

**LANDSCAPE MAINTENANCE AGREEMENT  
WITH THE CITY OF COMMERCE**

THIS AGREEMENT is made effective this 24 day of March, 2026, by and between the State of California, acting by and through the Department of Transportation, hereinafter referred to as "STATE" and the City of Commerce; hereinafter referred to as "City" and collectively referred to as "PARTIES."

1. The PARTIES hereto mutually desire to identify the maintenance responsibilities of City for newly constructed landscape improvements within STATE's right of way on State 5, at Postmile 12.70 as shown in Exhibit "A" attached to and made a part of this Agreement and by Cooperative Agreement(s) number 07-25-GO01.
2. This Agreement addresses City responsibility for the Maintenance of irrigation system, controller, drought tolerant landscape, rock cobble, decomposed granite and steppingstone, wood mulch, associated with "I 5 AT SOUTH EASTERN ONRAMP BEAUTIFICATION" Project (collectively the "LANDSCAPING") placed within State Highway right of way on State Route 5, as shown on Exhibit A, attached to and made a part of this Agreement.
3. Maintenance responsibilities that include, but are not limited to, inspection, providing emergency repair, replacement, and maintenance, (collectively hereinafter "MAINTAIN/MAINTENANCE") of LANDSCAPING as shown on said Exhibit "A."
4. The degree or extent of maintenance work to be performed, and the standards, therefore, shall be in accordance with the provisions of Section 27 of the Streets and Highways Code and the then current edition of the State Maintenance Manual.
5. When a planned future improvement is constructed and/or a minor revision has been effected with STATE's consent or initiation within the limits of the STATE's right of way herein described which affects PARTIES' division of maintenance responsibility as described herein, PARTIES will agree upon and execute a new dated and revised Exhibit "A" which will be made a part hereof and will thereafter supersede the attached original Exhibit "A" to thereafter become a part of this Agreement.
  - 5.1. The new exhibit can be executed only upon written consent of the PARTIES hereto acting by and through their authorized representatives. No formal amendment to this Agreement will be required.
6. CITY agrees, at CITY expense, to do the following:

- 6.1. CITY will MAINTAIN or have authorized licensed contractor with appropriate class of license in the State of California, to MAINTAIN LANDSCAPING conforming to those plans and specifications (PS&E) pre-approved by STATE as shown in Exhibit "C". CITY will have in place a valid necessary encroachment permits prior to the start of any work within STATE'S right of way.
  - 6.1.1. An Encroachment Permit rider may be required for any changes to the scope of work allowed by this Agreement prior to the start of any work within STATE's right of way
- 6.2. CITY shall ensure that LANDSCAPED areas designated on Exhibit "A" are provided with adequate scheduled routine MAINTENANCE necessary to MAINTAIN a neat and attractive appearance including providing for water, and fertilizer necessary to sustain healthy plant growth during the entire life of this Agreement.
  - 6.2.1. To prune shrubs, tree plantings, and trees to control extraneous growth and ensure STATE standard lines of sight to signs and corner sight distances are always maintained for the safety of the public.
  - 6.2.2. To replace unhealthy or dead plantings when observed or within 30 days when notified in writing by STATE that plant replacement is required.
  - 6.2.3. To expeditiously MAINTAIN, replace, repair or remove from service any components of LANDSCAPING system that has become unsafe or unsightly.
- 6.3. To furnish electricity for irrigation system controls, and lighting system controls for all street lighting systems installed by CITY.
- 6.4. To MAINTAIN, repair and operate the irrigation systems in a manner that prevents water from flooding or spraying onto STATE highway, spraying parked and moving automobiles, spraying pedestrians on public sidewalks/bike paths, or leaving surface water that becomes a hazard to vehicular or pedestrian/bicyclist travel.
- 6.5. To control weeds at a level acceptable to the STATE. Any weed control performed by chemical weed sprays (herbicides) shall comply with all laws, rules, and regulations established by the California Department of Food and Agriculture. All chemical spray operations shall be reported quarterly (Form LA17) to the STATE to: District 7 Roadside management c/o Paul Loffhouse at [paul.loffhouse@dot.ca.gov](mailto:paul.loffhouse@dot.ca.gov). (100 S Main St. MS-3, Los Angeles, CA 90012.)

- 6.6. CITY shall ensure LANDSCAPING within the Agreement limits provide an acceptable walking and riding surface, and will provide for the repair and removal of dirt, debris, graffiti, weeds, and any deleterious item or material on or about the LANDSCAPING in an expeditious manner.
- 6.7. To MAINTAIN all parking or use restrictions signs encompassed within the area of the LANDSCAPING.
- 6.8. To remove LANDSCAPING and appurtenances and restore STATE owned areas to a safe and attractive condition acceptable to STATE in the event this Agreement is terminated as set forth herein.
7. STATE may provide CITY with timely written notice of unsatisfactory conditions that require correction by the CITY. However, the non-receipt of notice does not excuse CITY from maintenance responsibilities assumed under this Agreement.
8. STATE shall Issue encroachment permits to CITY at no cost to it.
9. LEGAL RELATIONS AND RESPONSIBILITIES:
- 9.1. Nothing within the provisions of this Agreement is intended to create duties or obligations to or rights in third parties not party to this Agreement, or affect the legal liability of either PARTY to this Agreement by imposing any standard of care respecting the design, construction and maintenance of these STATE highway improvements or CITY facilities different from the standard of care imposed by law.
- 9.2. If during the term of this Agreement, CITY should cease to MAINTAIN the LANDSCAPING to the satisfaction of STATE as provided by this Agreement, STATE may either undertake to perform that MAINTENANCE on behalf of CITY at CITY's expense or direct CITY to remove or itself remove LANDSCAPING at CITY's sole expense and restore STATE's right of way to its prior or a safe operable condition. CITY hereby agrees to pay said STATE expenses, within thirty (30) days of receipt of billing by STATE. However, prior to STATE performing any MAINTENANCE or removing LANDSCAPING, STATE will provide written notice to CITY to cure the default and CITY will have thirty (30) days within which to affect that cure.
- 9.3. Neither CITY nor any officer or employee thereof is responsible for any injury, damage or liability occurring by reason of anything done or omitted to be done by STATE under or in connection with any work, authority or jurisdiction arising under this Agreement. It is understood and agreed that STATE shall fully defend, indemnify and save harmless CITY and all of its officers and

employees from all claims, suits or actions of every name, kind and description brought forth under, including, but not limited to, tortious, contractual, inverse condemnation and other theories or assertions of liability occurring by reason of anything done or omitted to be done by STATE under this Agreement with the exception of those actions of STATE necessary to cure a noticed default on the part of CITY.

9.4. Neither STATE nor any officer or employee thereof is responsible for any injury, damage or liability occurring by reason of anything done or omitted to be done by CITY under or in connection with any work, authority or jurisdiction arising under this Agreement. It is understood and agreed that CITY shall fully defend, indemnify and save harmless STATE and all of its officers and employees from all claims, suits or actions of every name, kind and description brought forth under, including, but not limited to, tortious, contractual, inverse condemnation or other theories or assertions of liability occurring by reason of anything done or omitted to be done by CITY under this Agreement.

#### 9.5. PREVAILING WAGES:

9.5.1. Labor Code Compliance- If the work performed under this Agreement is done under contract and falls within the Labor Code section 1720(a)(1) definition of a "public works" in that it is construction, alteration, demolition, installation, or repair; or maintenance work under Labor Code section 1771. CITY must conform to the provisions of Labor Code sections 1720 through 1815, and all applicable provisions of California Code of Regulations found in Title 8, Chapter 8, Subchapter 3, Articles 1-7. CITY agrees to include prevailing wage requirements in its contracts for public works. Work performed by CITY own forces is exempt from the Labor Code's Prevailing Wage requirements.

9.5.2. Requirements in Subcontracts - CITY shall require its contractors to include prevailing wage requirements in all subcontracts when the work to be performed by the subcontractor under this Agreement is a "public works" as defined in Labor Code Section 1720(a)(1) and Labor Code Section 1771. Subcontracts shall include all prevailing wage requirements set forth in CITY contracts.

#### 10. INSURANCE

10.1. SELF-INSURED - CITY/COUNTY is self-insured. CITY/COUNTY agrees to deliver evidence of self-insured coverage providing general liability insurance, coverage of bodily injury liability and property damage liability, naming STATE, its officers, agents and employees as the additional insured in an amount of \$1 million per occurrence and \$2 million in aggregate and \$5

million in excess. Coverage shall be evidenced by a certification of self-insurance letter ("Letter of Self-Insurance"), satisfactory to STATE, certifying that CITY/COUNTY meets the coverage requirements of this section. This Letter of Self-Insurance shall also identify the project location as depicted in EXHIBIT A. CITY/COUNTY shall deliver to STATE the Letter of Self-Insurance with a signed copy of this AGREEMENT. A copy of the executed Letter of Self-Insurance shall be attached hereto and incorporate as Exhibit B.

10.2. SELF-INSURED using Contractor - If the work performed under this AGREEMENT is done by CITY/COUNTY's contractor(s), CITY/COUNTY shall require its contractor(s) to maintain in force, during the term of this AGREEMENT, a policy of general liability insurance, including coverage of bodily injury liability and property damage liability, naming STATE, its officers, agents and employees as the additional insured in an amount of \$1 million per occurrence and \$2 million in aggregate and \$5 million in excess. Coverage shall be evidenced by a certificate of insurance in a form satisfactory to the STATE that shall be delivered to the STATE with a signed copy of this Agreement.

11. TERMINATION - This Agreement may be terminated by timely mutual written consent by PARTIES, and CITY failure to comply with the provisions of this Agreement may be grounds for a Notice of Termination by STATE.

12. TERM OF AGREEMENT -This Agreement shall become effective on the date first shown on its face sheet and shall remain in full force and effect until amended or terminated at any time upon mutual consent of the PARTIES or until terminated by STATE for cause.

PARTIES are empowered by Streets and Highways Code Section 114 & 130 to enter into this Agreement and have delegated to the undersigned the authority to execute this Agreement on behalf of the respective agencies and covenants to have followed all the necessary legal requirements to validly execute this Agreement.

IN WITNESS WHEREOF, the PARTIES hereto have set their hands and seals the day and year first above written.

THE CITY OF COMMERCE OF

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

By: \_\_\_\_\_  
Kevin Lainez, Mayor

Caltrans  
District 7  
100 South Main Street Los Angeles, CA 90012

Initiated and Approved

By: \_\_\_\_\_  
Ernie Hernandez, City Manager

By: \_\_\_\_\_  
Godson Okereke  
Deputy District Director  
Maintenance District

ATTEST:

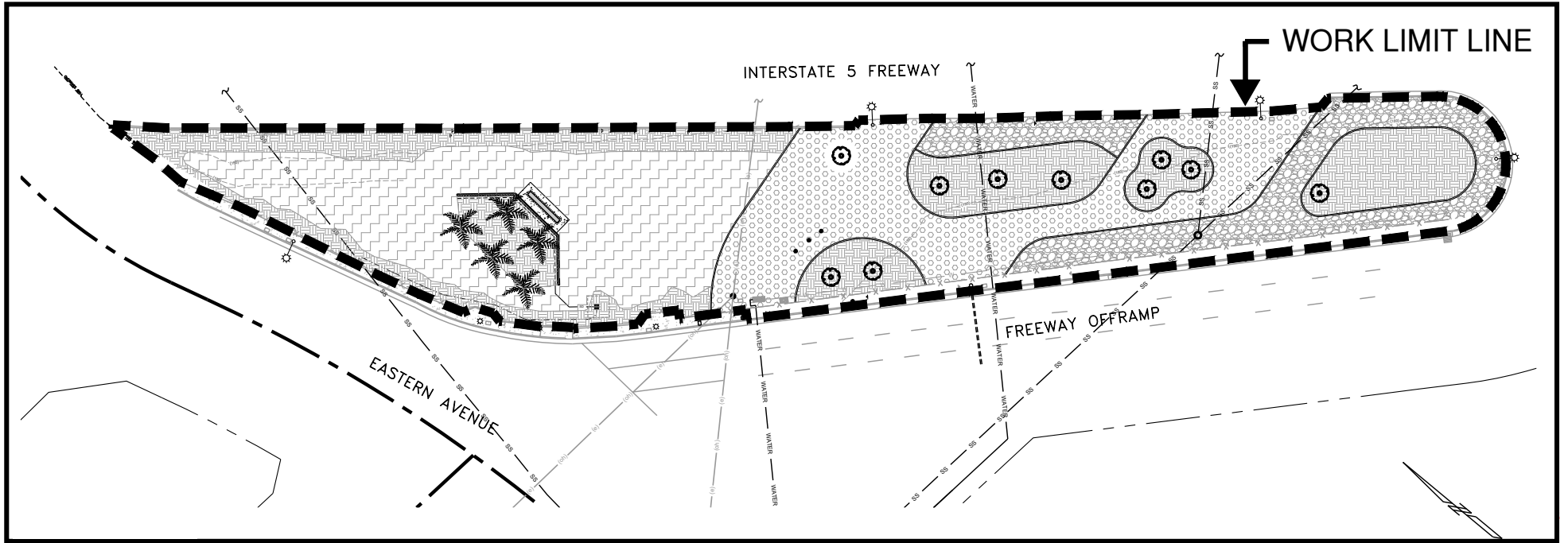
By: \_\_\_\_\_  
Temp City Clerk

By: \_\_\_\_\_  
Noel Tapia, City Attorney

## **EXHIBIT A**

(Plan map identifying the applicable STATE Routes (Freeway proper) and CITY/COUNTY road(s) and facilities)

# EXHIBIT A SITE MAP



## **EXHIBIT B**

Letter of Certificate of Commerce Statement of Self Insurance

**EXHIBIT B – LETTER OF CERTIFICATE OF COMMERCE STATEMENT OF SELF INSURANCE**

Department of Transportation, District 7  
100 S. Main St  
Los Angeles, CA 90012  
ATTN: Heejae Lee

March 10, 2026

RE: Statement of Self Insurance for City of Commerce Related to Gateway Monument Landscape Maintenance Agreement with State of California Department of Transportation ("STATE") along State Route 5 at southbound side PM 12.70 Southbound off ramp To Atlantic Boulevard and Eastern Avenue.

Dear Heejae Lee:

The purpose of this letter is to certify that the CITY is self-insured and self-funded covering third-party claims arising out of its general operations (for example, commercial general liability and automobile liability insurance). Further the CITY is self-insured covering workers' compensation claims and has received the consent of the State Department of Industrial Relations to do so.

Each fiscal year, as a part of its budgetary process, the CITY appropriates funds specifically to satisfy valid third-party claims and workers' compensation claims, which may be brought against the CITY.

The CITY certifies its self-insured, general liability coverage for bodily injury liability and property damage liability, meets the required coverage amounts in section 10.1 (INSURANCE) of the Maintenance Agreement, specifically general liability insurance, coverage of bodily injury liability and property damage liability in an amount of \$1 million per occurrence and \$2 million in aggregate and \$5 million in excess. The CITY further represents that regarding any claims made in connection with the Maintenance Agreement by the STATE, the STATE will be first-in-line regarding the reserved, self-insured amounts.

If you need any additional information regarding this letter, please direct those inquires through my office.

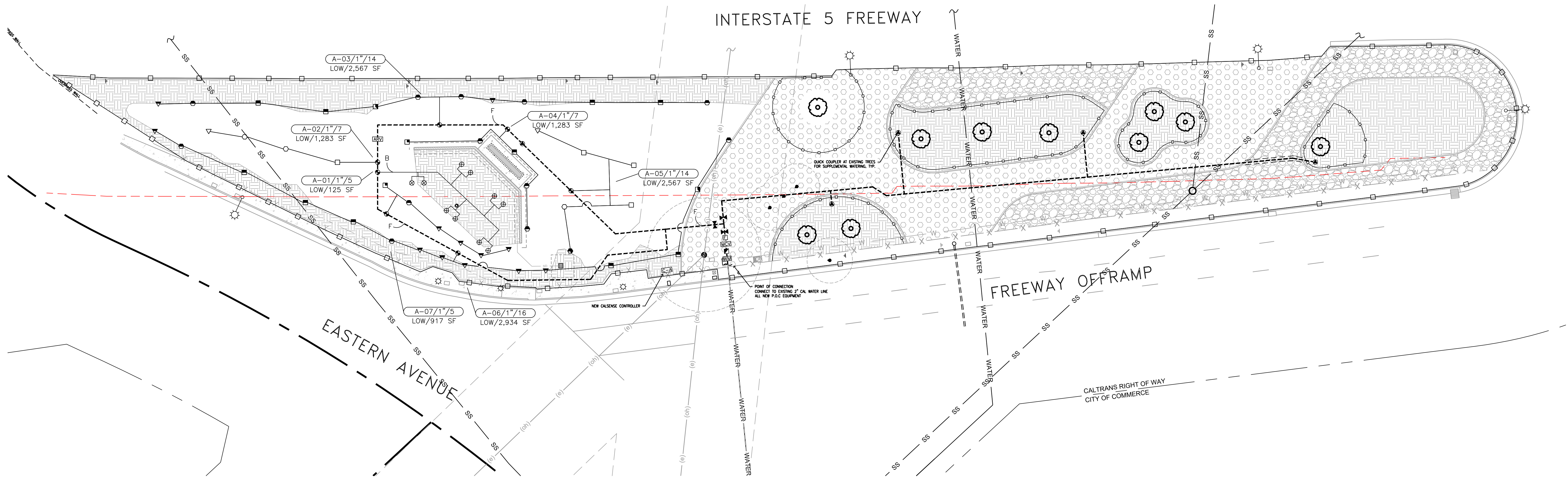
Sincerely,

Director of Public Works  
Shahid Abbas



## **EXHIBIT C**

Plan & Specification (PS&E)



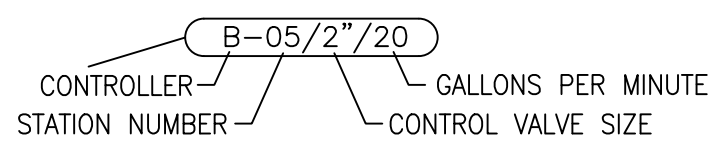
**IRRIGATION LEGEND**

| SYMBOL | DESCRIPTION   | RADIUS | PSI  | GPM  | PREC. | DET. SHEET |
|--------|---|--------|------|------|-------|------------|
| ⊕      | RAIN BIRD PRESSURE COMPENSATING BUBBLER MODEL #1402 | 20-90  | 0.50 |      | A/E   | ID-2       |
| ▼      | MP ROTATOR MP1000 180                               | 14'    | 40   | 0.42 | 0.41  | E/G ID-2   |
| ▽      | MP ROTATOR MP1000 360                               | 14'    | 40   | 0.84 | 0.41  | E/G ID-2   |
| ⊙      | MP ROTATOR MP2000 180                               | 19'    | 40   | 0.77 | 0.41  | E/G ID-2   |
| ⊙      | MP ROTATOR MP2000 270                               | 19'    | 40   | 1.10 | 0.39  | E/G ID-2   |
| ⊙      | MP ROTATOR MP2000 360                               | 19'    | 40   | 1.48 | 0.39  | E/G ID-2   |
| ⊙      | MP ROTATOR MP3000 180                               | 30'    | 40   | 1.82 | 0.39  | E/G ID-2   |
| ⊙      | MP ROTATOR MP3000 210                               | 30'    | 40   | 2.12 | 0.39  | E/G ID-2   |
| ⊙      | MP ROTATOR MP3000 270                               | 30'    | 40   | 2.73 | 0.39  | E/G ID-2   |
| ⊙      | MP ROTATOR MP3000 360                               | 30'    | 40   | 3.64 | 0.39  | E/G ID-2   |

**NOTE:** ALL MP ROTATORS TO BE PAIRED WITH 12" PRS40 SPRAY BODY FROM HUNTER. MODEL #PROS-12-PRS40-CV

|   |  |   |              |
|---|--|---|--------------|
| ⊕ | 1" RAIN BIRD REMOTE CONTROL VALVE, MODEL #PESB-PRS-D (5-200 GPM)   | B | ID-2         |
| ⊕ | 1" RAIN BIRD QUICK COUPLER VALVE, MODEL #44-LRC, INSTALL IN LANDSCAPE  | C | ID-1         |
| ⊕ | NIBCO GATE VALVE ON ALL 3" AND SMALLER MAINLINES, MODEL #T-113. SIZE PER LINE SIZE.  | C | ID-2         |
| ⊕ | 1" MINI AIR RELIEF VALVE, MODEL #6521. INSTALL AT HIGHEST POINT OF MAIN LINE. LOCATION SHOWN ON PLANS MAY CHANGE TO THE HIGHEST POINT OF INSTALLED MAIN LINE                       | D | ID-2         |
| ⊕ | 1" RAIN BIRD MASTER CONTROL VALVE, MODEL #100-PEB-PRS-D  | F | ID-2         |
| ⊕ | 1" RAIN BIRD FLOW SENSOR, MODEL #FS100B  | A | ID-1, F ID-2 |
| ⊕ | NEW 1" DOMESTIC WATER METER WITH CONCRETE VALVE BOX  | F | ID-2         |
| ⊕ | NEW 1" FEBCO 825Y REDUCED PRESSURE BACKFLOW PREVENTER  | A | ID-1, F ID-2 |
| ⊕ | NEW CALSENSE CS3000 CONVENTIONAL IRRIGATION CONTROLLER IN STAINLESS STEEL ENCLOSURE. VALVE WIRES ARE NOT DIRECT BURY, WIRES TO BE INSTALLED IN CONDUIT. 8 STATIONS. MODEL #CS3-8-S | B | ID-1         |

|     |   |     |      |
|-----|---|-----|------|
| --- | CONSTANT PRESSURE MAIN LINE, CLASS 315, WITH SCH. 80 SOLVENT WELD FITTINGS. SEE PLAN FOR SIZE               | D   | ID-1 |
| --- | EXISTING 2" CAL WATER LINE  |     |      |
| --- | INTERMITTENT PRESSURE LATERAL LINE TO BE SCH. 40 PVC WITH SCH. 40 SOLVENT WELD FITTINGS. SEE PLAN FOR SIZE. | D   | ID-1 |
| --- | SLEEVING TO BE SCH. 40 PVC OR ABS, TWICE THE DIAMETER OF PIPE   | C/D | ID-1 |



**NOTE:** IRRIGATION PLAN IS DIAGRAMMATICAL. ALL MAINLINE AND LATERAL LINE TO BE PLACED IN LANDSCAPE AREAS. FINAL LOCATION OF PIPING, VALVES TO BE APPROVED BY LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.

