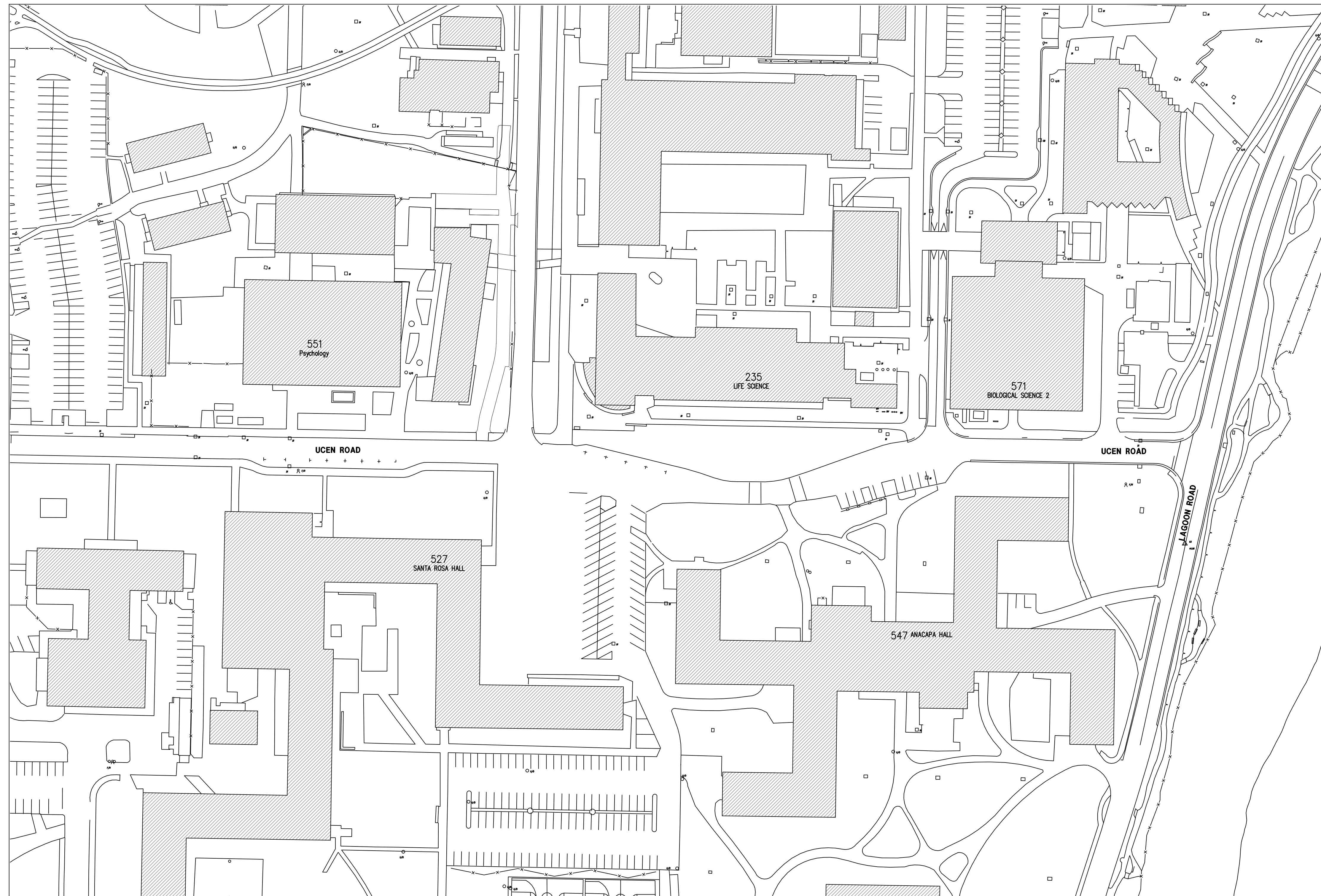


EXHIBIT A

# University of California at Santa Barbara UCen Road Realignment FM No. 140426L/986615



VICINITY MAP

LANDSCAPE DESIGN  
Landscape Architects

1263 Bel Air Drive  
Santa Barbara, CA 93101  
Telephone (805) 687-9455  
Facsimile (805) 687-9433

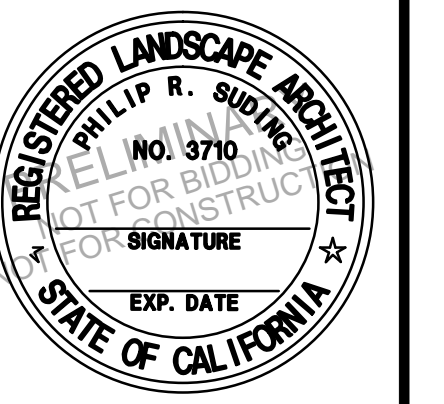
Date  
11-12-13  
6-12-14 90% CDS  
8-20-14 100% CDS



**Perfield & Smith**  
Engineers, Surveyors, Planners  
Construction Management  
111 East Victoria Street Santa Barbara, CA 93101  
Phone: (805) 963-6932 Fax: (805) 963-6941

PROJECT NO. FM 140426L  
UCSB DWG # 34-388

UCSB UCen Road Realignment  
UCen Road  
Santa Barbara, California



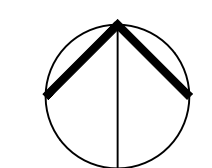
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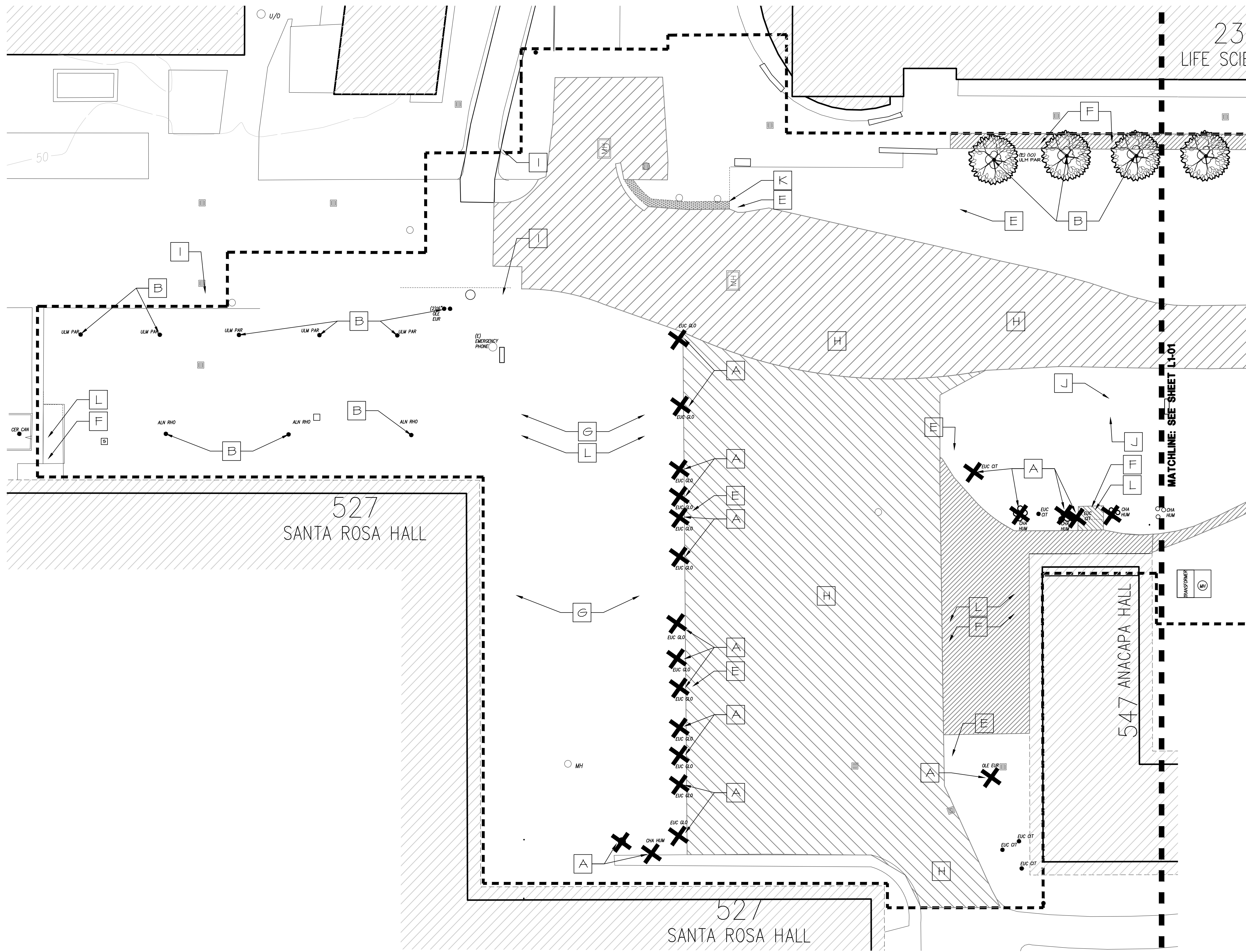
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Of 22

Job No. 1206



TITLE SHEET

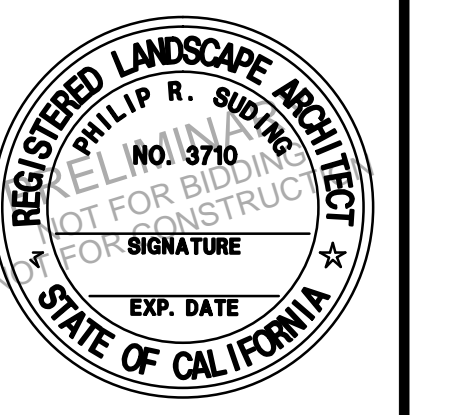


**DEMOLITION KEY NOTES**

- A** REMOVE ENTIRE EXISTING TREE. STUMP GRIND.
- B** (E) TREE TO REMAIN. PROTECT AND WATER DURING CONSTRUCTION.
- C** RELOCATE (E) TREE. BOX AND STORE FOR UCSB BIOENGINEERING PROJECT. COORDINATE STORAGE AND INSTALLATION WITH UNIVERSITY REPRESENTATIVE.
- D** RELOCATE (E) TREE. COORDINATE (N) LOCATION, STORAGE AND PLACEMENT W/ UNIVERSITY REP.
- E** RELOCATE ENTIRE EXISTING LIGHT STANDARD. COORDINATE (N) LOCATION, STORAGE AND PLACEMENT W/ UNIVERSITY REP.
- F** REMOVE EXISTING CONCRETE PAVING COMPLETE
- G** REMOVE EXISTING GRAVEL PAVING
- H** REMOVE EXISTING AC PAVING. REFERENCE CIVIL PLAN FOR ADDITIONAL NOTES AND AREAS OF REMOVAL.
- I** (E) LIGHT STANDARD TO REMAIN
- J** RELOCATE (E) FIRE BACKFLOW AND BOLLARDS TO LOCATION TBD.
- K** REMOVE (E) DETECTABLE WARNINGS
- L** REMOVE (E) BIKE RACKS. COORDINATE BIKE RACK REMOVAL AND STORAGE W/ UNIVERSITY REP.

**NOTES:**

1. REFERENCE CIVIL ENGINEER'S PLANS FOR SITE DEMOLITION WORK. COORDINATE TREE & SHRUB REMOVAL SHOWN ON THIS PAGE WITH SITE DEMOLITION.
2. EXISTING TREES SHOWN TO REMAIN SHALL BE PROTECTED DURING CONSTRUCTION. REFERENCE SPECIFICATIONS.



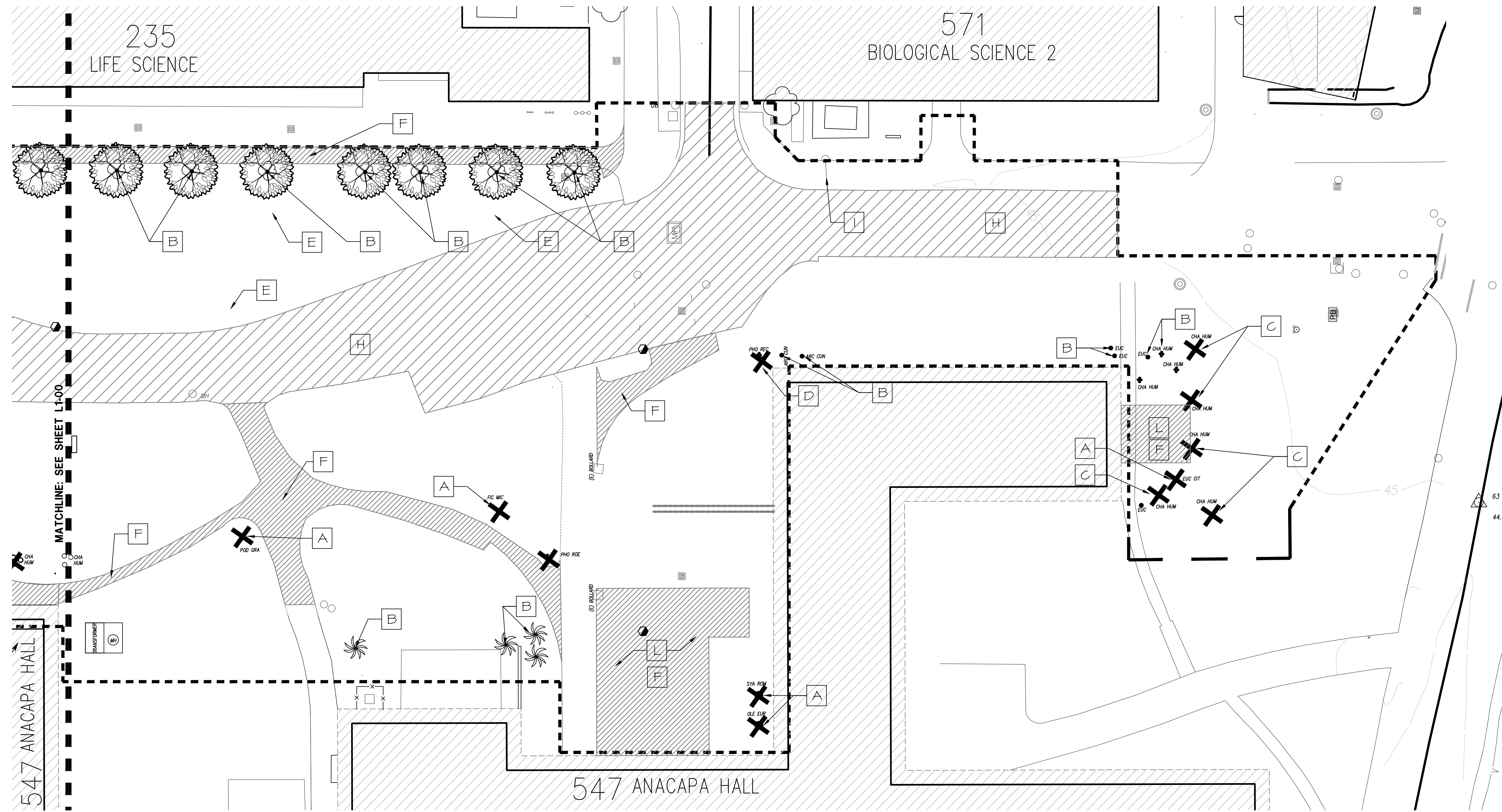
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**L1-00**

Of 22

Job No. 1206



**DEMOLITION KEY NOTES**

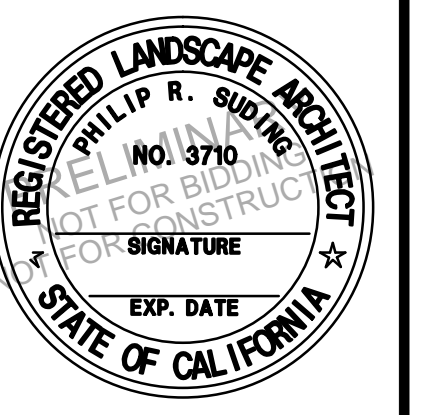
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PROJECT NO. FM 140426L  
UCSB DWG # 34-388

UCSB UCen Road Realignment  
UCen Road  
Santa Barbara, California



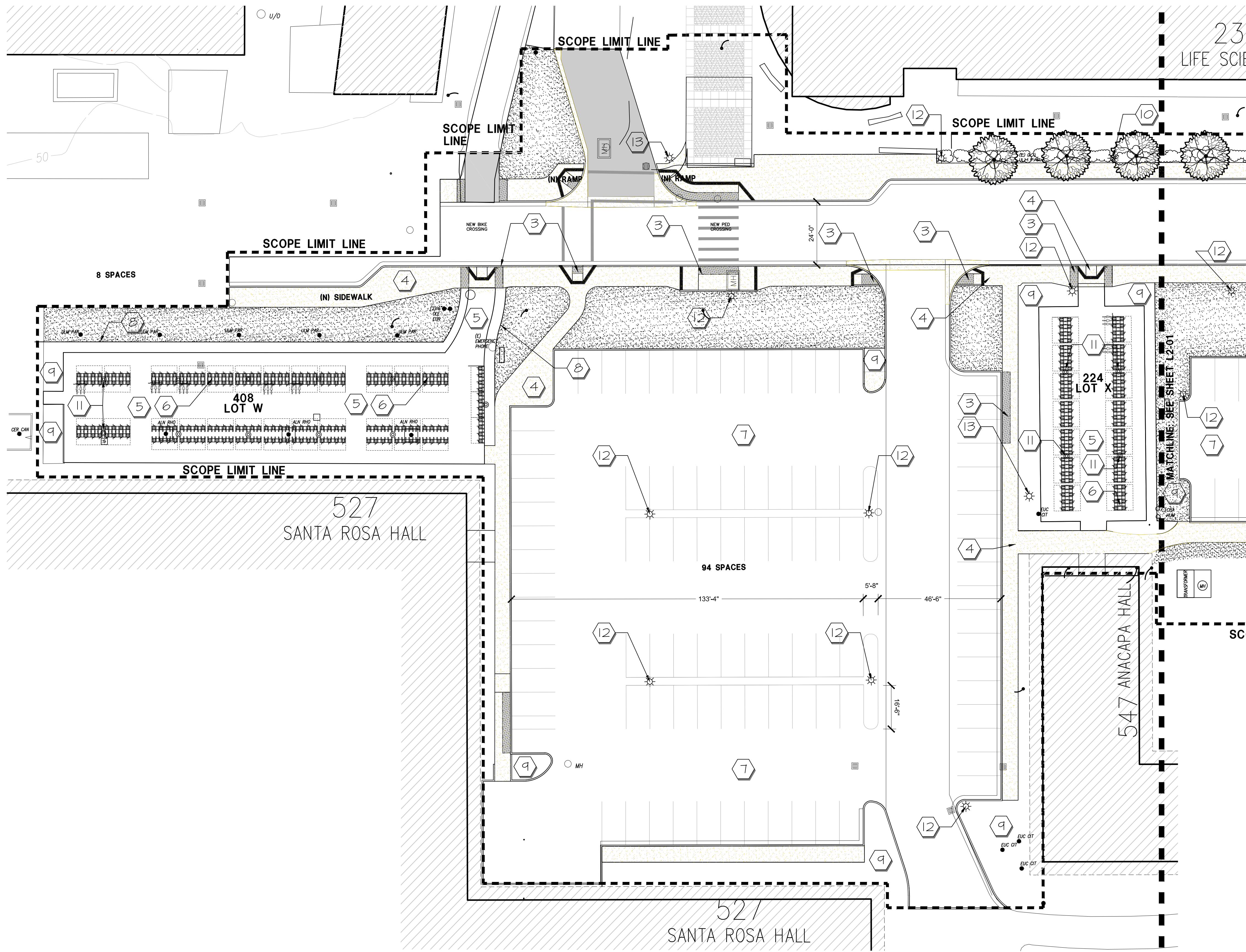
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L1-01

