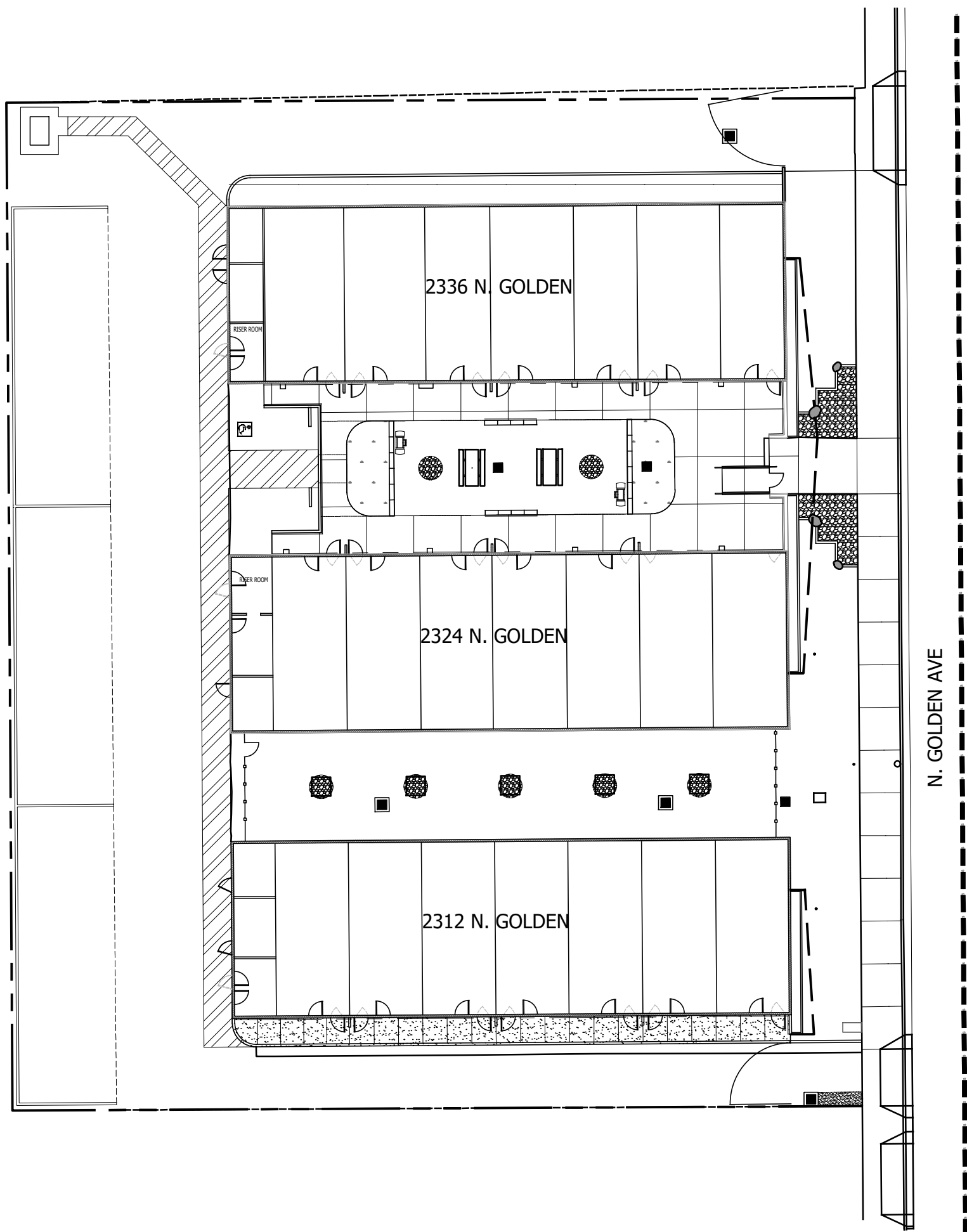


LANDSCAPE ARCHITECTURAL CONSTRUCTION DOCUMENTS  
FOR

GOLDEN APARTMENTS  
2312-2336 NORTH GOLDEN AVE  
LANDSCAPE PLANS  
SAN BERNARDINO, CALIFORNIA  
GOLDEN APARTMENTS SAN BERNARDINO, LP

SHEET KEY:



ABBREVIATIONS:

A.B.	Anchor Bolt	G.P.M.	Gallons Per Minute	Spp.	Species
A.C.	Asphaltic Concrete	H.B.	Hose Bib	Sq.	Square/2
Adj.	Adjacent	Hdr. Brd.	Header Board	STA.	Station
Alt.	Alternate	Horiz.	Horizontal	Stl.	Steel
Arch.	Architect	H.P.	High Point	STD.	Standard
Auto.	Automatic	Hgt.	Height	T.A.D.	Top Area of Drain
Bldg.	Building	I.D.	Inside Diameter	T. & B.	Top and Bottom
Blk.	Black	INV.	Invert	T.B.	Top of Berm
B.M.	Bench Mark	Int.	Integral	T.C.	Top of Curb
B.S.	Bottom of Steps	J. Box	Junction Box	Tex.	Texture(s)
C.B.	Catch Basin	Jts.	Joints	T.G.	Top of Grate
C.F.	Cubic Foot	L.A.	Landscape Architect	T.G.D.	Top of Grate Drain
C.I.	Cast Iron	Lic.	Licensed	Thk.	Thick
C.I.P.	Cast In Place	L.P.	Low Point	T.P.	Top of Paving
C.J.	Cold Joint	Max.	Maximum	T.P.C.	Top of Pool Coping
C.L.	Center Line	M.B.	Machine Bolt	T.S.	Top of Steps
Clr.	Clearance	Mech.	Mechanical	T.W.	Top of Wall
C.O.	Clean Out	Med.	Medium	Twl.	Trowel
C.M.U.	Concrete Masonry Unit	Min.	Minimum	Typ.	Typical
Comp.	Compacted	M.H.	Manhole	UV.R.	Ultraviolet Radiation
Conc.	Concrete	M.P.R.	Match Precipitation Rate	Vert.	Vertical
Cond.	Condition	Multi.	Multiple	W.	With
Cont.	Continuous	Nat.	Natural	W/O	Without
Cl.	Center	N.T.S.	Not To Scale	W.P.C.	Water Pressure Compensating
Cr. Sink	Counter Sink	O.C.	On Center	W.Q.	Water Surface
D.D.	Deck Drain	O.D.	Outside Diameter	W.Q.	Water Surface
D.F.	Douglas Fir	P.A.	Planter Area	(#)	Number / Quantity
D.G.	Decomposed Granite	P.C.	Point of Curvature		
Dia.	Diameter	P.C.C.	Point of Compound Curvature		
Dim.	Dimension	P.R.C.	Point of Reverse Curvature		
Det.	Detail	Perf.	Perforated		
Ea.	Each	P.O.C.	Point of Connection		
E.J.	Expansion Joint	P.L.	Property Line		
Elec.	Electric	P.S.I.	Pounds Per Square Inch		
Eng.	Engineer	P.T.	Pressure Treated		
Esp.	Esplanade	P.V.C.	Poly Vinyl Chloride		
Eq.	Equal	R.	Radius		
E.W.	Each Way	R.C.P.	Reinforced Concrete Pipe		
E.W.W.M.	Electric Welded Wire Mesh	Rebar.	Reinforcing Bar		
Ex.	Existing	Ref.	Reference		
Exp.	Exposed	Req'd.	Required		
F.F.E.	Finished Floor Elevation	Ret.	Retardant		
F.G.	Finish Grade	Rgh.	Rough		
F.H.	Fire Hydrant	R.S.	Rough Sawn		
Fin.	Finish	R.S.R.	Rough Sawn Redwood		
F.L.	Flow Line	Rwd.	Redwood		
Flt.	Flat	R.W.	Recycled Water		
F.S.	Finish Surface	Sch.	Schedule		
Flg.	Footing	S.F.	Square Foot		
Ftn.	Fountain	Sht.	Sheet		
Ga.	Gauge	Sht. Mtl.	Sheet Metal		
Galv.	Galvanized	Sim.	Similar		
Grndcovr.	Groundcover	S.L.	Score Line		
G.I.	Galvanized Iron	Smth.	Smooth		
G.P.H.	Gallons Per Hour	Specs.	Specifications		

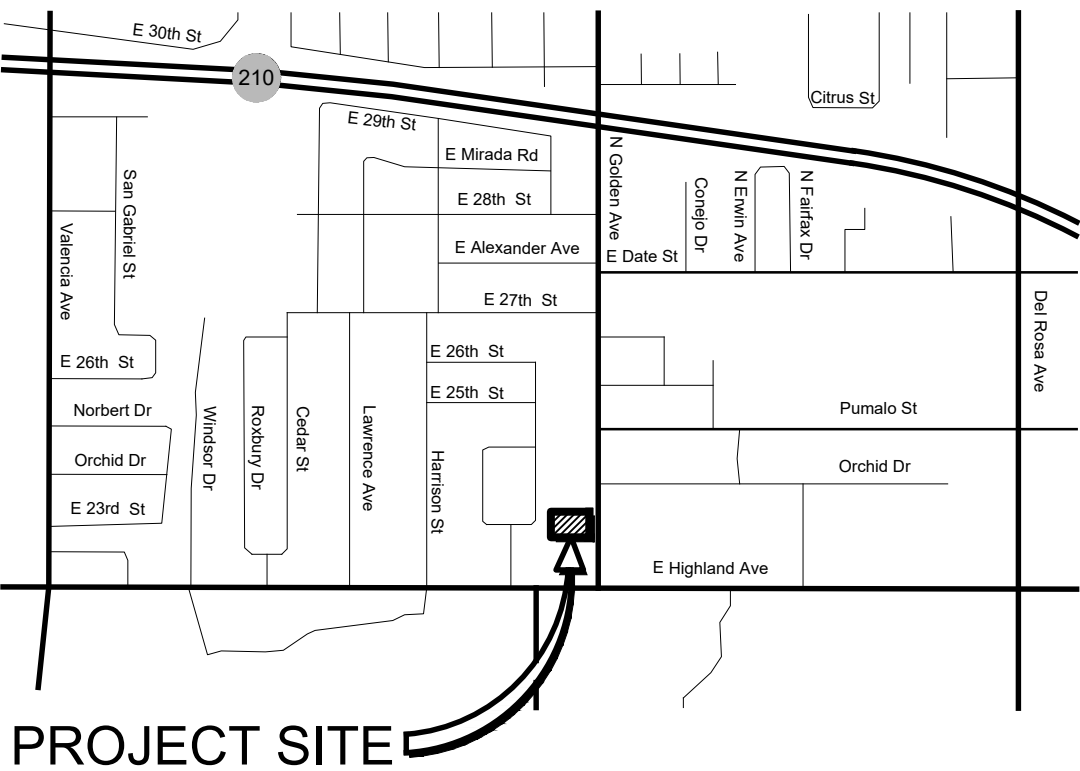
SHEET INDEX:

NO.	SHEET	TITLE
1	T-1	TITLE SHEET
2	L-1.1	CONSTRUCTION PLAN
3	L-1.2	CONSTRUCTION DETAILS
4	L-2.1	IRRIGATION PLAN
5	L-2.2	IRRIGATION DETAILS
6	L-2.3	IRRIGATION CALCULATION
7	L-3.1	PLANTING PLAN
8	L-3.2	PLANTING DETAILS
9	L-4.1	CONSTRUCTION SPECIFICATIONS
10	L-4.2	IRRIGATION & PLANTING SPECIFICATIONS

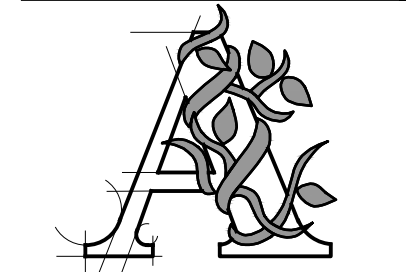
ABBREVIATION NOTES:  
A. ABBREVIATIONS MAY BE SHOWN AS EITHER UPPERCASE AND/OR LOWERCASE ON PLANS, AND WITH OR WITHOUT PERIODS.  
B. TO SHOW QUANTITIES IN THESE DOCUMENTS THE CONVENTION OF SHOWING THE NUMBER IN PARENTHESIS IS USED. EXAMPLE: TWO TONS MAY BE SHOWN AS (2) TONS.



VICINITY MAP:







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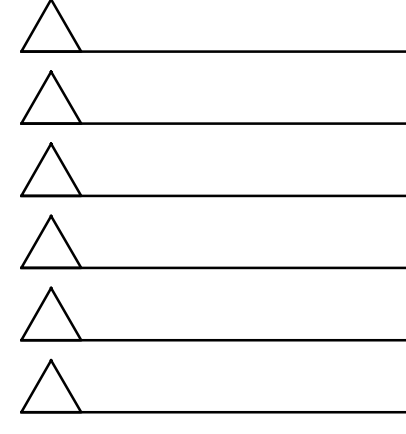
PROJECT/CLIENT

GOLDEN APARTMENTS  
SAN BERNARDINO, LP.  
SAN BERNARDINO, CALIFORNIA

SHEET TITLE

CONSTRUCTION PLAN

REVISIONS



DRAWN BY

MJW

CHECKED BY

JRC

DATE

03/13/18

SCALE

1" = 10'

JOB NUMBER

1755

SHEET NUMBER

L- 1.1

2 OF 10 SHTS.

## CONSTRUCTION NOTES:

- CONTRACTOR SHALL NOT WILLFULLY PROCEED WITH CONSTRUCTION AS DESIGNED WHEN IT IS OBVIOUS THAT UNKNOWN OBSTRUCTIONS AND/OR GRADE DIFFERENCES EXIST THAT MAY NOT HAVE BEEN KNOWN DURING DESIGN. SUCH CONDITIONS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ALL NECESSARY REVISIONS DUE TO A FAILURE TO GIVE SUCH NOTIFICATION.
- WALL AND FENCE LAYOUT SHALL CONFORM TO PROPERTY LINE AND TOP OF SLOPE CONDITIONS. STAKING FOR LOCATION OF WALLS AND FENCES SHALL BE PROVIDED BY THE CIVIL ENGINEER PRIOR TO EXCAVATION OF FOOTINGS.
- ALL FORMS AND ALIGNMENTS OF PAVING, WALL / FENCE LAYOUT, AND SPECIAL PAVING AREAS SHALL BE REVIEWED AND APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO POURING (GIVE A MINIMUM OF 48 HOURS NOTICE).
- FOR SITE GRADING, SEE CIVIL ENGINEER'S GRADING PLAN.
- CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING HIMSELF FAMILIAR WITH ALL UNDERGROUND UTILITIES, PIPES AND STRUCTURES. CONTRACTOR SHALL TAKE SOLE RESPONSIBILITY FOR COST INCURRED DUE TO DAMAGE AND REPLACEMENT OF SAID UTILITIES.
- CONTRACTOR SHALL COORDINATE IRRIGATION SLEEVE LOCATIONS UNDER PAVED AREAS AS REQUIRED. REFER TO IRRIGATION PLANS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COORDINATION WITH OTHER SUBCONTRACTORS AS REQUIRED TO ACCOMPLISH CONSTRUCTION OPERATIONS AS SHOWN.
- PRIOR TO PLACING CONCRETE, THE CONTRACTOR SHALL SUFFICIENTLY COMPACT THE SUB-GRADE AND PROVIDE SUBSURFACE PREPARATION PER SPECIFICATIONS.
- CONCRETE SURFACES SHALL BE FORMED WITH LONG, SMOOTH GRADIENT TO REDUCE DIPS, ABRUPT CHANGES AND SHARP TRANSITIONS.
- ALL CURVILINEAR WALKS, CURBS, HEADER BOARDS, AND WALLS SHALL HAVE A CONTINUOUS SMOOTH CURVE WHERE APPLICABLE. ALL FORMS MUST BE INSPECTED AND APPROVED PRIOR TO BEGINNING THAT PHASE OF WORK.

## CONSTRUCTION LEGEND:

### CONSTRUCTION CALLOUTS:

- CONSTRUCT 20" HIGH CMU SEATWALL WITH CONCRETE CAP AND STUCCO FINISH. SEE DETAIL E, SHEET L-1.2.
- INSTALL 3" THICK DECOMPOSED GRANITE PAVING AT COMMON AREA. SEE DETAIL B, SHEET L-1.2.
- INSTALL 6"-8" GRANITE COBBLES SET IN DECOMPOSED GRANITE PAVING. SEE DETAIL A, SHEET L-1.2.
- INSTALL TREE WELL WITH 6" TO 8" COBBLE SET IN 3" THICK DECOMPOSED GRANITE PAVING. SEE DETAIL A, SHEET L-1.2.
- CONSTRUCT 6" CONCRETE MONOCURB. SEE DETAIL D, SHEET L-1.2.
- PROVIDE AND PLACE PICNIC TABLE.
- PROVIDE AND INSTALL FREE STANDING BARBEQUE GRILL. SEE DETAIL F, SHEET L-1.2.
- PROVIDE AND INSTALL 30" TO 36" SIZE LANDSCAPE BOULDER. SEE DETAIL C, SHEET L-1.2.
- REMOVE EXISTING BACKFLOW AND ENCLOSURE. SEE IRRIGATION PLAN, SHEET L-2.1.

### REFERENCES BY OTHERS:

- (R1) CONCRETE PAVING PER CIVIL ENGINEER'S PLANS.
- (R2) DRAINAGE CATCH BASIN PER CIVIL ENGINEER'S PLANS.
- (R3) PARKING LOT AND PATH OF TRAVEL STRIPING BY OTHERS.
- (R4) RAMP PER CIVIL ENGINEER'S PLANS.
- (R5) CURB AND GUTTER PER CIVIL ENGINEER'S PLANS.

### EXISTING REFERENCES:

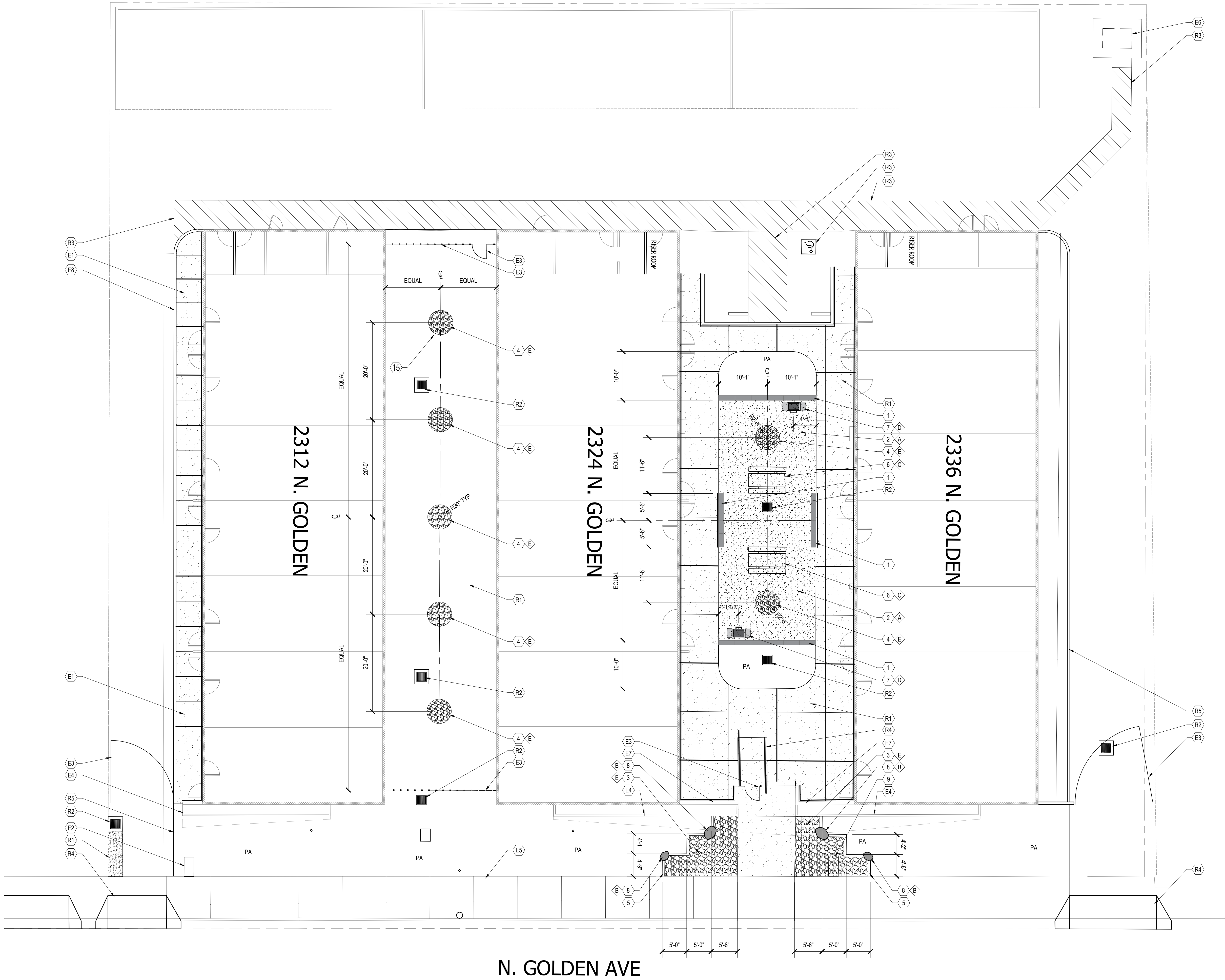
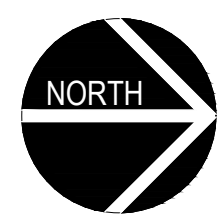
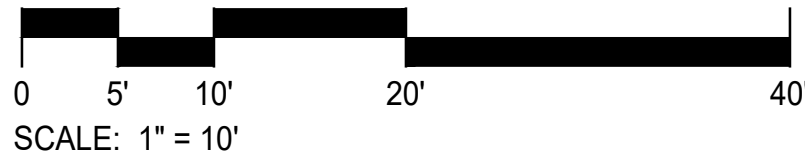
- (E1) CONCRETE PAVING.
- (E2) BACKFLOW AND ENCLOSURE TO REMAIN. PROTECT IN PLACE.
- (E3) FENCING AND GATE.
- (E4) RAISED PLANTER.
- (E5) CITY SIDE WALK.
- (E6) TRASH ENCLOSURE.
- (E7) ENCLOSURE WALL.
- (E8) CONCRETE ROLL CURB.

## FINISH, MATERIAL, AND AMENITIES SCHEDULE:

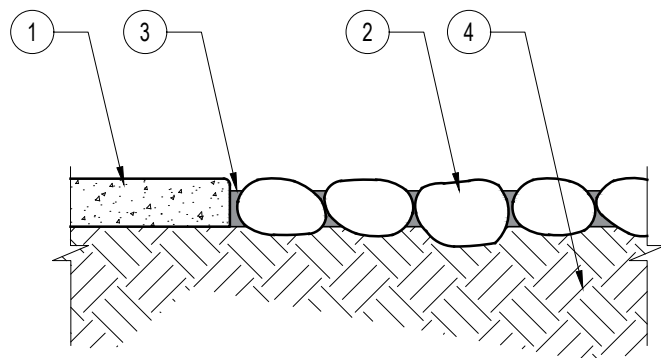
KEY:	MATERIAL / AMENITY:	SYMBOL / HATCH:	COLOR:	FINISH:	COMMENTS / REFERENCE:
A	DECOMPOSED GRANITE		DESERT GOLD	---	SOUTHWEST BOULDER & STONE
B	LANDSCAPE BOULDER		COMMON SPECKLED GRANITE	---	30" TO 36" SIZE BOULDER FROM LOCAL QUARRY
C	PICNIC TABLE		BASE COLOR: BLACK TOP COLOR: BROWN	PROVIDE (1) DELUXE ADA ACCESS PICNIC TABLE. PROVIDE (1) DELUXE 8' PICNIC TABLE	POLLY PRODUCTS. PH # (887) 609-2243
D	POST-MOUNT GAS BARBEQUE GRILL		---	STAINLESS STEEL	AMERICAN OUTDOOR GRILL #24NPT. PH# (925) 516-1603 PROVIDE 12" CLEAR FROM LOW SEAT WALL
E	COBBLE		COMMON SPECKLED GRANITE	---	6" TO 8" STONE FROM LOCAL QUARRY

## PLAN CROSS REFERENCES:

FOR NOTES AND LEGENDS, SEE THIS SHEET  
FOR DETAILS, SEE SHEET L-1.2  
FOR SPECIFICATIONS, SEE SHEET L-4.1  
FOR CORRESPONDING IRRIGATION PLAN SEE SHEET L-2.1  
FOR CORRESPONDING PLANTING PLAN SEE SHEET L-3.1

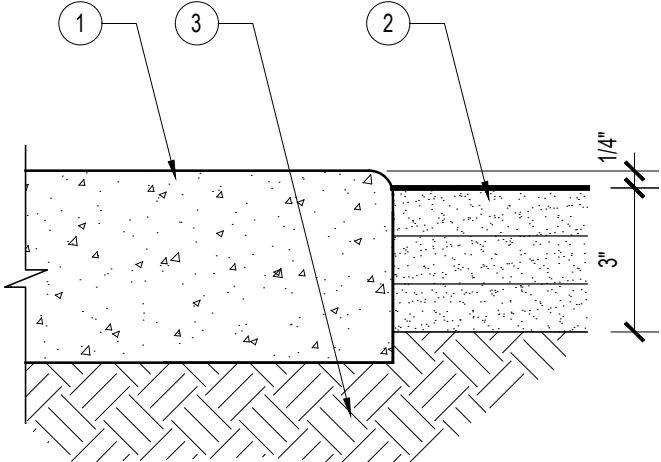




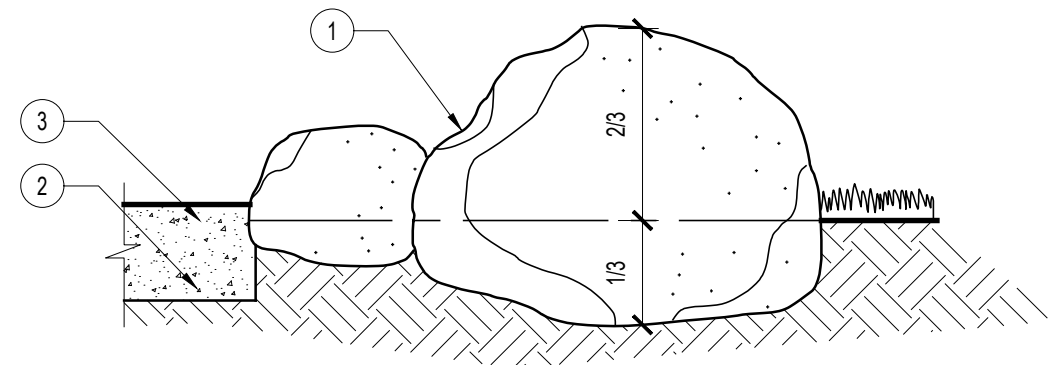


- LEGEND:**
1. CONCRETE PAVING PER CONSTRUCTION PLAN.
  2. 6" TO 8" COBBLE PER CONSTRUCTION PLAN.
  3. DECOMPOSED GRANITE.
  4. COMPACTED SUBGRADE.