**PIPE LEGEND**

| SYMBOL | SIZE   | MAX. GPM |
|--------|--------|----------|
| B      | 3/4"   | 8        |
| C      | 1"     | 12       |
| D      | 1 1/4" | 22       |
| E      | 1 1/2" | 30       |
| F      | 2"     | 50       |
| G      | 2 1/2" | 70       |
| H      | 3"     | 110      |
| J      | 4"     | 190      |
| K      | 6"     | 425      |

**IRRIGATION SLEEVE CHART**

| PIPE   | SCH. 40/80 PVC SLEEVE SIZE | CONTROLLER WIRES | SCH. 40 PVC SLEEVE SIZE |
|--------|----------------------------|------------------|-------------------------|
| 3/4"   | 2"                         | 1-18             | 2"                      |
| 1"     | 2"                         | 19-24            | 3"                      |
| 1-1/4" | 3"                         | 25-36            | 3"                      |
| 1-1/2" | 3"                         | 37-48            | 4"                      |
| 2"     | 4"                         | 49-72            | 6"                      |
| 2-1/2" | 6"                         |                  |                         |
| 3"     | 6"                         |                  |                         |
| 4"     | 6"                         |                  |                         |

**NOTE:** SLEEVE CHART IS A CONVENIENCE TO THE CONTRACTOR. CONTRACTOR SHALL PROVIDE ADEQUATE SLEEVE SIZE TO ACCOMMODATE THE INSTALLATION OF THE IRRIGATION PIPE AND WIRES. SCHEDULE 80 PVC SLEEVES ARE TO BE USED UNDERNEATH VEHICULAR PAVING AREAS.

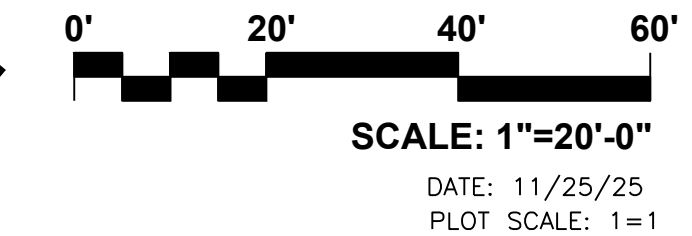
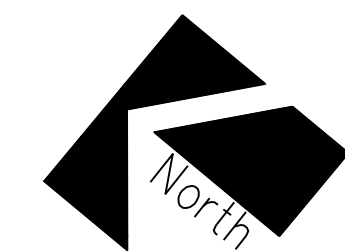
**NOTE:** CONTRACTOR TO VERIFY WATER PRESSURE BEFORE COMMENCEMENT OF WORK.

**Symbol Legend**

|     |   |     |                                       |
|-----|---|-----|---------------------------------------|
| --- | WATER   | --- | EXISTING WATER SERVICE LINE           |
| W   | EXISTING IRRIGATION MAINLINE  | ⊕   | EX. TREE, PROTECT IN PLACE            |
| SS  | EXISTING SANITARY SEWER MAINLINE, PROTECT IN PLACE                              | ⊕   | EX. MANHOLE                           |
| --- | CALTRANS RIGHT OF WAY LINE  | ⊕   | EX. TRAFFIC LIGHT                     |
| --- | EXISTING OVERHEAD ELECTRIC LINES, PROTECT IN PLACE.                             | ⊕   | EX. STREET LIGHT                      |
| --- | ELECTRIC LINE SETBACKS  | ⊕   | EX. SCE POWER POLE                    |
| --- | ELECTRICAL EQUIPMENT OFFSETS  | ⊕   | EX. ELECTRICAL BOX                    |
| --- | CALTRANS 52' CLEAR WIDTH  | ⊕   | EX. PULL BOX                          |
| --- | STREET CENTERLINE   | ⊕   | EX. BACKFLOW PREVENTER                |
| X   | EXISTING CHAIN LINK FENCE, PROTECT IN PLACE.                                    | ⊕   | EX. IRRIGATION CONTROLLER             |
| --- | 4' HIGH TREE PROTECTION FENCE   | ⊕   | EX. IRRIGATION VALVE OR QUICK COUPLER |
| --- | TEMPORARY 8' HIGH CHAIN-LINK CONSTRUCTION FENCE COVERED BY GREEN PLASTIC SHEETS | ⊕   | EX. GUY                               |
| --- | GRADE BREAK   | ⊕   | EX. SIGN OR HIGHWAY REFLECTOR         |
| --- | 4" HDPE STORM DRAIN LINE  | ⊕   | EX. DRAINAGE INLET                    |
| --- | GATEWAY MONUMENT SIGN FOOTING   | ⊕   | EXISTING CONCRETE, PROTECT IN PLACE   |
| --- | SWALE FLOW LINE   | ⊕   | NEW CATCH BASIN AND CISTERN           |

**Irrigation Abbreviation Legend**

|      |                                 |
|------|---------------------------------|
| ABS  | ACRYLONITRILE BUTADIENE STYRENE |
| DET  | DETAIL                          |
| EX   | EXISTING                        |
| GPM  | GALLONS PER MINUTE              |
| MAX  | MAXIMUM                         |
| PREC | PRECIPITATION RATE              |
| PSI  | POUNDS PER SQUARE INCH          |
| PVC  | POLYVINYL CHLORIDE              |
| SCH  | SCHEDULE                        |



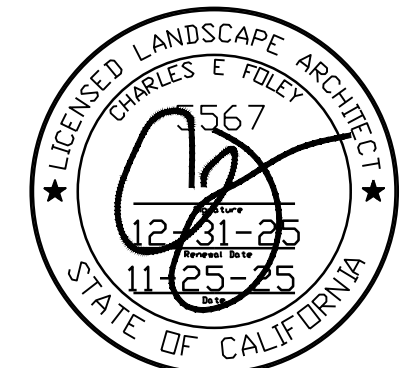
**HIRSCH & ASSOCIATES, INC.**  
 LANDSCAPE ARCHITECTURE & PLANNING  
 2221 EAST WINSTON ROAD, SUITE A  
 ANAHEIM, CALIFORNIA 92806  
 PHONE 714-776-4340 FAX 714-776-4395  
 WWW.HAILANDARCH.COM LAR1710



**UNAUTHORIZED CHANGES AND USES:**

WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THIS PLAN. ALL CHANGES TO THE PLAN MUST BE IN WRITING AND MUST BE APPROVED BY

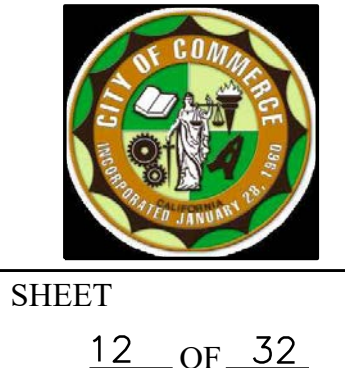
| REVISIONS |      |          |             |        |
|-----------|------|----------|-------------|--------|
| NUMBER    | DATE | INITIALS | DESCRIPTION | APP'VD |
|           |      |          |             |        |
|           |      |          |             |        |
|           |      |          |             |        |
|           |      |          |             |        |



PREPARED UNDER THE SUPERVISION OF:  
**CHUCK FOLEY**  
 R.C.E. No. XXXX (Exp. XX-XX-XX)  
 DRAWN BY: GREG THAYER  
 CHECKED BY: CHUCK FOLEY  
 DESIGNED BY: GREG THAYER

DATE: \_\_\_\_\_  
 APPROVED BY: \_\_\_\_\_  
 DATE: \_\_\_\_\_  
 SHAHID ABBAS  
 PUBLIC WORKS DIRECTOR

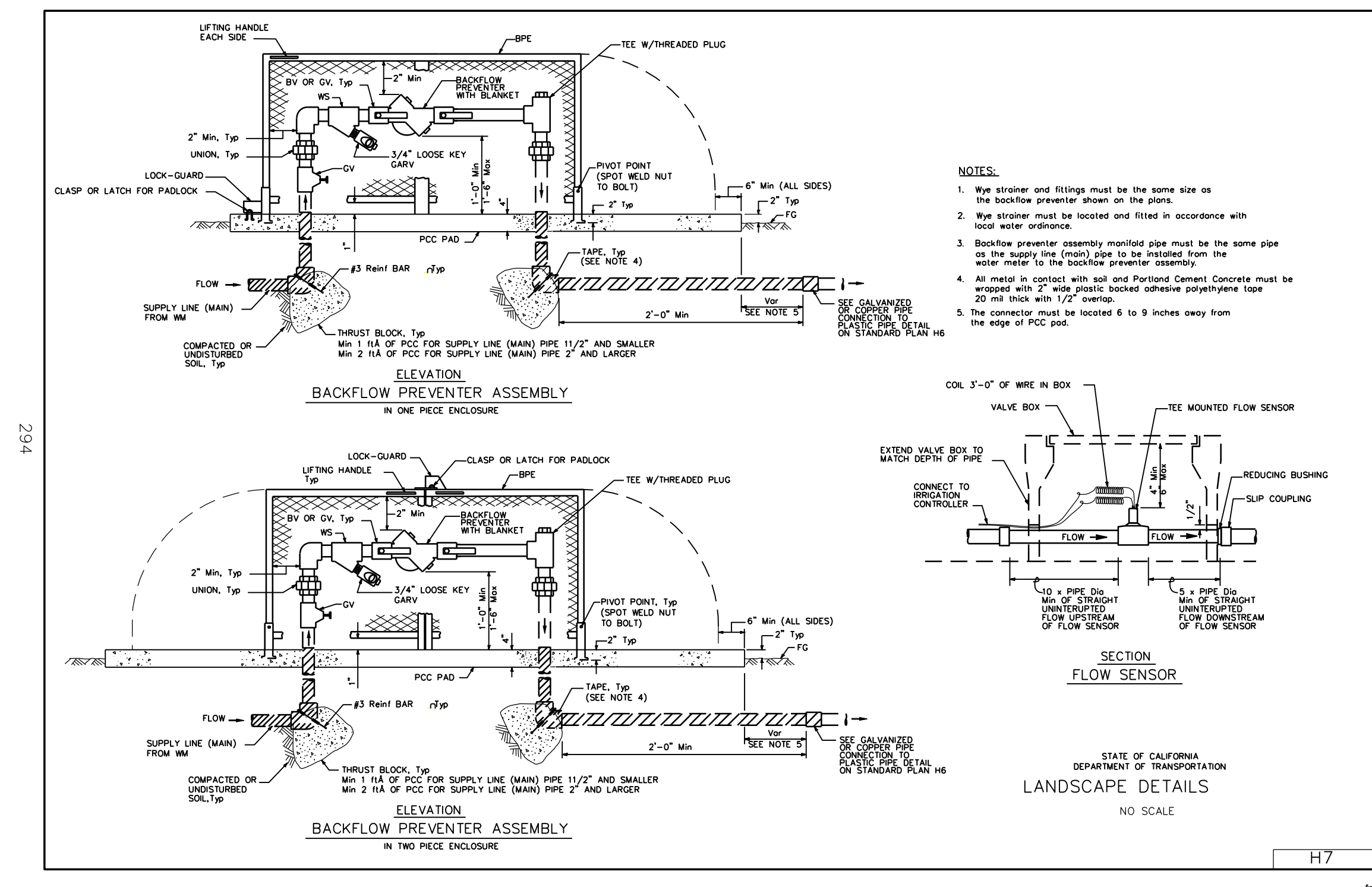
**IRRIGATION PLAN**  
**IP-1**  
**CITY OF COMMERCE**



SHEET  
 12 OF 32

# IRRIGATION NOTES

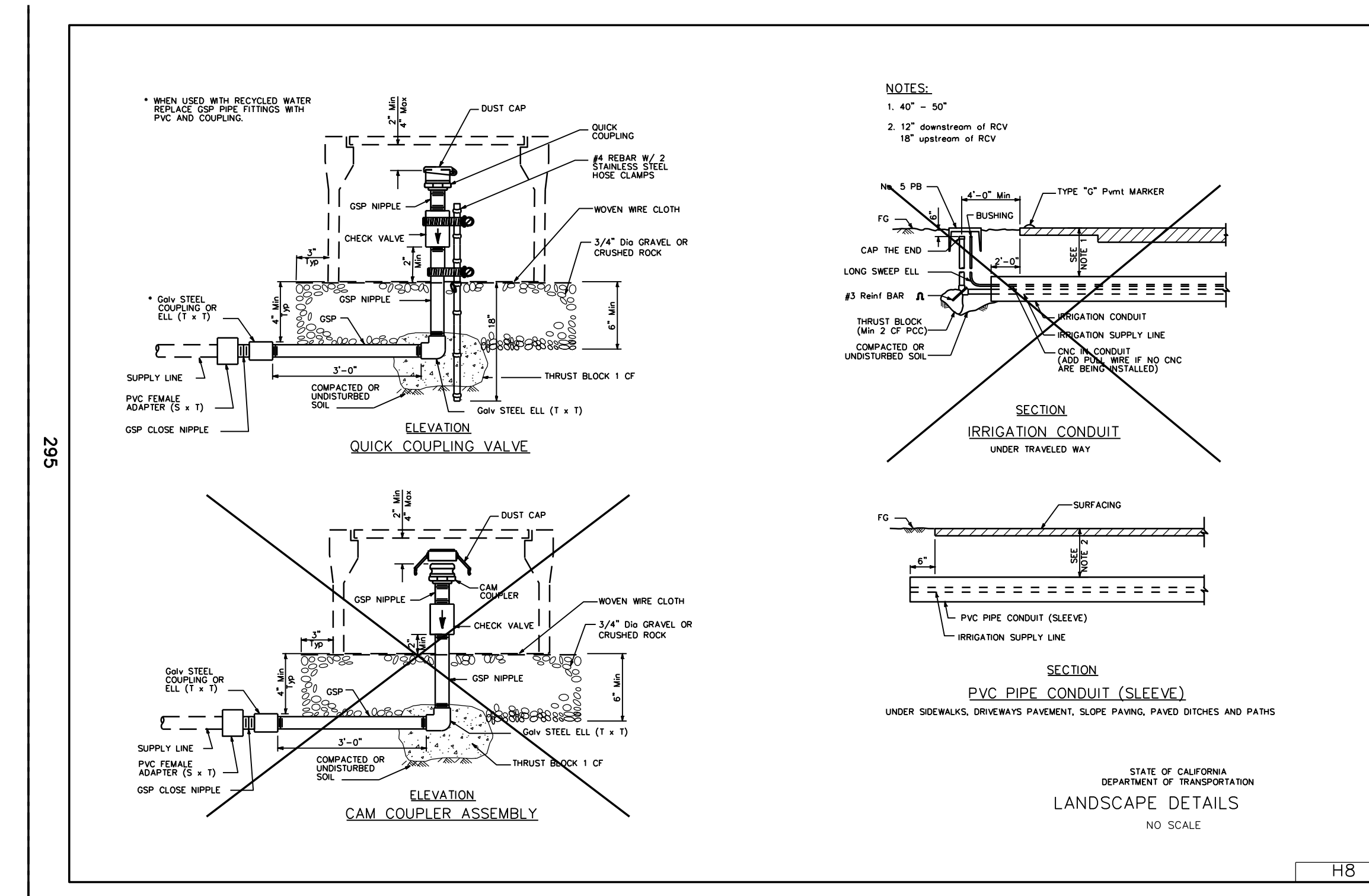
- IT IS THE INTENT OF THESE DRAWINGS TO INDICATE A COMPLETE AND OPERATIONAL IRRIGATION SYSTEM PROVIDING FULL COVERAGE AND READY FOR USE BY THE OWNER. THE DRAWINGS ARE BASED ON LANDSCAPE AND GRADING PLANS IN EFFECT AT THE TIME THESE DRAWINGS WERE MADE. ANY DISCREPANCIES, OMISSIONS, ERRORS, ETC. ON THESE DRAWINGS OR ON SITE CHANGES, DOES NOT AND SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO PROVIDE A COMPLETE SYSTEM AS SHOWN. IF NECESSARY, THE CONTRACTOR MAY, WHERE CHANGES OCCUR, ADD OR DELETE BUBBLERS/DRIP TUBING, RE-ROUTE PIPE, ETC. TO ASSURE ADEQUATE AND FULL COVERAGE PER APPROVAL OF THE LANDSCAPE ARCHITECT.
- THE CONTRACTOR SHALL VERIFY AND BE FAMILIAR WITH THE LOCATION, SIZE AND DETAIL OF UTILITIES PROVIDED, AS SHOWN ON THE PLANS. PRIOR TO CUTTING INTO THE SOIL, THE CONTRACTOR SHALL LOCATE ALL UTILITIES AS ARE COMMONLY ENCOUNTERED UNDER-GROUND AND SHALL TAKE PROPER PRECAUTIONS NOT TO DAMAGE OR DISTURB SUCH IMPROVEMENTS. THE CONTRACTOR SHALL CALL UNDERGROUND SERVICE ALERT (811) PRIOR TO ANY WORK TAKING PLACE, AND CONTACT THE GENERAL CONTRACTOR FOR LOCATION OF NEWLY INSTALLED UTILITIES.
- THE IRRIGATION DESIGN IS DIAGRAMMATIC. ALL PIPING, VALVES, EQUIPMENT, ETC. SHOWN WITHIN PAVED AREAS IS FOR DESIGN CLARIFICATION ONLY AND SHALL BE INSTALLED IN THE PLANTING AREAS IN A MANNER SO AS TO CONFORM WITH THE VARIOUS DETAILS.
- THE CONTRACTOR SHALL NOT WILLFULLY INSTALL THE IRRIGATION SYSTEM AS SHOWN ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT OBSTRUCTION, GRADE DIFFERENCES OR DIFFERENCES IN THE AREAS DIMENSIONS EXIST THAT MIGHT NOT HAVE BEEN CONSIDERED IN THE ENGINEERING. SUCH OBSTRUCTION OR DIFFERENCES SHOULD BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE LANDSCAPE ARCHITECT IN THE EVENT THIS NOTIFICATION IS NOT PERFORMED, THE CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY FOR ANY REVISIONS THAT ARE NECESSARY.
- MATERIALS, WORKMANSHIP AND INSTALLATION SHALL BE NEW AND OF THE HIGHEST QUALITY IN ACCORDANCE WITH LOCAL CODES AND ORDINANCES.
- THE CONTRACTOR SHALL KEEP THE PREMISES CLEAN AND FREE OF EXCESS EQUIPMENT, MATERIALS AND RUBBISH INCIDENTAL TO THIS WORK.
- CONTRACTOR SHALL MAKE ALL NECESSARY ARRANGEMENTS FOR ELECTRICAL POWER TO CONTROLLER LOCATIONS AND MAKE FINAL HOOK-UP. FINAL HOOK-UP SHALL BE PERFORMED BY LICENSED CONTRACTOR.
- IRRIGATION DESIGN PRESSURE IS 50 PSI STATIC PRESSURE AT THE WATER METER, AT A MAXIMUM DESIGN DEMAND OF 50 GPM. CONTRACTOR SHALL VERIFY STATIC PRESSURE ON THE SITE AT POINT OF CONNECTION PRIOR TO START OF WORK. ANY DISCREPANCY SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT. EXISTING STATIC PRESSURE IN CITY MAIN IS 50 PSI PLUS 30 PSI FROM BOOSTER PUMP, TOTAL 80 PSI.
- ALL WORK SHALL COMPLY WITH THE LATEST EDITION OF "UNIFORM PLUMBING CODE" AS WELL AS LOCAL ORDINANCES.
- IRRIGATION SYSTEM SHALL NOT BE MODIFIED OR CHANGED IN ANY WAY WITHOUT THE PRIOR WRITTEN APPROVAL FROM THE LANDSCAPE ARCHITECT.
- INSTALL CONSTANT PRESSURE MAIN LINE 24" INCHES BELOW FINISH GRADE AND 32" INCHES BELOW SUBGRADE OF STREETS AND/OR DRIVES.
- INSTALL INTERMEDIATE PRESSURE LATERAL LINE 18" INCHES BELOW FINISH GRADE AND 24" INCHES BELOW SUBGRADE OF STREETS AND/OR DRIVES.
- REFER TO SPECIFICATIONS FOR FURTHER INFORMATION. THE GENERAL REQUIREMENTS OF THE SPECIFICATIONS SHALL BECOME PART OF THE IRRIGATION WORK.
- WIRE SIZE FOR IRRIGATION SYSTEM SHALL BE #14 GAUGE SUITABLE FOR DIRECT BURIAL.
- INSTALL TAGS AT CONTROLLER FOR ALL CONTROL VALVE WIRING INDICATING STATION NUMBER.