Of 22

Job No. 1206

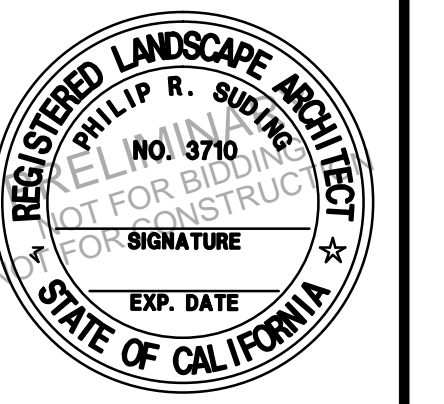


LAYOUT KEY NOTES

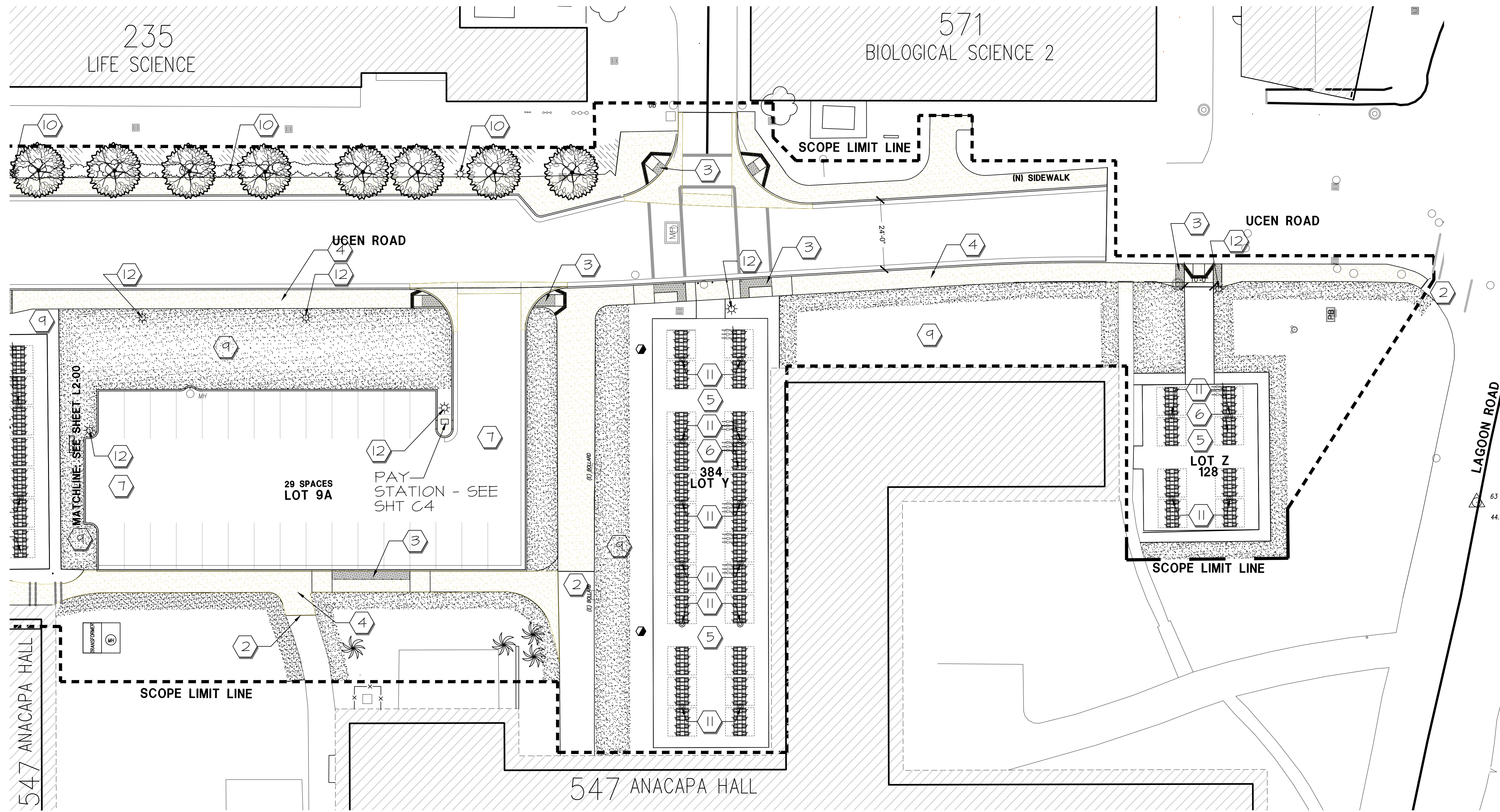
- 1 EXISTING CONCRETE
- 2 JOIN NEW CONCRETE TO (E) CONCRETE PER CIVIL PLAN.
- 3 DETECTABLE WARNINGS, NEW DETECTABLE WARNINGS SET IN CONCRETE ANCHORS AT BIKE CROSSINGS, 3" WIDE PER CAMPUS STANDARD, REFERENCE SPECIFICATIONS & CIVIL ENGINEER'S PLANS. (3/15-00)
- 4 GREY CONCRETE WALK AND RAMPS PER CIVIL DETAIL.
- 5 CLASS 2 BASE BIKE PARKING AREA W/ 2X6 RECYCLED HEADER (2/15-00)
- 6 PEAK CAMPUS HIGH DENSITY RACK, HOT DIPPED GALVANIZED, ARRANGED PER PLAN. RACK SIZE AS NOTED. INSTALL PER MANUFACTURER'S SPECIFICATIONS, PERMANENT MOUNT. (N) BIKE RACKS TO BE FURNISHED BY UNIVERSITY AND INSTALLED BY OTHERS.
- 7 (N) A.C. PARKING LOT, REFERENCE CIVIL ENGINEER'S PLANS.
- 8 2X6 RECYCLED HEADER (7/15-00)
- 9 PLANTING AREA.
- 10 RELOCATED LIGHT STANDARD, INSTALL PER UNIVERSITY SPECS & DETAILS.
- 11 (N) LIGHT, LUMEC CAND TYPE 3 LIGHT FIXTURE MOUNTED ON 14' POLE. INSTALL PER MANUF. RECOMMENDATIONS. (4/15-00)
- 12 (N) LIGHT, LUMEC CAND TYPE 5 LIGHT FIXTURE MOUNTED ON 14' POLE. INSTALL PER MANUF. RECOMMENDATIONS. (4/15-00)

PROJECT NO. FM 140426L  
 UCSB DWG # 34-388

UCSB UCen Road Realignment  
 UCen Road  
 Santa Barbara, California



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 Sheet  
 L2-00  
 Of 22  
 Job No. 1206



LAYOUT KEY NOTES

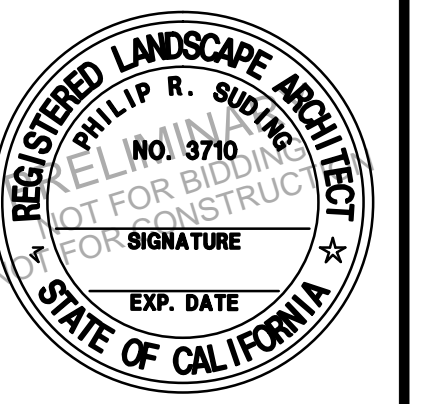
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●●●●●●●●  
 SUDING DESIGN  
 Landscape Architects  
 1263 Bel Air Drive  
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 Telephone (805) 687-9455  
 Facsimile (805) 687-9433

Date  
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PROJECT NO. FM 140426L  
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UCSB UCen Road Realignment  
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Drawn By CK

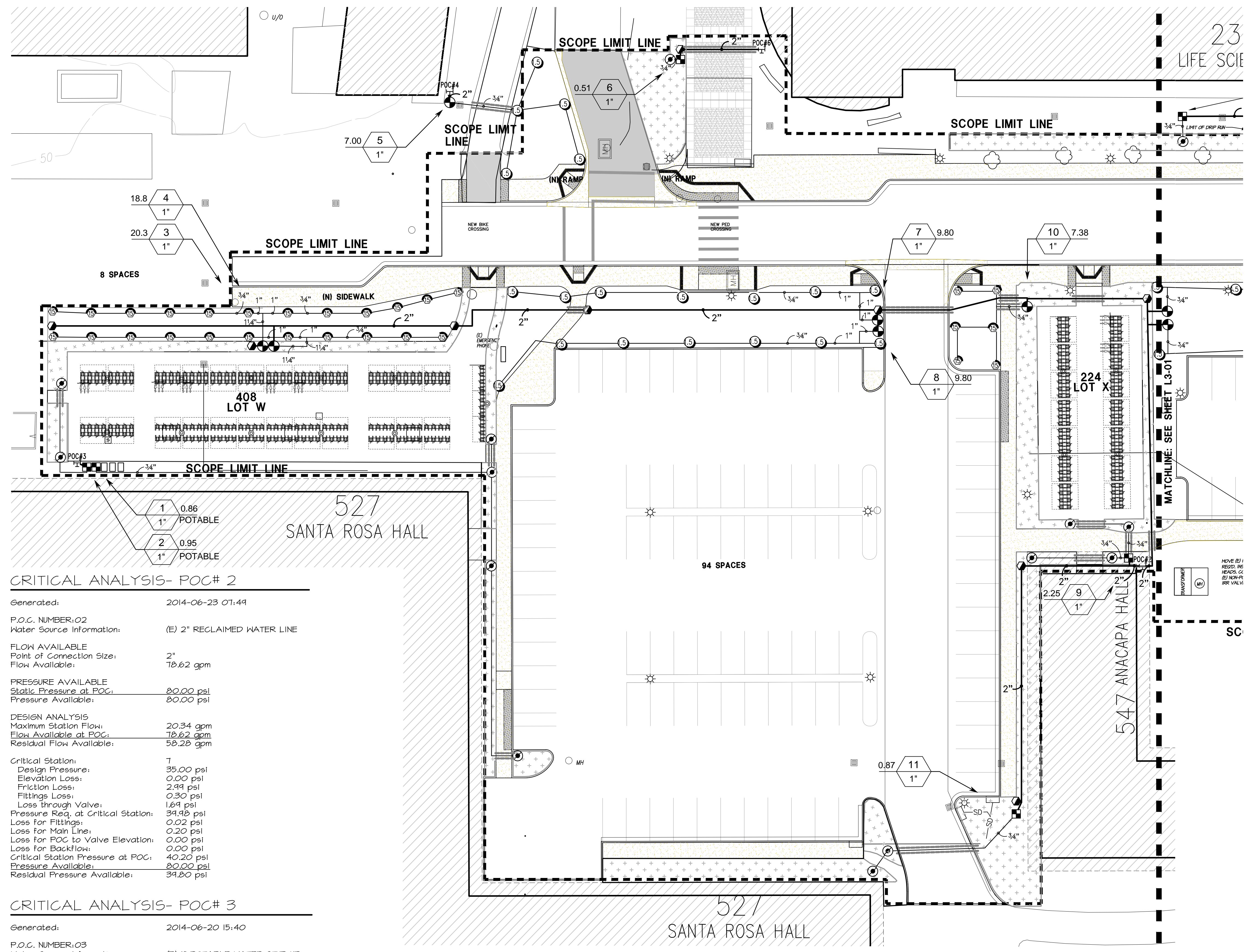
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L2-01

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Job No. 1206

SCALE 1" = 20'-0"  
 LAYOUT PLAN



IRRIGATION LEGEND:

REFERENCE CIVIL ENGINEER'S PLANS FOR WATER LINES AND FIRE BACKFLOW.  
VERIFY LOCATIONS OF ABOVE GRADE STRAINER IN FIELD.

SEE SHEET THIS SHEET FOR IRRIGATION SCHEDULE, VALVE SCHEDULE AND CRITICAL ANALYSIS.  
SEE SHEETS L6-00 FOR IRRIGATION DETAILS AND RECLAIMED WATER SEPARATION NOTES AND DETAILS.

IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	PSI		
	Rain Bird 1806-SAM-NP 10 Series MPR 6" popap with check valve, purple cap.	54	30		
	Rain Bird 1806-SAM-NP 15 Series MPR 6" popap with check valve, purple cap.	24	30		
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	PSI	GPM	RADIUS
	Hunter I-20-6P-ARS, 3RS Turf Rotor, 6" popap, adjustable and full circle, with reclaimed water cover, stainless steel riser	42	35	1.40	31'
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY			
	Rain Bird XGZ-100-PRF Drip Control Kit, 1" DV valve, 1" pressure regulating filter.	9			
	Pipe Transition Point Pipe transition point from PVC lateral to drip tubing with riser in drip box.	19			
	Area to Receive Drip Emitters Toro T-DP-J04-A Single Outlet Emitter, 10 - 50 PSI, 1.0 GPH, pressure-compensating, 0.5 gph-Blue, 1.0 gph-Black, 2.0 gph-Red. Emitter Notes: Flat plant to receive 1 of -02 emitter. 4" pot plant to receive 1 of -02 emitter. 15 gal plant to receive 3 of -02 emitters. 1 gal plant to receive 1 of -02 emitter. 5 gal plant to receive 2 of -02 emitters. 15 GAL # 24" BOX plant to receive 3 of -02 emitters. 24" box plant to receive 4 of -02 emitters. 24" # 36" BOX plant to receive 5 of -02 emitters. 36" box plant to receive 5 of -02 emitters. 3 gal plant to receive 2 of -02 emitters.	11,427	s.f.		
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY			
	Weathermatic 11024FCR-NP Plastic Remote Control Valve, 1", 1-1/2", 2" size as noted, non-potable purple handle.	12			
	EXISTING RECLAIMED WATER VALVE Reclaimed Water ID Purple Tag.	1			
	Quick Coupler Valve W/ PURPLE CAP	11			
	EXISTING Rain Master Controller Rainmaster Evolution DX2 Controller 5A6-RM4-24/ETHR/FSAV-200B Rainmaster 24 station stainless steel exterior top entry strongbox, 24 station DX2 assembly, Add (1) 24 station assembly if req'd, Ethernet assembly, Ethernet communication package, flow board, 2" normally open master valve, and 2" flow sensor.	1			
POC#1	Point of Connection 2" (E) 2" RECLAIMED WATER	1			
POC#2	Point of Connection 2" (E) 2" RECLAIMED WATER LINE	1			
POC#3	(E) 1" POTABLE WATER STUB UP	1			
POC#4	Point of Connection 2" (E) 2" RECLAIMED WATER STUB UP- VERIFY LOCATION IN FIELD	1			
POC#5	Point of Connection 2" (E) 2" RECLAIMED WATER STUB UP- VERIFY LOCATION IN FIELD	1			
POC#6	Point of Connection 2" (E) 2" RECLAIMED WATER STUB UP- VERIFY LOCATION IN FIELD	1			
POC#7	Point of Connection 2" (E) 2" RECLAIMED WATER STUB UP- VERIFY LOCATION IN FIELD	1			
	Irrigation Lateral Line: Blu-Lock and PVC Class 200 Blu-Lock pipe, as manufactured by Hydro Rain, 1/2" to 1", then PVC Class 200 for 1-1/4" and larger. Only lateral transition pipe sizes 1" and above are indicated on the plan, with all others being 3/4" in size.	2,710	l.f.		
	Irrigation Mainline: PVC Schedule 40 and Class 315 PVC Schedule 40 to 1-1/2", PVC Class 315 SDR 135 for pipes 2" and larger.	1,043	l.f.		
	Pipe Sleeve: Ductile Iron Pipe (E) 2" PURPLE RECLAIMED WATER LINE	235.4	l.f.		
	Valve Callout				
	Valve Number				
	Valve Flow				
	Valve Size				

CRITICAL ANALYSIS- POC# 2

Generated: 2014-06-23 07:44

P.O.C. NUMBER: 02  
Water Source Information: (E) 2" RECLAIMED WATER LINE

FLOW AVAILABLE  
Point of Connection Size: 2"  
Flow Available: 78.62 gpm

PRESSURE AVAILABLE  
Static Pressure at POC: 80.00 psi  
Pressure Available: 80.00 psi

DESIGN ANALYSIS  
Maximum Station Flow: 20.34 gpm  
Flow Available at POC: 78.62 gpm  
Residual Flow Available: 58.28 gpm

Critical Station:  
Design Pressure: 35.00 psi  
Elevation Loss: 0.00 psi  
Friction Loss: 2.94 psi  
Fittings Loss: 0.30 psi  
Loss through Valve: 1.64 psi  
Pressure Req. at Critical Station: 34.98 psi  
Loss for Fittings: 0.02 psi  
Loss for Main Line: 0.20 psi  
Loss for POC to Valve Elevation: 0.00 psi  
Loss for Backflow: 0.00 psi  
Critical Station Pressure at POC: 40.20 psi  
Pressure Available: 80.00 psi  
Residual Pressure Available: 34.80 psi

CRITICAL ANALYSIS- POC# 3

Generated: 2014-06-20 15:40

P.O.C. NUMBER: 03  
Water Source Information: (E) 1" POTABLE WATER STUB UP

FLOW AVAILABLE  
Custom Max Flow: 0.00 gpm  
Flow Available: 0.00 gpm

PRESSURE AVAILABLE  
Static Pressure at POC: 80.00 psi  
Pressure Available: 80.00 psi

DESIGN ANALYSIS  
Maximum Station Flow: 1.81 gpm  
Flow Available at POC: 0.02 gpm  
Residual Flow Available: -1.81 gpm

Critical Station:  
Design Pressure: 20.00 psi  
Elevation Loss: 0.00 psi  
Friction Loss: 0.14 psi  
Fittings Loss: 0.01 psi  
Loss through Valve: 2.90 psi  
Pressure Req. at Critical Station: 23.06 psi  
Loss for Fittings: 0.00 psi  
Loss for Main Line: 0.00 psi  
Loss for POC to Valve Elevation: 0.00 psi  
Loss for Backflow: 0.00 psi  
Critical Station Pressure at POC: 23.06 psi  
Pressure Available: 80.00 psi  
Residual Pressure Available: 56.94 psi

CRITICAL ANALYSIS- POC# 4

Generated: 2014-06-22 07:56

P.O.C. NUMBER: 04  
Water Source Information: (E) 2" RECLAIMED WATER STUB UP- VERIFY LOCATION IN FIELD

FLOW AVAILABLE  
Point of Connection Size: 2"  
Flow Available: 78.62 gpm

PRESSURE AVAILABLE  
Static Pressure at POC: 80.00 psi  
Pressure Available: 80.00 psi

DESIGN ANALYSIS  
Maximum Station Flow: 7.00 gpm  
Flow Available at POC: 78.62 gpm  
Residual Flow Available: 71.62 gpm

Pressure Req. at Critical Station: 31.74 psi  
Loss for Fittings: 0.00 psi  
Loss for Main Line: 0.00 psi  
Loss for POC to Valve Elevation: 0.00 psi  
Loss for Backflow: 0.00 psi  
Critical Station Pressure at POC: 31.74 psi  
Pressure Available: 80.00 psi  
Residual Pressure Available: 42.21 psi

CRITICAL ANALYSIS- POC# 6

Generated: 2014-06-22 08:14

P.O.C. NUMBER: 06  
Water Source Information: (E) 2" RECLAIMED WATER STUB UP- VERIFY LOCATION IN FIELD

