

GENERAL

1. The Contractor shall know and fully comply with applicable provisions of the federal, state, and local regulations and requirements that govern the Contractor's operations and storm water and non-storm water discharges from both the project site and areas of disturbance outside the project limits during construction.
2. The Contractor is directed to Chapter 15.08 - Grading, Erosion Control, and Hillside Development of the City of Shasta Lake Municipal Code for additional requirements.

CUTS

1. Slope: Excavations shall not be made with a cut face steeper in slope than two horizontal to one vertical (2:1). The City Engineer, or approving body, may require the excavation to be made with a cut face flatter in slope than two horizontal to one vertical if there is reason to believe that the material in which the excavation is to be made is unusually subject to erosion or if other conditions make such flatter cut necessary for stability and safety. An applicant or permittee may submit the report and recommendations of a retained Engineering Geologist or Geotechnical Engineer for a steeper slope and the City Engineer shall consider and may approve a steeper slope, but shall not necessarily be bound by such report if a determination that public safety would be endangered thereby.
2. Unstable Slopes: If the material of the slope is of such composition and character as to be unstable, considering all types of anticipated loading moisture conditions and erodibility, the project Engineering Geologist and/or Geotechnical Engineer shall, by testing and analysis, provide specific criteria for its stabilization by reduction of slope angle, buttressing, or by a combination of these or other means.
3. Rounding Slopes: All cut slopes shall be rounded into the existing terrain to produce a contoured transition from cut face to natural ground where conditions permit.
4. Location of Slopes: All cut slopes shall be within properties or parcels under one ownership wherever possible, and in no event shall cuts be divided vertically by property lines unless design criteria is submitted which, in the estimation of the City Engineer, would provide adequate protection. Tops of cut slopes shall not be nearer than one foot plus one-fifth the height of the cut to a project boundary, but need not exceed a horizontal distance of ten (10) feet from the project boundary.
5. Terraces: Terraces shall be a minimum of six and one-half feet in width. Cut slopes shall not exceed a vertical height of 60 feet unless terraces are installed at each 30 feet of vertical height. At the discretion of the City Engineer, cut slopes exceeding 30 feet and less than 100 feet in vertical height may have one (1) terrace drain placed at mid-height.

FILLS

1. Slope: No fill shall be made which creates any exposed surface steeper in slope than two horizontal to one vertical (2:1).
2. Terraces: Terraces shall be a minimum of six and one-half feet in width. Fill slopes shall not exceed a vertical height of 50 feet unless terraces are installed at each 25 feet of vertical height. At the discretion of the City Engineer, fill slopes exceeding 25 feet and less than 50 feet in vertical height may have one (1) terrace drain placed at mid-height.
3. Placement of Fill: All fills shall be placed, compacted, inspected and tested in accordance with the following provisions:
 - A. The natural ground surface shall be prepared to receive fill by removing vegetation, non-complying fill, unsuitable soil; and, where natural slopes are five horizontal to one vertical or steeper, by placing at least ten (10) foot wide keys and benches into sound bedrock or other competent material. Five (5) feet of the lowermost bench shall be exposed beyond the toe of the fill.
 - B. No organic material shall be permitted in fills. No rock or similar irreducible material with a maximum dimension greater than eight (8) inches shall be buried or placed in fills unless otherwise recommended by the Civil Engineer or Geotechnical Engineer.
 - C. The fill shall be spread in a series of layers. The maximum thickness of loose lifts shall be eight (8) inches and shall be compacted by sheepfoot roller or other approved method after each layer is spread.
 - D. The moisture content of the fill material shall be controlled at the time of spreading and compaction to obtain required relative compaction.
 - E. All fills shall be compacted to a minimum of 90% of maximum density as determined by AASHTO T180, correction for oversize material in accordance with AASHTO T224 or other approved testing method giving equivalent test results.

				CITY OF SHASTA LAKE		Approved: 	
				Public Works Department		09-30-2023	
				STANDARD DRAWING		City Engineer _____ Date _____	
				GRADING DESIGN STANDARDS		Date: 09/2023 Dwg No.:	
REVISION	BY	APPROVED	DATE			Scale: None 700.01	

FILLS (continued)

3. Placement of Fill: All fills shall be placed, compacted, inspected and tested in accordance with the following provisions:
 - F. A field density test shall be taken for each two (2) feet of fill or portion thereof, measured vertically from the lowest point of the area to be filled and for each 1,000 cubic yards of fill placed. In addition, in the case of subdivisions, at least one (1) field density test shall be taken on each platted lot which receives fill. Slope face test shall be required at one (1) test per 1,000 square feet but at no greater vertical interval than ten (10) feet.
 - G. All fills shall be tested for relative compaction (density). A certificate of compliance shall be submitted to attest to compliance with these standards. In addition, any fill proposed to support any structure, either immediately or in the future, shall be certified as to compliance with these standards, the soils report, and chapters 18 & 33 of the California Building Code. All certificates of compliance shall be signed by a Civil Engineer or a Geotechnical Engineer and be approved by the City Engineer.
 - H. Fills toeing out on natural slopes which are steeper than two horizontal to one vertical (2:1) shall not be permitted unless buttress effect can be shown to safely permit an exception.
 - I. Toes of fill slopes shall not be made nearer to a project boundary line than a minimum of five (5) feet or one-fifth (1/5) the height of the fill, but need not exceed a horizontal distance of ten (10) feet. Property lines should be located 2' from top of slopes. Fill slopes shall not be divided vertically by property lines unless design criteria is submitted which, in the estimation of the city engineer, would provide adequate protection.
 - J. Combined cut and fill slopes shall meet the requirements of subsections 1 and 2 of this section insofar as steepness, height, and terracing are concerned except that where the slope exceeds 25 feet in height the required drainage terrace shall be placed at the top of the cut slope.
 - K. All fill slopes shall be rounded into the existing terrain to produce a contour or transition from the fill face to natural ground where conditions permit.
 - L. Fill slopes shall be overbuilt a minimum of one foot and cut back to design slope and tested per section f above. Brush may be cleared twelve (12) feet past the toe of fill slopes to accommodate this overbuilding and regrading.
4. Old Fills: All old fills shall be tested by either the Civil Engineer or the Geotechnical Engineer and a written declaration made as to the adequacy of the fill to support the proposed structures or the old fill shall be either removed and recompacted or removed from the site.
5. Reports and Inspections:
 - A. Periodic reports by a Civil Engineer or a Geotechnical Engineer shall be required. These reports shall include (but need not be limited to): inspection of cleared areas and benches prepared to receive fill and removal of all unsuitable soil and material, the bearing capacity of the fill to support structures, the placement and compaction of fill materials, and the inspection of buttress fills, subdrains and similar devices.
 - B. The City Engineer may require inspection(s) by an Engineering Geologist to assure that all geologic conditions have been adequately considered. Where geologic conditions justify, the City Engineer may require periodic geologic reports. These inspections and reports may be required to include (but need not be limited to): inspection of cut slopes, inspection of canyons during clean out, recommendations with respect to groundwater and earth material conditions, inspection of benches prior to placement of fill, possible spring locations and determination of subdrain placement.

DRAINAGE

1. General: All drainage design work shall conform to Section 200 of the COSLCS.
2. Terrace Drains: Paved concrete terrace drains shall be a minimum of three inches thick, shall have a minimum width of three feet and shall be installed along the terrace for all graded slopes at intervals not to exceed 25 feet in fill and 30 feet in cut measured along a vertical plane. The longitudinal slope of terrace drains shall not be less than 4%, nor more than 15%, and any change in rate of grade within these allowable slopes shall increase the grade in the direction of flow. No single run of a terrace drain shall exceed 300 feet to a downdrain.
3. Berms: Earth berms to control drainage and prevent erosion shall be constructed around the top perimeter of cut and fill slopes, except when diverter gutters are installed in the same location.

				CITY OF SHASTA LAKE		Approved: 	
				Public Works Department		09-30-2023	
				STANDARD DRAWING		Date	
				GRADING DESIGN STANDARDS		City Engineer	
						Date: 09/2023	
						Dwg No.:	
						700.02	
						Scale: None	
REVISION	BY	APPROVED	DATE				

DRAINAGE (continued)

4. Diverter Gutters: Concrete gutter, vertical curb and gutter, or another approved system shall be constructed as required by the City Engineer to provide drainage and protect against erosion, at the top of all cut slopes where the tributary drainage area above has a slope exceeding ten horizontal to one vertical (10:1) and a slope distance of greater than 50 feet.
5. Vee Channels: Where a slough wall is required at the toe of a slope, a vee channel shall be constructed behind the wall to carry off the slope waters.
6. Downdrain and Outlet Structures:
 - A. Open channel downdrains shall be of a size required by runoff calculations. They shall be designed by a Civil Engineer. The alignment of downdrains shall be such as to discharge water in a safe and erosion-free manner.
 - B. Outlet structures shall be of concrete. Where outletting into streets, the structure shall be of a design approved by the City Engineer. Where outletting into natural watercourses or other approved locations, the structure shall be provided with adequate velocity reducers, diversion walls, rip-rap, concrete aprons, or other similar energy dissipater. All slope drainage shall be collected and disposed of in an approved drainage device.
7. Hydrology Calculations: Hydrology calculations shall conform to Page 200.02.
8. Subdrains: All canyon fills shall have subdrains as required by the City Engineer or soils report, except when soil conditions are such that a drain is not needed.
9. Site Drainage: All finish grades shall slope a minimum of 2% from the building pad to a public street, storm drain, or an improved easement. When designed by a Civil Engineer, a flatter grade may be approved by the City Engineer. The drainage system shall conduct the water to a street, storm drain, or natural watercourse approved by the City Engineer as a safe place to deposit such waters. Under sidewalk drains shall be installed to convey site drainage to the street without overtopping sidewalks.
10. Maintenance of Drainage: Drainage in conformance with these provisions shall be maintained during and subsequent to construction by the owner.