## BACKFLOW PREVENTER ASSEMBLY + FLOW SENSOR

NOT TO SCALE

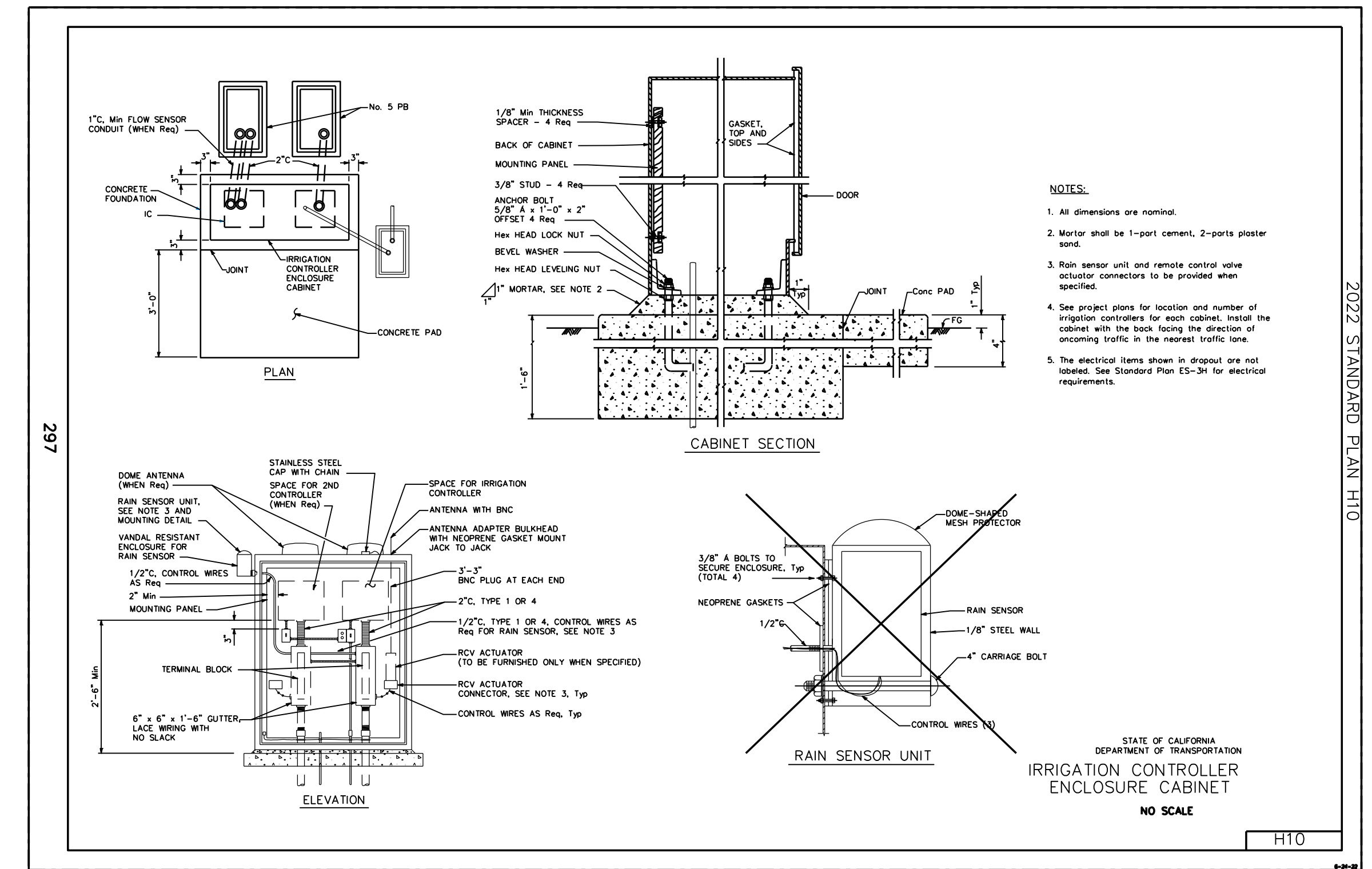
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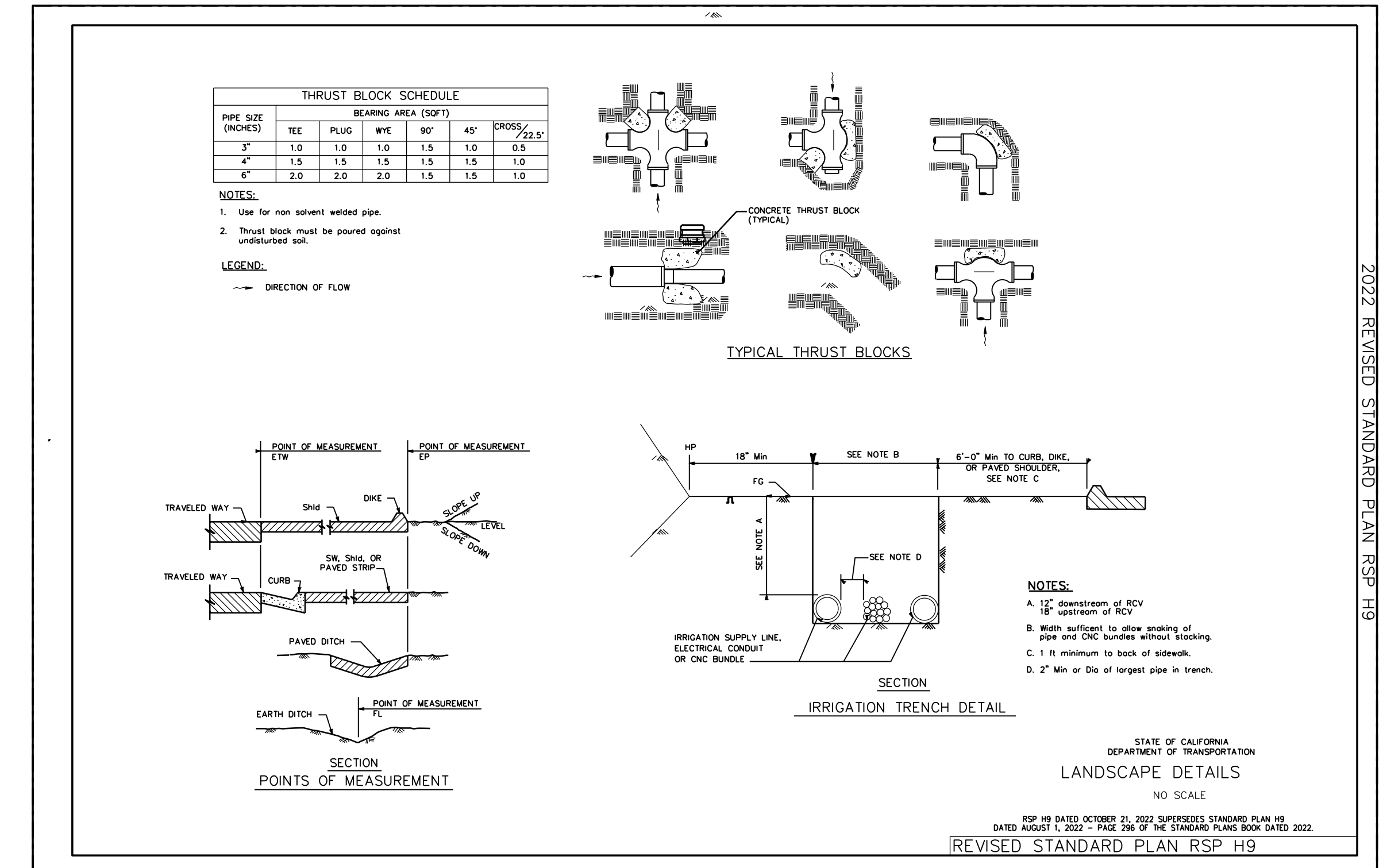
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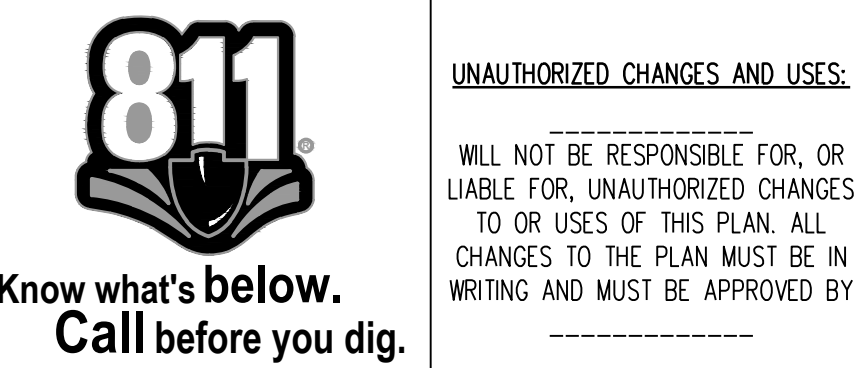


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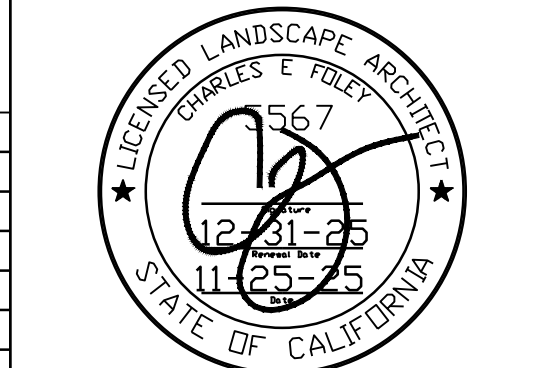
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DATE: 11/25/25  
PLOT SCALE: 1=1



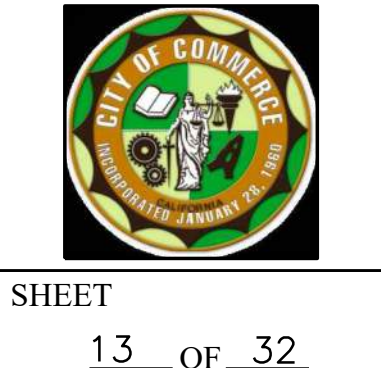
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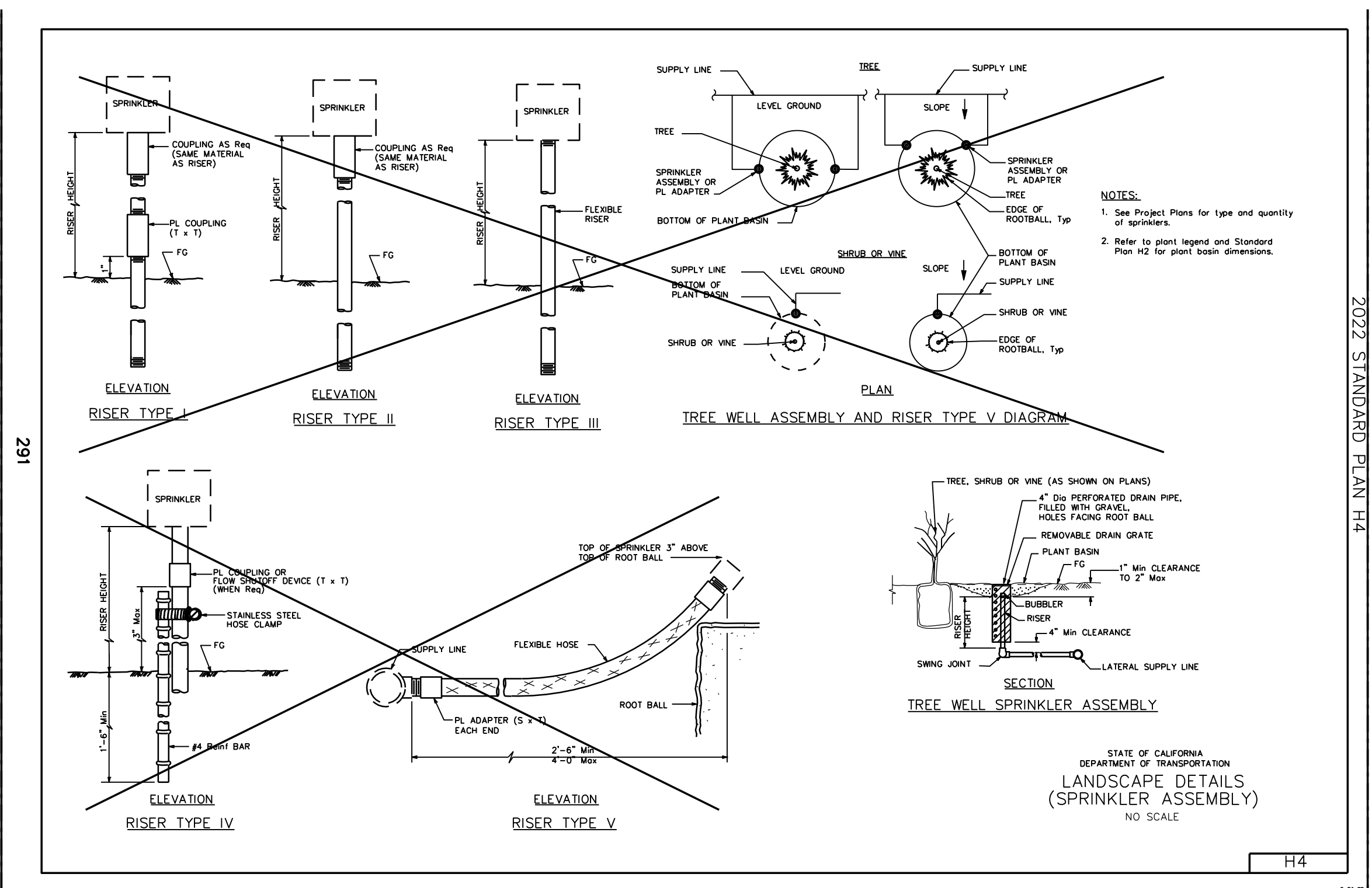
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R.C.E. No. XXXX (Exp. XX-XX-XX)  
DRAWN BY: GREG THAYER  
CHECKED BY: CHUCK FOLEY  
DESIGNED BY: GREG THAYER

