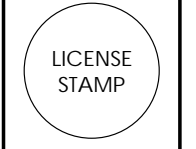


NEW SINGLE-FAMILY RESIDENTIAL LANDSCAPE PLAN FOR:
 LAST NAME RESIDENCE
 1357 STREET NAME
 IN THE CITY OF RIVERSIDE, CALIFORNIA

LICENSED PROFESSIONAL LOGO AND COMPANY INFORMATION



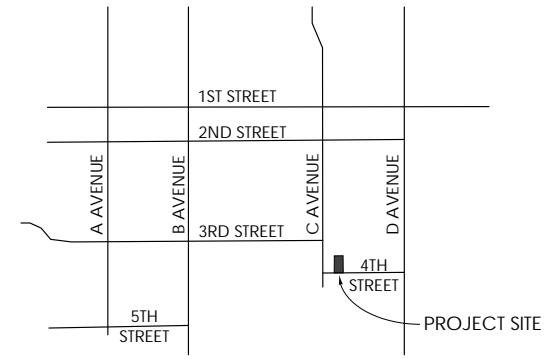
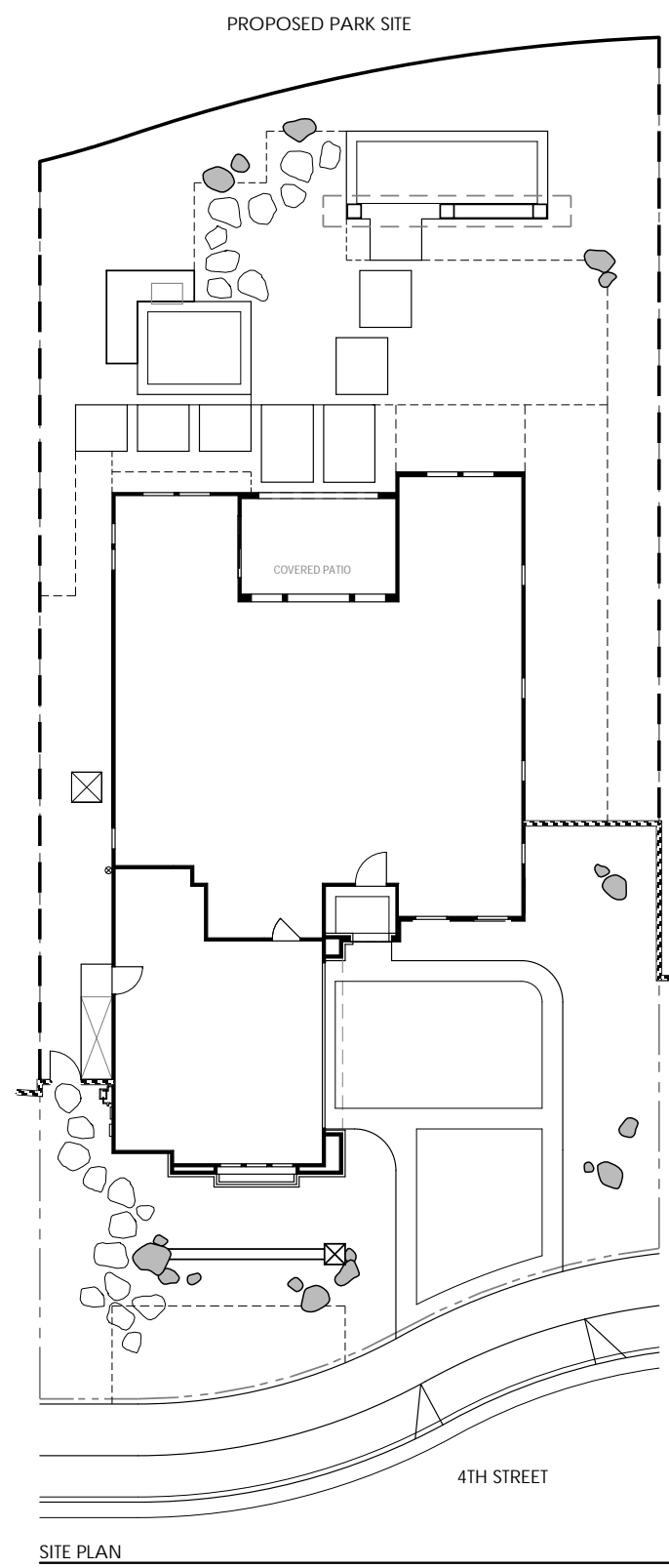
LAST NAME RESIDENCE
 1357 STREET NAME
 OWNER CONTACT INFORMATION

TITLE SHEET

REVISIONS

DATE:

SHEET NO.:
L1
 1 OF 10



VICINITY MAP
 NTS

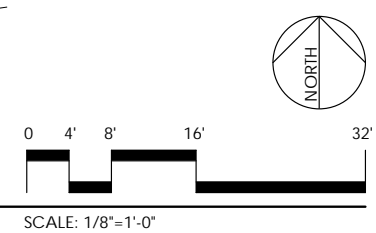
OWNER
 MR. AND MRS. LAST NAME
 1357 STREET NAME
 RIVERSIDE, CA
 OWNER CONTACT NAME
 OWNER CONTACT EMAIL ADDRESS
 PHONE NUMBER

APPLICANT
 APPLICANT'S COMPANY NAME
 COMPANY ADDRESS
 CONTACT NAME
 CONTACT EMAIL ADDRESS
 PHONE NUMBER

LANDSCAPE ARCHITECT
 LANDSCAPE ARCHITECT'S COMPANY NAME
 COMPANY ADDRESS
 CONTACT NAME
 CONTACT EMAIL ADDRESS
 PHONE NUMBER

SHEET INDEX

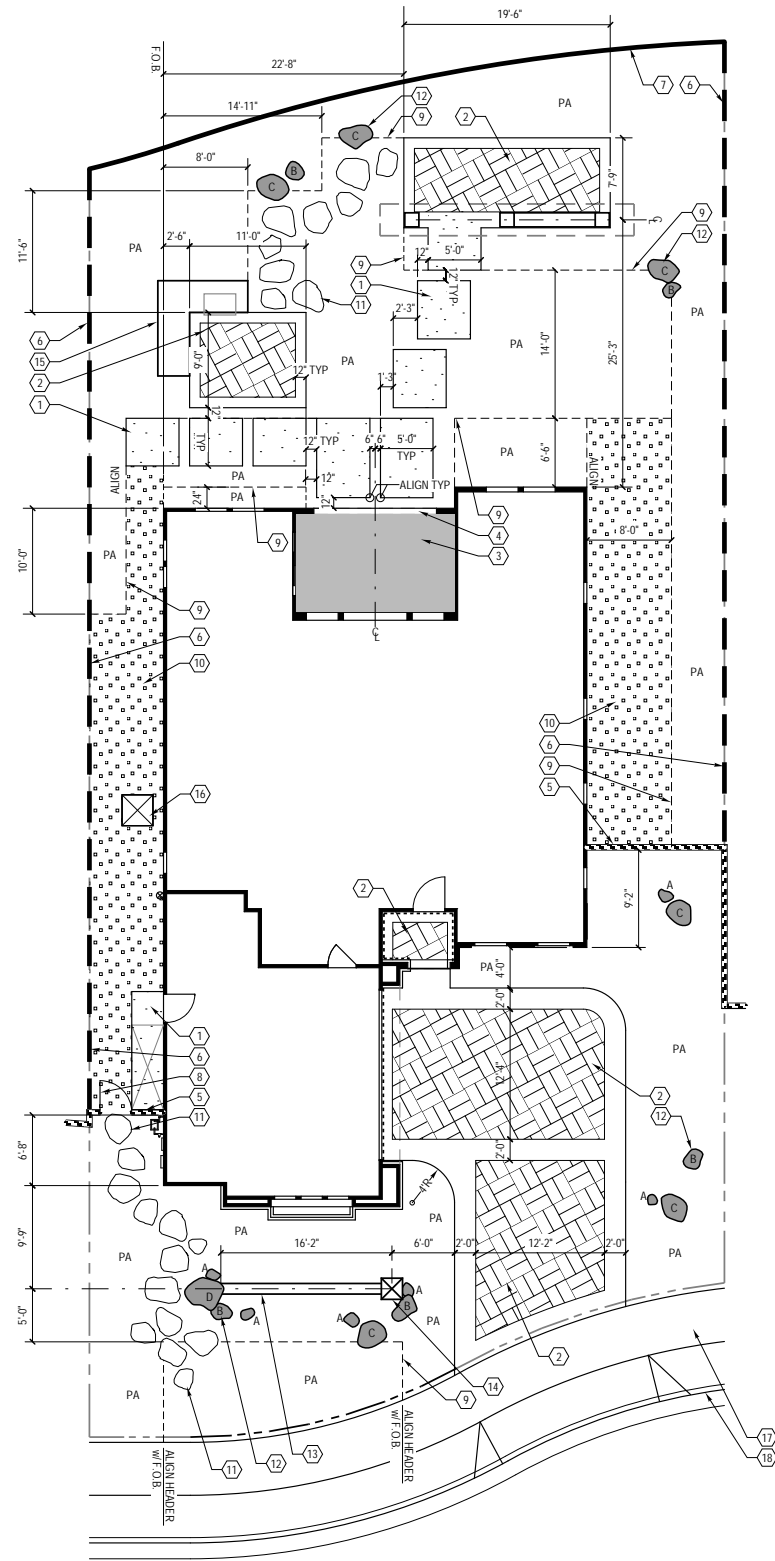
L1	TITLE SHEET
L2	CONSTRUCTION PLAN
L3	CONSTRUCTION DETAILS
L4	CONSTRUCTION DETAILS
L5	IRRIGATION PLAN
L6	IRRIGATION DETAILS
L7	PLANTING PLAN
L8	PLANTING DETAILS
L9	SPECIFICATIONS
L10	SPECIFICATIONS



**Attachment 7 - Planning Case P18-0608
 Single-Family Residential Landscape Plan -
 Working Drawing Example**



Know what's below.
 Call before you dig.



CONSTRUCTION NOTES

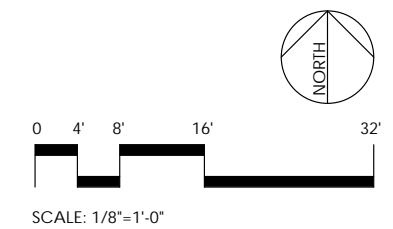
- CONTRACTOR SHALL NOT WILLFULLY PROCEED WITH CONSTRUCTION AS DESIGNED WHEN IT IS OBVIOUS THAT UNKNOWN OBSTRUCTIONS AND/OR GRADE DIFFERENCES EXIST THAT MAY NOT HAVE BEEN KNOWN DURING DESIGN. SUCH CONDITIONS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT. THE CONTRACTOR SHALL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

CONSTRUCTION LEGEND

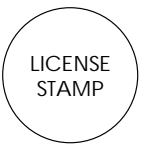
- 1. CONSTRUCT 4" THICK NATURAL COLOR CONCRETE w/ MEDIUM BROOM FINISH AND CONTROL JOINTS. THICKNESS AT DRIVEWAYS PER CIVIL ENGINEER. SEE DETAIL A, SHEET L3.
- 2. PROVIDE AND INSTALL BELGARD 'MEGA-ARBEL' PATIO SLAB 60 MM INTERLOCKING PAVERS, COLOR 'BELLA' AND NATURAL COLOR PERIMETER BAND w/ MEDIUM BROOM FINISH, WIDTH PER PLAN. INSTALL OVER 6" ROAD BASE AT DRIVEWAY. SEE DETAIL F, SHEET L4.
- 3. EXISTING FLOORING AT CALIFORNIA ROOM.
- 4. CONSTRUCT 8" WIDE NATURAL COLOR SMOOTH TROWELLED PERIMETER CONCRETE BAND.
- 5. CONSTRUCT 6'-0" HIGH SINGLE-SIDED SPLIT FACE BLOCK RETURN WALL w/ PRECISION CAP. BLOCK AND CAP COLORS TO BE SELECTED BY OWNER. SEE DETAIL G, SHEET L3.
- 6. CONSTRUCT 6'-0" HIGH PRECISION BLOCK PROPERTY WALL BETWEEN LOTS w/ PRECISION CAP. BLOCK AND CAP COLORS TO BE SELECTED BY OWNER. SEE DETAIL F, SHEET L3.
- 7. CONSTRUCT 6'-0" HIGH VIEW FENCE, THAT CONSISTS OF 4'-0" HIGH TUBULAR STEEL FENCE ATOP 2'-0" HIGH MASONRY WALL. SEE DETAIL H, SHEET L3.
- 8. CONSTRUCT 3'-0" WIDE TUBULAR STEEL SIDEYARD GATE. SEE DETAIL E, SHEET L3.
- 9. INSTALL 1/8" x 4" ALUMINUM EDGING ALONG PLANTER EDGE. SEE DETAILS B AND C, SHEET L3.
- 10. INSTALL 3" THICK LAYER OF 3/4" CRUSHED GRAVEL. SEE DETAIL B, SHEET L3.
- 11. INSTALL 'SNAKESKIN' FLAGSTONE PAVERS w/ CONCRETE BASE IN PLANTER AREA. AVAILABLE FROM SOUTHWEST BOULDER AND STONE, TEL. 877-792-7625. SEE DETAIL D, SHEET L3.
- 12. PROVIDE AND INSTALL 'HICKORY CREEK' LANDSCAPE BOULDER, AVAILABLE FROM SOUTHWEST BOULDER AND STONE. SEE DETAIL E, SHEET L4. BOULDERS SHALL BE SIZED PER SCHEDULE:
A. 18" TO 24"
B. 24" TO 30"
C. 30" TO 36"
D. 36" TO 42"
- 13. CONSTRUCT GARDEN WALL w/ STONE VENEER AND POURED-IN-PLACE CONCRETE CAP. SEE DETAIL A, SHEET L4.
- 14. CONSTRUCT PILASTER w/ STONE VENEER AND POURED-IN-PLACE CONCRETE CAP. SEE DETAIL B, SHEET L4.
- 15. CONSTRUCT OUTDOOR KITCHEN w/ STAINLESS STEEL GRILL AND STONE VENEER BARBECUE ISLAND. SEE DETAILS C AND D, SHEET L4.
- 16. A/C CONDENSER UNIT PER ARCHITECT'S PLANS.
- 17. CITY SIDEWALK PER CIVIL ENGINEER'S PLANS.
- 18. CURB AND GUTTER PER CIVIL ENGINEER'S PLANS.