FLOW AVAILABLE  
Point of Connection Size: 2"  
Flow Available: 78.62 gpm

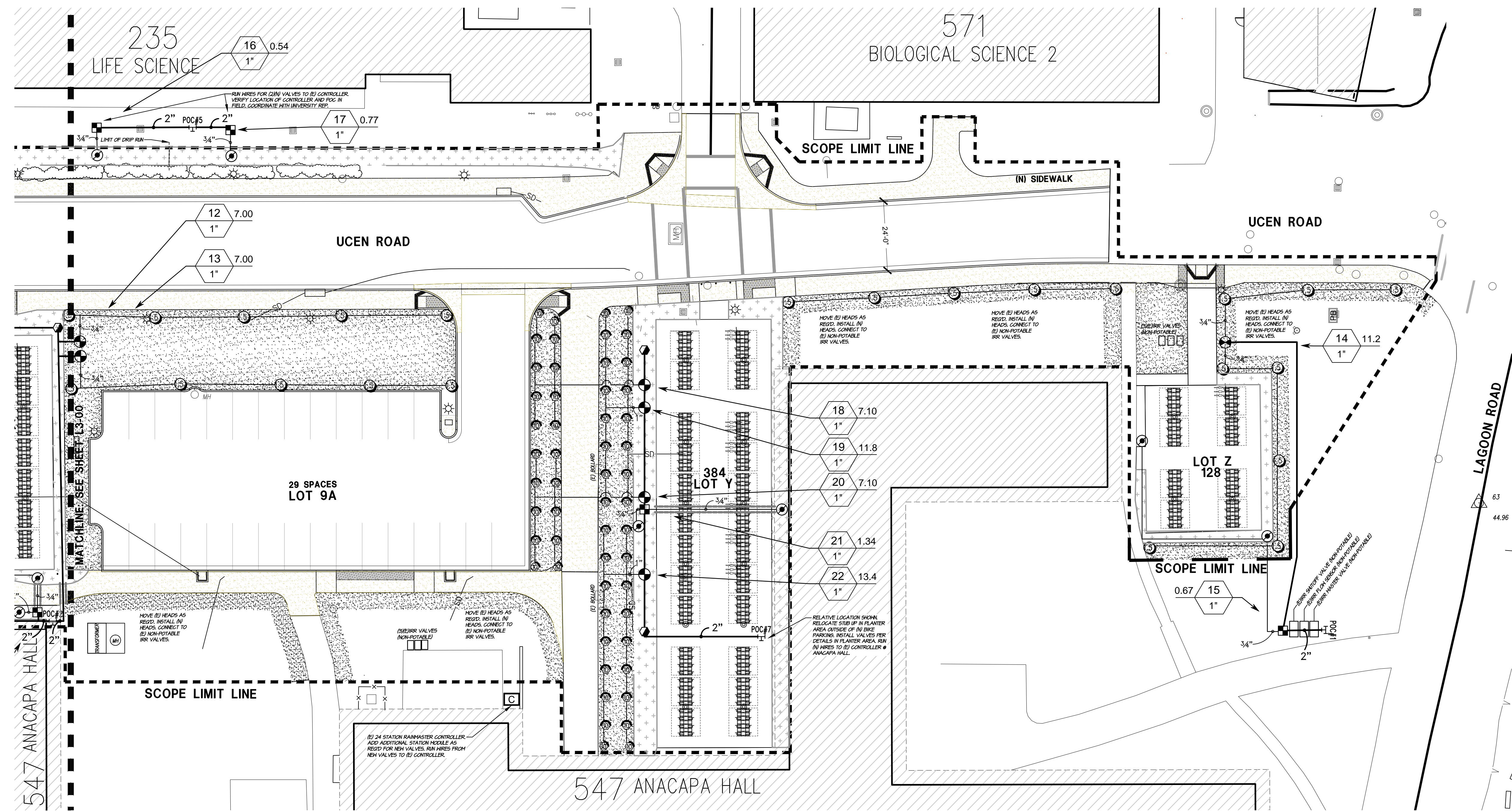
PRESSURE AVAILABLE  
Static Pressure at POC: 80.00 psi  
Pressure Available: 80.00 psi

DESIGN ANALYSIS  
Maximum Station Flow: 0.51 gpm  
Flow Available at POC: 78.62 gpm  
Residual Flow Available: 78.11 gpm

Pressure Req. at Critical Station: 22.40 psi  
Loss for Fittings: 0.00 psi  
Loss for Main Line: 0.00 psi  
Loss for POC to Valve Elevation: 0.00 psi  
Loss for Backflow: 0.00 psi  
Critical Station Pressure at POC: 22.40 psi  
Pressure Available: 80.00 psi  
Residual Pressure Available: 57.10 psi

VALVE SCHEDULE

NUMBER	MODEL	SIZE	TYPE	PSI	PSI @ POC	GPM	PRECIP	
1	Rain Bird XGZ-100-PRF	1"	Area for Drip Emitters	23.05	0.26	0.10	in/h	
2	Rain Bird XGZ-100-PRF	1"	Area for Drip Emitters	22.94	0.45	0.26	in/h	
3	Weathermatic 11024FCR-NP	1"	Turf Spray	34.66	36.44	20.34	0.84	in/h
4	Weathermatic 11024FCR-NP	1"	Turf Spray	35.06	36.64	18.80	0.81	in/h
5	Weathermatic 11024FCR-NP	1"	Turf Rotor	31.74	31.74	7.00	0.73	in/h
6	Rain Bird XGZ-100-PRF	1"	Area for Drip Emitters	22.40	22.40	0.51	0.13	in/h
7	Weathermatic 11024FCR-NP	1"	Turf Rotor	34.98	40.20	4.80	0.10	in/h
8	Weathermatic 11024FCR-NP	1"	Turf Rotor	34.82	40.04	4.80	0.80	in/h
9	Weathermatic 11024FCR-NP	1"	Turf Spray	32.50	32.60	7.38	1.21	in/h
10	Rain Bird XGZ-100-PRF	1"	Area for Drip Emitters	22.46	22.46	0.81	0.21	in/h
11	Weathermatic 11024FCR-NP	1"	Turf Rotor	38.55	38.61	7.00	0.45	in/h
12	Weathermatic 11024FCR-NP	1"	Turf Rotor	38.41	38.47	7.00	0.46	in/h
13	EXISTING RECLAIMED WATER VALVE	1"	Turf Rotor	34.84	40.03	11.20	0.42	in/h
14	Rain Bird XGZ-100-PRF	1"	Area for Drip Emitters	22.42	22.42	0.67	0.04	in/h
15	Rain Bird XGZ-100-PRF	1"	Area for Drip Emitters	22.40	22.40	0.54	0.04	in/h
16	Rain Bird XGZ-100-PRF	1"	Area for Drip Emitters	22.41	22.41	0.77	0.04	in/h
17	Weathermatic 11024FCR-NP	1"	Turf Spray	33.05	33.13	7.10	1.33	in/h
18	Weathermatic 11024FCR-NP	1"	Turf Spray	32.40	32.58	11.84	1.35	in/h
19	Weathermatic 11024FCR-NP	1"	Turf Spray	33.05	33.10	7.10	1.27	in/h
20	Rain Bird XGZ-100-PRF	1"	Area for Drip Emitters	22.44	1.34	0.10	in/h	
21	Weathermatic 11024FCR-NP	1"	Turf Spray	33.05	33.17	13.42	1.35	in/h
Unknown	Rain Bird XGZ-100-PRF	1"	Area for Drip Emitters	22.94	22.94	2.25	0.04	in/h



IRRIGATION LEGEND:

REFERENCE CIVIL ENGINEER'S PLANS FOR WATER LINES AND FIRE BACKFLOW.  
VERIFY LOCATIONS OF ABOVE GRADE STRAINER IN FIELD.  
SEE SHEET THIS SHEET FOR IRRIGATION SCHEDULE, VALVE SCHEDULE AND CRITICAL ANALYSIS.  
SEE SHEETS L6-00 FOR IRRIGATION DETAILS AND RECLAIMED WATER SEPARATION NOTES AND DETAILS.

IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	PSI		
	Rain Bird 1806-SAM-NP 10 Series MPR 6" popup with check valve, purple cap.	54	30		
	Rain Bird 1806-SAM-NP 15 Series MPR 6" popup with check valve, purple cap.	24	30		
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	PSI	GPM	RADIUS
	Hunter 1-20-6P-ARS, 3RS Turf Rotor, 6" popup, adjustable and full circle, with reclaimed water cover, stainless steel riser	42	35	1.40	31'
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY			
	Rain Bird XGZ-100-PRF Rain Control Kit, 1" DV valve, 1" pressure regulating filter.	9			
	Pipe Transition Point Pipe transition point from PVC lateral to drip tubing with riser in drip box.	19			
	Area to Receive Drip Emitters Toro T-DF-104-A Single Outlet Emitter, 10 - 50 PSI, 1.0 GPH, pressure-compensating. 0.5 gph=Blue, 1.0 gph=Black, 2.0 gph=Red. Emitter Notes: Flat plant to receive 1 of -02 emitter. 1 gal plant to receive 1 of -02 emitter. 1 gal plant to receive 1 of -02 emitter. 1 gal plant to receive 1 of -02 emitter. 15 gal plant to receive 3 of -02 emitters. 15 GAL 4 24" BOX plant to receive 3 of -02 emitters. 24" box plant to receive 4 of -02 emitters. 24" 4 36" BOX plant to receive 5 of -02 emitters. 36" box plant to receive 5 of -02 emitters. 3 gal plant to receive 2 of -02 emitters.	11,427	s.f.		
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY			
	Heathermatic 11024FCR-NP Plastic Remote Control Valve, 1", 1-1/2", 2" size as noted, non-potable purple handle.	12			
	EXISTING RECLAIMED WATER VALVE Reclaimed Water ID Purple Tag.	1			
	Quick Coupler Valve W/ PURPLE CAP	11			
	EXISTING Rain Master Controller Rainmaster Evolution DX2 Controller SA6-RM4-24/ETHR/FSAV-200B Rainmaster 24 station stainless steel exterior top entry strongbox, 24 station DX2 assembly, Add (1) 24 Station assembly if req'd. Ethernet assembly, Ethernet communication package, flow board, 2" normally open master valve, and 2" flow sensor.	1			
	Point of Connection 2" (E) 2" RECLAIMED WATER	1			
	Point of Connection 2" (E) 2" RECLAIMED WATER LINE	1			
	(E) 1" POTABLE WATER STUB UP	1			
	Point of Connection 2" (E) 2" RECLAIMED WATER STUB UP- VERIFY LOCATION IN FIELD	1			
	Point of Connection 2" (E) 2" RECLAIMED WATER STUB UP- VERIFY LOCATION IN FIELD	1			
	Point of Connection 2" (E) 2" RECLAIMED WATER STUB UP- VERIFY LOCATION IN FIELD	1			
	Point of Connection 2" (E) 2" RECLAIMED WATER STUB UP- VERIFY LOCATION IN FIELD	1			
	Irrigation Lateral Line; Blu-Lock and PVC Class 200 Blu-Lock pipe, as manufactured by Hydro Rain, 1/2" to 1", then PVC Class 200 for 1-1/4" and larger. Only lateral transition pipe sizes 1" and above are indicated on the plan, with all others being 3/4" in size.	2,710	l.f.		
	Irrigation Mainline: PVC Schedule 40 and Class 315 PVC Schedule 40 to 1-1/2", PVC Class 315 SDR 13.5 for pipes 2" and larger.	1,093	l.f.		
	Pipe Sleeve: Ductile Iron Pipe (E) 2" PURPLE RECLAIMED WATER LINE	235.4	l.f.		
	Valve Callout Valve Number Valve Flow Valve Size				

CRITICAL ANALYSIS- POC# 1

Generated: 2014-06-20 15:21  
P.O.C. NUMBER: 01  
Water Source Information: (E) 2" RECLAIMED WATER

FLOW AVAILABLE  
Point of Connection Size: 2"  
Flow Available: 78.62 gpm

PRESSURE AVAILABLE  
Static Pressure at POC: 80.00 psi  
Pressure Available: 80.00 psi

DESIGN ANALYSIS  
Maximum Station Flow: 11.20 gpm  
Flow Available at POC: 78.62 gpm  
Residual Flow Available: 67.42 gpm

Pressure Req. at Critical Station: 34.84 psi  
Loss for Fittings: 0.01 psi  
Loss for Main Line: 0.15 psi  
Loss for POC to Valve Elevation: 0.00 psi  
Loss for Backflow: 0.00 psi  
Critical Station Pressure at POC: 40.03 psi  
Pressure Available: 80.00 psi  
Residual Pressure Available: 34.91 psi

CRITICAL ANALYSIS- POC# 5

Generated: 2014-06-22 07:33  
P.O.C. NUMBER: 05  
Water Source Information: (E) 2" RECLAIMED WATER STUB UP- VERIFY LOCATION IN FIELD

FLOW AVAILABLE  
Point of Connection Size: 2"  
Flow Available: 78.62 gpm

PRESSURE AVAILABLE  
Static Pressure at POC: 80.00 psi  
Pressure Available: 80.00 psi

DESIGN ANALYSIS  
Maximum Station Flow: 0.71 gpm  
Flow Available at POC: 78.62 gpm  
Residual Flow Available: 77.85 gpm

Pressure Req. at Critical Station: 22.91 psi  
Loss for Fittings: 0.00 psi  
Loss for Main Line: 0.00 psi  
Loss for POC to Valve Elevation: 0.00 psi  
Loss for Backflow: 0.00 psi  
Critical Station Pressure at POC: 22.91 psi  
Pressure Available: 80.00 psi  
Residual Pressure Available: 57.04 psi

CRITICAL ANALYSIS- POC# 7

Generated: 2014-06-23 07:33  
P.O.C. NUMBER: 07  
Water Source Information: (E) 2" RECLAIMED WATER STUB UP- VERIFY LOCATION IN FIELD

FLOW AVAILABLE  
Point of Connection Size: 2"  
Flow Available: 78.62 gpm

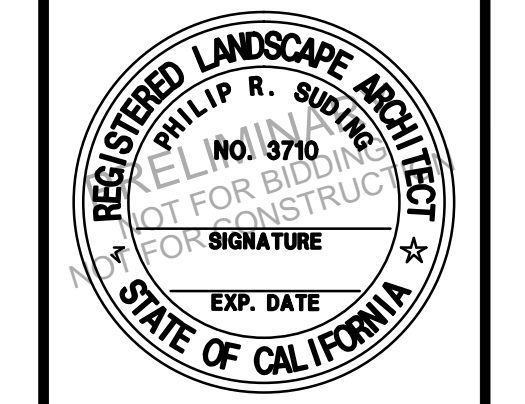
PRESSURE AVAILABLE  
Static Pressure at POC: 80.00 psi  
Pressure Available: 80.00 psi

DESIGN ANALYSIS  
Maximum Station Flow: 13.42 gpm  
Flow Available at POC: 78.62 gpm  
Residual Flow Available: 65.20 gpm

Pressure Req. at Critical Station: 33.05 psi  
Loss for Fittings: 0.01 psi  
Loss for Main Line: 0.11 psi  
Loss for POC to Valve Elevation: 0.00 psi  
Loss for Backflow: 0.00 psi  
Critical Station Pressure at POC: 33.17 psi  
Pressure Available: 80.00 psi  
Residual Pressure Available: 46.83 psi

VALVE SCHEDULE

NUMBER	MODEL	SIZE	TYPE	PSI	PSI @ POC	GPM	PRECIP
1	Rain Bird XGZ-100-PRF	1"	Area for Drip Emitters	23.05	0.86	0.06	0.10 in/h
2	Rain Bird XGZ-100-PRF	1"	Area for Drip Emitters	22.94	0.95	0.06	0.06 in/h
3	Weathermatic 11024FCR-NP	1"	Turf Spray	34.66	36.44	20.34	0.84 in/h
4	Weathermatic 11024FCR-NP	1"	Turf Spray	35.06	36.64	18.50	0.81 in/h
5	Weathermatic 11024FCR-NP	1"	Turf Rotor	31.74	31.74	7.00	0.15 in/h
6	Rain Bird XGZ-100-PRF	1"	Area for Drip Emitters	22.40	22.40	0.51	0.13 in/h
7	Weathermatic 11024FCR-NP	1"	Turf Rotor	34.98	40.20	4.80	0.70 in/h
8	Weathermatic 11024FCR-NP	1"	Turf Rotor	34.82	40.04	4.80	0.80 in/h
9	Rain Bird XGZ-100-PRF	1"	Area for Drip Emitters	22.84	22.84	2.25	0.04 in/h
10	Weathermatic 11024FCR-NP	1"	Turf Spray	32.50	32.60	7.38	1.21 in/h
11	Rain Bird XGZ-100-PRF	1"	Area for Drip Emitters	22.46	22.46	0.87	0.01 in/h
12	Weathermatic 11024FCR-NP	1"	Turf Rotor	38.55	38.61	7.00	0.45 in/h
13	Weathermatic 11024FCR-NP	1"	Turf Rotor	38.91	38.91	7.00	0.45 in/h
14	EXISTING RECLAIMED WATER VALVE	1"	Turf Rotor	34.84	40.03	11.20	0.42 in/h
15	Rain Bird XGZ-100-PRF	1"	Area for Drip Emitters	22.42	22.42	0.87	0.04 in/h
16	Rain Bird XGZ-100-PRF	1"	Area for Drip Emitters	22.40	22.40	0.54	0.04 in/h
17	Rain Bird XGZ-100-PRF	1"	Area for Drip Emitters	22.81	22.81	0.11	0.01 in/h
18	Weathermatic 11024FCR-NP	1"	Turf Spray	33.05	33.13	7.10	1.33 in/h
19	Weathermatic 11024FCR-NP	1"	Turf Spray	32.40	32.58	11.84	1.35 in/h
20	Weathermatic 11024FCR-NP	1"	Turf Spray	33.05	33.10	7.10	1.21 in/h
21	Rain Bird XGZ-100-PRF	1"	Area for Drip Emitters	22.84	22.84	1.34	0.10 in/h
22	Weathermatic 11024FCR-NP	1"	Turf Spray	33.05	33.17	13.42	1.35 in/h



TREE LEGEND- SHEET L3-00 AND L3-01

SYMBOL	BOTANICAL NAME	COMMON NAME	QUANTITY TO BE REMOVED	QUANTITY TO BE PLANTED	SIZE	NOTES
CHA HUM	CHAMAEROPS HUMILIS	EUROPEAN FAN PALM	7 (RELOCATE)	0	--	(2) THIS SHEET
EUC CIT	EUCALYPTUS CITRIODORA	LEMON SCENTED GUM	3	0	--	(2) THIS SHEET
EUC GLO	EUCALYPTUS GLOBULUS	TASMANIAN BLUE GUM	13	0	>8DBH	(13) THIS SHEET
FIC MIC	FICUS MICROCARPA	CHINESE BAYAN	1	0	--	SEE SHEET L1-01
OLE EUR	OLEA EUROPAEA	OLIVE	2	0	--	(1) THIS SHEET
PHO REC	PHOENIX RECLINATA (MULTI)	SENEGAL DATE PALM	1 (RELOCATE)	0	--	SEE SHEET L1-01
POD GRA	PODOCARPUS GRACILIOR	FERN PINE	1	0	--	SEE SHEET L1-01
SYA ROM	SYAGRUS ROMANZOFFIANA	QUEEN PALM	1	0	--	(1) THIS SHEET
			TOTAL: 24	(18 PER PLANT SCHEDULE)		
			(BOTH SHEETS)			

NOTE:  
13 TREES ARE OVER 8-DBH AND REQUIRE REPLACEMENT AT 3:1 RATIO  
14 TREES ARE LESS THAN 8-DBH AND REQUIRE REPLACEMENT AT 1:1 RATIO  
TOTAL REQUIRED TREES FOR PROJECT: 55. TOTAL PROPOSED TREES TO BE PLANTED: 18