SHAHID ABBAS  
PUBLIC WORKS DIRECTOR  
DATE

IRRIGATION DETAILS  
ID-1  
CITY OF COMMERCE

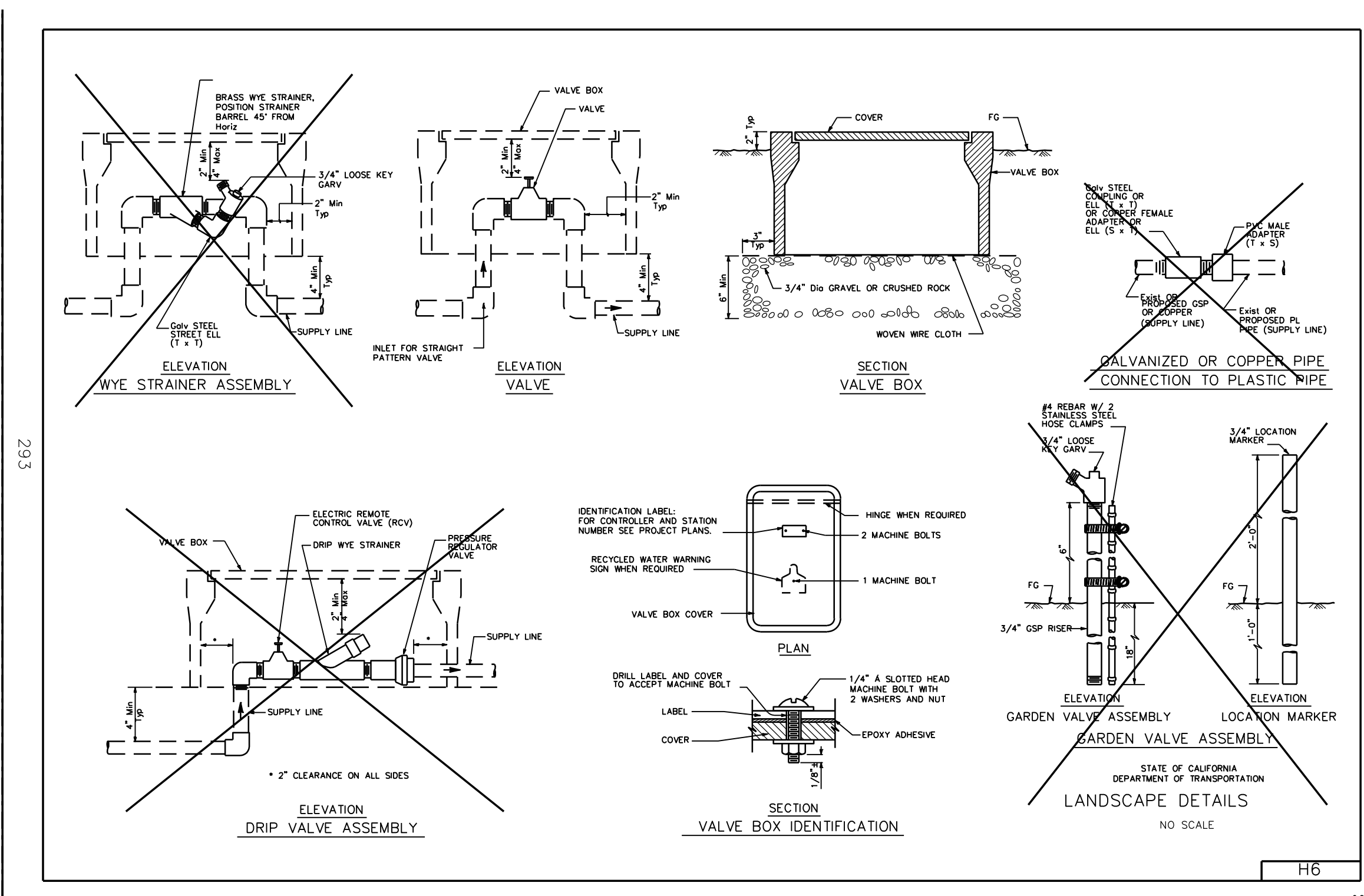


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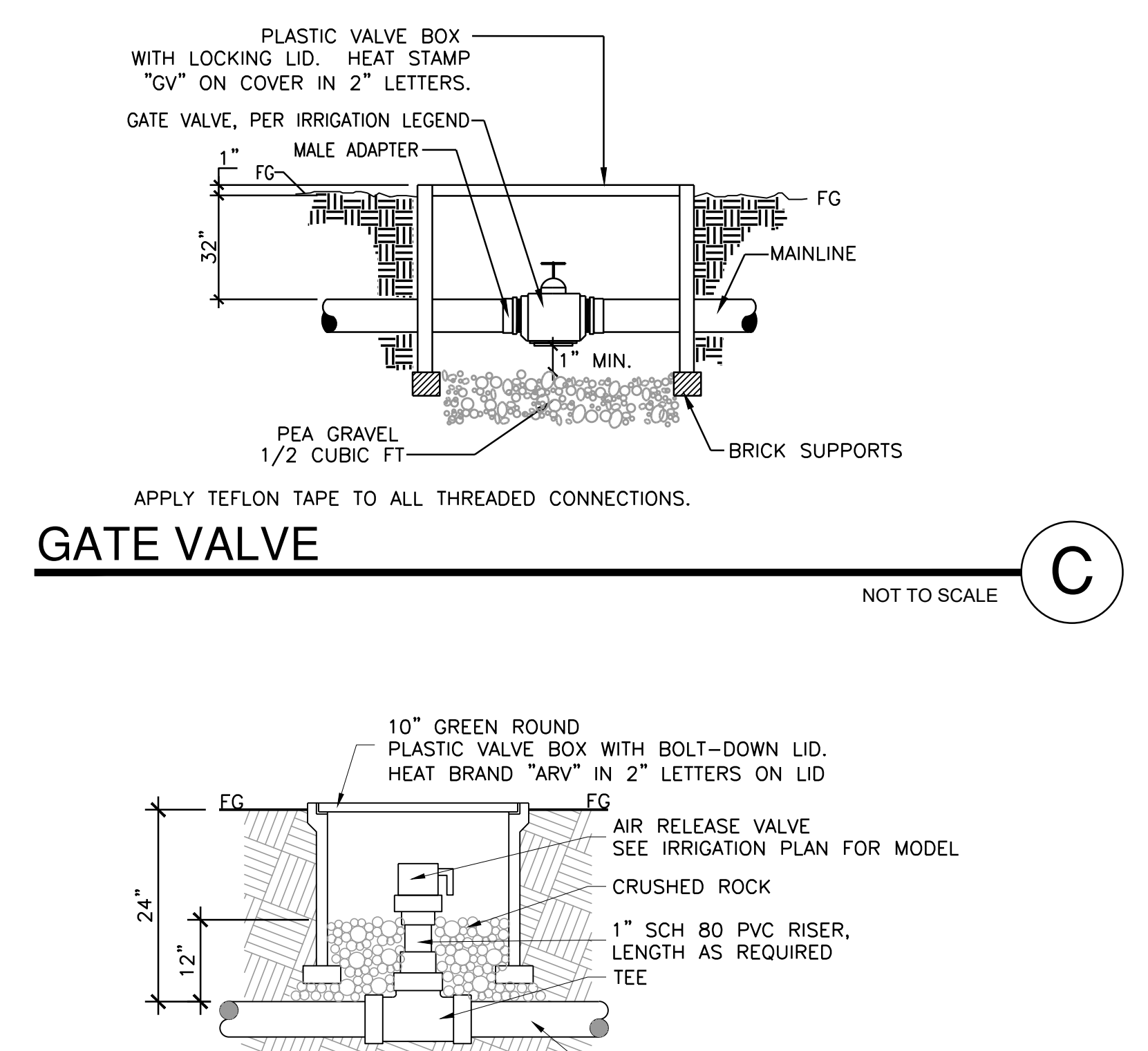
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NOT TO SCALE **A**



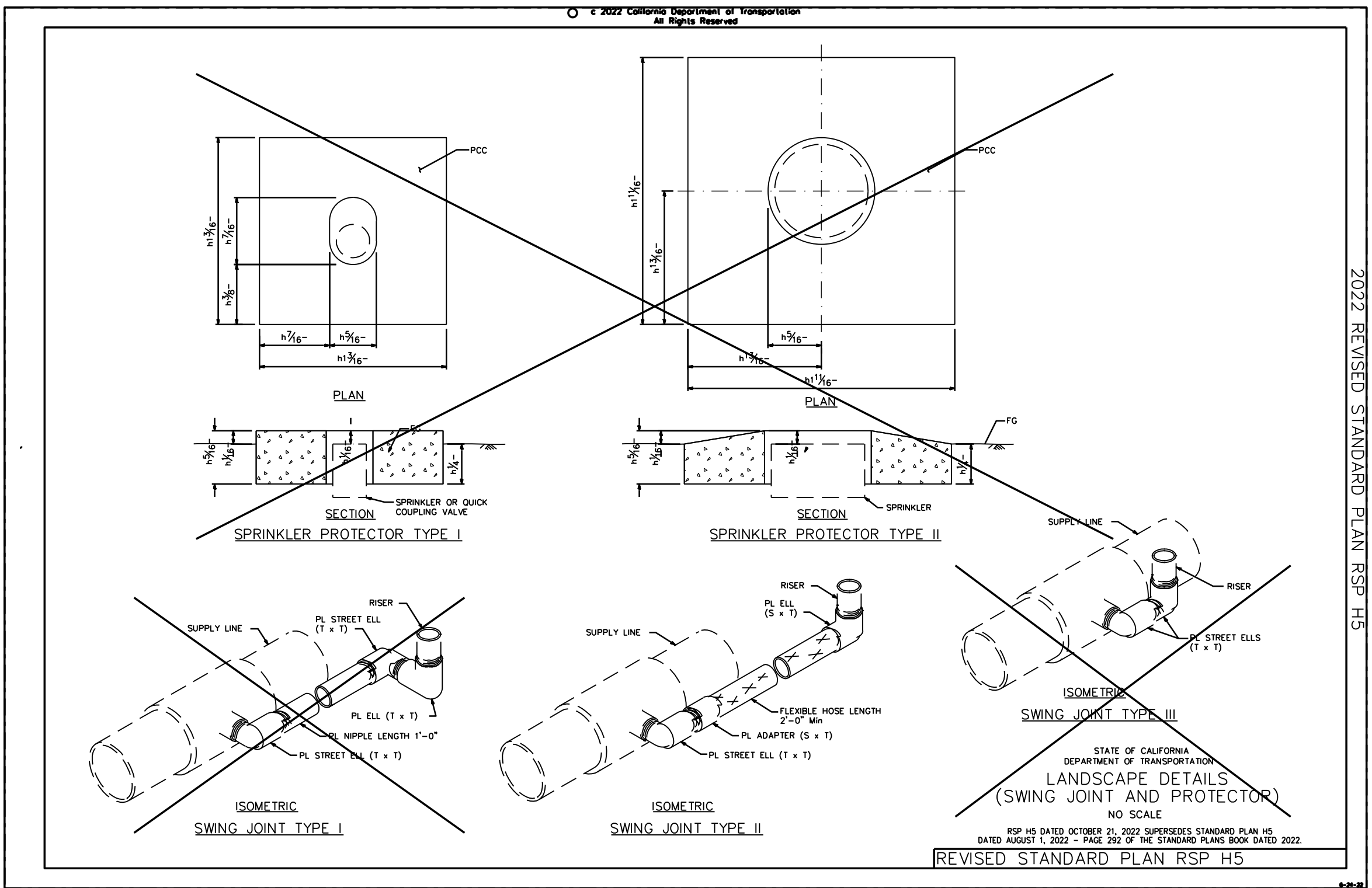
**CONTROL VALVE + VALVE BOX**

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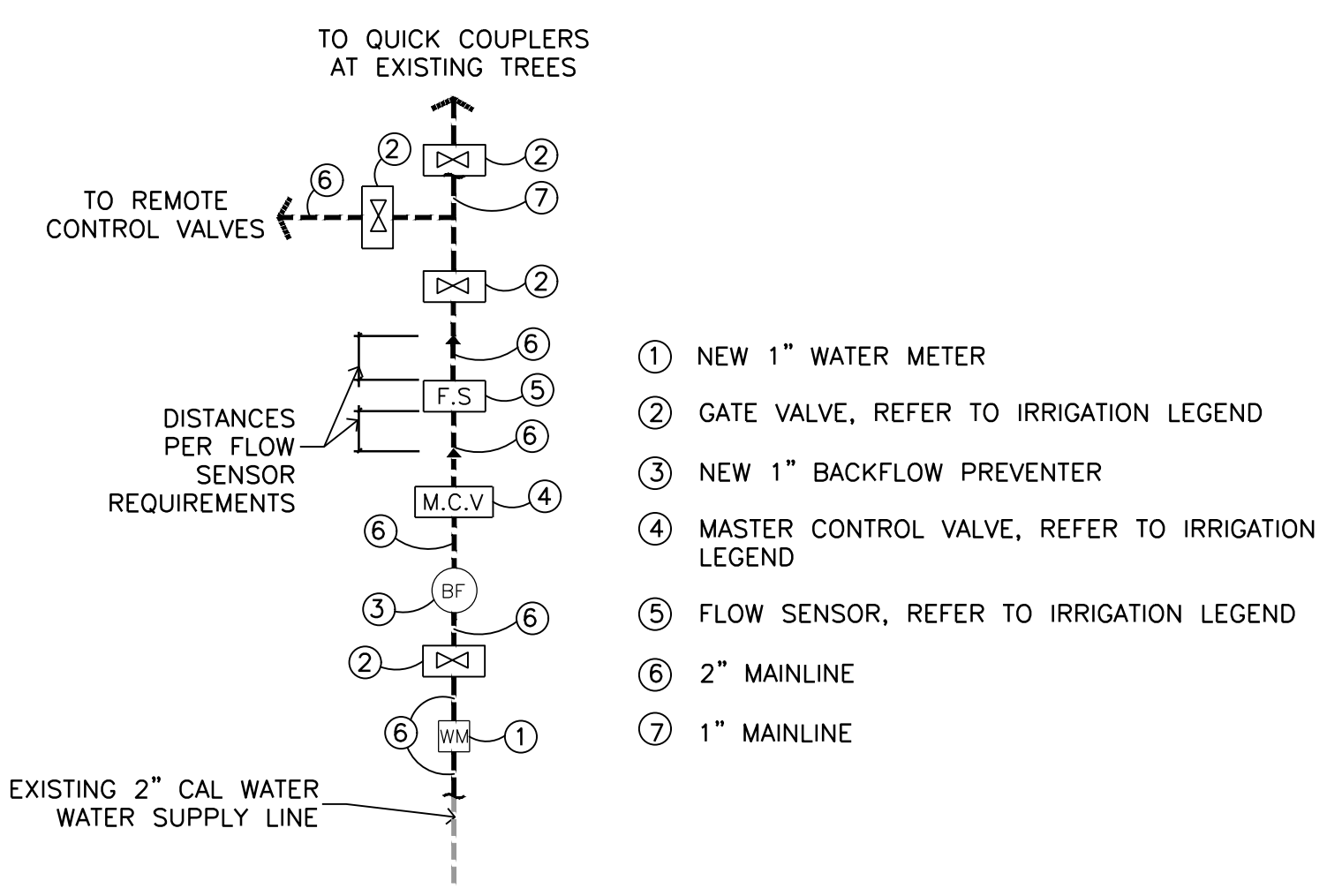
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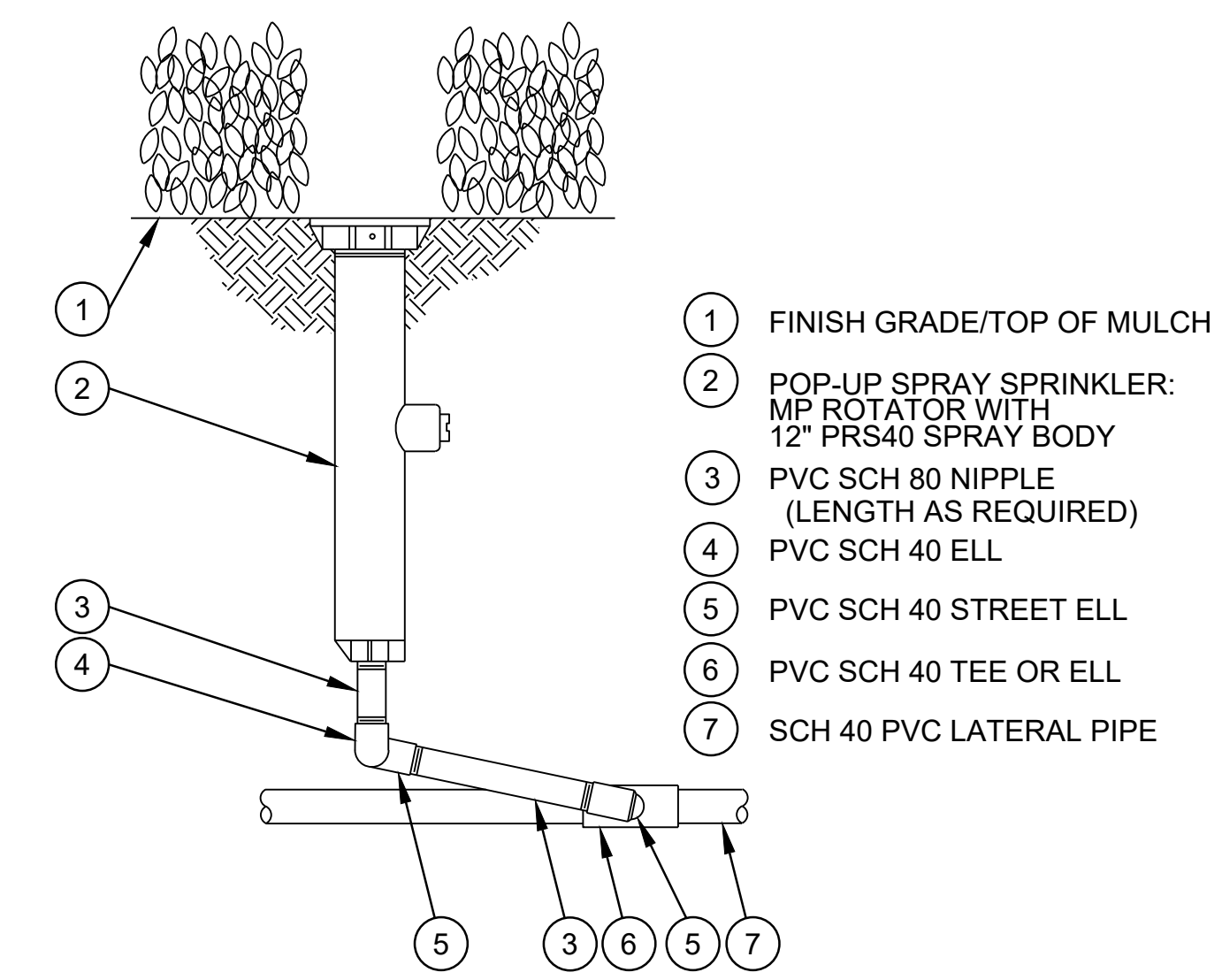
**SWING JOINT**

NOT TO SCALE **E**



**POINT OF CONNECTION**

NOT TO SCALE **F**



**SPRAY BODY AT SWING JOINT**

NOT TO SCALE **G**

DATE: 11/25/25  
 PLOT SCALE: 1"=1'

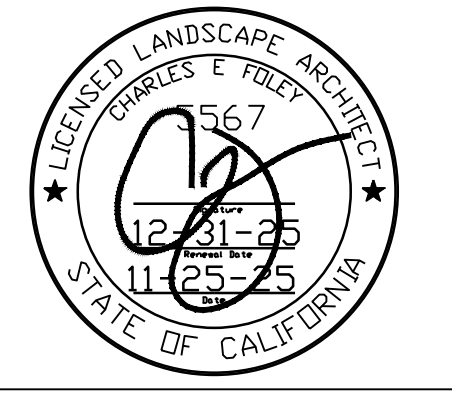


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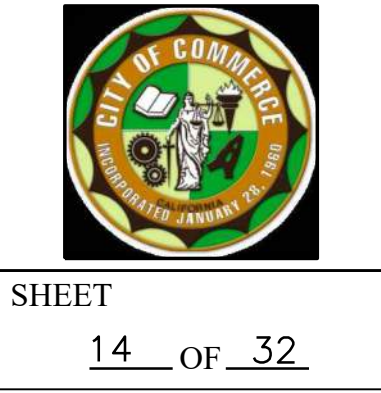
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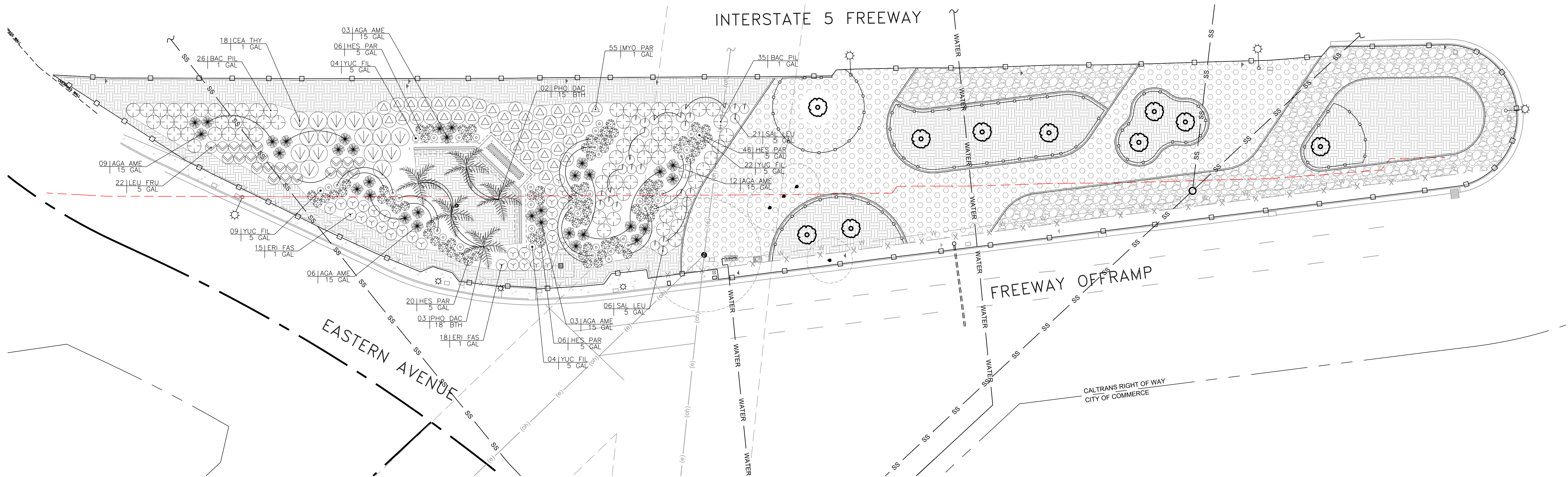
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 R.C.E. No. XXXX (Exp. XX-XX-XX)  
 DRAWN BY: GREG THAYER  
 CHECKED BY: CHUCK FOLEY  
 DESIGNED BY: GREG THAYER