PLAN CROSS REFERENCES

FOR CONSTRUCTION NOTES, SEE THIS SHEET
 FOR CONSTRUCTION DETAILS, SEE SHEET L3 AND L4
 FOR CONSTRUCTION SPECIFICATIONS, SEE SHEET L9
 FOR CORRESPONDING IRRIGATION PLAN SEE SHEET L5
 FOR CORRESPONDING PLANTING PLAN SEE SHEET L7



LICENSED PROFESSIONAL LOGO AND COMPANY INFORMATION



LAST NAME RESIDENCE
 1357 STREET NAME
 OWNER CONTACT INFORMATION

CONSTRUCTION PLAN

REVISIONS

DATE:
MM/DD/YY

SHEET SCALE:
1/8" = 1'-0"

SHEET NO.:
L2
2 OF 10



Know what's below.
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LICENSED PROFESSIONAL LOGO AND COMPANY INFORMATION

LICENSE STAMP

LAST NAME RESIDENCE
1357 STREET NAME
OWNER CONTACT INFORMATION

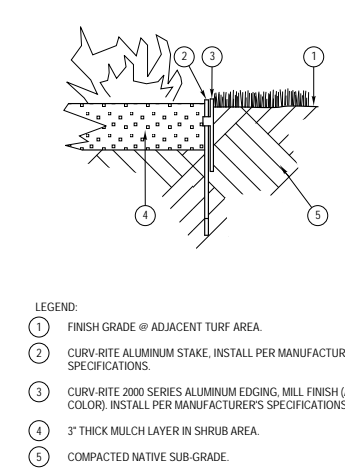
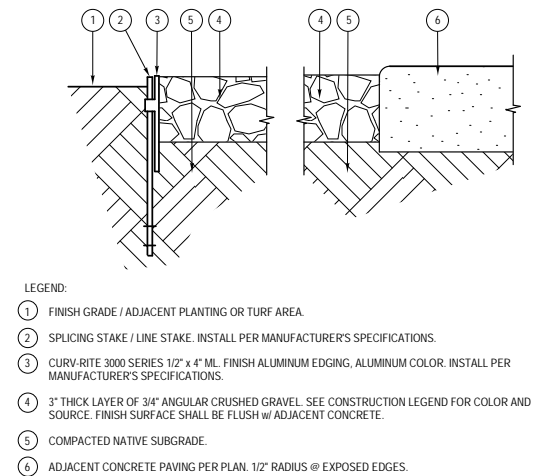
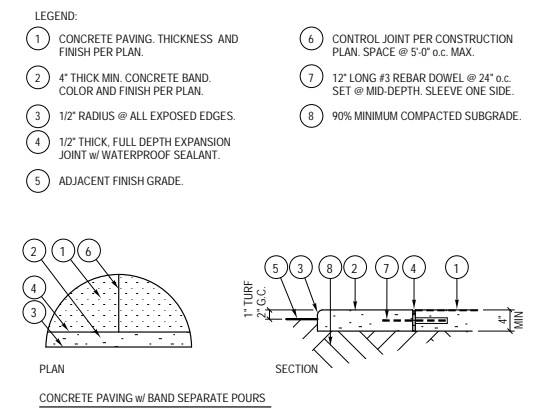
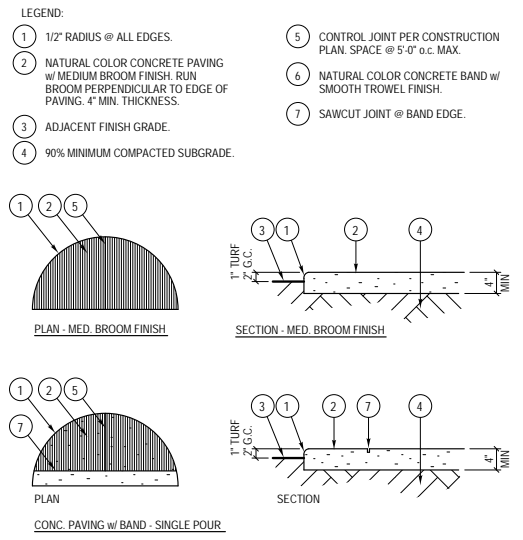
CONSTRUCTION DETAILS

REVISIONS

SUBMITTALS

DATE:
MM/DD/YY

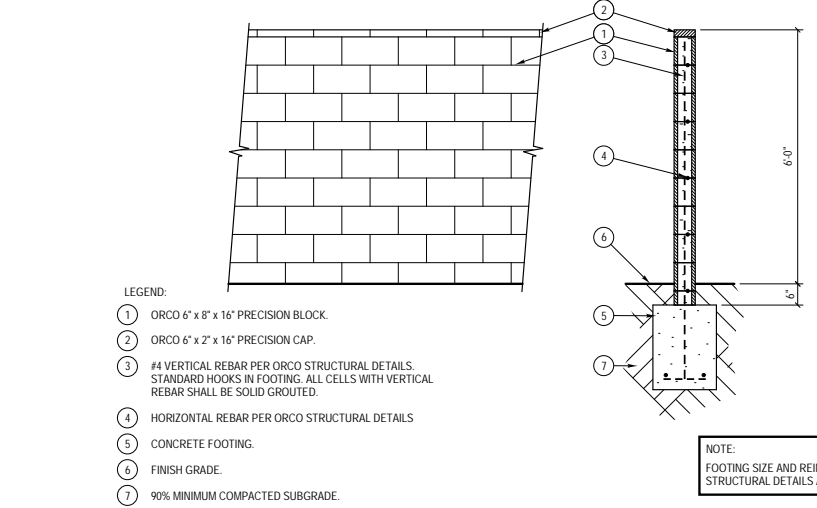
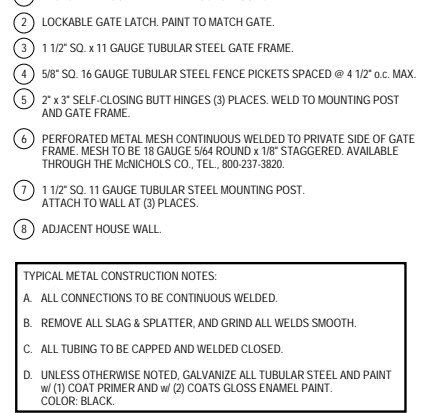
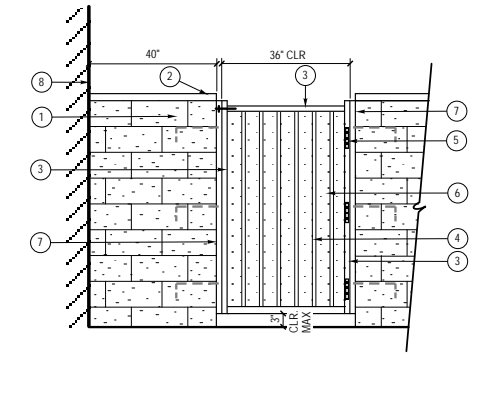
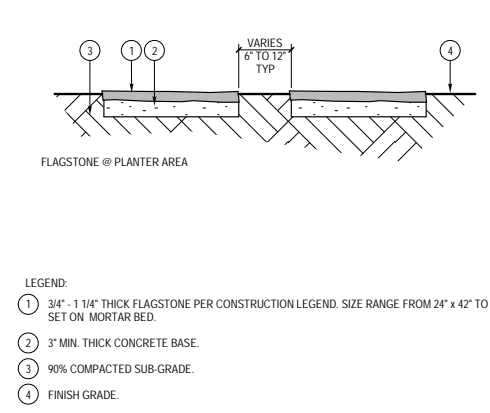
SHEET NO.:
L3
3 OF 10



A CONCRETE PAVING ANDH FINISH
SCALE: NOT TO SCALE

B ALUMINUM EDGING AT GRAVEL
SCALE: 3" = 1'-0"

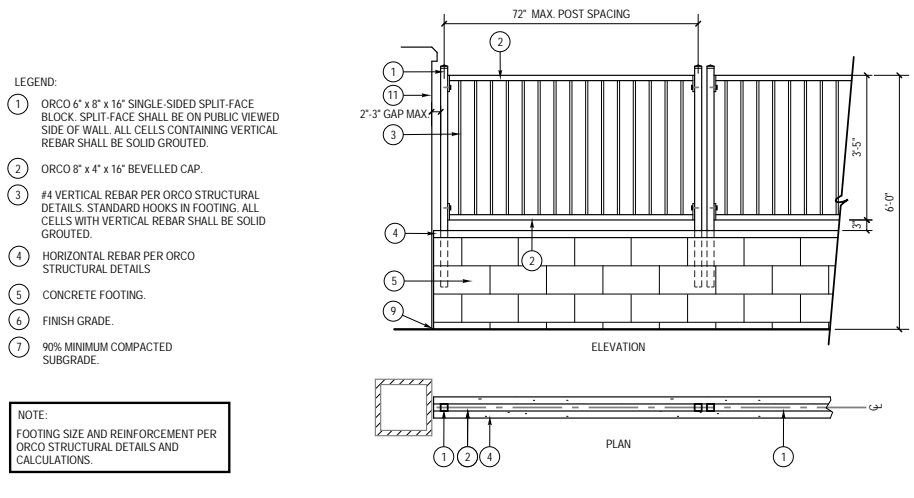
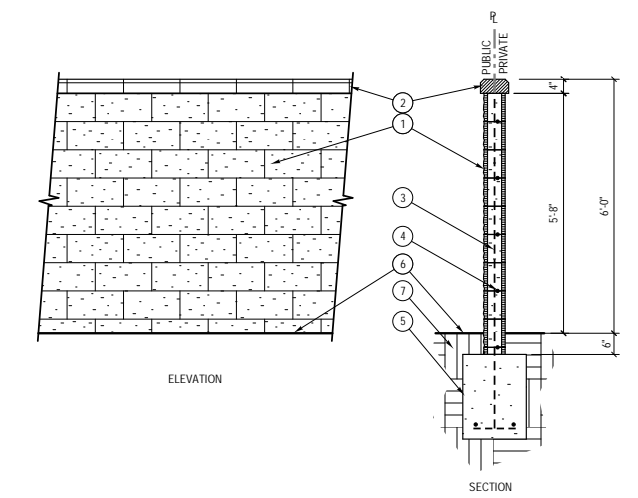
C ALUMINUM EDGING IN PLANTER
SCALE: NOT TO SCALE



D FLAGSTONE IN PLANTER
SCALE: 3/4" = 1'-0"

E TUBULAR STEEL SIDEYARD GATE
SCALE: 1/2" = 1'-0"

F 6' HIGH PRECISION BLOCK WALL w/ PRECISION CAP
SCALE: 1/2" = 1'-0"



G 6' HIGH SINGLE-SIDED SPLIT-FACE WALL w/ BEVELLED CAP
SCALE: 1/2" = 1'-0"

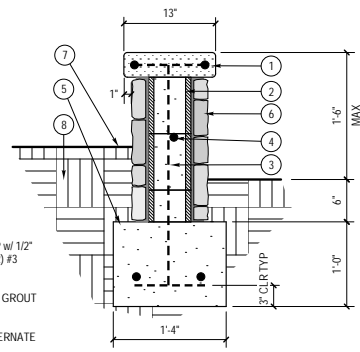
H TUBULAR STEEL FENCE ATOP MASONRY WALL
SCALE: 1/2" = 1'-0"

REVISIONS

SUBMITTALS

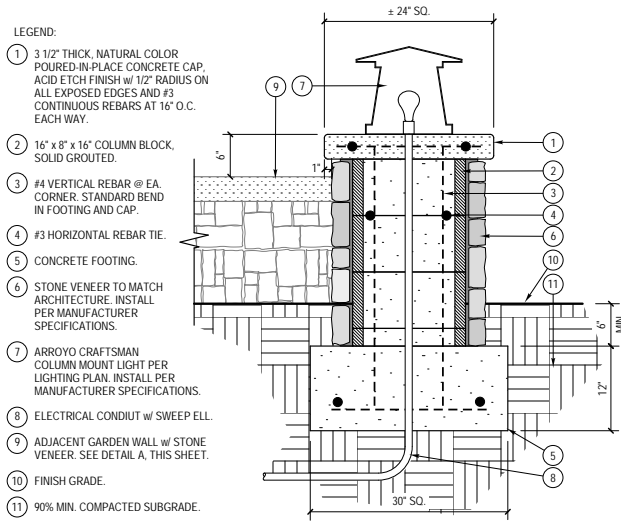
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L3
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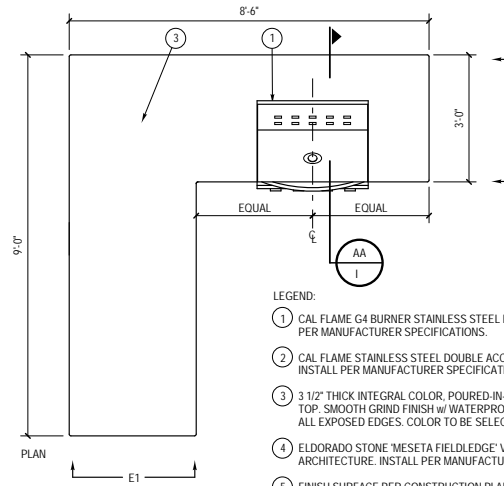
- LEGEND:
- 1 3 1/2" THICK, NATURAL COLOR POURED-IN-PLACE CONCRETE CAP w/ 1/2" RADIUS @ ALL EXPOSED EDGES. (2) #3 CONTINUOUS REBAR.
 - 2 6" x 8" x 16" PRECISION CMU. SOLID GROUT CELLS.
 - 3 #4 VERTICAL REBAR @ 16" o.c. ALTERNATE BENDS IN FOOTING AND CAP.
 - 4 #3 HORIZONTAL REBAR CONTINUOUS.
 - 5 CONTINUOUS CONCRETE FOOTING.
 - 6 EL DORADO STONE 'MESETA FIELDEdge' VENEER TO MATCH ARCHITECTURE. INSTALL PER MANUFACTURER SPECIFICATIONS.
 - 7 FINISH GRADE.
 - 8 90% MIN. COMPACTED SUBGRADE.

A GARDEN WALL w/ STONE VENEER
SCALE: 1" = 1'-0"



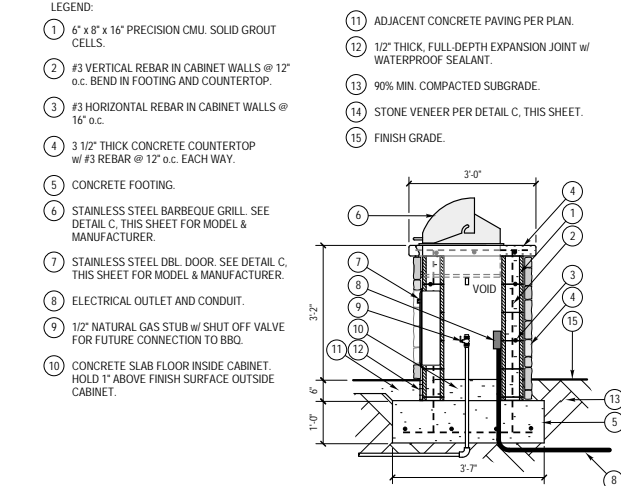
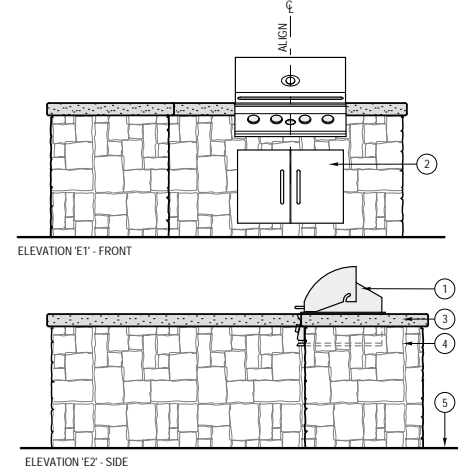
- LEGEND:
- 1 3 1/2" THICK, NATURAL COLOR POURED-IN-PLACE CONCRETE CAP. ACID ETCH FINISH w/ 1/2" RADIUS ON ALL EXPOSED EDGES AND #3 CONTINUOUS REBARS AT 16" O.C. EACH WAY.
 - 2 16" x 8" x 16" COLUMN BLOCK. SOLID GROUTED.
 - 3 #4 VERTICAL REBAR @ EA. CORNER. STANDARD BEND IN FOOTING AND CAP.
 - 4 #3 HORIZONTAL REBAR TIE.
 - 5 CONCRETE FOOTING.
 - 6 STONE VENEER TO MATCH ARCHITECTURE. INSTALL PER MANUFACTURER SPECIFICATIONS.
 - 7 ARROYO CRAFTSMAN COLUMN MOUNT LIGHT PER LIGHTING PLAN. INSTALL PER MANUFACTURER SPECIFICATIONS.
 - 8 ELECTRICAL CONDUIT w/ SWEEP ELL.
 - 9 ADJACENT GARDEN WALL w/ STONE VENEER. SEE DETAIL A, THIS SHEET.
 - 10 FINISH GRADE.
 - 11 90% MIN. COMPACTED SUBGRADE.

B PILASTER w/ STONE VENEER & LIGHT
SCALE: 1" = 1'-0"



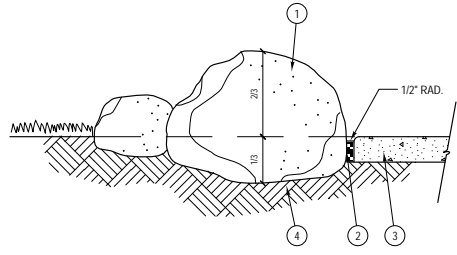
- LEGEND:
- 1 CAL FLAME G4 BURNER STAINLESS STEEL BARBEQUE GRILL. INSTALL PER MANUFACTURER SPECIFICATIONS.
 - 2 CAL FLAME STAINLESS STEEL DOUBLE ACCESS DOOR #BBQ10839-30. INSTALL PER MANUFACTURER SPECIFICATIONS.
 - 3 3 1/2" THICK INTEGRAL COLOR, POURED-IN-PLACE CONCRETE COUNTER TOP. SMOOTH GRIND FINISH w/ WATERPROOF SEALANT. 1/2" RADIUS @ ALL EXPOSED EDGES. COLOR TO BE SELECTED.
 - 4 EL DORADO STONE 'MESETA FIELDEdge' VENEER TO MATCH ARCHITECTURE. INSTALL PER MANUFACTURER SPECIFICATIONS.
 - 5 FINISH SURFACE PER CONSTRUCTION PLAN.

