LANDSCAPE ARCHITECTURAL DRAWINGS
COTTAGE LANE-BUCHANAN ST. IMPROVMENT PLANS
TRACT 32470, CITY OF RIVERSIDE, CALIFORNIA
CENTEX

NOTES

PLANS WERE DESIGNED BY REFERENCING:

1. GRADING PLANS PREPARED BY	HUNSAKER & ASSOC.	DATE RECEIVED	01-18-06
2. GEOTECHNICAL REPORTS PREPARED BY	N/A	DATE RECEIVED	N/A
3. AGRICULTURAL SUITABILITY REPORT PREPARED BY	N/A	DATE RECEIVED	N/A

NUVIS HAS TAKEN CARE TO RESEARCH APPLICABLE CODES AND REQUIREMENTS IN PREPARING THESE DRAWINGS AND IS NOT RESPONSIBLE FOR CHANGES TO SUCH OCCURRING AFTER AGENCY APPROVAL OR DURING INSTALLATION.

AS REQUESTED BY THE CITY/OWNER, NUVIS WILL VISIT THE SITE AT INTERVALS APPROPRIATE TO THE STAGE OF CONSTRUCTION TO REVIEW THE PROGRESS AND QUALITY OF WORK AND TO DETERMINE IN GENERAL IF THE WORK IS BEING PERFORMED IN A MANNER INDICATING THAT THE WORK, WHEN COMPLETED, WILL BE IN SUBSTANTIAL CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS. HOWEVER, NUVIS WILL NOT MAKE EXHAUSTIVE OR CONTINUOUS ON-SITE INSPECTION TO CHECK QUALITY OF THE WORK.

NUVIS IS NOT RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, OR FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK, SINCE THESE ARE SOLELY THE CONTRACTOR'S RESPONSIBILITY. NUVIS IS NOT RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONSTRUCTION CONTRACT DOCUMENTS, NOR RESPONSIBLE FOR ACTS OR OMISSIONS OF THE CONTRACTOR, SUBCONTRACTORS, OR THEIR AGENTS OR EMPLOYEES, OR OF ANY OTHER PERSONS PERFORMING PORTIONS OF THE WORK.

THERE IS NO WARRANTY OR GUARANTEE EITHER EXPRESSED OR IMPLIED BY NUVIS FOR THE COMPLETION OF THE WORK OR THE QUALITY OF PERFORMANCE OF THE CONSTRUCTION CONTRACTOR(S).

IN THE EVENT CITY/OWNER CONSENTS TO, ALLOWS, AUTHORIZES OR APPROVES OF CHANGES TO ANY PLANS, SPECIFICATIONS, OR OTHER CONSTRUCTION DOCUMENTS, AND THESE ALTERATIONS ARE NOT APPROVED IN WRITING BY NUVIS, CITY/OWNER RECOGNIZES THAT SUCH ALTERATION AND THE RESULTS THEREOF ARE NOT THE RESPONSIBILITY OF NUVIS. IN ADDITION, CITY/OWNER AGREES, TO THE FULLEST EXTENT PERMITTED BY LAW, TO INDEMNIFY AND HOLD NUVIS HARMLESS FROM ANY DAMAGE, LIABILITY OR COST (INCLUDING REASONABLE ATTORNEY'S FEES AND COSTS OF DEFENSE) ARISING FROM SUCH ALTERATIONS.

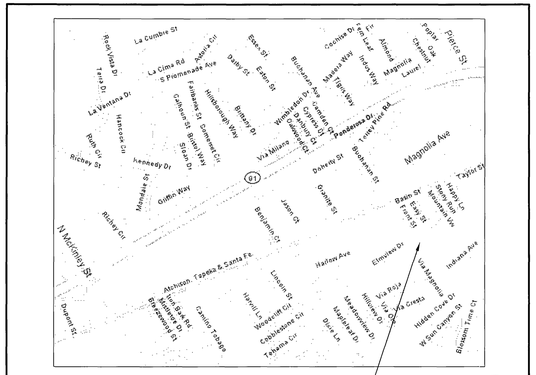
THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITIES SHOWN ON THE PLANS WERE OBTAINED FROM AVAILABLE RECORDS AT THE TIME THE PLANS WERE DRAFTED AND DO NOT CONSTITUTE A REPRESENTATION AS TO THE ACCURACY OR COMPLETENESS OF THE LOCATION OR THE EXISTENCE OR NON- EXISTENCE OF SUCH UTILITIES. IN CALIFORNIA AND NEVADA, CONTRACTOR SHALL CONTACT UNDERGROUND SERVICES ALERT AT 1-800-227-2600 PRIOR TO PERFORMING ANY CONSTRUCTION WORK. IN OTHER AREAS, CONTRACTOR SHALL CONTACT A SIMILAR AGENCY/ORGANIZATION.

CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK, USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK.

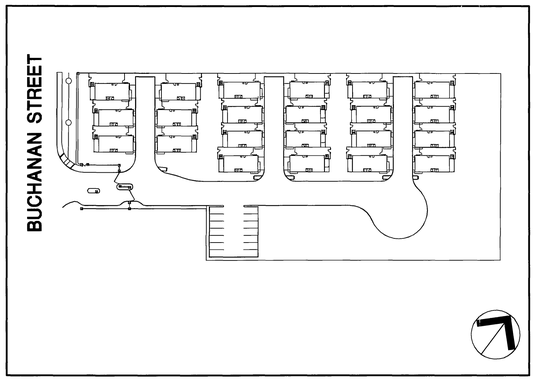
CONTRACTOR SHALL BE RESPONSIBLE TO THE CITY/OWNER FOR ACTS AND OMISSIONS OF THE CONTRACTOR'S EMPLOYEES, SUBCONTRACTORS AND THEIR AGENTS AND EMPLOYEES, AND OTHER PERSONS PERFORMING PORTIONS OF THE WORK UNDER A CONTRACT WITH CONTRACTOR.

CONTRACTOR SHALL BE RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE PERFORMANCE OF THE CONSTRUCTION CONTRACT.

LOCATION MAP



KEY MAP



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13	MAINTENANCE SPECIFICATIONS

NOTE: ALL LANDSCAPING TO BE MAINTAIN BY HOA

GOVERNING AGENCY

CITY OF RIVERSIDE
PUBLIC WORKS DEPARTMENT
3900 MAIN STREET, 3RD FLOOR
RIVERSIDE, CA 92522
(951) 826-5341

PROJECT TEAM

ARCHITECT
KTGY GROUP
17992 MITCHELL SOUTH
IRVINE, CA 92614
CONTACT: CHRIS KELLY
(949) 851-2132

CIVIL ENGINEER
HUNSAKER & ASSOC.
3 HUGHES
IRVINE, CA 92618
KAMAL KARAM
(949) 465-1133

IRRIGATION DESIGNER
SWEENEY & ASSOCIATES, INC.
38730 SKY CANYON DRIVE, SUITE C
MURRIETA, CA 92563
DANIEL ZUMMALLEN
(951) 461-6830

CITY OF RIVERSIDE
LICENSE # 124969
EXP. DATE 01-1-07

UNDERGROUND SERVICE ALERT
CALL: TOLL FREE
1-800
227-2600
TWO WORKING DAY BEFORE YOU DIG

OWNER/DEVELOPER:
CENTEX HOMES
Southern California Coastal Division
250 Commerce, Suite 100
Irvine, California 92602
Phone: (949) 453-0113 Fax: (949) 453-8994

BENCHMARK
POINT ID: E2-R3
ELEVATION: 686.946

CHISLED SQUARE ON THE SOUTHEAST CORNER OF BUCHANAN WELL NO. 1 AT THE NORTHWEST CORNER OF MAGNOLIA AVENUE AND BUCHANAN STREET.

