches in diameter is subject to the State of California Division of Industrial Safety’s tunnel safety requirements. The Design Engineer shall submit to the Division of Industrial Safety plans and specifications applicable to the tunnel operation, with a letter requesting tunnel classification. This procedure is also recommended to avoid project delay if there is the possibility of any personnel entering the tunnel, regardless of the diameter and length. The letter should identify the **City of Lathrop Public Works Department** as the inspecting agency along with the Department’s mailing address. The

plans shall identify underground utilities and tanks or areas for storing fuel and toxic gases in the vicinity of the tunnel site. The request for classification should be submitted allowing ample time for the Division of Industrial Safety review in order that any special requirements can be included in the project plans and specifications. The Design Engineer shall attend any required pre-construction meeting.

1-8.16 Existing Utilities

The City is a member of the Underground Service Alert (USA - North) on-call program. The Contractor or sub-contractor is required to notify USA at “811” or (800) 227-2600, two working days in advance of beginning any excavation work. All existing utilities are to be shown on the plans. In addition, the Design Engineer shall submit preliminary plans and final approved plans to the utility companies involved. The utility companies shall use this information to properly plan their relocation projects and any needed additional facilities. Copies of the transmittal letters to the utility companies shall be provided to the City Engineer with the first submittal for the plan check. The transmittal letters shall indicate all known utility conflicts, which require relocation. The conflict shall be referenced to stationing and distance from centerline. In addition, the following note shall appear on the first page of the plans that include utility work in asphalt pavement areas:

“Final pavement work shall not occur within street right-of-way prior to completion of utility relocation without the specific approval of the City Engineer.”

1-8.17 Other Agency Notifications

The Design Engineer is responsible for obtaining the approval and necessary permits from governmental or municipal agencies when their facilities or jurisdictions are involved. An approved signature block shall be on the cover sheet of the improvement plans and shall be signed by all affected agencies prior to City approval.

1-8.18 Inspection Requirements

The City Engineer shall inspect all work approved on the improvement plans, and any other improvements for which the City will accept and/or assume maintenance responsibility for after construction. Each phase of construction shall be inspected and approved prior to proceeding to subsequent phases. The City Engineer or his/her representatives shall have access at all times during construction. Any work constructed without inspection, except with specific consent or approval of the City Engineer and his/her representatives, must, if requested, be uncovered for examination and properly restored at the contractor’s expense.

- A.** The City shall be given at least three (3) working days’ advance notice of initial construction start-up and at least two (2) working days’ advance notice of specialty inspection requirements needed during the project.
- B.** Any improvements constructed without inspection as provided above or

constructed contrary to the order or instructions of the City Engineer will be deemed as not complying with the approved plans and specifications and will not be accepted by the City.

- C. The Design Engineer shall submit to the City Engineer two copies of all cut sheets as soon as they become available for field referencing prior to construction.
- D. After completion of all work and receipt of a request for final inspection, the City Engineer shall inspect the work. The Contractor will be notified in writing as to any particular defects or deficiencies to be remedied. The Contractor shall proceed to correct any such defects or deficiencies at the earliest possible date. At such time as the work has been completed, a second inspection shall be made by the City Engineer to determine if the previously mentioned defects have been repaired, altered, and completed in accordance with the plans. At such time as the City Engineer approves and the Director or the City Council accepts the work, the Contractor will be notified in writing as to the date of final approval and acceptance of the improvements by the City.
- E. On assessment district projects and projects where the City participates in the costs thereof, quantities will be measured in the presence of the City Engineer, Design Engineer, and Contractor.
- F. The City requires that the provisions of the approved plans and specifications be complied with, especially with regard to the quality of workmanship and materials. In the event of any discrepancy or matter of judgment, the decision of the City Engineer will be binding on the Contractor, Design Engineer, and Developer.
- G. All work shall be performed in accordance with accepted workmanship practice, the approved plans and specifications, and these Standards. Any work not accepted by the City shall be replaced until compliance is achieved. Directions given by the City relating to quality of materials and workmanship shall be complied with promptly by the Contractor.
- H. All materials used shall be subject to the inspection and approval of the City at all times, and shall not be used before being inspected and approved by the City Engineer. The Department has the right to require any testing deemed necessary to ensure compliance of the materials with the plans and specifications. The cost of said testing shall be borne by the Contractor. Failure or neglect on the part of the City to condemn or reject work or materials not in accordance with the plans and specifications shall not be construed to imply their acceptance. Materials rejected by the City shall be promptly removed from the project site.