PLANT SCHEDULE

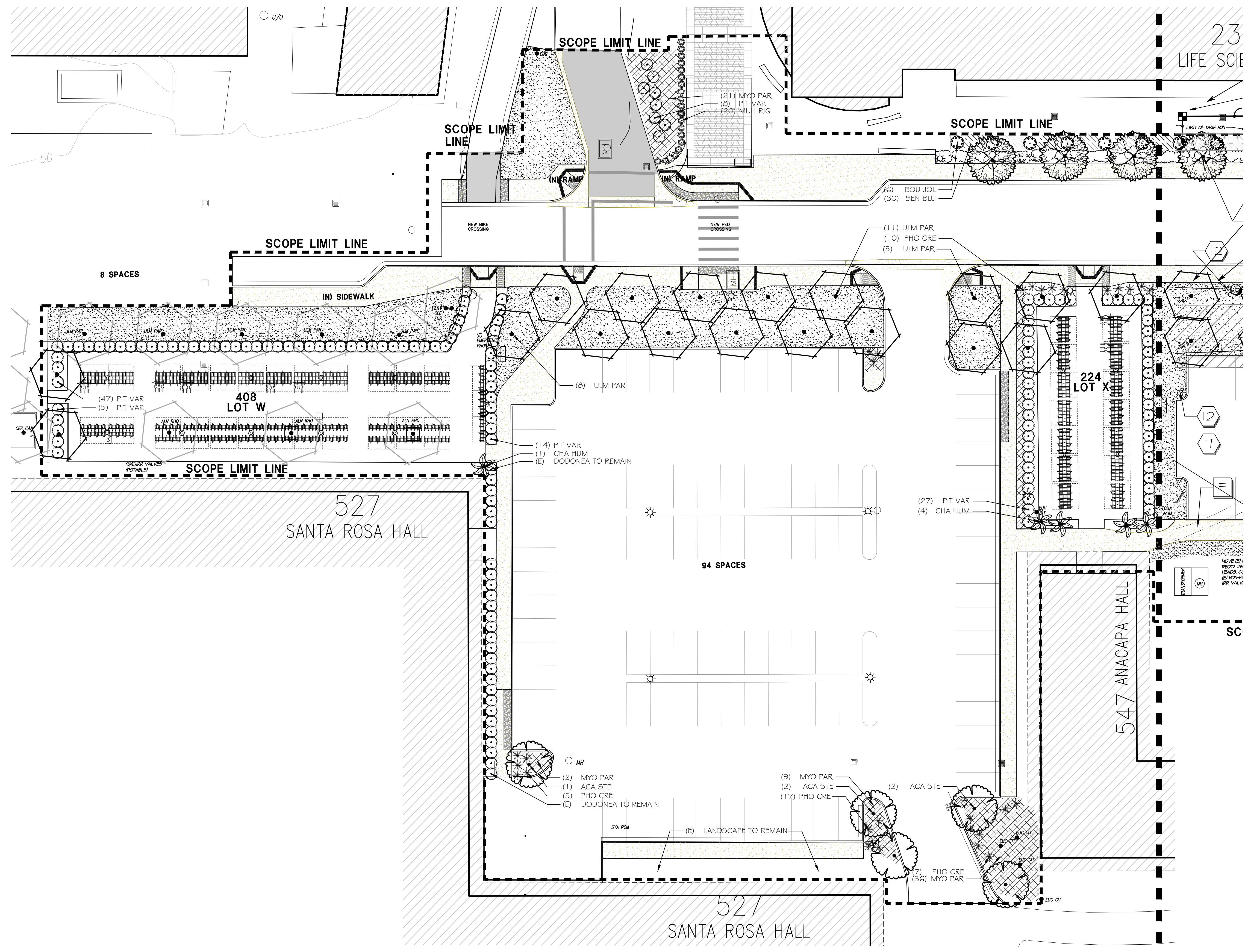
TREES	BOTANICAL NAME / COMMON NAME	CONT	QTY	REMARKS
	Chamaerops humilis / Mediterranean Fan Palm	15 gal	20	Multi
	Acacia stenophylla / Shoestring Acacia	24"box	5	
	Syagrus romanzoffiana / Queen Palm	15 gal	7	
	Ulmus parvifolia 'Drake' / Chinese Elm	24"box	34	

SHRUBS	BOTANICAL NAME / COMMON NAME	SIZE	SPACING	QTY	REMARKS
	Bougainvillea x 'La Jolla' / Bougainvillea	5 gal	60" o.c.	19	
	Muhlenbergia rigens / Deer Grass	1 gal	36" o.c.	15	
	Phormium cookianum 'Cream Delight' / Variegated New Zealand Flax	5 gal	48" o.c.	57	
	Pittosporum tenuifolium 'Marjorie Channon' / Tahitihi	5 gal	48" o.c.	19	
	Pittosporum tobira 'Variegata' / Variegated Mock Orange	5 gal	48" o.c.	157	

GROUND COVERS	BOTANICAL NAME / COMMON NAME	CONT	SPACING	QTY	REMARKS
	Myoporum parvifolium 'Pink' / Pink Australian Racer	1 gal	60" o.c.	68	
	Marathon II sod / Marathon II	SEED OR SOD		18,744 sf	
	Senecio mandraliscae 'Blue Chalk Sticks' / Senecio	Flat	36" o.c.	117	





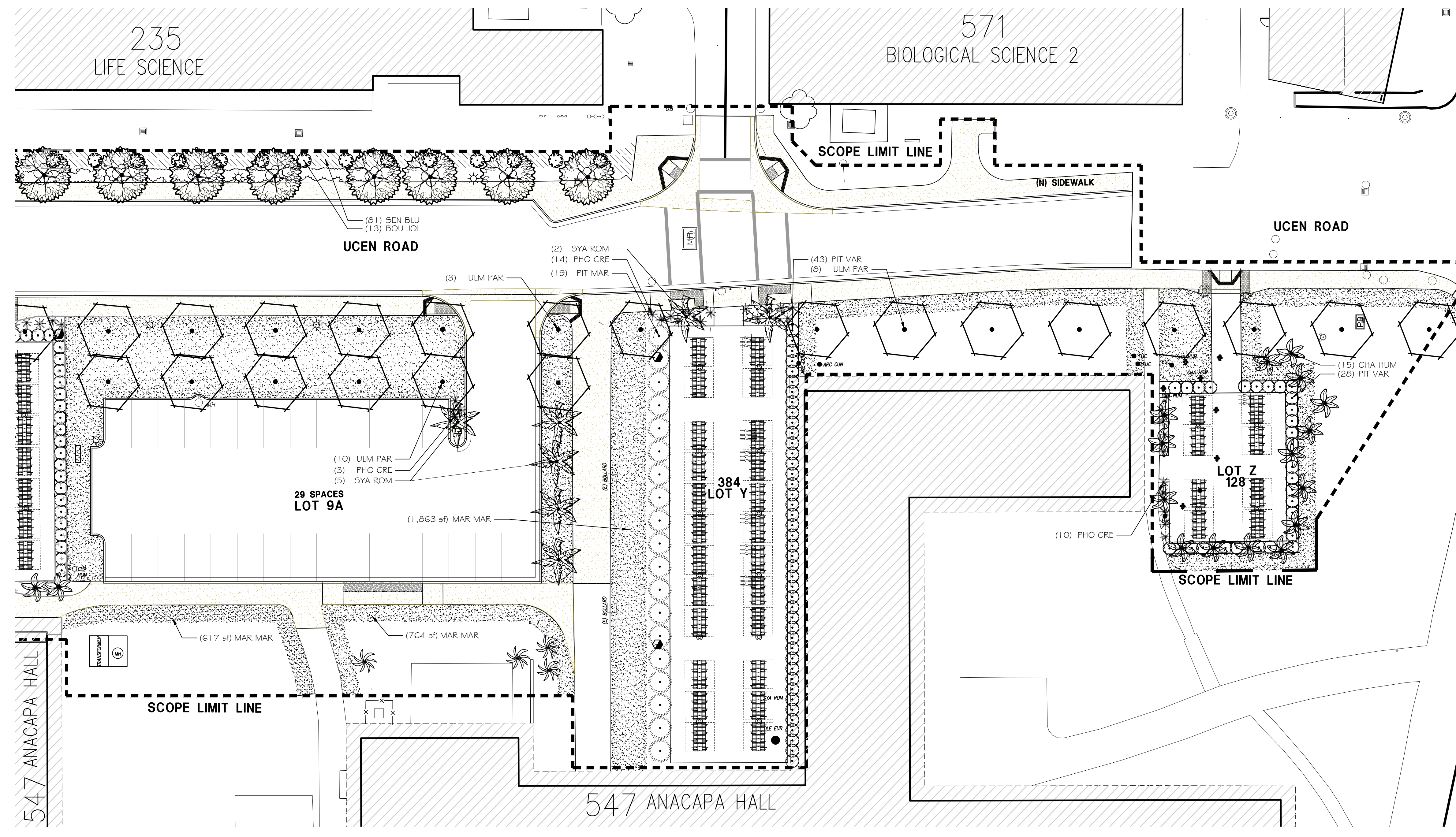
TREE LEGEND- SHEET L3-00 AND L3-01

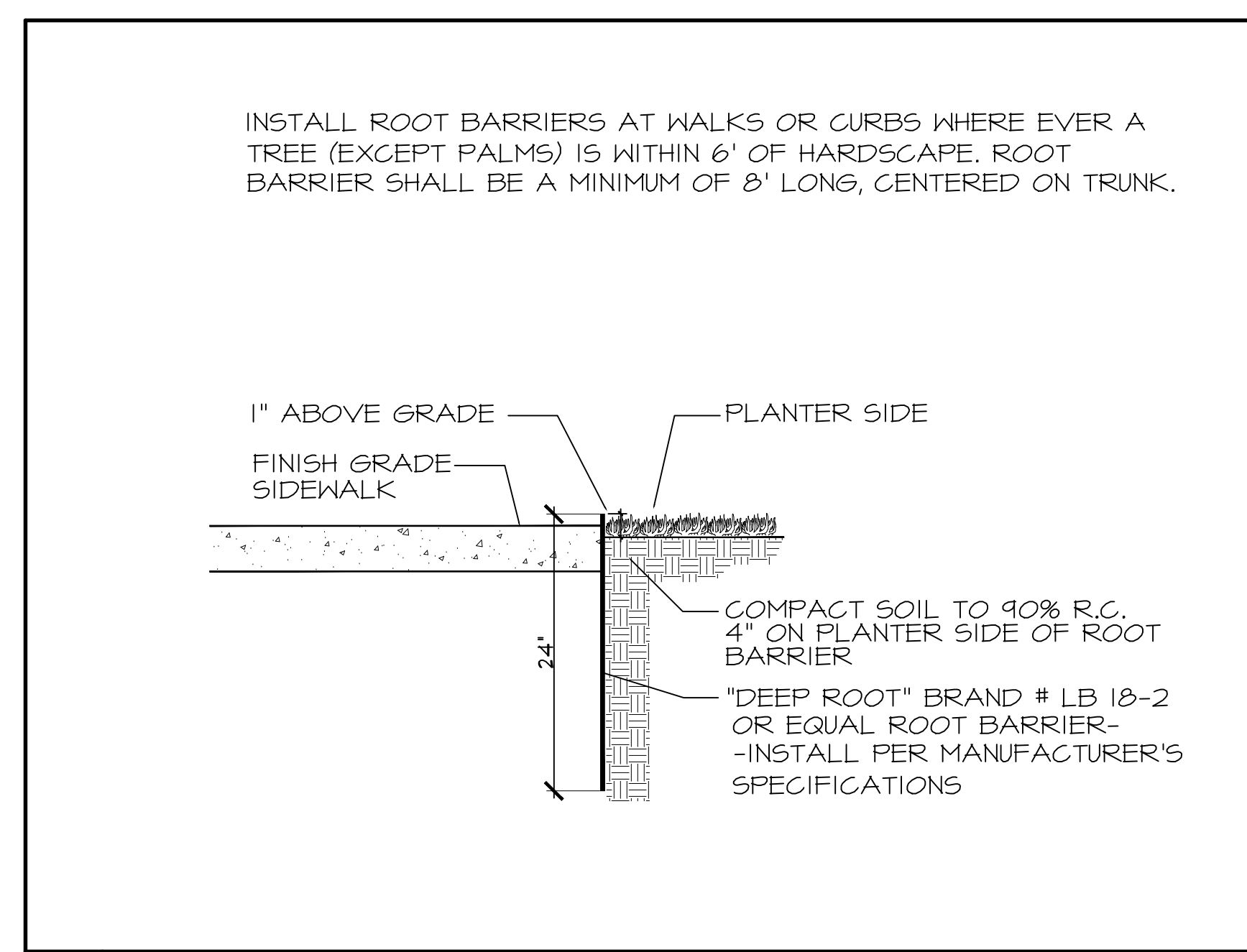
SYMBOL	BOTANICAL NAME	COMMON NAME	QUANTITY TO BE REMOVED	QUANTITY TO BE PLANTED	SIZE	NOTES
CHA HUM	CHAMAEROPS HUMILIS	EUROPEAN FAN PALM	7 (RELOCATE)	0	--	(5) THIS SHEET
EUC GIT	EUCALYPTUS CITRIODORA	LEMON SCENTED GUM	3	0	--	(1) THIS SHEET
EUC GLO	EUCALYPTUS GLOBULUS	TASMANIAN BLUE GUM	13	0	>2DBH	SEE SHEET L1-00
FIG MIC	FIGUS MICROCARPA	CHINESE BAYAN	1	0	--	(1) THIS SHEET
OLE EUR	OLEA EUROPAEA	OLIVE	2	0	--	(1) THIS SHEET
PHO REC	PHOENIX REGLINATA (MULTI)	SENEGAL DATE PALM	1 (RELOCATE)	0	--	(1) THIS SHEET
POD GRA	PODOCARPUS GRACILIOR	FERN PINE	1	0	--	(1) THIS SHEET
SYA ROM	STAGRUS ROMANZOFFIANA	QUEEN PALM	2	0	--	(1) THIS SHEET
TOTAL:			29	0		
			(BOTH SHEETS)	(78 PER PLANT SCHEDULE)		

NOTE:  
13 TREES ARE OVER 8-DBH AND REQUIRE REPLACEMENT AT 3:1 RATIO  
14 TREES ARE LESS THAN 8-DBH AND REQUIRE REPLACEMENT AT 1:1 RATIO  
TOTAL REQUIRED TREES FOR PROJECT: 55, TOTAL PROPOSED TREES TO BE PLANTED: 78

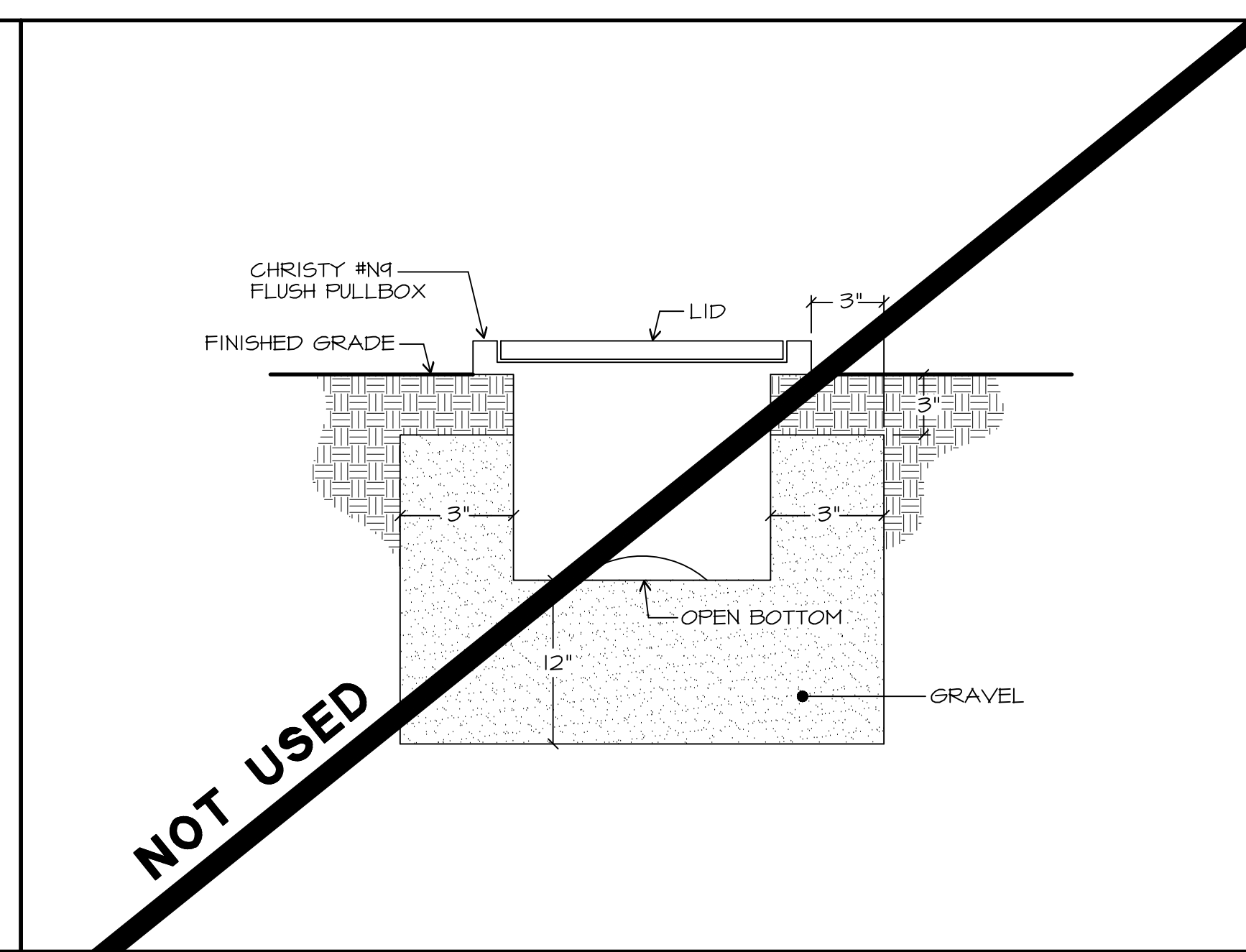
PLANT SCHEDULE

TREES	BOTANICAL NAME / COMMON NAME REMARKS	QNTY	QTY	
	Chamaerops humilis / Mediterranean Fan Palm	15 gal	20 Multi	
	Acacia stenophylla / Shoestring Acacia	24'box	5	
	Syagrus romanzoffiana / Queen Palm	15 gal	7	
	Ulmus parvifolia 'Drake' / Chinese Elm	24'box	39	
SHRUBS	BOTANICAL NAME / COMMON NAME REMARKS	SIZE	SPACING	QTY
	Bougainvillea x 'La Jolla' / Bougainvillea	5 gal	60' o.c.	19
	Muhlenbergia rigens / Deer Grass	1 gal	36' o.c.	15
	Phormium cookianum 'Cream Delight' / Variegated New Zealand Flax	5 gal	48' o.c.	51
	Pittosporum tenuifolium 'Marjorie Channon' / Tahiti-hiti	5 gal	46' o.c.	19
	Pittosporum tobira 'Variegata' / Variegated Mock Orange	5 gal	48' o.c.	151
GROUND COVERS	BOTANICAL NAME / COMMON NAME REMARKS	QNTY	SPACING	QTY
	Myoporum parvifolium 'Pink' / Pink Australian Racer	1 gal	60' o.c.	68
	Marathon II sod / Marathon II	SEED OR SOD		18,794 sf
	Senecio mandraliscae 'Blue Chalk Sticks' / Senecio	Flat	36' o.c.	117