DATE  
 APPROVED BY:  
 SHAHID ABBAS  
 PUBLIC WORKS DIRECTOR

**IRRIGATION DETAILS**  
 ID-2  
**CITY OF COMMERCE**







**PLANT LEGEND (WUCOLS REGION 3 - SOUTH COASTAL)**

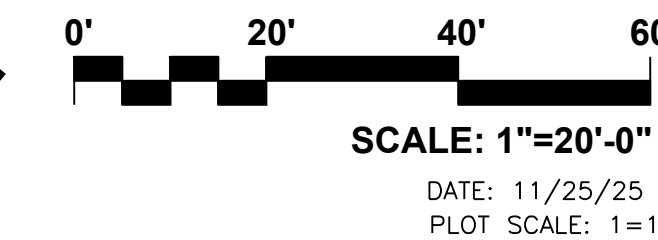
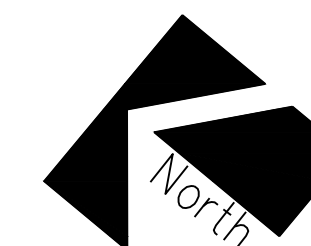
| SYMBOL        | ABBREVIATION  | BOTANICAL NAME                                     | COMMON NAME              | SIZE                  | WATER USE | SPACING  | DETAIL  | QTY. |
|---------------|---|--|--------------------------|-----------------------|-----------|----------|---------|------|
| <b>TREES</b>  |   |  |                          |                       |           |          |         |      |
|               | PHO DAC   | PHOENIX DACTYLIFERA                                | DATE PALM                | 15'/18' BTH, SEE PLAN | LOW       | PER PLAN | B/LD-01 | 5    |
| <b>SHRUBS</b> |   |  |                          |                       |           |          |         |      |
|               | AGA AME   | AGAVE AMERICANA VAR. MARGINATA                     | VARIEGATED CENTURY PLANT | 15 GAL                | LOW       | 60" OC   | C/LD-01 | 33   |
|               | BAC PIL   | BACCHARIS PILULARIS 'PIGEON POINT'                 | DWARF COYOTE BUSH        | 1 GAL                 | LOW       | 72" OC   | C/LD-01 | 66   |
|               | CEA THY   | CEANOTHUS THYRSIFLORUS VAR. GRISEUS 'YANKEE POINT' | YANKEE POINT WILD LILAC  | 1 GAL                 | LOW       | 96" OC   | C/LD-01 | 16   |
|               | ERI FAS   | ERIOGONUM FASCICULATUM 'THEODORE PAYNE'            | THEODORE PAYNE BUCKWHEAT | 1 GAL                 | LOW       | 60" OC   | C/LD-01 | 33   |
|               | HES PAR   | HESPERALOE PARVIFLORA                              | RED YUCCA                | 5 GAL                 | LOW       | 48" OC   | C/LD-01 | 77   |
|               | LEU FRU   | LEUCOPHYLLUM FRUTESCENS 'COMPACTA'                 | COMPACT TEXAS RANGER     | 5 GAL                 | LOW       | 60" OC   | C/LD-01 | 22   |
|               | MYO PAR   | MYOPORUM PARVIFOLIUM 'PINK'                        | PINK MYOPORUM            | 1 GAL                 | LOW       | 72" OC   | C/LD-01 | 45   |
|               | SAL LEU   | SALVIA LEUCOPHYLLA                                 | PURPLE SAGE              | 5 GAL                 | LOW       | 48" OC   | C/LD-01 | 27   |
|               | YUC FIL   | YUCCA FILAMENTOSA 'COLORGUARD'                     | COLORGUARD YUCCA         | 5 GAL                 | LOW       | 36" OC   | C/LD-01 | 39   |
|               | COBBLE ROCK BLANKET, REFER TO DETAIL G, SHEET CD-2.                 |  |                          |                       |           |          |         |      |
|               | FLAGSTONE SET IN DECOMPOSED GRANITE, REFER TO DETAIL F, SHEET CD-2. |  |                          |                       |           |          |         |      |
|               | 3" THICK MULCH, REFER TO PLANTING NOTE 11 AND DETAIL A, SHEET LD-1. |  |                          |                       |           |          |         |      |

**Landscape Abbreviation Legend**

|     |                    |
|-----|--------------------|
| BTH | BROWN TRUNK HEIGHT |
| DG  | DECOMPOSED GRANITE |
| EX  | EXISTING           |
| GAL | GALLON             |
| OC  | ON CENTER          |

**Symbol Legend**

|  |          |   |  |                                       |
|--|----------|---|--|---------------------------------------|
|  | WATER    | EXISTING WATER SERVICE LINE   |  | EX. TREE, PROTECT IN PLACE            |
|  | W        | EXISTING IRRIGATION MAINLINE  |  | EX. MANHOLE                           |
|  | SS       | EXISTING SANITARY SEWER MAINLINE, PROTECT IN PLACE                              |  | EX. TRAFFIC LIGHT                     |
|  | - - - -  | CALTRANS RIGHT OF WAY LINE  |  | EX. STREET LIGHT                      |
|  | (e) (oh) | EXISTING OVERHEAD ELECTRIC LINES, PROTECT IN PLACE.                             |  | EX. SCE POWER POLE                    |
|  | - - - -  | ELECTRIC LINE SETBACKS  |  | EX. ELECTRICAL BOX                    |
|  | - - - -  | ELECTRICAL EQUIPMENT OFFSETS  |  | EX. PULL BOX                          |
|  | - - - -  | CALTRANS 52' CLEAR WIDTH  |  | EX. BACKFLOW PREVENTER                |
|  | - - - -  | STREET CENTERLINE   |  | EX. IRRIGATION CONTROLLER             |
|  | X        | EXISTING CHAIN LINK FENCE, PROTECT IN PLACE.                                    |  | EX. IRRIGATION VALVE OR QUICK COUPLER |
|  | - - - -  | 4' HIGH TREE PROTECTION FENCE   |  | EX. GUY                               |
|  | - - - -  | TEMPORARY 8' HIGH CHAIN-LINK CONSTRUCTION FENCE COVERED BY GREEN PLASTIC SHEETS |  | EX. SIGN OR HIGHWAY REFLECTOR         |
|  | - - - -  | GRADE BREAK   |  | EX. DRAINAGE INLET                    |
|  | - - - -  | 4" HDPE STORM DRAIN LINE  |  | EXISTING CONCRETE, PROTECT IN PLACE   |
|  | - - - -  | GATEWAY MONUMENT SIGN FOOTING   |  | NEW CATCH BASIN AND CISTERN           |
|  | - - - -  | SWALE FLOW LINE   |  | NEW ROCK BLANKET                      |
|  |          |   |  | NEW FLAGSTONE AND DECOMPOSED GRANITE  |
|  |          |   |  | NEW MULCH                             |

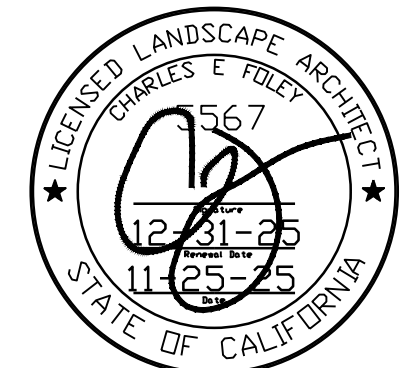


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| CHECKED BY: CHUCK FOLEY            |      |              |
| DESIGNED BY: GREG THAYER           |      |              |

|                       |      |
|-----------------------|------|
| SHAHID ABBAS          | DATE |
| PUBLIC WORKS DIRECTOR |      |

**LANDSCAPE PLAN**  
**LP-1**

**CITY OF COMMERCE**

SHEET  
 16 of 32

# PLANTING NOTES

1. VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES PRIOR TO START OF WORK.
2. LANDSCAPE ARCHITECT SHALL HAVE THE OPPORTUNITY TO INSPECT AND APPROVE ALL PLANT MATERIALS 15 GALLON AND LARGER AT NURSERY. 5 GALLON AND SMALLER WILL BE INSPECTED AT JOB SITE PRIOR TO PLANTING.
3. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL THEFT OR DAMAGE TO PLANT MATERIAL ONCE PLANT MATERIAL IS DELIVERED TO JOB SITE.
4. UPON COMPLETION OF PLANTING, THE CONTRACTOR SHALL ARRANGE FOR A SUBSTANTIAL COMPLETION INSPECTION BY LANDSCAPE ARCHITECT. CONTRACTOR SHALL CORRECT ANY DISCREPANCIES FOUND PRIOR TO FINAL INSPECTION AND ACCEPTANCE OF THE PROJECT.
5. THE CONTRACTOR IS TO CONTACT THE OWNER AND LANDSCAPE ARCHITECT FOR A FINAL INSPECTION OF THE LANDSCAPE ONCE ALL WORK IS COMPLETE.
6. UPON FINAL ACCEPTANCE OF THE WORK, THE CONTRACTOR SHALL SUBMIT TO OWNER, SIGNED ORIGINALS OF ALL MATERIAL AND LABOR RELEASES.
7. BACKFILL MIX FOR ALL TREES, SHRUBS AND SUCCULENTS SHALL CONSIST OF THE FOLLOWING MATERIALS PER CUBIC YARD:

- 90% NATIVE ON-SITE SOIL
- 10% BULK ORGANIC MATERIAL
- 5 LB./CY. TRI-C PREMIUM HUMATE
- 5 LB./CY. TRI-C ENDO 120 (MYCORRHIZAL INOCULUM)

8. SOIL PREPARATION: INCORPORATE THE FOLLOWING MATERIALS INTO ALL TURF REPLACEMENT AND PLANTER AREAS PER 1,000 S.F. MECHANICALLY ROTOTILL IN TWO DIRECTIONS MATERIALS INTO AREA TO A DEPTH OF 6". HAND TILLING IS NOT ACCEPTABLE. WATER THOROUGHLY AFTER ROTOTILLING IS COMPLETE.

- 3 CY. NITROGEN FORTIFIED ORGANIC AMENDMENT
- 50 LB. TRI-C PREMIUM HUMATE
- 1.5 LB. TRI-C ENDO 120 (MYCORRHIZAL INOCULUM)

SWEEP OR BLOW DOWN ALL WALKS PRIOR TO WATERING.

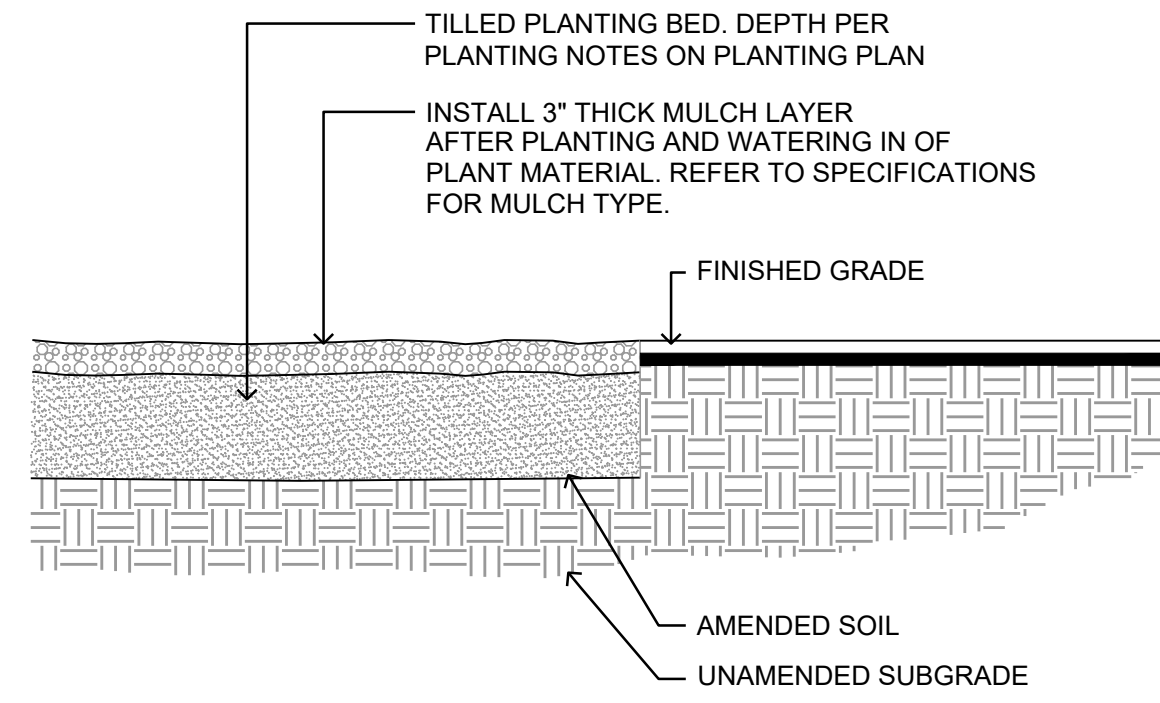
NOTE: THE ABOVE SOIL PREPARATION MATERIAL AND BACKFILL MIX ARE FOR BID PURPOSES ONLY. CONTRACTOR SHALL HAVE QUALIFIED SOILS LABORATORY APPROVED BY LANDSCAPE ARCHITECT PERFORM AGRICULTURAL SOIL SUITABILITY TEST. TEST RESULTS SHALL BE REVIEWED BY LANDSCAPE ARCHITECT WHO MAY MODIFY THE SOIL PREPARATION, BACKFILL MIX AND TREE DRAINAGE DEVICES IF NECESSARY. LANDSCAPE ARCHITECT SHALL SELECT LOCATION OF TEST SITES. (1) TEST SITE LOCATION IS REQUIRED PER BID.

10. A REPRESENTATIVE SAMPLE OF THE BOTANICAL NAME TAGS, FURNISHED BY THE NURSERY STOCK SUPPLIER, SHALL REMAIN ATTACHED TO THE PLANTS UNTIL FINAL INSPECTION.
11. INSTALL BARK MULCH AT A COMPACTED DEPTH OF 3". COLOR SHALL BE NATURAL. MULCH SHALL BE WELL DECOMPOSED, STABLE AND WEED FREE. THE PRODUCT PARTICLE SIZE SHALL BE 3" OR LESS WITH A PH OF 5.5 TO 8.0 AND A MOISTURE CONTENT OF 35 TO 55 PERCENT BY WEIGHT. IT SHALL CONTAIN NO SUBSTANCES TOXIC TO PLANTS AND SHALL NOT RESEMBLE THE RAW MATERIAL FROM WHICH IT WAS DERIVED. MULCH SAMPLES SHALL BE SUBMITTED TO THE LANDSCAPE ARCHITECT FOR REVIEW AND WRITTEN APPROVAL, PRIOR TO APPLICATION. THE APPLICATION OF MULCH SHALL BE CONTINUOUS IN ALL SHRUB/GROUND COVER BEDS AND UNDER ALL PLANTS AND TREES. MULCH INSTALLED AROUND THE EDGE OF TREES SHALL HAVE A 4" MINIMUM SEPARATION BETWEEN MULCH AND EDGE OF TRUNK.

12. FERTILIZER TABLETS SHALL BE TRI-C MYCO TABS + 17-9-5 PLANTING TABLETS, TABLETS MUST TOUCH ROOT BALL, INSERTED IN ALL PLANTING PITS, EXCEPT PALM TREES, AS PER THE FOLLOWING SCHEDULE. SEE MANUFACTURERS RECOMMENDATIONS FOR FURTHER INFORMATION.

| PIT SIZE  | TABLET QTY. |
|-----------|-------------|
| 1 GALLON  | 2           |
| 5 GALLON  | 8           |
| 15 GALLON | 16          |
| 24" BOX   | 22          |
| 36" BOX   | 26          |
| 84" BOX   | 52          |

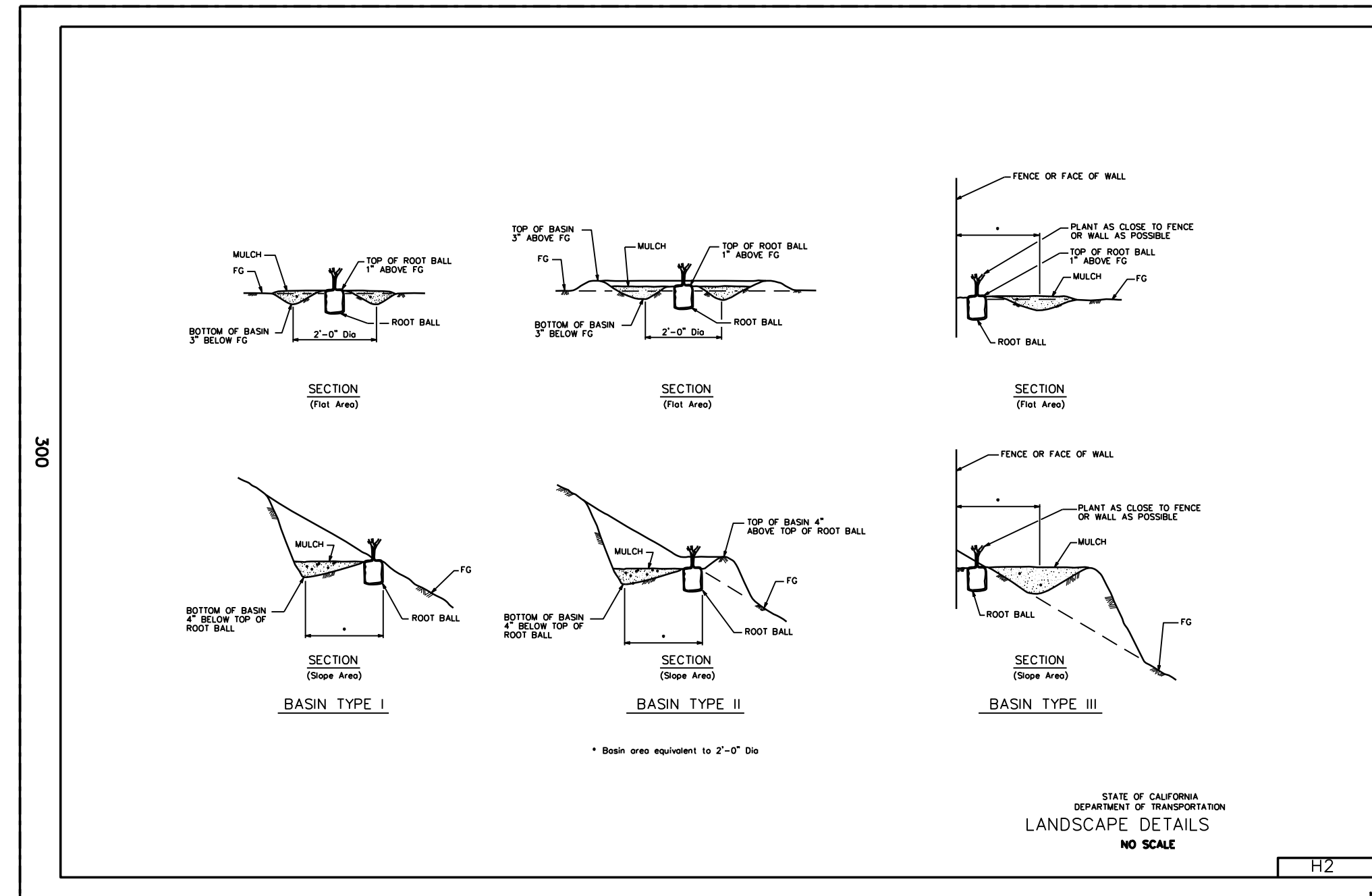
13. THE CONTRACTOR IS TO PROVIDE COPIES OF ALL SOIL AMENDMENT DELIVERY TICKETS TO THE CITY INSPECTOR AT THE FINAL INSPECTION.
14. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION. THE GENERAL REQUIREMENTS OF THE SPECIFICATIONS SHALL BECOME PART OF PLANTING WORK.
15. THE ESTABLISHMENT PERIOD FOR ALL NEW TREES, SHRUBS, AND TURF SHALL BE 30 DAYS. THE MAINTENANCE PERIOD SHALL BE 60 DAYS FOR A TOTAL OF 90 DAYS.