1-8.19 Special Notices and Permits

The Design Engineer shall notify the Contractor of the following notices and requirements:

- A.** The Contractor shall have City approved plans in his/her possession at all times during construction.
- B.** The Contractor shall notify all utility companies affected by the development prior to beginning work.
- C.** The Contractor shall notify “Underground Service Alert” USA North at “811” or (800) 227-2600 not less than two (2) working days in advance of any digging or excavation.
- D.** The Contractor shall be responsible for the protection of all existing monuments and/or other survey monuments and shall notify the City Engineer of any damaged or removed City, County, State or Federal monuments.

If a monument is located within the boundary of the project, the Contractor shall submit the Acknowledgement of Monument Responsibility “Pre-Construction” form, found in Appendix E of these Standards, to the City during the Encroachment Permit Application Phase. In addition, the Contractor shall submit the Acknowledgement of Monument Responsibility “Post-Construction” form, found in Appendix E of these Standards, to the City when the work is complete.

- E.** The Contractor shall apply to the Engineering Division for permits and pay all required fees for the work shown on the improvement plans, and shall notify the Engineering Division at least three (3) working days prior to commencing any work in public right of way and at least two (2) working days prior to any specialty inspection requirements for the project.
- F.** The Contractor shall verify all street names and addresses with the Planning Division before ordering street name signs.
- G.** Except where specifically authorized by valid permits from the State Department of Fish and Game, the U.S. Army Corps of Engineers, and the San Joaquin County Flood Control District, the Contractor shall conduct their operation outside of any floodplain boundaries.
- H.** Floodplain boundaries shall be clearly delineated in the approved plans and in the field prior to construction.
- I.** The Contractor shall conduct their operation entirely outside of any areas where grading is prohibited. Restricted areas shall be clearly delineated in the approved plans and in the field prior to construction.
- J.** The Contractor shall notify the property owner two (2) working days prior to commencing work in an offsite easement.

1-8.20 Faithful Performance Security

The City may require a faithful performance security to guarantee street improvements without an agreement as follows:

- A.** Applicants shall provide the City with a Faithful Performance Security in the form of an acceptable bond or other suitable financial guarantee acceptable to the City Attorney from a financial institution authorized to do and doing business in the State of California. The security shall be valid until the City accepts the improvements. The security shall be the cost plus 20% of the City approved Engineer's Estimate.
- B.** The purpose of the Faithful Performance Security is to provide protection to the City for any expenses it may incur as a result of:
 - 1. Failure by the Contractor to complete the installation.
 - 2. Necessary repairs caused by poor installation techniques.
 - 3. Necessary repairs caused by the installation of defective material.
 - 4. Failure by the Contractor to perform in accordance with the approved plans and specifications.
 - 5. Material liens against the City.

1-8.21 Guarantee of Workmanship, Materials, and Equipment

The applicant shall guarantee that the improvements for subdivisions installed by the contractor (or applicant) be free from any and all defects in materials and workmanship for a period of one year after acceptance by the City Council. This guarantee shall be a bond in an amount of 10% of the Design Engineer's approved construction cost estimate, or other amount determined by the Director. The City may make any necessary repairs and charge the security in the event the Developer or Contractor fails to correct the defects.

1-9 CONSTRUCTION OF IMPROVEMENTS

All work shall be constructed with appropriate materials and workmanship in accordance with pertinent sections of these Standards and in strict compliance with the approved plans and specifications.

1-9.1 Work Within City Right-of-Ways and Easements

Possession of a complete set of City-approved plans and an encroachment permit or subdivision agreement is required before the Contractor performs any work in the City right-of-ways and easements. The Contractor shall be bonded as required by the City. The

encroachment permit shall be issued in accordance with Title 12, Streets, Sidewalks and Public Places, of the Lathrop City Code of Ordinances.

- A. In lieu of the above-required plans, minor work within City right-of-ways and easements may be performed with only an encroachment permit. Minor work generally consists of such items as widening or constructing sidewalks adjacent to existing curb and gutter, constructing driveways, installing driveway culverts, encroachments into the right-of-ways for such items as mailboxes or fences, utility related work and work not requiring cutting of the road surface.
- B. Three (3) working days prior to any work in City right-of-way, a schedule of work shall be submitted for approval to the Engineering Division. All work shall be scheduled within normal working hours. Normal working hours are defined as being Monday through Friday, 8:00 A.M. to 5:00 P.M. No work within a City right-of-way or easement requiring City inspection shall be allowed outside of normal working hours, or on weekends or holidays without written authorization of the City Engineer.
- C. Before any work can commence within the public right of way, a traffic control plan shall be submitted for review and approval.

