

DRIPLINE INSTALLATION NOTES

- 1. ALL DRIPLINE, FITTINGS, FILTERS, PRESSURE REGULATORS, AIR VACUUM RELIEF VALVES, AND FLUSH VALVES SHALL BE FURNISHED BY THE MANUFACTURER LISTED IN THE LEGEND; AND SHALL BE INSTALLED AS PER THE LEGEND, THE DETAILS, AND THE MANUFACTURERS' RECOMMENDATIONS. NO SUBSTITUTIONS WILL BE ACCEPTED.
- 2. DRIPLINE SHALL GENERALLY BE LAID OUT AS FOLLOWS:
 A. DRIPLINE IS INSTALLED AROUND THE ENTIRE EDGE OF THE AREA TO BE IRRIGATED.
 (1) DISTANCES FROM THE EDGE OF THE IRRIGATED AREA ARE: (a) 2-4" NEXT TO ASPHALT, CONCRETE PAVING, OR "HARDSCAPE".
- (a) 2-4 NEXT TO ASPTIALT, CONCRETE PAVING, OR TIARDSCAPE.

 (b) 2-4" OUTSIDE OF UNCONTAINED LANDSCAPES.

 (2) AT CORNERS, THE DRIPLINE MAY BE CURVED, DOWN TO A MINIMUM RADIUS OF 15 INCHES.

 FOR CORNERS SHARPER THAN THIS, ELBOWS (OR TEES, AS APPLICABLE) SHALL BE USED.

 B. DRIPLINE IS INSTALLED THROUGHOUT THE ENTIRE AREA TO BE IRRIGATED, AND IS

 CONNECTED WITH TEES TO THE DRIPLINE LAID AROUND THE EDGE.

 (1) ON ELAT CROUND (LESS THAN 3%):
- (1) ON FLAT GROUND (LESS THAN 3%): (a) DRIPLINE SHALL GENERALLY RUN PARALLEL TO THE LONGEST SIDE OF THE AREA TO BE (b) DRIPLINES SHALL BE EVENLY SPACED AT A DISTANCE NOT TO EXCEED THE ON-CENTER (O.C.) SPACING INDICATED IN THE LEGEND. (2) ON'SLOPES (3% OR STEEPER):
- (a) DRIPLINE SHALL GENERALLY RUN PARALLEL TO CONTOUR LINES, NOT UP AND DOWN (b) DRIPLINES SHALL BE SPACED AT 125% OF ON-CENTER SPACING ON THE LOWER ONE-THIRD OF THE SLOPE.
 C. THE RESULTING GRID OF DRIPLINE SHALL BE A "CLOSED LOOP" SYSTEM, EXCEPT IN NARROW
- 3. ON LOOPED DRIPLINE SYSTEMS WITH A SINGLE POINT OF SUPPLY, THE SUPPLY CONNECTION SHALL BE MADE ON THE PERIMETER OF THE LOOP, AND THE CONNECTION SHALL BE LOCATED ON THE OPPOSITE SIDE OF THE LOOP FROM THE FLUSH VALVE.

AREAS WHICH ARE ONLY WIDE ENOUGH FOR ONE DRIPLINE.

Know what's **below. Call** before you dig.

- 4. THE IRRIGATION CONTRACTOR SHALL THOROUGHLY FLUSH ALL LATERALS AND DRIPLINES PRIOR TO INSTALLATION OF FLUSH VALVES AND AIR VACUUM RELIEF VALVES. 5. LOCATION OF FLUSH VALVES ON THE PLANS IS DIAGRAMMATIC ONLY. FLUSH VALVES SHALL BE LOCATED AT THE LOWEST POINT IN ELEVATION OPPOSITE THE POINT OF SUPPLY ON LOOPED DRIPLINE SYSTEMS, AND AT THE END OF THE LINE ON SINGULAR RUNS OF DRIPLINE.
- 6. LOCATION OF AIR VACUUM RELIEF VALVES ON THE PLANS IS DIAGRAMMATIC ONLY. AIR VACUUM RELIEF VALVES SHALL BE LOCATED AT THE HIGHEST POINT IN ELEVATION ON LOOPED OR SINGULAR DRIPLINES.

IRRIGATION NOTES

- 1. INSTALL ALL EQUIPMENT AS SHOWN IN THE DETAILS AND/OR AS STATED IN THE WRITTEN SPECIFICATIONS PREPARED BY THE LANDSCAPE ARCHITECT AND MANUFACTURER. 2. THIS DESIGN IS DIAGRAMMATIC. ANY EQUIPMENT SHOWN IN PAVED AREAS IS FOR DESIGN CLARIFICATION ONLY, AND IS TO BE INSTALLED WITHIN PLANTED AREAS WHEREVER POSSIBLE. 3. THE IRRIGATION CONTRACTOR SHALL NOT WILLFULLY INSTALL THE IRRIGATION SYSTEM AS INDICATED ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT UNKNOWN OBSTRUCTIONS OR GRADE DIFFERENCES EXIST THAT WERE NOT KNOWN DURING DESIGN. SUCH CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S AUTHORIZED REPRESENTATIVE, OR THE LANDSCAPE ARCHITECT, OTHERWISE THE IRRIGATION CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY NECESSARY REVISIONS.
- 4. THE SYSTEM DESIGN IS BASED ON THE MINIMUM OPERATING PRESSURE SHOWN AT EACH POINT OF CONNECTION. THE IRRIGATION CONTRACTOR SHALL VERIFY ALL PRESSURES ON SITE PRIOR TO COMMENCING WITH THE INSTALLATION OF THE IRRIGATION SYSTEM. 5. FINAL LOCATION OF AUTOMATIC CONTROLLER TO BE DETERMINED BY THE OWNER'S AUTHORIZED REPRESENTATIVE AND/OR THE LANDSCAPE ARCHITECT.
- 6. 117 VOLT 60HZ SINGLE PHASE ELECTRICAL POWER OUTLET FOR THE IRRIGATION CONTROLLER IS TO BE PROVIDED BY THE OWNER/DEVELOPER. THE IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING THE HOOK-UP FROM THE POWER OUTLET TO THE CONTROLLER. 7. ALL WIRE FROM THE CONTROLLER TO THE ELECTRIC CONTROL VALVES SHALL BE #14 AWG-UF DIRECT BURIAL COPPER WIRE. PILOT WIRES SHALL BE COLOR CODED BY CONTROLLER AND COMMON GROUND WIRES SHALL BE WHITE WITH IDENTIFYING COLOR STRIPE CODED FOR EACH CONTROLLER. CONTRACTOR SHALL INSTALL (1) EXTRA COLOR CODED COMMON AND (1) EXTRA PILOT WIRE FROM THE CONTROLLER TO THE FARTHEST VALVE(S) FOR FUTURE USE. INSTALL IN COMMON TRENCH WITH MAIN LINE PIPING WHEREVER POSSIBLE. FASTEN WIRES TO UNDERSIDE OF MAIN LINE WITH NYLON WIRE TIES AT 10 FT. INTERVALS. PROVIDE A MINIMUM OF 18" OF COVER WHEN NOT ADJACENT TO MAIN LINE.
- 8. ALL WIRE CONNECTIONS SHALL BE MADE IN VALVE BOXES WITH APPROVED WATERPROOF WIRE CONNECTORS. WIRE SPLICES WILL NOT BE PERMITTED UNLESS APPROVED BY THE OWNER'S AUTHORIZED REPRESENTATIVE, OR THE LANDSCAPE ARCHITECT. WIRE SPLICES SHALL BE LOCATED ON RECORD DRAWINGS AS PER SPECIFICATIONS. 9. PROVIDE A MINIMUM OF 24" OF COVER OVER ALL PRESSURE MAIN LINE PIPING 3" AND LARGER,
- 18" OF COVER OVER ALL OTHER PRESSURE MAIN LINE PIPING, AND 12" OVER ALL NON-PRESSURE LATERAL LINE PIPING. PROVIDE A MINIMUM OF 36" COVER OVER ALL SLEEVES UNDER STREETS AND VEHICULAR TRAFFIC AREAS. ALL MAIN LINE PIPING UNDER PAVED AREAS SHALL BE INSTALLED IN SCH. 40 PVC SLEEVES. ALL SLEEVES SHALL BE INSTALLED UNDER PAVED AREAS PRIOR TO PAVING. 10. THE IRRIGATION CONTRACTOR SHALL FLUSH ALL LINES AND ADJUST ALL HEADS FOR MAXIMUM PERFORMANCE AND TO PREVENT OVERSPRAY ONTO ALL WALKS, WALLS, FENCES, DRIVES, AND BUILDINGS AS MUCH AS POSSIBLE. THIS WORK SHALL INCLUDE SELECTING THE BEST DEGREE OF ARC TO FIT ANY EXISTING SITE CONDITIONS.
- 11. THE IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ANTI-DRAIN VALVES AS REQUIRED BY FIELD CONDITIONS TO PREVENT DAMAGE AND EROSION DUE TO EXCESSIVE LOW HEAD RUNOFF.
- 12. UPON COMPLETION OF THE JOB, THE CONTRACTOR IS TO PROVIDE THE OWNER WITH A SEPIA MYLAR OF THE RECORD IRRIGATION PLANS. 13. THE SYSTEM SHALL BE FULLY GUARANTEED FOR A PERIOD OF ONE YEAR. ANY DEFECTIVE MATERIAL OR POOR WORKMANSHIP SHALL BE REPLACED OR CORRECTED BY THE IRRIGATION CONTRACTOR AT NO COST TO THE OWNER(S).

IRRIGATION LEGEND

SYMBOL	MFR.	MODEL NUMBER	COLOR	DESCRIPTION	EMITTERS	GPH.	GPM.	PSI.	DETAIL
	RAIN BIRD	XFS-CV-09-18	BROWN	XFS-CV SUB-SURFACE PRESSURE COMP. DRIPLINE w/	18" O.C.	0.90 GPH.	1.02 / 100'	20 - 60	H-1
				ANTI-SIPHON EMITTERS & CHECK VALVES (8 FT. MAX.)	INSTALL ROWS AT 18" O.C. THROUGHOUT SHRUB AREAS INSTALL DRIPLINE 6" BELOW FINISH GRADE IN SHRUB AREAS		REAS		
							UB AREAS		
─ □O──	RAIN BIRD	XFF-TFA-075		DRIPLINE ADAPTER TEE (DRIPLINE x 3/4" FIPT)	FOR AREAS <7.0 GPM., USE ONE PVC FILL RISER (EDGE FEED)			DGE FEED)	H-2
(E)	(APPROVED)	(BRASS)		MANUAL FLUSH HOSE END CAP (3/4" FHT)	FOR "EDGE FEED" DRIPLINE AREAS			H-3	
(no symbol)	RAIN BIRD	OPERIND		POP-UP OPERATION INDICATOR	INSTALL 1 ON EACH DRIPLINE ZONE, AT THE CONTROL VALVE		(MFR.)		
	<u> </u>								3/16/22

SYMBOL	MFR.	MODEL NUMBER	DESCRIPTION	REMARKS	DETAIL
	(APPROVED)	SCH. 40 PVC	PRESSURE MAIN LINE (POTABLE WATER SOURCE):	FOR UNDERGROUND INSTALLATION; SIZES NOTED (1" MIN.)	A-1
	(APPROVED)	CL. 200 PVC	NON-PRESSURE LATERAL LINE (POTABLE SOURCE)	FOR UNDERGROUND INSTALLATION; SIZES NOTED (3/4" MIN.)	A-1
□4□4□	(APPROVED)	SCH. 40 PVC	MAIN LINE & LATERAL LINE SLEEVE	DIAMETER AS NOTED IN THE SLEEVE SYMBOL ON THE PLAN	A-3, A-20
- 1w - 1w - - 1w - 1w -	(APPROVED)	SCH. 40 PVC	LOW VOLTAGE CONTROL WIRE SLEEVE	DIAMETER AS NOTED IN THE SLEEVE SYMBOL ON THE PLAN	A-3, A-20
<u>□ŽJTŽJ</u>	(APPROVED)	SCH. 40 PVC	LATERAL LINE SLEEVE	SIZE: TWO TIMES THE SIZE OF THE LINE BEING SLEEVED	A-3
\otimes	NIBCO	T-585-70	BRONZE BALL VALVE (THREADED - FULL PORT)	LINE SIZE, TO 2" MAX.	D-1
Ø	RAIN BIRD	33 DRC	QUICK-COUPLING VALVE w/ YELLOW RUBBER COVER	FOR POTABLE WATER, 3/4"	D-10
	RAIN BIRD	PEB	ELECTRIC CONTROL VALVE w/ FILTER	1", w/ FLOW CONTROL	A-21, E-12
	RAIN BIRD	LC RBY 100D	DISC Y-FILTER	1", 120 MESH, 0 - 26 GPM.	

	RAIN BIRD	LC RBY 100D	DISC Y-FILTER	1", 120 MESH, 0 - 26 GPM.	
SYMBOL		DESCRIPTION	REMARKS		
STA.#	INDICATES CO	ONTROL VALVE SIZE ONTROLLER STATION NUMBER OW IN GALLONS PER MINUTE			
STA.#	INDICATES CO	ONTROL VALVE SIZE ONTROLLER STATION NUMBER OW IN GALLONS PER MINUTE	INDICATES ELECTRIC CONTROL VALVE &	VALVE BOX PREVIOUSLY INSTALLED PER SEPARATE SET OF PL	ANS.



PULLMAN LOFTS PH II BLDG C

04.15.22 | Ist CITY SUBMITTAL

Revisions:

DESIGNER:

CONSULTANTS:

LANDSCAPE

ARCHITECTS

BREA, CA. 949.683.3110

WATER RIGHT

DESIGN

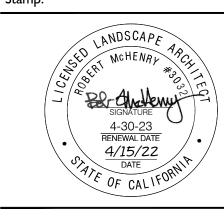
SUITE 100

RVINE, CA 92618 (949) 440-1030

701 WILSON ST. SANTA ROSA, CA.

DEVELOPER: PHOENIX DEVELOPMENT

30 MEYERS CT. **NOVATO, CA 94947**

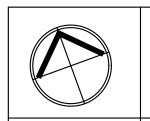


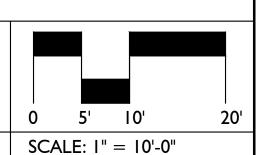
Drawn By: Checked By: WRD 04.15.22 Plan Date: Scale:

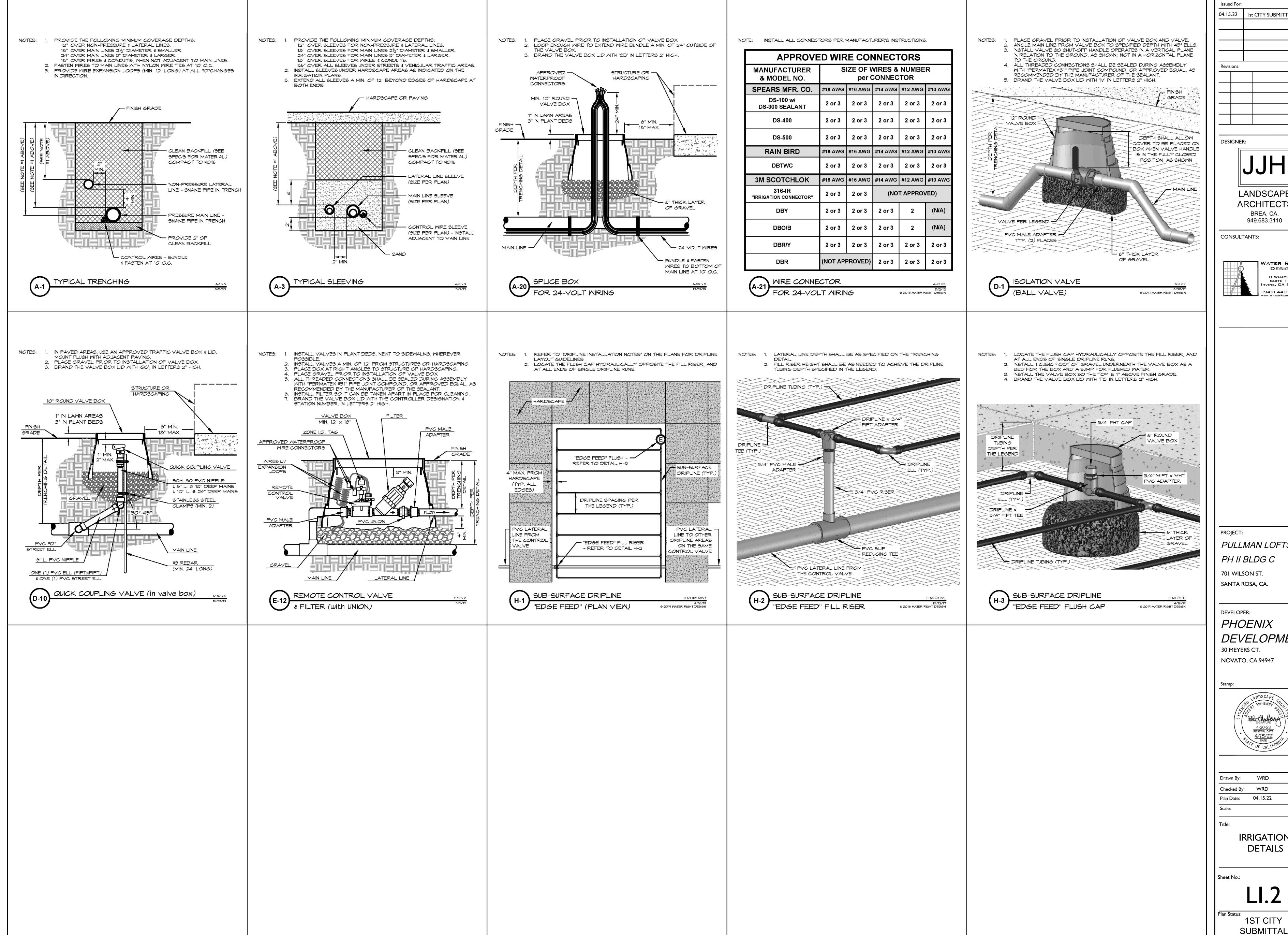
IRRIGATION PLAN

1ST CITY SUBMITTAL

WHENEVER ANY ITEM OF "DISTRIBUTION & CONTROL EQUIPMENT" IS SIZED SMALLER THAN THE MAIN LINE OR LATERAL LINE PIPING ON WHICH IT IS PLACED, THE REDUCTION IN PIPE SIZE SHALL ONLY OCCUR AT THE THREADED FITTING WHICH ADAPTS THE PIPE TO THE PIECE OF EQUIPMENT.







