RESOLUTION NO. 61-25

(CODIFIED)

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF CHICO AMENDING TITLE 18R DESIGN CRITERIA AND IMPROVEMENT STANDARDS OF THE CHICO MUNICIPAL CODE

NOW, THEREFORE, BE IT RESOLVED by the Council of the City of Chico does hereby adopt the following Resolution amending chapters 18R.04, 18R.08, and 18R.12 as follows:

Section 1. That Title 18R, entitled "DESIGN CRITERIA AND IMPROVEMENT STANDARDS1", is amended as follows:

TITLE 18R DESIGN CRITERIA AND IMPROVEMENT STANDARDS

Section 2. That Section 18R.04.010, entitled "Application of title.", is amended as follows:

18R.04.010 Application of title.

A. The design criteria set forth herein are provided for the purpose of ensuring that subdivision and nonsubdivision public right-of-way and private street improvements constructed within the city are designed in such a manner that each meets or exceeds uniform levels of sound engineering practice and that the individual elements contained therein have a uniform level of development with no single element overdesigned to the detriment of another.

B. The improvement standards set forth herein are to ensure that subdivision improvements and nonsubdivision public right-of-way and private street improvements are constructed in such a manner that they meet or exceed a uniform level of quality workmanship and construction.

C. The design criteria and improvement standards set forth herein may be modified by the advisory agency incident to approval of a subdivision or any other entitlement or authorization provided for in Title 18 of this code upon making any of the findings provided for in Section 18.09.010 of Title 18 of this code. In addition, the design

criteria and improvement standards set forth herein may be modified by the community development or public works departments incident to approval of a building permit, encroachment permit or any other permit or authorization requiring their approval upon making any of the findings provided for in Section 14.14.075 of Title 14 of this code.

Section 3. That Chapter 18R.04.020, entitled "Definitions.", is amended as follows:

18R.04.020 Definitions.

For the purpose of this title, the following words and phrases shall have the meanings defined in this section unless from the context a different meaning is intended; provided, however, that whenever any word or phrase used in this title is not defined, but is defined in Title 1, Title 14 or Title 18 of this code, such definitions are incorporated herein and shall be deemed to apply to such words and phrases when used in this title:

A. "A.B." means Class 2 aggregate base

B. "A.C." means asphalt concrete

C. "Accessway" means a parcel of land not dedicated as a public street but intersecting or connecting with a public or private street for which a private easement for road purposes has been granted to the owners of the property contiguous or adjacent thereto.

D. "Backup lot" means a lot which has a rear yard which abuts an arterial street. See also Figure 1.

E. "Block" means a parcel of land, containing one or more lots, surrounded on all sides by a street.

F. "Community development department" means the community development department of the city.

G. "Construction specifications" means the construction specifications of the city.

H. "Contractor" means the person responsible for the actual construction of a

subdivision or public right-of-way improvement.

I. "Curb return" means that portion of a curb which provides a curved transition in alignment between two curbs on intersecting streets.

J. "Culvert" means any storm drainage conduit (other than an open channel) including a storm drainage pipe and box culvert structure which conveys surface water runoff beneath a street, easement or right-of-way.

K. "Dead-end street" means a street which is closed to through traffic.

L. "Density" means the residential density established by the Chico General Plan Land Use Element expressed as a number or range of dwelling units per gross acre. The number or fraction of gross acres contained in a site shall include the entire lot area measured in a horizontal plane together with the area between the property line and centerline of all abutting streets.

M. "Design speed" means the vehicular speed which serves as the basis for the horizontal and vertical alignment criteria of a street.

N. "Double frontage lot" means a lot which has access to more than one street. See also Figure 1.

O. "Easement" means an interest in, on or over land owned by another that entitles the holder to a specific limited use.

P. "Engineer" means the Public Works Director of Engineering at the city or a qualified designee.

Q. "Flag lot" means a lot so shaped and designed that the main building site area is set back from the street on which it fronts and includes an accessway not less than fifteen feet in width at any point connecting such main building site area to the frontage street. See also Figure l.

R. "Freeboard" means the distance between the design high water line and either the bottom surface of a bridge or a box culvert deck, the inside crown elevation of a storm drainage pipe or the top elevation of the bank of a storm drainage ditch containing the flow.

S. "Functional street classification" means the classification of a street according to its function in the circulation pattern established by the general plan of the city.

T. "Grade" means the reference line by which the elevation for the pavement and other appurtenant features are established.

U. "Highway Design Manual" (HDM) means the most recently adopted Highway Design Manual of the State of California Department of Transportation.

V. "Lateral" means the initial storm drain or sewer conduit connecting the source of the flow to the main line of the storm drain or sewer system.

W. "Private street" means a privately owned and maintained street which is not a part of the street system of the city.

X. "Profile" shall be used interchangeably with "grade."

Y. "Reserve strip" means a narrow strip of land extending along the exterior boundary of a subdivision or at the dead end or side of a dedicated street.

Z. "R value" means a coefficient representing the resistance to a deformation of a saturated soil at a given density which is determined by State of California Department of Transportation Test Method No. 301-F.

AA. "Side-on lot" means a lot which has a side yard which abuts an arterial street. See also Figure I.

BB. "Soils report" means a soil investigation and geological reconnaissance report prepared by a registered civil engineer, engineering geologist or geologist specializing and recognized in soil mechanics and foundation engineering.

CC. "Standard plans" means the standard plans of the city of Chico.

DD. "Standard specifications" means the most recently adopted standard specifications of the State of California Department of Transportation.

EE. "State standard plans" means the most recently adopted standard plans of the State of California, Department of Transportation.

FF. "Street" means any public street, avenue, road, parkway, boulevard,

thoroughfare, highway, square, crossing, intersection, lane, alley, court or any other public place or way of whatever nature, located within a right-of-way, publicly maintained and open for use by the public for the primary purposes of vehicular and/or pedestrian travel. "Street" includes street surfacing, concrete curb, gutters and sidewalks, and all other improvements constructed within such right-of-way which are commonly considered a part of the public street system of the city.

GG. "Superelevation" means the cross-slope of a traveled street which counteracts the effect of centrifugal force on a vehicle.

HH. "Traffic index" means a coefficient used in the design of a street structural section and which represents predicted truck traffic volumes.

Section 4. That Chapter 18R.08, entitled "DESIGN CRITERIA2", is amended as follows:

CHAPTER 18R.08 DESIGN CRITERIA

Section 5. That section 18R.08.010, entitled "Subdivision layout.", is amended as follows:

18R.08.010 Subdivision layout.

A. Subdivision Density. The maximum number of dwelling units permitted within a proposed subdivision shall not exceed the density established by the general plan for the area or the maximum number of dwelling units permitted by the applicable zoning districts, whichever is less, and may be further restricted by considerations of safety, traffic access or circulation, the slope of the natural terrain, the physical suitability of the site, the nature or extent of existing development, the availability of public facilities, utilities, or open spaces or any other provision set forth herein.

B. Blocks.

1. Size. Blocks shall be designed to allow for adequate building sites for the type of use proposed, to allow for convenient pedestrian and vehicular circulation, access, traffic control and safety, and with regard to limitations created by topography. Block lengths shall be dependent upon intersection spacing as set forth in subsection

G of Section 18R.08.020 of these criteria. Block widths shall be sufficient to allow for two tiers of lots with rear easements as required.

2. Corners. At intersections, all block corners shall be rounded at the property line on a 20-foot radius curve. Greater radii may be required where necessary for traffic safety.

C. Lots Generally.

1. Width and Area. The minimum width the area of all lots shall conform to the requirements of the zoning districts in which the subdivision is located.

2. Depth. The depth of a residential lot, exclusive of flag lots, shall not be greater than three times the width of the lot. Minimum residential lot depth shall be 60 feet.

3. Lot Frontage. All lots within a proposed subdivision shall have frontage on a public or private street. Lots fronting only on an alleyway shall not be permitted.

4. Lot Lines. The side lot lines wherever practical shall be at right angles or radial to street lines, except where the community development director determines an alternative design is acceptable.

5. Lots Adjoining City Limits. No lot shall be divided by a city boundary line.

6. Lot Grading. All lots shall be adequately drained. Surface water from each lot shall be conducted directly to the adjacent street or alley, or to underground storm drainage facilities or drainage channels.

D. Lot Configuration.

1. Flag Lots. Flag lots shall be approved only where required by topographic conditions or where there is no practical alternative design for the development of the interior portions of excessively deep parcels. Flag lots shall conform to all of the following requirements:

a. Flag lots shall conform to all of the requirements contained in these criteria except those provisions relating to lot line and lot frontages set forth in subsection C above, and shall have a minimum area of 6,000 square feet. The accessway serving the flag lot(s) shall not be included when calculating the required lot area of any lot.

b. The accessway to the rear lot(s) shall conform to the following design standards:

(1) An accessway serving one or more units on a single lot shall be at least fifteen (15) feet wide, with twelve (12) feet thereof being paved. An accessway serving two or three lots, or a single lot with more than one unit, shall be at least twenty-five (25) feet wide with twenty (20) feet thereof paved the entire length of the accessway with an adequate turnaround provided at the end. The number of flag lots served by one accessway shall not exceed three, except that no more than two infill residential flag lots, as defined by section 19.76.180, shall be served by one accessway.

(2) Curbs and gutters may be required depending on drainage requirements, however, sidewalks shall not be required.

(3) The maximum length of a roadway serving one flag lot shall be 200 feet. The maximum length of a roadway serving two or three flag lots shall be 300 feet.

c. Each dwelling unit situated on a flag lot shall provide two (2) off-street parking spaces in addition to those spaces required by Title 19 of the Chico Municipal Code.

d. Prior to the time a flag lot is developed, the site plan shall be reviewed and approved by the city fire chief for fire access and service requirements.

2. Double Frontage Lots. Double frontage lots will be approved only on collector and/or local streets and only if they meet at least one of the following requirements:

a. They are corner lots;

b. Their depth is greater than 200 feet;

c. Such lots are required by reason of unusual topographic or other physical conditions.

For lots which do not meet these requirements, the subdivider shall eliminate the double frontage condition by providing the city with an access waiver which waives all vehicular and pedestrian access rights to street along one of the two frontages. In addition, the subdivider shall provide a fence, landscaping, and sprinkler system along such non-access frontage, subject to the approval by the advisory agency. Maintenance of said landscaping shall be the responsibility of the subdivider and/or future

subdivision lot owners.

Lots with triple frontages will not be authorized.

3. Backup or Side-on Lots. Backup (reverse frontage) or side-on lots may be approved in lieu of a frontage road adjacent to an arterial street. Where such lots are approved, access waivers of vehicular and pedestrian access rights to the arterial street over rear or side lot lines shall be required. The subdivider shall provide two (2) feet of additional right-of-way, landscaping, and a suitable fence or other approved barrier along such non-access frontage.

Rear lot lines are those lines adjacent to the arterial street.

4. Property Remnants and Reserve Strips. Remnants of property which do not conform to lot requirements or are not required for a public or private utility or other public use or approved access purpose shall not be created by a subdivision unless the developer establishes a maintenance district.

a. Reserve strips designed to provide private control of access to streets, alleys, easements, or other public ways shall not be permitted.

b. The advisory agency may require an access waiver to provide public control of access and to protect and facilitate the future development and extension of public rights-of-way.

E. Easements.

1. Public Utility and Cable Television Easements. Where alleys are not provided, the advisory agency, public utility agencies or cable television grantee may require public utility and/or cable television easements on each side of rear lot lines and/or side lot lines. Rear lot easements shall, as nearly as practicable, follow a direct course through the entire subdivision.

2. Storm Drain and Sanitary Sewer Easements. Storm drain and/or sanitary sewer easements, as described in the improvement standards, shall be dedicated as required by the director. Easements of greater width may be required along natural water courses, conforming substantially to the lines of such channels.

Acquisition and maintenance of temporary construction easements outside of the limits of the subdivision shall be the subdivider's responsibility.

Section 6. That Section 18R.08.020, entitled "Public streets.", is amended as follows:

18R.08.020 Public streets.

A. Public Streets Generally.

1. The subdivider shall provide a comprehensive trafficway system, designed and constructed in accordance with these criteria, applicable standards and ordinances, and the city of Chico general plan. Design of streets shall provide for safe vehicular operation at a specified design speed.

2. Public streets shall be required when the street is shown as an arterial or collector street on a master street and highway plan, the general plan, or any other specific or precise plan; or when the street will be used by the general public as a through access route; or when a public street is necessary for special needs including, but not limited to, bus routes, public service access, bike routes and pedestrian access.

B. Street Layout.

1. Existing Streets and Unsubdivided Land. Streets shall be laid out to complement the alignment of existing streets in adjoining subdivisions and to provide a logical continuation of existing streets where the adjoining land is not subdivided.

The advisory agency may require the realignment of streets in contemplation of the development or use of adjoining property and may require the provision of streets or dead-end street extensions to facilitate the subdivision of adjoining property.

Permanently dead-ended streets without cul-de-sacs shall not be approved. When a temporarily dead-ended street is extended to the boundary of the subdivision, a one-foot fee simple strip the width of the street right-of-way shall be dedicated to the city at the end of the street. A barricade, or temporary turning area, or temporary connection to another street shall be required for any such street.

2. Provision for Resubdivision. Where property is subdivided into lots substantially larger than the minimum size required by the zoning districts in which the subdivision

is located, the advisory agency may require that streets and lots be laid out so as to permit future resubdivision in accordance with the provisions of these regulations.

3. Future Streets. Where determined necessary for the protection of the public welfare or substantial property rights, the advisory agency may require or approve the reservation of streets within a proposed subdivision for future public use; provided, that all land so reserved shall be dedicated in fee simple to the city.

4. Streets Parallel to Rights-of-Way. Where a subdivision borders on or contains a railroad right-of-way, canal, or limited access highway right-of-way, the advisory agency may require a street approximately parallel to such right-of-way at a distance suitable for the appropriate use of the intervening land. Such distance shall be determined with due regard for the requirements of approach grades and future grade separations.

5. Local Streets. Local streets shall be designed so that their use by through traffic will be discouraged. Excessively long, straight residential streets, conducive to high-speed traffic, shall not be approved.

C. Street Names. Proposed street names shall not be similar to present street names, except that streets that are a prolongation or approximate prolongation of existing streets shall be given the same names as the existing streets. No street shall be designated by the same name as any other street even though differentiated by a suffix (avenue, boulevard, way, place or other term), except that a frontage road shall be given the same name as the street on which it borders. Generally no street should change direction by more than 90 degrees without a change in street name. All proposed street names must be approved by the city fire chief.

D. Horizontal Alignment.

1. Specific Requirements. The criteria for the following design elements for each functional street classification shall be as set forth in Table 1:

a. Minimum design speed;

b. Minimum curve radius at centerline;

c. Minimum length of tangent between reversing curves; reversing curves without an intervening tangent shall not be permitted;

d. Minimum stopping sight distance shall be based on the HDM.

2. Superelevation. Superelevations other than those set forth in the standard plans will be acceptable only in extraordinary circumstances and will be designed on an individual basis.

E. Profile.

1. Profile Generally. The grade line should coincide with the centerline of the street. To improve appearances and to reduce the number of sight distance restrictions, vertical curves should, when possible, be superimposed on horizontal curves. For safety reasons, the horizontal curve should lead the vertical curve. Sharp horizontal curves shall not be introduced at or near a pronounced grade sag or summit.

2. Minimum Grade. Minimum grades for all streets with paved gutters shall be 0.25%. Streets with unpaved gutters shall have a minimum grade along centerline of 0.50%.

3. Maximum Grades. Maximum grades shall be 6% for arterial and collector streets and 8% for local streets or as approved by the Director of Public Works - Engineering. A maximum grade of 4% is desirable whenever possible, especially at intersections.

4. Vertical Curves. Parabolic vertical curves shall be used when the algebraic difference in grade is greater than 1.0%. The criteria for the following design elements for each functional street classification and its corresponding minimum design speed

5. shall be as set forth in Table 2:

a. Minimum length of vertical curve;

b. Minimum stopping sight distance;

c. Minimum passing sight distance;

d. Maximum rate of change of grade in percent per 100 feet at the minimum stopping sight distance. This criteria may dictate a vertical curve longer than the minimum stated in this section.

F. Cross Section.

1. Geometric Cross Section. Standard widths for street geometric cross sections shall be as set forth in the improvement standards or as approved by the Director of Public Works - Engineering.

Subdividers of subdivisions with five (5) or more lots shall be required to install full improvements on existing streets adjacent to the subdivision in accordance with the limits of construction required by the improvement standards. In the event that the subdivision will generate sufficient vehicular traffic to require additional traffic lanes or street extensions, the subdivider may be required to provide and improve these facilities.

Subdividers of subdivisions having fewer than five (5) lots shall be required to install full improvements on existing streets adjacent to the subdivisions from the subdivision property line to the existing edge of street pavement, or beyond as may be needed to maintain a maximum five percent (5%) shoulder cross slope, in accordance with the improvement standards.

2. Structural Section. The structural section shall be determined from the R-value from the project soils report and the Traffic Index (TI) provided by the City. The determination of the structural section shall follow the procedures outlined in the Highway Design Manual (HDM) for flexible pavement design.

3. Curb and Gutter. Curb and gutter shall be installed adjacent to streets in all subdivisions and shall be constructed in accordance with the improvement standards.

4. Sidewalks. Sidewalks shall be installed within all streets in all subdivisions and shall be constructed in accordance with the improvement standards. Sidewalks shall be separated from the adjacent curb and gutter by a parkway unless a contiguous sidewalk is specifically approved to save trees or to conform to an existing contiguous sidewalk configuration or as approved by the Director of Public Works – Engineering. All sidewalks shall be installed within the public right-of-way.

The advisory agency may require the installation of sidewalks outside of the

subdivision to maintain continuity of pedestrian access from the subdivision to other areas in the immediate vicinity.

5. Half-streets. Half-streets shall not be approved.

G. Intersections.

1. Intersections Generally. The criteria for intersections set forth in this subsection shall be minimum requirements. Based upon traffic analysis, the director may require additional features such as speed change lanes, tapers, separate turning lanes, refuse areas and traffic-control devices. Intersections with more than four approaches shall not be approved.

2. Intersection Spacing. Intersection spacing shall be determined in accordance with these criteria and those set forth in subsection B above, entitled "Street Layout."

a. Maximum spacing between intersections shall be 1320 feet.

b. Minimum spacing of intersections shall be as follows:

c. Local streets, 250 feet;

d. Collector streets, 300 feet;

e. Arterial streets, 500 feet.

3. Geometrics.

a. Alignment. A secondary street shall intersect a primary street at right angles (radial when the primary street is curved). The secondary street alignment shall be perpendicular to the primary street from the centerline of the primary street to the end of the curb return on the secondary street.

b. Cross-Slope in Intersections. The criteria for treatment of cross-slope in intersection areas shall be as set forth in Figure 2.

c. Curb Returns. The standard curb return radius shall be 30 feet, measured to the face of curb.

d. Curb Ramp. The standard curb ramp shown in the improvement standards shall be installed at all curb returns.

H. Cul-de-Sacs. Cul-de-sac streets shall not exceed 500 feet in length.

1. The advisory agency may require reduced length, or may require the elimination of a proposed cul-de-sac in order to provide for the efficient circulation of traffic, the future development of the neighborhood street system, or the deployment of emergency services.

2. Cul-de-sacs shall be constructed in conformance with the improvement standards.

I. Access.

1. General. Street access control may be required by permitting ingress and egress only at specific locations determined by the advisory agency.

Access to arterial streets shall, in general, be permitted at intersections only. The advisory agency may require installation of backup (reverse frontage) lots, or side-on lots adjacent to arterial streets. Access to other than arterial streets shall, in general, be limited to one opening per lot. Access to the subdivision from adjacent streets shall be designed to utilize the most efficient circulation pattern within the subdivision.

2. Driveways. Driveways shall be constructed in accordance with the improvement standards.

J. Traffic Control and Safety Devices and Street Name Signs. Traffic control and safety devices shall be installed on all streets as required by the improvement standards and the public works director in order to promote traffic control and safety. Traffic control and safety devices shall include but not be limited to regulatory signs, warning signs, guide markers, construction signs, pavement markings, lane delineations and traffic signals. Street name signs shall be installed at all public, private and public/private intersections in accordance with the improvement standards.

K. Street-Lights. City-owned street-lights shall be installed on all public streets in accordance with the improvement standards. Streetlight spacing shall be as required by the public works director.

L. House Numbers. House and unit numbers shall be assigned by the building official and shall be placed and maintained in a manner which is clearly visible from the street.

M. Depth of Non-Gravity Utilities. All non-gravity utilities shall be installed with a

minimum depth of 3 feet from surface grade to top of pipe.

Section 7. That Section 18R.08.030, entitled "Other public ways.", is amended as follows:

18R.08.030 Other public ways.

A. Alleys. Alleys may be required as part of a subdivision circulation system. Alleys shall be constructed in accordance with the improvement standards. Intersections of two alleys will be discouraged but may be acceptable in special Instances with approval from the Director of Public Works Engineering.

B. Bicycle Paths, Pedestrian Ways and Equestrian Ways.

1. Generally. Bicycle paths, pedestrian ways, and equestrian ways may be required in conformance with an established city-wide plan or as required by the advisory agency. Design of said ways and paths shall be consistent with the principle of keeping separation between motorized vehicular traffic and other modes of traffic.

2. Bicycle Paths. Bicycle paths shall be constructed in accordance with the improvement standards. Recommended geometric criteria shall be as follows:

a. Design speed, 20 mph;

b. Sight distance, 120 feet;

c. Minimum curve radius, 65 feet;

d. Overhead clearance, 8 feet;

e. Maximum grade, 5%.

Adequate access points and bicycle parking facilities shall be provided as necessary. Bicycle stands conforming with the improvement standards shall be provided at parking facilities.

3. Pedestrian Ways. In addition to sidewalk required adjacent to public roadways, pedestrian ways may be required where needed for traffic safety; and access to schools, playgrounds, shopping facilities, or other community facilities. The required width and location shall be as determined by the advisory agency.

4. Equestrian Ways. The minimum required typical section shall be as shown in the

improvement standards. Minimum vertical clearance shall be 10 feet.

Section 8. That Section 18R.08.035, entitled "Private streets.", is amended as follows:

18R.08.035 Private Streets.

A. Private Streets Generally. Private streets may be permitted subject to compliance with the following design criteria and improvement standards of this chapter, Title 18 of this code, and Standard Plan No. S-18F.

B. Private Street Length.

1. Cul-de-sacs. Private street cul-de-sacs shall not exceed 500 feet in length.

2. Loop Streets. Private loop streets improved to the standards set forth in this section shall not exceed 1,000 feet in length.

3. Standards for private streets exceeding 1,000 feet in length shall be determined on a case-by-case basis.

C. Horizontal Alignment. Private streets shall conform to the following minimum standards:

1. Minimum curve radius at centerline shall be 50 feet.

2. Minimum cul-de-sac or turnaround radius to face of curb shall be 46 feet.

D. Profile. The maximum grade for a private street shall not exceed 8%. The minimum grade shall correspond to the standards for a public street.

E. Cross Section.

1. Geometric cross section.

a. Private streets servicing less than 26 lots shall have a minimum street width of 24 feet without on-street parking and 36 feet with on-street parking.

b. Private streets serving 26 lots or more shall have a minimum street width of 30 feet without on-street parking and 40 feet with on-street parking.

c. Private streets may be either crowned streets or valley gutter streets. Valley gutters shall not be used on streets serving 26 lots or more.

2. Curb and Gutter.

a. Crowned Streets. Curb and gutter shall be constructed in accordance with city of

Chico public street improvement standards.

b. Valley Gutter Streets. Curb and gutter may be constructed in accordance with the public street improvement standards, or curbing with a minimum width of 6 inches above the surfaced section of the private street at the curb line may be constructed. A 4-foot wide longitudinal P.C.C. valley gutter shall be constructed along the street centerline when the slope is less than 1%.

3. Structural Section. The structural section shall be determined from the R-value from the soils report and the Traffic Index (TI) provided by the City. The determination of the structural section shall follow the procedures outlined in the Highway Design Manual (HDM) for flexible pavement design.

F. Intersection with Public Street.

1. A private street shall intersect a public street at right angles.

2. Private streets shall have standard driveway approaches installed at intersections with public streets, unless curb returns are authorized by the public works director.

G. Sidewalks. Pedestrian access shall be provided either by constructing sidewalks in accordance with the design criteria, or pedestrian access may be provided by a comprehensive on-site pedestrian access system approved as part of a subdivision, zoning or permit approval.

H. Street Lights. Street lights shall be installed as required by the public works director.

I. Street Names. Proposed street names shall not be similar to present street names, except that streets that are a prolongation or approximate prolongation of existing streets shall be given the same names as the existing streets. No street shall be designated by the same name as any other street even though differentiated by a suffix (Terrace, Court, Lane, Place, or other term). Generally, no street should change direction by more than 90 degrees without a change in street name. Private street names shall be suffixed "Terrace," "Court," "Lane," or "Place."

J. Signs. Street signs shall be installed at all street intersections in accordance with

city of Chico public street improvement standards. The street sign shall clearly indicate that the street is a private street. Stop signs shall be installed on all private streets that intersect a public street.

K. House Numbers. House and unit numbers shall be assigned by the building official and shall be placed and maintained in a manner which is clearly visible from the street.

L. Parking.

1. All private streets approved for no on-street parking shall be signed for "NO PARKING".

2. All private streets providing emergency vehicle access shall provide additional signage and markings as directed by the fire chief and chief of police.

3. All development utilizing private streets without on-street parking shall provide off-street parking in the amount specified in Title 19 of this code plus two (2) additional spaces for each residential unit.

4. At the time the private street is created, a statement shall be included in the conditions, covenants and restrictions or other recorded document approved by the city attorney that sets forth the following:

a. On-street parking is prohibited on private streets (if appropriate).

b. The California Vehicle Code does not apply to routine traffic matters on private streets.

c. The city of Chico police department does not enforce or respond to routine traffic matters on private streets.

M. Setbacks. On any lot abutting a private street, any setback required by this code shall be measured from the edge of the private street easement.

N. Private Street Maintenance. Whenever private streets are approved for a residential subdivision, the developer or subdivider through recorded conditions, covenants and restrictions, or other instrument approved by the city attorney shall provide for the following:

1. Maintenance of the private street and related private facilities, including but not

limited to the following:

a. Street;

b. Street lights;

c. Traffic-control devices, if any;

d. Sanitary sewer facilities;

e. Storm drainage facilities.

2. If the private street and related private facilities are not adequately maintained, the city, after prior notice to the organization responsible for maintenance and property owners, shall have the right to:

a. Enter upon and maintain and repair the facilities, and to recover the prorata costs of such maintenance or repairs from each owner of a lot having access to a private street or utilizing private facilities, which costs shall constitute a lien upon the lot until paid; and/or

b. Form a maintenance district or benefit assessment district to provide for the maintenance of such private streets or facilities.

3. A private homeowners' association shall be formed to maintain all private streets and other related private facilities whenever conditions, covenants and restrictions are prepared for a residential subdivision containing five or more lots.

Section 9. That Section 18R.08.050, entitled "Storm drainage.", is amended as follows:

18R.08.050 Storm drainage.

A. General Requirements. The subdivider shall provide storm drainage facilities that will convey stormwater runoff, whether originating within the subdivision or in adjacent areas, to an existing drainage channel or drainage system. Adequate access for maintenance of the system shall be provided. The capacity of an existing drainage system must be large enough to accommodate the additional runoff generated by the subdivision. Drainage patterns existing prior to construction of the subdivision shall be maintained, and full consideration must be given to the rights of adjacent property owners with regard to surface water drainage.

The city will determine the capacity of an existing storm drain system.

The subdivider's engineer shall prepare an analysis and report, with infiltration test results and design of the proposed storm drainage system, including Low Impact Development requirements per CMC 15.50.080. When staged construction is proposed, the analysis shall provide for the design of the entire storm drainage system.

The analysis shall consider all existing and future contributory drainage area, regardless of whether or not said area is in the subdivision.

The preliminary analysis shall accompany the tentative map.

B. Hydrology.

1. Storm Runoff. Runoff shall be computed by the rational method. or alternative methodology required or approved by the City.

(Q = CIA) where:

Q = rate of runoff in cfs

C = coefficient of runoff

I = intensity of rainfall in inches/hr during the time of concentration tc (min.) - The time of concentration is the elapsed time between the beginning of the flow travel time from the most remote point in the area tributary to a point of interest to that point of interest storm and peak flow at the drainage structure A typical point of interest would be an inlet to a drainage system.

A = drainage area, acres

Computations should be clear and complete with all assumptions clearly stated. An exhibit showing the tributary areas shall accompany the report. In making such computations, the following information shall be used:

a. Coefficient of Runoff. Typical values for runoff coefficients are set forth in the Storm Water Master Plan.

b. Intensity of Rainfall. A rainfall intensity versus duration design chart for the Chico area is shown on Table 4.

c. Time of Concentration. A minimum time of concentration of 5 minutes should be used whenever computations indicate a shorter time. For urban area drainage, the maximum initial time of concentration to the first drainage facility shall be 20 minutes. For unimproved areas, drainage time of concentration shall be determined by the method shown for small basins in Chapter 810, "Hydrology" of the Highway Design Manual. The method of computation of time of concentration should be clearly indicated.

d. Design Storm Frequency. The design storm frequency shall be as follows:

(1) Bridges, 200 years;

(2) Open channels, 10 years;

(3) Culverts, 10 years;

(4) Major outfall lines, 10 years;

(5) Collector lines, 5 years;

(6) Local lines, 2 years.

A minimum freeboard of three feet shall be provided for bridges and box culverts, two feet for open channels, and one foot for storm drainage pipe inlets and outlets.

C. Roadway Drainage.

1. Grade. The minimum grade for side ditches and gutters will be 0.25% if paved, 0.50% if earth.

2. Limits of Flooding. Street drainage facilities shall be designed to keep flooding within six (6) feet of the face of curb for a design storm frequency of two (2) years for local streets and ten (10) years for all other streets. The depth of flow at gutter flow line shall not exceed 0.25 feet. Concentrated flow across the traveled way is prohibited.

D. Conduit Design.

1. Type. For storm drain systems, circular pipes of reinforced concrete, smooth interior high density polyethylene (HDPE) pipe up to five (5) foot diameter, or Polyvinylchloride (PVC) pipe up to 12" diameter may be used. The minimum

required strength for all pipe in the roadway area shall be Class III as designated by ASTM Specification C-76. Culverts may be of any of the above materials in any standard manufactured shape. Reinforced concrete box culverts, if used shall be constructed in accordance with state standard plans.

2. Size. Pipes shall have a minimum diameter of 10 inches. For flows exceeding the capacity of 54-inch diameter pipe, open channels meeting the requirements of subsection H below may be acceptable.

3. Slope. Slope will be controlled by physical conditions and velocity criteria. Abrupt changes in slope are undesirable and are to be avoided wherever possible.

4. Velocity. Minimum velocity at full flow shall be two (2) feet per second (fps). The maximum velocity for storm drains shall be 10 feet per second at design flow rate, Froude numbers between 0.8 and 1.2 at design flow conditions should be avoided. Culverts may have velocities greater than 10 feet per second provided full consideration is given to the effects of abrasion and energy dissipation.

5. Head and Head Losses. To facilitate the passage of debris and detritus, storm drains shall, unless otherwise approved, be designed to pass the design flow with a free water surface. Culverts shall be designed to provide a minimum freeboard of one foot from top of culvert to top of ditch bank at the entrance and exit points.

6. Roughness Coefficient. Suggested values for Manning's roughness coefficient (n) are:

Reinforced concrete pipe 0.013

Plastic pipe (PVC, HDPE)..... 0.011

7. Alignment. Alignment should be as straight as possible without undue bends and angle points. Where dictated by physical conditions, curved alignment is permissible as long as there is no reduction in the quality and soundness of joints. The minimum radius of curvature shall be per the manufacturer's recommendations, but the minimum radius shall be 300 feet.

8. Cover. Except for culverts, outside the hinge point, the minimum cover shall be two

(2) feet, measured from the top of the pipe to the roadway or ground surface. Where less than minimum cover is necessary the Minimal Cover detail shown in the improvement standards shall be used.

9. Pipe Strength. The class of conduit recommended should be adequate for most conditions. Unusual situations may dictate selection of a higher strength conduit.

10. Location. The location of storm drains relative to roadway centerline shall be in accordance with the improvement standards. Care should be taken that storm drains and other underground facilities do not conflict with each other. Location and elevation of existing and proposed sanitary sewer laterals shall be a primary consideration in the design of the storm drainage facility.

E. Drop Inlets.

1. Types. The standard S-7 drop inlet as set forth in the improvement standards shall be used with pipes up to 30 inches in diameter. A modified S-7 drop inlet or a manhole will be used for pipe larger than 30 inches. Custom boxes shall be designed for H-20 loading. Special situation drop inlets are shown in Standards S-7A and S-26.

2. Laterals. Laterals shall have a minimum slope 1%.

3. Location. Drop inlets shall be installed at all gutter low points and at locations such that the flooding limitations of subsection C above are met. They should not be spaced further than 500 feet apart.

F. Manholes.

1. Type. The type of manhole to be utilized shall be as set forth in the improvement standards.

2. Location. Manholes shall be placed:

a. Where two or more storm drain pipes join;

b. Where the conduit changes in size;

c. At angle points;

d. At points where a change of slope in the conduit occurs;

e. At changes in type of pipe.

3. Spacing. The maximum manhole spacing shall be 1,200 feet for pipe diameters of 48 inches or more. Spacing may vary from 350 to 700 feet for diameters less than 48 inches to 33 inches. Maximum spacing shall be 350 feet for conduit 30 inches or smaller.

4. Access Shaft. The access shaft shall be centered over the axis of the drain for conduits less than 42 inches in diameter. The shaft shall be offset and made tangent to one side of the pipe when the drain diameter exceeds 42 inches.

5. Special Structures. Special structures may be required for larger diameter pipes and shall be designed on an individual basis. The minimum design of special structures shall comply with H-20 loading requirements.

6. Grade. The crowns of all conduits intersecting at a manhole shall generally match. A minimum fall of 0.10 foot across the manhole shall be provided except in cases where the conduit is continuous through the manhole.

G. End Structures.

1. General. Headwalls and other end structures shall be installed to increase hydraulic efficiency, prevent erosion adjacent to the conduit and provide a counterweight to prevent flotation.

2. Entrances. When a drop inlet is not installed, flared end sections should be used. Headwalls may be used where dictated by physical conditions. Both installations shall conform to the state standard plans.

3. Exits. Where exists are installed, headwalls or flared end sections should be used for culverts. Where drainage systems discharge into a channel, standard headwalls shall be installed in accordance with the improvement standards.

An approved energy dissipater shall be installed at outlets where velocities are erosive.

H. Open Channels. The director may approve the use of open channels on an individual basis. The finished channel shall have maintenance free bottom and sides. Minimum bottom width shall be three feet. Side slopes shall be no steeper than1-

1/2:1. All open channels shall be located in dedicated easements. An access road 12 feet wide shall be provided adjacent to the channel and within the easement.

I. Bank Protection. Bank protection such as slope paving, sacked riprap, and facing rock may be required to protect drainage facilities, property or structures. The need and nature of bank protection will be determined by the director on an individual basis.

J. Temporary Leach Field Type Storm Drainage System. In accordance with the provisions of the "Nitrate Action Plan - Greater Chico Urban Area - Butte County," adopted by city council Resolution No. 141 84-85 on March 19, 1985 as subsequently amended, temporary leach field type storm drainage systems may be installed for temporary use in cases where the public works director determines that storm water cannot be conveyed to the city's storm drainage system or drainage channel because facilities are not available. The following criteria shall apply to design of such systems:

1. Percolation tests shall be conducted in accordance with environmental health department procedures. Tests shall be taken at the proposed depth of the drainage trench(es) at such locations as required by the public works director to verify the drainage capacity of the soil. Percolation rate shall be converted from minutes/inch to cubic feet per second/square foot.

2. The trench(es) shall be designed to contain a one-in-ten year frequency storm.

3. The bottom of the trench(es) shall be at least ten feet above the high water table and there shall be at least ten feet of soil capable of percolation below the bottom of the trench(es).

4. The rational formula, Q=CIA, shall be used to determine inflow into trench(es).

5. One-third of the trench(es) volume as void area shall be used in computing amount of storm water storage available in trench(es). Rock size in trench(es) shall be from one-half inch to four inches in size.

6. Fifty percent of the trench(es) bottom area and one-half of the depth of the trench(es) side walls and end walls shall be used in determining the area available for

percolation out of the trench(es).

7. Where more than one trench is utilized, there shall be a minimum separation of four (4) feet between trench walls.

8. Limitation on Use of Infiltration Best Management Practices (BMPs). Three factors significantly influence the potential for storm water to contaminate ground water. They are: (i) pollutant mobility, (ii) pollutant abundance in storm water, and (iii) soluble fraction of pollutant. In addition, the distance of the groundwater table from the infiltration BMP may also be a factor determining the risk of contamination. A water table distance separation of ten feet in depth in California presumptively poses negligible risk for storm water not associated with industrial activity or high vehicular traffic. Site specific conditions must be evaluated when determining the most appropriate BMP. Additionally, monitoring and maintenance must be provided to ensure groundwater is protected and that the infiltration BMP is not rendered ineffective by overload. This is especially important for infiltration BMPs in areas of industrial activity or areas subject to high vehicular traffic (25,000 or greater average daily traffic (ADT) on a main roadway or 15,000 or more ADT on any intersecting roadway). Provide pretreatment for infiltration trenches in order to reduce the sediment load, hydrocarbons, and trash.

K. Post-Construction Structural or Treatment Control Best Management Practices.

Post construction standards shall comply with Municipal Code Chapter 15.50, Stormwater Discharge management Controls.

The location of the system shall be readily maintainable with an all-weather paved or concrete surface and accessible by large (jet vactor) equipment.

Access points or manholes should be situated reasonably close (max 8 feet) to the all-weather surface.

There shall be minimal roadway obstructions next to the facility maintenance points.

Vegetation or trees shall be planted in locations where growth will not obstruct future access.

The vactor muzzle used for maintenance is 12 inch diameter and is rigid for 15 feet. Design of weirs, chambers, manifolds, and access points shall accommodate nozzle size.

Where feasible, structure's bottoms will be sloped to the center of the structure directly below access point.

Where grouting is specified/performed, the installer shall thoroughly eliminate all spilled grout promptly before hardening.

Developer shall provide the City with all information and notes necessary to operate and maintain storm water quality treatment and quantity facilities on the approved improvement plans.

Section 10. That Section 18R.08.060, entitled "Sanitary sewers.", is amended as follows:

18R.08.060 Sanitary Sewers.

A. Generally. The subdivider shall provide a sanitary sewer system in accordance with the following criteria:

1. The system shall be of a size not less than that which is specified by the sanitary sewer master plan on file with the public works director.

2. The system shall have adequate capacity to serve the subdivision and the full service area tributary thereto in accordance with the city design standards. The tributary area shall be determined by the public works director.

3. When required, the subdivider shall provide a pumping plant to convey the effluent to an existing system.

The director will determine the point of connection to the existing sewer system. The subdivider's engineer shall prepare a design analysis of the proposed sanitary sewer system in accordance with the sanitary sewer master plan on file with the public works director. When staged construction is proposed, the analysis shall thoroughly cover the design of the entire system.

B. Design Flow. Recommended design criteria for the determination of the sanitary

sewer design flow for residential and commercial development are given in Table 5.

The director will determine on all individual basis if industrial waste will be accepted into the city system or if other provision for its on-site disposal will be made.

C. Conduit Design.

1. Type. Sewer conduits shall be polyvinyl chloride (PVC) sewer pipe with a maximum DR of 35, conforming to ASTM Designations D 1784 and D 3034, with flexible elastomeric seals conforming to ASTM Designation D 3212.

In new sewer line construction, wyes to tees for house service connections shall be complete fittings. Saddle type connections will not be permitted.

2. Size. The minimum sanitary sewer size shall be eight (8) inches in diameter unless an existing 6 inch diameter line is being extended to a cleanout.

No sewer pipe shall have a diameter less than that of the pipe immediately upstream from it.

3. Slope. Slope will be controlled by physical conditions and velocity criteria. Abrupt changes in slope are undesirable and should be avoided wherever possible.

4. Velocity. The minimum velocity shall be 2.0 fps when the pipe is flowing full and/or half-full. Manning's equation shall be used to compute velocity, with the "n" value assumed to be n = 0.011.

5. Head and Head Losses. Sanitary sewers shall be designed to pass the design flow with a free water surface. Proper consideration shall be given to minor head losses.

6. Alignment. Alignment will be straight between manholes with no bends except that curved alignment with a minimum radius of 500 feet may be used in special cases.

7. Location. The location of sanitary sewers relative to roadway centerline shall be in accordance with the improvement standards. Care should be taken that sanitary sewers and other underground facilities do not conflict with each other.

8. Depth. Minimum sewer depth shall be four and one-half (4.5) feet from flowline to finish grade. For unimproved streets where street grades have not been set, the minimum depth shall be five (5) feet from the flowline to existing grade. In either case,

the final depth shall accommodate a minimum service lateral depth of 3' at the back of walk when installed at a 2% slope.

9. Construction Deficiencies. The allowable deviation of invert elevation for pipes 8" and greater shall be no greater than ¾" of the design invert. If at any time the pipe holds more than ½" of fluid, regardless of pipe diameter, the pipe shall be considered unacceptable and it will be the responsibility of the contractor to correct, at their cost. All pipe testing shall be completed and accepted prior to final restoration.

D. Manholes.

1. Type. The type of manholes to be utilized shall be as set forth in the improvement standards.

2. Location. Manholes shall be placed:

a. Where two or more sewer mains join;

b. Where the conduit changes in size or pipe material;

c. At angle points;

d. At points where a change of slope in the conduit occurs.

3. Spacing. Manholes shall be spaced no farther than 350 feet apart unless approved in writing by the Director of Public Works - Engineering.

4. Grade. The crowns of all conduits intersecting at a manhole shall match.

E. Flushing Holes. Flushing holes shall be of the type shown in the improvement standards and shall be placed in accordance with the improvement standards. They shall not be used except in cul-de-sacs or at temporary ends of lines if the end of line does not occur at a manhole. Flushing holes shall be placed no more than 150 feet from a manhole.

F. Laterals.

1. General. Under no circumstances will products be accepted that project past the inner wall of the pipe. Connections shall be water tight to eliminate inflow of ground water and leakage of sewer.

Approved Products:

a. Fernco Flexible Tap Saddles – Allowed for all diameters and types of pipe material, pressure kit is required.

b. Romac Industries, Inc. Style "CB" Sewer Saddle – Allowed for all diameters and types of pipe material

c. Inserta Tee – Allowed for thick-walled pipe (i.e. clay, concrete, and SDR 26 thick wall PVC) with diameters of 15 inches or greater

d. JM Eagle PVC Tees and Wyes – Allowed for PVC Pipe with diameters of 6" through 12".

e. Mission Rubber Company LLC T-Flex Sewer Saddle – Allowed for all diameters and type of pipe material.

Other products may be submitted to the City of Consideration; however, the City reserves the right to devote as much time as it deems necessary to make the determination.

2. Size. Minimum lateral size for single-family dwellings shall be four (4) inches in diameter. All others will require special design, and design calculations shall be submitted for approval.

3. Slope. Laterals shall have a minimum slope of two (2) percent.

4. Location. Laterals shall be provided for every lot and not cross parcel boundary lines and shall generally be centered on each lot. They shall be at right angles or radial to the sanitary sewer main. Laterals crossing parcel boundary lines are required to have proof of easement and a maintenance agreement between all impacted parties. Laterals shall be installed to a point at least five (5) feet into the property prior to other utility installation, pressure testing and subsequent connection to the effluent source.

5. Depth. Laterals shall have a three (3) foot minimum cover (four (4) foot preferred) at the back of the sidewalk. Where the sewer main is ten (10) feet or greater in depth, deep sewer risers shall be installed.

6. An "S" shall be cast into the top of concrete curbs where each lateral exists. The sewer lateral shall also be marked with a 18" long #4 rebar inside of an 18" section of

3/4" diameter PVC pipe, placed above the lateral, at the right of way line, below the surrounding surface of the ground, no deeper than 6" per City Standard S-12 detail. Marking tape shall be placed 12" above pipe for the full length of the lateral.

G. Lift Stations. New lift station designs will be subject Director approval on a case by case basis. The review and approval process may include third party review to ensure feasibility, adherence to industry standards, and acceptance by the City's O&M staff.

H. Temporary Pumping Plants. The subdivider's engineer shall design any needed pumping plants subject to the approval of the director. Each design will be considered on an individual basis.

Section 11. That Section 18R.08.070, entitled "Water supply.", is amended as follows:

18R.08.070 Water supply.

A. Size and Type. The size and type of water main pipe shall be determined by California Water Service. The sizing shall be based upon the company's distribution needs and fire flow requirements determined by the city fire department. The type of pipe will be determined by the California Water Service.

B. Installation. Installation of water main and services shall be the responsibility of the subdivider and comply with the requirements of California Water Service. Trench backfill and replacement shall be in accordance with the city of Chico improvement standards.

C. Certification. Prior to filing the final map, the subdivider shall provide the city with the certification from California Water Service. This certification shall state that the company will provide water service to the subdivision and that the subdivider has met all of the company's conditions necessary to provide water service.

Section 12. That Section 18R.08.075, entitled "Fire hydrants.", is amended as follows:

18R.08.075 Fire hydrants.

A. Installation; Location; Number. Installation of fire hydrants shall be the responsibility of the subdivider.

The number and location of fire hydrants connected to a water supply capable of delivering the required fire flow shall be provided on the public right-of-way and/or on the site to be protected as determined by the fire chief. Standard hydrant spacing shall be at 300-foot intervals in all areas except areas containing only single-story single-family or duplex dwellings, in which case standard hydrant spacing shall be at 500-foot intervals.

When the fire chief determines that it would not be adverse to the city's fire protection capabilities, the fire chief shall have the authority to make minor modifications to the hydrant placement distances set forth above. In no case shall fire hydrants be spaced closer than 300-foot intervals.

B. Hydrant Type. Approved fire hydrant models are the Clow Model 950 or 960 consisting of at least 1 – 2 ½" port and 1 – 4 ½" port. Other hydrant models may be utilized upon approval of the fire chief.

C. Method of Installation. The subdivider shall make all arrangements for the installation and inspection of all fire hydrants with the California Water Service and Chico Fire Prevention.

D. Blue Retroreflective Markers

1. Blue retroreflective pavement markers shall be installed near all fire hydrants.

2. Two-Way Streets and Roads: Markers shall be placed 6 inches from the edge of the painted centerline on the side nearest the fire hydrant. If the street has no centerline, the marker shall be placed 6 inches from the approximate center of the roadway on the side nearest the hydrant.

3. Multilane Streets and Streets with Medians: Markers shall be placed 6 inches to the side of the median or lane striping, which is closest to the hydrant.

4. Expressways: Markers shall be placed on the shoulder one foot to the right of the painted edge line opposite the off-right of way from the fire hydrant location.

5. Intersections: In locations where hydrants are situated on corners, markers shall be installed on both approaches fronting the hydrant.

6. For City projects, the City's contractor will install the blue markers. For development projects, the developer or the developer's contractor will install the blue markers. Once installed, blue markers will become City property and shall not be used for any other purpose.

Section 13. That Section 18R.08.090, entitled "Street trees and landscaping.", is amended as follows:

18R.08.090 Street trees and landscaping.

A. Street Tree Requirements.

1. For all projects regardless of size, street trees shall be planted in accordance with the current adopted Urban Forest Master Plan.

2. Follow tree species selection process established in the current adopted Urban Forest Master Plan. See Appendix E of the adopted Urban Forest Master Plan.

3. In Lieu Option. In lieu of planting trees, the subdivider shall deposit with the city a street tree fee. Such fee shall provide the tree purchasing and planting by the city and shall relieve the subdivider of any further street tree obligation. The In Lieu Option is subject to review and approval by the Director of Public Works Engineering.

4. Tree removal requires a separate permit. See CMC 16.66.060.

B. Landscape Requirements.

1. Landscaping is required for projects which create new landscape areas that sum to in excess of 2,500 square feet which are to be dedicated to the City.

2. New and Rehabilitated landscaping shall be compliant with the current Revised Model Efficient Landscape Ordinance (MWELO). (LDP) that, at a minimum, contains the prescriptive requirements as follows:

a. Date

b. project applicant

c. project address (if available, parcel and/or lot number(s))

d. total landscape area (square feet), including a breakdown of turf and plant material

e. List separate totals, in cubic yards, of organic mulch (such as wood fibers, composts) and inorganic top-dressing cover (such as rock, gravel, decomposed granite). Use California SB 1383 compliant mulch/compost product.

f. project type (e.g., new, rehabilitated, public, private, cemetery, homeowner-installed)

g. water supply type (e.g., potable, recycled, well) and identify the local retail water purveyor if the applicant is not served by a private well

h. checklist of all documents in Landscape Documentation Package

i. contact information for the project applicant and property owner

j. applicant signature and date with statement, "I agree to comply with the requirements of the prescriptive compliance option to the Model Water Efficient Landscape Ordinance".

k. Water Efficient Landscape Worksheet;

(1) hydrozone information table

(2) water budget calculations

(a) Maximum Applied Water Allowance (MAWA)

(b) Estimated Total Water Use (ETWU)

l. soil management report;

m. landscape design plan;

n. irrigation design plan; and

o. grading design plan.

3. Landscape plans shall be integrated into the Improvement Plans and submitted simultaneously. Improvement plans without landscaping plans will be deemed incomplete.

4. Pre-construction meeting(s) shall occur to discuss and clarify landscape installation expectations and related infrastructure affecting landscape installation. An Inspections Check List will be confirmed and utilized during project.

5. Landscape plans shall bear the signature of a licensed landscape architect, licensed

landscape contractor, or any other person authorized to design a landscape

C. Planting and Irrigation shall, at a minimum, contain the prescriptive requirements of MWELO and the City of Chico as follows:

1. Existing trees to remain as a part of the landscape shall be protected throughout the construction project.

2. Tree(s) to be planted according to the approved Landscape Planting design plan, shall receive a treatment of wood mulch top-dressing of three-inch (3") depth at a minimum of three-foot (3') radius around the tree(s). Follow additional tree specifications per landscape plans.

3. Incorporate compost at a rate of at least four cubic yards per 1,000 square feet to a depth of six inches into landscape area (unless contra-indicated by a soil test).

4. For residential areas, install climate adapted plants that require occasional, little or no summer water (average Water Use Classification of Landscape Species (WUCOLS) plant factor 0.3) for 75% of the plant area excluding edibles and areas using recycled water; For non-residential areas, install climate adapted plants that require occasional, little or no summer water (average WUCOLS plant factor 0.3) for 100% of the plant area excluding edibles and areas using recycled water;

5. A minimum three-inch (3") layer of mulch shall be applied on all exposed soil surfaces of planting areas except in turf areas, creeping or rooting plant groundcovers, designated beneficial insect habitat, or direct seeding applications where mulch is contraindicated.

6. Use California SB 1383 compliant mulch/compost product.

7. Inorganic ground cover material such as crushed rock, lava rock, gravel, and decomposed granite (DG), shall be used for design purposes such as aesthetic accent, non-planter utility areas, and pathways.

8. Turf shall not exceed 10% of the landscape area in residential areas, and there shall be no turf in non-residential areas.

9. Turf shall not be planted on sloped areas which exceed a slope of 1 foot vertical

elevation change for every 4 feet of horizontal length;

10. Turf is prohibited in parkways less than 10 feet wide, unless the parkway is adjacent to a parking strip and used to enter and exit vehicles. Any turf in parkways must be irrigated by sub-surface irrigation or by other technology that creates no overspray or runoff.

11. Automatic irrigation controllers are required and must use evapotranspiration or soil moisture sensor data and utilize a rain sensor.

12. Irrigation controllers shall be of a type which does not lose programming data in the event the primary power source is interrupted.

13. The irrigation systems for landscape areas that will be dedicated to the City shall include master valves, flow sensors, HydroPoint Baseline 3200 series product line and associated accessories. Specific model(s) per design plan and specifications. Controller installation must be certified by the City's authorized Baseline representative.

14. Pressure regulators shall be installed on the irrigation system to ensure the dynamic pressure of the system is within the manufacturers recommended pressure range.

15. Manual shut-off valves (such as a gate valve, ball valve, or butterfly valve) shall be installed as close as possible, but not within the Cal Water Service meter box, to the point of connection of the water supply and between the mainline supply and each remote valve.

16. All irrigation emission devices must meet the requirements set in the ANSI standard, ASABE/ICC 802-2020. "Landscape Irrigation Sprinkler and Emitter Standard", and/or the United States Environmental Protection Agency (EPA) WaterSense practices. All sprinkler heads installed in the landscape must document a distribution uniformity low quarter of 0.65 or higher using the protocol defined in ASABE/ICC 802-2020 and/or the EPA WaterSense practices.

17. A water audit shall conducted before installing plant material, to ensure

proper uniformity and precipitation rates.

18. Areas less than ten (10) feet in width in any direction shall be irrigated with subsurface irrigation or other means that produces no runoff or overspray.

19. For non-residential projects with landscape areas of 1,000 sq. ft. or more, and residential irrigated landscapes of 5,000 sq. ft. or greater, a dedicated water service meter or a private submeter(s) to measure landscape water use shall be installed.

20. At the time of final inspection, the permit applicant must provide the owner of the property with a certificate of completion, certificate of installation, irrigation schedule and a schedule of landscape and irrigation maintenance.

D. Planting and Installation Guidelines. All street trees and landscaping required within a public right-of-way or public service easement or on other city property shall be planted and installed in compliance withStandard Plan sheets LS-1 thru LS-53:

Section 14. That Section 18R.08.100, entitled "Traffic signals.", is amended as follows:

18R.08.100 Traffic signals.

If the anticipated traffic demand created by the subdivision warrants the installation of traffic signals, the subdivider shall install same.

Determination of the need for traffic signals, and their subsequent design, will be the responsibility of the director. The subdivider shall provide and install these facilities in accordance with requirements of the director. All work shall comply with the Standard Specification and the State Standard Plans.

Section 15. That Section 18R.08.130, entitled "Public right-of-way improvements - nonsubdivision.", is amended as follows:

18R.08.130 Public right of way improvements – nonsubdivision.

Public right-of-way improvements, as required by Title 14 of this code and which are not part of a subdivision, shall be constructed in accordance with these design criteria and improvement standards except as follows:

A. Street improvements (including but not limited to curb, gutter, sidewalk, storm

drainage facilities, and street lighting) shall be required from lot or parcel property line to the edge of existing street pavement, or beyond as may be needed to maintain integral integrity of adjacent existing improvements. For road surfacing, in order to maintain a maximum five percent (5%) cross slope in the shoulder and a maximum two percent (2%) cross slope in the traveled lane on said existing street and further beyond so as to not allow a longitudinal joint in the wheel path.

B. In lieu of constructing alley improvements, an alley improvement fee shall be paid as established by resolution of the city council, except that alley improvements shall be constructed in the following cases:

1. All non-residential development;

2. All residential development of four (4) or more dwelling units on a parcel, which utilize the adjacent alley for access.

When improvement of an alley is required, it shall be constructed between the property and the nearest street as well as along the full width of the property abutting the alley. The community development director may determine that an alley improvement fee be paid where alley construction would otherwise be required in the event it is determined that grade constraints or extensive storm drainage requirements make construction impractical.

C. Where adjacent existing improvements do not meet current criteria, the director may elect to alter the criteria so that proposed improvements match existing improvements in the most practical, yet satisfactory manner.

Section 16. That Table 1, entitled "HORIZONTAL ALIGNMENT CRITERIA", is amended as follows:

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Table 1

HORIZONTAL ALIGNMENT CRITERIA

Type of Street	Arterial	Collector	Local
Minimum Design Speed (mph)	40	35	25
Minimum Curve Radius at Centerline (feet)	600	450	200
Minimum Tangent between Reversing Curves (feet)	200	150	100

Minimum Stopping Sight Distance and Passing Sight Distance shall be governed by the HDM.

Section 17. That Table 2, entitled "VERTICAL CURVE CRITERIA", is amended to read as follows:

Table 2

VERTICAL CURVE CRITERIA

Vertical Curve design shall comply with the requirements established in the Caltrans Highway Design Manual or the most recently adopted "AASHTO Geometric Design of Highways and Streets" manual.

Type of Street	Design Speed (mph)	Minimum Length Vertical Curve (feet)
Arterial	40	200
Collector	25	150
Local	25	100

Section 18. That Table 3, entitled "RUNOFF COEFFICIENTS", is removed in its entirety and replaced with Table 3, entitled "STREET DESIGN" as follows:

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Table 3

STREET DESIGN

Number of Residential Units Served	Min. T.I.
0-40	5.0
41-91	5.5
91-180	6.0
181-300	6.5
301-500	7.0
501-700	7.5
701-900	8.0

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Section 19. That Table 6, entitled "Sanitary Sewer Peak Flow Factor", is amended as follows:

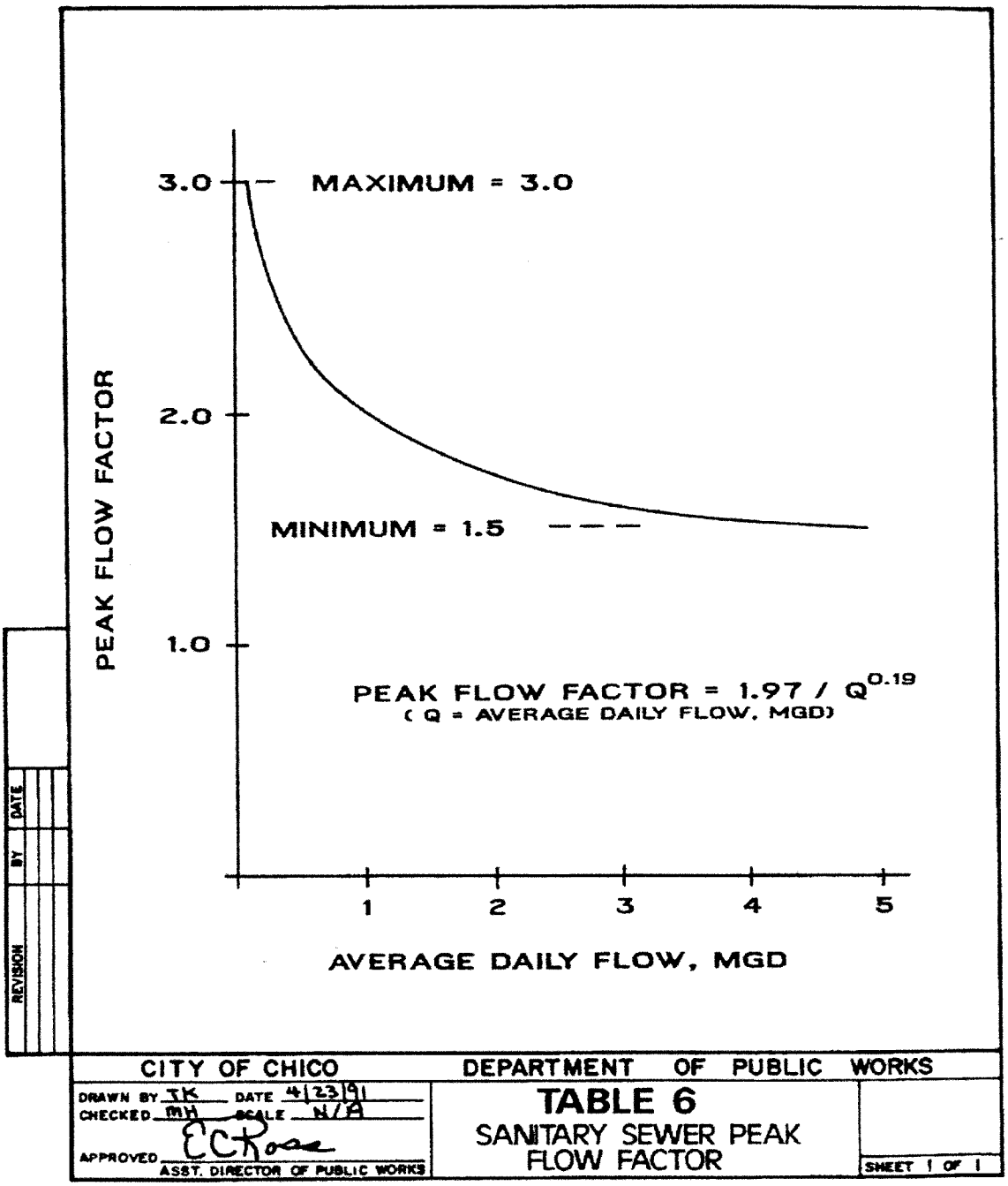

Table 6 Sanitary Sewer Peak Flow Factor

Section 20. That Chapter 18R.12, entitled "IMPROVEMENT STANDARDS3", is amended as follows:

CHAPTER 18R.12 IMPROVEMENT STANDARDS

Section 21. That Section 18R.12.010, entitled "Construction specifications.", is amended as follows:

18R.12.010 Construction specifications.

A. Roadway Grading.

1. Roadway Grading. Roadway grading shall consist of performing all operations necessary to excavate earth, rock and all other materials upon which the imported borrow, selected fill, aggregate base, cement treated base or other material is to be constructed; to build embankment in the location and to the elevation and form required; to backfill ditches and depressions caused by the removal of obstructions; to furnish all equipment necessary for these operations, and the performance of all incidental work of whatsoever nature may be required to build the grade and maintain it in the form specified.

2. Roadway Earthwork. All roadway earthwork shall be constructed and maintained as specified in Section 19 of the standard specifications.

3. Surplus Excavation. Surplus material from excavation shall be disposed of by the contractor, unless special instructions for such disposal are shown on the plans or in the special provisions.

B. Aggregate Base - Class No. 2. Aggregate Base - Class No. 2, shall be constructed as provided in Section 26 of the standard specifications. The thickness shall be of the dimensions indicated on the plans and shall conform to the grading specifications set forth in the standard specifications. The size of aggregate shall be three-quarter (3/4) inch (maximum) as set forth in Section 26, or as specified by the engineer.

C. Hot Mix Asphalt

1. Hot Mix Asphalt shall be constructed according to the shape and thickness between curbs and gutters as shown on the plans and as herein specified, and otherwise shall conform to the requirements of Section 39 of the standard specifications. Hot Mix Asphalt shall be Type "A." Paving asphalt shall be of the penetration range specified by

the engineer.

2. Leveling Course. Leveling course shall consist of surface course material and shall be placed as specified in Section 39 of the standard specifications.

3. Base Course. The base course shall be of the thickness as shown on the plans and shall conform to the requirements of the standard specifications.

4. Surface Course. The surface course shall be of the thickness as shown on the plans and shall conform to the requirements of the standard specifications. The aggregate for the surface course shall conform to the grading specified for ½-inch maximum (medium) grading.

5. Smoothness. The top layer of HMA pavement must not vary from the lower edge of a 12-foot straightedge:

a. More than 0.01 foot when the straightedge is laid parallel with the centerline.

b. More than 0.02 foot when the straightedge is laid perpendicular to the centerline and extends from edge to edge of a traffic lane.

c. More than 0.02 foot when the straightedge is laid within 24 feet of a pavement conform.

D. Seal Coat. Seal coat shall consist of the material and shall be placed as specified in Section 37 of the standard specifications. The bituminous binder shall be 200-300 grade paving asphalt or emulsion spread at the rate as set forth in the standard specifications and as specified by the engineer. The preparation of surface prior to seal coating shall be as specified in Section 37 of the standard specifications.

E. Pavement Replacement. Pavement replacement shall consist of Type "A" Alternate 1, Type "A" Alternate 2, Type "B," or Type "C" as shown on the City of Chico Standard Plan No. S-17. The specific type of pavement replacement shall be as shown on the plans.

Pavement Replacement shall be constructed within 6 calendar weeks from the date of temporary pavement placement unless otherwise approved by the Director of Public Works Engineering in writing.

All work necessary to complete the pavement replacement, as shown on said Standard Plan, shall be done in accordance with the applicable sections of the standard specifications.

F. Tapering Into Adjacent Streets. The contractor shall construct smooth tapers into all adjacent streets. The exact length of taper and the grade of the taper shall be under the direction of the engineer. The contractor shall butt all pavement tapers as directed by the engineer. The tapers shall consist of a minimum of eight (8) inches aggregate base and three (3) inches hot mix asphalt.

G. Portland Cement Concrete Curbs, Gutters, Sidewalks, Driveways, Accessible Ramps, and Alleys.

1. General. Portland cement concrete curbs, gutters, sidewalks, driveways, handicapped ramps, and alleys shall be constructed at the location shown on the plans, or as directed by the engineer, and shall conform to the details and dimensions as shown on the following city of Chico, standard plans:

a. Standard Plan No. S-1, "P.C.C. Sidewalk Details";

b. Standard Plan No. S-2, "P.C.C. Curb and Gutter";

c. Standard Plan No. S-2A, "Curb, Gutter & Sidewalk Installation at Trees";

d. Standard Plan No. S-3, "Existing Curb and/or Gutter - Replacement Details";

e. Standard Plan No. S-5, "Residential Driveway Approach";

f. Standard Plan No. S-5A, "Commercial Driveway Approach";

g. Standard Plan No. S-5B, "Curb, Gutter, & Driveway Details";

h. Standard Plan No. S-5C, "Curbed Driveway Entrance";

i. Standard Plan No. S-9, "Alley Pavement";

j. Standard Plan No. S-27, "P.C.C. Curb Ramp";

k. Standard Plan No. S-27-A, "P.C.C. Curb Ramp."

2. Materials.

a. Concrete. Construction of all curbs, gutters, sidewalks, driveways, accessible ramps, and alleys shall be of class "A" Portland cement concrete as specified in Section

90, "Concrete" of the standard specifications and shall conform to the provisions of Section 90-2, "Minor Concrete" of the standard specifications.

b. Adhesives. Adhesives or bonding agents used to join new concrete to existing concrete shall be approved by the engineer prior to use in the work.

c. Lampblack. Lampblack of approved quality shall be mixed with all of one pound per cubic yard of concrete.

d. Joint Filler. Premolded expansion joint filler shall conform to the provisions of Section 51-2.01B(1), "General" of the standard specifications.

e. Dowels. Steel dowels, where specified, shall conform to the provisions of Section 52-1.02E, "Dowels" of the standard specifications.

f. Curing. The curing method for Portland cement concrete shall conform to Section 90-1.03B, "Curing Concrete" of the standard specifications. The curing compound shall consist of the compound specified in Section 90-1.03B(3), "Curing Compound Method" of the standard specifications.

g. Detectible Warning. Detectible Warnings shall be wet set style and have the following specifications:

(1) Body thickness is 0.20" not including the truncated domes.

(2) Panel weight is 2.25 lbs per SF.

(3) Four-sided embedment flange is 0.75" deep and 1" thick.

(4) Includes 0.5" x 1.5" long corrosion Resistant concrete inserts with 6200 psi of pulldown strength per insert.

(5) Panel is secured into the anchor with 0.5" x 1.5" heavy-duty metal bolts located 0.25" into the body of the panel.

(6) Bolt head is fully covered and protected by structurally fit caps.

(7) The shape, color, and configuration of the domes shall comply with all federal ADA requirements.

3. Construction.

a. Construction of all curbs, gutters, sidewalks, driveways, and accessible ramps shall

conform to the provisions of Section 73, "Concrete Curbs and Sidewalks" of the standard specifications.

b. Construction of all alleys shall conform to the provisions of Section 90-2, "Minor Concrete" of the standard specifications and shall contain a minimum of 590 pounds of cementitious material per cubic yard.

c. Subgrade preparation shall conform to the provisions of Section 73of the standard specifications. Where subgrade occurs in a fill section, the base material shall be compacted to a relative density of 95 percent in conformance with California Test Method No. 216.

d. No concrete shall be placed until the subgrade and forms have been reviewed for satisfactory compaction, alignment, and grade and approved by the engineer.

e. Premolded expansion joints, 1/4 inch wide, shall be installed in all curbs, gutters, driveways and sidewalks as follows:

(1) As shown on city of Chico Standard Plans S-1, S-2, S-2A, S-3, S-5, S-5A, S-5C, S-7, S-27 and S-27A;

(2) At maximum 48-foot intervals in all new curb and gutter constructions;

(3) At locations of expansion joints in existing sidewalks, curbs or gutters.

f. Control joints, 1/8-inch wide, scored at least 1/10 the depth of concrete being placed, shall be constructed at maximum 12-foot intervals in all new curbs, gutters and sidewalks. When repairing sidewalk (length is generally less than 50 feet), match existing control joint layout. New sidewalks wider than 5' shall have an additional longitudinal control joint placed at mid span.

g. Extruded curb construction shall not be used without a prior test demonstration of proposed equipment and procedures, off the side of work, and shall not be used without prior approval by the engineer.

H. Standard Fence. Standard fence shall conform to the requirements of Section 80-2, "Barbed Wire and Wire Mesh Fences" of the standard specifications except as provided herein.

1. New fence shall Type WM Wire Mesh Fencing as specified in Section 80-2, "Barbed Wire and Wire Mesh Fences" of the Standard Specifications with 3-strand barbed wire on top, with steel posts at 12 feet center to center, set a minimum of 2.5 feet into the ground.

2. All fencing removed shall become the property of the contractor and shall be removed from the premises.

I. Bore and Jack Pipe. Bore and jack pipe shall consist of boring and jacking casing and installing pipe inside the casing at locations shown on the plans. Casing and pipe shall be of the types and sizes shown on the plans.

The casing designated in the contract item will be determined for vertical load only. Additional reinforcement or strength of casing required to withstand jacking pressure shall be determined and furnished at the contractor's expense.

Variations from theoretical grade at the time of completion of placing shall not exceed 0.1 foot for each 30 feet of casing placed.

The excavated hole shall not be more than 0.1 feet greater than the outside limits of the casing. Sluicing and jetting with water will not be permitted. When material tends to cave in from outside these limits, a metal shield shall be used ahead of the first section of casing.

Areas resulting from caving or excavation outside the above limits and the area between the casing and the pipe shall be backfed with sand or grout by a method which will fill the voids.

J. Cast Iron Pipe. Cast iron pipe shall be heavy duty cast iron soil pipe. Pipe joints shall be in accordance with applicable provisions of the Uniform Plumbing Code.

The pipe shall be installed in strict accordance with the manufacturer's instructions.

K. Reinforced Concrete Pipe. Reinforced concrete pipe shall conform to the requirements for materials and methods of installation as set forth in Section 65 of the standard specifications. Reinforced concrete pipe shall be of the class shown on the

plans. Backfill shall be in accordance with subsection L below.

L. Trench Backfill. Trench backfill for storm drainage, sanitary sewers, or any other underground utility installation shall conform to, and be constructed in conformance with the requirements as set forth below:

1. New Street Constructions.

For any portion of the street right-of-way upon which aggregate sub-base, aggregate base, hot mix asphalt, P.C.C. curb and gutter, or P.C.C. sidewalk will be constructed, the trench may be backfilled from the top of the pipe zone to a plane 12" below the finish subgrade of the road with trench excavation free from stones and lumps exceeding three (3) inches in greatest dimension, organic matter, or any other unsatisfactory materials. The material shall be compacted to 90% R.D., minimum and shall be placed in conformance with the requirements of Section 19-3, "Structure Excavation and Backfill" of the Standard Specifications. Consolidation by ponding or jetting will not be allowed. The top 12" of the trench backfill shall consist of the same material used to backfill the lower trench section, but the compaction required in this section shall be 95% R.D. Placement of material in the top 12" of trench backfill shall conform to the same requirements as the lower portion of the trench.

For the remaining portions of a new street right-of-way, the structural section shall be constructed per the approved improvement plans and be based on an anticipated Traffic Index (TI) provided by the City and an R-value provided by the developer's geotechnical engineering report.

2. Existing Street, Alley, Easement Construction.

For any portion of the public right-of-way which as any existing improvements for vehicular traffic, the trench shall be backfilled from the top of the pipe zone to a plane 12" below the finish subgrade with either class II AB complying with Section 26, "Aggregate Bases", or Controlled Low Density material complying with section 19-3, Structure Excavation and Backfill" of the Standard Specifications, and be compacted to 90% R.D., minimum. The top 12" of the trench backfill shall consist of the same

material used to backfill the lower trench section, but the compaction required in this section shall be 95% R.D. Consolidation by ponding or jetting will not be allowed. The top wear surface shall be the same material as that of the existing roadway and shall be of the same thickness as the thickness of the existing wear surface (AC, PCC). If Class II AB is used for trench backfill, compaction testing will be required per the Quality Control section contained within the City's adopted Quality Assurance Plan and the cost of such tests shall be paid for by the contractor.

3. State Highways.

M. For any existing state highways, future state highways, or freeways, trench backfill materials and procedures shall comply with the requirements of Section 19-3, "Structure Excavation and Backfill" of the standard specifications.Standard Precast Concrete Manholes.

1. Manholes.

a. The contractor shall furnish all materials for the construction, complete, of all standard and other manholes shown on the plans and specifications and all manholes shall be constructed either of precast concrete sections or reinforced concrete. The contractor shall furnish all materials, labor, tools, equipment, and do all the work involved and necessary to complete the manholes as shown on city of Chico Plans S-10 and S-11.

b. Frames and Covers. All manhole frames and covers shall be of the dimensions and weights shown on city of Chico Standard Plans S-14 and S-14A. Each frame and cover shall have its weight indicated on the bottom outside rim of the cover. The seat of the frame shall in each case be machined sufficiently so that the cover will sit evenly and firmly in place without rocking. The top of the cover shall be within 1/8" of the frame top and the cover shall fit properly and firmly in the frame.

2. Portland Cement Concrete Precast.

a. Manholes shall be constructed along the sewer line at such places as shown on the plans.

Manholes shall consist of precast concrete sections set on a concrete base, with cast iron cover as shown on the Standard Plans.

"Kent Seal," "Ram Neck" or an approved equal, shall be installed at all manhole joints. All excess joint material shall be trimmed or removed.

Manufacture of these sections shall be governed by specifications for reinforced concrete sewer pipe, ASTM Designation C-76.

b. Portland Cement. Portland cement shall be of standard accepted brand and shall fully meet the requirements of the ASTM specifications for Portland cement, Designation C-150.

c. Coarse Aggregate. Coarse aggregate shall consist of clean, hard, durable screened and washed gravel, or crushed rock, free from organic matter. Aggregate shall be properly graded in conformity with the class of concrete specified, and to secure concrete of not less than twenty-five hundred (2500) pounds per square inch at twenty-eight (28) days.

d. Fine Aggregate. Fine aggregate shall consist of well-graded, hard, durable, clean, natural sand free from all deleterious matter. Use of bank sand, fine river sand, or any other uniformly fine sand, shall not be permitted.

e. Mixing. All concrete mixing shall be done in machine batch mixers of approved type, having a capacity of not less than a full one-sack batch. Each batch shall be run long enough for the conglomerate to become a homogenous mixture, continuing a minimum time of one and one-half (1½) minutes after the last aggregate has been placed in the mixer.

Placing of concrete shall be done immediately after mixing. No concrete shall be placed or used after it has begun to set and no retempering will be allowed.

The ratio of water to cement shall not exceed seven and one-half (7½) gallons of water per sack of cement used, including the water in the aggregates, in order to obtain a concrete having an ultimate strength not less than 2500 pounds per square inch at twenty-eight (28) days.

When installing grade rings to the top of a manhole, each grade ring shall be set into a thin layer of grout and seated appropriately to eliminate rocking or movement of the grade ring.

N. Tree Removal. Tree removal shall consist of removing all trees as shown on the plans and as designated by the engineer. Tree removal shall be performed as herein specified.

All roots of trees to be removed shall be cleared to a point not less than two (2) feet below the surface of the parkway between the back of existing curb and existing sidewalk. Root void shall be backfilled to surface of parkway with native material and shall be jetted into place.

All portions of trees shall be removed from the public right-of-way. The sidewalk, parkway and street areas shall be left in a condition equal to or better than prior to start of work.

O. Concrete Drain Inlets. Concrete drain inlets shall be constructed with Portland Cement and comply with Section 90-2, "Minor Concrete" of the Standard Specifications and contains 590 pounds of cementitious material per cubic yard. Concrete shall be mixed and placed per section 51, "Concrete Structures" of the Standard Specifications. Concrete Drain inlets shall be of the dimensions as shown on the city of Chico, public works department, Standard Plans S-7, S-7A and S-26.

P. Materials for Sewer Lines and Sewer Line Construction.

1. Work to be Done. The work to be done under this section comprises the furnishings of all materials, labor, tools, implements and equipment necessary for construction of the sewer lines, complete and ready for operation and all restoration required to return any disturbed areas back to preconstruction condition. All work shall be in accordance with the details shown on the plans and the provisions of these improvement standards and in conformity with the highest standards of workmanship of this type of construction. Contractor shall comply with all applicable occupational safety and health standards, rules, regulations, and order as specified in

Section 7, "Legal Relations and Responsibilities to the Public" of the standard specifications.