- NOTES:**
- A. COBBLE SHALL BE LOOSELY SET BEFORE DECOMPOSED GRANITE. INSTALL D.G. IN LAYERS AND WATER IN.
- B. SEE DETAIL D, THIS SHEET.

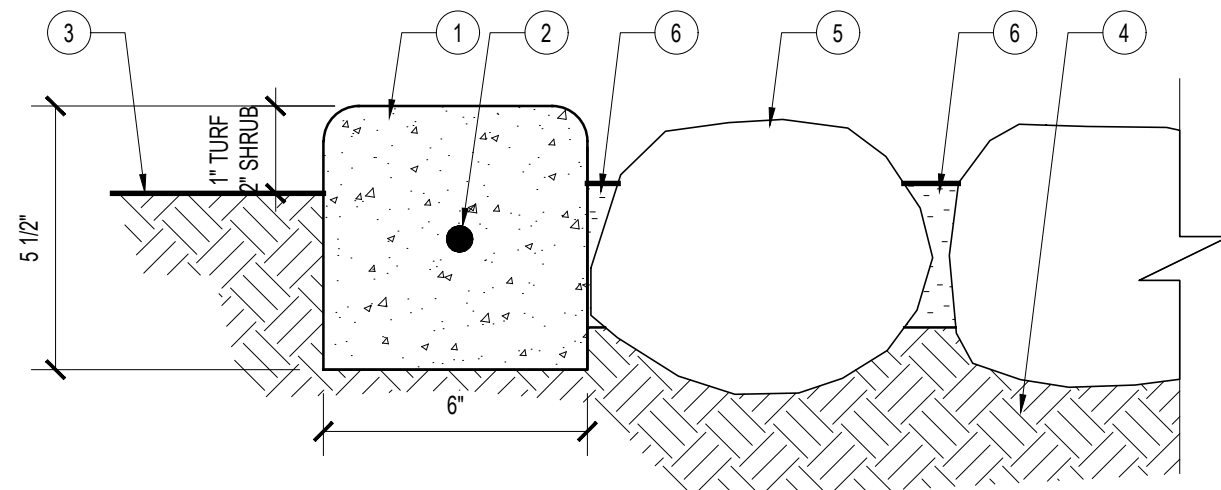


- LEGEND:**
1. CONCRETE PAVING PER CONSTRUCTION PLAN.
  2. 3" THICK LAYER OF DECOMPOSED GRANITE PER CONSTRUCTION PLAN. INSTALL PER MANUFACTURER SPECIFICATIONS.
  3. COMPACTED SUBGRADE.

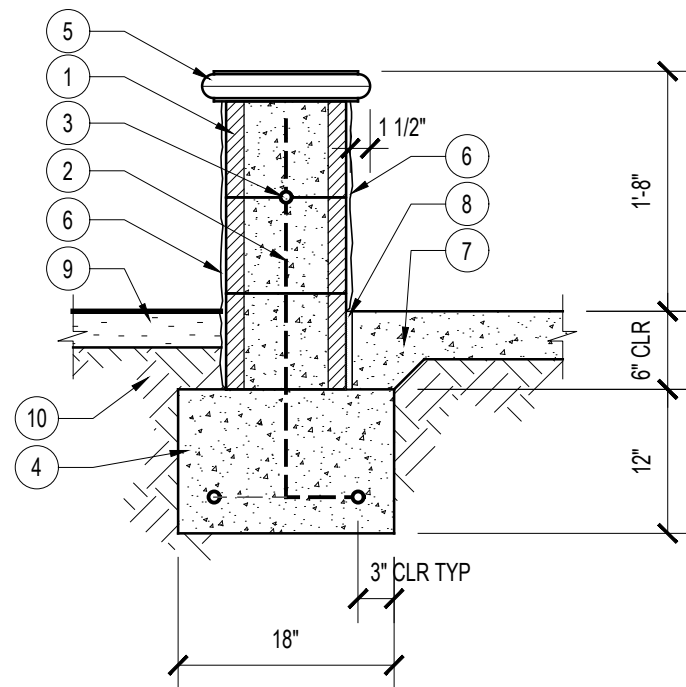


- LEGEND:**
1. BOULDER PER CONSTRUCTION PLAN. RECESS AT LEAST 1/3 OF BOULDER DEPTH INTO SUB-GRADE AS SHOWN.
  2. 90% COMPACTED SUB-GRADE.
  3. FINISH GRADE.
  4. CONCRETE CURB PER CONSTRUCTION PLAN.

- NOTES:**
- A. LANDSCAPE ARCHITECT TO APPROVE BOULDERS AND SPOT LOCATIONS PRIOR TO INSTALLATION.



- LEGEND:**
1. POURED IN PLACE CONCRETE HEADER WITH MEDIUM BROOM FINISH. INSTALL CONTROL JOINTS AT 8'-0" O.C. MAXIMUM. 1/2" RADIUS AT EXPOSED EDGES.
  2. #3 CONTINUOUS REBAR SET AT MID-DEPTH.
  3. FINISH GRADE.
  4. 90% COMPACTED SUB-GRADE.
  5. 6" TO 8" COBBLE SET IN D.G. PER CONSTRUCTION PLAN.
  6. DECOMPOSED GRANITE PLACED BETWEEN COBBLE. HOLD 1-2" BELOW TOP.



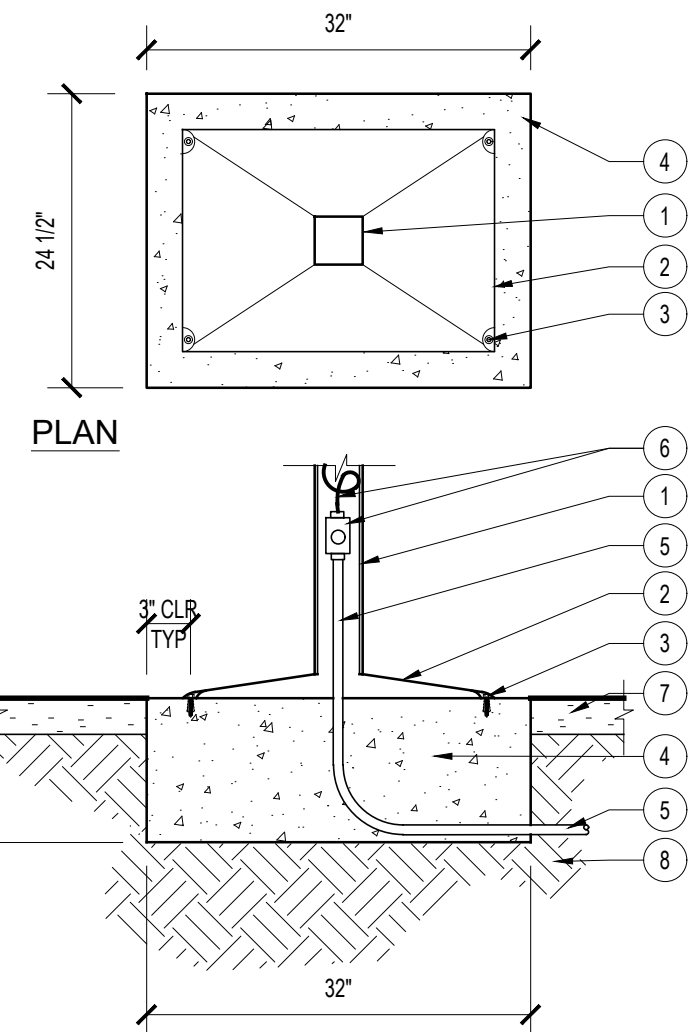
- LEGEND:**
1. 10" x 8" x 16" PRECISION CMU, SOLID GROUTED.
  2. #4 VERTICAL REBAR @ 16" o.c. STANDARD HOOKS IN FOOTING.
  3. #4 CONTINUOUS HORIZONTAL REBAR.
  4. CONCRETE FOOTING WITH (2) #4 REBAR, CONTINUOUS.
  5. PRECAST CONCRETE CAP MODEL #VP-WT14.SST. FROM VALORI PRECAST PHR. (909) 320-6360. CONTRACTOR TO PROVIDE AND INSTALL #VP-WT14.SEND AS NECESSARY.
  6. STUCCO FINISH. COLOR AND FINISH TO MATCH ARCHITECTURE.
  7. CONCRETE PAVING PER CONSTRUCTION PLAN.
  8. 1/2" THICK, FULL-DEPTH EXPANSION JOINT.
  9. DECOMPOSED GRANITE PAVING PER CONSTRUCTION PLAN.
  10. COMPACTED SUBGRADE.

## A COBBLE PAVING

SCALE: 3/4" = 1'-0"

### LEGEND:

1. POST OF STAINLESS STEEL POST-MOUNT BBQ GRILL PER CONSTRUCTION PLAN.
2. POST BASE PER MANUFACTURER.
3. LAG SCREW AND SHIELD (SET OF 4) PER MANUFACTURER SET INTO CONCRETE.
4. CONCRETE FOOTING.
5. RIGID GAS LINE WITH SWEEP ELL FROM SOURCE TO GRILL.
6. FLEXIBLE GAS LINE AND REGULATOR PER MANUFACTURER. ROUTE LINE WITHIN POST.
7. ADJACENT DECOMPOSED GRANITE PAVING PER CONSTRUCTION PLAN. FLUSH WITH TOP OF FOOTING.
8. COMPACTED SUBGRADE.



SECTION

## F POST MOUNT GAS BARBECUE

SCALE: 3/4" = 1'-0"

## B DECOMPOSED GRANITE

SCALE: 3" = 1'-0"

## C BOULDER AT PLANTER AREA

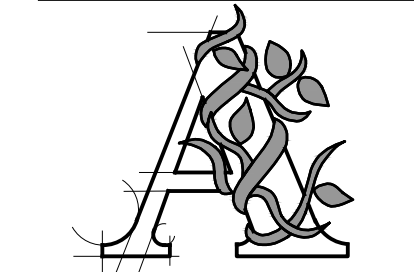
SCALE: 1" = 1'-0"

## D 6" CONCRETE HEADER

SCALE: 3" = 1'-0"

## E SEATWALL

SCALE: 3/4" = 1'-0"

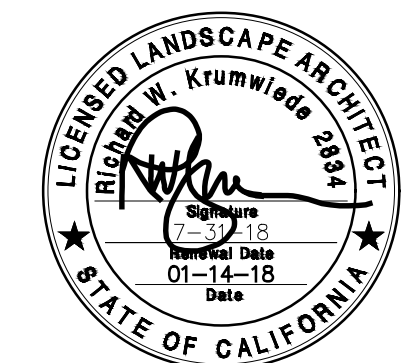


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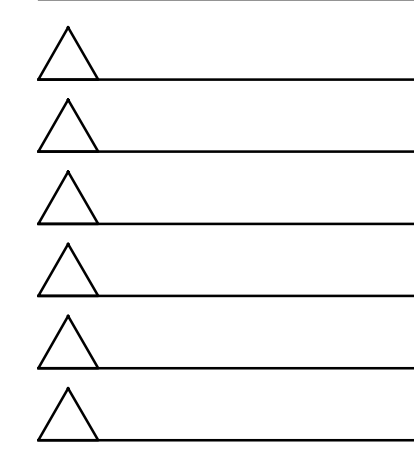
PROJECT/CLIENT

GOLDEN APARTMENTS  
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SAN BERNARDINO, CALIFORNIA

SHEET TITLE

IRRIGATION PLAN

REVISIONS



DRAWN BY

EA

CHECKED BY

JRC

DATE

03/13/18

SCALE

1"= 10'

JOB NUMBER

1755

SHEET NUMBER

L- 2.1

4 OF 10 SHTS.

0

5'

10'

20'

40'

SCALE: 1"= 10'

NORTH

## IRRIGATION LEGEND:

DRIP AND EMITTERS:	MANUF.	MODEL #	DESCRIPTION	GPM	RADIUS	PSI	COMMENTS / DETAIL REFERENCE
	RAINBIRD	XFD-500	INLINE DRIP TUBING BARBED EMITTER	0.016	DRIP	30	INSTALL LINES ON GRADE W/ 3" MULCH COVER AT EACH SHRUB LOCATION PER EMITTER SCHEDULE THIS SHEET. SEE DETAIL A, SHEET L-2.2.
	RAINBIRD	XFS-CV-06-12	INLINE DRIP TUBING 3" BELOW FINISHED GRADE, SPACE LINES 12" APART, 3" MAX FROM HARDSCAPE / EDGES. SECURE WITH 9" WIRE STAKES.	0.010	DRIP	30	SEE DETAIL D, SHEET L-2.2.
	RAINBIRD	RWS-1401	ROOT WATERING W/ BUBBLER	0.25	BUBBLER	30	INSTALL (2) BUBBLERS PER TREE SEE DETAIL C, SHEET L-2.2.
EQUIPMENT:	MANUF.	MODEL #	DESCRIPTION				DETAIL REFERENCE
	---	---	EXISTING DOMESTIC WATER METER WITH 1" SERVICE LINE				---
	NIBCO	T-585	LINE-SIZE BRONZE FULL PORT BALL VALVE IN VALVE BOX				SEE DETAIL E, SHEET L-2.2.
	---	---	1" EXISTING BACKFLOW DEVICE W/ ENCLOSURE				---
	SUPERIOR	3200 SERIES	2" NORMALLY CLOSED MASTER VALVE				SEE DETAIL H, SHEET L-2.2.
	CST	FSI-T15-001	1 1/2" PVC FLOW SENSOR IN RECTANGULAR VALVE BOX				SEE DETAIL H, SHEET L-2.2.
	RAINBIRD	XFS FLUSH POINT	REMOVABLE FLUSH CAP @ EACH PLANTER IN 6" BOX				SEE DETAIL B, SHEET L-2.2.
	RAINBIRD	100-PESB-PRS-D	1" REMOTE CONTROL VALVE W/ PRESSURE REGULATING MODULE (FOR NON-DRIP CONDITIONS) IN RECTANGULAR VALVE BOX				SEE DETAIL G, SHEET L-2.2.
	RAINBIRD	XCZ-100-PRB-COM	1" BALL VALVE W/ 1" PESB VALVE AND 1" PRESSURE REGULATING (40 PSI) W/ DRIP ZONE CONTROL KIT AND QUICK CHECK BASKET FILTER.				SEE DETAIL F, SHEET L-2.2.
	RAINBIRD	ESP4SMTE	7 STATION EXTERIOR CONTROLLER AND RAIN SENSOR W/ ADDED 3-STATION PLUG IN MODULE (ESP4SM3) AS NEEDED.				SEE DETAIL I, SHEET L-2.2.
	RAINBIRD	(ESP4SMTE)	KIT INCLUDED RAIN SENSOR. INSTALL IN FULL SUN. WIRE TO CONTROLLER.				SEE DETAIL J, SHEET L-2.2.
	APPROVED	SCH. 40 PVC	MAINLINE, SIZE AS SHOWN, MIN. COVER 18"				SEE DETAIL K, SHEET L-2.2.
	APPROVED	SCH. 40 PVC	LATERAL LINE, SIZE AS SHOWN, MIN. COVER 12"				SEE DETAIL K, SHEET L-2.2.
	APPROVED	SCH. 40 PVC	SLEEVES, SIZED 2X LARGER THAN PIPE TO BE INSERTED, UNLESS OTHERWISE NOTED.				SEE DETAIL K, SHEET L-2.2.
	RAINBIRD	44LRC	44 MODEL 1" QUICK COUPLER VALVE.				SEE DETAIL L, SHEET L-2.2.

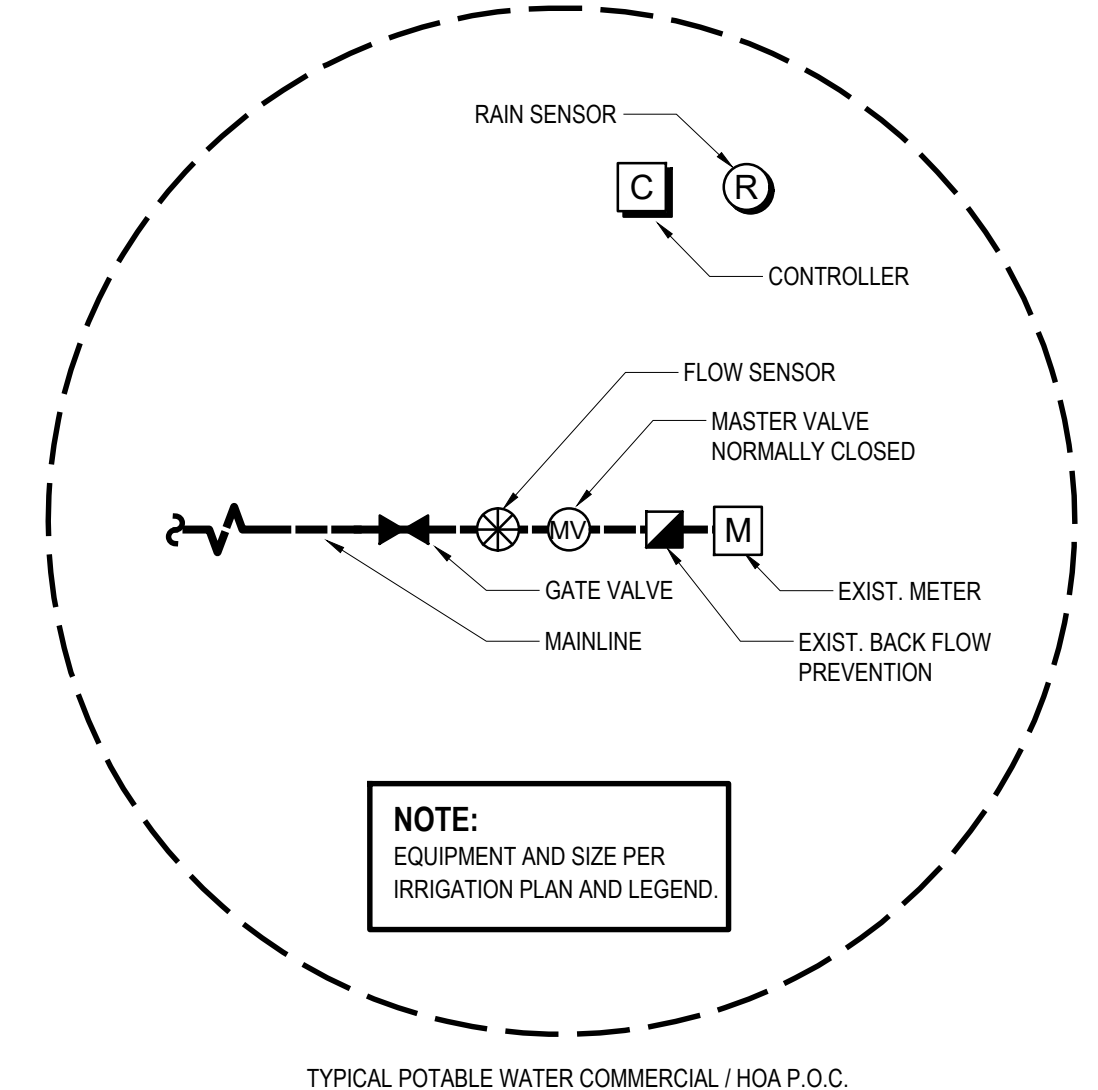
## HYDROZONE LEGEND:

	HYDROZONE 1 (HZ1) TREE BUBBLERS - LOW WATER USE TREES, WITH RWS BUBBLERS.
	HYDROZONE 2 (HZ2) PALM BUBBLERS - LOW WATER USE PALMS WITH RWS BUBBLERS.
	HYDROZONE 3 (HZ3) LOW WATER USE SHRUBS WITH POINT TO POINT DRIP IRRIGATION.
	HYDROZONE 4 (HZ4) LOW WATER USE SHRUBS WITH SUBSURFACE DRIPLINE IRRIGATION.

## VALVE CALLOUT CHART:

#	TYPE	PLANT	SIZE	GPM	HZ	SF
1	POINT TO POINT	SHRUB	1"	3	1	1470
2	DRIPLINE	SHRUB	1"	2	4	206
3	BUBBLER	PALM	1"	1.5	1	75
4	BUBBLER	TREE	1"	1	1	50
5	BUBBLER	TREE	1"	1.5	1	75
6	BUBBLER	PALM	1"	2	1	100
7	BUBBLER (2)	PALM	1"	2	1	100
8	DRIPLINE	SHRUB	1"	3	1	340
9	BUBBLER	TREE	1"	1	1	50
10	POINT TO POINT	SHRUB	1"	2	1	612

REFER TO IRRIGATION LEGEND FOR CONTROL VALVE MANUFACTURER, MODEL NUMBER, AND DESCRIPTION.