1-9.2 Resolution of Conflicts between Approved Plans and Standards

In the event there is conflict between approved plans and these Standards, the Contractor shall submit to the City Engineer all conflicts for resolution. The City Engineer will render a written decision as to the governing document and/or design. Such written decision shall be final and binding upon the Contractor at no additional cost or liability to the City. Requirements shown in the plans which are more stringent than the requirements contained in the appropriate sections of these Standards are not to be construed as conflicts. It shall be the Contractor's responsibility to construct such imposed more stringent requirements in strict accordance with the approved plans. These additional requirements in no way relieve the Contractor from complying with any other provisions or requirements of these Standards. Any existing city or private facilities damaged during the course of the work shall be repaired, replaced or reconstructed to equivalent or better condition. Any pedestrian access areas (sidewalk, corner ramps, etc.) shall be replaced to meet current ADA accessibility requirements. The City Engineer will determine the extent to which replacement facilities shall be upgraded.

1-10 SCADA TOWER AND COMMUNICATION SPECIFICATIONS

A Supervisory Control And Data Acquisition (SCADA) tower, when needed, shall be purchased and installed by the developer. The size and type of the tower will be identified by the City at the time of the first plan submittal. The switches, antennas, patch panels,

cabling, and other related components shall be purchased and installed by the City at the expense of the developer.

The programming guidelines for the SCADA Interface can be found in Appendix F of these Standards.

1-11 TRASH ENCLOSURES

The City of Lathrop requires approval and permits for the construction of trash enclosures for commercial, office, industrial, mixed-use, senior housing, and multi-family residential projects. Trash enclosures shall be designed in accordance with the City of Lathrop Standard Details. Trash enclosures may be exempt on a case-by-case basis as determined by the City Engineer.

1-11.1 Capacity

Enclosure areas must have adequate storage space for solid waste, recycling, and compost.

Per Section 42911(b) of the Public Resources Code of the State of California, a local agency shall not issue a building permit to a development project, unless the development project provides adequate areas for collecting and loading recyclable materials. Therefore, all new developments must have sufficiently sized solid waste, recycling, and composting storage space. Compactors, composting systems, food waste bins, and Fats, Oils, and Grease (FOG) bins should also be stored in an enclosure or inside a building.

For assistance calculating solid waste generation levels, consult the CalRecycle website: <https://www.calrecycle.ca.gov/>

The minimum enclosure must accommodate three containers (one each for waste, recycling and compost). It shall be constructed with three solid walls and a metal gate with a man door.

Food Service Establishments (FSEs) (such as bakeries, restaurants, take-outs, and business with cafeterias): Trash enclosures must accommodate the tallow bin. It is recommended that new FSE trash enclosures be plumbed to a grease control device and the sanitary sewer to facilitate clean up.

Mixed-Use Facilities: Residential and commercial waste streams should be collected separately.

1-11.2 Storm water Pollution Prevention

Enclosure areas should be covered to prevent rain from falling on containers, compactors, or the enclosure floor and carrying contaminants to the storm water system. Though recycling/trash containers and compactors are required to be watertight, overfilled containers with partially raised lids allow rain to saturate waste and recyclables, and

compactors that are filled with wet waste commonly leak. Additionally, polluted water can enter the storm drain through leaks or spills when the containers are emptied. The property owner will be responsible for administrative citations and remediation related to storm water contamination.

- A. The cover/roof may be part of the solid waste enclosure or the roof of a building.
- B. The roof canopy should extend sufficiently outward in all directions so that wind-blown rain will not enter the interior of the storage area.
- C. The minimum clearance inside a roofed enclosure shall be 7'-6" with a 6'-8" high entryway for pedestrian access.
- D. Roof color and material shall comply with applicable Zoning requirements.

For use not including FOG, storm water runoff from the roof of the enclosure areas should drain away from the enclosure area.

- A. A grade break should be used to prevent run-off from outside of the enclosure area from entering the enclosure area.
- B. There should be no storm drains located inside the enclosure area or in the immediate vicinity of the recycling/trash storage area.
- C. Runoff from the roof of the enclosure area should drain to landscaping or other storm water treatment system before discharging to the municipal storm sewer system.

For use including FOG or any other contaminant to the municipal storm sewer system, enclosure areas should be plumbed to the sanitary sewer so that waste spills, leaks, and wastewater from bin washouts does not run out of the enclosure area and into storm drains. A primer trap or trap with seal protection to avoid evaporation shall be installed.

- A. If FOG is stored in the enclosure, the sanitary drain should discharge to a grease interceptor if there is one nearby. A trap primer is required per Plumbing code.
- B. Spills and leaks should be cleaned up immediately using a spill kit and/or appropriate Best Management Practices (BMP) that utilize absorbents or equivalent "dry" methods.
- C. Educational materials focusing on BMPs for compactors, dumpsters, and FOG bins should be posted in solid waste enclosure and trash compactor areas.