## 3" THICK MULCH

NOT TO SCALE

A

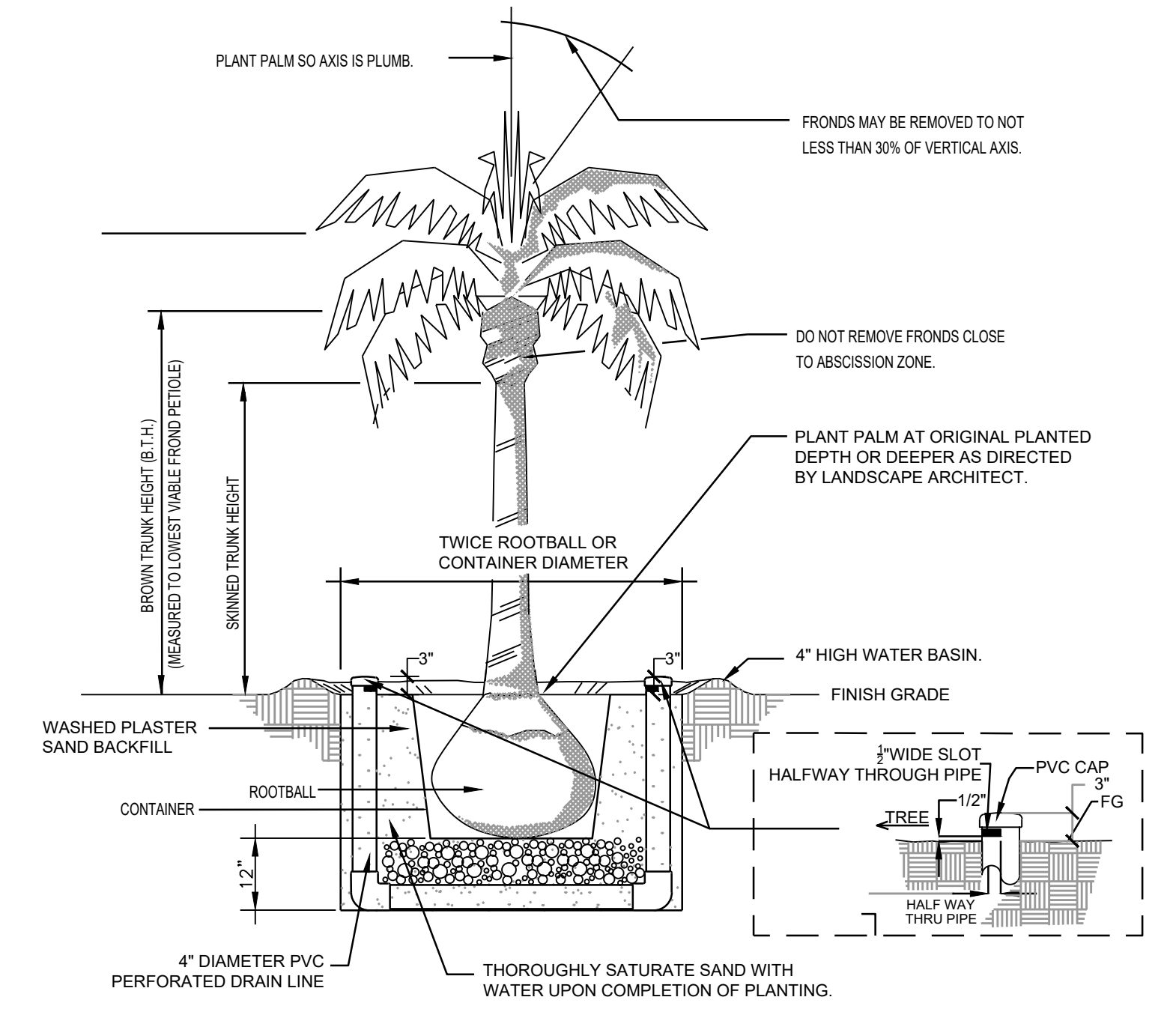


## SHRUB PLANTING

NOT TO SCALE

C

NOTE: PLANTING EXCAVATION PIT SHALL BE TWICE THE DIAMETER OF THE CONTAINER SIZE. BACK FILL SOIL SHALL BE IMPORTED CLASS A TOP SOIL. EXCAVATED SOIL SHALL BE REMOVED AND DISPOSED OF OFF SITE.



### PALM PLANTING GUIDELINES

1. PLANTING PITS SHALL BE 5x5' WIDE AND 6'-7" DEEP
2. THE TOP OF THE ROOTBALL SHALL BE AT FINAL GRADE AND NOT MORE THAN 1 FT. BELOW THE ORIGINAL GRADE.
3. INSTALL 1" OR LARGER PERFORATED SCH 40 PIPE WITH ENTIRE LENGTH WRAPPED WITH FILTER CLOTH AND CAPPED ON THE BOTTOM END. PLACE PIPE ADJACENT TO PALM BEFORE BACKFILLING. PIPE MUST EXTEND 1' OVER OR 5% BELOW THE BOTTOM OF THE ROOTBALL. AFFIX LOOSE FITTING CAP ON UPPER END OF PIPE, SO TAPE CAN BE LOWERED INTO PIPE TO CHECK WATER LEVEL. MONITOR DAY PRIOR TO APPLICATION OF SUPPLEMENTAL WATER.
4. BACKFILL MIX:
  - A. BACK FILL PITS WITH WASHED CONCRETE SAND UP TO THE LEVEL WHERE THE ROOTBALL WILL BE SET
  - B. WATER PIT AS IT IS BEING BACKFILLED USING 6' LONG PIPE STICKER TOPPED WITH 90° ELBOW, PLACED ON END OF MIN. 3/4" HOSE, WITH ADEQUATE VOLUME. STICKER SHALL BE WORKED UP AND DOWN, AS THE PIT IS BACKFILLED.
  - C. APPLY A MIXTURE OF 1 OZ. "BASIC H" BY SHAKLEE AND 2 TBSP. "STEM" BY PETERS. INTO 5 GAL. WATER. POUR IN WHEN BACKFILLING IS ALMOST COMPLETE AND THOROUGHLY SATURATE WITH WATER.
5. WATER PALMS WITH SOAKING OF 100-150 GALLONS WATER PER PALM, EVERY 5 DAYS.
6. AFTER 14 DAY, THEN MONTHLY, FRONDS SHALL BE SPRAYED (FOIJAR DRENCH) WITH THE FOLLOWING, AT THE RECOMMENDED RATES FOR A 100 GALLON TANK MIX:
  - A. KOCIDE 101 W.P. (3/4LB) OR MAZATE (1 QT./1000 GALLONS)
  - B. W.R. GRACE'S MINOR-GRO (1/2 CUP)
  - C. HYDRATED UREA (5 CUPS OR 2-1/2 LB.)
  - D. SPREADER STICKER (8 OZ.) "BASIC H"
  - E. 1 LB. BENLATE/100 GALLONS WATER
  - F. OPTION: ADD GENERAL INSECTICIDE

## PALM PLANTING

NOT TO SCALE

B

DATE: 11/25/25  
PLOT SCALE: 1=1



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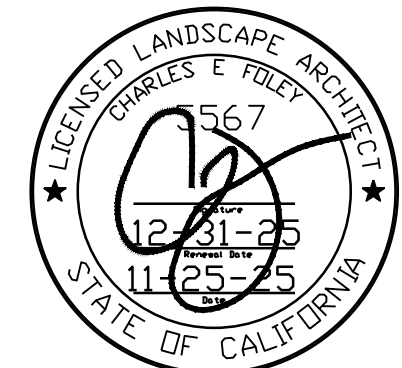


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DRAWN BY: GREG THAYER  
CHECKED BY: CHUCK FOLEY  
DESIGNED BY: GREG THAYER

DATE

APPROVED BY:

SHAHID ABBAS PUBLIC WORKS DIRECTOR DATE

## LANDSCAPE DETAILS LD-1

# CITY OF COMMERCE



SHEET 17 OF 32

**SECTION 32 84 00**

**LANDSCAPE IRRIGATION SYSTEMS**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. It is the intent of the specifications and drawings that the finished system is complete in every respect and shall be ready for operation satisfactory to the Owner.
- B. The work shall include all materials, labor, services, transportation, and equipment necessary to perform the work as indicated on the drawings, in these specifications, and as necessary to complete the contract.

**1.2 GENERAL CONDITIONS**

- A. The requirements of the General Conditions specified in Division 1 – General requirements shall apply to all work of this Section with the same force and effect as throughout repeated herein.

**1.3 CONSTRUCTION DRAWINGS**

- A. Due to the scale of the drawings, it is not possible to indicate all offsets, fittings, sleeves, etc. which may be required. The Contractor shall carefully investigate the structural and finished conditions affecting all of his work and plan his work accordingly, furnishing such fittings, etc. as may be required to meet such conditions. Drawings are generally diagrammatic and indicative of the work to be installed. The work shall be installed in such a manner as to avoid conflicts between irrigation systems, planting, and architectural features.
- B. All work called for on the drawings by notes or details shall be furnished and installed whether or not specifically mentioned in the specifications. When an item is shown on the plans but not shown on the specifications or vice versa, it shall be deemed to be as shown on both. The Landscape Architect shall have final authority for clarification.
- C. The Contractor shall not willfully install the irrigation system as shown on the drawings when it is obvious in the field that obstructions, grade differences or discrepancies in area dimensions exist that might not have been considered in engineering. Such obstructions or differences should be brought to the attention of the Landscape Architect as soon as detected. In the event this notification is not performed, the Irrigation Contractor shall assume full responsibility for any revision necessary.

**1.4 QUALITY ASSURANCE**

- A. Provide at least one person who shall be present at all times during execution of this portion of the work and who shall be thoroughly familiar with the type of materials being installed and the manufacturer's recommended methods of installation and who shall direct all work performed under this section.
- B. Manufacturer's directions and detailed drawings shall be followed in all cases where the manufacturer of articles used in this contract furnish directions covering points not shown in the drawings and specifications.

## Gateway Monument Project

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- C. All local, municipal, and state laws, rules and regulations governing or relating to any portion of this work are hereby incorporated into and made a part of these specifications, and their provisions shall be carried out by the Contractor. Anything contained in these specifications shall not be construed to conflict with any of the above rules and regulations of the same. However, when these specifications and drawings call for or describe materials, workmanship, or construction of a better quality, higher standard, or larger size than is required by the above rules and regulations, the provisions of these specifications and drawings shall take precedence.
- D. All materials supplied for this project shall be new and free from any defects. All defective materials shall be replaced immediately at no additional cost to Owner.
- E. The Contractor shall secure the required licenses and permits including payments of charges and fees, give required notices to public authorities, verify permits secured or arrangements made by others affecting the work of this section.

### 1.5 SUBMITTALS

- A. Submittals Materials List:
  - 1. After award of contract and before any irrigation system materials are ordered from suppliers or delivered to the job site, submit to the Owner a complete list of all irrigation system materials, or processes proposed to be furnished and installed as part of this contract.
  - 2. The submittals materials list shall include the following information:
    - a. A title sheet with the job name, the contractor's name, contractor's address and telephone number, submittal date and submittal number.
    - b. An index sheet showing the item number (i.e. 1,2,3, etc.); an item description (i.e. sprinkler head); the manufacturer's name (i.e. Hunter Industries); the item model number (i.e. I-40-ADV/36V); and the page(s) in the submittal set that contain the catalog cuts.
    - c. The catalog cuts shall be one or two pages copied from the most recent manufacturer's catalog that indicate the product submitted. Do not submit parts lists, exploded diagrams, price lists or other extra information.
    - d. The catalog cuts shall clearly indicate the manufacturer's name and the item model number. The item model number, all specified options and specified sizes shall be circled on the catalog cuts.
    - e. Submittals for equipment indicated on the legend without manufacturer names, or "as approved", shall contain the manufacturer, Class or Schedule, ASTM numbers and/or other certifications as indicated in these specifications.
  - 3. Submittal materials list format requirements:
    - a. Submittals shall be provided as one complete package for the project. Multiple partial submittals will not be reviewed.
    - b. Submittal package shall be stapled or bound in such a way as to allow for disassembly for review processing. Submittals shall not have tabs, tab sheets, spiral binding, or any other type of binding that will interfere with automated copying of submittals.
    - c. Submittal package shall have all pages numbered in the lower right hand corner. Page numbers shall correspond with submittal index.

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- d. Re-submitted packages must be revised to include only the equipment being re-submitted. Equipment previously reviewed and accepted shall not be re-submitted in the materials list/index sheet or in the catalog cut sheet package.
- B. Substitutions: If the Irrigation Contractor wishes to substitute any equipment or materials for those equipment or materials listed on the irrigation drawings and specifications, he may do so by providing the following information to the Landscape Architect or Owner's authorized representative for approval.
  - 1. Provide a written statement indicating the reason for making the substitution.
  - 2. Provide catalog cut sheets, technical data, and performance information for each substitute item.
  - 3. Provide in writing the difference in installed price if the item is accepted.
- C. The Landscape Architect or Owner's authorized representative will allow no substitutions without prior written acceptance.
- D. Manufacturer's warranties shall not relieve the Contractor of his liability under the guarantee. Such warranties shall only supplement the guarantee.
- E. The Landscape Architect or Owner's authorized representative will not review the submittal package unless provided in the format described above.

### 1.6 EXISTING CONDITIONS

- A. The Contractor shall verify and be familiar with the locations, size and detail of points of connection provided as the source of water, electrical supply, and telephone line connection to the irrigation system.
- B. Irrigation design is based on the available static water pressure shown on the drawings. Contractor shall verify static water on the project prior to the start of construction. Should a discrepancy exist, notify the Landscape Architect and Owner's authorized representative prior to beginning construction.
- C. Prior to cutting into the soil, the Contractor shall locate all cables, conduits, sewer septic tanks, and other utilities as are commonly encountered underground and he shall take proper precautions not to damage or disturb such improvements. If a conflict exists between such obstacles and the proposed work, the Contractor shall promptly notify the Landscape Architect and Owner who will arrange for relocations. The Contractor will proceed in the same manner if a rock layer or any other such conditions are encountered.
- D. The Contractor shall protect all existing utilities and features to remain on and adjacent to the project site during construction. Contractor shall repair, at his own cost; all damage resulting from his operations or negligence.
- E. The Irrigation Contractor shall coordinate with the General Contractor for installation of required sleeving as shown on the plans prior to paving operations.
- F. The Contractor shall verify and be familiar with the existing irrigation systems in areas adjacent to and within the Project area of work.

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- G. The Contractor shall protect all existing irrigation systems, in areas adjacent to and within the project area of work, from damage due to his operations.
- H. Contractor shall notify Owner's Representative if any existing system is temporarily shut off, capped or modified. Provide 48-hour notice, prior to turning off or modifying any existing irrigation system.
- I. The Contractor shall repair or replace all existing irrigation systems, in areas adjacent to and within the project area of work, damaged by the construction of this project. Adjacent irrigation systems shall be made completely operational and provide complete coverage of the existing landscaped areas. All repairs shall be complete to the satisfaction of the Owner's Representative.
- J. The contractor shall provide bore holes under any existing pavement or paving encountered for the required lateral, mainline and low voltage control wire sleeving. Bore holes under 2 inches in diameter and smaller shall be made with a BulletMole® underground boring tool as manufactured by Dimension Tools, LLC (Contact telephone number (888)-650-5554 or at [www.bulletmole.com](http://www.bulletmole.com)). Bore holes larger than 2 inches in diameter shall be made with an approved mechanical boring tool. No air jacking or hydraulic boring of any kind shall be allowed.

### 1.7 INSPECTIONS

- A. The Contractor shall permit the Landscape Architect and Owner's authorized representative to visit and inspect at all times any part of the work and shall provide safe access for such visits.
- B. Where the specifications require work to be tested by the Contractor, it shall not be covered over until accepted by the Landscape Architect, Owner's authorized representative, and/or governing agencies. The Contractor shall be solely responsible for notifying the Landscape Architect, Owner, and governing agencies, a minimum of 48 hours in advance, where and when the work is ready for testing. Should any work be covered without testing or acceptance, it shall be, if so ordered, uncovered at the Contractor's expense.
- C. Inspections will be required for the following at a minimum:
  - 1. Pre-construction meeting.
  - 2. System layout.
  - 3. Final inspection prior to start of maintenance period.
  - 4. Final acceptance prior to turnover.
- D. Site observations and testing will not commence without the field record drawings as prepared by the Irrigation Contractor. Record drawings must complete and up to date for each site visit.
- E. All re-inspections required due to either the site or contractor not being prepared or non-conformance with the Construction Documents shall be back-charged to the contractor. These costs shall be paid for by the contractor prior to the Design Team member's participation in any future site reviews.

### 1.8 STORAGE AND HANDLING

- A. Use all means necessary to protect irrigation system materials before, during, and after installation and to protect the installation work and materials of all other trades. In the event of damage, immediately make all repairs and replacements necessary to the acceptance of the Landscape Architect and Owner and at no additional cost to the Owner.

- B. Exercise care in handling, loading, unloading, and storing plastic pipe and fittings under cover until ready to install. Transport plastic pipe only on a vehicle with a bed long enough to allow the pipe to lay flat to avoid undue bending and concentrated external load.

**1.9 CLEANUP AND DISPOSAL**

- A. Dispose of waste, trash, and debris in accordance with applicable laws and ordinances and as prescribed by authorities having jurisdiction. Bury no such waste material and debris on the site. Burning of trash and debris will not be permitted. The Contractor shall remove and dispose of rubbish and debris generated by his work and workmen at frequent intervals or when ordered to do so by the Owner's authorized representative.
- B. At the time of completion the entire site will be cleared of tools, equipment, rubbish and debris which shall be disposed of off-site in a legal disposal area.

**1.10 TURNOVER ITEMS**

- A. Record Drawings:
  - 1. Record accurately on one set of drawings all changes in the work constituting departures from the original contract drawings and the actual final installed locations of all required components as shown below.
  - 2. The record drawings shall be prepared to the satisfaction of the Owner. Prior to final inspection of work, submit record drawings to the Landscape Architect or Owner's authorized representative.
  - 3. All record drawings shall be prepared using AutoCAD 2010 drafting software and the original irrigation drawings as a base. No manual drafted record drawings shall be acceptable. The Contractor may obtain digital base files from the Landscape Architect or Owner's authorized representative.
  - 4. If the Contractor is unable to provide the AutoCAD drafting necessary for the record drawings the irrigation designer does provide record drawing drafting as a separate service.
  - 5. Prior to final inspection of work, submit record drawings plotted onto vellum sheets for review by the Landscape Architect or Owner's authorized representative. After acceptance by the Landscape Architect, City Inspector or Owner's authorized representative re-plot the record drawings onto reproducible Mylar sheets. The Contractor shall also provide record drawing information on a digital AutoCAD Release 2010 drawing file. All digital files shall be provided on a compact disc (CD) clearly marked with the project name, file descriptions and date.
    - a. Record drawing information and dimensions shall be collected on a day-to-day basis during the installation of the pressure mainline to fully indicate all routing locations and pipe depths. Locations for all other irrigation equipment shall be collected prior to the final inspection of the work.
    - b. Two dimensions from two permanent points of reference such as buildings, sidewalks, curbs, streetlights, hydrants, etc. shall be shown for each piece of irrigation equipment shown below. Where multiple components are installed with no reasonable reference point between the components, dimensioning may be made to the irrigation equipment. All irrigation symbols shall be clearly shown matching

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the irrigation legend for the drawings. All lettering on the record drawings shall be minimum 1/8 inch in size.

6. Show locations and depths of the following items:
  - a. Point of connection (including water POC, backflow devices, master control valves, flow sensors, etc.)
  - b. Routing of sprinkler pressure main lines (dimensions shown at a maximum of 100 feet along routing)
  - c. Isolation valves
  - d. Automatic remote control valves (indicate station number and size)
  - e. Quick coupling valves
  - f. Routing of control wires where separate from irrigation mainline
  - g. Irrigation controllers (indicate controller number and station count)
  - h. Related equipment (as may be directed)

B. Operation and Maintenance Manuals:

1. Two individually bound copies of operation and maintenance manuals shall be delivered to the Landscape Architect or Owner's authorized representative at least 10 calendar days prior to final inspection. The manuals shall describe the material installed and the proper operation of the system.
2. Each complete, bound manual shall include the following information:
3. Index sheet stating Contractor's address and telephone number, duration of guarantee period, list of equipment including names and addresses of local manufacturer representatives.
  - a. Operating and maintenance instructions for all equipment.
  - b. Spare parts lists and related manufacturer information for all equipment.