TOPSOIL

1. Topsoil shall be placed on all areas to be planted or stabilized with erosion control including fill slopes, cut slopes 2:1 or flatter, and all disturbed areas to be seeded. Vee channels do not require placement of topsoil.
2. Topsoil shall be excavated to the lines and depths as directed by the Engineer and stockpiled.
3. Topsoil shall not be placed until all equipment, except equipment required for spreading topsoil, is through working in an area.
4. All lumps or clods shall be broken up, and rocks and debris larger than 2-1/2 inches in maximum dimensions shall be removed, before the topsoil is spread.
5. Topsoil shall be spread uniformly at the rate specified by the Engineer. The finished surface after spreading topsoil shall be approximately one (1) inch below the top of adjacent grade. Import topsoil may be required to meet this specification.
6. Topsoil shall be spread to a uniform thickness. Topsoil shall be placed a minimum of 6 inches thick on all disturbance areas to be seeded and mulched per Page 810.00, "erosion control criteria", except that topsoil shall be placed 4 inches thick on cut slopes that are 2:1. Cut slopes shall be scarified to a depth of 2 inches prior to placing topsoil to ensure sufficient contact. Other compacted areas (i.e. roadbeds, parking areas, staging or equipment storage areas, etc.) shall be uncompacted by ripping to a depth of six (6) inches prior to placement of topsoil.
7. Topsoil shall be roughened by trackwalking or rolling with a sheepsfoot roller prior to seeding and mulching. Trackwalk topsoil with tracked equipment run perpendicular to slope contours. Water may be used to assist this process but must not cause erosion.
8. Finished surfaces after topsoil placement must achieve a minimum of 85 percent compaction.

				CITY OF SHASTA LAKE Public Works Department STANDARD DRAWING	Approved:  09-30-2023 City Engineer Date	
					Date: 09/2023 Dwg No.: Scale: None 700.03	
REVISION	BY	APPROVED	DATE	GRADING DESIGN STANDARDS		

On all land development projects processed after June 1, 1983, the Developer's licensed Civil or Geotechnical Engineer shall be responsible for providing a written declaration* that embankments or unclassified fills, up to and including the finish aggregate base rock surface, on either public rights-of-way or private properties, have been placed in accordance with the plans and specifications. this will apply to projects for subdivisions, parcel maps, grading permits, encroachment permits, or any other improvements for which permits or permission of the Engineering Division are necessary.

Embankment or unclassified fill shall be considered as any area upon which the depth of fill exceeds 12 inches to the finish grading plane. Unclassified fills shall be constructed in accordance with project geotechnical report and these Construction Standards.

The City will coordinate with the Developer or Engineer for obtaining all compaction tests on the subsequent layers of material placed on the finish subgrade and for the densities of trenches within the rights-of-way.

The written declaration shall be based on sufficient visual and test observations to enable the Engineer to issue a written statement that in his/her professional opinion the fill(s) have been placed and compacted in accordance with the requirements of the plans and specifications. The declaration for the compaction of all unclassified fill within the public rights-of-way shall be received by the City Engineer prior to allowing construction to proceed to the next subsequent operation (placement of HMA, etc.). With respect to unclassified fills upon private properties, the written declaration shall be submitted to the City Engineer prior to issuance of any building permits.

* For purposes of clarification, the words certify, certification, or declaration constitute an expression of professional opinion regarding those facts or findings which are the subject of the certification, and do not constitute a warranty or guarantee, either expressed or implied.

				CITY OF SHASTA LAKE Public Works Department	Approved:  09-30-2023 City Engineer Date
				DECLARATION REGARDING EMBANKMENTS OR UNCLASSIFIED FILLS	Date: 09/2023 Dwg No.: Scale: None 701.01
REVISION	BY	APPROVED	DATE		

A. General

1. The following construction information shall be applicable to all City parks, landscape maintenance districts, streetscapes (right-of-way) and other City facilities that require landscape improvements.
2. All landscape work shall conform to the approved landscape plan and the following codes, adopted policies, and applicable standards:
 - A. Uniform Building Code
 - B. Uniform Plumbing Code
 - C. National Electric Code
 - D. State of California Administrative Code, Title 17
 - E. City of Shasta Lake Tree Ordinance
 - F. City of Shasta Lake Electric Utility Construction Standards
 - G. City of Shasta Lake construction standards (COSLCS)
 - H. American standard for nursery stock (ANSI Z60.1)
3. It shall be the contractor's responsibility to verify the point of connection for water and electric services prior to starting any landscape work. Prior to starting any excavation, the contract shall call underground service alert at 1-800-227-2600.
4. All landscape irrigation systems shall include a reduced pressure principle device (RPP) per Page 431.10.

B. Pre-construction Meeting

1. A pre-construction meeting is required prior to commencement of any landscape work. The meeting will be held at a mutually agreed time and place which shall be attended by the City construction inspector, parks division representative, developer, landscape contractor, sub-contractor(s), and other governmental or City agency representatives as appropriate.
2. Contractor shall bring to the pre-construction meeting the following items:
 - A. Tentative construction schedule
 - B. Shop drawing, sample, substitute or "or equal" submittal schedule
 - C. A set of the approved landscape plans and specifications.

C. Inspection Authority

1. All work shall be inspected by the City. Final authority on any and all issues shall be the City Engineer.
2. The Contractor is solely responsible for the proper execution of the work in accordance with all requirements of the approved plans and specifications.
3. All materials furnished by the contractor shall be subject to inspection.
4. The Contractor shall schedule all reviews by the City at least forty-eight (48) hours prior to the anticipated review by calling (530) 275-7400
5. The Contractor shall request a review by the inspector at the following phases in the progress of the landscape work:
 - A. Before backfilling irrigation pipe and electric conduit
 - B. Hydrostatic testing
 - C. Irrigation system coverage and performance check
 - D. Finish grade prior to placing mulch or sod
 - E. Hardscape forms prior to pouring concrete

				CITY OF SHASTA LAKE		Approved: 	
				Public Works Department		09-30-2023	
				STANDARD DRAWING		City Engineer _____ Date _____	
				LANDSCAPE CONSTRUCTION CRITERIA		Date: 09/2023 Dwg No.:	
REVISION	BY	APPROVED	DATE			Scale: None	702.01

C. Inspection Authority (continued)

6. The City will not make inspections on weekends, holidays, or outside normal work hours.

D. Final Inspection

1. The Contractor shall request an inspection when all required landscape work has been completed. The Contractor, Developer, landscape contractor, City staff, and other governmental or regulatory representatives (as required) shall attend.
2. If all work is accepted, the Contractor shall provide a minimum 90-day maintenance and plant establishment period for all required landscape work following the final inspection.
3. At the conclusion of the 90-day maintenance and plant establishment period, the Contractor shall request a final inspection. All appropriate representatives shall be present.
4. The Contractor shall provide as-built drawings, manufacturer documentation, warranty information, and specifications on installed equipment to the City.