C OUTDOOR KITCHEN
SCALE: 1/2" = 1'-0"



- LEGEND:
- 1 6" x 8" x 16" PRECISION CMU. SOLID GROUT CELLS.
 - 2 #3 VERTICAL REBAR IN CABINET WALLS @ 12" o.c. BEND IN FOOTING AND COUNTERTOP.
 - 3 #3 HORIZONTAL REBAR IN CABINET WALLS @ 16" o.c.
 - 4 3 1/2" THICK CONCRETE COUNTERTOP w/ #3 REBAR @ 12" o.c. EACH WAY.
 - 5 CONCRETE FOOTING.
 - 6 STAINLESS STEEL BARBEQUE GRILL. SEE DETAIL C, THIS SHEET FOR MODEL & MANUFACTURER.
 - 7 STAINLESS STEEL DBL. DOOR. SEE DETAIL C, THIS SHEET FOR MODEL & MANUFACTURER.
 - 8 ELECTRICAL OUTLET AND CONDUIT.
 - 9 1/2" NATURAL GAS STUB w/ SHUT OFF VALVE FOR FUTURE CONNECTION TO BBQ.
 - 10 CONCRETE SLAB FLOOR INSIDE CABINET. HOLD 1" ABOVE FINISH SURFACE OUTSIDE CABINET.
 - 11 ADJACENT CONCRETE PAVING PER PLAN.
 - 12 1/2" THICK, FULL-DEPTH EXPANSION JOINT w/ WATERPROOF SEALANT.
 - 13 90% MIN. COMPACTED SUBGRADE.
 - 14 STONE VENEER PER DETAIL C, THIS SHEET.
 - 15 FINISH GRADE.

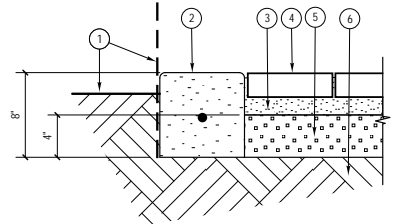
D KITCHEN SECTION 'AA'
SCALE: 1" = 1'-0"



- LEGEND:
- 1 BOULDER PER CONSTRUCTION PLAN. RECESS AT LEAST 1/3 OF BOULDERS DEPTH INTO SUB-GRADE AS SHOWN.
 - 2 1/2" POLY-FOAM EXPANSION JOINT AT EDGE OF PAVING ABUTTING BOULDERS.
 - 3 ADJACENT CONCRETE PAVING OR MOWSTRIP.
 - 4 90% COMPACTED SUB-GRADE.

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

E BOULDER PLACEMENT
SCALE: NOT TO SCALE



- LEGEND:
- 1 ADJACENT FINISH GRADE, PAVING OR BUILDING WALL PER PLAN.
 - 2 SMOOTH TROWEL BAND. WIDTH AND COLOR PER PLAN.
 - 3 1" THICK WASHED PLASTER SAND LEVELING BED.
 - 4 CONCRETE PAVER. TYPE, COLOR, SIZE AND PATTERN PER PLAN.
 - 5 4" MIN. THICK COMPACTED MISC. AGGREGATE BASE MATERIAL. INSTALL PAVERS ON 6" THICK BASE AT DRIVEWAY.
 - 6 COMPACTED SUBGRADE PER SOIL ENGINEER'S REPORT.

F PAVERS w/ CONCRETE BAND
SCALE: NOT TO SCALE

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LICENSE STAMP

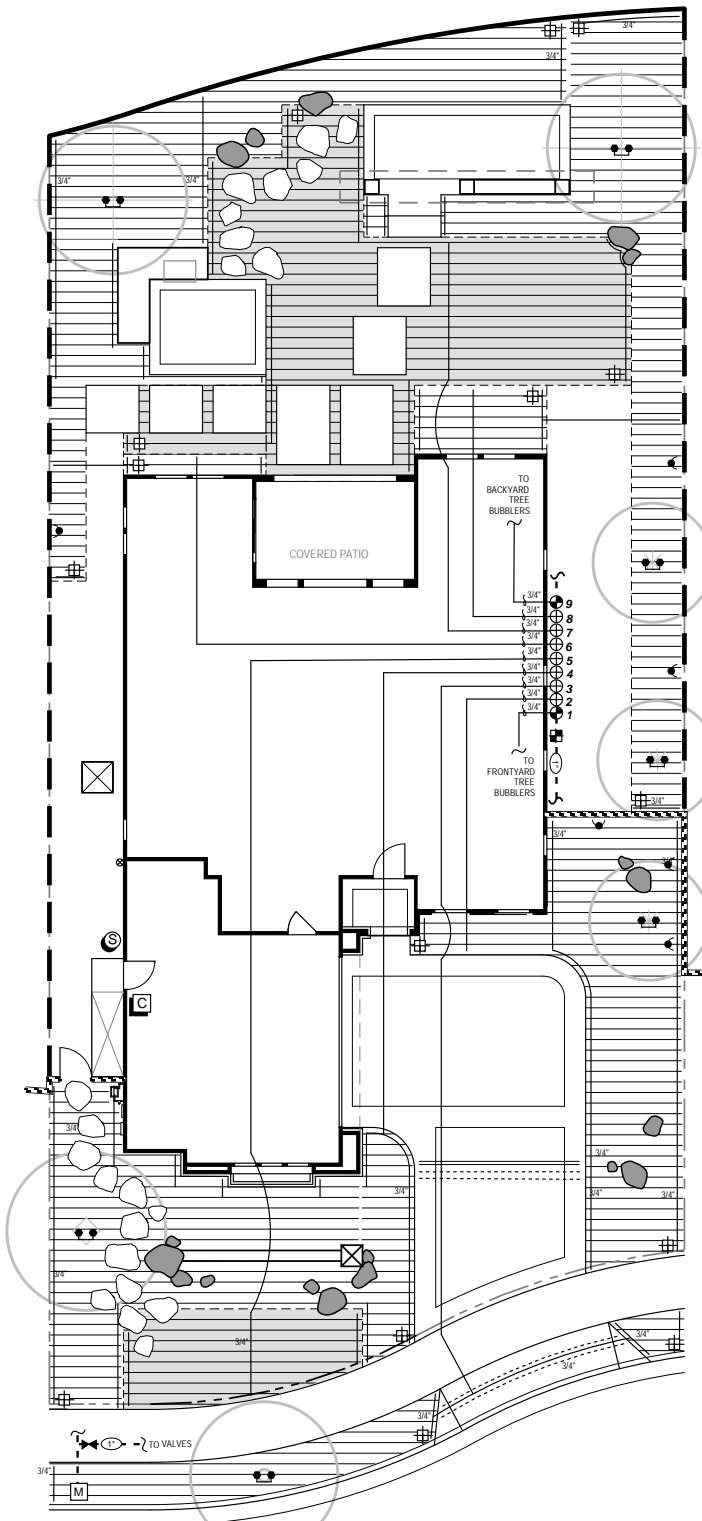
LAST NAME RESIDENCE
1357 STREET NAME
OWNER CONTACT INFORMATION

CONSTRUCTION DETAILS

REVISIONS

DATE:
MM/DD/YY

SHEET NO.:
L4
4 OF 10



POINT OF CONNECTION :
 MAKE POINT OF CONNECTION IMMEDIATELY DOWNSTREAM OF NEW 1" DOMESTIC WATER METER (TO BE PROVIDED BY OTHERS). REFER TO UTILITY PLANS FOR ADDITIONAL INFORMATION. EXTEND NEW TYPE "K" COPPER PIPE (OR AS PER LOCAL CODE) TO LINE SIZE GATE VALVE AND EXTEND TO VALVES AS SHOWN.

STATIC WATER PRESSURE: HIGH: 85 PSI
 SYSTEM DESIGN PRESSURE: 56 PSI
 MAXIMUM IRRIGATION DEMAND: 6 GPM

IRRIGATION NOTES

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

IRRIGATION LEGEND

SYMBOL	MANUFACTURER	MODEL NUMBER	DESCRIPTION	RADIUS	G.P.M.	P.S.I.	COMMENTS
	NETAFIM	TLCV6-12	CV TECHLINE DRIPLINE	DRI	0.010	30	INSTALL LINES ON GRADE. 3" MULCH COVER 18" APART WHERE SHRUB O.C. SPACING IS 18" OR MORE 12" APART WHERE SHRUB O.C. SPACING IS LESS THAN 18" SEE DETAIL E, SHEET L6
	NETAFIM	TLCV6-12	CV TECHLINE DRIPLINE	DRIP	0.010	30	INSTALL TURF LINES BELOW GRADE. 3" COVER 12" APART. SEE DETAIL E, SHEET L6
	NETAFIM	XB-10PC	DRIP EMITTER	DRIP	0.02	30	INSTALL (2) EMITTERS PER VINE, CONNECT TO PLANTER DRIPLINE. SEE DETAIL H, SHEET L6
	RAINBIRD	RWS-M-B-C-1401	ROOT WATERING SYSTEM	BUB	0.25	30	TWO RWS-BUBLERS PER TREE. SEE DETAIL G, SHEET L6

EQUIPMENT	MANUFACTURER	MODEL NUMBER	DESCRIPTION
	-----	-----	PROPOSED 1" DOMESTIC WATER METER WITH 1" SERVICE LINE BY OTHERS
	NIBCO	T-585	LINE-SIZE BRONZE FULL PORT BALL VALVE IN VALVE BOX. SEE DETAIL A, SHEET L6
	NETAFIM	TLSOV	1/2" MANUAL FLUSH VALVE @ EACH PLANTER IN 4" BOX. SEE DETAIL F, SHEET L6
	RAINBIRD	075-ASVF	3/4" ELECTRIC ANTI-SIPHON CONTROL VALVE. SIZE AS SHOWN. SEE DETAIL B, SHEET L6
	RAINBIRD	XACZ-100-PRF	1" ASV ANTI-SIPHON VALVE w/ DRIP CONTROL ZONE KIT. SEE DETAIL C, SHEET L6
	HUNTER	PC400I, WITH (2) PCM-300	10 STATION INTERIOR CONTROLLER W/ (2) ADDED 3-STATION PLUG IN MODULE (PCM-300). INSTALL PER MANUFACTURER'S RECOMMENDATIONS AND STANDARD DETAILS.
	HUNTER	WSS	WIRELESS SOLAR SYNC W/ WIRELESS RECEIVER AND MODULE. INSTALL PER MANUFACTURER'S RECOMMENDATIONS AND STANDARD DETAILS
	APPROVED	SCH. 40 PVC	MAINLINE, SIZE AS SHOWN, MIN. COVER 18". SEE DETAIL D, SHEET L6
	APPROVED	SCH. 40 PVC	LATERAL LINE, SIZE AS SHOWN, MIN. COVER 12". SEE DETAIL D, SHEET L6
	APPROVED	SCH. 40 PVC	SLEEVES, SIZED 2X LARGER THAN PIPE TO BE INSERTED, UNLESS OTHERWISE NOTED SEE DETAIL D, SHEET L6
	APPROVED	SCH. 40 PVC	WIRE SLEEVE, SIZE AS REQUIRED, UNLESS OTHERWISE NOTED. SEE DETAIL D, SHEET L6

NETAFIM INSTALLATION NOTES:

- NETAFIM "TECHLINE CV" EMITTERS AND SPACING BETWEEN LINES AS PER IRRIGATION LEGEND.
- LOCATE NETAFIM FLUSH VALVE AT LOWEST POINTS OF SYSTEM. INSTALL IN PLANTER AREA. SEE FLUSH VALVE DETAIL FOR INSTALLATION. LOCATE AIR RELIEF VALVE NEAR SYSTEM HIGH POINT, IF NEEDED.
- CONNECT TECHLINE CV TO PVC WITH PVC TEES AND COMPRESSION FITTINGS. USE COMPRESSION FITTINGS FOR ALL PVC-TO-TECHLINE CV CONNECTIONS. GLUE ALL PVC-TO-PVC CONNECTIONS.

PRESSURE LOSS CALCULATION

PROJECT: LAST NAME RESIDENTIAL BY: XX
 STATIC PRESSURE: HIGH: 85 PSI LOW: 77 PSI
 SOURCE OF INFORMATION: CONTACT NAME
 SUPPLIER: CITY OF RIVERSIDE PUBLIC UTILITIES
 PHONE NUMBER: (XXX) XXX-XXXX
 VALVE STATION/GPM: VALVE 7, 6 GPM

ITEM:		P.S.I. LOSS:
SERVICE LINE SIZE:	1" @ 6 GPM	0.50
WATER METER SIZE:	1" @ 6 GPM	0.50
GATE VALVE(S):	1 1" @ 6 GPM	0.50
PRESSURE REGULATOR:	1 1" @ 6 GPM	5.00
MAINLINE (SCH. 40):	1" 132 L.F. @ 6 GPM	2.50
AUTOMATIC VALVE SIZE:	1" @ 6 GPM	3.50
LATERAL LINE SIZE:	3/4" 125 L.F. @ 6 GPM	2.50
SYSTEM LOSSES SUBTOTAL:		15.00
FITTING LOSSES (10% OF SUBTOTAL):		1.50
IRRIGATION HEAD PRESSURE:		30.00
ELEVATION LOSSES/GAINS (ELEV. X 4.33)		0.00
TOTAL SYSTEM PRESSURE REQD:		46.50
AVAILABLE PRESSURE (LOW):		77.00
SET PRESSURE REGULATOR AT:		62.00
(-) DEFICIT OR (+) RESIDUAL PRESSURE:		(+) 15.50

CONTRACTOR TO SET PRESSURE REGULATOR TO 62 PSI AND FIELD ADJUST REGULATOR AS NECESSARY.

PLAN CROSS REFERENCES

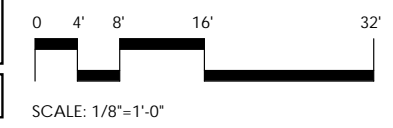
FOR NOTES AND LEGEND SEE THIS SHEET
 FOR IRRIGATION DETAILS, SEE SHEET L6
 FOR IRRIGATION SPECIFICATIONS, SEE SHEET L10
 FOR CORRESPONDING CONSTRUCTION PLAN SEE SHEET L2
 FOR CORRESPONDING PLANTING PLAN SEE SHEET L7

ALL IMPROVEMENTS SHALL BE MAINTAINED BY THE HOMEOWNER OWNER.

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

PIPE SIZING CHART:

3/4"	0-8 GPM
1"	8-15 GPM
1 1/4"	15-24 GPM
1 1/2"	24-32 GPM
2"	32-50 GPM



AUTOMATIC CONTROLLER NOTE:
 INSTALL A HUNTER INTERIOR WALL-MOUNTED ELECTRIC CONTROLLER. SEE IRRIGATION LEGEND FOR MODEL NUMBER. OWNER TO PROVIDE 120 VOLT CONTINUOUS INDEPENDENT POWER CIRCUIT TO THIS LOCATION. PROVIDE CONTROLLER, AND COORDINATE CONTROLLER POWER LOCATION WITH OWNER.

SOLAR SYNC SENSOR:
 CONTRACTOR TO INSTALL A WIRELESS SOLAR SYNC SENSOR ON WALL OR FENCE IN AN OPEN AREA TO COLLECT SOLAR AND RAIN WATER.

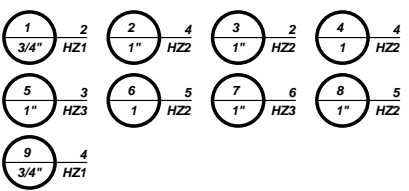
SLEEVING NOTE:
 INSTALL SLEEVES FOR MAINLINES AND LATERALS AT ALL HARDSCAPE CROSSINGS PRIOR TO HARDSCAPE PLACEMENT. PROVIDE SEPARATE SLEEVES FOR CONTROL WIRES WHERE CROSSING PAVING. ALL SLEEVES CROSSING VEHICULAR PAVING SHALL HAVE MINIMUM OF 24" COVER.

HYDROZONE LEGEND:

- HYDROZONE 1 (HZ1):**
TREES - MODERATE WATER USE, RWS BUBBLER IRRIGATION
- HYDROZONE 2 (HZ2):**
PLANTER AREAS - MIXED LOW AND MODERATE WATER USE VINES, SHRUBS AND GROUND COVER WITH ON-SURFACE DRIPLINE IRRIGATION
- HYDROZONE 3 (HZ3):**
TURF - HIGH WATER USE, WITH SUB-SURFACE DRIPLINE IRRIGATION

FOR IRRIGATION DETAILS, CONTROLLER SCHEDULING CHARTS, AND WATER BUDGET CALCULATIONS, SEE SHEET L6

VALVE CALLOUTS



VALVE SIZING KEY



LICENSED PROFESSIONAL LOGO AND COMPANY INFORMATION

LICENSE STAMP

LAST NAME RESIDENCE
 1357 STREET NAME
 OWNER CONTACT INFORMATION

IRRIGATION PLAN

REVISIONS

SUBMITTALS

DATE:
 MM/DD/YY

SHEET SCALE:
 1/8" = 1'-0"

SHEET NO.:
 L5
 5 OF 10



Know what's below.
 Call before you dig.