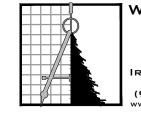
04.15.22 | Ist CITY SUBMITTAL

Revisions:

DESIGNER:

LANDSCAPE **ARCHITECTS** BREA, CA. 949.683.3110

CONSULTANTS:

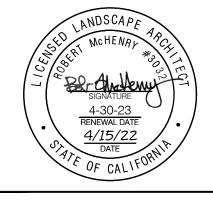


DESIGN 8 WHATNEY SUITE 100 RVINE, CA 92618

PROJECT: **PULLMAN LOFTS** PH II BLDG C

701 WILSON ST. SANTA ROSA, CA.

PHOENIX DEVELOPMENT 30 MEYERS CT.



Drawn By: Checked By:

IRRIGATION DETAILS

1ST CITY

This worksheet is filled out by the project applicant and it is a required element of the Landscape Documentation Package. Please complete the hydrozone table(s) for each

Hydrozone*	Zone or Valve	Irrigation Method**	Area (Sq. Ft.)	% of Landscape Area
LW	A-1	D	172	1.9%
LW	A-2	D	1,087	12.0%
MW	A-3	D	403	4.5%
MW	A-4	D	191	2.1%
MW	A-5	В	20	0.2%
LW	A-6	D	999	11.1%
LW	A-7	D	1,279	14.2%
MW	A-8	В	60	0.7%
LW	A-9	D	256	2.8%
MW	A-10	В	20	0.2%
LW	A-11	D	1,036	11.5%
LW	A-12	D	1,057	11.7%
LW	A-13	В	4	0.0%
MW	A-14	D	427	4.7%
MW	A-15	В	68	0.8%
LW	A-16	В	176	2.0%
LW	A-17	В	12	0.1%
LW	A-18	В	4	0.0%
MW	A-19	D	930	10.3%
MW	A-20	D	231	2.6%
MW	A-21	D	346	3.8%
MW	A-22	D	96	1.1%
MW	A-23	D	150	1.7%
	Total =		9,024	100%

	Summary Hydrozone Table	
Hydrozone*	Area (Sq. Ft.)	% of Landscape Area
High Water Use	0	0%
Moderate Water Use	2,942	33%
Low Water Use	6,082	67%
Total =	9,024	100%

*Hydrozone HW= High Water Use Plants MW=Moderate Water Use Plants LW=Low Water Use Plants

**Irrigation Method MS=Micro-spray S=Spray R=Rotor B=Bubbler D=Drip

O=Other

Maximum Applied Water Allowance

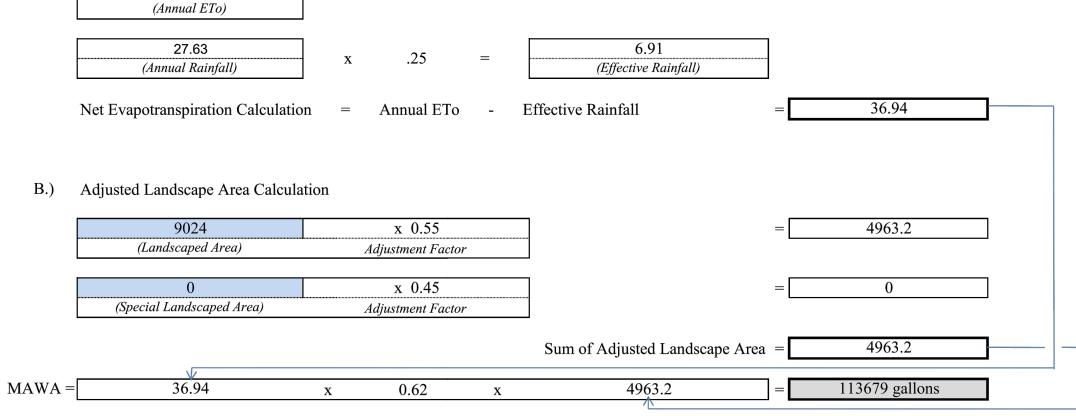
The following calculations will help you determine your site specific water budget and establish a planting mix that will allow you to meet your water budget. Your Estimated Total Water Use must be less than your Maximum Applied Water Allowance.

1.) Maximum Applied Water Allowance (MAWA) **RESIDENTIAL** MAWA = (ETo) (0.62)[(0.55x LA) + (0.45 x SLA)]ETo = Annual Net Reference Evapotranspiration (inches) 0.55 = ET Adjustment Factor LA = Landscaped Area (square feet)

0.62 =Conversion factor (to gallons per square foot) SLA = Portion of the landscape area identified as Special Landscape Area (square feet) 0.45 = the additional ET adjustment factor for Special Landscape Area (1.0 - 0.55 = 0.45)

A.) Net Evapotranspiration Calculation

43.85



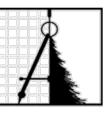
2.) Estimate

A.)

B.)

					Sum of Adjusted L	andscape Area =	4963.2	
=	36.94	X	0.62	X	4963.2	2 =	113679 gallons	
ed Total	Water Use (ETWU)							
Net Ev	apotranspiration Calculat	ion						_
	rapotranspiration Calculat		Annual ETo	-	Effective Rainfall	=	36.94	
Adjust	ed Landscape Area Calcu 0	lation	x 0.1			=	0	
(Very lo	w water use plant sqft) 6082		x 0.3			=	1824.6	_
(.	Low water use plant sqft)		_					
(Ma	2942 derate water use plant sqft)		x 0.6			=	1765.2	_
(1	0 High water use plant sqft)		x 1.0			=	0	
					Sum of Adjusted L	andscape Area =	3,590]
=	36.94	X	0.62	X	3,590 /	0.81	101813 gallons	

Irrigation Efficiency Factor Square footage of landscape on drip 8,660 Square footage of landscape on spray Total square footage of landscape 9024 Adjusted Irrigation Efficiency Factor



IRRIGATION SCHEDULES

FOR

Pullman Lofts

Santa Rosa, CA

(949) 440-1030

Prepared by Justin Heacock Landscape Architects Water Right Design 8 Whatney, suite 100 Irvine, CA 92618

Brea, CA (949) 683-3110

Project No.: JJH-007.1

Note These irrigation schedules are based on:

- Estimated soil infiltration rates and moisture holding capacities from USDA NRCS maps
- Average ETo rates from California Department of Water Resources' CIMIS (California Irrigation Management Information System) data or "Reference Evapotranspiration Values for Selected Locations in California" (A Guide to Estimating Irrigation Water Needs of Landscape Plantings in California – Appendix A).
- Estimates of plant material water needs based on species and microclimates, per
- WUCOLS (Water Use Classification of Landscape Species). Estimates of plant root depths.

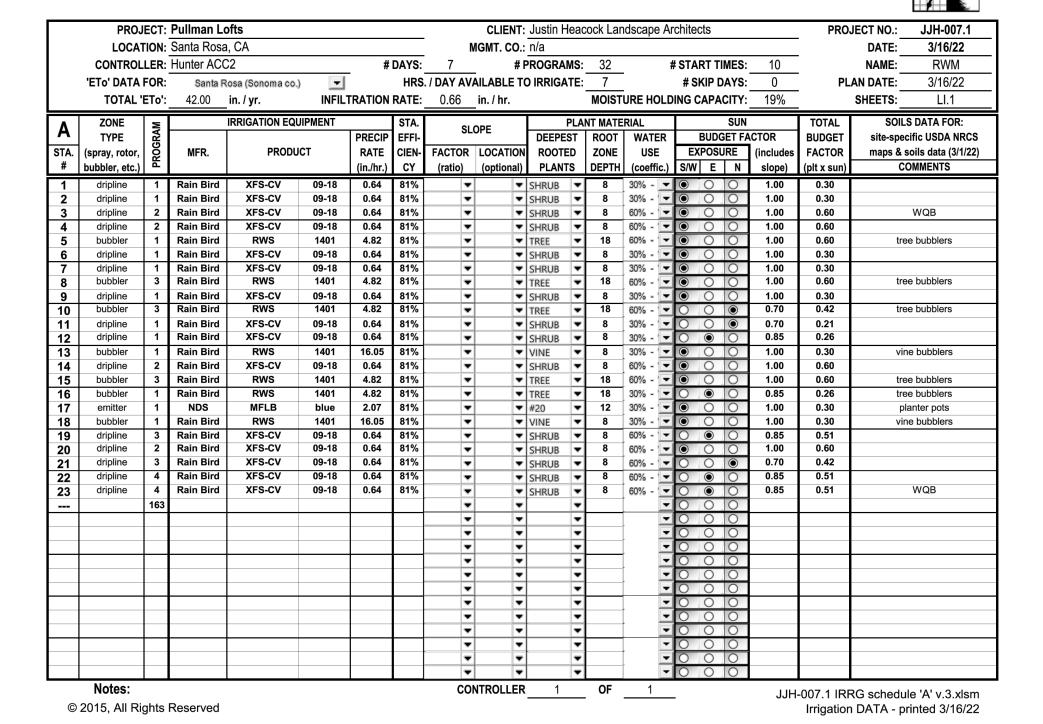
and data for the project site.

- Estimated irrigation precipitation rates from manufacturers' catalog data.
- Estimates of irrigation system application efficiencies derived from state of California or local Water Efficient Landscape Ordinances.
- Industry-accepted formulas for calculating landscape irrigation system run time, cycles and frequency.

These irrigation schedules are meant to be updated with site-specific agronomic soils data, after an agronomic soils report has been prepared for the project. The schedules are a guideline only, and do not take the place of proper, ongoing system management. Variances from the estimated site and climatic conditions, plant material water needs, and irrigation parameters will require ongoing adjustments to these calculated baseline

WATER RIGHT DESIGN

"Smart" Irrigation Controller Programming Data



ETo Location: Controller A
 Program 1
 Jan
 Feb
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 Apr
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 < 1:08 | 1:47 | 2:40 | 3:39 | 4:46 | 5:55 | 5:49 | 5:38 | 4:26 | 2:46 | 1:28 | 0:40 Program 2JanFebMarAprMayJunJulAugSepOctNovDec <u>In. / Hr.</u> <u>Zone</u> Run Time per Cycle 18:49 29:31 43:54 59:57 39:12 48:37 47:50 46:16 36:27 45:28 24:18 10:59 18:49 29:31 43:54 59:57 39:12 48:37 47:50 46:16 36:27 45:28 24:18 10:59 18:49 29:31 43:54 59:57 39:12 48:37 47:50 46:16 36:27 45:28 24:18 10:59 A-20 18:49 29:31 43:54 59:57 39:12 48:37 47:50 46:16 36:27 45:28 24:18 10:59 Program 2JanFebMarAprMayJunJulAugSepOctNovDec A-4 18:49 29:31 43:54 59:57 78:24 48:37 47:50 46:16 72:55 45:28 24:18 10:59 dripline A-14 18:49 29:31 43:54 59:57 78:24 48:37 47:50 46:16 72:55 45:28 24:18 10:59 dripline A-20 18:49 29:31 43:54 59:57 78:24 48:37 47:50 46:16 72:55 45:28 24:18 10:59 an Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Total Program Rur 1:15 | 1:58 | 2:55 | 3:59 | 5:13 | 3:14 | 3:11 | 3:05 | 4:51 | 3:01 | 1:37 | 0:43 Total Program Run 1:15 | 1:58 | 2:55 | 3:59 | 5:13 | 6:28 | 6:22 | 6:10 | 4:51 | 3:01 | 1:37 | 0:43
 Program 3
 Jan
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 1</ Cycles per Day 1 1 1 1 2 2 2 2 2 1 1 1 1 Precipitation Rate Zone Run Time per Cycle <u>ln. / Hr.</u> 02:30 03:55 05:50 07:58 05:13 06:28 06:21 06:09 04:51 06:03 03:14 01:28 01:45 02:45 04:05 05:35 03:39 04:31 04:27 04:18 03:24 04:14 02:16 01:01 02:30 03:55 05:50 07:58 05:13 06:28 06:21 06:09 04:51 06:03 03:14 01:28 16:00 25:05 37:19 50:58 33:19 41:19 40:39 39:19 30:59 38:39 20:40 09:20 13:10 20:40 30:44 41:58 27:27 34:02 33:29 32:23 25:31 31:50 17:01 07:41
 Program 3
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 02:30 03:55 05:50 07:58 10:25 12:55 12:43 12:18 09:42 06:03 03:14 01:28 A-19 16:00 25:05 37:19 50:58 66:39 82:38 81:18 78:38 61:59 38:39 20:40 09:20 dripline A-21 13:10 20:40 30:44 41:58 54:53 68:03 66:57 64:46 51:02 31:50 17:01 07:41 Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec 0:35 | 0:56 | 1:23 | 1:54 | 2:29 | 3:05 | 3:02 | 2:56 | 2:19 | 1:26 | 0:46 | 0:20 Total Program Run 0:35 | 0:56 | 1:23 | 1:54 | 2:29 | 3:05 | 3:02 | 2:56 | 2:19 | 1:26 | 0:46 | 0:20 Time per Week Program 4JanFebMarAprMayJunJulAugSepOctNovDec Cycles per Day 1 1 1 1 2 2 2 2 2 1 1 1 1 Precipitation Rate <u>In. / Hr.</u> <u>Zone</u> **Run Time per Cycle** 16:00 25:05 37:19 50:58 33:19 41:19 40:39 39:19 30:59 38:39 20:40 09:20 16:00 25:05 37:19 50:58 33:19 41:19 40:39 39:19 30:59 38:39 20:40 09:20 Total Run Time per Station per Irrigation Day Program 4 Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec dripline A-22 16:00 25:05 37:19 50:58 66:39 82:38 81:18 78:38 61:59 38:39 20:40 09:20 dripline A-23 16:00 25:05 37:19 50:58 66:39 82:38 81:18 78:38 61:59 38:39 20:40 09:20 an Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec 0:31 0:50 1:14 1:41 2:13 2:45 2:42 2:37 2:03 1:17 0:41 0:18 0:31 0:50 1:14 1:41 2:13 2:45 2:42 2:37 2:03 1:17 0:41 0:18

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

1:15 | 1:58 | 2:55 | 3:59 | 5:13 | 5:55 | 5:49 | 5:38 | 4:51 | 3:01 | 1:37 | 0:43

 3:32
 5:32
 8:14
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 18:15
 17:57
 17:22
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 8:32
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Time per Week

Issued For:
04.15.22 Ist CITY SUBMITTAL
Revisions:
DESIGNER:
DESIGNER.
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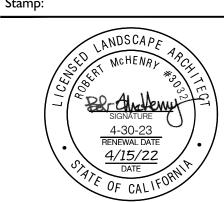
PULLMAN LOFTS PH II BLDG C

701 WILSON ST. SANTA ROSA, CA.

DEVELOPER: PHOENIX DEVELOPMENT

30 MEYERS CT. **NOVATO, CA 94947**

Stamp:



Drawn By: Checked By: WRD Plan Date: 04.15.22 Scale:

Title: **IRRIGATION** WATER USE CALCS & SCHEDULES

Sheet No.:

1ST CITY SUBMITTAL

SCOPE OF WORK

- 1.1. Supply all work 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 "Landscape Irrigation" complete, as shown on the Drawings, and/or specified herein.
- 1.2. The intent of the Drawings and specifications is to indicate and specify a complete and efficient irrigation system ready for use in accordance with the manufacturer's recommendations and meeting the approval of the Owner's authorized representative without further cost of labor and material to the Owner.