### 1.11 COMPLETION

- A. At the time of the pre-maintenance period inspection, the Landscape Architect, Owner's authorized representative, and governing agencies will inspect the work, and if not accepted, will prepare a list of items to be completed by the Contractor. The Landscape Maintenance Period shall be extended at contractor's sole cost as necessary. Upon completion of the punch-list the contractor shall again make written request for review. If, upon re-visiting the site, it is found that the punch-list has not been completed, the review shall end and the contractor shall be back-charged for all additional visits.
- B. Punch list to be checked off by contractor and submitted to Landscape Architect or Owner's Authorized representative prior to any follow-up meeting. This checked off list to indicate that all punch list items have been completed. At the time of the post-maintenance period or final inspection the work will be re-inspected and final acceptance will be in writing by the Landscape Architect, Owner's authorized representative, and governing agencies.
- C. The Owner's authorized representative shall have final authority on all portions of the work.
- D. After the system has been completed, the Contractor shall instruct Owner's authorized representative in the operation and maintenance of the irrigation system and shall furnish a complete set of operating and maintenance instructions.

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- E. Any settling of trenches which may occur during the one-year period following acceptance shall be repaired to the Owner's satisfaction by the Contractor without any additional expense to the Owner. Repairs shall include the complete restoration of all damage to planting, paving or other improvements of any kind as a result of the work.
- F. Maintain all planting starting with the planting operations and continuing for 90 calendar days after planting is complete and approved by the city in writing. The maintenance period will not commence until all planting has been approved in writing by the city.

### 1.12 GUARANTEE

- A. The entire sprinkler system, including all work done under this contract, shall be unconditionally guaranteed against all defects and fault of material and workmanship, including settling of backfilled areas below grade, for a period of one (1) year following the filing of the Notice of Completion.
- B. Should any problem with the irrigation system be discovered within the guarantee period, it shall be corrected by the Contractor at no additional expense to Owner within ten (10) calendar days of receipt of written notice from Owner. When the nature of the repairs as determined by the Owner constitute an emergency (i.e. broken pressure line) the Owner may proceed to make repairs at the Contractor's expense. Any and all damages to existing improvement resulting either from faulty materials or workmanship, or from the necessary repairs to correct same, shall be repaired to the satisfaction of the Owner by the Contractor, all at no additional cost to the Owner.
- C. Guarantee shall be submitted on Contractors own letterhead as follows:

#### GUARANTEE FOR SPRINKLER IRRIGATION SYSTEM

We hereby guarantee that the sprinkler irrigation system we have furnished and installed is free from defects in materials and workmanship, and the work has been completed in accordance with the drawings and specifications, ordinary wear and tear and unusual abuse, or neglect excepted. We agree to repair or replace any defective material during the period of one year from date of filing of the Notice of Completion and also to repair or replace any damage resulting from the repairing or replacing of such defects at no additional cost to the Owner. We shall make such repairs or replacements within 10 calendar days following written notification by the Owner. In the event of our failure to make such repairs or replacements within the time specified after receipt of written notice from Owner, we authorize the Owner to proceed to have said repairs or replacements made at our expense and we will pay the costs and charges therefore upon demand.

PROJECT NAME:  
PROJECT LOCATION:  
CONTRACTOR NAME:  
ADDRESS:

TELEPHONE:

SIGNED:

DATE:

### PART 2 - MATERIALS

**2.1 SUMMARY**

- A. Use only new materials of the manufacturer, size and type shown on the drawings and specifications. Materials or equipment installed or furnished that do not meet Landscape Architect's, Owner's, or governing agencies standards will be rejected and shall be removed from the site at no expense to the Owner.

**2.2 PLASTIC PIPE AND FITTINGS**

- A. Pressure supply line between the water meter and the backflow prevention device shall be type K copper, one size larger than backflow device.
- B. Backflow prevention assemblies, and all other above grade assemblies, shall be constructed of threaded brass pipe and threaded brass fittings the same size as the backflow device, unless otherwise directed.
- C. Buried Pressure supply lines 1.5 inches in diameter and smaller downstream of the backflow unit shall be Sch.40 solvent weld PVC, and 2" and larger shall be CL.315 solvent weld PVC.
- D. Pipe shall be marked continuously with manufacturer's name, nominal pipe size, schedule or class, PVC type and grade, National Sanitation Foundation approval, Commercial Standards designation, and date of extrusion.
- E. All plastic pipe shall be extruded of an improved PVC virgin pipe compound in accordance with ASTM D2672, ASTM D2241 or ASTM D1785.
- F. All solvent weld PVC fittings shall be standard weight Schedule 40 (and Schedule 80 where specified on the irrigation detail sheet, all mainline fittings shall be Schedule 80 PVC) and shall be injection molded of an improved virgin PVC fitting compound. Slip PVC fittings shall be the "deep socket" bracketed type. Threaded plastic fittings shall be injection molded. All tees and ells shall be side gated. All fittings shall conform to ASTM D2464 and ASTM D2466.
- G. All threaded nipples shall be standard weight Schedule 80 with molded threads and shall conform to ASTM D1785.
- H. All solvent cementing of plastic pipe and fittings shall be a two-step process, using primer and solvent cement applied per the manufacturer's recommendations. Cement shall be of a fluid consistency, not gel-like or ropy. Solvent cementing shall be in conformance with ASTM D2564 and ASTM D2855.
- I. When connection is plastic to metal, female adapters shall be hand tightened, plus one turn with a strap wrench. Joint compound shall be non-lead base Teflon paste, tape, or equal.

**2.3 METAL PIPE AND FITTINGS**

- A. Brass pipe shall be 85 percent red brass, ANSI, IPS Standard 125 pounds, Schedule 40 screwed pipe.
- B. Fittings shall be medium brass, screwed 125-pound class.
- C. Copper pipe and fittings shall be Type "K" sweat soldered, or brazed as indicated on the drawings.

**2.4 VALVES**

- A. Gate Valves:
  - 1. Gate valves shall be of the manufacturer, size, and type indicated on the drawings.
  - 2. All ball valves shall have a minimum working pressure of not less than 150 PSI and shall conform to AWWA standards.
- B. Quick Coupler Valves:
  - 1. Quick coupler valves shall be of the manufacturer, size, and type indicated on the drawings.
  - 2. Quick coupler valves shall be brass with a wall thickness guaranteed to withstand normal working pressure of 150 psi without leakage. Valves shall have 3/4" female threads opening at base, with two-piece body. Valves to be operated only with a coupler key, designed for that purpose. Coupler key is inserted into valve and a positive, watertight connection shall be made between the coupler key and valve.
  - 3. Vinyl quick coupler cover to be yellow in color.
- C. Automatic Control Valves:
  - 1. Automatic control valves shall be of the manufacturer, size, and type indicated on the drawings.
  - 2. Automatic control valves shall be electrically operated.
  - 3. Provide Christy's valve ID tags for each remote control valve with valve number.

**2.5 VALVE BOXES**

- A. Valve boxes shall be fabricated from a durable, weather-resistant plastic material resistant to sunlight and chemical action of soils.
- B. The valve box cover shall be green in color and secured with a hidden latch mechanism or bolts.
- C. The cover and box shall be capable of sustaining a load of 1,500 pounds.
- D. Valve box extensions shall be by the same manufacturer as the valve box.
- E. The plastic irrigation valve box cover shall be an overlapping type.
- F. Automatic control valve, master valve, flow sensor, and gate/ball valve boxes shall be 17"x11"x12" 'nominal' rectangular size. Valve box covers shall be marked "RCV" with the valve identification number, or "MV", "FS", "GV", "BV" "heat branded" onto the cover in 1-1/4 inch high letters / numbers.

**2.6 AUTOMATIC CONTROLLER**

- A. Automatic controller shall be of the manufacturer, size, and type indicated on the drawings.
- B. Controller enclosures shall be of the manufacturer, size, and type indicated on the drawings.

- C. Controller shall be grounded according to local codes using equipment of the manufacturer, size, and type indicated on the drawings; or as required by local codes and ordinances.

**2.7 ELECTRICAL**

- A. All electrical equipment shall be NEMA Type 3, waterproofed for exterior installations.
- B. All electrical work shall conform to local codes and ordinances.

**2.8 LOW VOLTAGE CONTROL WIRING**

- A. Remote control wire shall be direct-burial AWG-UF type, size as indicated on the drawings, and in no case smaller than 14 gauge.
- B. Connections shall of the manufacturer, size, and type indicated on the drawings.
- C. Each controller shall have a different color 2-wire communication wire.
- D. Ground wires shall be green in color or bare copper and in no case smaller than 6 gauge.

**2.9 IRRIGATION HEADS AND DRIPLINE**

- A. Irrigation heads and dripline shall be of the manufacturer, size, type, with radius of throw, operating pressure, and discharge rate indicated on the drawings.
- B. Irrigation heads and dripline shall be used as indicated on the drawings and details.

**2.10 MISCELLANEOUS EQUIPMENT**

- A. Landscape Fabric:
  - 1. Landscape fabric for valve box assemblies shall be 5.0- oz. weight woven polypropylene weed barrier. Landscape fabric shall have a burst strength of 225 PSI, a puncture strength of 60 lbs. and capable of water flow of 12 gallons per minute per square foot.
  - 2. Type: DeWitt Pro 5 Weed Barrier or approved equal.
- B. Equipment such as flow sensors/hydrometers, rain sensors, freeze sensors, flush valves, air relief valves, wye strainers, and master valves shall be of the manufacturer, size and type indicated on the drawings.

**PART 3 - EXECUTION**

**3.1 SITE CONDITIONS**

- A. Inspections:
  - 1. Prior to all work of this section, carefully inspect the installed work of all other trades and verify that all such work is complete to the point where this installation may properly commence.

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2. Verify that irrigation system may be installed in strict accordance with all pertinent codes and regulations, the original design, the referenced standards, and the manufacturer's recommendations.
- B. Discrepancies:
1. In the event of discrepancy, immediately notify the Landscape Architect or Owner's authorized representative.
  2. Do not proceed with installation in areas of discrepancy until all discrepancies have been resolved.
- C. Grades:
1. Before starting work, carefully check all grades to determine that work may safely proceed, keeping within the specified material depths with respect to finish grade.
  2. Final grades shall be accepted by the Engineer before work on this section will be allowed to begin.
- D. Field Measurements:
1. Make all necessary measurements in the field to ensure precise fit of items in accordance with the original design. Contractor shall coordinate the installation of all irrigation materials with all other work.
  2. All scaled dimensions are approximate. The Contractor shall check and verify all size dimensions prior to proceeding with work under this section.
  3. Exercise extreme care in excavating and working near existing utilities. Contractor shall be responsible for damages to utilities, which are caused by his operations or neglect.
- E. Diagrammatic Intent:
1. The drawings are essentially diagrammatic. The size and location of equipment and fixtures are drawn to scale where possible. Provide offsets in piping and changes in equipment locations as necessary to conform with structures and to avoid obstructions or conflicts with other work at no additional expense to Owner.
- F. Layout:
1. Prior to installation, the Contractor shall stake out all pressure supply lines, routing and location of sprinkler heads, valves, backflow preventer, and automatic controller.
  2. Layout irrigation system and make minor adjustments required due to differences between site and drawings. Where piping is shown on drawings under paved areas, but running parallel and adjacent to planted areas, install the piping in the planted areas.
- G. Water Supply:
1. Connections to, or the installation of, the water supply shall be at the locations shown on the drawings. Minor changes caused by actual site conditions shall be made at no additional expense to Owner.

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### H. Electrical Service:

1. Connections to the electrical supply shall be at the locations shown on the drawings. Minor changes caused by actual site conditions shall be made at no additional expense to Owner.
2. Contractor shall make electrical connections to the irrigation controller. Electrical power source to controller locations shall be provided by others.

### 3.2 TRENCHING

- A. Excavations shall be straight with vertical sides, even grade, and support pipe continuously on bottom of trench. Trenching excavation shall follow layout indicated on drawings to the depths below finished grade and as noted. Where lines occur under paved area, these dimensions shall be considered below subgrade.
- B. Provide minimum cover of 24 inches on pressure supply lines 2 inches and larger.
- C. Provide minimum cover of 18 inches for control wires within planters.
- D. Provide minimum cover of 24 inches for control wires within sleeves below paving.
- E. Provide minimum cover of 12 inches for non-pressure lines.
- F. Pipes installed in a common trench shall have a 4-inch minimum space between pipes.

### 3.3 BACKFILLING

- A. Backfill material on all lines shall be the same as adjacent soil free of debris, litter, and rocks over 1/2 inches in diameter.
- B. Backfill shall be tamped in 4-inch layers under the pipe and uniformly on both sides for the full width of the trench and the full length of the pipe. Backfill materials shall be sufficiently damp to permit thorough compaction, free of voids. Backfill shall be compacted to dry density equal to adjacent undisturbed soil and shall conform to adjacent grades.
- C. Flooding in lieu of tamping is not allowed.
- D. Under no circumstances shall truck wheels be used to compact backfill.
- E. Provide sand backfill a minimum of 4 inches over and under all piping under paved areas.

### 3.4 PIPING

- A. Piping under existing pavement may be installed by jacking, boring, or hydraulic driving. No hydraulic driving is permitted under asphalt pavement.
- B. Cutting or breaking of existing pavement is not permitted.
- C. Carefully inspect all pipe and fittings before installation, removing dirt, scale, burrs, and reaming. Install pipe with all markings up for visual inspection and verification.
- D. Remove all dented and damaged pipe sections.

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- E. All lines shall have a minimum clearance of 4 inches from each other and 12 inches from lines of other trades.
- F. Parallel lines shall not be installed directly over each other.
- G. In solvent welding, use only the specified primer and solvent cement and make all joints in strict accordance with the manufacturer's recommended methods including wiping all excess solvent from each weld. Allow solvent welds at least 15 minutes setup time before moving or handling and 24 hours curing time before filling.
- H. PVC pipe shall be installed in a manner, which will provide for expansion and contraction as recommended by the pipe manufacturer.
- I. Center load all plastic pipe prior to pressure testing.
- J. All threaded plastic-to-plastic connections shall be assembled using Teflon tape or Teflon paste.
- K. For plastic-to-metal connections, work the metal connections first. Use a non-hardening pipe dope on all threaded plastic-to-metal connections, except where noted otherwise. All plastic-to-metal connections shall be made with plastic female adapters.

### 3.5 CONTROLLER

- A. The exact location of the controller shall be approved by the Landscape Architect or Owner's authorized representative before installation. The electrical service shall be coordinated with this location.
- B. The Irrigation Contractor shall be responsible for the final electrical hook up to the irrigation controller.
- C. The Irrigation Contractor shall be responsible for the concrete pads that secure the irrigation controller. All concrete pads shall be installed per details and manufacturer recommendations.
- D. The irrigation system shall be programmed to operate during the periods of minimal use of the design area.

### 3.6 CONTROL WIRING

- A. Low voltage control wiring shall occupy the same trench and shall be installed along the same route as the pressure supply lines whenever possible.
- B. All connections shall be of an approved type and shall occur in a valve box. Provide an 18-inch service loop at each connection.

### 3.7 VALVES

- A. Automatic control valves, quick coupler, and ball valves are to be installed in the approximate locations indicated on the drawings.
- B. Valves shall be installed in shrub areas whenever possible.
- C. Install all valves as indicated in the detail drawings.

- D. Valves to be installed in valve boxes shall be installed one valve per box.
- E. Provide valve ID tags for each remote-control valve with valve number.

**3.8 VALVE BOXES**

- A. Valve boxes shall be installed in shrub areas whenever possible.
- B. Each valve box shall be installed on a foundation of 3/4 inch gravel backfill, 3 cubic feet minimum. Valve boxes shall be installed with their tops 1/2 inch above the surface of surrounding finish grade in lawn areas and 2 inches above finish grade in ground cover areas.

**3.9 MISCELLANEOUS EQUIPMENT**

- A. Install all assemblies specified herein according to the respective detail drawings or specifications, using best standard practices.
- B. Quick coupler valves shall be set approximately 18 inches from walks, curbs, header boards, or paved areas where applicable.
- C. Install devices such as rain sensors, freeze sensors, and air relief valves, master valves and flow sensors as indicated on the drawings and as recommended by the manufacturer.

**3.10 FLUSHING THE SYSTEM**

- A. Prior to installation of irrigation heads, the valves shall be opened, and a full head of water used to flush out the lines and risers.
- B. Irrigation heads shall be installed after flushing the system has been completed.

**3.11 TESTING AND OBSERVATION**

- A. Do not allow or cause any of the work of this section to be covered up or enclosed until it has been observed, tested and accepted by the Landscape Architect, Owner, and governing agencies.
- B. At, or near the end of specified Landscape Maintenance Period, the contractor shall make written request for a final review and the work shall be reviewed for conformance with the Construction Documents. If work is not accepted at time of review, a punch-list of items requiring attention will be issued to the contractor for correction. The Landscape Maintenance Period shall be extended at contractor's sole cost as necessary. Upon completion of the punch-list the contractor shall again make written request for review. If, upon re-visiting the site, it is found that the punch-list has not been completed, the review shall end and the contractor shall be back-charged for all additional visits.
- C. All re-inspections required due to either the site or contractor not being prepared or non-conformance with the Construction Documents shall be back-charged to the contractor. These costs shall be paid for by the contractor prior to the Design Team member's participation in any future site reviews.
- D. The Contractor shall be solely responsible for notifying the Landscape Architect, Owner, and governing agencies, a minimum of 48 hours in advance, where and when the work is ready for testing.

- E. When the sprinkler system is completed, the Contractor shall perform a coverage test of each system in its entirety to determine if the water coverage for the planted areas is complete and adequate in the presence of the Landscape Architect.
- F. The Contractor shall furnish all materials and perform all work required to correct any inadequacies of coverage due to deviations from the plans, or where the system has been willfully installed as indicated on the drawings when it is obviously inadequate, without bringing this to the attention of the Landscape Architect. This test shall be accepted by the Landscape Architect and accomplished before starting any planting.
- G. Areas to be maintained for the formal maintenance period shall start maintenance at the same time, as directed by the Landscape Architect, Owner, and governing agencies. Partial areas will not be released into maintenance prior to completion of items listed in the pre-maintenance review. The maintenance period may not be phased.
- H. If, after the maintenance review, the irrigation systems are not accepted by the Landscape Architect, the contractor shall reimburse the Architect for additional site visits, or additional time required to review work. All additional time will be billed at the Architect's hourly rate and will be paid for by the contractor at no additional cost to the owner.
- I. Final inspection will not commence without record drawings as prepared by the Irrigation Contractor.

**3.12 MAINTENANCE**

- A. During the maintenance period the Contractor shall adjust and maintain the irrigation system in a fully operational condition providing complete irrigation coverage to all intended plantings.

**3.13 COMPLETION CLEANING**

- A. Clean up shall be made as each portion of the work progresses. Refuse and excess dirt shall be removed from the site, all walks and paving shall be swept, and any damage sustained on the work of others shall be repaired to original conditions.

**END OF SECTION**

**SECTION 32 90 00**

**PLANTING**

**PART 1 - GENERAL**

**1.1 INSPECTIONS**

- A. Inspections shall be made by the Owner's Representative. Contractor shall be on the site when inspections are made. Requests for inspections shall be made at least 48 hours in advance. If the work is not ready for inspection when the inspector arrives, contractor shall pay for the Owner's Representative's visit at current rate.
- B. Inspection as required by the Owner per inspection job card.
- C. Any work completed without proper inspection by shall be removed and replaced at Contractor's expense with no additional cost to the Owner or increase in schedule.
- D. Quantities and Types. Plant materials shall be furnished in the quantities and/or spacing as shown or noted for each location, and shall be of the species, kinds, sizes, etc., as symbolized, and/or described in the "Plant Legend", as indicated on the drawings. The landscape contractor is to verify all sizes and quantities on plans.

**1.2 GUARANTEE**

- A. All trees (5 gallon and larger) shall be guaranteed for a period of one year. All shrubs and other plant materials shall be guaranteed for a period of 90 calendar days. All guarantee periods commence from the time of final acceptance by the Owner at the completion of the 90 calendar day maintenance period.
- B. Replace, as soon as weather permits, all dead plants not in vigorous condition as noted during the maintenance period.
- C. Plants used for replacements shall be same kind and size as originally planted. They shall be furnished, planted, and fertilized as specified and guaranteed within these documents.