LICENSED PROFESSIONAL LOGO AND COMPANY INFORMATION

LICENSE STAMP

LAST NAME RESIDENCE
1357 STREET NAME
OWNER CONTACT INFORMATION

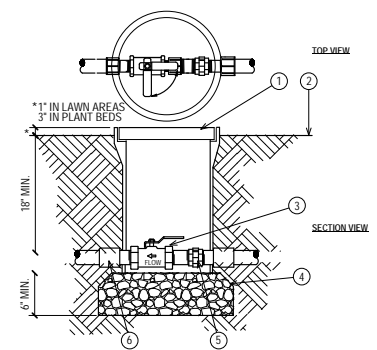
IRRIGATION DETAILS

REVISIONS

SUBMITTALS

DATE:
MM/DD/YY

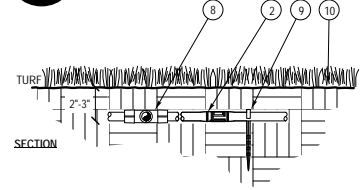
SHEET NO.:
L6
6 OF 10



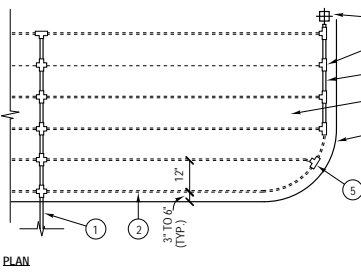
- LEGEND:
- 1 10" ROUND PLASTIC VALVE BOX & COVER MARKED "IRRIGATION BALL"
 - 2 FINISH GRADE.
 - 3 BALL VALVE - SEE IRRIGATION LEGEND FOR MODEL#
 - 4 3/4" WASHED CRUSSED AGGREGATE BASE.
 - 5 SCH. 80 PVC UNION.
 - 6 SCH. 80 PVC MALE ADAPTORS.
- NOTE:
PLACE AGGREGATE PRIOR TO INSTALLATION OF VALVE BOX.

A BALL VALVE

SCALE: 1" = 1'-0"

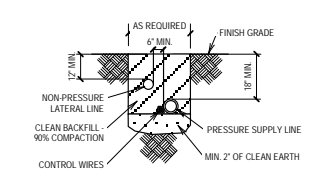
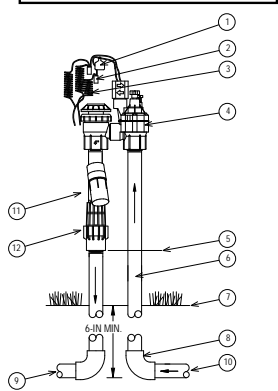


- LEGEND:
- 1 PVC INPUT LATERAL FROM VALVE, SIZE AS NOTED ON IRRIGATION PLAN.
 - 2 NETAFIM DRIPLINE TLCV, EMITTERS AND SPACING BETWEEN LINES AS PER IRRIGATION LEGEND.
 - 3 MANUAL 1/2" FLUSH VALVE, MODEL AS NOTED ON IRRIGATION PLAN. INSTALL IN PLANTER AREA AT LOW END FARTHEST FROM VALVE. SEE FLUSH VALVE DETAIL FOR INSTALLATION.
 - 4 PVC EXHAUST HEADER, SIZE AS REQUIRED (3/4" MINIMUM); CONNECT TECHLINE TO PVC WITH PVC TEES AND COMPRESSION FITTINGS. GLUE ALL PVC-TO-PVC CONNECTIONS.
 - 5 PVC COMPRESSION FITTINGS FOR ALL TECHLINE-TO-TECHLINE CONNECTIONS.
 - 6 PLANTER AREA - SEE PLANS.
 - 7 EDGE OF PLANTER AREA.
 - 8 PVC FITTINGS, TYPE AND SIZE AS REQUIRED. GLUE ALL PVC-TO-PVC CONNECTIONS. USE COMPRESSION FITTINGS FOR ALL PVC-TO-TECHLINE CONNECTIONS.
 - 9 TIE DOWN STAKE, SPACING AT 2' O.C. MAX.
 - 10 FINISH GRADE.



NOTE:
1. ANTI-SIPHON VALVES SHOULD BE INSTALLED 12" ABOVE THE HIGHEST SPRINKLER HEAD ON THAT SYSTEM OR ACCORDING TO LOCAL CODES.
2. INSTALL AS REQUIRED BY LOCAL CODE. USE TEFLON TAPE ON ALL PVC TO PVC OR METAL TO PVC PIPE THREADS.

- LEGEND:
- 1 ID TAG
 - 2 WATERPROOF WATER CONNECTION
 - 3 30-INCH LINEAR LENGTH OF WIRE, COILED
 - 4 ELECTRIC ANTI-SIPHON VALVE ASSEMBLY
 - 5 INSTALL 12-INCH MIN. ABOVE HIGHEST POINT OF DISCHARGE
 - 6 PVC SCH 80 PIPE (1.0E-2)
 - 7 FINISH GRADE / TOP OF MULCH
 - 8 PVC SCH 40 ELL OR TEE
 - 9 PVC LATERAL PIPE PER PLAN
 - 10 PVC MAINLINE PER PLAN
 - 11 FILTER
 - 12 PRESSURE REGULATOR



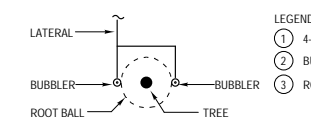
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C A/S DRIP VALVE

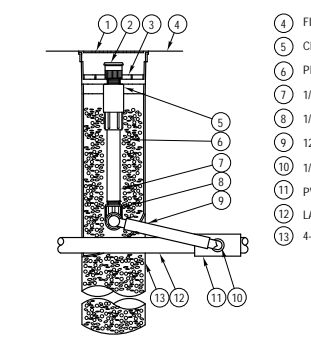
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D TRENCHING / SLEEVING

SCALE: NOT TO SCALE



- LEGEND:
- 1 4-INCH LOCKING GRATE
 - 2 BUBBLER, RAINBIRD 0.25 GPM
 - 3 ROOT ZONE WATERING ASSEMBLY RAINBIRD RW5-M-B-C-1401 (INCLUDES 0.25 BUBBLER PER LEGEND WITH RISER, SWING ASSEMBLY, LOCKING GRATE, 1/2" MALE NPT INLET, AND BASKET CANISTER)
 - 4 FINISH GRADE
 - 5 CHECK VALVE
 - 6 PEA GRAVEL FILL
 - 7 1/2-INCH PVC SCH 80 NIPPLE
 - 8 1/2-INCH 90-DEGREE ELBOW
 - 9 1/2-INCH SWING ASSEMBLY
 - 10 1/2-INCH MALE NPT INLET
 - 11 PVC SCH 40 TEE OR ELL
 - 12 LATERAL PIPE
 - 13 4-INCH BASKET WEAVE CANISTER



E DRIPLINE BELOW GRADE, TYPICAL CONDITION

SCALE: 1" = 1'-0"

F MANUAL FLUSH VALVE

SCALE: NOT TO SCALE

G ROOT ZONE BUBBLERS AT TREE

SCALE: NOT TO SCALE

CONTROLLER SCHEDULING CHART - PLANT ESTABLISHMENT PERIOD																	
AVERAGE DAILY RUN TIMES (MINUTES)																	
Valve	Equipment	I.E.	Plant Material	K.L.	P.R.	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
1	Tree Bubbler	0.81	Trees	0.50	3.85	2	2	3	4	4	5	5	5	4	3	2	2
2	Dripline	0.81	Low Shrub/Vine	0.20	0.80	3	4	6	7	8	9	9	9	7	5	4	3
3	Dripline	0.81	Low Shrub/Vine	0.20	1.13	2	3	4	5	6	6	7	6	5	4	3	2
4	Dripline	0.81	Low Shrub/Vine	0.20	0.68	4	5	7	8	9	10	11	11	8	6	5	4
5	Dripline	0.81	Turf	0.80	1.56	7	8	11	14	16	18	20	19	15	11	8	7
6	Dripline	0.81	Low Shrub/Vine	0.20	0.79	3	4	6	7	8	9	10	9	7	5	4	3
7	Dripline	0.81	Turf	0.80	0.79	13	16	23	29	32	36	39	37	29	22	16	14
8	Dripline	0.81	Low Shrub/Vine	0.20	0.79	3	4	6	7	8	9	10	9	7	5	4	3
9	Tree Bubbler	0.81	Trees	0.40	3.85	1	2	2	3	3	4	4	4	3	2	2	1
Monthly Evapotranspiration Rate						2.5	2.9	4.2	5.3	5.9	6.6	7.2	6.9	5.4	4.1	2.9	2.6

RUN TIME FORMULA = 2(60°E.T.)/(P.R. * 28 DAYS) * K.L. / (1/E)

NOTE:
1. The plant establishment water schedules are shown for guideline use only and are to be modified according to plant needs and as the weather changes.
2. It is based on the monthly evapotranspiration rates for City of Riverside, CA.

56.4 Annual Evapotranspiration Rate

CONTROLLER SCHEDULING CHART - ESTABLISHED LANDSCAPE																	
AVERAGE DAILY RUN TIMES (MINUTES)																	
Valve	Equipment	I.E.	Plant Material	K.L.	P.R.	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
1	Tree Bubbler	0.81	Trees	0.50	3.85	1	1	1	2	2	2	2	2	2	1	1	1
2	Dripline	0.81	Low Shrub/Vine	0.20	0.80	2	2	3	3	4	4	5	5	4	3	2	2
3	Dripline	0.81	Low Shrub/Vine	0.20	1.13	1	1	2	2	3	3	3	3	3	2	1	1
4	Dripline	0.81	Low Shrub/Vine	0.20	0.68	2	2	3	4	5	5	6	5	4	3	2	2
5	Dripline	0.81	Turf	0.80	1.56	3	4	6	7	8	9	10	9	7	6	4	4
6	Dripline	0.81	Low Shrub/Vine	0.20	0.79	2	2	3	4	4	4	5	5	4	3	2	2
7	Dripline	0.81	Turf	0.80	0.79	7	8	11	14	16	18	19	19	15	11	8	7
8	Dripline	0.81	Low Shrub/Vine	0.20	0.79	2	2	3	4	4	4	5	5	4	3	2	2
9	Tree Bubbler	0.81	Trees	0.40	3.85	1	1	1	1	2	2	2	2	1	1	1	1
Monthly Evapotranspiration Rate						2.5	2.9	4.2	5.3	5.9	6.6	7.2	6.9	5.4	4.1	2.9	2.6

RUN TIME FORMULA = 2(60°E.T.)/(P.R. * 28 DAYS) * K.L. / (1/E)

NOTE:
1. The water schedules are shown for guideline use only and are to be modified accordingly as the weather changes with the assistance of a programmed smart controller.
2. It is based on the monthly evapotranspiration rates for City of Riverside, CA.

56.4 Annual Evapotranspiration Rate

Reference ETo for the area ETo = 56.4

Estimated Total Water Use (ETWU):
ETWU is calculated using the following formula: (Eto) (.62) (ETAF) (LA) where ETWU ETAF if PF/IE

Hydrozone # / Planting Description	Plant Factor (PF)	Irrigation Method	Irrigation Efficiency (IE)	ETAF (PF/IE)	Landscape Area (sq. ft.)	ETAF x Landscape Area	Estimated Total Water Use (ETWU) (gallons/yr.)
Regular Landscape Areas							
H21 - Moderate Tree	0.5	Drip	0.81	0.62	100	62	2199
H22 - Low Shrub/Vine	0.2	Drip	0.81	0.25	2,427	599	20955
H24 - Turf	0.8	Drip	0.81	0.99	923	912	31877
Totals							3,450
Special Landscape Areas							0
Totals							0
Estimated Total Water Use in gallons per year, ETWU Total						54990	
Maximum Annual Water Allowance in gallons per year, MAWA Total						66352	
MAWA calculation: (Eto) (.62) [(ETAFxLA) + ((1-ETAF) x SLA)] where Residential MAWA ETAF factor is 0.55						MAWA - ETWU =	11361

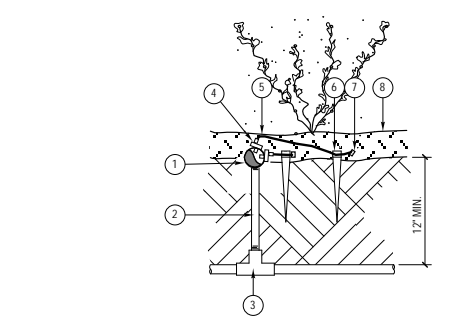
ETAF Calculations:
Regular Landscape Areas

Total ETAF x Area	Total Area	Average ETAF
1573	3,450	0.46

Average ETAF for Regular Landscape Areas must be 0.55 or below for residential areas.

All Landscape Areas

Total ETAF x Area	Total Landscape Area (LA)	Sitewide ETAF
1573	3,450	0.46



- LEGEND:
- 1 PLANTER DRIPLINE - IRRIGATION LEGEND.
 - 2 1/2" PVC NIPPLE, LENGTH AS REQUIRED.
 - 3 PVC TEE (SX/SXT).
 - 4 DRIP EMITTER PER PLAN.
 - 5 1/4" EMITTER DISTRIBUTION TUBING, LENGTH AS REQUIRED.
 - 6 EMITTER LINE STABILIZER.
 - 7 BUG CAP.
 - 8 3" LAYER OF MULCH.
- NOTE:
CONTRACTOR TO COORDINATE INSTALLATION OF PIPING UNDER HARDSCAPE w/ GENERAL CONTRACTOR.

H DRIP EMITTERS TO VINE

SCALE: 1" = 1'-0"

I CONTROLLER SCHEDULING CHARTS AND WATER CALCULATIONS

SCALE: NOT TO SCALE

LICENSED PROFESSIONAL LOGO AND COMPANY INFORMATION

LICENSE STAMP

LAST NAME RESIDENCE
1357 STREET NAME
OWNER CONTACT INFORMATION

PLANTING PLAN

REVISIONS

△

△

△

△

△

△

△

DATE:
MM/DD/YY

SHEET SCALE:
1/8" = 1'-0"

SHEET NO.:
L7
7 OF 10

PLANTING NOTES

- SHRUB LAYOUT AS SHOWN ON PLAN INDICATES "SHRUB MASSES." QUANTITIES ARE AS SHOWN ON PLAN, ON-CENTER SPACING AS SHOWN ON LEGEND. CONTRACTOR TO VERIFY QUANTITIES BASED ON SPACING AND ADD ADDITIONAL PLANT MATERIAL (AT NO ADDITIONAL COST TO THE OWNER) REQUIRED TO MAINTAIN DESIGN INTENT DUE TO EXISTING SITE CONDITIONS NOT ANTICIPATED DURING DESIGN. LAYOUT/SPACING WILL EITHER BE TRIANGULAR OR LINEAR AS SHOWN ON PLAN OR LEGEND. LANDSCAPE ARCHITECT TO APPROVE FINAL LAYOUT IN FIELD PRIOR TO INSTALLATION.
- CONTRACTORS SHALL NOTIFY THE LANDSCAPE ARCHITECT OF SITE CONDITIONS WHICH PREVENT INSTALLATION PER PLANS AND SPECIFICATIONS.
- CONTRACTOR SHALL BE LIABLE FOR REMOVING AND RE-INSTALLING IRRIGATION EQUIPMENT, AND REPLANTING AREAS WHICH ARE NOT INSTALLED PER PLAN AND SPECIFICATIONS.
- REFER TO PLANTING SPECIFICATIONS FOR INSPECTION/CERTIFICATION SCHEDULE.
- IRRIGATION SYSTEM SHALL BE INSTALLED AND OPERATIONAL PRIOR TO INSTALLATION OF PLANT MATERIALS.
- TREES AND SHRUBS SHALL BE PLANTED AFTER CONCRETE PLACEMENT, BUT NOT BEFORE IRRIGATION COVERAGE TEST NO. 1 HAS BEEN APPROVED. (SEE SPECIFICATIONS).
- PLACE TREES BETWEEN IRRIGATION HEADS WHEREVER POSSIBLE.
- IF ROUGH GRADING IS COMPLETED AFTER LANDSCAPE DOCUMENTS WERE PREPARED, LANDSCAPE CONTRACTOR SHALL TAKE FOUR (2) SOIL SAMPLES FROM THE SITE. THE SAMPLES SHALL BE TAKEN AT A DEPTH OF 12" AND SUBMITTED TO AN APPROVED SOIL AND PLANT LABORATORY FOR AGRICULTURAL SUITABILITY TESTING. THE COST OF TESTING SHALL BE INCLUDED IN THE CONTRACTOR'S BID.
- THE RECOMMENDATIONS OF THE SOIL REPORT SHALL SUPERSEDE THE SOIL PREPARATION AND BACKFILL MIX SPECIFICATIONS (SEE SPECIFICATIONS). THE CONTRACTOR SHALL SUBMIT A COPY OF ALL SOILS REPORTS TO THE LANDSCAPE ARCHITECT PRIOR TO MODIFICATION OF THESE SPECIFICATIONS.
- SHREDDED MULCH INSTALLATION: INSTALL SHREDDED MULCH IN ALL SHRUB AND GROUND COVER AREAS PER SPECIFICATIONS UNLESS OTHERWISE INDICATED ON PLANS.
- CONTRACTOR IS RESPONSIBLE FOR ALL REPAIRS AND/OR REPLACEMENT OF ANY DAMAGED LANDSCAPE AREAS BEYOND THE LIMIT OF WORK, INCLUDING REPAIRING ANY IRRIGATION LINES/SPRINKLER HEADS, THAT IS A DIRECT RESULT OF THE LANDSCAPE CONSTRUCTION AND/OR HIS SUB-CONTRACTOR. REPLACEMENT ITEMS SHALL BE EXACT DUPLICATION OF ORIGINAL WORK OR PLANTS, UNLESS OTHERWISE APPROVED BY THE LANDSCAPE ARCHITECT.
- WHEREVER GROUND COVER AREAS ARE ADJACENT TO TURF INSTALL CONCRETE MOWSTRIP OR HEADERBOARD AS INDICATED ON DRAWINGS.
- CLEAN-UP SHALL TAKE PLACE ON A DAILY BASIS UNLESS OTHERWISE APPROVED BY THE OWNER'S REPRESENTATIVE.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN ALL GRADES AND FLOW LINES AS SHOWN ON THE GRADING PLAN. WHERE SOD IS TO BE INSTALLED ON A SLOPE, THE FINISH GRADE MUST BE ADJUSTED SO THE SOD DOES NOT RESTRICT THE FLOW.