2. SPECIAL REQUIREMENTS

- 2.1. All work called for on the Drawings by notes shall be furnished and installed whether or not specifically mentioned in the specifications.
- 2.2. Any equipment installed by the Contractor and deemed to be for the use of the Owner in various situations (i.e. gate valves, control valves, etc.) shall be so installed as to be readily accessible and quickly operable by the Owner. Equipment deemed by the Owner to be inoperable for its intended purpose shall be reinstalled by the Contractor in an operable position before approval will be given.
- 2.3. Replace and/or repair to the satisfaction of the Owner all existing landscaping or paving disturbed during the course of this work. New landscaping or paving shall be the same type, strength, texture, finish, and be equal in every way to the material removed.

3. SUBMITTALS

3.1. Materials List: Prior to any installation of any work, submit a detailed list of each material proposed for use in the project, to the Owner and/or his representative for approval. Submit typewritten material list using the following format:

DESCRIPTION	MANUFACTURER	MODEL NO.
Controller	Calsense	ET2000e-24
Main line pipe	Pacific Plastics	cl. 315 PVC
Quick coupler	Rain Bird	33DLRC

- 3.2. Pump Equipment Data: Submit full data on all equipment for approval by the
- 3.3. Certificates: Submit manufacturer's certification that plastic pipe and fittings comply with specification requirements.

3.4. Record Drawings:

- 3.4.1. Record all changes which are made from the contract Drawings, including changes in pressure and non-pressure lines.
- 3.4.2. Record changes in ink on a set of black line prints of the Drawings. Maintain changes current daily. Keep drawings at the site at all times and available for review by the Owner and/or Landscape Architect. Do not use these prints for any other purpose.
- 3.4.3. When construction has been completed, transfer all changes to a set of reproducible plans. Make changes in permanent ink. Changes using a ball point pen are not acceptable. Remove original lines and dimensions where changes are made. Completed reproducible plans shall be equal to the original Drawings; with all line work clear and sharp, and lettering legible.
- 3.4.4. Locate all dimensions from two permanent reference points (buildings, monuments, sidewalks, curbs or pavements). Make dimensions accurately to same scale used on Drawings. Show dimensioned locations and depths for each of the following:

Point of connection. Basket strainers.

Backflow preventers. Irrigation pressure main line routing. Provide dimensions for each 100 L.F. (minimum) along each routing, and for each change in direction.

Gate valves, master valves, pressure reducing valves, irrigation control valves and quick coupler valves. Control wire routing (if different from main line). Main line, lateral line and control wire sleeving.

Stubs for future use. Other related items as may be directed by the Landscape Architect or

4. CONTROLLER CHARTS

- 4.1. Controller charts are not required for homeowner-maintained irrigation systems.
- 4.2. Do not prepare charts until record drawings have been approved by the Landscape Architect and/or Owner.
- 4.3. Provide one controller chart(s) for each automatic controller installed. Size chart to suit controller door size. Use both sides of chart if necessary to retain full
- 4.4. Chart shall be a black line on white background print or photo reduction of the record drawing, showing the area covered by that controller. Identify each area of

coverage, for each station, with a pastel color coding.

- 4.5. When charts are approved by the Landscape Architect, they shall be hermetically sealed between two layers of 20 mil thick plastic sheet.
- 4.6. Charts must be completed and approved prior to final review of irrigation system and/or release from maintenance period.

5. OPERATING / MAINTENANCE MANUALS

- 5.1. Provide one individually bound manual detailing operation and maintenance requirements for irrigation systems. Assemble material in vinyl covered 3-ring

5.2. Provide the following in each manual:

Index sheet stating irrigation contractor's name, address, telephone number and

name of person to contact. Duration of guarantee period.

Equipment list (provide the following for each item:) Manufacturer's name.

Make and model number

Name and address of local manufacturer's representative. Spare parts list in detail.

Manufacturer's detailed operating and maintenance instructions for major equipment such as controllers, backflow preventers, pumps, etc. Manufacturer's warranties.

6. OPERATING AND MAINTENANCE TOOLS

Deliver the following items to the Owner when work is completed and prior to final acceptance of Work:

- 6.1. Two (2) keys for each automatic controller and/or enclosure.
- 6.2. Two (2) thirty inch (30") sprinkler valve keys, for shutting off isolation valves with cross handles, if isolation valves with cross handles are specified on the project.
- 6.3. One (1) sixty inch (60") operating nut wrench, for shutting off isolation valves with 2" operating nuts, if isolation valves with 2" operating nuts are specified on the
- 6.4. One (1) quick coupler key, with bronze garden valve attached, for every ten (10) quick coupling valves installed on the project. Keys shall be compatible with the quick coupling valves specified on the project.

7. MATERIAL APPROVALS

- 7.1. Substitution of any product, material, or equipment without the Owner's or Landscape Architect's prior written approval, will not be permitted.
- 7.2. Any item installed without such prior approval shall be removed from the work and

from the work site.

- 7.3. Approval of any item, substitution or alternate is based on information or samples provided by the Contractor.
- 7.4. Contractor shall be responsible for the total performance of such substitution to
- 7.5. If the substitution proves to be unsatisfactory in the Owner's and/or Landscape Architect's opinion. Contractor shall remove such work and replace it with the originally specified item, including installation, at no additional cost to the Owner or
- 7.6. Landscape Architect may, at his option, require a manufacturer's warranty on any substitution offered for use.

8. SITE VISITS

8.1. Should they be required by the Owner, his representative, any governing agency, or the Landscape Architect, the following site reviews will be made in company with the Contractor:

Pressure supply line installation and testing: 36 hours. System layout: 36 hours. Coverage tests: 36 hours.

equal or surpass the original design in every respect.

8.2. Contractor's responsibilities

Final review: 48 hours.

8.2.1. Notify all required parties in advance of making the following reviews. Make such notification prior to the time specified.

provide sufficient personnel to maintain necessary communication.

- 8.2.2. Provide "walkie-talkie" equipment to facilitate communication between the review area and the system controller. Contractor may at his option
- 8.2.3. Provide current record drawings at each required review phase.
- 8.3. If in the Landscape Architect's opinion, the Work scheduled for observation is not ready, the Contractor shall reimburse the Landscape Architect and/or Owner for the Landscape Architect's time.
- 8.4. When reviews are made by other than the Landscape Architect, show evidence including date and party making such review.

9. GUARANTEE

- 9.1. Guarantee the irrigation system to be free of all defects in materials and workmanship for a period of one year from date of acceptance by Landscape Architect/Owner.
- 9.2. If accepted in phases, provide a written guarantee for each segment of the project; state date of completion and guarantee period by dates.
- 9.3. Manufacturer's warranties shall not relieve Contractor of any liability under the specified guarantee. Such warranties are intended to only supplement the contractor's guarantee.
- 9.4. Correct all problems which develop in the system due to faulty materials or workmanship during the guarantee period.
- 9.5. Repair or replace such work as directed by the Landscape Architect.
- 9.6. Make repairs and replacements promptly when notified.
- 9.7. The Owner reserves the right to make temporary repairs as necessary to keep systems in operating condition without voided the contractor's guarantee, nor relieving the Contractor of his responsibilities during the guarantee period.

ARTICLE 2 - PRODUCTS

I. GENERAL

All materials shall be of first quality and of the same manufacturer and model as specified in the irrigation legend unless noted otherwise.

2. COPPER PIPE AND FITTINGS

- 2.1. Copper pipe shall be type "K", hard tempered ASTM B88 and fittings shall be wrought solder joint type in accordance with ANSI B16.22.
- 2.2. Joints shall be soldered with silver solder: 45% silver, 15% copper, 16% zinc, 24% cadmium, solidify at 1.125 F. and liquefy at 1,145 F., conforming to specifications ASTM B206-52T and Federal QQB 00655.

3. BRASS PIPE AND FITTINGS

- 3.1. Brass pipe shall be 85% red brass, American National Standard Institute (ANSI), Schedule 40 screwed pipe.
- 3.2. Fittings shall be medium brass, screwed 125 pound class.

4. GALVANIZED PIPE AND FITTINGS

- 4.1. Pipe shall be galvanized steel, American National Standard Institute (ANSI, Schedule 40 screwed pipe).
- 4.2. Fittings shall be medium galvanized, screwed beaded malleable iron, and/or #125 cast iron, flanged.
- 4.3. All unions 2 inches and smaller shall be ground joint pattern. Unions larger than 2 inches shall be flanged unions, fitted with required gasket(s).

5. PLASTIC PIPE AND FITTINGS

- 5.1. Solvent weld pipe shall be extruded of an improved PVC virgin pipe compound featuring high tensile strength, high chemical resistance, and high impact strength. In terms of the current ASTM Standard D-1784, or D-2241, this compound shall meet the requirements of cell classification 12454B for pipe. This compound must have 2,000 p.s.i. hydrostatic design stress rating.
- 5.2. Rubber gasket PVC pipe, couplings, and fittings shall conform to ASTM D-1784 Type I, Grade I, 2,000 p.s.i. design stress. Standard dimensional ratio for pipe shall be SDR 21 (class 200). All pipe shall conform to commercial standard CS-256-64 (pressure rated pipe), and National Sanitation Foundation testing laboratories (NSF). Rubber gaskets shall conform to ASTM 1869. Couplings and fittings shall be furnished by the pipe manufacturer and shall accommodate the pipe with which they are to be used. Couplings shall permit 5 degrees deflection of the pipe at each coupling (2-1/2 degrees on each side), without filtration or infiltration, cracking, or
- 5.3. All pipe must bear the following markings: Manufacturer's name, nominal pipe size, schedule or class, pressure rating p.s.i., and NSF (National Sanitation Foundation). The manufacturer shall also mark the date of extrusion.
- 5.4. All fittings, unless otherwise noted, shall be injection molded of an improved PVC fitting compound featuring high tensile strength, high chemical resistance, and high impact strength. In terms of the current ASTM Standard D-1784-69, the compound must meet the requirements described in cell classification 13454B. Where threads are required in plastic fittings, these shall be injection molded also. All tees and ells shall be side gated.
- 5.5. All fittings shall bear the company's name or trademark, material designation, size, applicable I.P.S. schedule, and NSF seal of approval.
- 5.6. All fittings shall be minimum standard weight Schedule 40.
- 5.7. All threaded nipples, unless otherwise noted, shall be standard weight Schedule 80, with molded threads.
- 5.8. Solvent cement for plastic pipe and fittings shall be as recommended by the manufacturers of the pipe and fittings. The high chemical resistance of the pipe and fitting compounds specified makes it mandatory that an aggressive primer, which is a true solvent for PVC, be used in conjunction with a solvent cement designed for the fit of pipe and fittings of each size range specified.

ASSEMBLIES

The following equipment shall be as indicated on the Drawings, unless approval for substitution is obtained in writing prior to installation:

> Controllers, pedestals and options. Controller assembly and options. Rain and weather sensors. Moisture sensors.

Backflow prevention equipment: Reduced-pressure backflow preventer. Pressure vacuum breaker Atmospheric vacuum breaker

Combination control valve with atmospheric vacuum breaker. Basket strainers and 'Y' strainers

Valves: Gate valves Ball valves

Check valves Pressure-reducing and pressure-regulation valves

Master valves Manual control valves Electric control valves Garden valves

Quick coupling valves

Sprinkler heads Low volume or "drip" irrigation equipment and accessories.

7. VALVE BOXES

- 7.1. Valve boxes shall be fabricated from durable, weather resistant plastic material which is resistant to sunlight and the chemical action of soils, except in traffic areas, where boxes shall be concrete with cast iron lids of a type suitable for traffic installation.
- 7.2. The valve box cover shall be secured with a hidden latch mechanism or stainless steel bolts.
- 7.3. The cover and box shall be capable of sustaining a load of 1,500 pounds.

7.4. Valve box extensions shall be by the same manufacturer as the valve box.

- 7.5. Gate and ball valve boxes shall be round plastic boxes with bolt-down covers marked "IRRIGATION CONTROL VALVE"; and be manufactured by AMETEK or approved equal.
- 7.6. Remote control valve boxes shall be rectangular plastic boxes with bolt-down covers marked "CONTROL VALVE" and with the controller and valve number marked on a tag attached to the control wire between the valve and pig tail.

8. HIGH VOLTAGE ELECTRICAL

- 8.1. New electrical meter if required will be provided by the Owner.
- 8.2. Connection to the automatic controller will be provided by the Owner.
- 8.3. All electrical equipment installed outside building shall be Nema 3 type, waterproofed for such installation.

9. LOW VOLTAGE WIRING

- 9.1. Connections between the controller and remote control valves shall be made with direct burial AWG-UF type solid copper wire.
- 9.2. Wire shall be #14 in size, unless noted otherwise on the plans.
- 9.3. All low voltage wiring shall be color coded by controller. Each controller on the project shall have three unique colors of wires: one color each for common, control, and spare wires.

10. PUMPS

- 10.1. Pumps shall be provided as indicated on the Drawings.
- 10.2. Electrical components shall include code approved breakers and starters of the proper size and electrical characteristics as recommended by the pump manufacturer and as necessary to match the electrical service provided.
- 10.3. Equipment for exterior locations shall meet NEMA 3, waterproof standards.

ARTICLE 3 - EXECUTION

GENERAL

- 1.1. Meter size and Available Pressure / Water Supply: The Contractor shall verify the on-site static water pressure and service line and meter size prior to proceeding with any work. Should the Contractor proceed with work and subsequently find that the water pressure is not equal to or greater than that which is stated on the Drawings, the Contractor will assume responsibility for all work which needs to be replaced or modified at no additional cost to the Owner. This includes all
- equipment and materials whether or not they are shown on the Drawings. 1.2. Source of Water Supply: The Contractor shall verify and be familiar with the location, size and detail of stub-outs provided as the source of water supply to the irrigation system as shown on the plans.
- 1.3. All plot dimensions are approximate. Before proceeding with any work, the Contractor shall carefully check and verify all dimensions and shall report any variations to the Owner's authorized representative.
- 1.4. Examine surfaces for conditions that will adversely affect execution, performance and quality of Work
- 1.5. Verify that grading has been completed, so that the Work of this Section can proceed and that specified depths for buried materials can be maintained. Notify the Owner and Landscape Architect in writing, describing all unacceptable conditions. Do not proceed with Work until such conditions are corrected. 1.6. Prior to cutting into the soil, the Contractor shall locate all cables, conduits, sewers,
- and he shall take proper precautions not to damage or disturb such improvements. If a conflict exists between such obstacles and the proposed work, notify the Owner's authorized representative who will arrange for relocations. The Contractor will proceed in the same manner if rock layer or any other condition encountered underground makes changes advisable.

septic tanks, and other such utilities as are commonly encountered underground

- 1.7. Permission to shut off any water lines must be obtained from the Construction Supervisor, who will make the necessary arrangements with the Owner. Disruption of existing systems shall be kept to a minimum.
- 1.8. Do not willfully install the irrigation system as indicated on the Drawings when it is obvious in the field that unknown obstructions or grade differences exist that were not known during design; or if discrepancies in construction details, legend, or specific notes are discovered. All such obstructions or discrepancies shall be brought to the attention of the Owner's authorized representative, or the Landscape Architect. In the event this is not done, the Contractor shall assume full responsibility for any necessary revisions.
- 1.9. The Contractor shall verify the correctness of all finish grades within the work area after construction in order to ensure the proper soil coverage (as specified) of the irrigation system pipes.