**PART 2 - PRODUCTS**

**2.1 MATERIALS**

- A. Topsoil: Contaminated soil shall be removed and replaced with acceptable existing soil or imported soil.
  - 1. Imported soil shall have a silt and clay content that is equal or less than the underlying subsoil. Silt plus clay content of this soil shall be not greater than 40% by weight and gravel should comprise no more than 15% of the soil by weight. The boron content of this soil shall be not greater than 1 part per million as measured on the saturation extract. The ECe shall not exceed 3.0 millimhos per centimeter at 25 degrees C. The sodium absorption ratio (SAR) shall not exceed 6.0
  - 2. In order to ensure conformance, samples of the imported soil shall be submitted to an agronomic soils testing laboratory, approved by the Owner's Representative for analysis prior to use. Results of testing shall be delivered to the Owner's Representative for approval. Soil test to include analysis and recommendations.

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B. Recommendations for general soil preparation (per 1,000 sf):

The following amendments are to be incorporated homogeneously to 6" deep:

- a. Per provided soil report

C. Recommendations on a volume basis for plant backfill:

- i. Per provided soil report

D. Plant Materials:

1. All plant materials shall be healthy, well-developed representatives of their species of varieties, free from disfigurement with well-developed branch and root systems, and certification of nursery inspection that plants are free from all plant diseases and insect infestation.
2. All trees shall equal or surpass industry standards for size and quality.
3. All shrubs and groundcover shall equal or surpass Monrovia Nursery standards for size and quality. ([www.monrovia.com](http://www.monrovia.com))
4. Tag plant materials with name and size in accordance with standards of practice recommended by American Association of Nurserymen.
5. Size of tree and shrub containers shall be as stated on the planting plan. Container stock shall have grown in containers for at least six (6) months, but not over two (2) years. Samples shall be shown to prove that no root-bound conditions prevail. No container plants that have cracked or broken balls of earth, when taken from containers shall be planted, except upon specific approval.
6. Do not prune, prior to delivery, except by specific approval.
7. Plants shall be subject to inspection for size, variety, condition, latent defects, and injuries, at place of growth and at the project site at any time before or during progress of work. Remove rejected plants from the project site immediately and replace it with acceptable material.
8. Protect all plants from damage by sun, wind or rain at all times before planting.
9. Substitutions will not be permitted; except, when proof is submitted that any plant specified is not obtainable. In this case, a proposal will be considered for use of the nearest equivalent in size or variety with an equitable adjustment of contract price. All substitutions will be subject to the Owner's Representative' approval.
10. Plants shall have grown under climatic conditions comparable to those of the project site, unless otherwise specifically approved by the Owner's Representative.
11. All plant material needs to be reviewed and approved by Owner's Representative for size, spread heights, widths, and health to ensure the best material is available and provided for this project. Contractor to submit photos of nursery questionable stock prior to purchasing and delivery to site.

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12. Contractor to provide tree and plant photo submittal including a matrix of each plant indicating quantity to be provided, quantity available and location of nursery/growing yard. It will be the Contractor's responsibility to locate suitable trees.
  13. Tree tagging is to be scheduled as soon as possible after photo submittal approval. Contractor shall coordinate tree tagging scheduling with nurseries which will be attended by the Owner's Representative.
  14. Trees will be inspected by a City approved arborist and/or Owner's Representative when delivered (72 hours advance notice required) and any trees damaged in transport, evidencing health concerns, or not meeting Nursery Tree Stock Standards, will be rejected and sent back at no cost to the Owner. These trees shall be replaced with no impact to schedule or cost.
  15. Trees will be inspected during and at the completion of construction. Any trees evidencing health concern will require treatment onsite as advised by a licensed arborist provided by the Contractor.
- E. Ground Cover:
1. Ground covers will be hand planted in the areas indicated on the planting plans.
  2. Ground cover plants shall be grown in flat plants or peat pots as indicated on the plant list. Flat grown plants (rooted cuttings) shall remain in flats until transplanting. The soil in the flat shall contain sufficient moisture so that it will not fall apart when lifting the plants. If plants from peat pots are used, the peat pots shall be protected at all times prior to planting to prevent unnecessary drying of the root ball.
  3. Ground covers shall be planted in a triangular pattern evenly spaced unless otherwise noted on the plan. Plant ground covers continuously under all trees and shrubs in the areas designated on the planting plans.
  4. Each plant shall be planted with its proportionate amount of soil from the flat or in a peat pot, in a manner that will ensure minimum disturbance of the root system. Hand smooth planting area after planting to provide an even, smooth, final finish grade. To avoid drying out, plantings shall be immediately watered after planting until the entire area is soaked to the full depth of each hole unless otherwise noted on the drawing.
  5. A representative number of plants shall be inspected and approved at the nursery by the Owner's Representative prior to shipment to the planting site. Prior to such visit, Contractor shall submit 3" x 5" color photographs of all proposed tree and shrub material for Owner's Representative's review. Photos shall indicate proposed material and picture shall indicate material separated from the surrounding nursery stock to size and condition of proposed material to be evaluated. Photographs of all trees shall include a person, with a height of at least 5'-6". Photos shall be submitted seven (7) calendar days prior to specified plant material review at nursery site. Plants shall be inspected for size and condition of root growth, insects, injuries, and latent defects. The Owner's Representative reserves the right to reject entire lots of plants represented by defective samples.
- Plant condition shall be in accordance with the California State Department of Agriculture's regulations for nursery inspections, rules, and grading.

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- F. Tree ties: V.I.T Twist Brace Ties (T-24) for double staking and triple staking, or equal as approved by the Owner's Representative. Secure tree to stake in two places minimum. Contractor to provide product submittal prior to purchasing and installation.
- G. Tree stakes: Two (2) - 2 inch diameter x 12 foot long lodgepole stakes for all five gallon, fifteen gallon and 24 inch box trees. Tree stakes shall be pine and pointed at one end. Contractor to provide product submittal prior to purchasing and installation.
- H. Trees larger than 24 in box sizes utilize (3) Guy wires per planting details and specifications below:
- a. Guy Anchors: 2" x 4" x 24 Redwood deadman
  - b. Wire: pliable 9-gauge galvanized
  - c. Hose: ½" diameter new lack rubber hose
  - d. Turnbuckles: galvanized or dip-painted, size as required
  - e. Cable Clamps: galvanized, size as required
  - f. Safety sleeve: 3/8" white PVC (length per drawings)

Contractor to provide product submittal and quantities prior to purchasing and installation.

- I. Root Barriers: Per plans and where trees are planted within 8 feet of curbs, sidewalks or pavement, install a sub-surface panel barrier 10 feet long centered on the tree trunk Depth 24" ("Deep Root" or approved equal 800-458-7668). Contractor to provide product submittal prior to purchasing and installation.
- J. Mulch. Mulch material shall be "TVI-Sendero Premium Mulch" bark mulch, supplied by Terra Verde Industries (TVI) (949) 551-0363 or approved equal, ground, and screened to manufacturer specification. Composted and nitrogen stabilized. Submit sample for review and approval by the Owner's Representative prior to material delivery on-site.
- K. Pre-emergent weed control: Contractor to provide pre-emergent weed control Dimension 270G available from Simplot Partners contact Paul Wizikowski at (714) 686-7493. Install per manufactures recommended specifications and application rates.
- L. Soil Herbicide. A commercially manufactured non-selective herbicide for total control of vegetation products shall meet all federal and state regulations pertaining to the use of such substances. Application and rate of application shall follow manufacturer's recommendations. Application shall not be made until obtaining written approval from the Owner's Representative. Such application shall be performed in consideration of overall construction schedule and operation so as not to disrupt or interfere with the project schedule and timeline. Contractor to provide product submittal prior to application.
- M. Wood Headerboards:
1. Provide 2 inch by 4 inch redwood construction grade headerboards. Make splices with 1 inch by 4 inch pieces no less than 12 inches long. Place 1 inch by 3 inch by 16 inch stakes at intervals of not more than 5 feet. Cut stakes level and set below top headerboards.
  2. On sharp turns and curves, four ½ inch by 4 inch laminated boards, or two 1 inch by 4 inch laminated boards may be permitted.
  3. Nail stakes and splices with galvanized common nails. Nail as required for solid installation.

4. Provide headerboards as shown on drawings, laid true to line and grade. Protect in-place adjacent improvements, shrubbery, and other properties. Place stakes on ground cover side of headerboards.
  5. Contractor to provide product submittal prior to purchasing and installation.
- N. Jute Netting: As provided by "Geojute" or approved equal. Available from: Ben Meadows. (800) 458-7668. Contractor to provide product sample and specification sheet for approval prior to purchasing and installation.

**PART 3 - EXECUTION**

**3.1 INSTALLATION**

- A. Site clearance: Clean up and remove from the planting areas weeds and grasses, including roots, and any minor accumulated debris and rubbish before commencing work.
- B. Storage: Secure permission from the Owner's Representative to store plants on the project site and ensure that they are protected from damage by the sun, wind, and construction work.
- C. Finish grading of all shrub and groundcover planting areas. Grading shall be done as indicated on the grading plans and as follows.
  1. Do not work on the soil when moisture content is so great that excessive compaction will occur, or when it is so dry that dust will form or clods will not readily break up.
  2. Remove and dispose of all soil in planting areas that contains any deleterious substance such as oil, plaster, construction waste, concrete, gasoline, paint, solvents, etc., removing the soil to a minimum depth of six (6) inches or to the level of dryness in the affected areas. The affected soil shall be replaced with native or imported soil as required. The contractor shall be responsible for any damage to installed plants caused by such substances.
  3. If an area to be landscaped is not acceptable to the contractor, the contractor shall notify the Owner's Representative, in writing.
  4. Prior to start of finish grading, loosen all planting areas to a depth of six (9) inches. Finish grades shall allow for addition of soil conditioners.
  5. Make minor grade adjustments as directed by the Owner's Representative.
  6. Where designated drainage meets an obstruction, warp grades so that no water collects.
  7. Use water trucks and sprinklers as required to control all airborne dust caused by grading operations.
  8. Finish grading all planting areas to a smooth and even condition, making certain that no water pockets or irregularities remain. Remove and dispose of all foreign materials, clods, and rocks over 1 inch in diameter at the surface and sub-surface down to 12 inches depth minimum.

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9. Provide a grade which, after conditioning planting and compaction (85%), is 1 inch below the tops of curbs and walks in lawn areas and 2) inch below for shrub areas sloping to drain to adjacent roadway, drain swale or catch basin.

D. Soil Conditioning:

1. Per provided soil report
2. All rocks or unbroken soil clods over 1 inch in diameter brought to the surface shall be removed from the project site. No soil clods or rock over 1" in size shall occur within the top 12" of site soil.

E. Weed control program: Upon complete installation of soil amendments, irrigation system, and prior to planting operations, contractor shall implement the following weed eradication procedures:

1. Remove all existing weeds and any remaining weed stubble from planting areas by raking, hoeing, and/or hand removal.
2. Apply sulfate of ammonia (21-0-0 24S) at the rate of 5lbs. per 1000 sq. ft. to all planting areas.
3. Water all planting areas per initial establishment period water schedule on the irrigation plans for a period of fourteen (14) days to allow germination of weed seeds. If designated planting areas do not have spray irrigation systems already installed, Contractor is responsible for providing water to irrigate soil during period of weed abatement. Contractor shall coordinate water trucks, Rain for Rent, or some other manual method of irrigating soil with Owner's Representative prior to scheduling.
4. Cease watering for five (5) days, to be followed by the spraying of a systemic herbicide application. (Round-Up Pro, or approved equal.)
5. Repeat steps 3 and 4 above. Note: If the weed eradication program exceeds two full cycles or 60 days, repeat steps 2, 3 and 4.

Systemic herbicide shall contain the active ingredient glyphosate (Round-Up Pro, or approved equal). Spraying rate shall be per the manufacturer's current recommendations and shall be compatible with the eradication rate for the target weed species. Contractor shall follow herbicide manufacturer's instructions when to resume irrigation after each herbicide application.

Application of all herbicides shall be performed under the direction of a licensed pest control advisor.

Any deviation from the above weed eradication procedures shall be approved by the Owner's Representative.

The Contractor shall be responsible for keeping all planting areas, appropriately watered and weed-free until release from maintenance responsibility by the Owner's Representative.

F. Planting shall be completed as follows:

1. Determine location of the trees and shrubs by scaling from the planting plan.

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2. Place / locate all 5 gallon and smaller containers on finish grade, and obtain approval from the Owner's Representative before excavating planting pits. Provide color-coded 6' high stakes (one color per tree type) secured in finish grade to indicate location of all tree plantings. Location of all tree planting locations, as indicated by 6' color coded stakes shall be reviewed and approved by Owner's Representative prior to planting. Modifications to tree planting may be used to screen adjacent solar panels west of the park site.
3. Excavate planting pits with vertical sides for all plants. Shrub pits shall be twice the diameter and set rootball 2 inches above surrounding grade. Tree pits shall be twice the diameter and set rootball 2 inches above surrounding grade. Tree pits depth shall include the rootball and a transitional zone of compacted, unamended native soil.
4. If planting pits are cut with power auger, vertical sides of pit shall be additionally broken with balling bar or spade to interrupt continuous curve influence on root development.
5. Plant material shall be planted in such a way that after settling, the crown of the plant bears the same relation to finish grade that it did to the surface in the container.
6. Backfill tree and shrub planting pits with uniformly mixed site soil amended with 5 lbs. gypsum and one pound iron sulfate per cubic yard of backfill if specified by soil test (Per D.2 of this specifications section).
7. Form shallow basin around the edge of planting pits. Water should be directed into original rootball until roots grow into surrounding soil.
8. Plant Tablets - 7 gram planting tablets, Provide tablets in the following ratios:
  - a. 1 tablet per ground cover and liners.
  - b. 2 tablets per gallon plant.
  - c. 6 tablets per 5 gallon plant.
  - d. 12 tablets per 15 gallon plant.
  - e. 14 tablets per 24 inch box plant.
  - f. 16 tablets per 30 inch box tree.
  - g. 18 tablets per 36 inch box tree.
  - h. 20 tablets per 48 inch box tree.
9. Grade area around plants to finish grades and dispose of excess soil.
10. Location for trees adjacent to any light standards or utility equipment shall be adjusted to maintain a suitable clearance, to avoid any conflicts as approved by the Owner's Representative.
11. All landscape areas with a slope gradient of 4:1 and steeper shall be covered with "Geojute" or approved equal; available from: Ben Meadows (800) 241-6401. Installation shall be per manufacturers specifications. Planting through "Geojute" shall be in accordance with planting recommendations provided by Geojute.

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12. Prior to application of specified mulch contractor shall broadcast pre-emergent herbicide "Dimension" Ultra 40WP or approved equal to all shrub and groundcover planter areas
- G. Pruning:
1. Prune minimum necessary to remove injured twigs, branches, dead wood, sprouts and suckers.
  2. Prune plants according to standard horticultural practices, by qualified personnel.
  3. No topping of any trees will be permitted. Trees that have been topped will be replaced at the contractor's expense.
- H. Clean-up:
1. During the course of the work, daily remove surplus materials from the site and leave premises in a neat and clean condition.
  2. Prior to acceptance of the project for maintenance, clean up and remove all remaining debris and surplus materials upon completion of work, leaving the premises neat and clean.
  3. Remove all tags, labels, nursery stakes and ties from all plant material only after the approval of the Owner's Representative.

### **PART 4 - MAINTENANCE**

#### **4.1 GENERAL**

Continuously maintain all work throughout ALL phases until the Final Acceptance of the Work.

#### **4.2 MAINTENANCE PERIOD**

After all the work indicated on the drawings or herein specified has been completed and inspected and approved by the Owner's Representative; maintain all areas within the project boundary for a period of 90 calendar days. 90-day maintenance period shall not begin until final review and approval by the Owner's Representative has been provided regarding the successful completion of all punch list items

#### **4.3 TREE AND SHRUB CARE**

- A. Watering: Maintain a large enough water basin around plants so that enough water can be applied to establish moisture through the major root zone. When hand watering, use a wand to break the water force.
- B. Tree Pruning:
1. Prune trees to select and develop permanent scaffold branches that are smaller in diameter to the trunk or branch of which they are attached, which have vertical spacing of from 18 to 48 inches and radial orientation so as not to overlay one another; to eliminate narrow V-shaped branch forks that lack thinning out crowns; to maintain growth within space balance crown with roots.
  2. Under no circumstances will stripping of lower branches or "raising up" of young trees be permitted. Retain lower branches in a "tipped back" or pinched condition with as

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much foliage as possible to promote trunk growth (tapered trunk). Lower branches may be removed only after the tree is able to stand erect without staking or other support.

3. Thin out and shape evergreen trees when necessary to prevent wind and storm damage. Perform primary pruning to deciduous trees during the dormant season. Prune damaged trees or those that constitute health or safety hazards at any time of the year as directed by the Owner's Representative.

C. Shrub Pruning:

1. The objectives of shrub pruning are the same as for trees. Do not clip shrubs into balled or boxed forms unless such is required by the design and designated on the planting plans.
2. Make all pruning cuts of lateral branches or buds, as directed by the Owner's Representative.
3. Topping is not allowed.

D. Staking: Remove stakes as soon as they are no longer needed. Inspect stakes to prevent girdling of trunks or branches, and to prevent rubbing that causes bark wounds. The contracting crew at the time of maintenance shall remove the stakes and cut the stakes so they are not protruding into the canopy.

E. Weed control:

1. Keep basins and areas between plants free of weeds. Apply pre-emergent herbicides recommended by a licensed pest control advisor to all non-seeded landscape areas only. Avoid frequent soil cultivation that destroys shallow roots or disturbs pre-emergent herbicide application.
2. Eradicate all noxious weeds from site (i.e. nutgrass, bermuda grass, kikuyu grass, crab grass).

F. Insect and disease control: Maintain control with approved materials. Contractor shall be responsible for removal of all pests, rodents, slugs, snails, etc. that cause damage to the plant materials and maintain health of plants until project turnover. Any and all damaged plant material caused by such is to be replaced immediately by the Contractor, at no cost to the Owner.

G. Fertilization: Uniformly broadcast sulfur coated urea at the rate of 5 lbs. per 1000 sq.ft. The first application should occur approximately 45-60 days after planting, with repeat applications every 60-90 days or as growth and color dictate. In early fall and spring, substitute a complete fertilizer such as 16-6-8, or equal, for the sulfur coated urea at the rate of 6 lbs. per 1000 sq. ft. to ensure continuing supplies of phosphorus and potassium. Tree and shrub plantings can be maintained with the above fertilizers; however, the frequency between applications should be every 90-120 days, or as color and growth dictate, with the first application 90 days after planting. Follow each fertilization with a thorough irrigation. When plants have become well established, fertilizer applications can be less frequent. (Maintenance progress inspections are required for verification of fertilizer applications)

Note: Application should be per manufacturer's recommendation per site and Owner's Representative's approval.

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- H. Replacement of plants: Remove dead and dying plants and replace with plants of equal size and variety of original planting plan at no additional cost to the Owner and as approved by the Owner's Representative. Guarantee period shall re-apply.
- I. Groundcover Care: Apply a pre-emergent herbicide having a life no less than six (6) months to all ground-cover and shrub areas. Herbicide shall be registered for use on the species of plant material specified in planting plans and approved by a licensed pest control advisor.
- J. Watering: Water planter areas at such frequency as weather conditions require, to replenish soil moisture below root zone. Irrigation shall be scheduled between 10 p.m. and 6 a.m. following establishment.
- K. General Maintenance:
  - 1. Remove trash from the ground daily and dispose of weekly.
  - 2. Edge ground cover to keep in bounds and trim top growth as necessary to achieve an overall even appearance.
  - 3. Exterminate vertebrate pests, gophers, moles, etc.; and repair damage as required.
  - 4. Test irrigation system weekly and submit reports to Owner's Representative.
  - 5. The site temporary fence shall be maintained to ensure security to the site and to protection of the plant materials to establish growth and promote health.

### **PART 5 - GUARANTEE**

- 5.1** All trees (5 gallon and larger) shall be guaranteed for a period of one year. All shrubs and plant materials shall be guaranteed for a period of 90 calendar days. All guarantee periods commence from the time of final acceptance by the Owner's Representative at the completion of the 90 calendar day maintenance period.
- 5.2** Replace, as soon as weather permits or as directed by the Owner's Representative, all dead plants and all plants not in vigorous condition as noted during the inspections and maintenance period.
- 5.3** Plants used for replacements shall be the same kind and size as originally planted. Replacement plants shall be approved by the Owner's Representative and shall be furnished, planted, fertilized as specified and guaranteed the same as the original plant materials.

**END OF SECTION**