ADJUSTED & LEVELED: MAY 1997

LANDSCAPE ARCHITECT:
NUVIS
LANDSCAPE ARCHITECTURE AND PLANNING
3151 AIRWAY AVENUE, SUITE J-3
COSTA MESA, CALIFORNIA
U.S.A. 92626-4640
FX: 714.754.7346
PH: 714.754.7311

REG. STATE OF CALIFORNIA — PERRY A. CARDOZA No. 3171 — LANDSCAPE ARCHITECT
Signature 12/31/07
Expiration Date 08/22/08
Date

MARK	REVISIONS	APPR.	DATE

DESIGNED BY PC DRAWN BY SL CHECKED BY

CITY OF RIVERSIDE, CALIFORNIA
PUBLIC WORKS DEPARTMENT

APPROVED BY	BY	DATE
PRINCIPAL ENGINEER		
TRAFFIC DIVISION		
FIRE		

APPROVED BY
CITY ENGINEER
DATE 2/21/07

WDID #: 833C335325

TRACT 32470
LANDSCAPE & IRRIGATION

COVER SHEET

PW06-0339

R-3899L

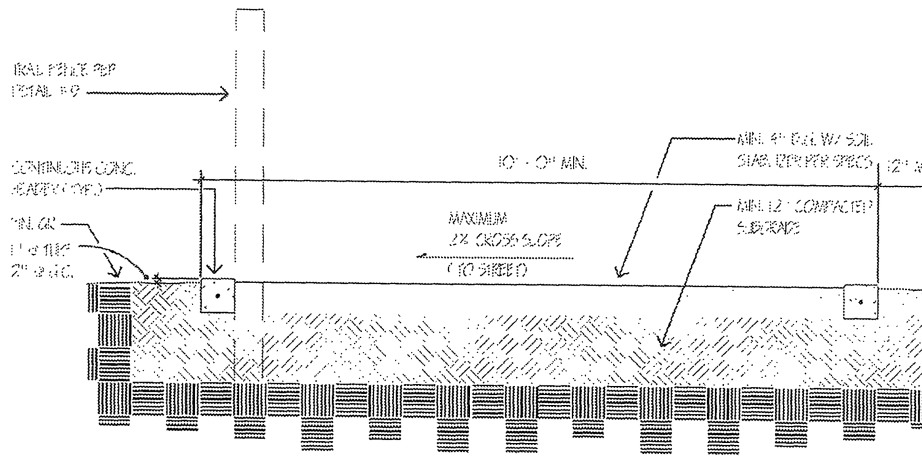
SHEET 1 OF 13

HORIZ. SCALE: PER PLAN VERT. SCALE: PER PLAN

FILE NO.

RVZ

INDEXED 9-27-06 LH



NOTES:

GRADES:

TRAIL LONGITUDINAL GRADIENT SHALL COMPLY W/ ADA STANDARDS WHERE FEASIBLE.

TRAIL SUBGRADE TO BE COMPACTED TO 90% RELATIVE COMPACTION FOR MINIMUM OF 12" BELOW P.G. SUBGRADE.

GRADE TRAIL TREAD FLUSH TO T.C. AT LOWER SIDE AND MAX. 1/2" BELOW AT UPPER SIDE.

TRAIL LONGITUDINAL GRADIENT SHALL NOT EXCEED 10% WITHOUT PRIOR WRITTEN CITY APPROVAL.

NATIVE SOILS MAY BE USED FOR D.G. WHERE MEETING "GREENBOOK" DEFINITION OF "D.G."

D.G. TO BE MIXED WITH SOIL STABILIZER AS SPECIFIED PRIOR TO PLACEMENT. APPLICATION RATE TO BE FOR "HIGH TRAFFIC".

FENCE:

WHERE R.O.W. IS 66' OR LESS, AND TRAIL IS ALONG FRONT OR SIDE YARDS, PLACE FENCE AT EDGE OF TRAIL EASEMENT ADJACENT TO PRIVATE PROPERTY TO SERVE AS P/L FENCE.

WHERE R.O.W. EXCEEDS 66' (e.g. REVERSE FRONTAGE LANDSCAPE AREAS) PLACE TRAIL FENCE ON STREET SIDE OF TRAIL TREAD.