## POINT OF CONNECTION ENLARGEMENT

<b>POINT OF CONNECTION NOTE:</b> MAKE POINT OF CONNECTION IMMEDIATELY DOWNSTREAM OF EXISTING 1" DOMESTIC WATER METER PROVIDED BY OTHERS. REFER TO UTILITY PLANS FOR ADDITIONAL INFORMATION. EXTEND NEW TYPE 'K' COPPER PIPE (OR AS REQUIRED PER LOCAL CODE) TO LINE SIZED GATE VALVES AS SHOWN.	
STATIC WATER PRESSURE:	60 PSI
SYSTEM DESIGNED PRESSURE:	52.2 PSI
MAXIMUM IRRIGATION DEMAND:	9.8 GPM

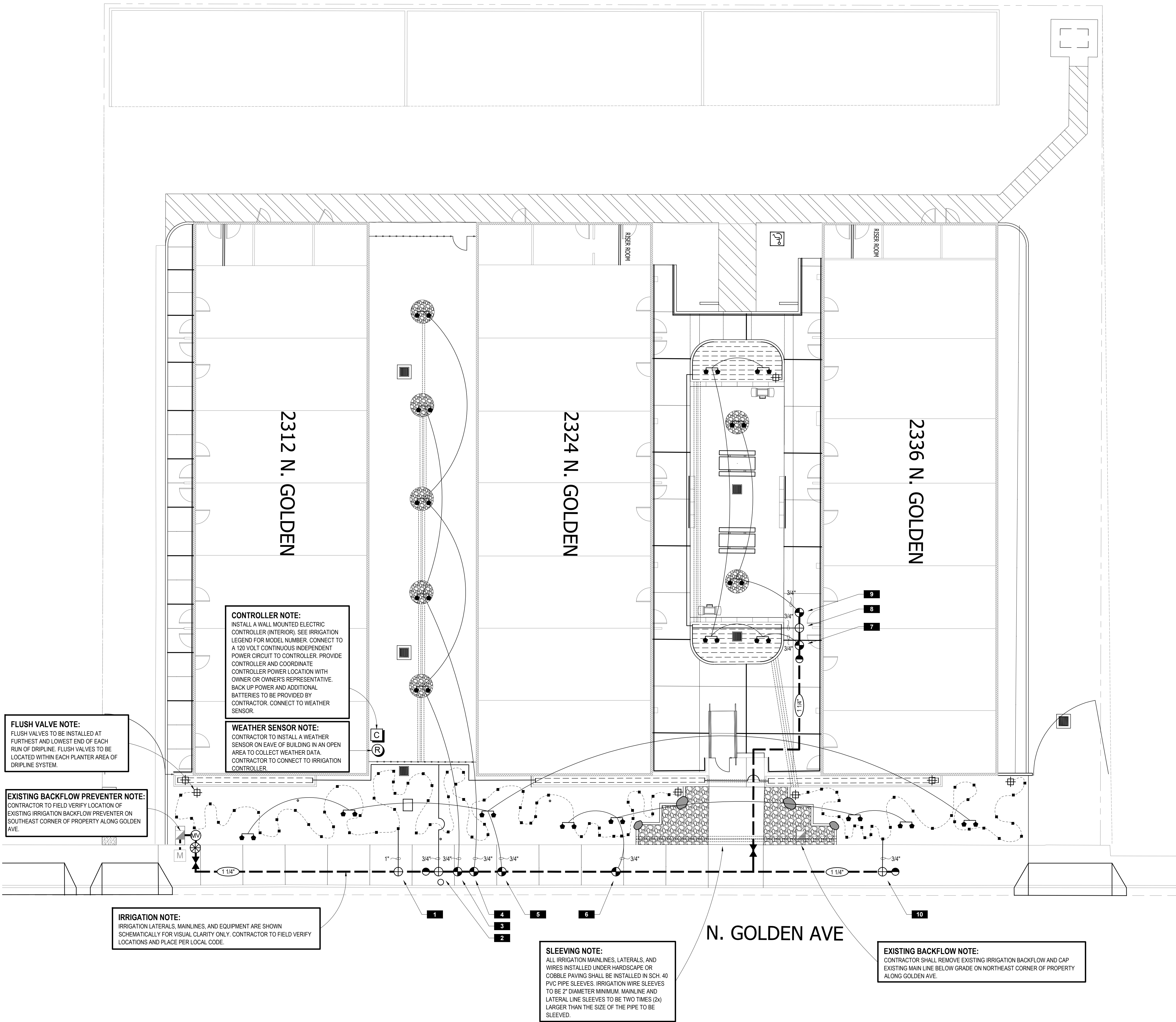
## IRRIGATION NOTES:

- THIS SYSTEM IS DIAGRAMMATIC. ALL PIPE, VALVES, ETC. SHOWN WITHIN PAVED AREAS ARE FOR DESIGN CLARIFICATION ONLY AND SHALL BE INSTALLED IN PLANTING AREAS WHEREVER POSSIBLE.
- DO NOT WILLFULLY INSTALL THE SPRINKLER SYSTEM AS INDICATED ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT UNKNOWN OBSTRUCTIONS OR GRADE DIFFERENCES EXIST AND SHOULD BE BROUGHT TO THE ATTENTION OF THE OWNER'S AUTHORIZED REPRESENTATIVE. IN THE EVENT THAT THIS NOTIFICATION IS NOT PERFORMED, THE CONTRACTOR MUST ASSUME FULL RESPONSIBILITY FOR REVISIONS NECESSARY.
- SYSTEM DESIGN IS BASED ON MINIMUM OPERATING PRESSURE SHOWN AT EACH POINT OF CONNECTION WITH MAXIMUM GPM DEMAND SPECIFIED. IRRIGATION CONTRACTOR SHALL VERIFY ALL PRESSURES ON SITE PRIOR TO CONSTRUCTION AND COMMUNICATE TO OWNER'S CONSTRUCTION REPRESENTATIVE.
- IT IS THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO FAMILIARIZE HIMSELF WITH ALL GRADE DIFFERENCES, LOCATION OF WALLS, RETAINING WALLS, CURBS, ETC. HE SHALL COORDINATE ALL HIS WORK WITH THE GENERAL CONTRACTOR AND OTHER SUB-CONTRACTORS FOR LOCATION OF PIPE SLEEVES THROUGH WALLS, UNDER ROADS, PAVING AND STRUCTURES.
- MAINLINE FEEDER BETWEEN POINT OF CONNECTION, METER, AND BACKFLOW PREVENTER TO BE OF MATERIAL REQUIRED BY CURRENT WATER DISTRICT.
- FINAL LOCATION OF THE AUTOMATIC CONTROLLER ENCLOSURE AND THE BACKFLOW PREVENTION DEVICE SHALL BE APPROVED BY THE CITY'S AND OWNER'S REPRESENTATIVE, AND/OR LANDSCAPE ARCHITECT, WHERE APPLICABLE.
- IN ADDITION TO THE SLEEVES SHOWN ON THE PLAN, THE IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ADDITIONAL SLEEVES OF SUFFICIENT SIZE UNDER ALL PAVED AREAS PRIOR TO PAVING UPON APPROVAL OF THE OWNER'S REPRESENTATIVE, IF REQUIRED TO OPERATE SYSTEMS.
- IRRIGATION CONTRACTOR SHALL FLUSH ALL LINES AND ADJUST ALL HEADS FOR MAXIMUM PERFORMANCE AND TO PREVENT OVERSPRAY ONTO WALKS, STREETS, AND BUILDINGS AS MUCH AS POSSIBLE. THIS SHALL INCLUDE SELECTING THE BEST NOZZLE RADIUS TO FIT UNUSUAL SITE CONDITIONS FOR APPROVAL PURPOSES AT NO EXTRA CHARGE. CALL LANDSCAPE ARCHITECT 48 HOURS IN ADVANCE FOR ANY COVERAGE TESTS.
- QUALITY CONTROL OBSERVATION SEQUENCES ARE FOUND IN THE SPECIFICATIONS.
- CLEAN-UP ON A DAILY BASIS PER OWNER'S REPRESENTATIVE'S APPROVAL.

## PLAN CROSS REFERENCES:

FOR NOTES AND LEGENDS, SEE THIS SHEET  
FOR DETAILS, SEE SHEET L-2.2  
FOR SPECIFICATIONS, SEE SHEET L-4.2  
FOR CORRESPONDING CONSTRUCTION PLAN SEE SHEET L-1.1  
FOR CORRESPONDING PLANTING PLAN SEE SHEET L-3.1

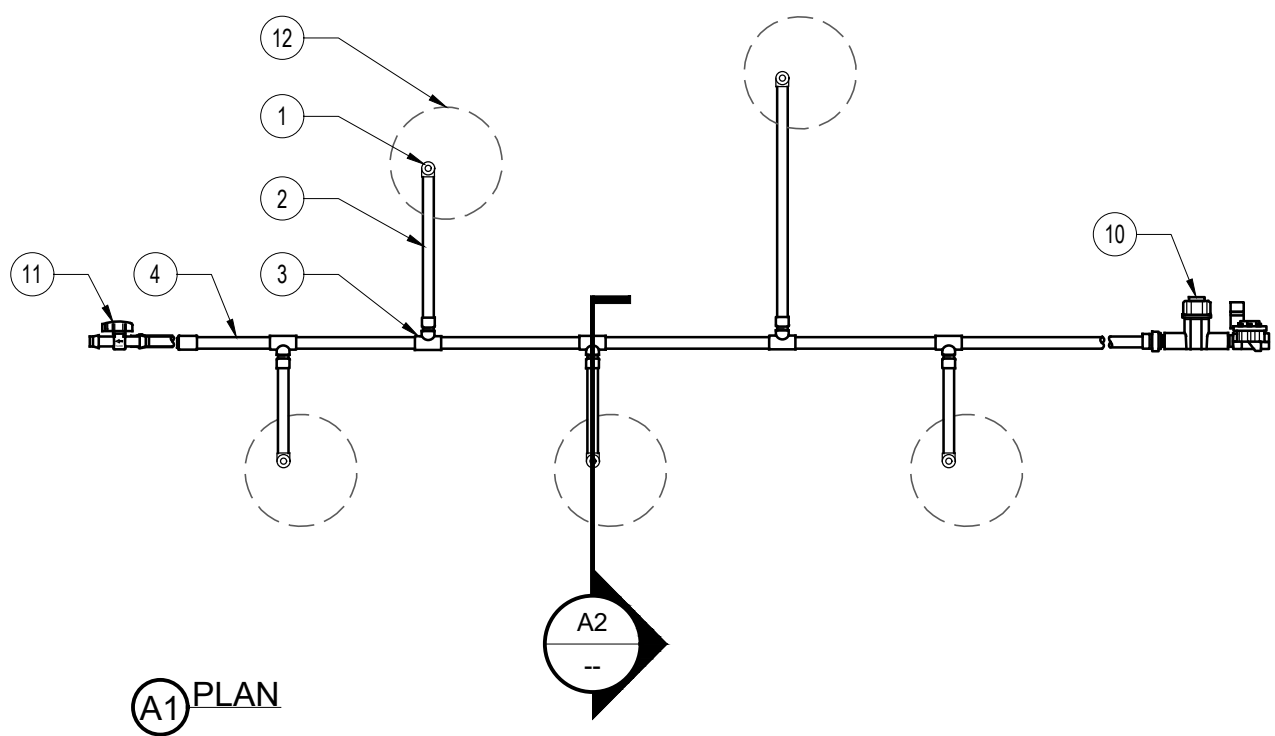
PIPE SIZING CHART:	
SCHEDULE 40 PVC	
3/4"	0-8 GPM
1"	9-12 GPM
1 1/4"	13-22 GPM
1 1/2"	23-30 GPM
2"	31-50 GPM



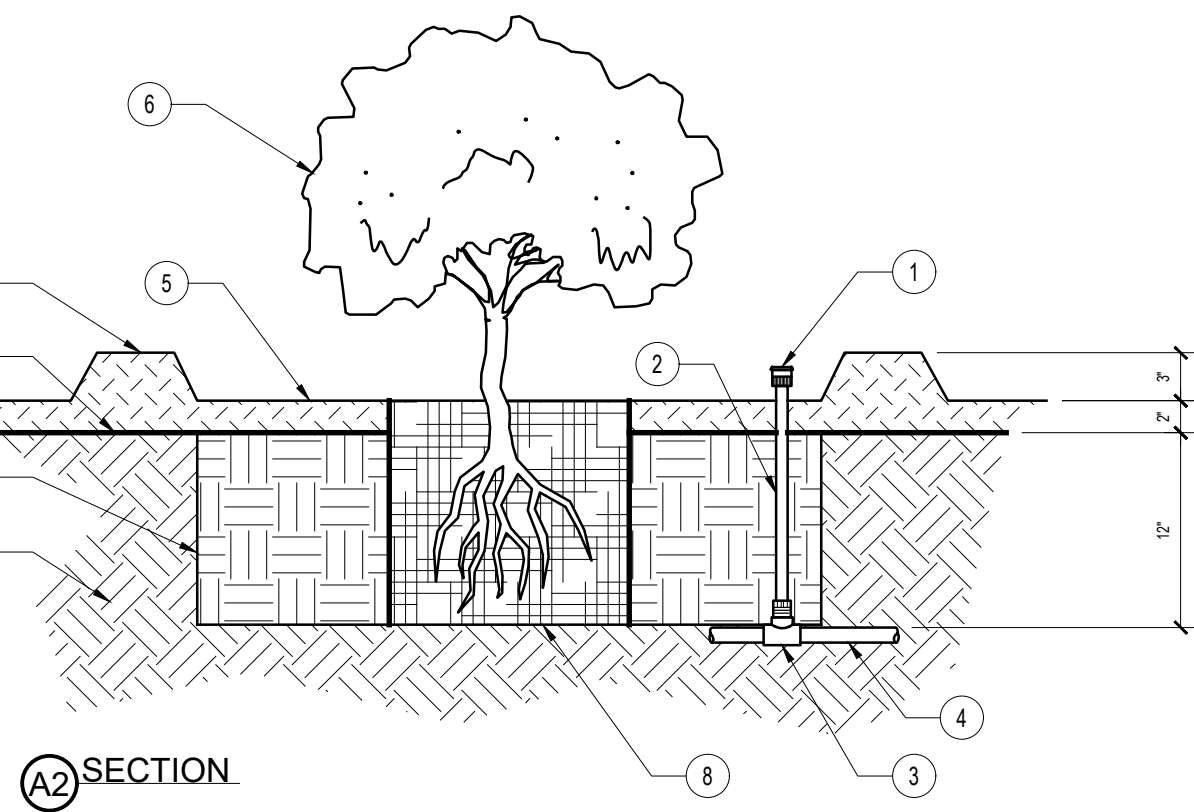
Know what's below.  
Call before you dig.

THIS SYSTEM IS DESIGNED TO USE WATER FROM A POTABLE WATER SOURCE

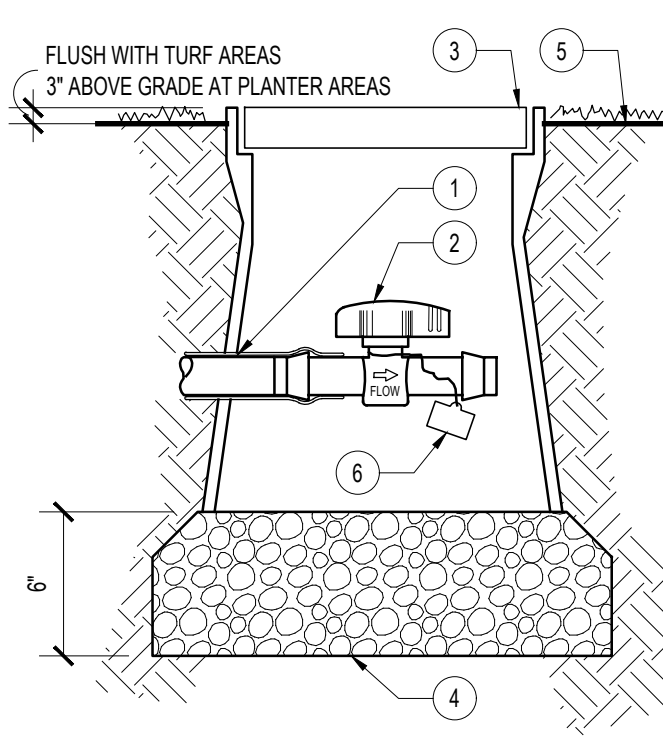




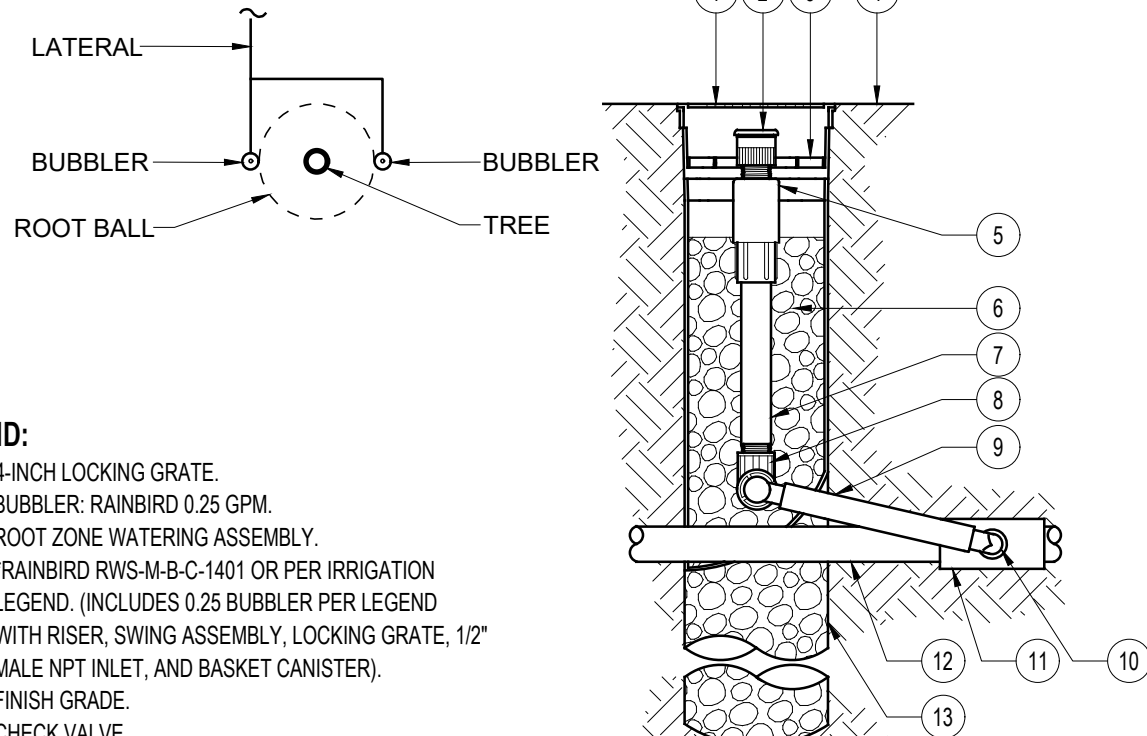
- LEGEND:**
1. DRIP EMITTER PER LEGEND.
  2. FLEXIBLE RISER.
  3. PVC SCH 40 TEE OR ELL.
  4. PVC SCH 40 LATERAL PIPE.
  5. 3\"/>



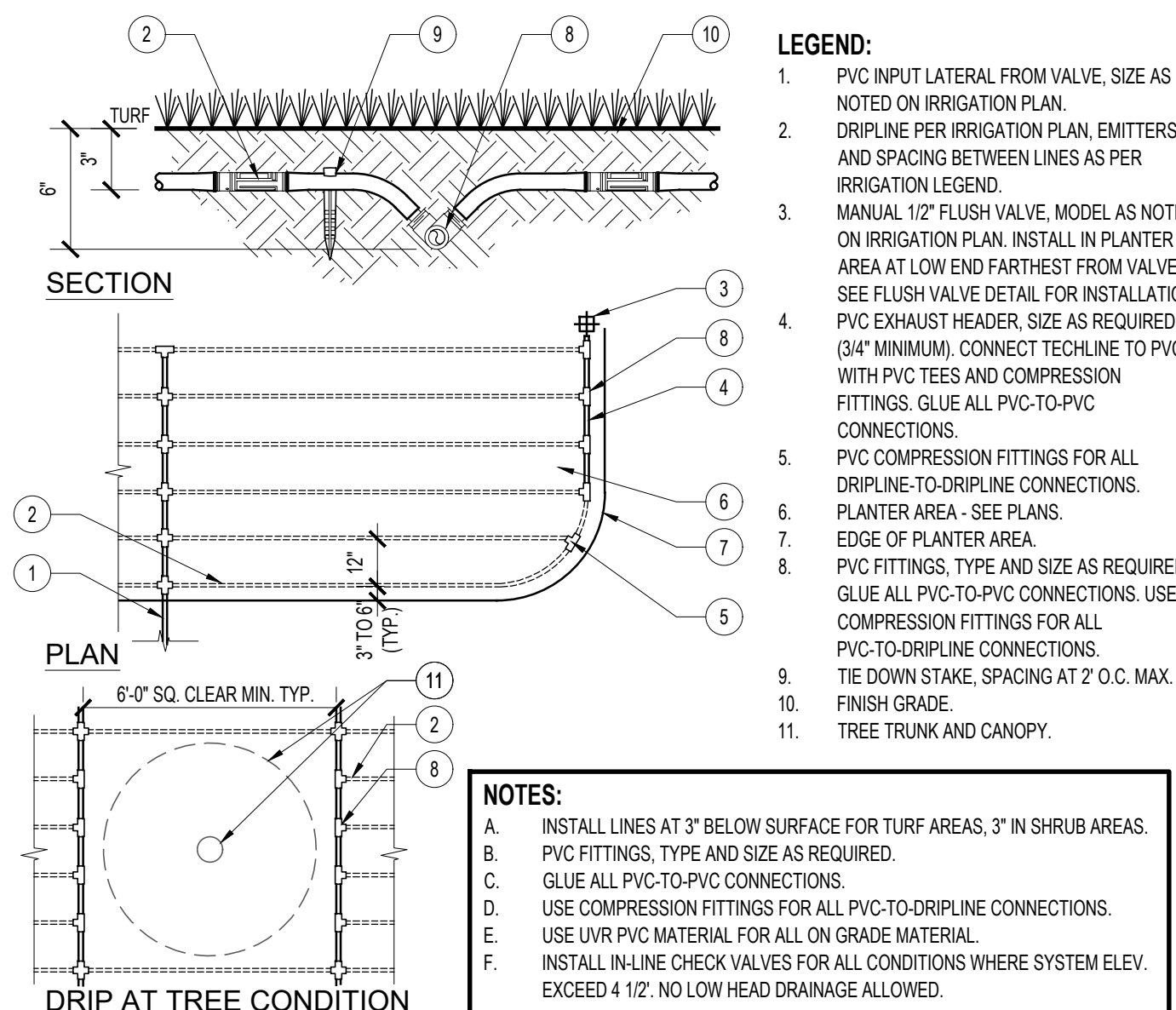
- IRRIGATION NOTES:**
- REFER TO IRRIGATION LEGEND FOR EQUIPMENT BRANDS, MODEL NUMBERS, TYPES, AND QUANTITIES.
  - REFER TO IRRIGATION PLAN FOR LOCATIONS.
- PLANTING NOTES:**
- REFER TO PLANTING PLAN FOR PLANTING TYPES AND PLANT INSTALLATION DETAILS.



- LEGEND:**
1. 1/2\"/>



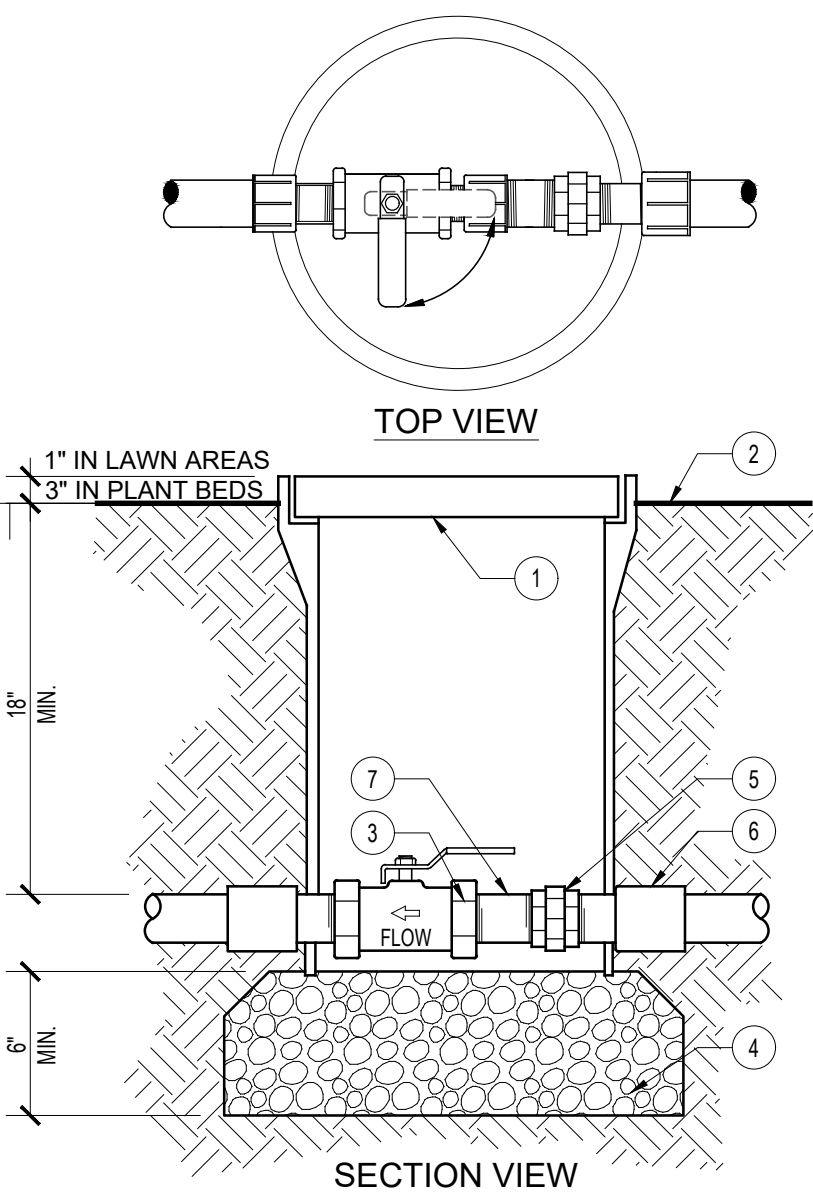
- LEGEND:**
1. 4-INCH LOOKING GRATE.
  2. BUBBLER, RAINBOW 0.25 GPM.
  3. ROOT ZONE WATERING ASSEMBLY, \*RAINBOW RWS-MB-C-1401 OR PER IRRIGATION LEGEND. (INCLUDES 0.25 BUBBLER PER LEGEND WITH RISER, SWING ASSEMBLY, LOOKING GRATE, 1/2\"/>