The work shall include the following items and related construction:

a. The construction of all portions of the intercepting and main sewer lines under this contract;

b. Cutting of pavement over trenches;

c. Excavating and dewatering of all trenches;

d. Bracing and shoring of trenches;

e. Bedding, laying and jointing of pipe;

f. Backfill and compaction of backfill;

g. Disposal of excess materials.

2. Excavation for Sewers. The excavation for sewer pipe shall not be made further in advance of laying the pipe than is practical to complete the pipe laying and backfill operation each day.

a. Excavation for Laying Pipe. Pipe shall, unless otherwise directed, be laid in open cut. All trenches shall have vertical sides from the bottom to a point at least six (6) inches above the top of the pipe. Above this point in unstable ground, with the written consent of the engineer, the trench may be sloped as directed. Trench widths shall comply with City Standard S-12. In the event that sheeting is required, the width of the trench shall be increased sufficiently to accommodate the sheeting. Sheeting shall not be driven below the invert grade of the pipe unless absolutely necessary due to ground conditions, as sheeting is to be removed in conjunction with the backfilling. If sheeting is driven below the invert grade as required above, it shall remain in place, except that portion two (2) feet above the top of pipe, which shall be cut off and removed as the backfilling is completed.

When using movable trench support, care shall be exercised not to disturb the pipe locations, jointing or embedment. Any voids left in the embedment material by support removal shall be carefully fitted with compacted granular material. Removal

of any bracing between sheeting, trench boxes or shields shall only be done where backfilling procedures permit removal without loss of trench support. Any longitudinal movement or disjointing of pipe which results from movement of trench boxes or shields shall be corrected before additional pipe is placed.

b. Trenches in Rock. Every trench in rock shall be fully opened to a final depth at least thirty (30) feet in advance of any place where pipe is being laid. In rock the trench shall be carried six (6) inches below the external diameter of the pipe. Gravel, as herein specified, shall be placed, spread and compacted to provide a firm uniform bed for supporting the pipe.

c. Soil Testing. Should soil conditions such as running water or unstable soils be encountered during trench excavation, the director may require testing in advance of excavation to determine the nature and extent of the conditions. After such determination is made, the director may require modified trenching and embedment procedures, as required by soil conditions.

d. Preparation of Subgrade. Rough excavation in trenches shall not be carried lower than a distance equal to one-tenth (1/10) of the internal diameter of the pipe above the specified grade elevation, and the remainder of the excavation shall be done as the pipe subgrade is prepared and immediately prior to installing the pipe. As an alternate method, the trench may be excavated to depth four (4) inches below the elevation of the outside of the pipe barrel, and embedment material placed and compacted the full width of the trench to the elevation of the outside of the pipe barrel. The subgrade for pipe shall be so prepared that the entire length of each section of pipe shall have a firm and uniform bearing except for such distance as is necessary for bell holes and the proper seating of the pipe joints. Bell holes below the elevations of the pipe subgrade shall not be larger than one-fourth (1/4) of the distance between pipe joints.

3. Overcut. Excavations shall be carried to the exact depth indicated on the plans or as specified. Should the contractor, through the contractor's negligence or other fault, excavate below the designated lines, the contractor shall replace such excavation with

approved materials at the contractor's own expense.

4. Protection of Excavation. The contractor shall, where necessary, protect excavations from caving by installing suitable shoring. Any damage resulting from failure to provide shoring shall be repaired at the contractor's own expense. All shoring shall be removed unless otherwise specifically authorized.

5. Approval of Excavations. The contractor shall notify the engineer where excavations for structure or pipes are completed, and no concrete shall be deposited or pipes laid until the excavations are approved.

6. Polyvinyl Chloride (PVC) Pipe. All polyvinyl chloride sewer pipe, sizes 4-inch through 15-inch, shall be DR 35 maximum and shall conform to the requirements of ASTM D 3034.

All joints shall be made with flexible elastomeric seals meeting the requirements of ASTM D 3212, and shall be capable of passing all tests specified in said standards and in these specifications. A factory applied reference mark shall be provided on the spigot end of each pipe to insure proper positioning in the receiving bell.

7. Quality Control Tests and Certification. Written certification by the manufacturer shall be submitted for all sewer pipe stating that the pipe conforms to all specifications referenced herein.

The director may select pipe specimens at random at the point of delivery or at the job site for testing. Tests on these specimens shall be made at a testing facility approved by the director. Tests shall be in accordance with applicable ASTM designations. The cost of all failing tests shall be borne by the contractor.

8. Handling and Storage. Care shall be taken during transporting of the pipe to insure that the binding and tiedown methods do not cut or crack the pipe. Pipe bowed, deformed, cracked or otherwise damaged during shipping or storage shall be rejected. Polyvinyl chloride pipe which shows any change in color or surface finish due to exposure to ultraviolet light shall not be used without the approval of the director.

9. Inspection of Sewer Pipe. Wherever possible, the contractor shall avoid

distribution of pipe to the job site too far in advance of laying operations. The contractor shall also supply experienced help for the unloading of the pipe so as to avoid damage caused by unloading operations. Immediately preceding placing and laying of the sewer pipe, it shall be checked for defects in accordance with these improvement standards.

10. Laying Sewer Pipe. Each sewer pipe shall be laid uphill in perfect conformity with the lines and grades as given by the engineer from stakes which the engineer has previously set for the purpose.

The grade line of the pipe shall be obtained by use of batter boards and a "top" line stretched tight and supported every 25 feet, and the contractor will be required at all times to maintain the top lines for a distance covering at least three grade stakes. The contractor shall at all times have available one competent person, whose duty it shall be to set and maintain the top line and to give the line and grade for the pipe.

With the approval of the director, the grade line may be set by use of a construction laser, installed in the trench.

After the trench for pipe sewers has been brought to the proper line and grade in the manner above specified, the pipe shall be laid therein in the following manner:

a. Before any pipe is put in place, the trench bottom shall be prepared so that each pipe shall have a firm and uniform bearing over its entire length. All adjustment to line and grade must be made by scraping away the earth or rock under the body of the pipe as herein specified, and not by wedging or blocking up any portion of the pipe.

b. Bell holes shall be excavated in subgrade and made as small as possible still permitting un-obstructed placing of the jointing material and joint runner and not allowing foreign material to enter the joint. The length of the bell hole shall not exceed one-fourth (1/4) the length of the pipe.

c. The pipe shall be lowered into place in a manner that will insure that the pipe remains clean, care being exercised not to disturb the top line. The pipe shall not be lowered by sliding it down the side of the trench.

d. All pipe shall be fitted together and matched while being laid so that when joined, the inverted forms a true straight grade line. The ends of the pipe shall be brought in contact with each other.

e. If water is encountered in the trench, it shall be kept below the bottom of the bell of the unjoined pipe, and not allowed to come in contact with any part of the pipe forming the joint until after the joint is completely filled with the specified jointing compounds. Should the water, through neglect or otherwise, raise in the trench and enter the annular space in the pipe before the joining operation is completed, the annular space in all pipe so affected shall be freed of all water and foreign matter and thoroughly cleaned, before completing the jointing operation.

f. The pipe shall be checked for position in the trench by using a plumb bob below the "top" line for alignment and the grade shall be obtained by means of a "grade pole" held vertically with one side touching the "top" line and a right angle bracket at the bottom extending and resting on the invert of the pipe in its final position. The vertical distance from the "top" line to the pipe invert grade shall be a multiple of one (1) foot, at a distance above the invert as approved by the engineer.

If the use of a construction laser has been approved, line and grade shall be checked by means of the laser beam.

11. Sewer Pipe Jointing. Unless otherwise approved by the engineer in writing, the jointing material for all sewer pipe, under all conditions of laying, shall be as hereinafter described.

12. Plastisol Joints. Mechanical compression joints shall be an approved type of interlocking, self-centering, resilient, push-type mechanical compression joint, formed or fused on the pipe at the factory, made of plastisol (polyvinyl chloride).

The annular space shall be controlled either by precision grinding the bell and spigot, or by casting an approved material onto the outside of the spigot and on the inside of the bell, or by a combination of these methods.

The seal shall be obtained by compressing a rubber, plastisol (polyvinyl

chloride) or other approved resilient element as the joint is assembled.

Pipe shall be installed in strict accordance with the manufacturer's instructions.

13. Embedment Materials. Embedment material shall be one of the following types:

a. Clean washed sand, with a maximum particle size of 1/4 inch, and with a minimum of 70 percent passing a No. 20 screen.

b. Graded sand and gravel, with a maximum particle size of 3/4 inch, conforming to the gradation requirements for Class 2 aggregate base contained in Section 26 of the state standard specifications.

14. Embedment Procedure.

a. After excavating the trench to a grade at least 4 inches below the pipe barrel elevation, carefully place bedding material the full width of the trench to provide uniform support along the entire length of pipe to be installed.

b. After installing the pipe, place and compact embedment material to the spring line of the pipe, taking care to work the material under the haunches of the pipe and to avoid displacement of the pipe.

c. Place and compact embedment material to the top of the pipe.

d. Place and compact embedment material to a minimum depth of 6 inches over the top of the pipe.

15. Straightness. The full diameter of the pipe shall be visible when viewed between consecutive manholes, unless curved alignment is specified. Testing shall be by photography/videography.

16. Manhole Connections. Sewer pipe shall be connected to manhole bases in a manner which will provide a watertight seal. With polyvinyl chloride sewers, special adaptors with resilient seals or waterstops shall be installed in manhole bases to provide a flexible, watertight connection.

17. Test for Leakage. On the completion of each section of the sewer between

structures, where the soil is wet due to ground water, the end of the sewer at the upper manhole or structure shall be closed sufficiently to prevent the entrance of water, and the sewer treated for leakage, which if found to occur, shall be located, uncovered, and stopped. Where such leaks are discovered before the completion of the sewer, the sewer shall be immediately uncovered and the leaks stopped. Leakage shall be tested with an air pressure test. The pipeline to be tested shall be suitably plugged at all openings.

Test procedures and allowable pressure loss for polyvinyl chloride sewers shall be pressurized to 4.0 PSI greater than the average pressure of any groundwater which may submerge the pipe. At least 2 minutes shall be allowed for pressure stabilization. The rate of air loss shall then be determined by measuring the time interval required for the internal pressure to decrease from 3.0 to 2.5 PSI above the average pressure of any groundwater submerging the pipe. The pipeline shall be considered acceptable when the pressure drop described above occurs over a time period of at least (36.3 seconds) x (pipe diameter in inches).

If air pressure testing equipment is not available, water testing may be substituted.

Final tests of sewers shall be made by the contractor under the direction of the engineer.

All tools, materials and appurtenances required for testing the sewers as specified shall be furnished by the contractor.

Unsatisfactory conditions shall be required to be corrected prior to acceptance of the project by the Engineer.

Noncompliance with plans and specifications, excessive leakage by infiltration or exfiltration, or similar causes shall be basis of nonacceptance.

18. Backfilling. Backfilling shall be done in accordance with subsection L of this section. Compaction of backfill material by ponding or jetting will not be allowed unless specifically approved by the engineer.

Where the sewer crosses streets or highways, ponding or jetting will not be

permitted.

If, at any time during the continuance of the contractor's responsibility, there shall be any settlement of the trenches requiring that repairs be made in any street or highway, or should any defect appear in the system due to negligence or carelessness on the part of the contractor, the engineer may notify the contractor to make such repairs as may be necessary, and should the nature of such defect be such as to require immediate attention, the engineer shall make such repairs as may be necessary and submit a statement of the actual cost of such repairs to the contractor, who shall reimburse the city by cash payment.

19. Test for Deflection. Polyvinyl chloride (PVC) sewers shall be tested for deflection, joint displacement, or other obstruction by passing a rigid mandrel through the pipe. Deflection shall be tested after submittal of daily compaction reports demonstrating compliance with, but prior to, permanent resurfacing. A rigid mandrel having an outside diameter of 95% of the "average inside diameter" of the pipe, as defined in ASTM D 3034, shall be pulled through the pipeline. The minimum length of the circular portion of the mandrel shall be equal to the nominal diameter of the pipe.

If the mandrel does not pass freely through the pipe, the pipe shall be reexcavated, bedded and backfilled to adequately support the pipe and reduce the deflection to 5% or less of the average inside diameter of the pipe. The pipeline shall then be retested for both leakage and deflection.

Should tests performed by the city, within one year of the original testing and acceptance, show deflection in excess of 7.5% of the average inside diameter of the pipe, the contractor shall reexcavate, bed and backfill the pipe to provide adequate support and reduce the deflection to 5% or less. The pipeline shall be retested for deflection. The contractor shall reimburse the city's cost of testing for all lines which require repair.

20. Disposal of Excess Material. Excess materials which have been excavated from trenches, and which cannot be utilized for backfill, or spread adjacent to the

work, shall be removed by the contractor.

21. Protection of Work. The maintaining of a clean and dry joint during construction is essential in order that leakage may be eliminated in the completed sewer. Toward that end, the provisions of these improvement standards shall be rigidly adhered to in order to secure sewers free from leakage.

Whenever the work ceases for any reason, the unfinished end of the sewer shall be sufficiently closed to prevent the entry of dirt or trash, but under no circumstances made watertight.

The interior of the sewer shall be kept free from all dirt and foreign material as the work progresses, and left clean at its completion.

Upon completion of the sewers and prior to the final inspection and before acceptance, when ordered by the engineer, the contractor shall, at the contractor's own expense, flush and cleanse the sewers of all dirt clods, small rocks, sand or silt deposits and any other materials that may be detrimental to the proper flow and operation of the sewer. The outlet end of the lowest manhole in the system shall be tightly plugged and a pump suction line placed in the manhole ready for use.

A fire hose shall be connected to a fire hydrant nearest to the last structure in the upper end of the system and the fire hose inserted in the sewer pipe as a jet.

The volumes and velocity obtained from the water system should be sufficient to flush any materials in the pipe to the lowest manhole where the pumps will be put into operation to remove the wash water and suspended solids. Disposal of this wash water shall be into the nearest storm drain.

The Contractor shall perform an additional cleaning of the pipeline after the installation of final paving, top block, frames and covers, and after all other required inspections, prior to acceptance, if required by the engineer due to a reasonable determination that additional debris may have accumulated in the pipeline after initial cleaning.

When, in the opinion of the engineer, the wash water is sufficiently clear to indicate

that the sewer is clean, the water shall be shut off and the sewer line allowed to drain down. When the lower manhole has been pumped and/ or bailed dry, the remaining residue shall be removed and the manhole left clean.

Q. Trench Sheeting, Shoring and Bracing.

1. Trench sheeting, when required, shall comply with the most recent requirements of the State of California Department of Industrial Relations Division of Occupational Safety and Health, better known as Cal/OSHA.

2. Permits. The contractor is required to obtain a permit from Cal/OSHA prior to the excavation of any trench or boring and jacking pit five feet or more in depth.

3. Shoring and Bracing Plans. The contractor shall be required to submit to the public works department, prior to excavation, a detailed plan showing the design of shoring, bracing, sloping, or other provisions to be made for worker protection from hazard of caving ground during the excavation of trench or trenches. If such plan varies from the shoring system standards of Cal/OSHA, the plan shall be prepared by a registered civil or structural engineer.

R. Maintenance of Trees. Any excavation within the drip line of any trees shall conform to the following requirements:

1. No trees shall be removed unless specifically so designated on the plans or in the special provisions.

2. No roots over two (2) inches in diameter shall be cut.

3. Hand trenching and tunneling will be required when excavation exposes roots two (2) inches in diameter or larger.

4. Roots two (2) inches in diameter or larger which are exposed to the air shall be kept moist.

5. Roots two (2) inches in diameter or larger which are accidentally damaged shall be treated with material approved by the city of Chico Urban Forest Manager.

6. If roots two (2) inches in diameter or larger are accidentally cut or broken, the tree shall be trimmed to compensate for the decreased root system. Such trimming shall

be done to the satisfaction of the Urban Forest Manager.

7. Boring pits shall not be installed within twenty (20) feet of any tree trunk.

8. All work shall be done to the satisfaction of the engineer.

Section 22. That Section 18R.12.020, entitled "Standard plans.", is amended as follows:

18R.12.020 Standard Plans.

The following plans, copies of which are incorporated into this section, are hereby adopted as the Standard Plans of the City of Chico:

Note: These plans are available in PDF by clicking on the Plan No.

Plan No.	Title
S-1	P.C.C. Sidewalk Details
S-2	P.C.C. Curb and Gutter Details
S-2A	Curb, Gutter & Sidewalk Installation at Trees
S-3	Existing Curb and/or Gutter Replacement Details
S-4	Deleted
S-5	Residential Driveway Approach (2 Sheets)
S-5A	Commercial Driveway Approach (2 Sheets)
S-5B	Curb, Gutter and Driveway Details
S-5C	Curbed Driveway Entrance
S-6	Storm Drain Headwall
S-7	36" Drain Inlet Details (4 Sheets)
S-7A	Flat Grate Drain Inlet
S-8	Storm Drain Marker Detail
S-9	Deleted
S-10	Storm Drain and Sanitary Sewer Manhole (2 Sheets)
S-11	Drop Manhole Details
S-12	Approved Methods of Laying Pipe (2 Sheets)
S-12A	Pipe Crossing Cradle
S-12M	Deleted

S-13	Typical Method for Setting Appurtenances
S-14	Manhole Frame & Cover Details
S-14A	Bolt Down Manhole Frame & Cover Details
S-15	Flushing Hole - Cast Iron Frame and Cover
S-16	Street Name Sign Details (3 Sheets)
S-17	Typical Details of Trench Replacement (2 Sheets)
S-18A	Typical Cross-Section - Streets (2 Sheets)
S-18B	Typical Cul-De-Sac
S-18D	Improvement of Existing Street (2 Sheets)
S-18E	Typical Cross-Section - Other Public Ways
S-18F	Typical Cross-Section - Private Streets
S-19	Alley Pavement
S-20	City Monuments, Construction & Location
S-21	Street Barricades
S-26	Flat Grate Inlet
S-27	P.C.C. Curb Ramp - Case A
S-27A	P.C.C. Curb Ramp - Case C
S-28	Bus Turnout Details
S-29	Bicycle Barrier Post
S-30	Bicycle Path Gate Details
LS-1	Fifteen Gallon Tree in Parkway Strip
LS-2	Fifteen Gallon Tree at Back of Walk
LS-3	Fifteen Gallon Tree and Grate with Tree Guard
LS-4	Fifteen Gallon Tree with Stamped Concrete
LS-5	Fifteen Gallon Tree Planting Detail
LLS-6	Containerized Shrub Planting Detail
LS-7	Ground Cover Planting Detail
LS-8	Sight Distance Clearance at Non-Signalized Intersections

LS-9	Tree and Pavement Layout in Median Island
LS-10	Stamped Concrete Detail at Median
LS-11	Maintenance Band Detail at Bullnose
LS-12	Maintenance Band Detail at Median
LS-13	Root Barrier Detail at Bullnose
LS-14	Soil Replacement Detail at Impervious Subsurface
LS-15	Soil Replacement Detail for Poor Soil Quality
LS-16	Soil Decompaction Detail
LS-17	Steel Header Detail
LS-18	Concrete Mow Curb Detail
LS-19	Standard Trenching Detail
LS-20	Trenching Detail Beneath Paving (Non-Vehicular)
LS-21	Trenching Detail Beneath Paving (Vehicular) (2 Sheets)
LS-22	Typical Thrust Block Details for Ring-Tite and Solvent Weld Pipe
LS-23	Reduced Pressure Backflow Preventer Detail
LS-24	Stub Out Detail (Conventionally Wired)
LS-25	Stub Out Detail (2-Wire)
LS-26	Gate Valve Detail
LS-27	Flow Sensor / Master Valve Assembly Detail (2 Sheets)
LS-28	Quick Coupling Valve Detail
LS-29	Valve Detail Drip Control Zone Kit (Conventionally Wired)
LS-30	Drip Control Zone Kit Detail (2 Wire Systems)
LS-31	Remote Control Valve (Conventionally Wired)
LS-32	Remote Control Valve Detail (2 Wire Systems)
LS-33	Remote Control Valve Detail in Paving (Non-Vehicular - Conventionally Wired)
LS-34	Remote Control Valve Detail in Paving (Non-Vehicular - 2 Wire)
LS-35	Pull Box Detail (Conventionally Wired)

LS-36 Pull Box Detail (2 Wire)

LS-37 Battery Operated Valve Detail

LS-38 Subterranean Dripline Layout

LS-39 Transition to Dripperline Detail

LS-40 Subsurface Dripperline Detail

LS-41 Metered Electrical Service and Irrigation Controller Enclosure Detail (2 Sheets)

LS-42 Controller Service Pull Box for Fuse-Link Connection

LS-43 Dripperline Manual Flush Valve Detail

LS-44 Dripperline Detail at Trees

LS-45 Dripperline Detail at Shrubs

LS-46 Pop-Up Irrigation Head Detail

LS-47 Gear Driven Rotor Detail

LS-48 Metered Electrical Service Enclosure Detail (2 Sheets)

LS-49 Top Entry Controller Enclosure Detail (2 Sheets)

LS-50 Baseline Controller in P Pedestal Ground Detail (2 Sheets)

Section 23. Standard Plan No. S-1, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 1.

Section 24. Standard Plan No. S-2, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 2.

Section 25. Standard Plan No. S-2A, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 3.

Section 26. Standard Plan No. S-3, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 4.

Section 27. Standard Plan No. S-5, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 5.

Section 28. Standard Plan No. S-5A, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 6.

Section 29. Standard Plan No. S-5B , referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 7.

Section 30. Standard Plan No. S-5C, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 8.

Section 31. Standard Plan No. S-6, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 9.

Section 32. Standard Plan No. S-7, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 10.

Section 33. Standard Plan No. S-7A, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 11.

Section 34. Standard Plan No. S-8, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 12.

Section 35. Standard Plan No. S-10, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 13.

Section 36. Standard Plan No. S-11, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 14.

Section 37. Standard Plan No. S-12, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 15.

Section 38. Standard Plan No. S-13, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 16.

Section 39. Standard Plan No. S-14, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 17.

Section 40. Standard Plan No. S-14A, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 18.

Section 41. Standard Plan No. S-15, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 19.

Section 42. Standard Plan No. S-16, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 20.

Section 43. Standard Plan No. S-17, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 21.

Section 44. Standard Plan No. S-18A, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 22.

Section 45. Standard Plan No. S-18B, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 23.

Section 46. Standard Plan No. S-18D, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 24.

Section 47. Standard Plan No. S-18E, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 25.

Section 48. Standard Plan No. S-18F, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 26.

Section 49. Standard Plan No. S-19, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 27.

Section 50. Standard Plan No. S-20, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 28.

Section 51. Standard Plan No. S-21, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 29.

Section 52. Standard Plan No. S-26, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 30.

Section 53. Standard Plan No. S-27, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 31.

Section 54. Standard Plan No. S-27A, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 32.

Section 55. Standard Plan No. S-28, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 33.

Section 56. Standard Plan No. S-29, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 34

Section 57. Standard Plan No. S-30, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 35.

Section 58. Standard Plan No. LS-1, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 36.

Section 59. Standard Plan No. LS-2, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 37.

Section 60. Standard Plan No. LS-3, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 38.

Section 61. Standard Plan No. LS-4, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 39.

Section 62. Standard Plan No. LS-5, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 40.

Section 63. Standard Plan No. LS-6, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 41.

Section 64. Standard Plan No. LS-7, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 42.

Section 65. Standard Plan No. LS-8, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 43.

Section 66. Standard Plan No. LS-9, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 44.

Section 67. Standard Plan No. LS-10, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 45.

Section 68. Standard Plan No. LS-11, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 46.

Section 69. Standard Plan No. LS-12, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 47.

Section 70. Standard Plan No. LS-13, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 48.

Section 71. Standard Plan No. LS-14, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 49.

Section 72. Standard Plan No. LS-15, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 50.

Section 73. Standard Plan No. LS-16, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 51.

Section 74. Standard Plan No. LS-17, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 52.

Section 75. Standard Plan No. LS-18, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 53.

Section 76. Standard Plan No. LS-19, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 54.

Section 77. Standard Plan No. LS-20, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 55.

Section 78. Standard Plan No. LS-21, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 56.

Section 79. Standard Plan No. LS-22, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 57.

Section 80. Standard Plan No. LS-23, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 58.

Section 81. Standard Plan No. LS-24, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 59.

Section 82. Standard Plan No. LS-25, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 60.

Section 83. Standard Plan No. LS-26, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 61.

Section 84. Standard Plan No. LS-27, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 62.

Section 85. Standard Plan No. LS-28, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 63.

Section 86. Standard Plan No. LS-29, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 64.

Section 87. Standard Plan No. LS-30, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 65.

Section 88. Standard Plan No. LS-31, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 66.

Section 89. Standard Plan No. LS-32, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 67.

Section 90. Standard Plan No. LS-33, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 68.

Section 91. Standard Plan No. LS-34, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 69.

Section 92. Standard Plan No. LS-35, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 70.

Section 93. Standard Plan No. LS-36, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 71.

Section 94. Standard Plan No. LS-37, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 72.

Section 95. Standard Plan No. LS-38, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 73.

Section 96. Standard Plan No. LS-39, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 74.

Section 97. Standard Plan No. LS-40, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 75.

Section 98. Standard Plan No. LS-41, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 76.

Section 99. Standard Plan No. LS-42, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 77.

Section 100. Standard Plan No. LS-43, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 78.

Section 101. Standard Plan No. LS-44, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 79.

Section 102. Standard Plan No. LS-45, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 80.

Section 103. Standard Plan No. LS-46, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 81.

Section 104. Standard Plan No. LS-47, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 82.

Section 105. Standard Plan No. LS-48, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 83.

Section 106. Standard Plan No. LS-49, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 84.

Section 107. Standard Plan No. LS-50, referred to in Section 18R.12.020, is amended to read as set forth on the attached Exhibit 85.

Section 108. This Resolution shall be effective thirty (30) days following its adoption.

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THE FOREGOING RESOLUTION WAS ADOPTED at a meeting of the City Council of the City of Chico held on **October 21, 2025**, by the following vote:

AYES: **Goldstein, Hawley, O'Brien, van Overbeek, Winslow, Bennett, Reynolds**

NOES: **None**

ABSENT: **None**

ABSTAINED: **None**

DISQUALIFIED: **None**

ATTEST:

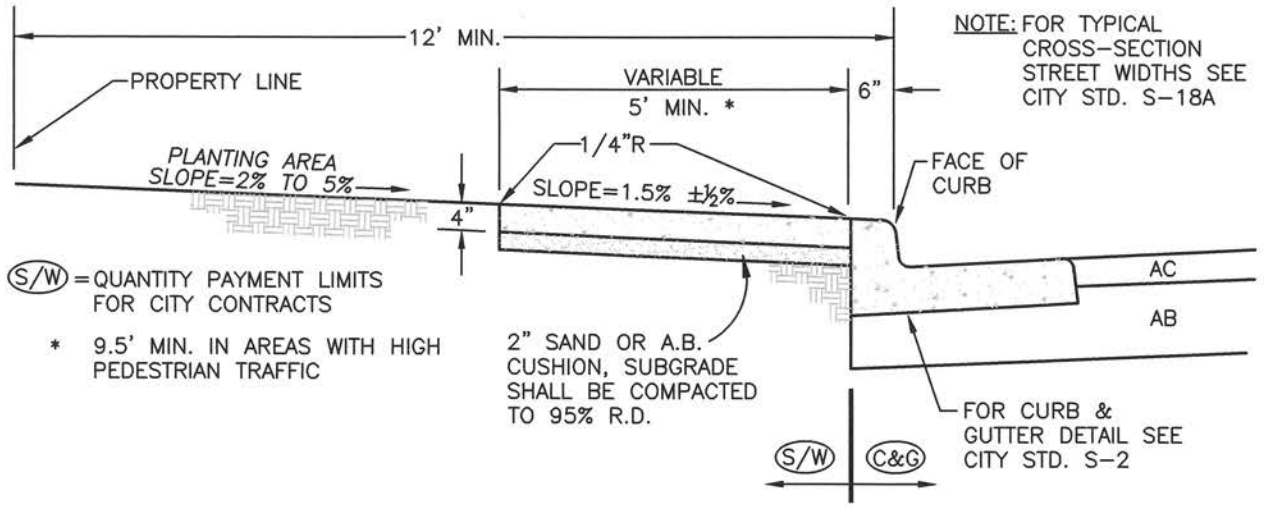
Deborah R. Presson

City Clerk

APPROVED AS TO FORM:

John Lam, City Attorney*

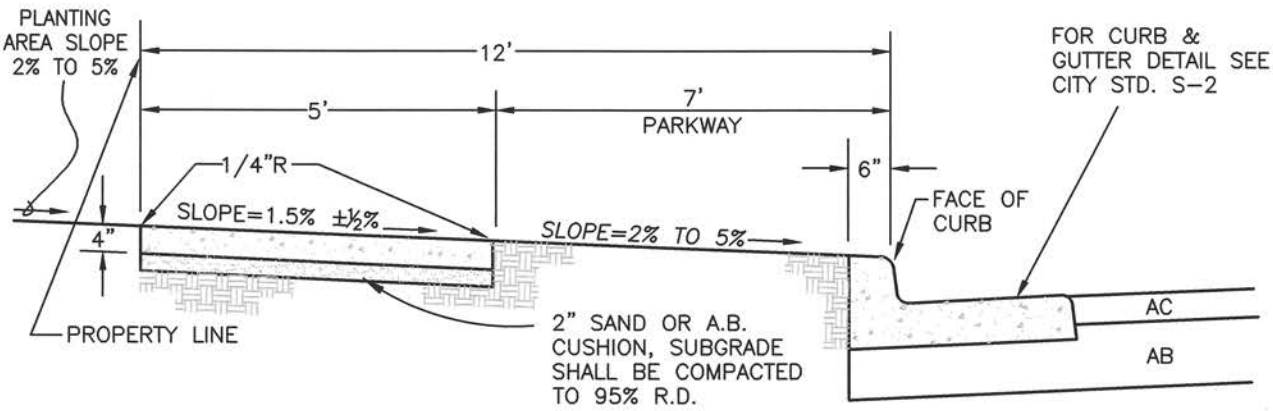
*Pursuant to The Charter of the City of Chico, Section 906(E)



NOTE: FOR TYPICAL CROSS-SECTION STREET WIDTHS SEE CITY STD. S-18A

CONTIGUOUS CURB, GUTTER & SIDEWALK

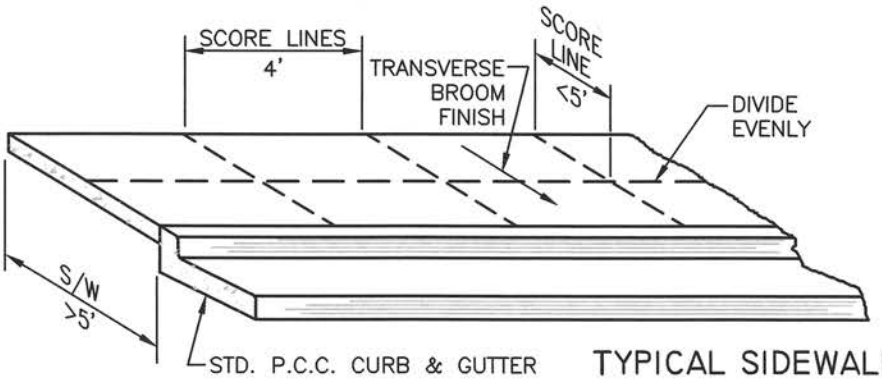
NOTE: IF AUTHORIZED, THIS SIDEWALK CONFIGURATION MAY BE USED IN EXISTING DEVELOPED AREAS TO MATCH AN ESTABLISHED SIDEWALK CONFIGURATION.



SEPARATED CURB, GUTTER & SIDEWALK

NOTE: THIS SIDEWALK CONFIGURATION SHALL BE USED IN CONJUNCTION WITH ALL NEW DEVELOPMENT AND/OR NEW CONSTRUCTION.

NOTE:
1. INSTALL 1/4" EXPANSION JOINTS ON 48' CENTERS.
2. DISTANCE BETWEEN SCORE LINES NOT TO EXCEED 4' IN LONGITUDINAL DIRECTION OR 5' IN TRANSVERSE DIRECTION. MATCH EXISTING ADJACENT SCORE PATTERN AS DIRECTED BY ENGINEER.
3. CONCRETE SHALL COMPLY WITH TITLE 18R OF THE MUNICIPAL CODE.
4. ALL SIDEWALKS MUST COMPLY WITH CURRENT FEDERAL ADA REQUIREMENTS.



TYPICAL SIDEWALK SCORE LINES

REVISION	BY	DATE	APP. BY COUNCIL

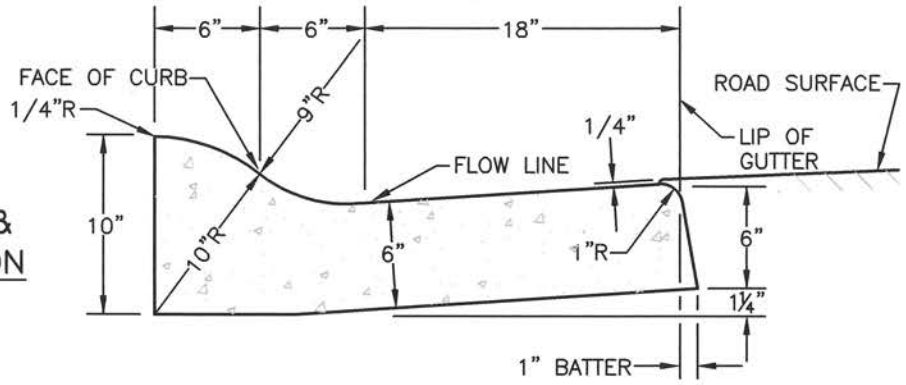
CITY OF CHICO — **STANDARD PLAN**

DRAWN BY: LFG DATE: 10/21/25
CHECKED BY: DG SCALE: NO SCALE
APPROVED: DIRECTOR OF PUBLIC WORKS-ENGINEERING

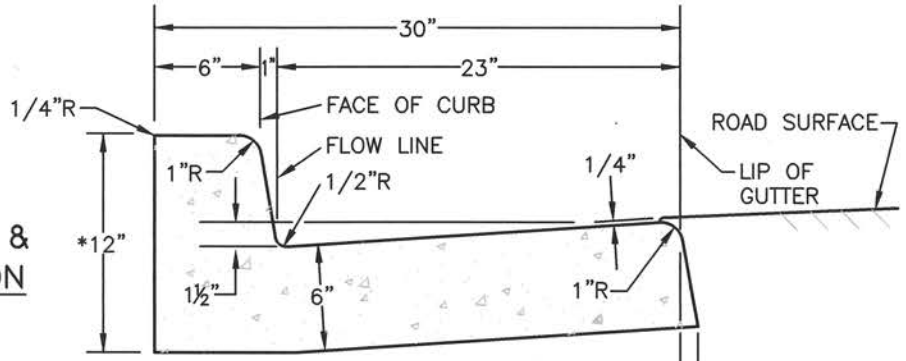
P.C.C. SIDEWALK DETAILS

NO. S-1
SHEET 1 OF 1

ROLLED CURB & GUTTER SECTION

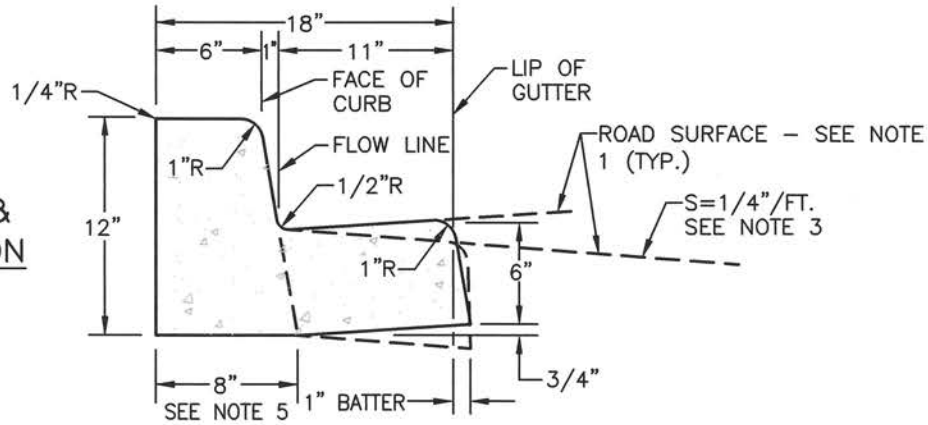


VERTICAL CURB & GUTTER SECTION



* HEIGHT MAY BE ADJUSTED TO ACCOUNT FOR VARIANCE IN EXISTING CONDITIONS IF APPROVED BY THE CITY ENGINEER

MEDIAN CURB & GUTTER SECTION



NOTES:

1. FINAL FINISH ROAD SURFACE ADJACENT TO ALL GUTTERS SHALL BE 1/4" ABOVE THE LIP OF GUTTER.
2. INSTALL 1/4" WIDE EXPANSION JOINTS AT 48' MAX. INTERVALS AND 1/8" SCORED CONTROL JOINTS AT 12' MAX. INTERVALS ON ALL CURBS AND GUTTERS.
3. THE DIRECTION OF FALL OF MEDIAN GUTTER CROSS–SLOPES SHALL BE THE SAME AS THE ADJACENT STREET.
4. SEE CITY STD. S–3 FOR DETAIL OF INSTALLATION OF GUTTER ADJACENT TO EXISTING A.C.
5. INSTALL MEDIAN CURB WITHOUT THE GUTTER, UNLESS SPECIFICALLY SHOWN ON IMPROVEMENT PLANS.
6. PLACE AGGREGATE BASE UNDER CURB AND GUTTER TO DEPTH OF STRUCTURAL SECTION. (2" MINIMUM THICKNESS)
7. CONCRETE SHALL COMPLY WITH TITLE 18R OF THE MUNICIPAL CODE.

REVISION	BY	DATE	APP. BY COUNCIL

CITY OF CHICO — **STANDARD PLAN**

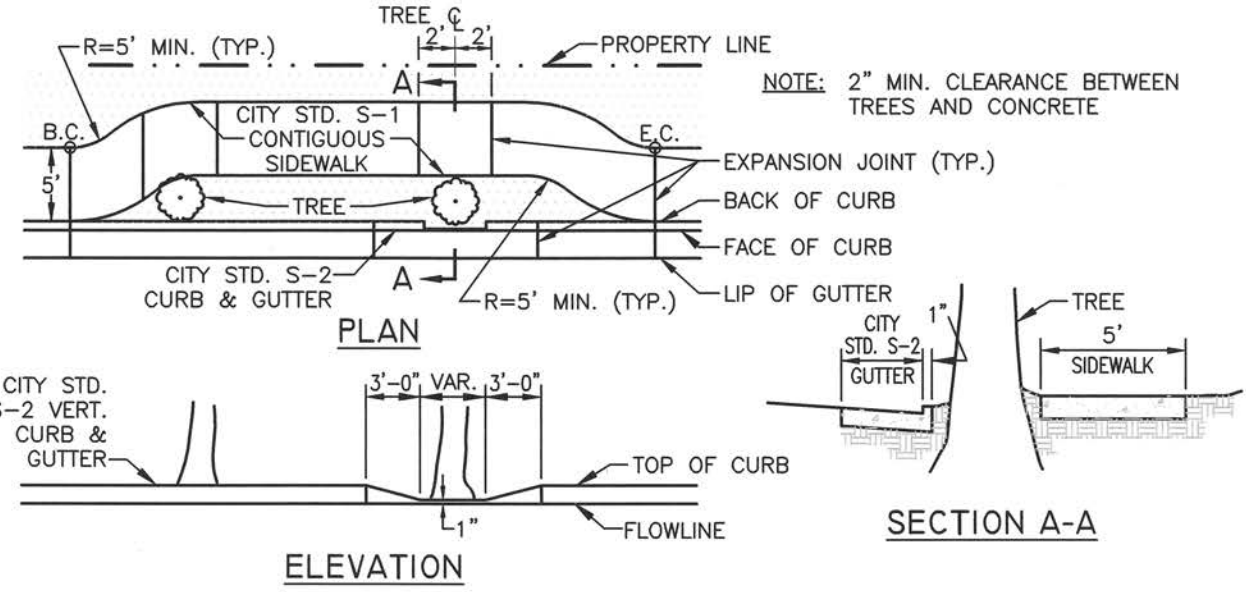
DRAWN BY: LFG DATE: 10/21/25
CHECKED BY: DG SCALE: NO SCALE
APPROVED: _____
DIRECTOR OF PUBLIC WORKS–ENGINEERING

P.C.C. CURB & GUTTER DETAILS

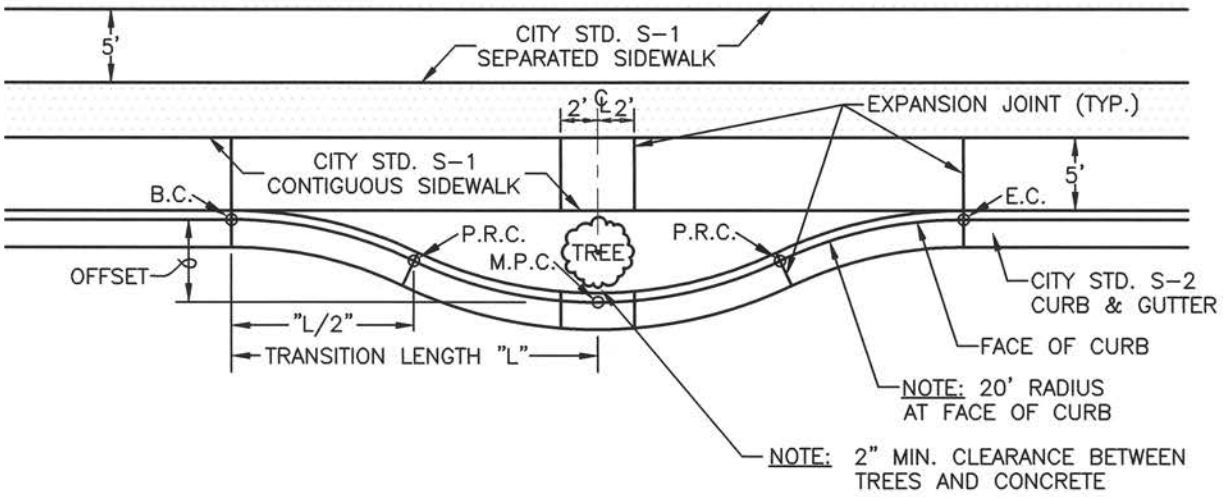
NO. S-2

SHEET 1 OF 1

STRAIGHT CURB ALIGNMENT- CONTIGUOUS SIDEWALK



OFFSET CURB ALIGNMENT- SEPARATED OR CONTIGUOUS SIDEWALK



OFFSET	RADIUS	TRANSITION LENGTH	L/2	OFFSET	RADIUS	TRANSITION LENGTH	L/2
1'	20'	8.9'	4.45'	6'	20'	21.1'	10.55'
2'	20'	12.5'	6.25'	7'	20'	22.6'	11.30'
3'	20'	15.2'	7.60'	8'	20'	24.0'	12.00'
4'	20'	17.4'	8.70'	9'	20'	25.3'	12.65'
5'	20'	19.4'	9.70'				

NOTES:

1. CONCRETE SHALL COMPLY WITH TITLE 18R OF THE MUNICIPAL CODE.
2. MINIMUM TRAVEL WAY WIDTH IS 15'.

REVISION	BY	DATE	APP. BY COUNCIL

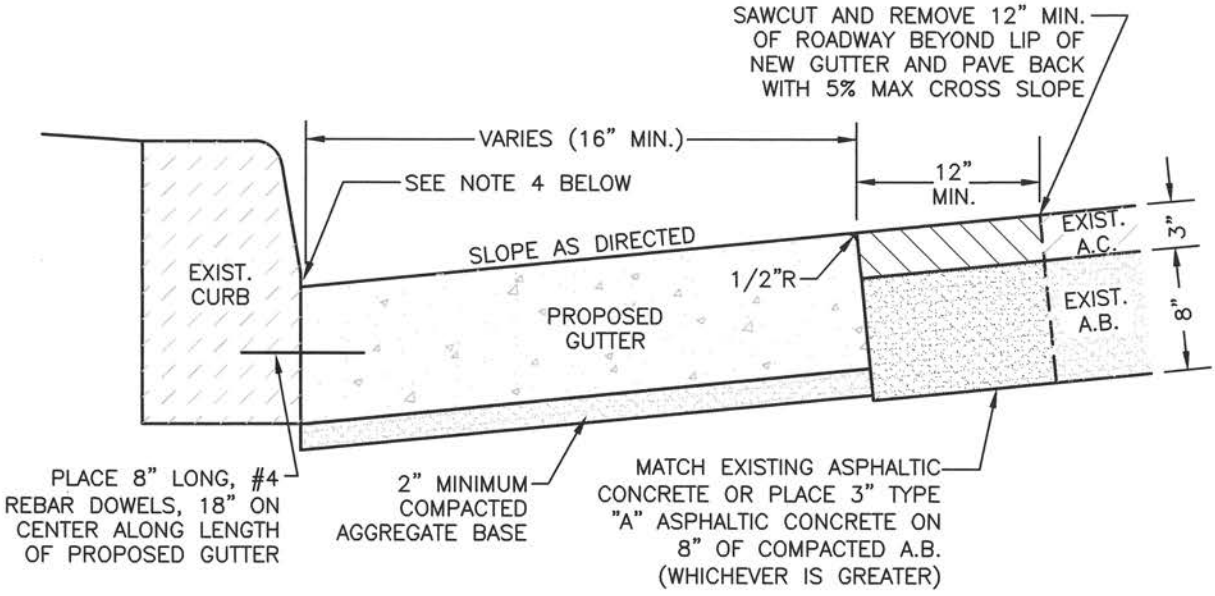
CITY OF CHICO **STANDARD PLAN**

DRAWN BY: LFG DATE: 10/21/25
CHECKED BY: DG SCALE: NO SCALE
APPROVED: _____
DIRECTOR OF PUBLIC WORKS-ENGINEERING

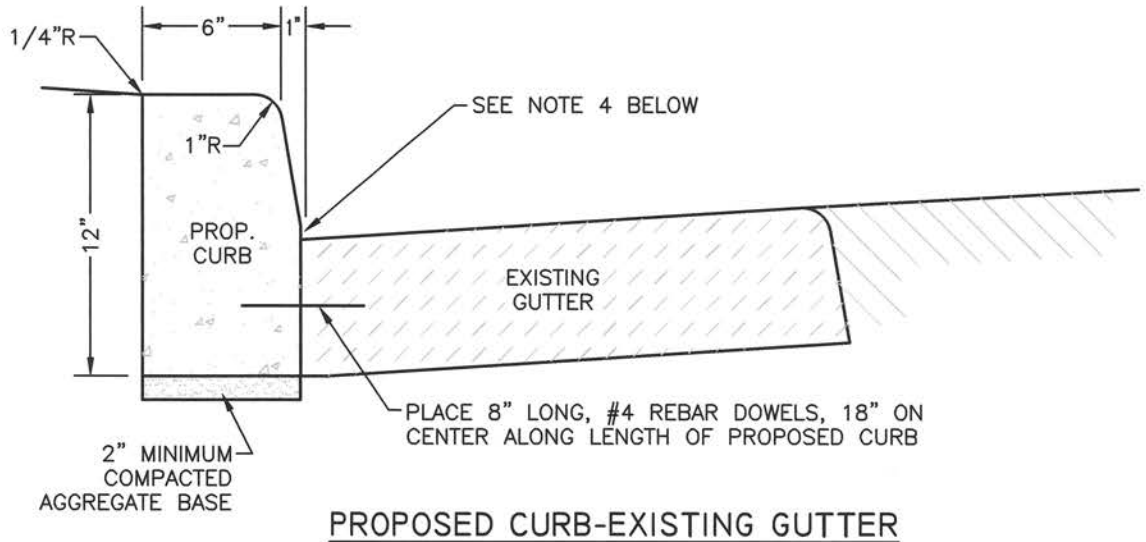
CURB, GUTTER & SIDEWALK INSTALLATION AT TREES

NO. S-2A

SHEET 1 OF 1



EXISTING CURB-PROPOSED GUTTER



PROPOSED CURB-EXISTING GUTTER

NOTES:

1. INSTALL 1/4" WIDE EXPANSION JOINTS, MATCH EXISTING – MAX. INTERVAL 48' AND 1/8" SCORED CONTROL JOINTS, MATCH EXISTING – MAX. INTERVAL 12 FT.
2. CONCRETE SHALL COMPLY WITH TITLE 18R OF THE MUNICIPAL CODE.
3. CURING COMPOUND SHALL BE USED AT A MINIMUM: PIGMENTED ASTM C–309 TYPE 2 CLASS B OR NON–PIGMENTED ASTM C–309 TYPE 1 CLASS B.
4. PRIOR TO PLACING CONCRETE, MAKE SURE EXISTING FACE OF CURB/GUTTER IS FREE OF DIRT AND LOOSE MATERIAL IN ORDER TO PROVIDE A GOOD BOND BETWEEN EXISTING AND PROPOSE CONCRETE.

REVISION	BY	DATE	APP. BY COUNCIL

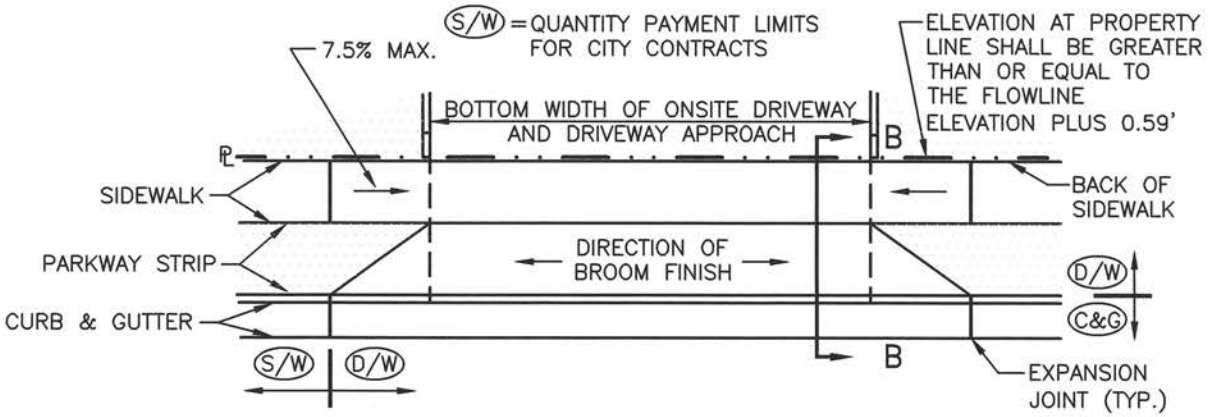
CITY OF CHICO — **STANDARD PLAN**

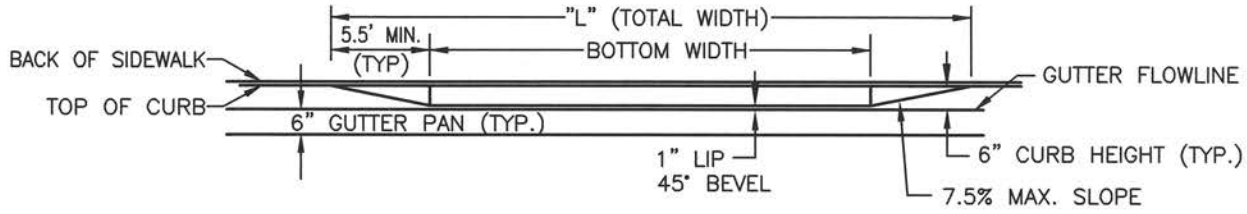
DRAWN BY: LFG DATE: 10/21/25
CHECKED BY: DG SCALE: NO SCALE
APPROVED: DIRECTOR OF PUBLIC WORKS–ENGINEERING

EXISTING CURB AND/OR GUTTER REPLACEMENT DETAILS

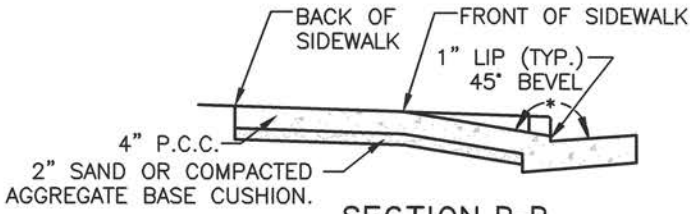
NO. S-3

SHEET 1 OF 1





ELEVATION



* MAX. ALGEBRAIC DIFFERENCE IS 17.5%

SECTION B-B

DRIVEWAY WITH PARKWAY

NOTES:

1. CITY STD. S-5 SHALL BE USED FOR RESIDENTIAL DEVELOPMENTS WITH 3 DWELLING UNITS OR LESS.
2. BOTTOM WIDTH AT FACE OF CURB:
   - A) SINGLE SPACE AND TANDEM PARKING – 12'
   - B) TWO SPACES (SIDE BY SIDE) – 18'
   - C) ONE WAY – 14' MINIMUM, 18' MAXIMUM
   - D) TWO WAY – 24' MINIMUM, 30' MAXIMUM
3. WHERE CURB HEIGHT IS GREATER THAN 6" AND/OR DISTANCE BETWEEN FACE OF CURB AND FRONT OF SIDEWALK IS LESS THAN 4'-6", THE SIDEWALK SHALL BE DEPRESSED TO MAINTAIN MAXIMUM SLOPES.
4. CITY STD. S-5 IS NOT REQUIRED IN CONJUNCTION WITH ROLLED CURB AND GUTTER.
5. ALL UNDERLYING LAYERS (SUBGRADE, AB, ETC.) SHALL BE COMPACTED TO 95% R.D.
6. A 1/4"-DEEP SCORE IS REQUIRED AT THE BOTTOM OF ALL DRIVEWAY WINGS.
7. FOR CURB, GUTTER, SIDEWALK, AND DRIVEWAY DETAILS SEE CITY STANDARDS S-1, S-2, AND S-5B.
8. CONCRETE SHALL COMPLY WITH TITLE 18R OF THE CITY MUNICIPAL CODE.
9. ALL DRIVEWAYS MUST COMPLY WITH CURRENT FEDERAL ADA REQUIREMENTS.

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CITY OF CHICO — **STANDARD PLAN**

DRAWN BY: LFG DATE: 10/21/25
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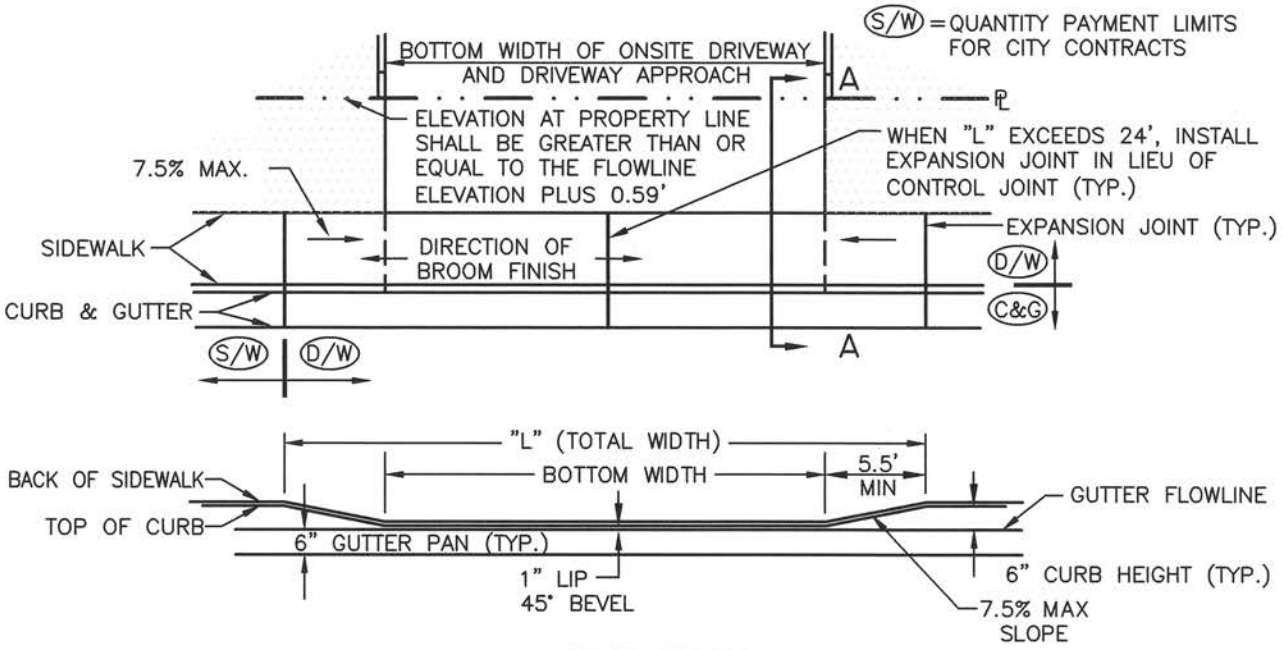
APPROVED: _____
DIRECTOR OF PUBLIC WORKS-ENGINEERING

RESIDENTIAL DRIVEWAY APPROACH

NO. S-5

SHEET 1 OF 2



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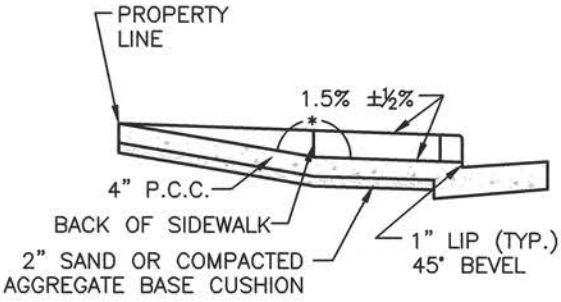

* MAX. ALGEBRAIC DIFFERENCE IS 17.5%

SECTION A-A

DRIVEWAY WITH CONTIGUOUS SIDEWALK

REVISION	BY	DATE	APP. BY COUNCIL

CITY OF CHICO **STANDARD PLAN**

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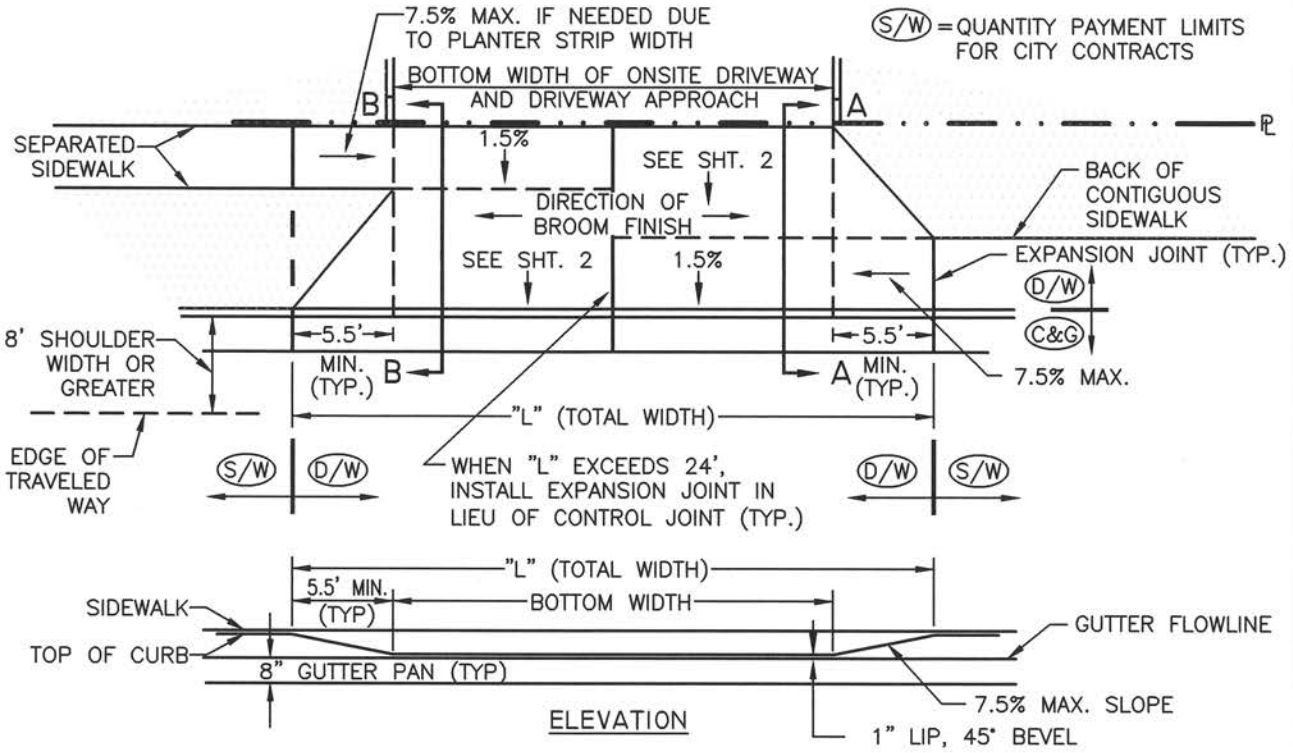
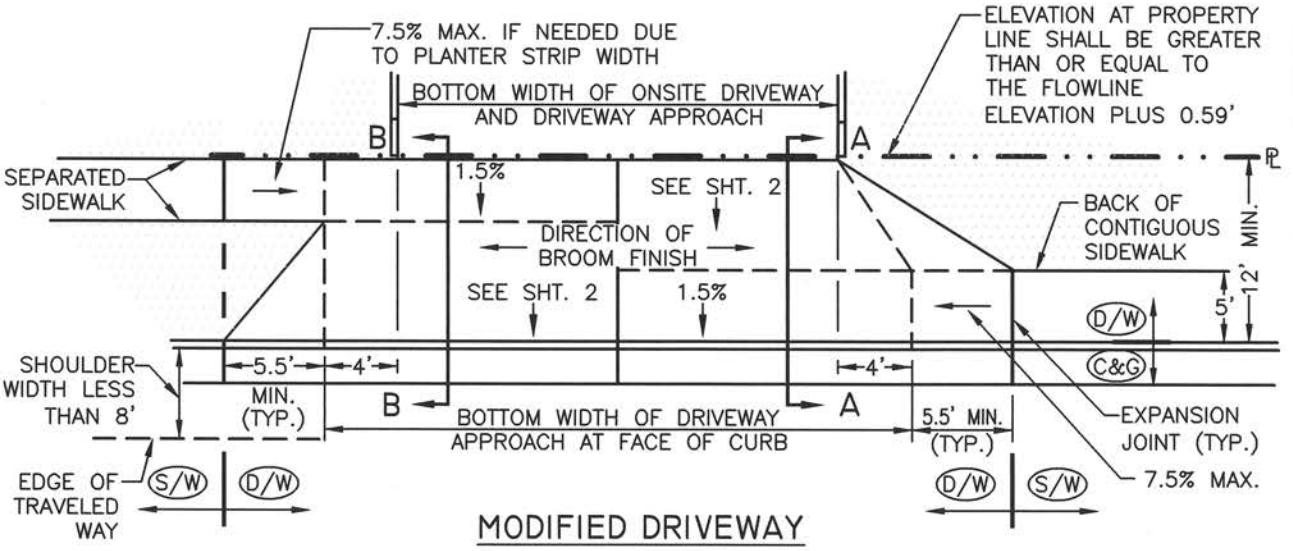
RESIDENTIAL DRIVEWAY APPROACH

NO. S-5

SHEET 2 OF 2



STANDARD DRIVEWAY



MODIFIED DRIVEWAY

NOTES:

1. FOR CURB, GUTTER AND DRIVEWAY DETAILS SEE CITY STD. S-5B.
2. CONCRETE SHALL COMPLY WITH TITLE 18R OF THE MUNICIPAL CODE.
3. ALL DRIVEWAYS MUST COMPLY WITH CURRENT FEDERAL ADA REQUIREMENTS.

REVISION	BY	DATE	APP. BY COUNCIL

CITY OF CHICO — **STANDARD PLAN**

DRAWN BY: LFG DATE: 10/21/25
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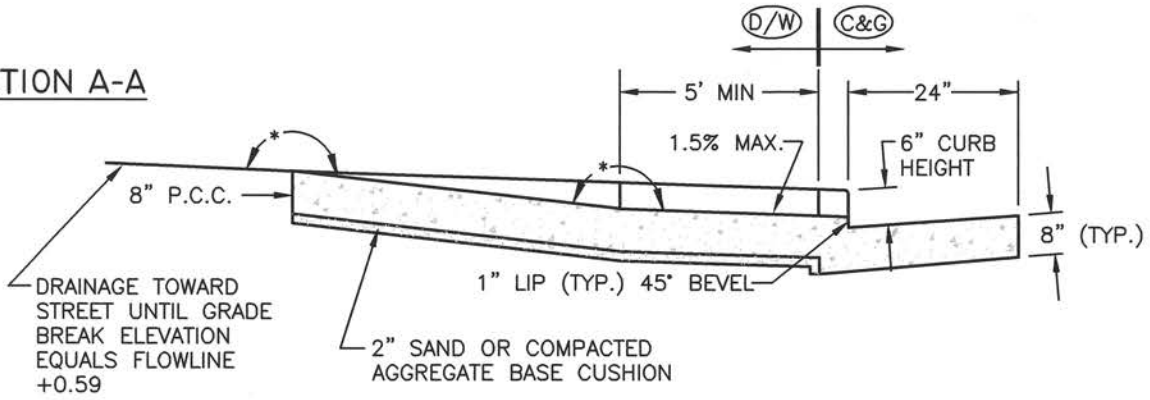
COMMERCIAL DRIVEWAY APPROACH

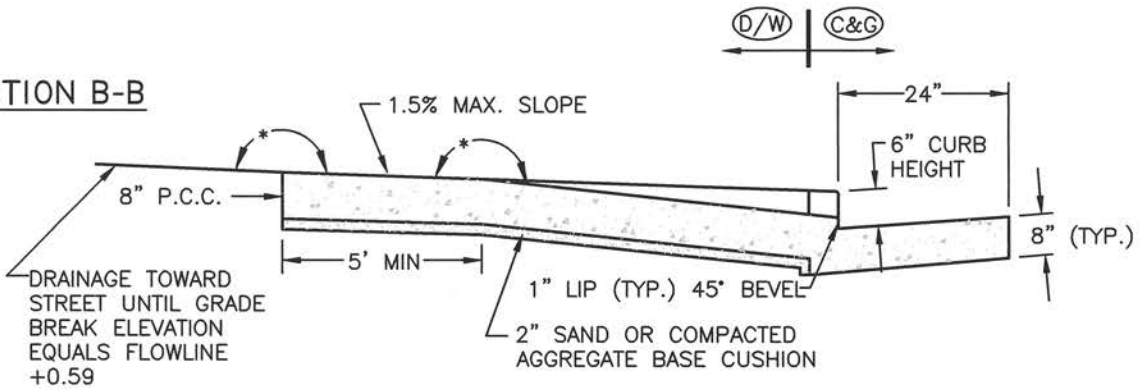
NO. S-5A

SHEET 1 OF 2

SECTION A-A



SECTION B-B



* MAX. ALGEBRAIC DIFFERENCE IS 17.5%

NOTES:

1. CITY STD. S-5A SHALL BE USED FOR COMMERCIAL AND INDUSTRIAL DEVELOPMENTS, RESIDENTIAL DEVELOPMENTS WITH GREATER THAN 8 ONSITE PARKING SPACES AND PRIVATE STREET SUBDIVISIONS.
2. MODIFIED DRIVEWAY SHALL BE USED WHERE ROADWAY SHOULDER IS LESS THAN 8'.
3. BOTTOM WIDTH OF STANDARD DRIVEWAY AT FACE OF CURB:
   A) ONE WAY – 14' MINIMUM, 18' MAXIMUM
   B) TWO WAY – 24' MINIMUM, 30' MAXIMUM
4. BOTTOM WIDTH OF MODIFIED DRIVEWAY AT FACE OF CURB:
   A) ONE WAY – 22' MINIMUM, 26' MAXIMUM
   B) TWO WAY – 32' MINIMUM, 38' MAXIMUM
5. FOR CURB, GUTTER AND DRIVEWAY DETAILS SEE CITY STD. S-5B.
6. ALL UNDERLYING LAYERS (SUBGRADE, AB, ETC.) SHALL BE COMPACTED TO 95% R.D.
7. CONCRETE SHALL COMPLY WITH TITLE 18R OF THE MUNICIPAL CODE.

REVISION	BY	DATE	APP. BY COUNCIL

CITY OF CHICO **STANDARD PLAN**

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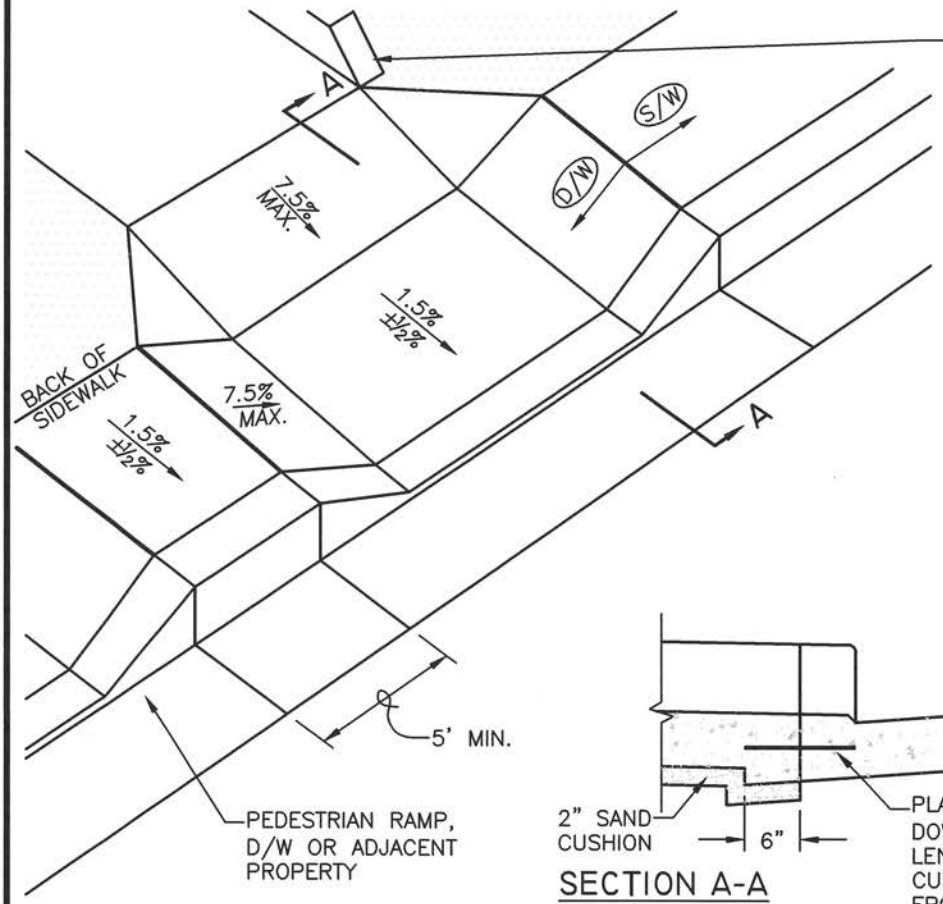
DIRECTOR OF PUBLIC WORKS-ENGINEERING

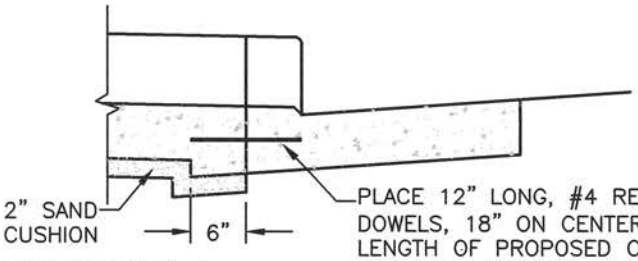
COMMERCIAL DRIVEWAY APPROACH

NO. S-5A

SHEET 2 OF 2



ONSITE CURBS, DIKES, HEADER BOARDS AND PLANTERS SHALL NOT ENCROACH UPON THE PUBLIC R/W UNLESS THEY ARE FLUSH WITH THE GROUND SURFACE.

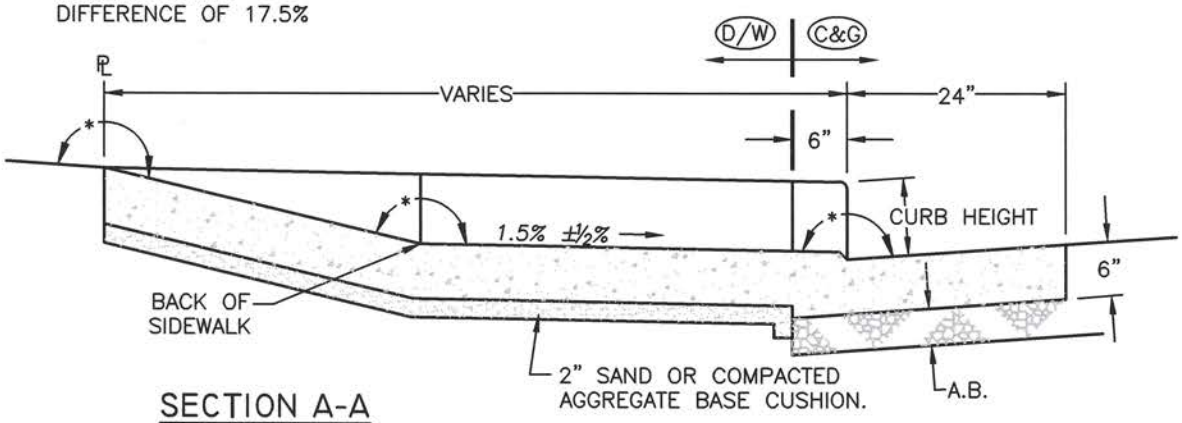


SECTION A-A

CURB OR CURB & GUTTER IS EXISTING OR POURED SEPARATELY (COMMERCIAL DRIVEWAY ONLY)

(S/W) = QUANTITY PAYMENT LIMITS FOR CITY CONTRACTS

* MAX. ALGEBRAIC DIFFERENCE OF 17.5%



SECTION A-A

APPROACH AND GUTTER POURED TOGETHER

NOTES:

1. AGGREGATE BASE UNDER GUTTER PAN SHALL BE THE SAME THICKNESS AS THE ROADWAY STRUCTURAL SECTION AB THICKNESS. SUBGRADE AND AB COMPACTED TO 95% R.D.
2. CONCRETE SHALL COMPLY WITH TITLE 18R OF THE MUNICIPAL CODE.