PLANTING LEGEND

SYMBOL CALLOUT	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	COMMENTS	WATER USE	QTY
TREES							
⊕	<i>Quercus agrifolia</i>	Coast Live Oak	36" box	Per plan	Matched	L	2
*	<i>Arbutus 'Marina'</i>	Strawberry Tree	24" box	Per plan		M	3
◇	<i>Magnolia g. 'Samuel Sommer'</i>	Samuel Sommer Magnolia	36" box	Per plan		M	1
○	<i>Magnolia g. 'St. Mary'</i>	St. Mary Magnolia	24" box	Per plan	Street Tree	M	1
SHRUBS							
RC	<i>Rhamnus c. 'Mound San Bruno'</i>	Coffeeberry	15 gal.	42" o.c.		L	30
P	<i>Podocarpus m. 'Maki'</i>	Shrubby Yew Pine	15 gal.	Per plan		L	17
RP	<i>Rosmarinus p. 'Blue Spires'</i>	Blue Spires Rosemary	15 gal.	Per plan		L	3
HP	<i>Hesperaloe parviflora</i>	Red Yucca	15 gal.	30" o.c.		L	15
H	<i>Hesperaloe parviflora</i>	Red Yucca	5 gal.	30" o.c.		L	15
L	<i>Callistemon 'Little John'</i>	Dwarf Bottlebrush	15 gal.	24" o.c.		L	11
BB	<i>Callistemon 'Little John'</i>	Dwarf Bottlebrush	5 gal.	24" o.c.		L	88
M	<i>Muhlenbergia dubia</i>	Pine Muhly	5 gal.	Per plan		L	26
DR	<i>Dianella revoluta 'Little Rev'</i>	Little Rev Flax Lily	5 gal.	30" o.c.		L	43
C	<i>Coreopsis 'Early Sunrise'</i>	Early Sunrise Coreopsis	1 gal.	18" o.c.		L	72
B	<i>Salvia 'Bee's Bliss'</i>	Bee's Bliss Sage	1 gal.	18" o.c.		L	178
GROUNDCOVERS							
TURF	<i>Marathon II</i>	Turf	SOD	Install per manu's rec's		H	923 s.f.
■	<i>Senecio mandraliscae</i>	Kleinia	1 gal.	18" o.c.		L	105
■	<i>Teucrium cossonii</i>	Marjorcan Germander	1 gal.	12" o.c.		L	115
VINES							
▲	<i>Macfadyena unguis-cati</i>	Cal's Claw Vine	15 gal.	Per plan	Train to wall	L	6

MULCH NOTE:
INSTALL A 3" LAYER OF COVER MULCH IN ALL SHRUB AREAS (1 1/2" IN GROUND COVER AREAS). MULCH AVAILABLE FROM EARTHWORKS, RIVERSIDE, CA. SUBMIT SAMPLE OF ANY ALTERNATIVE MATERIAL PRIOR TO PURCHASE AND/OR PLACEMENT FOR OWNER'S REPRESENTATIVE'S APPROVAL.

HYDROZONE LEGEND:

- HYDROZONE 1 (HZ1): TREES - MODERATE WATER USE, RWS BUBBLER IRRIGATION
- HYDROZONE 2 (HZ2): PLANTER AREAS - LOW USE VINES, SHRUBS AND GROUND COVER WITH ON-SURFACE DRIPLINE IRRIGATION
- HYDROZONE 3 (HZ3): TURF - HIGH WATER USE, WITH SUB-SURFACE DRIPLINE IRRIGATION

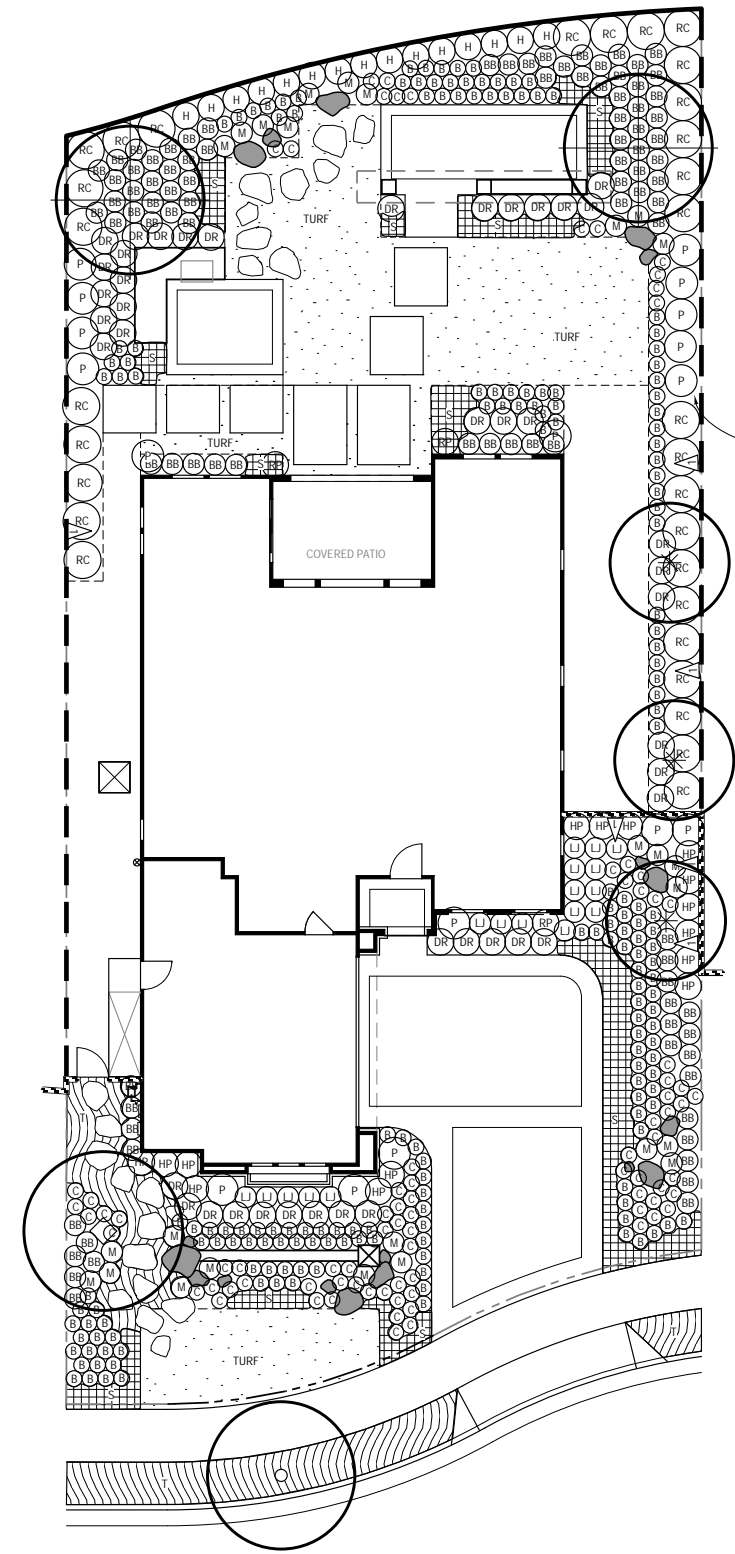
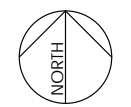
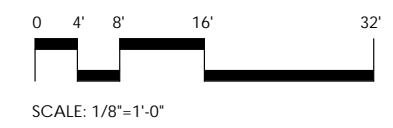
FOR IRRIGATION DETAILS, CONTROLLER SCHEDULING CHARTS, AND WATER BUDGET CALCULATIONS, SEE SHEET L6

PLANT SPACING NOTE:
SHRUB LAYOUT AS SHOWN ON PLAN INDICATES "SHRUB MASSES." QUANTITIES ARE AS SHOWN ON PLAN, ON-CENTER SPACING AS SHOWN ON LEGEND. CONTRACTOR TO VERIFY QUANTITIES BASED ON SPACING AND ADD ADDITIONAL PLANT MATERIAL, AT NO ADDITIONAL COST TO THE OWNER, AS REQUIRED TO MAINTAIN DESIGN INTENT DUE TO EXISTING SITE CONDITIONS NOT ANTICIPATED DURING DESIGN. LAYOUT/SPACING WILL EITHER BE TRIANGULAR OR LINEAR AS INDICATED ON PLAN OR LEGEND. LANDSCAPE ARCHITECT TO APPROVE FINAL LAYOUT IN FIELD PRIOR TO INSTALLATION.

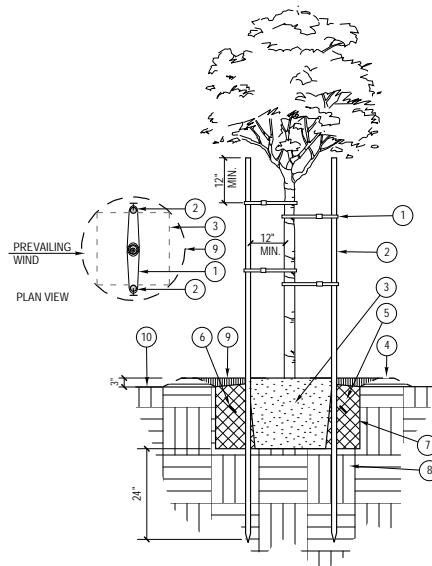
PHOTO SUBMITTAL NOTE:
ALL PLANT MATERIAL, INCLUDING TREES, SHRUBS, AND VINES, SHALL BE INSPECTED AND APPROVED BY LANDSCAPE ARCHITECT, VIA PHOTO SUBMITTALS, PRIOR TO DELIVERY TO SITE. PHOTO SUBMITTALS SHALL INCLUDE NURSERY SUPPLIES AND DATE OF PHOTOS. ANY MATERIAL DELIVERED TO SITE WITHOUT APPROVAL IS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

PLAN CROSS REFERENCES

FOR NOTES AND LEGENDS, SEE THIS SHEET
FOR PLANTING DETAILS, SEE SHEET L8
FOR PLANTING SPECS, SEE SHEET L-10
FOR CORRESPONDING CONSTRUCTION PLAN SEE SHEET L2
FOR CORRESPONDING IRRIGATION PLAN SEE SHEET L5

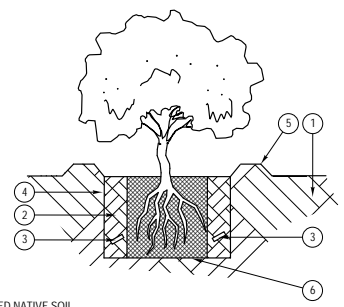


Know what's below.
Call before you dig.



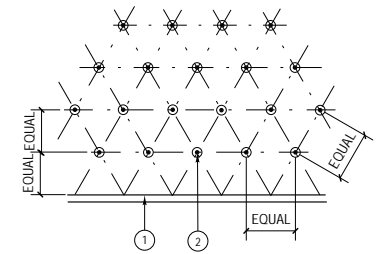
- LEGEND:
- 1 "CINCH TIE" AS MANUFACTURED BY V.I.T. CO. (2) PER POLE. SEE SPECIFICATIONS. NAIL TO TREE STAKE w/ 1" GALV. ROOFING NAIL (4) REQUIRED.
 - 2 2" DIA. x 10' LONG LODGEPOLE PINE TREE STAKE. (2) PER TREE. LOCATE OUTSIDE ROOT BALL.
 - 3 CONTAINER ROOT BALL. SET 3" ABOVE F.G.
 - 4 TEMPORARY 3" BERM TO FORM DEPRESSED WATERING BASIN. ALL SIDES.
 - 5 PREPARED BACKFILL MIX PER SOIL REPORT RECOMMENDATIONS.
 - 6 FERTILIZER TABLETS AND QUANTITY PER PLANTING SPECIFICATIONS.
 - 7 PLANT PIT TO BE TWICE ROOTBALL WIDTH. SET ROOTBALL ON UNDISTURBED NATIVE SUBGRADE.
 - 8 UNDISTURBED NATIVE SOIL.
 - 9 2" MULCH LAYER. 3'-0" DIA. IN TURF AREAS.
 - 10 FINISH GRADE.
- LEGEND:
- A UNTANGLE MATTED ROOTS BY LOOSENING WALL ROOTS AT EDGE OF ROOTBALL w/ WATER FROM HOSE. DO NOT CRACK ROOTBALL.
 - B PLACE FERTILIZER TABS IN PLANT PIT PRIOR TO PLANTING FOR OBSERVATION PURPOSES.
 - C SET STAKES PERPENDICULAR TO PREVAILING WINDS.

A DOUBLE STAKE TREE PLANTING
SCALE: 1" = 1'-0"



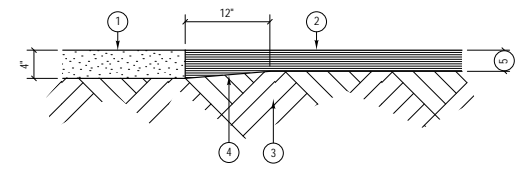
- LEGEND:
- 1 UNDISTURBED NATIVE SOIL.
 - 2 BACKFILL MIX PER PLANTING SPECIFICATIONS.
 - 3 FERTILIZER TABLETS PER SPECIFICATIONS.
 - 4 PLANT PIT TWICE ROOTBALL WIDTH.
 - 5 3" BERM TO FORM WATERING BASIN.
 - 6 ROOTBALL SET ON NATIVE SOIL.
- NOTES:
- A UNTANGLE MATTED ROOTS BY LOOSENING ALL ROOTS @ EDGE OF ROOTBALL w/ WATER FROM HOSE. DO NOT CRACK BALL OF ROOTS.
 - B PLACE FERTILIZER TABS IN PLANT CONTAINER PRIOR TO PLANTING FOR OBSERVATION PURPOSES.

B SHRUB PLANTING DETAIL
SCALE: NOT TO SCALE



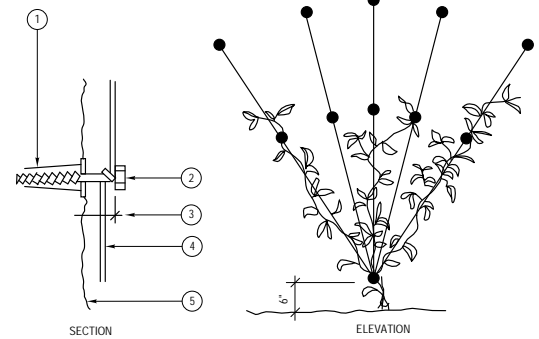
- LEGEND:
- 1 BACK OF CURB OR EDGE OF PAVING.
 - 2 PLANT LOCATION.
- NOTE:
- ALL SHRUBS / GROUND COVER SHALL BE PLANTED AT EQUAL SPACING (TRIANGULAR) UNLESS OTHERWISE INDICATED ON PLANS. SEE PLANTING LEGEND FOR SPACING REQUIREMENTS.