- NOTES:**
- INSTALL LINES AT 3\"/>

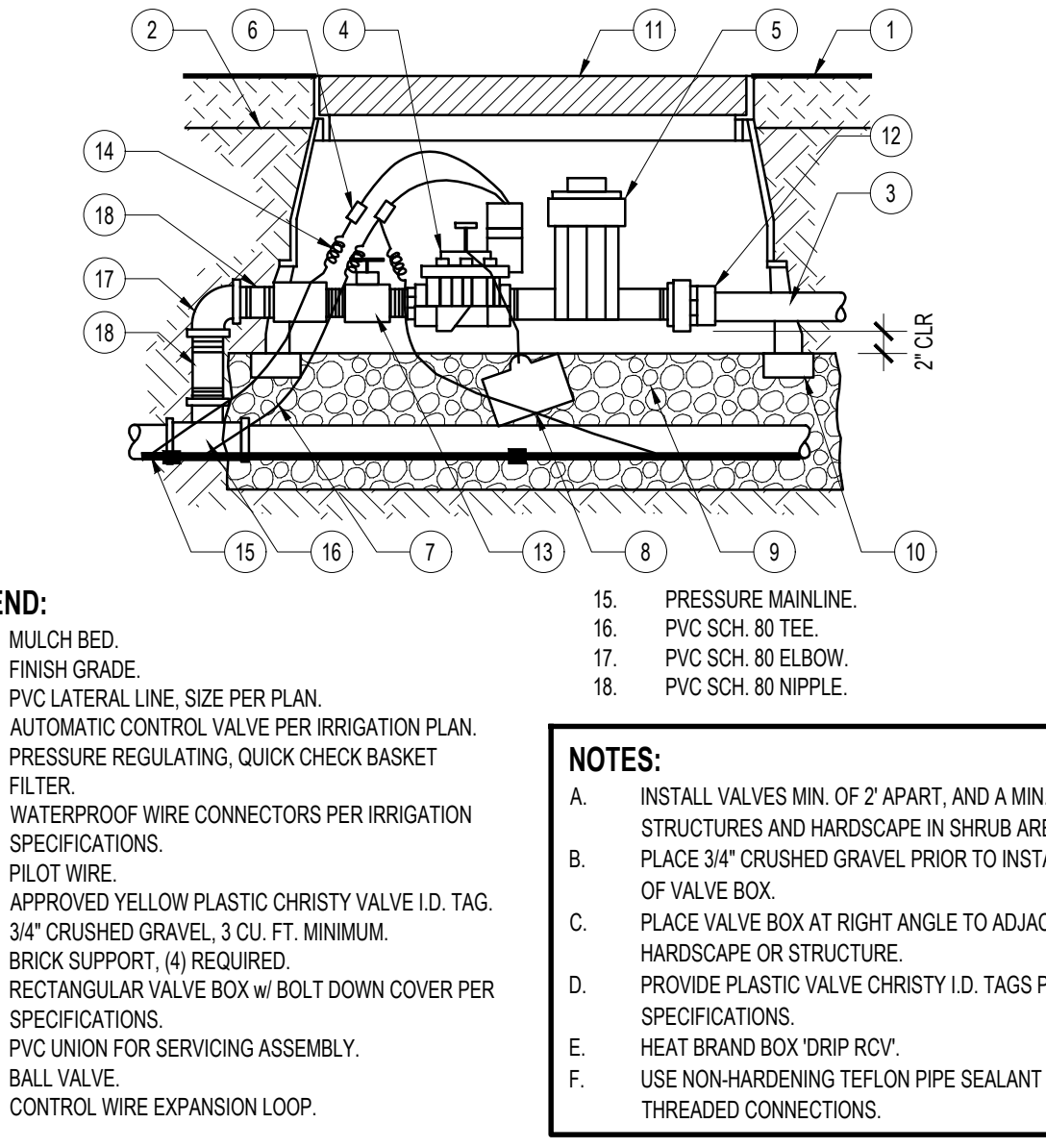
## A POINT TO POINT DRIP EMITTER ASSEMBLY

SCALE: 1" = 1'-0"



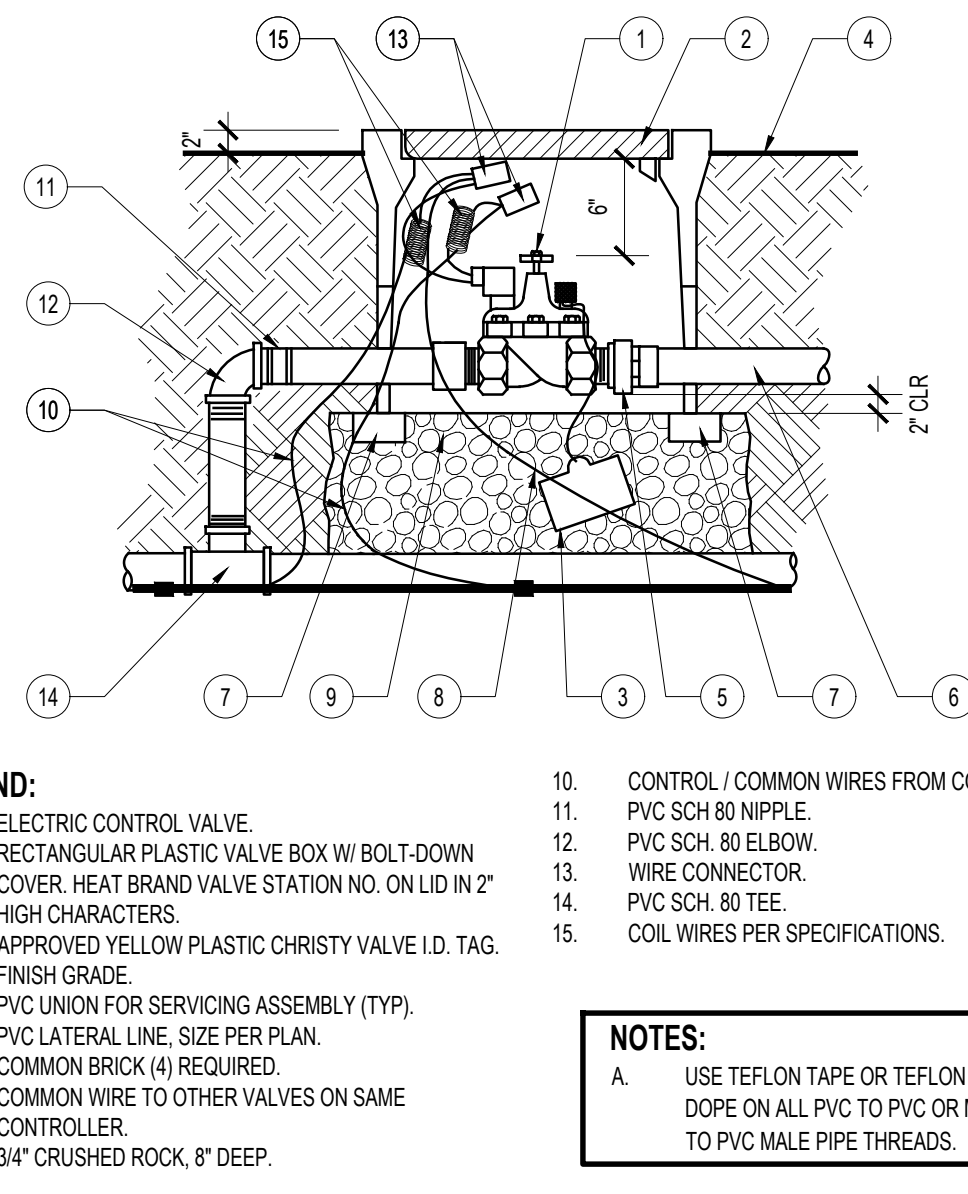
- LEGEND:**
1. 1/2\"/>

- NOTES:**
- PLACE AGGREGATE PRIOR TO INSTALLATION OF VALVE BOX.



- LEGEND:**
1. MULCH BED.
  2. FINISH GRADE.
  3. PVC LATERAL LINE, SIZE PER PLAN.
  4. AUTOMATIC CONTROL VALVE PER IRRIGATION PLAN.
  5. PRESSURE REGULATING, QUICK CHECK BASKET FILTER.
  6. WATERPROOF WIRE CONNECTORS PER IRRIGATION SPECIFICATIONS.
  7. PILOT WIRE.
  8. APPROVED YELLOW PLASTIC CHRISTY VALVE I.D. TAG.
  9. 3/4\"/>

- NOTES:**
- INSTALL VALVES MIN. OF 2' APART, AND A MIN. OF 2' FROM STRUCTURES AND HARDSCAPE IN SHRUB AREAS.
  - PLACE 3/4\"/>

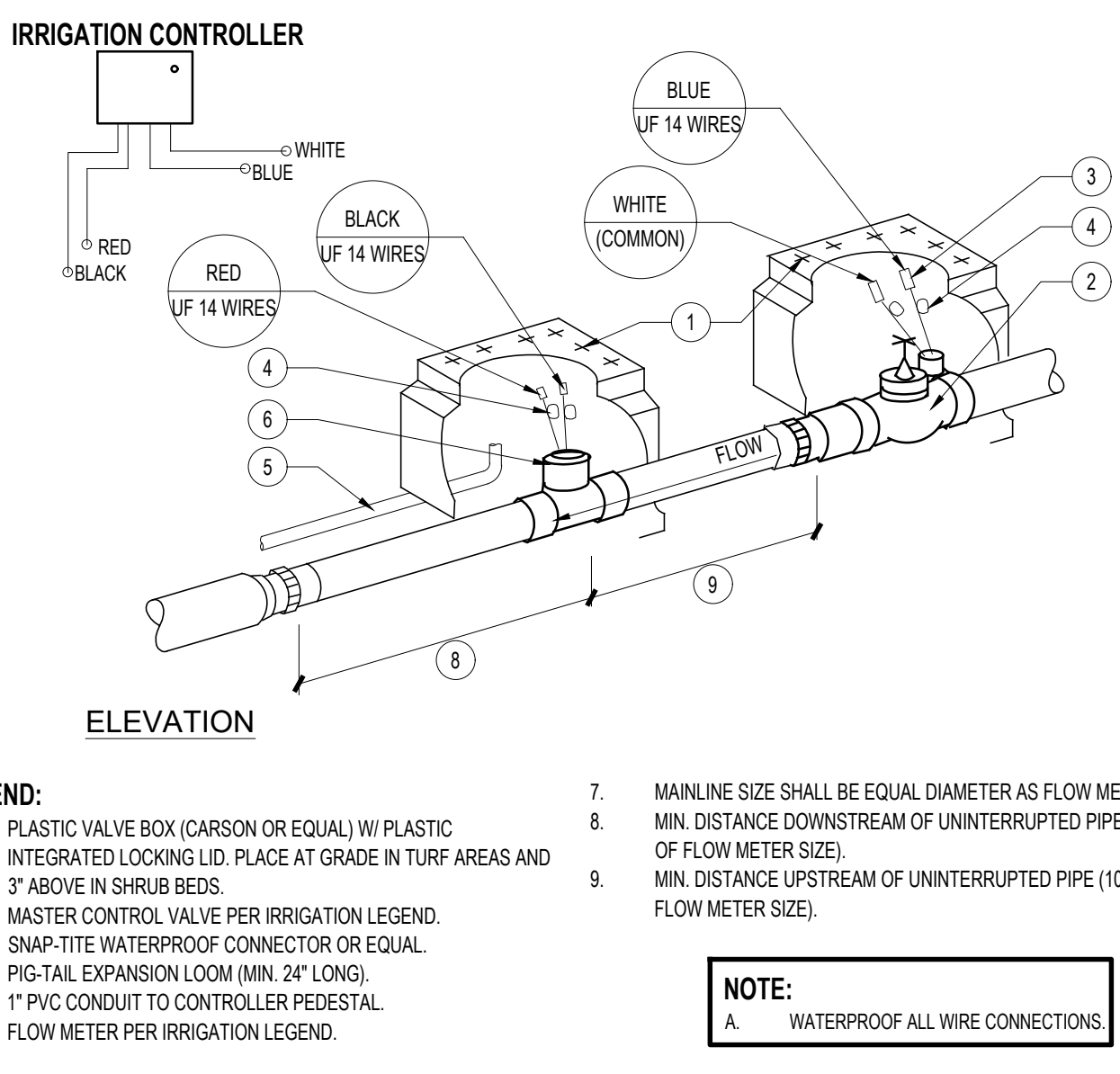


- LEGEND:**
1. ELECTRIC CONTROL VALVE.
  2. RECTANGULAR PLASTIC VALVE BOX W/ BOLT-DOWN COVER, HEAT BRAND VALVE STATION NO. ON LID IN 2\"/>

- NOTES:**
- USE TEFLON TAPE OR TEFLON PIPE DOPE ON ALL PVC TO PVC OR METAL TO PVC MALE PIPE THREADS.

## C BUBBLER TO TREE

SCALE: 1" = 1'-0"

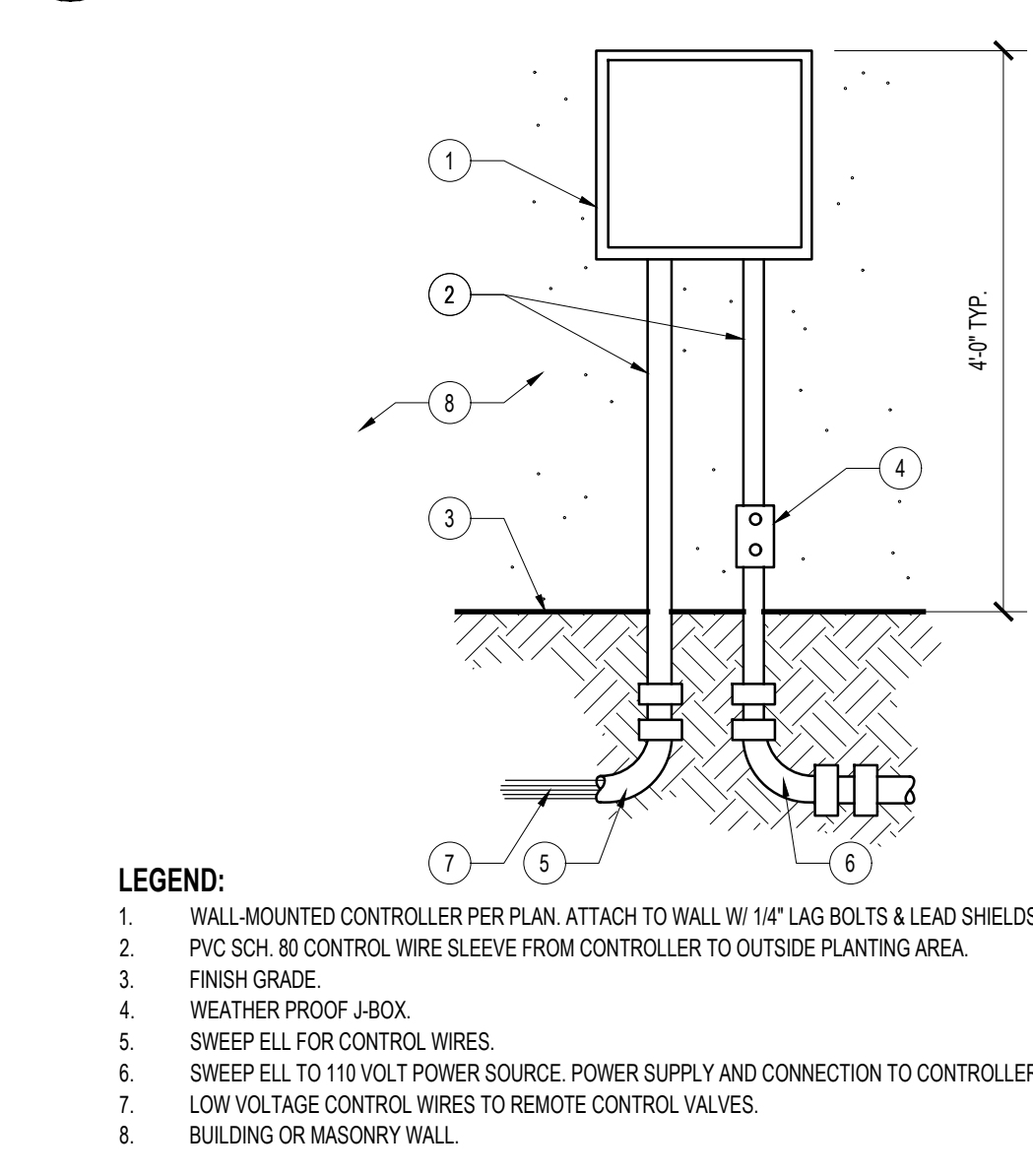


- LEGEND:**
1. PLASTIC VALVE BOX (CARSON OR EQUAL) W/ PLASTIC INTEGRATED LOCKING LID. PLACE AT GRADE IN TURF AREAS AND 3\"/>

- NOTE:**
- WATERPROOF ALL WIRE CONNECTIONS.

## D DRIPLINE BELOW GRADE

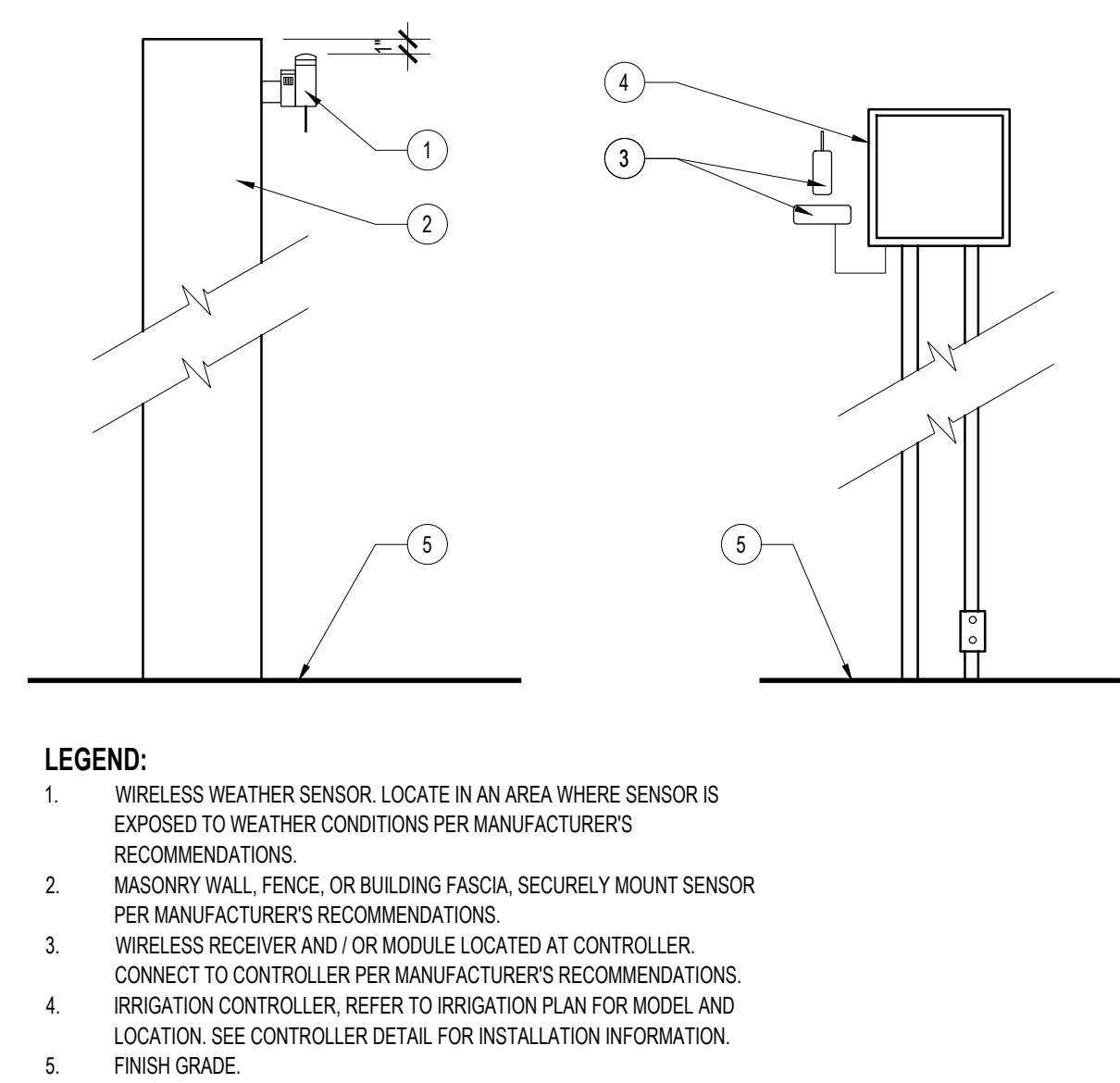
SCALE: N.T.S.



- LEGEND:**
1. WALL-MOUNTED CONTROLLER PER PLAN. ATTACH TO WALL W/ 1/4\"/>

## E BALL VALVE

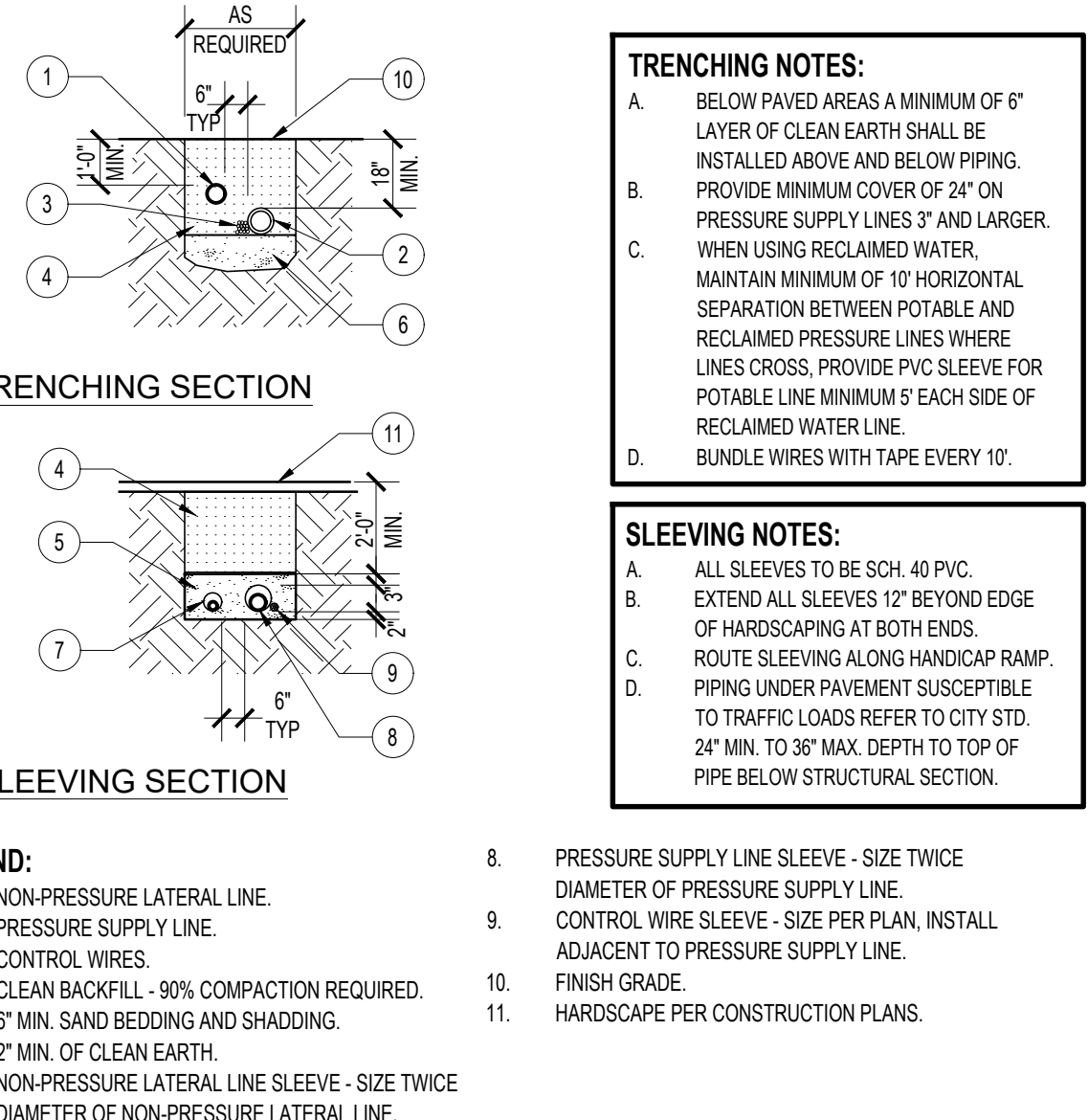
SCALE: 1 1/2" = 1'-0"



- LEGEND:**
1. WIRELESS WEATHER SENSOR, LOCATE IN AN AREA WHERE SENSOR IS EXPOSED TO WEATHER CONDITIONS PER MANUFACTURER'S RECOMMENDATIONS.
  2. MASONRY WALL, FENCE, OR BUILDING FASCIA, SECURELY MOUNT SENSOR PER MANUFACTURER'S RECOMMENDATIONS.
  3. WIRELESS RECEIVER AND I/O MODULE LOCATED AT CONTROLLER.
  4. IRRIGATION CONTROLLER, REFER TO IRRIGATION PLAN FOR MODEL AND LOCATION. SEE CONTROLLER DETAIL FOR INSTALLATION INFORMATION.
  5. FINISH GRADE.