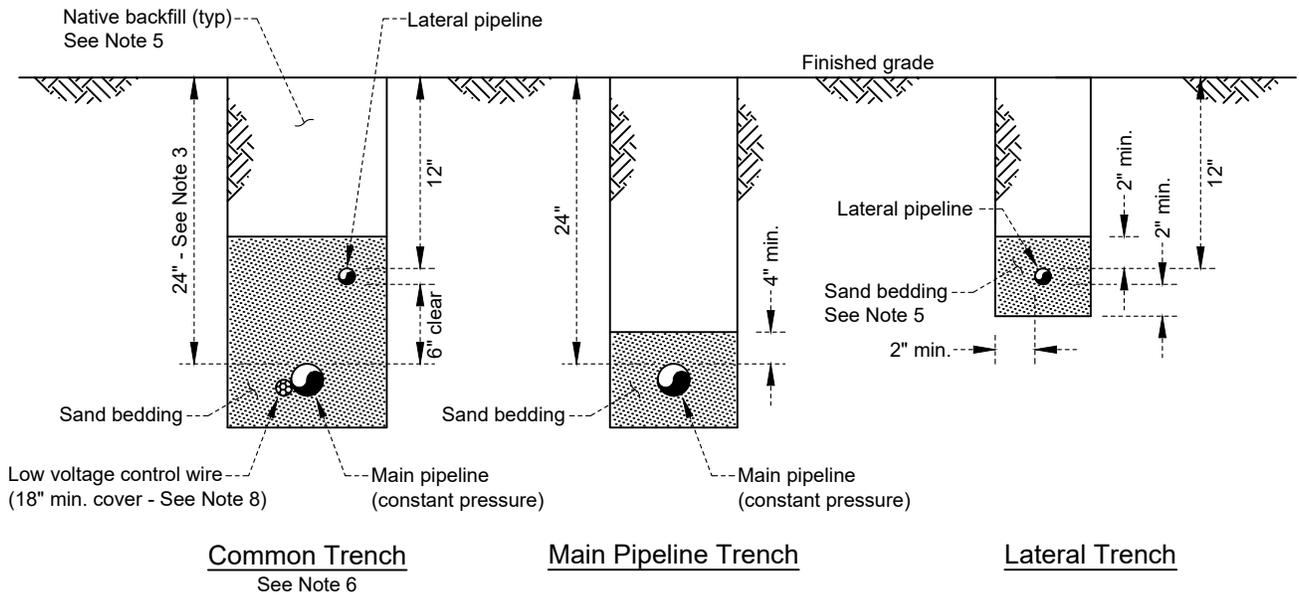
E. Warranty

1. The Contractor shall warranty all irrigation utility installation work for a period of one (1) year from the date of the final inspection. During this time period, the Contractor shall repair or replace any and all work that may prove defective in workmanship or materials, ordinary wear and tear and unusual abuse or neglect excepted, together with any other work that may be damaged or displaced during repair operations.
2. The Contractor shall provide a Maintenance Bond to the City that shall remain in effect throughout the entire warranty period. Said bond shall be in the amount of 50% of the construction cost of the work.

F. Miscellaneous Information

1. Landscape maintenance district requirements:
 - A. After completing the 90-day plant establishment and maintenance period, the Contractor shall continue maintaining the landscape improvements until assessments are levied by the Shasta County Assessor.
 - B. All landscape improvements shall conform to the city of Shasta Lake landscape maintenance district requirements and standards, current edition.

				CITY OF SHASTA LAKE Public Works Department	Approved:  09-30-2023 Date
				LANDSCAPE CONSTRUCTION CRITERIA	City Engineer _____ Date
					Date: 09/2023 Dwg No.: Scale: None 702.02
REVISION	BY	APPROVED	DATE		



NOTES:

1. Bedding sand shall conform to Page 609.00. Material compaction shall conform to Page 601.00.
2. Irrigation piping shall not share the same trench as other public utilities.
3. Irrigation piping crossing an existing joint utility easement shall maintain 18" of cover.
4. The bottom of irrigation trenches shall be true to grade and free of protruding stones, roots, or other matter which would prevent proper bedding of pipe.
5. Irrigation trench bedding shall be 2" minimum sand above and below pipe. Trench backfill material shall consist of excavated native material that is free from debris, vegetative material, rocks over 1" in diameter, and other coarse undesirable material.
6. When two or more irrigation pipelines are installed in the same trench, they shall be separated by a minimum horizontal clear distance of 6" and a vertical clear distance of 6".
7. Pipelines shall be installed 12" behind the back of sidewalk.
8. Spare low voltage control wire shall be installed along the entire main line, with a minimum of one spare wire per controller. 36" of excess spare wire shall be looped into each controller valve box.
9. Splicing of wire shall be permitted only on runs exceeding 2,500 feet. All splices shall be located in controller valve boxes.
10. Where control wires cross under streets, parking lots, or sidewalks, they shall be located in Schedule 40 PVC sleeves.
11. Pressure testing shall be performed on all constant-pressure main pipelines before any fittings or valves are buried. The test shall be performed at a constant pressure of 125 psi for a duration of 3 hours. Lateral pipelines controlled by valves shall be pressurized, and any observed leaks shall be repaired.
12. Irrigation trenches shall be backfilled only after piping has been tested, inspected, and approved.
13. During the warranty period, trench settlement shall be brought back to original finish grade by the Contractor. All damage to turf, planting, hardscape, or paved areas caused by trench settlement shall be repaired.
14. All irrigation main and lateral pipeline shall be Schedule 40 PVC unless otherwise approved by the City Engineer.

REVISION	BY	APPROVED	DATE

CITY OF SHASTA LAKE

Public Works Department

STANDARD DRAWING

LANDSCAPE IRRIGATION
TRENCHING DETAILS

Approved:

09-30-2023

City Engineer

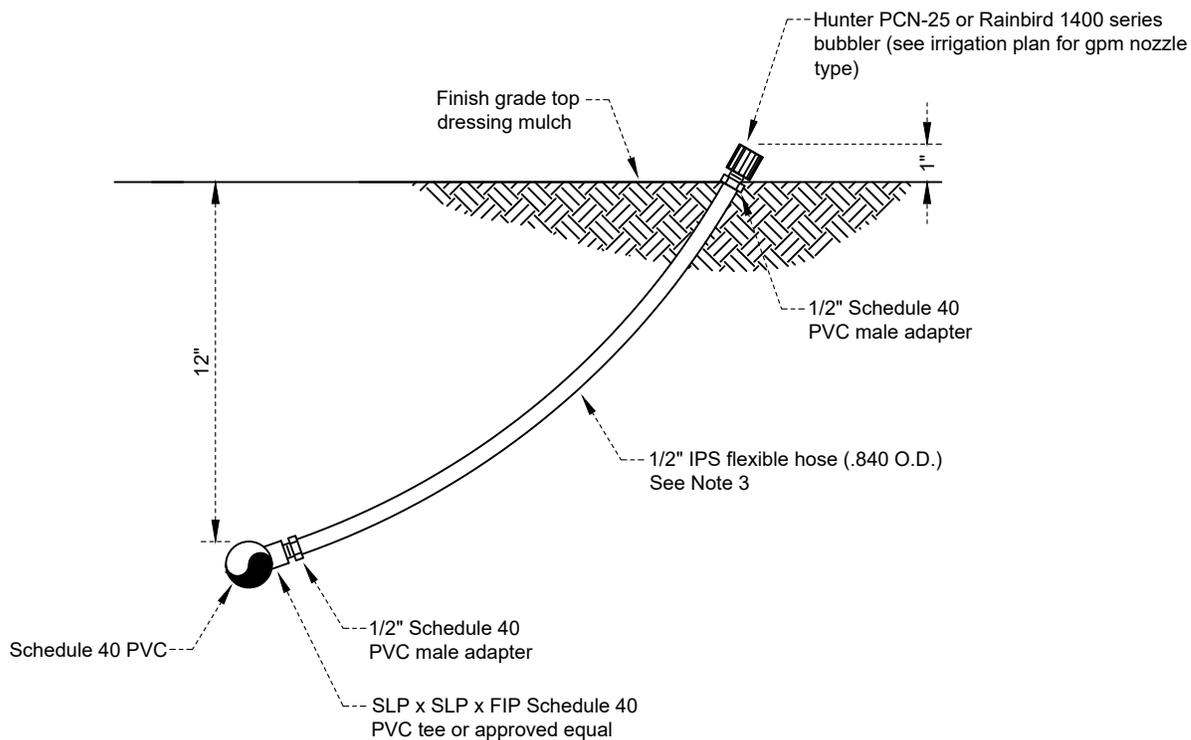
Date

Date: 09/2023

Dwg No.:

Scale: None

710.00



NOTES:

1. Bubbler shall have the following features:
 - Full circle (trickle pattern)
 - Pressure compensating between 20 & 90 psi
 - Low flow rates
 - No adjustment required
 - Inlet filter screen
 - Durable, non-corrosive plastic
2. Bubblers shall be installed 3" from the root ball on the uphill side.
3. Primer and solvent cement shall be of the correct type for the pipe being joined. Primer shall be used on all glued pipe joints.
4. All threaded joints shall have teflon tape applied.