REVISION	BY	DATE	APP. BY COUNCIL

CITY OF CHICO **STANDARD PLAN**

DRAWN BY: LFG DATE: 10/21/25
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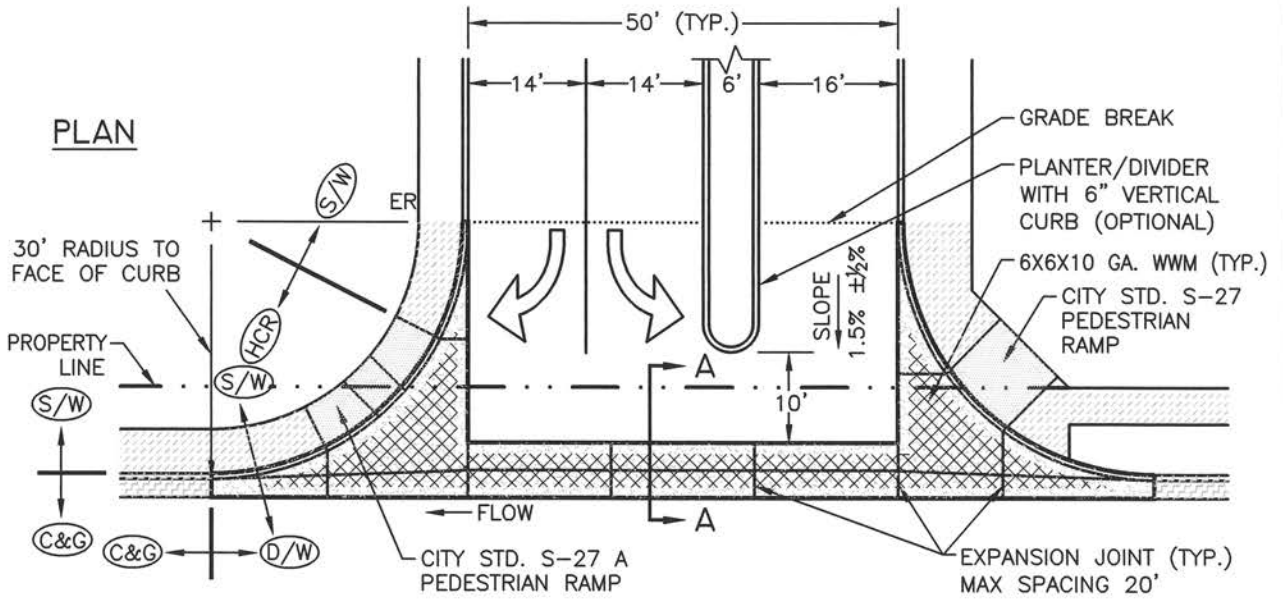
DIRECTOR OF PUBLIC WORKS–ENGINEERING

CURB, GUTTER AND DRIVEWAY DETAILS

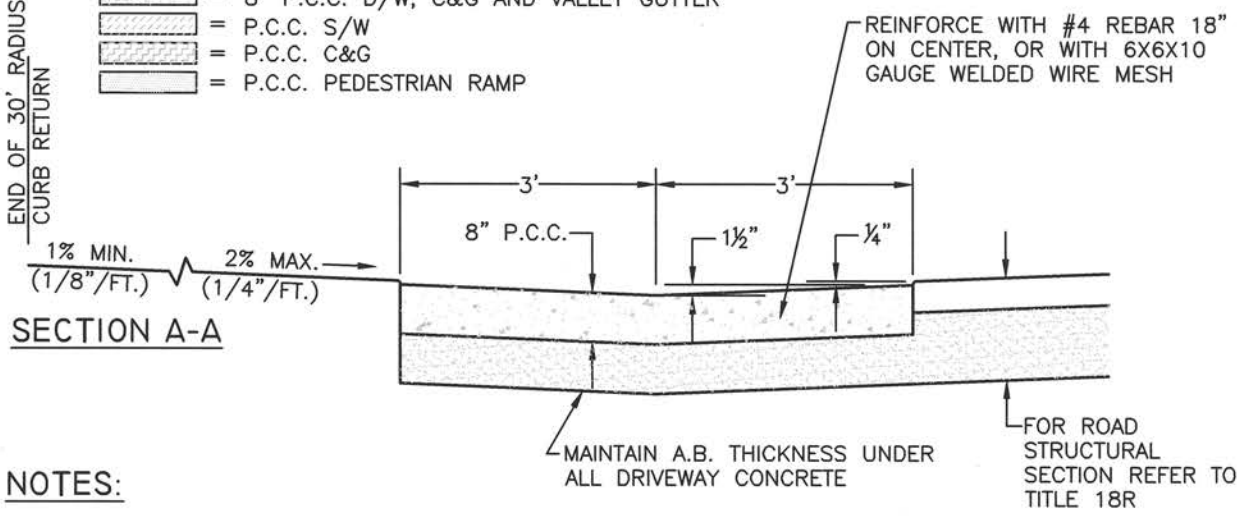
NO. S-5B

SHEET 1 OF 1



LEGEND

- (D/W) = QUANTITY PAYMENT LIMITS FOR CITY CONTRACTS
- = DRIVEWAY PAYMENT LIMITS
- = 8" P.C.C. D/W, C&G AND VALLEY GUTTER
- = P.C.C. S/W
- = P.C.C. C&G
- = P.C.C. PEDESTRIAN RAMP



NOTES:

1. CITY STD. S-5C SHALL BE USED FOR MAJOR COMMERCIAL, INDUSTRIAL AND RESIDENTIAL DEVELOPMENTS IN ACCORDANCE WITH APPROVED PLANS.
2. DRAINAGE TO VALLEY GUTTER RESTRICTED TO DRIVEWAY AREA WITHIN 30' OF FACE OF CURB.
3. NO INTERIOR PARKING LOT AISLE SHALL INTERSECT THE DRIVEWAY WITHIN 100' OF PROPERTY LINE.
4. LEFT TURN STORAGE LANE LENGTH SHALL BE 75' MINIMUM.
5. THE ONSITE DRIVEWAY LANE CONFIGURATION SHOWN HEREON IS PROVIDED TO ILLUSTRATE TYPICAL CRITERIA TO BE USED WITH THIS INSTALLATION. ACTUAL LANE CONFIGURATION SHALL BE IN ACCORDANCE WITH APPROVED PLANS.
6. ALL UNDERLYING LAYERS (SUBGRADE, AB, ETC.) SHALL BE COMPACTED TO 95% R.D.
7. CONCRETE SHALL COMPLY WITH TITLE 18R OF THE MUNICIPAL CODE.

REVISION	BY	DATE	APP. BY COUNCIL

CITY OF CHICO — **STANDARD PLAN**

DRAWN BY: LFG DATE: 10/21/25
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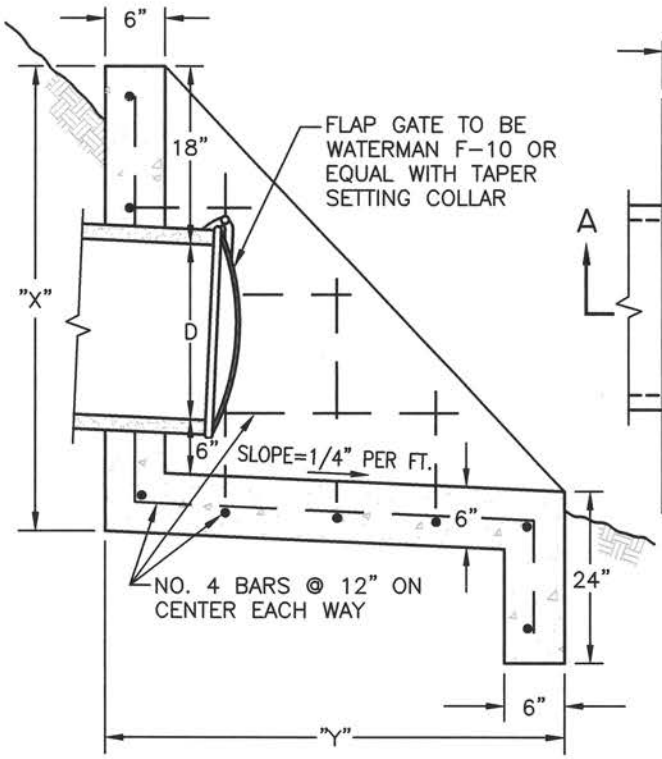
DIRECTOR OF PUBLIC WORKS-ENGINEERING

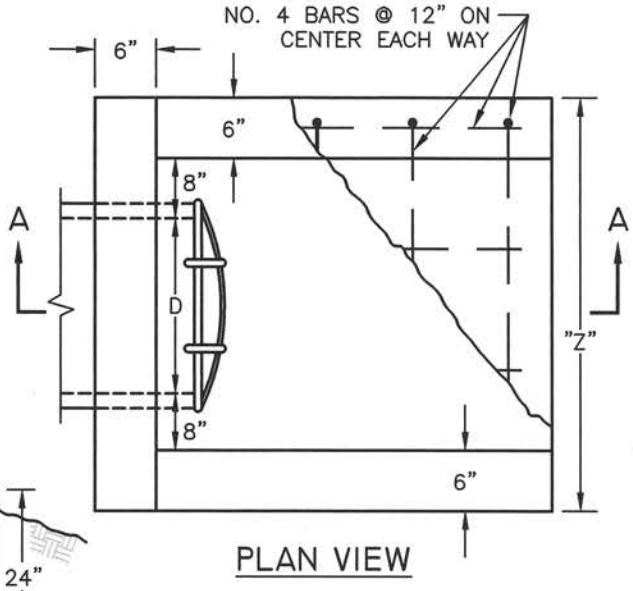
CURBED DRIVEWAY ENTRANCE

NO. S-5C

SHEET 1 OF 1



SECTION A-A



PLAN VIEW

PIPE DIAMETER	HEADWALL WIDTH	VARIABLE DIMENSIONS					
		SLOPE = 1:1		SLOPE = 1.5:1		SLOPE = 2:1	
D	"Z"	"X"	"Y"	"X"	"Y"	"X"	"Y"
	D+2'-4"	D+2'-6"	D+2'-6"	D+2'-6"	1.5(D+2'-6")	D+2'-6"	2(D+2'-6")
8"	3'-0"	3'-2"	3'-2"	3'-2"	4'-9"	3'-2"	6'-4"
10"	3'-2"	3'-4"	3'-4"	3'-4"	5'-0"	3'-4"	6'-8"
12"	3'-4"	3'-6"	3'-6"	3'-6"	5'-3"	3'-6"	7'-0"
15"	3'-7"	3'-9"	3'-9"	3'-9"	5'-7½"	3'-9"	7'-6"
18"	3'-10"	4'-0"	4'-0"	4'-0"	6'-0"	4'-0"	8'-0"
21"	4'-1"	4'-3"	4'-3"	4'-3"	6'-4½"	4'-3"	8'-6"
24"	4'-4"	4'-6"	4'-6"	4'-6"	6'-9"	4'-6"	9'-0"
27"	4'-7"	4'-9"	4'-9"	4'-9"	7'-1½"	4'-9"	9'-6"
30"	4'-10"	5'-0"	5'-0"	5'-0"	7'-6"	5'-0"	10'-0"
36"	5'-4"	5'-6"	5'-6"	5'-6"	8'-3"	5'-6"	11'-0"
42"	5'-10"	6'-0"	6'-0"	6'-0"	9'-0"	6'-0"	12'-0"

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CITY OF CHICO **STANDARD PLAN**

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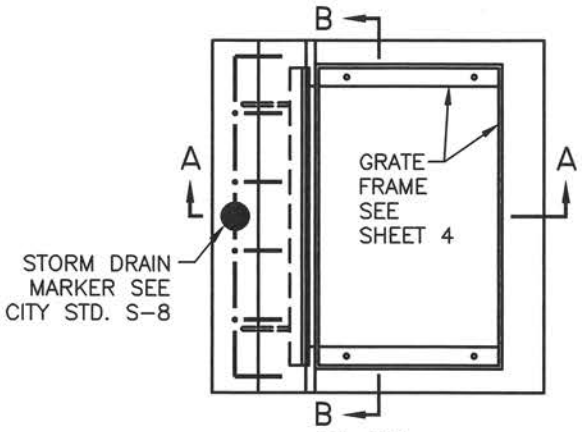
DIRECTOR OF PUBLIC WORKS-ENGINEERING

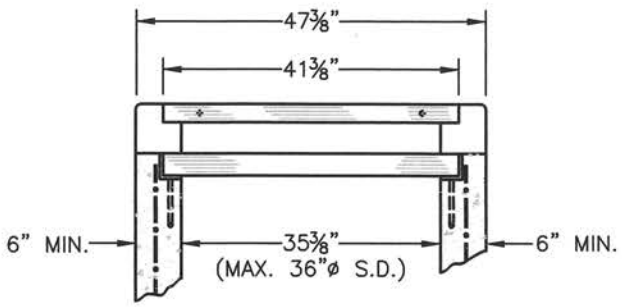
STORM DRAIN HEADWALL

NO. S-6

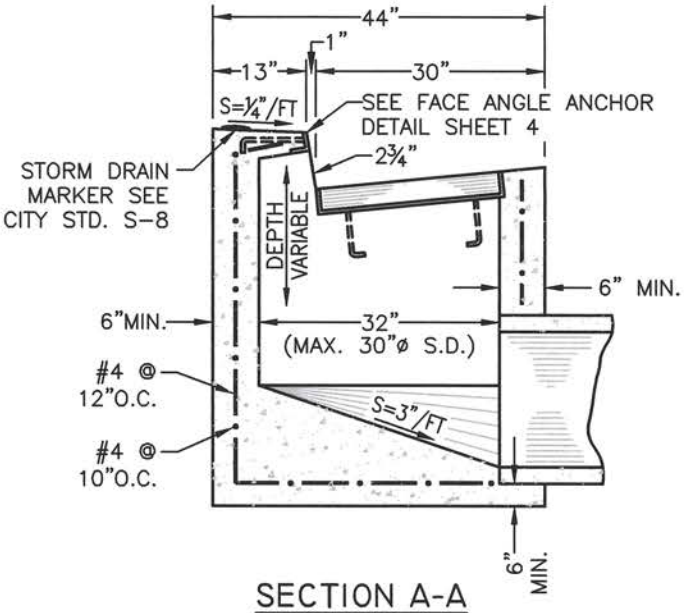
SHEET 1 OF 1



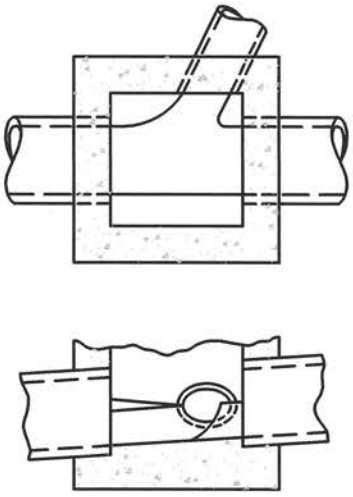
PLAN



SECTION B-B



SECTION A-A



SHAPING OF INVERT

NOTE: USE WHEN MORE THAN ONE PIPE CONNECTS TO THE D.I.

NOTES:

1. WALL THICKNESS SHALL BE 8" WHEN DEPTH OF D.I. IS GREATER THAN 8'.
2. PIPES CAN BE PLACED IN ANY WALL.
3. SEE SHEET 2 OF 4 FOR D.I. CUT AWAY VIEW AND WING DETAIL.
4. SEE SHEETS 3 & 4 FOR GRATE & FRAME DETAILS.
5. CAST-IN-PLACE OR PRECAST ALTERNATIVE IS OPTIONAL WITH CONTRACTOR; SEE STANDARD SPECS.
6. AT CONTRACTOR'S OPTION, 60" TRANSITIONS & D.I. TOP MAY BE MONOLITHIC POUR.
7. DESIGN SHALL MEET H-20 LOADING REQUIREMENTS.
8. MARKERS MAY BE CAST-IN-PLACE BY MANUFACTURER OF INLET TOP.

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CITY OF CHICO **STANDARD PLAN**

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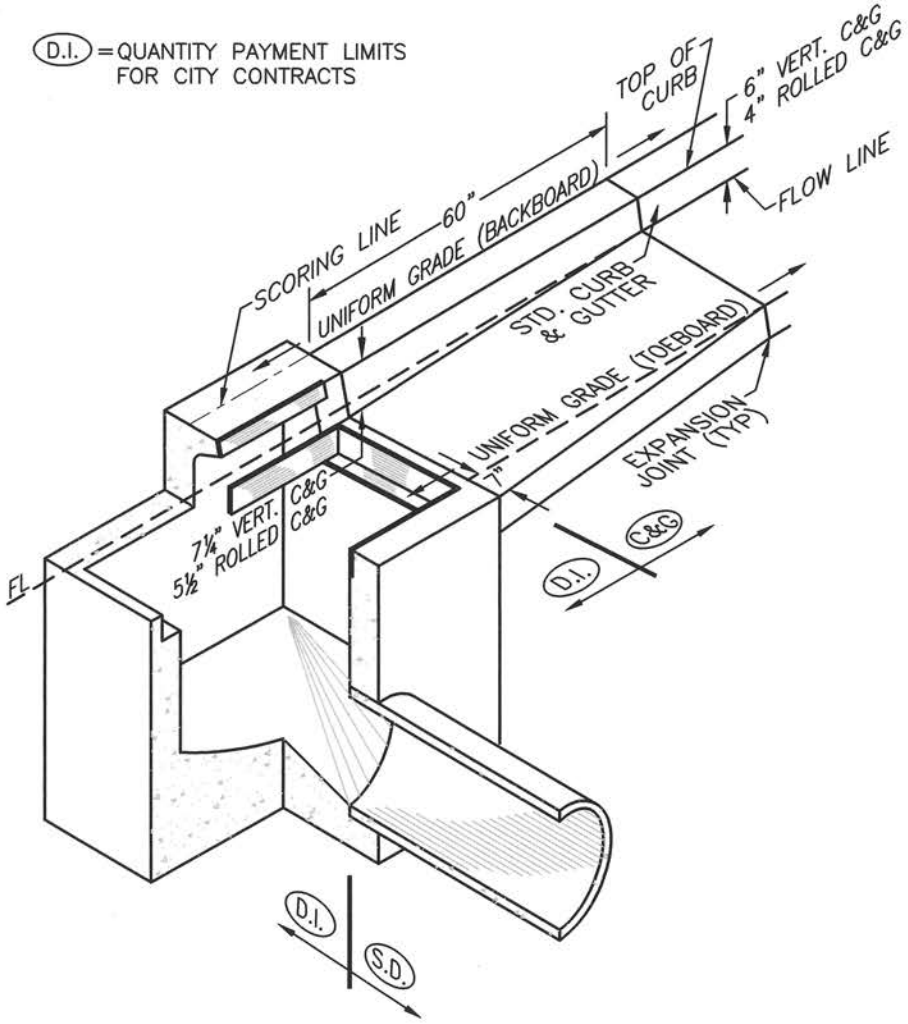
36" DRAIN INLET BOX DETAILS

NO. S-7

SHEET 1 OF 4

(D.I.) = QUANTITY PAYMENT LIMITS FOR CITY CONTRACTS



D.I. CUT AWAY VIEW

NOTES:

1. PIPES CAN BE PLACED IN ANY WALL.
2. AT CONTRACTOR'S OPTION, 60" TRANSITIONS & D.I. TOP MAY BE MONOLITHIC POUR.

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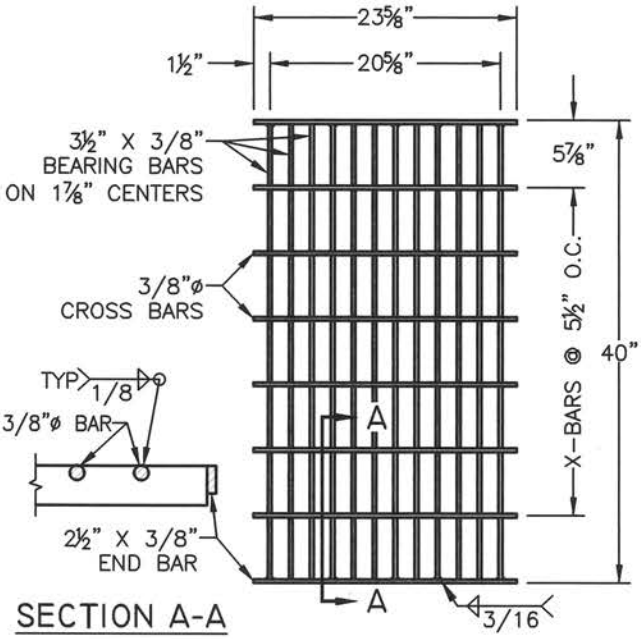
36" DRAIN INLET WING DETAILS

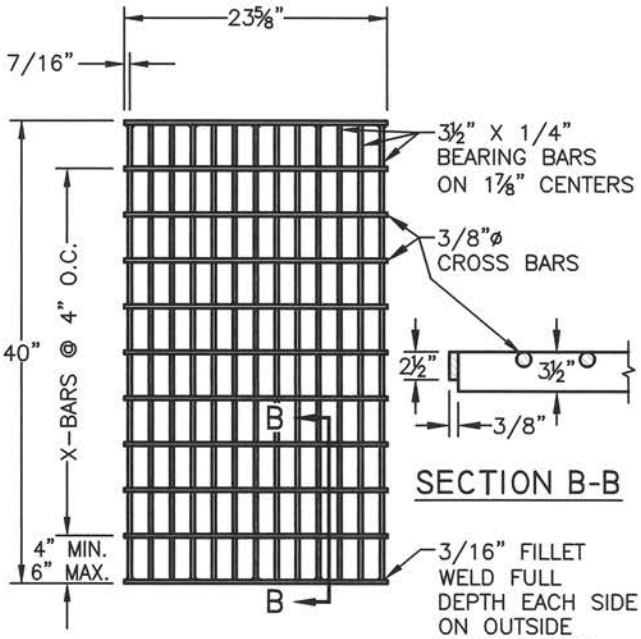
NO. S-7

SHEET 2 OF 4



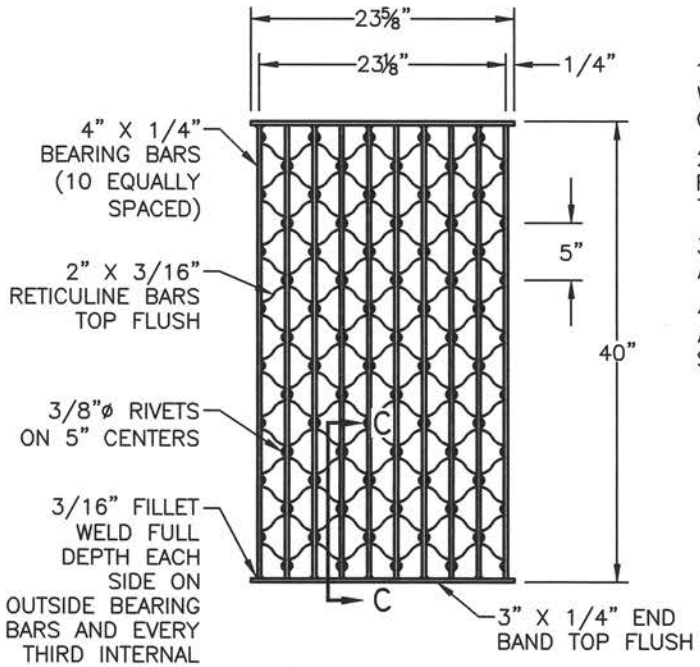
SECTION A-A

24-12X GRATE
(WELDED STEEL)



SECTION B-B

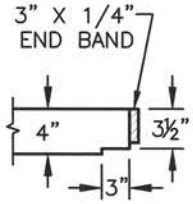
24-13 GRATE
(WELDED STEEL)



24-10S GRATE
(WELDED STEEL)
RETICULINE TYPE

NOTES:

1. GRATE TYPE NUMBERS REFER TO WIDTH OF GRATE IN INCHES AND NUMBER OF BARS, RESPECTIVELY.
2. CROSS BARS MAY BE FILLET WELDED, RESISTANCE WELDED OR ELECTROFORGED TO BEARING BARS.
3. ROUNDED TOP OF BARS OPTIONAL ON ALL GRATES.
4. ALL GRATES SHALL BE GALVANIZED IN ACCORDANCE WITH SECTION 75-1.02B OF THE STANDARD SPECIFICATIONS.



SECTION C-C

REVISION	BY	DATE	APP. BY COUNCIL

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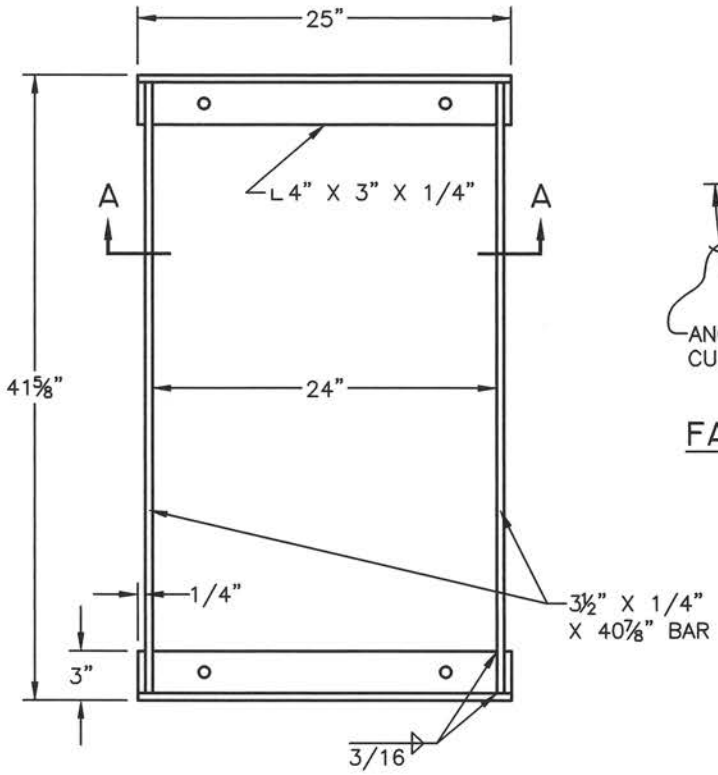
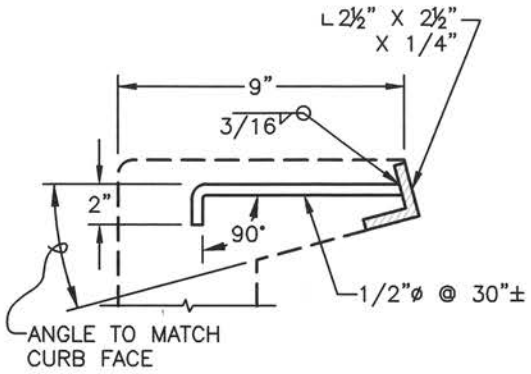
36" DRAIN INLET GRATE DETAILS

NO. S-7

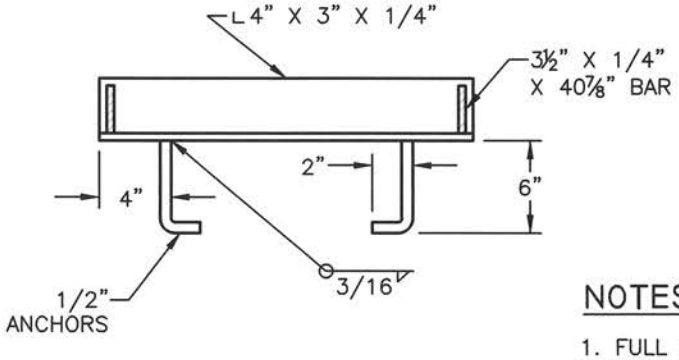
SHEET 3 OF 4



GRATE FRAME



FACE ANGLE ANCHOR DETAIL



SECTION A-A

NOTES:

1. FULL PENETRATION BUTT WELDS MAY BE SUBSTITUTED FOR FILLET WELDS ON ANCHORS.
2. ALL FRAMES SHALL BE GALVANIZED IN ACCORDANCE WITH SECTION 75-1.02B OF THE STANDARD SPECIFICATIONS.

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CITY OF CHICO — **STANDARD PLAN**

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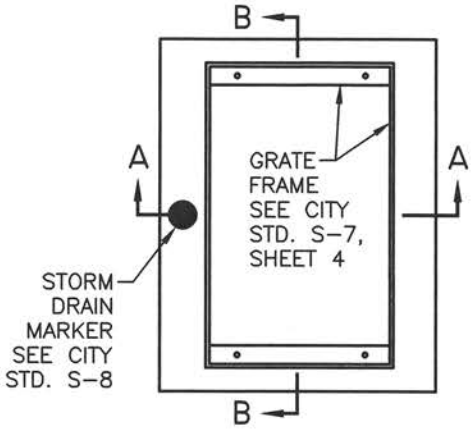
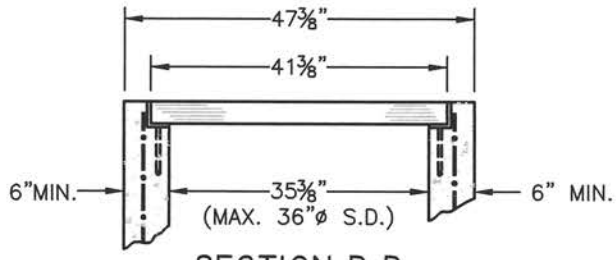
36" DRAIN INLET GRATE FRAME & FACE ANGLE ANCHOR DETAILS

NO. S-7

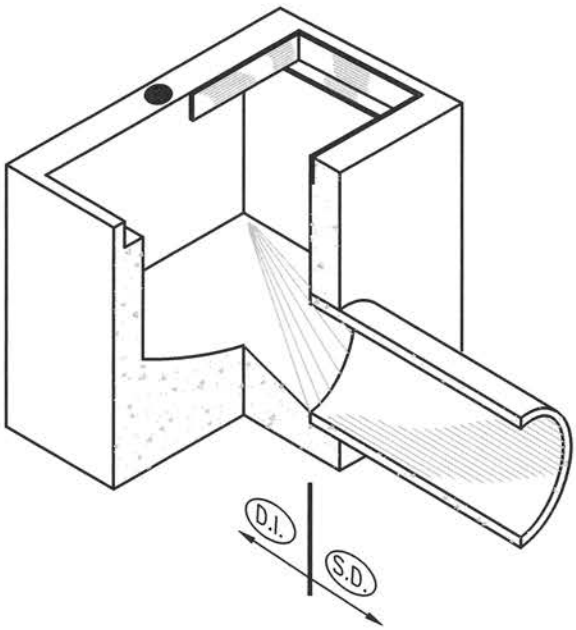
SHEET 4 OF 4



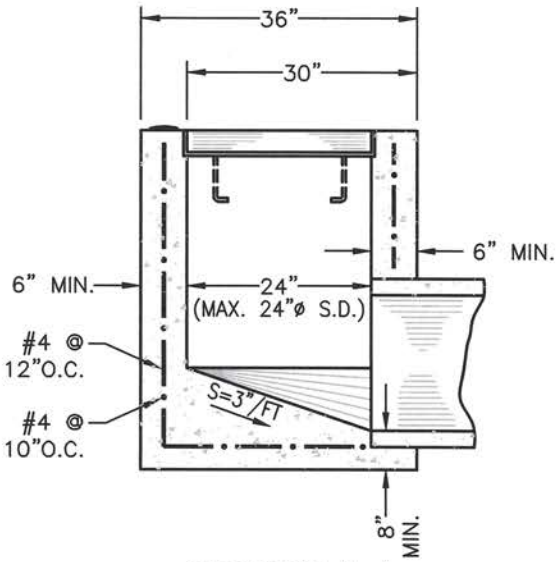
PLAN



SECTION B-B



D.I. CUT AWAY VIEW

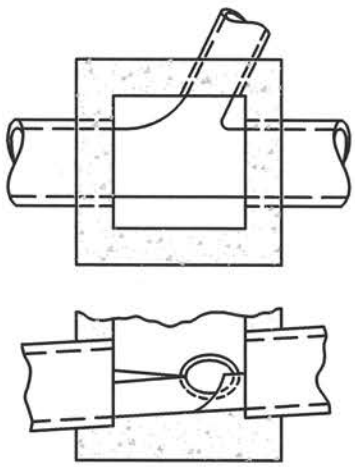


SECTION A-A

(D.I.) = QUANTITY PAYMENT LIMITS FOR CITY CONTRACTS

NOTES:

1. WALL THICKNESS SHALL BE 8" WHEN DEPTH OF D.I. IS GREATER THAN 8'.
2. PIPES CAN BE PLACED IN ANY WALL.
3. SEE CITY STD. S-7, SHEETS 3 & 4 FOR FRAME AND GRATE DETAILS.
4. CAST-IN-PLACE OR PRECAST ALTERNATIVE IS OPTIONAL WITH CONTRACTOR; SEE STANDARD SPECS.
5. THIS DROP INLET SHALL BE USED FOR PUBLIC STORM DRAINS IN ALLEYS AND EASEMENTS.
6. CONCRETE SHALL COMPLY WITH TITLE 18R OF THE MUNICIPAL CODE.
7. DESIGN SHALL MEET H-20 LOADING REQUIREMENTS.



SHAPING OF INVERT

NOTE: USE WHEN MORE THAN ONE PIPE CONNECTS TO THE D.I.

REVISION	BY	DATE	APP. BY COUNCIL

CITY OF CHICO — **STANDARD PLAN**

DRAWN BY: LFG DATE: 10/21/25
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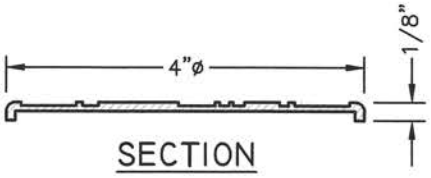
APPROVED: DIRECTOR OF PUBLIC WORKS-ENGINEERING

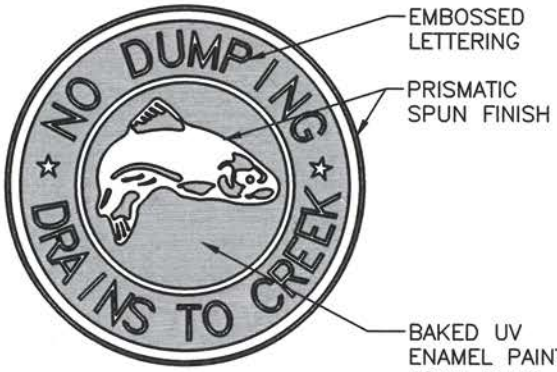
FLAT GRATE DRAIN INLET

NO. S-7A

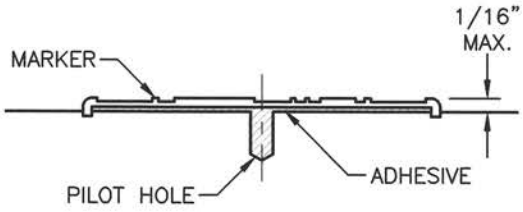
SHEET 1 OF 1



SECTION



PLAN



INSTALLATION DETAIL

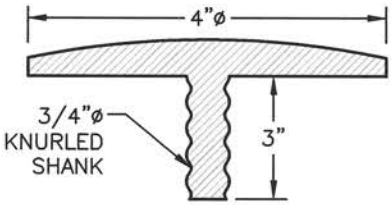
NOTES:

1. DRILL CONCRETE OR ASPHALT WITH 4"ø KEYHOLE SAW 1/8" DEEP
2. APPLY CONSTRUCTION GRADE ADHESIVE (EPOXY) ON BACK OF MARKER AND EMBED INTO GROOVE. APPLY PRESSURE BY STEPPING ON MARKER

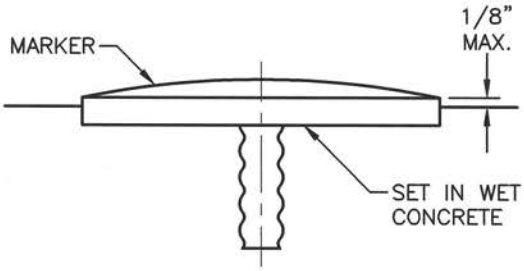
MANUFACTURED BY: ALMETEK INDUSTRIES
PART NO. SDS4R0301BLNAX OR
APPROVED EQUAL (WWW.ALMETRK.COM)

TYPE "A" MARKER

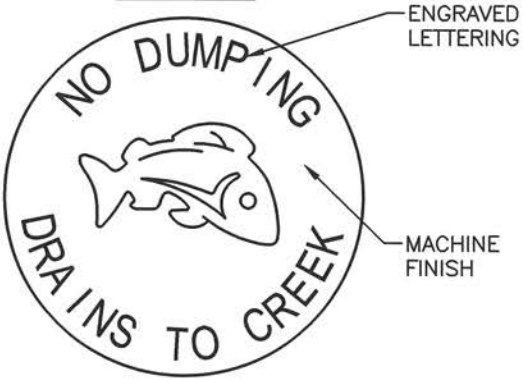
STAMPED STAINLESS STEEL



SECTION



INSTALLATION DETAIL



PLAN

NOTES:

1. IF DROP INLET IS PRE CAST THEN MARKER SHALL BE PLACED AT TIME OF MANUFACTURE
2. IF DROP INLET IS CAST IN PLACE THEN MARKER SHALL BE PLACED AT TIME OF POUR

MANUFACTURED BY: SURV-KAP, INC.
PART NO. M/M-ACS-4D WITH LOGO L-27
OR APPROVED EQUAL (WWW.SURV-KAP.COM)

TYPE "B" MARKER

CAST ALUMINUM

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CITY OF CHICO **STANDARD PLAN**

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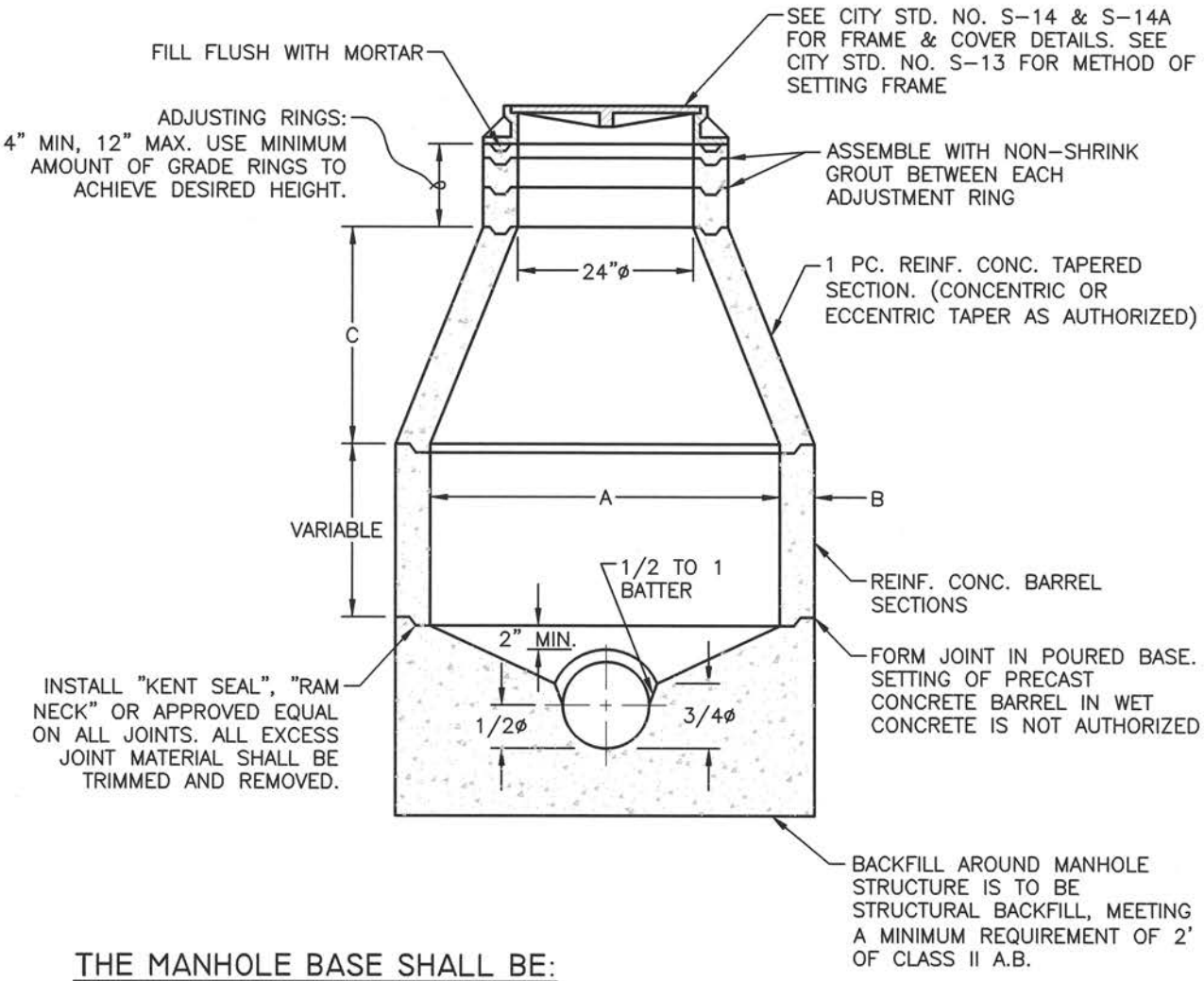
DIRECTOR OF PUBLIC WORKS-ENGINEERING

STORM DRAIN MARKER DETAIL

NO. S-8

SHEET 1 OF 1



THE MANHOLE BASE SHALL BE:

1. MINOR CONCRETE 590 LBS. PER CU. YD. POURED AGAINST UNDISTURBED EARTH, OR:

2. A PRECAST BASE WITH GASKETED JOINTS, PLACED ON 6" MINIMUM A.B., COMPACTED TO 95% RELATIVE DENSITY.

A	B	C	NOTES
M.H. DIA. 36"	4"	12"	MANHOLE FOR CONNECTION OF PRIVATE LINE TO PUBLIC MAIN WHEN SHOWN ON PLANS.
M.H. DIA. 48"	4"	24" to 30"	MANHOLE SHALL BE USED UNLESS OTHERWISE SPECIFIED.
M.H. DIA. 60"	5"	24" to 30"	DIMENSIONS IN ACCORDANCE WITH A.S.T.M. C-478.

REVISION	BY	DATE	APP. BY COUNCIL

CITY OF CHICO **STANDARD PLAN**

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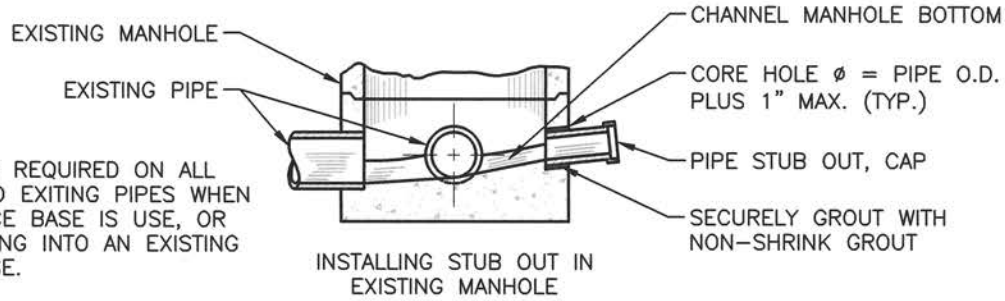
DIRECTOR OF PUBLIC WORKS-ENGINEERING

STORM DRAIN AND SANITARY SEWER MANHOLE

NO. S-10

SHEET 1 OF 2

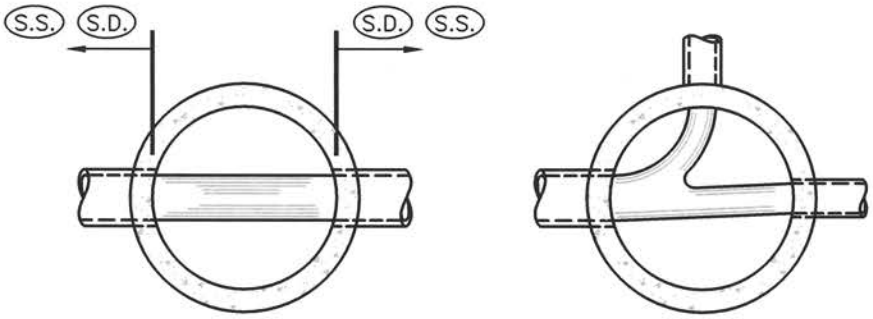


INSTALLING STUB OUT IN EXISTING MANHOLE

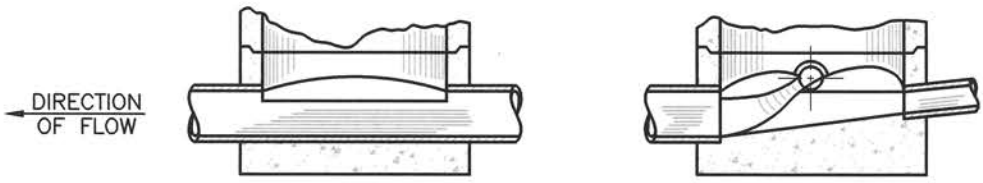
NOTES:
WATER STOPS REQUIRED ON ALL ENTERING AND EXITING PIPES WHEN CAST IN PLACE BASE IS USE, OR WHEN BREAKING INTO AN EXISTING MANHOLE BASE.

CAST-IN-PLACE BASE THICKNESS IS 12" MINIMUM BELOW LOWEST INVERT ELEVATION.

STUB OUT AT MANHOLE



BREAK AWAY TOP 1/2 OF PIPE



SECTION OF PIPE CONTINUOUS THROUGH MANHOLE

JUNCTION MANHOLE BETWEEN DIFFERENT PIPE SIZES

SHAPING BOTTOM OF MANHOLE

(S.S.) (S.D.) = QUANTITY PAYMENT LIMITS FOR CITY CONTRACTS

REVISION	BY	DATE	APP. BY COUNCIL

CITY OF CHICO — **STANDARD PLAN**

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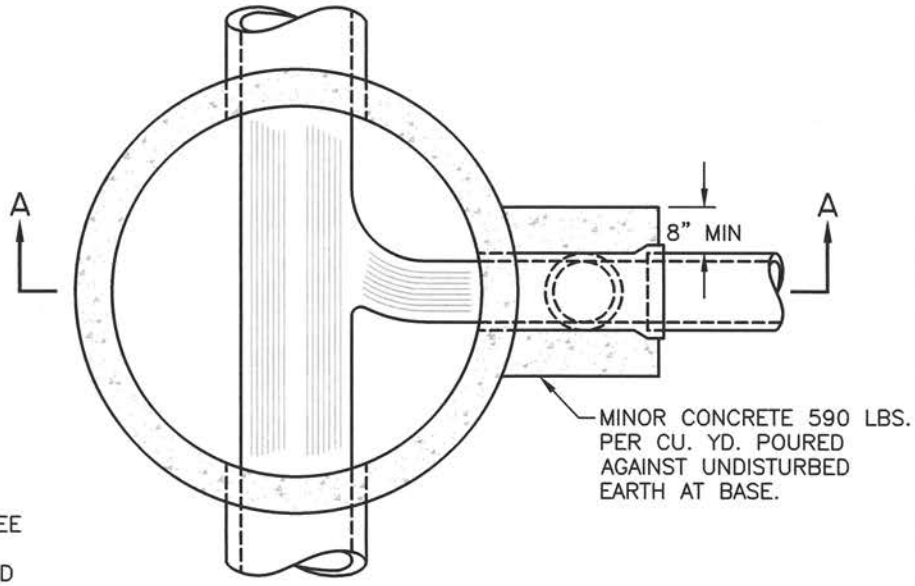
APPROVED: _____
DIRECTOR OF PUBLIC WORKS-ENGINEERING

STORM DRAIN AND SANITARY SEWER MANHOLE

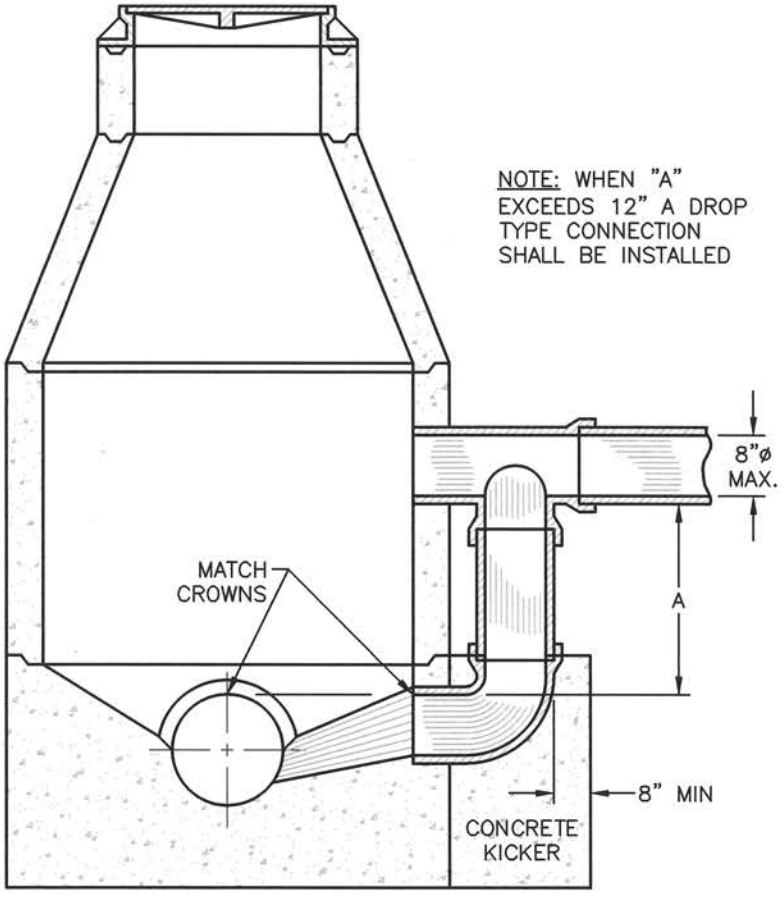
NO. S-10

SHEET 2 OF 2



NOTE: FOR STANDARD MANHOLE DIMENSIONS SEE CITY STD. S-10. DROP CONNECTION TO BE USED ONLY FOR LINES OF 8"ø OR LESS.

NOTE: WHEN "A" EXCEEDS 12" A DROP TYPE CONNECTION SHALL BE INSTALLED



SECTION A-A

NOTE:

A CONCRETE KICKER SHALL BE POURED AGAINST AN UNDISTURBED SOIL BASE AND EXTEND TO THE TOP OF THE MANHOLE'S CONCRETE BASE, OR TO THE TOP OF THE 90° ELBOW, WHICHEVER IS LOWER. BACKFILL MATERIAL SURROUNDING THE KICKER SHALL BE COMPACTED TO 90% R.D.

REVISION	BY	DATE	APP. BY COUNCIL

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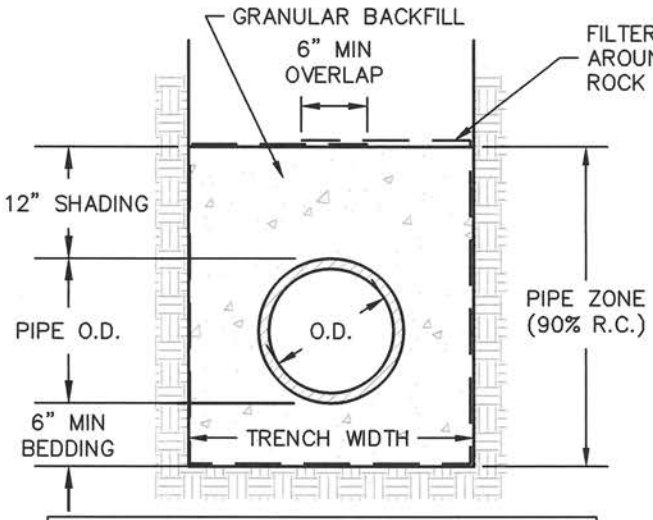
DIRECTOR OF PUBLIC WORKS-ENGINEERING

DROP MANHOLE DETAILS

NO. S-11

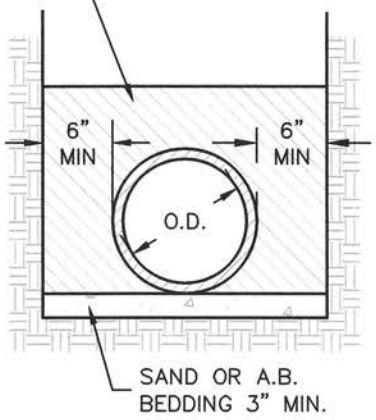
SHEET 1 OF 1

SEE S-17 FOR BACKFILL AND
TRENCH REPLACEMENT REQUIREMENTS



MINIMUM TRENCH WIDTH	
O.D.	WIDTH
<3"	12"
3"-24"	O.D.+12"
24"-60"	O.D.+24"

STANDARD INSTALLATION

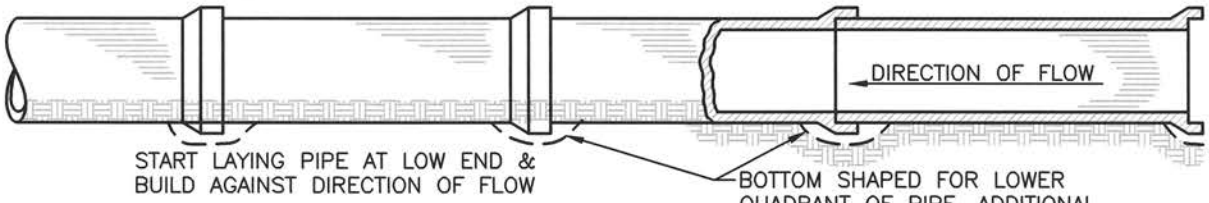


NOTE:

CARE SHOULD BE TAKEN TO MAKE SURE THE PIPE DOES NOT FLOAT.

MINIMAL COVER

TRENCH SECTION



NOTES:

1. GRANULAR BACKFILL ON STANDARD INSTALLATION SHALL BE UTILITY SAND OR CRUSHED GRAVEL. IF CRUSHED GRAVEL IS USED, A FILTER FABRIC ENVELOPE SHALL BE INSTALLED AROUND PIPE ZONE. FILTER FABRIC SHALL BE MARIFI 140N OR APPROVED EQUAL. FABRIC SHALL BE OVERLAPPED 6" MIN. ON TOP.
2. PIPE ZONE BACKFILL SHALL BE COMPACTED TO 90% R.D.
3. IN CONDITIONS WHERE THE COVER FROM FINISH GRADE TO THE TOP OF THE PIPE IS LESS THAN 24", THE MINIMAL COVER DETAIL SHALL BE USED.
4. PIPE SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS, OR TO THE REQUIREMENTS SHOWN ABOVE, WHICHEVER IS MORE STRINGENT.
5. PIPE DIAMETERS LARGER THAN 60" WILL REQUIRE ADDITIONAL TRENCH WIDTH TO PROVIDE ADEQUATE COMPACTION AROUND THE PIPE.
6. BACKFILL MATERIALS SHALL COMPLY WITH THE MOST RECENTLY ADOPTED CALTRANS STANDARD SPECIFICATIONS.
7. PIPE SHALL BE INSTALLED IN THE CENTER OF THE TRENCH.
8. THIS DETAIL IS INTENDED FOR GRAVITY UTILITIES ONLY.

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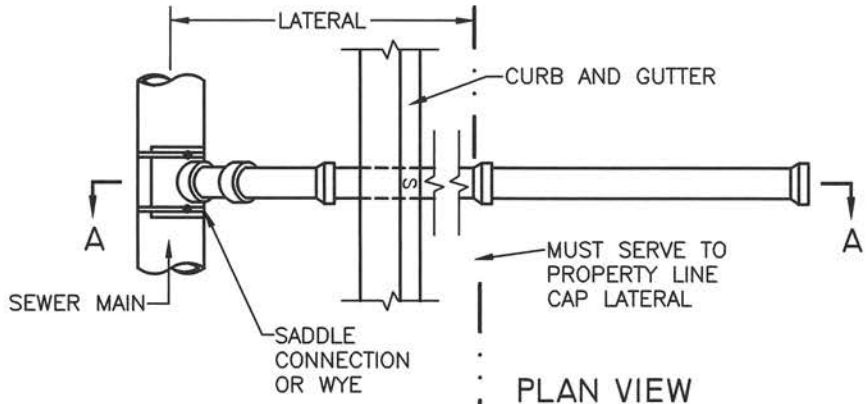
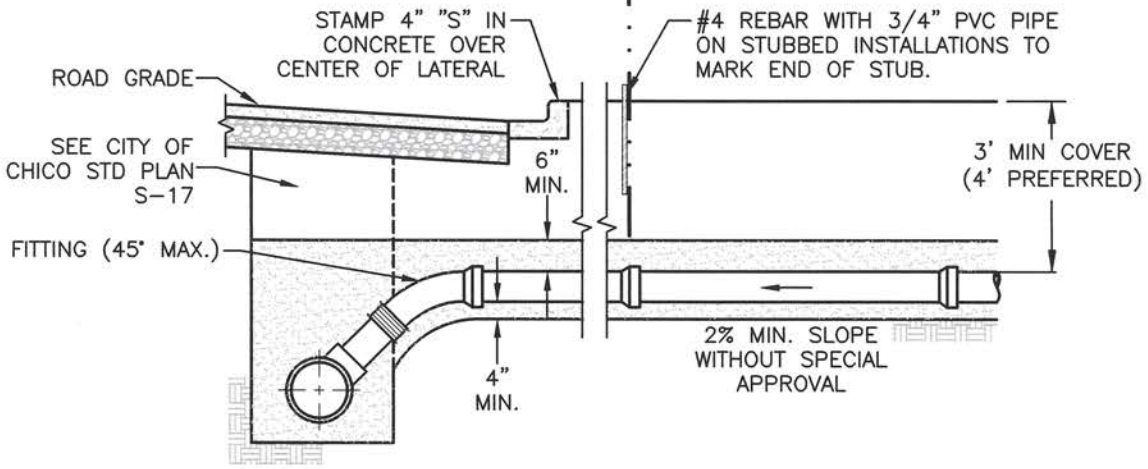
APPROVED METHODS OF LAYING PIPE

NO. S-12

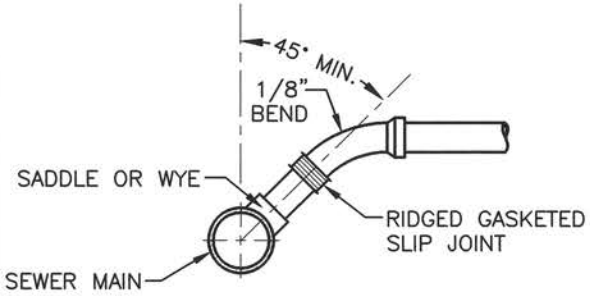
SHEET 1 OF 2



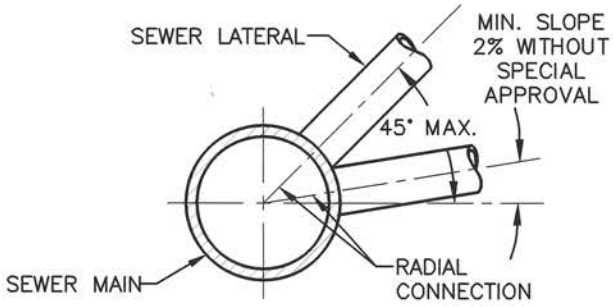
PLAN VIEW



SECTION A-A



SADDLE CONNECTION DETAIL



CONNECTION AT MAIN

NOTE:

ALL LATERAL CONNECTIONS SHALL COMPLY WITH THE CITY OF CHICO MUNICIPAL CODE 18R.

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CITY OF CHICO **STANDARD PLAN**

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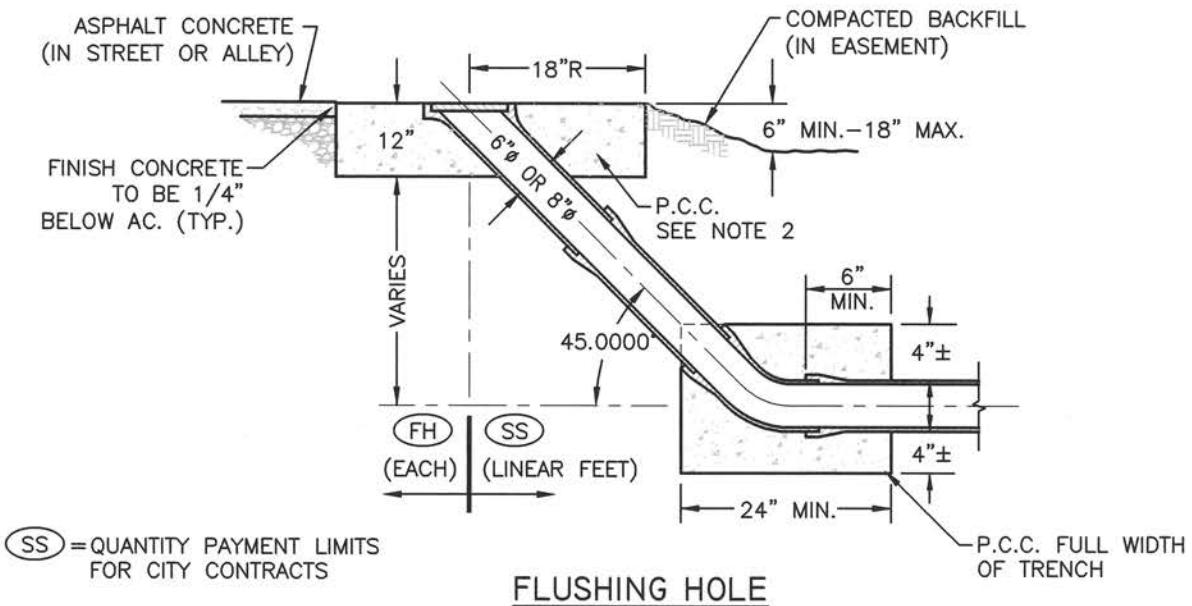
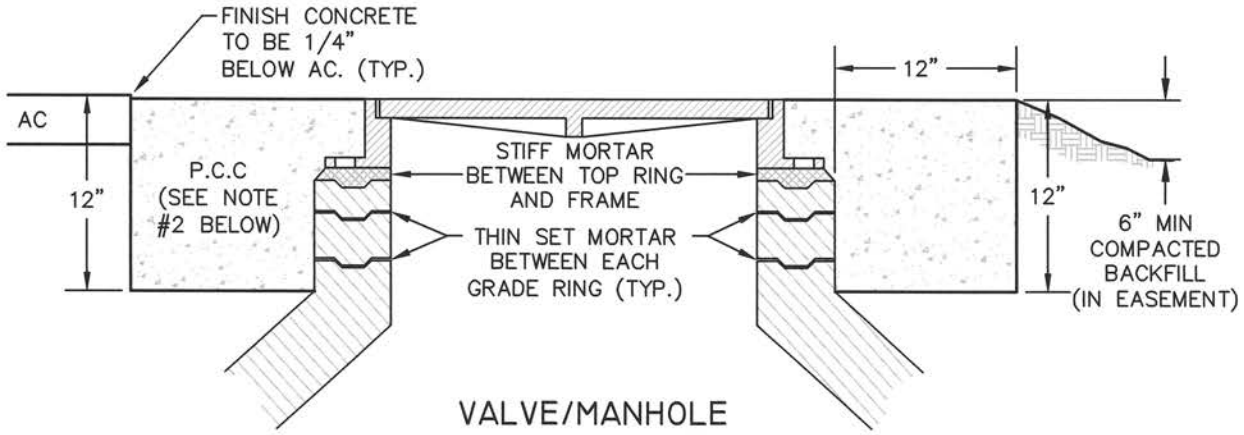
APPROVED METHODS OF LAYING PIPE

NO. S-12

SHEET 2 OF 2



FLUSHING HOLE



VALVE/MANHOLE FRAME & COVER

NOTES:

1. JOINTS TO BE CONSTRUCTED AS REQUIRED BY STANDARD SPECIFICATIONS FOR SEWER LINE.
2. IF IN STREET OR ALLEY, USE MINOR CONCRETE 505 LBS. PER CU. YD. MIN. W/ 5 LBS. OF LAMP BLACK PER CU. YD.
3. FOR APPURTENANCES LOCATED IN EASEMENT: FINISHED GRADE FROM EDGE OF CONCRETE SHALL SLOPE DOWN NO LESS THAN 6" AND NO MORE THAN 18", MEASURED FROM THE TOP OF CONCRETE SURFACE.
4. SEE STD S–14 & S–14A FOR MANHOLE CASTING DETAILS AND STD. S–15 FOR FLUSHING HOLE CASTING DETAILS.
5. MANHOLE GRADE ADJUSTMENT RINGS HEIGHT: 6" MIN, 18" MAX. (NOT INCLUDING FRAME HEIGHT).
6. THE STIFF MORTAR BETWEEN THE TOP ADJUSTMENT RING AND THE FRAME BASE SHALL BE APPLIED TO THE ENTIRE CIRCUMFERENCE BEFORE SETTING THE FRAME AND NOT BE MORE THAN 2" THICK AFTER SETTING THE FRAME TO ITS FINAL GRADE.
7. MORTAR ON INSIDE OF ACCESS SHALL BE SMOOTH FINISH WITHOUT VOIDS.
8. THIS DETAIL IS TO BE USED WHEN SETTING ANY UTILITY ACCESS LID.

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CITY OF CHICO **STANDARD PLAN**

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DIRECTOR OF PUBLIC WORKS–ENGINEERING

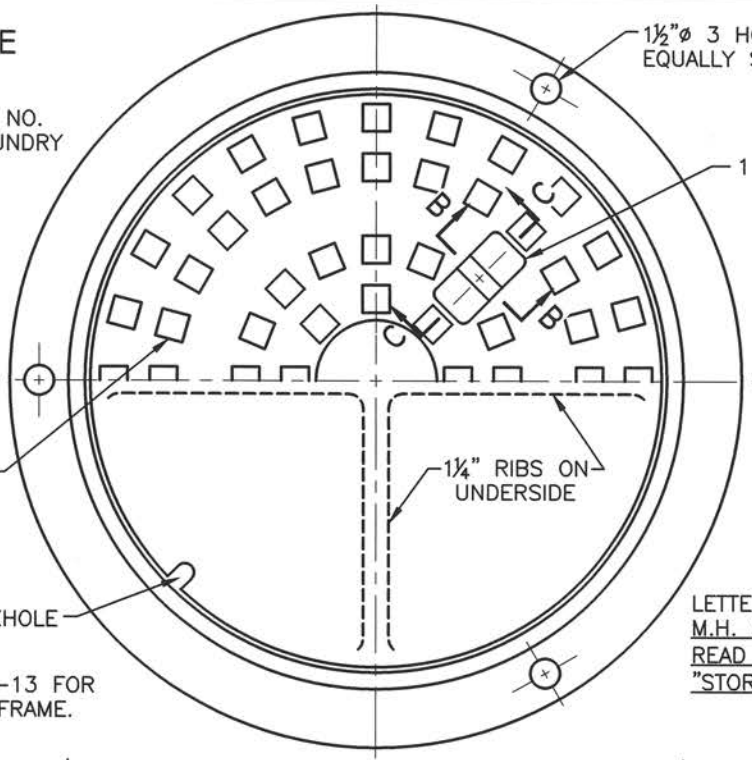
TYPICAL METHODS FOR SETTING APPURTENANCES

NO. S-13

SHEET 1 OF 1

STD. 24" FRAME & COVER

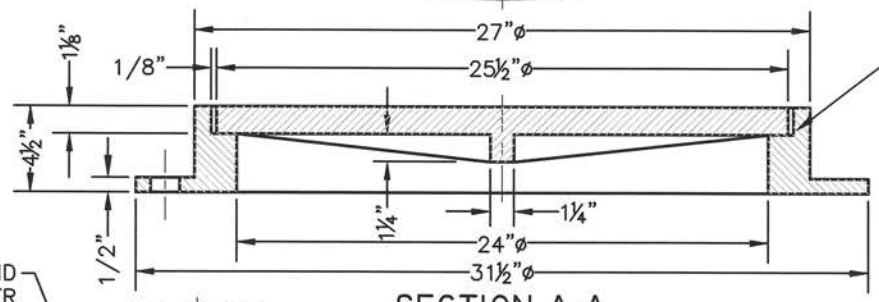
SOUTH BAY FOUNDRY NO. SBF-624, D & L FOUNDRY MODEL A-1024, OR APPROVED EQUAL.



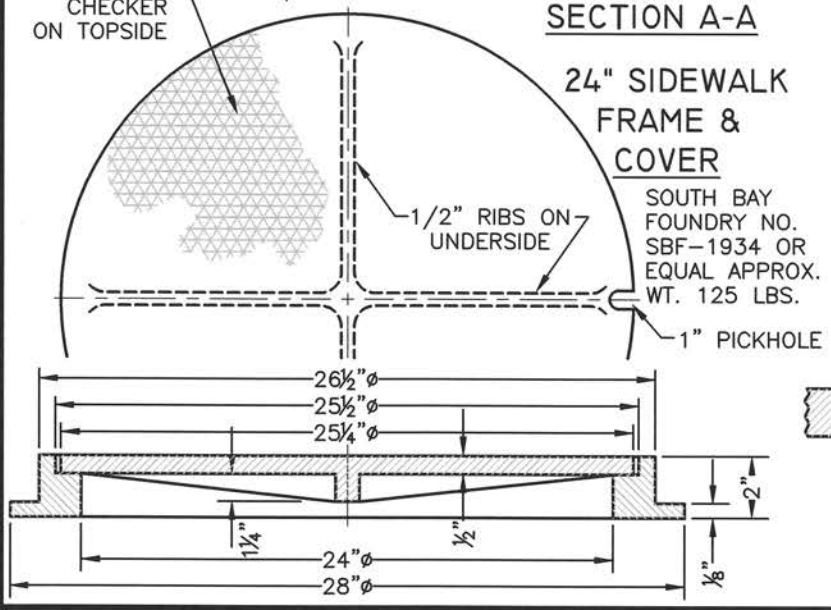
NOTE:

SEE STD. S-10 & S-13 FOR METHOD OF SETTING FRAME.

LETTERING REQUIRED ON ALL M.H. COVERS. LABELS SHALL READ "SANITARY SEWER" OR "STORM DRAIN"

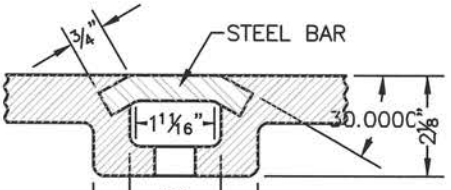


SECTION A-A

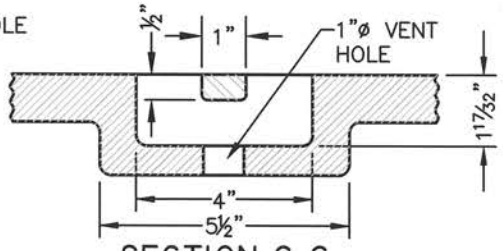


24" SIDEWALK FRAME & COVER

SOUTH BAY FOUNDRY NO. SBF-1934 OR EQUAL APPROX. WT. 125 LBS.



SECTION B-B



SECTION C-C

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CITY OF CHICO — **STANDARD PLAN**

DRAWN BY: LFG DATE: 10/21/25

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DIRECTOR OF PUBLIC WORKS-ENGINEERING

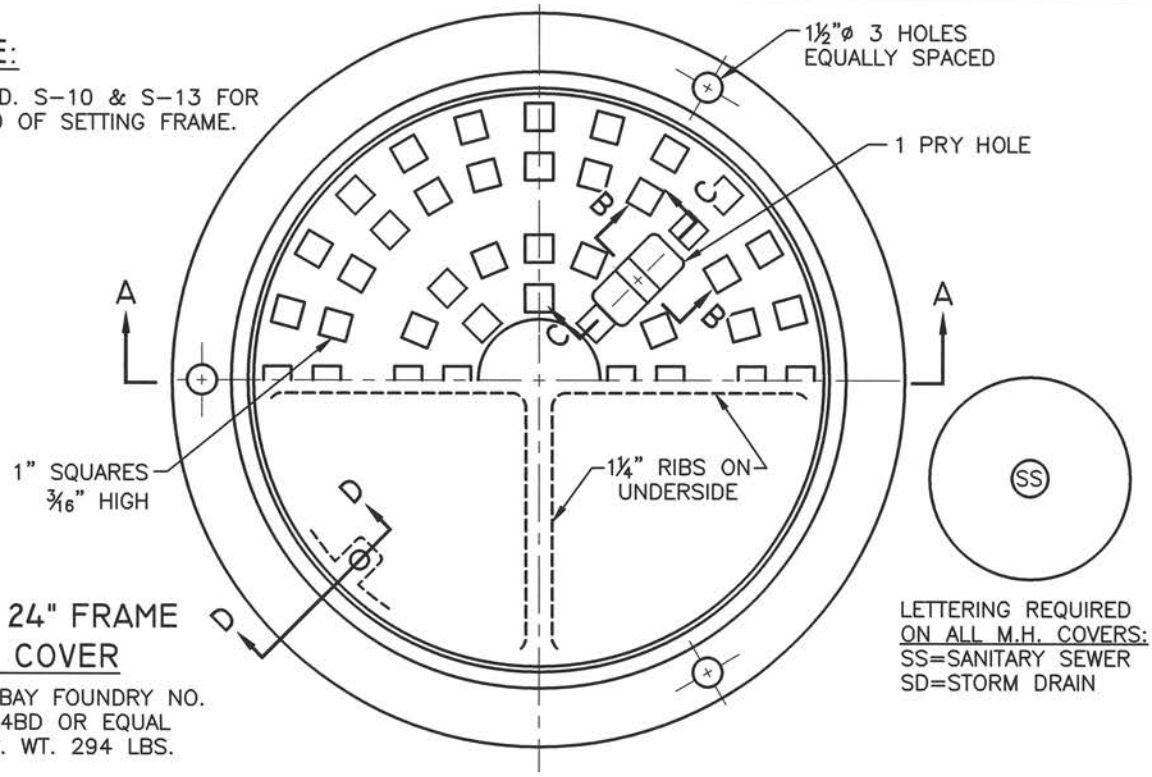
MANHOLE FRAME & COVER DETAILS

NO. S-14

SHEET 1 OF 1

NOTE:

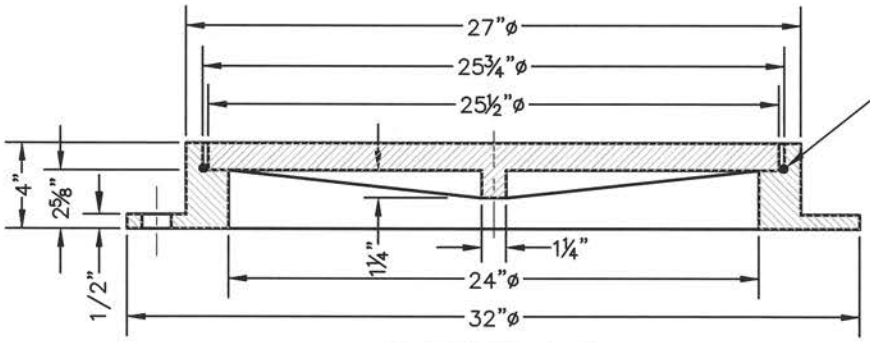
SEE STD. S-10 & S-13 FOR METHOD OF SETTING FRAME.



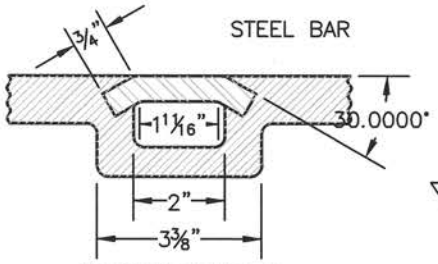
STD. 24" FRAME & COVER

SOUTH BAY FOUNDRY NO. SBF-624BD OR EQUAL
APPROX. WT. 294 LBS.