C SHRUB & G.C. SPACING
SCALE: NOT TO SCALE



- LEGEND:
- 1 HARDSCAPING / HEADERBOARD.
 - 2 SHREDDED MULCH (MEDIUM GRIND) DO NOT USE BARK CHIPS.
 - 3 FINISH GRADE.
 - 4 SHOVEL CUT DEEPEDED EDGE ADJACENT TO PAVING.
 - 5 MULCH DEPTH PER PLANTING PLAN.
- NOTE:
- MULCH UNDER TREES AND SHRUBS, AND BLEND INTO EDGES AT GROUND COVER AREAS.

D MULCH
SCALE: NOT TO SCALE



- LEGEND:
- 1 #6X1" PLASTIC EXPANSION SHIELD
 - 2 #6X1 3/4" GALV. MACHINE BOLT
 - 3 3/4" SPACE
 - 4 14 GA. WIRE LAV. PAINT TO MATCH WALL
 - 5 WALL

E VINE PLANTING
SCALE: 1" = 1'-0"

SOIL LABORATORIES		SOILS REPORT		Print Date
STREET NUMBER AND NAME		Location		MM/DD/YYYY 14
CITY, STATE AND ZIP CODE		Requester		Project Name
PHONE (XXX) XXX-XXXX		Project Manager, Company Name, Group		
(510) 613-9110		graphic interpretation: * very low, ** low, *** moderate		
ammonium bicarbonate/DTPA		*** high, **** very high		
extractable - mg/kg soil	Sample ID Number	#111111		
Interpretation of data	Sample Description	Soil Sample Received MM/DD/YYYY		
low medium high	elements	graphic		
0 - 7 8-15 over 15	phosphorus	27.04 ****		
0-60 60-120 121-180	potassium	187.12 ****		
0 - 4 4 - 10 over 10	iron	9.64 ***		
0- 0.5 0.6- 1 over 1	manganese	13.55 ****		
0 - 1 1 - 1.5 over 1.5	zinc	5.21 ****		
0- 0.2 0.3- 0.5 over 0.5	copper	1.55 ****		
0- 0.2 0.2- 0.5 over 1	boron	0.14 **		
	calcium	315.78 ***		
	magnesium	174.58 ****		
	sodium	7.31 *		
	sulfur	15.21 *		
	molybdenum	0.07 ***		
	nickel	0.40 *		
	aluminum	nd *		
	arsenic	nd *		
	barium	0.63 *		
	cadmium	0.12 *		
	chromium	0.08 *		
	cobalt	0.20 *		
	lead	0.46 *		
	lithium	0.28 *		
	mercury	nd *		
	selenium	nd *		
	silver	nd *		
	strontium	1.07 *		
	tin	nd *		
	vanadium	0.25 *		
	Saturation Extract			
	pH value	6.69 ***		
	ECe (milli-mho/cm)	0.78 **		
	calcium	108.6 5.4 millieq/l		
	magnesium	29.0 2.4		
	sodium	8.6 0.4		
	potassium	34.0 0.9		
	cation sum	9.1		
	chloride	37 1.0		
	nitrate as N	29 2.1		
	phosphorus as P	5.9 0.2		
	sulfate as S	19.3 1.2		
	anion sum	4.5		
	boron as B	0.11 *		
	SAR	0.2 *		
	est. gypsum requirement-lbs./1000 sq. ft.	1		
	relative infiltration rate	fair		
	estimated soil texture	sandy loam		
	lime (calcium carbonate)	no		
	organic matter	fair/good hydrophobic		
	moisture content of soil	1.8%		
	half saturation percentage	21.5%		

Elements are expressed as mg/kg dry soil or mg/l for saturation extract.
pH and ECe are measured in a saturation paste extract. nd means not detected.
Analytical data determined on soil fraction passing a 2 mm sieve.

F SOIL ANALYSIS AND RECOMMENDATIONS REPORT
SCALE: NOT TO SCALE

SOIL LABORATORIES
STREET NUMBER AND NAME
CITY, STATE AND ZIP CODE
PHONE (XXX) XXX-XXXX

Dear Allen,

The soil is slightly acidic with a pH of 6.69. Salinity is modest at 0.78 millimho/cm. Nitrogen and iron are modest. Boron and sulfur are low. Phosphorus, potassium, magnesium and the other micronutrients are well supplied. Sodium is low. The soil is hydrophobic. It is difficult to wet. Water beads up on the soil surface initially and then slowly moves into the soil.

Recommendations
Soil Amendment
General soil preparation on a square foot basis. Broadcast the following materials uniformly. The rates are per 1,000 square feet. Incorporate them homogeneously 6 inches deep:

agricultural gypsum - 10 pounds
good quality soil amendment - as needed, sufficient for 3% to 5% soil organic matter on a dry weight basis

Backfill
For preparation on a volume basis, uniformly blend the following materials into clean excavated soil. Rates are per cubic yard:

agricultural gypsum - 1/2 pound
good quality soil amendment - as needed, sufficient for 3% to 5% soil organic matter on a dry weight basis

Organic soil amendment

- Humus material shall have an acid-soluble ash content of no less than 6% and no more than 20%. The organic matter content shall be at least 50% on a dry weight basis.
- The pH of the material shall be between 6 and 7.5.
- The salt content shall be less than 10 millimho/cm @ 25° C. (ECe less than 10) in a saturated paste extract.
- Boron content of the saturated extract shall be less than 1.0 part per million.
- Silicon content (acid-insoluble ash) shall be less than 50%.
- Calcium carbonate shall not be present if to be applied on alkaline soils.

- Types of acceptable products are composts, manures, mushroom composts, straw, alfalfa, peat mosses etc. low in salts, low in heavy metals, free from weed seeds, free of pathogens and other deleterious materials.
- Composted wood products are conditionally acceptable [stable humus must be present]. Wood based products are not acceptable which are based on red wood or cedar.
- Sludge-based materials are not acceptable.
- Carbon:nitrogen ratio is less than 25:1.
- The compost shall be aerobic without malodorous presence of decomposition products.
- The maximum particle size shall be 0.5 inch, 80% or more shall pass a No. 4 screen.

Maximum total permissible pollutant concentrations in amendment in parts per million on a dry weight basis:

arsenic	20	copper	150	selenium	30
cadmium	15	lead	100	silver	10
chromium	100	mercury	10	vanadium	200
cobalt	50	molybdenum	20	zinc	200
		nickel	100		

Irrigate areas which are hydrophobic slowly with multiple start cycles and soaking periods in between the irrigation cycles.

For site maintenance, apply calcium nitrate (15.5-0-0) at 6 pounds per 1,000 square feet about once per quarter. Monitor the site with periodic soil testing. Adjust the maintenance program as needed.

LICENSED PROFESSIONAL LOGO AND COMPANY INFORMATION

LICENSE STAMP

LAST NAME RESIDENCE
1357 STREET NAME
OWNER CONTACT INFORMATION

PLANTING DETAILS

REVISIONS

SUBMITTALS

DATE:
MM/DD/YY

SHEET NO.:
L8
8 OF 11

CONCRETE

PART 1 - SCOPE OF WORK

1.01 WORK INCLUDED

Work includes, but is not limited to the following: Finish all labor and materials, appliances, tools, equipment, facilities, transportation, and services necessary for installing all concrete work complete as indicated on the drawings and specifications including, but not limited to:

- A. Furnish and set all reinforcing steel, bolts and anchors.
- B. Install all forms required by other trades which are to be cast into concrete.
- C. Concrete mix cars, batching, poured in place walls, other flatwork, footings, piers and slabs for walls, footing, benches, coveralls, decks, etc., where applicable.

PART 2 - GENERAL

All requirements of subsection 3.1.1, standard specifications for Public Works Construction, shall apply except as specified herein.

2.1 INSPECTION OF SITE

Examine related work and surfaces before starting work in this section. Report to the Landscape Architect in writing, site conditions which will prevent the proper provision of this work. Beginning the work in this section without reporting unsuitable conditions to the Landscape Architect constitutes acceptance of site conditions by the Contractor. Any required removal, repair, or replacement of this work caused by unsuitable conditions shall be done at no additional cost to Owner.

2.2 PROTECTION OF EXISTING CONDITIONS

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

2.4 COORDINATION

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

2.5 APPROVAL

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

2.6 SUBMITTALS

At least 10 days after award of contract, Contractor shall submit for approval samples and/or manufacturers' latest catalog cuts and specifications of the following prior to beginning work:

- A. One 2 1/2 x 2 1/2 inch sample for each type of concrete finish and color at the job site.
- B. Color samples for expansion joint compounds.
- C. All admixtures shall be furnished in a single package to the Landscape Architect within 15 days after award of the General Contract unless otherwise approved by the Landscape Architect and/or Owner's Construction Representative.

2.7 SUBSTITUTIONS

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

PART 3 - MATERIALS

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

- A. Portland cement shall conform to ASTM C150, Type I or Type II.
- B. Concrete aggregates shall conform to ASTM C33.
- C. Water shall be clean, free from staining acids, salt, oil or organic matter.
- D. Admixtures for all formed concrete shall be Sika Chemical Corp.'s "Redstone", or approved equal, applied in strict accordance with manufacturer's directions.
- E. Reinforcement: reinforcing steel ASTM A15 and ASTM A305 Weldable; ASTM A183.
- F. Forms:
 1. Lumber shall be "construction grade" Douglas fir.
 2. Plywood for forming of concrete which is exposed shall be Plyform. All plywood used for forming shall be at least 5/8 inch thick and edge-stripped.
 3. Expansion joint filler shall conform with ASTM D1751 (premixed).

PART 4 - EXECUTION

4.01 CONCRETE DESIGN MIX

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

4.02 CONCRETE PROPORTIONS & CONSISTENCY

- A. The proportions of aggregate to cement shall provide a dense mixture which will readily work into all corners of the forms and around reinforcements without the necessity of excessive bleeding of the surface to collect on the surface or cause excessive bleeding of the forms.
- B. The recommended practices of the American Concrete Institute shall be followed in all applicable procedures. The maximum slump shall not exceed 12 inches for concrete footings, slabs or grade and compacted over 9 inches for foundation walls.

4.03 CONCRETE APPROVAL

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

4.04 FORMWORK

- A. Forms for concrete work shall be either metal or wood. Forms that are warped or that do not have a smooth straight upper edge shall not be used. Forms shall be set with the upper edge of the board true to line and grade and shall be staked rigidly in place with stakes set not more than four feet (4') apart so as to remain immovable throughout the construction. All forms shall be approved by Owner within a business day of receipt (15). All materials shall be accurately and separately weighed and mixing shall continue until the dimension measured is uniform and the mass of concrete is homogeneous.
- B. Two and one-half (2 1/2) gallons of water per cubic yard, shall be withheld from the mix at the plant, and all or a portion may be added to the mix at the job site. The maximum amount of water added to the concrete shall be limited at least 15 minutes after such water is added and not less than 3 minutes of the time shall be immediately prior to the discharge of the batch. Total mixing time after adding original water shall be at least 15 minutes.
- C. Concrete which is not placed within 10 minutes after the introduction of cement and water, and concrete which has stood for 30 minutes after leaving the mixer, shall be used.

4.05 REBAR

Reinforcing bar shall be spliced with 40-bar diameter minimum overlap.

4.06 CONVEYING AND PLACING

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

4.07 COLORED CONCRETE

Integral color and Oxid-Cone color hardener shall be as specified on plans and details.

4.08 GROUTING

Each item of Work shall include excavations for foundations and footings, concrete masonry block, deformed ballast steel bars, Douglas Fir wood girt, slucco lining and backfilling clean-up to the satisfaction of the Owner.

4.01 LAYOUT

All walls are to be staked in the field for top of footing, top of wall, lengths of walls and all slopes in walls, on the square footage "in stake" in the field. Any changes or deviations which affect or disturb concrete block walls will be corrected or approved by Project Superintendent and adjusted by drawings submitted and approved by Landscape Architect and Project Superintendent. Any changes will be per separate foundation foot unit cost.

4.02 INSPECTION OF WORK AREAS

- A. Inspect related Work and adjacent surfaces for cleanliness.
- B. Correct conditions detrimental to a proper and timely completion of the Work.

4.03 OBSERVATION OF MASONRY WORK

Perform all masonry Work under continuous observation by the Landscape Architect and/or Owner's representative.

4.04 PREPARATION

- A. Previously placed concrete or masonry: Clean of encrustations, efflorescence, oil and coatings which would reduce bond. Wash Work thoroughly with water under pressure; leave surfaces damp before masonry units connect with earlier placed Work.
- B. Masonry units: Thoroughly clean of dust, grease, oil, or other matter which would reduce bond.
- C. Wetting: Do not wet concrete block units before installation.
- D. Reinforcement: Clean off excess milk scale, loose rust, oil and coatings which would reduce bond. Secure anchor in place.

4.05 PLACING REINFORCEMENT

- A. Place reinforcement in accord with ACI 303.

4.12 EXPANSION JOINTS

Placement of expansion joints shall be as directed and determined by layout of slab markings noted on drawings. Expansion joint material shall be Poly Foam, approved equal, or as noted on plans. Expansion joints shall be recessed one-quarter inch from finished grade.

4.13 CONTROL JOINTS

Control joints and other edges shall be formed in fresh concrete using a clean edge or jointing tool to provide a smooth uniform finish.

4.14 PROTECTION

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

4.15 PATCHING

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

4.16 CONCRETE CURBS

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

4.17 CLEAN-UP

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

PART 5 - WARRANTIES

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

PART 1 - SCOPE OF WORK

1.01 WORK INCLUDED

Furnish all labor, tools, equipment, materials, transportation, and perform all operations necessary and incidental for the proper execution and completion of all concrete unit masonry in accordance with the Drawings and Specifications including, but not limited to the following work items:

- A. Plasters (Stuccoed where applicable).
- B. Walls (Stuccoed where applicable).
- C. Masonry Barquettes (Stuccoed where applicable).

1.02 RELATED WORK

- A. Furnishing and placing rebar.
- B. Concrete placement.
- C. Stucco application.

PART 2 - GENERAL

2.01 PERMITS & INSPECTIONS

Obtain necessary City Building & Safety Department permits and inspections.

2.02 APPLICABLE STANDARDS

Any reference to the "Standard Specifications," "ASTM" or "ACI" manuals shall mean the current or latest editions.

- A. Standard Specifications: Standard Specifications of the State of California, Business and Transportation Agency, Department of Transportation, CALTRANS.
- B. Standards:
 1. ASTM - American Society of Testing and Materials.
 2. ACI - American Concrete Institute, Manual of Concrete Practice.

2.03 INSPECTION OF SITE

Examine related work and surfaces before starting work in this section. Report to the Landscape Architect in writing site conditions which will prevent the proper provision of this work. Beginning the work in this section without reporting unsuitable conditions to the Landscape Architect constitutes acceptance of site conditions by the Contractor. Any required removal, repair, or replacement of this work caused by unsuitable conditions shall be done at no additional cost to Owner.

2.04 PROTECTION OF EXISTING CONDITIONS

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

2.05 COORDINATION

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

2.06 FINAL ACCEPTANCE

- A. Review: Review for Final Acceptance shall be held in conjunction with the final review of Section 4.0 & B, "Painting and Finishing".
- B. Acceptance: Work under this Section will be accepted by Landscape Architect upon satisfactory completion of all work. Upon Final Acceptance at the end of the maintenance period, including backfilling, etc., Owner will assume responsibility for maintenance of the work. Said acceptance does not release Contractor of obligations under Warranty.

PART 3 - MATERIALS

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

- A. Concrete masonry units: ASTM C 90, Grade N, 1600, normal weight full bearing units.
 1. Types and sizes: As indicated on drawings.
 2. Color: As indicated on Color Schedule.
- B. Portland cement: ASTM - 150, Type I or Type II.
- C. Aggregates:
 1. Sand: ASTM C 144, clean, hard, strong, durable, free from injurious amounts of salts, alkaline material, or other deleterious substances, and not less than 3 percent passing No. 100 sieve and 100 percent passing 300-mesh sieve.
 2. Fine gravel: ASTM C 404, washed and graded with no more than 5 percent passing No. 8 sieve and 100 percent passing 300-mesh sieve.
- D. Water: Clean, portable, from domestic supply.
- E. Hydrated lime: ASTM C 207, Type S, and containing 85% weight of calcium oxide.
- F. Admixtures for Grout: Material acceptable to the Architect. Obtain acceptance from Project Supervisor prior to use.
- G. Mineral color pigments: Pure ground mineral non-leaching oxides, lime and alkali proof. Colors as selected by Landscape Architect where applicable.
- H. Cleaning material: Sure-Dolan No. 400 detergent, by Process Solvent Co., Inc., or equivalent.
- I. Expansion joint filler: ASTM C 1751.
- J. Sealant materials: As indicated on plans.
- K. Sulfate Resistant Concrete: Concrete masonry waterproofing material.
- L. Vertical expansion joints: In concrete masonry wall construction shall be a minimum 20'-0" apart. The breaking joint whether for exposed or stuccoed masonry wall work.