REVISION	BY	APPROVED	DATE

CITY OF SHASTA LAKE

Public Works Department

STANDARD DRAWING

SPRINKLER DETAIL (TYPE 1)

Approved:

09-30-2023

City Engineer

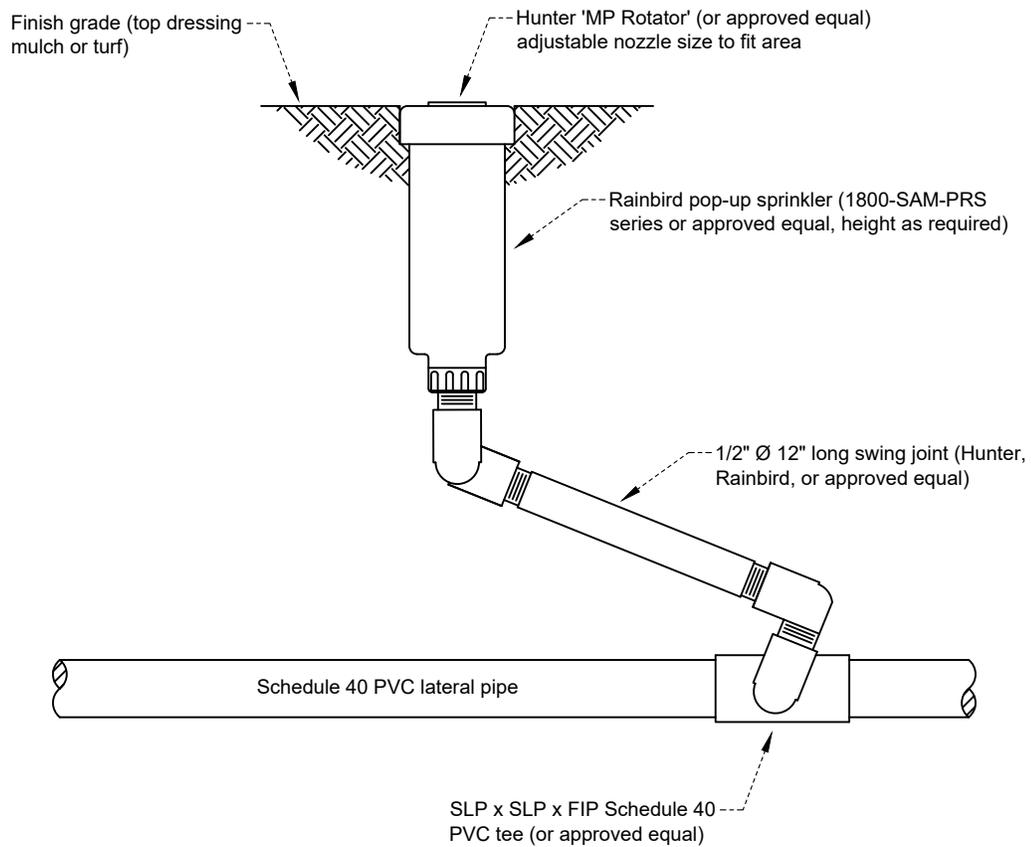
Date

Date: 09/2023

Dwg No.:

Scale: None

711.10



NOTES:

1. Pop-up sprinkler heads shall be located 1 1/2" away from walks, curbs, hardscaping, mowing strips, and header boards, and 12" away from structures & buildings.
2. Pop-up sprinkler head shall be perpendicular to grade.
3. All pop-up sprinkler heads shall have a built-in check valve to prevent low head drainage.
4. Top of the pop-up sprinkler head shall be flush with finish grade.
5. All threaded joints shall have teflon tape applied.

REVISION	BY	APPROVED	DATE

CITY OF SHASTA LAKE

Public Works Department

STANDARD DRAWING

SPRINKLER DETAIL (TYPE 2)

Approved:

09-30-2023

City Engineer

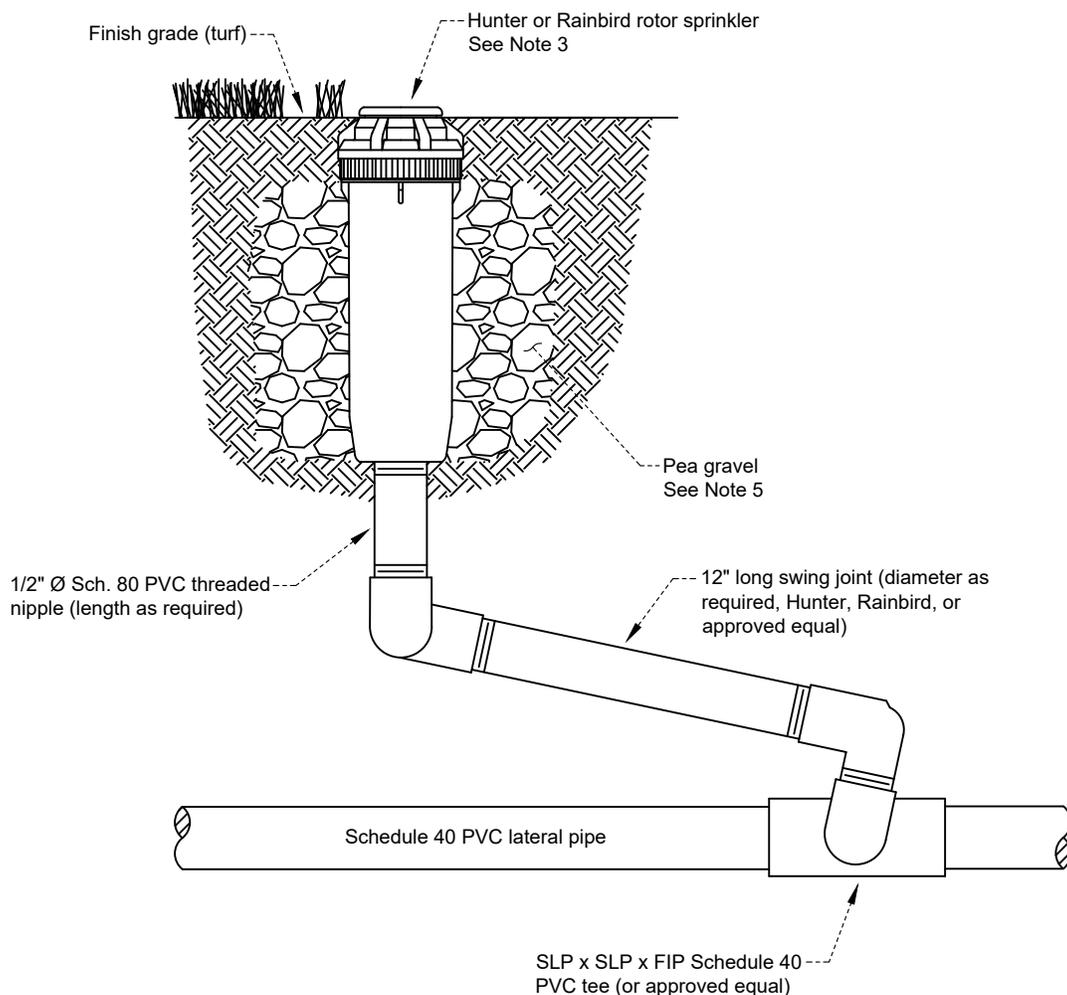
Date

Date: 09/2023

Dwg No.:

Scale: None

711.20



NOTES:

1. Rotor pop-up sprinkler heads shall be located 1 1/2" away from walks, curbs, hardscaping, mowing strips, and header boards, and 12" away from structures & buildings.
2. Rotor pop-up sprinkler head shall be perpendicular to grade.
3. All pop-up sprinkler heads shall have a built-in check valve to prevent low head drainage.
4. Top of the pop-up sprinkler head shall be flush with finish grade.
5. Install one cubic foot of pea gravel around the base of each rotor pop-up sprinkler.
6. All threaded joints shall have teflon tape applied.

REVISION	BY	APPROVED	DATE

CITY OF SHASTA LAKE

Public Works Department

STANDARD DRAWING

SPRINKLER DETAIL (TYPE 3)

Approved:

09-30-2023

City Engineer

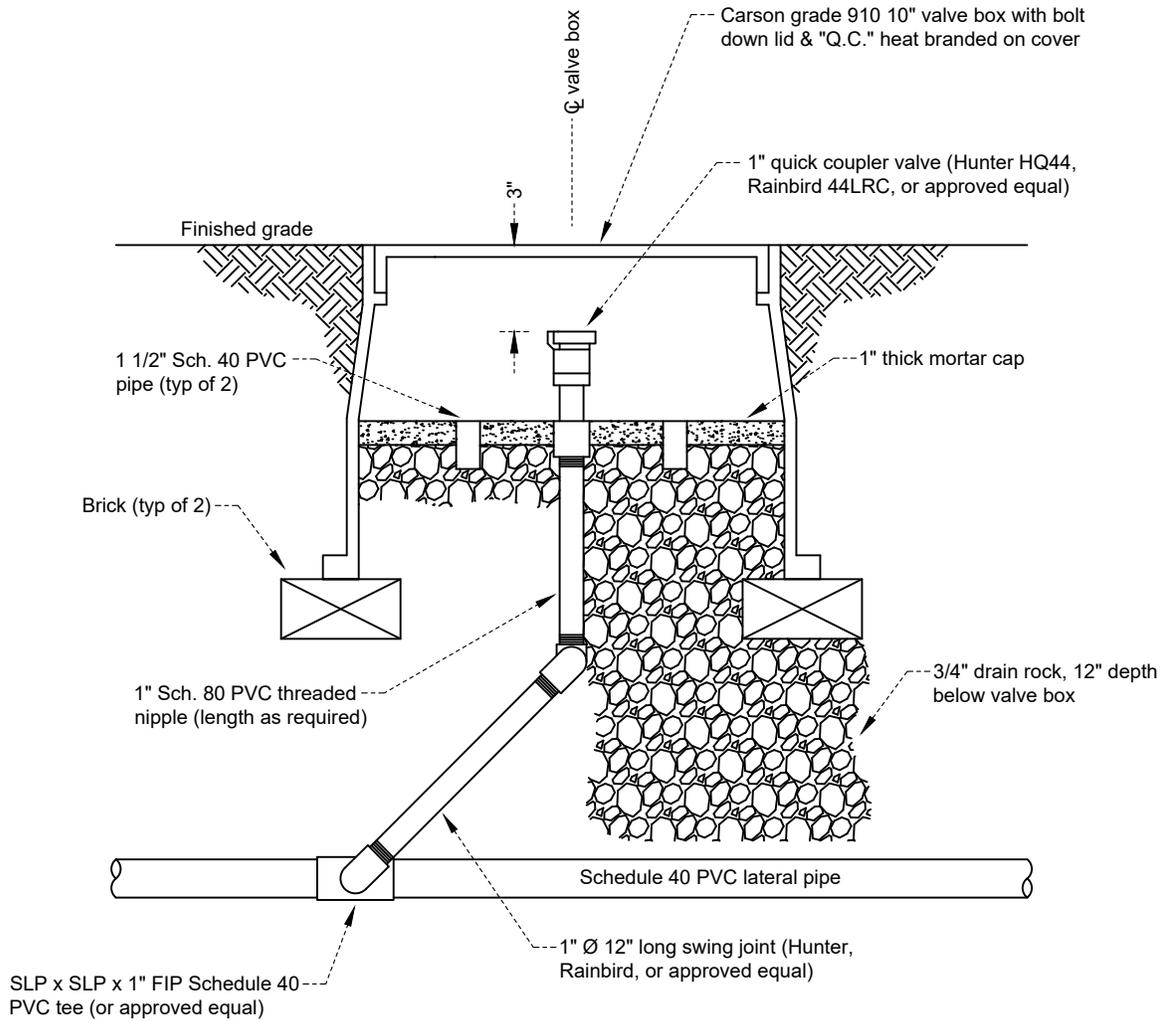
Date

Date: 09/2023

Dwg No.:

Scale: None

711.30



NOTES:

1. Valve box shall be set to finished grade. Valve box extensions shall be installed as required.
2. All threaded joints shall have teflon tape applied.

REVISION	BY	APPROVED	DATE

CITY OF SHASTA LAKE

Public Works Department

STANDARD DRAWING

QUICK COUPLER VALVE

Approved:

09-30-2023

City Engineer

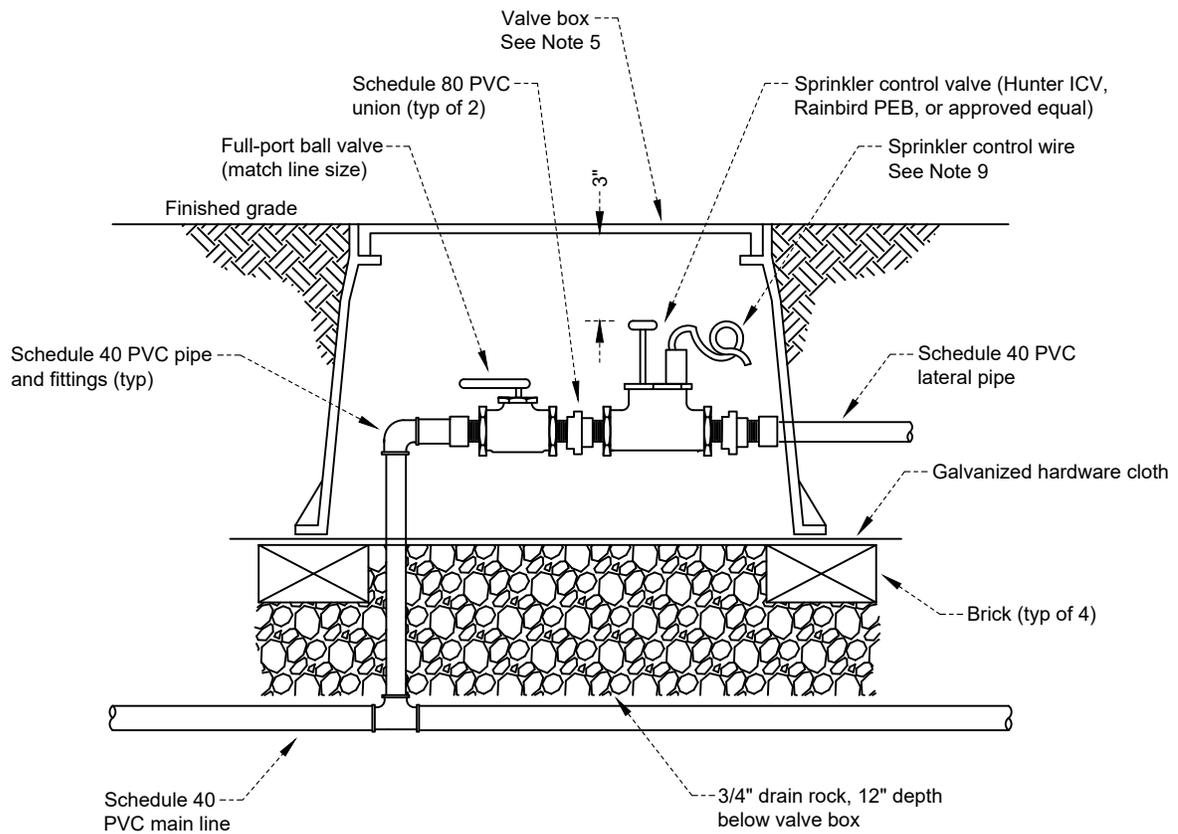
Date

Date: 09/2023

Dwg No.:

Scale: None

712.00



NOTES:

1. Control valves shall be limited to one per box and shall be located in shrub or ground cover areas whenever possible.
2. Multiple valves shall be grouped together, with a minimum of 6" separation between boxes.
3. Valve boxes shall not be installed within 12" of hardscape or structures, and shall be installed at 90° to hardscape or structures.
4. Valves shall be installed plumb in an upright position.
5. Valve box shall be green HDPE with bold down lid (Carson Model No. 1419 box with Carson Model No. 1419E lid or approved equal). Valve box extensions shall be installed as required.
6. No part of the valve box shall bear on any valve, piping, or appurtenances.
7. The valve designation (controller and station number) shall be tagged on each valve.
8. Main line shall be flushed prior to valve installation.
9. All wire splices shall be made with direct-bury splice kits (3M DBO/B-6 or approved equal). 36" of excess wire shall be looped into each controller valve box.
10. All threaded joints shall have teflon tape and teflon joint compound applied.

REVISION	BY	APPROVED	DATE

CITY OF SHASTA LAKE

Public Works Department

STANDARD DRAWING

IRRIGATION CONTROL VALVE

Approved:

09-30-2023

City Engineer

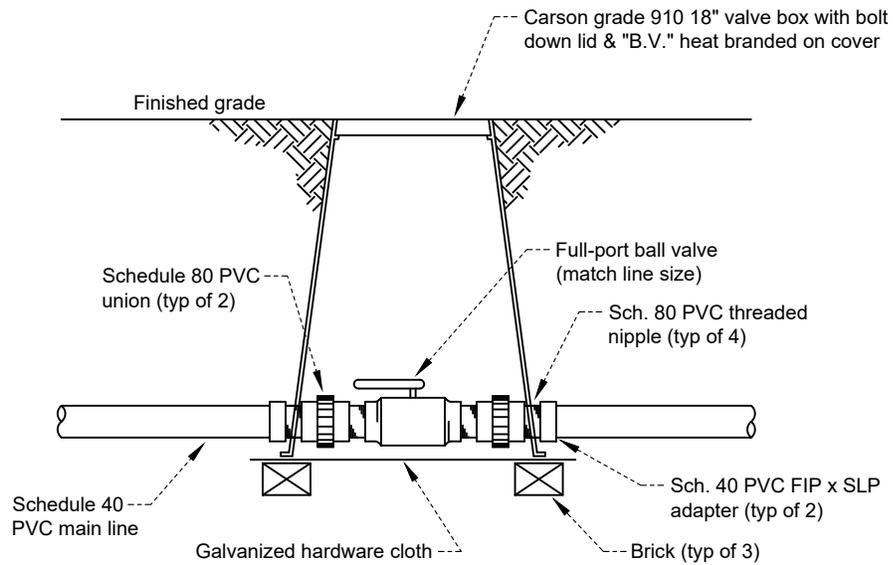
Date

Date: 09/2023

Dwg No.:

Scale: None

713.00



NOTES:

1. Ball valve shall be no-lead brass full-port with 1/4-turn handle. Ball may be stainless steel or chrome-plated brass.
2. All threaded joints shall have teflon tape and teflon joint compound applied.