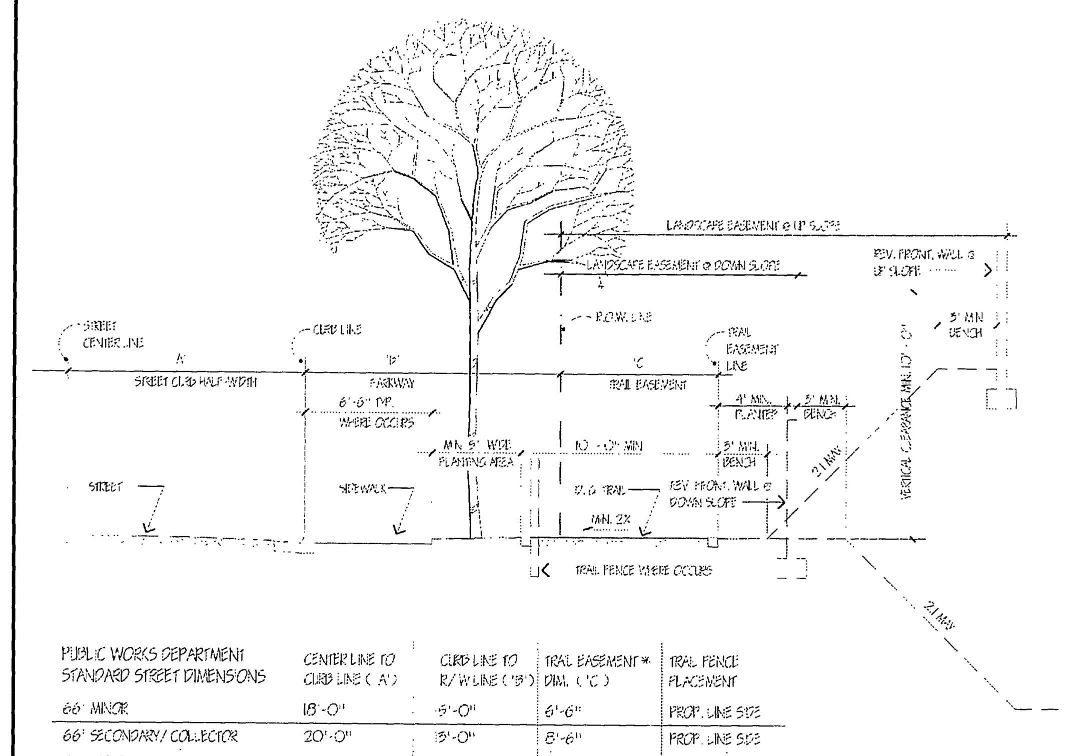
TRAIL FENCE MAY BE OMITTED WHERE TRAIL LEAVES RIGHT OF WAY ONCE 25' AWAY FROM R.O.W. LINE.

CONCRETE:

CONCRETE MOWCURBS MAY BE OMITTED WHERE TRAIL ABUTS "NATIVE VEGETATION" (I.E. NON-IRRIGATED AREAS).

WHERE TRAIL CROSSES DRIVEWAYS/SIDEWALKS PROVIDE HEAVY BROOM FINISH CONCRETE.