PART 4 - EXECUTION

Each item of Work shall include excavations for foundations and footings, concrete masonry block, deformed ballast steel bars, Douglas Fir wood girt, slucco lining and backfilling clean-up to the satisfaction of the Owner.

4.01 LAYOUT

All walls are to be staked in the field for top of footing, top of wall, lengths of walls and all slopes in walls, on the square footage "in stake" in the field. Any changes or deviations which affect or disturb concrete block walls will be corrected or approved by Project Superintendent and adjusted by drawings submitted and approved by Landscape Architect and Project Superintendent. Any changes will be per separate foundation foot unit cost.

4.02 INSPECTION OF WORK AREAS

- A. Inspect related Work and adjacent surfaces for cleanliness.
- B. Correct conditions detrimental to a proper and timely completion of the Work.

4.03 OBSERVATION OF MASONRY WORK

Perform all masonry Work under continuous observation by the Landscape Architect and/or Owner's representative.

4.04 PREPARATION

- A. Previously placed concrete or masonry: Clean of encrustations, efflorescence, oil and coatings which would reduce bond. Wash Work thoroughly with water under pressure; leave surfaces damp before masonry units connect with earlier placed Work.
- B. Masonry units: Thoroughly clean of dust, grease, oil, or other matter which would reduce bond.
- C. Wetting: Do not wet concrete block units before installation.
- D. Reinforcement: Clean off excess milk scale, loose rust, oil and coatings which would reduce bond. Secure anchor in place.

4.05 PLACING REINFORCEMENT

- A. Place reinforcement in accord with ACI 303.

B. Place all reinforcement and embeds prior to grouting

- C. Reinforcing steel, except bars in other Material:
 1. Vertical bars: Continuous from bottom coil to top of wall, centered in coils, except where otherwise indicated. Secure vertical reinforcement in position at top, bottom and at intervals not farther apart than 10" bar diameters. Where necessary, install vertical steel firmly in place by tammers or other suitable devices as accepted by Architect.
 2. Horizontal bars: Wire temporarily above exact position and tag to indicate correct locations. Use calibrated vertical bars where indicated, extend to vertical bars or downbars.
 3. Accurately splice using lap of bars as indicated on drawings with a minimum of 40 bar diameters.
 4. Tie at intersections using No. 16 gauge annealed wire.

4.06 MORTAR AND GROUT

- A. Mortar: Type S in accord with UBC Chapter 24.
 1. Color: As indicated on plans.
- B. Grout: In accord with UBC Chapter 24, with exception that lime shall not be used.
- C. Grout of mortar and grout used within 30 minutes after leaving mixer. Retempering of mixture will be allowed in accord with UBC Chapter 24.
- D. Mortar and grout minimum compressive strength:
 1. Mortar: 28 days 1,800 psi
 2. Grout: 28 days 2,000 psi
- E. After all ingredients are in the batch mixer, mix mechanically for not less than three minutes. Do not use hand mixing unless specifically acceptable to Project Superintendent.

4.07 WORKMANSHIP

- A. Preserve unobstructed vertical continuity of cells to be filled. Fully bed webs and crosswalls forming such cells in mortar to prevent bulging of grout.
- B. Fractional parts of masonry units are prohibited where units which can be used. Chinking of interlocks with fragments will not be allowed. Provide special cuts as necessary to form openings and joints.
- C. Do not construct any part of any masonry wall more than 6 feet higher than adjoining parties.
- D. Where absolutely necessary for construction purposes to stop off longitudinal runs of masonry, stop off by making back one half wall length in each course. Tootling shall not be permitted.
- E. At openings for ducts, pipes and conduit into masonry wall, cut to form fractional units with abrasive saw.
- F. Align vertical cells to maintain continuous unobstructed cell area.
- G. Set units with joints straight and uniform in width.

4.08 JOINTS AND EXPANDED MASONRY

- A. Joints: Raked as exposed masonry and flush with stuccoed concave tooling with brick.
- B. Bond: Common running bond, unless otherwise indicated.
- C. Joints: 3/8 inch wide.
- D. Keep all areas to be grouted free from mortar so that grout will contact foundation.
- E. Perform bedding or raking when mortar is partially set but still sufficiently plastic to bond. Use a tool which compacts mortar, pressing excess mortar out of joints rather than sucking it out.
- F. Rake out joints which are not tight at time of bedding, point and then tool - where applicable.
- G. Butte vertical head joints wall for thickness equal to face shell of unit and show these joints tightly so that mortar bonds with both walls.
- H. Fill joints totally from face or back to at least depth of face shell.
- I. Set lintels, capping units and bearing plates in a full bed of mortar.
- J. Control joints shall be as detailed. Apply sealant, where required, in accord with plans and specifications.

4.09 GROUTING

- A. Fill all masonry cells containing reinforcing steel solidly with grout. At finished corners, stop grout one-half the course height below top of last course grout.
- B. Keep mortar dropping out or remove from girth spaces before grouting.
- C. Puddle grout or vibrator in place.
- D. Grout bolts and anchors inserted in wall solidly in place so that there a minimum of 1 inch of grout between bolt and masonry walls, unless otherwise indicated.
- E. Set bolt, frames and inserts necessary for attachment of subsequent Work must be secured in place prior to grouting.

4.10 POINTING AND CLEANING

- A. Immediately remove from exposed surfaces surplus mortar, exposed material, and stains.
- B. Defective joints: Point holes or defective mortar joints in fresh masonry and cut out and repair defective joints. Rejects chipped or broken masonry units.
- C. Staining and excess mortar: Protect exposed masonry against grout staining. Where grout or mortar does contact the faces of masonry, remove it immediately. Should accidental spillage occur, wash and clean surfaces immediately with a 10% muriatic acid water solution, followed by a thorough water rinse. Remove stains where they occur.
- D. Clean efflorescence from masonry walls specified cleaner in accord with cleaner manufacturer's instructions.
- E. After wall is constructed, do not saturate with water for curing or other purposes.

4.11 STUCCO SURFACING

- A. Wood Framed Walls:
 1. Stucco shall be three coat work not less than 7/8" thick.
 - (a) Scratch coat shall be approximately 1/2" thick. Before the scratch coat has set, it shall be well cross-hatched to provide a strong bond and damp cured for at least 48 hours.
 - (b) Brown coat shall be 1/4" thick. When brown coat has set sufficiently, it shall be finished with a dry float to form the finish coat. Brown coat shall be applied no sooner than 48 hours after application of scratch coat. Scratch coat shall be dampened evenly before application of brown coat to provide even suction.
 - (c) Finish coat shall be approximately 1/8" thick and shall be applied and damp cured strictly in accordance with the manufacturer's directions, and dry and local governing bodies.
 2. Stucco shall be Metex, La Habra or approved equal as per color selection by Landscape Architect.
 3. Packaged materials shall be delivered in the original packages, containers or bundles bearing the name of manufacturer and the brand name.
 4. Treatise to rubber float finish (finish coat) as approved by Landscape Architect. 5. All exposed foundations shall receive one application of finish color coat to match building color. All stucco shall be water proofed up to three feet above finish grade with Thompson's Water Sealer or equal.
- B. Block Walls:
 1. Stucco shall be two coat work not less than 1 1/8" thick.
 - (a) Brown coat shall be approximately 3/8" thick. Float with a dry float to form a bond for the finish coat.
 - (b) Finish color coat shall be approximately 1/8" thick and shall be applied and damp cured strictly in accordance with the manufacturer's directions and all governing bodies.
 2. Color and manufacturer shall be selected and approved by Landscape Architect.
 3. Deliver packaged material in original packages bearing the manufacturer's and brand names.
 4. Treatise as called out on plan or in I.P. field report.
 5. All exposed foundation shall receive one application of finish color coat to match building color.

4.12 CLEANUP

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

PART 5 - WARRANTIES

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

END OF SECTION

SITE CARPENTRY

PART 1 - SCOPE OF WORK

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

1.01 WORK INCLUDED

Perform all work necessary and required for the construction of wood structures and devices as indicated on the Drawings. Such work includes, but not limited to the following:

- A. Miscellaneous light form work
- B. Stairs
- C. Decks
- D. Headers
- E. Overhead structures

1.02 RELATED WORK IN OTHER SECTIONS

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

PART 2 - GENERAL

2.01 SUBMITTALS

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

2.02 STORAGE & HANDLING

- A. Storage: Lumber shall be stored in neat stacks at the site unless it is to be used immediately. All lumber shall be piled so that it may be readily inspected and shall be handled in a manner that will avoid injury or breakage.
- B. Piling Wood Protection: Structural lumber shall be really piled on slabs above ground and shall be protected from the elements by covering with plastic or other suitable material. Treated lumber shall be handled with care. Cant hooks, prybars, or other sharp instruments shall not be used in handling treated lumber. Lumber injury in handling will be cause for rejection.

PART 3 - MATERIALS

- A. Grading standards: Redwood shall be in accordance with "Standard Specifications for Grades of California Redwood Lumber" and graded under the rules of the Redwood Inspection Service.
- B. Lumber:
 1. All lumber shall conform to the allowable characteristics permitted within the applicable grading rules. No splits, checks, holes, decay or other irregularities will be permitted except those characteristic of the grade.
 2. Unless otherwise indicated on Drawings or Specifications, lumber shall be either redwood construction heart and/or douglas fir, reserved, with exposed sawed.
 3. Header: Construction heart grade redwood header and stake, where applicable. SAS or roughsawn as detailed.
- C. Hardware:
 1. Galvanized: All hardware required for fabrication, including brackets, hangers, hinges, fasteners, and nails, shall be hot-dip galvanized.
 2. Additional Hardware: Washers, cones or other materials shall be incorporated into the structure fabricated from steel, concrete, or other materials shall be incorporated into the structure.

PART 4 - EXECUTION

4.01 QUALITY

Workmanship shall be first class throughout. All lumber shall be accurately cut and framed to a close fit and shall have even bearing over the entire contact surface. All joints shall be square and tight unless otherwise shown. No stemming will be permitted in the making joints. Work shall be free of hammer marks, dents or other disfiguration. Nails to be seated flush unless otherwise shown. Unless otherwise indicated on drawings, all framing shall be installed in accordance with the manufacturer's instructions. All framing shall be installed in accordance with the manufacturer's instructions. All framing shall be installed in accordance with the manufacturer's instructions. All framing shall be installed in accordance with the manufacturer's instructions.

4.02 HARDWARE

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

4.03 NAILING

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

4.04 EASED EDGES

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

4.05 HEADERS

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

4.06 CLEANUP

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

PART 5 - WARRANTIES

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

END OF SECTION

LANDSCAPE IRRIGATION SYSTEM

PART 1 - GENERAL

1.01 SCOPE OF WORK:
Furnish labor, equipment, material, appliances and services necessary for the execution and completion of "Landscape Irrigation" as indicated on the drawings and/or herein specified.

PART 2 - MATERIALS

Materials shall be of first quality and of domestic manufacture unless otherwise noted.

2.01 SUBMISSION FOR APPROVAL

Furnish the articles, equipment, material, appliances and services necessary for the execution and completion of "Landscape Irrigation" as indicated on the drawings and/or herein specified.

2.02 GENERAL PIPING

A. Pressure supply line from point of connection through backflow prevention unit shall be per local code. Pressure supply line downstream of backflow prevention unit shall be per the legend.

2.03 PLASTIC PIPE AND FITTINGS

A. All pipe shall be extruded of an improved PVC, high pipe compound featuring high tensile strength, high chemical resistance and high impact strength. In terms of the current ASTM Standard D2241, this compound shall meet or exceed the requirements of cell classification 12454B for pipe and 12454B for fittings.

B. All pipe must bear the following markings: Manufacturer's name, nominal pipe size, schedule or class, pressure rating in P.S.I., and NSF International Sanitation Foundation. The material shall also mark the date of extrusion on the pipe.

C. Solvent cement joints for plastic pipe and fittings shall be made as prescribed by the manufacturer. The high chemical resistance of the pipe and fitting compounds specified in the foregoing sections makes it mandatory that an aggressive primer, which is a non solvent PVC, be used in conjunction with a solvent cement designed for the fit of the pipe and the fittings of each size range specified.

D. Each pipe installer equipped to make solvent joints shall record instructions in the proper assembly of such joints from the manufacturer of the pipe, cement, or fitting manufacturer before starting the job, unless he has been previously instructed on recommended solvent cementing procedures by a competent representative of the manufacturer.

E. All fittings shall be standard weight schedule 40. At the purchaser's discretion, contract performance may be given those suppliers able to furnish all types of fittings required under this contract from a single manufacturer, in order that responsibility will not be divided in warranty claim situations.

F. All fittings shall be injection molded of an improved PVC, high pipe compound featuring high tensile strength, high chemical resistance, and high impact strength. In terms of the current ASTM Standard D1184-04, the compound must meet the requirements described in cell classification 12454B. Where threads are required on plastic fittings, these shall be injection molded also. All fits and o/s shall be size gages.

G. Apply primer and solvent on all pipe sizes and fittings. Primer solvent on both female and male ends.

H. All threaded nipples shall be standard weight Schedule 40, hot rolled threads.

I. All fittings shall bear the company name or trademark, material designation, size applicable P.S. schedule, and NSF approval.

2.04 PVC CONDENSING/LEEWING

Pipe that is used to control wires sleeving shall be PVC conduit Schedule 40, Type 1220. All wires under paving shall be installed in PVC conduit, or sleeves as indicated in details and Legend.

2.05 RING-TITE PVC PIPE

A. All pipe indicated on the working drawings, shall be Class 160 PSI John-Manville PVC pipe with ring tie joints.

B. All ring tie joints shall be sealed with rubber rings as provided by the manufacturer. All pipe joints shall provide for expansion and contraction.

C. Thrust blocks shall be provided as required for proper anchorage and durability of the ring tie pipe. (Refer to Details)

2.06 BRASS PIPE AND FITTINGS (If required)

A. Brass pipe shall be 80% hot brass, American National Standard Institute (ANSI), Schedule 40 screwed pipe. Fittings shall be medium brass, screwed 1/2" standard sizes.

2.07 BACKFLOW PREVENTION UNIT

Approved pipe valves shall be Nibco T-1113 or Hammel 606-32 with brass turning handles. Size and location shall be as indicated on Plan.

2.11 VALVE BOXES

All remote control valves, gate valves, and pressure relief valves shall be installed in suitable valve boxes as shown in details, complete with locking covers. All shall be "Chloric" or an approved equal. Insect traps.

2.12 AUTOMATIC CONTROLLER

A. The Automatic Sprinkler Controller shall be as noted in the legend.

B. All wiring to and from the controller shall be through code-coded pipes and sockets. The controller shall be locked, weather proof type, constructed of heavy gauge steel with corrosion resistant enamel finish inside and out.

2.13 ELECTRICAL HIGH VOLTAGE

A. Power to and connection to the automatic controller shall be provided by the Owner.

B. All electrical equipment outside of buildings shall be Nema 3 type, waterproof for such installation.

C. All high voltage work shall be installed under this section. Refer to Wiring Low Voltage for additional information.

2.14 WIRING LOW VOLTAGE

A. Connections between the controller and remote control valves shall be made with direct burial AWG/UF type wire, installed in accordance with wire manufacturers' specifications. Wire color, black or color coded for control, white for ground.

B. Sizing of wire shall be according to manufacturer recommendations. In no case less than #14 in size.

2.15 SMALL SHRUBBERY SPRINKLER HEADS

See irrigation plan legend for manufacturer and model numbers.

PART 3 - EXECUTION

3.01 GENERAL

A. Materials shall be of first quality and of domestic manufacture unless otherwise noted.

B. Coordinate the installation of all sprinkler materials, including pipe, with the landscape drawings to avoid interfering with the trees, shrubs, or other planting.

C. For purposes of liability, sprinkler lines are essentially diagrammatic. All details, size and location of sprinkler equipment are shown to scale, wherever possible, take care of all details in all of the contract documents and verify this information at construction site.

D. All work called for on the drawings by notes shall be furnished and installed whether or not specifically mentioned in the specifications.