2. PRODUCT HANDLING

- 2.1. Delivery: Deliver materials in manufacturer's original unopened containers, with each container identified with manufacturer's name, brand or type.
- 2.2. Storage: Store materials at a location as directed by the Owner. Store materials in an orderly manner. Avoid interference with other construction activities.

2.3. Protection: Protect all materials to prevent intrusion of dirt and moisture. Protect

the installed work and materials or other trades. 3. WATER SUPPLY

Connections to the existing source or meter 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.

4. LAYOUT

- 4.1. Irrigation lines indicated on the Drawings are diagrammatic. Coordinate installation of all materials, including piping, with all Contract Drawings to avoid conflicts with trees, shrubs, plants, drain lines, sleeves and all underground utilities.
- 4.2. Layout sprinkler heads and make any minor adjustments required due to differences between actual site conditions and the Drawings. Minor adjustments will be acceptable within the parameters established by the original design intent.

5. EXCAVATIONS

- 5.1. Excavations shall be of open vertical construction sufficiently wide to provide free working space around the work installed and to provide ample space for backfilling and tamping.
- 5.2. Trenches for pipe shall be cut to required grade lines, and compacted to provide an accurate grade and uniform bearing for the full length of line.
- 5.3. All lines shall have a minimum clearance of four (4) inches vertically and two (2) inches horizontally from each other, and six (6) inches, in any direction, from the lines of other trades.
- 5.4. Parallel lines shall not be installed directly over one another.

5.5. Provide the minimum cover over all lines noted on the Drawings.

5.6. Where it is necessary to excavate adjacent to existing trees, the Contractor shall use all possible care to avoid injury to the tree and tree roots. Excavation in areas where two (2) inches and larger roots occur shall be done by hand. All roots two (2) inches and larger in diameter, except directly in the path of pipe or conduit, shall be tunneled under and shall be heavily wrapped with burlap to prevent scarring or excessive drying. Where a ditching machine is run adjacent to trees having roots smaller than two (2) inches in diameter, the wall of the trench adjacent to the tree shall be hand trimmed, making clean cuts through roots one (1) inch and larger in diameter, which shall be painted with two coats of Tree Seal, or equal. Trenches adjacent to trees should be closed within twenty four (24) hours and where this is not possible the side of the trench adjacent to the tree shall be kept shaded with

6. BACKFILLING

burlap or canvas.

- 6.1. Backfilling shall not commence until the installed irrigation system has been inspected and approved.
- 6.2. Initial backfill on all lines shall be of a fine granular material with no foreign matter larger than 1/2 inch in size.
- 6.3. Provide sand backfill a minimum of two (2) inches below and six (6) inches over all piping under paved areas, unless noted otherwise.

6.4. Backfill for trenching shall be compacted to dry density equal to the adjacent

humps or other irregularities. 6.5. Under no circumstances shall a truck and/or tractor wheel be used for compacting

undisturbed soil and shall conform to adjacent grades without dips, sunken areas,

7. JOINING OF PIPES

- 7.1. The Contractor is responsible to be familiar with any and all methods of assembling joining and installation of the various types of pipe to be used. He will adhere in strict accordance with the manufacturer's recommended procedures. If during any phase of the Work the Owner or Owner's representative finds that the Contractor or any of his workmen are not familiar with the recommended procedures, the Contractor shall arrange with the manufacturer of the particular product for the services of a qualified manufacturer's representative to instruct workmen in the proper procedures.
- 7.2. Exercise care in handling, loading, unloading and storing of the plastic pipe and fittings; store plastic pipe and fittings under cover until ready to install; transport plastic pipe on a vehicle with a bed long enough to allow the pipe to lie flat; avoid undue bending and any concentrated external load.
- 7.3. Carefully inspect all pipe and fittings before installation, removing all dirt, scale and burrs; install the pipe with all markings up for visual inspection and verification.
- 7.4. Tape all open ends of pipe during installation to prevent entry of any foreign matter into the system. 7.5. In solvent welding, use only the specified primer and solvent cement and make all joints in strict accordance with the manufacturer's recommended methods; allow the solvent welds at least fifteen (15) minutes set up time before moving or handling and 24 hours curing time before filling or as recommended by
- 7.6. 360 degree applicators shall be used to apply primer and solvent.
- 7.7. For plastic to metal connections, work the metal connections first. Use a non-hardening pipe dope on all threaded connections, except where otherwise

7.8. Remove all dented and damaged pipe sections.

manufacturer, whichever is greater.

8. PIPING UNDER EXISTING PAVING

- 8.1. Piping under existing pavement may be installed by jacking, boring or hydraulic driving. However, no hydraulic driving will be permitted under asphalt paving.
- 8.2. Secure permission from Owner's representative before cutting or breaking existing pavement. All necessary repairs and replacements shall be approved by the Owner's representative, and shall be at no additional cost to the Owner.

9. PIPING ON SLOPES

9.1. All piping on slopes shall be secured on the surface as indicated on the detail.

beneath the concrete benches and/or 'V' gutters.

9.2. Pipe which crosses concrete bench drain and/or 'V' gutters shall be placed over the drain or gutter within a galvanized steel pipe sleeve anchored on both sides of the bench with #3 rebar 'J' hooks. The sleeve shall extend a minimum of twelve (12) inches beyond each edge of the drain. Under no circumstances will pipe be placed

10. ASSEMBLIES

- 10.1. Install all assemblies specified herein according to the respective detail drawings and
- 10.2. Install backflow assemblies in shrub areas or as indicated on the Drawings and at a minimum height required by local governing codes.

10.3. Valves:

11. VALVE BOXES

specifications.

- 10.3.1. Gate valves and ball valves shall be the full size of the line in which they are installed unless otherwise specified.
- 10.3.2. Control valves shall be located as indicated on the Drawings and within a plant bed whenever possible. 10.3.3. Control valves shall be adjusted so a uniform distribution of water is

applied by sprinkler heads of the planting areas for each individual valve

to 18 inches of hardscape (preferably within a plant bed). 10.4. Pop-up heads shall be located and installed as indicated on the Drawings and in the

10.3.4. Quick coupler valves, unless otherwise indicated, shall be located within 6

- 11.2. The top of plastic valve boxes shall be one (1) inch above the designated finish grade in lawn areas and three (3) inches above the finish grade in ground cover
- areas. Where dimensions permit, up to three (3) remote control valves may be installed in each box.

11.1. Provide at all locations indicated. Install within plant beds, not within turf areas,

11.3. Valve boxes located near walks, curbs and paving shall be installed in such a way as to allow for valve boxes to abut those items with the top surface matching adjacent plans of the aforementioned items.

12. LOW VOLTAGE WIRING

wherever possible.

- 12.1. All low voltage work shall be installed by the contractor.
- 12.2. Wiring shall occupy the same trench and shall be installed along the same route as the pressure main lines wherever possible.
- 12.3. Wiring shall be bundled together, tucked under the main line for protection from
- shovels, and fastened to the main line with nylon wire ties at intervals of 10 feet. 12.4. Use continuous copper wires between controller and remote control valves. Splice

wires between the controller and remote control valves only when absolutely

necessary. All splices shall be installed in an approved box and so marked on the

12.5. All wire connections and splices shall be made using approved waterproof sealing connectors. An expansion loop of 12 inches shall be provided at each wire connection and/or directional turn.

13. MOISTURE SENSING EQUIPMENT

- 13.1. Install all equipment per manufacturer's recommendations, instructions and/or
- 13.2. Provide low voltage wire to each remote control valve controlled by a sensor.
- 13.3. The exact location of equipment shall be determined in the field by the

Manufacturer's representative and the Landscape Architect.

13.4. If it is determined by the Landscape Architect that this equipment is not in a desirable location, the Contractor shall move this equipment as requested, within fifteen (15) feet of its original location, at no cost to the Owner.

13.5. Perform a complete review and check of the system to ensure that sensors are

working correctly (minimum of four times over each 30 day period)

15. FLUSHING THE SYSTEMS

14. PUMPS

The exact location of the pump assembly shall be verified with the Owner and/or Owner's representative.

15.1. After all irrigation pipe lines and risers are in place and connected 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.

15.2. Sprinkler heads shall be installed only after flushing of the system has been

completed.

- 16. PRESSURE TEST 16.1. All hydrostatic tests shall be made only in the presence of the Owner or other duly authorized representative of the Owner. No pipe shall be backfilled until it has
- 16.3. All pressure lines shall be tested for two (2) hours under hydrostatic pressure of

planting operations commence.

is planted. (Optional at the discretion of the Owner.)

been inspected and tested.

17. ADJUSTING THE SYSTEMS

150 pounds per square inch, and all non-pressure lines shall be tested for two (2)

will provide proper and more adequate coverage, make all such changes or make

hours under the existing static pressure and both proven to be water tight.

16.2. Furnish the necessary force pump and all other test equipment.

- 17.1. Adjust valves in conjunction with the alignment and coverage of all sprinkler heads. 17.2. If it is determined that adjustments in the irrigation equipment or nozzle changes
- arrangements with the manufacturer to have adjustments made prior to planting. 17.3. The entire system shall be operating properly before any lawn or ground cover
- 17.4. These changes or adjustments shall be made without additional cost to the Owner.

17.5. The Contractor is responsible for periodic checking of the system's operation and adjustment as necessary.

18. COVERAGE TEST When the irrigation system is completed, perform a coverage test in the presence of the Owner and/or his representative, to determine if the water coverage for planting and turf areas is complete and adequate. Furnish all materials and perform all work required to correct any inadequacies. This test shall be accomplished before any ground cover or turf

19. TEMPORARY REPAIRS

20. OPERATING INSTRUCTIONS

irrigation system equipment in operating condition. The exercise of this right by the Owner shall not relieve the Contractor of his responsibilities under the terms of the warranty as herein specified.

20.1. Train the Owner's maintenance personnel in the proper operation of all major

equipment, including the recommended winterization procedures.

The Owner reserves the right to make temporary repairs as necessary to keep the

20.2. Provide this training at the Owner's convenience and at no additional cost to the

END OF IRRIGATION SPECIFICATIONS

Revisions:

04.15.22 | Ist CITY SUBMITTAL

DESIGNER:

Issued For:

LANDSCAPE ARCHITECTS

BREA, CA.

949.683.3110

CONSULTANTS:



PROIECT: **PULLMAN LOFTS** PH II BLDG C

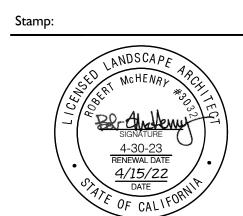
701 WILSON ST.

SANTA ROSA. CA.

DEVELOPER: PHOENIX DEVELOPMENT

30 MEYERS CT.

NOVATO, CA 94947



Scale:

IRRIGATION

SPECIFICATIONS

WRD

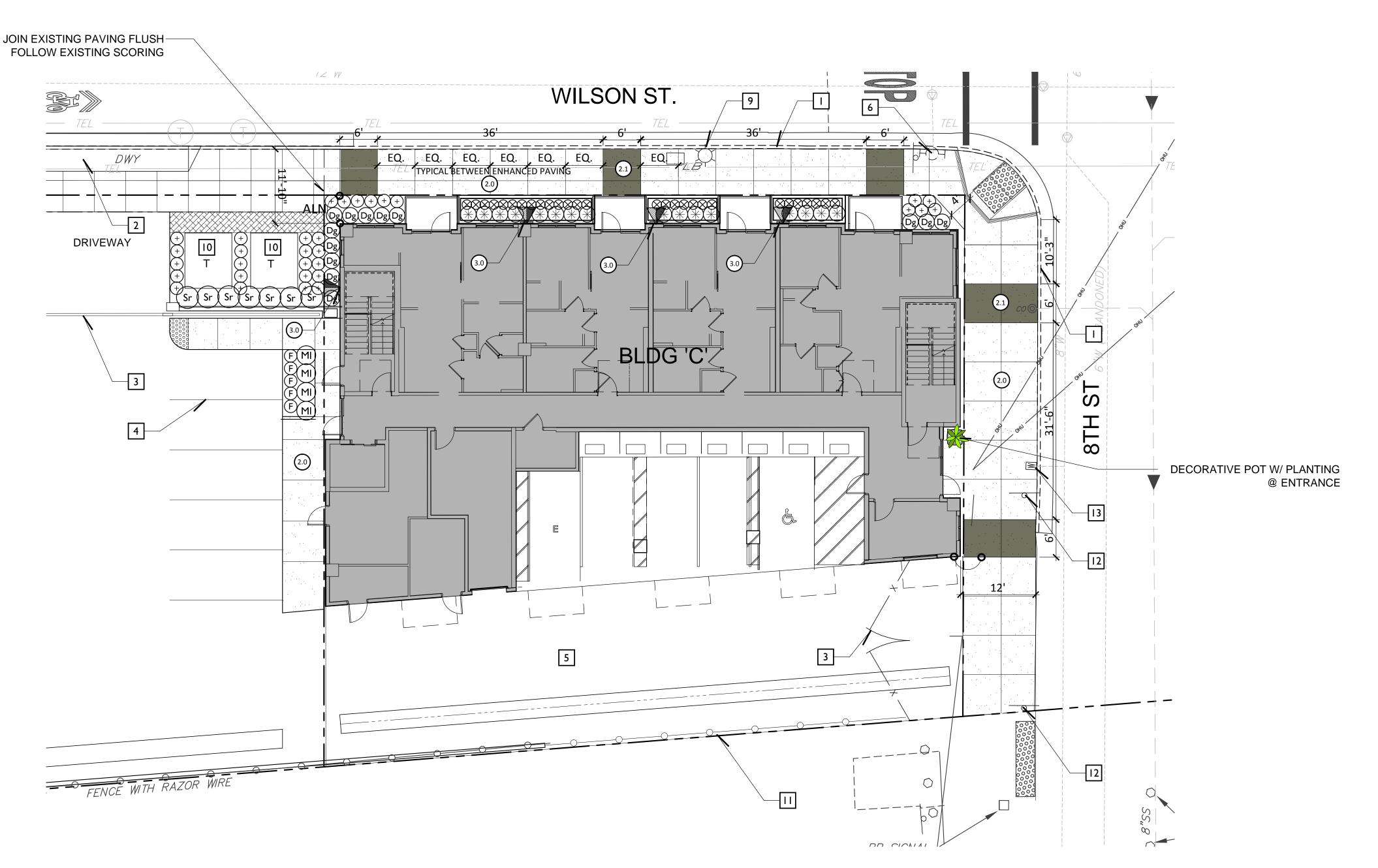
04.15.22

Drawn By:

Plan Date:

Checked By: WRD

1ST CITY SUBMITTAL



C	CONSTRUCTION CALLOUTS:				
	* BUILDING and SAFETY PERMIT REQUIRED				
FLA	FLATWORK				
2.0	CONCRETE PAVING with SCORE JOINTS as SHOWN	D, LP.2			
2.1	ENHANCED CONCRETE PAVING - SHAKE ON COLOR	D, LP.2			
ME	METAL / WOOD				
3.0	METAL VINE TRELLIS	C, LP.2			

LEGEND:	ALIGN
ALIV	ALIGIN
0 0	
CLR	CLEAR
٩	CENTERLINE
EQ.	EQUAL
F.O.C.	FACE OF CURB
F.O.W.	FACE OF WALL
B.O.C.	BACK OF CURB
MIN.	MINIMUM
MAX.	MAXIMUM
P.A.	PLANTING AREA
B.C.R.	BEGIN CURB RADIUS
TYP.	TYPICAL
18)	CONSTRUCTION CALLOUT
─	CAULKED EXPANSION JOINT (TO MATCH PAVING)

	CURB and GUTTER. PER CIVIL ENG PLANS
2	CONCRETE DRIVE APRON. PER CIVIL ENG PLAN
3	ENTRY GATES BY OTHERS
4	PARKING STRIPING BY OTHERS.
5	ASPHALT PAVING. PER CIVIL ENG PLANS
6	FIRE HYDRANT. PER CIVIL ENG PLANS
7	CITY SIDEWALK. BY OTHERS.
8	UNDERGROUND UTILITY. BY OTHERS.
9	STREET LIGHTING BY OTHERS.
10	TRANSFORMER BY OTHERS.
11	PERIMETER FENCING BY CONTRACTOR

12 STREET SIGNAGE

GENERAL SITE IMPROVEMENTS

GENERAL NOTES:

- I. REFER TO WRITTEN SPECIFICATIONS
- CONTRACTOR TO VERIFY ALL CONSTRUCTION FEATURES HORIZONTAL CONTROL (STAKING) WITH THE CIVIL ENGINEER'S PRECISE GRADING PLANS. THE CONTRACTOR SHALL REPORT ANY DISCREPANCIES TO THE OWNER OR SHALL REPORT ANY DISCREPANCIES TO THE OWNER OR LANDSCAPE ARCHITECT PRIOR TO ANY WORK. REFER TO CIVIL ENGINEER'S PLAN FOR ALL VERTICAL CONTROL.
- ALL CALL OUTS ARE ONCE TYPICAL PER SHEET. 4. ALL DIMENSIONS ARE PERPENDICULAR OR PARALLEL TO REFERENCED FEATURE.
- CONTRACTOR SHALL VERIFY ALL EXISTING FIN. GRADE ELEV. AND REPORT ALL DISCREPANCIES IMMEDIATELY TO THE OWNER PRIOR TO PROCEEDING WITH LANDSCAPE INSTALLATION
- CONTRACTOR SHALL ADJUST ANY/ALL EXISTING UTILITY BOXES FLUSH WITH FINISH GRADE. REFER TO CIVIL ENGINEER'S PLANS FOR ALL FINISH GRADING ELEVATIONS
- 7. REFER TO CIVIL ENGINEER PRECISE GRADING AND DRAINAGE PLANS FOR AREA DRAIN INFORMATION.
- 8. CONTRACTOR SHALL INSTALL ALL SCORE JOINTS PER DETAIL AND PLAN
- 9. CONTRACTOR SHALL HAVE ALL CONCRETE WALK FORMS REVIEWED THE OWNER AND/OR LANDSCAPE ARCHITECT PRIOR TO THE POUR OF ANY CONCRETE.