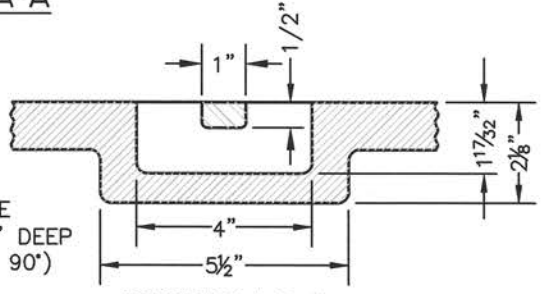
LETTERING REQUIRED ON ALL M.H. COVERS:
SS=SANITARY SEWER
SD=STORM DRAIN



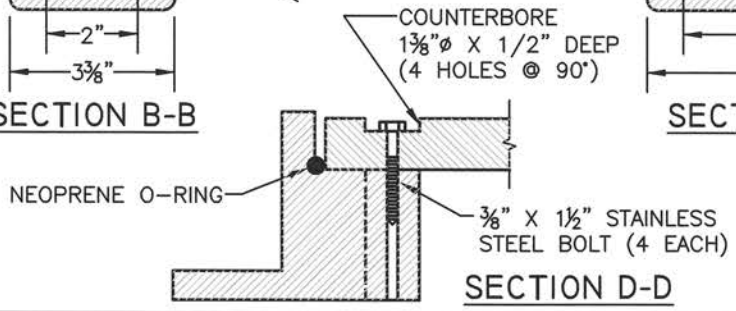
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

REVISION	BY	DATE	APP. BY COUNCIL

CITY OF CHICO **STANDARD PLAN**

DRAWN BY: LFG DATE: 10/21/25
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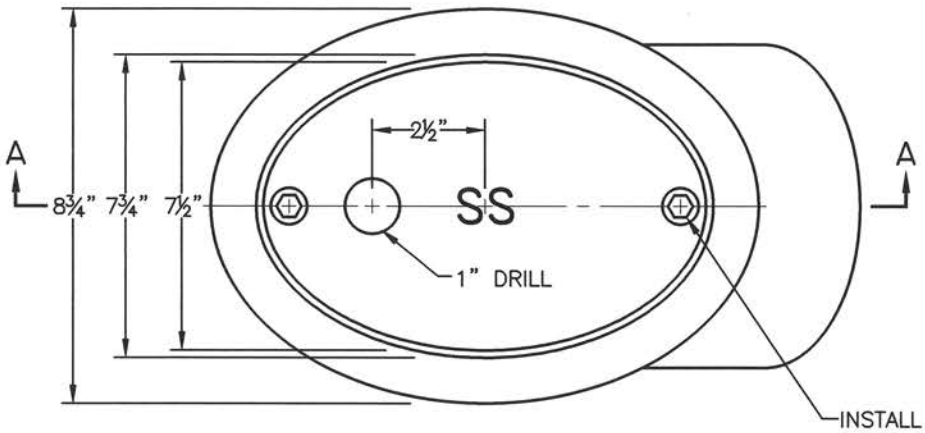
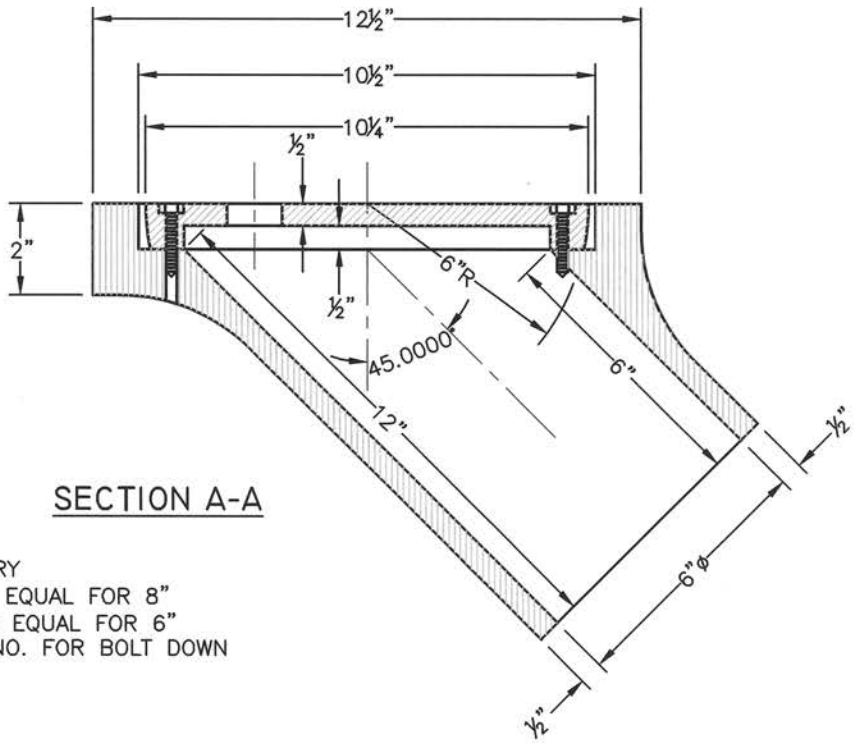
APPROVED: DIRECTOR OF PUBLIC WORKS-ENGINEERING

BOLT DOWN MANHOLE FRAME & COVER DETAILS

NO. S-14A

SHEET 1 OF 1





SECTION A-A

SOUTH BAY FOUNDRY
NO. SBF–1247 OR EQUAL FOR 8"
NO. SBF–1248 OR EQUAL FOR 6"
ADD BD TO PART NO. FOR BOLT DOWN

NOTES:

1. SEE STD. S–13 FOR METHOD OF INSTALLATION & RISER CONSTRUCTION.

2. USE 6"ø CASTING FOR TERMINUS OF 6" SEWER MAIN OR 8"ø CASTING FOR TERMINUS OF 8" SEWER MAIN, 6" BOLT DOWN SHOWN.

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CITY OF CHICO **STANDARD PLAN**

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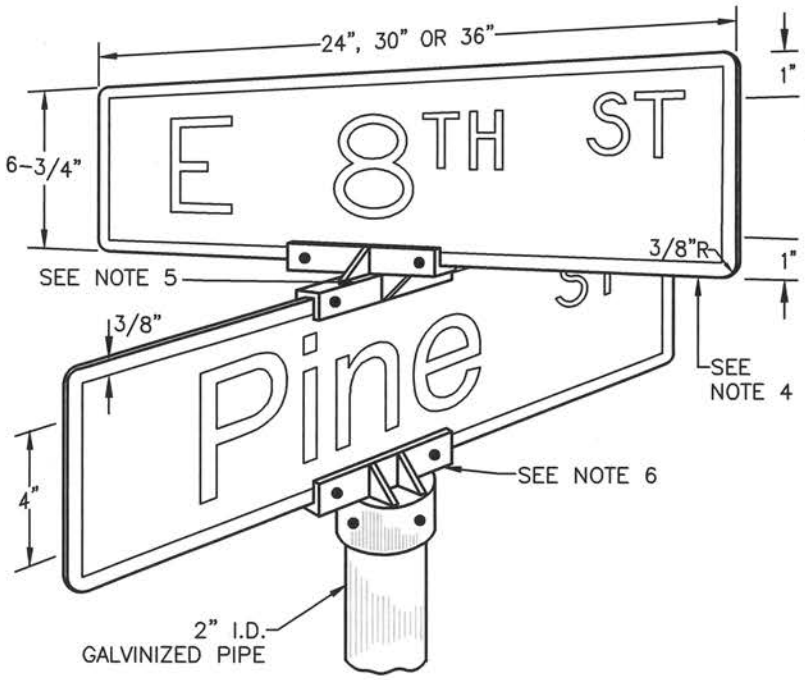
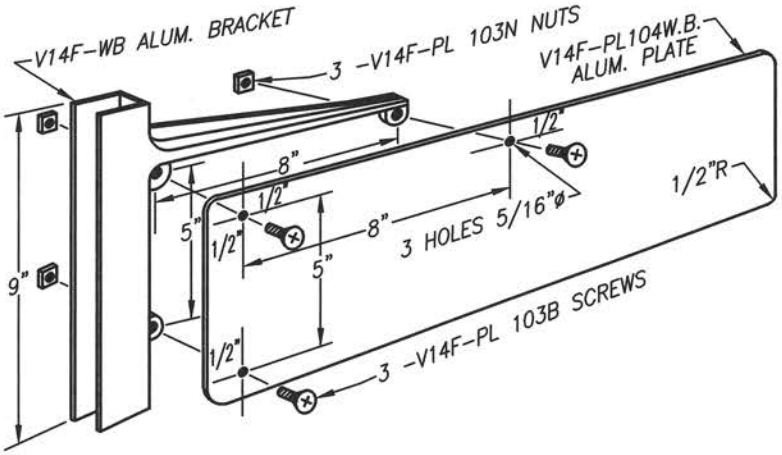
FLUSHING HOLE - CAST IRON FRAME AND COVER

NO. S-15

SHEET 1 OF 1



POST ASSEMBLY
DETAIL



WING BRACKET
DETAIL

SPEED LIMIT (MPH)	FIRST LETTER HEIGHT (IN)	REMAINING LETTERS HEIGHT (IN)
< 25	4	3
> 25	6	4.50

NOTES:

1. LETTERING TO BE STD. HWY. SIGN ALPHABET, U.S. PUBLIC ROAD ADMIN. CUT FROM SCOTCHLITE ELECTROCUT TRANSLUCENT FILM (E.C.FILM), SERIES 1170, GREEN OR BLUE, WITH 3/8-INCH WHITE BORDER AND WHITE LETTERING.

2. STREET NAMES SHALL START WITH A CAPITAL LETTER AND SERIES B, C, D OR E FOLLOWED BY THE REMAINING LETTERS AS SPECIFIED IN THE TABLE ABOVE. TO FOLLOW NUMBERED STREETS (1ST, 2ND, ETC.). EACH NAME SHALL BE INDIVIDUALLY LAID OUT AND SPACED TO FIT 24, 30 OR 36-INCH PLATES. USE LETTER SERIES NECESSARY TO FIT WITHIN 36-INCHES, USING THE LARGEST LETTERS POSSIBLE FOR BALANCED LAYOUT.

3. ALL CATALOGUE NUMBERS ARE TAPCO

4. ALUMINUM PLATE SHALL BE 0.080" THICK 5052 H38 ALLOY WITH HIGH INTENSITY PRISMATIC REFLECTIVE WHITE 2290 SCOTCHLITE ON BOTH SIDES, OR APPROVED EQUAL.

5. USE ALUMINUM CROSSPIECES LISTED BELOW, OR APPROVED EQUAL, WITH .125" SLOTS:
FLAT BLADE SIGN BRACKET, 90° CROSSPIECE, HD, 0.125" SLOT: V14F-HDSL105901, SKU 037-00021

6. ALUMINUM POST CAP TO FIT 2" PIPE SHALL BE V14F-HDSL1072C1 WITH .125" SLOT, OR APPROVED EQUAL.

7. FOR ROADS WITH A SPEED LIMIT OF 45 MPH OR HIGHER, INCREASE HEIGHT OF SIGN TO 8" WITH 6" CAPITAL AND 3" LOWER CASE LETTERING ON A 2" ROUND GALVANIZED POLE.

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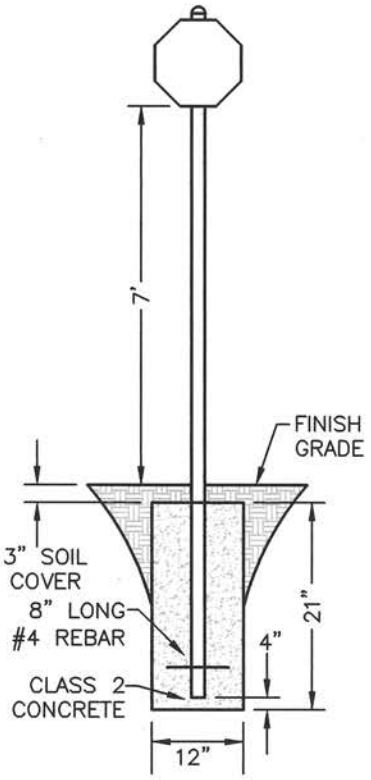
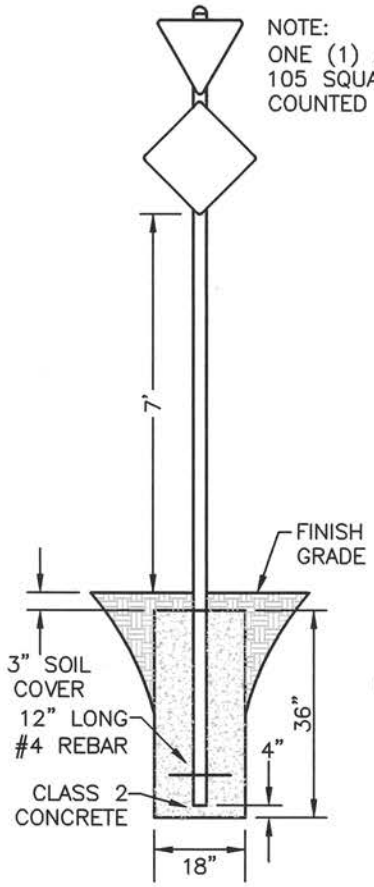
STREET NAME SIGN DETAILS

NO. S-16
SHEET 1 OF 3

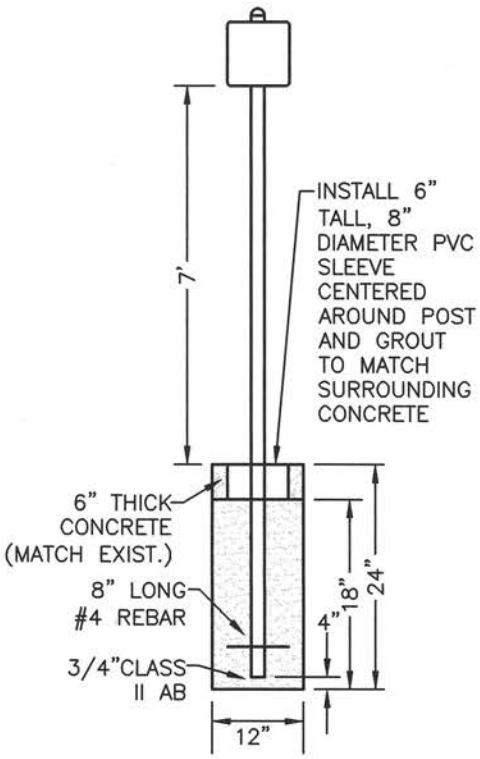
NOTE:
ONE (1) ADDITIONAL SIGN WITH LESS THAN 105 SQUARE INCHES SHALL NOT BE COUNTED AS A SECOND SIGN.



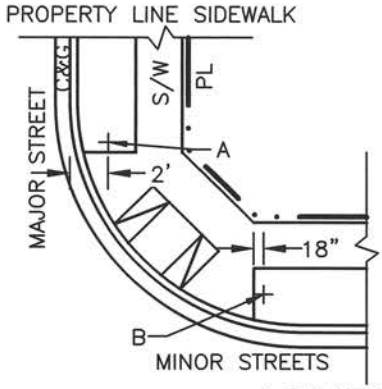
SINGLE SIGN DETAIL

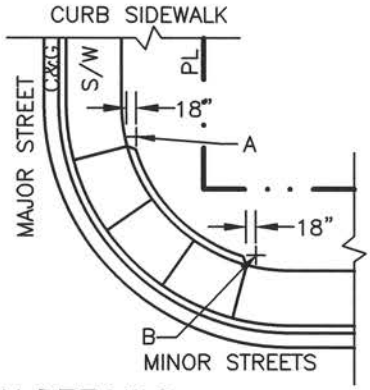


MULTIPLE SIGN DETAIL



SIDEWALK OR MEDIAN DETAIL





LOCATION DETAILS

NOTES:

1. A=LOCATION WHERE CURB RADIUS IS 30' OF GREATER, OR WHERE SPEED LIMIT ON MAJOR STREET IS 35 MPH OR MORE.
   B=LOCATION WHERE CURB RADIUS IS 27' OR LESS AND WHERE SPEED LIMIT IS LESS THAN 35 MPH.
2. GENERALLY, SIGNS ARE TO BE INSTALLED ON THE NEAR LEFT AND FAR RIGHT INTERSECTION CORNERS ON MAJOR STREETS
3. THE ENGINEER IS TO DETERMINE THE SIZE OF THE POST HOLE FOR MULTIPLE SIGN POSTS BASED ON THE LOAD.
4. 18" MINIMUM CLEARANCE REQUIRED BETWEEN TRAVEL WAY AND EDGE OF SIGN PROJECTION.
5. ALL POLE INSTALLATIONS TO BE INSPECTED PRIOR TO BACKFILL.

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CITY OF CHICO — **STANDARD PLAN**

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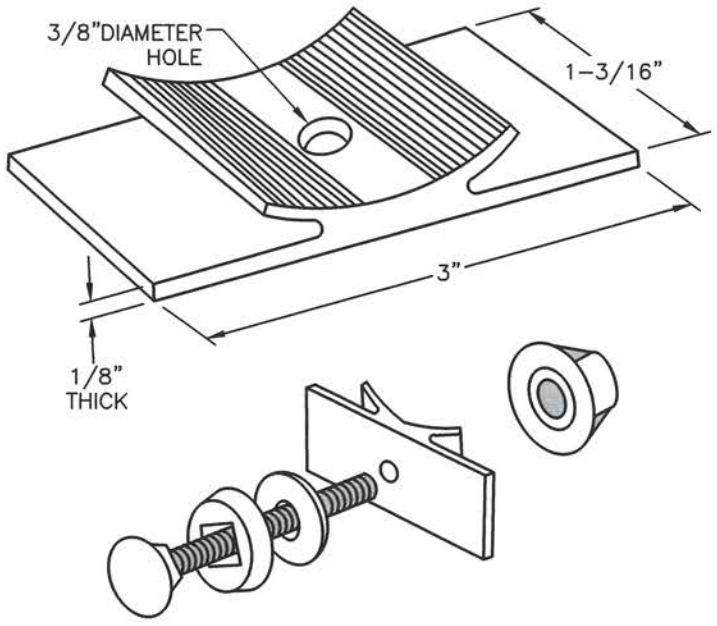
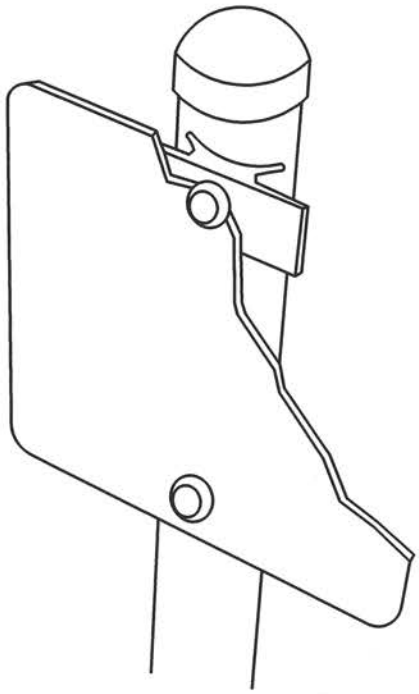
STREET POST INSTALLATION DETAILS

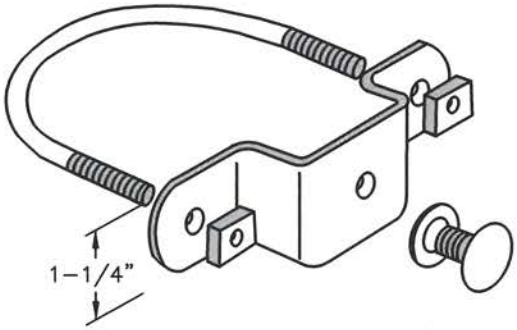
NO. S-16

SHEET 2 OF 3

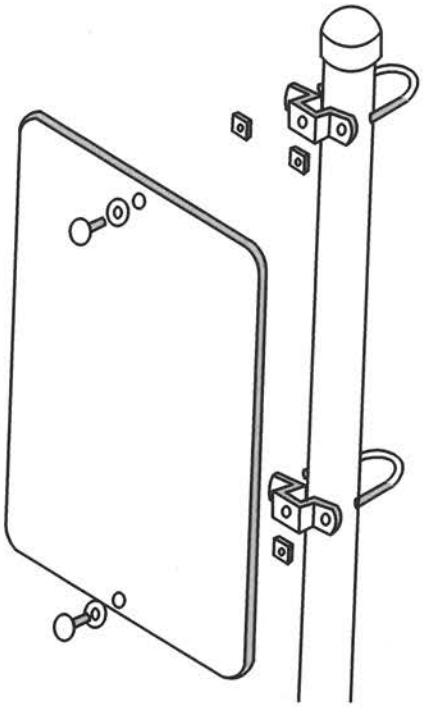




SIGN SADDLE DETAIL



SINGLE CLAMP ON U-BRACKET DETAIL



NOTES:

FOR SIGN SADDLE USE TAPCO TRAFFIC M2G-S2S, OR APPROVED EQUAL.
FOR SINGLE CLAMP ON U-BRACKETS USE HAWKINS TRAFFIC M2G-C2B, OR APPROVED EQUAL.

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CITY OF CHICO **STANDARD PLAN**

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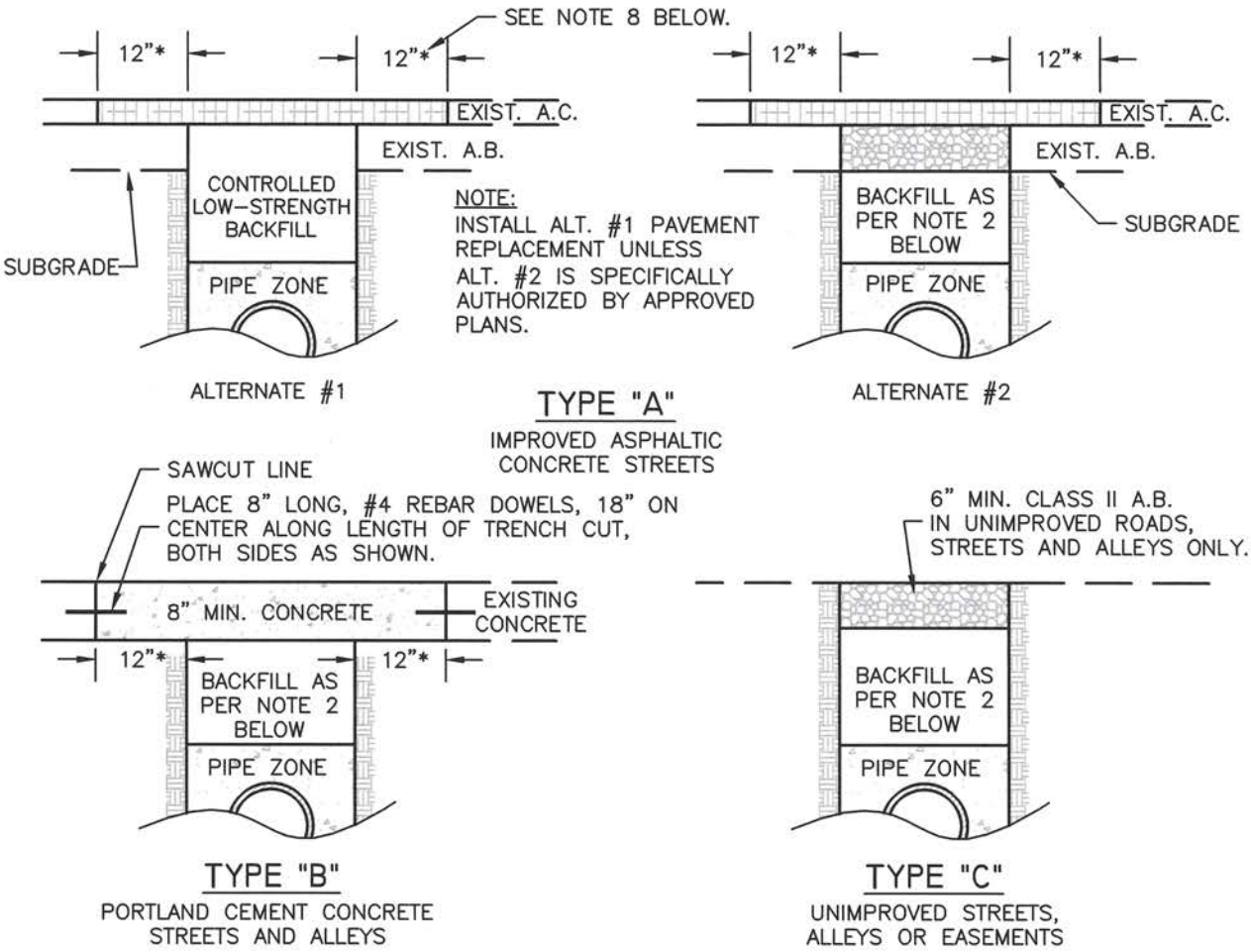
STREET SIGN MOUNTING DETAILS

NO. S-16

SHEET 3 OF 3



NOTES:

1. ALL WORK AND MATERIALS SHOWN ABOVE SHALL CONFORM TO THE CITY OF CHICO MUNICIPAL CODE, TITLE 18R, AND APPLICABLE SECTIONS OF THE STANDARD SPECIFICATIONS.
2. ALL EXCAVATIONS WITHIN PUBLIC RIGHT-OF-WAY SHALL BE BACKFILLED IN ACCORDANCE WITH SECTION ENTITLED "TRENCH BACKFILL" CITY OF CHICO MUNICIPAL CODE, TITLE 18R.
3. AREA ADJACENT TO THE TRENCH SHALL BE LEFT IN A CONDITION EQUAL TO OR BETTER THAN THAT EXISTING PRIOR TO CONSTRUCTION.
4. SEAL COAT-APPLY A BITUMINOUS BINDER COVERED WITH EITHER SAND OR SCREENINGS TO MATCH EXISTING SURFACE WHEN AND AS DIRECTED BY THE ENGINEER.
5. TYPE "C"-PLACE 6" OF CONSOLIDATED TOPSOIL IN LANDSCAPED AREAS.
6. SEE CITY STD S-12 FOR PIPE ZONE REQUIREMENTS.
7. IF THE TRENCH REPLACEMENT ALTERNATIVE IS NOT SPECIFIED ON THE APPROVED PLANS, ALTERNATE #I SHALL BE USED.
8. * - IF THE SAW CUT OR GRIND LIMITS ARE WITHIN 24" OF THE EXISTING EDGE OF ROAD PAVEMENT OR LIP OF GUTTER, THE REMOVAL AND REPAVING LIMITS SHALL BE EXTENDED TO THE EDGE OF THE EXISTING AC.
9. MATCH EXISTING AC THICKNESS OR 3" MINIMUM, WHICHEVER IS GREATER.

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CITY OF CHICO **STANDARD PLAN**

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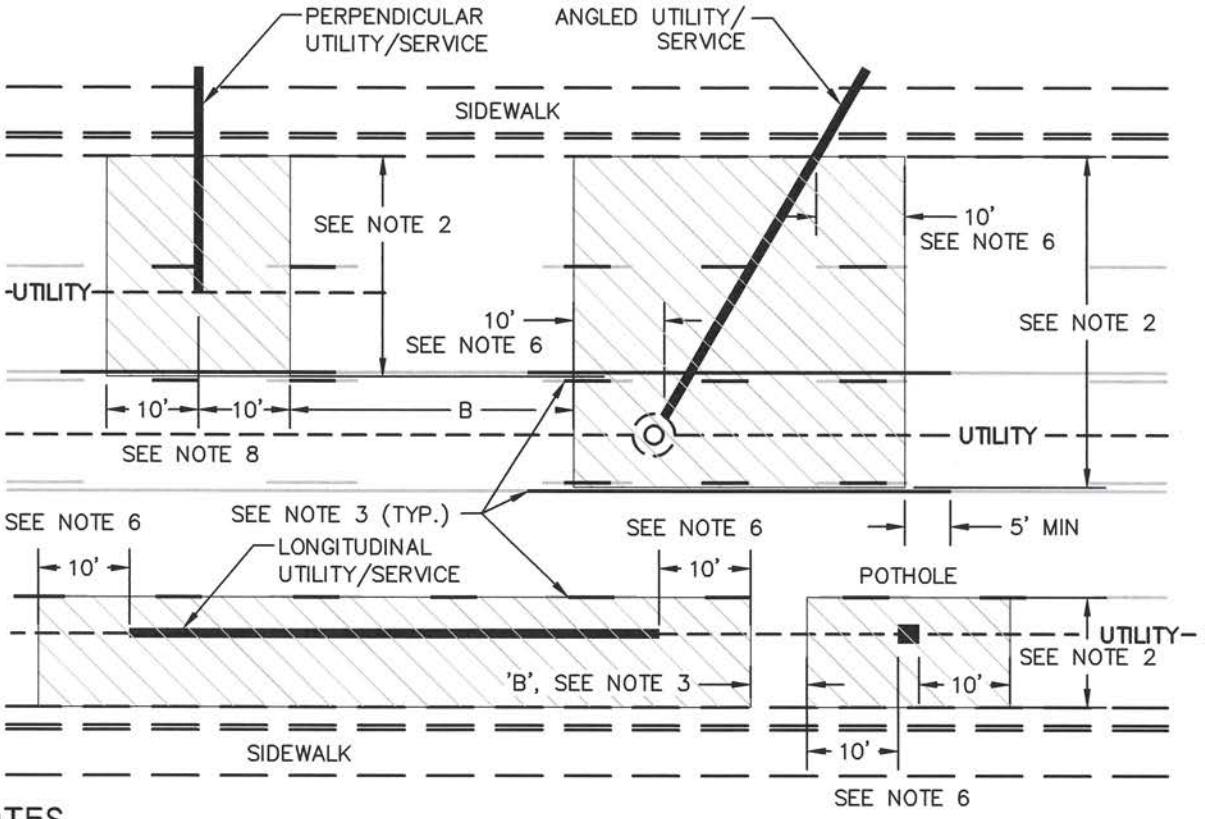
TYPICAL DETAILS OF TRENCH REPLACEMENT

NO. S-17

SHEET 1 OF 2

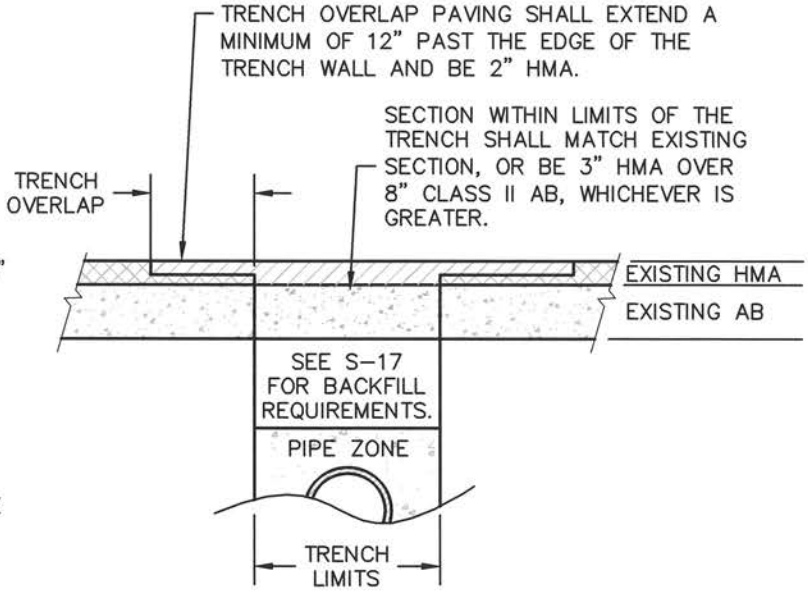


LIMITS OF PAVING

NOTE:
HATCHED AREAS SHOW VARIOUS LIMITS OF PAVING.

NOTES

1. PAVING LIMITS SHOWN ABOVE SHALL APPLY TO ALL ROADWAYS AS DESCRIBED IN CMC SECTION 14.10.030, MORATORIUM ON PAVEMENT CUTS IN PUBLIC STREETS.
2. PAVING LIMITS SHALL COVER FULL WIDTH OF ALL AFFECTED LANE(S).
3. IF DISTANCE 'B' IS LESS THAN 20', PAVING PATCHES SHALL BE COMBINED.
4. ALL AFFECTED TRAFFIC STRIPING SHALL BE REPLACED IN KIND (ENTIRE STRIPE) AND OVERLAP EXISTING BY 5' MIN ON EACH END.
5. IF EXISTING PAVING IS LESS THAN 3" THICK, SAWCUT AND REMOVE ALL EXISTING PAVING AND PAVE BACK WITH 3" HMA, ½" MIX, PG 64-10.
6. PAVING SHALL EXTEND 10' MINIMUM FROM THE END OR EDGE OF THE TRENCH WALL. (TYP.)
7. ALL DISTANCES SHOWN ARE FROM THE EDGE OF THE TRENCH, NOT THE CENTER AS DEPICTED.
8. SEE CMC 14.10.050B FOR REQUIREMENTS FOR PROHIBITION STREETS.



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TYPICAL DETAILS OF TRENCH REPLACEMENT

NO. S-17

SHEET 2 OF 2

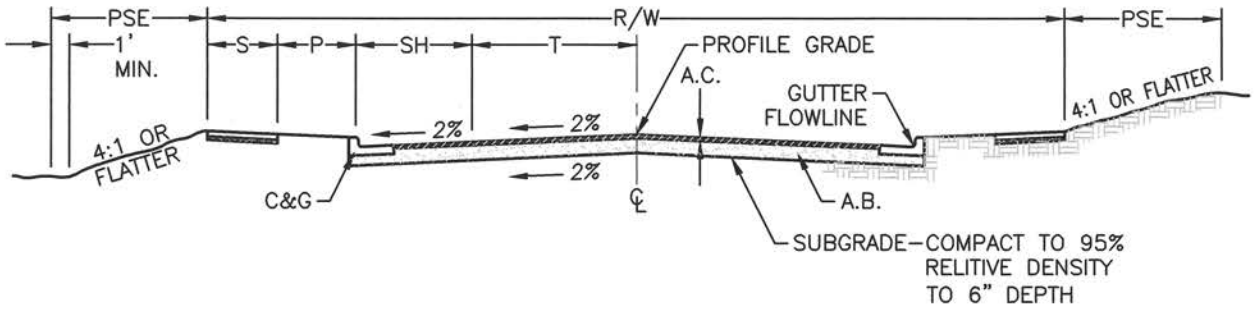

TABLE OF MINIMUM STREET CROSS SECTION WIDTHS

SEE LEGEND, SHEET 2 OF 2, FOR NOTES

TYPE OF STREET		R/W	S	P	SH	T
ARTERIAL	NO PARKING	(1)	5'	7'	8'	12'
COLLECTOR	(1)	64'	5'	7'	8'	12'
LOCAL–RESIDENTIAL						
≤10 LOTS, THROUGH STREET OR	NO PARKING	44'	5'	7'	0'	10'
≤25 LOTS, CUL–DE–SAC & LOOP STREETS	PARKING, 1 SIDE	50'	5'	7'	6'	10'
	PARKING, BOTH SIDES	56'	5'	7'	6'	10'
>11 LOTS & ≤50 LOTS, THROUGH STREET OR	NO PARKING	48'	5'	7'	0'	12'
>26 LOTS & ≤50 LOTS, CUL–DE–SAC & LOOP STREETS	PARKING, 1 SIDE	50'	5'	7'	6'	10'
	PARKING, BOTH SIDES	56'	5'	7'	6'	10'
>50 LOTS, ≤1/2 MILE BETWEEN STREET INTERSECTIONS	NO PARKING	48'	5'	7'	0'	12'
	PARKING, 1 SIDE	50'	5'	7'	6'	10'
	PARKING, BOTH SIDES	56'	5'	7'	6'	10'
>50 LOTS, >1/2 MILE BETWEEN STREET INTERSECTIONS	NO PARKING	48'	5'	7'	0'	12'
	PARKING, 1 SIDE	50'	5'	7'	6'	10'
	PARKING, BOTH SIDES	56'	5'	7'	6'	10'
LOCAL–COMMERCIAL	PARKING, BOTH SIDES	64'	5'	7'	8'	12'
INDUSTRIAL–ALL TYPES	PARKING, BOTH SIDES	68'	5'	7'	10'	12'

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TYPICAL CROSS-SECTION STREETS

NO. S-18A

SHEET 1 OF 2

TABLE OF MINIMUM STREET CROSS SECTION WIDTHS

SEE LEGEND, SHEET 2 OF 2, FOR NOTES

TYPE OF STREET	CURB & GUTTER
ARTERIAL	VERTICAL
COLLECTOR	VERTICAL
LOCAL–RESIDENTIAL	
≤50 LOTS	ROLLED
>50 LOTS	VERTICAL
LOCAL–COMMERCIAL	VERTICAL
INDUSTRIAL–ALL TYPES	VERTICAL

LEGEND AND NOTES:

T–TRAVELED WAY. ON OTHER THAN LOCAL STREETS, TRAFFIC VOLUME MAY DICTATE ADDITION OF A 14' MEDIAN AND/OR 12' LANES. TRAVELED WAY MAY INCLUDE 5' TO 8' BIKE LANE.

SH–SHOULDER. SHOULD A BIKE LANE BE REQUIRED, EITHER 1) PARKING WILL BE PROHIBITED WITH "SH"=5' OR 2) PARKING WILL BE RETAINED WITH "SH"=11'.

S–SIDEWALK. A 9.5' SIDEWALK WILL BE REQUIRED ON COMMERCIAL STREETS DESIGNATED BY THE D.P.W. AS "PEDESTRIAN ORIENTED"

PSE–10' WIDE PUBLIC SERVICE EASEMENT.

R/W–RIGHT–OF–WAY. A CHANGE IN "T" OR "SH" FROM THE VALUES GIVEN IN THE TABLE WILL REQUIRE A CORRESPONDING CHANGE IN "R/W".

SE–SLOPE EASEMENT. WIDTH TO BE AS REQUIRED BY THE D.P.W.

A.C. & A.B. PER CMC 18R.08.020.

P–PARKWAY.

(1)–SHALL BE DETERMINED BY THE D.P.W. ON A CASE–BY–CASE BASIS.

ALLEYS–SEE STANDARD PLAN S–19

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CITY OF CHICO **STANDARD PLAN**

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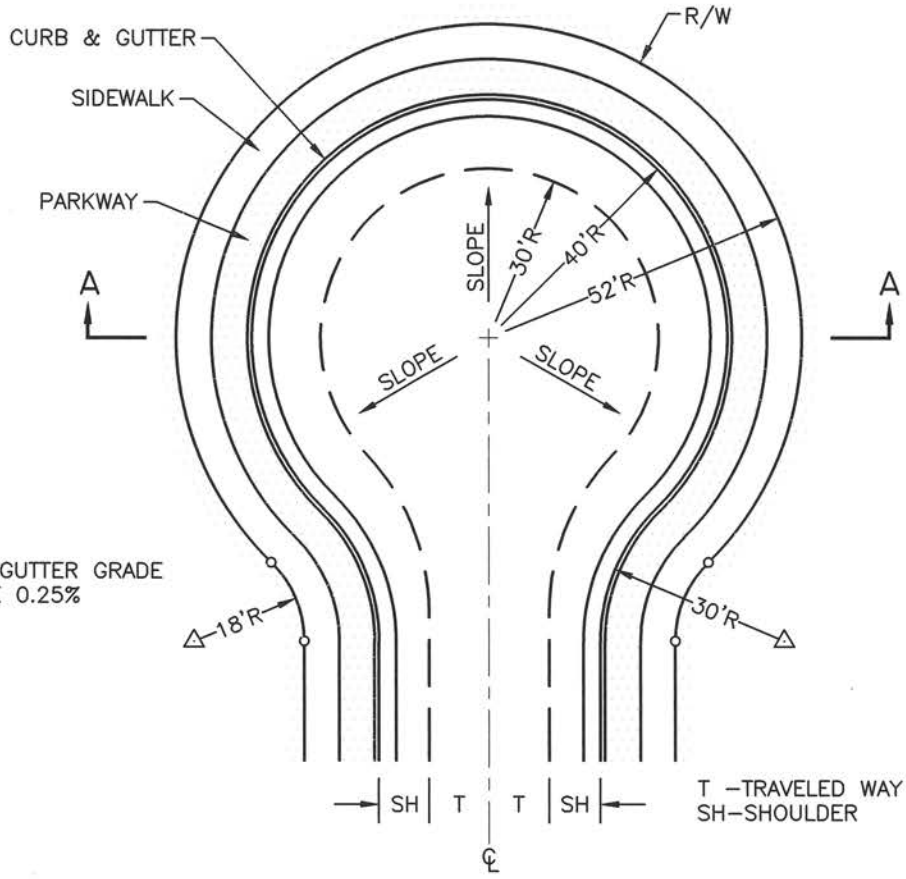
TYPICAL CROSS-SECTION STREETS

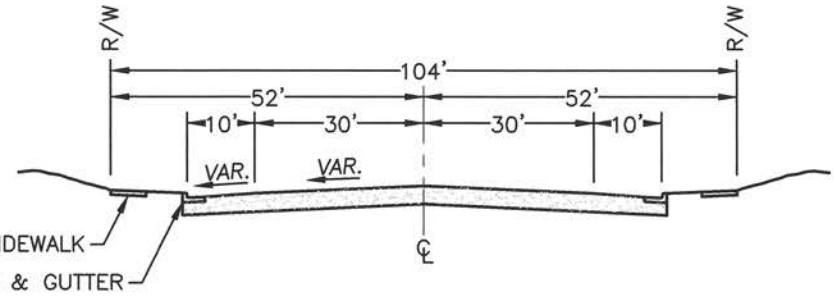
NO. S-18A
SHEET 2 OF 2



PLAN

NOTE:

MINIMUM GUTTER GRADE SHALL BE 0.25%



SECTION A-A

NOTE:

LIMITS OF CROSS–SLOPE VARIATION IN SECTION A–A:

30' TRAVELED WAY–1½% TO 2%
10' SHOULDER –2% TO 5%

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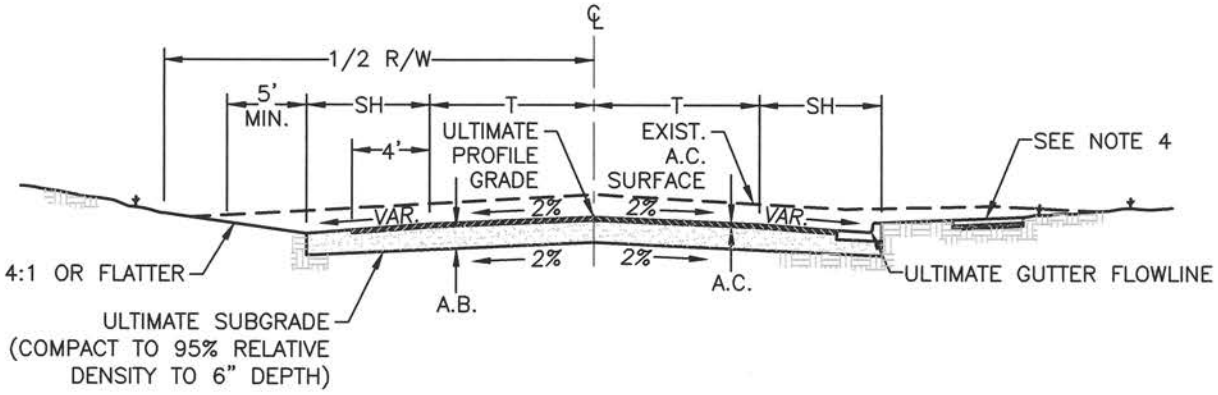
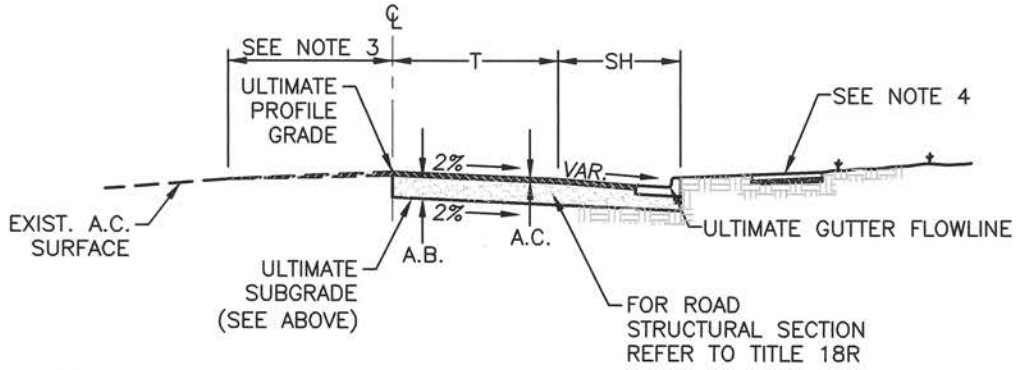
TYPICAL CUL-DE-SAC

NO. S-18B

SHEET 1 OF 1



EXISTING ℄ GRADE ABOVE ULTIMATE PROFILE GRADE



EXISTING ℄ GRADE AT OR BELOW ULTIMATE PROFILE GRADE

NOTES:

1. STREET IMPROVEMENTS SHOWN ON THIS SHEET ARE REQUIRED IN CONJUNCTION WITH DEVELOPMENT OF SUBDIVISIONS WITH 5 OR MORE LOTS.
2. SEE STANDARD NO. S-18A FOR CROSS-SECTION WIDTHS ("T", "SH", "R/W" AND "S").
3. PLACE A FEATHERED A.C. OVERLAY TO A WIDTH AS DIRECTED BY THE ENGINEER.
4. CONSTRUCT CURB, GUTTER, SIDEWALK AND SLOPE GRADING PER STANDARD NO. S-18A.

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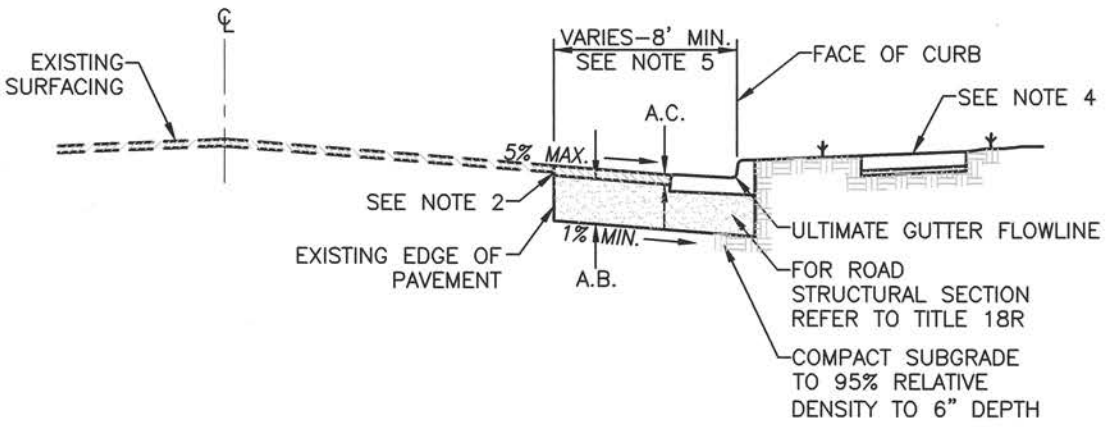
IMPROVEMENT OF EXISTING STREET

NO. S-18D

SHEET 1 OF 2



NOTES:

1. STREET IMPROVEMENTS SHOWN ON THIS SHEET TO BE CONSTRUCTED IN CONJUNCTION WITH BUILDING PERMITS AND SUBDIVISIONS OF FOUR (4) LOTS OR LESS.

2. SAWCUTTING SHALL OCCUR AT LANE LINE OR EDGE LINES AS DIRECTED BY THE ENGINEER

3. ALTERNATE STRUCTURAL SECTION: STRUCTURALLY EQUIVALENT FULL DEPTH A.C. SECTION ON COMPACTED NATIVE SUBGRADE.

4. CONSTRUCT CURB, GUTTER, SIDEWALK AND SLOPE GRADING PER STANDARD NO. S–18A.

5. RECONSTRUCT STREET SHOULDER AREA TO EDGE OF EXISTING PAVEMENT OR BEYOND AS MAY BE NEEDED TO MAINTAIN A MAXIMUM FIVE PERCENT (5%) CROSS SLOPE.

6. EXCESSIVE CHANGE IN CROSS SLOPE MAY REQUIRE RECONSTRUCTION TO THE ROAD CENTERLINE.

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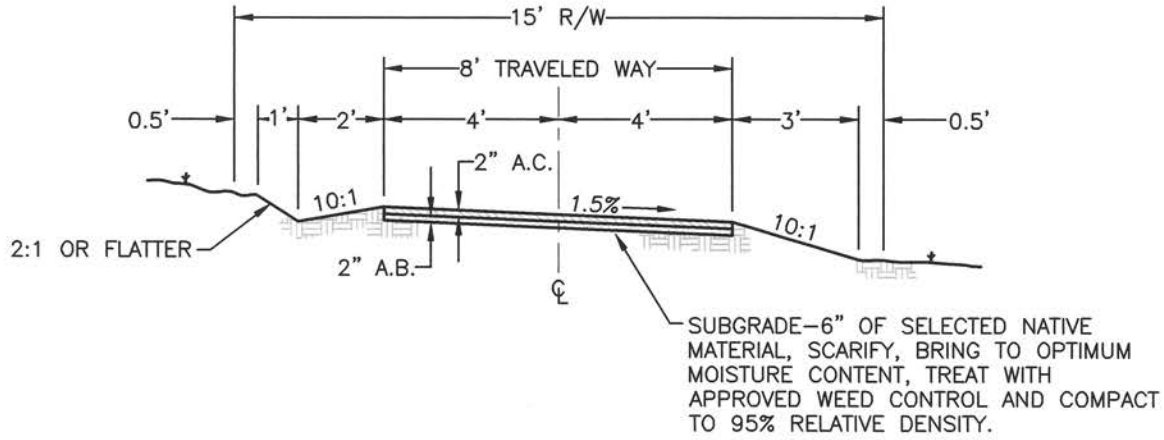
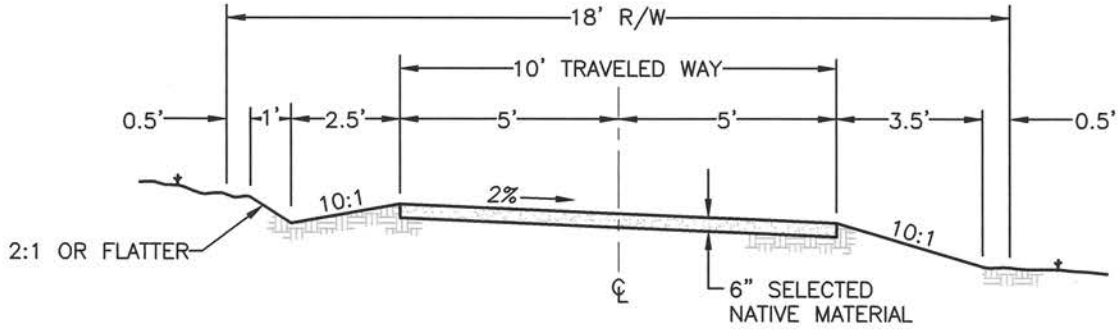
IMPROVEMENT OF EXISTING STREET - SHOULDER ONLY

NO. S-18D

SHEET 2 OF 2



BICYCLE PATH



EQUESTRIAN WAY

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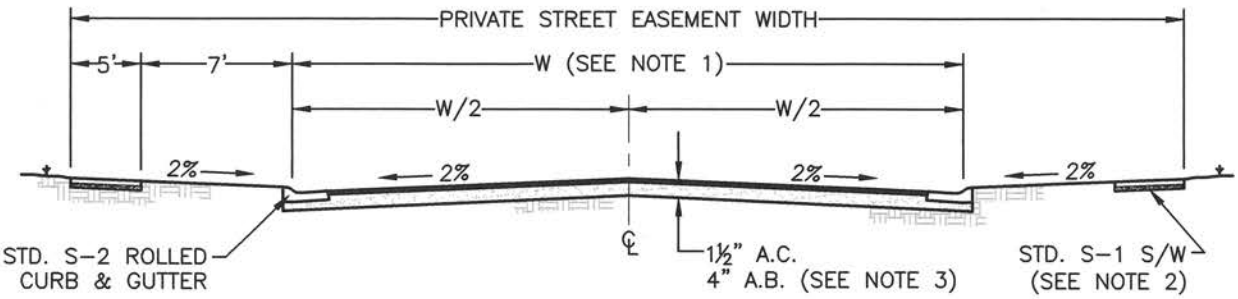
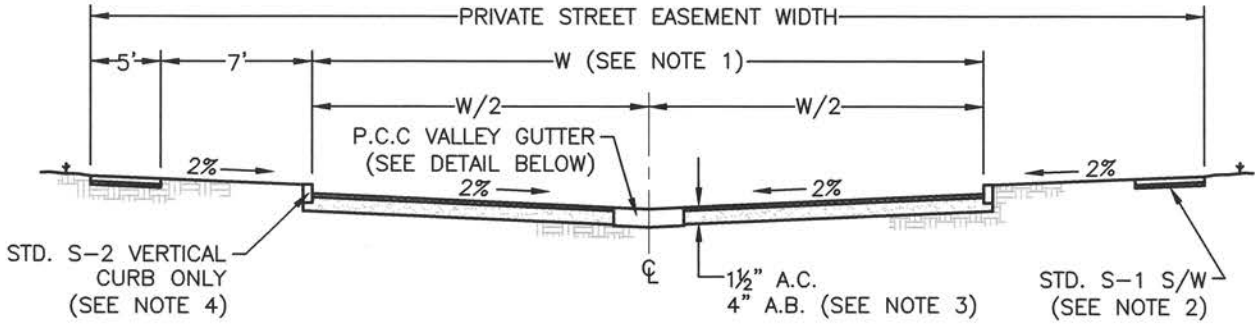
TYPICAL CROSS-SECTIONS OTHER PUBLIC WAYS

NO. S-18E

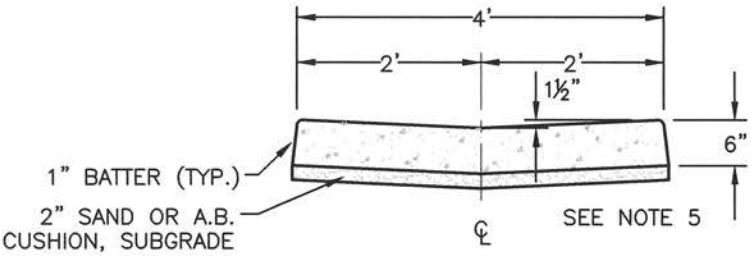
SHEET 1 OF 1



CROWNED SECTION



VALLEY GUTTER SECTION



P.C.C. VALLEY GUTTER DETAIL

NOTES:

1. W=T+SH, PER STANDARD PLAN S-18A.
2. SIDEWALKS MAY BE DELETED IF AN APPROVED COMPREHENSIVE ONSITE PEDESTRIAN SYSTEM IS PROVIDED.
3. MINIMUM THICKNESS GIVEN. AN INCREASED THICKNESS WILL BE REQUIRED DEPENDING ON TRAFFIC INDEX AND SOIL R VALUE.
4. ROLLED CURB AND GUTTER MAY BE INSTALLED AS AN ALTERNATIVE TO VERTICAL CURB.
5. P.C.C. VALLEY GUTTER NOT REQUIRED WHEN LONGITUDINAL SLOPE OF STREET IS 1% OR GREATER.
6. A VALLEY GUTTER SECTION SHALL NOT BE USED ON STREETS SERVING 26 OR MORE LOTS.

REVISION	BY	DATE	APP. BY COUNCIL

CITY OF CHICO **STANDARD PLAN**

DRAWN BY: LFG DATE: 10/21/25
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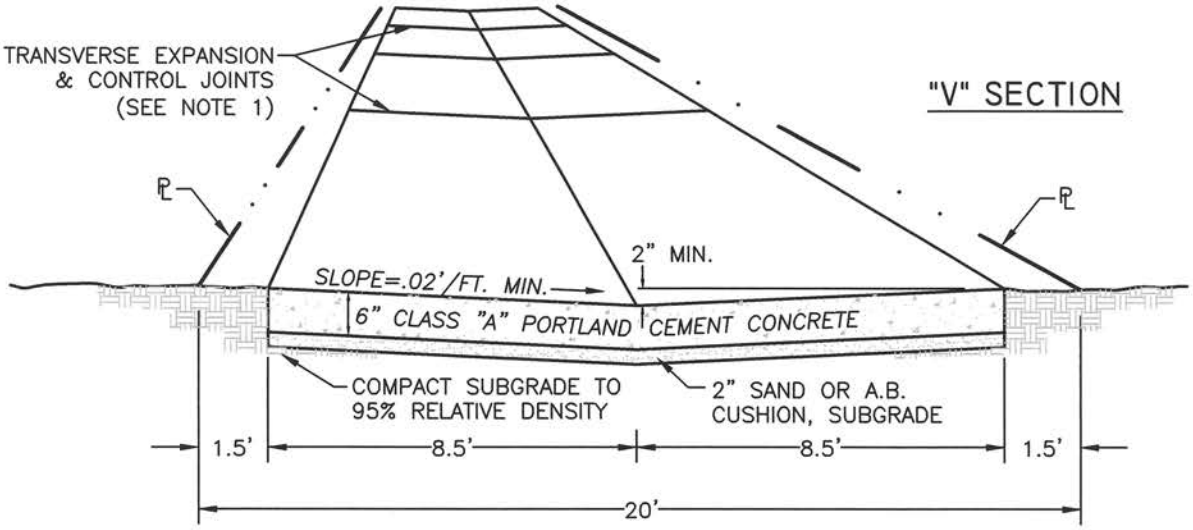
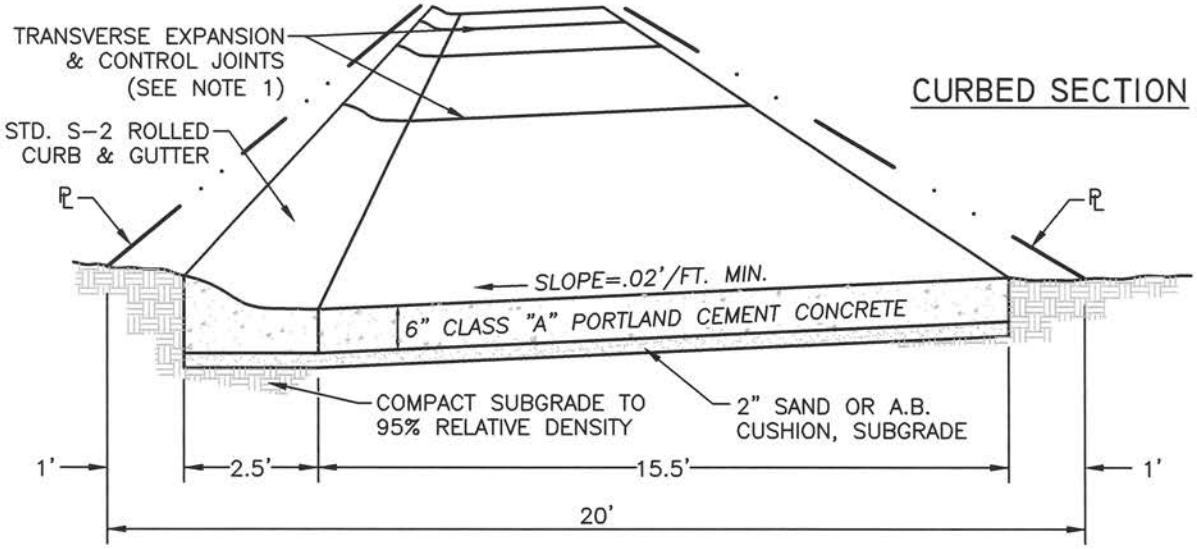
DIRECTOR OF PUBLIC WORKS-ENGINEERING

TYPICAL CROSS-SECTION PRIVATE STREETS

NO. S-18F
SHEET 1 OF 1





NOTES:

1. INSTALL 1/4" WIDE TRANSVERSE EXPANSION JOINTS AT 48' INTERVALS AND 1/8" TRANSVERSE SCORED CONTROL JOINTS AT 12' INTERVALS.

2. ALL EXPANSION JOINTS AND THE FINISHING OF THE CONCRETE SURFACE SHALL BE DONE IN ACCORDANCE WITH STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION.

3. DIMENSIONS SHOWN ARE PRESENT MINIMUM STANDARDS. DIMENSIONS OF ALLEY RIGHTS OF WAY EXISTING PRIOR TO ADOPTION OF MINIMUM STANDARDS MAY VARY. CONSTRUCT TO THE WIDTH AND ALIGNMENT SHOWN ON THE IMPROVEMENT PLANS.

4. THE CURBED SECTION SHALL BE USED WHEN SANITARY SEWER FACILITIES ARE AT THE CENTERLINE OF THE ALLEY.

5. CONCRETE SHALL COMPLY WITH SECTION 18R OF THE MUNICIPAL CODE.

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CITY OF CHICO — **STANDARD PLAN**

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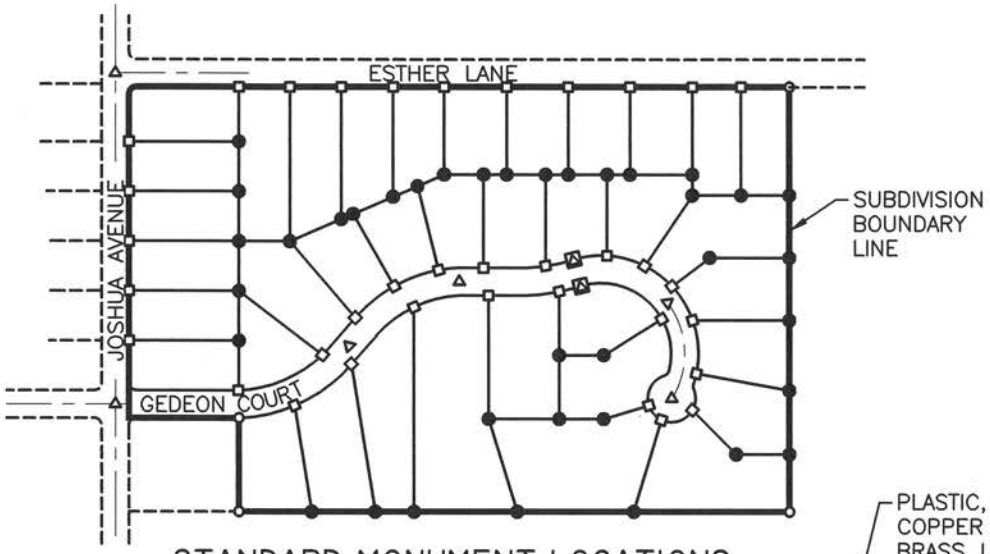
ALLEY PAVEMENT

NO. S-19

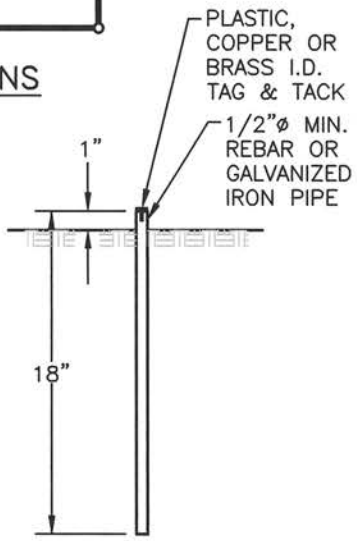
SHEET 1 OF 1



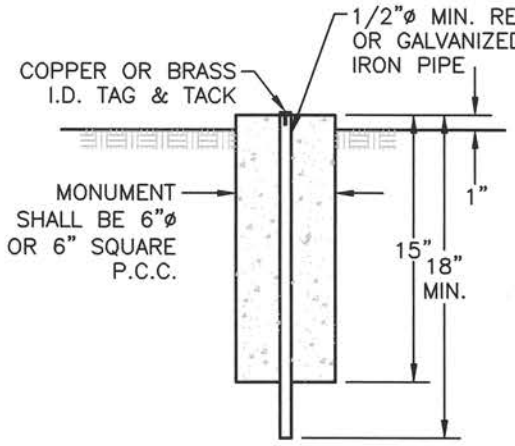
STANDARD MONUMENT LOCATIONS

LEGEND

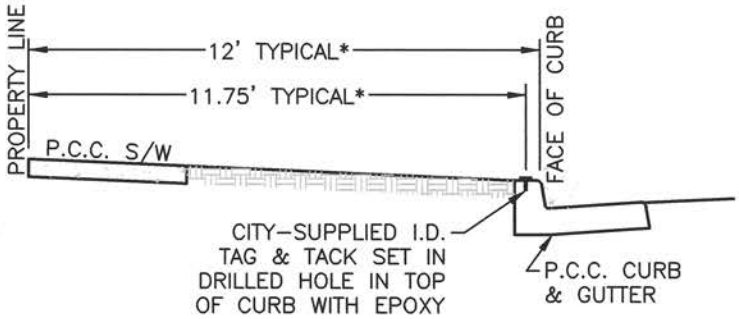
- ● 1/2" PIPE/REBAR MONUMENT.
- ○ PERMANENT MONUMENT. (SUBDIVISION OR PARCEL MAP BOUNDARY CORNERS AND BOUNDARY LINE ANGLE POINTS)
- □ WITNESS CORNER. SET IN TOP OF CURB ON PROLONGATION OF LOT LINES. SHOW DISTANCE TO PROPERTY LINE ON RECORD OF SURVEY AND SUBDIVISION MAPS.
- △ 1½" BRASS CAP MONUMENT W/18" X 1/2" SHAFT. SET AT INTERSECTIONS AND AT INTERVALS NOT TO EXCEED 500'. SET POINTS SHALL BE INTERVISABLE.
- ⧈ WITNESS MONUMENT. SET IF CENTERLINE MONUMENT CANNOT BE SET.



PIPE/REBAR MONUMENT



PERMANENT MONUMENT



WITNESS CORNER

*NOTE: SEE STD. S-18A FOR PARKWAY WIDTH

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CITY OF CHICO — **STANDARD PLAN**

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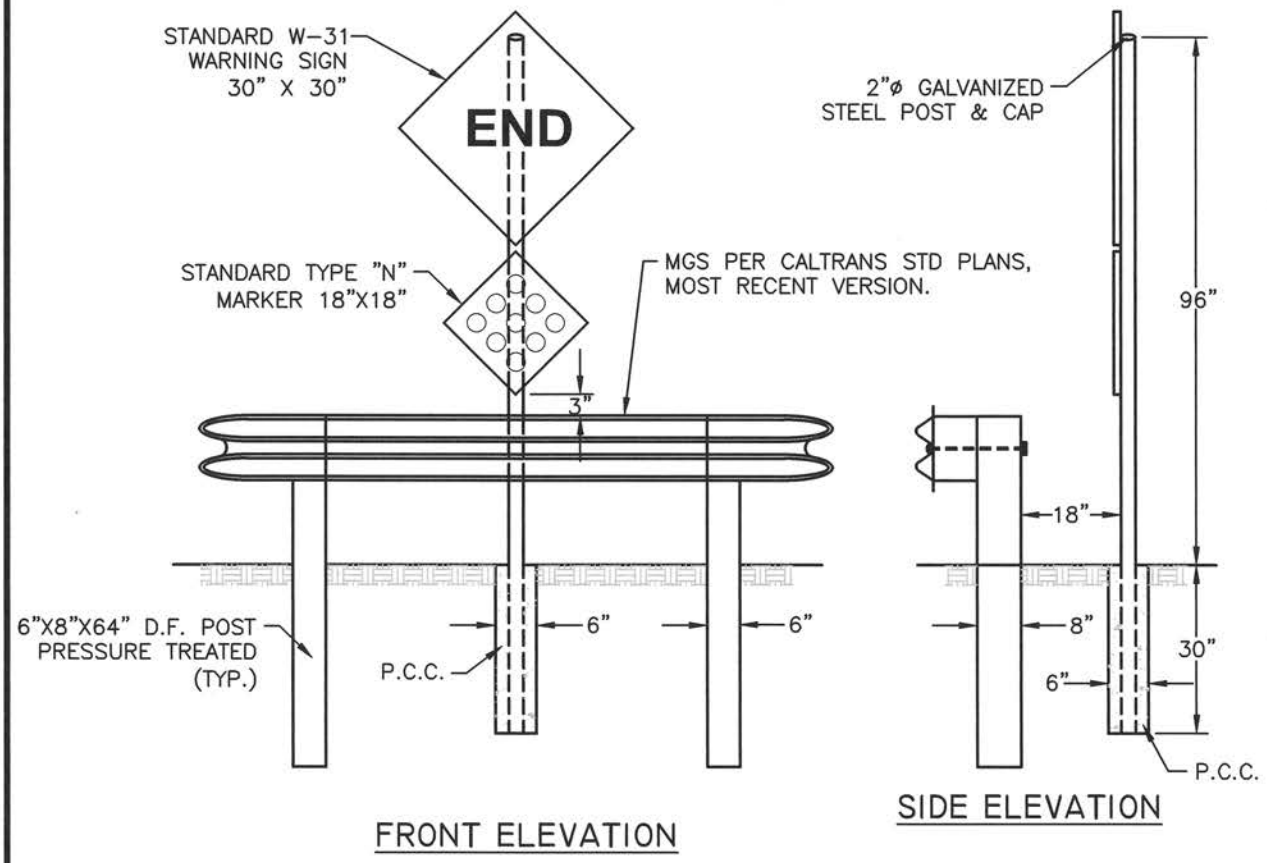
CITY MONUMENTS CONSTRUCTION & LOCATION

NO. S-20

SHEET 1 OF 1



FRONT ELEVATION

SIDE ELEVATION

REVISION	BY	DATE	APP. BY COUNCIL

NOTES:

1. END SIGNS AND TYPE "N" MARKERS SHALL CONFORM TO THE PROVISIONS IN SECTION 82-3, "ROADSIDE SIGNS", OF THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, MOST RECENT VERSION. SIGNS AND MARKERS SHALL BE ALUMINUM PANELS NOT LESS THAN 0.080 INCH THICK. SIGN FACING SHALL BE HIGH INTENSITY GRADE, REFLECTIVE SHEETING CONFORMING TO THE MOST RECENT VERSION OF MUTCD.
2. SIGNS AND MARKERS SHALL BE MOUNTED TO THE STEEL POSTS USING A HAWKINS – HAWKINS M2G-S2S "SIGN SADDLE" OR APPROVED EQUAL.
3. METAL BEAM GUARD RAILING (MGS), POSTS, AND INSTALLATION SHALL CONFORM TO THE MOST RECENT CALTRANS STANDARD PLANS. POST SPACING SHALL NOT EXCEED THE REQUIREMENTS SPECIFIED IN THE CALTRANS STANDARD PLANS AND SPECIFICATIONS.

CITY OF CHICO **STANDARD PLAN**

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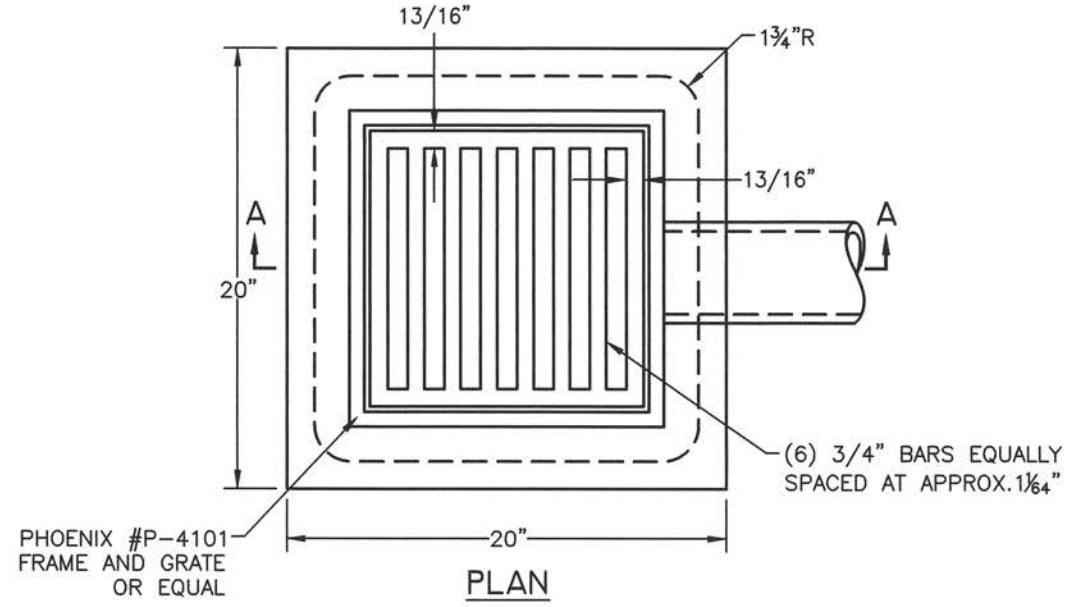
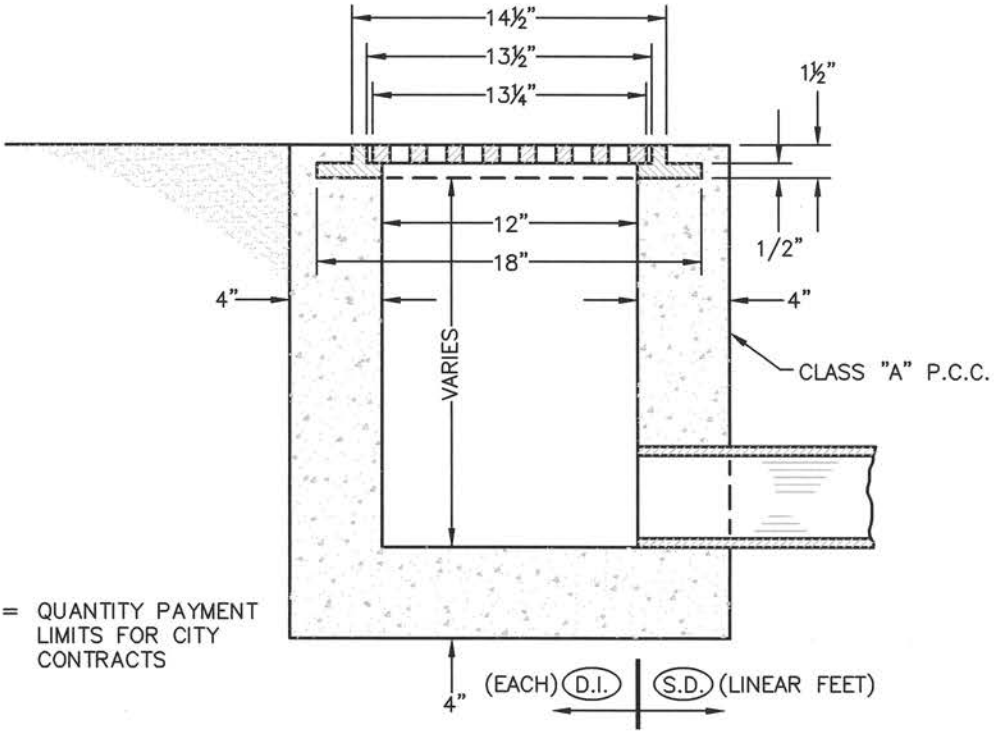
STREET BARRICADES

NO. S-21
SHEET 1 OF 1



PLAN



(S.D.) = QUANTITY PAYMENT LIMITS FOR CITY CONTRACTS

SECTION A-A

NOTE:

THIS DROP INLET SHALL BE USED FOR PARKING LOT AND ALLEY DRAINS ONLY.

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CITY OF CHICO **STANDARD PLAN**

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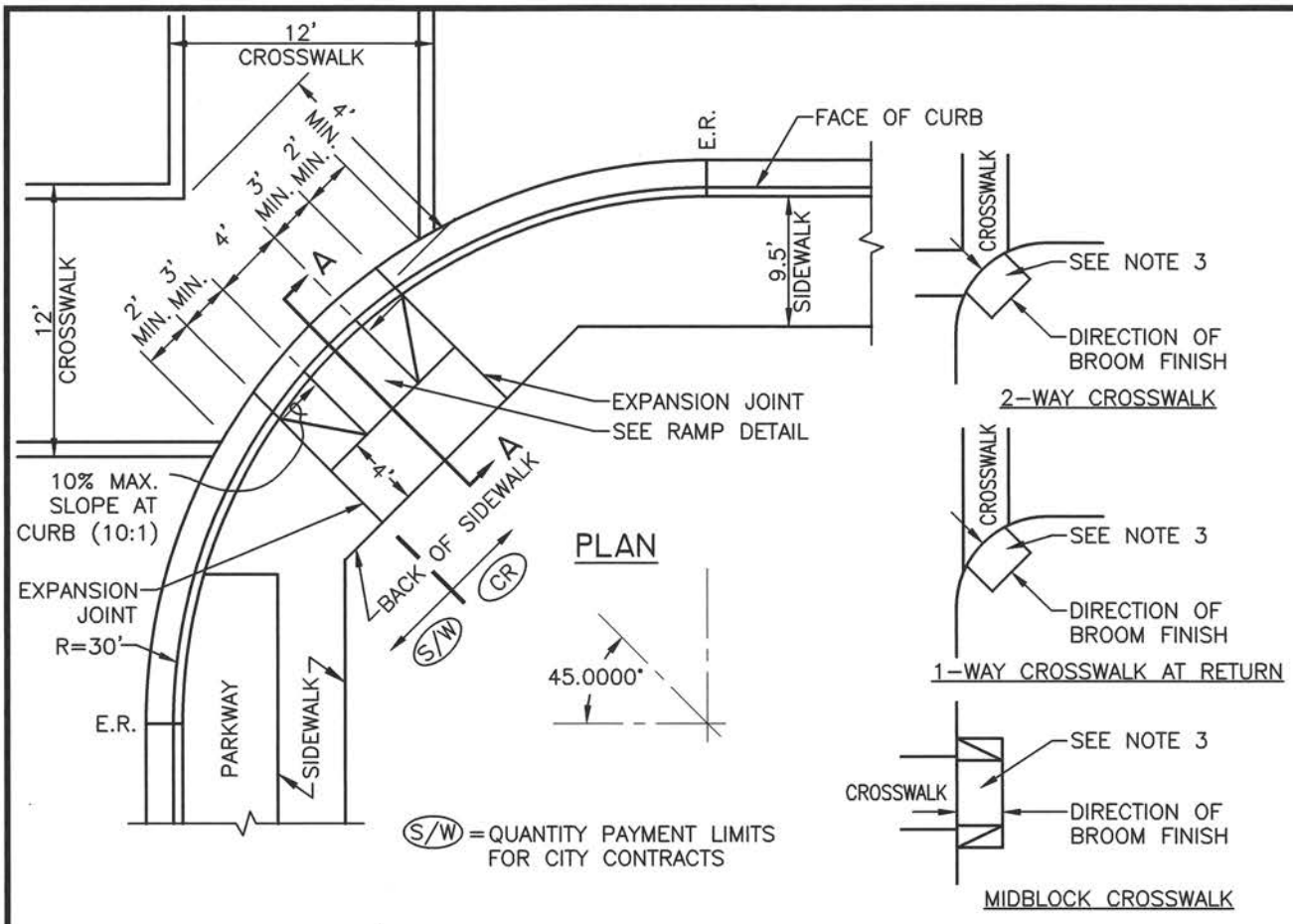
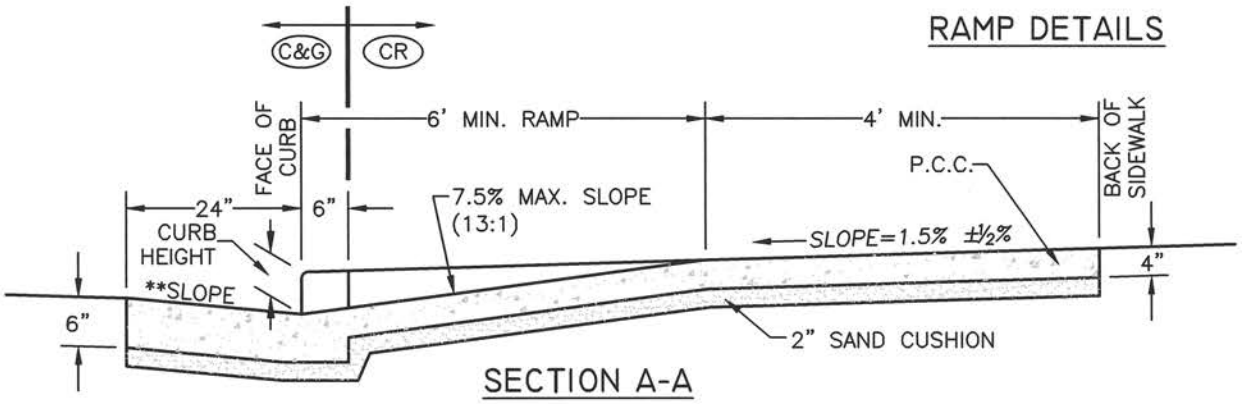
FLAT GRATE INLET

NO. S-26

SHEET 1 OF 1



RAMP DETAILS



SECTION A-A

NOTES:

1. STANDARD S-27 SHALL BE USED WHERE THE SIDEWALK IS 9.5' WIDE AND CONTIGUOUS TO THE CURB AND WHERE STANDARD 5' SIDEWALK IS NOT CONTIGUOUS TO THE CURB.
2. SEE STANDARD S-5B, SECTION A-A FOR APPROVED METHODS OF POURING THE RAMP, CURB AND GUTTER.
3. RAMP SURFACE SHALL BE TREATED TO COMPLY WITH THE STANDARDS OF THE AMERICANS WITH DISABILITIES ACT (ADA). TACTILE PANELS SHALL COMPLY WITH CITY OF CHICO TITLE 18R.
4. ** THE GUTTER PAN CROSS SLOPE IN FRONT OF THE RAMP SHALL NOT EXCEED 4.5% AND SHALL EXTEND THE FULL WIDTH OF THE RAMP BOTTOM. THE SLOPE SHALL TRANSITION BACK TO STANDARD GUTTER PAN CROSS SLOPE WITHIN 3' ON EACH SIDE.