E. Do not install the irrigation system as indicated on the drawings when it is obvious in the field that unforeseen obstructions or grade differences exist, that might not have been considered in the engineering or in discrepancies in construction details, legend, or specific notes are discovered. All such obstructions or discrepancies should be brought to the attention of the Owner's Representative. In the event this is done, the Contractor must assume full responsibility for actions necessary to bring any work in accordance with the Owner's Representative regarding specific details of work of this contract.

3.02 OBSERVATION SCHEDULE

A. Contractor will be responsible for notifying the Landscape Architect and Owner's Representative in advance for the following observations according to the time indicated:

*Pre-Job Conference - 7 days

*Pressure supply line installation and testing - 36 hours

*System layout - 36 hours/working hrs - 36 hours

*Final Inspection - 48 hours

B. When observations have been conducted by other than the regular Owner's Representative, show evidence of when and by whom those observations were made.

C. No observation will commence without an authorized drawing.

3.03 WATER SUPPLY

Connections to the existing points of connection shall be at the approximate locations shown on the drawings. Minor adjustments by actual site conditions shall be made without additional cost to the Owner.

3.04 LAYOUT

Layout sprinkler heads and make any minor adjustments required due to differences between site and drawings. Any such deviations in layout shall be shown on the original drawings, and without additional cost to the Owner.

3.05 GRADES

Before starting work on the sprinkler system, carefully check all grades to determine that work may safely proceed, keeping within the specified material depth.

3.06 ASSEMBLES

A. Install the headlens assembly at the height required by local codes.

B. Reading of pressure supply lines as indicated on drawings is diagrammatic. Install lines and valves assembled to conform with details on plans.

C. Install multiple assemblies on plastic lines. Provide each assembly with its own nut/tee. When called for, the pressure relief valve shall be laid assembly.

D. Brass pipe and fittings shall be assembled using Teflon tape, or equivalent, applied to the male threads only. This is also true of plastic pipe and threaded fittings.

3.07 LINE CLEARANCE

All lines shall have a minimum clearance of 4 inches from each other, and 4 inches from other trades. Parallel lines shall not be installed directly over one another.

3.08 TRENCHING

A. Dig trenches and support pipe continuously on bottom of ditch. Lay pipe to an even grade. Trenching excavator shall follow trench on drawings and as noted. Where lines occur under paved areas, these dimensions shall be considered below subgrade.

B. Provide minimum cover of 18 inches on all pressure supply lines.

C. Provide minimum cover of 18 inches for all control valves. Provide minimum cover of 12 inches for non pressure lines.

D. Provide minimum cover of 24 inches for all lines under paving.

3.09 BACKFILLING

A. Initial backfill on all lines shall be of a granular material with no foreign matter larger than 1/2 inch in size. Backfill material shall be approved soil.

B. Backfill material shall be tamped in 4 inch layers, under the pipe and uniformly on both sides for the full length of the trench and full length of the pipe. Materials shall be sufficiently damp to permit thorough compaction under and on each side of pipe, to provide support of soils. Backfill for trenches shall be compacted to dry density equal to the adjacent undisturbed soil, and shall conform to adjacent grades without dips, surface areas, ripples, or other irregularities. Under no circumstances shall back wash be used for compacting soil.

C. Provide sand backfill a minimum of 4 inches over and under all piping under paved areas.

3.10 PVC PIPE

A. PVC pipe shall be soaked in a manner which will provide for expansion and contraction as recommended by the pipe manufacturer.

B. All plastic to metal joints shall be made with plastic male adapters, unless otherwise shown in details.

C. The joints shall be allowed to set at least twenty-four (24) hours before pressure is applied to the PVC pipe system.

D. Main lines shall be tested in place before backfilling for a period of not less than four (4) hours and shall show no leakage or loss of pressure. During the test period, minimum test pressure, the highest backfill in the section being tested, shall be 150 pounds per square inch. Control fitting of pipe-segments shall be allowed.

E. After all new sprinkler piping and flows are in place and connected, all necessary work has been completed and pipe to be installed in position, control valves shall be opened and a full head of water used to flush the system for a minimum of five (5) minutes.

F. At the conclusion of a system flushing, the heads shall be installed and tested for operation in accordance with design requirements under normal operating pressure. Contractor shall verify head pressures with gages and adjust valves to correspond with design pressure.

3.11 INSTALLATION OF RING-TITE PVC PIPE

A. Except as may be noted in other parts of the Specifications or on the drawings, installation of Ring-Tite pipe and connecting fittings shall be installed as indicated on drawings.

B. Each shall be installed at a pressure 50 PSI greater than the manufacturer's recommended working pressure for a period of four (4) hours, with the coupling and connections exposed and with the center of pipe section uniformly supported and fixed to hold pipe in place.

3.12 SPRINKLERS

A. All nozzles on sprinklers shall be lightened after installation. All sprinklers having an adjustment stem shall be adjusted to a distance five (5) inches above the nozzle and galled/engraved per approval of the Owner's Representative.

B. Sprinkler heads and arms shall be installed according to details for final approval.

C. Spacing of heads shall not exceed the maximum indicated on the drawings. In no case shall the spacing exceed the maximum recommendation by the manufacturer.

3.13 VALVES

A. Quick coupling valves shall set approximately 12" from walks, curbs, header boards, or paved areas where designed. Refer to installation detail. Place quick couplings in valve boxes.

B. Remote control valves shall be adjusted in order that a uniform distribution of water is applied by the sprinkler heads to the planting areas for each individual valve system.

3.14 VALVE BOXES

A. Valve boxes shall be set one inch (1") above the designated finish grade in lawn areas and three inches (3") above finish grade in ground cover areas.

B. Valve boxes installed near walks, curbs, header boards, and paving shall not abut those items. Top surfaces shall be flush with, and perpendicular to, forms lined above.

C. Valve boxes shall be installed in shrub planters, not in turf areas, and wherever possible, unless otherwise approved.

3.15 AUTOMATIC CONTROLLER LOCATION AND INSTALLATION

A. The automatic controller shall be installed at the approximate location shown on the Plans, unless otherwise instructed by the Owner's Representative.

B. All local and other applicable codes shall take precedence in connecting the 100 volt electrical service to the controller. Owners shall provide power to controller. Irrigation Controller shall complete hook up to controller.

C. There shall be adequate coverage of earth (18" minimum) over the 24 volt control wire. Bundles and tape wires at 15' O.C. and install adjacent to mainline.

3.16 CONTROL WIRE

A. All electrical equipment and wiring shall comply with local and state codes and be installed by those called and bonded in accordance with the specifications.

B. Connecting and splicing of wire at the valves or in the field shall be made using Rain Bird Fun-Tite connectors.

C. Three (3) feet long Pig Tail wire splices shall be allowed only at 1500 R. intervals. The wire splices shall be installed in an RCV Box with cover installed TEP in yellow.

3.17 BACKFLOW PREVENTION UNITS

A. The backflow prevention units shall be installed as shown on Plans and Details. Backflow prevention units shall be installed per local codes including construction.

3.18 FLUSHING THE SYSTEM

After all new sprinkler pipe lines and flows are in place and connected, all necessary diversion work has been completed, and prior to installation of sprinkler heads, the control valves shall be opened and a full head of water used to flush the system for a minimum of 5 minutes. Sprinkler heads shall be installed only after flushing of the system has been accomplished to the complete satisfaction of the Owner's Representative.

3.19 ADJUSTING THE SYSTEM

A. Adjust the valves and alignment and coverage of all sprinkler heads. If it is determined that adjustments in the irrigation equipment or nozzle changes will provide proper and more adequate coverage, make all necessary changes or make arrangements with the manufacturer to have adjustments made prior to any planting. These changes or adjustments shall be made without additional cost to the Owner.

B. The entire system shall be operating properly before any planting operations commence.

3.20 COVERAGE TEST

When the sprinkler system is completed, perform a coverage test in the presence of the Owner's Representative to determine if the water coverage for planting areas is complete and adequate. Furnish all materials and perform all work required to correct any inadequacies of coverage due to deviations from plans, or where the system has been willfully installed as indicated on the drawings when it is obviously inadequate, without bringing this to the attention of the Owner's Representative. This test shall be accomplished before planting begins.

3.21 HYDROSTATIC TEST

All hydrostatic tests shall be made only in the presence of the Owner's Representative, or other duly authorized representative of the Owner. No pipe shall be backfilled until it has been inspected, tested, and approved in writing. Pressure supply lines shall be tested under a hydrostatic pressure of 150 pounds per square inch for a period of four hours.

3.22 COMPLETION

A. Upon completion of the work, make ground surface level, remove excess materials, rubber, debris, etc., and remove construction and installation equipment from the premises.

B. Supply as part of this contract the following tools:

* Two wrenches for disassembling and adjusting each type of sprinkler head supplied.

* Two keys for each automatic controller.

* Four (4) copies of each type of sprinkler head and nozzles.

* Two keys for end-of-line boxes.

C. The above equipment shall be turned over to the Owner at the conclusion of the project. Before final acceptance can occur, evidence that the Owner has received materials must be shown to the Owner's Representative.

PART 4 - RECORD DRAWINGS, CHARTS & MANUALS

4.01 RECORD DRAWINGS

A. Record accurately on one set of back and white prints of the drawings, all changes in the work including departures from the original contract drawings, including changes in both pressure and non pressure lines.

B. Upon completion of each occurrence of work, transfer all such information and dimensions to the prints. The changes and dimensions shall be recorded in a legible and workmanlike manner to the satisfaction of the Owner's Representative. When the drawing is approved, transfer all information to a set of reproducible drawings at cost by the Owner's Representative.

C. Dimensions from two permanent points of reference (Buildings, monuments, sidewalks, curbs, pavement, etc.). Locations shown on an as-built drawings shall be kept day by day as the project is being installed. All dimensions shall be indicated on drawings shall be 3/16 inch in size.

D. Show locations and depths of the following items:

*Head of collection.

*Sizing of sprinkler pressure lines (Dimension maximum 100 feet along routing).

*Sizing of control valves. (Buried only).

*Sizing of control valves.

*Other related equipment (as may be directed by the Owner's Representative).

E. Quick coupling valves.

F. Make all back drawings site at all times.

G. Maintain all changes to reproducible drawings in legible, necessary, easy eradicating fluid when erasing drawings.

H. Provide sand backfill a minimum of 4 inches over and under all piping under paved areas.

4.02 CONTROLLER CHARTS

A. An as-built drawings must be approved by the Owner's Representative before charts are prepared.

B. Provide one controller chart for each controller supplied of the maximum size the controller dial will allow, showing the area covered by the automatic controller. The chart is to be a reduced drawing of the actual as-built system. However, in the event the controller sequence is not legible when the drawing is reduced, it shall be enlarged for readability. The chart shall be a backfilling print and a different color shall be used to show the area of coverage for each station.

C. When completed and approved, the chart shall be thermally sealed between two pieces of plastic, each piece being a minimum 20 mils. thick. The chart shall be mounted using Velcro or approved equal type of tape.

D. These charts must be completed and approved prior to final inspection of the irrigation system.

4.03 OPERATION AND MAINTENANCE MANUALS

A. Prepare and deliver to the Owner's Representative within ten days by calendar prior to completion of construction, all required and approved manuals in complete detail and sufficient quantity, properly prepared in individual bound copies of the operation and maintenance manual. The manual shall describe the material installed and shall be a sufficient detail to permit the operating personnel to understand, operate, and maintain all equipment. Separate parts lists and related manufacturer information shall be included for each item installed. Each complete, bound manual shall include the following information:

1. Index sheet stating Contractor's address and telephone number, duration of guarantee period, list of equipment with names and addresses of local manufacturers.

2. Complete operating and maintenance instructions on all major equipment.

B. In addition to the above maintenance manuals, provide the maintenance program with instructions for major equipment and show written evidence to the Owner's Representative at the conclusion of the project that this service has been rendered.

PART 5 - GUARANTEES

A. The entire irrigation system shall be unconditionally guaranteed by Contractor as to material and workmanship, including valves and backflow devices below grade for a period of one (1) year following the date of final acceptance of the system. Owner may exercise option to withhold part of final payment until the one year production/workmanship guarantee has elapsed from date of final acceptance.

B. If within one year from the date of completion, settlement occurs, and adjustments to the pipes, valves and sprinkler heads are made, it shall be necessary to bring the system and piping to the proper level of the permanent grades, contractor, as part of the work under this contract, shall make all adjustments without extra cost to the Owner, including the installation of all damaged piping, paving or other improvements of any kind. Should any difficulties develop within the specified guarantee period which Owner feels may be due to inferior material and/or workmanship, those difficulties shall be immediately corrected by Contractor. In the satisfaction of Owner, an additional cost to Owner, within 48 hours of written notice, including any and all other damage caused by such defects. Failure of Contractor to respond in a timely manner to repair damaged conditions, shall prompt Owner to repair same and deduct costs of labor, material and equipment used from Contractor's final payment.

C. The Owner reserves the privilege of making any emergency repair without relieving Contractor's warranty obligations.

D. Written guarantee shall be supplied in the completion of the project, showing date of completion.

END OF SECTION

PLANTING PART 1 - GENERAL

1.01 Refer to standard contract documents for non-technical contractual requirements and conditions.

1.02 SCOPE

A. Work included: labor and materials, appliances, tools, equipment, facilities, transportation, and services necessary for and incidental to performing all operations in connection with Nursery, delivery, and installation of Landscaping, complete, as shown on the drawings and/or specified herein. Work includes, but is not limited to the following:

1. Provide the tree grading in all areas to be planted.

2. Finish and apply weed control to all planting areas.

3. Preparation of soil in all planting areas per soil analysis.

4. Furnish and install all plant materials.

5. Stake trees.

6. Furnish and install sodded lawn.

7. Furnish and install reduced header board.

8. Furnish and apply bark mulch.

9. Pruning of nursery stock.

10. Maintenance of all plantings until end of maintenance period and acceptance.

11. Guarantee of materials and workmanship.

B. Related work specified under other contracts (copies available from the Owner).

1. Concrete sidewalks and curbs.

2. Asphalt paving.

3. Rough grading.

4. Electrical.

C. Electrical. Verification of these Quantities. Quantities given for plant materials are shown for convenience only. The Contractor shall provide all plants shown on the plans.

PART 2 - MATERIALS

2.01 MATERIALS: If required, samples of soils, additives, and plants shall be submitted for inspection and stored on the site until furnishing of materials is completed. Delivery may begin upon approval of samples, or as directed by the Owner's Representative. A copy of delivery logs of all materials used on project shall be forwarded to the Owner's Representative. Substitutions in any material will not be permitted unless specifically approved in writing by the Owner's Representative.

A. Soil and Soil Amendments: 1. Fertilizer for soil conditioning and maintenance shall bear the manufacturer's guaranteed analysis, and shall be as recommended in the required soils laboratory report.

2. Fertilizer plant labels shall be "AGROFORM SLOW RELEASE" to be applied per Manufacturer's Specifications.

3. Application rates: Apply 21 gram agriform labels at the following rates per plant by size: 1/2" gal. Shrub - 1 tablet 1/2" gal. Shrub - 3 tablets 1/2" gal. & 1" gal. Shrub - 4 tablets 1" gal. & 1 1/2" gal. Shrub - 1 tablet for each 1/2" trunk diameter or each foot of height or spread.

4. Trees: Apply one 21 gram agriform tablet for each 1/2" of trunk diameter or each foot of height or spread.

5. Ground Cover: Apply one 5 gram agriform tablet per rooted ground cover (7" tall) Refer to Manufacturer's Specification for installation procedure.

6. Organic amendment shall be reduced reduced content (1% actual nitrogen) of a Bark 1% nitrogen. It shall be fine textured, having minimum 80% passing #10 screen and minimum 50% passing #4 mesh screen. Slightly shall not be higher than 1.5 millimeter per centimeter x 20. Contractor as measured by subsection F shall be used as an organic amendment.

7. For plants other than azaleas, camelias, and ferns, backfill plant with soil (as specified on plan. Do any additional amendments to backfill mix).

8. Prepare soil mix for back fill in pots for azaleas, camelias, ferns and other plants (as specified as follows):

1) 100% washed Florida sand

2) 100% washed Florida sand

3) 100% washed Florida sand

4) 100% washed Florida sand

5) 100% washed Florida sand

6) 100% washed Florida sand

7) 100% washed Florida sand

8) 100% washed Florida sand

9) 100% washed Florida sand

10) 100% washed Florida sand

11) 100% washed Florida sand

12) 100% washed Florida sand

13) 100% washed Florida sand

14) 100% washed Florida sand

15) 100% washed Florida sand

16) 100% washed Florida sand

17) 100% washed Florida sand

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