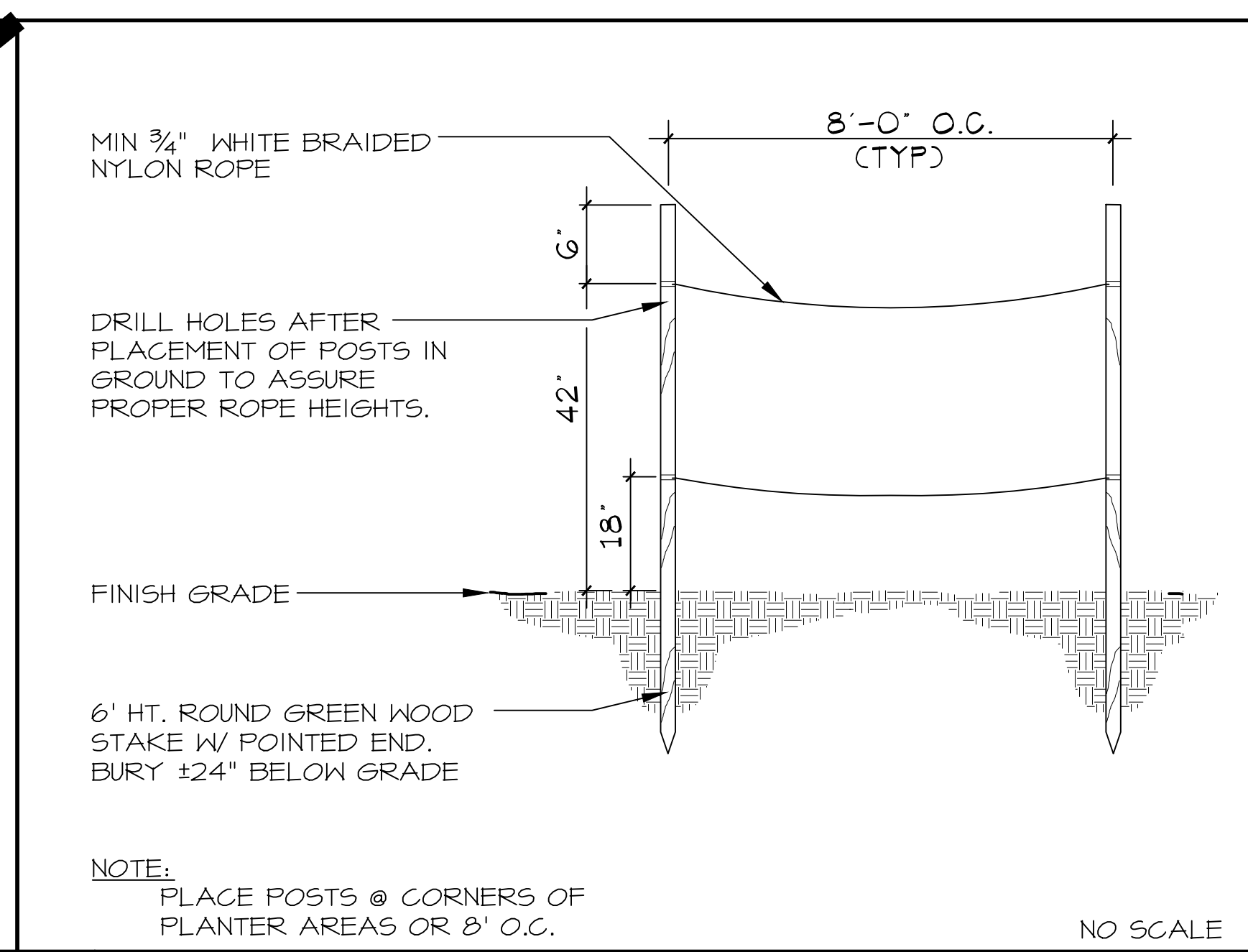




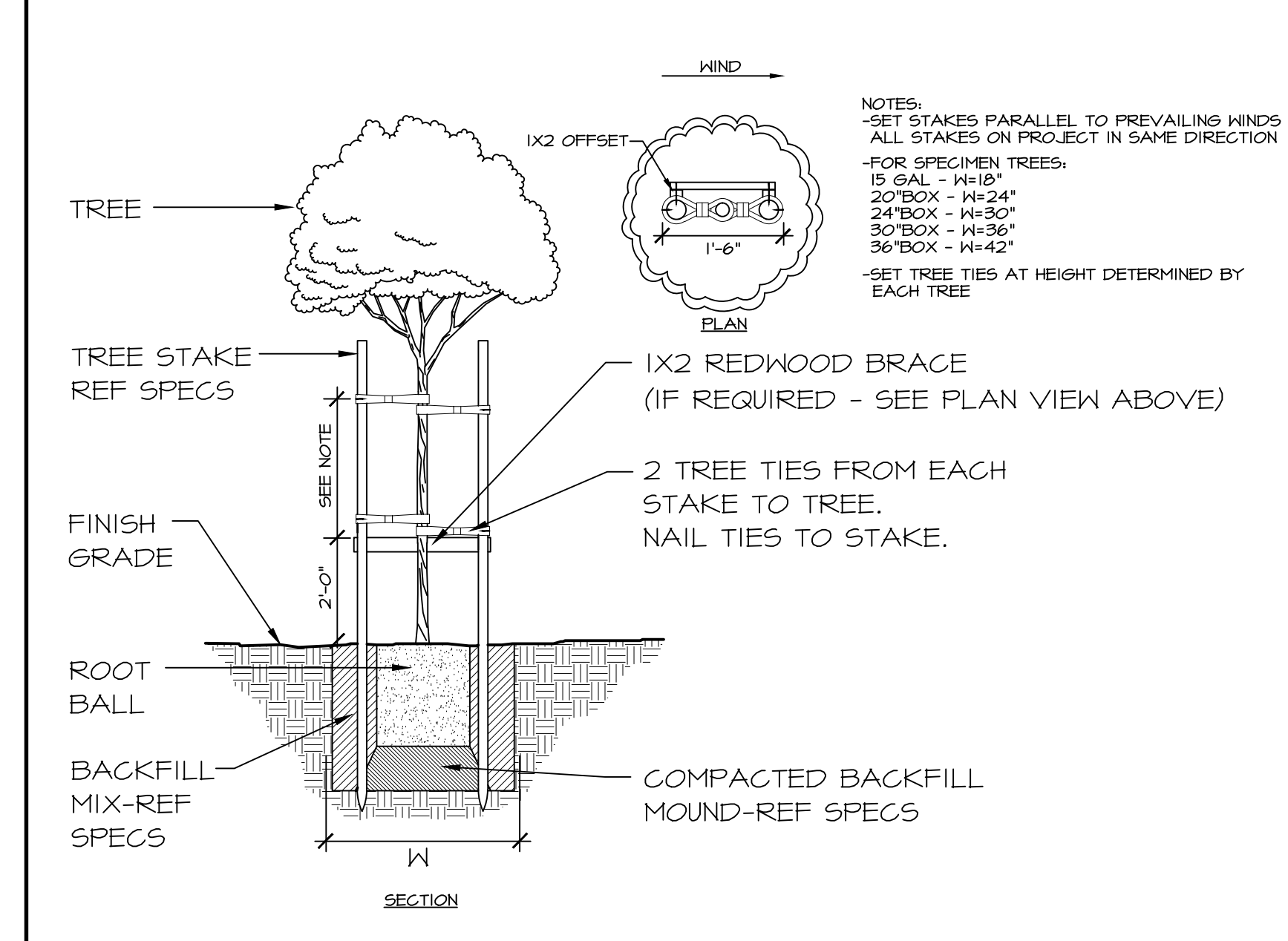
**9 LINEAR ROOT BARRIER**



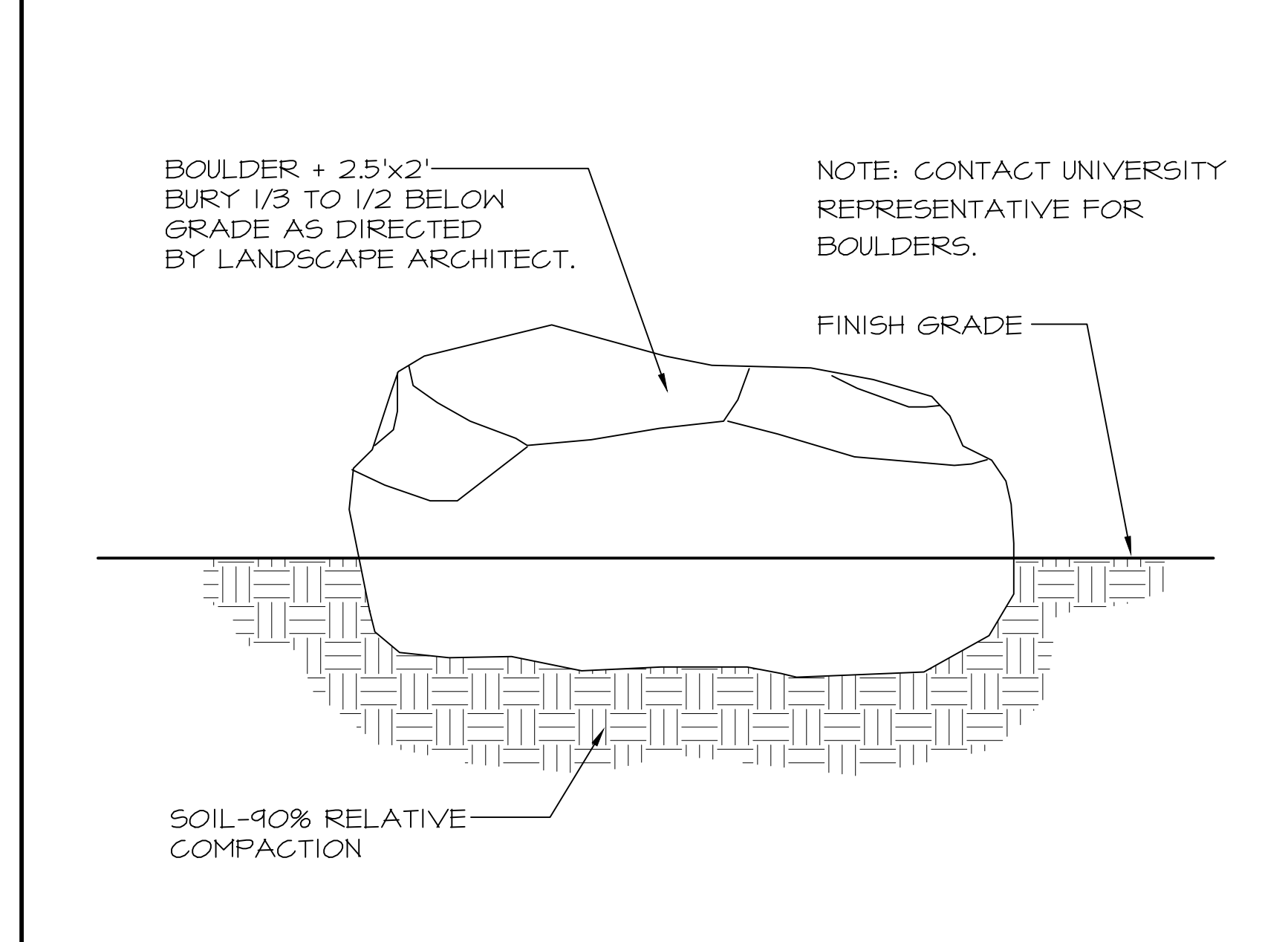
**5 POLE BASE DETAIL**



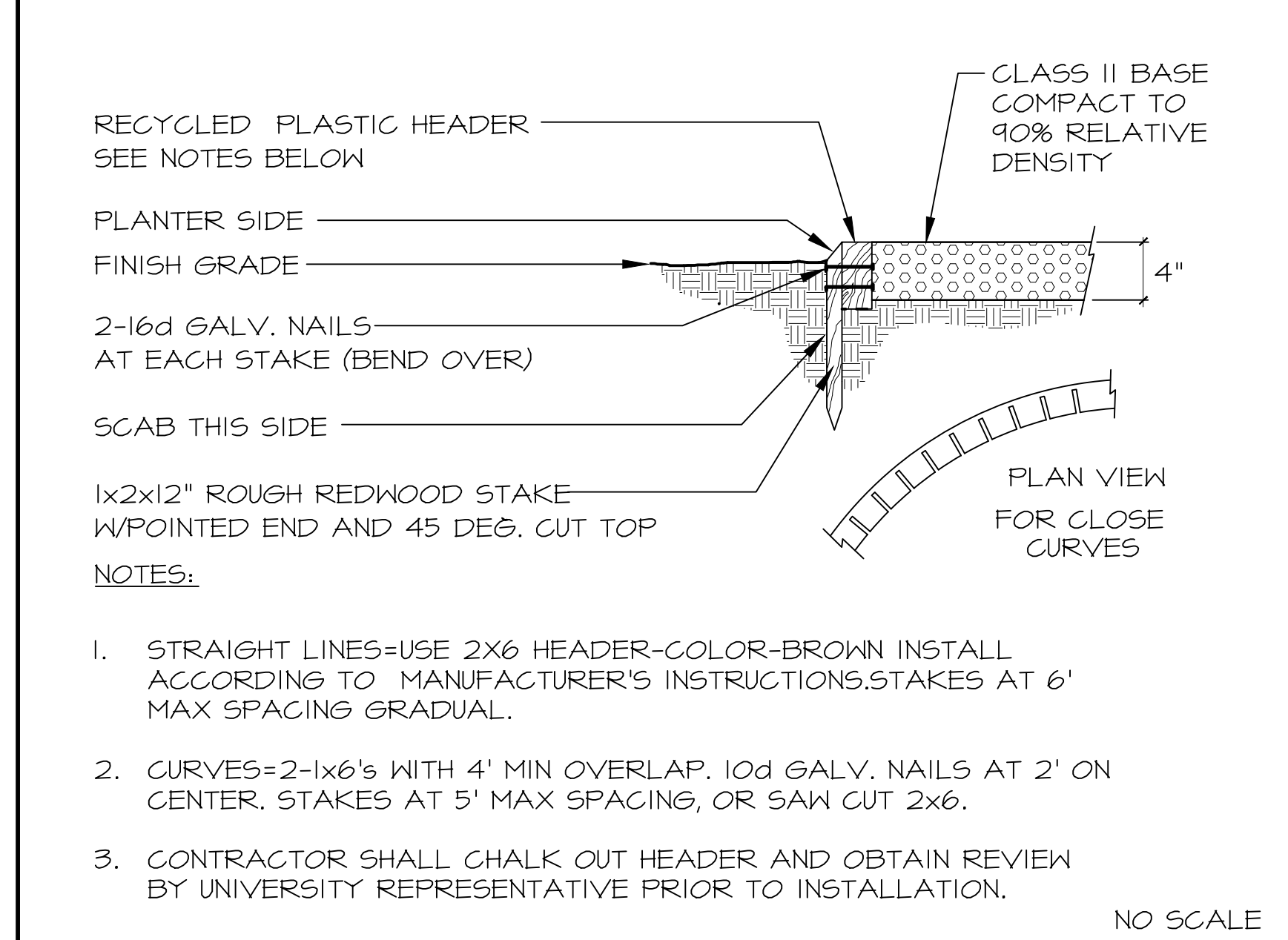
**1 TEMPORARY BIKE FENCING**



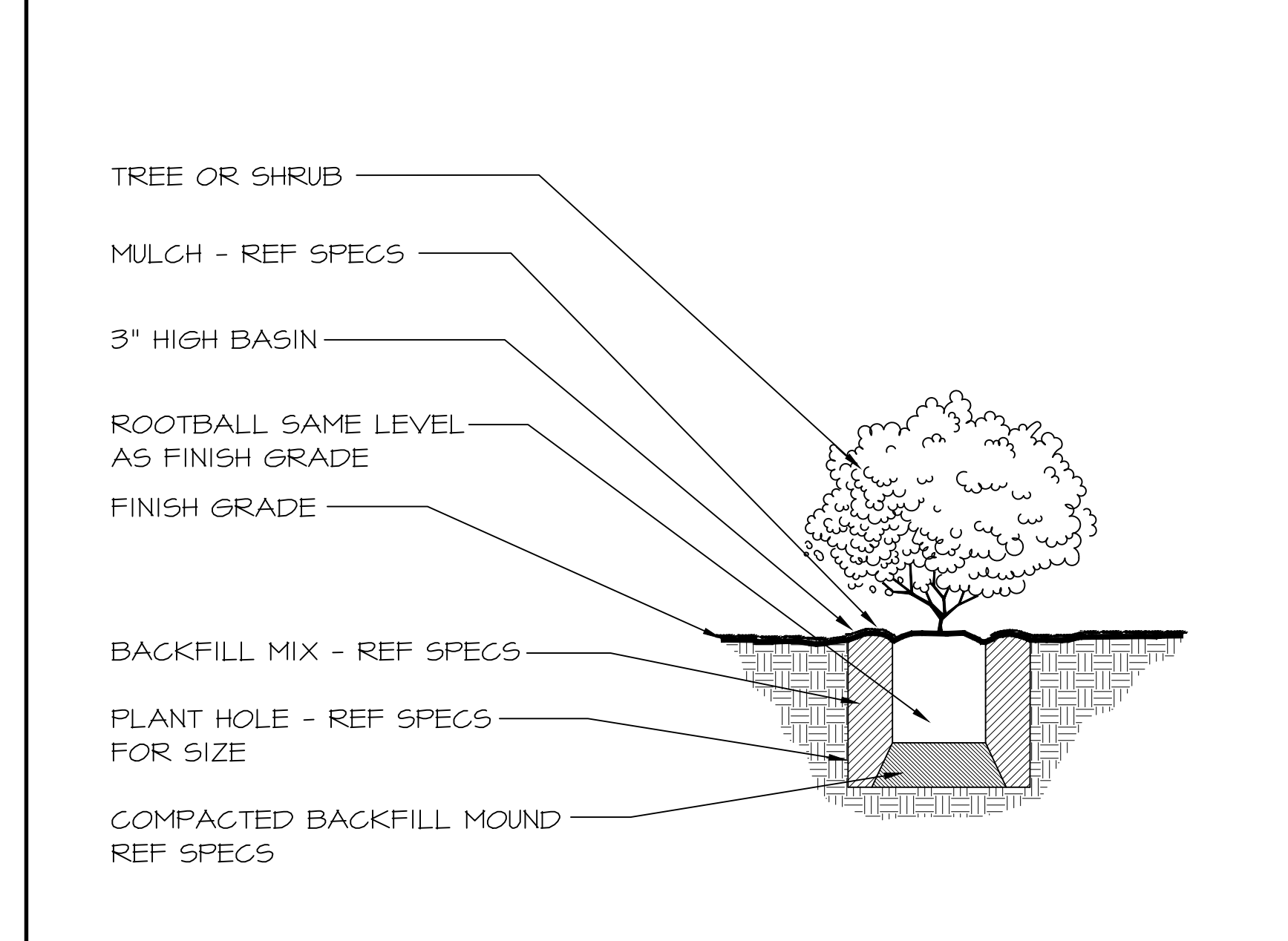
**10 DOUBLE TREE STAKE**



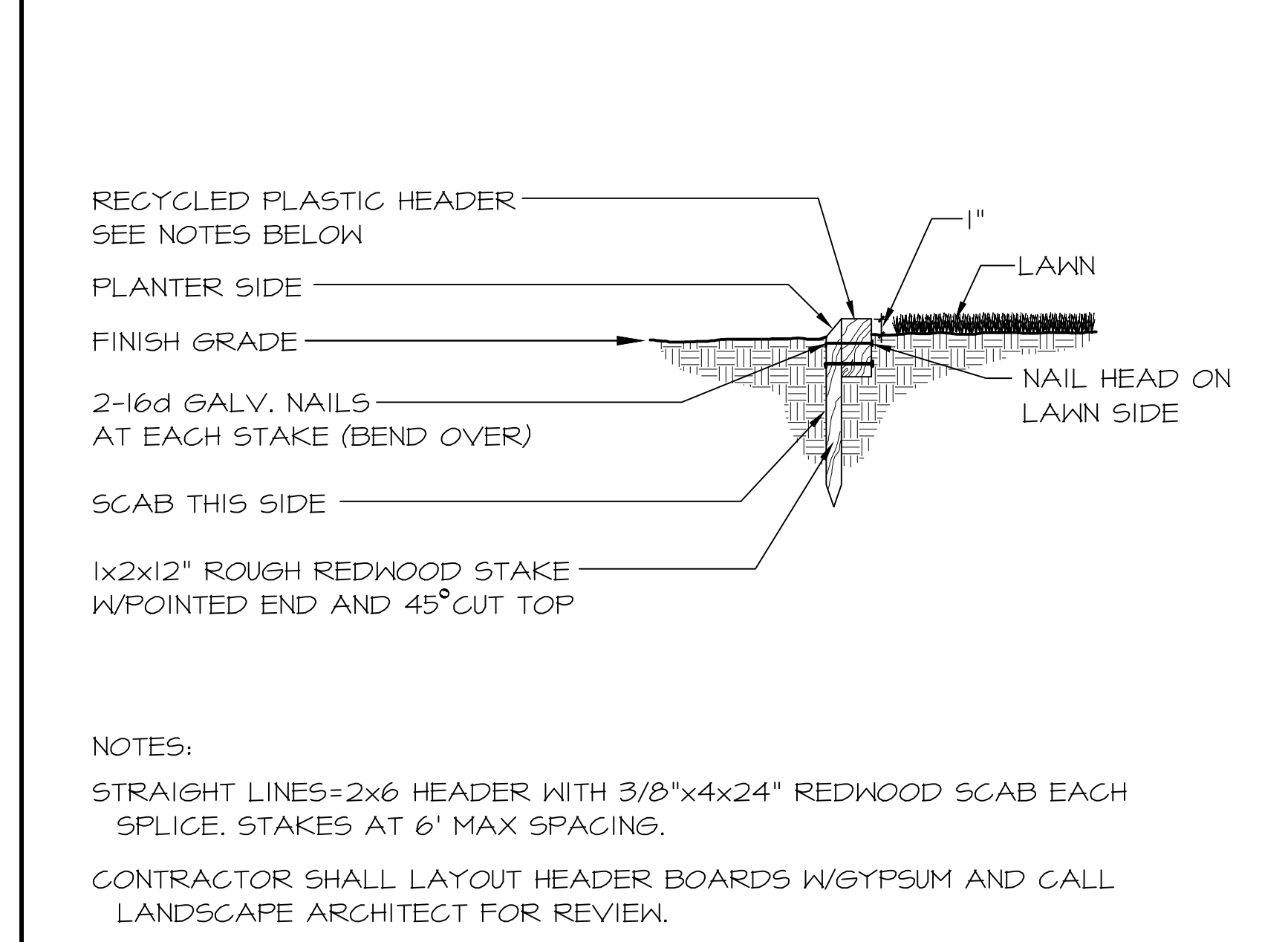
**6 BOULDER INSTALLATION**



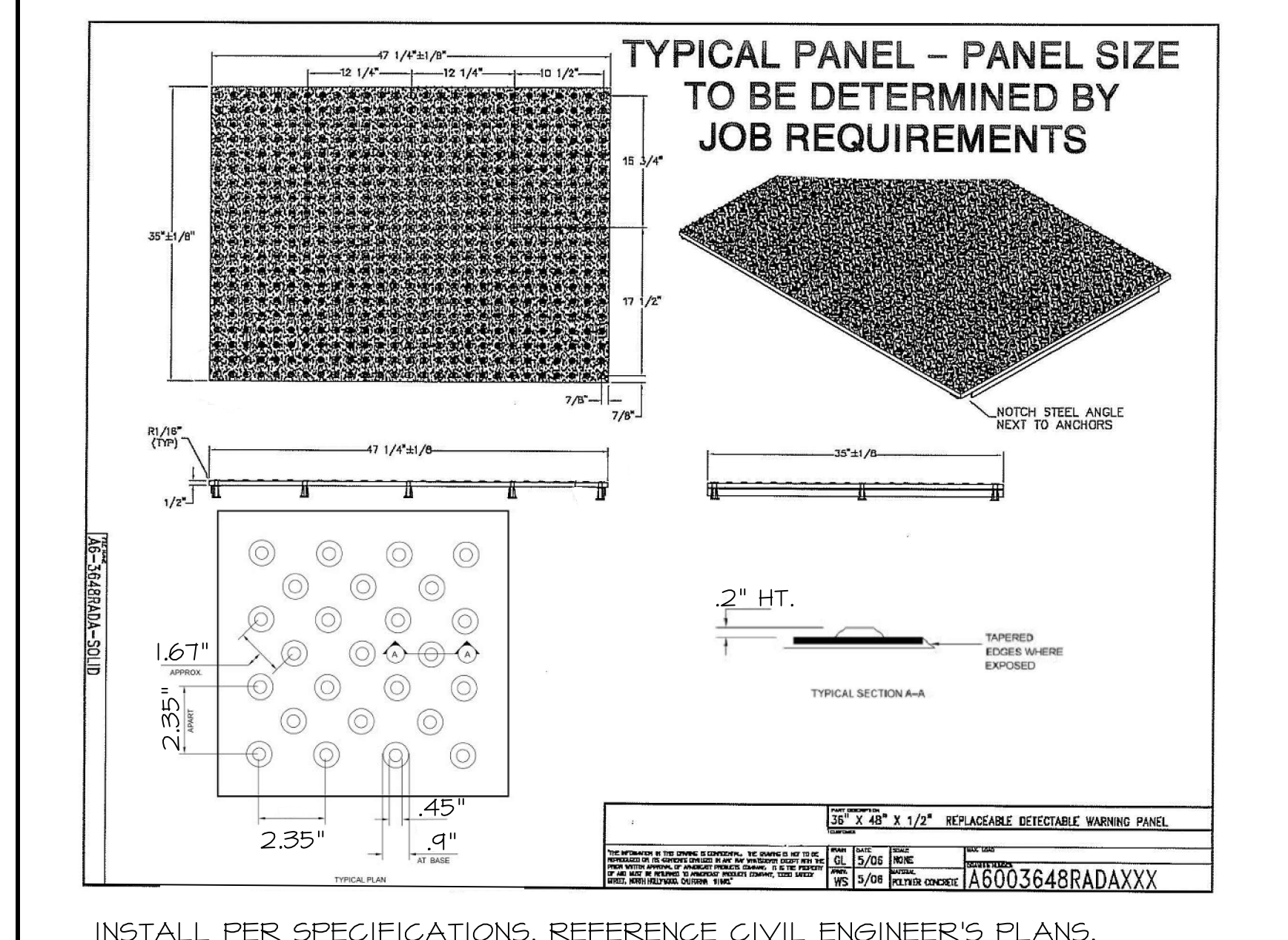
**2 ROAD BASE WITH RECYCLED HEADER**



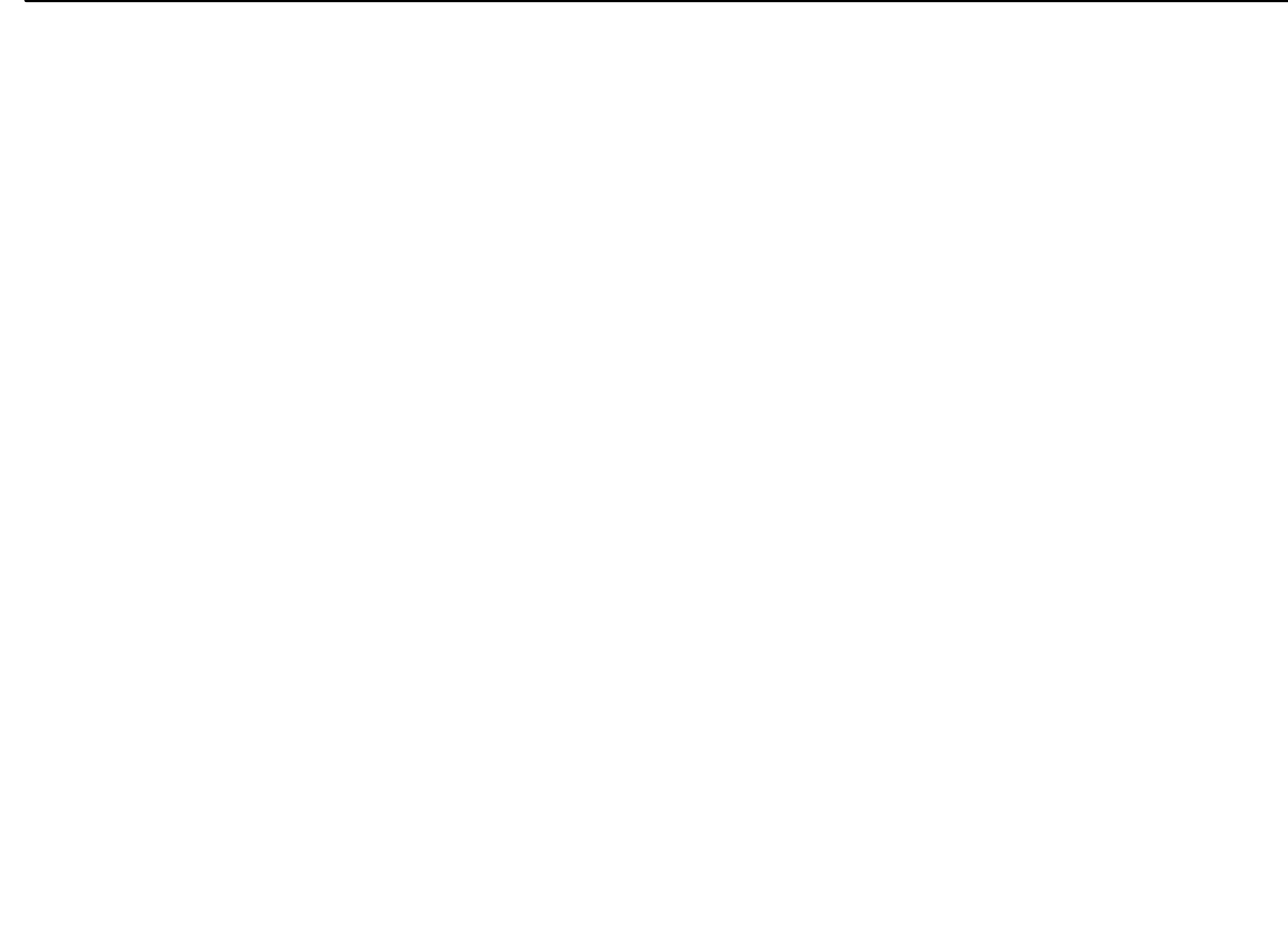
**11 TREE OR SHRUB PLANTING**



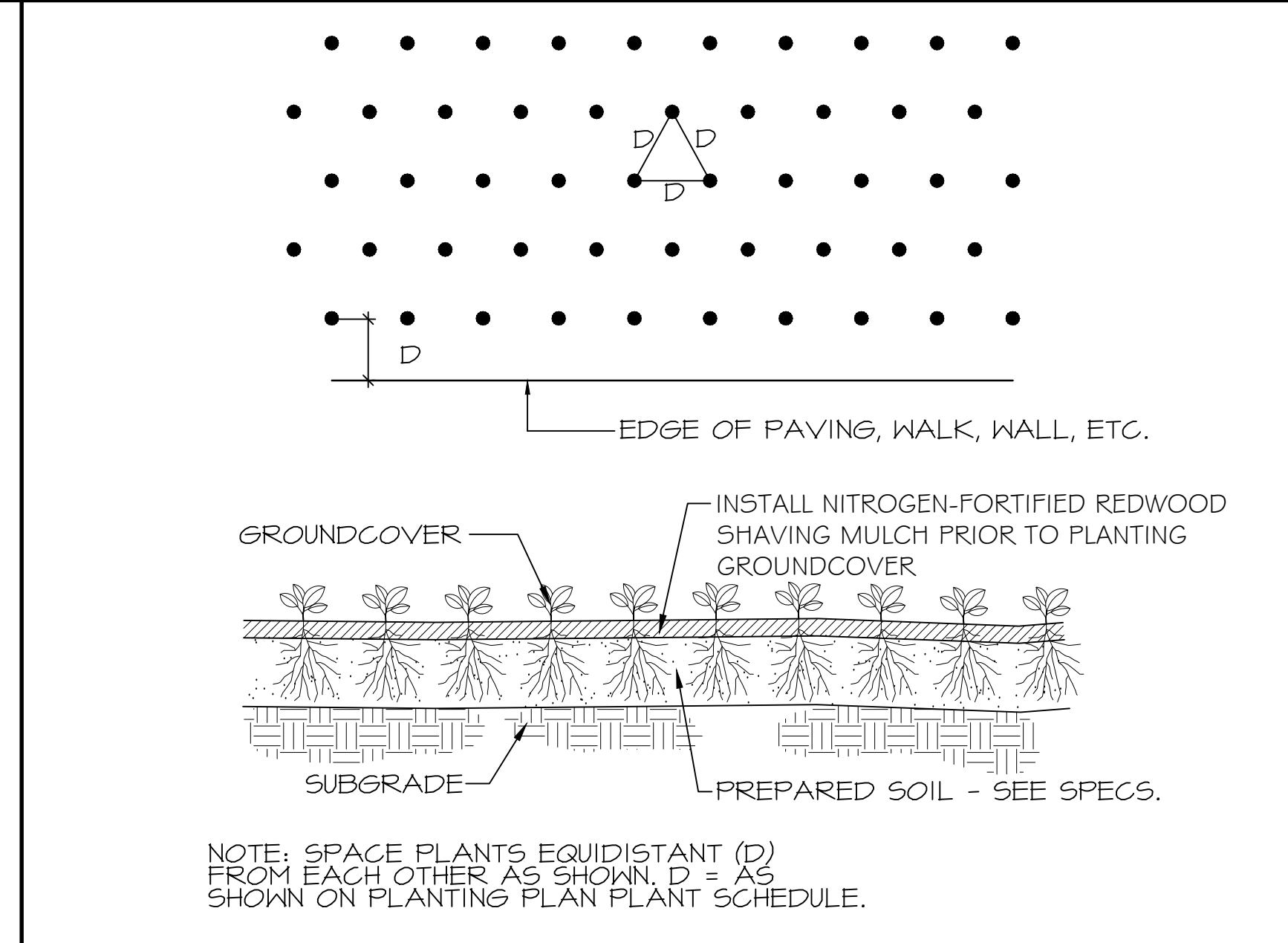
**7 RECYCLED PLASTIC HEADER**



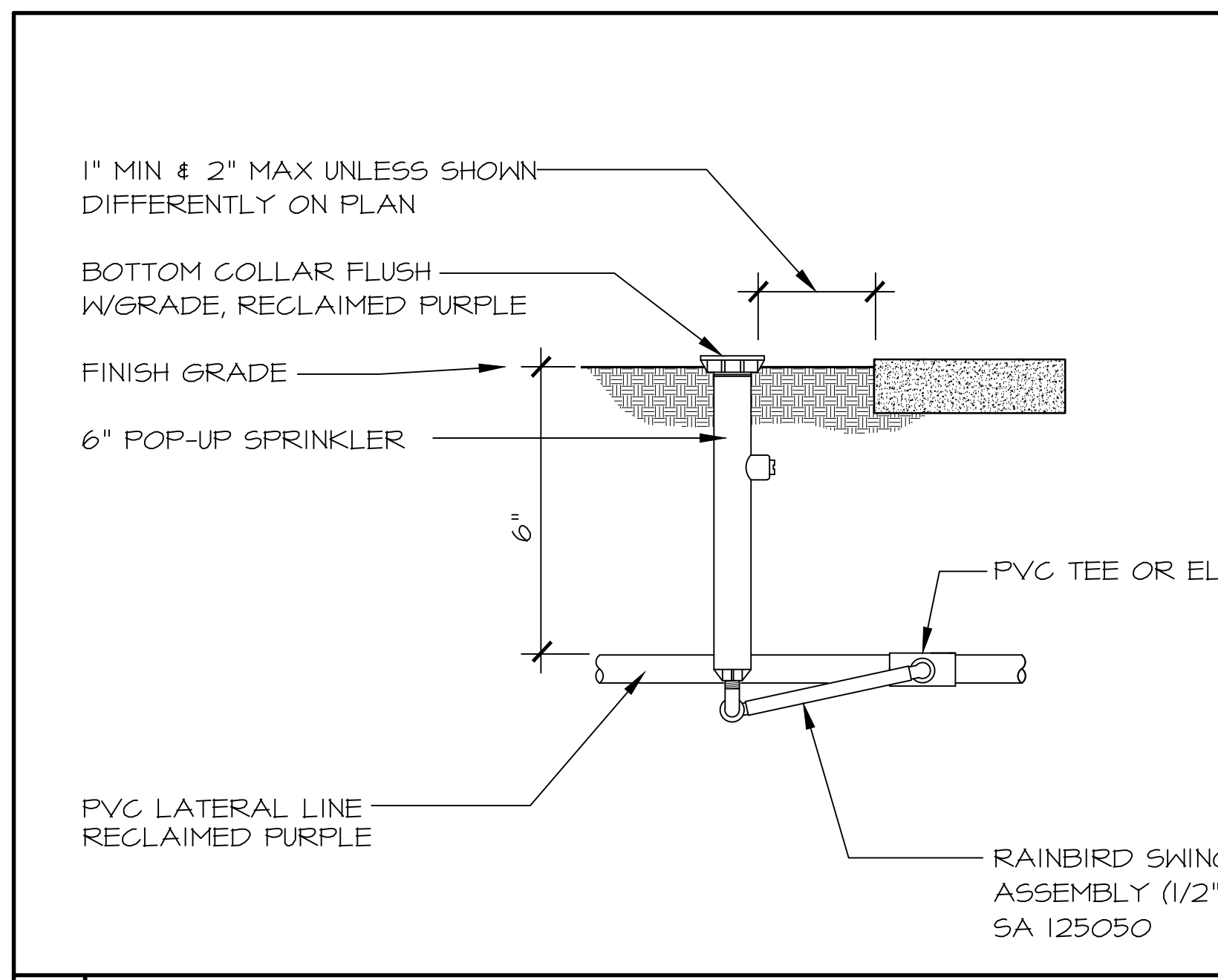
**3 DETECTABLE WARNING**



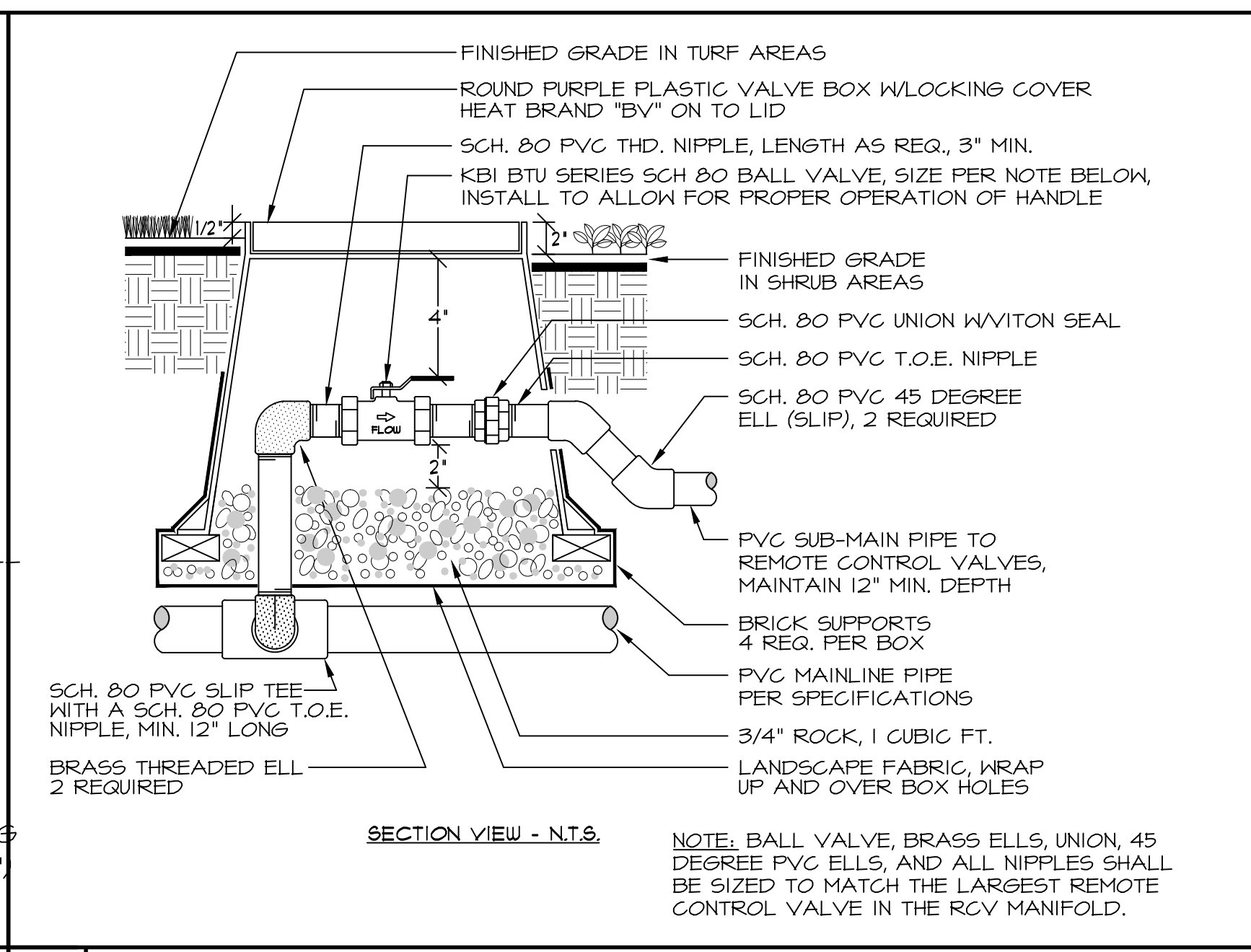
**8 GROUND COVER**



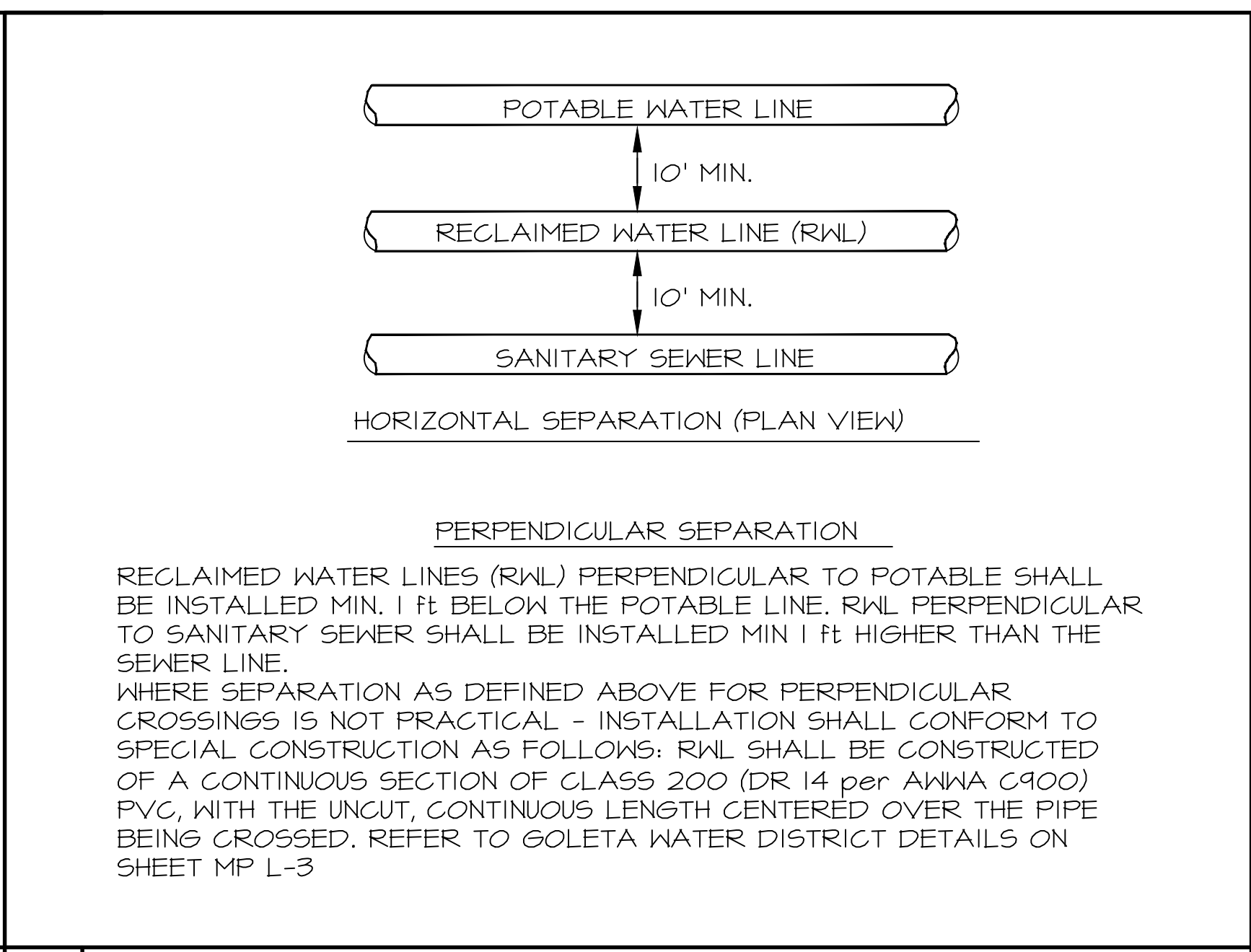