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CITY OF CHICO — **STANDARD PLAN**

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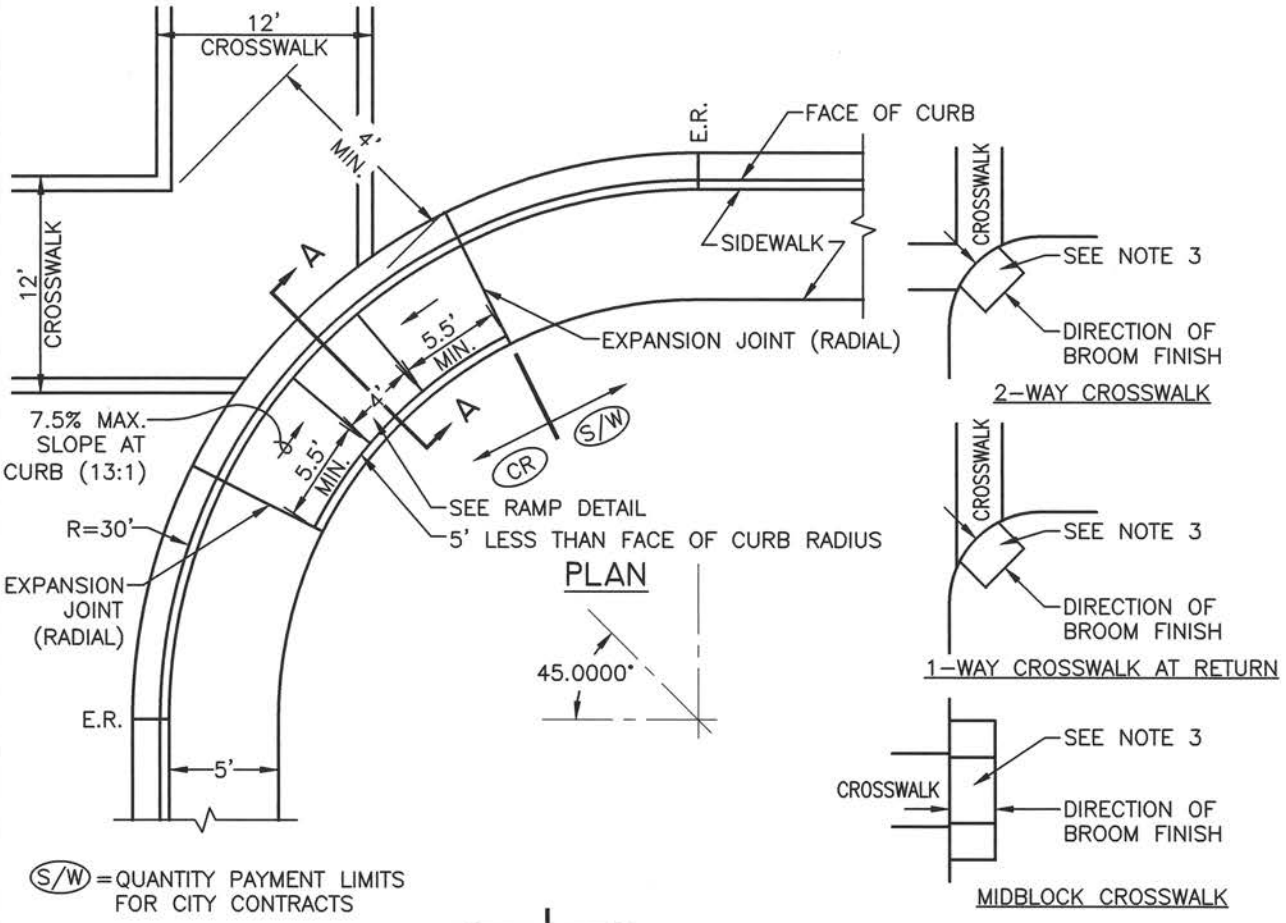
DIRECTOR OF PUBLIC WORKS-ENGINEERING

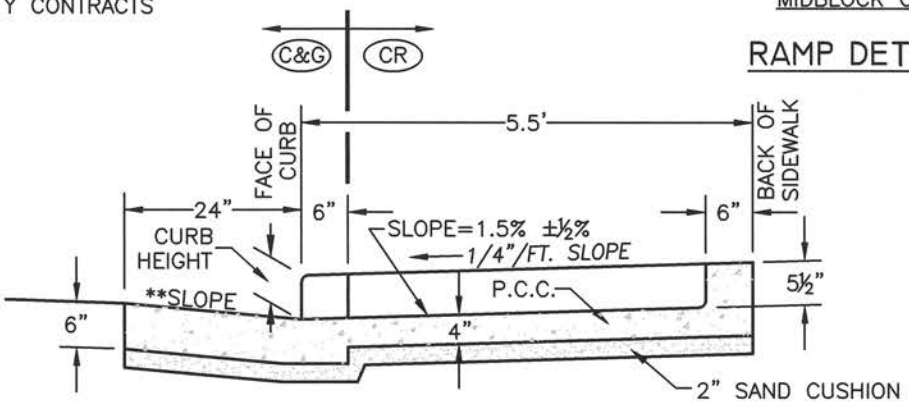
P.C.C. CURB RAMP CASE A

NO. S-27

SHEET 1 OF 1



RAMP DETAILS



SECTION A-A

NOTES:

1. STANDARD S-27A SHALL BE USED WITH STANDARD 5' SIDEWALK CONTIGUOUS TO THE CURB.
2. SEE STANDARD S-5B, SECTION A-A FOR APPROVED METHODS OF POURING THE RAMP, CURB AND GUTTER.
3. RAMP SURFACE SHALL BE TREATED TO COMPLY WITH THE STANDARDS OF THE AMERICANS WITH DISABILITIES ACT (ADA).
4. ** THE GUTTER PAN CROSS SLOPE IN FRONT OF THE RAMP SHALL NOT EXCEED 4.5% AND SHALL EXTEND THE FULL WIDTH OF THE RAMP BOTTOM. THE SLOPE SHALL TRANSITION BACK TO STANDARD GUTTER PAN CROSS SLOPE WITHIN 3' ON EACH SIDE.

REVISION	BY	DATE	APP. BY COUNCIL

CITY OF CHICO — **STANDARD PLAN**

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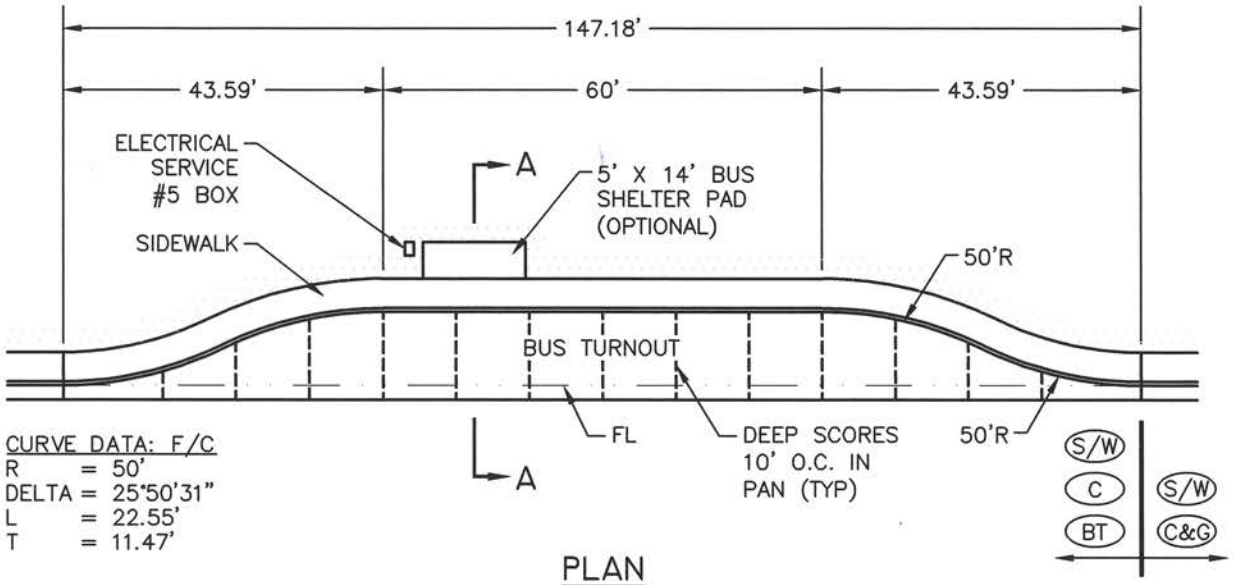
DIRECTOR OF PUBLIC WORKS-ENGINEERING

P.C.C. CURB RAMP CASE C

NO. S-27A

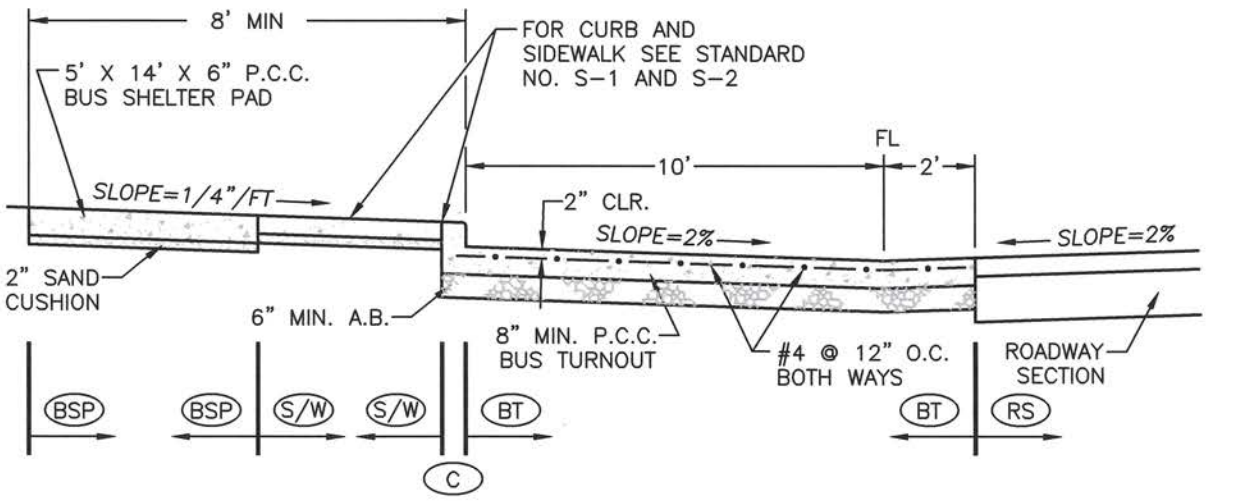
SHEET 1 OF 1

*ALL SIDEWALKS MUST COMPLY WITH CURRENT FEDERAL ADA REQUIREMENTS



CURVE DATA: F/C
R = 50'
DELTA = 25°50'31"
L = 22.55'
T = 11.47'

PLAN



SECTION A-A

NOTES:

1. FOR EACH ADITIONAL PASS THROUGH BUS SPACE ADD 50' AND FOR EACH ADDITIONAL LAYOVER BUS SPACE ADD 80'

2. CONCRETE SHALL BE CLASS A, REBAR STEEL SHALL BE 60 GRADE

3. STANDARD BUS SHELTER: TOLAR MODEL #13NALD-GL

(BT) = QUANTITY PAYMENT LIMITS FOR CITY CONTRACTS

REVISION	BY	DATE	APP. BY COUNCIL

CITY OF CHICO — **STANDARD PLAN**

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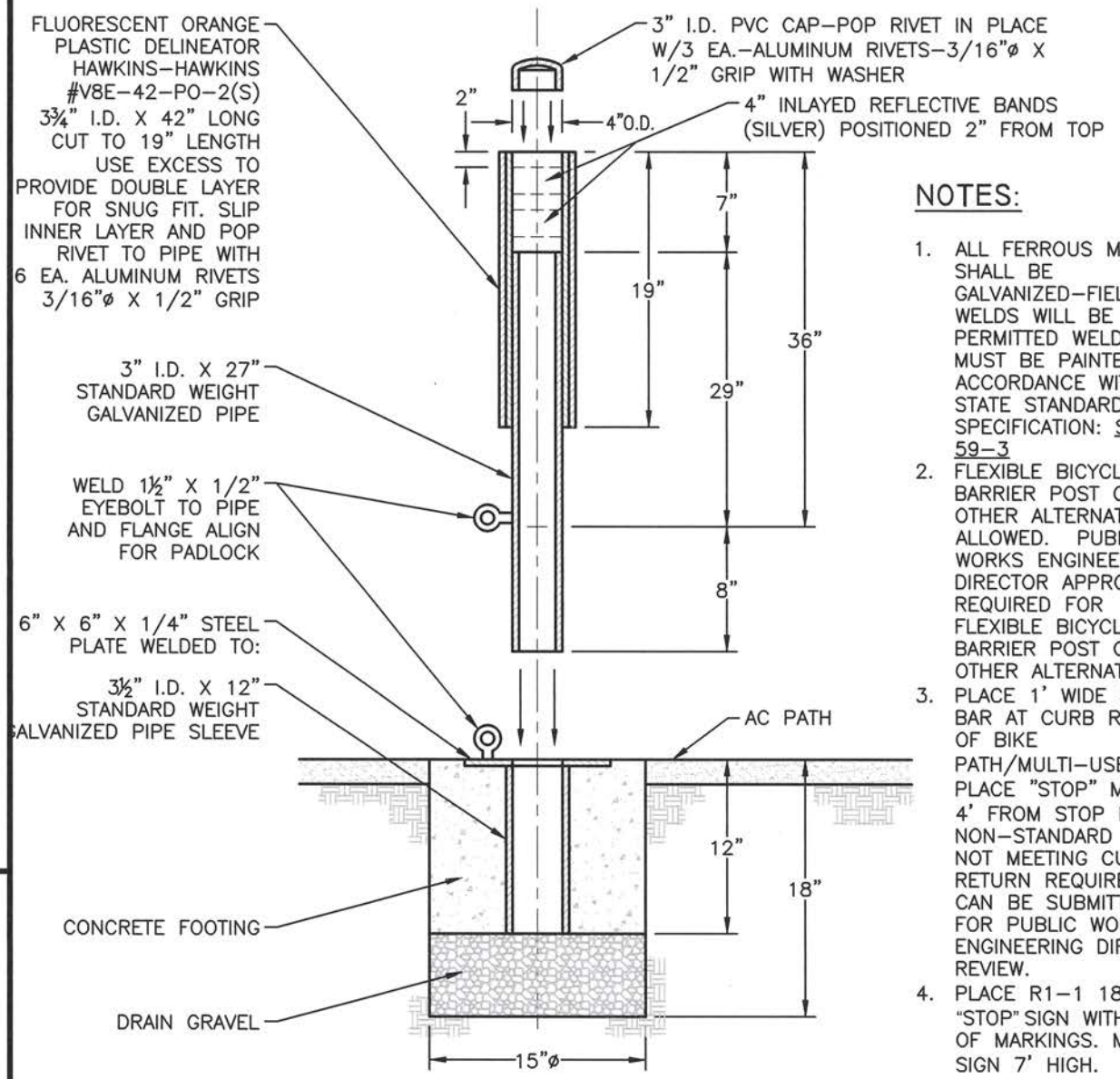
BUS TURNOUT DETAILS

NO. S-28

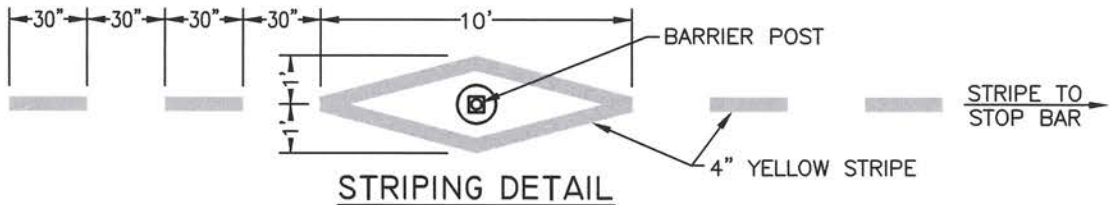
SHEET 1 OF 1



BARRIER POST

NOTES:

1. ALL FERROUS METALS SHALL BE GALVANIZED–FIELD WELDS WILL BE PERMITTED WELDS MUST BE PAINTED IN ACCORDANCE WITH STATE STANDARD SPECIFICATION: SECTION 59–3
2. FLEXIBLE BICYCLE BARRIER POST OR OTHER ALTERNATIVES ALLOWED. PUBLIC WORKS ENGINEERING DIRECTOR APPROVAL REQUIRED FOR FLEXIBLE BICYCLE BARRIER POST OR OTHER ALTERNATIVES.
3. PLACE 1' WIDE STOP BAR AT CURB RETURN OF BIKE PATH/MULTI–USE PATH, PLACE "STOP" MARKING 4' FROM STOP BAR. NON–STANDARD PATH NOT MEETING CURB RETURN REQUIREMENT CAN BE SUBMITTED FOR PUBLIC WORKS ENGINEERING DIRECTOR REVIEW.
4. PLACE R1–1 18"x18" "STOP" SIGN WITHIN 2' OF MARKINGS. MOUNT SIGN 7' HIGH.



STRIPING DETAIL

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CITY OF CHICO — **STANDARD PLAN**

DRAWN BY: LFG DATE: 07/2025
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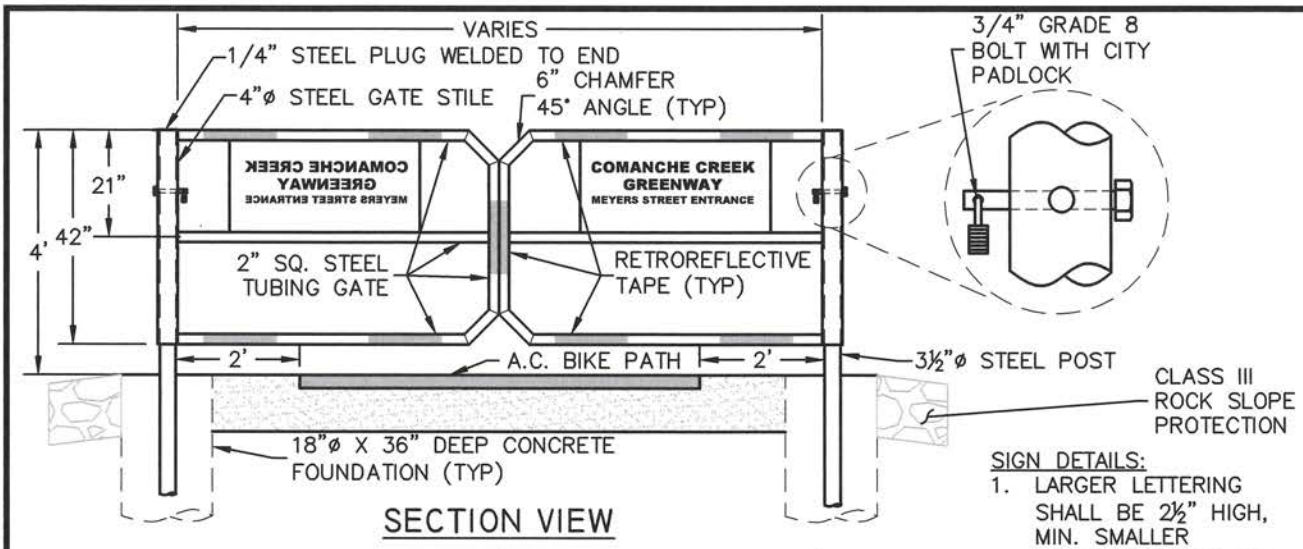
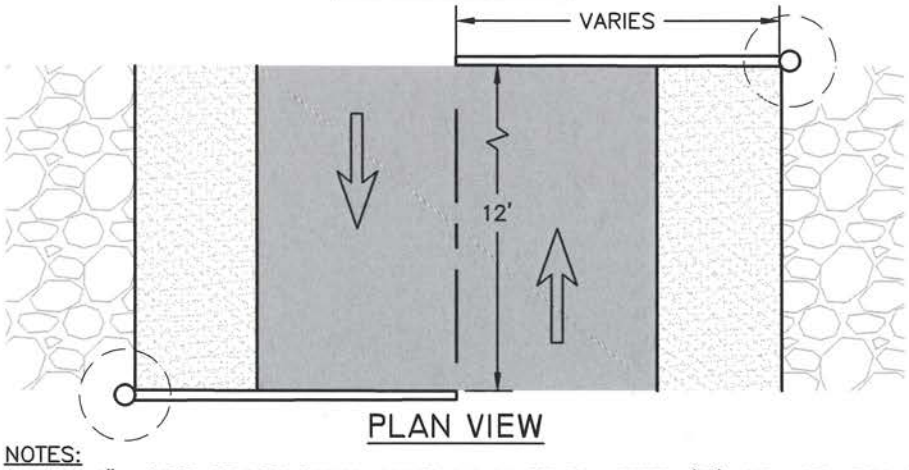
BICYCLE BARRIER POST DETAILS

NO. S-29

SHEET 1 OF 1



SECTION VIEW



PLAN VIEW

SIGN DETAILS:

1. LARGER LETTERING SHALL BE 2½" HIGH, MIN. SMALLER LETTERING SHALL BE 1½" HIGH, MIN.
2. LETTERING SHALL BE CENTERED ON THE SIGN PANEL, LASER CUT AND HAVE NO SHARP EDGES.
3. FULLY DIMENSIONED SIGN LAYOUT SHALL BE SUBMITTED TO THE CITY OF CHICO FOR APPROVAL PRIOR TO FABRICATION.
4. SIGN SHALL BE WELDED TO GATE RAILS, CENTERED ON GATE FRAME.

NOTES:

A. THE 4"ø GATE STYLES SHALL HAVE AN INNER DIAMETER (ID) OF NOT LESS THAN 4.124" (WALL THICKNESS, Wt=0.188").

B. THE GATE'S SQUARE STEEL SHALL BE 2" HOT ROLLED TUBING, 1/8" WALL THICKNESS MIN. MITERED CONNECTIONS SHALL BE BUTT WELDED AND GROUND SMOOTH.

C. SIGN MATERIAL SHALL BE 3/16" THICK STEEL PLATE. GATE SIGN SHOWN IS FOR DEMONSTRATION PURPOSES ONLY. ACTUAL SIGN MESSAGE SHALL BE STATED ON THE PROJECT PLANS. SIGN PANEL SHALL BE WIDE ENOUGH TO ACCOMMODATE DESIRED MESSAGE PER PLANS.

D. GATE POST SHALL BE 3½"ø ID, SCHEDULE 80 PIPE, 6.5' LONG. BOTTOM OF POST SHALL BE 6" ABOVE BOTTOM OF CONCRETE FOUNDATION.

E. POST FOUNDATION SHALL BE 18"ø BY 36" DEEP MINOR CONCRETE WITH 505 LBS OF CEMENTITIOUS MATERIAL PER CY.

F. ALL EXPOSED SURFACES SHALL BE POWDER-COAT FINISH, RAL 6009, FIR GREEN, UNLESS OTHERWISE NOTED ON PLANS.

G. GATE STILE SHALL HAVE 7/8" HOLE DRILLED AT 90° SO THAT GATE CAN BE LOCKED IN THE OPEN POSITION ALSO.

H. ALL ROUND (3½"ø AND 4"ø) TUBULAR STEEL SHALL BE GALVANIZED.

I. AS DIRECTED BY THE PUBLIC WORKS ENGINEERING DIRECTOR, PLACE CLASS III ROCK SLOPE PROTECTION STRATEGICALLY TO DETER VEHICLES FROM UTILIZING THE PATH.

J. GATE POSTS SHALL BE SET 2' FROM THE EDGE OF THE PATH AND THE GATES SHALL BE LONG ENOUGH TO REACH CENTERLINE OF THE PATH.

K. LOCATION OF BICYCLE PATH GATES SHALL BE DETERMINED BY THE PUBLIC WORKS ENGINEERING DIRECTOR.

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CITY OF CHICO **STANDARD PLAN**

DRAWN BY: LFG DATE: 10/21/25
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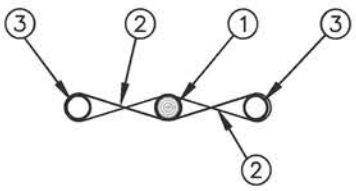
DIRECTOR OF PUBLIC WORKS-ENGINEERING

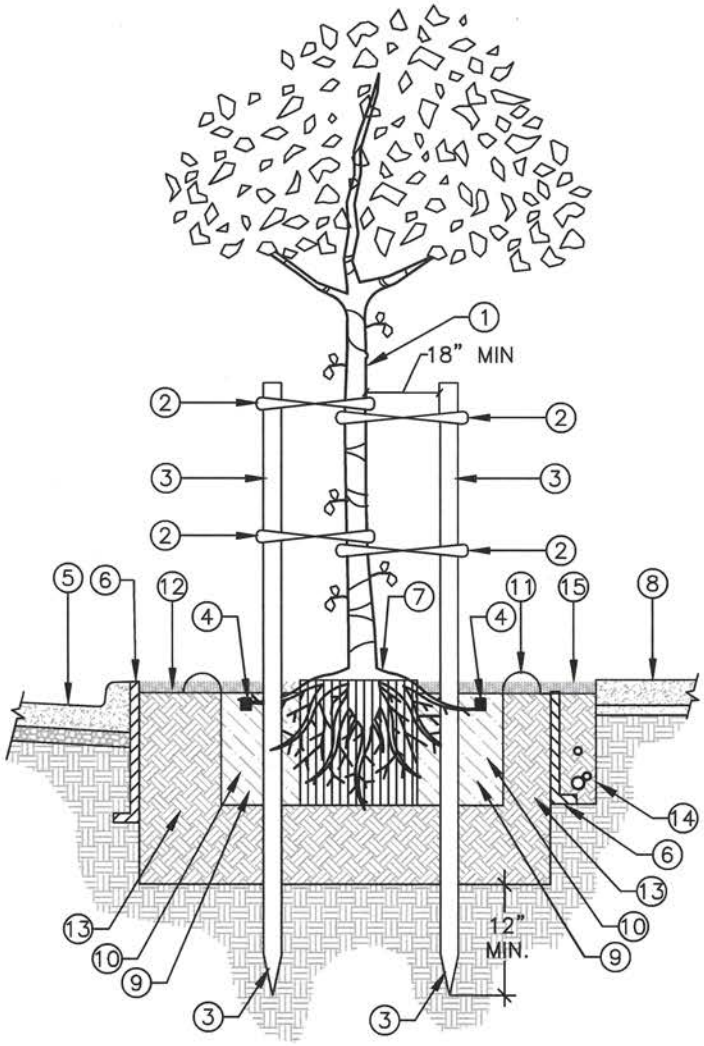
BICYCLE PATH GATE DETAILS

NO. S-30

SHEET 1 OF 1



PLAN VIEW



SECTION VIEW

NOTE:
NURSERY STAKES MUST BE REMOVED

1. TREE NURSERY STOCK PER SPECIFICATIONS AND ANSI Z 60.1. ALL TREES SHALL HAVE A STRONG CENTRAL LEADER UNLESS SPECIFIED AS MULTI STEMMED TREE.
2. DEEP ROOT ARBOR TIE (OR APPROVED EQUAL). STAPLE OR SCREW TO TREE STAKES.
3. 10'L X 2" DIAM. UNTREATED LODGEPOLE STAKE. PLACE POSTS PERPENDICULAR TO PREVAILING WINDS AND OUTSIDE ROOTBALL. PLACE STAKES OR ROTATE TREE SO NOT TO HAVE BRANCHES RUBBING ON TREES.
4. PLANTING FERTILIZER TABLETS PER SPECIFICATIONS OR PRODUCT.
5. CURB AND GUTTER OR OTHER PAVING.
6. ROOT CONTROL BARRIER BY "DEEP ROOT CORP." OR APPROVED EQUAL. SET AT LEVEL OF SURROUNDING SOIL. 24" MIN AWAY FROM TREE 10' LONG CENTERED ON TREE, (UB 24-2). OFFSET ROOT BARRIER AS REQUIRED FOR LANDSCAPE IRRIGATION UTILITIES.
7. REMOVE NURSERY SOIL IF NEEDED SO THAT FIRST ROOTS ARE VISIBLE AT TOP OF ROOTBALL. SET TOP OF ROOTBALL 1" ABOVE FINISH GRADE TO ALLOW FOR SETTLEMENT. BREAK UP SIDES OF BALL AND SPREAD OUT ROOTS. NO CIRCLING ROOTS SHALL REMAIN.
8. SIDEWALK.
9. BACKFILL MIX PER SPECIFICATIONS.
10. PLANTING HOLE SHALL BE THREE TIMES (3X) THE DIAMETER OF THE ROOTBALL AND NO DEEPER THAN THE TREE ROOTBALL. SCARIFY SIDES OF THE HOLE.
11. OPTIONAL/ TEMPORARY WATER RETENTION BERM.
12. TOP DRESSING. SEE SPECIFCIATIONS. HOLD BACK 5" FROM TRUNK OF TREE.
13. SOIL REPLACEMENT OR DECOMPACTION. SEE PLANS AND CITY STANDARD DETAILS LS-14, LS-15, & LS-16.
14. MAINLINE AND LATERALS. SEE C.O.C. TRENCHING DETAILS.
15. KEEP TURF AND OTHER PLANT MATERIAL A MINIMUM OF 4 FEET CLEAR OF TREE TRUNK.

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CITY OF CHICO **STANDARD PLAN**

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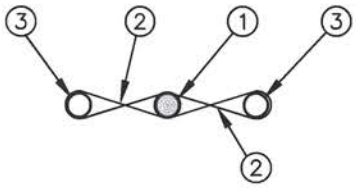
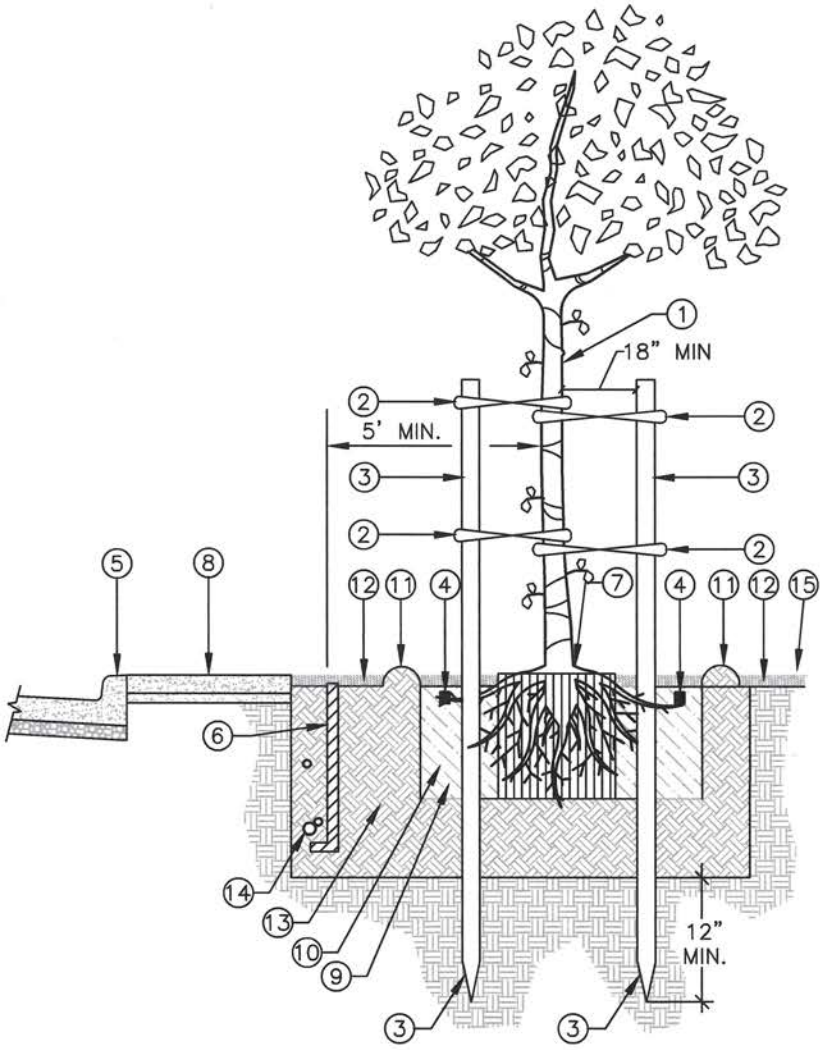
DIRECTOR OF PUBLIC WORKS-ENGINEERING

FIFTEEN GALLON TREE IN PARKWAY STRIP

NO. LS-1



PLAN VIEW



SECTION VIEW

NOTE:
NURSERY STAKES MUST BE REMOVED

1. TREE NURSERY STOCK PER SPECIFICATIONS AND ANSI Z 60.1. ALL TREES SHALL HAVE A STRONG CENTRAL LEADER.
2. DEEP ROOT ARBOR TIE (OR APPROVED EQUAL). STAPLE OR SCREW TO TREE STAKES.
3. 10'L X 2" DIA. UNTREATED LODGEPOLE STAKE. PLACE POSTS PERPENDICULAR TO PREVAILING WINDS AND OUTSIDE ROOTBALL 18" MINIMUM DISTANCE FROM TREE TRUNK.
4. PLANTING FERTILIZER TABLETS OR PRODUCT PER SPECIFICATIONS.
5. CURB AND GUTTER OR OTHER PAVING.
6. ROOT CONTROL BARRIER BY "DEEP ROOT CORP." OR APPROVED EQUAL. SET AT LEVEL OF SURROUNDING SOIL. 10' LONG CENTERED ON TREE, 24" DEPTH (UB 24-2). OFFSET ROOT BARRIER AS REQUIRED FOR LANDSCAPE IRRIGATION UTILITIES.
7. REMOVE NURSERY SOIL IF NEEDED SO THAT FIRST ROOTS ARE VISIBLE AT TOP OF ROOTBALL. SET TOP OF ROOTBALL 1" ABOVE FINISH GRADE TO ALLOW FOR SETTLEMENT. BREAK UP SIDES OF BALL AND SPREAD OUT ROOTS. NO CIRCLING ROOTS SHALL REMAIN WITHIN.
8. SIDEWALK.
9. BACKFILL MIX PER SPECIFICATIONS.
10. PLANTING HOLE SHALL BE THREE TIMES (3X) THE DIAMETER OF THE ROOTBALL AND NO DEEPER THAN THE TREE ROOTBALL. SCARIFY SIDES OF THE HOLE.
11. OPTIONAL/ TEMPORARY WATER RETENTION BERM.
12. TOP DRESSING. SEE SPECIFCIATIONS. HOLD BACK 4" FROM TRUNK OF TREE.
13. SOIL REPLACEMENT OR DECOMPACTION. SEE PLANS AND CITY STANDARD DETAILS LS-14, LS-15, & LS-16.
14. MAINLINE AND LATERALS. SEE C.O.C. TRENCHING DETAILS.
15. KEEP TURF AND OTHER PLANT MATERIAL A MINIMUM OF 4 FEET CLEAR OF TREE TRUNK.

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CITY OF CHICO **STANDARD PLAN**

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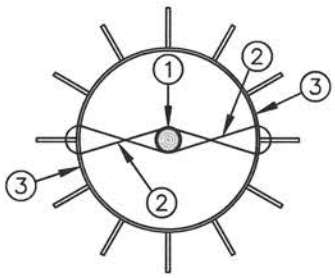
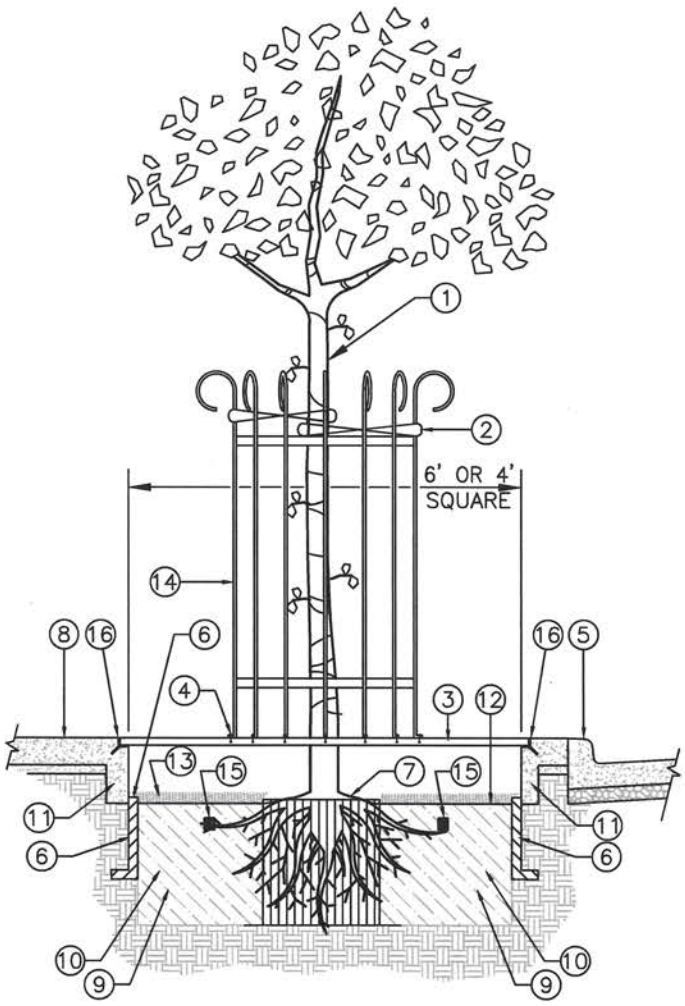
DIRECTOR OF PUBLIC WORKS-ENGINEERING

FIFTEEN GALLON TREE AT BACK OF WALK

NO. LS-2



PLAN VIEW



SECTION VIEW

NOTE:
NURSERY STAKES MUST BE REMOVED

1. TREE NURSERY STOCK PER SPECIFICATIONS AND ANSI Z 60.1. ALL TREES SHALL HAVE A STRONG CENTRAL LEADER.
2. DEEP ROOT ARBOR TIE (OR APPROVED EQUAL). STAPLE OR SCREW TO TREE STAKES.
3. NEENAH R-8713, 180° SQUARE, 60" OR 48" TREE GRATE. SEE CONSTRUCTION PLAN FOR DETAILS.
4. STEEL FLANGE WELDED TO BOTTOM OF PICKET. 2"X3" PRE-DRILLED TO ACCEPT 2"X1/2"ø THROUGH BOLT.
5. CURB AND GUTTER OR OTHER PAVING.
6. ROOT CONTROL BARRIER BY "DEEP ROOT CORP." OR APPROVED EQUAL. 24" DEPTH (UB 24-2). NEXT TO SIDEWALKS AND ALL SIDES/HARDSCAPES.
7. REMOVE NURSERY SOIL IF NEEDED SO THAT FIRST ROOTS ARE VISIBLE AT TOP OF ROOTBALL. SET TOP OF ROOTBALL 1" ABOVE FINISH GRADE TO ALLOW FOR SETTLEMENT. BREAK UP SIDES OF BALL AND SPREAD OUT ROOTS. NO CIRCLING ROOTS SHALL REMAIN.
8. SIDEWALK.
9. BACKFILL MIX PER SPECIFICATIONS.
10. PLANTING HOLE SHALL BE THE FULL LENGTH AND WIDTH OF THE TREE WELL AND NO DEEPER THAN THE TREE ROOTBALL. SCARIFY SIDES OF HOLE.
11. CONCRETE EDGE TO RETAIN SUBGRADE, 4" THICK MIN.
12. FINISH PLANTER GRADE – 7" BELOW TOP OF TREE GRATE.
13. TOP DRESSING. SEE SPECIFCIATIONS. HOLD BACK 3" FROM TRUNK OF TREE.
14. TREE GUARD. TO BE PROVIDED BY CITY OF CHICO. CONTACT FACILITIES MAINTENANCE.
15. PLANTING FERTILIZER TABLETS OR PRODUCT PER SPECIFICATIONS.
16. CAST IN PLACE TREE GRATE FRAMEWORK.

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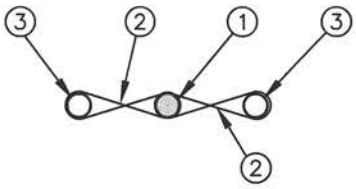
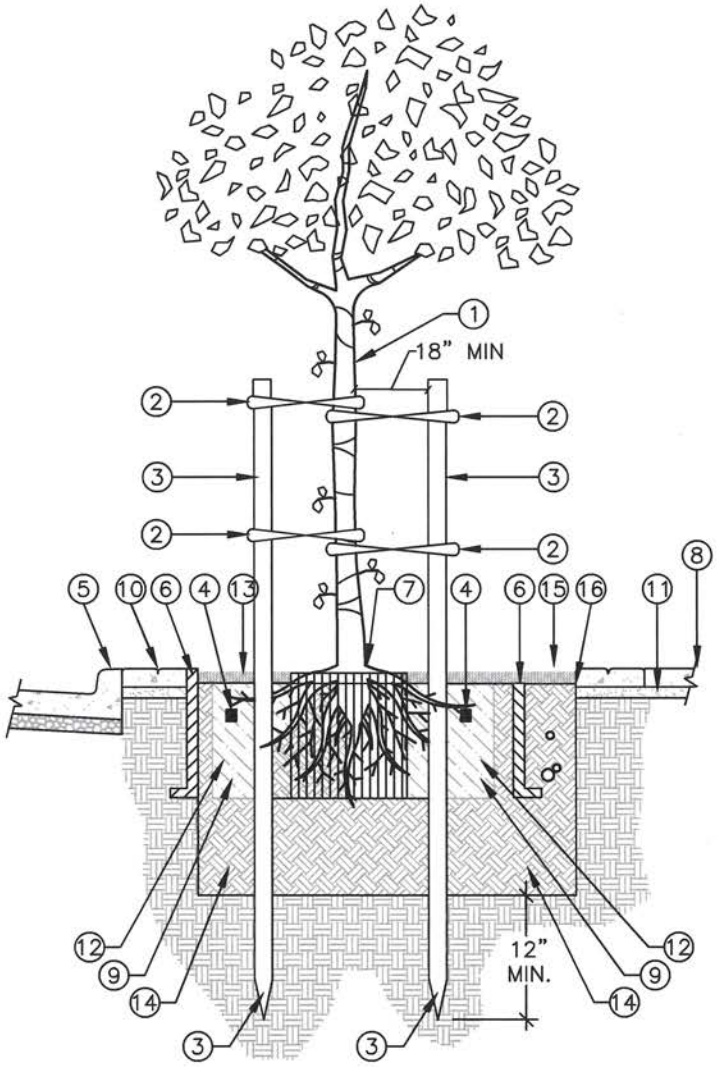
FIFTEEN GALLON TREE AND GRATE WITH TREE GUARD

NO. LS-3



PLAN VIEW



SECTION VIEW

NOTE:
NURSERY STAKES MUST BE REMOVED

1. TREE NURSERY STOCK PER SPECIFICATIONS AND ANSI Z 60.1. ALL TREES SHALL HAVE A STRONG CENTRAL LEADER.
2. DEEP ROOT ARBOR TIE (OR APPROVED EQUAL). STAPLE OR SCREW TO TREE STAKES.
3. 10'L X 2" DIAM. UNTREATED LODGEPOLE STAKE. CUT OFF BELOW LOWEST LIMB. PLACE POSTS PERPENDICULAR TO PREVAILING WINDS AND OUTSIDE ROOTBALL. 18" MIN. AWAY FROM TREES.
4. PLANTING FERTILIZER TABLETS OR PRODUCT PER SPECIFICATIONS.
5. CURB AND GUTTER OR OTHER PAVING.
6. ROOT CONTROL BARRIER BY "DEEP ROOT CORP." OR APPROVED EQUAL. SET AT LEVEL OF SURROUNDING PAVING OR SOIL. 10' LONG CENTERED ON TREE, 24" DEPTH (UB 24-2). OFFSET ROOT BARRIER AS REQUIRED FOR LANDSCAPE IRRIGATION UTILITIES.
7. REMOVE NURSERY SOIL IF NEEDED SO THAT FIRST ROOTS ARE VISIBLE AT TOP OF ROOTBALL. SET TOP OF ROOTBALL 1" ABOVE FINISH GRADE TO ALLOW FOR SETTLEMENT. BREAK UP SIDES OF BALL AND SPREAD OUT ROOTS. NO CIRCLING ROOTS SHALL REMAIN.
8. SIDEWALK.
9. BACKFILL MIX PER SPECIFICATIONS.
10. STAMPED CONCRETE, PER SPEC'S.
11. 2" SAND BASE.
12. PLANTING HOLE SHALL BE THREE TIMES (3X) THE DIAMETER OF THE ROOTBALL AND NO DEEPER THAN THE TREE ROOTBALL. SCARIFY SIDES OF HOLE.
13. TOP DRESSING. SEE SPECIFCIATIONS. HOLD BACK 4" FROM TRUNK OF TREE.
14. SOIL REPLACEMENT OR DECOMPACTION. SEE PLANS AND CITY STANDARD DETAILS LS-14, LS-15, & LS-16.
15. KEEP TURF AND OTHER PLANT MATERIAL A MINIMUM OF 4 FEET CLEAR OF TREE TRUNK.
16. CONCRETE EDGE TO RETAIN SUBGRADE 4" THICK MINIMUM.

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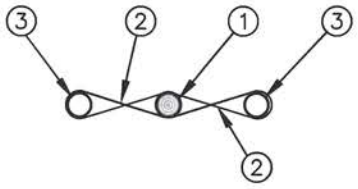
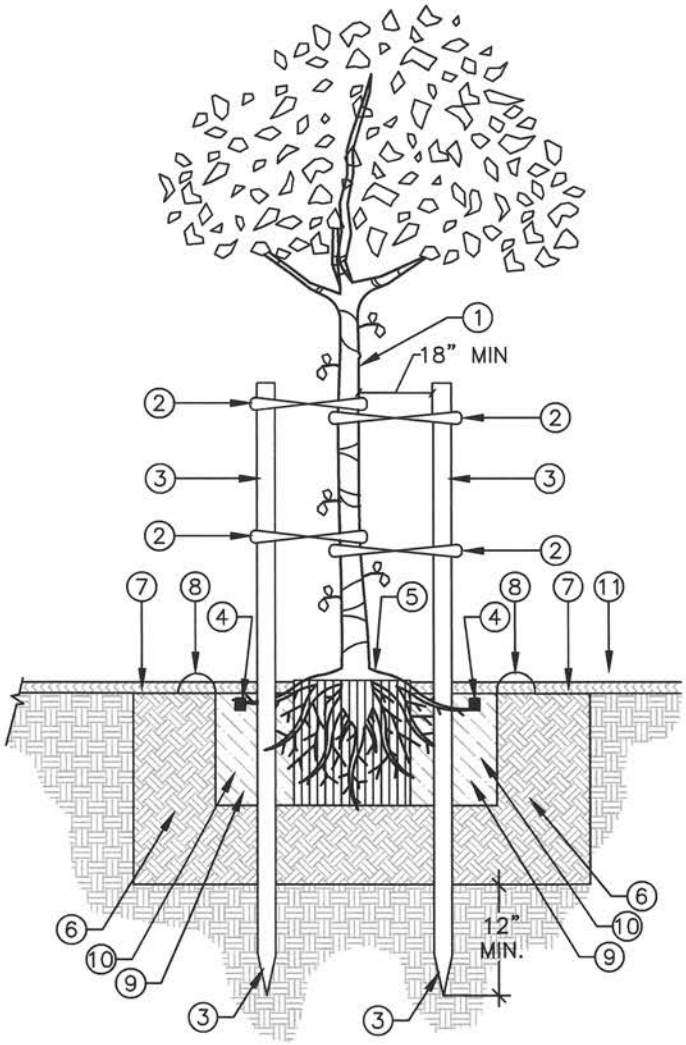
FIFTEEN GALLON TREE WITH STAMPED CONCRETE

NO. LS-4



PLAN VIEW



SECTION VIEW

NOTE:
NURSERY STAKES MUST BE REMOVED

1. TREE NURSERY STOCK PER SPECIFICATIONS AND ANSI Z 60.1. ALL TREES SHALL HAVE A STRONG CENTRAL LEADER.
2. DEEP ROOT ARBOR TIE (OR APPROVED EQUAL). STAPLE OR SCREW TO TREE STAKES.
3. 10'L X 2" DIAM. UNTREATED LODGEPOLE STAKE. CUT OFF BELOW LOWEST LIMB. PLACE POSTS PERPENDICULAR TO PREVAILING WINDS AND OUTSIDE ROOTBALL. MINIMUM 18" FROM TREE.
4. PLANTING FERTILIZER TABLETS OR PRODUCT PER SPECIFICATIONS.
5. REMOVE NURSERY SOIL IF NEEDED SO THAT FIRST ROOTS ARE VISIBLE AT TOP OF ROOTBALL. SET TOP OF ROOTBALL 1" ABOVE FINISH GRADE TO ALLOW FOR SETTLEMENT. BREAK UP SIDES OF BALL AND SPREAD OUT ROOTS. NO CIRCLING ROOTS SHALL REMAIN.
6. SOIL REPLACEMENT OR DECOMPACTION. SEE PLANS AND CITY STANDARD DETAILS LS-14, LS-15, & LS-16.
7. TOP DRESSING. SEE SPECIFCIATIONS. HOLD BACK 3" FROM TRUNK OF TREE.
8. OPTIONAL/ TEMPORARY WATER RETENTION BERM.
9. BACKFILL MIX PER SPECIFICATIONS.
10. PLANTING HOLE SHALL BE THREE (3X) THE DIAMETER OF THE ROOTBALL AND NO DEEPER THAN THE TREE ROOTBALL. SCARIFY SIDES OF HOLE.
11. KEEP TURF AND OTHER PLANT MATERIAL A MINIMUM OF 4 FEET CLEAR OF TREE TRUNK.

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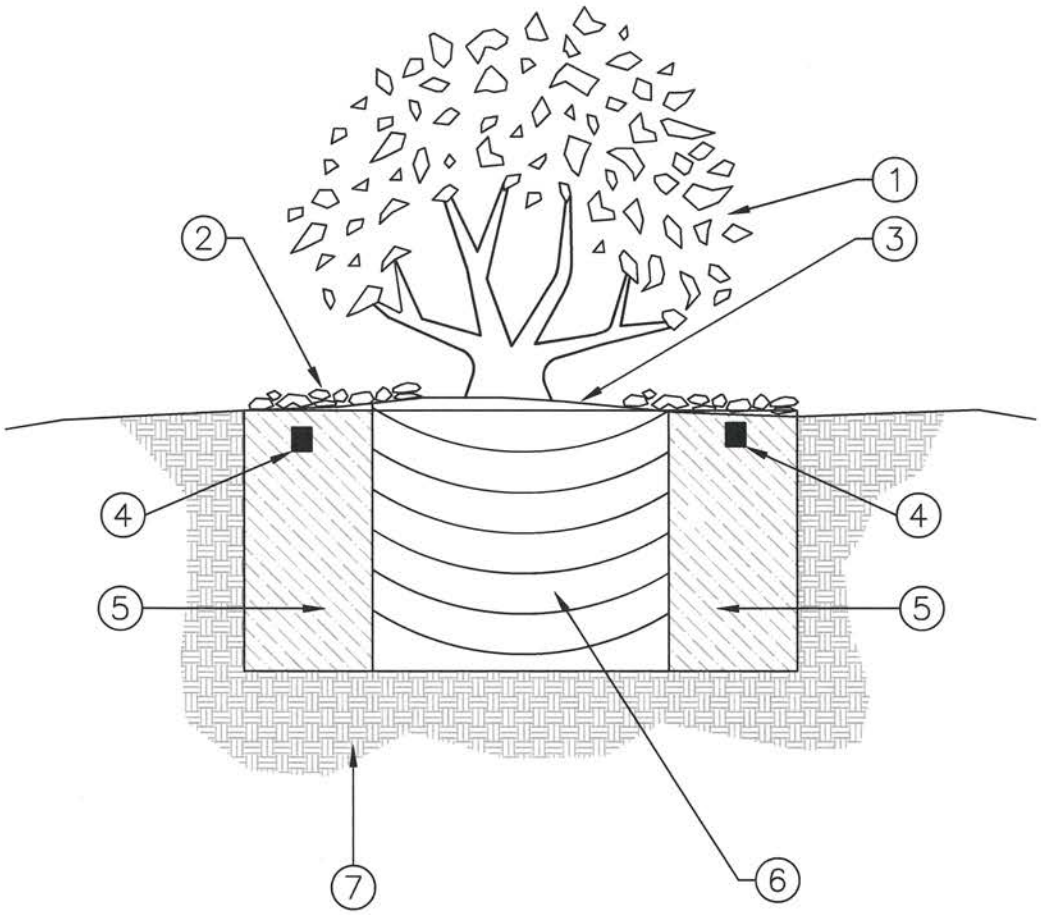
FIFTEEN GALLON TREE PLANTING DETAIL

NO. LS-5



SECTION VIEW

1. SHRUB NURSERY STOCK PER ANSI Z-60.1.
2. TOP DRESSING. SEE SPECIFICATIONS. HOLD BACK 2" FROM BASE OF SHRUB.
3. SET TOP OF ROOTBALL 1" ABOVE FINISH GRADE SOIL TO ALLOW FOR SETTLEMENT.
4. FERTILIZER TABLET(S) OR PRODUCT PER SPECIFICATIONS.
5. BACKFILL MIXTURE PER SPECIFICATIONS.
6. SHRUB ROOTBALL.
7. PLANTING HOLE SHALL BE THREE TIMES (3X) DIAMETER OF ROOTBALL & NO DEEPER THAN THE SHRUB ROOTBALL. BREAK UP SIDES OF ROOTBALL, REMOVE CIRCLING ROOTS AND SCARIFY SIDES OF HOLE.

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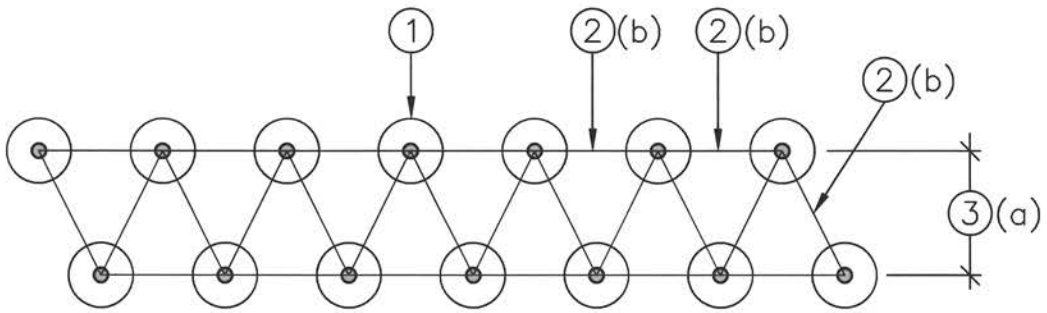
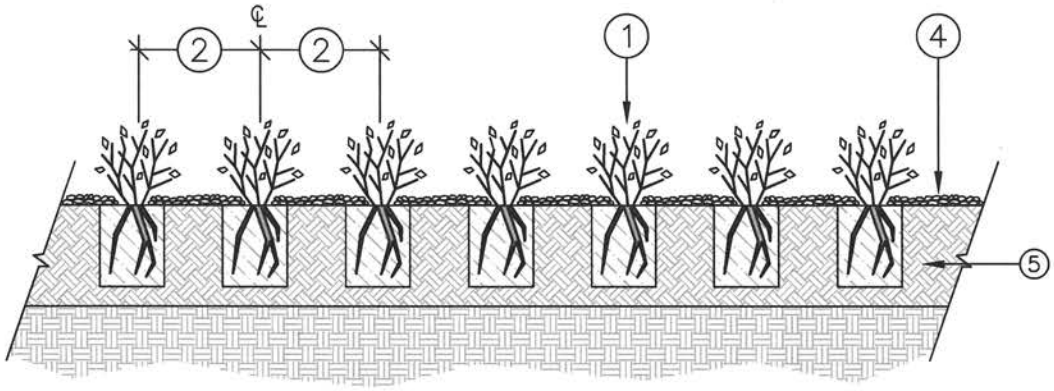
CONTAINERIZED SHRUB PLANTING DETAIL

NO. LS-6



PLAN VIEW



SECTION VIEW

NOTES:

1. GROUND COVER PLANTING LOCATION.
2. USE TRIANGULAR EQUIDISTANT SPACING BETWEEN PLANTINGS. SEE PLANS FOR SPACING DETAIL.
3. ROW SPACING (a) 0.86. OF DISTANCE BETWEEN PLANTS (b) IN ROW TO CREATE EQUILATERAL TRIANGLE. (a=.086xb)
4. FINISH SURFACE WITH 3" OF TOP DRESSING. SEE SPECIFICATIONS.
5. AMENDED SOIL, SEE PLANS FOR SOIL PREPARATION.
6. NOTE: to be determined (C.O.C.)

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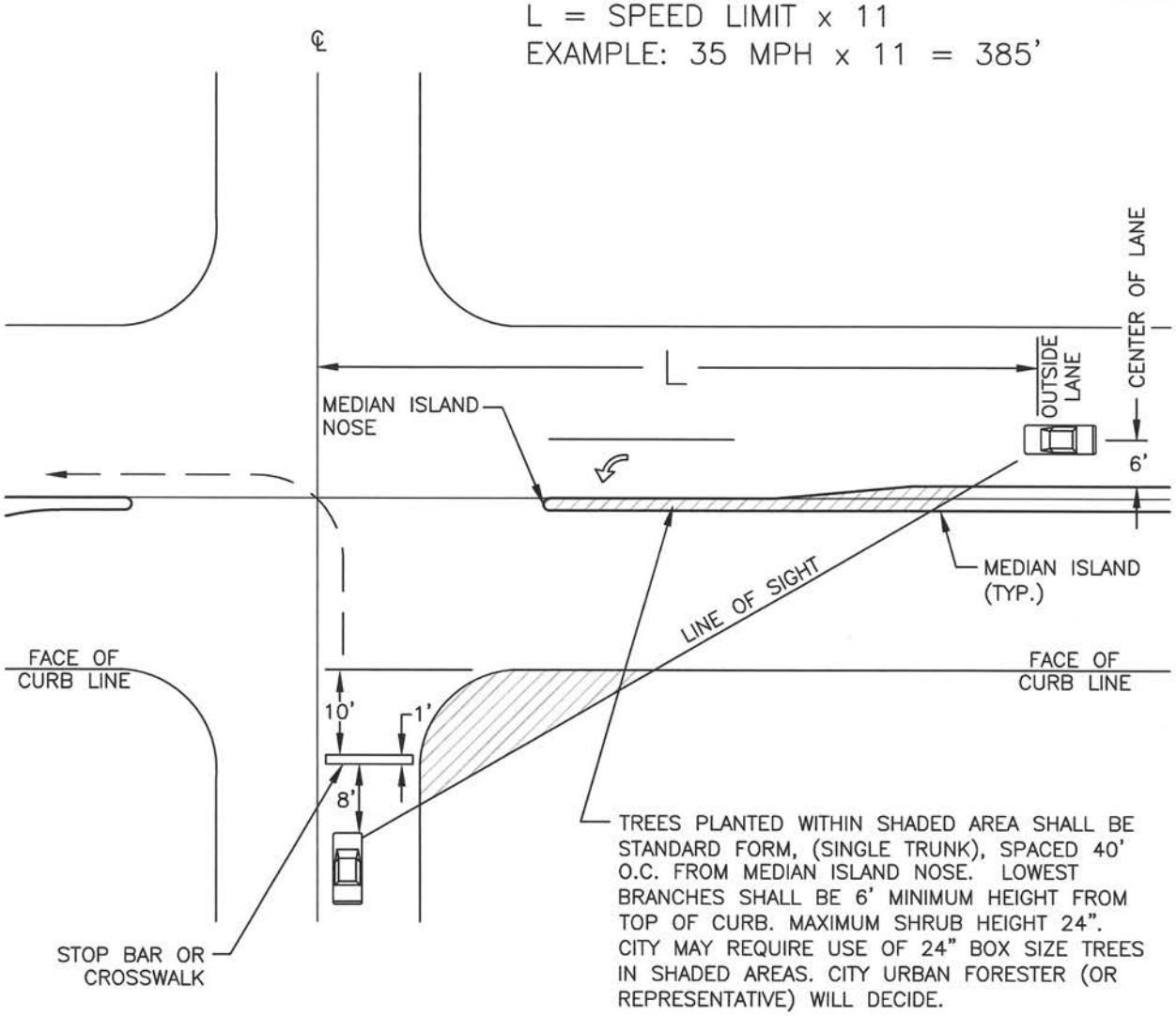
GROUND COVER PLANTING DETAIL

NO. LS-7

NOTE:

DETAIL TYPICAL FOR BOTH DIRECTIONS AT 4–WAY UNSIGNALIZED INTERSECTIONS.
L = SPEED LIMIT x 11
EXAMPLE: 35 MPH x 11 = 385'



PLAN VIEW

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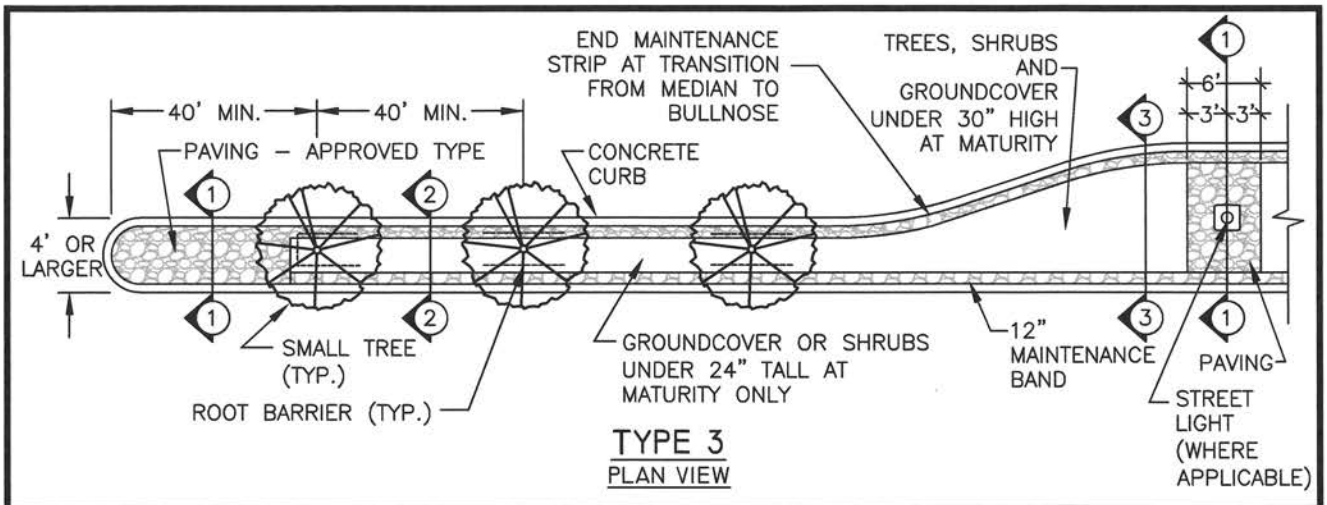
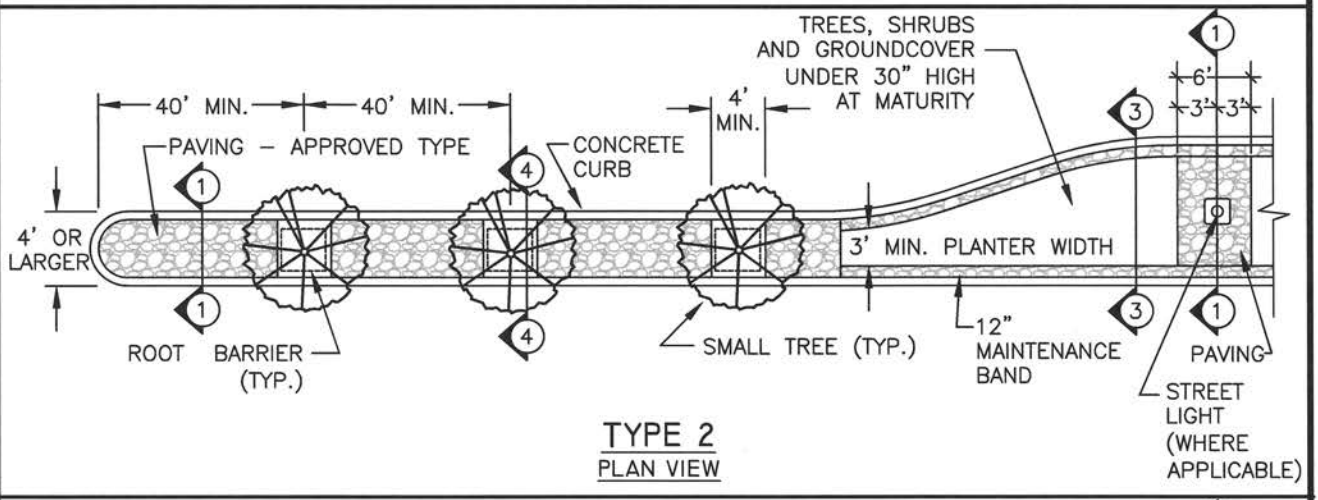
SIGHT DISTANCE CLEARANCE AT NON-SIGNALIZED INTERSECTIONS

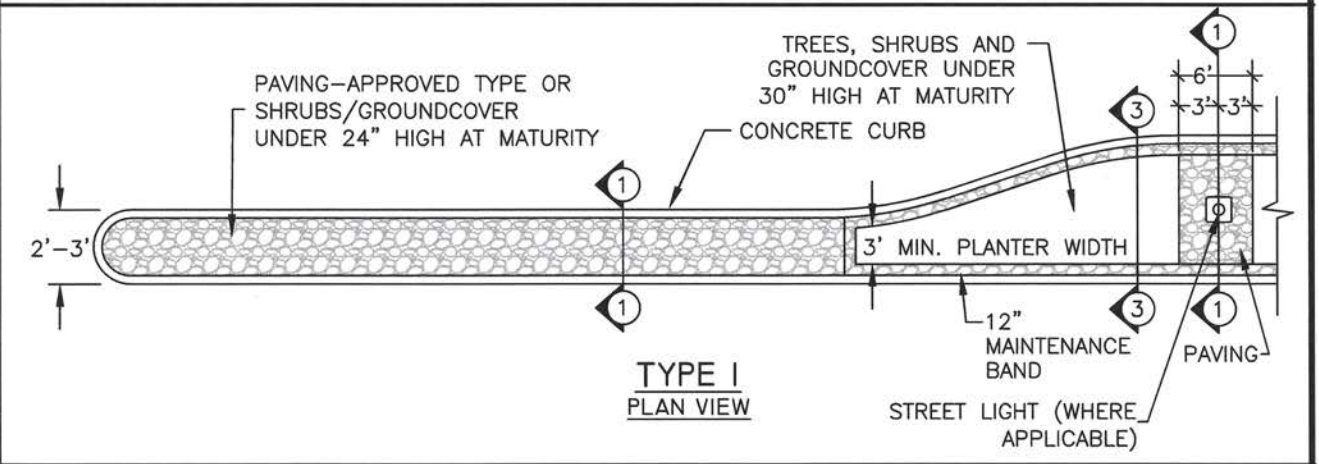
NO. LS-8



TYPE 3
PLAN VIEW



TYPE 2
PLAN VIEW



TYPE I
PLAN VIEW

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1. SEE STAMPED CONCRETE DETAIL AT MEDIAN, LS–10.
2. SEE MAINTENANCE BAND DETAIL AT BULLNOSE DETAIL, LS–11.
3. SEE MAINTENANCE BAND DETAIL AT MEDIAN, LS–12.
4. SEE ROOT BARRIER DETAIL AT DETAIL, LS–13.

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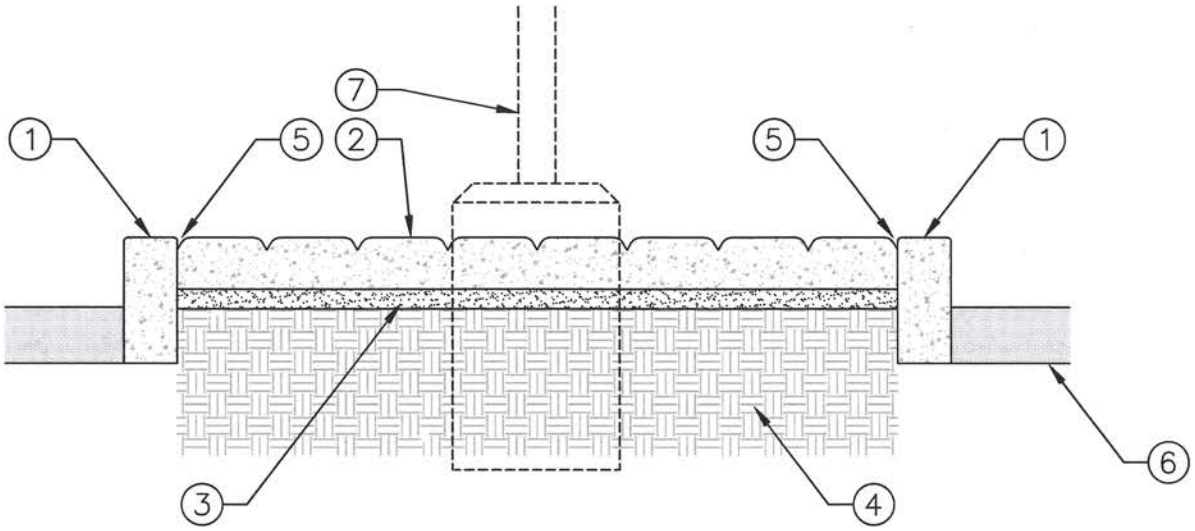
TREE AND PAVEMENT LAYOUT IN MEDIAN ISLAND

NO. LS-9



SECTION VIEW

NOTES:

(1) CONCRETE MEDIAN CURB.

(2) STAMPED CONCRETE. SEE PLANS FOR LAYOUT. 4" THICK. PATTERN: CANYON STONE. COLOR HARDENER: DESERT TAN, B-12. RELEASE AGENT: SONORAN TAN, B-10 AS MANUFACTURED BY BRICKFORM OR APPROVED EQUAL. SEE NOTES, BELOW.

(3) 2" SAND BASE.

(4) COMPACTED SUBGRADE PER SPECIFICATIONS.

(5) TOOLED EDGE.

(6) AC ROADWAY.

(7) LIGHT (WHERE APPLICABLE)

NOTES:

1. CONTRACTOR SHALL PROVIDE 18" SQUARE BY 2" THICK REPRESENTATIVE SAMPLE OF COLORED, STAMPED CONCRETE. SUBMIT SAMPLE TO PROJECT REPRESENTATIVE FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION OF PAVING.
2. NEW SAMPLES WILL BE MADE UNTIL APPROVAL IS GRANTED.
3. THE APPROVED SAMPLE IS TO BE RETAINED BY THE CONTRACTOR UNTIL THE PROJECT ENTERS INTO THE MAINTENANCE PERIOD OR AS DIRECTED BY THE CITY'S REPRESENTATIVE. SAMPLE MAY BE RETAINED ON THE PROJECT SITE SO LONG AS IT DOES NOT INTERFERE WITH WORK TO BE PERFORMED AND DOES NOT PRESENT A HAZARD TO WORKERS OR THE PUBLIC.
4. THE APPROVED SAMPLE WILL SERVE AS THE STANDARD FOR ALL COLORED STAMPED CONCRETE TO BE INSTALLED.

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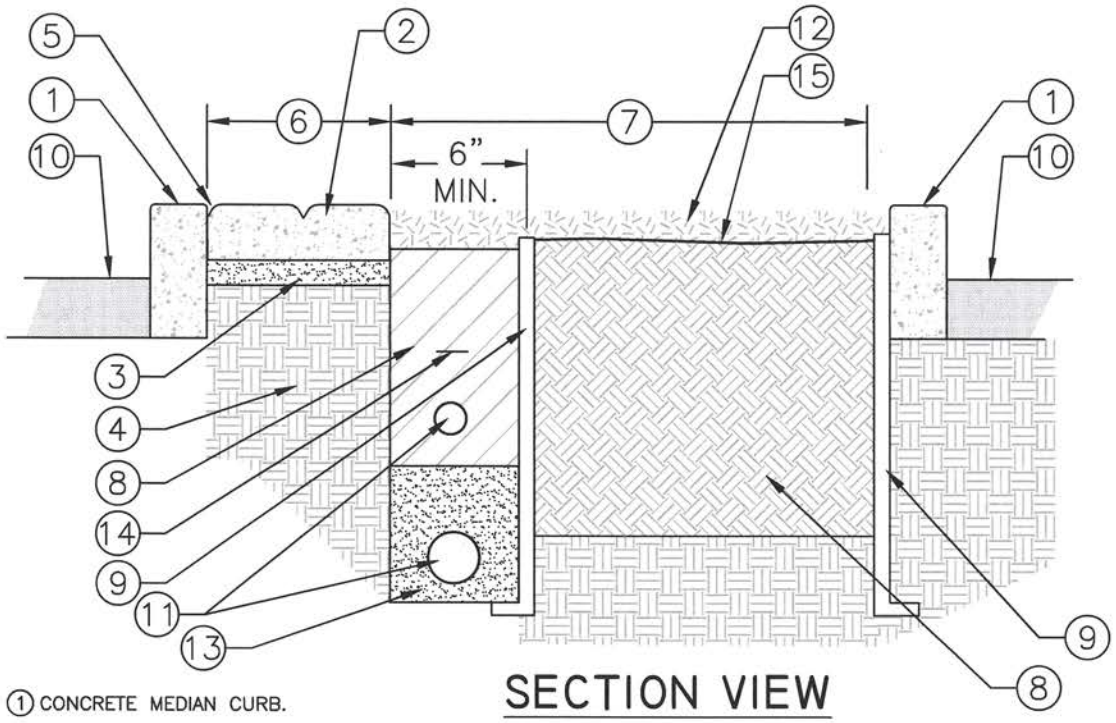
STAMPED CONCRETE DETAIL AT MEDIAN

NO. LS-10



SECTION VIEW

(1) CONCRETE MEDIAN CURB.

(2) STAMPED CONCRETE – 4" THICK. PATTERN: CANYON STONE. COLOR HARDENER: DESERT TAN, B–12. RELEASE AGENT: SONORAN TAN, B–10 AS MANUFACTURED BY BRICKFORM OR APPROVED EQUAL. . SEE NOTES, BELOW.

(3) 2" SAND BASE.

(4) COMPACTED SUBGRADE PER SPECIFICATIONS.

(5) TOOLED EDGE. TYPICAL ALL AROUND.

(6) 1' WIDE MAINTENANCE STRIP. SEE ITEM #2, ABOVE.

(7) PLANTING AREA WIDTH. VARIES WITH LOCATION.

(8) MEDIAN PLANTER SOIL. SEE PLANS, DETAILS, AND SPECIFICATIONS.