REVISION	BY	APPROVED	DATE

CITY OF SHASTA LAKE

Public Works Department

STANDARD DRAWING

IRRIGATION BALL VALVE

Approved:

09-30-2023

City Engineer

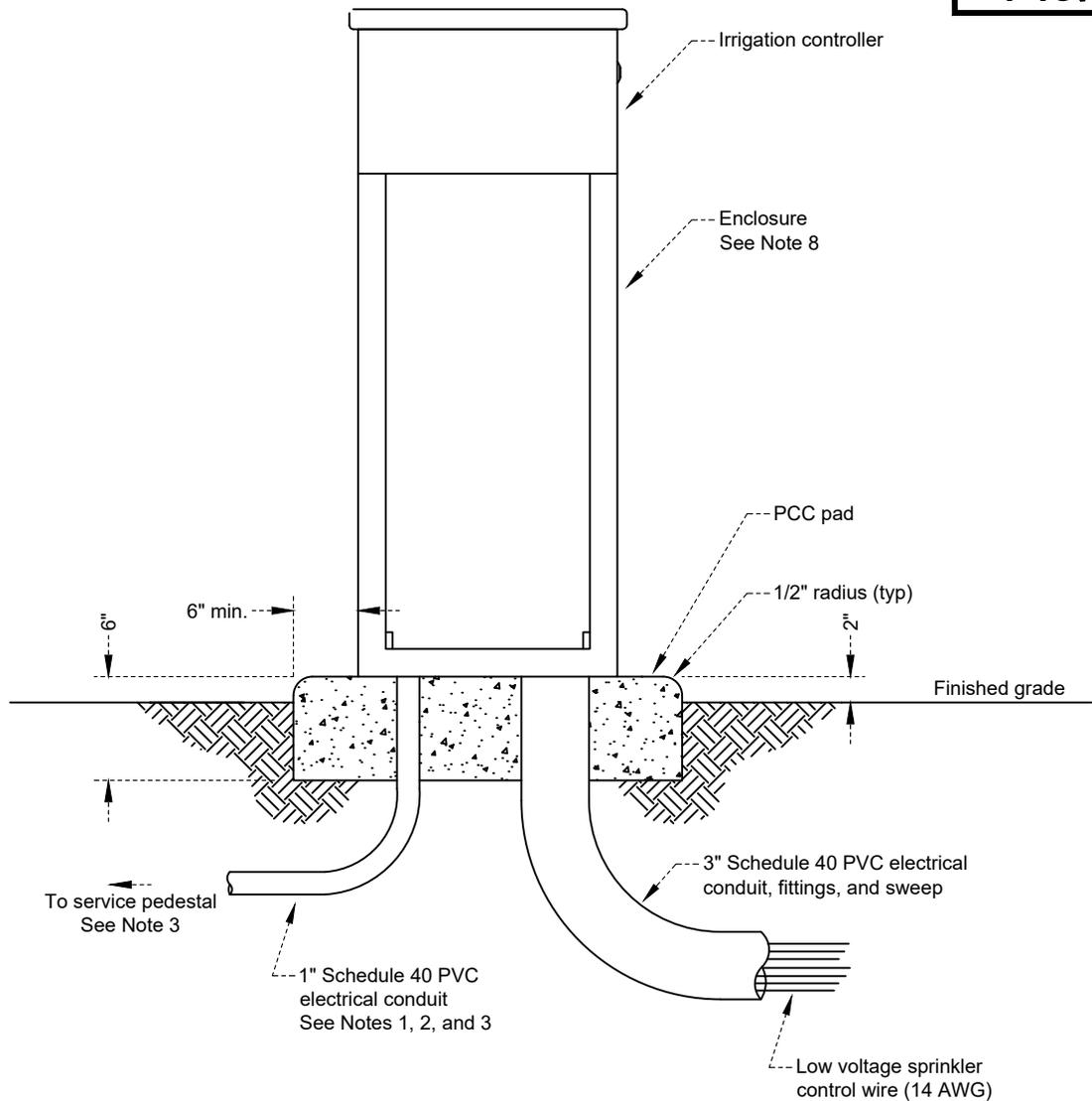
Date

Date: 09/2023

Dwg No.:

Scale: None

714.00



NOTES:

1. A permit from the City of Shasta Lake Building Department for electric service inspection shall be obtained prior to any electrical work.
2. The connection to the service pedestal shall be made by an appropriately licensed Contractor.
3. Service pedestal shall be per city of Shasta Lake Electrical Standards, Chapter 500.
4. Provide a 110V GFCI receptacle inside controller pedestal.
5. All sprinkler valve control wire(s) shall be housed in a Schedule 40 conduit sleeve under hard surfaces. Size shall be as required.
6. Extra control wire shall be bundled and taped at the bottom of the enclosure. 36" of excess wire shall be provided.
7. All splices shall be located in controller valve boxes.
8. Enclosure shall be Hunter (ICC OR ACC-SS), Rainbird (ESP-MC-SS), or approved equal. Install per manufacturer's specifications.

REVISION	BY	APPROVED	DATE

CITY OF SHASTA LAKE

Public Works Department

STANDARD DRAWING

IRRIGATION CONTROL ENCLOSURE

Approved:

09-30-2023

City Engineer

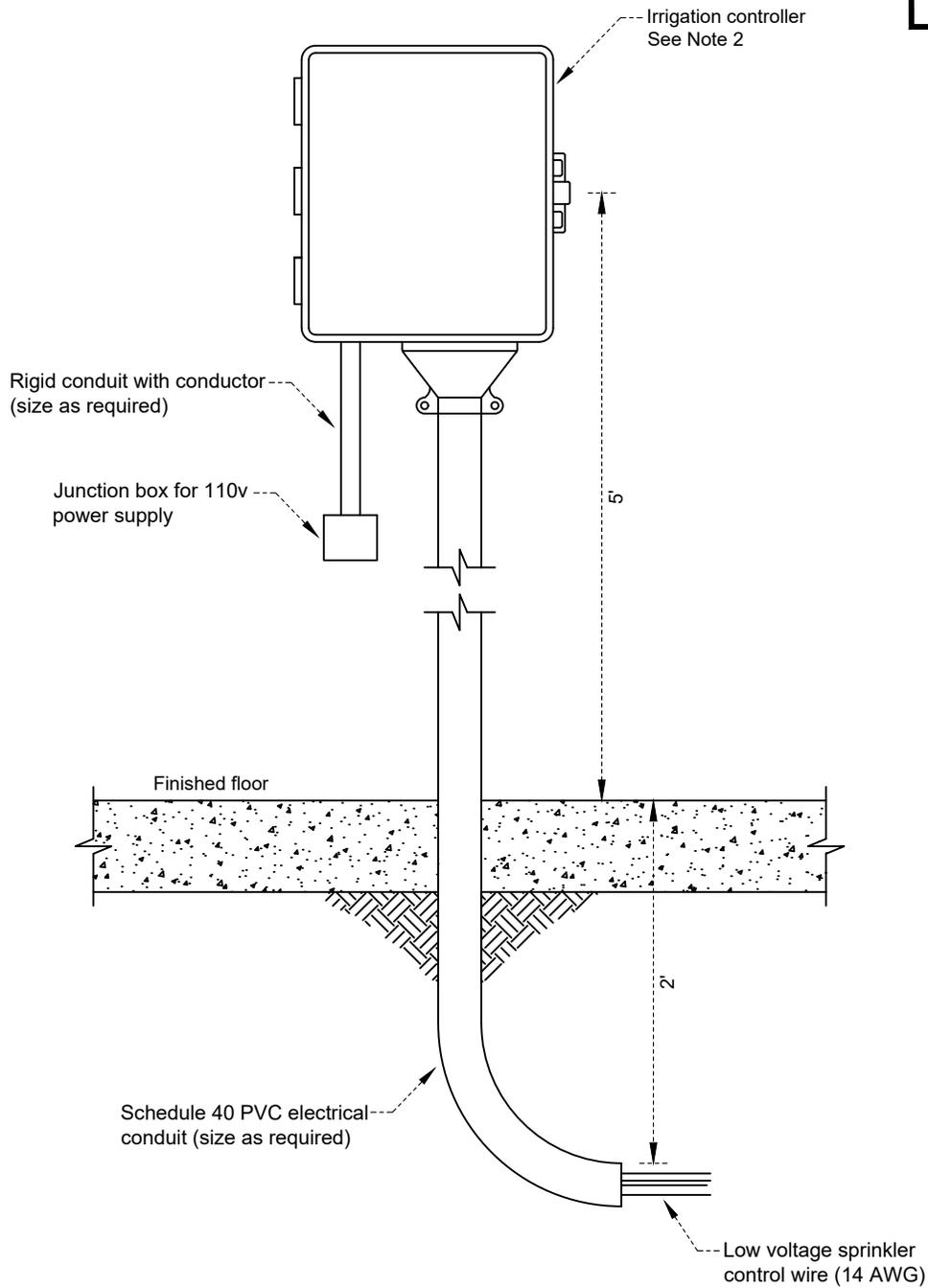
Date

Date: 09/2023

Dwg No.:

Scale: None

715.00



NOTES:

1. All electrical work shall conform to the Uniform Building Code.
2. Controller shall be mounted on a vertical wall in strict accordance with the manufacturer's mounting instructions and shall be on its own circuit breaker. Controller shall be Hunter ICC2, Hunter ACC2, or approved equal.
3. See irrigation plan for total number of stations required.