**4 POLE BASE DETAIL**



**9 6" POP-UP HEAD**



**5 VALVE MANIFOLD**



**1 RECLAIMED WATER LINE SEPARATION**

**BASIC SEPARATION STANDARDS**

- PARALLEL CONSTRUCTION: THE HORIZONTAL DISTANCE BETWEEN DOMESTIC WATER AND RECYCLED WATER LINES AND SANITARY SEWER LINES SHALL BE AT LEAST 10 FEET.
- PERPENDICULAR CONSTRUCTION (CROSSING): DOMESTIC WATER LINE SHALL BE AT LEAST ONE FOOT ABOVE SANITARY SEWER AND RECYCLED WATER LINES WHERE THESE LINES MUST CROSS.
- SPECIAL PROVISIONS: ALTERNATIVE CONSTRUCTION CRITERIA WHERE THE BASIC SEPARATION STANDARDS CANNOT BE ATTAINED ARE SHOWN ON THE FOLLOWING PAGES.

**SPECIAL PROVISIONS GENERAL NOTES**

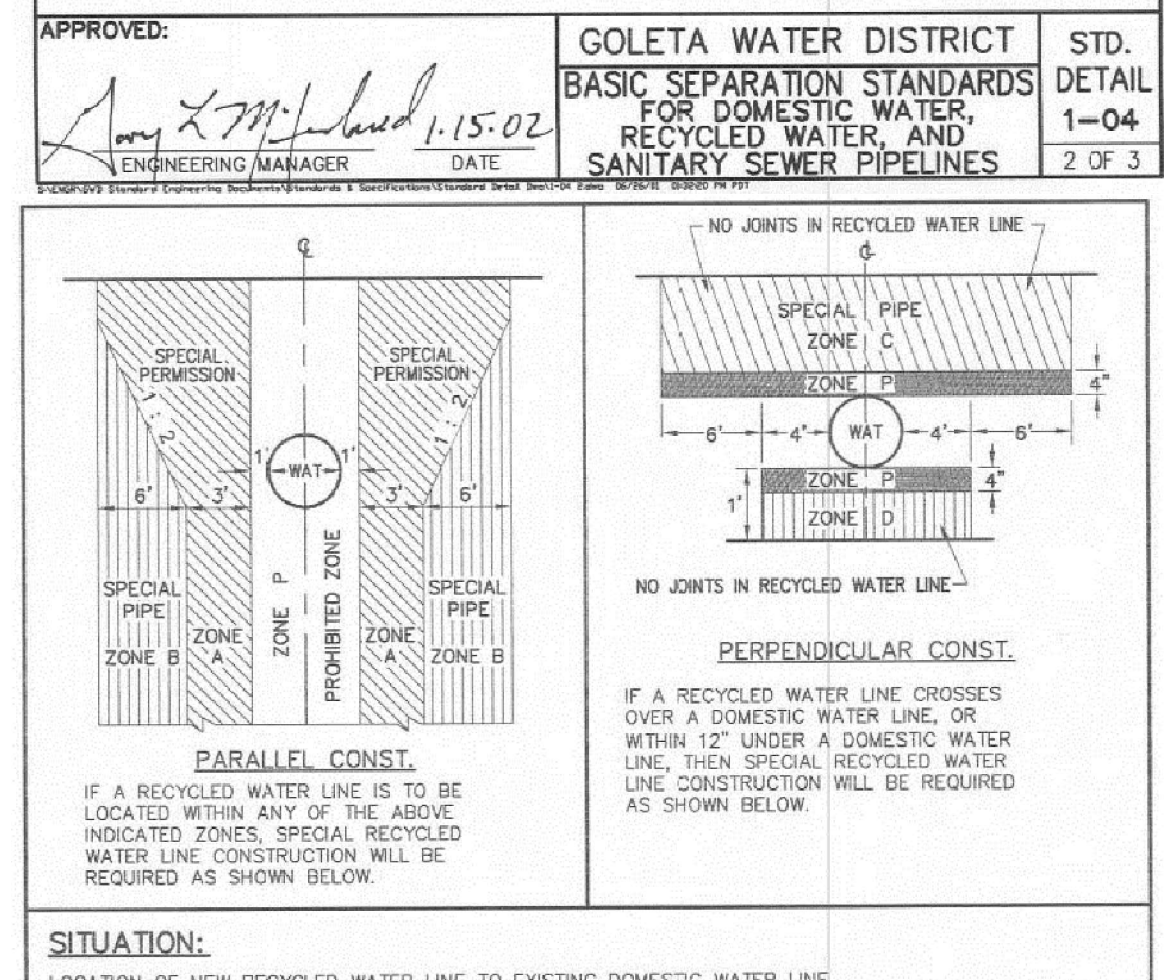
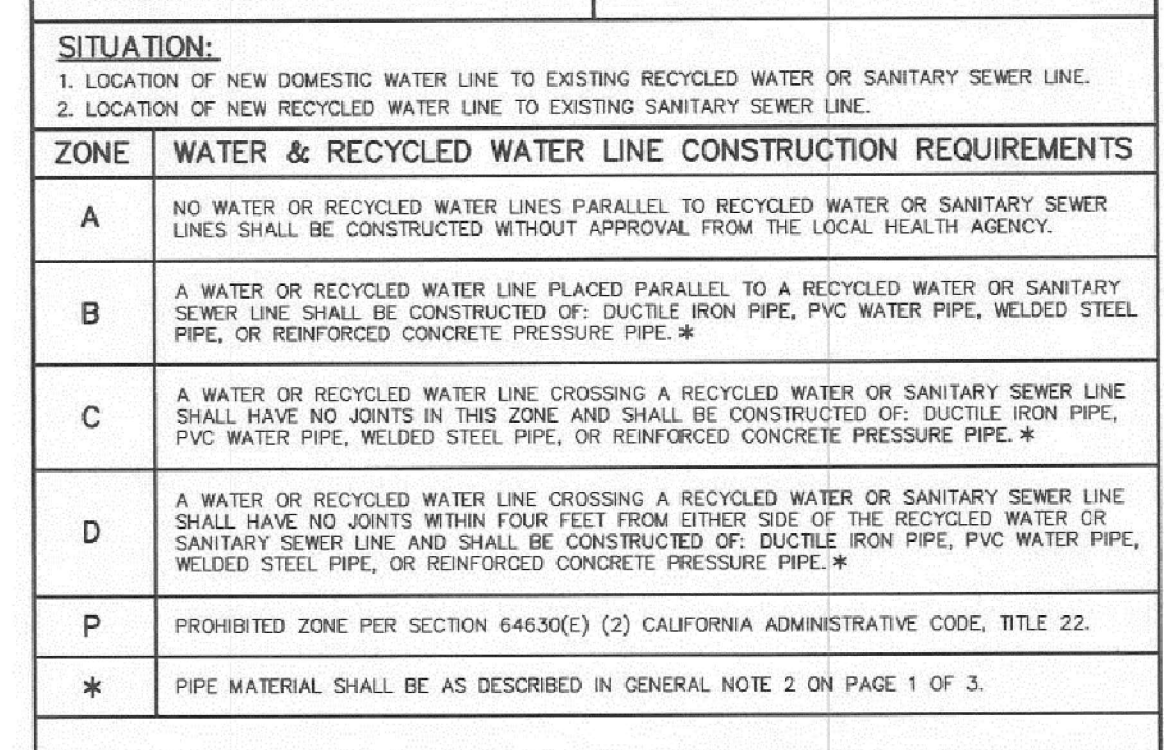
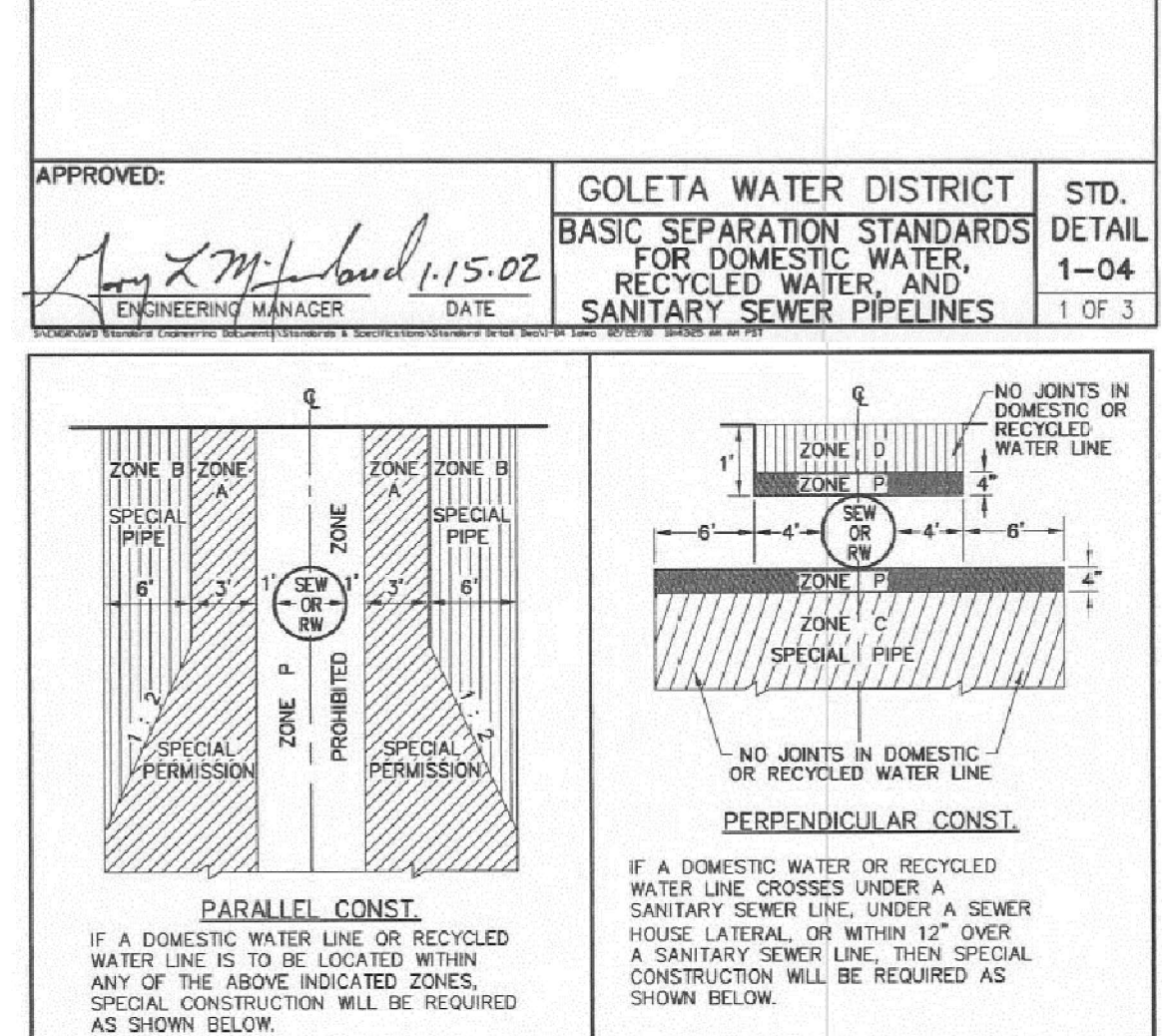
- NO PIPE JOINTS SHALL BE PERMITTED WITHIN ZONES C AND D.