(9) TREE ROOT CONTROL BARRIER (WHERE APPLICABLE). "DEEP ROOT CORP." OR APPROVED EQUAL 10' LONG CENTERED ON TREE, 24" DEPTH (LB 24–2) ALONG CURB.

(10) AC ROADWAY.

(11) IRRIGATION PIPING. SEE IRRIGATION DETAILS LS–19 THRU LS–21

(12) TOP DRESSING. SEE SPECIFICATIONS.

(13) SAND BACKFILL. SEE IRRIGATION DETAILS LS–19 THRU LS–21

(14) 3" DETECTABLE TAPE. CHRISTY MODEL TA–DT–03–B–IRR OR EQUAL.

(15) LANDSCAPE FINISH GRADE. SEE PLANS AND SPECIFICATIONS.

NOTES:

1. CONTRACTOR SHALL PROVIDE 18" SQUARE BY 2" THICK REPRESENTATIVE SAMPLE OF COLORED, STAMPED CONCRETE. SUBMIT SAMPLE TO PROJECT REPRESENTATIVE FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION OF PAVING.
2. NEW SAMPLES WILL BE MADE UNTIL APPROVAL IS GRANTED.
3. THE APPROVED SAMPLE IS TO BE RETAINED BY THE CONTRACTOR UNTIL THE PROJECT ENTERS INTO THE MAINTENANCE PERIOD OR AS DIRECTED BY THE CITY'S REPRESENTATIVE. SAMPLE MAY BE RETAINED ON THE PROJECT SITE SO LONG AS IT DOES NOT INTERFERE WITH WORK TO BE PERFORMED AND DOES NOT PRESENT A HAZARD TO WORKERS OR THE PUBLIC.
4. THE APPROVED SAMPLE WILL SERVE AS THE STANDARD FOR ALL COLORED STAMPED CONCRETE TO BE INSTALLED.
5. NO MAINLINES UNDER TREES, OR IN MIDDLE OF MEDIAN. ALL CABLES IN CONDUIT, SLEEVE UNDER ALL PAVEMENT,
6. ANY UNUSED CABLE TO HAVE END OF WIRE IN A WATERPROOF CONTAINER.
7. SEE CITY OF CHICO DETAIL LS–10.

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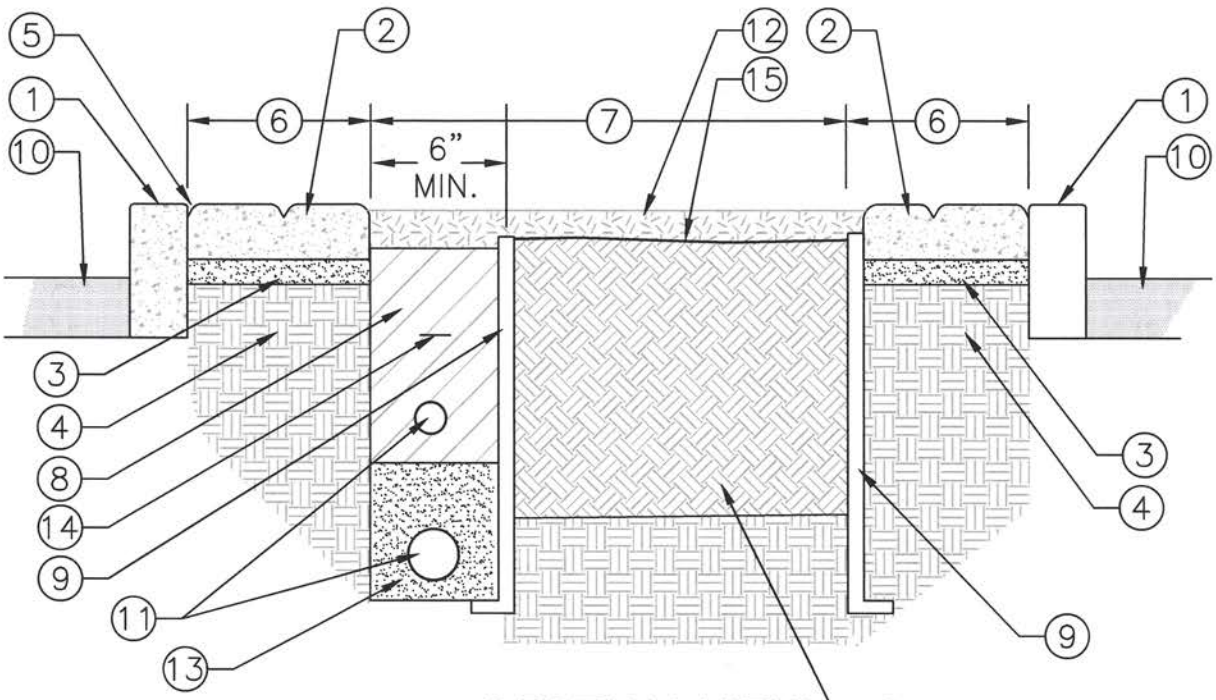
MAINTENANCE BAND DETAIL AT BULLNOSE

NO. LS-II



SECTION VIEW

1. CONCRETE CURB.
2. STAMPED CONCRETE. SEE PLANS FOR LAYOUT. 4" THICK. PATTERN: CANYON STONE. COLOR HARDENER: DESERT TAN, B-12. RELEASE AGENT: SONORAN TAN, B-10 AS MANUFACTURED BY BRICKFORM OR APPROVED EQUAL. SEE NOTES, BELOW.
3. 2" SAND BASE.
4. COMPACTED SUBGRADE PER SPECIFICATIONS.
5. TOOLED EDGE. TYPICAL ALL AROUND.
6. 1' WIDE MAINTENANCE STRIP. SEE ITEM #2, ABOVE.
7. PLANTING AREA. WIDTH VARIES WITH LOCATION.
8. MEDIAN PLANTER SOIL. SEE PLANS, DETAILS, AND SPECIFICATIONS.
9. TREE ROOT CONTROL BARRIER (WHERE APPLICABLE). "DEEP ROOT CORP." OR APPROVED EQUAL 10' LONG CENTERED ON TREE, 24" DEPTH (LB 24-2) ALONG CURB.
10. AC ROADWAY.
11. IRRIGATION PIPING. SEE IRRIGATION DETAILS LS-19 THRU LS-21
12. TOP DRESSING. SEE SPECIFICATIONS.
13. SAND BACKFILL. SEE IRRIGATION DETAILS LS-19 THRU LS-21
14. 3" DETECTABLE TAPE. PLACE MIN. 6" ABOVE PIPES. CHRISTY MODEL TA-DT-03-B-IRR OR EQUAL.
15. LANDSCAPE FINISH GRADE. SEE PLANS AND SPECIFICATIONS.

NOTES:

1. CONTRACTOR SHALL PROVIDE 18" SQUARE BY 2" THICK REPRESENTATIVE SAMPLE OF COLORED, STAMPED CONCRETE. SUBMIT SAMPLE TO PROJECT REPRESENTATIVE FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION OF PAVING.
2. NEW SAMPLES WILL BE MADE UNTIL APPROVAL IS GRANTED.
3. THE APPROVED SAMPLE IS TO BE RETAINED BY THE CONTRACTOR UNTIL THE PROJECT ENTERS INTO THE MAINTENANCE PERIOD OR AS DIRECTED BY THE CITY'S REPRESENTATIVE. SAMPLE MAY BE RETAINED ON THE PROJECT SITE SO LONG AS IT DOES NOT INTERFERE WITH WORK TO BE PERFORMED AND DOES NOT PRESENT A HAZARD TO WORKERS OR THE PUBLIC.
4. THE APPROVED SAMPLE WILL SERVE AS THE STANDARD FOR ALL COLORED STAMPED CONCRETE TO BE INSTALLED.

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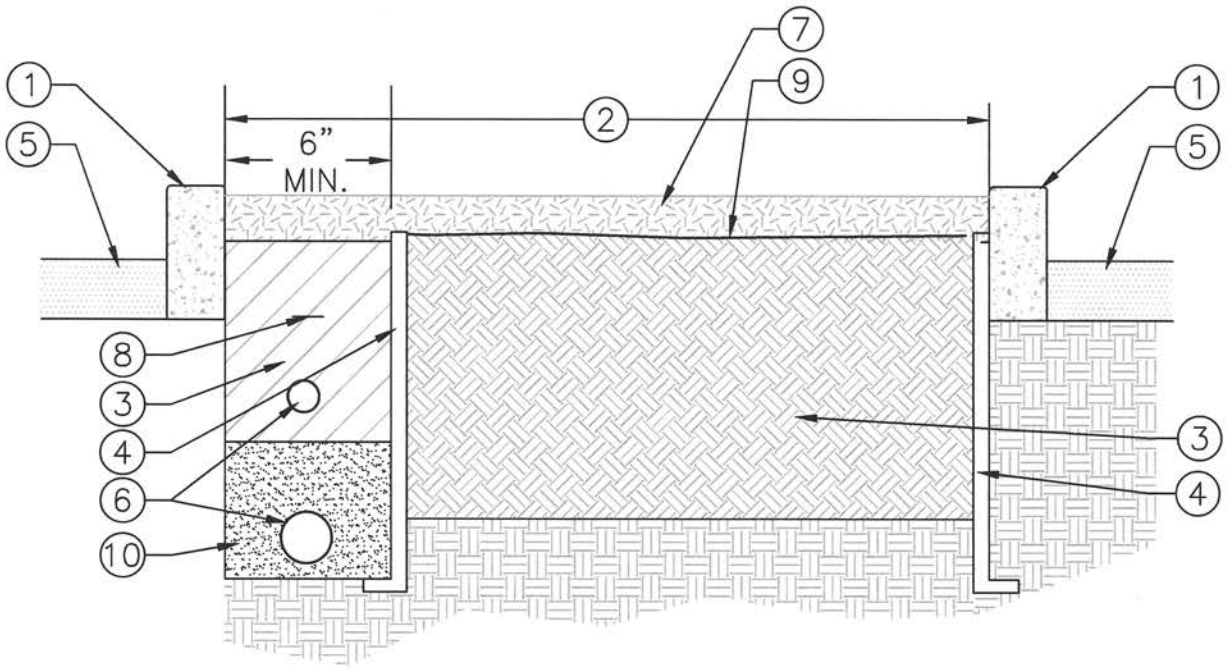
MAINTENANCE BAND DETAIL AT MEDIAN

NO. LS-12



SECTION VIEW

AT TREE

NOTES:

(1) CONCRETE MEDIAN CURB.

(2) PLANTING AREA, WIDTH VARIES WITH LOCATION.

(3) MEDIAN PLANTER SOIL. SEE PLANS, DETAILS, AND SPECIFICATIONS.

(4) TREE ROOT CONTROL BARRIER (WHERE APPLICABLE). "DEEP ROOT CORP." OR APPROVED EQUAL 10' LONG CENTERED ON TREE, 24" DEPTH (LB 24-2) ALONG CURB.

(5) AC ROADWAY.

(6) IRRIGATION PIPING. SEE IRRIGATION DETAILS LS-19 THRU LS-21

(7) TOP DRESSING. SEE SPECIFICATIONS.

(8) 3" DETECTABLE TAPE. CHRISTY MODEL TA-DT-03-B-IRR OR EQUAL.

(9) LANDSCAPE FINISH GRADE. SEE PLANS AND SPECIFICATIONS.

(10) SAND BACKFILL. SEE IRRIGATION DETAILS LS-19 THRU LS-21

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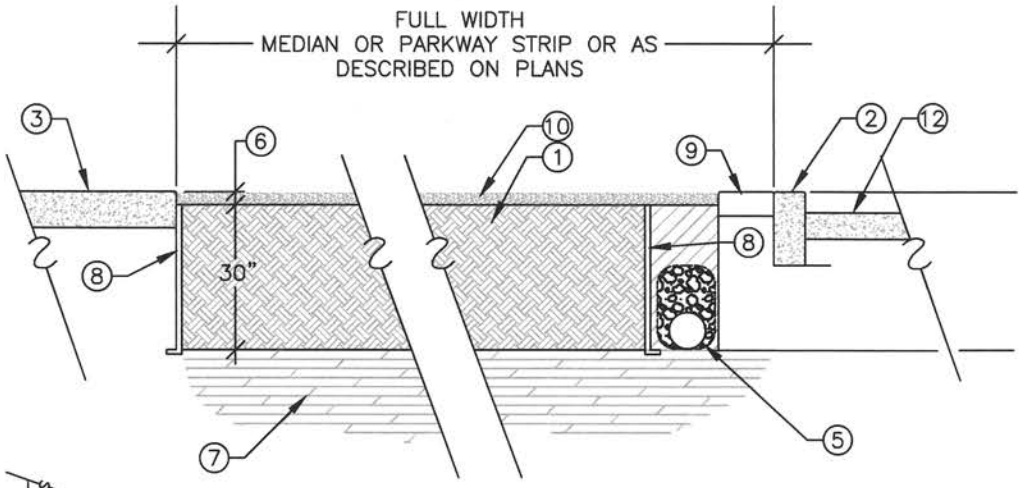
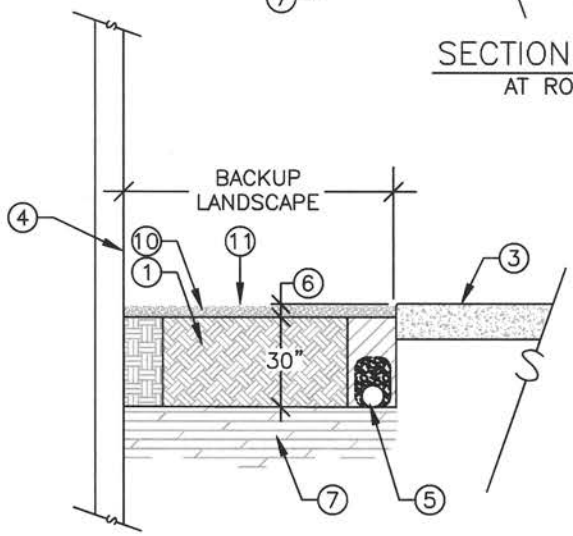
ROOT BARRIER DETAIL AT BULLNOSE

NO. LS-13



SECTION VIEW
AT ROAD



SECTION VIEW
AT FENCE & SOUNDWALL

1. PLANTER SOIL. EXCAVATE TO A DEPTH OF 30" AND REMOVE EXISTING SOIL AND REMOVE FROM SITE. REPLACE WITH IMPORT TOP SOIL PER SPECIFICATIONS. OBTAIN TOPSOIL APPROVAL PRIOR TO DELIVERY TO SITE.
2. CURB (WHERE APPLICABLE)
3. HARDSCAPE (WHERE APPLICABLE)
4. FENCE OR SOUNDWALL (WHERE APPLICABLE)
5. DRAINAGE AND/ OR LANDSCAPE UTILITIES. SEE PLANS FOR ADDITIONAL INFORMATION.
6. FINISH GRADE. HOLD DOWN: 1/2" IN SEED, 1" IN SOD, 3-1/2" IN MULCH OR DECOMPOSED GRANITE.
7. ROUGHLY SCARIFY THE SUBGRADE. LEAVE IN PLACE.
8. TREE ROOT CONTROL BARRIER (WHERE APPLICABLE). "DEEP ROOT CORP." OR APPROVED EQUAL. (24-2) 24".
9. MAINTENANCE STRIP (WHERE APPLICABLE).
10. TOP DRESSING. SEE PLANS AND SPECIFICATIONS.
11. PLANT TREES MIN OF 5' FROM WALL, FENCE OR SOUND WALL. PLACEMENT MUST BE APPROVED BY CITY INSPECTOR OR REPRESENTATIVE.
12. ROAD

NOTES:

1. CONFIRM EXACT LOCATIONS OF ALL UTILITIES PRIOR TO THE START OF WORK.
2. CONTRACTOR IS RESPONSIBLE FOR OBTAINING A SOILS ANALYSIS OF IMPORT TOPSOIL FROM AN ANALYTICAL LABORATORY AND SHALL AMEND THE SOIL PER THE LABORATORY RECOMMENDATIONS. SOIL SAMPLING SHALL BE CONDUCTED IN ACCORDANCE WITH LABORATORY PROTOCOL, INCLUDING PROTOCOLS REGARDING ADEQUATE SAMPLING DEPTH FOR THE INTENDED PLANTS. THE SOIL ANALYSIS SHALL INCLUDE:
   - A. SOIL TEXTURE
   - B. INFILTRATION RATE DETERMINED BY LABORATORY TEST OR SOIL TEXTURE INFILTRATION RATE TABLE
   - C. PH
   - D. TOTAL SOLUBLE SALTS
   - E. SODIUM
   - F. ORGANIC MATTER
   - G. WATER PENETRATION OF SOIL DUE TO CHEMICAL CHARACTERISTICS
   - H. SOIL MACRONUTRIENTS
   - I. SOIL MICRONUTRIENTS
   - J. RECOMMENDATIONS FOR LANDSCAPES STATED IN RATES OF COMMONLY AVAILABLE AMENDMENTS (CUBIC YARDS OR WEIGHT PER 1,000 SF)
   - K. TEST LPT 4 FROM SUNLAND ANALYTICAL LAB OR EQUAL
3. REMOVE ALL DEBRIS, CONCRETE POUR-OVER, ASPHALT, ROAD BASE, AND ROCKS OVER 2" IN DIAMETER. REMOVE ANY SOIL CONTAMINATED BY BUILDING CONSTRUCTION DEBRIS SUCH AS PAINT, CONCRETE, STUCCO, ETC. AND DISPOSE OF OFF-SITE.
4. COMPACT TO 85% RELATIVE DENSITY AND ALLOW FOR SETTLING.

REVISION	BY	DATE	APP. BY COUNCIL

CITY OF CHICO **STANDARD PLAN**

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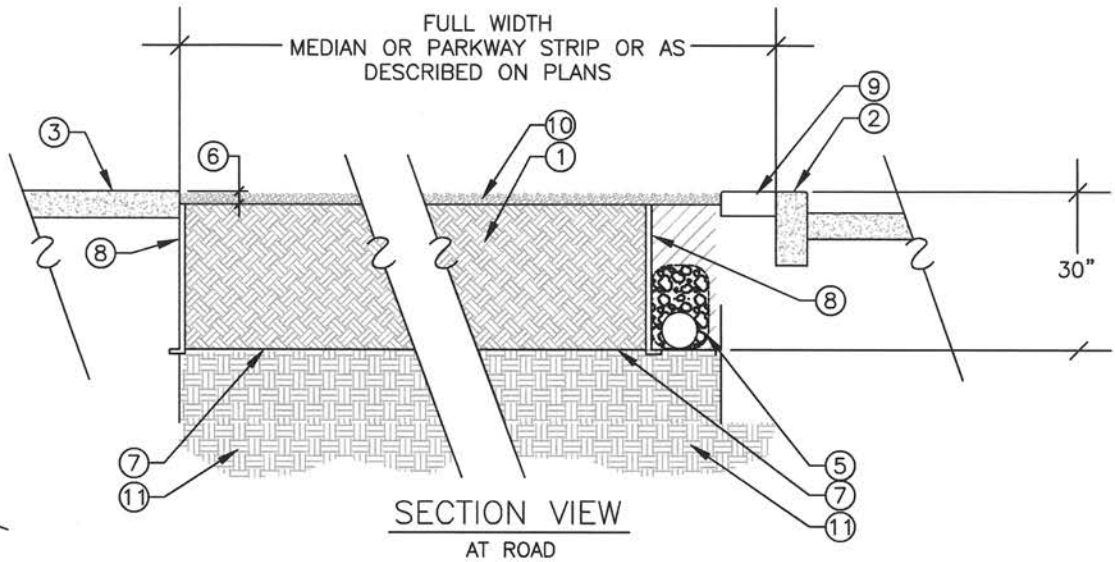
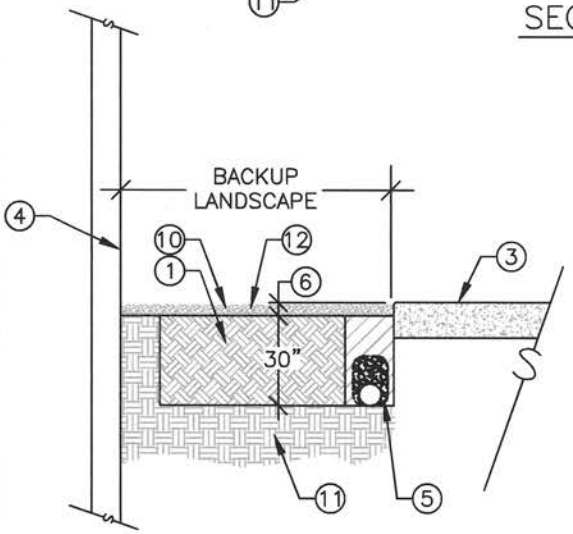
DIRECTOR OF PUBLIC WORKS-ENGINEERING

SOIL REPLACEMENT DETAIL AT IMPERVIOUS SUBSURFACE

NO. LS-14



SECTION VIEW
AT ROAD



SECTION VIEW
AT FENCE & SOUNDWALL

1. PLANTER SOIL. EXCAVATE TO A DEPTH OF 30" AND REMOVE EXISTING SOIL AND REMOVE FROM SITE. REPLACE WITH IMPORT TOP SOIL PER SPECIFICATIONS. UPON APPROVAL FROM LAB MIX WITH TOPSOIL. MIX OR OBTAIN TOPSOIL APPROVAL PRIOR TO DELIVERY TO SITE.
2. CURB (WHERE APPLICABLE)
3. HARDSCAPE (WHERE APPLICABLE)
4. FENCE OR SOUNDWALL (WHERE APPLICABLE)
5. DRAINAGE AND/ OR LANDSCAPE UTILITIES. SEE PLANS FOR ADDITIONAL INFORMATION.
6. FINISH GRADE. HOLD DOWN: 1/2" IN SEED, 1" IN SOD, 3-1/2" IN MULCH OR DECOMPOSED GRANITE.
7. ROUGHLY SCARIFY THE SUBGRADE. LEAVE IN PLACE.
8. TREE ROOT CONTROL BARRIER (WHERE APPLICABLE). "DEEP ROOT CORP." OR APPROVED EQUAL 24".
9. MAINTENANCE STRIP (WHERE APPLICABLE).
10. TOP DRESSING. SEE PLANS AND SPECIFICATIONS.
11. UNDISTURBED SOIL
12. PLANT TREES A MINIMUM OF 5' FROM FENCE OR SOUND-WALL. PLACEMENT MUST BE APPROVED BY CITY INSPECTOR OR REPRESENTATIVE.

NOTES:

1. CONFIRM EXACT LOCATIONS OF ALL UTILITIES PRIOR TO THE START OF WORK.
2. CONTRACTOR IS RESPONSIBLE FOR OBTAINING A SOILS ANALYSIS OF SITE SOIL AND FINAL TOP SOIL MIX FROM AN ANALYTICAL LABORATORY AND SHALL AMEND THE SOIL PER THE LABORATORY RECOMMENDATIONS. SOIL SAMPLING SHALL BE CONDUCTED IN ACCORDANCE WITH LABORATORY PROTOCOL, INCLUDING PROTOCOLS REGARDING ADEQUATE SAMPLING DEPTH FOR THE INTENDED PLANTS. THE SOIL ANALYSIS SHALL INCLUDE:
   - A. SOIL TEXTURE
   - B. INFILTRATION RATE DETERMINED BY LABORATORY TEST OR SOIL TEXTURE INFILTRATION RATE TABLE
   - C. PH
   - D. TOTAL SOLUBLE SALTS
   - E. SODIUM
   - F. ORGANIC MATTER
   - G. WATER PENETRATION OF SOIL DUE TO CHEMICAL CHARACTERISTICS
   - H. SOIL MACRONUTRIENTS
   - I. SOIL MICRONUTRIENTS
   - J. RECOMMENDATIONS FOR LANDSCAPES STATED IN RATES OF COMMONLY AVAILABLE AMENDMENTS (CUBIC YARDS OR WEIGHT PER 1,000 SF)
   - K. TEST LPT 4 FROM SUNLAND ANALYTICAL LAB OR EQUAL
3. REMOVE ALL DEBRIS, CONCRETE POUR-OVER, ASPHALT, ROAD BASE, AND ROCKS OVER 2" IN DIAMETER. REMOVE ANY SOIL CONTAMINATED BY BUILDING CONSTRUCTION DEBRIS SUCH AS PAINT, CONCRETE, STUCCO, ETC. AND DISPOSE OF OFF-SITE.
4. COMPACT TO 85% RELATIVE DENSITY AND ALLOW FOR SETTLING.

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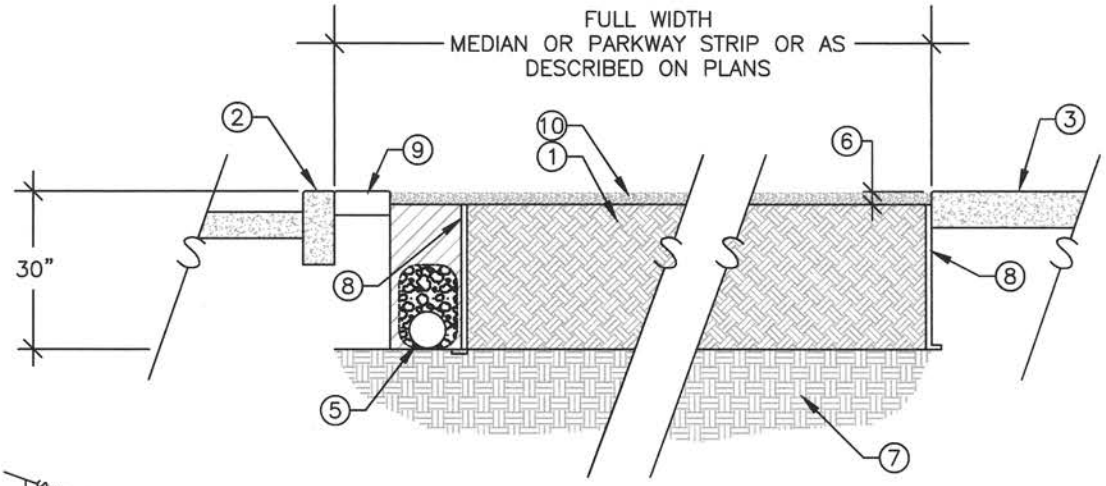
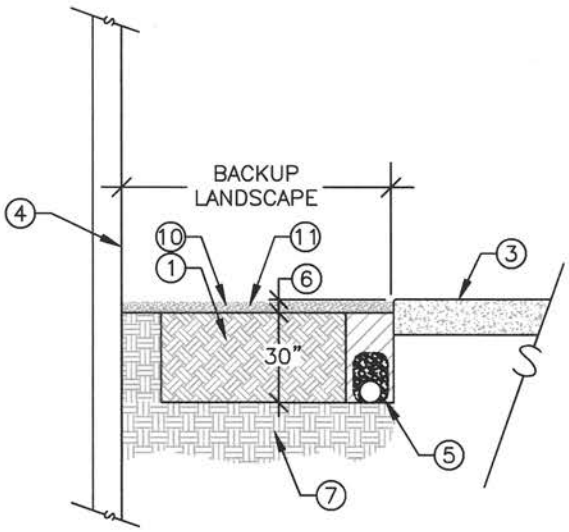
SOIL REPLACEMENT DETAIL FOR POOR SOIL QUALITY

NO. LS-15



SECTION VIEW
TITLE



SECTION VIEW
TITLE

1. RIP PLANTER SOIL IN PLACE TO DECOMPACT. 30" MINIMUM DEPTH. LEAVE IN PLACE. COMPACT TO 85% RELATIVE DENSITY.
2. CURB (WHERE APPLICABLE)
3. HARDSCAPE (WHERE APPLICABLE)
4. FENCE OR SOUNDWALL (WHERE APPLICABLE)
5. DRAINAGE AND/ OR LANDSCAPE UTILITIES. SEE PLANS FOR ADDITIONAL INFORMATION.
6. FINISH GRADE. HOLD DOWN: 1/2" IN SEED, 1" IN SOD, 3-1/2" IN MULCH OR DECOMPOSED GRANITE.
7. ROUGHLY SCARIFY THE SUBGRADE. LEAVE IN PLACE.
8. TREE ROOT CONTROL BARRIER (WHERE APPLICABLE). "DEEP ROOT CORP." OR APPROVED EQUAL 24".
9. MAINTENANCE STRIP (WHERE APPLICABLE).
10. TOP DRESSING. SEE PLANS AND SPECIFICATIONS.
11. PLANT TREES MIN OF 5' FROM WALL, FENCE OR SOUND WALL. PLACEMENT MUST BE APPROVED BY CITY INSPECTOR OR REPRESENTATIVE.

NOTES:

1. FIRM EXACT LOCATIONS OF ALL UTILITIES PRIOR TO THE START OF WORK.
2. CONTRACTOR IS RESPONSIBLE FOR OBTAINING A SOILS ANALYSIS OF SITE SOIL FROM AN ANALYTICAL LABORATORY AND SHALL AMEND THE SOIL PER THE LABORATORY RECOMMENDATIONS. SOIL SAMPLING SHALL BE CONDUCTED IN ACCORDANCE WITH LABORATORY PROTOCOL, INCLUDING PROTOCOLS REGARDING ADEQUATE SAMPLING DEPTH FOR THE INTENDED PLANTS. THE SOIL ANALYSIS SHALL INCLUDE:
   - A. SOIL TEXTURE
   - B. INFILTRATION RATE DETERMINED BY LABORATORY TEST OR SOIL TEXTURE INFILTRATION RATE TABLE
   - C. PH
   - D. TOTAL SOLUBLE SALTS
   - E. SODIUM
   - F. ORGANIC MATTER
   - G. WATER PENETRATION OF SOIL DUE TO CHEMICAL CHARACTERISTICS
   - H. SOIL MACRONUTRIENTS
   - I. SOIL MICRONUTRIENTS
   - J. RECOMMENDATIONS FOR LANDSCAPES STATED IN RATES OF COMMONLY AVAILABLE AMENDMENTS (CUBIC YARDS OR WEIGHT PER 1,000 SF)
   - K. TEST LPT 4 FROM SUNLAND ANALYTICAL LAB OR EQUAL
3. REMOVE ALL DEBRIS, CONCRETE POUR-OVER, ASPHALT, ROAD BASE, AND ROCKS OVER 2" IN DIAMETER. REMOVE ANY SOIL CONTAMINATED BY BUILDING CONSTRUCTION DEBRIS SUCH AS PAINT, CONCRETE, STUCCO, ETC. AND DISPOSE OF OFF-SITE.
4. COMPACT TO 85% RELATIVE DENSITY AND ALLOW FOR SETTLING.

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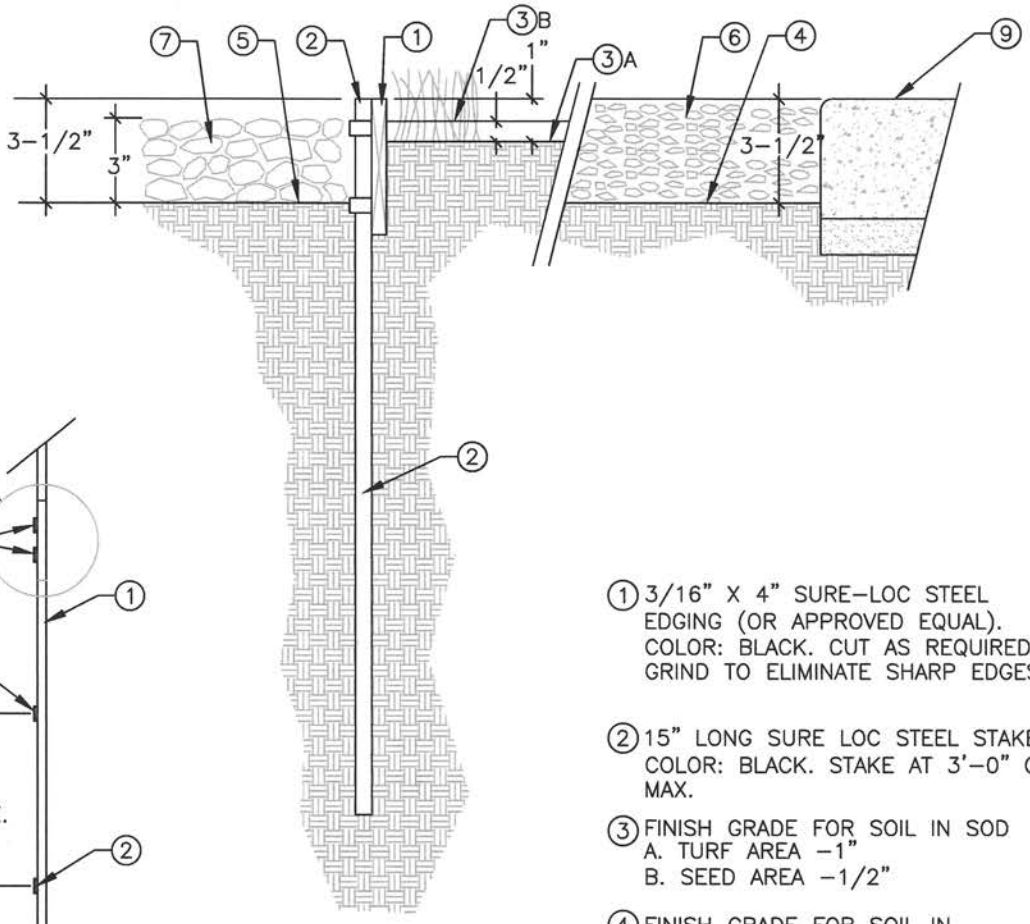
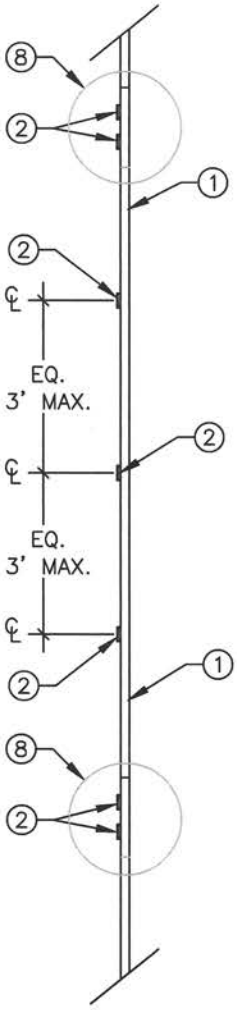
SOIL DECOMPACTION DETAIL

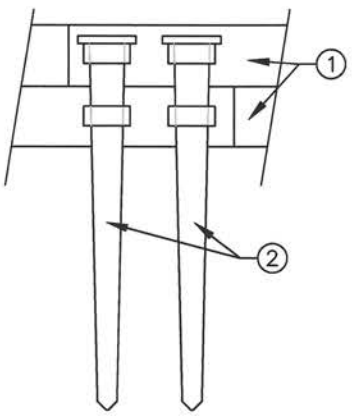
NO. LS-16



SECTION VIEW



PLAN VIEW



SPLICE
PROFILE VIEW

(1) 3/16" X 4" SURE-LOC STEEL EDGING (OR APPROVED EQUAL). COLOR: BLACK. CUT AS REQUIRED. GRIND TO ELIMINATE SHARP EDGES.

(2) 15" LONG SURE LOC STEEL STAKES. COLOR: BLACK. STAKE AT 3'-0" O.C. MAX.

(3) FINISH GRADE FOR SOIL IN SOD
A. TURF AREA -1"
B. SEED AREA -1/2"

(4) FINISH GRADE FOR SOIL IN HARDSCAPE AREA -3-1/2".

(5) FINISH GRADE FOR SOIL IN SHRUB OR GROUNDCOVER AREA -3-1/2".

(6) DECOMPOSED GRANITE, ROCK DUST OR PAVING IN HARDSCAPE AREA.

(7) TOP DRESSING MULCH PER SPECIFCIATIONS.

(8) SPLICE.

(9) HARDSCAPE

NOTE: CONFIRM EXACT LOCATION OF ALL UTILITIES PRIOR TO INSTALLATION.

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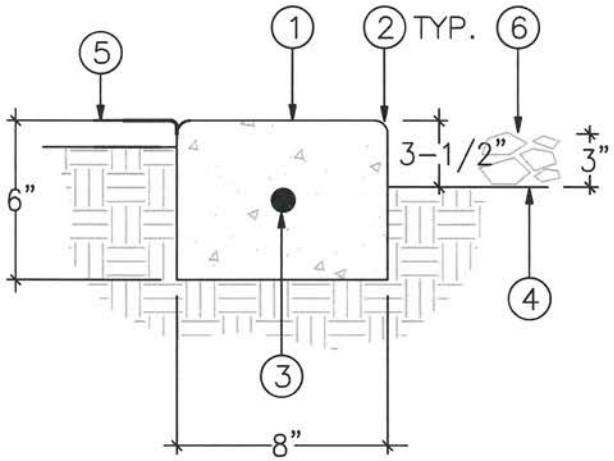
STEEL HEADER DETAIL

NO. LS-17



SECTION VIEW

1. CONCRETE MOW STRIP, LIGHT BROOM FINISH ALONG LENGTH OF CURB.
2. 1/4" RADIUS TOOLED EDGE.
3. (1) #4 REBAR, CONTINUOUS.
4. FINISH GRADE IN SHRUB AND GROUNDCOVER.
5. ADJACENT FINISH SURFACE. VARIES. SEE NOTE B THIS SHEET.
6. TOP DRESSING PER SPECIFICATIONS.

NOTES:

A. PROVIDE 1/2" EXPANSION JOINT AT CHANGE IN DIRECTION OR 20' O.C. MAX..

B. TOP OF MOW CURB SHALL CONFORM TO FINISH HARDSCAPE GRADE AT ALL LOCATIONS WHERE MOWCURB ABUTS HARDSCAPE.

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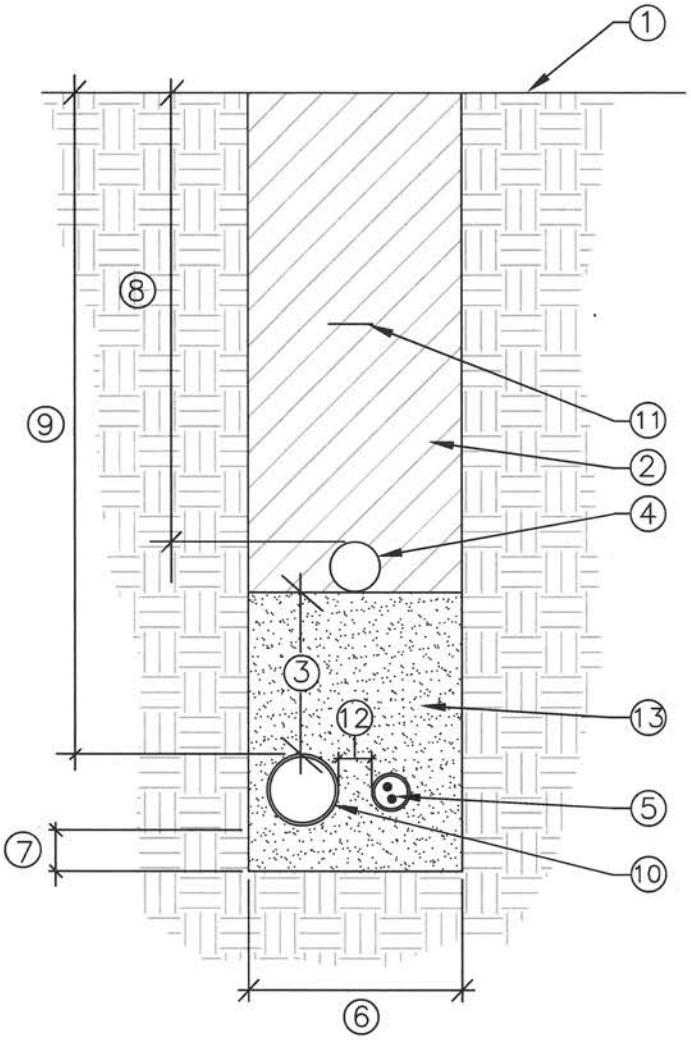
CONCRETE MOW CURB DETAIL

NO. LS-18



SECTION VIEW

1. FINISH GRADE.
2. TRENCH BACKFILL PER SPECIFICATIONS.
3. SIX INCHES SAND FILL COVER, ABOVE MAINLINE.
4. PVC SCHEDULE 40 LATERAL LINE.
5. CONTROL WIRES OR DECODER CABLE IN GRAY SCHEDULE 40 PVC CONDUIT. SIZE PER PLAN, 2" DIAM. MIN.
6. AS NEEDED TO PROVIDE FOR A MINIMUM 4" CLEARANCE BETWEEN PIPES. PIPES & CONDUITS SHALL NOT RUN THROUGH OR BENEATH PLANTING HOLE.
7. 2" MIN. SAND BEDDING BELOW PIPING.
8. LATERAL –12" MIN. COVER.
9. MAINLINE –18" MIN. COVER.
10. PVC MAINLINE.
11. 3" DETECTABLE TAPE. CHRISTY MODEL TA–DT–03–B–IRR OR EQUAL. PLACE PER MANUFACTURE SPECIFICATIONS.
12. 4" MIN. SEPARATION.
13. SAND BACKFILL PER SPECIFICATIONS.

NOTES:

1. SIDES OF TRENCH WILL BE DUG SQUARE AND CLEAN OF ALL SHARP MATERIAL.
2. ALLOW FOR SETTLING.
3. MAINLINE TO BE INSPECTED BY CITY'S REPRESENTATIVE PRIOR TO BACKFILL. SEE INSPECTION SCHEDULE.

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CITY OF CHICO **STANDARD PLAN**

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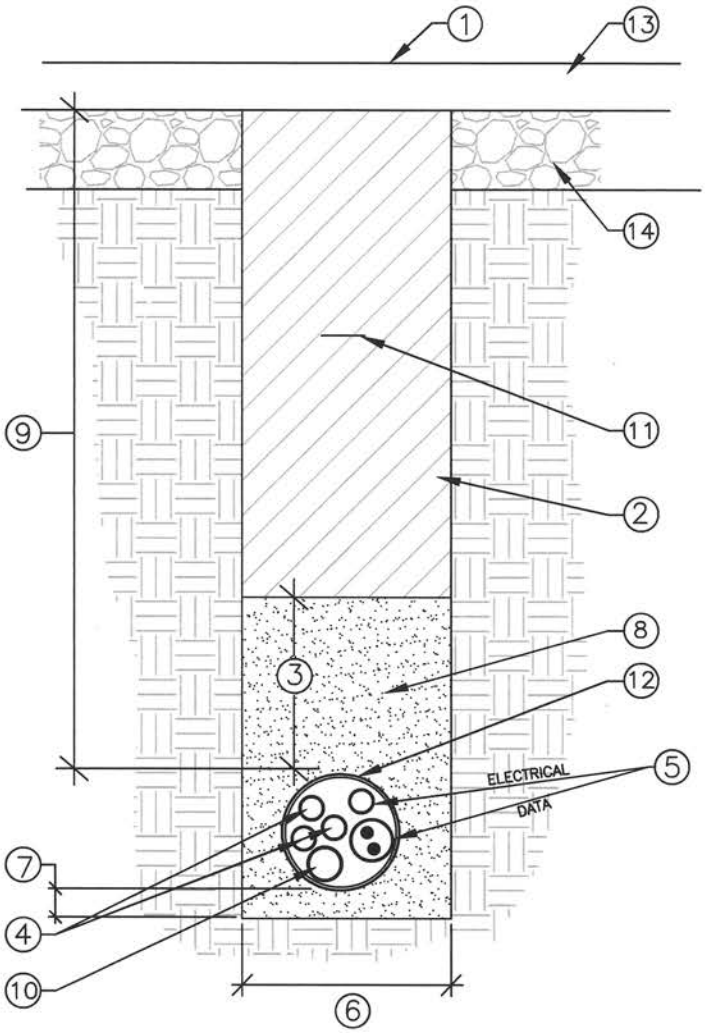
STANDARD TRENCHING DETAIL

NO. LS-19



SECTION VIEW

NOTES:

1. SIDES OF TRENCH WILL BE DUG SQUARE AND CLEAN OF ALL SHARP MATERIAL.
2. ALLOW FOR SETTLING.
3. SEE TRANSITION TO SLEEVING BENEATH PAVING DETAIL FOR ADDITIONAL INFORMATION.

① FINISH SURFACE OF PAVING.

② TRENCH BACKFILL PER SPECIFICATIONS.

③ SIX INCHES SAND FILL COVER, ABOVE MAINLINE.

④ PVC SCHEDULE 40 LATERAL LINE.

⑤ CONTROL WIRES OR DECODER CABLE IN GRAY SCHEDULE 40 PVC CONDUIT. SIZE PER PLAN, 2" DIAM. MIN. PLACE ELECTRICAL, VALVE & DATA IN SEPARATE CONDUIT.

⑥ 6" OR AS NEEDED TO PROVIDE FOR A MINIMUM 4" CLEARANCE BETWEEN PIPES.

⑦ 2" MINIMUM SAND BEDDING BELOW PIPE.

⑧ SAND BACKFILL PER SPECIFICATIONS.

⑨ 18" MINIMUM COVER BENEATH NON VEHICULAR PAVING.

⑩ PVC MAINLINE.

⑪ 3" DETECTABLE TAPE. CHRISTY MODEL TA-DT-03-B-IRR OR EQUAL. PLACE PER MANUFACTURES SPECIFICATIONS.

⑫ IRRIGATION SLEEVE (S) PER IRRIGATION PLAN. SIZE PER PLAN, 4" MINIMUM.

⑬ PEDESTRIAN PAVING PER CITY STANDARDS.

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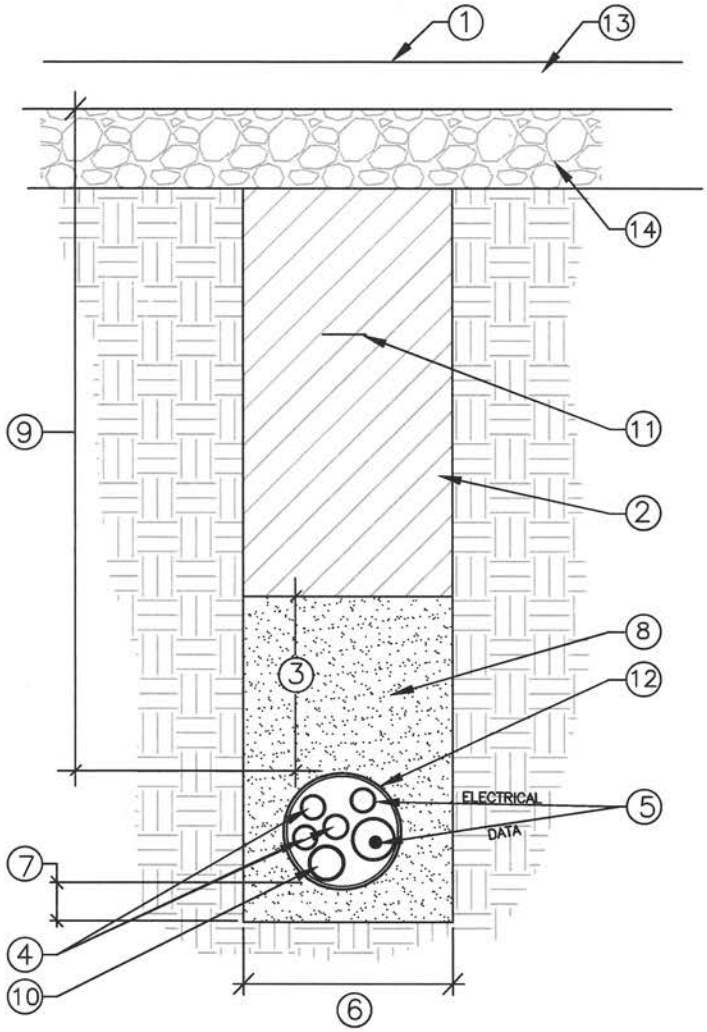
TRENCHING DETAIL BENEATH PAVING (NON-VEHICULAR)

NO. LS-20



SECTION VIEW

NOTES:

1. SIDES OF TRENCH WILL BE DUG SQUARE AND CLEAN OF ALL SHARP MATERIAL.
2. ALLOW FOR SETTLING.
3. SEE TRANSITION TO SLEEVING BENEATH PAVING DETAIL FOR ADDITIONAL INFORMATION.

(1) FINISH SURFACE.

(2) TRENCH BACKFILL PER SPECIFICATIONS.

(3) SIX INCHES SAND FILL COVER, ABOVE MAINLINE.

(4) PVC SCHEDULE 40 LATERAL LINE.

(5) CONTROL WIRES OR DECODER CABLE IN GRAY SCHEDULE 40 PVC CONDUIT. SIZE PER PLAN, 2" DIAM. MIN. SEPARATE ELECTRICAL AND DATA LINES IN SEPARATE CONDUIT.

(6) 6" OR AS NEEDED TO PROVIDE FOR A MINIMUM 4" CLEARANCE BETWEEN PIPES.

(7) 2" MINIMUM SAND BEDDING BELOW PIPE.

(8) SAND BACKFILL PER SPECIFICATIONS.

(9) 24" MINIMUM COVER BENEATH VEHICULAR PAVING.

(10) PVC MAINLINE.

(11) 3" DETECTABLE TAPE. CHRISTY MODEL TA-DT-03-B-IRR OR EQUAL. PLACE PER MANUFACTURE SPECIFICATIONS.

(12) IRRIGATION SLEEVES PER IRRIGATION PLAN. SIZE PER PLAN, 4" MINIMUM.

(13) VEHICULAR PAVING PER CITY STANDARDS.

(14) PAVING SUBGRADE PER CITY STANDARDS.

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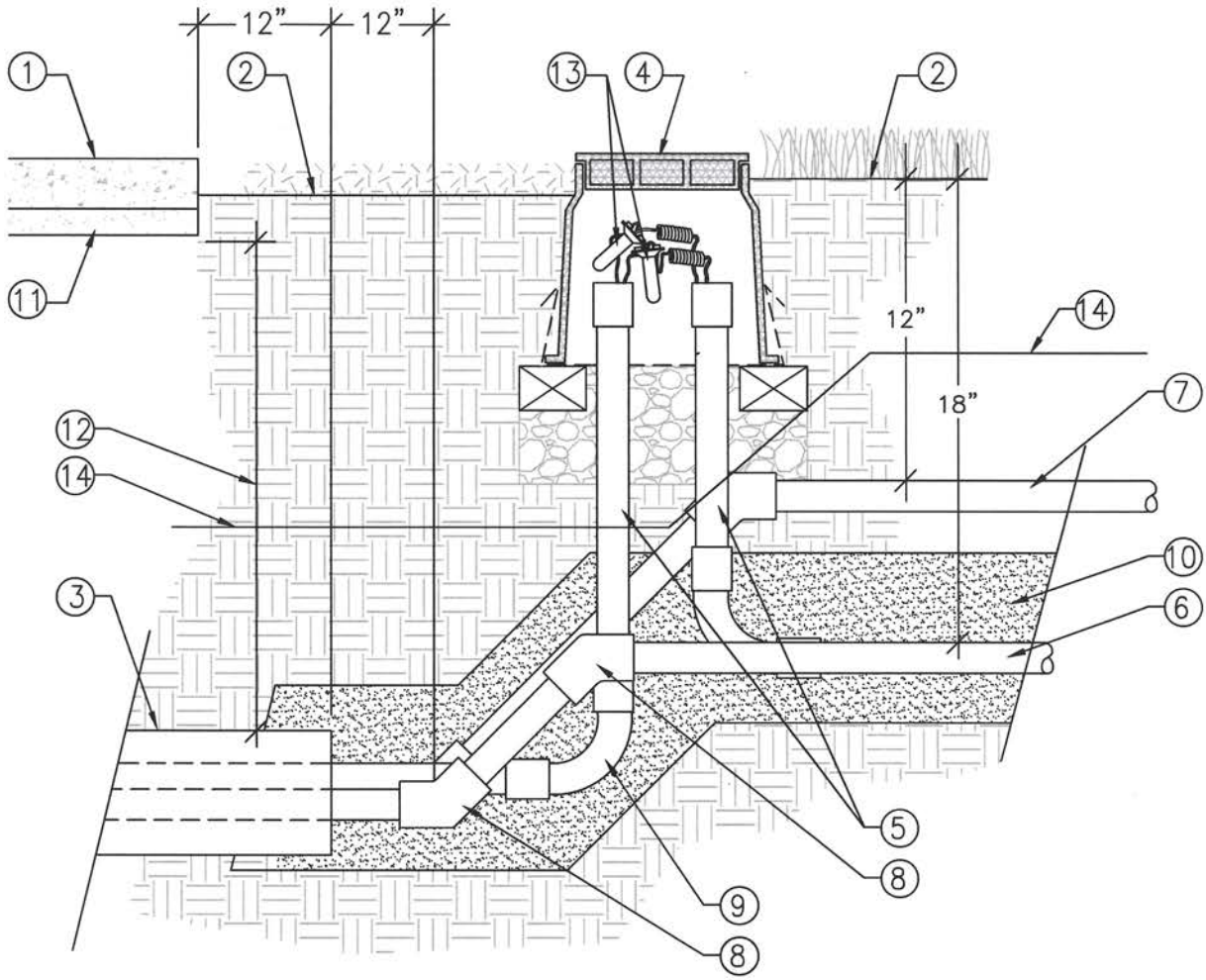
TRENCHING DETAIL BENEATH PAVING (VEHICULAR)

NO. LS-21

SHEET 1 OF 2



SECTION VIEW– TRANSITION TO SLEEVING BENEATH PAVING

1. HARDSCAPE FINISH SURFACE.
2. LANDSCAPE FINISH GRADE. SEE SPECIFICATIONS.
3. PVC IRRIGATION SLEEVE. SIZE PER PLAN. EXTEND 1' (ONE FOOT) BEYOND EXTENT OF HARDSCAPE.
4. PULL BOX. SEE DETAIL LS–52 OR LS–53.
5. PVC CONDUIT PER PLAN.
6. PVC MAINLINE PER PLAN.
7. PVC LATERAL LINE PER PLAN.
8. 45° PVC FITTING. PLACE MINIMUM 1' OUTSIDE OF SLEEVE.
9. PVC CONDUIT SWEEP (90°). PLACE MINIMUM 1' OUTSIDE OF SLEEVE.
10. SAND FILLED AND PIPE BEDDING.
11. PAVEMENT SUBGRADE PER CITY SPECIFICATIONS.
12. 24" MINIMUM COVER BENEATH VEHICULAR PAVING. 18" MINIMUM COVER BENEATH NON–VEHICULAR PAVING.
13. LOCKING WATERPROOF WIRE CONNECTOR, MODEL DBY–6 OR APPROVED EQUAL.
14. 3" DETECTABLE TAPE. CHRISTY MODEL TA–DT–03–B–IRR OR EQUAL. PLACE PER MANUFACTURE SPECIFICATIONS.
15. MINIMUM DISTANCE FROM END OF SLEEVE TO END OF FITTING.

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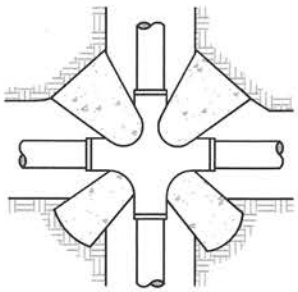
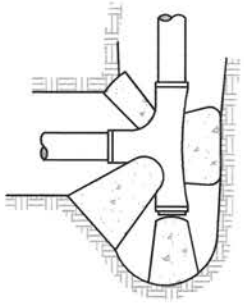
TRENCHING DETAIL BENEATH PAVING (VEHICULAR)

NO. LS-21

SHEET 2 OF 2



PLAN



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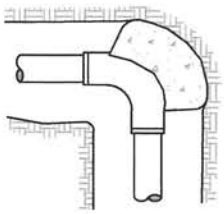

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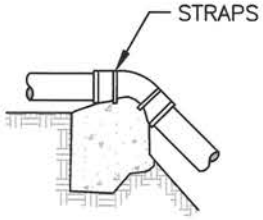
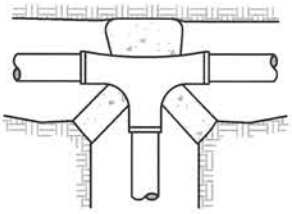


PROFILE



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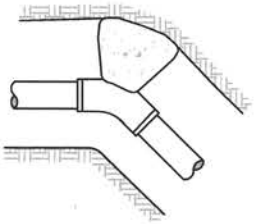

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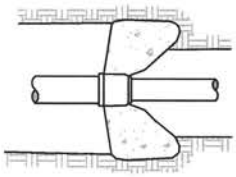

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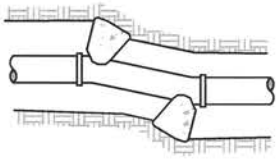

PLAN

1. ALL MAINLINE TO BE INSTALLED AND TESTED ACCORDING TO PIPE MANUFACTURER'S SPECS, WHICH SHALL BE A PART OF THE INSTALLATION SPECS.
2. ALL TRENCH DEPTHS AND WIDTHS SHALL BE AS SHOWN ON THE IRRIGATION PLANS.
3. FINAL LOCATION OF THRUST BLOCKS SHALL BE DETERMINED BY THE PROJECT DESIGNER.
4. SIZE OF BEARING SURFACE PER SPECIFICATIONS.
5. BLOCKS SHALL BE POURED AGAINST UNDISTURBED SOIL.
6. INSTALL THRUST BLOCK AS SHOWN ABOVE ON ALL RING–TITE PIPE AND SOLVENT WELD PIPE 3" OR LARGER.
7. INSTALL THRUST BLOCKS ON SOLVENT WELD PIPE LESS THAN 3" MAINLINES ONLY WHEN MAINLINE PRESSURE IS GREATER THEN 75 PSI.

REVISION	BY	DATE	APP. BY COUNCIL

CITY OF CHICO **STANDARD PLAN**

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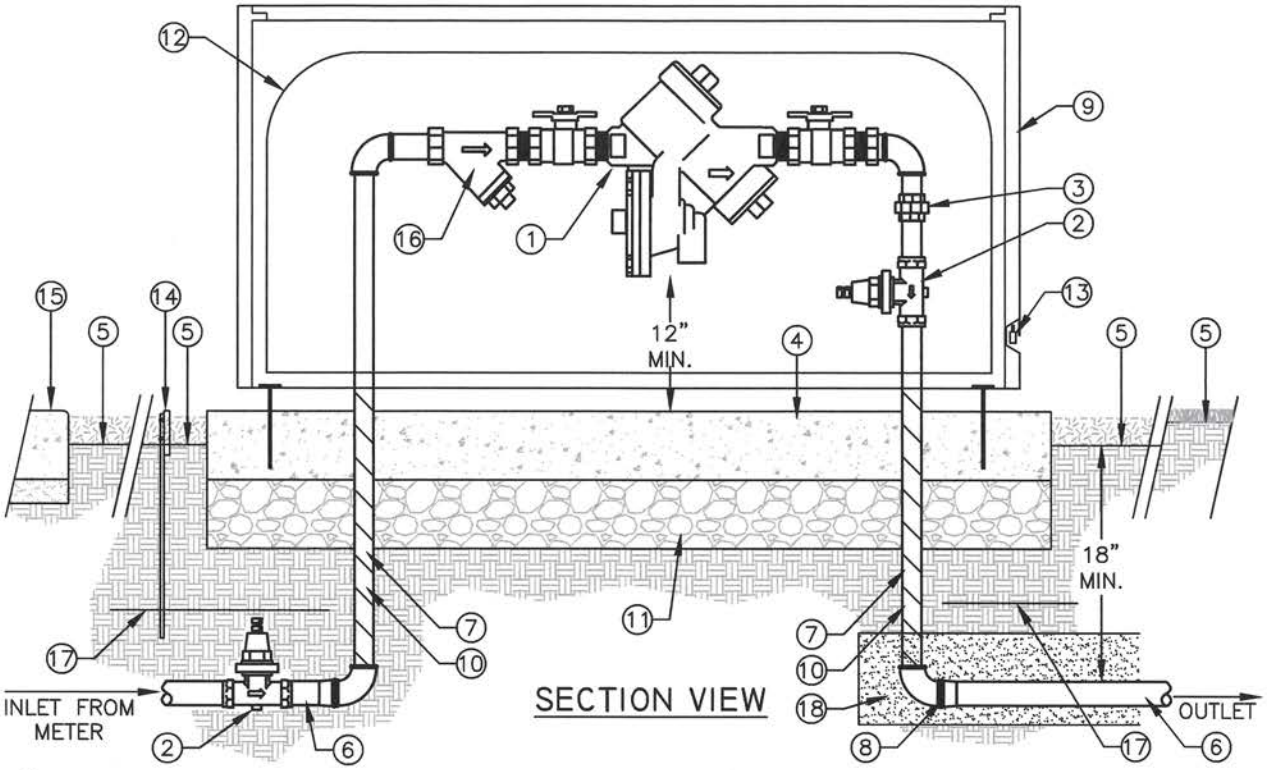
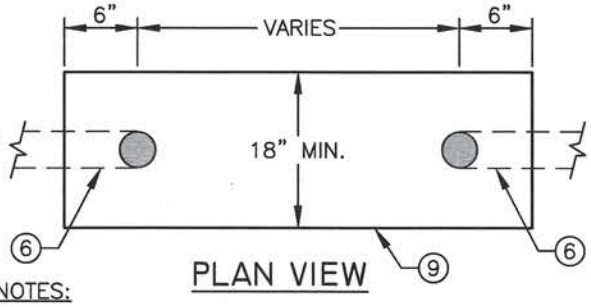
TYPICAL THRUST BLOCK DETAILS FOR RING-TITE AND SOLVENT WELD PIPE

NO. LS-22



SECTION VIEW

1. REDUCED PRESSURE BACKFLOW PREVENTER. SEE PLANS FOR MAKE, MODEL, AND SIZE. LEAD FREE.
2. PRESSURE REGULATOR–LINE SIZE (ONLY APPLICABLE IF SPECIFIED ON IRRIGATION PLAN). LOCATION TO BE DETERMINED BY CITY. INSTALL IN CARSON 910 VALVE BOX OR ALTERNATE.
3. UNION. LINE SIZE.
4. 4" CONCRETE PAD– MEDIUM BROOM FINISH. FINISH SURFACE OF CONCRETE PAD SHALL BE FLUSH WITH ADJACENT HARDSCAPE OR HEADER. EXTEND 4" BEYOND OUTSIDE DIMENSION OF ENCLOSURE. 18" MINIMUM WIDTH.
5. FINISH GRADE. HOLD DOWN 3–1/2" IN GROUNDCOVER OR DECOMPOSED GRANITE, 1" IN SOD, 1/2" IN SEED.
6. PVC MAINLINE. SEE PLANS FOR SIZE AND TYPE. SEE DETAILS LS–19, LS–20, & LS–21. 1" ABOVE CONCRETE.
7. WRAP ALL BURIED GALVANIZED PIPE WITH 20 ML CORROSION PROTECTIVE TAPE. EXTEND WRAP MINIMUM OF 1" ABOVE CONCRETE.
8. PVC SCHEDULE 40 ADAPTER/BUSHING (MIPT x SLIP).
9. STAINLESS STEEL OR ALUMINUM ENCLOSURE, STRONG BOX SBBC AL SERIES OR APPROVED EQUAL. SEE PLANS FOR SIZE AND MODEL. POSITION TO CLEAR DEVICE WITH BLANKET INSTALLED.
10. SCH. 40 GALVANIZED PIPE AND FITTINGS.
11. 4" MIN. LAYER COMPACTED CLASS II AGGREGATE BASE.
12. INSULATED BLANKET– FROSTGUARD OR APPROVED EQUAL. SIZE AS REQUIRED
13. OBTAIN AND INSTALL CITY OF CHICO KEYED LOCK.
14. STEEL HEADER (WHERE APPLICABLE).
15. HARDSCAPE FINISH SURFACE (WHERE APPLICABLE).
16. LEAD FREE STRAINER (ONLY APPLICABLE IF SPECIFIED ON IRRIGATION PLAN).
17. 3" DETECTABLE TAPE. CHRISTY MODEL A–DT–03–B–IRR OR EQUAL. SEE DETAILS LS–19, LS–20, & LS–21.
18. SAND FILLED IRRIGATION MAINLINE TRENCH. SEE DETAILS LS–19, LS–20, & LS–21.



PLAN VIEW

NOTES:

1. CONTRACTOR IS RESPONSIBLE TO HAVE BACKFLOW PREVENTER CERTIFIED PRIOR TO ACCEPTANCE OF PROJECT BY CITY.
2. CONTRACTOR SHALL PERFORM A HYDROSTATIC PRESSURE TEST IN ACCORDANCE WITH SPECIFICATIONS.

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CITY OF CHICO **STANDARD PLAN**

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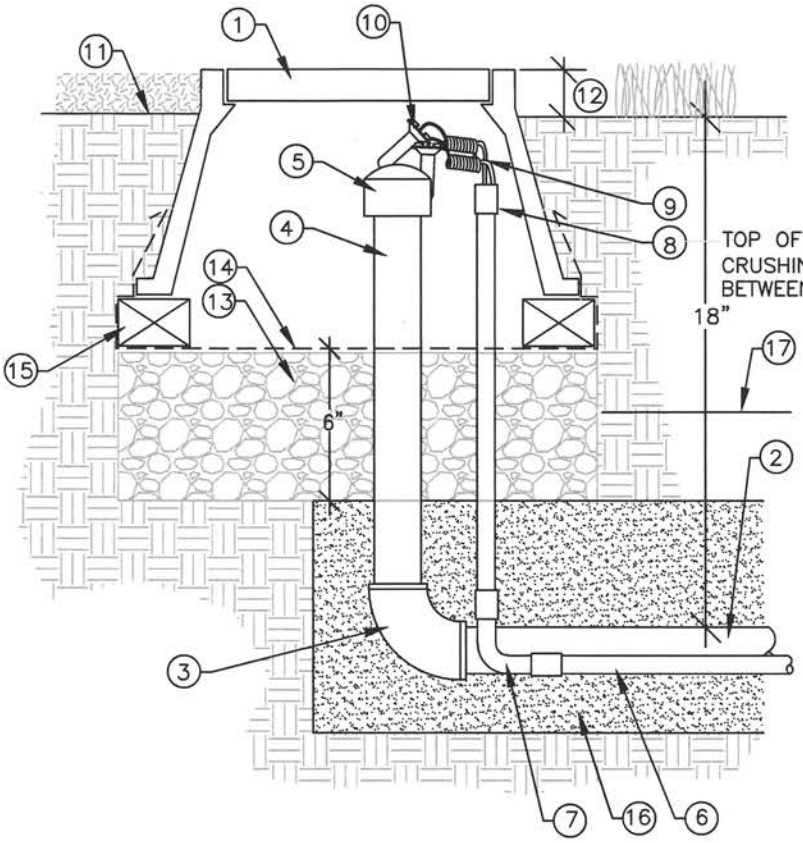
REDUCED PRESSURE BACKFLOW PREVENTER DETAIL

NO. LS-23



TOP OF CONDUIT CLOSE TO LID WITHOUT CRUSHING WIRES. PROVIDE 4" CLEAR SPACE BETWEEN BOTTOM OF LID AND TOP OF CONDUIT

18"

NOTES:

1. ALL SLIP FITTINGS TO BE PRIMED AND GLUED.
2. INSTALL MINIMUM OF 12" FROM STRUCTURES OR HARDSCAPE.
3. INSTALL IN PLANTER BEDS WHERE POSSIBLE.
4. PLACE VALVE BOX AT RIGHT ANGLES TO STRUCTURES OR HARDSCAPE.
5. PLACE CANISTERS AND VALVE BOXES A MINIMUM OF 10' AWAY FROM TREES, 3' FROM SHRUBS, WALLS AND FENCES WHEN AVAILABLE SPACE EXISTS and SPLIT DISTANCE BETWEEN TREES and FURTHER FROM SHRUBS, WALLS AND FENCES.

SECTION VIEW

(1) ROUND PLASTIC VALVE BOX WITH BOLT DOWN LOC-KIT, CARSON MODEL 910 OR APPROVED EQUAL. SEE NOTES.

(2) PVC MAINLINE, 18" MINIMUM COVER. SEE SPECIFICATIONS. SEE DETAILS LS-19, LS-20, & LS-21.

(3) SCHEDULE 40 PVC ELBOW, SxS. SEE NOTE 1.

(4) PVC MAINLINE STUB-UP.

(5) SCHEDULE 40 PVC CAP, SLIP. SEE NOTE 1.

(6) PVC SCHEDULE 40 CONDUIT, SIZE PER PLAN.

(7) PVC SCHEDULE 40 CONDUIT SWEEP; COUPLED BOTH ENDS.

(8) PVC CONDUIT COUPLER; SOLVENT WELD TO CONDUIT PIPE ENDS. PROVIDE 4" CLEAR SPACE BETWEEN BOTTOM OF LID AND TOP OF CONDUIT.

(9) CONTROL AND COMMON WIRES, PROVIDE MIN. 30" COILED EXTRA. SEE SPECIFICATIONS.

(10) WATERPROOF WIRE CONNECTOR; DBY-6 OR APPROVED EQUAL. TYPICAL AT ALL WIRE ENDS.

(11) FINISH GRADE.

(12) SET TOP OF VALVE BOX ABOVE FINISH GRADE: 1/2" IN SEED, 1" IN SOD, 3-1/2" IN PLANTER OR DECOMPOSED GRANITE.

(13) 3/4" CRUSHED ROCK, 6" DEPTH MINIMUM.

(14) 1/4" GALVANIZED WIRE CLOTH. TAPE TO EXTERIOR OF BOX.

(15) 3 COMMON BRICKS FOR SUPPORT.

(16) SAND BACKFILL AT MAINLINE- 6" ABOVE AND 2" BELOW, MINIMUM. SEE DETAILS LS-19, LS-20, & LS-21.

(17) 3" DETECTABLE TAPE. CHRISTY MODEL TA-DT-03-B-IRR OR EQUAL. SEE DETAILS LS-19, LS-20, & LS-21. PLACE PER MANUFACTURES SPECIFICATIONS.

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CITY OF CHICO **STANDARD PLAN**

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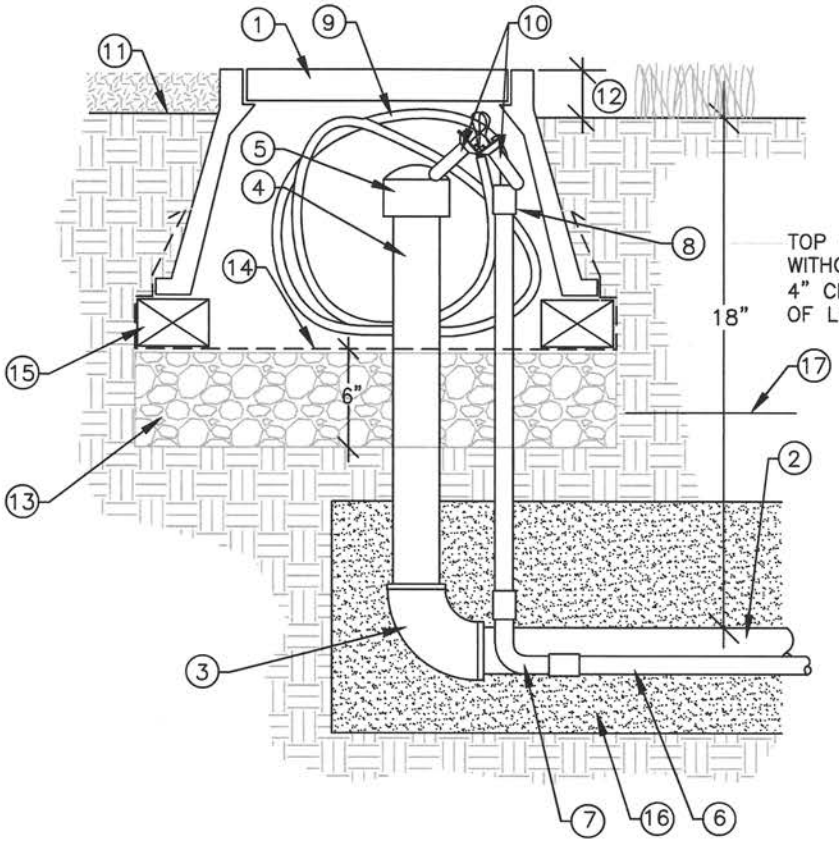
STUB OUT DETAIL (CONVENTIONALLY WIRED)

NO. LS-24



SECTION VIEW

TOP OF CONDUIT CLOSE TO LID WITHOUT CRUSHING WIRES. PROVIDE 4" CLEAR SPACE BETWEEN BOTTOM OF LID AND TOP OF CONDUIT

NOTES:

1. ALL SLIP FITTINGS TO BE PRIMED AND GLUED.
2. INSTALL MINIMUM OF 12" FROM STRUCTURES OR HARDSCAPE.
3. INSTALL IN PLANTER BEDS WHERE POSSIBLE.
4. PLACE VALVE BOX AT RIGHT ANGLES TO STRUCTURES OR HARDSCAPE.
5. PLACE CANISTERS AND VALVE BOXES A MINIMUM OF 10' AWAY FROM TREES, 3' FROM SHRUBS, WALLS AND FENCES WHEN WHEN AVAILABLE SPACE EXISTS, AND PLACE SPLIT DISTANCE BETWEEN TREES FURTHER FROM SHRUBS, WALLS AND FENCES.

(1) ROUND PLASTIC VALVE BOX WITH BOLT DOWN LOC-KIT, CARSON MODEL 910 OR APPROVED EQUAL. SEE NOTE 1.

(2) PVC MAINLINE, 18" MINIMUM COVER. SEE SPECIFICATIONS. SEE DETAILS LS-19, LS-20, & LS-21.

(3) SCHEDULE 40 PVC ELBOW, SxS. SEE NOTE 1.

(4) PVC MAINLINE STUB-UP.

(5) SCHEDULE 40 PVC CAP, SLIP. SEE NOTE 1.

(6) PVC SCHEDULE 40 CONDUIT, SIZE PER PLAN.

(7) PVC SCHEDULE 40 CONDUIT SWEEP; COUPLED BOTH ENDS.

(8) PVC CONDUIT COUPLER; SOLVENT WELD TO CONDUIT PIPE ENDS. PROVIDE 4" CLEAR SPACE BETWEEN BOTTOM OF LID AND TOP OF CONDUIT.

(9) DECODER CABLE, PROVIDE MIN. 30" COILED EXTRA. SEE SPECIFICATIONS.

(10) WATERPROOF WIRE CONNECTOR; DBY-6 OR APPROVED EQUAL.

(11) FINISH GRADE.

(12) SET TOP OF VALVE BOX ABOVE FINISH GRADE: 1/2" IN SEED, 1-1/2" IN SOD, 3-1/2" IN PLANTER OR DECOMPOSED GRANITE.

(13) 3/4" CRUSHED ROCK, 6" DEPTH MINIMUM.

(14) 1/4" GALVANIZED WIRE CLOTH. TAPED TO OUTSIDE OF BOX.

(15) 3 COMMON BRICKS FOR SUPPORT.

(16) SAND BACKFILL AT MAINLINE- 6" ABOVE AND 2" BELOW, MINIMUM. SEE DETAILS LS-19, LS-20, & LS-21.

(17) 3" DETECTABLE TAPE. CHRISTY MODEL TA-DT-03-B-IRR OR EQUAL. SEE DETAILS LS-19, LS-20, & LS-21. PLACE PER MANUFACTURE SPECIFICATIONS.