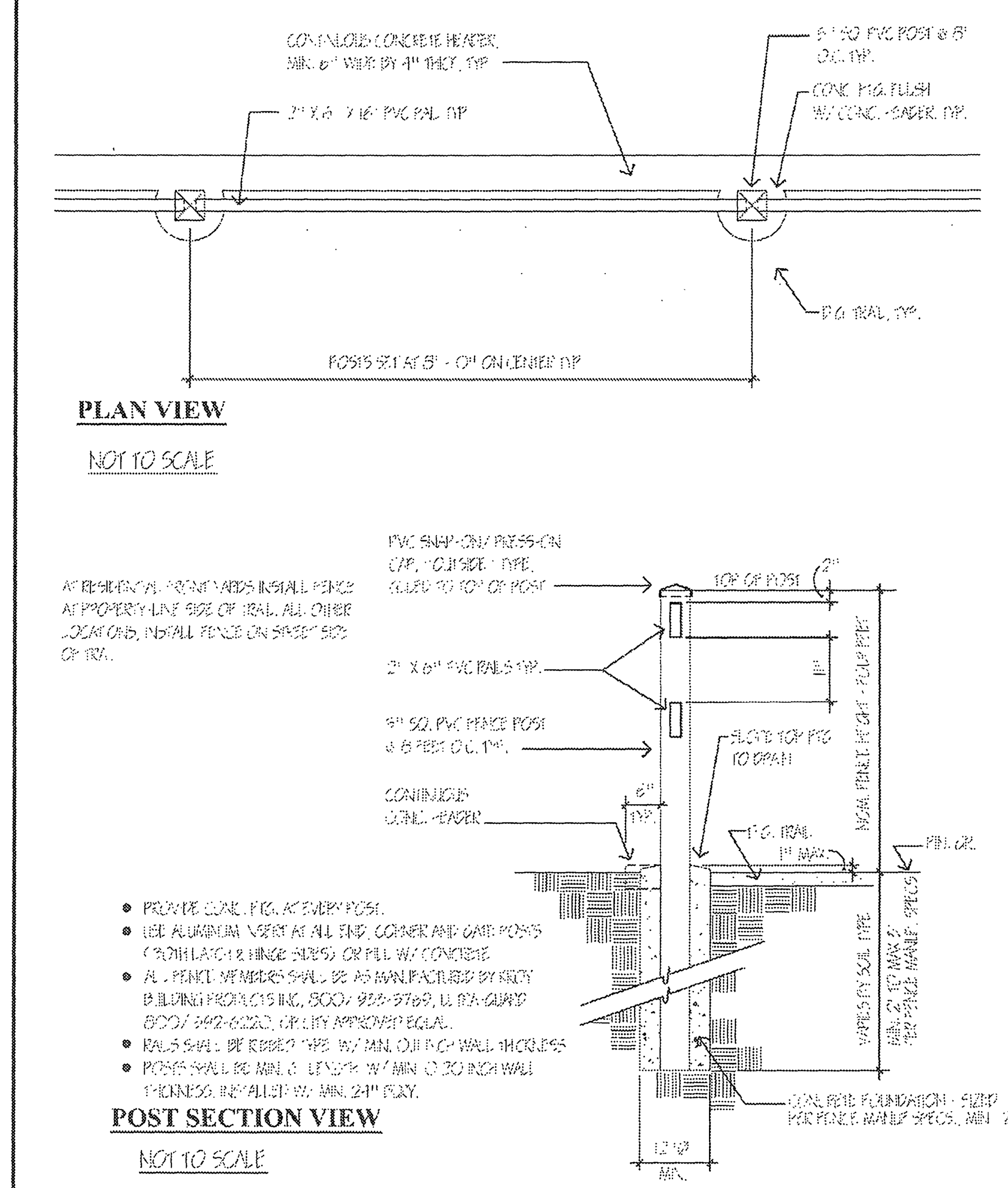
Approved BJ Date 09/12/03 | Revised Date
Park and Recreation Department CITY OF RIVERSIDE
STANDARD TRAIL SECTION
Detail No. 1



PUBLIC WORKS DEPARTMENT STANDARD STREET DIMENSIONS	CENTER LINE TO CURB LINE ('A')	CURB LINE TO R/W LINE ('B')	TRAIL EASEMENT * DIM. ('C')	TRAIL FENCE PLACEMENT
66' MINOR	18'-0"	5'-0"	6'-6"	PROP. LINE SIDE
66' SECONDARY/COLLECTOR	20'-0"	5'-0"	8'-6"	PROP. LINE SIDE
66' INDUSTRIAL COLLECTOR	22'-0"	1'-0"	4'-0"	STREET SIDE
80' SECONDARY	20'-0"	20'-0"	1'-6"	STREET SIDE
88' MAJOR	32'-0"	2'-0"	9'-6"	STREET SIDE
100' MAJOR	34'-0"	0'-0"	12'-6"	STREET SIDE
110' MAJOR	34'-0"	2'-0"	10'-6"	STREET SIDE
120' MAJOR	50'-0"	0'-0"	12'-6"	STREET SIDE
FRONTAGE ROAD	15'-0"	2'-0"	10'-6"	PROP. LINE SIDE