- ALL DUCTILE IRON PIPE MUST HAVE HOT DIP BITUMINOUS COATING. ALL PVC PIPE SHALL BE CLASS 200 PRESSURE RATED (DR-14 PER ANWA STD. C900). ALL STEEL PIPE SHALL BE DIPPED AND WRAPOUT WITH THE WELDED STEEL PIPE, OR REINFORCED CONCRETE PRESSURE PIPE, STEEL CYLINDER PIPE, PER ANWA STANDARDS C300, C301 OR C303.
- SEWER FORCE MAINS SHALL NOT BE PERMITTED IN ZONES A THROUGH D.
- THIS CRITERIA DOES NOT APPLY FOR A RECYCLED WATER LINE CROSSING ANOTHER RECYCLED WATER LINE.
- THE CONSTRUCTION CRITERIA SHALL APPLY TO SEWER HOUSE LATERALS THAT CROSS ABOVE DOMESTIC WATER LINES BUT NOT TO THOSE HOUSE LATERALS THAT CROSS BELOW DOMESTIC WATER LINES.
- PIPE SHALL BE SEPARATED PER THE REQUIREMENTS OF SANTA BARBARA COUNTY DEPARTMENT OF PUBLIC HEALTH. IF DIFFERENCE BETWEEN DISTRICT AND SDGPH REQUIREMENTS OCCURS, THEN MOST STRINGENT REQUIREMENTS SHALL APPLY.