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CITY OF CHICO — **STANDARD PLAN**

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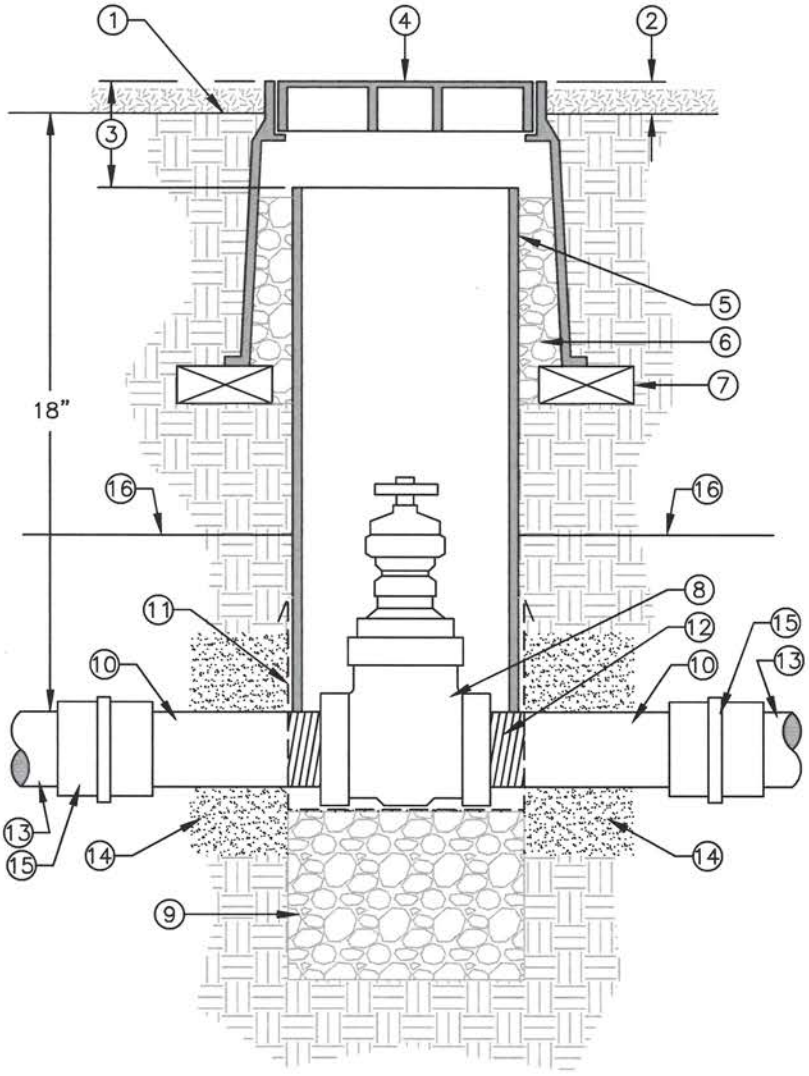
STUB OUT DETAIL (2 WIRE)

NO. LS-25



SECTION VIEW

1. FINISH GRADE.
2. SET TOP OF BOX ABOVE FINISH GRADE: 1/2" IN SEED, 1" IN SOD, 3-1/2" IN PLANTER OR DECOMPOSED GRANITE OR CRUSHED ROCK. LEVEL WITH ADJACENT HARDSCAPE.
3. ALLOW 4" BETWEEN TOP OF VALVE BOX AND PVC PIPE.
4. CARSON 910 OR EQUAL 10" DIAMETER PLASTIC VALVE BOX WITH BOLT DOWN LOCKING LID. COLOR MATCHING.
5. 8" DIAMETER VERTICAL EXTENSION SCH 40 PVC PIPE. LENGTH AS REQUIRED. NOTCH TO ACCEPT MAINLINE
6. PEA GRAVEL AS REQUIRED BETWEEN VALVE BOX AND VERTICAL PIPE.
7. (3) COMMON BRICKS FOR SUPPORT.
8. NIBCO T-113-K-LF LEAD FREE THREADED GATE VALVE WITH BRONZE CROSSHANDLE AND NON-RISING STEM (OR APPROVED EQUAL). LINE SIZE, MODEL PER PLANS. PROVIDE VALVE KEY TO THE CITY.
9. $\frac{3}{4}$" DRAIN ROCK; 6" DEPTH.
10. SCH. 80 NIPPLE, T.O.E. 6" MIN. LENGTH.
11. 1/4" GALVANIZED WIRE CLOTH. TAPE TO EXTERIOR OF PIPE.
12. USE MIN. 5 WRAPS OF TEFLON TAPE AT EACH THREADED CONNECTION.
13. IRRIGATION MAINLINE. SEE DETAILS LS-19, LS-20, & LS-21.
14. SAND FILLED IRRIGATION MAINLINE TRENCH. SEE DETAILS LS-19, LS-20, & LS-21.
15. COUPLING. SXS. UNION FOTTING MAY BE AUTHORIZED BY CITY.
16. 3" DETECTABLE TAPE. CHRISTY MODEL TA-DT-03-B-IRR OR EQUAL. SEE DETAILS LS-19, LS-20, & LS-21. PLACE PER MANUFACTURES SPECIFICATIONS.

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CITY OF CHICO **STANDARD PLAN**

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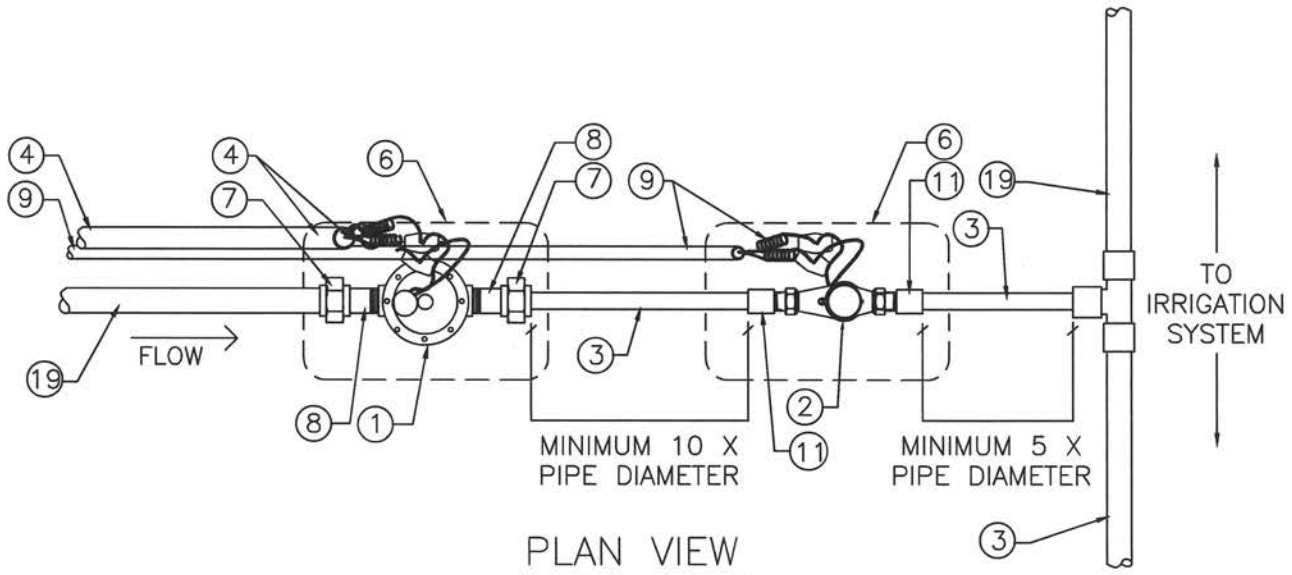
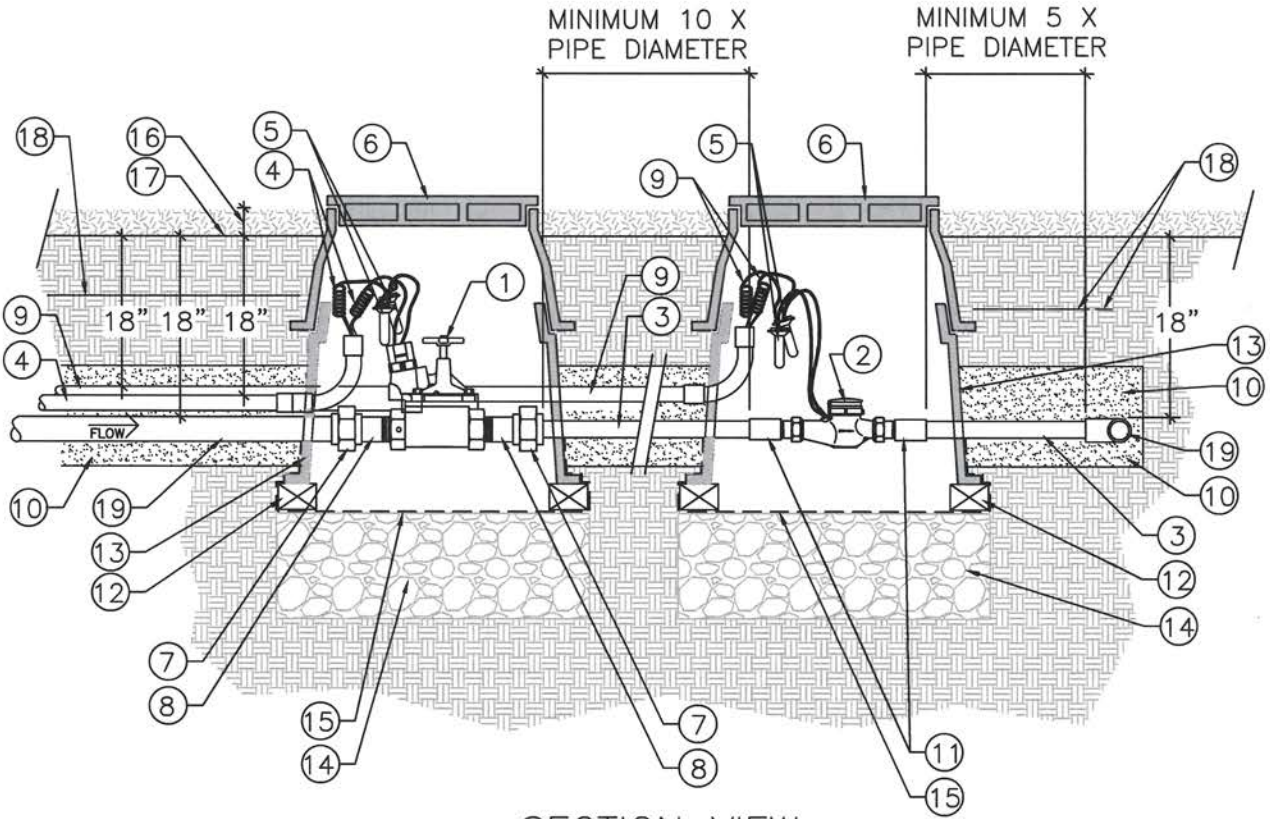
GATE VALVE DETAIL

NO. LS-26



PLAN VIEW



SECTION VIEW

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CITY OF CHICO **STANDARD PLAN**

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FLOW SENSOR/ MASTER VALVE ASSEMBLY DETAIL

NO. LS-27

SHEET 1 OF 2

(1) MASTER VALVE, NORMALLY CLOSED. INSTALL DOWNSTREAM OF BACKFLOW PREVENTER. MANUFACTURER AND MODEL PER PLANS.

(2) FLOW SENSOR. MANUFACTURER AND MODEL PER PLANS.

(3) PVC FLOW SENSING MANIFOLD. DIAMETERS AS PER FLOW SENSOR MANUFACTURER SPECIFICATIONS.

(4) CONTROL/ COMMON WIRE (OR DECODER CABLE) IN A 2" MIN. DIAM GRAY PVC CONDUIT FOR MASTER VALVE. CONTROL WIRES (OR DECODER CABLE)MUST BE RUN IN A SEPARATE CONDUIT FROM FLOW SENSOR WIRES FROM MASTER VALVE TO CONTROLLER.

(5) WATERPROOF CONNECTIONS 3M MODEL DBY-6 OR APPROVED EQUAL.

(6) GREEN PLASTIC VALVE BOX WITH BOLT DOWN LOC-KIT; CARSON MODEL 1419 OR APPROVED EQUAL.

(7) PVC SCHEDULE 80 UNION, S X S.

(8) PVC SCHEDULE 80 NIPPLE, T.O.E.; SIZE PER VALVE SIZE, 3" MINIMUM LENGTH.

(9) TWO WIRES IN CONDUIT TO FLOW SENSOR TERMINAL AT THE IRRIGATION CONTROLLER (18 AWG MIN.). SHIELDED WIRE WITH DIFFERENT COLOR FROM CONTROL/ COMMON WIRE OR DECODER CABLE. INSTALL IN GRAY 1.5" OR 2" SCH 40 PVC CONDUIT. WIRES MUST BE RUN IN A SEPARATE CONDUIT FROM CONTROL/ COMMON WIRES OR DECODER CABLE FOR MASTER VALVE. PIGTAIL 18" MIN. EXTRA IN VALVE BOX.

(10) SANDED MAINLINE TRENCH. SEE DETAILS LS-19, LS-20, & LS-21.

(11) SCH 80 PVC FEMALE ADAPTER (S X T)

(12) (4) COMMON BRICKS FOR VALVE BOX SUPPORT

(13) VALVE BOX EXTENSION

(14) 3/4" CRUSHED DRAIN ROCK; 6" MINIMUM DEPTH

(15) 1/4" GALVANIZED WIRE CLOTH. TAPE TO BOX.

(16) 1/2" IN SEED
1" IN SOD
3-1/2" IN PLANTER AND/ OR DECOMPOSED GRANITE

(17) LANDSCAPE FINISH GRADE.

(18) 3" DETECTABLE TAPE. CHRISTY MODEL TA-DT-03-B-IRR OR EQUAL. INSTALL ABOVE ALL MAINLINE. SEE DETAILS LS-19, LS-20, & LS-21. PLACE PER MANUFACTURES SPECIFICATIONS.

(19) PVC MAINLINE. SEE PLANS AND SPECIFICATIONS. SEE DETAILS LS-19, LS-20, & LS-21.

NOTES:

1. INSTALL FLOW SENSOR AS PER MANUFACTURERES SPECIFICATIONS.

2. INSTALL FLOW SENSOR WIRES IN 1" MIN. DIAM. GRAY SCH 40 PVC CONDUIT FROM FLOW SENSOR TO CONTROLLER ENCLOSURE.

3. CONTRACTOR IS RESPONSIBLE TO CONFIGURE THE FLOW METER. CONTACT CITY OF CHICO TO OBTAIN THE REQUIRED PERMISSIONS OR FOR ASSISTANCE.

4. CONTRACTOR SHALL PROGRAM ONE STATION OF THE CONTROLLER TO ALLOW FOR THE USE OF QUICK COUPLING VALVES WITHOUT TRIGGERING A MASTER VALVE SHUTOFF.

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CITY OF CHICO **STANDARD PLAN**

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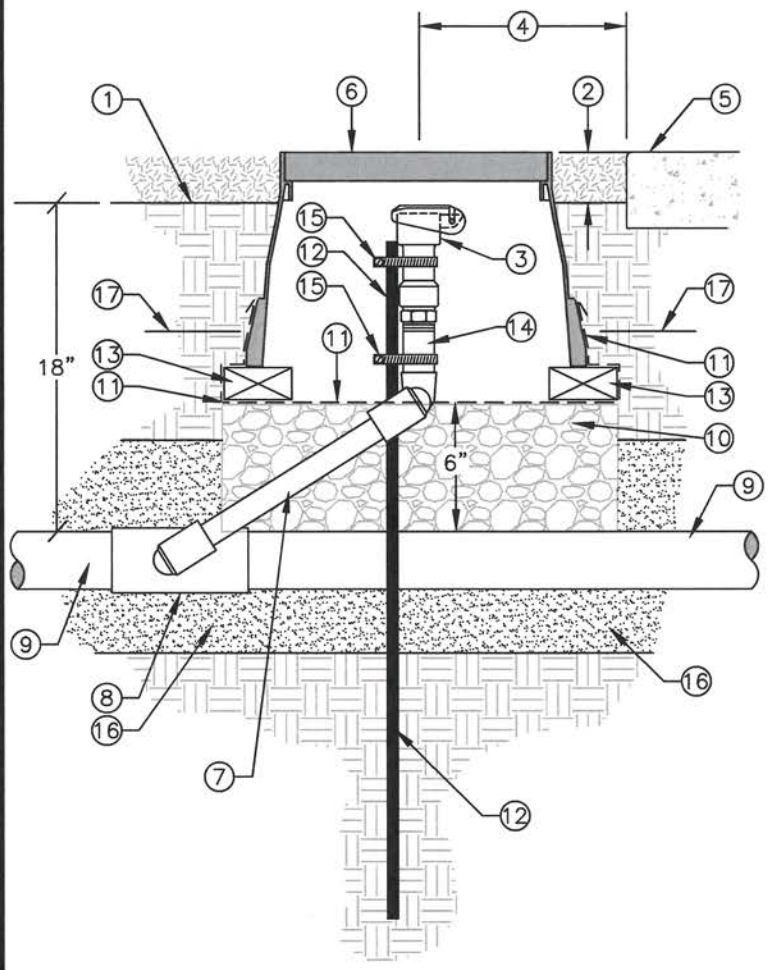
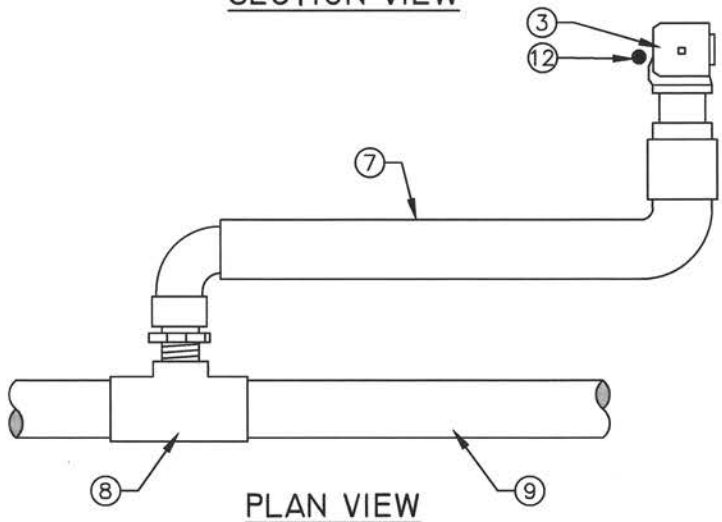
FLOW SENSOR/ MASTER VALVE ASSEMBLY NOTES

NO. LS-27

SHEET 2 OF 2



SECTION VIEW



PLAN VIEW

1. FINISH GRADE.
2. SET TOP OF BOX ABOVE FINISH GRADE: 1" IN SOD, 3-1/2" IN PLANTER OR DECOMPOSED GRANITE.
3. QUICK COUPLING VALVE WITH LOCKING RUBBER COVER, SEE PLANS FOR MAKE AND MODEL.
4. SET QUICK COUPLER 12" FROM EDGE OF PLANTING AREA.
5. CURB, HEADER OR PAVING.
6. PLASTIC VALVE BOX: CARSON 910 OR APPROVED EQUAL. INSTALL WITH LOCKING BOLT DOWN KIT.
7. LASCO STANDARD UNITIZED SWING JOINT OR APPROVED EQUAL. 1" MINIMUM SIZE, WITH SNAP-LOK STABILIZER ELBOW OUTLET. INLET IS MIPT, OUTLET IS BRASS MIPT W/SNAP LOK.
8. SCHEDULE 40 PVC TEE (SXSXT).
9. PRESSURE MAINLINE, SIZE AND TYPE PER PLAN; 18" MINIMUM COVER. SEE DETAILS LS-19, LS-20, & LS-21.
10. ¾" CRUSHED DRAIN ROCK; 6" DEPTH.
11. 1/4" GALVANIZED WIRE CLOTH PLACED ABOVE GRAVEL. TAPE TO BOX
12. #8 (1" DIA.) X 30" REBAR; INSTALL PLUMB AND TRUE. SECURE TO QUICK COUPLER VALVE WITH STAINLESS STEEL HOSE CLAMPS AND SCREWS (TYP. 2 PLCS.)
13. (3) COMMON BRICKS FOR SUPPORT.
14. SCH. 80 NIPPLE, T.O.E.
15. STAINLESS STEEL HOSE CLAMP WITH STAINLESS STEEL SCREWS (TYP. 2 PLCS.)
16. SANDED MAINLINE TRENCH. SEE DETAILS LS-19, LS-20, & LS-21.
17. 3" DETECTABLE TAPE. CHRISTY MODEL TA-DT-03-B-IRR OR EQUAL. INSTALL ABOVE ALL MAINLINE. SEE DETAILS LS-19, LS-20, & LS-21. PLACE PER MANUFACTURES SPECIFICATIONS.

NOTES:
1. USE MINIMUM 5 WRAPS OF TEFLON TAPE AT EACH THREADED CONNECTION.
2. PROGRAM CONTROLLER TO OPEN MAINLINE TO OPERATE.

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CITY OF CHICO — **STANDARD PLAN**

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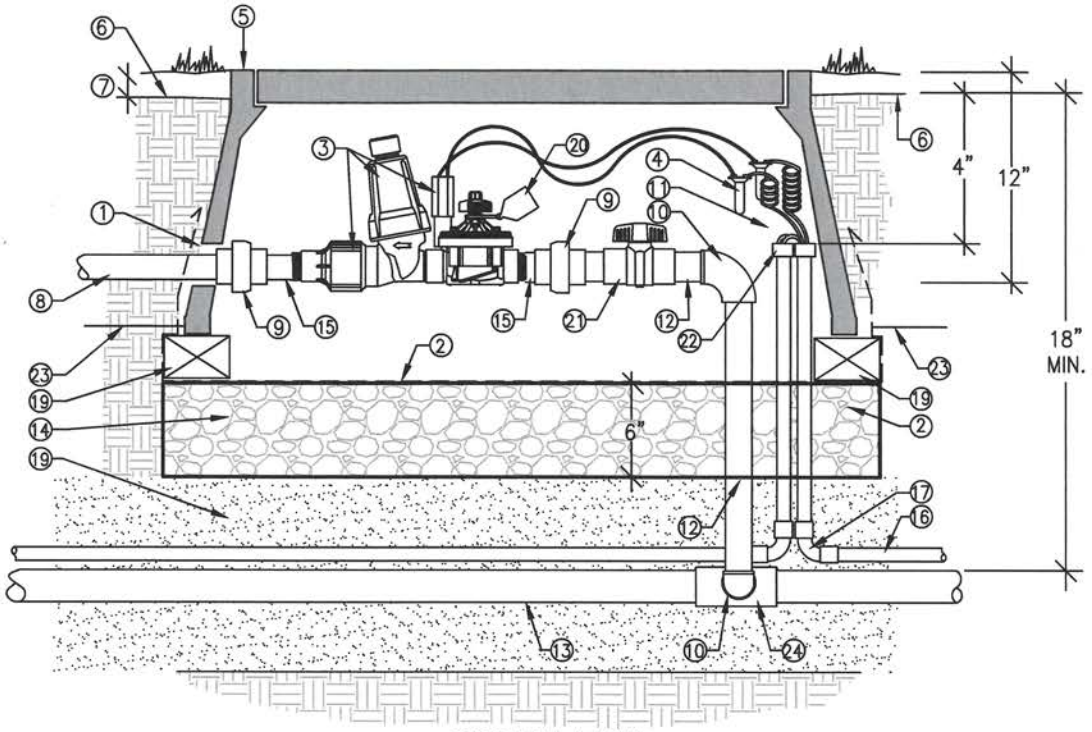
QUICK COUPLING VALVE DETAIL

NO. LS-28



SECTION VIEW

① BLOCK OPENING AROUND PIPE AS REQUIRED TO PREVENT SOIL INTRUSION.

② 1/4" GALVANIZED WIRE CLOTH PLACED ABOVE GRAVEL. TAPE TO OUTSIDE OF BOX.

③ REMOTE CONTROL DRIP VALVE ASSEMBLY; SIZE AND MODEL PER PLAN

④ LOCKING WATERPROOF WIRE CONNECTOR, MODEL DBY-6 OR APPROVED EQUAL.

⑤ PLASTIC VALVE BOX WITH LOCKING COVER. CARSON MODEL 1730 OR APPROVED EQUAL AS REQURED TO HOUSE ENTIRE ASSEMBLY. SEE SPECIFICATIONS.

⑥ FINISH GRADE

⑦ 1" IN SEED 1-1/2" IN SOD 3-1/2" IN PLANTER AND/ OR DECOMPOSED GRANITE

⑧ PVC SCHEDULE 40 LATERAL LINE; PROVIDE 18" LENGTH PRIOR TO FIRST FITTING. SEE DETAILS LS-19, LS-20, & LS-21.

⑨ SCHEDULE 80 PVC UNION, SxS

⑩ SCHEDULE 40 PVC ELBOW (SXS)

⑪ CONTROL AND COMMON WIRES PER PLANS AND SPECIFICATIONS. PROVIDE MIN. 18" EXTRA COILED.

⑫ SCHEDULE 40 PVC PIPE; LENGTH AS REQUIRED

⑬ PVC MAINLINE. 18" MINIMUM COVER. SEE DETAILS LS-19, LS-20, & LS-21.

⑭ 3/4" CRUSHED ROCK; 6" DEPTH

⑮ SCHEDULE 80 PVC NIPPLE. THREAD ONE END.

⑯ GRAY PVC SCHEDULE 40 ELECTRICAL CONDUIT; 2" MINIMUM DIAMETER. SEE SPECIFICATIONS. SEE DETAILS LS-19, LS-20, & LS-21.

⑰ PVC SCHEDULE 40 CONDUIT SWEEP, COUPLED BOTH ENDS

⑱ 4 COMMON BRICKS FOR VALVE BOX SUPPORT

⑲ SAND TRENCH BACKFILL. 6" ABOVE MAINLINE, 2" BELOW, MINIMUM. SEE DETAILS LS-19, LS-20, & LS-21.

⑳ CHRISTY ID-MAX-P2-RC005 OR APPROVED EQUAL WITH CONTROLLER AND VALVE NUMBER IDENTIFICATION TO VALVE STEM WITH NYLON CABLE TIE. SEE SPECIFICATIONS.

㉑ PVC BALL VALVE. SxS. LINE SIZE.

㉒ PVC CONDUIT COUPLER. SOLVENT WELD TO CONDUIT PIPE ENDS. PROVIDE 4" CLEAR SPACE FROM BOTTOM OF LID TO TOP OF CONDUIT.

㉓ 3" DETECTABLE TAPE. CHRISTY MODEL TA-DT-03-B-IRR OR EQUAL. INSTALL ABOVE ALL MAINLINE. SEE DETAILS LS-19, LS-20, & LS-21. PLACE PER MANUFACTURE SPECIFICATIONS.

㉔ SCHEDULE 40 PVC "T" (SXSXS)

NOTES:
1. ALL SLIP FITTINGS TO BE PRIMED AND GLUED.
2. ONE VALVE PER BOX
3. INSTALL MINIMUM OF 12" FROM STRUCTURES OR HARDSCAPE.
4. INSTALL IN PLANTER BEDS WHERE POSSIBLE.
5. PLACE VALVE BOX AT RIGHT ANGLES TO STRUCTURES OR HARDSCAPE.
6. USE MIN. 5 WRAPS OF TEFLON TAPE AT EACH THREADED CONNECTION.

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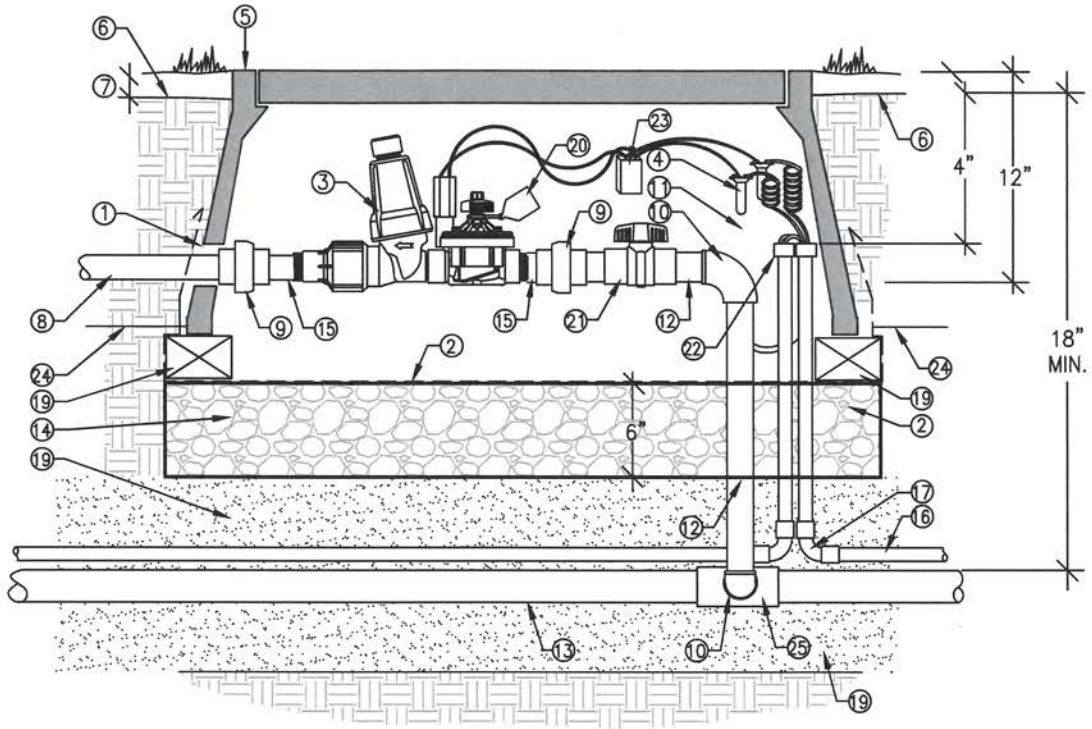
VALVE DETAIL DRIP CONTROL ZONE KIT (CONVENTIONALLY WIRED)

NO. LS-29



SECTION VIEW

① BLOCK OPENING AROUND PIPE AS REQUIRED TO PREVENT SOIL INTRUSION.

② 1/4" GALVANIZED WIRE CLOTH PLACED ABOVE GRAVEL. TAPE TO OUTSIDE OF BOX.

③ REMOTE CONTROL DRIP VALVE ASSEMBLY; SIZE AND MODEL PER PLAN

④ LOCKING WATERPROOF WIRE CONNECTOR, MODEL DBY-6 OR APPROVED EQUAL.

⑤ PLASTIC VALVE BOX WITH LOCKING COVER. CARSON MODEL 1730 OR APPROVED EQUAL AS REQURED TO HOUSE ENTIRE ASSEMBLY. SEE SPECIFICATIONS.

⑥ FINISH GRADE

⑦ 1/2" IN SEED 1-1/2" IN SOD 3-1/2" IN PLANTER AND/ OR DECOMPOSED GRANITE

⑧ PVC SCHEDULE 40 LATERAL LINE; PROVIDE 18" LENGTH PRIOR TO FIRST FITTING. SEE DETAILS LS-19, LS-20, & LS-21.

⑨ SCHEDULE 80 PVC UNION, SxS

⑩ SCHEDULE 40 PVC ELBOW (SXS)

⑪ DECODER CABLE PER PLANS AND SPECIFICATIONS. PROVIDE MIN. 18" EXTRA COILED.

⑫ SCHEDULE 40 PVC PIPE; LENGTH AS REQUIRED. SEE DETAILS LS-19, LS-20, & LS-21.

⑬ PVC MAINLINE. 18" MINIMUM COVER. SEE DETAILS LS-19, LS-20, & LS-21.

⑭ 3/4" CRUSHED ROCK; 6" DEPTH

⑮ SCHEDULE 80 PVC NIPPLE. THREAD ONE END.

⑯ GRAY PVC SCHEDULE 40 ELECTRICAL CONDUIT; 2" MINIMUM DIAMETER. SEE SPECIFICATIONS. SEE DETAILS LS-19, LS-20, & LS-21.

⑰ PVC SCHEDULE 40 CONDUIT SWEEP, COUPLED BOTH ENDS

⑱ 4 COMMON BRICKS FOR VALVE BOX SUPPORT

⑲ SAND TRENCH BACKFILL. 6" ABOVE MAINLINE, 2" BELOW, MINIMUM. SEE DETAILS LS-19, LS-20, & LS-21.

⑳ CHRISTY ID-MAX-P2-RC005 OR APPROVED EQUAL WITH CONTROLLER AND VALVE NUMBER IDENTIFICATION TO VALVE STEM WITH NYLON CABLE TIE. SEE SPECIFICATIONS.

㉑ PVC BALL VALVE SXS. LINE SIZE.

㉒ PVC CONDUIT COUPLER. SOLVENT WELD TO CONDUIT PIPE ENDS. PROVIDE 4" CLEAR SPACE FROM BOTTOM OF LID TO TOP OF CONDUIT..

㉓ 2 WIRE DECODER MODULE

㉔ 3" DETECTABLE TAPE. CHRISTY MODEL TA-DT-03-B-IRR OR EQUAL. INSTALL ABOVE ALL MAINLINE. SEE DETAILS LS-19, LS-20, & LS-21. PLACE PER MANUFACTURES SOECIFICATIONS.

㉕ SCHEDULE 40 PVC "T" (SXSXS)

NOTES:
1. ALL SLIP FITTINGS TO BE PRIMED AND GLUED.
2. ONE VALVE PER BOX
3. INSTALL MINIMUM OF 12" FROM STRUCTURES OR HARDSCAPE.
4. INSTALL IN PLANTER BEDS WHERE POSSIBLE.
5. PLACE VALVE BOX AT RIGHT ANGLES TO STRUCTURES OR HARDSCAPE.
6. USE MIN. 5 WRAPS OF TEFLON TAPE AT EACH THREADED CONNECTION.

REVISION	BY	DATE	APP. BY COUNCIL

CITY OF CHICO **STANDARD PLAN**

DRAWN BY: TB DATE: 10/21/25
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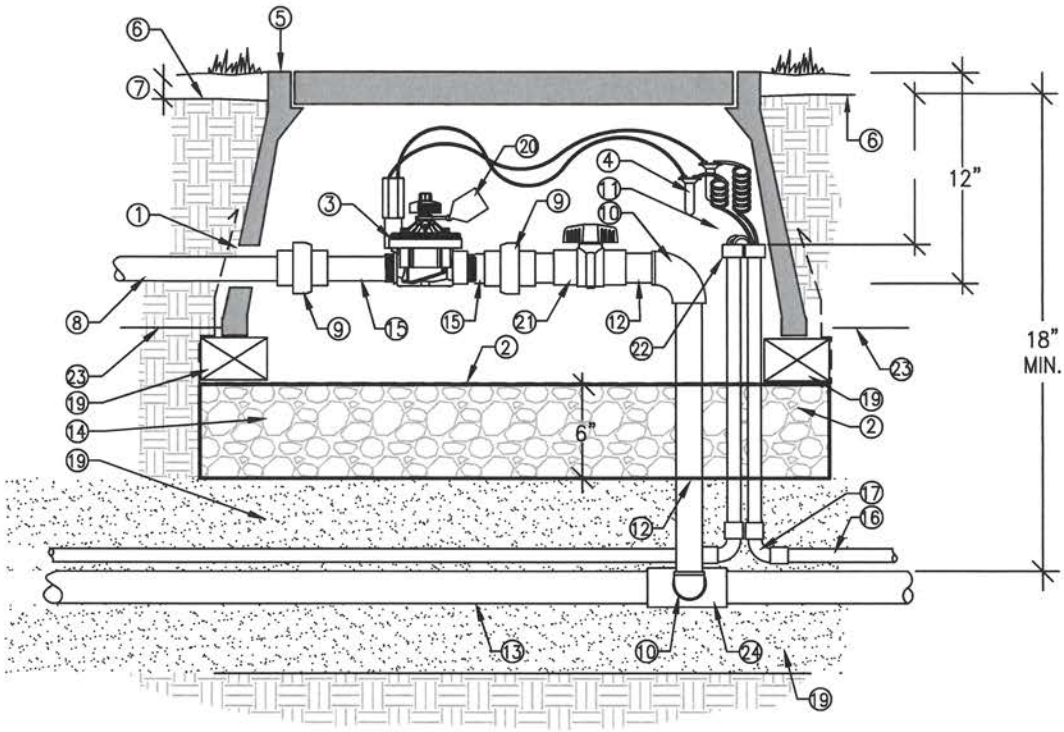
DRIP CONTROL ZONE KIT DETAIL (2 WIRE SYSTEMS)

NO. LS-30



SECTION VIEW

① BLOCK OPENING AROUND PIPE AS REQUIRED TO PREVENT SOIL INTRUSION.

② 1/4" GALVANIZED WIRE CLOTH PLACED ABOVE GRAVEL. TAPE TO OUTSIDE OF BOX.

③ REMOTE CONTROL DRIP VALVE ASSEMBLY; SIZE AND MODEL PER PLAN

④ LOCKING WATERPROOF WIRE CONNECTOR, MODEL DBY-6 OR APPROVED EQUAL.

⑤ PLASTIC VALVE BOX WITH LOCKING COVER. CARSON MODEL 1419 OR APPROVED EQUAL AS REQUIRED TO HOUSE ENTIRE ASSEMBLY. SEE SPECIFICATIONS.

⑥ FINISH GRADE

⑦ 1" IN SEED 1-1/2" IN SOD 3-1/2" IN PLANTER AND/ OR DECOMPOSED GRANITE

⑧ PVC SCHEDULE 40 LATERAL LINE; PROVIDE 18" LENGTH PRIOR TO FIRST FITTING. SEE DETAILS LS-19, LS-20, & LS-21.

⑨ SCHEDULE 80 PVC UNION, SxS

⑩ SCHEDULE 40 PVC ELBOW (SXS)

⑪ CONTROL AND COMMON WIRES PER PLANS AND SPECIFICATIONS. PROVIDE MIN. 18" EXTRA COILED. SEE DETAILS LS-19, LS-20, & LS-21.

⑫ SCHEDULE 40 PVC PIPE; LENGTH AS REQUIRED.

⑬ PVC MAINLINE. 18" MINIMUM COVER. SEE DETAILS LS-19, LS-20, & LS-21.

⑭ 3/4" CRUSHED ROCK; 6" DEPTH

⑮ SCHEDULE 80 PVC NIPPLE. THREAD ONE END.

⑯ GRAY PVC SCHEDULE 40 ELECTRICAL CONDUIT; SIZE AS NEEDED. SEE SPECIFICATIONS. SEE DETAILS LS-19, LS-20, & LS-21.

⑰ PVC SCHEDULE 40 CONDUIT SWEEP, COUPLED BOTH ENDS

⑱ 4 COMMON BRICKS FOR VALVE BOX SUPPORT

⑲ SAND TRENCH BACKFILL. 6" ABOVE MAINLINE, 2" BELOW, MINIMUM. SEE DETAILS LS-19, LS-20, & LS-21.

⑳ CHRISTY ID-MAX-P2-RC005 OR APPROVED EQUAL WITH CONTROLLER AND VALVE NUMBER IDENTIFICATION TO VALVE STEM WITH NYLON CABLE TIE. SEE SPECIFICATIONS.

㉑ PVC BALL VALVE (SXS). LINE SIZE.

㉒ PVC CONDUIT COUPLER. SOLVENT WELD TO CONDUIT PIPE ENDS. PROVIDE 4" CLEAR SPACE FROM BOTTOM OF LID TO TOP OF CONDUIT.

㉓ 3" DETECTABLE TAPE. CHRISTY MODEL TA-DT-03-B-IRR OR EQUAL. INSTALL ABOVE ALL MAINLINE. SEE DETAILS LS-19, LS-20, & LS-21. PLACE PER MANUFACTURES SPECIFICATIONS.

㉔ SCHEDULE 40 PVC "T" (SXSXS)

NOTES:
1. ALL SLIP FITTINGS TO BE PRIMED AND GLUED.
2. ONE VALVE PER BOX
3. INSTALL MINIMUM OF 12" FROM STRUCTURES OR HARDSCAPE.
4. INSTALL IN PLANTER BEDS WHERE POSSIBLE.
5. PLACE VALVE BOX AT RIGHT ANGLES TO STRUCTURES OR HARDSCAPE.
6. USE MIN. 5 WRAPS OF TEFLON TAPE AT EACH THREADED CONNECTION.

REVISION	BY	DATE	APP. BY COUNCIL

CITY OF CHICO **STANDARD PLAN**

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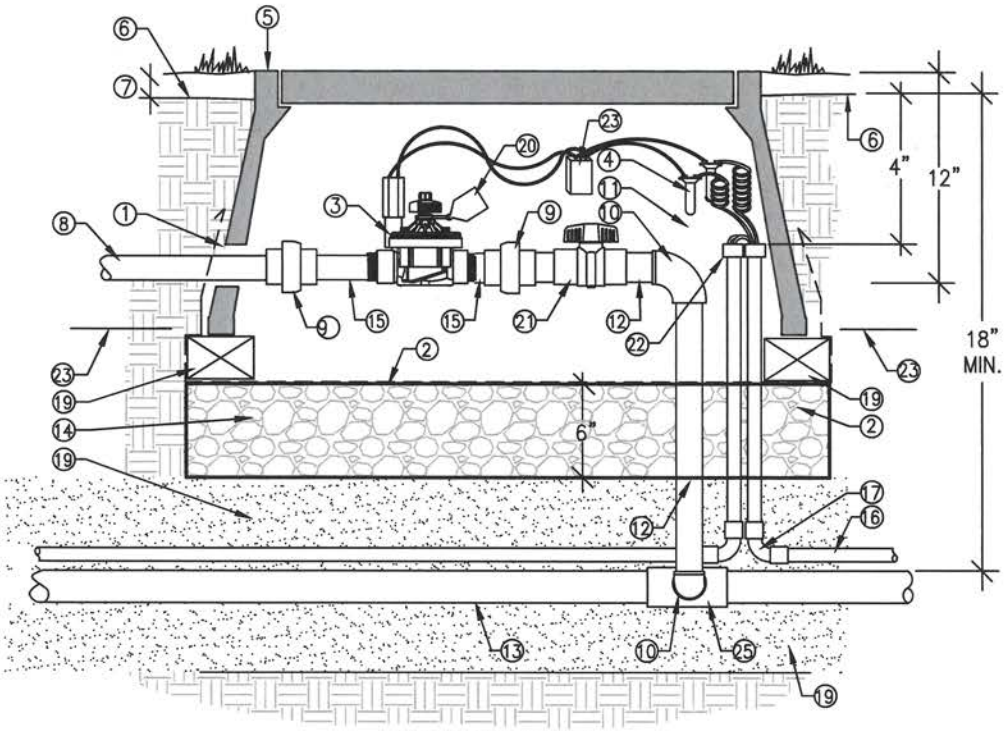
REMOTE CONTROL VALVE (CONVENTIONALLY WIRED)

NO. LS-31



SECTION VIEW

① BLOCK OPENING AROUND PIPE AS REQUIRED TO PREVENT SOIL INTRUSION.

② 1/4" GALVANIZED WIRE CLOTH PLACED ABOVE GRAVEL. TAPE TO OUTSIDE OF BOX.

③ REMOTE CONTROL DRIP VALVE ASSEMBLY; SIZE AND MODEL PER PLAN

④ LOCKING WATERPROOF WIRE CONNECTOR, MODEL DBY-6 OR APPROVED EQUAL.

⑤ PLASTIC VALVE BOX WITH LOCKING COVER. CARSON MODEL 1419 OR APPROVED EQUAL AS REQURED TO HOUSE ENTIRE ASSEMBLY. SEE SPECIFICATIONS.

⑥ FINISH GRADE

⑦ 1/2" IN SEED 1-1/2" IN SOD 3-1/2" IN PLANTER AND/ OR DECOMPOSED GRANITE

⑧ PVC SCHEDULE 40 LATERAL LINE; PROVIDE 18" LENGTH PRIOR TO FIRST FITTING. SEE DETAILS LS-19, LS-20, & LS-21.

⑨ SCHEDULE 80 PVC UNION, SxS

⑩ SCHEDULE 40 PVC ELBOW, SxS

⑪ DECODER CABLE PER PLANS AND SPECIFICATIONS. PROVIDE MIN. 18" EXTRA COILED.

⑫ SCHEDULE 40 PVC PIPE; LENGTH AS REQUIRED

⑬ PVC MAINLINE. 18" MINIMUM COVER. SEE DETAILS LS-19, LS-20, & LS-21.

⑭ 3/4" CRUSHED ROCK; 6" DEPTH

⑮ SCHEDULE 80 PVC NIPPLE. THREAD ONE END.

⑯ GRAY PVC SCHEDULE 40 ELECTRICAL CONDUIT; SIZE AS NEEDED. SEE SPECIFICATIONS. SEE DETAILS LS-19, LS-20, & LS-21.

⑰ PVC SCHEDULE 40 CONDUIT SWEEP, COUPLED BOTH ENDS

⑱ 4 COMMON BRICKS FOR VALVE BOX SUPPORT

⑲ SAND TRENCH BACKFILL. 6" ABOVE MAINLINE, 2" BELOW, MINIMUM. SEE DETAILS LS-19, LS-20, & LS-21.

⑳ CHRISTY ID-MAX-P2-RC005 OR APPROVED EQUAL WITH CONTROLLER AND VALVE NUMBER IDENTIFICATION TO VALVE STEM WITH NYLON CABLE TIE. SEE SPECIFICATIONS.

㉑ PVC BALL VALVE (SXS). LINE SIZE.

㉒ PVC CONDUIT COUPLER. SOLVENT WELD TO CONDUIT PIPE ENDS. PROVIDE 4" CLEAR SPACE FROM BOTTOM OF LID TO TOP OF CONDUIT.

㉓ 2 WIRE DECODER MODULE

㉔ 3" DETECTABLE TAPE. CHRISTY MODEL TA-DT-03-B-IRR OR EQUAL. INSTALL ABOVE ALL MAINLINE. SEE DETAILS LS-19, LS-20, & LS-21. PLACE PER MANUFACTURE SPECIFICATIONS.

㉕ SCH 40 PVD "T" (SXSXS)

NOTES:
1. ALL SLIP FITTINGS TO BE PRIMED AND GLUED.
2. ONE VALVE PER BOX
3. INSTALL MINIMUM OF 12" FROM STRUCTURES OR HARDSCAPE.
4. INSTALL IN PLANTER BEDS WHERE POSSIBLE.
5. PLACE VALVE BOX AT RIGHT ANGLES TO STRUCTURES OR HARDSCAPE.
6. USE MIN. 5 WRAPS OF TEFLON TAPE AT EACH THREADED CONNECTION.

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CITY OF CHICO **STANDARD PLAN**

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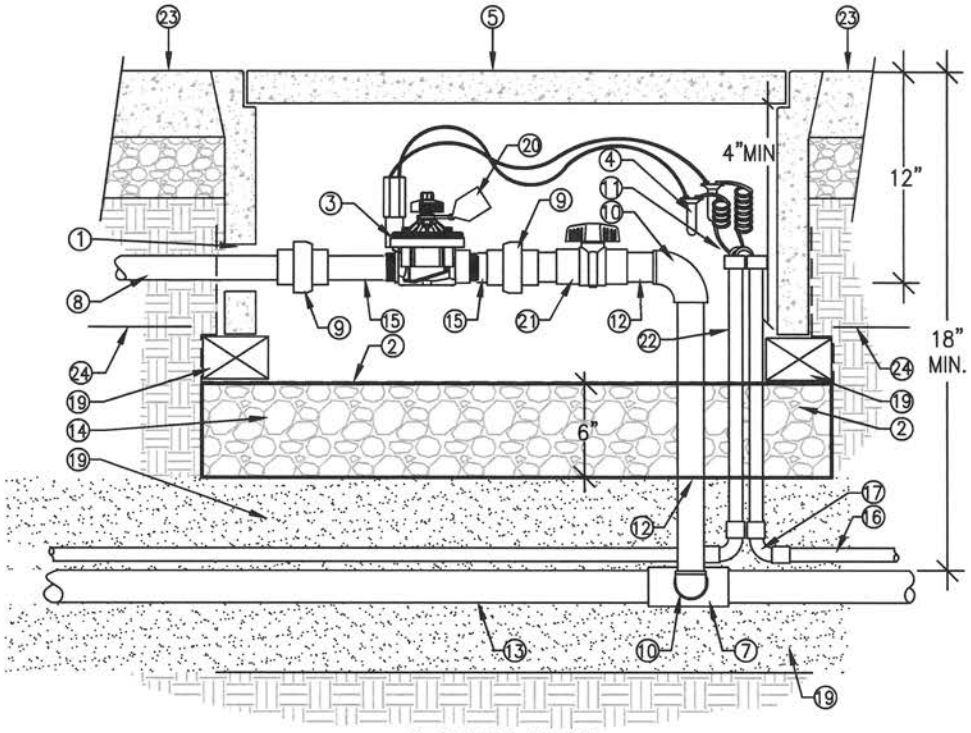
REMOTE CONTROL VALVE DETAIL (2 WIRE SYSTEMS)

NO. LS-32



SECTION VIEW

REVISION	BY	DATE	APP. BY COUNCIL

1. BLOCK OPENING AROUND PIPE AS REQUIRED TO PREVENT SOIL INTRUSION.
2. 1/4" GALVANIZED WIRE CLOTH PLACED ABOVE GRAVEL
3. REMOTE CONTROL VALVE ASSEMBLY; SIZE AND MODEL PER PLAN
4. LOCKING WATERPROOF WIRE CONNECTOR, MODEL DBY-6 OR APPROVED EQUAL.
5. CONCRETE VALVE BOX WITH LOCKING, FLUSH CONCRETE COVER. CHRISTY MODEL B12 OR APPROVED EQUAL AS REQUIRED TO HOUSE ENTIRE ASSEMBLY. SEE SPECIFICATIONS.
6. FINISH GRADE
7. SCH 40 PVC "T" (SXSXS)
8. PVC SCHEDULE 40 LATERAL LINE; PROVIDE 18" LENGTH PRIOR TO FIRST FITTING. SEE DETAILS LS-19, LS-20, & LS-21.
9. SCHEDULE 80 PVC UNION, SxS
10. SCHEDULE 40 PVC ELBOW, SxS
11. CONTROL AND COMMON WIRES PER PLANS AND SPECIFICATIONS. PROVIDE MIN. 18" EXTRA COILED.
12. SCHEDULE 40 PVC PIPE; LENGTH AS REQUIRED
13. PVC MAINLINE. 18" MINIMUM COVER. SEE DETAILS LS-19, LS-20, & LS-21.
14. 3/4" CRUSHED ROCK; 6" DEPTH
15. SCHEDULE 80 PVC NIPPLE. THREAD ONE END.
16. GRAY PVC SCHEDULE 40 ELECTRICAL CONDUIT; SIZE AS NEEDED. SEE SPECIFICATIONS. SEE DETAILS LS-19, LS-20, & LS-21.
17. PVC SCHEDULE 40 CONDUIT SWEEP, COUPLED BOTH ENDS
18. 4 COMMON BRICKS FOR VALVE BOX SUPPORT
19. SAND TRENCH BACKFILL. 6" ABOVE MAINLINE, 2" BELOW, MINIMUM. SEE DETAILS LS-19, LS-20, & LS-21.
20. CHRISTY ID-MAX-P2-RC005 OR APPROVED EQUAL WITH CONTROLLER AND VALVE NUMBER IDENTIFICATION TO VALVE STEM WITH NYLON CABLE TIE. SEE SPECIFICATIONS.
21. THREADED PVC BALL VALVE. LINE SIZE.
22. PVC CONDUIT COUPLER. SOLVENT WELD TO CONDUIT PIPE ENDS. PROVIDE 4" CLEAR SPACE FROM TOP OF PIPE TO BOTTOM OF LID.
23. PAVING.
24. 3" DETECTABLE TAPE. CHRISTY MODEL TA-DT-03-B-IRR OR EQUAL. INSTALL ABOVE ALL MAINLINE. SEE DETAILS LS-19, LS-20, & LS-21.

NOTES:

1. ALL SLIP FITTINGS TO BE PRIMED AND GLUED.
2. ONE VALVE PER BOX
3. INSTALL MINIMUM OF 12" FROM STRUCTURES OR HARDSCAPE.
4. INSTALL IN PLANTER BEDS WHERE POSSIBLE.
5. PLACE VALVE BOX AT RIGHT ANGLES TO STRUCTURES OR HARDSCAPE.
6. USE MIN. 5 WRAPS OF TEFLON TAPE AT EACH THREADED CONNECTION.

CITY OF CHICO **STANDARD PLAN**

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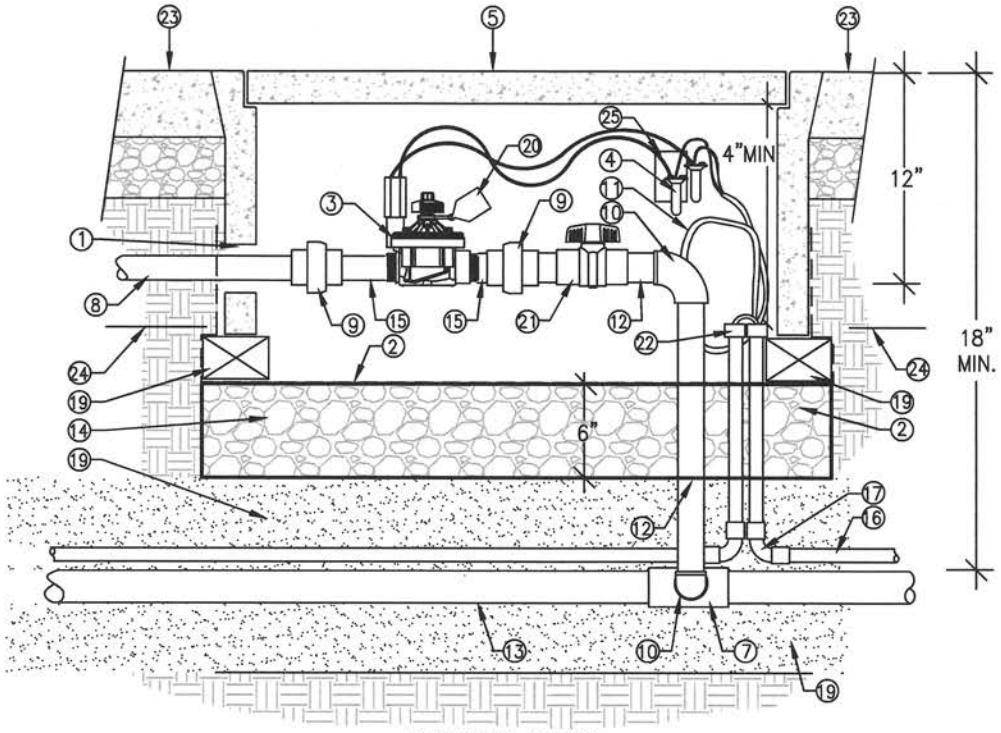
REMOTE CONTROL VALVE DETAIL IN PAVING (NON VEHICULAR-CONVENTIONALLY WIRED)

NO. LS-33



SECTION VIEW

① BLOCK OPENING AROUND PIPE AS REQUIRED TO PREVENT SOIL INTRUSION.

② 1/4" GALVANIZED WIRE CLOTH PLACED ABOVE GRAVEL

③ REMOTE CONTROL VALVE ASSEMBLY; SIZE AND MODEL PER PLAN

④ LOCKING WATERPROOF WIRE CONNECTOR, MODEL DBY-6 OR APPROVED EQUAL.

⑤ CONCRETE VALVE BOX WITH LOCKING, FLUSH CONCRETE COVER. CHRISTY MODEL B12 OR APPROVED EQUAL AS REQUIRED TO HOUSE ENTIRE ASSEMBLY. SEE SPECIFICATIONS.

⑥ FINISH GRADE

⑦ SCH 40 PVC "T" (SXSXS)

⑧ PVC SCHEDULE 40 LATERAL LINE; PROVIDE 18" LENGTH PRIOR TO FIRST FITTING. SEE DETAILS LS-19, LS-20, & LS-21.

⑨ SCHEDULE 80 PVC UNION, SxS

⑩ SCHEDULE 40 PVC ELBOW, SxS

⑪ DECODER CABLE PER PLANS AND SPECIFICATIONS. PROVIDE MIN. 18" EXTRA COILED.

⑫ SCHEDULE 40 PVC PIPE; LENGTH AS REQUIRED

⑬ PVC MAINLINE. 18" MINIMUM COVER. SEE DETAILS LS-19, LS-20, & LS-21.

⑭ 3/4" CRUSHED ROCK; 6" DEPTH

⑮ SCHEDULE 80 PVC NIPPLE. THREAD ONE END.

⑯ GRAY PVC SCHEDULE 40 ELECTRICAL CONDUIT; SIZE AS NEEDED. SEE SPECIFICATIONS. SEE DETAILS LS-19, LS-20, & LS-21.

⑰ PVC SCHEDULE 40 CONDUIT SWEEP, COUPLED BOTH ENDS

⑱ 4 COMMON BRICKS FOR VALVE BOX SUPPORT

⑲ SAND TRENCH BACKFILL. 6" ABOVE MAINLINE, 2" BELOW, MINIMUM. SEE DETAILS LS-19, LS-20, & LS-21.

⑳ CHRISTY ID-MAX-P2-RC005 WITH CONTROLLER AND VALVE NUMBER IDENTIFICATION TO VALVE STEM WITH NYLON CABLE TIE. SEE SPECIFICATIONS.

㉑ PVC BALL VALVE (SXS). LINE SIZE.

㉒ PVC CONDUIT COUPLER. SOLVENT WELD TO CONDUIT PIPE ENDS. PROVIDE 4" CLEAR SPACE FROM TOP OF PIPE TO BOTTOM OF LID.

㉓ PAVING.

㉔ 3" DETECTABLE TAPE. CHRISTY MODEL TA-DT-03-B-IRR OR EQUAL. INSTALL ABOVE ALL MAINLINE. SEE DETAILS LS-19, LS-20, & LS-21.

㉕ DECODER. MAKE/ MODEL PER PLANS.

NOTES:
1. ALL SLIP FITTINGS TO BE PRIMED AND GLUED.
2. ONE VALVE PER BOX
3. INSTALL MINIMUM OF 12" FROM STRUCTURES OR HARDSCAPE.
4. INSTALL IN PLANTER BEDS WHERE POSSIBLE.
5. PLACE VALVE BOX AT RIGHT ANGLES TO STRUCTURES OR HARDSCAPE.
6. USE MIN. 3 WRAPS OF TEFLON TAPE AT EACH THREADED CONNECTION.

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CITY OF CHICO **STANDARD PLAN**

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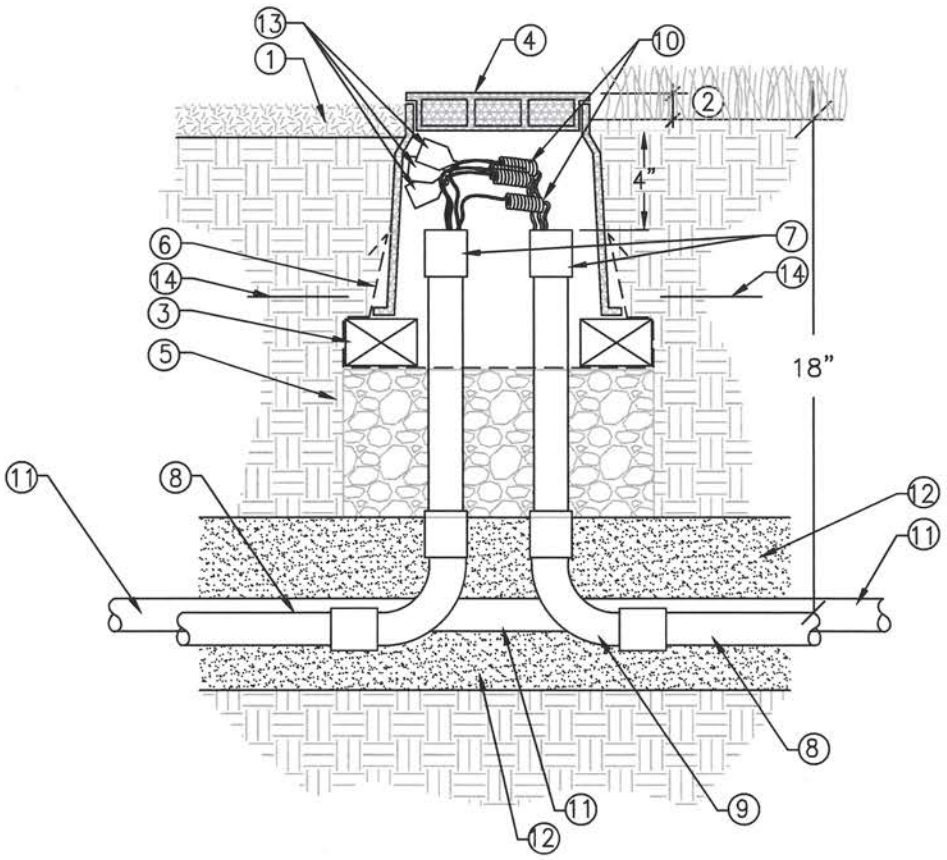
REMOTE CONTROL VALVE DETAIL IN PAVING (NON VEHICULAR- 2 WIRE)

NO. LS-34



SECTION VIEW

1. FINISH GRADE
2. SET TOP OF BOX ABOVE FINISH GRADE:
   1/2" IN SEED
   1" IN SOD
   3-1/2" IN PLANTER OR
   3" FOR DECOMPOSED GRANITE.
3. 4 COMMON BRICKS FOR SUPPORT
4. GRAY PLASTIC VALVE BOX WITH LOCKING COVER, CARSON 1419-GRAY OR APPROVED EQUAL. INSTALL WITH LOCKING BOLT KIT.
5. 3/4" CRUSHED ROCK; 6" MINIMUM DEPTH
6. 1/4" GALVANIZED WIRE CLOTH. TAPED TO OUTSIDE OF BOX.
7. PVC CONDUIT COUPLER. SOLVENT WELD TO CONDUIT PIPE ENDS. PROVIDE 4" CLEAR SPACE BETWEEN BOTTOM OF LID & TOP OF PIPE.
8. GRAY SCHEDULE 40 PVC ELECTRICAL CONDUIT. SIZE PER PLAN.
9. PVC SCHEDULE 40 CONDUIT SWEEP ELBOWS WITH COUPLERS BOTH ENDS
10. CONTROL/ COMMON WIRES (WHERE APPLICABLE). PROVIDE MINIMUM 36" COILED EXTRA.
11. IRRIGATION MAINLINE (WHERE APPLICABLE)
12. SAND BACKFILL AT MAINLINE- 6" ABOVE AND 2" BELOW, MINIMUM.
13. CHRISTY ID-MAX-P2-RC005 OR APPROVED EQUAL WITH CONTROLLER AND VALVE NUMBER IDENTIFICATION TO WIRES WITH NYLON CABLE TIE. SEE SPECIFICATIONS.
14. 3" DETECTABLE TAPE. CHRISTY MODEL TA-DT-03-B-IRR OR EQUAL. INSTALL ABOVE ALL MAINLINE. SEE DETAILS LS-19, LS-20, & LS-21. PLACE PER MANUFACTURES SPECIFICATIONS.

NOTES:
1. PULL BOXES SHALL BE INSTALLED AT BOTH SIDES OF CROSSINGS BENEATH ROADWAY PAVING AND AT BENDS ALONG CONDUIT ROUTE.
2. USE LOCKING WATERPROOF WIRE CONNECTOR, MODEL DBY-6 OR APPROVED EQUAL FOR ALL WIRE SPLICES

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CITY OF CHICO **STANDARD PLAN**

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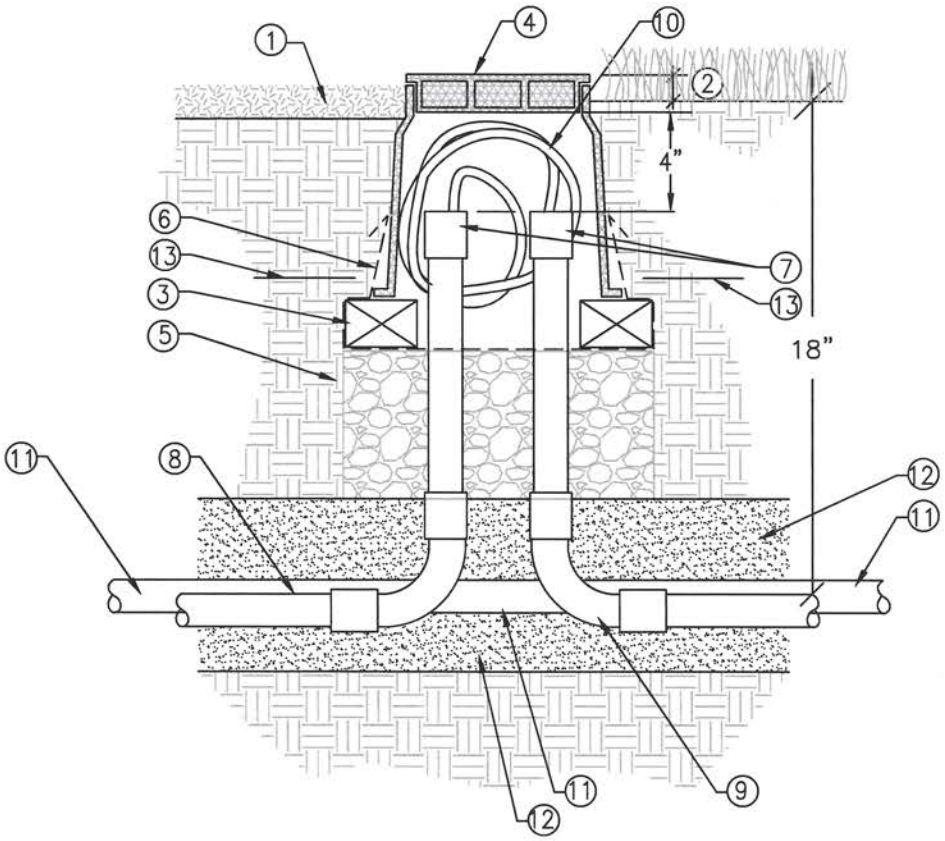
PULL BOX DETAIL (CONVENTIONALLY WIRED)

NO. LS-35



SECTION VIEW

① FINISH GRADE

② SET TOP OF BOX ABOVE FINISH GRADE:
1/2" IN SEED
1" IN SOD
3-1/2" IN PLANTER
OR 3" FOR DECOMPOSED GRANITE.

③ 4 COMMON BRICKS FOR SUPPORT

④ GRAY PLASTIC VALVE BOX WITH LOCKING COVER, CARSON MODEL 1419-GRAY OR APPROVED EQUAL. INSTALL WITH LOCKING BOLT KIT.

⑤ 3/4" CRUSHED ROCK; 6" MINIMUM DEPTH

⑥ 1/4" GALVANIZED WIRE CLOTH TAPED TO OUTSIDE OF BOX

⑦ PVC CONDUIT COUPLER. SOLVENT WELD TO CONDUIT PIPE ENDS. PROVIDE 4" CLEAR SPACE BETWEEN BOTTOM OF LID AND TOP OF PIPE.

⑧ GRAY SCHEDULE 40 PVC ELECTRICAL CONDUIT SWEEP. SIZE PER PLAN.

⑨ PVC SCHEDULE 40 CONDUIT SWEEP ELBOWS WITH COUPLERS BOTH ENDS

⑩ DECODER CABLE (WHERE APPLICABLE). PROVIDE MINIMUM 36" COILED EXTRA.

⑪ IRRIGATION MAINLINE (WHERE APPLICABLE)

⑫ SAND BACKFILL AT MAINLINE- 6" ABOVE AND 2" BELOW, MINIMUM.

⑬ 3" DETECTABLE TAPE. CHRISTY MODEL TA-DT-03-B-IRR OR EQUAL. INSTALL ABOVE ALL MAINLINE. SEE DETAILS LS-19, LS-20, & LS-21. PLACE PER MANUFACTURES SPECIFICATIONS.

NOTES:
1. PULL BOXES SHALL BE INSTALLED AT BOTH SIDES OF CROSSINGS BENEATH ROADWAY PAVING AND AT BENDS ALONG CONDUIT ROUTE.
2. USE LOCKING WATERPROOF WIRE CONNECTOR, MODEL DBY-6 OR APPROVED EQUAL FOR ALL WIRE SPLICES

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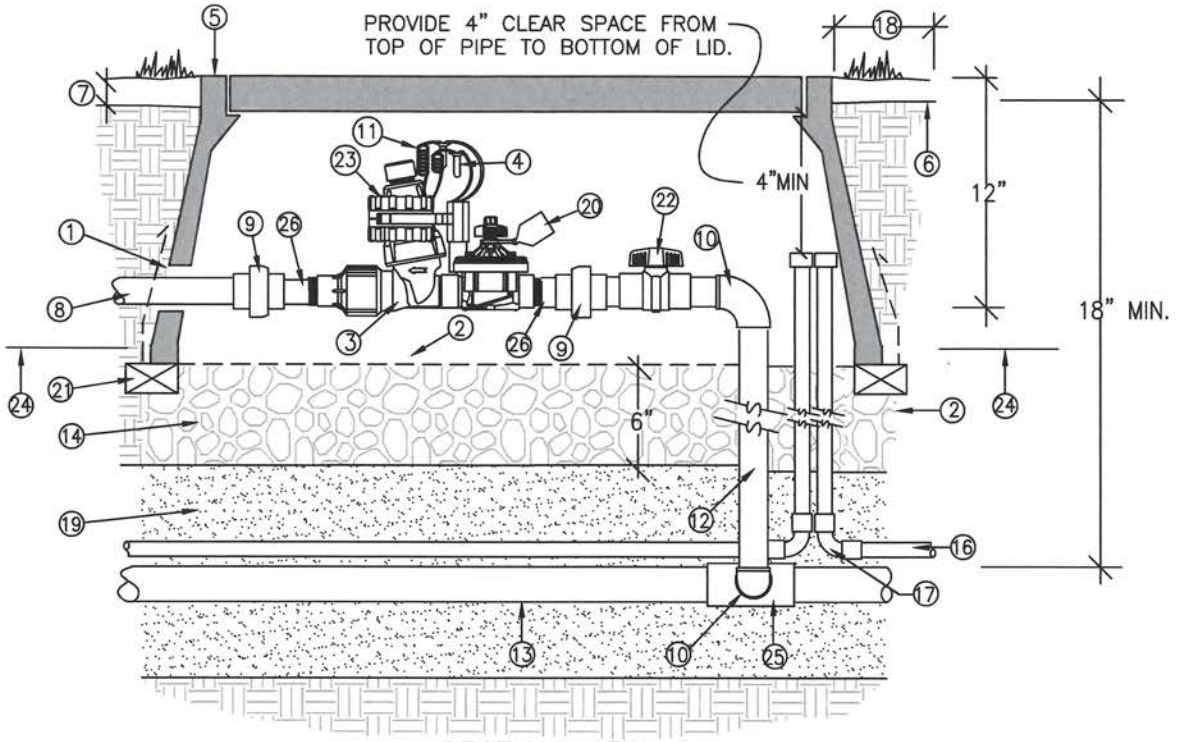
PULL BOX DETAIL (2 WIRE)

NO. LS-36



SECTION VIEW

① BLOCK OPENING AROUND PIPE AS REQUIRED TO PREVENT SOIL INTRUSION.

② 1/4" GALVANIZED WIRE CLOTH PLACED ABOVE GRAVEL

③ REMOTE CONTROL VALVE ASSEMBLY; SIZE AND MODEL PER PLAN

④ LOCKING WATERPROOF WIRE CONNECTOR, MODELS TKHP LV-9000, DS-400 OR APPROVED EQUAL.

⑤ PLASTIC VALVE BOX WITH LOCKING COVER. MFGR: CARSON OR APPROVED EQUAL, MODEL/ SIZE AS REQUIRED TO FIT ENTIRE VALVE ASSEMBLY, UNIONS, AND ISOLATION VALVE. SEE SPECIFICATIONS.

⑥ FINISH GRADE

⑦ 1/2" IN SEED 1" IN SOD 3-1/2" IN PLANTER

⑧ PVC SCHEDULE 40 LATERAL LINE; PROVIDE 18" LENGTH PRIOR TO FIRST FITTING. SEE DETAILS LS-19, LS-20, & LS-21.

⑨ SCHEDULE 80 PVC UNION, SXS (TYP. 2 PLCS.)

⑩ SCHEDULE 40 PVC ELBOW, SxS

⑪ CONTROL/ COMMON WIRES (FROM NODE TO LATCHING SOLENOID)

⑫ SCHEDULE 40 PVC NIPPLE; LENGTH AS REQUIRED

⑬ PVC MAINLINE. 18" MINIMUM COVER. SEE SPECIFICATIONS. SEE DETAILS LS-19, LS-20, & LS-21.

⑭ 3/4" CRUSHED ROCK; 6" DEPTH

⑮ SCHEDULE 80 PVC TEE (SxSxS)

⑯ PVC SCHEDULE 40 CONDUIT (AS SHOWN ON PLANS). SEE SPECIFICATIONS. SEE DETAILS LS-19, LS-20, & LS-21. INCLUDED PUC CONDUIT COUPLER.

⑰ PVC SCHEDULE 40 CONDUIT SWEEP, COUPLED BOTH ENDS

⑱ 12" FROM HARDSCAPE

⑲ SAND TRENCH BACKFILL. 6" ABOVE MAINLINE, 2" BELOW, MINIMUM. SEE DETAILS LS-19, LS-20, & LS-21.

⑳ CHRISTY ID-MAX-P2-RC005 OR APPROVED EQUAL WITH CONTROLLER AND VALVE NUMBER IDENTIFICATION TO VALVE STEM WITH NYLON CABLE TIE. SEE SPECIFICATIONS.

㉑ COMMON BRICKS FOR SUPPORT. 3 MIN. PER VALVE BOX, TYPICAL

㉒ PVC BALL VALVE (SXS). LINE SIZE.

㉓ BATTERY-POWERED CONTROL (WVL) MODULE BY HUNTER. MODEL # AND HUNTER SYSTEM PER PLAN.

㉔ 3" DETECTABLE TAPE. CHRISTY MODEL TA-DT-03-B-IRR OR EQUAL. INSTALL ABOVE ALL MAINLINE. SEE DETAILS LS-19, LS-20, & LS-21. PLACE PER MANUFACTURES SPECIFICATIONS.

㉕ SCH 40 PVC "T" (SXSXS)

㉖ SCH 80 NIPPLE. TOE.

NOTES:
1. ALL SLIP FITTINGS TO BE PRIMED AND GLUED.
2. ONE VALVE PER BOX
3. INSTALL MINIMUM OF 12" FROM STRUCTURES OR HARDSCAPE. SPLIT PLACEMENT BETWEEN TREE SPACING AND OR NO CLOSER THAN 10' TO A TREE AND 3' FROM SHRUB.
4. INSTALL IN PLANTER BEDS WHERE POSSIBLE.
5. PLACE VALVE BOX AT RIGHT ANGLES TO STRUCTURES OR HARDSCAPE.
6. USE MIN. 5 WRAPS OF TEFLON TAPE ON ALL THREADS AT EACH THREADED CONNECTION.

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CITY OF CHICO **STANDARD PLAN**

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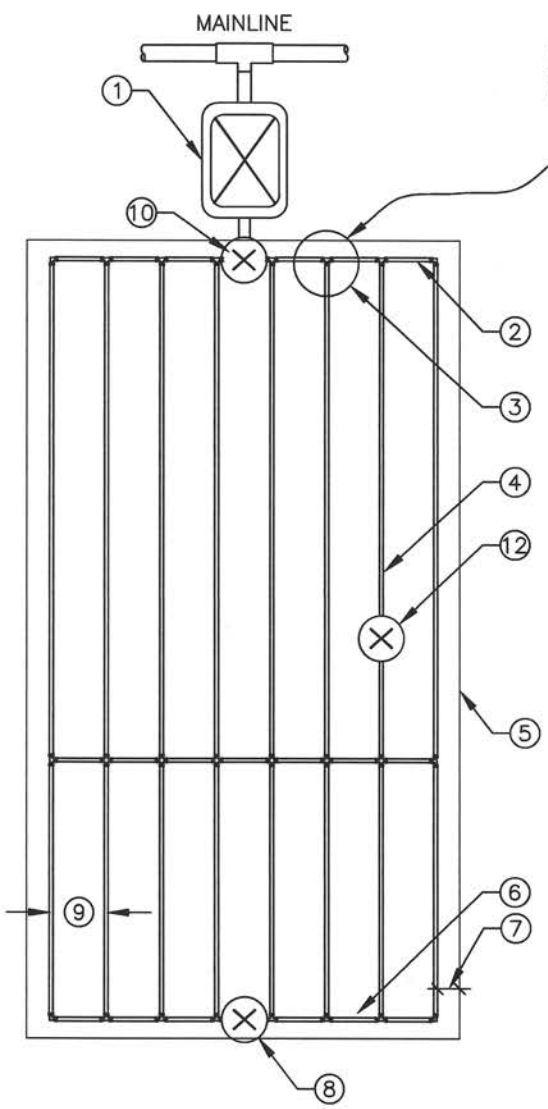
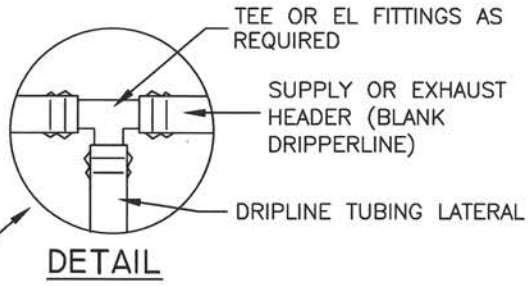
BATTERY OPERATED VALVE DETAIL

NO. LS-37



PLAN VIEW



DETAIL

NOTES:

1. REMOTE CONTROL VALVE. SEE DETAIL. MODEL & PLACEMENT PER PLANS.
2. SUPPLY HEADER. BLANK DRIPPERLINE WITH FITTINGS. MANUFACTURE / MODEL PER PLANS.
3. DRIPPERLINE FITTINGS AS REQUIRED. MANUFACTURE / MODEL PER PLANS.
4. DRIPLINE TUBING WITH INLINE EMITTERS LATERAL. MANUFACTURER/ MODEL PER PLANS. SEE DETAIL.
5. AREA PERIMETER (SEE PLANS).
6. EXHAUST HEADER. BLANK DRIPPERLINE WITH FITTINGS AS REQUIRED.
7. PERIMETER LATERALS FROM EDGE– 6" MINIMUM OR AS OTHERWISE NOTED.
8. LINE FLUSHING VALVE. MODEL PER PLANS. SEE DETAIL.
9. DISTANCES PER PLANS.
10. TRANSITION TO DRIPPERLINE. SEE DETAIL LS–39
11. INTERMEDIATE HEADER. BLANK DRIPPERLINE WITH FITTINGS AS REQUIRED.INSTALL INTERMEDIATELY (APPROXIMATELY EVERY 50') IN RUNS > 100'. IN SECTION ,100' INSTALL APPROXIMATELY MID POINT. IN SECTIONS ,50', IT IS NOT REQUIRED.
12. AIR VACUUM RELIEF VALVE PLUMED TO DRIPLINE TO HIGH POINT OF SYSTEM FOR EACH DRIPLINE VALVE ZONE.