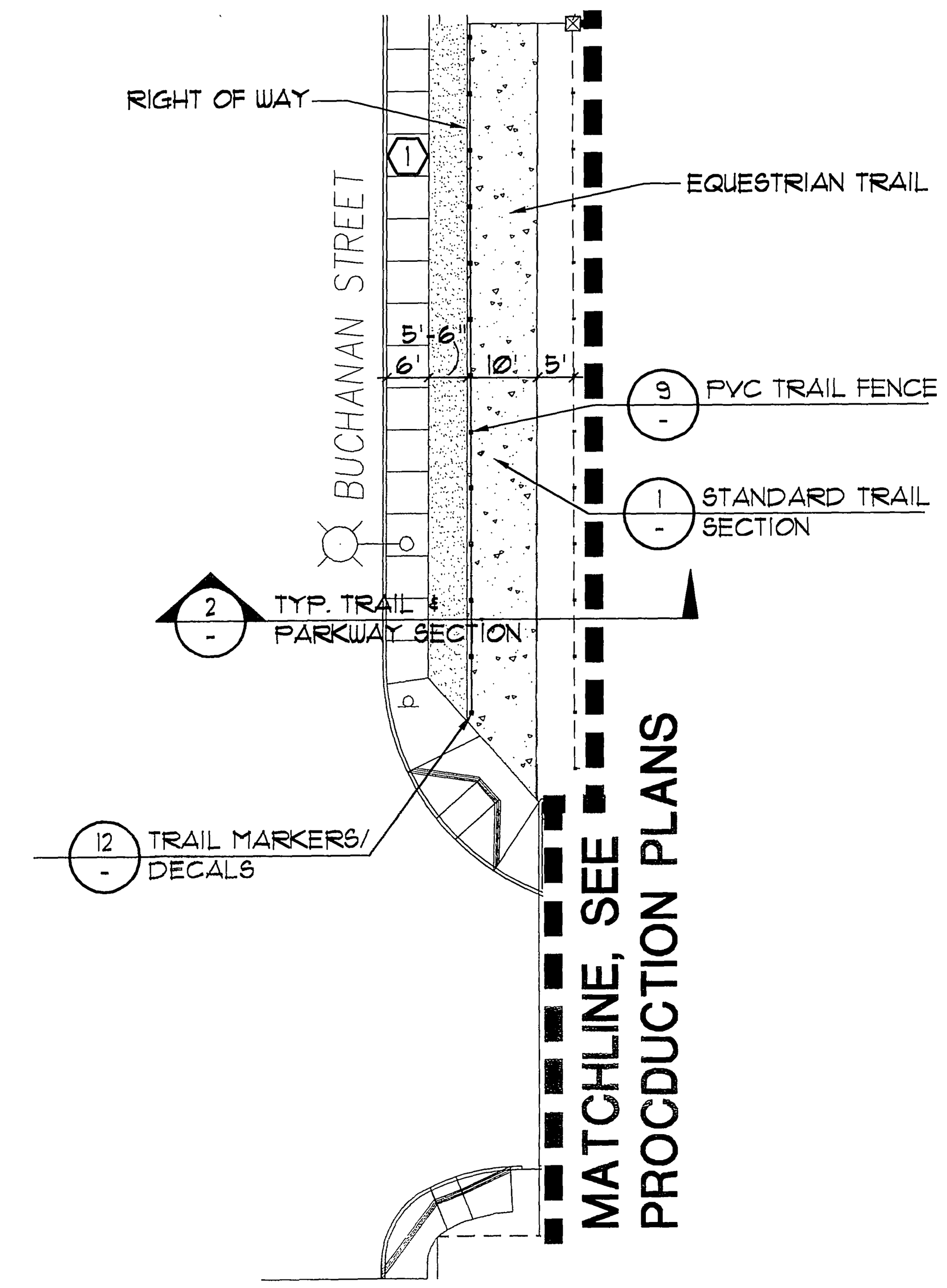
* ASSUMES STANDARD CITY SIDEWALK IS BEING PROVIDED AT ALL EXCEPT 66' INDUSTRIAL COLLECTOR

Approved BJ Date 09/12/03 | Revised Date
Park and Recreation Department CITY OF RIVERSIDE
TYP. TRAIL & PARKWAY SECTION
Detail No. 2