WAT	INDICATES DOMESTIC WATER PIPELINE
RW	INDICATES RECLAIMED/RECYCLED WATER PIPELINE
SEW	INDICATES SANITARY SEWER PIPELINE OR SEWER HOUSE LATERAL

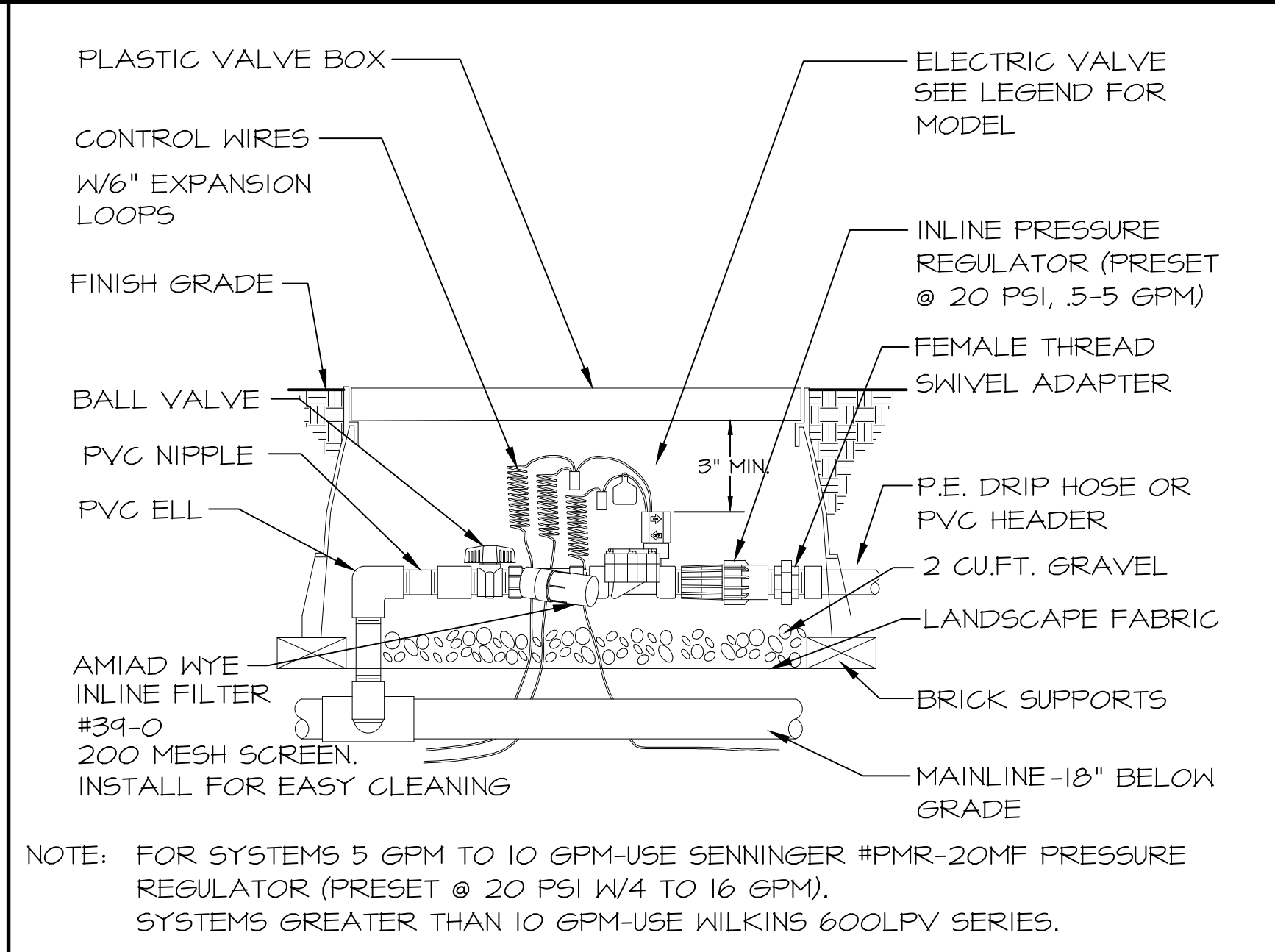
APPROVED: *[Signature]* DATE: 1/15/02  
ENGINEERING MANAGER

GOLETA WATER DISTRICT  
BASIC SEPARATION STANDARDS FOR DOMESTIC WATER, RECYCLED WATER AND SANITARY SEWER PIPELINES

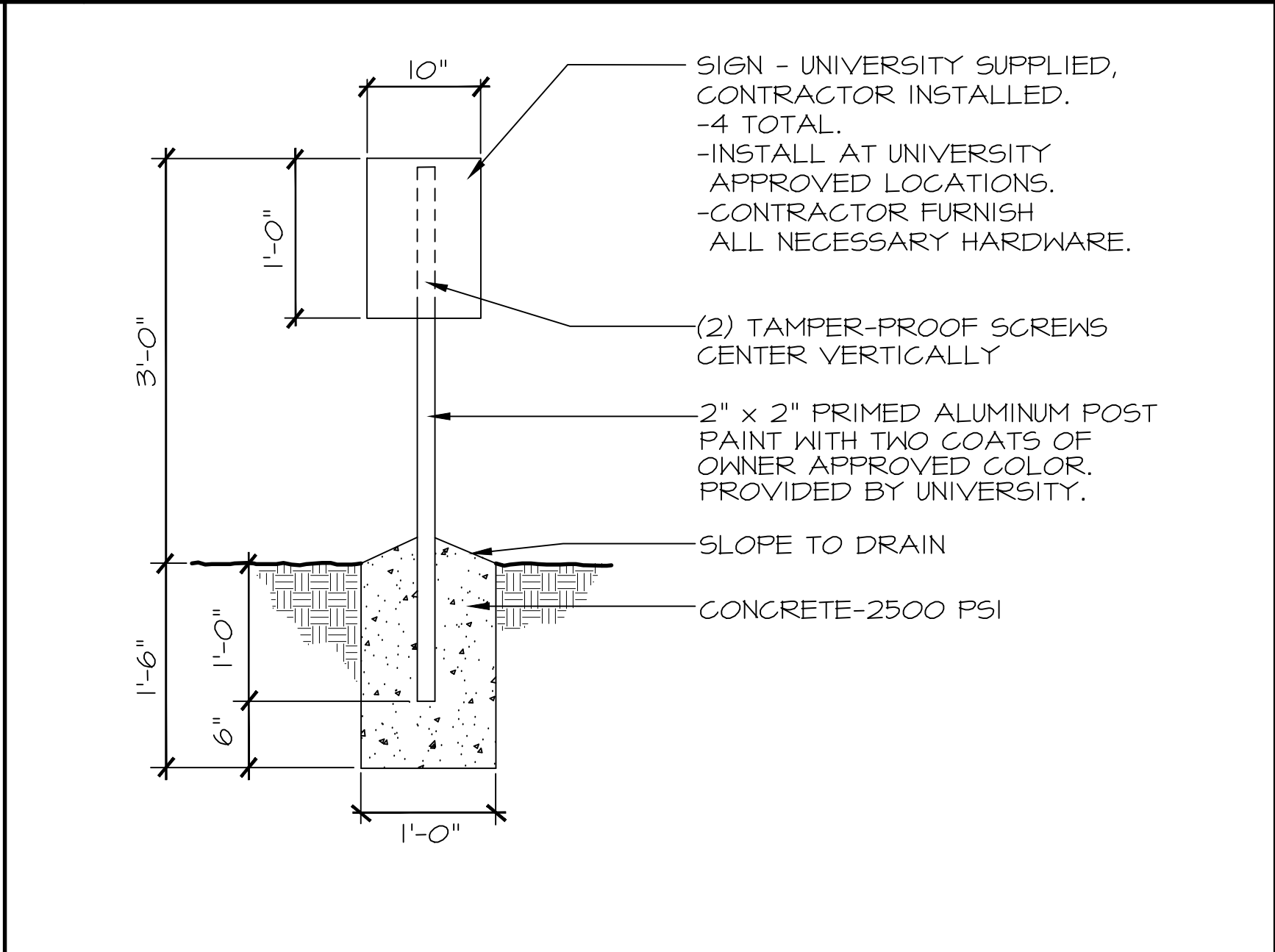
STD. DETAIL 1-04  
1 OF 3



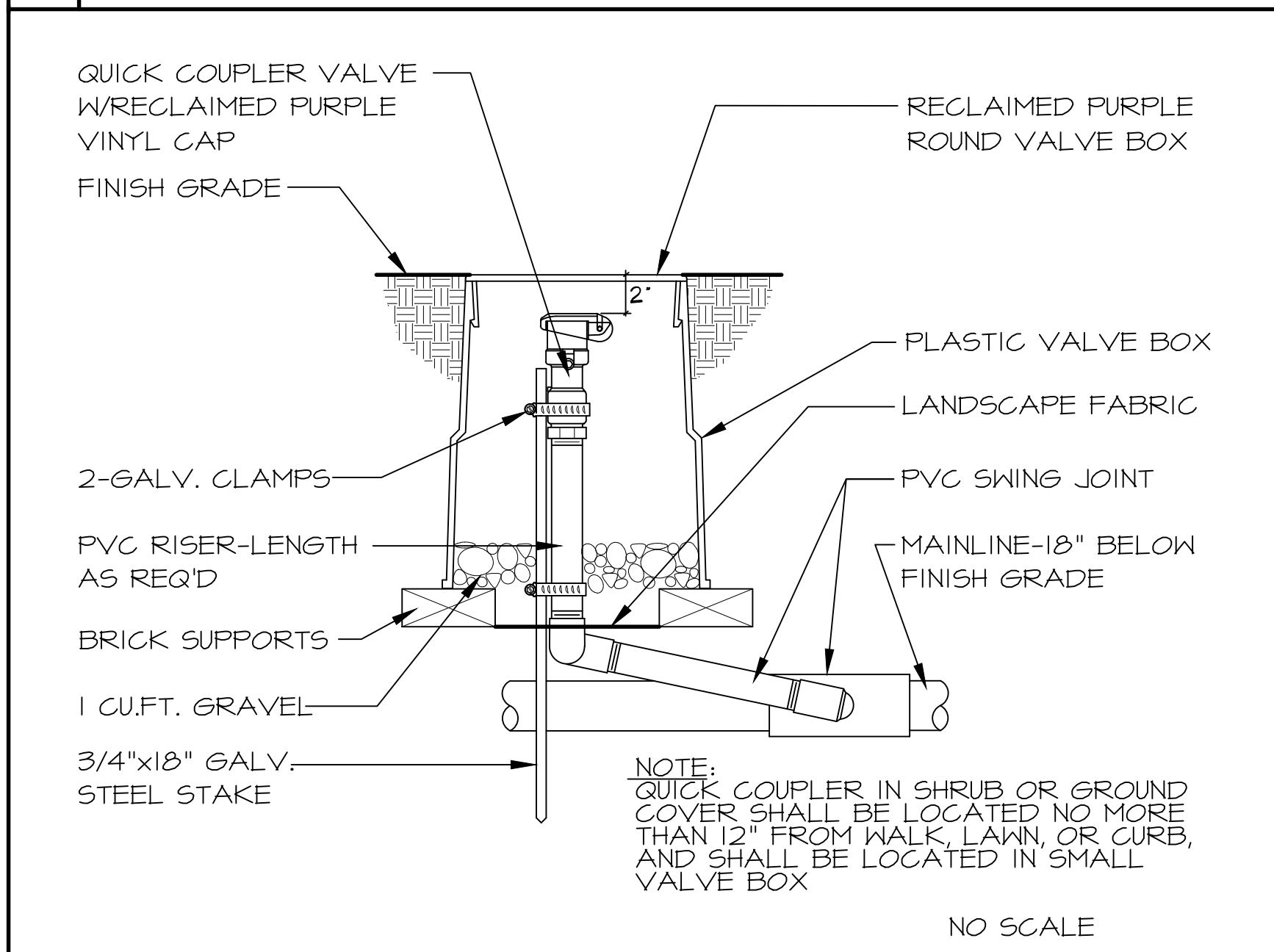
**7 QUICK COUPLER- RECLAIMED WATER**



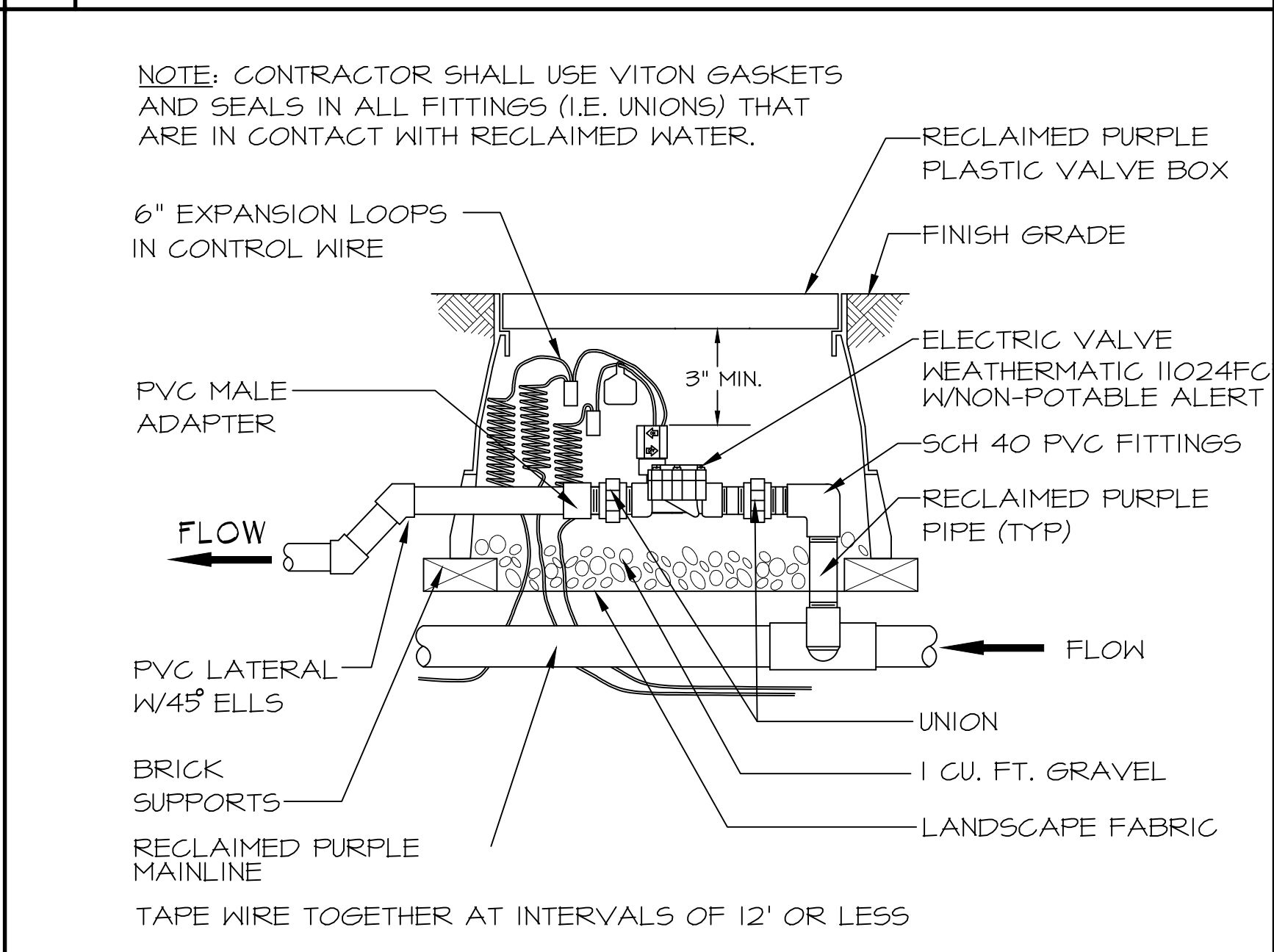
**6 DRIP ASSEMBLY**



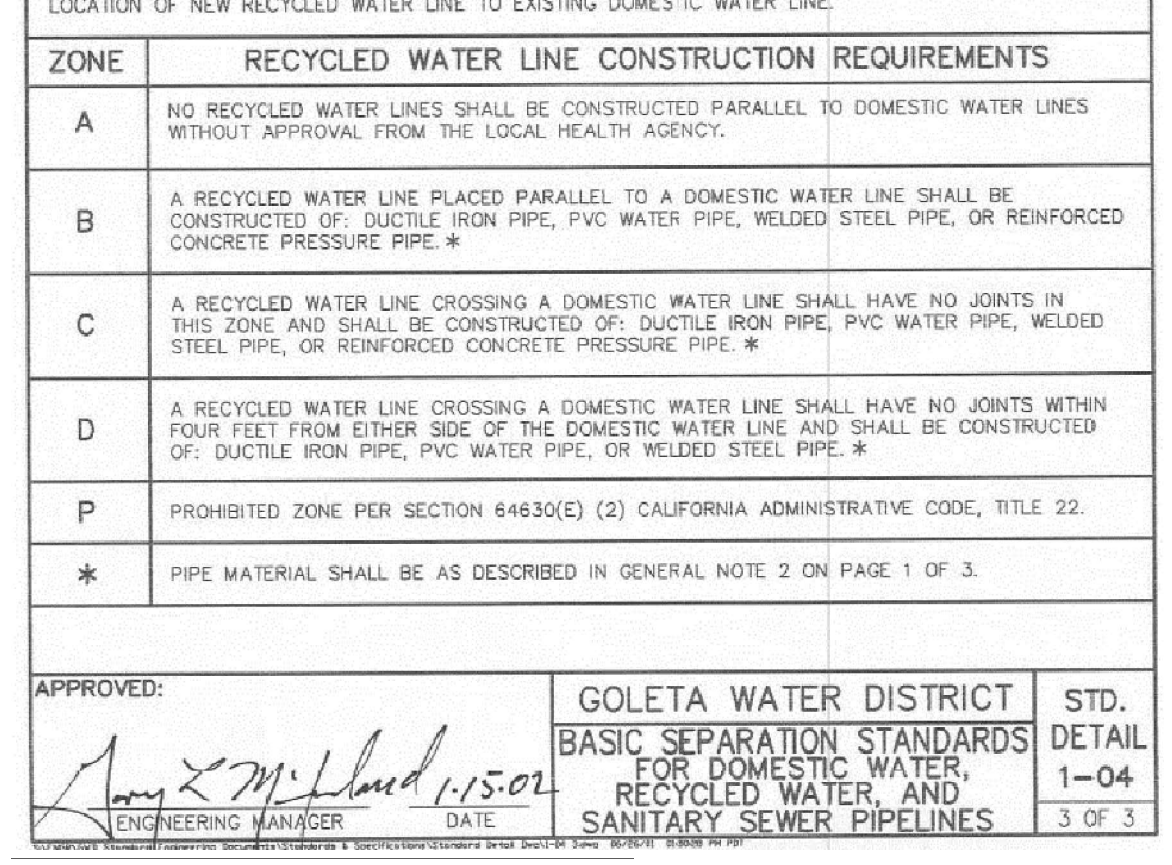
**2 RECLAIMED WATER SIGNS**



**3 ELECTRIC VALVE**



**4 HUNTER 4" POP UP ROTOR**



**8 EMITTER**

**COUNTY OF SANTA BARBARA ENVIRONMENTAL HEALTH SERVICES DIVISION**

THIS APPROVAL IS GRANTED FOR ENVIRONMENTAL HEALTH SERVICES ONLY, AND IS SEPARATE AND APART FROM THE APPROVAL OF ANY OTHER ENVIRONMENTAL REGULATION. IT SHALL NOT BE HELD TO BE AN APPROVAL OF THE VALIDATION OF ANY STATE OR LOCAL LAW OF REGULATION.

IT IS UNLAWFUL TO MAKE ANY CHANGES OR ALTERATIONS TO THE SAME WITHOUT WRITTEN PERMISSION FROM ENVIRONMENTAL HEALTH SERVICES, COUNTY OF SANTA BARBARA.

DATE: \_\_\_\_\_ BY: \_\_\_\_\_ WITH CORRECTIONS/CONDITIONS/CLARIFICATIONS OF SHEETS: \_\_\_\_\_

**GOLETA WATER DISTRICT RECYCLED WATER CROSS-CONNECTION REVIEW**

Goleta Water District (GWD) has reviewed these plans for conformance with GWD Code, Title 7. This review and any comments or corrections made by GWD do not relieve the Owner/Applicant or Engineer from compliance with GWD Code, Title 7. The Owner/Applicant shall be responsible for ensuring that all work is done in accordance with GWD's Standards and Specifications. Any change or alterations without obtaining written authorization by GWD are prohibited.

DATE: \_\_\_\_\_ BY: \_\_\_\_\_ DATE: \_\_\_\_\_

AN APPROVED SET OF PLANS MUST BE KEPT ON THE JOB SITE AVAILABLE FOR REVIEW BY ENVIRONMENTAL HEALTH.

**IRRIGATION DETAILS**