1-11.3 Access

Solid waste enclosure areas should be accessible by garbage/recycling trucks (unless other waste management practices will be implemented):

- A. Provide a minimum 22-foot wide driveway, notwithstanding standards for fire truck access and Public Works and Department of Transportation requirements. For further information, consult with appropriate City Departments, such as Public Works, Transportation, and Fire.
- B. Provide a minimum vehicle turning radius of 34 feet for the inside wheel and 50 feet for the outside wheel (see **FIGURE 1-1**)
- C. Do not allow parked cars and/or parking spaces to block access to the solid waste areas.
- D. Provide a 25' overhead clearance above the enclosure area so that hauler vehicles can access and empty the containers therein.

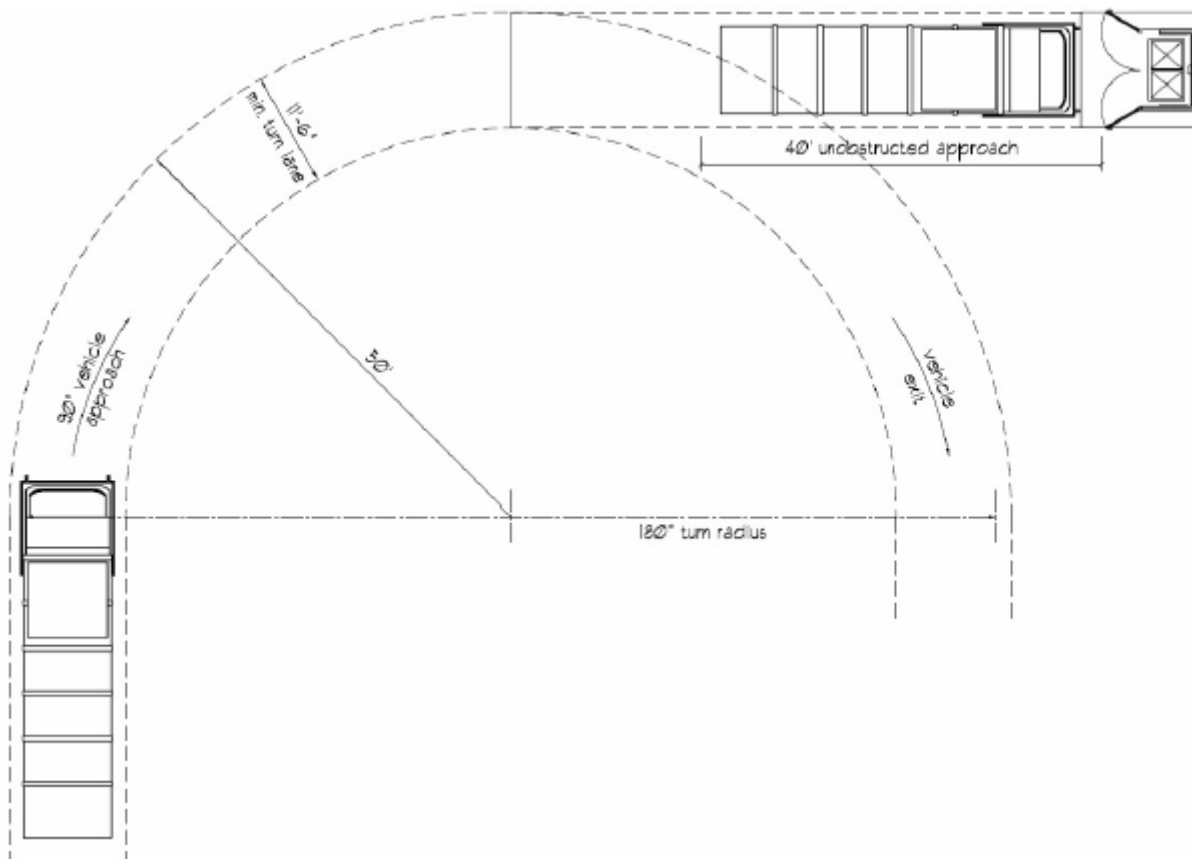


FIGURE 1-1

A stress pad should be installed in front of the solid waste enclosure area. Fortify the 8-foot area in front of the solid waste enclosure area with a concrete stress pad engineered and designed to withstand up to 20,000 pounds of direct force. The pad shall be sloped at 1/8 inch per foot to facilitate proper drainage. The apron surface shall be the at the same elevation as the pad threshold and the surrounding surfaces.

END OF SECTION