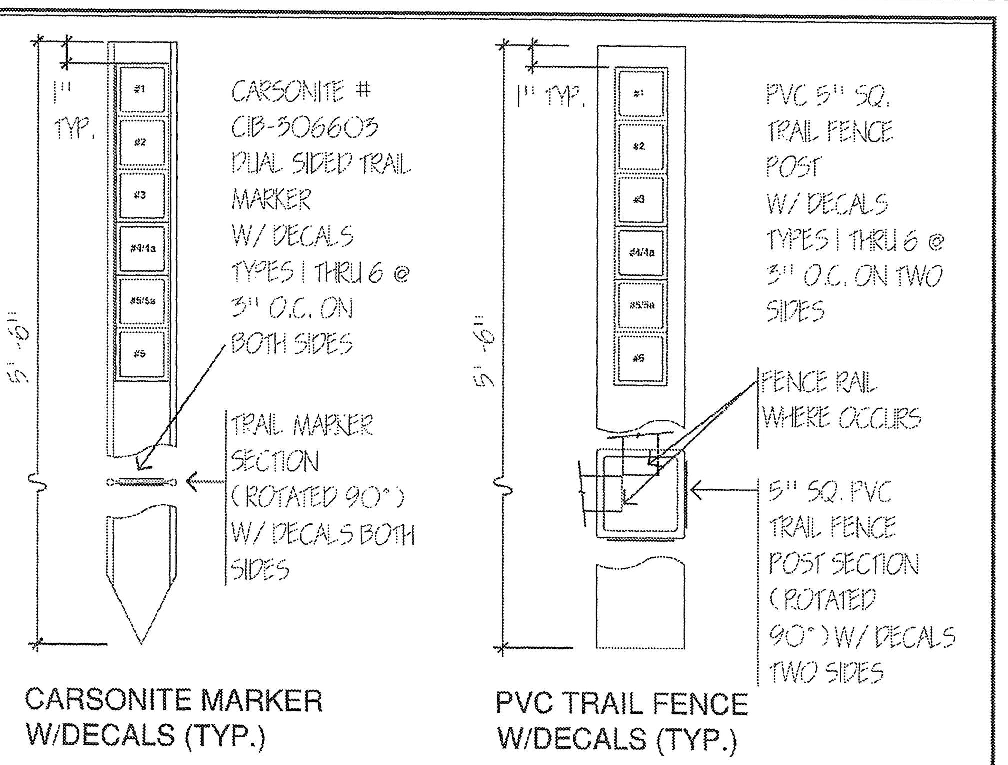


- PROVIDE CONC. FTG. AT EVERY POST.
- USE ALUMINUM INSERT AT ALL END, CORNER AND GATE POSTS (BOTH LATCH & HINGE SIDES) OR FILL W/ CONCRETE.
- ALL FENCE MEMBERS SHALL BE AS MANUFACTURED BY KROY BUILDING PRODUCTS INC., 800/933-5769, ULTRA-GUARD 800/892-6020, OR CITY APPROVED EQUAL.
- RAILS SHALL BE RIBBED TYPE W/ MIN. 0.110 INCH WALL THICKNESS
- POSTS SHALL BE MIN. 8' LENGTH W/ MIN. 0.130 INCH WALL THICKNESS INSTALLED W/ MIN. 24" EMBED.

Approved BJ Date 01/02/96 | Revised BJ Date 08/25/02
Park and Recreation Department CITY OF RIVERSIDE
PVC TRAIL FENCE
Detail No. 9



CONSTRUCTION PLAN



CARSONITE MARKER W/DECALS (TYP.)

PVC TRAIL FENCE W/DECALS (TYP.)

CARSONITE DECALS
TOLL FREE CONTACT NUMBER 1-800-648-7915

TYPE		DESCRIPTION	TYPE		DESCRIPTION
#1	CLOSED TO ALL MOTORIZED VEHICLES	CLOSED TO ALL MOTORIZED VEHICLES	#4a		NON-EQUESTRIAN TRAIL
#2		HIKING/ JOGGING TRAIL	#5		ACCESSIBLE TRAIL
#3		BICYCLE TRAIL	#5a		NON-ACCESSIBLE TRAIL
#4		EQUESTRIAN TRAIL	#6		NO MOTORIZED VECHICLES PERMITTED

Approved BJ Date 09/12/03 | Revised Date
Park and Recreation Department CITY OF RIVERSIDE
TRAIL MARKERS/DECALS
Detail No. 12

CONSTRUCTION PLAN NOTES

CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, AND EQUIPMENT FOR THE INSTALLATION OF ALL IMPROVEMENTS AS SHOWN ON THE DRAWINGS AND AS DESCRIBED IN THE SPECIFICATIONS.