## F REMOTE CONTROL DRIP VALVE

SCALE: 1" = 1'-0"

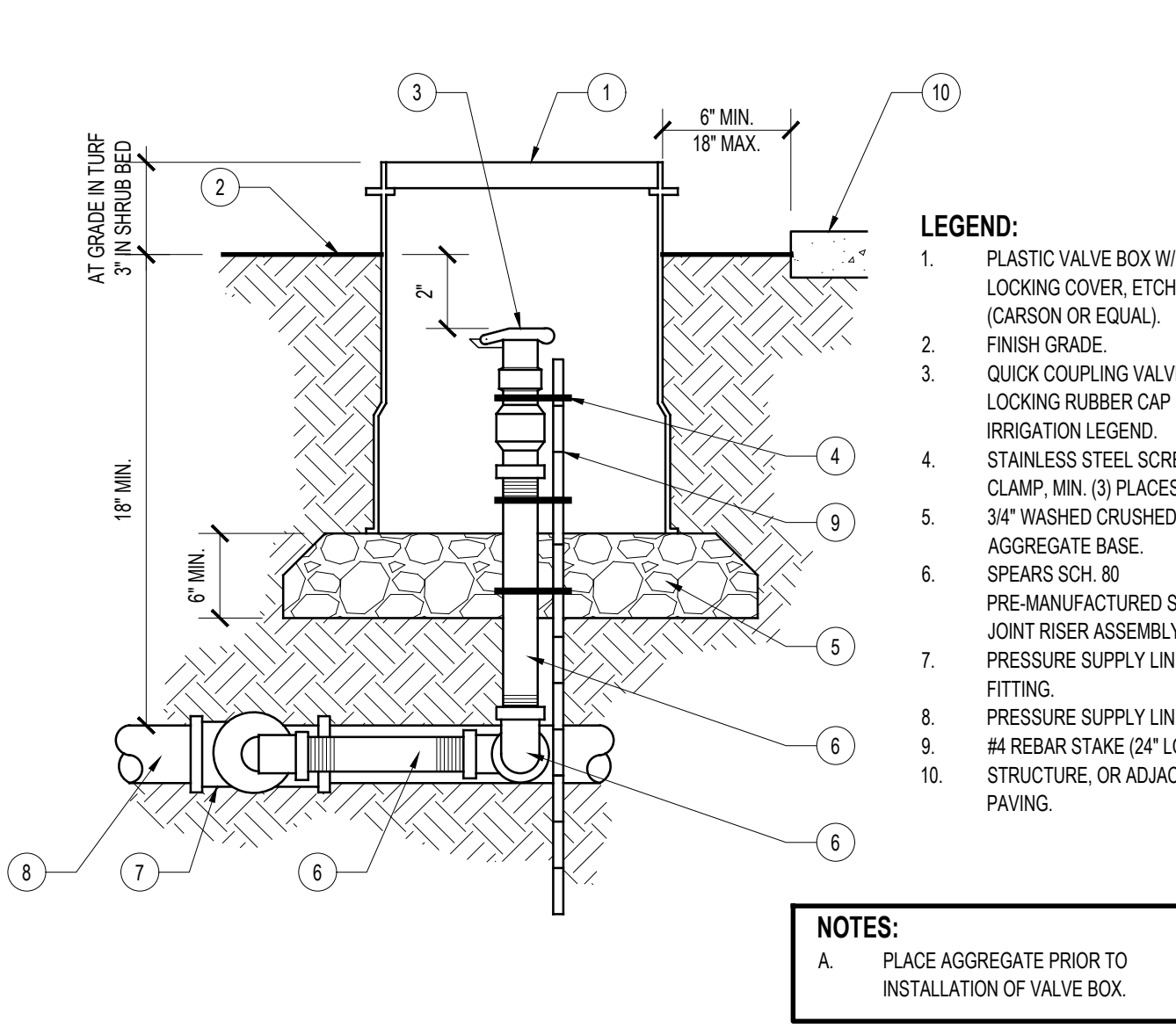


- LEGEND:**
1. NON-PRESSURE LATERAL LINE.
  2. PRESSURE SUPPLY LINE.
  3. CONTROL WIRES.
  4. CLEAN BACKFILL - 90% COMPACTION REQUIRED.
  5. 6\"/>

- TRENCHING NOTES:**
- BELOW PAVED AREAS A MINIMUM OF 6\"/>
- SLEEVING NOTES:**
- ALL SLEEVES TO BE SCH. 40 PVC.
  - EXTEND ALL SLEEVES 12\"/>

## G REMOTE CONTROL VALVE

SCALE: 1" = 1'-0"



- LEGEND:**
1. PLASTIC VALVE BOX W/ GREEN LOOKING COVER, ETCHED "QC" (CARSON OR EQUAL).
  2. FINISH GRADE.
  3. QUICK COUPLING VALVE W/ LOOKING RUBBER CAP PER IRRIGATION LEGEND.
  4. STAINLESS STEEL SCREW CLAMP, MIN. (3) PLACES.
  5. 3/4\"/>

- NOTES:**
- PLACE AGGREGATE PRIOR TO INSTALLATION OF VALVE BOX.

## J WIRELESS WEATHER SENSOR

SCALE: 1" = 1'-0"

## K TRENCHING & SLEEVING

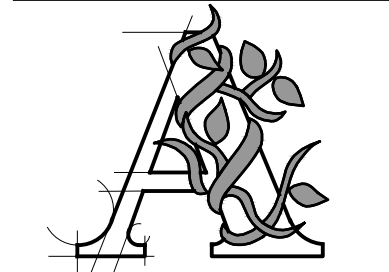
SCALE: 1/4" = 1'-0"

## L QUICK COUPLER

SCALE: 1" = 1'-0"





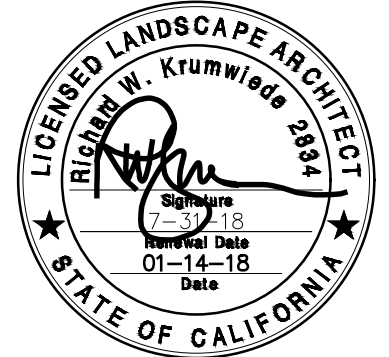


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NV Lic. # 446

L.A. SEAL



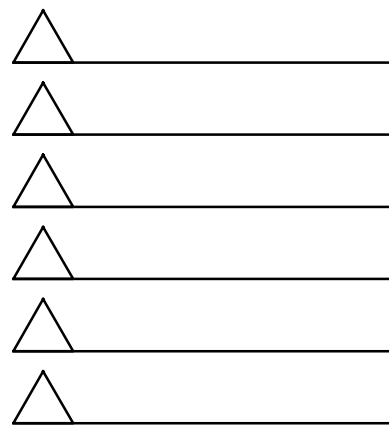
PROJECT/CLIENT

GOLDEN APARTMENTS  
SAN BERNARDINO, LP.  
SAN BERNARDINO, CALIFORNIA

SHEET TITLE

PLANTING PLAN

REVISIONS



DRAWN BY

ARK

CHECKED BY

JRC

DATE

03/13/18

SCALE

1" = 10'

JOB NUMBER

1755

SHEET NUMBER

L- 3.1  
7 OF 10 SHTS.

## PLANTING NOTES:

- SHRUB LAYOUT AS SHOWN ON PLAN INDICATES "SHRUB MASSES." QUANTITIES ARE AS SHOWN ON PLAN. ON-CENTER SPACING AS SHOWN ON LEGEND. CONTRACTOR TO VERIFY QUANTITIES BASED ON SPACING AND ADD ADDITIONAL PLANT MATERIAL (AT NO ADDITIONAL COST TO THE OWNER) REQUIRED TO MAINTAIN DESIGN INTENT DUE TO EXISTING SITE CONDITIONS NOT ANTICIPATED DURING DESIGN. LAYOUT SPACING WILL EITHER BE TRIANGULAR OR LINEAR AS SHOWN ON PLAN OR LEGEND. LANDSCAPE ARCHITECT TO APPROVE FINAL LAYOUT IN FIELD PRIOR TO INSTALLATION.
- CONTRACTORS SHALL NOTIFY THE LANDSCAPE ARCHITECT OF SITE CONDITIONS WHICH PREVENT INSTALLATION PER PLANS AND SPECIFICATIONS.
- CONTRACTOR SHALL BE LIABLE FOR REMOVING AND RE-INSTALLING IRRIGATION EQUIPMENT, AND REPLANTING AREAS WHICH ARE NOT INSTALLED PER PLAN AND SPECIFICATIONS.
- REFER TO PLANTING SPECIFICATIONS FOR INSPECTION/CERTIFICATION SCHEDULE.
- IRRIGATION SYSTEM SHALL BE INSTALLED AND OPERATIONAL PRIOR TO INSTALLATION OF PLANT MATERIALS.
- TREES AND SHRUBS SHALL BE PLANTED AFTER CONCRETE PLACEMENT, BUT NOT BEFORE IRRIGATION COVERAGE TEST NO. 1 HAS BEEN APPROVED. (SEE SPECIFICATIONS).
- PLACE TREES BETWEEN IRRIGATION HEADS WHEREVER POSSIBLE.
- LANDSCAPE CONTRACTOR SHALL TAKE FOUR (4) SOIL SAMPLES FROM THE SITE AT LOCATIONS APPROVED BY THE LANDSCAPE ARCHITECT. THE SAMPLES SHALL BE TAKEN AT A DEPTH OF 12" AFTER ROUGH GRADING AND SUBMITTED TO AN APPROVED SOIL AND PLANT LABORATORY FOR AGRICULTURAL SUITABILITY TESTING. THE COST OF TESTING SHALL BE INCLUDED IN THE CONTRACTOR'S BID.
- THE RECOMMENDATIONS OF THE SOIL REPORT SHALL SUPERSEDE THE SOIL PREPARATION AND BACKFILL MIX SPECIFICATIONS (SEE SPECIFICATIONS). THE CONTRACTOR SHALL SUBMIT A COPY OF ALL SOILS REPORTS TO THE LANDSCAPE ARCHITECT PRIOR TO MODIFICATION OF THESE SPECIFICATIONS.
- SHREDDED MULCH INSTALLATION: INSTALL SHREDDED MULCH IN ALL SHRUB AND GROUND COVER AREAS PER SPECIFICATIONS UNLESS OTHERWISE INDICATED ON PLANS.
- CONTRACTOR IS RESPONSIBLE FOR ALL REPAIRS AND/OR REPLACEMENT OF ANY DAMAGED LANDSCAPE AREAS BEYOND THE LIMIT OF WORK, INCLUDING REPAIRING ANY IRRIGATION LINES/SPRINKLER HEADS, THAT IS A DIRECT RESULT OF THE LANDSCAPE CONSTRUCTION AND/OR HIS SUB-CONTRACTOR. REPLACEMENT ITEMS SHALL BE EXACT DUPLICATION OF ORIGINAL WORK OR PLANTS, UNLESS OTHERWISE APPROVED BY THE LANDSCAPE ARCHITECT.
- WHEREVER GROUND COVER AREAS ARE ADJACENT TO TURF, INSTALL CONCRETE MOW STRIP OR HEADER BOARD AS INDICATED ON DRAWINGS.
- CLEAN-UP SHALL TAKE PLACE ON A DAILY BASIS UNLESS OTHERWISE APPROVED BY THE OWNER'S REPRESENTATIVE.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN ALL GRADES AND FLOW LINES AS SHOWN ON THE GRADING PLAN. WHERE SOD IS TO BE INSTALLED ON A SWALE, THE FINISH GRADE MUST BE ADJUSTED SO THE SOD DOES NOT RESTRICT THE FLOW.

## PLANTING LEGEND:

SYMBOL / CALLOUT	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	COMMENTS	WATER USE	QTY
TREES:							
	T-1A	Brahea Armata	Mexican Blue Fan Palm	6" CT	Per Plan	Standard	M 8
	T-1B	Brahea Armata	Mexican Blue Fan Palm	4" CT	Per Plan	Standard	M 3
	T-2	Chilopsis Linearis	Desert Willow Tree	36" Box	Per Plan	Standard	L 4
	T-3	Prosopis Chilensis	Thornless Chilean mesquite	36" Box	Per Plan	Standard	L 4
SHRUBS:							
	AA	Agave americana	American Agave	5 Gal.	48" O.C.	---	L 17
	H	Hesperaloe p. 'Brakeights'	Brakeights Red Yucca	2 Gal.	24" O.C.	---	L 135
	MR	Muhlenbergia r. 'Regal Mist'	Regal Mist Muhlenbergia	5 Gal.	36" O.C.	---	L 50
GROUND COVER:							
	Sedum morganianum	Burro's Tail	4" Pots	8" O.C.	---	L	242
	Aloe 'Blue Elf'	Blue Elf Aloe	1 Gal.	12" O.C.	---	L	79

### TREE INSPECTION NOTE:

ALL TREES SHALL BE TAGGED BY THE LANDSCAPE ARCHITECT AND MEET ANSI Z60.1 SPECIFICATIONS FOR NURSERY STOCK. BE FREE FROM DEFECTS INCLUDING CO-DOMINANT STEMS, AND GIRDLING BRANCHES. DEFECTIVE PLANT MATERIAL SHALL BE REMOVED AND REPLACED AS SOON AS POSSIBLE AND VERIFIED AT FINAL CITY INSPECTION OR TURNOVER.

### LINEAR ROOT BARRIER NOTE:

ALL TREES PLANTED WITHIN 5' OF ANY HARDSCAPE WILL REQUIRE LINEAR ROOT BARRIERS, TO BE PLACED ALONG CURBS, WALKS, AND WALLS. SEE DETAIL E, SHEET L-3.2, FOR LINEAR ROOT BARRIER PLACEMENT.

### PHOTO SUBMITTAL NOTE:

ALL PLANT MATERIAL, INCLUDING TREES, SHRUBS, AND VINES, SHALL BE INSPECTED AND APPROVED BY LANDSCAPE ARCHITECT, VIA PHOTO SUBMITTALS, PRIOR TO DELIVERY TO SITE. PHOTO SUBMITTALS SHALL INCLUDE NURSERY SUPPLIER AND DATE OF PHOTOS. ANY MATERIAL DELIVERED TO SITE WITHOUT APPROVAL IS SUBJECT TO REJECTION. PHOTO SUBMITTALS SHALL BE SENT TO LANDSCAPE ARCHITECT A MINIMUM OF 48 HOURS PRIOR TO SHIPMENT OF MATERIAL. SUBMITTALS SHOULD INCLUDE SOME TYPE OF SCALE REFERENCE IN PHOTO (I.E. PERSON, MEASURING TAPE, ETC.). TREES SHALL BE NOTED WITH HEIGHT (FROM FINISH GRADE IN CONTAINER) AND CANOPY HEAD SIZE. LANDSCAPE ARCHITECT SHALL BE NOTIFIED OF SCHEDULED NURSERY DELIVERY TIMES A MINIMUM OF 24 HOURS PRIOR TO SHIPMENT. REFER TO PLANTING SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS REGARDING QUALITY OF NURSERY STOCK.

### DECOMPOSED GRANITE NOTE:

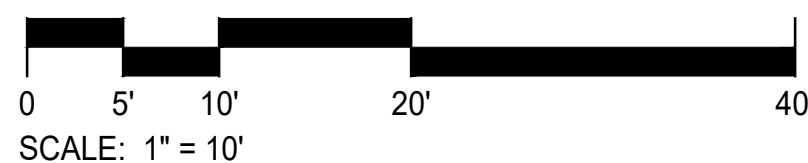
CONTRACTOR SHALL INSTALL A 3" LAYER OF DECOMPOSED GRANITE IN ALL SHRUB AREAS (1 1/2" IN ALL GROUND COVER AREAS AND RAISED PLANTER BEDS). DECOMPOSED GRANITE SHALL BE DESERT GOLD DG AS MADE BY SOUTHWEST BOULDER & STONE, CATHEDRAL CITY, CA, (760) 328-8877. SUBMIT SAMPLE OF ANY ALTERNATIVE MATERIAL PRIOR TO PURCHASE AND/OR PLACEMENT FOR OWNER'S REPRESENTATIVE'S APPROVAL. SEE DETAIL A, SHEET L-3.2.

## SYMBOL LEGEND:

TREES	SHRUBS
CALL-OUT SYMBOL	CALL-OUT SYMBOL
SIZE	QUANTITY
(gal./box)	

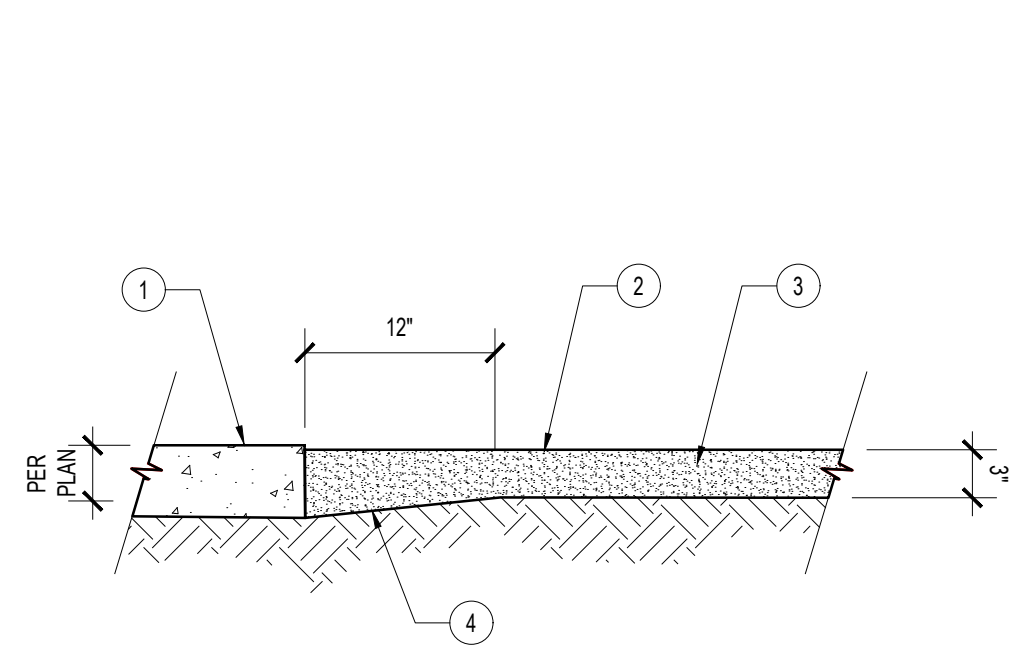
## PLAN CROSS REFERENCES:

FOR NOTES AND LEGENDS, SEE THIS SHEET.  
FOR DETAILS, SEE SHEET L-3.2  
FOR SPECIFICATIONS, SEE SHEET L-4.2  
FOR CORRESPONDING CONSTRUCTION PLAN SEE SHEET L-1.1  
FOR CORRESPONDING PLANTING PLAN SEE SHEET L-2.1



Know what's below.  
Call before you dig.





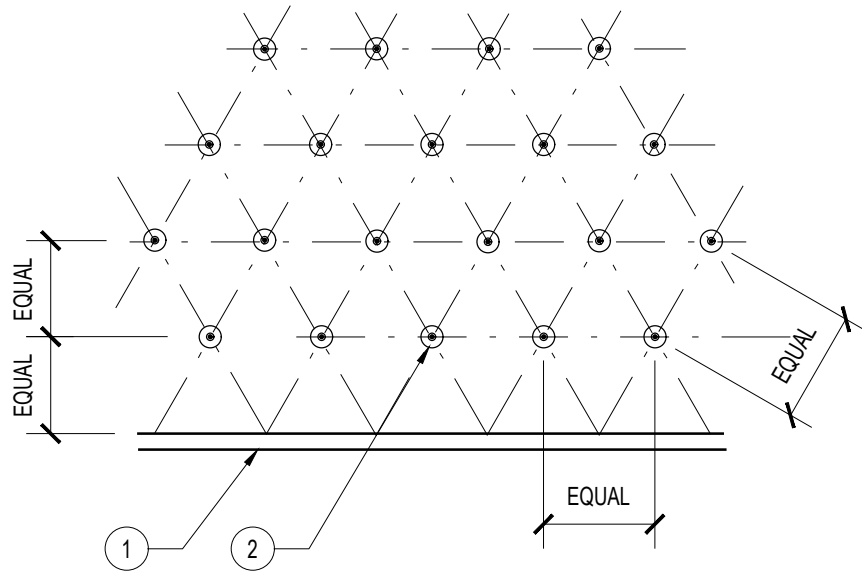
- LEGEND:**
1. HARDSCAPING / HEADER BOARD
  2. 3\"/>
  3. FINISH GRADE.
  4. SHOVEL CUT DEEPEMED EDGE ADJACENT TO PAVING.

**NOTES:**

A. SPREAD DECOMPOSED GRANITE UNDER TREES TO PROVIDE AN EVEN LAYER AT CROWN OF TREE.

## A D.G. MULCH

SCALE: N.T.S.



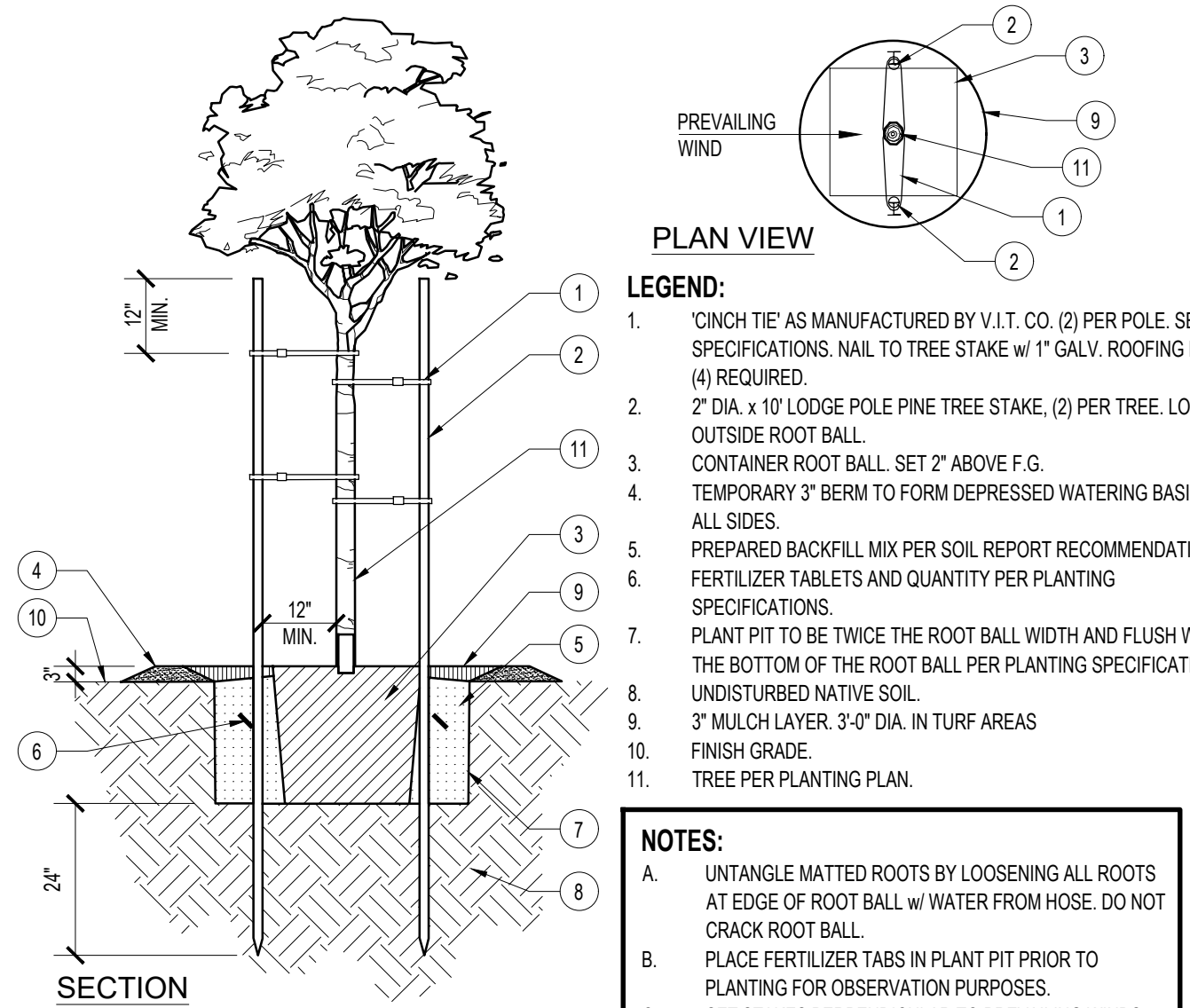
- LEGEND:**
1. BACK OF CURB OR EDGE OF PAVING.
  2. PLANT LOCATION.

**LEGEND:**

A. ALL SHRUBS/GROUND COVER SHALL BE PLANTED AT EQUAL SPACING (TRIANGULAR) UNLESS OTHERWISE INDICATED IN PLANS. SEE PLANTING LEGEND FOR SPACING REQUIREMENTS.

## F SHRUB / GROUND COVER SPACING

SCALE: 1\"/>



- PLAN VIEW**
- LEGEND:**
1. 'C'NCH TIE AS MANUFACTURED BY V.I.T. CO. (2) PER POLE. SEE SPECIFICATIONS. NAIL TO TREE STAKE w/ 1\"/>
  2. 2\"/>
  3. CONTAINER ROOT BALL. SET 2\"/>
  4. TEMPORARY 3\"/>
  5. ALL SIDES.
  6. PREPARED BACKFILL MIX PER SOIL REPORT RECOMMENDATIONS.
  7. FERTILIZER TABLETS AND QUANTITY PER PLANTING SPECIFICATIONS.
  8. UNDISTURBED NATIVE SUB-GRADE.
  9. 3\"/>
  10. FINISH GRADE.
  11. TREE PER PLANTING PLAN.