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CITY OF CHICO **STANDARD PLAN**

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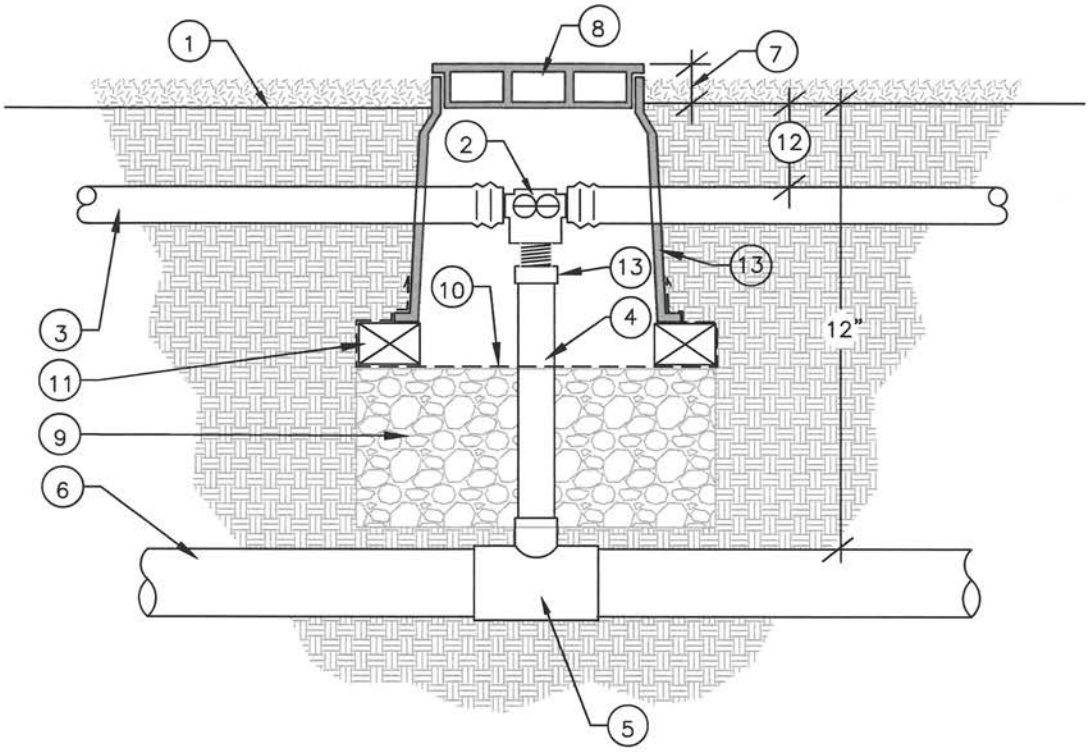
SUBTERRANEAN DRIPLINE LAYOUT

NO. LS-38



SECTION VIEW

1. FINISH GRADE
2. HEAVY DUTY SUB–SURFACE DRIPPERLINE FITTING: 2–WAY TEE OR EL, AS REQURIED (¾" THREAD X BARB). MANUFACTURER PER PLAN. HOLD DOWN 2" FROM BOTTOM OF VALVE BOX LID.
3. HEAVY DUTY SUB–SURFACE DRIPPERLINE (MANUFACTURER/ MODEL PER PLANS). MODEL PER PLAN. BLOCK OPENING AROUND TUBING AT VALVE BOX TO PRESENT SOIL INTRUSION.
4. ¾" SCHEDULE 40. LENGTH AS REQUIRED.
5. PVC SCHEDULE 40 TEE OR EL (SxSxS)
6. 3/4" PVC SCHEDULE 40 LATERAL LINE. SEE DETAILS LS–19, LS–20, & LS–21.
7. SET TOP OF BOX ABOVE FINISH GRADE:
   1/2" IN SEED
   1" IN SOD
   3–1/2" IN PLANTER OR DECOMPOSED GRANITE.
8. PLASTIC VALVE BOX WITH BOLT DOWN LOC–KIT; CARSON MODEL 910 OR APPROVED EQUAL PLACE 8 FEET FROM TREE AND 2.5 FEET FROM SHRUB.
9. 3/4" CRUSHED ROCK, 6" MINIMUM DEPTH
10. 1/4" GALVANIZED WIRE CLOTH TAPE TO OUTSIDE OF BOX.
11. COMMON BRICKS FOR SUPPORT. 3 (MIN.), TYPICAL AT ALL VALVE BOXES.
12. "SCRATCH IN" DRIPPERLINE INTO TOP 2" OF SOIL. SEE SPECIFICATIONS. FOR USE IN TURF, FOLLOW MANUFACTURES SPECIFICATIONS AND GUIDELINES.
13. MALE ADAPTER MPT SCHEDULE 40

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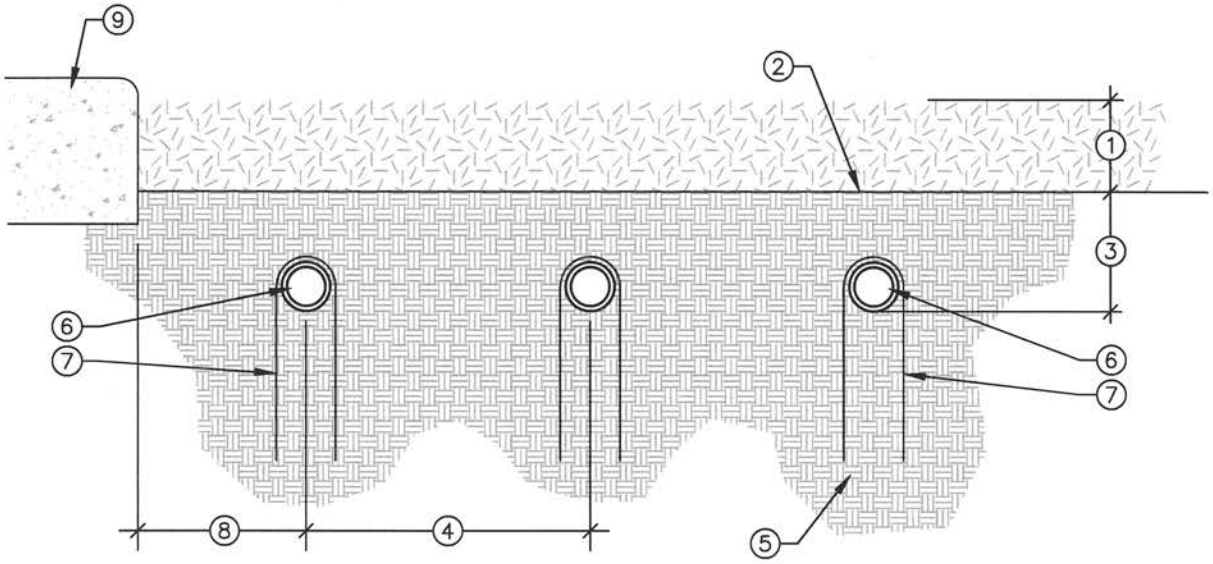
TRANSITION TO DRIPPERLINE DETAIL

NO. LS-39



SECTION VIEW

① DISTANCE/ DEPTH ABOVE FINISH GRADE:
1/2" FOR SEED
1" FOR SOD
3-1/2" FOR DECOMPOSED GRANITE, MULCH & ROCK

② FINISH GRADE

③ "SCRATCH IN" DRIPPERLINE INTO TOP 2" OF SOIL. SEE SPECIFICATIONS. FOR TURF APPLICATIONS AND WHERE AERATION ACTIVITY MAY OCCUR, FOLLOW MANUFACTURE SPECIFICATIONS AND GUIDELINES.

④ SPACING VARIES. SEE PLANS.

⑤ SUB-GRADE. SEE PROJECT PLANS AND SPECIFICATIONS.

⑥ HEAVY DUTY SUB-SURFACE DRIPPERLINE. MANUFACTURER/ MODEL PER PLAN

⑦ METAL SOIL STAPLE. 6" MINIMUM LENGTH @ 4'-0" O.C., AT CHANGES IN DIRECTION, AND AT FITTINGS.

⑧ 6" MINIMUM FROM PAVING

⑨ PAVING SHALL BE NO HIGHER THAN $\frac{1}{4}$" FINAL INSTALLED LANDSCAPE MATERIAL

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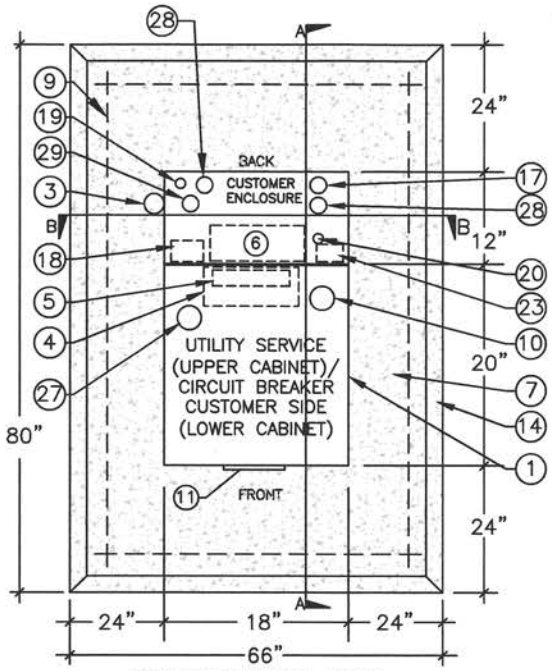
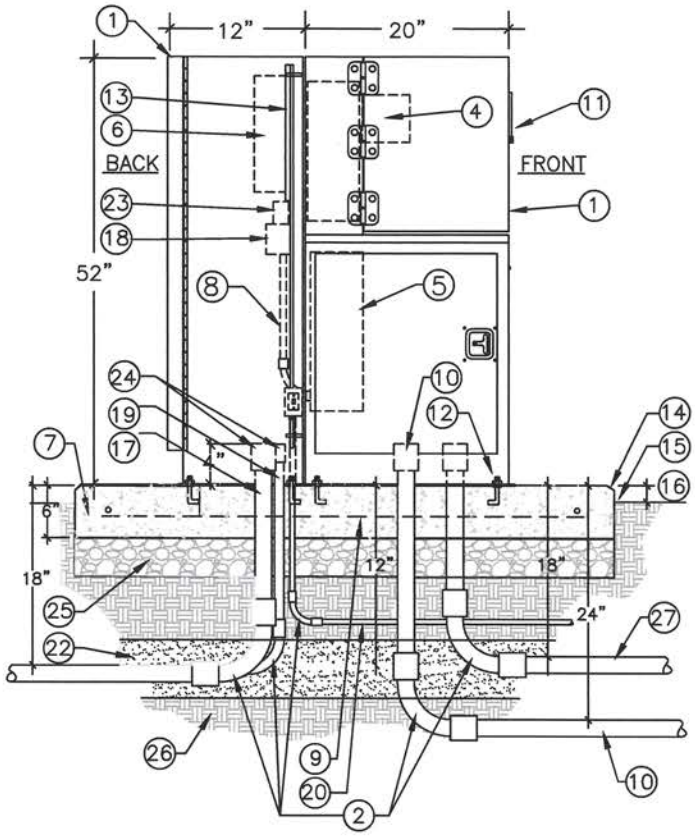
SUBSURFACE DRIPPERLINE DETAIL

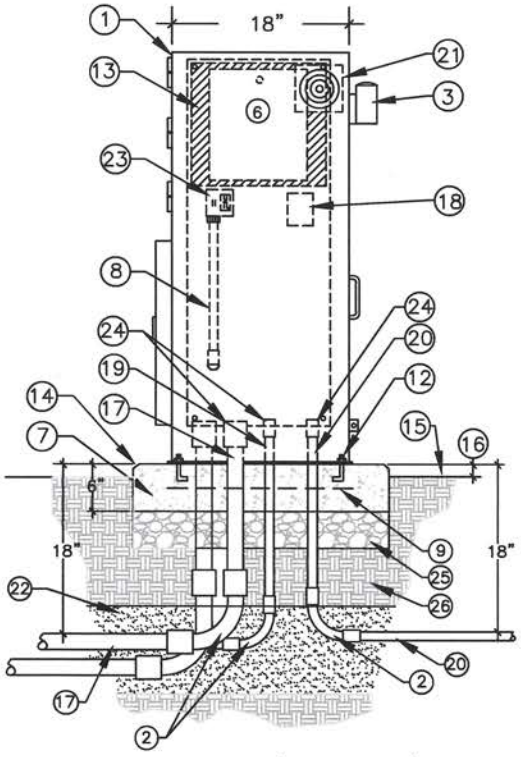
NO. LS-40



TOP VIEW METER BASE



SECTION A VIEW



CUSTOMER ENCLOSURE (BACK VIEW/ SECTION B)

NOTE:
SEE SHEET 2 OF 2 FOR KEYNOTES & GENERAL NOTES

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METERED ELECTRICAL SERVICE AND IRRIGATION CONTROLLER ENCLOSURE DETAIL

NO. LS-41

SHEET 1 OF 2

(1) STAINLESS STEEL METER ENCLOSURE (100AMP/1PHASE/120V/240V) AND CONTROLLER ENCLOSURE; STRONG BOX MODEL MPE-A16-10K. INSTALL PER POWER PROVIDERS SPECIFICATIONS.

(2) 90 DEGREE SCH 40 PVC SWEEPS. TYPICAL.

(3) RAIN SWITCH ENCLOSURE, STRONG BOX MODEL RGVRSS WITH RAIN GUARD/FREEZE GUARD, WCS MODEL RGFG OR APPROVED EQUAL. SEE PLANS AND SPECIFICATIONS.

(4) METER SOCKET WITH TEST BLOCKS

(5) LOAD CENTER WITH APPROPRIATE CIRCUIT BREAKER(S)

(6) IRRIGATION CONTROLLER, MODEL PER PLANS AND SPECIFICATIONS.

(7) POURED CONCRETE BASE; 6" MINIMUM THICKNESS. SLOPE 1/2% FOR DRAINAGE. MEET WITH AUTHORIZED PRIOR TO INSTALL.

(8) 120V POWER SUPPLY IN CONDUIT PER N.E.C.

(9) #4 REBAR TIE IN CONCRETE

(10) CONTRACTOR TO INSTALL 4" MIN. ø SCH. 40 PVC ELECTRICAL CONDUIT W/ 5/16" PULL CORD TO POWER PROVIDER SECONDARY SERVICE PULL BOX (P.O.C.). REFER TO PROJECT PLANS. PGE TO INSTALL SERVICE.

(11) METER VIEWING WINDOW; 2" X 4"

(12) 3/8" STAINLESS ANCHOR BOLTS (TYPICAL)

(13) $\frac{5}{8}$" PLYWOOD BACKING FOR CONTROLLER MOUNTING. CUT TO FIT STANDARD MOUNTING TRAY AND AFFIX TO BACKING PLATE WITH 4, $\frac{1}{2}$" LONG SCREWS. AFFIX CONTROLLER TO PLYWOOD USING MANUFACTURER'S TEMPLATE AND MOUNTING HARDWARE.

(14) 1/2" CHAMFER

(15) FINISH GRADE

(16) SET CONCRETE PAD ABOVE FINISH GRADE: 1/2" IN SEED, 1" IN SOD, 3-1/2" IN SHRUB PLANTERS AND 3" IN DECOMPOSED GRANITE

(17) PVC SCHEDULE 40 CONDUIT FOR CONTROL WIRES; 3" MINIMUM SIZE TO 18" BEYOND CONCRETE PAD THEN SIZE PER PLAN. SEE GENERAL NOTE ON SHEET 1 OF 1.

(18) WIRELESS INTERNET CONNECTION.

(19) 1-1/4" PVC SCHEDULE 40 CONDUIT FOR FLOW SENSOR CABLE IN SEPARATE CONDUIT.

(20) 1-1/2" PVC SCHEDULE 40 ELECTRIC CONDUIT WITH #6 AWG SOLID BARE COPPER WIRE TO EARTH GROUND ROD OR PLATE FOR IRRIGATION CONTROLLER. GROUND IN ACCORDANCE WITH APPLICABLE AMERICAN SOCIETY OF IRRIGATION CONSULTANTS (ASIC) STANDARDS AND CONTROLLER MANUFACTURER'S INDICATIONS.

(21) THERMOSTATICALLY CONTROLLED FAN (STRONGBOX MODEL: OPT-FAN). INSTALL ONLY IF CALLED FOR ON IRRIGATION PLAN. INSTALL PER MANUFACTURER'S SPECIFICATIONS.

(22) SAND TRENCH BACKFILL. 6" ABOVE MAINLINE, 2" BELOW, MINIMUM.

(23) POWER SWITCH/GFI RECEPTACLE

(24) PVC COUPLINGS AT ENDS OF CONDUITS TO PREVENT DAMAGE TO WIRE JACKETS. TYPICAL AT ALL.

(25) 4" MINIMUM LAYER CLASS 2 COMPACTED AGGREGATE BASE

(26) SUBGRADE COMPACTED TO 95% RELATIVE DENSITY

(27) SCH. 40 ELECTRICAL CONDUIT WITH #8 BARE COPPER WIRE TO 5/8"ø COPPER CLAD GROUND ROD OR PLATE, LENGTH & INSTALLATION PER CODE AND MANUFACTURER'S INDICATIONS.

(28) SPARE CONDUIT FOR 2 WIRE AND FLOW SENSOR

(29) FLOW SENSOR WIRE CONDUIT

NOTES:

1 METERED SERVICE ENCLOSURE: 12 GA H.D. GALV. STEEL 304D STAINLESS W/ 100 AMP METER SOCKET & SUPPORT HARDWARE, 100 AMP MAIN DISCONNECT, DISTRIBUTION PANEL OF ONE 20 AMP CIRCUIT BREAKER (IRRIGATION CONTROLLER), ONE 20 AMP CIRCUIT BREAKER (SPARE). CABINET TO BE PREWIRED AND ALL COMPONENTS TO HAVE FASTENED ENGRAVED NAMEPLATES.

2 REFER TO PROJECT PLANS FOR LOCATION OF PG&E SECONDARY POWER P.O.C., LOCATION OF 120V ELECTRICAL PULL BOXES, CONDUIT SIZES AND AUTO IRRIGATION CONTROLLER LOCATION.

3 ALL ELECTRICAL WORK TO BE PERFORMED BY A LICENSED ELECTRICIAN IN FULL ACCORDANCE W/ NEC & LOCAL CODES.

4 ALL METER ENCLOSURE PADLOCKS TO BE FURNISHED BY THE CITY OF CHICO.

5 SEE SHEET 1 OF 2 FOR DETAIL

6 CONTROLLER TO BE CERTIFIED BY CITIES AUTHORIZED BASELINE REPRESENTATIVE

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CITY OF CHICO **STANDARD PLAN**

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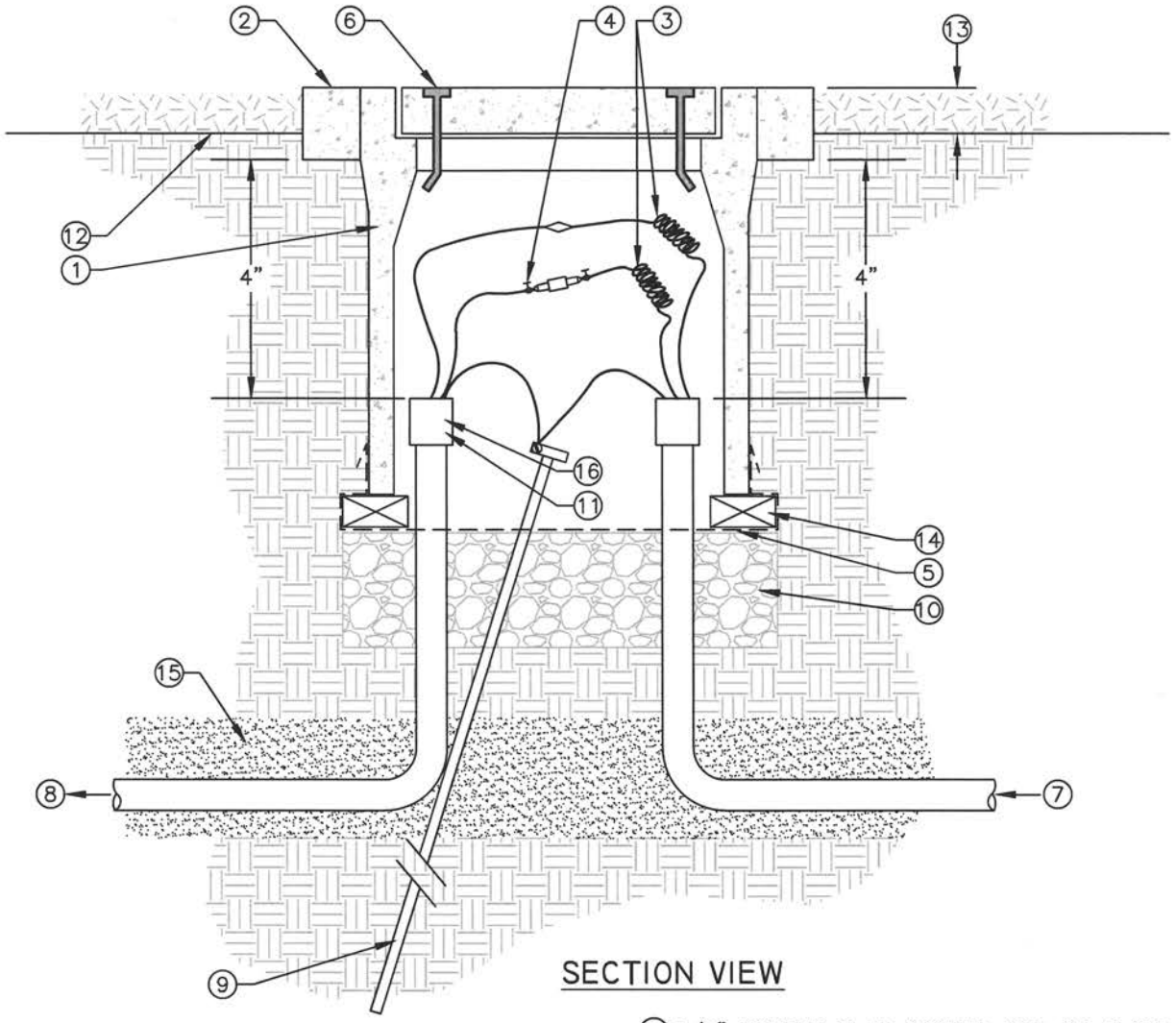
METERED ELECTRICAL SERVICE AND IRRIGATION CONTROLLER ENCLOSURE NOTES

NO. LS-41

SHEET 2 OF 2



SECTION VIEW

1. 8"X12" CONCRETE SPLICE BOX WITH LID. LID LABELED "IRRIGATION", OR APPROVED EQUAL.
2. INSTALL NEW 6" x 6" CONCRETE COLLAR.
3. PROVIDE 6' OF CONDUCTOR SLACK – INSIDE OF BOX NEATLY COILED. CONDUCTOR SIZE PER SPEC'S.
4. WATERPROOF 1 POLE FUSED SPLICE. CONNECT WITH 5 AMP FUSE.
5. 1/4" GALVANIZED WIRE MESH. TAPE TO OUTSIDE OF BOX.
6. HOLD DOWN BOLT.
7. 4" MIN. DIAM. CONDUIT INSTALLED BY POWER PROVIDER.
8. 2" MIN. DIAM. GRAY SCH. 40 PVC CONDUIT TO LOAD.
9. 5/8" COPPER CLAD GROUND ROD OR PLATE AS REQUIRED.
10. 3/4" DRAIN ROCK 6" DEPTH.
11. SEAL CONDUIT WITH ELECTRICIANS PUTTY. TYPICAL.
12. FINISH GRADE.
13. SET TOP OF BOX ABOVE FINISH GRADE: ½" IN SEED, 1" IN SOD, 3–1/2" IN PLANTER OR 3" FOR DECOMPOSED GRANITE.
14. (3) COMMON BRICKS FOR SUPPORT.
15. SAND TRENCH
16. PVC CONDUIT COUPLINGS SOLVENT WELDED TO ENDS OF CONDUITS TO PREVENT DAMAGE TO WIRE JACKETS. PROVIDE 4" CLEAR SPACE ABOVE TOP CONDUIT.

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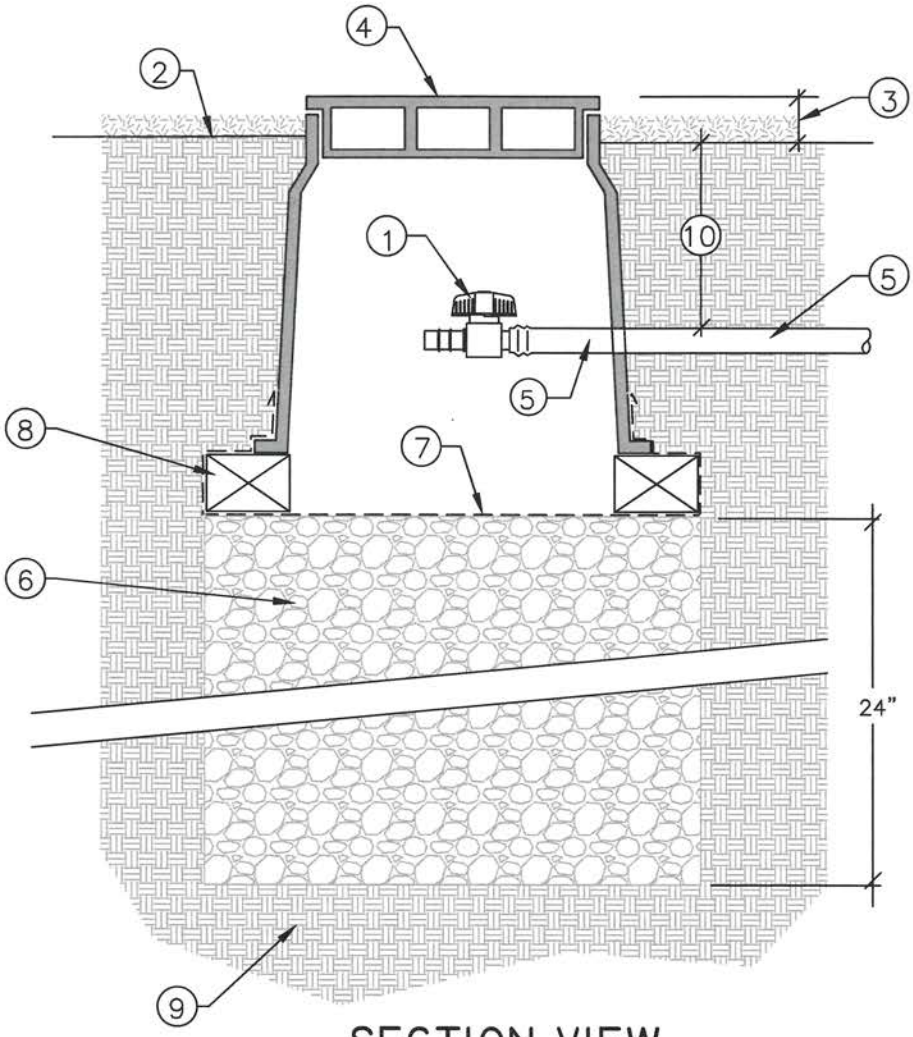
CONTROLLER SERVICE PULL BOX FOR FUSE-LINK CONNECTION

NO. LS-42



SECTION VIEW

1. COMPRESSION FLUSH VALVE. MANUFACTURER/ MODEL PER PLAN.
2. FINISH GRADE
3. SET TOP OF BOX ABOVE FINISH GRADE:
   1/2" IN SEED
   1" IN SOD
   3-1/2" IN PLANTER
4. PLASTIC VALVE BOX WITH BOLT DOWN LOC-KIT; CARSON MODEL 910 OR APPROVED EQUAL
5. HEAVY DUTY SUBSURFACE DRIPPERLINE, (MODEL PER PLANS)
6. 3/4" CRUSHED ROCK; 6" – 8" DIAMETER X 24" DEPTH
7. 1/4" GALVANIZED WIRE CLOTH. TAPE TO OUTSIDE OF CONTAINERS.
8. COMMON BRICKS FOR SUPPORT. 3 (MIN.), TYPICAL AT ALL VALVE BOXES.
9. UNDISTURBED SUBGRADE
10. "SCRATCH IN" DRIPPERLINE INTO TOP 2" OF SOIL. SEE SPECIFICATIONS.

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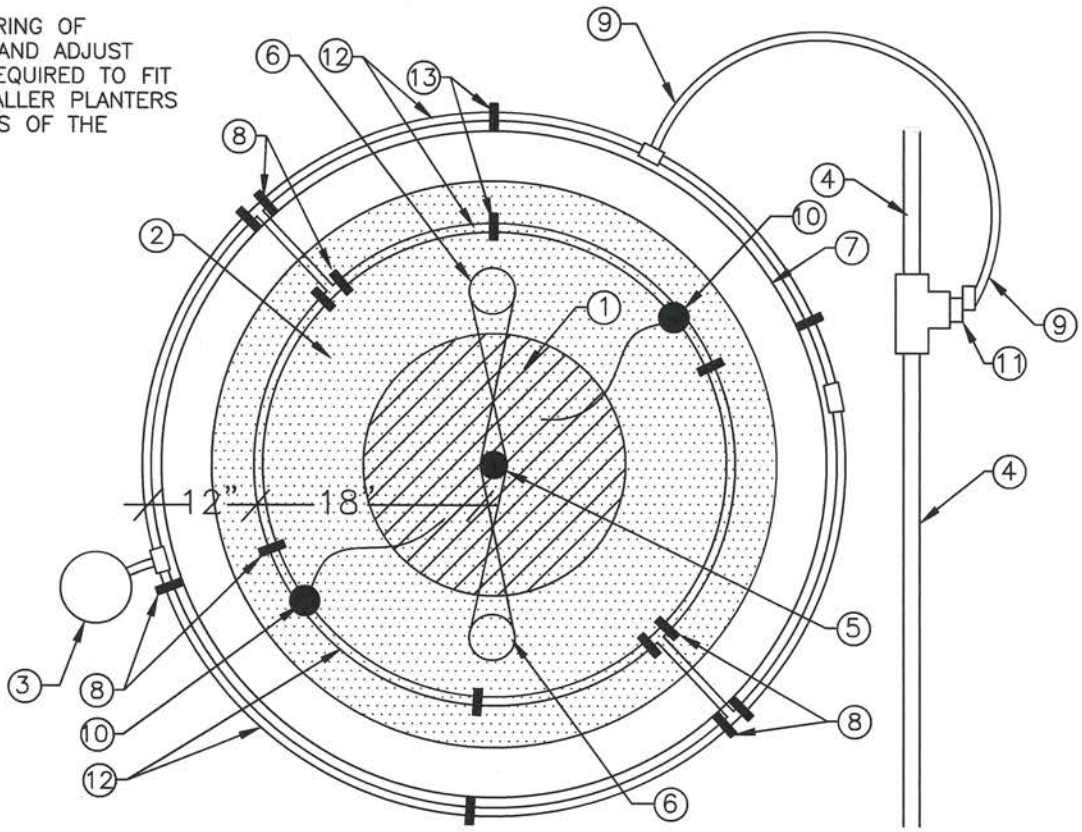
DRIPPERLINE MANUAL FLUSH VALVE DETAIL

NO. LS-43

NOTE:
OMIT OUTER RING OF DRIPPERLINE AND ADJUST LAYOUT AS REQUIRED TO FIT INTO THE SMALLER PLANTERS AT THE NOSES OF THE MEDIANS.



PLAN VIEW

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1. TREE ROOTBALL. SEE TREE PLANTING DETAIL FOR ADDITIONAL INFORMATION.
2. TREE PLANTING HOLE. SEE TREE PLANTING DETAIL FOR ADDITIONAL INFORMATION.
3. LINE FLUSHING VALVE. SEE DETAIL LS-43.
4. PVC LATERAL PIPE AND FITTING. INSTALL 8'-0" MIN OR AS CLEAR OF TREE AS POSSIBLE. AVOID PLACING IN MIDDLE OF PARKWAY STRIPS- INSTALLATION AT BACK OF WALK IS PREFERRED.
5. TREE. SEE PLANTING PLAN AND TREE PLANTING DETAIL
6. TREE STAKE (TYPICAL). SEE TREE PLANTING DETAIL.
7. OPTIONAL TEMPORARY WATER RETENTION BERM (TYPICAL). SEE TREE PLANTING DETAIL FOR ADDITIONAL INFORMATION.
8. 6" MIN SOIL STAPLES AS SHOWN. TYPICAL.
9. BLANK DRIPPERLINE (NO INLINE EMITTERS) SCRATCH INTO TOP TWO INCHES OF FINISH GRADE.
10. IRRIGATION EMITTER. MODEL PER IRRIGATION PLAN. 2 PER TREE. USE $\frac{1}{4}$" DISTRIBUTION TUBING TO DISTRIBUTE WATER TO TREE ROOTBALL. SECURE TO ROOTBALL WITH $\frac{1}{4}$" DISTRIBUTION TUBING STAKE.
11. TRANSITION TO DRIPPERLINE DISTRIBUTION TUBING. SEE DETAIL LS-39. INSTALL 8' OR AS CLEAR OF TREE AS POSSIBLE. BRING DISTRIBUTION TUBING TO TOP 2" OF FINISH GRADE.
12. DRIPPERLINE PER PLAN. "SCRATCH -IN" 12" EMITTER SPACING TOP 2 INCHES PER SPECIFICATIONS.

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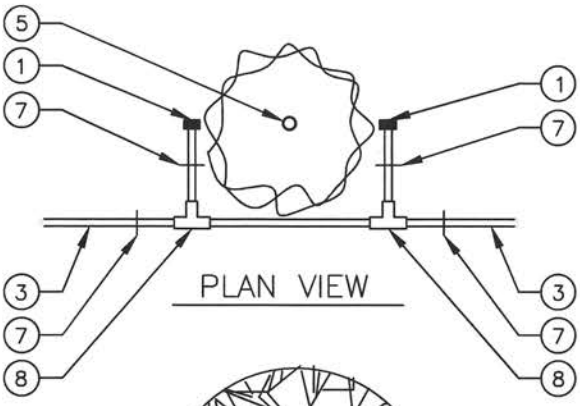
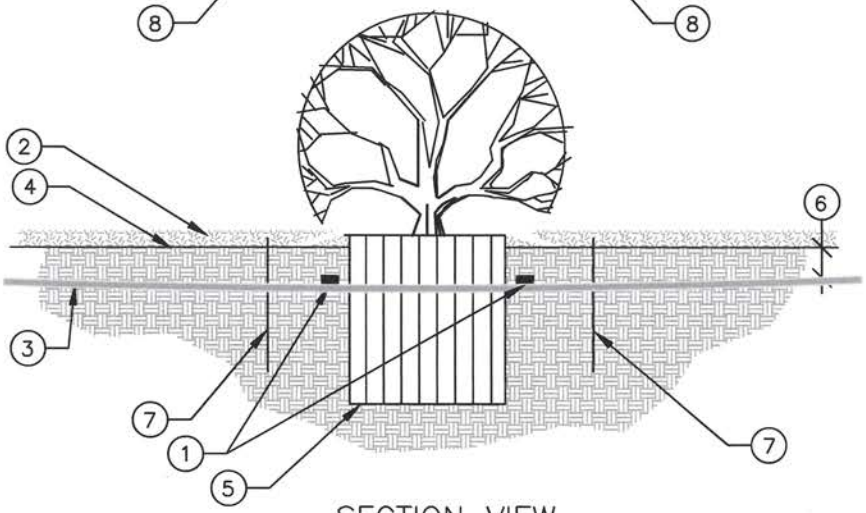
DRIPPERLINE DETAIL AT TREES

NO. LS-44



PLAN VIEW



SECTION VIEW

(1) EMITTER. MANUFACTURER/ MODEL 2–4 EMITTERS PER PLAN, PER PLANT PER SIZE OF PLANT. MINIMUM 2 EMITTERS, ONE ON EACH SIDE OF PLANT.

(2) TOP DRESSING PER PLANS AND SPECIFICATIONS.

(3) BLANK HEAVY DUTY SUBSURFACE DRIPPERLINE. MANUFACTURER/ MODEL PER PLAN. PLACE AWAY FROM PLANT, EXTEND TUBING AND EMITTERS OVER TO ROOT BALL.

(4) FINISH GRADE

(5) SHRUB PLANTING. SEE SHRUB PLANTING DETAIL.

(6) "SCRATCH IN" DRIPPERLINE INTO TOP 2" OF SOIL. SEE SPECIFICATIONS.

(7) METAL SOIL STAPLE. 6" MINIMUM LENGTH @ 4'–0" O.C., AT CHANGES IN DIRECTION, AND AT FITTINGS.

(8) TEE FITTING

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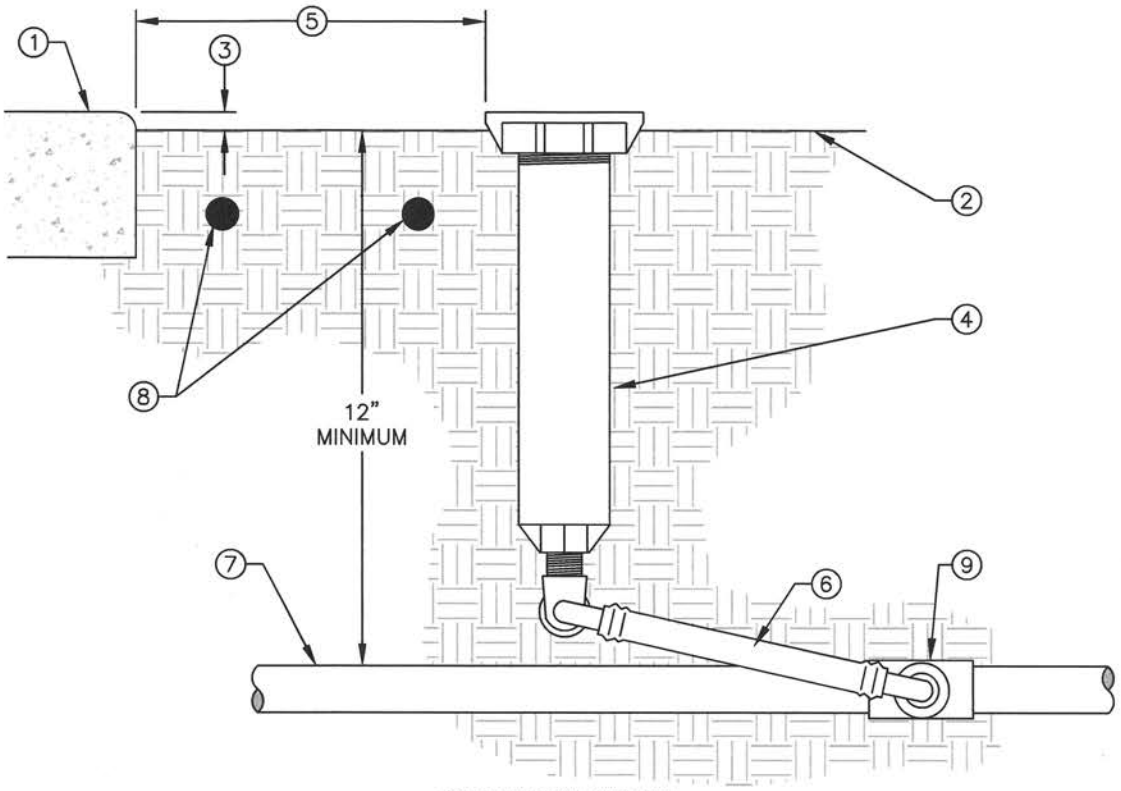
DRIPPERLINE DETAIL AT SHRUBS

NO. LS-45



SECTION VIEW

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1. EDGE OF PAVING OR FACE OF WALL.
2. FINISH GRADE.
3. SET TOP OF IRRIGATION HEAD AT ¼" BELOW LEVEL HEIGHT OF PAVING. IF A BUBBLER IS USED, TOP OF BUBBLER SHALL BE LEVEL WITH TOP OF PAVING.
4. POP–UP IRRIGATION HEAD. SEE PLANS FOR TYPE AND MODEL. USE BOTTOM INLETS ONLY. MUST HAVE CHECK VALVE
5. OVERHEAD IRRIGATION SHALL NOT BE PERMITTED WITHIN 24 INCHES OF A NON PERMEABLE SURFACE UNLESS IT DRAINS INTO A LANDSCAPED AREA. KEEP HEADS A MINIMUM OF 2" AWAY FROM HARDSCAPED AREA.
6. SWING PIPE ASSEMBLY; 12" LONG, LOW DENSITY POLYTUBING (0.49" ID) WITH SWIVEL ELLS AT BOTH ENDS. HUNTER MODEL SJ–506 OR SJ–512 (OR APPROVED EQUAL).
7. LATERAL LINE PVC SCHEDULE 40. LINE SIZE PER PLAN.
8. INSTALL 2 SUBSURFACE DRIPPERLINE IF AREA IS TO BE PLANTED. USE SEPARATE VALVE ZONE SUPPLY OR MATCH PRECIPITATION RATE TO POP UP IRRIGATION. SEE IRRIGATION PLAN AND SUBSURFACE DRIPPERLINE DETAILS FOR ADDITIONAL INFORMATION.
9. TEE OR ELBOW PVC SCHEDULE 40.

NOTE:
INSTALL SWING ASSEMBLIES FACING AWAY FROM ADJACENT HARDSCAPE TO ALLOW FOR MAINTENANCE ACCESS.

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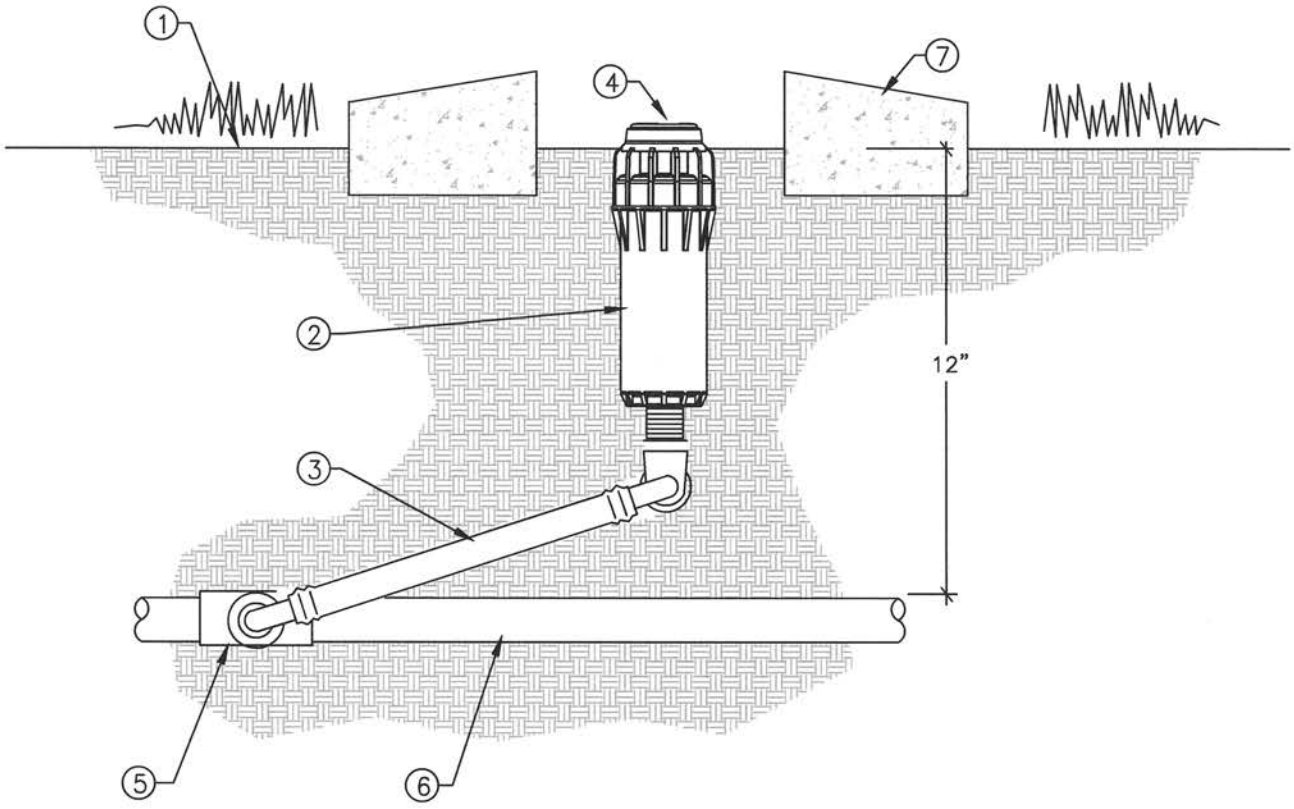
POP-UP IRRIGATION HEAD DETAIL

NO. LS-46



SECTION VIEW

1. FINISH GRADE
2. GEAR DRIVEN ROTOR. MANUFACTURER AND MODEL AS PER PLANS AND SPECIFICATIONS
3. SWING PIPE ASSEMBLY 12" LONG. HUNTER MODEL SJ-506 OR SJ-512 (OR APPROVED EQUAL).
4. SET TOP OF SPRINKLER ABOVE FINISH GRADE:
   1/4" IN SEED
   5/8" IN SOD
5. PVC SCHEDULE 40 LATERAL FITTING SL X SL X TH
6. PVC SCHEDULE 40 LATERAL PIPE
7. CONCRETE SPRINKLER BLOCK (WHERE APPLICABLE). LOCATIONS, SIZE, AND MODEL PER PLAN

NOTES:
1. OVERHEAD IRRIGATION SHALL NOT BE PERMITTED WITHING 24 INCHES OF ANY NON-PERMEABLE SURFACE UNLESS IT DRAINS INTO A LANDSCAPED AREA.
2. INSTALL SWING ASSEMBLIES FACING AWAY FROM ADJACENT HARDSCAPE TO ALLOW FOR MAINTENANCE ACCESS.

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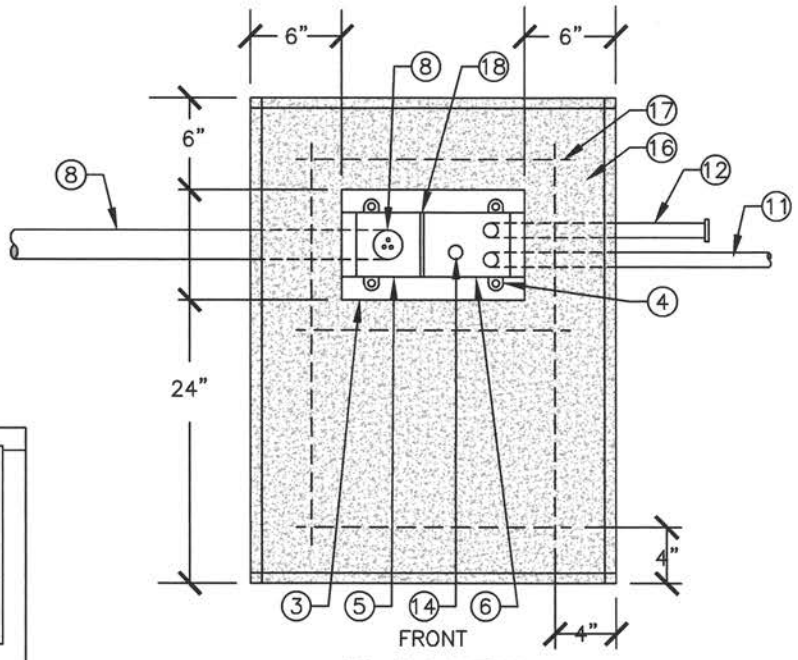
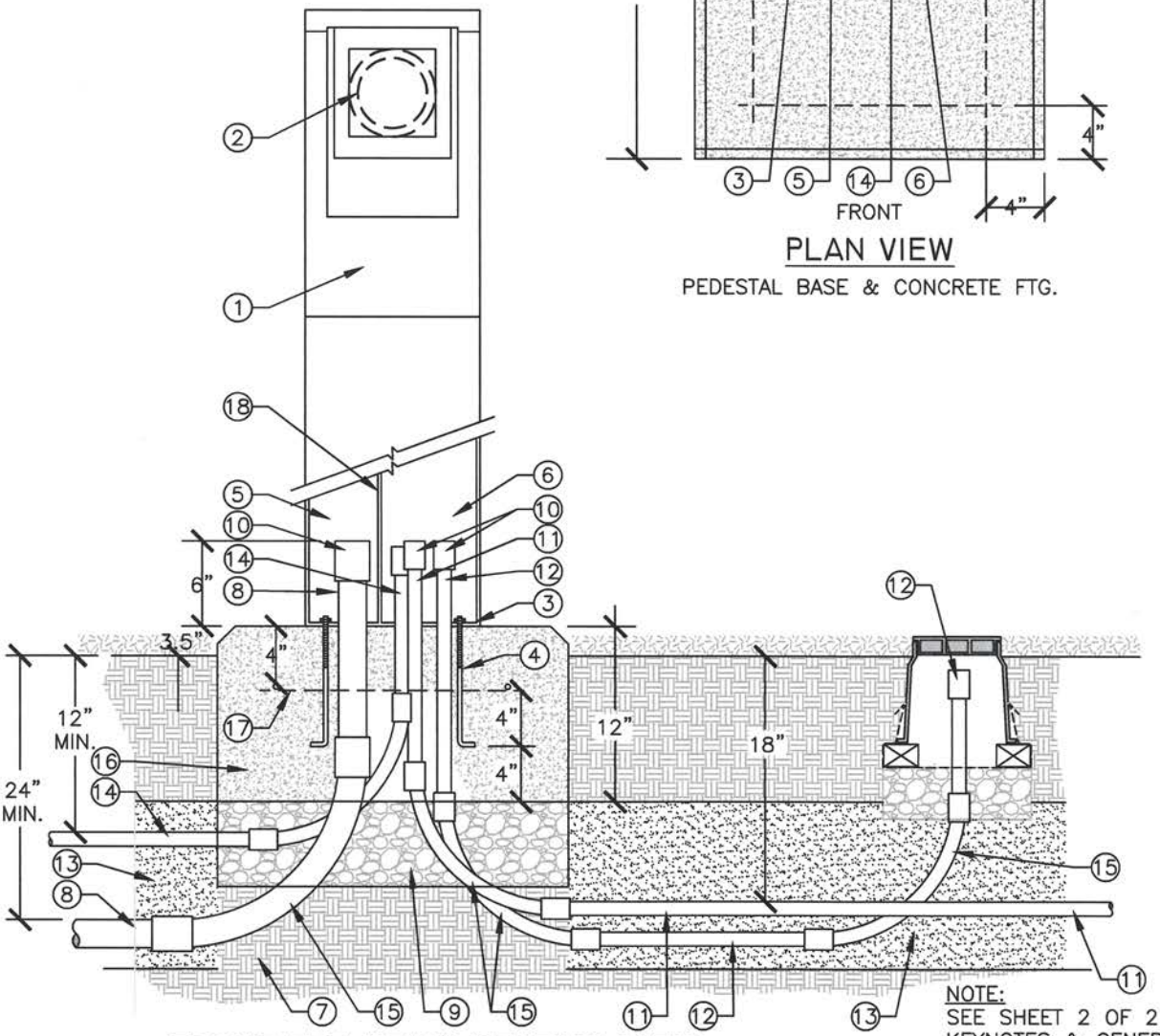
GEAR DRIVEN ROTOR DETAIL

NO. LS-47



PLAN VIEW

PEDESTAL BASE & CONCRETE FTG.



FRONT ELEVATION/SECTION VIEW

NOTE:
SEE SHEET 2 OF 2 FOR KEYNOTES & GENERAL NOTES

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METERED ELECTRICAL SERVICE ENCLOSURE DETAIL

NO. LS-48

SHEET 1 OF 2

(1) STAINLESS STEEL ELECTRICAL METER ENCLOSURE. INSTALL PER POWER PROVIDER SPECIFICATIONS. STRONGBOX MODEL CSP-11008-10. A STRONG BOX MPE MODEL, DUAL ENCLOSURE MAY BE REQUIRED PER CITY PLANS REVIEWER OR AUTHORIZED CITY REPRESENTATIVE.

(2) METER (BY PG&E)

(3) METER PEDESTAL BASE.

(4) 5/8"ø x 8" GALV. J-BOLT ANCHORS W/ GALV. WASHERS, (TYP OF 4). REFER TO MANUFACTURER'S LAYOUT DIMENSIONS.

(5) SERVICE SIDE OF PEDESTAL (POWER SUPPLIER)

(6) LOAD SIDE OF PEDESTAL (CUSTOMER)

(7) COMPACTED SUBGRADE TO 95% RELATIVE DENSITY

(8) CONTRACTOR TO INSTALL 4" MIN. ø SCH. 40 PVC ELECTRICAL CONDUIT W/ 5/16" PULL CORD TO POWER PROVIDER SECONDARY SERVICE PULL BOX (P.O.C.). REFER TO PROJECT PLANS. POWER PROVIDER TO INSTALL SERVICE.

(9) 4" MINIMUM LAYER CLASS II COMPACTED AGGREGATE BASE

(10) PVC COUPLINGS AT ENDS OF CONDUITS TO PREVENT DAMAGE TO WIRE JACKETS. TYPICAL AT ALL.

(11) 1-1/2"ø SCH. 40 PVC ELECTRICAL CONDUIT W/ TWO #10 W/ GROUND TO IRRIGATION CONTROLLER. REFER TO CITY OF CHICO STANDARD DETAILS LS-49 & LS-50 RESPECTIVELY AND PROJECT PLANS.

(12) 1-1/2"ø SCH. 40 PVC ELECTRICAL CONDUIT FOR DISTRIBUTION PANEL SPARE 120V CIRCUIT BREAKER (FUTURE). STUB 24" BEYOND PEDESTAL CONCRETE PAD/FOOTING. REFER TO DETAILS LS-24 AND LS-25 FOR STUB OUT BOX INSTALLATION.

(13) SAND TRENCH BACKFILL PER SPECIFICATIONS. 6" ABOVE, 2" BELOW MINIMUM

(14) SCH. 40 ELECTRICAL CONDUIT WITH #6 BARE COPPER WIRE TO 5/8"ø COPPER CLAD GROUND ROD OR PLATE, LENGTH & INSTALLATION PER CODE AND MANUFACTURER'S INDICATIONS. INSTALL PER CITY OF CHICO STANDARD DETAIL FOR GROUNDING.

(15) CONDUIT SWEEPS

(16) CONCRETE PAD/FOOTING, SLOPE EXPOSED CONCRETE 1/4" TO DRAIN W/ 1/2" CHAMFER ALL AROUND.

(17) #4 REBAR TIES

(18) BARRIER BETWEEN POWER PROVIDER SIDE AND CUSTOMER SIDE

GENERAL NOTES:

1 METERED SERVICE ENCLOSURE: 100 AMP METER SOCKET & SUPPORT HARDWARE, 100 AMP MAIN DISCONNECT, DISTRIBUTION PANEL OF ONE 20 AMP CIRCUIT BREAKER (IRRIGATION CONTROLLER), ONE 20 AMP CIRCUIT BREAKER (SPARE). CABINET TO BE PREWIRED AND ALL COMPONENTS TO HAVE FASTENED ENGRAVED NAMEPLATES.

2 REFER TO PROJECT PLANS FOR LOCATION OF PG&E SECONDARY POWER P.O.C., LOCATION OF 120V ELECTRICAL PULL BOXES, CONDUIT SIZES AND AUTO IRRIGATION CONTROLLER LOCATION.

3 ALL ELECTRICAL WORK TO BE PERFORMED BY A LICENSED ELECTRICIAN IN FULL ACCORDANCE W/ NEC & LOCAL CODES.

4 ALL METER PEDESTAL PADLOCKS TO BE FURNISHED BY THE CITY OF CHICO.

5 SEE SHEET 1 OF 2 FOR DETAIL

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CITY OF CHICO **STANDARD PLAN**

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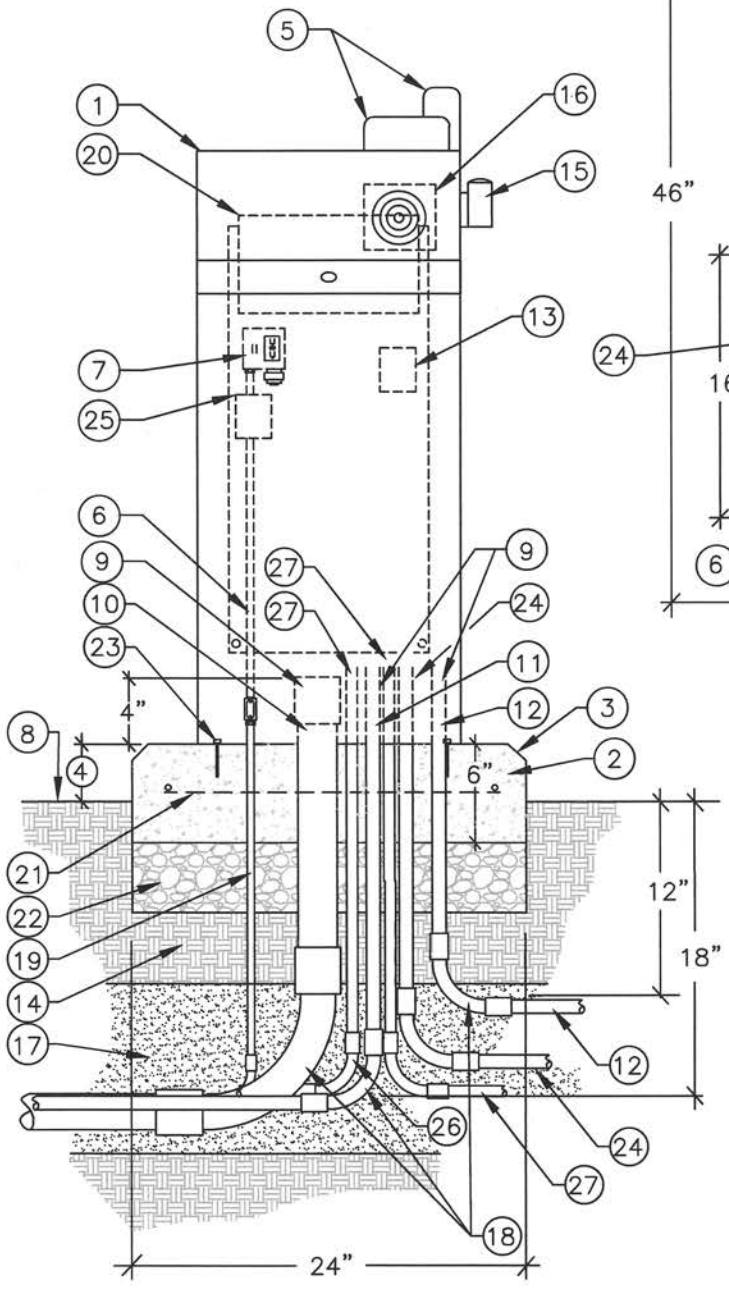
METERED ELECTRICAL SERVICE ENCLOSURE KEYNOTES & GENERAL NOTES

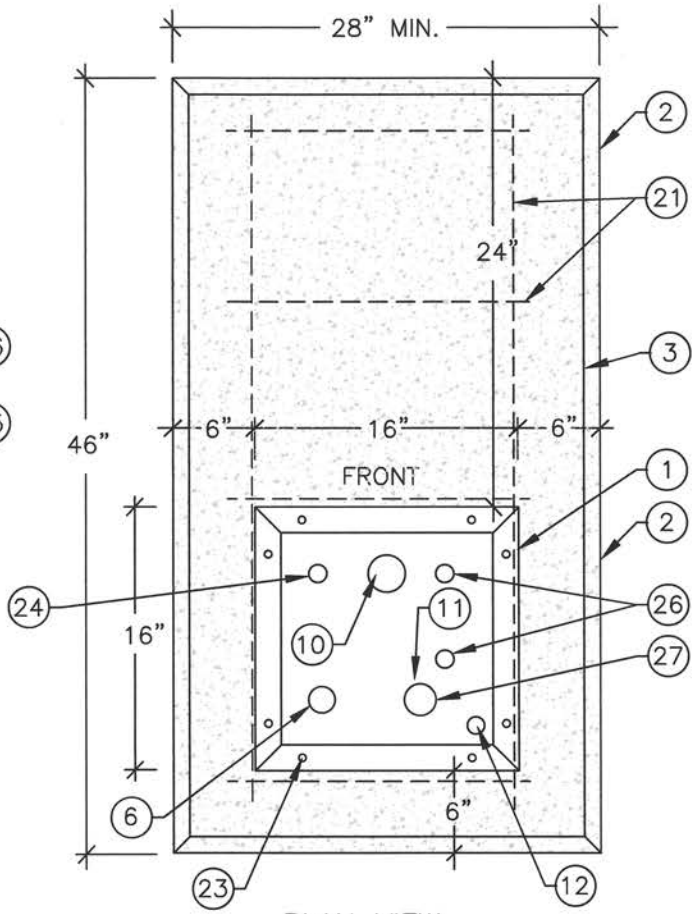
NO. LS-48

SHEET 2 OF 2

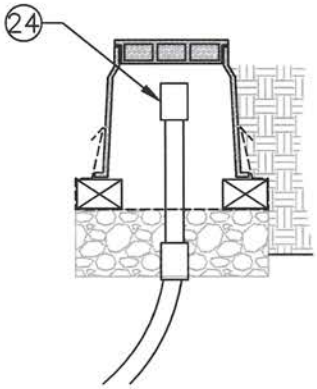
NOTE:
SEE SHEET 2 OF 2 FOR KEYNOTES & GENERAL NOTES



FRONT SECTION/ ELEVATION VIEW



PLAN VIEW



STUB OUT DETAIL

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TOP ENTRY CONTROLLER ENCLOSURE DETAIL

NO. LS-49

SHEET 1 OF 2

① STRONGBOX SB–16SS, 16" WIDE STAINLESS STEEL TOP ENTRY CONTROLLER ENCLOSURE; MODEL PER PLANS AND SPECIFICATIONS

② POURED CONCRETE BASE; 6" MINIMUM THICKNESS, EXTEND CONCRETE 6" BEYOND SIDES AND BACK AND 24" BEYOND FRONT OF ENCLOSURE WITH 1/2% MIN. SLOPE FOR DRAINAGE. MEDIUM BROOM FINISH. MEET WITH AUTHORIZED CITY REPRESENTATIVE PRIOR TO INSTALL.

③ 1/2" CHAMFER

④ SET GRADE OF TOP OF SLAB ABOVE FINISH GRADE:
1/2" IN SEED
1" IN SOD
3–1/2" IN PLANTER OR
3" IN DECOMPOSED GRANITE.

⑤ ANTENNA PER PLANS AND SPECIFICATIONS

⑥ 1" METAL CONDUIT FOR 120 VAC WIRE FROM METERED POWER SUPPLY

⑦ POWER SWITCH AND GFI RECEPTACLE. GFI TO STAY POWERED WHEN TOGGLE SWITCH IS OFF.

⑧ FINISH GRADE

⑨ PVC COUPLINGS AT ENDS OF CONDUITS TO PREVENT DAMAGE TO WIRE JACKETS. TYPICAL AT ALL.

⑩ PVC SCHEDULE 40 CONDUIT FOR CONVENTIONAL CONTROL WIRES. 3" MINIMUM DIAM. TO 18" MIN. BEYOND CONTROLLER PAD, THEN SIZE PER PLAN.

⑪ 1–1/2" PVC SCHEDULE 40 CONDUIT FOR FLOW SENSOR CABLE.

⑫ 1–1/2" PVC SCHEDULE 40 ELECTRICAL CONDUIT WITH #6 AWG SOLID BARE COPPER WIRE TO EARTH GROUND ROD(S) (8'–0" LONG, MIN.) OR PLATE(S) WITH EARTH CONTACT BACKFILL AS REQUIRED PER SOILS TYPE. GROUND IN ACCORDANCE WITH APPLICABLE AMERICAN SOCIETY OF IRRIGATION CONSULTANTS (ASIC) STANDARDS AND CONTROLLER MANUFACTURER'S INDICATIONS.

⑬ WIRELESS INTERNET CONNECTION

⑭ COMPACTED SUBGRADE TO 95% RELATIVE DENSITY

⑮ RAIN SWITCH ENCLOSURE, INSTALLED ON SIDE OF LID, SENSOR GUARD WITH MINI CLICK (SGMC BY HUNTER) OR APPROVED EQUAL. SEE PLANS AND SPECIFICATIONS.

⑯ THERMOSTATICALLY CONTROLLED FAN (STRONGBOX MODEL: OPT–FAN). INSTALL PER MANUFACTURER'S SPECIFICATIONS.

⑰ SAND TRENCH BACKFILL. 6" ABOVE MAINLINE, 2" BELOW, MINIMUM.

⑱ CONDUIT SWEEPS. TYPICAL. SEE SPECIFICATIONS.

⑲ PVC CONDUIT FROM METERED POWER SUPPLY WITH 120VAC WIRE

⑳ IRRIGATION CONTROLLER; SPECIFIC MODEL(S) PER PLANS AND SPECIFICATIONS. HYDROPOINT BASELINE 3200 SERIES OF PRODUCT AND ASSOCIATED ACCESSORIES.

㉑ #4 REBAR TIE

㉒ 4" MIN LAYER CLASS II COMPACTED AGGREGATE BASE

㉓ ¾" DIAM. ANCHOR BOLTS TO SECURE PEDESTAL TO PAD AS PER MANUFACTURER'S SPECIFICATIONS.

㉔ SPARE CONDUIT (SEE NOTE ON ADDENDUM).

㉕ LPP (LINE PRELIMINARY PROTECTION) / CONDITIONER.

㉖ MASTER VALVE AND SEPARATE 1.5" CONDUIT. PVC SCHEDULE 40 GRAY CONDUIT.

㉗ TWO WIRE PVC SCHEDULE 40 CONDUIT FOR HYDRO–POINT BASELINE PRODUCT LINE.

NOTES:

1. ALL ELECTRICAL WORK TO BE PERFORMED BY A LICENSED ELECTRICIAN IN FULL ACCORDANCE W/ NEC & LOCAL CODES.
2. ENCLOSURE PADLOCKS TO BE FURNISHED BY THE CITY OF CHICO.
3. SEE SHEET 1 OF 2 FOR DETAIL
4. CONTROLLER INSTALLATION TO BE CERTIFIED BY CITIES AUTHORIZED BASELINE REPRESENTATIVE.
5. COMPONENTS SUCH AS ITEMS #7,13,15,16 & 25 BUT NOT LIMITED TO ARE SHOWN DIAGRAMMATICALLY. REFER TO STATEMENT IN ITEM #20 ALSO ON ADDENDUM.

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TOP ENTRY CONTROLLER ENCLOSURE NOTES

NO. LS-49

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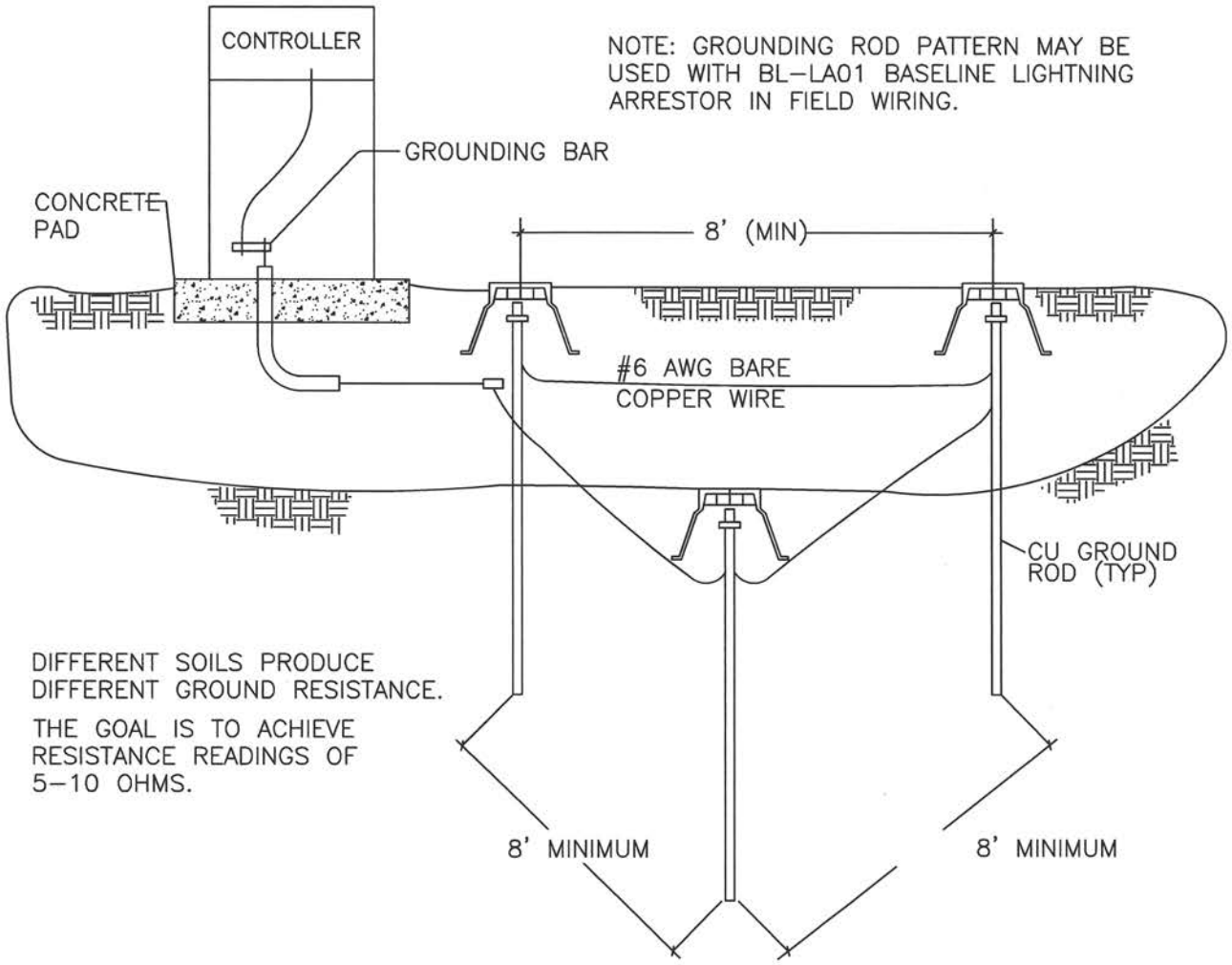

NOTE: GROUNDING ROD PATTERN MAY BE USED WITH BL–LA01 BASELINE LIGHTNING ARRESTOR IN FIELD WIRING.

DIFFERENT SOILS PRODUCE DIFFERENT GROUND RESISTANCE.

THE GOAL IS TO ACHIEVE RESISTANCE READINGS OF 5–10 OHMS.

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BASELINE CONTROLLER IN P PEDESTAL GROUNDING DETAIL

NO. LS-50

SHEET 1 OF 2

CONTROLLER GROUNDING & SURGE PROTECTION

GROUNDING ELECTRODES

IN ALL CASES WHERE IT DOES NOT CONFLICT WITH APPROIATE GROUNDING GRID DESIGN FOR THE SITE IN QUESTION, GROUNDING ELECTRODES SUCH AS RODS OR PLATES REFFERED TO IN THIS SPECIFICATION MUST CONFORM TO THE FOLLOWING STANDARDS.

GROUNDING RODS

ALL GROUNDUNG RODS MUST BEBARE COPPER OF $\frac{5}{8}$" DIAMETER AND A MINIMUM OF 8' IN LENGTH OR LONGER.

- GROUNDING MUST BE LOCATED AT A MINIMUM DISTANCE TO ASSURE THAT THE TWO WIRE PATH IS OUTSIDE OF THE ELECTRODE SPHERE OF INFLUENCE FOR THE GROUNDING ROD. FOR AN 8' GROUNDING ROD THIS MEANS THE GROUNDING ROD MUST BE CONNECTED AT LEAST 8' AWAY FROM THE TWO WIRE PATH, AT A RIGHT ANGLE TO THE TWO WIRE PATH. SEE THE BL–LA01 SURGE ARRESTOR INSTALLATION GUIDE FORDETAILS ON CONNECTING THE GROUNDING ROD TO THE DEVICE OR SURGE PROTECTOR.
- INSTALL ALL GROUNDING RODS IN A 10INCH ROUND VALVE BOX TO FACILITATE THE USE OF CLAMP ON GROUND RESISTANCE TESTER. IF YOU USE A SMALLER BOX, WOULD WILL NOT BE ABLE TO CLAMP THE RESISTOR AROUND THE GROUNDING ROD OR CONDUCTOR.
- DRIVE GROUND RODS INTO THE GROUND TO A MINIMUM OF 8' IN A VERTICAL OR OBLIQUE POSITION. THE ANGLE OF THE ROD RELATIVE TO THE VERTICAL MUST BE NO MORE THAN 45°.

CONNECTIONS TO GROUNDING RODS/PLATES

ALL CONNECTIONS TO GROUNDING RODS/PLATES MUST CONFORM TO ASIC EARTH GROUNDING ELECTRIC EQUIPMENT IN IRRIGATION SYSTEMS–GUIDELINES AND MUST CONSIST OF EITHER A CADWELD TYPE OR SCREW CLAMP TYPE OF CONNECTION. CADWELD OR EQUIVALENT CONNECTIONS ARE PREFERRED. ALL CLAMPS MUST BE SUITABLE FOR DIRECT BURIAL OR EXOTHERMIC WELD. THE RESISTANCE READING ON THIS CONNECTION SHOULD BE LESS THAN 1MILLIOHM.

ANY WIRE EXTENSIONS REQUIRED TO CONNECT FROM A GROUNDING ROD TO A SURGE ARRESTOR OR ENCLOSURE GROUND LUG MUST BE 6–GAUGE BARE COPPER WIRE AND MUST NOT HAVE ANY SHARP BENDS, COILS OR KINKS. WIRE EXTENSIONS CONNECTED TO SURGE ARRESTORS MUST USE A SPLIT BOLT CONNECTOR CADWELD CONNECTOR OR SCREW CLAMP CONNECTOR WHERE THE BARE COPPER GROUND WIRE MEETS THE GREEN GROUNDING WIRE FROM THE SURGE ARRESTOR. NEVER USE SOLDER TO MAKE CONNECTIONS IN THE GROUNDING SYSTEM BECAUSE IT WILL MELT DURING A LIGHTING DISCHARGE.

GROUNDING OPTIONS

WHILE THE BEST OPTIONS FOR GROUNDING IRRIGATION EQUIPMENT IS A DIRECT PHYSICAL CONNECTION TO THE EARTH, THERE ARE TIMES WHEN THIS IS IMPOSSIBLE OR IMPRACTICAL. THE FOLLOWING OPTIONS ARE AVAILABLE FOR SPECIAL CASES. ALL OTHER REQUIREMENTS IN BASELINE'S GROUNDING SPECIFICATIONS APPLY.

- CONTROLLER ENCLOSURE: WHEN DIRECT PHYSICAL CONNECTION TO THE EARTH IS NOT POSSIBLE, THE IRRIGATION CONTROLLER'S ENCLOSURE GROUND CAN BE CONNECTED TO THE BUILDING GROUND. HOWEVER DO NOT CONNECT THE TWO WIRES SURGE ARRESTOR TO THE BUILDING GROUND.
- IRRIGATION SYSTEM ON A GREEN ROOF OR GREEN WALL: WHEN GROUNDING THE IRRIGATION SYSTEM ON A GREEN ROOF OR GREEN WALL, THE IRRIGATION CONTROLLER'S ENCLOSURE GROUND CAN BE CONNECTED TO THE BUILDING GROUND AND IT IS ACCEPTABLE TO CONNECT THE GREEN WIRE FROM EACH SURGE ARRESTOR TO THE BUILDING SYSTEM GROUND.

N.T.S.

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BASELINE CONTROLLER IN P
PEDESTAL GROUNDING DETAIL

NO. LS-50

SHEET 2 OF 2