SHRU		CIZE		\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
	NAME	SIZE		WUCOLS
\otimes	CAREX DIVULSA BERKELEY SEDGE	1 GAL.	28	LOW
Dg	DIETES GRANDIFLORA BUTTERFLY IRIS	5 GAL.	13	LOW
+	DIANELLA CAERULEA CASSA BLUE BLUE FLAX LILY	1 GAL.	30	MOD.
F	FESTUCA MAIREI ATLAS GRASS	1 GAL.	5	LOW
*	HEBE 'AUTUMN GLOW'	1 GAL.	16	MOD
MI	MUHLENBERGIA LINDHEIMERI LINDHEIMER MUHLY	1 GAL.	4	LOW
Sr	SARCOCCA RUSCIFOLIA FRAGRANT SARCOCCA	5 GAL.	7	LOW

VINES:				
SYMBOL	NAME	SIZE	QTY	WUCOLS
	SOLANUM JASMINOIDES WHITE POTATO VINE	5 GAL	4	Low

POT SCH	EDULE:			
SYMBOL	NAME	SIZE	QTY	WUCOLS
	DRACAENA DRACO DRAGON TREE	20 GAL	1	Low
	VINCA MINOR' DWARF PERIWINKLE	4"POTS	3	Low
	ASSORTED SUCCULENTS'	4"POTS	5	Low

QUANTITIES NOTE:

CONTRACTOR TO NOTE THAT THE QUANTITIES ON LEGEND AND PLANT CALLOUTS HAVE BEEN PROVIDED FOR QUICK REFERENCE ONLY. IT IS RECOMMENDED THAT THE CONTRACTOR NOT RELY ON THE ACCURACY OF THESE QUANTITIES AND PROVIDE THEIR OWN PLANT MATERIAL COUNTS AT THE TIME OF PREPARING BID. ANY DISCREPANCY IN THE PLANT QUANTITIES AND SIZES SHOULD BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE LANDSCAPE ARCHITECT

AGRONOMIC SOILS REPORT NOTE:

CONTRACTOR SHALL BE UTILIZE AGRONOMIC SOILS TESTS PREPARED FOR PHASE I

GENERAL PLANTING NOTES:

- ALL NON-TURF LANDSCAPE AREAS TO RECEIVE A 3" LAYER OF SHREDDED ORGANIC MULCH.
- LANDSCAPE ARCHITECT TO APPROVE ALL PLANT MATERIAL NOT LESS THAN 1 WEEK PRIOR TO ANTICIPATED DELIVERY DATE.
- RIBBONS.

CONTRACTOR SHALL REMOVE ALL GROWER STAKES, TAGS AND

- LANDSCAPE CONTRACTOR SHALL MAINTAIN PROPER DRAINAGE AND DIRECT ALL WATER TO DRAINAGE INLETS SO AS TO PREVENT STANDING WATER.
- THE LANDSCAPE CONTRACTOR SHALL MAINTAIN ALL PLANTED AREAS FOR A PERIOD OF 90 DAYS AFTER "START OF MAINTENANCE" PERIOD.
- 6. CONTRACTOR SHALL GUARANTEE SHRUBS FOR 6 MONTHS AND TREE
- MATERIAL FOR 12 MONTHS (1 YEAR).
- LANDSCAPE ARCHITECT SHALL APPROVE PLANT MATERIAL PLACEMENT PRIOR TO INSTALLATION 8. NO TREES SHALL BE PLANTED CLOSER THAN 5' TO A BUILDING OR ROOF STRUCTURE. NO TREES SHALL BE PLANTED CLOSER THAN 5' TO

PAVING OR FREESTANDING WALLS UNLESS DIRECTED BY THE

- LANDSCAPE ARCHITECT. 9. TREES SHALL NOT BE PLANTED WHERE FUTURE GROWTH WILL OBVIOUSLY CONFLICT WITH ROOF OVERHANGS.
- 10. NO SHRUBS OR TREES SHALL BE PLANTED THAT WILL CREATE A VISUAL
- OBSTRUCTION TO SIGHT LINE OF VEHICLE TRAFFIC. 11. TREES PLANTED IN LANDSCAPE AREAS OF LESS THAN 5' IN
- WIDTH SHALL BE INSTALLED WITH APPROVED ROOT BARRIERS. 12. ANY PLANTING SHOWN ON THE PLANS OR EXISTING IN THE FIELD THAT CONTRADICTS THESE CRITERIA IS TO BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT FOR RESOLUTION. FAILURE TO DO SO MAY RESULT IN THE CONTRACTOR TO REMOVE OR RELOCATE PLANT MATERIAL.

	SIZE		WUCOLS
	1 GAL.	28	LOW
	5 GAL.	13	LOW
E	1 GAL.	30	MOD.
	1 GAL.	5	LOW
	1 GAL.	16	MOD
	1 GAL.	4	LOW

DESIGNER:

LANDSCAPE **ARCHITECTS** BREA, CA.

949.683.3110

04.15.22 | Ist CITY SUBMITTAL

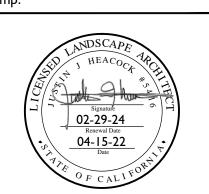
CONSULTANTS:

PROJECT: PULLMAN LOFTS

PH II BLDG C 701 WILSON ST. SANTA ROSA, CA.

DEVELOPER: PHOENIX

DEVELOPMENT 30 MEYERS CT. **NOVATO, CA 94947**



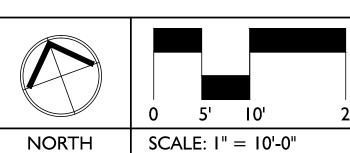
Drawn By: Checked By: JJH Plan Date: 04.15.22

PLANTING PLAN

SUBMITTAL

1ST CITY

LANDSCAPE COMPLIANCE STATEMENT: I HAVE COMPLIED WITH THE CRITERIA OF THE WATER USE ORDINANCE AND APPLIED THEM ACCORDINGLY FOR THE EFFICIENT USE OF WATER IN THE LANDSCAPE DESIGN PLAN



CONSTRUCTION NOTES

- I. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO THE START OF CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES.
- 2. CONTRACTOR SHALL NOT WILFULLY PROCEED WITH CONSTRUCTION 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 OWNER'S AUTHORIZED REPRESENTATIVE. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ALL NECESSARY REVISIONS DUE TO FAILURE TO GIVE SUCH NOTIFICATIONS.

3. CONTRACTOR SHALL OBTAIN A CURRENT STRUCTURAL SOILS REPORT. THIS SOILS REPORT SHALL SUPERSEDE THE RECOMMENDATIONS AND DETAILS SHOWN ON THESE PLANS AND SPECIFICATIONS.

- 4. THE LOCATION OF FEATURES TO BE CONSTRUCTED, NOT SPECIFICALLY DIMENSIONED MAY BE DETERMINED BY SCALE. VERIFY ALL SUCH CONDITIONS WITH OWNER'S REPRESENTATIVE.
- 5. ALL CURVE-TO-CURVE AND CURVE-TO-TANGENT LINES SHALL BE NEAT, TRIM, SMOOTH, AND UNIFORM.
- 6. CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ALL SLEEVES AS INDICATED ON THE IRRIGATION PLANS WITH PAVING CONTRACTOR
- 7. ALL FORMS AND ALIGNMENT OF HARDSCAPE ITEMS SHALL BE INSPECTED AND APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO POURING. (CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT A MINIMUM OF 48 HOURS PRIOR TO THE INSPECTION.)

WOOD CONSTRUCTION NOTES

WOOD SCREWS, AND THREADED FASTENERS.

- . MAKE ALL CONNECTIONS PERMANENTLY SECURE. PROVIDE FRAMING DEVICES FOR ALL ROUGH FRAMING WHERE NECESSARY TO MAKE WORK RIGID. CONCEAL FASTENINGS IN FINISH WORK.
- 2. DO NOT SPLIT WOOD MEMBERS; PRE-DRILL WHEN NECESSARY. PROVIDE DRILLED HOLES FOR ALL BOLTS,
- 3. THE CONTRACTOR SHALL PAINT ALL STRAPS, BRACKETS, HANGERS, ETC. TO MATCH WOOD FINISH UNLESS OTHERWISE NOTED.
- 4. ALL BOLTS SHALL BE CADMIUM-PLATED, GALVANIZED, OR PRIMERED.
- 5. ALL CONSTRUCTION SHALL BE PLUMB AND TRUE.
- 6. THE CONTRACTOR SHALL USE FINISH NAILS, INCLUDING BEAMS ON EXPOSED WOOD SURFACES AND COUNTERSINK HEADS 3MM.

PAVING NOTES

I. THE CONTRACTOR SHALL VERIFY WITH PROJECT STRUCTURAL SOILS ENGINEER THE NEED FOR REINFORCING, BASE MATERIALS, PRESATURATION, AND OTHER REQUIREMENTS FOR PAVING AREAS.

- 2. ALL CONCRETE PAVING SECTIONS SHALL BE A MINIMUM OF 3 1/2" THICK UNLESS OTHERWISE NOTED.
- 3. PAVING AND CONCRETE CONTRACTOR(S) SHALL COORDINATE HIS WORK WITH ELECTRICIAN, DRAIN LINE CONTRACTOR AND IRRIGATION CONTRACTOR FOR SLEEVING, PIPING, AND CONDUIT UNDER ALL PAVING AS
- 4. THE CONTRACTOR SHALL HOLD FINISH GRADE (I") INCH BELOW FINISH SURFACE.
- 5. THE CONTRACTOR SHALL SLOPE ALL FINISH SURFACE AREAS A MINIMUM OF ONE PERCENT. UNLESS NOTED
- 6. ALL WALKS SHALL HAVE CROSS FALL OF ONE PERCENT MINIMUM.
- 7. REFER TO FINISH SCHEDULE FOR CONCRETE FINISH.

FINISH SCHEDULE:

SYMBOL

- ALL WALK INTERSECTIONS SHALL BE 90 DEGREES UNLESS NOTED OTHERWISE.
- 9. ALL RADII AT WALK INTERSECTIONS SHALL BE 36" UNLESS NOTED OTHERWISE
- 10. FULL DEPTH EXPANSION JOINTS ARE TO BE SPACED AT MAXIMUM 20' O.C., SCORE LINES TO BE MAXIMUM 10'
- I I. ALL FORMS AND ALIGNMENT OF PAVING SHALL BE INSPECTED AND CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT A MINIMUM OF 48 HOURS PRIOR TO INSPECTION.

GENERAL CONSTRUCTION NOTES

CONCRETE PAVING

ALL OTHER MATERIALS & FINISHES REFER INDIVIDUAL DETAILS

ENHANCED CONCRETE PAVING

MANUFTURER/SUPPLIER

N/A

DAVIS COLOR

COLOR

NATURAL GRAY

DARK GRAY (IRON OXIDE) 860

OR EQUAL. MATCH COPING

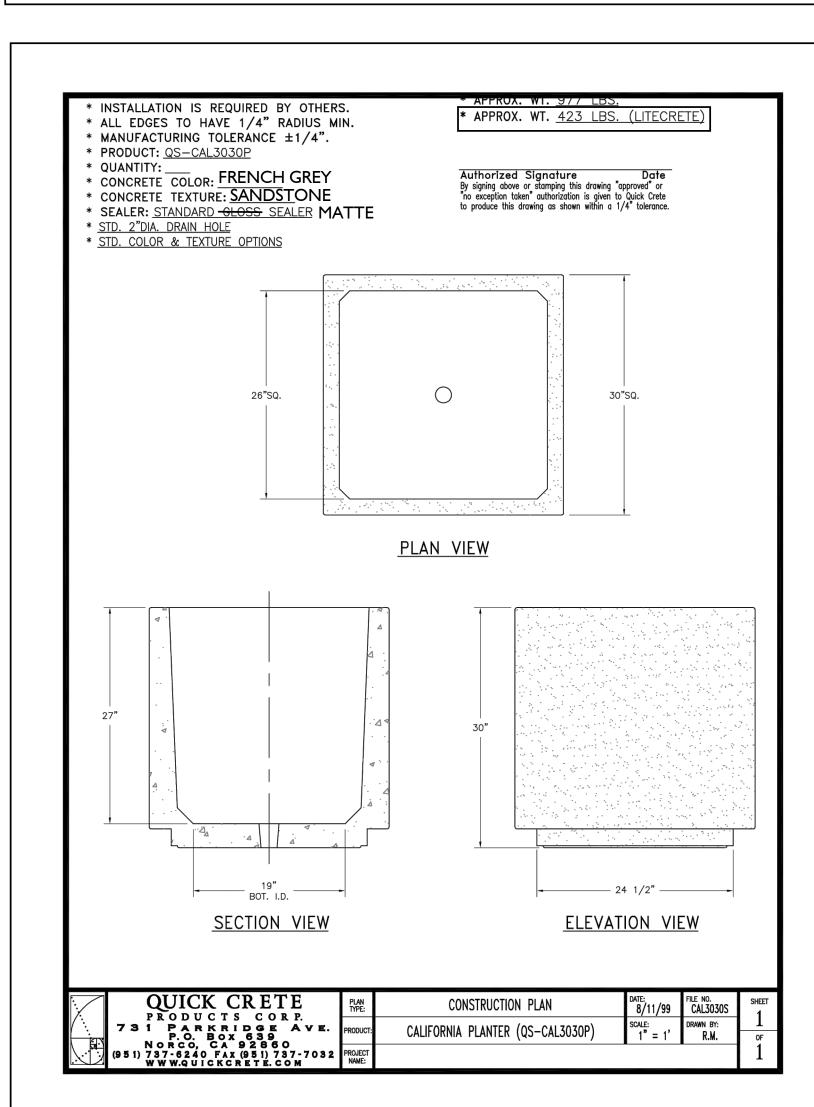
12. REFER TO PRECISE GRADING PLAN FOR FINISH GRADES AND DRAINAGE.

LIST OF INSPECTIONS

THE CONTRACTOR SHALL CONTACT THE OWNER'S REPRESENTATIVE 48 HOURS IN ADVANCE OF, AND COORDINATE, THE FOLLOWING INSPECTIONS AS NEEDED (BUT NOT LIMITED TO):

I. PRE-JOB CONFERENCE.

- 2. AT COMPLETION OF FINISH GRADING.
- 3. LAYOUT OF SHOVEL CUTS BUT PRIOR TO INSTALLATION.
- 4. LAYOUT OF PAVING BUT PRIOR TO INSTALLATION.
- 5. VERIFY LOCATION OF PERIMETER FENCING.
- 6. DURING ENTIRE IRRIGATION INSTALLATION TO VERIFY AND INSPECT THE FOLLOWING (BUT NOT LIMITED TO):
- a. POINT OF CONNECTIONS
- b. BACKFLOW PREVENTION DEVICES
- c. TRENCHING FOR PIPES d. ELECTRICAL CONNECTIONS
- e. CONTROL VALVES f. COVERAGE
- 7. AT DELIVERY OF ALL PLANT MATERIALS TO THE SITE.
- 8. WHEN TREES AND SHRUBS ARE SPACED FOR PLANTING BUT BEFORE HOLES ARE EXCAVATED.
- 9. AT PRE-MAINTENANCE INSPECTION.
- 10. AT FINAL INSPECTION.