**NOTES:**

A. UNTANGLE MATTED ROOTS BY LOOSENING ALL ROOTS AT EDGE OF ROOT BALL w/ WATER FROM HOSE. DO NOT CRACK ROOT BALL.

B. PLACE FERTILIZER TABS IN PLANT PIT PRIOR TO PLANTING FOR OBSERVATION PURPOSES.

C. SET STAKES PERPENDICULAR TO PREVAILING WINDS.

## B DOUBLE STAKE TREE PLANTING

SCALE: N.T.S.

### WEEKLY ITEMS:

1. MOW GRASS TO HEIGHT OF 1\"/>
2. REMOVE LEAF LITTER AND DEBRIS FROM BEDS.

### MONTHLY ITEMS:

1. PRUNE GROWTH OF SHRUBS & GROUND COVERS AS NECESSARY TO KEEP NEAT AND COMPACT. ELIMINATE IRRIGATION APPLICATION INTERFERENCE. EDGE GROUND COVER PLANTS TO KEEP WITHIN PLANT ZONES. SEE ANNUAL ITEMS FOR GRASS-LIKE PLANTS.
2. REPLACE ANY SHRUB OR GROUND COVER THAT HAS DIED OR FAILS TO THRIVE w/ IDENTICAL PLANT MATERIALS OR THOSE WITH SIMILAR WATER REQUIREMENTS.
3. FERTILIZE ALL LAWN AND GROUND COVER AREAS w/ ORGANIC FERTILIZER, REFER TO SOILS REPORT TO APPLICATION TYPE AND RATE.
4. REPLENISH MULCH BEDS AS NEEDED w/ SPECIFIED MULCH TO MAINTAIN ORIGINAL THICKNESS OF 3\"/>
5. REMOVE ALL WEEDS, LITTER, DEBRIS FROM SHRUB, MULCH AND GROUND COVER AREAS.
6. INSPECT AND TREAT PLANT MATERIAL FOR DISEASE AND/OR PEST PROBLEMS.

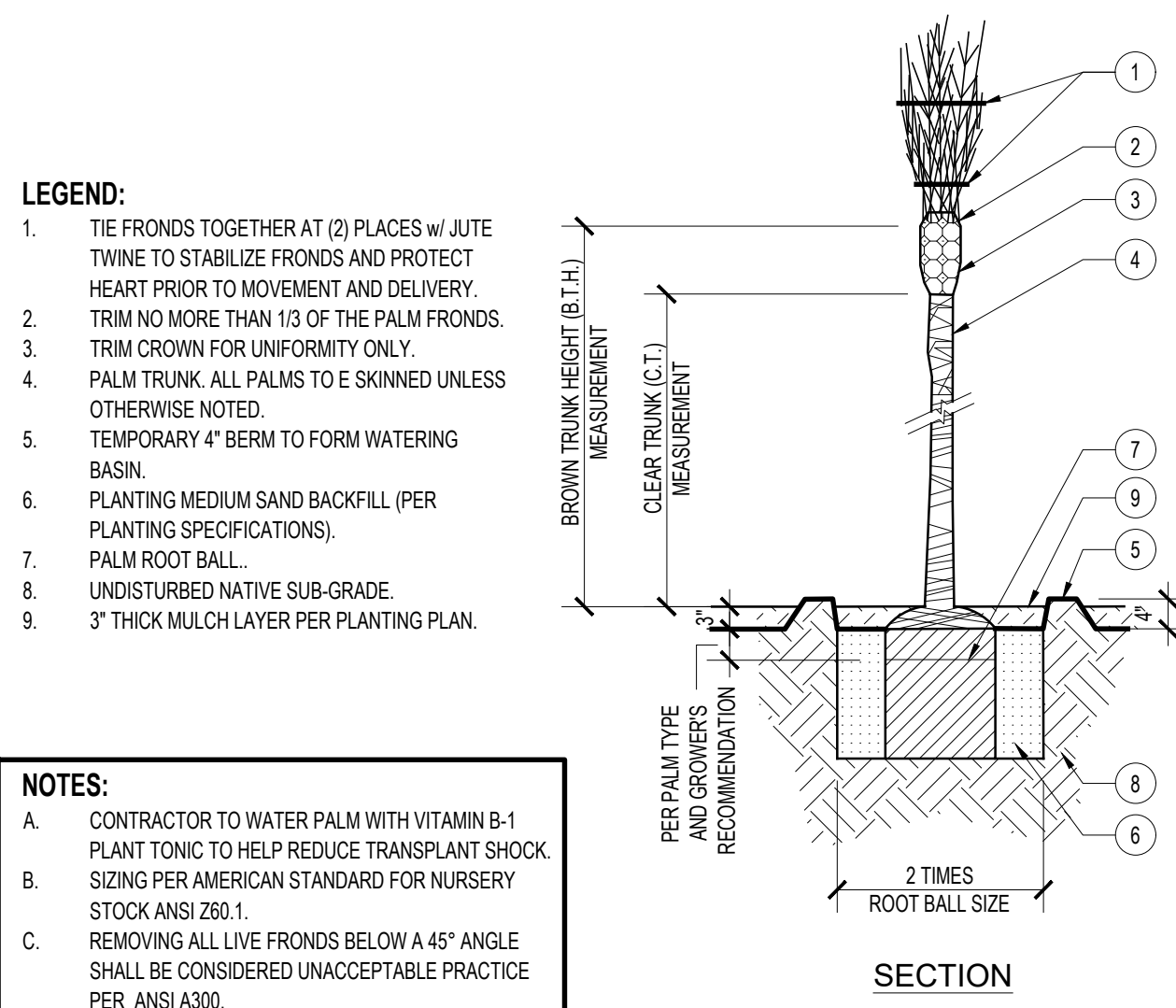
### QUARTERLY ITEMS:

1. CHECK TREE GROWTH. PRUNE TREES TO THIN STRUCTURE, SHAPE, REMOVE SUCKERS AND ANY DEAD OR BROKEN BRANCHES.
2. AERATE AND DE-THATCH TURF AREAS.

DO NOT HEDGE PLANTS UNLESS SPECIFIED BY DEVELOPER.

## G MAINTENANCE SCHEDULE

SCALE: NONE USED



- LEGEND:**
1. TIE FRONDS TOGETHER AT (2) PLACES w/ JUTE TWINE TO STABILIZE FRONDS AND PROTECT HEART PRIOR TO MOVEMENT AND DELIVERY.
  2. TRIM NO MORE THAN 1/3 OF THE PALM FRONDS.
  3. TRIM CROWN FOR UNIFORMITY ONLY.
  4. PALM TRUNK. ALL PALMS TO E SKINNED UNLESS OTHERWISE NOTED.
  5. TEMPORARY 4\"/>
  6. PLANTING MEDIUM SAND BACKFILL (PER PLANTING SPECIFICATIONS).
  7. PALM ROOT BALL.
  8. UNDISTURBED NATIVE SUB-GRADE.
  9. 3\"/>

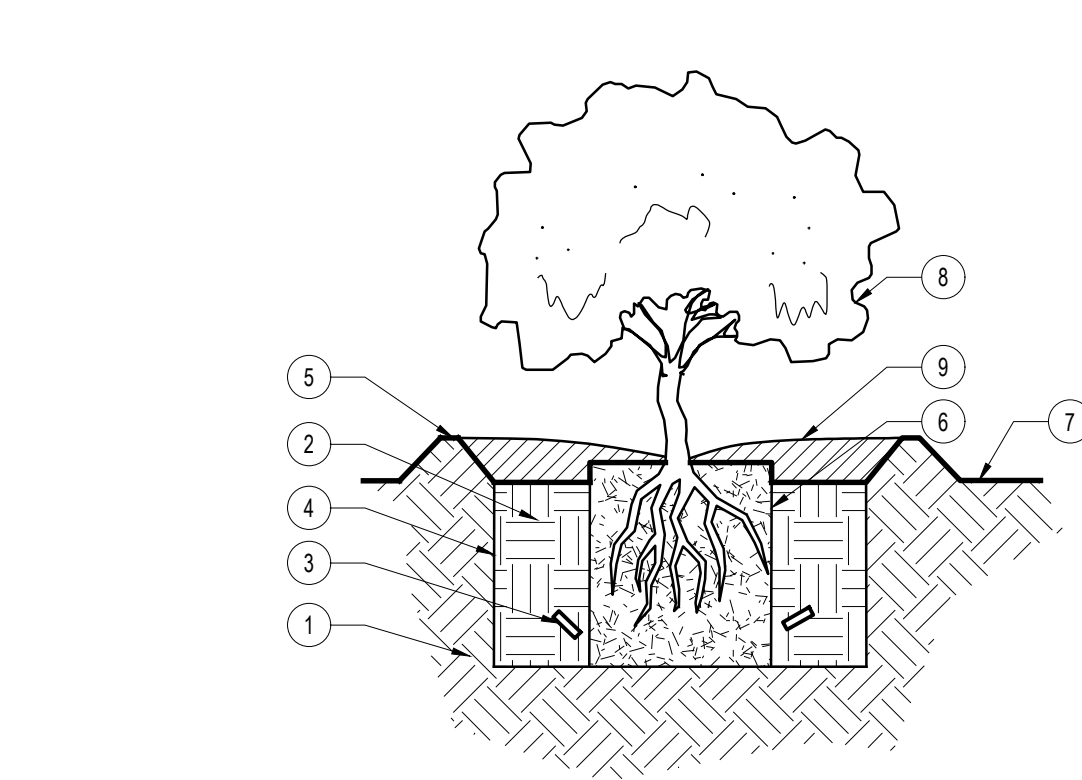
**NOTES:**

A. CONTRACTOR TO WATER PALM WITH VITAMIN B-1 PLANT TONIC TO HELP REDUCE TRANSPLANT SHOCK. SOING PER AMERICAN STANDARD FOR NURSERY STOCK ANSI Z60.1.

C. REMOVING ALL LIVE FRONDS BELOW A 45° ANGLE SHALL BE CONSIDERED UNACCEPTABLE PRACTICE PER ANSI A305.

## C PALM PLANTING

SCALE: 1/2\"/>



- LEGEND:**
1. UNDISTURBED NATIVE SOIL.
  2. BACKFILL MIX PER PLANTING SPECIFICATIONS.
  3. FERTILIZER TABLETS PER PLANTING SPECS.
  4. PLANT PIT TO BE TWICE ROOT BALL WIDTH AND FLUSH WITH THE BOTTOM OF THE ROOT BALL.
  5. 3\"/>
  6. ROOT BALL.
  7. FINISH GRADE.
  8. SHRUB PER PLANTING PLAN.
  9. 3\"/>

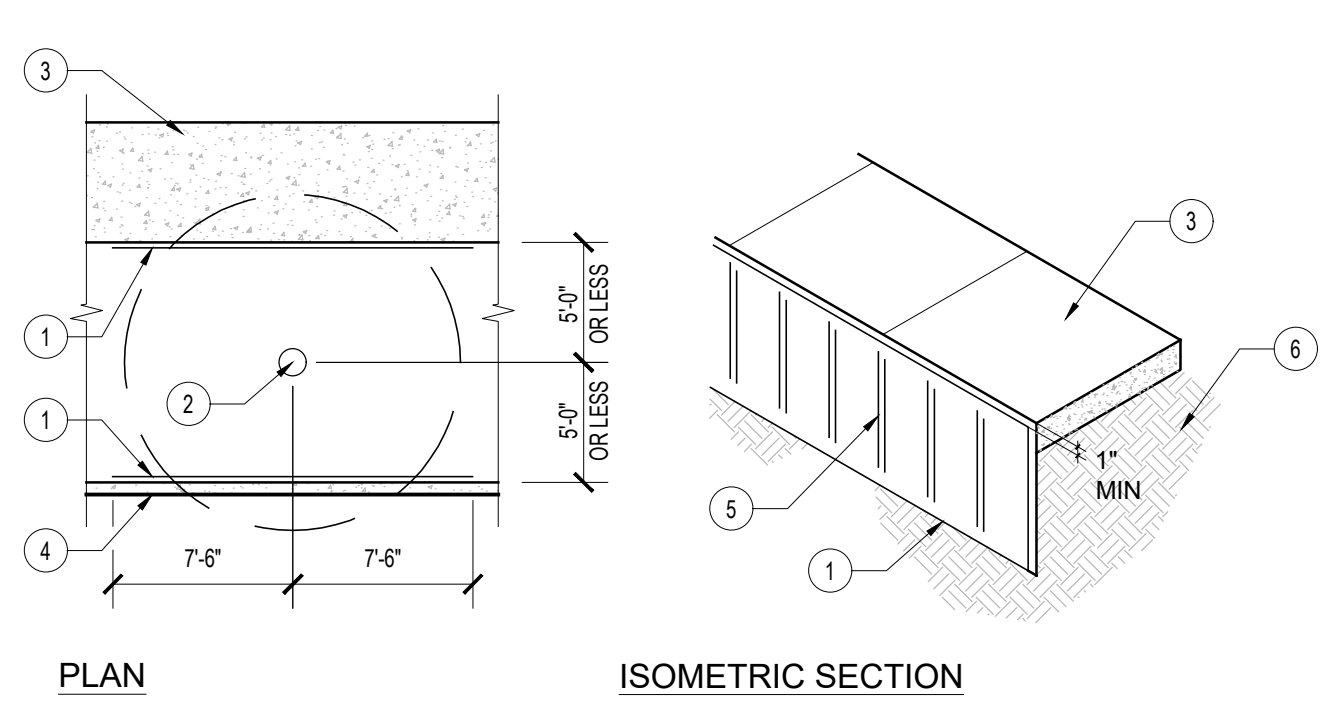
**NOTES:**

A. UNTANGLE MATTED ROOTS BY LOOSENING ALL ROOTS AT EDGE OF ROOT BALL w/ WATER FROM HOSE. DO NOT CRACK BALL OF ROOTS.

B. PLACE FERTILIZER TABS IN PLANT CONTAINER PRIOR TO PLANTING FOR OBSERVATION PURPOSES.

## D SHRUB PLANTING

SCALE: NOT TO SCALE



- LEGEND:**
1. 18\"/>
  2. TREE TRUNK LOCATION (CANOPY SHOWN AS DASHED CIRCLE).
  3. CONCRETE SIDEWALK PER PLAN.
  4. CONCRETE CURB PER PLAN.
  5. VERTICAL RIBS
  6. COMPACTED SUB-GRADE.

## E LINEAR ROOT BARRIER

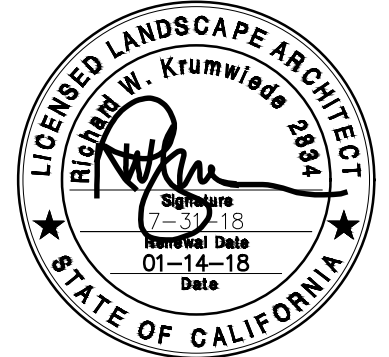
SCALE: N.T.S.



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Richard Krumwiede  
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NY LIC. # 446

L.A. SEAL



PROJECT/CLIENT

GOLDEN APARTMENTS  
SAN BERNARDINO, LP.  
SAN BERNARDINO, CALIFORNIA

SHEET TITLE

PLANTING DETAILS

### REVISIONS

△	
△	
△	
△	
△	
△	

### DRAWN BY

ARK

### CHECKED BY

JRC

### DATE

03/13/18

### SCALE

N/A

### JOB NUMBER

1755

### SHEET NUMBER

L- 3.2  
8 OF 10 SHTS.



CONCRETE

PART 1 - SCOPE OF WORK

- 1.1 SCOPE OF WORK
- A. Work includes, but is not limited to the following: Furnish all labor and materials, appliances, tools, equipment, facilities, transportation, and services necessary for installing all concrete work complete as indicated on the drawings and specifications including, but not limited to:
1. Furnish and set all reinforcing steel, bolts and anchors.
  2. Install all items required by other trades, which are to be cast into concrete.
  3. Concrete mow curbs, landing, poured in place walls, other fabric, footings, piers and slabs for walls fencing, benches, controllers, decks, etc., where applicable.
- PART 2 - GENERAL
- A. All requirements of subsection 3.31, standard specifications for Public works Construction, Shall apply except as specified herein.
- 2.1 INSPECTION OF SITE
- A. Examine related work and surfaces before starting work in this section. Report to the Landscape Architect in writing, site conditions which will prevent the proper provision of this work. Beginning the work in this section without reporting unsuitable conditions to the Landscape Architect constitutes acceptance of site conditions by the Contractor. Any required removal, repair, or replacement of this work caused by unsuitable conditions shall be done at no additional cost to Owner.

2.2 PROTECTION OF EXISTING CONDITIONS

- A. Contractor shall acquaint himself with all site conditions. He shall take necessary precautions to protect existing site conditions. Should damage be incurred, the Contractor shall repair damage to its original condition or furnish and install equal replacement at his own expense, to the satisfaction of the Owner.

2.3 COORDINATION

- A. Cooperation On-site: coordinate and cooperate with other contractors to enable the work to proceed as rapidly and as efficiently as possible.
- B. Work with other trades: Coordinate with General Contractor items of other trades to be furnished and set in place. Such portions of their work as all or in part embedded, built-in, attached to, or supported by the work shall be executed by them in ample time that progress of the work is not delayed. Any cutting or patching made necessary to comply with this injunction shall be done at the contractor's expense.

2.4 APPROVAL

- A. Whenever the terms "approve," "approval," or "approved" are used in the Specifications, they mean approval of the Landscape Architect, the Owner's representative or their field representatives, or in writing.

2.5 SUBMITTALS

- A. At least 10 days after award of contract, Contractor shall submit for approval samples and/or manufacturers latest catalog cuts and specifications of the following prior to beginning work. Approved samples shall be standards for completing work.
1. One 2-8 x 2-8 x 2-in. sample for each type of concrete finish and color at the job site.
  2. Color samples for expansion joint compounds
  3. All submittal data shall be forwarded in a single package to the Landscape Architect within 15 days after award of the General Contract unless otherwise approved by the Landscape Architect and/or Owner's Construction Representative.

2.6 SUBSTITUTIONS

- A. Standards; Specific reference to manufacturers' names and products specified in this section are used as standards; this implies no right to substitute other material or methods without written approval of the Landscape Architect.
- B. Approval: Installation of any approved substitutions is Contractor's responsibility. Any changes required for installation of the substitution must be made to the satisfaction of Landscape Architect and without additional cost to Owner. Approval by Landscape Architect of substituted materials and/or dimensional drawings do not waive these requirements.

PART 3 - MATERIALS

- A. Materials shall be of first quality and of domestic manufacture as noted below.
1. Portland cement shall conform to ASTM C-150, Type I or Type II.
  2. Concrete aggregate shall conform to ASTM-C33.
  3. Water shall be clean, free from strong acid, alkali, oil or organic matter.
  4. Admixtures for all formed concrete shall be Sika Chemical Corp.'s "Pleasant" or approved equal, applied in strict accordance with manufacturer's directions.
  5. Reinforcement: Reinforcing steel ASTM A63 and ASTM A630, Weldable; ASTM A615.
  6. Forms:
    - a. Lumber shall be "construction grade" Douglas fir.
    - b. Plywood for forming of concrete which is exposed shall be Plyform. All plywood used for forming shall be at least 5/8-inch thick and edge sealed.
  7. Expansion joint filler shall conform with ASTM-D1751 (pre-molded).

PART 4 - EXECUTION

4.1 CONCRETE DESIGN MIX

- A. Contractor assumes responsibility for the design-mix and guarantees the specified ultimate strength as indicated or specified herein.
- B. Concrete, minimum 28-day ultimate strength shall be 2000 PSI.
- C. Ready-mixed concrete shall conform to ASTM C94.

4.2 CONCRETE PROPORTIONS & CONSISTENCY

- A. The proportions of aggregate to cement shall provide a dense mixture which will readily work into all corners of the forms and around all reinforcements without any segregation of the materials, cause excess free water to collect on the surface or cause excessive bleeding of the forms.
- B. The recommended practices of the American Concrete Institute shall be followed in all applicable procedures. The maximum slump shall not exceed (4") four inches for footings, slabs on grade, and mass concrete; 5 inches for foundation walls.

4.3 CONCRETE APPROVAL

- A. The concrete quality, proportions, consistency, etc., is subject to the approval of Owner, and no changes shall be made without prior written approval.

4.4 FORM WORK

- A. Forms for concrete work shall be either metal or wood. Forms that do not have a smooth straight upper edge shall not be used. Forms shall be set with the upper edge of the board true to line and grade and shall be staked rigidly in place with stakes set not more than four feet (4') apart so as to remain immovable throughout the construction. All forms shall be approved by Owner within a tolerance of one percent (1%). All materials shall be accurately and separately weighted and mixing shall continue until the distribution of material is uniform and the mass of concrete is homogeneous.
- B. Two and one-half (2 1/2) gallons of water per cubic yard, shall be withheld from the mix at the plant, and all or a portion may be added to the mix at the job site as directed by the inspector. The concrete shall be mixed at least 5 minutes after such water is added and not less than 3 minutes of this time shall be immediately prior to the discharge of the batch. Total mixing time after adding original water shall be at least 15 minutes.

- C. Concrete, which is not placed within 90 minutes after the introduction of cement and water, and concrete, which has stood for 30 minutes after leaving the mixer, shall not be used.

4.5 REBAR

- A. Reinforcing bar shall be spliced with 40 bar diameters minimum overlap.

4.6 CONVEYING AND PLACING

- A. Before pouring, all forms shall be thoroughly cleaned and made tight. The bottom of trenches shall be west down before pouring footings; earth shall not be muddy at the time of pouring. Concrete shall not be placed until reinforcements, rough hardware, and forms are approved by Owner.
- B. Before depositing new concrete against old concrete, all laitance shall be removed, and the surfaces roughened to expose the embedded aggregate. The surfaces shall then be covered with cement grout, using the specified mix with 1/2 of the course aggregate omitted, 1-1/2 inches thick.
- C. Conveying and placing of concrete shall be done so as to prevent separation of ingredients, and in no case shall the free fall exceed 6 feet. Tremies shall be used as required. Surfaces of concrete shall be kept reasonably level, with a minimum amount of concrete being allowed to flow after being placed. Placing shall be performed as a continuous operation until each section is completed.
- D. Concrete shall be spaced and vibrated with mechanical vibrators to a maximum subsidence, without separation of ingredients. The moving of concrete by vibration will not be permitted.

4.7 COLORED CONCRETE

- A. Integral color and Dust-On color hardener shall be as specified on plans and details.

4.8 GROUTING

- A. Grout shall be composed of one part Portland cement and two parts of fine aggregate by volume. Materials shall be mixed dry and water added just sufficient to make the mixture flow under its own weight.
- B. For dry lamp cement grout, a minimum of water shall be added to the mix so that when wet sample is squeezed hard in the hand, surface moisture, but no free water, shall appear on the sample. Do not mix more than can be used in 30 minutes.

4.09 CURING AND PROTECTION

- A. All exposed surfaces of concrete shall be protected from damage due to temperature, elements, and construction operations.
- B. Curing shall be as follows:
1. All exposed surfaces of concrete shall be protected from premature drying and freshly placed concrete shall be protected against wash by rain. All concrete shall be kept wet for a period of ten days after placing. In order that curing water may reach both surfaces of walls, the forms shall be loosened and water shall be poured over the tops of the walls and allowed to run down between the concrete and the forms.
  2. All liquid curing compounds shall be used in accordance with the manufacturer's recommendations and shall not be used on surfaces receiving concrete hardener.

4.10 DEFECTIVE CONCRETE

- A. Concrete which is not in accordance with these specifications, out of line, level, or plumb; showing structural cracks, rock pockets, voids, spalls, honeycombing, exposed reinforcing or other damaged surfaces shall be considered as defective.
- B. All fines and irregularities shall be removed from exposed concrete surfaces while the concrete is still green. Where patching is required, all loose and uniform concrete shall be removed prior to patching.

4.11 CONCRETE FINISHES

- A. Flat surfaces shall be screeded to the required levels and slopes and then any excess water or laitance removed. Concrete shall be compacted with a grid tamper and then floated to a true and level surface within the tolerance of 1/8-inch along a 10-inch straight edge. Contractor shall ensure positive drainage on all flatwork. See Plans for concrete finish in landscape areas.

4.12 EXPANSION JOINTS

- A. Placement of expansion joints shall be as directed and determined by layouts of slab markings noted on drawings. Expansion joint material shall be Poly Foam, or approved equal, or as noted on Plans. Expansion joints shall be recessed one-quarter inch from finish surfaces and sealed with a bead of gray Thixoid sealant or equal. Silica sand to match concrete color shall then be tamped into Thixoid bead.

4.13 CONTROL JOINTS

- A. Control joints and other edges shall be formed in fresh concrete using a clean edging or jointing tool to provide a smoother uniform finish.

4.14 PROTECTION

- A. All finished concrete work shall be barricaded to pedestrian traffic for three (3) days. Baricades shall be placed immediately after concrete finishing. Contractor shall furnish, place and remove all of his own barricades. Contractor shall be responsible for any damage to new construction and replacement or repair of the work shall be made without added cost to Owner.