REVISION	BY	APPROVED	DATE

CITY OF SHASTA LAKE

Public Works Department

STANDARD DRAWING

INTERIOR IRRIGATION CONTROLLER

Approved:

09-30-2023

City Engineer

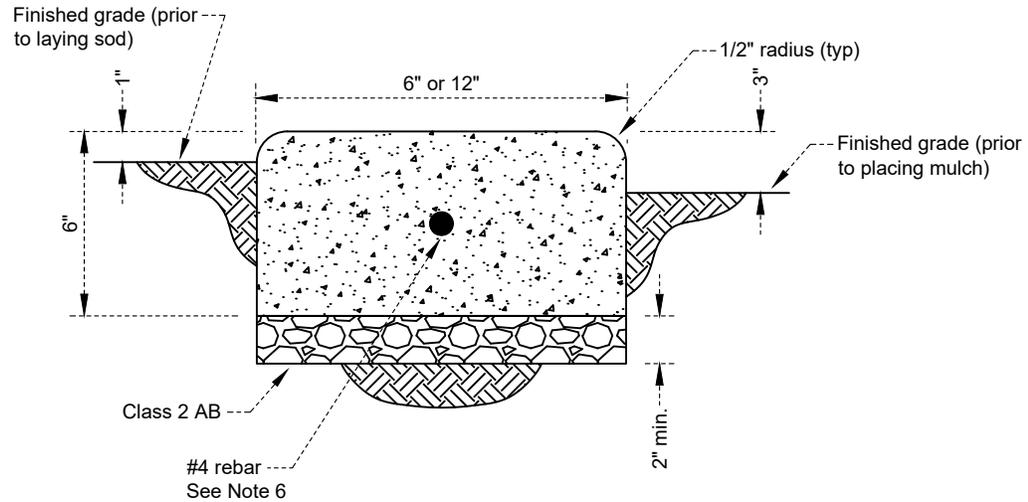
Date

Date: 09/2023

Dwg No.:

Scale: None

716.00



NOTES:

1. All materials shall conform to Page 100.00.
2. Subgrade shall be free of organic matter, large clay lumps, or stones larger than one inch, and shall be compacted to 95% relative density.
3. Forms shall be true to line and grade, and shall be adequately staked and braced to maintain a uniform line.
4. Install expansion joints in curb at 20' on center (maximum).
5. Install tooled scored joints at 10' on center or at changes of direction.
6. For 6" divider curb, install one continuous #4 rebar. For 12" divider curb, install two continuous #4 rebar. Lap all bars 18"
7. Broom finish shall be parallel with curb.

REVISION	BY	APPROVED	DATE

CITY OF SHASTA LAKE

Public Works Department

STANDARD DRAWING

CONCRETE LANDSCAPE DIVIDER CURB

Approved:

09-30-2023

City Engineer

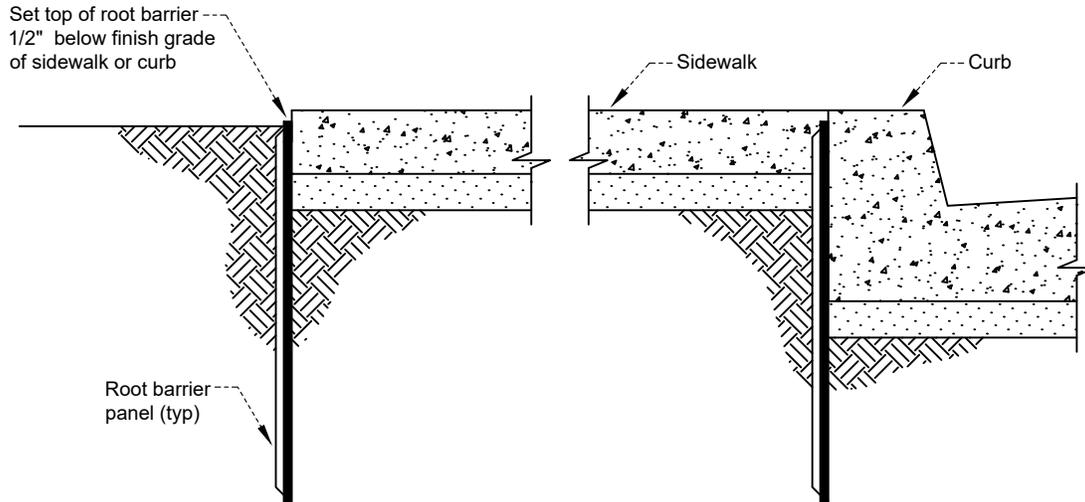
Date

Date: 09/2023

Dwg No.:

Scale: None

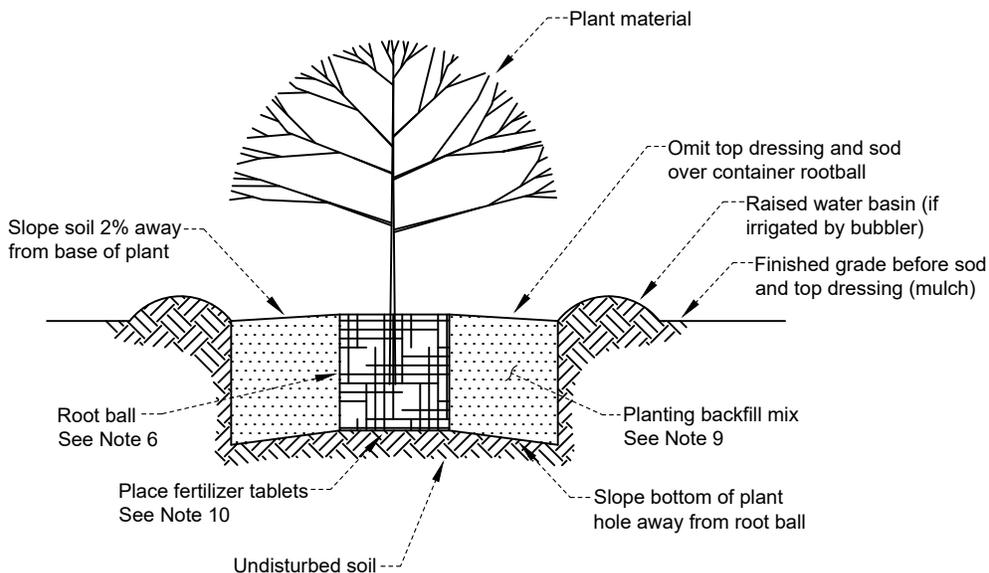
720.00



NOTES:

1. Root barriers shall be installed for all trees within four feet of any hard surface area, structures, or utility equipment
2. Install root deflecting ribs towards the tree roots.
3. Root barriers panels shall be NDS EP Series or approved equal.
4. Quantity of 18" high x 24" long panels required for linear application use:
 - 15 gal. & 24" box tree - 5 panels
 - 36"-42" box tree - 7 panels
 - 48"-72" box tree - 10 panels

				CITY OF SHASTA LAKE Public Works Department	Approved:  Date: 09-30-2023
				STANDARD DRAWING	Date: 09/2023 Dwg No.:
				TREE ROOT BARRIER	Scale: None 721.00
REVISION	BY	APPROVED	DATE		



NOTES:

1. All plant materials shall comply with all Federal, State, and County regulations requiring inspection for plant diseases and pest infestations. Inspection certificates required by law shall accompany each shipment of material.
2. Planting shall be performed only when weather and soil conditions are determined to be suitable by the Engineer.
3. Prior to planting, all planted areas shall provide positive drainage with no standing water.
4. If glazing occurs during excavation, scarify vertical sides of planting hole.
5. All plants that settle shall be raised to the correct finish grade level.
6. The top of the root ball shall be one inch above the surrounding soil to avoid water accumulation at the crown. Backfill shall be placed around the crown of the root ball to cover exposed surfaces.
7. The bottom and sides of the exposed root ball shall be loosened, and any circling roots shall be unwound.
8. Plant material shall be located and installed on the site per the planting plan. The Contractor shall provide aesthetic placement of plant materials. There shall be no plant placement tolerances.
9. Planting mix backfill shall consist of 80% native soil with 20% approved topsoil or 20% organic soil amendment. No rock over 1" diameter shall be present. Organic soil amendment shall be slowly decomposing by nature.
10. Fertilizer tablets shall have a guaranteed analysis of 20-10-5 (N-P-K), and shall be installed per the manufacturer's application rates and specifications.
11. Plant material shall be approved by the City Engineer prior to it being planted on the site.
12. Planting holes shall be circular and equal to the depth and three times the width of the plant container.