DECORATIVE POT @ ENTRANCE

MEDIUM BROOM FINISH - VERIFY

TOPCAST 03 FINISH

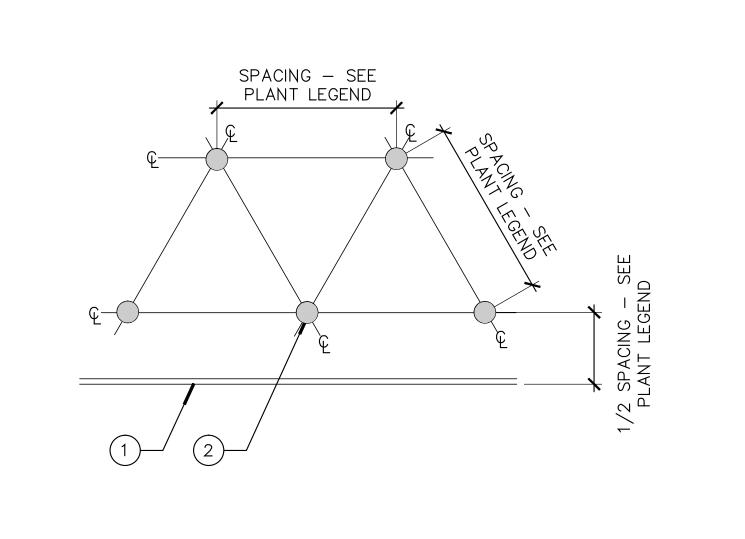
COMMENTS

SHAKE ON COLOR

FINISH PER CITY STANDARD

FINISH

1. CROWN OF SHRUB TO BE PLANTED 1" ABOVE FINISH GRADE 2. EARTH WATERING BASIN, NO LARGER THAN ROOTBALL. 3. FINISH GRADE 4. ROOTBALL 5. PLANT TABLETS, REFER TO SPECIFICATIONS 6. PREPARED BACKFILL MIX PER SPECIFICATIONS. NATIVE SOIL ONLY FOR **DESERT PLANTING** 7. UNDISTURBED SOIL, SCARIFY SIDES AND **BOTTOM OF PIT** 8. 3" LAYER OF MULCH -REFER TO SPECIFICATIONS FOR ADDITIONAL **INFORMATION SEE ROCK & GRAVEL** LEGEND ON SHEET L2.01 PLANTING PLAN *FOR DESERT PLANT MATERIAL DIG HOLE 2X THE ROOTBALL DIA. AND BACKFILL WITH NATIVE SOIL ONLY ROOTBALL DIA. **Shrub Planting**

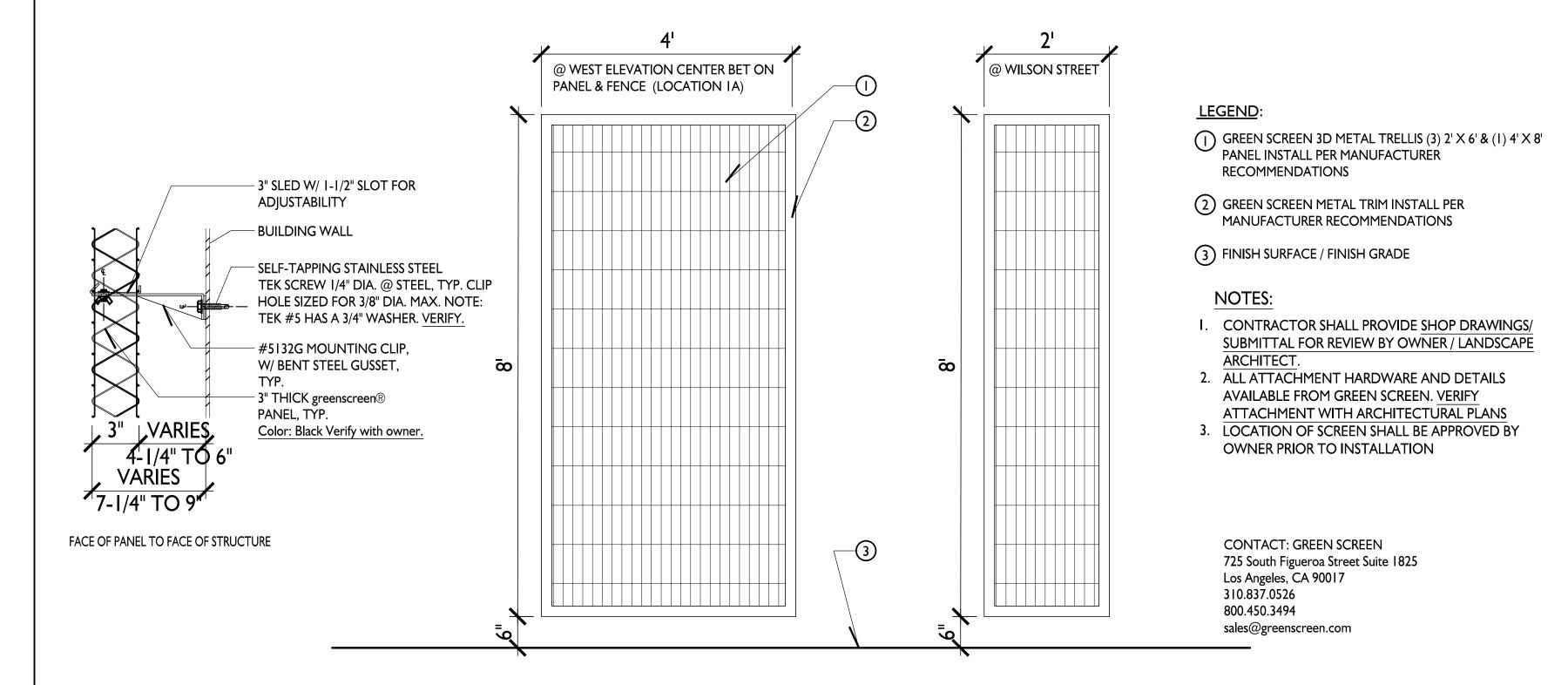


1. EDGE OF CURB/ EDGE OF PAVING/ FACE

OF WALL

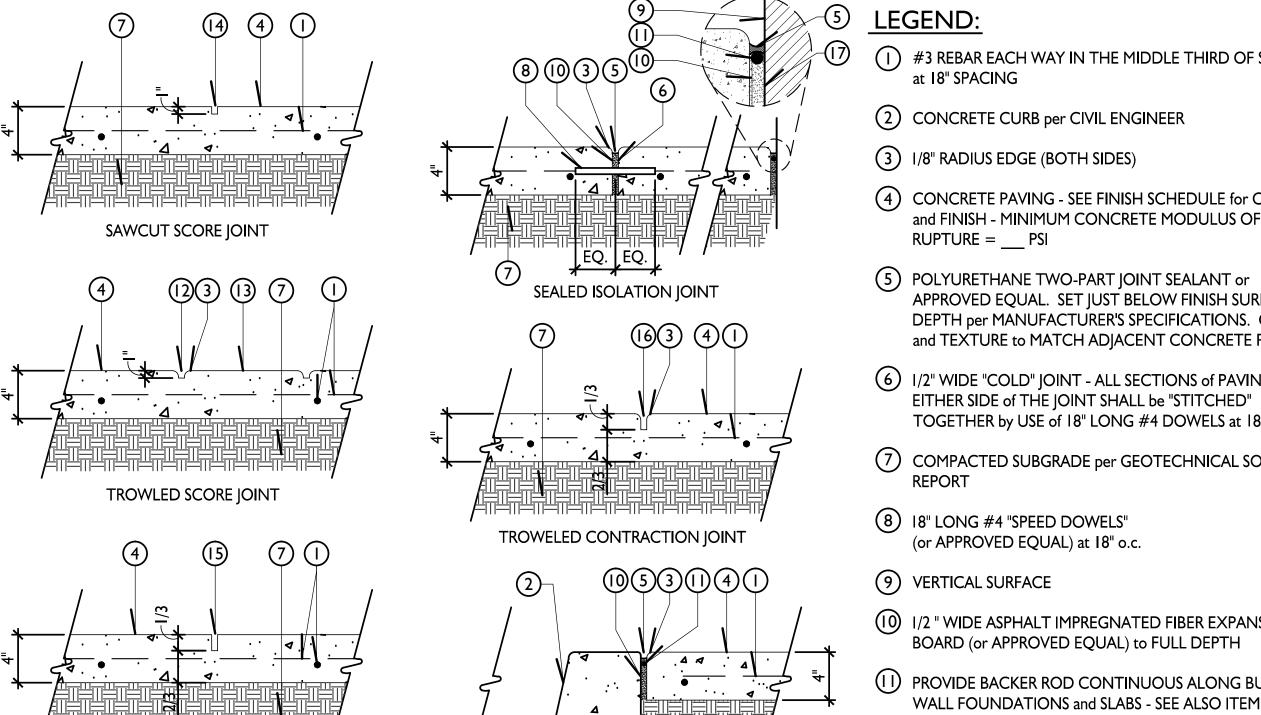
2. PLANT MATERIAL

Plant Spacing (On Grade Only) Scale: NTS



METAL VINE TRELLIS WALL MOUNTED - GREEN SCREEN

Scale: NTS



- (1) #3 REBAR EACH WAY IN THE MIDDLE THIRD OF SECTION at 18" SPACING
- 2 CONCRETE CURB per CIVIL ENGINEER
- (3) 1/8" RADIUS EDGE (BOTH SIDES)
- (4) CONCRETE PAVING SEE FINISH SCHEDULE for COLOR and FINISH - MINIMUM CONCRETE MODULUS OF RUPTURE = ___ PSI
 - APPROVED EQUAL. SET JUST BELOW FINISH SURFACE. DEPTH per MANUFACTURER'S SPECIFICATIONS. COLOR and TEXTURE to MATCH ADJACENT CONCRETE PAVING.
- (6) I/2" WIDE "COLD" JOINT ALL SECTIONS of PAVING on EITHER SIDE of THE JOINT SHALL be "STITCHED" TOGETHER by USE of 18" LONG #4 DOWELS at 18" o.c.
- (7) COMPACTED SUBGRADE per GEOTECHNICAL SOILS
- (8) 18" LONG #4 "SPEED DOWELS" (or APPROVED EQUAL) at 18" o.c.
- (9) VERTICAL SURFACE
- (10) 1/2 " WIDE ASPHALT IMPREGNATED FIBER EXPANSION

BOARD (or APPROVED EQUAL) to FULL DEPTH

- (II) PROVIDE BACKER ROD CONTINUOUS ALONG BUILDING WALL FOUNDATIONS and SLABS - SEE ALSO ITEM #17 THIS DETAIL.
- (12) 3/16"± WIDE x 1/2" DEEP TROWELED SCORE JOINT. 1/8" RADIUS on BOTH EDGES. WHERE JOINT IS to ACT as a CONTRACTION JOINT - SEE ITEM #16, THIS DETAIL, FOR ADDITIONAL CONTRACTION JOINT REQUIREMENTS.

(13) BAND FORMED BY and BETWEEN TWO SAWCUT or TROWELED SCORE JOINTS IF/AS APPLICABLE and SPECIFIED on PLAN

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

- (14) 1/8" to 3/16" WIDE x 1/2" DEEP SAWCUT SCORE JOINT -LOCATE WHERE INDICATED on PLAN
- (15) 1/8" to 3/16" WIDE SAWCUT CONTRACTION JOINT. JOINT DEPTH SHALL BE 1/3 DEPTH of CONCRETE PAVING. LOCATE CONTRACTION JOINT SO AS to FORM, AS NEAR AS POSSIBLE, 8' to 12' SQUARE PAVING SECTIONS. SAWCUT JOINTS AS SOON AS POSSIBLE, NO LATER than 8 to 24 HOURS after PAVING INSTALLATION and WHILE THE CONCRETE is STILL PLASTIC.
- (16) 3/16" WIDE TROWELED CONTRACTION JOINT. JOINT DEPTH SHALL BE I/3 DEPTH of CONCRETE PAVING. LOCATE CONTRACTION JOINTS SO AS to FORM, AS NEAR AS POSSIBLE, 8' to 12' SOUARE PAVING SECTION
- (17) 1/2" WIDE SEALED ISOLATION JOINTS SHALL BE INSTALLED in LOCATIONS WHERE PAVING ABUTS WALLS. COLUMNS, CURBS and OTHER POINTS of RESTRAINT INCLUDING DRAINS, MANHOLES, UTILITY BOXES/COVERS, STEPS etc. JOINTS SHALL INCLUDE EXPANSION BOARD, BACKERROD, and SEALANT to MATCH CONCRETE COLOR.

GEOTECHNICAL ENGINEERING PROVIDED BY: PIC ASSOCIATES INC. CONTACT: PATRICK CONWAY TEL# 707.584.4804

PLANTING **DETAILS**

Drawn By:

Scale:

Checked By: JJH

Plan Date: 04.15.22

04.15.22 | Ist CITY SUBMITTAL

DESIGNER:

CONSULTANTS:

LANDSCAPE

ARCHITECTS

BREA, CA.

949.683.3110

PULLMAN LOFTS

PH II BLDG C

701 WILSON ST.

SANTA ROSA, CA.

PHOENIX

NOVATO. CA 94947

30 MEYERS CT.

DEVELOPMENT

04-15-22

DEVELOPER:

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LANDSCAPE

(D) PEDESTRIAN CONCRETE PAVING

SEALED ISOLATION JOINT

SAWCUT CONTRACTION JOINT

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

LANDSCAPE **ARCHITECTS** BREA, CA. 949.683.3110 **CONSULTANTS:**

PROJECT: PULLMAN LOFTS PH II BLDG C

701 WILSON ST. SANTA ROSA, CA.

DEVELOPER: PHOENIX

DEVELOPMENT 30 MEYERS CT.

NOVATO. CA 94947

Stamp:

02-29-24

Plan Date: 04.15.22

Drawn By: Checked By: JJH Scale:

PLANTING

SPECIFICATIONS

1ST CITY SUBMITTAL

shall be replaced by the contractor within 15 days of written notification by the Owner.

The following organic soil amendments and fertilizer are to be used for bid price basis only. Specific

quality and shall be in prime condition when installed and accepted. Any commercially processed or

amendments and fertilizer specifications will be made after grading operations are complete and

soil samples are tested by Contractor. All materials shall be of standard, approved and first-grade

all supplied materials accompanied by analytical data from an approved laboratory source

illustrating compliance or bearing the manufacturer's guaranteed analysis.

Note: The general and specific conditions of these specifications are an integral part of the landscape construction documents and must be complied with.

A. SCOPE OF WORK

GENERAL

Furnish all labor, materials, equipment, and services necessary to provide all landscape planting as shown on the drawings and specified.

QUALITY ASSURANCE

Source Quality Control

LANDSCAPE PLANTING SPECIFICATIONS

Submit documentation that all plant material has been ordered to least five days prior to start of work under this Section. Arrange procedure for inspection of plant material with

Plants shall be subject to inspection and approval of Architect at place of growth upon delivery for conformity to specifications. Such approval shall not impair the right of inspection and rejection during progress of the work. Submit written request for inspection of plant material of plants to be inspected at this time if, in his judgment, a sufficient quantity of plants is not available for inspection.

The Landscape Architect and Owner have contractually agreed to notify the Landscape Contractor that he will be responsible for financial reimbursement to the Landscape Architect for Additional and unanticipated time and materials required to organize, re-design, re-inspect or to do whatever is required to guide a substandard installation or one which is not within substantial conformance to the Plans and Specifications back to an acceptable installation. Said reimbursement will in the form of a charge to the Contractor from the Owner.

C. SUBMITTALS

Certificate of Inspection of plant material by State or Federal Authority

D. PRODUCT DELIVERY, STORAGE AND HANDLING

 Delivery Deliver fertilizer to site in original, unopened containers bearing manufacturer's guaranteed chemical analysis, name, trademark and conformance to State Law.

b. Deliver plants with legible identification labels. 1. Label trees, evergreens, bundles of containers of like shrubs or groundcover plants.