4.15 PATCHING

- A. If patching is necessary and permissible, a bonding agent such as Weld-Crete, or equal, shall be used.

4.16 CONCRETE CURBS

- A. Construct concrete curbs at locations shown on Plans as detailed, true to line and grade, as approved by the local County or City. Use natural gray Portland cement concrete, 2000 PSI compression strength. Locate expansion joints as detailed or shown, and as directed, at intervals not to exceed fifteen feet (15'). Finish with steel trowel, then brush with bristle brush parallel to face or edge.

4.17 CLEAN-UP

- A. Upon completion of all concrete work and before final acceptance, Contractor shall remove all tools, surplus materials, apparatus, debris, etc., from the site and the site shall be left in a clean, neat condition acceptable to Owner.

PART 5 - WARRANTIES

- A. In addition to manufacturers' guarantees or warranties, all work shall be warranted for one year from the date of final acceptance against all defects in materials and workmanship by contractor. Warranty shall also cover repair of damage to any part of the premises resulting from defects in materials and workmanship to the satisfaction of the Owner.

END OF SECTION

SITE CARPENTRY

PART 1 - SCOPE OF WORK

- Contractor shall provide all materials and work necessary to furnish and install complete and in place all site carpentry work shown on the Drawings and Specifications herein.

1.01 WORK INCLUDED

- Perform all work necessary and required for the construction of wood structures and devices as indicated on the Drawings. Such work includes, but is not limited to, the following:
- A. Miscellaneous light form work
  - B. Stairs
  - C. Decks
  - D. Headers
  - E. Overhead structures

1.02 RELATED WORK IN OTHER SECTIONS

- The following items of associated work are included in other sections of these Specifications:

- A. Painting

PART 2 - GENERAL

2.01 SUBMITTALS

- Submit color samples of all samples of all paints and stains to Landscape Architect for approval, 10 days prior to application.

2.02 STORAGE AND HANDLING

- A. Storage: Lumber shall be stored in neat stacks at the site unless it is to be used immediately. All lumber shall be piled so that it may be readily inspected and shall be handled in a manner that will avoid injury or breakage.
- B. Piling Wood/Protection: Structural timber shall be neatly piled on skids above ground and shall be protected from the sun when necessary to prevent warping. Treated lumber shall be handled with rope slings. Cant hooks, peewees, or other shop instruments shall not be used in handling treated lumber. Undue injury in handling will be cause for rejection.

PART 3 - MATERIALS

- A. Grading standards: Redwood shall be in accordance with "Standard Specifications for Grades of California Redwood Lumber" graded under the rules of the Redwood Inspection Service.

B. Lumber:

1. All lumber shall conform to the allowable characteristics permitted within the applicable grading rules. No splits, checks, holes, decay or other irregularities will be permitted except those characteristic of that grade.
  2. Unless otherwise indicated on Drawings or Specifications, lumber shall be either redwood construction heart and/or Douglas fir, re-sawn, with no exposed sapwood.
  3. Header: Construction heart grade redwood header and stake, where applicable. SAS or rough sawn as detailed.
- C. Hardware:
1. Galvanized: All hardware required for fabrication, including brackets, hangers, hinges, fasteners, and nails shall be hot-dip galvanized. Screws, nuts, bolts, and washers shall be hot-dip galvanized or cadmium plated.
  2. Additional Hardware: When shown on the plans and in addition to hardware, structural members fabricated from steel, concrete, or other materials shall be incorporated into the structure.

PART 4 - EXECUTION

4.01 QUALITY

- Workmanship shall be first-class throughout. All lumber shall be accurately cut and framed to a close fit and shall have even bearing over the entire contact surfaces. All joints shall be square and tight unless otherwise shown. No shimming will be permitted in making joints. Work shall be free of hammer marks, dents or other disfiguration. Nails to be seated flush unless otherwise shown. Unless otherwise indicated on Drawings, countersink finishing nails 1 1/8 inch. Unless otherwise indicated on drawings, holes for countersunk bolts shall be bored with a bit 1/8 inch larger than the accompanying washer and to a depth which allows both head to be secured flush with finish surface of wood member. Holes for lag screws shall be same size as diameter of inner shank (bolt size minus depth of thread).

4.02 HARDWARE

- A. All bolts 5/8 inch and less in diameter shall be fitted with cut washers, and all bolts and lag screws over 5/8 inch in diameter shall be fitted with cast or malleable iron washers, unless otherwise shown on the plans.
- B. All exposed hardware items shall be installed as hot-dipped galvanized unless otherwise instructed on plan.

4.03 NAILING

- When toe nailing of structural members is required, toe nailing shall be at an angle and penetration to firmly secure member.

4.04 EASED EDGES

- Edges of seat decks, benches, handrails, planter caps and other exposed or leading corners are to be eased.

4.05 HEADERS

- Headers are to be installed in accordance with plans and details.

4.06 CLEANUP

- All subcontractor's materials and tools of the jobs shall be removed from the job site upon completion of work. Subcontractor shall be responsible for damage to the finished surfaces of other work. Subcontractor guarantees all work will be performed in a good and workmanlike manner.

PART 5 - WARRANTIES

- In addition to manufacturers' guarantees or warranties, all work shall be warranted for one year from the date of Final Acceptance against defects in materials and workmanship by Contractor. Warranty shall also cover repair of damage to any part of the premises resulting from defects in materials and workmanship to the satisfaction of the Owner.

END OF SECTION

PAINTING

PART 1 - SCOPE OF WORK

1.01 WORK INCLUDED

- Furnish all labor, tools, equipment, materials, transportation, and perform all operations necessary and incidental to proper execution and completion of all painting work in accordance with the Drawings and Specifications. Such work includes, but is not limited to, the following:

- A. Handrails
- B. Miscellaneous metals
- C. Wood overhead structures
- D. Decks
- E. Fencing

1.02 RELATED WORK IN OTHER SECTIONS

- The following items of associated work are included in other sections of these Specifications:

- A. Shop paint of steel materials and miscellaneous metal items

PART 2 - GENERAL

2.01 SUBMITTALS

- Before beginning work, prepare for approval a sample of each color and finish required. Such samples, when approved, shall constitute standards for color and finish for acceptance of completed work. Samples shall be made upon materials corresponding with those to be finished on the site. All work shall match the approved colors and samples. Submit samples to the Landscape Architect 15 days prior to construction for approval.

2.02 PRODUCT HANDLING

- All painting materials shall be delivered to the site in the manufacturers' original containers with labels intact and seals unbroken. They shall be stored in a safe place, in accordance with current local regulations. All necessary precautions shall be taken to avoid danger of fire.

2.03 ENVIRONMENTAL CONDITIONS

- Surfaces shall be painted only when they are free from moisture. No painting of exterior surfaces shall be done less than 72 hours after a rain, nor during periods of dew or fog. Receiving surfaces shall be properly dried out before proceeding with the work. No painting shall be done when temperature is below 50 degrees Fahrenheit.

2.04 SCAFFOLDING AND PROTECTION

- Furnish, maintain and remove all scaffolding and ladders required for this work, and all drop clothes for the protection of walks, fixtures, or other surfaces not to be painted. Painted and finished surfaces subject to damage or delamination shall be properly protected and covered. Contractor shall be responsible for any and all damage to painted work, and to that of other work caused by operations under this Section.

PART 3 - MATERIALS

3.01 MANUFACTURERS

- A. Materials are specified by brand names to establish a standard of quality. The Landscape Architect will consider substitutions for brand names of products specified, provided the procedures set forth for substitutions and submittals are followed. The Landscape Architect reserves the right to reject any material which, in his opinion, will not produce the quality of work specified herein. The term "paint" as used herein includes enamel, paints, stains, varnishes, emulsions, lacquers and sealers. The following manufacturers' products and numbers constitute the standards for the primer and finish coats of the paint hereinafter specified:
1. Primer: Federal Specification TT-P-86, Type II (red lead/alkyd type) or TT-P-645 (zinc chromate type) to be compatible with finish coat.
  2. Finish Coats: Enamel, paint, stain, varnishes, emulsions, lacquers and sealers shall be as specified on plans and details.

3.02 COLOR AND LIFE OF FINISH

- A. Colors shall be selected by Landscape Architect. Owner reserves the right to change colors to match and/or contrast building colors up to and including time of execution.
- B. Color of all surfaces finished under this Section shall, at the end of one year, have remained from serious fading, and no variations will be allowed. All materials shall then have adherence to the end of one year, and there shall be no evidence of blistering, running, peeling, scaling, chalking, streaks or stains at the end of this period.

3.03 MATERIALS FOR GENERAL USE

- Thinner, insolved oil, or other solvents required shall be as recommended by each manufacturer for his respective product.

PART 4 - EXECUTION

4.01 SURFACE PREPARATION

- A. Painting: No painting or finishing shall be started until the surfaces to be painted or finished are in proper condition in every respect. Surfaces that cannot be properly prepared by the painter for finishing shall not be painted or finished until they are rectified, unless instructed otherwise by the Landscape Architect.
- B. Cleanliness: Surfaces to be painted shall be clean and free of dirt, dust, and any other substance which might interfere with the application of the paint. All surfaces to be painted shall be in proper condition to accept, and assume the proper adhesion and functioning of, the particular painting or coating specified.
- C. Notification: Surfaces which cannot be prepared or painted as specified shall be immediately brought to the attention of the Landscape Architect. Starting of work without such notification will be considered acceptance by Contractor of the surfaces involved. Contractor will be required to replace any unsatisfactory work caused by improper or defective surfaces, as directed by the Landscape Architect, at no additional cost to the Owner.

4.02 WORKMANSHIP AND APPLICATION

- A. Quality: All painting shall be done by skilled and experienced craftsmen working under the supervision of a capable foreman. All workmanship shall be of the highest quality and to the complete satisfaction of the Landscape Architect. All materials shall be applied in accordance with the manufacturers' directions, and materials shall be thinned only in compliance with the manufacturers' specifications.
- B. Preparation: All material shall be evenly brushed, rolled or smoothly flowed over without runs or sagging and free from drops, ridges, laps, and brush marks. No coats shall be applied until any previously applied coats have thoroughly dried. Sand surfaces between coats as necessary to produce a smooth finish.
- C. Application shall be as follows:
1. Paint: Two coats to match color of buildings - color to be selected by Owner.
  2. Primer: Two coats - one coat shop applied and one coat site applied.
  3. Unless otherwise instructed, all paints and primers shall be sprayed or rolled on site.
- D. Finished Product: Completed painted surfaces shall be free of blistering, running, peeling, scaling, streaks or stains, and the colors of all surfaces shall remain free from fading and uniform in color.

4.03 CLEANUP AND CLEANING

- A. Safety/Cleanliness: Upon completion of the painting work, Contractor shall remove from the premises and dispose of all scaffolding and equipment, surplus material, empty containers and other debris resulting from Contractor's operations. The site shall be clean and neat in all respects.

PART 5 - WARRANTIES

- In addition to manufacturers' guarantees or warranties, all work shall be warranted for one year from the date of Final Acceptance against defects in materials and workmanship by Contractor. Warranty shall also cover repair of damage to any part of the premises resulting from defects in materials and workmanship to the satisfaction of the Owner.

TUBULAR STEEL

PART 1 - SCOPE OF WORK

1.01 WORK INCLUDED

- A. Furnish and install tubular steel per plans, details and specifications.

1.02 RELATED WORK IN OTHER SECTIONS

- The following items of associated work are included in other sections of these Specifications:

- A. Painting

PART 2 - GENERAL

2.01 QUALITY ASSURANCE

- A. Qualifications:
1. Perform shop welding on the premises of a fabricator licensed by the City Building and Safety Department.
  2. Perform welding by welders approved and certified in accordance with requirements of AWS.
- B. Reference Standards:
1. "AISC Steel Construction Manual"
  2. "Code for Arc and Gas Welding in Building Construction" AWS D1.0 of the American Welding Society.
  3. "Metal Finished Manual", of the National Association of Architectural Metal Manufacturers (NAAMM).

2.02 SUBMITTALS

- A. Submit complete shop drawings to the Landscape Architect and/or Owner's Representative for review in advance of fabrication. Show the following on the shop drawings:
1. Show dimensions, sizes, thicknesses, gauges, finishes, joining, attachments and relationship to adjacent work.
  2. Where welded connections, concrete inserts, and other items are required to receive other work, show exact locations required.
  3. For standard manufactured items, submit work sheets showing illustrative cuts of items to be furnished, scale, details and dimensions.

2.03 COORDINATION WITH OTHER WORK

- A. Examine drawings and specifications, and include all miscellaneous metal work which is not distinctly specified in other sections.
- B. Provide all connections, anchors, bolts, welding, cutting, grinding, tapping or other connecting required to fit miscellaneous metal with other work.
- C. Provide items to be installed by other trades well in advance, to permit proper sequencing and scheduling of other work.

PART 4 - MATERIALS

- Materials shall be of first quality and of domestic manufacture as noted below:

- A. Rolled steel shapes and steel plates: ASTM A36.
- B. Steel tubing: ASTM A500 Grade A, or ASTM A501 seamless - G, A, per details.
- C. Steel pipe: ASTM A53, Type E or S, Grade A or A120, galvanized, size as per plan and details.
- D. Steel bolts: ASTM A307, Grade A.
- E. Welding rods: Conform to AWS requirements for intended use.
- F. Concrete inserts: As indicated on the plans.
- G. Shop prime-coat paint: Conform to either FS TT-P-86, Type I for red lead/alkyd type paint or to FS TT-P-45 for zinc chromate type paint (2 applications - shop & site).
- H. Touch-up for galvanized surfaces: All State R321 Galvanizing Powder (30% Zn, 30% zinc, 40% lead and flux) as manufactured by All State Welding Alloys Co., or Speed Galvanized by W.D.L. Co. or equal.
- I. Non-shrink grout: Mini Wax Construction Products Division Per-Rock, or approved equal.
- J. Metal enamel: FS TT-P-37C - (2 coats).

PART 4 - EXECUTION

4.01 FABRICATION

- A. Conform to the requirements of the referenced standards.
1. For manual welding, use low hydrogen type E7015 and E7016 electrodes.
  2. Weld preheat shall be determined from MBR Reports showing the chemical composition of the reinforcement.
- B. Shop prime all ferrous items to 1 mill dry coat thickness after fabrication, deburring and grinding smooth welds and rough spots. Touch-up after installation. Leave in proper condition to receive finish painting.
1. Do not paint rebar and steel surfaces to be embedded in or bonded to concrete.
- C. Welds shall be ground smoothly, all weld spatter removed and work shall comply with the specifications of the "American Welding Society."
- D. Subcontractor to perform all the above work in accordance with the governing plans and specifications.

4.02 INSTALLATION

- A. Miscellaneous metalwork shall be free from defects which would impair strength, durability and appearance.
- B. Erect plumb, straight, true and accurately fit in place. Brace, reinforce, and anchor in place. Grind all field welds.
- C. Provide non-shrink grouting of all frames, plates, sills, bolts and other items not designated to be done by others.
- D. Conceal all connections in the finished work, where possible. Exposed screw connections shall be Allen-head screws matching the material they fasten.
- E. Set base plate for support posts, true and plumb in concrete footing per details.
- F. Protect all dissimilar metals from galvanic corrosion by pressure lugs, coatings, or isolators.
- G. After erection, clean off all rust, scale and oil. Clean field welds, bolts, and abraded areas. Touch-up all areas with the same material as used for the shop coat, leaving all surfaces ready to receive finish coats. Apply second coat of primer on site.
- H. Apply one primer coat and two finish coats of exterior metal enamel to metal surfaces, color as selected by Owner's Representative.

4.03 REPAIR OF DEFECTS

- A. All defective or damaged work shall be replaced, removed and repaired as directed by the Landscape Architect or Owner's Representative at no cost to the owner.

4.04 CLEANUP

- A. Clean-up and remove from the site all unused materials and debris resulting from the performance of this work not less than once a week or the last working day each week. All trash shall be removed completely from the project site.
- B. Touch up: Contractor shall clean and retouch Contractor's work as necessary, or as required for final approval by the Landscape Architect within 24 hours notice.
- C. Unpainted Surfaces: Contractor shall leave all surfaces not to be painted, paving, hardware, or plant materials free from any paint, stain, splatterings, smears or smudges which are the result of his operation.
- D. Location: Contractor shall not clean equipment and brushes or dispose of thinners, paint or other chemicals in areas to be planted or in the vicinity of existing plants.

PART 5 - WARRANTIES

- In addition to manufacturers' guarantees or warranties, all work shall be warranted for one year from the date of Final Acceptance against defects in materials and workmanship by Contractor. Warranty shall also cover repair of damage to any part of the premises resulting from defects in materials and workmanship to the satisfaction of the Owner.

END OF SECTION

UNIT MASONRY ASSEMBLIES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes unit masonry assemblies consisting of the following:

Adjust list below to suit Project.

1. Concrete masonry units (CMUs).
2. Face brick.
3. Cobble landscape paving.

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Samples for each type and color of exposed masonry units.

1.3 PROJECT CONDITIONS

- A. Cold-Weather Requirements: Comply with cold-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602
- B. Hot-Weather Requirements: Comply with hot-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.

PART 2 - PRODUCTS



LANDSCAPE IRRIGATION SYSTEM	
<b>PART 1 – GENERAL</b>	
Refer to standard contract document for non-technical contractual requirements and conditions.	
1.01	SCOPE OF WORK
Furnish labor, materials, equipment, appliances and services necessary for the execution and completion of "Landscape Irrigation" as indicated on the drawings and/or herein specified.	
<b>PART 2 – MATERIALS</b>	
Materials shall be of first quality and of domestic manufacture unless otherwise noted.	
2.01	SUBMISSION FOR APPROVAL
Furnish the articles, equipment, materials, or processes specified by name on the drawings and in specifications. No substitutions will be allowed without prior written approval of the Owner's Representative.	
A. A complete material list shall be submitted to the Owner's Representative prior to performing any work. Catalog data and full descriptive literature must be submitted whenever the use of items different than those specified is requested. Notarized certificates must be submitted by plastic pipe and fitting manufacturer indicating that material complies with specifications, unless material has been previously approved.	
B. The material list shall be submitted using the following layout (double space between each item):	
Item No.   Description/Manufacturer/Model #	
1. Pressure Supply Lines Lasco Schedule 40	
2. Lawn Head Buckner #404	
3. Etc.	
C. Equipment or materials installed or furnished without the prior approval of the Owner's Representative may be rejected and such material removed from the site at no expense to the Owner.	
D. Approval of any items, alternatives, or substitutes indicates only that product(s) apparently meet the requirements of the drawings and specifications on the basis of the information or samples submitted.	
E. Manufacturer's warranties shall not rely solely on the guarantee. Such warranties shall only supplement the guarantee. The Owner's Representative may, at his option, require a manufacturer's warranty on any product offered for use.	
2.02	GENERAL PIPING
A. Pressure supply line from point of connection through backflow prevention unit shall be per local code. Pressure supply lines downstream of backflow prevention unit shall be per the legend.	
B. Non-pressure lines shall be Class 200 PVC pipe	
2.03	PLASTIC PIPE AND FITTINGS
A. All pipe shall be extruded of an improved PVC-rigid pipe compound featuring high tensile strength, high chemical resistance and high impact strength. In terms of the current ASTM Standard D-1782 or D-2241, this compound must meet the requirements of class classification 134546 for pipe and 134546 for fittings. This compound must have a 2,000 psi hydrostatic design stress rating.	
B. All pipe must bear the following markings: Manufacturer's name, nominal pipe size, schedule or class, pressure rating in P.S.I. and NSF (National Sanitation Foundation) Foundation logo. The manufacturer shall also mark the date of extrusion of the pipe.	
C. Solvent cement joints for plastic pipe and fittings shall be made as prescribed by the manufacturer. The high chemical resistance of the pipe and fitting compounds specified in the foregoing sections makes it mandatory that an aggressive primer, which is a true solvent of PVC, be used in conjunction with solvent cement designed for the fit of the pipe and the fittings of each size range specified.	
D. Each pipe installer expected to make solvent joints shall receive instructions in the proper assembly of such joints from the representative of pipe, cement, or fitting manufacture before starting the job, unless he has been previously instructed on recommended solvent cementing procedures by a competent representative of the manufacturer.	
E. All fittings shall be standard weight schedule 40. At the purchaser's discretion, contract preference may be given those suppliers able to furnish all types of fittings required under this contract from a single manufacturer, in order that responsibility will not be divided in warranty claim situations.	
F. All fittings shall be injected molded of an improved PVC fittings compound featuring high tensile strength, high chemical resistance, and high impact strength. In terms of the current ASTM Standard D-1784-05, the compound must meet the requirements described in class classification 134546. Where threads are required in plastic fittings, these shall be injection molded into. All sizes and ends shall be side gaged.	
G. Apply primer and solvent on all pipe sizes and fittings. Primer solvent on both female and male ends.	
H. All threaded nipples shall be standard weight Schedule 80, with molded threads.	
I. All fittings shall bear the company's name and trademark, material designation, size applicable I.P.S. schedule, and NSF deal of approval.	
2.04	PVC CONDUIT/SLICVEING
Pipe that is used for control wire sleeving shall be PVC conduit Schedule 40, Type 1220. All wires under paving shall be installed in PVC conduit, or sleeves as indicated in details and legend.	
2.05	RING-TIE PVC PIPE
A. All pipe indicated on the working drawings, shall be Class 160 PSI John-Manville PVC pipe with ring-tie joints.	
B. All ring-tie joints shall be sealed with rubber rings as provided by the manufacturer. All pipe joints shall provide for expansion and contraction.	
C. Thrust blocks shall be provided as required for proper anchorage and durability of the ring-tie pipe. (Refer to Details)	
2.06	BRASS PIPE AND FITTINGS (if required)
A. Brass pipe shall be 80% red brass, American National Standard Institute (ANSI), Schedule 40 screwed pipe. Fittings shall be medium brass, screwed 125 pound class.	
2.07	BACKFLOW PREVENTION UNIT
See plan for type, manufacturer and size.	
2.08	QUICK COUPLING VALVES
A. The body of the valve shall be red brass with a wall thickness guaranteed to withstand normal working pressure of 150 PSI without leakage. Valve shall have a 3/4-inch female threaded connection on the hose end.	
B. Hinge cover shall be red brass with a rubber-like vinyl cover bonded to it in such a manner that it becomes a permanent-type cover, yellow in color. Hinge shall be locking type.	
C. Quick couplers shall be installed as indicated on Plan and Details.	
2.09	AUTOMATIC CONTROL VALVES, ELECTRICAL
A. Valve shall be per legend.	
B. Valve shall be capable of being operated in the field without electricity at the controller, by a bleeding valve.	
C. Valve shall be completely serviceable in the field without removing valve body from the line.	
D. Valve shall be installed in a shrub area whenever possible and installed according to construction detail.	
2.10	GATE VALVES
Approved gate valves shall be Nibco T-113 or Hammond 606-32 with bronze turning handles. Size and location shall be as indicated on Plan.	
2.11	VALVE BOXES
All remote control valves, gate valves, and pressure relief valves shall be installed in suitable valve boxes as shown in details, complete with locking covers. All shall be "Christie" or an approved equal. Install tags.	
2.12	AUTOMATIC CONTROLLER
A. The Automatic Sprinkler Controller shall be as noted in the legend.	
B. All wiring to and from the controller shall be through color-coded pipes and sockets. The controller shall be locking, weather-proof type, constructed of heavy gauge steel with corrosion resistant enamel finish inside and out.	
2.13	ELECTRICAL, HIGH VOLTAGE
A. Power to and connection to the automatic controller shall be provided by the Owner.	
B. All electrical equipment outside of buildings shall be Nema 3 type, waterproof for such installation.	
C. All high voltage work shall be installed under this section. Refer to Wiring, Low Voltage for additional information.	
2.14	WIRING, LOW VOLTAGE
A. Connections between the controller and remote control valves shall be made with direct burial A WG-UF type wire, installed in accordance with valve manufacturer's specifications. Wire color black or color coded for control, white for ground.	
B. Sizing of wire shall be according to manufacturer recommendations, in no case less than #14 in size.	
2.15	SMALL SHRUBBERY SPRINKLER HEADS
See irrigation plan legend for manufacturer and model numbers.	
<b>PART 3 – EXECUTION</b>	
3.01	GENERAL
A. Materials shall be of first quality and of domestic manufacture unless otherwise noted.	
B. Coordinate the installation of all sprinkler materials, including pipe, with the landscape drawings, to avoid interfering with the trees, shrubs, or other planting.	
C. For purposes of legibility, sprinkler lines are essentially diagrammatic. Although size and location of sprinkler equipment are drawn to scale whenever possible, make use of all data in all of the contract documents and verify this information at construction site.	
D. All work called for on the drawings by notes shall be furnished and installed whether or not specifically mentioned in the specifications.	
E. Do not willfully install the sprinkler system as indicated on the drawings when it is obvious in the field that unknown obstructions or grade differences exist, that might not have been considered in the engineering or if discrepancies in construction details, legend, or specific notes are discovered. All such obstructions or discrepancies should be brought to the attention of the Owner's Representative. In the event this is not done, the Contractor must assume full responsibility for revisions necessary. Before any work commences, confer with the Owner's Representative regarding general details of work of this contract.	
3.02	OBSERVATION SCHEDULE
A. Contractor will be responsible for notifying the Landscape Architect and Owner's Representative in advance for the following observations according to the time indicated:	
1. Pre-pipe Conference – 7 days	
2. Pressure supply line installation and testing – 36 hours	
3. System layout – 36 hours	
4. Coverage tests – 36 hours	
5. Final inspection – 48 hours	
B. When observations have been conducted by other than the regular Owner's Representative, show evidence of when and by whom these observations were made.	
C. No observations will commence without as-built drawings.	
3.03	WATER SUPPLY
Connections to the existing points of connection shall be at the approximate locations shown on the drawings. Minor changes caused by actual site conditions shall be made without additional cost to the Owner.	
3.04	LAYOUT
Layout sprinkler heads and make any minor adjustments required due to differences between site and drawings. Any such deviations in layout shall be within the intent of the original drawings, and without additional cost to the Owner. Layout shall be approved by the Owner's Representative before installation.	
3.05	GRADES
Before starting work on the sprinkler system, carefully check all grades to determine that work may safely proceed, keeping within the specified material depth.	
3.06	ASSEMBLIES
A. Install the backflow assembly at the height required by local codes.	
B. Routing of pressure supply lines as indicated on drawings is diagrammatic. Install lines (and various assemblies) to conform with details on plans.	
C. Install no multiple assemblies on plastic lines. Provide each assembly with its own outlet. When called for, the pressure relief valve shall be the last assembly.	
3.07	LINE CLEARANCE
All lines shall have a minimum clearance of 4 inches from each other, and 6 inches from lines of other trades. Parallel lines shall not be installed directly over one another.	