REVISION	BY	APPROVED	DATE

CITY OF SHASTA LAKE

Public Works Department

STANDARD DRAWING

TREE AND SHRUB PLANTING

Approved:

09-30-2023

City Engineer

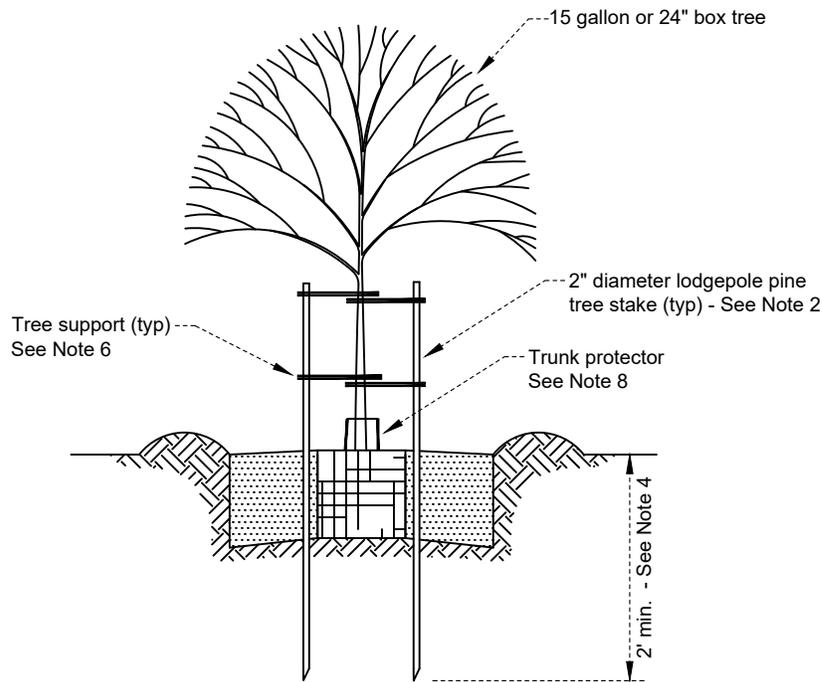
Date

Date: 09/2023

Dwg No.:

Scale: None

722.10



NOTES:

1. Tree staking shall be completed the same day as the tree planting.
2. Stakes shall be 8' in height for 15 gallon trees, or 10' in height for a 24" box trees.
3. Stakes and trees shall be aligned in an east/west direction.
4. Stakes shall be spaced evenly and vertically on the outside of the tree root ball and driven firmly into undisturbed soil. Stakes shall be driven at an angle and drawn to vertical. Stakes shall not be driven through the root ball.
5. Nursery stakes shall be removed at time of installation.
6. Trees shall be double staked and supported with four cinch-tie tree supports. Wrap supports around the tree trunk and the stake twisting to form a figure eight. Secure with a galvanized screw driven through the support and into the stake to prevent slippage.
7. Trees branching three feet or more above ground level shall have their trunks painted with light gray interior latex paint.
8. Trees in lawn areas shall have a plastic trunk guard installed at ground level.
9. Trees shall be staked to keep them in an upright position and hold them erect, while allowing the tops and trunks to flex with the wind. Tree trunks and lateral branches shall be protected from abrasion from stakes and ties.
10. Finished grade shall be sloped away from the tree trunk a minimum of 2' diameter at 3%.

REVISION	BY	APPROVED	DATE

CITY OF SHASTA LAKE

Public Works Department

STANDARD DRAWING

TREE STAKING

Approved:

09-30-2023

City Engineer

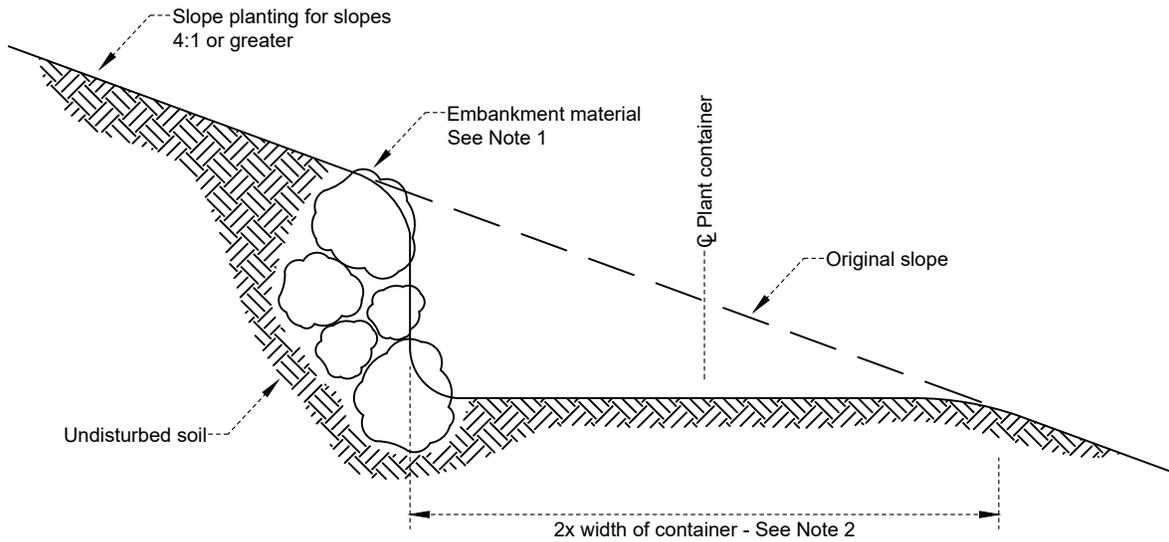
Date

Date: 09/2023

Dwg No.:

Scale: None

722.20



NOTES:

1. Acceptable embankment retaining material shall be concrete block, boulders / large rocks, or plastic recycled header.
2. Planting shall be in accordance with Pages 722.10 and 722.20, excepting Note 11 on Page 722.10 shall read, "Planting holes shall be circular and equal to the depth and two (2) times the width of the plant container."

REVISION	BY	APPROVED	DATE

CITY OF SHASTA LAKE

Public Works Department

STANDARD DRAWING

SLOPE PLANTING

Approved:

09-30-2023

City Engineer

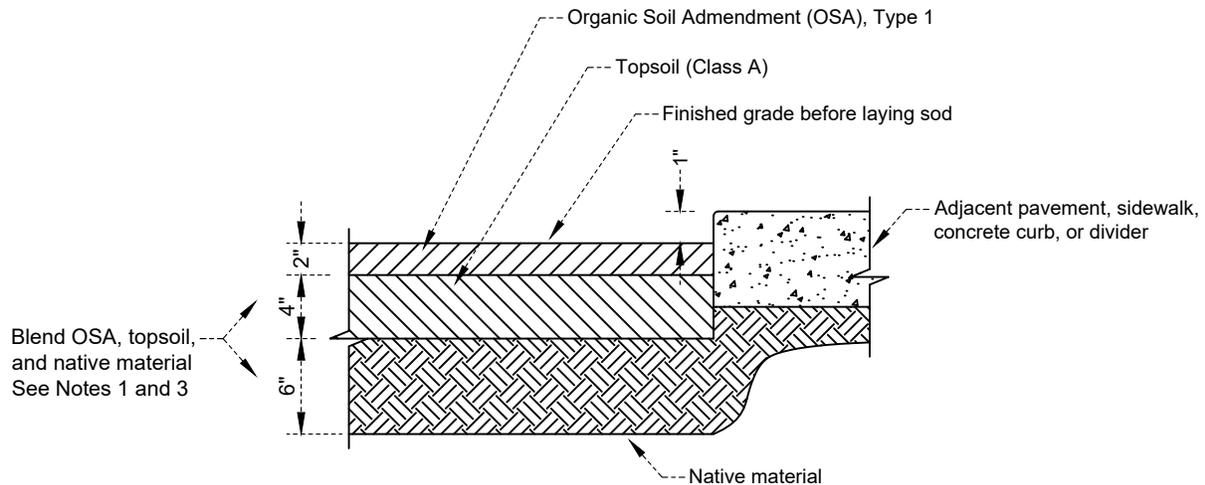
Date

Date: 09/2023

Dwg No.:

Scale: None

725.00



NOTES:

1. All rocks larger than 1" in diameter shall be removed from the top 6".
2. The Contractor shall dispose of all rocks larger than 1" and other extraneous materials generated from soil preparation operations.
3. After blending soils, all sod areas shall receive 20 pounds of 6-20-20 with 10 percent sulphur fertilizer and 10 pounds of 5-2-4 with 10% humic acid fertilizer per 1000 square foot, rototilled into the top 6 inches of the mixed soil.
4. The finished grade for sod areas shall be approved by the City Engineer prior to laying sod.
5. All sod areas shall have a minimum slope of 2%.
6. Sod shall be field-grown in the Sacramento/San Joaquin valley.
7. Sod type shall be as specified on the drawings.
8. Sod shall be strongly rooted and free of weeds, native grasses, & insect pests.
9. Sod blend shall have a 5/8" minimum thickness with a 2" minimum top growth.

REVISION	BY	APPROVED	DATE

CITY OF SHASTA LAKE

Public Works Department

STANDARD DRAWING

SOD PLANTING

Approved:

09-30-2023

City Engineer

Date

Date: 09/2023

Dwg No.:

Scale: None

726.00