2. State correct plant name and size indicated on plant list. 3. Use durable, waterproof labels with water-resistant ink which will remain legible for at least 60

Protect material during delivery to prevent damage to rootball or desiccation of leaves The contractor shall notify the Landscape inspector four days in advance delivery of all

plant materials and shall submit an itemized list of plants in each delivery. Pruning At no time shall the tree or plant materials be pruned, trimmed or topped prior to delivery, and alteration of their shape shall be conducted only with the approval of the Landscape Architect.

3. Right of Inspection The Landscape Architect reserves the right to approve or reject at any time upon delivery or during the work any or all plant material regarding size, variety or condition.

Soils Test Two copies of soils tests performed by an approved agronomic soils testing laboratory shall be submitted with plans. All soil samples shall be taken in the field by a qualified soils technician and submitted with plans to testing labs unless prior approval for alternative procedures is given by the City Engineer Tests shall include a fertility and suitability analysis with written recommendations. Contractor shall comply with recommendations given for soil amendments, plant material selections

Storage Store plant material in shade and protect from weather.

Maintain and protect plant material not to be planted within four hours. 6. Handling

and irrigation equipment.

Do not drop plant material Do not pick up container plant material by stems or trunks

E. JOB CONDITIONS

Planting

Perform actual planting only when weather and soil conditions are suitable in accordance with locally accepted practice. Scheduling

Install trees, shrubs and liner stock plant material before hydraulic seeded lawn areas are installed.

SAMPLES AND TESTS 1. The Landscape Architect reserves the right to take and analyze samples of materials for conformity to specifications at any time. Contractor shall furnish samples upon request by Landscape Architect. Rejected materials shall be immediately removed from the site and premises at Contractor's expense. Cost of testing of materials not meeting specifications shall be paid by

Contractor. 2. Agricultural Suitability of the soil shall be determined by a credentialed soil science laboratory. The Laboratory shall prepare a written report on the soil testing which shall include a detailed

description of test results along with recommendations for backfill and surface soil amendments. The contractor shall be responsible for the testing and for following the recommendations of the agronomic soils report.

3. Agricultural suitability analysis of soil. a. Must include pH measurement in the Saturation Extract, Electrical Conductivity of the saturation extract and Sodium Adsorption Ratio of the saturation extract. The approved

procedures are the following:

pH Method 21 Saturation Extract Method 2

Methods of the United States Salinity Laboratory as published in the Agricultural Handbook Number 60 entitled "Diagnosis and Improvement of Saline and Alkali Soils".

The following nutrients and elements must be determined with an American Society of Agronomy or Soil Science Society of America approved extraction method. Interpretation data must be given citing concentrations which are considered to be low, medium and

boron, calcium, copper, iron, magnesium, manganese, molybdenum, phosphorus, potassium,

sodium, sulfur, and zinc (1) The approved methods are those cited by the Council on Soil Testing and Plant Analysis and those methods currently published by Soil Science Society of America manuals, Communications in Soil Science and Plant Analysis, Soil Science and Soil Science Society of America Journal. Approved methods for phosphorus are Bray Pl, Bray P2, Olsen P, DTPA, ammonium acetate, and ammonium bicarbonate-DTPA. Approved methods for boron are hot

water extract and ammonium bicarbonate-DTPA extract. The saturation extract must be analyzed for calcium, magnesium, sodium, boron, chloride, phosphorus, nitrate and sulfate. The following trace metals must be measured by the DTPA extract: aluminum, arsenic, cadmium, chromium, cobalt, lead, lithium, nickel, selenium, silver, strontium, tin and

The presence of calcium carbonate and/or magnesium carbonate must be determined. Soil Texture (gravel, sand, silt and clay) must be determined. Determine organic matter content by the measurement of organic carbon. The quality of the organic matter shall be

determined by measuring organic carbon and total nitrogen.

Interpretation of nutritional deficiencies or excesses and potential toxicities must be Determine the following by methods approved by the American Society of Agronomy as published in the Methods of Soil Analysis, methods of the United States Salinity Laboratory as published in the Agricultural Handbook Number 60 entitled "Diagnosis and Improvement of Saline and Alkali Soils, " and bulk density of clods by the method

published in Soil Science, vol 155, 325-330 (1993): Exchangeable Ammonium cation Base Saturation

Cation Exchange Capacity

Water Infiltration Rate - Method 34b of Agricultural Handbook Number 60 If required for more complete soil characterization, determine the following by methods approved by the American Society of Agronomy as published in the Methods of Soil Analysis, methods of the United States Salinity Laboratory as published in the Agricultural Handbook Number 60 entitled "Diagnosis and Improvement of Saline and Alkali Soils, " and bulk density of clods by the method published in Soil Science, vol 155, 325-330 (1993)

Carbonates Measurement Soil Bulk Density (Compaction)

3. Elemental determinations to made according to methods approved by the EPA or by the American Society of Agronomy

a. Optional - Growth Test for Toxic Constituents and/or Poor Physical Properties 1. Grow a dicot plant species and a monocot species with and without activated charcoal. Measure yield and percent of germination for all treatments. Report conclusions and findings.

G. GUARANTEE AND REPLACEMENTS

 Guarantee All plant material installed under the Contract shall be guaranteed against any and all poor, inadequate or inferior materials and/or workmanship for a period of one year (trees) or 6 months (shrubs) after date of acceptance by Owner. Any plant found to be dead or in poor condition due to faulty materials or workmanship, as determined by the Landscape Architect, shall be replaced by the

Contractor at his expense. 2. Replacement Any materials found to be dead, missing or in poor ion during the establishment period shall be replaced immediately. The Landscape Architect, or his/her consultants, shall be the sole judge as to the condition of material. Material to be replaced within the guarantee period packaged material shall be delivered to the site in the original, unopened container bearing the manufacturer's guaranteed analysis. Contractor shall supply Landscape Architect with a sample of

PRODUCT

A. GENERAL

B. SPECIFIC 1. Suitable Import, Borrow Topsoil or Reclaimed soil

General - Topsoil shall be free of roots, clods, stones larger than 1-inch in the greatest dimension, pockets of coarse sand, noxious weeds, sticks, lumber, brush and other litter. It shall not be infested with nematodes or other undesirable disease-causing organisms such as insects and plant pathogens. l) Topsoil shall be friable and have sufficient structure in order to give good health and aeration to

the soil.b.. Gradation limits - soil shall be a sandy loam, loam, or clay loam. The definition of soil texture shall be the USDA classification scheme. Gravel over ¼-inch in diameter shall be less than 20% by weight.

Permeability Rate - Hydraulic conductivity rate shall be not less than one inch per hour nor more than 20 inches per hour when tested in accordance with the USDA Handbook Number 60, method 34b or other approved methods.

Fertility - The range of the essential elemental concentration in soil shall be as follows:

Ammonium Bicarbonate/DTPA Extraction parts per million (mg/kilogram) dry weight basis phosphorus 2 - 40 potassium 2 - 35 iron 0.3 - 6 manganese 0.6 - 8 zinc 0.1 - 5 0.2 - 1 boron

Soil may need to be amended and conditioned to optimize plant growth. The above listed fertility is for soil selection.

50 - 150

0 - 100

25 - 500

Concentration of nutrients for final acceptance Ammonium Bicarbonate/DTPA Extraction parts per million

molybdenum 0.1 - 2

magnesium

sodium

(mg/kilogram dry weight basis phosphorus 10 - 40 100 - 220 potassium iron 24- 35 manganese 0.6 - 6 zinc 1 - 8 copper 0.3 - 5 boron 0.2 - 1 magnesium 50 - 150 sodium 0 - 100 sulfur 25 - 500 molybdenum 0.1 - 2

Acidity - The soil pH range measured in the saturation extract (Method 21a, USDA

Handbook Number 60) shall be 6.0 - 7.9. Salinity - The salinity range measured in the saturation extract (Method 3a, USDA Handbook Number 60) shall be 0.5 - 2.5 dS/m.

Chloride - The maximum concentration of soluble chloride in the saturation extract (Method 3a, USDA Handbook Number 60) shall be 150 mg/l (parts per million).

Boron - The maximum concentration of soluble boron in the saturation extract (Method 3a, USDA Handbook Number 60) shall be 1 mg/l (parts per million).

Sodium Adsorption Ratio (SAR) - The maximum SAR shall be 3 measured per Method 20b, USDA Handbook Number 60.

Aluminum - Available aluminum measured with the Ammonium Bicarbonate/DTPA Extraction shall be less than 3 parts per million. Soil Organic Matter Content - Sufficient soil organic matter shall be present to impart good physical soil properties but not be excessive to cause toxicity or cause excessive reduction in the volume of soil due to decomposition of organic matter. The desirable range is 3% to 5%. The carbon:nitrogen ratio should be about 10. A high carbon:nitrogen ratio can

indicate the presence of hydrocarbons or non-humified organic matter. Calcium Carbonate Content - Free calcium carbonate (limestone) shall not be present for acid-loving plants.

Heavy Metals - The maximum permissible elemental concentration in the soil shall not exceed the following concentrations:

Ammonium Bicarbonate/DTPA Extraction parts per million (mg/kilogram) dry weight basis

arsenic cadmium chromium cobalt mercury nickel selenium silver

vanadium (1) If the soil pH is between 6 and 7, the maximum permissible elemental concentration shall be reduced 50%. If the soil pH is less than 6.0, the maximum permissible elemental concentration shall be reduced 75%. No more than three metals shall be present at 50% or more of the above

(2) Phytotoxic constituent, herbicides, hydrocarbons etc. - Germination and growth of monocots and dicots shall not be restricted more than 10% compared to the reference soil. Total petroleum hydrocarbons shall not exceed 50 mg/kg dry soil measured per the modified EPA

No. 8015. Total aromatic volatile organic hydrocarbons (benzene, toluene, xylene and ethylbenzene) shall not exceed 0.5 mg/kg dry soil measured per EPA Methods No. 8020.

Soil Conditioners and Fertilizers Soil conditioner with fertilizer included shall consist of organic ma----terials comprised of decomposed animal and vegetable matter and composted to support bacterial cultures. Soil conditions shall be "Grow-Power Plus" or approved equal, and shall conform to the

following analysis.

(1) Particle Size: 63 1/2 % through 100 Screen pH: 4.5 to 4.7 (2) Organic Content: Humus--50%; Humic Acids-15 (Note: Poultry, animal or human waste is not acceptable. See the definition of Humus in Western

Fertilizer Handbook, Fifth Edition.) (3) Chemical Analysis:

-Ammonic Nitrogen 1.00% (derived from ammonium phosphate) -Organic Nitrogen 4.00 % (derived from compost, meat meal and urea)

-Total Nitrogen 5.00% -Available phosphoric Acid 3.00% (derived from compost, meat meal and diammonium phosphate)

-Soluble Potash 1.00% (derived from compost and muriate of Potash)

-Iron 1.00% (derived from iron sulfate) -Zinc 0.05%

(derived from zinc sulfate) -Manganese 0.05% (derived from manganese sulfate) (1) Soil Penetrant: Alkyl Naphthalene

-Sodium Sulfonate 2.00% (2) Materials shall be mixed thoroughly and bagged in 50 or 80 lb. bags. Organic Soil Amendments shall be derived from Redwood,

Fir or Cedar wood bark, granular in nature, stabilized with nitrogen and having the following

(1) Particle Size: minimum 955 passing 4 mesh screen (6.35 MM standard sieve); minimum 80% passing 8 mesh screen (2.33 MM standard sieve) (2) Nitrogen Content: 0.5% based on dry weight for redwood sawdust; 0.7% based on dry weight for fir sawdust; 1.0% based on dry weight for fir or pine. (3) Salinity: Saturation extract

conductivity shall not exceed 3.5 millimhos/ centimeter at 25 degrees centigrade. (4) Organic Content: Minimum 90% weight

(4) Lime (CaO): as required from soil report Redwood Shavings shall be leeched e. Pre-Plant Commercial Fertilizer shall be nitrogen-fortified and have uniform in

c. Minerals

(1) Soil Sulfur (S): as required from soil report

(2) Ferrous Sulfate: as metallic 20% as required from soil report

(3) Agricultural Gypsum (CaSO42HpO): as required from soil report

percentage by weight of plant food as specified in the approved agronomic soils report. f. Planting Tablets

composition, free- flowing suitable for application with approved equipment and delivered to the project site in unopened, original container or package, each bearing the manufacturer's statement of guaranteed analysis and shall contain the minimum available (1) slow-release type, containing the following percentages of nutrients by weight: 20% nitrogen; 10% phosphoric acid; 5% potash

(2) 21 gram tablets as manufactured by Agriform or approved equal, applied per manufacturer's (3) Subsurface Root Barrier- Root barrier incorporated into street tree planting for the purpose of long-term root control shall be prefabricated, manufactured of high impact, polyethylene as manufactured by Deep Root Corporation or approved equal 4. Plant Material Plants shall be in accordance with the California State Department of Agriculture's

regulation for nursery inspections, rules and ratings. All plants shall have a normal habit of growth and shall be sound, healthy, vigorous and free of insect infestations, plant diseases, sunscalds, fresh abrasions of the bark excessive abrasions or other objectionable disfigurements. Tree trunks shall be sturdy and well "hardened" off. All plants shall have normally well developed branch systems and vigorous and fiberous root systems which are not root or pot-bound. In the event of disagreement as to condition of root system, the root conditions of the plants furnished by the Contractor in containers will be determined by removal of earth from the roots of not less than two plants, or more than two percent of the total number of plants of species or variety. Where container-grown plants are from several sources, the roots of not less than two plants be inspected. In case the sample plants inspected are found to be defective, the Landscape Architect is the sole judge as to acceptability. Any plants rendered unsuitable for planting because of this inspection will be considered as samples and will be provided at the expense of the Contractor.

The size of the plants will correspond with that normally expected for species and variety of commercially available nursery stock or as specified in the Special Conditions, drawings or details. The minimum acceptable size of all plants, measured before pruning with the branches in normal position, shall conform with the measurements, if any, specified on the drawings in the list of plants to be furnished. Plants larger in size than specified may be used with the approval of the Landscape Architect. If the use of larger plant is approved, the ball of earth or spread of roots for each plant will be increased proportionately.

All Plants not to the requirements herein specified shall be considered defective and such plants, whether in place or not, shall be removed from the site of work and replaced with new plants at the Contractor's expense. The plants shall be of the species, variety, size and condition specified herein or as shown on the drawings. Under no conditions will there by any substitution of plants, except with the expressed consent of the Landscape Architect

and City Landscape Inspector. At no time shall trees or plant material be pruned, trimmed or topped prior to delivery, and any alteration of their shape shall be conducted only with the approval and when in the presence of the Landscape Architect and as noted on the Planting Specifications Plant material shall be true to botanical and common name and variety as specified in "A Checklist of Woody Ornamental Plants in California," Manual 32 published by the

University of California School of Agriculture (1963). 5. Nursery-Grown and Collected Stock Grown under climatic conditions similar to those in locality of project.

Container-grown stock in vigorous, healthy condition; no root bound plant or plants with root system hardened off Substitute plant material will not be permitted unless specifically approved in writing by the Architect.

6. Tree Staking Material a. Stakes for Tree Support

(1) Full length, lodge pole, pine stakes, treated with copper naphthanate

(2) Minimum nominal size: 2" in diameter x 12' long and pointed at one end (adjusted length to fit b. Hose and Wire Ties (1) Galvanized wire with cinch tie; Wire shall be zinc-coated iron, 10-gauge minimum and solid

(2) All guys are to be flagged. Ninety percent wire length is to be covered. White PVC 1/4 inch diameter tube covering shall be used.