3.08	TRENCHING
A. Dig trenches and support pipe continuously on bottom of ditch. Lay pipe to an even grade. Trenching excavation shall follow layout indicated on drawings and as noted. Where lines occur under paved areas, these dimensions shall be considered below subgrade.	
B. Provide minimum cover of 18 inches on all pressure supply lines.	
C. Provide minimum cover of 18 inches for all control wires. Provide minimum cover of 12 inches for non-pressure lines.	
D. Provide minimum cover of 24 inches for all lines under paving.	
3.09	BACKFILLING
A. Initial backfill on all lines shall be of a fine granular material with no foreign matter larger than 1/2-inch in size. Backfill material shall be approved soil.	
B. Backfill material shall be tamped in 4-inch layers, under the pipe and uniformly on both sides of the full width of the trench and the full length of the pipe. Materials shall be sufficiently damp to permit thorough compaction under and on each side of pipe, to provide support free of voids. Backfill for trenching shall be compacted to dry density equal to the adjacent undisturbed soil, and must conform to adjacent grades without dips, sunken areas, humps, or other irregularities. Under no circumstances shall truck wheels be used for compacting soil.	
C. Provide sand backfill a minimum of 6 inches over and under all piping under paved areas.	
3.10	PVC PIPE
A. PVC pipe shall be snaked in a manner which will provide for expansion and contraction as recommended by the pipe manufacturer.	
B. All plastic to metal joints shall be made with plastic male adapters, unless otherwise shown in details.	
C. The joints shall be allowed to set at least twenty-four (24) hours before pressure is applied to the PVC pipe system.	
D. Main lines shall be tested in place before backfilling for a period of not less than four (4) hours and shall show no leakage or loss of pressure. During the test period, minimum test pressure, at the highest point of the section being tested, shall be 150 pounds per square inch. Corner fitting of pipe lengths is allowed.	
E. After all new sprinkler piping and risers are in place and connected, all necessary work has been completed and prior to the installation of sprinkler heads, control valves shall be opened and a full head of water used to flush out the system for a minimum of five (5) minutes.	
F. At the conclusion of a system flushing, the heads shall be installed and tested for operation in accordance with design requirements under normal operating pressure. Contractor shall verify head pressures with pilot tube and adjust valve to correspond with design pressure.	
3.11	INSTALLATION OF RING-TIE PVC PIPE
A. Except as may be noted in other parts of the Specifications or on the drawings, installation of Ring-Tie pipe and connecting fittings shall be outlined in manual as furnished by pipe manufacturer, or as set forth by the John-Manville Company Manual #772-62A. This shall include, but not be limited to, the installation of the pipe at the proper depth and the correct location of concrete thrust blocks of adequate sizes. Contractor shall make available the services of the manufacturer's representative at the start of the installation and during construction.	
B. Each line shall be tested at a pressure 50 PSI greater than the manufacturer's recommended working pressure for a period of four (4) hours, with the couplings and connections exposed and with the center of pipe section sufficiently supported and filled to hold pipe in place.	
3.12	SPRINKLERS
A. All nozzles on sprinklers shall be tightened after installation. All sprinklers having an adjustment stem shall be adjusted on a lateral line for the proper radius, diameter and/or galleonage per approval of the Owner's Representative.	
B. Sprinkler heads and risers shall be installed according to details for final approval.	
C. Spacing of heads shall not exceed the maximum indicated on the drawings. In no case shall the spacing exceed the maximum recommendation by the manufacturer.	
3.13	VALVES
A. Quick coupling valves shall be set approximately 12" from walks, curbs, header boards, or paved areas where designed. Refer to installation detail. Place quick couplers in valve boxes.	
B. Remote control valves shall be adjusted in order that a uniform distribution of water is applied by the sprinkler heads to the planting areas of each individual valve system.	
3.14	VALVE BOXES
A. Valve boxes shall be set at one inch (1") above the designated finish grade in lawn areas and three inches (3") above finish grade in ground cover areas.	
B. Valve boxes installed near walks, curbs, header boards, and paving shall not rest on those items. Top surfaces shall be flush with, and perpendicular to, items listed above.	
C. Valve boxes shall be installed in shrub plantings, not in turf areas whenever possible, unless otherwise approved.	
3.15	AUTOMATIC CONTROLLER LOCATION AND INSTALLATION
A. The automatic controller shall be installed at the approximate location shown on the Plan, unless otherwise instructed by the Owner's Representative.	
B. All local and other applicable codes shall take precedence in connecting the 100 volt electrical service to the controller. Owner shall provide power to controller. Irrigation Contractor shall complete hook-up to controller.	
C. There shall be adequate coverage of area (18" minimum) over the 24-volt control wire. Bundle and tape wires at 15° O.C. and install adjacent to mainline.	
3.16	CONTROL WIRE
A. All electrical equipment and wiring shall comply with local and state codes and is installed by those skilled and licensed in the trade.	
B. Connecting and splicing of wire at the valves or in the field shall be made using Rain Bird Pen-Ten connectors.	
C. Three (7) test long Pig-Tail wire splices shall be allowed only at 1500 ft. intervals. The wire splices shall be enclosed in an RGV Box with cover stenciled "E" in yellow.	
3.17	BACKFLOW PREVENTION UNITS
A. The backflow prevention units shall be installed as shown on Plans and Details. Backflow prevention units shall be installed per local codes including certification.	
3.18	FLUSHING THE SYSTEM
After all new sprinkler pipe lines and risers are in place and connected, all necessary diversion work has been completed, and prior to installation of sprinkler heads, the control valves shall be opened and a full head of water used to flush out the system for a minimum of 5 minutes. Sprinkler heads shall be installed only after flushing of the system has been accomplished to the complete satisfaction of the Owner's Representative.	
3.19	ADJUSTING THE SYSTEM
A. Adjust the valves and alignment and coverage of all sprinkler heads. If it is determined that adjustments in the irrigation equipment or nozzle changes will provide proper and more adequate coverage, make all necessary changes or make arrangements with the manufacturer to have adjustments made, prior to any planting. These changes or adjustments shall be made without additional cost to the Owner.	
B. The entire system shall be operating properly before any planting operations commence.	
3.20	COVERAGE TEST
When the sprinkler system is completed, perform a coverage test in the presence of the Owner's Representative to determine if the water coverage for planting areas is complete and adequate. Furnish all materials and perform all work required to correct any inadequacies of coverage due to deviations from plans, or where the system has been willfully installed in complete or in part on the drawings when it is obviously inadequate, without bringing this to the attention of the Owner's Representative. This test shall be accomplished before planting begins.	
3.21	HYDROSTATIC TEST
All Hydrostatic tests shall be made only in the presence of the Owner's Representative, or other duly authorized representative of the Owner. No pipe shall be backfilled until it has been inspected, tested, and approved in writing. Pressure supply lines shall be tested under a hydrostatic pressure of 150 pounds per square inch for a period of four hours.	
3.22	COMPLETION
A. Upon completion of the work, make ground surface level, remove excess materials, rubbish, debris, etc., and remove construction and installation equipment from the premises.	
B. Supply as part of this contract the following tools:	
• Two wrenches for disassembling and adjusting each type of sprinkler head supplied.	
• Two keys for each automatic controller.	
• Four quick coupler keys with attached hose sleeves.	
• Four (4) of each of all types of sprinkler heads and nozzles.	
• Two keys for enclosure lock.	
• Two cover lifting tools for valve boxes.	
C. The above equipment shall be turned over to the Owner at the conclusion of the project. Before final acceptance can occur, evidence that the Owner has received materials must be shown to the Owner's Representative.	
<b>PART 4 – RECORD DRAWINGS, CHARTS AND MANUALS</b>	
4.01	RECORD DRAWINGS
A. Record accurately on one set of black and white prints of the drawings, all changes in the work constituting departures from the original contract drawings, including changes in both pressure and non-pressure lines.	
B. Upon completion of each increment of work, transfer all such information and dimensions to the prints. The changes and dimensions shall be recorded in a legible and workmanlike manner to the satisfaction of the Owner's Representative. When the drawings are approved, transfer all information to a set of reproducible drawings shall be kept by the Owner's Representative.	
C. Dimensions from two permanent points of reference (buildings, monuments, sidewalks, curbs, pavement, etc.) Locations shown on as-built drawings shall be kept day to day as the project is being installed. All dimensions noted on drawings shall be 3/8-inch in size.	
D. Show locations and depths of the following items:	
-Point of connection	
-Routing of sprinkler pressure lines (dimension maximum 100 feet along routing).	
-Sprinkler control valves (buried only).	
-Routing of control valves.	
-Other related equipment (as may be directed by the Owner's Representative).	
E. Quick coupling valves.	
F. Maintain as-built drawings on site at all times.	
G. Make all changes to reproducible drawings in ink. If necessary, use erasing fluid when redrawing drawings.	
4.02	CONTROLLER CHARTS
A. As-built drawings must be approved by the Owner's Representative before charts are prepared.	
B. Prepare one controller chart for each controller supplied, of the maximum size the controller door will allow, showing the area covered by the automatic controller. The chart is to be a reduced drawing of the actual as-built system. However, in the event the controller sequence is not legible when the drawing is reduced, it shall be enlarged to a size that will be readable when reduced. The chart shall be a black line print and a different color shall be used to show the area of coverage for each station.	
C. When completed and approved, the chart shall be hermetically sealed between two pieces of plastic, each piece being a minimum 20 mils. thick. The chart shall be mounted using Velcro or approved equal type of tape.	
D. These charts must be completed and approved prior to final inspection of the irrigation system.	
4.03	OPERATION AND MAINTENANCE MANUALS
A. Prepare and deliver to the Owner's Representative within ten days by calendar prior to completion of construction, all required and necessary descriptive material in complete detail and sufficient quantity, properly prepared in individual bound copies of the operation and maintenance manual. The manual shall describe the material installed and shall be in sufficient detail to permit the operating personnel to understand, operate, and maintain all equipment. Spare parts lists and related manufacturer information shall be included for each equipment item installed. Each complete, bound manual shall include the following information:	
1. Index sheet stating Contractor's address and telephone number, duration of guarantee period, list of equipment with names and addresses of local manufacturers.	
2. Complete operating and maintenance instructions on all major equipment.	
B. In addition to the above maintenance manuals, provide the maintenance personnel with instructions for major equipment and show written evidence to the Owner's Representative at the conclusion of the project that this service has been rendered.	
<b>PART 5 – GUARANTEES</b>	
A. The entire sprinkler system shall be unconditionally guaranteed by Contractor as to material and workmanship, including setting of backfill at areas below grade for a period of one (1) year following the date of final acceptance of the work. Owner may exercise option to withhold part of final payment until the one year product/workmanship guarantee has elapsed from date of final acceptance.	
B. If within one year from the date of completion, settlement occurs, and adjustments in pipes, valves and sprinkler heads or paving is necessary to bring the system or paving to the proper level of the permanent grades, contractor, as part of the work under his contract, shall make all adjustments without extra cost to Owner, including the restoration of all damaged planting, paving or other improvements of any kind. Should any difficulties develop within the specified guarantee period which Owner feels may be due to inferior material and/or workmanship, these difficulties shall be immediately corrected by Contractor to the satisfaction of Owner at no additional cost to Owner, within 48 hours of written notice, including any and all other damage caused by such defects. Failure of Contractor to respond in a timely manner to repair damaged conditions, shall prompt owner to repair same and deduct costs of labor, material and equipment used from Contractor's final payment.	
C. The Owner reserves the privilege of making any emergency repair without relieving Contractor's warranty obligations.	
D. Written guarantee shall be supplied in the completion of the project, showing date of completion.	

PLANTING SYSTEM	
PART 1 – GENERAL	
Refer to standard contract document for non-technical contractual requirements and conditions.	
1.01	SCOPE OF WORK
A. Work included: All labor and materials, appliances, tools, equipment, facilities, transportation, and services necessary for and incidental to performing all operations in connection with furnishing, delivery, and installation of "Landscaping," complete, as shown on the drawings and/or specified herein. Work includes, but is not limited to the following:	
1. Provide the fine grading in all areas to be planted.	
2. Furnish and apply weed control to all clearing areas.	
3. Preparation of soil in all planting areas per soils analysis.	
4. Furnish and install all plant materials.	
5. Stake trees.	
6. Furnish and install sodded lawn.	
7. Furnish and install reddwood header board.	
8. Furnish and apply bark mulch.	
9. Pruning of nursery stock.	
10. Maintenance of all plantings until end of maintenance period and acceptance.	
11. Guarantee of material and workmanship.	
B. Related work specified under other contracts (copies available from the Owner):	
1. Concrete sidewalks and curbs.	
2. Asphalt paving.	
3. Rough grading.	
4. Electrical.	
C. Verification of Plant Quantities: Quantities given for plant materials are shown for convenience only. The Contractor should provide all plants shown on the plans.	
PART 2 – MATERIALS	
2.01	MATERIALS
If requested, samples of soils additives and plants shall be submitted for inspection and stored on the site until furnishing of materials is completed. Delivery may begin upon approval of samples, or as directed by the Owner's Representative. Substitutions if any material not be permitted unless specifically approved in writing by the Owner's Representative.	
A. Soil and Soil Amendments:	
1. Fertilizer for soil conditioning and maintenance shall bear the manufacturer's guaranteed analysis, and shall be as recommended in the required soils laboratory report.	
2. Fertilizer plant tablets shall be AGRIFORM SLOW RELEASE to be applied per Manufacturer's Specifications.	
3. Application rates:	
Apply 21 grams agform tablets at the following rates per plant by size:	
Shrubs:	
• 1 gal shrub – 1 tablet	
• 5 gal shrub – 3 tablets	
• 15 gal. & 24" box shrubs – 1 tablet for each 1/2" of trunk Diameter or each foot of height or spread.	
Trees:	
Apply one 21 gram agform tablet for each 1/2" of trunk Diameter or each foot of height or spread.	
Ground Cover:	
Apply one 5-gram agform tablet per rooted ground cover cutting. Refer to Manufacturer's Specification for installation procedure.	
4. Organic amendments shall be nitrified redwood sawdust (5% actual nitrogen), or Fir Bark (1% nitrogen). It shall be fine textured, having minimum 80% passing #8 screen and minimum 55% passing #4 mesh screen. Salinity shall be no higher than 3.5 millimhos per centimeter at 25 Centigrade as measured by saturation. Fine shall not be used as an organic amendment.	
B. Plant Materials	
1. Quality and size of all plants shall conform to the California Standard Grading Code of nursery stock and shall be No. 1 grade. Plants shall be vigorous, or normal growth, free from diseases, insects, insect eggs and larvae. All plants shall equal or exceed any measurements specified and shall be supplied from the source indicated when a source is specified.	
2. Container stock shall have grown in containers for at least one year, but not over two 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 container, shall be planted except on special approval from the Owner's Representative.	
3. Nomenclature conforms to customary nursery usage. For clarification, the term "multi-trunk" defines a plant having a minimum of three trunks and a maximum of five trunks of nearly equal diameter.	
4. Inspections: All plant materials must have been previously inspected by the nursery by a State or County Horticultural Department, and shall be subject to the inspection and approval of the Landscape Architect before planting.	
a. Inspection of Plant Material: Inspection of plant materials required by City, County, State, or Federal authorities shall be the responsibility of the Contractor and where necessary he shall have secured permits or certificates prior to delivery of plants to the site.	
b. Plants shall be subject to inspection and approval or rejection of place of growth and on the project site at any time before and during progress of work or during the maintenance period. Poor condition, latent defects, injuries, and improper size, variety, and shape shall be cause for rejection. Rejected plants shall be removed from the project site immediately.	
5. Substitutions for the indicated plant materials will be permitted provided the substitute materials are approved in advance by the Landscape Architect and the substitutions are made at no additional cost to Owner. Except for authorized variations, all substitute plant materials shall conform to the requirements of these specifications. If the accepted substitute materials are of a less value than those indicated or specified, the Contract price will be adjusted in accordance with the provisions of the Contract.	
C. Tree support materials:	
1. Stakes for tree support shall be lodge pole pine free from knots, rot, cross grain or other defects that would impair strength. Stakes shall be pressure treated with pentachlorophenol, and a minimum of 2" diameter by 8'-0" long and pointed at one end.	
2. Ties for holding trees shall be "crin-ole" or approved equal. "Crin-ole" must be V.I.T. Products, 15561 Product Lane, D-4, Huntington Beach, CA 92649.	
3. Tree tying materials shall be as follows:	
a. Ground anchors for guying shall be redwood per detail.	
b. Guying wire shall be 12 gauge annealed galvanized steel.	
c. Guying cable shall be a minimum of 50 strands, making a 3/8" diameter steel cable.	
d. Hose chafing guards shall be new or used 2-ply, one half inch (1/2") reinforced rubber or plastic hose and shall be all the same color on the project. Length shall be one and one-half times the circumference of the plant at its base.	
e. Guying cable shall be covered with 3/8" dia. x 3' long white PVC tubing.	
f. Turnbuckles shall be galvanized or cadmium-plated steel and have a 3/4" minimum lengthwise opening fitted with screw eyes.	
g. DUCKBILL 58-075 earth auger may be used as an alternative to the guying materials specified above supplied by: Forestry Products, Inc. North Glen, Colorado, 1-800-333-3390.	
D. Mulching: Mulch shall consist of processed wood fiber material equal to or supplied by Intivaiva Rock and Sand, Upland, CA, (959) 982-6713. Submit sample of any alternative material prior to purchase and/or approval for Owner's Representative's approval.	
E. Lawn from Soil: Marathons Hybrid Fescue. Submit trial type and grower required for Architect's approval.	
F. Header board/Weathering: See details.	
G. Herbicides:	
1. Herbicides used must comply with all applicable State and Federal laws and be registered with the U.S. Environmental Protection Agency. Herbicide control shall be:	
a. Pre-emergence application of "Treflan 5% Granules" or equivalent, applied according to manufacturer's recommendations and incorporated into soil as specified.	
b. Post- emergence application of Round-up® or equivalent, applied as specified by manufacturer. Spray with extreme care to avoid contact with landscape plantings.	
PART 3 – EXECUTION	
3.01	GENERAL PREPARATION
A. Commence work as directed by the Owner's Representative and conduct operations continually to completion unless weather conditions are unfavorable. All work shall conform to high standards of workmanship with the trade.	
B. Clean up and remove from planting areas all existing plant material removed under the general site construction contract, including roots and any accumulated debris and rubbish before commencing work. Obsolete disposal of such materials off the site.	
C. Underground Obstructions to Planting:	
1. Prior to any planting, all underground utilities, including root ledges are encountered, other locations for planting may be selected by the Owner's Representative. Damage to utility lines shall be repaired at the Contractor's expense at no additional cost to the Owner or Tenant.	
D. Protection of Existing Vegetation:	
1. If lawns have been established prior to planting operations, the surrounding turf shall be covered in a manner that will protect turf during operations before excavations begin.	
E. Storage: Store plants and materials on project site, and ensure that they are protected from damage by sun, rain, wind, hail, vandalism, and construction work. Water plants regularly.	
3.02	INSPECTION OF WORK IN PROGRESS
A. Installations and operations in progress must be approved at various stages by the Owner's authorized Representative.	
B. In no event shall the Contractor proceed from one state to another of the work, without prior approval of the Owner's authorized Representative.	
C. The Contractor must notify the Owner's authorized Representative for inspections of the following stages of work:	
1. When all grading within planting areas has been completed.	
2. When all plants are ready to be delivered the nursery or when plants have been delivered to the site and prior to any planting.	
3. When all trees and shrubs have been spotted on the site where shown on the drawings.	
4. When all tree and shrub plots have been excavated after lawn has leached out of the plots.	
5. When weed germination and removal is complete, and seedbed is prepared but prior to installation of seed.	
3.03	FINE GRADING
A. The Contractor shall report as required. The Contractor's bid shall indicate the total in-place cost of required work. No additional changes will be allowed.	
B. The soil shall not be worked when moisture content is so great that excessive compaction will occur, or when it is so dry that dust will form, or is does not readily break up.	
C. The Contractor shall be responsible for dust control in areas within the scope of this contract.	
D. Rip to two directions to the depth of 12" on all areas upon which fill will be placed.	
E. Rough grade requirements shall allow for soil amendments. Coordinate with General Contractor.	
F. Bring to the attention of the Owner's authorized Representative all soil in planting areas that contain any deleterious substances such as oil, plastic, concrete, gasoline, paints, solvents, etc. Upon the approval of the Owner's authorized Representative, remove and dispose of all above mentioned soil to the level of dryness in the affected areas. The affected soil shall be replaced with native soil. If the Contractor fails to notify the Owner's authorized Representative of the above-mentioned soil, the Contractor shall be responsible for any damage to installed plants caused by such substances.	
G. If an area with a landscape is not acceptable to the Contractor, the area shall notify the Owner's Representative.	
H. Finish grade 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 one inch in diameter within six inches of the surface at top, after conditions and planting, the finish grade shall be 3" below the top of all curbs and 1" below the top of all walks.	
I. Root-rolling on slopes 2:1 or greater in ratio. Install, lightly hand scarify the soil. Refer to Drawings for sloped areas, if any.	
J. Patch all areas having damage from erosion and soil related earth work to create a smooth and regular surface for planting. Final grade to be approved by Owner's Representative.	
3.04	SOIL CONDITIONING (see also Fine Grading Section)
A. Broadcast the recommended seed additives per 1,000 square feet and cultivate to a depth of 6" based upon required soils and plant laboratory report. If the Contractor's responsibility to obtain soils tests. Soils analysis shall be done by Soils & Plant Laboratory, Inc. 412 S. Lyon, Santa Ana, CA (714) 558-8333. Copies of the report shall be sent to the Owner's Representative.	
B. For drying purposes when no soils report is available in all planting areas the following application shall be made per 1,000 square feet of area and shall be thoroughly cultivated in two directions into the top 9" of soil, and the area watered in:	
1. 2-2 Oz. Wetted wood shavings	
2. 20-LS. Soilless	
C. Planting plots shall be excavated three times the diameter and 2" shallower than the root ball depth for trees, twice as wide and 6" deeper than the root ball for shrubs. (Refer to planting details).	
D. For plants other than azaleas, camellias, and ferns, backfill plant plots with soil excavated from (a) plot. Do not use any additional amendments to backfill mix.	
E. Prepare soil for back fill in plots for azaleas, camellias, ferns and other plants (as specified) as follows:	
• 1/3 washed plaster sand	
• 1/3 Canadian peat moss	
• 1/3 Loamite or forest humus	
F. Backfill mix for Palms shall be concrete sand. (Refer to details).	
G. The prepared soil shall be uniformly blended in an area adjacent to the planting work and shall be accurately proportioned using a suitable measuring container. Unused excavated soil shall be removed from site. Protect the mix from water until it has been placed in backfill around plants.	
3.05	WEED CONTROL/ABATEMENT
A. Weed abatement: after artwork, installation of irrigation system, and soil preparation, but prior to planting, perform weed abatement program to all planting areas as follows:	
1. Hydroseeded or hand seeded planting areas:	
a. Apply sulfate of ammonia at the rate of 5 lbs. per 1,000 Sq. Ft. to all areas be planted.	
b. Keep areas moist by regular irrigations for a period of two (2) weeks to germinate existing weed seeds.	
c. At the end of two weeks, apply "Round-Up" or equal systemic herbicide. Do not irrigate within six (6) hours after application. Herbicide shall be applied by an individual with appropriate license, refer to IARC specifications for period of time required from time of application to time of implementing planting. After complete weed kill, remove all weed residue, apply topsoil and grade to surface of a legal manner. Alternative methods of weed kill for item C may be Aqueous or Methyl Bromide applied per manufacturer's instructions.	