Bark chips shall be regular, ground, redwood or fir bark, consisting of 1/2" to 3/4" (acorn size) chips. Prior to delivery to the site, the Contractor shall submit samples to the City Landscape Inspector for

approval. 8. Erosion Control Matting Erosion control matting shall be of open weave, furnished in rolled strips as follows: It shall be approximately 225 feet long with a width of 48 inches plus or minus one inch and an approximate one (1) inch square mesh. Fabric shall average .4 pounds per linear foot. The erosion control matting shall be manufactured from loosely twisted jute yarn not varying in thickness by more than one-half its normal diameter, equal in quality to "Ludlow Soil Saver #48" or approved equal. Staples for

erosion control shall be 11 gauge steel wire bent in a U shape six inches minimum length and one inch wide. Wetting Agent to be 95% alkyl Polyethylene glycol ether such as "Commercial Water In" or approved equal. 9. Seed All seed used for lawn planting or erosion control planting or for any other reasons specified in the plans shall be labeled and furnished in sealed, standard containers with duplicate signed copies of a statement from the vendor,

State Agriculture Code. Seed which has become wet, moldy or otherwise damaged in transit or storage will not be accepted. 10. Sod Sod shall be fully mature, well-maintained, of the grass variety specified, free of all other grasses or weeds and shall be evenly cut with a conventional sod cutting machine to a thickness of 1-1/2 inches. All material shall be from the same growing ground and delivered fresh to the job site. If, after installation, any areas of sod die or become brown, these areas are to be replaced with sod

certifying that each container of seed delivered is fully-labeled in accordance with the California

immediately. Replacement sod is to match original. 11. Hydromulching

Wood Cellulose Mulch shall be calm, natural, wood cellulose fiber. Natural wood cellulose fiber shall be processed in such a manner that it will contain no growth or germination-inhibiting factors and shall be dyed green to facilitate metering of materials. It shall be manufactured in such a manner that after each addition and agitation in slurry tanks with fertilizer, seed water and other approved additives, the fibers in the material will become uniformly suspended to form a homogeneous slurry and that when hydraulically sprayed on the ground cover impregnated uniformly with seed; which after

application, will allow the absorption of moisture and will allow rainfall to percolate to the underlying soil. Fertilizer shall consist of organic materials comprised of decomposed animal and vegetable matter and composted to support bacterial cultures. Fertilizer shall be

"Gro-Power" or approved equal. Soil Binder: Terra Tack III or approved equal

d. Humectant: HL-80 Humectant or approved equal 12. Equipment

Hydraulic equipment used for the application of slurry shall have a built-in agitation system with an operating capacity sufficient to agitate, suspend and homogeneously mix above slurry. Distribution lines shall be large enough to prevent stoppage and to provide even distribution of the slurry over the ground. In order to facilitate proper coverage, the pump must be capable of exerting up to 150 psi at the nozzle. The slurry tanks shall have a minimum capacity of 1,500 gallons and shall be mounted on a traveling unit which will place the slurry tank and spray nozzles within sufficient proximity to the areas to be seeded so as to provide uniform distribution without waste.

13. Weed Abatement Program The herbicide "Round-Up" or approved equal shall be used for slope/planting areas. See Sections III-D-2 and III-D-7 for guidelines for proper application procedures.

14. Miscellaneous Materials sand-washed river sand or equal post emergent weed killer: "Round-Up"

c. tree wound paint-as-approved III. EXECUTION

INSPECTION Verify that final grades have been established prior to beginning planting operations. Inspect trees,

B. PREPARATION

C. INSTALLATION

shrubs, and material for injury and insect infestation, and inspect trees and shrubs for improper pruning. Do not begin planting trees until deficiencies are corrected or plants replaced.

Stake out locations for plants and outline of planting beds on ground. Do not begin excavation until

plant locations and plant beds are acceptable to Architect. The irrigation system shall have been installed and approved prior to soil preparation.

 Excavation of Planting (1) Vertical sides and flat bottom

(2) Plant pits to be square for box material, circular for canned material. All trees shall have planted pits dug twice the diameter and to the depth of the root ball. Backfill around the rootball with prepared backfill mix. Refer to planting Details for specific method. 2. Preparation of Planting Areas

splits or disfigurements. Guy as indicated immediately after planting, using three guys per tree, guys placed as to five equal support to tree from any direction. Install a warning flag on each

Cuts over 3/4" in diameter shall be painted with tree seal.

(1) Staking of all trees shall conform to three staking and tree guying details.

guy. Protect bark of tree by connecting wire with "Cinch-Tie". Anchor guy wires with "deadmen" buried at least 2 feet below finish grade. Tighten guylines to a firm tension. Install additional guys should tree growth be such that three guy wires do not give required equal support from all directions. s. Vine Planting Vines shall have wood stake support removed without damage to plant and the vine trained upon

the adjacent posts and walls as directed by the plan or Landscape Architect. Vines shall be held to

(2) Tree stakes shall be straight-grained, lodge pole pine. Stakes shall be free from knots, checks,

After approximate finished grades have been established, soil shall be conditioned and

fertilized in the following manner. Nitrogen-stabilized organic amendment and

ammonium phosphate shall at the following rates, be uniformly spread and cultivated

All soil area shall be compacted and settled by application of heavy irrigation to a

At time of planting, the top two inches of turf areas to be sodded or seeded shall be free

of stones, stumps or other deleterious matter 1" in diameter or larger. In groundcover

areas, the top two inches shall be free of stones, stumps or other deleterious matter

2-1inch diameter or larger. All planting areas shall be free from all wire, plaster or similar

After the foregoing specified deep watering, minimum modifications to grade may be

required to establish the final grade. These areas shall not be worked until the moisture

All areas shall be graded so that the final grades will be 1" below adjacent paved areas,

sidewalks, valves boxes, headers, clean-outs, drains, manholes, etc. in turf areas, and 2"

All planting areas shall have a finish grade conforming to approved plans and

Actual planting shall be performed during those periods when weather and soil conditions

Only as many plants as can be planted and watered on that same day shall be distributed

Containers shall be opened and plants shall be removed in such a manner that the ball of

earth surrounding the roots is not broken, and they shall be planted and watered as

herein specified immediately after removal from the containers. Containers shall not be

in a planting area. In extreme heat, plants shall be watered immediately after planting.

After soil preparation and establishment of final grades prior to any planting, the Contractor

shall irrigate thoroughly for a period of time, two to three weeks or until the weed seeds have

germinated. When there is sufficient weed seed germination, the Contractor shall apply a post

emergent contact weed killer according to the directions of the manufacturer. The Contractor

plant as indicated in the plans and specifications. Contractor shall remove any residual foliage

Locations for plants and outlines of areas to be planted shall be marked on the ground by the

Architect. If an underground construction or utility line is encountered in the excavation of

contractor before any plant pits are dug. All such locations shall be approved by the landscape

Excavation for planting shall include the stripping and stacking of all acceptable topsoil

(2) remove sides of box without damage to rootball after positioning plant and partially backfilling.

injury or breakage to the roots or root ball. Refer to Standard Planting Details.

See plant plumb and hold rigidly in position until soil has been tamped firmly around ball or

All excavated holes shall have vertical sides with roughened surfaces and shall be of a size

that is at least two times the width and one and the depth of the original plant container.

The holes shall be, in all cases, large enough to permit handling and planting, without

Excavated holes for slope plantings shall be dug two times original plant container width,

Protect all areas from excessive compaction when trucking plants or other material to the

All plants which settle deeper than specified above shall be raised to the correct level.

After the plant has been placed, additional backfill shall be added to the hole to cover

approximately one-half of the height of the root ball. At this stage, water shall be added

Excess soil generated from the planting holes may be distributed on the site and amended

Planting tablets shall be set with each plant on the top of the root ball while the plants are

still in their containers so the required number of tablets to be used in each hole can be

After the water has completely drained, planting tablets shall be placed as indicated per

After backfilling, an earthen basin shall be constructed around each plant. Each basin shall

be of a depth sufficient to hold at least two inches of water. Basins shall be of a size

Pruning shall be limited to the minimum necessary to remove injured twigs and branches

and to compensate for loss of roots during transplanting, but never to exceed one-third of

the branching structure. Upon approval of the Landscape Architect, pruning my not be

done before delivery of plant, but not before plants have been inspected and approved.

fifteen-gallon plant be less than four feet in diameter, for a five-gallon plant less than three feet in

diameter and for a one-gallon plant less than less than two feet in diameter. The basins shall be

to the top of the partly-filled hole to thoroughly saturate the root ball and adjacent soil.

encountered within the areas to be excavated for trenches, tree holes, plants pits and

shall then wait an additional two weeks to allow the weed killer to dissipate, then

planting areas, other locations may be selected by the landscape Architect.

(1) Cut cans on two sides with an acceptable can cutter

(1) Remove bottom of plant boxes before planting

(4) Carefully remove plants without injury or damage to root ball.

providing a permanent 6 inch berm around plant pit.

Face plants with fullest growth into prevailing wind.

1 gallon 1 handful

5 gallon 2 handfuls

15 gallon 3 handfuls

18" box 4 handfuls

24" box 5 handfuls

30" box 6 handfuls

42" box 8 handfuls

48" box 9 handfuls

60" box 10 handfuls

1 gallon 1 tablet

15 gallon 3 tablets

24" box 5 tablets

42" box 8 tablets

60" box 10 tablets

5 gallon

18" box

30" box

36" box

48" box

The remainder of the hole shall be backfilled.

36" box

1 handful approximately equals 4-6 ounces)

as specified in general soil preparation.

easily verified.

container size below

constructed of amended backfill materials.

r. Staking and Guying

7 handfuls

Hand place plants which are in containers less than one gallon in size

2 tablets

4 tablets

6 tablets

7 tablets

9 tablets

suitable for the individual plant. In no case shall the basin for a

Hand backfill and hand tamp, leaving a slight depression around bases of plants.

(5) After removing plant, superficially cut edge-roots with knife on three sides.

are suitable and in accordance with locally accepted practice, as approved by the

content has been reduced to a point where working it will not destroy soil structure.

f. Planting areas receiving sod shall sustain a finish grade of a depth that installed sod shall be

6. Planting of Lawn

e. Watering

7. Erosion Control

E. CLEAN-UP

F. INSPECTIONS

required as follows:

I. GENERAL REQUIREMENTS

i. Scope of Work

1. upon the completion of fine grading

upon the completion of soil conditioning

4. pre or post-delivery of all plant material

(90) days after final acceptance by Owner.

and shall have received an education in ornamental.

Quality Assurance

k. Maintenance Period

5. upon the completion of major plant layout

3. prior to application of post-emergent weed killers

firm, smooth mowing surface.

covered by means of a wire drag, spike-toothed, harrow cultipacker or other approved device.

approved equipment weighing 60 to 90 pounds per linear foot of roller. Final rolling shall be at

right angles to slopes to prevent erosion wherever possible metal staples typical for those used

Seeded areas shall immediately be compacted by means of a cultipacker, roller or other

(2) Sod: Soil preparation, finish grading and fertilization shall be as specified for seeded lawns,

staples typical for those used on erosion control matting, if necessary.

drawings or as necessary due to field conditions.

soil and that no erosion can take place under the matting.

by erosion control matting as specified in the plans or as becomes necessary.

e.Planting of turf, ground covers, shrubs and/or vines may be required in area protected

After all planting operations have been completed remove all trash, excess soil, empty plant

throughout the site. Clean-up Contractor shall pick-up all trash resulting from this work no

Contractor shall leave the site area broom-clean and shall wash down all paved areas within

the Contract area, leaving the premises in a clean condition. The Contractor shall arrange

Normal progress inspections shall be requested by the Contractor from the Landscape

Work specified in this Section furnish all labor, material, equipment and services required to

maintain the landscape in an attractive condition as specified herein for a period of ninety

acceptance of the work by the owner. Improper maintenance or possible poor condition of

Maintenance shall be continued by the Contractor until work is acceptable. Maintenance

project are in accordance with Plans and Specifications. The Contractor shall request an

inspection to begin the maintenance period after all planting and related work has been

been mown twice. If such criteria is met to the satisfaction of the Landscape Architect, a

or other work, as determined necessary by the Landscape Architect, will not be credited

as a maintenance period working days. The maintenance period will be extended if the

period shall not start until all elements of construction, planting and irrigation for the entire

completed in accordance with the Contract documents. A prime requirement is that all lawn

areas shall show an even, healthy strand of grass seedlings or sod, either of which shall have

field notification will be issued to the Contractor to establish the effective beginning date of

The Contractor's representative shall be experienced in landscaping maintenance

Contract during the progress of the work and the maintenance period until final

any planting at the termination of the scheduled maintenance period may cause

adequately maintain plantings, replace unsuitable plants or do weed control

The Contractor shall continuously maintain all areas involved in this

postponement of the final completion date of the Contract.

the maintenance period. Any day when the Contractor fails to

provisions required the plans and specifications are not filled

Architect at least 4 days in advance of an anticipated inspection. Inspections are

6. at the tree-staking example prior to sodding LANDSCAPE MAINTENANCE

containers and rubbish from the property. All scars, ruts or other marks in the ground

less frequently than each Friday before leaving the site, once a week and/or the last

working day of each week. All trash shall be removed completely from the site. The

offsite disposal of surplus soil and shall, upon request, furnish the City or County's

authorized representative with the disposal site Owner's written consent.

caused by this work shall be repaired and the ground left in a neat and orderly condition

and to prevent sloughing of topsoil.

visually pleasing slope.

except that the sub-soil finish grade shall be two inches below final grade to allow for the

Immediately following planting or top dressing, if applied, apply a light fine, mist spray to anchor the

seed and/or dressing to to the soil, forming a protective crust to prevent wind erosion and drying of

the seed. The lawn areas shall be kept moist until fully germinated. Fully germinated lawn areas shall

be allowed to dry sufficiently to permit rolling with approximately two hundred to three hundred

pound water-weighted roller to satisfactorily compact the soil around the grass roots and provide a

a. Erosion control installation will be required in locations specifically delineated on the

Surface of the slopes shall be uniformly smooth and even, with all debris and rocks raked

The erosion control matting shall be laid with the direction of flow of surface drainage and

The matting shall be stapled in place and firmly embedded by means of tamping or rolling

as approved by the Landscape Architect to insure that the matting is in contact with the

in accordance with the manufacturer's directions. The matting shall be cut to provide a

out. The soil shall be sufficiently moist to permit the firm laying of erosion control matting

thickness of sod. Lay sod down in one direction only, with close fitted joints. The ends of each

strip shall be staggered to eliminate continuous joining. Staple sod on steep slopes with metal

used on erosion control matting, if necessary.

thoroughly by means of mechanical tiller into top 8" of soil.

(1) Nitrogen-Stabilized Organic Amendment 6 cu. yards/1,000 sq. ft.

Finish grading shall insure proper drainage of the site.

flush with finish surfaces (walks, paved areas, etc.).

specifications after full settlement has occurred.

4. Dispose of unacceptable or unused excess soil off site and premises.

opened prior to placing the plants in the planting area.

Surface drainage shall be away from all building foundations.

(2) Ammonium Phosphate 6-20-20: 15 lbs./1,000 sq. ft.

(3) 150 lbs. Agriculture Gypsum I 1,000 sq. ft

below in groundcover areas.

Eliminate all erosion scars.

Landscape Architect.

obiects.

D. PLANTING INSTALLATION

Weed Control:

and/or roots.

3. Layout of Major Plantings:

4. Planting of Trees and Shrubs

planting beds.

(3) Do not cut cans with a spade or axe.

Can Removal

(2) Do not injure root ball

c. Box Removal

planting site:

-8 parts by volume on-site topsoil

-2 parts by volume organic amendment

-6-20-20 fertilizer mix as per chart below:

Center plant in pit or trench.

Container plants shall be backfilled with:

Final Grades

minimum depth of twelve inches.

posts and overheads by plastic green ribbon ("heavy duty") and eye bolts, not nails, as directed by the Landscape Architect or details. Where street trees occur within treewells or are adjacent to a substantial amount of pavement, a sub-surface planter box ("Deep-Root" or approved equal) shall be used. Box shall be installed per Details.

Location for street trees adjacent to any light standards or utility equipment shall be

J. EMERGENCY NUMBERS (1) The Contractor shall provide and maintain a current list of emergency telephone numbers for 24-hour emergency response.

(2) The Contractor shall initiate remedial action within two hours from the time of notification. K. PROTECTION OF EXISTING FACILITIES AND STRUCTURES

The Contractor shall exercise due care in protecting from damage all existing facilities, structures and utilities both above and below surface on the City/ Owner's property. Any damage to City's/ Owner's property deemed to be caused by the Contractor's responsibility to verify and locate any underground systems (i.e., utility line). This does not release the Contractor from the responsibility of taking reasonable precautions when working in these areas. Any damage or problems shall be reported immediately to the

PROJECT INSPECTIONS Upon request the Contractor or his representative will walk the project

City/ Owner's representative.

with the City/ Owner's representative for the purpose of determining compliance with the specifications.

Soils with greater than 6% organic matter in the top 6 inches of soil are exempt from adding compost and Soil amendments must be incorporated to recommendations of the soil analysis report and what is appropriate for the plants selected.

Compacted soils must be transformed to a "friable condition to maximize water retention.