CONTRACTOR SHALL REVIEW ALL EXISTING SITE CONDITIONS PRIOR TO SUBMITTING BID AND PRIOR TO COMMENCING INSTALLATION. IF ANY DISCREPANCIES EXIST, THEY SHOULD BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CITY'S/OWNER'S AUTHORIZED REPRESENTATIVE.

DEVIATIONS BETWEEN THE DRAWINGS AND ACTUAL FIELD CONDITIONS SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CITY'S/OWNER'S AUTHORIZED REPRESENTATIVE.

COSTS INCURRED DUE TO REPAIR, RESTORATION, OR REPLACEMENT OF EXISTING IMPROVEMENTS WHICH ARE DESIGNATED "TO BE PROTECTED" OR "TO REMAIN" WHICH ARE DAMAGED AS A RESULT OF CONSTRUCTION OPERATIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

UNLESS DESIGNATED ON THE DRAWINGS OTHERWISE, ALL MATERIALS DESIGNATED FOR REMOVAL SHALL BE DISPOSED OF OFF-SITE.

HARDSCAPE AND STRUCTURAL ELEMENTS SHALL BE PLACED PER GEOTECHNICAL SOILS REPORT. IF SUCH REPORT IS UNAVAILABLE, CONTRACTOR SHALL DISCUSS PLACEMENT ON SUITABLE GRADE WITH THE CITY'S/OWNER'S AUTHORIZED REPRESENTATIVE.

CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND STAKING ALL SEWER, WATER AND UTILITY LINES ABOVE OR BELOW GRADE THAT MIGHT BE DAMAGED AS A RESULT OF CONSTRUCTION OPERATIONS. CONTRACTOR SHALL ASSUME SOLE RESPONSIBILITY FOR ANY COST INCURRED FOR REPAIR, RESTORATION, OR REPLACEMENT OF AFOREMENTIONED UTILITIES DAMAGED AS A RESULT OF CONSTRUCTION OPERATIONS.

ABANDONED PIPES SHALL BE CAPPED OR PLUGGED IN A MANNER APPROVED BY THE CITY'S/OWNER'S AUTHORIZED REPRESENTATIVE.

CONCRETE INDICATED FOR SAWCUTTING AND REMOVAL SHALL BE CUT TO A TRUE LINE WITH NEATLY SAWED EDGES. IF A SAWCUT IS WITHIN THREE FEET (3') OF AN EXISTING EXPANSION OR CONTROL JOINT, CONCRETE SHALL BE REMOVED TO THAT NEAREST JOINT.

CONTRACTOR SHALL SUBMIT SHOP DRAWINGS, MANUFACTURER'S CUT OR DATA SHEETS FOR APPROVAL PRIOR TO ORDERING MATERIALS. CONTRACTOR SHALL FURNISH TO THE CITY'S/OWNER'S AUTHORIZED REPRESENTATIVE A CERTIFICATE OF COMPLIANCE FOR SUCH FURNISHED MATERIALS.

UNLESS DESIGNATED ON THE DRAWINGS OTHERWISE, MATERIALS TO BE PURCHASED AND FURNISHED BY THE CONTRACTOR SHALL BE NEW.

PROJECT GEOTECHNICAL REPORT OR RECOMMENDATIONS BY A STRUCTURAL ENGINEER SHALL TAKE PRECEDENCE FOR ALL SOIL CONDITIONS, MATERIALS, REINFORCEMENT, DIMENSIONS, AND SUBBASE.

GRADING PLAN NOTES

UNLESS DESIGNATED ON THE DRAWINGS OTHERWISE, THESE GRADING PLANS REPRESENT FINE GRADES PREPARED FROM THE PROJECT CIVIL ENGINEER'S PLANS AND ARE NOT BASED ON ASBUILT CONDITIONS.

CONTRACTOR SHALL VERIFY EXISTING GRADES (SPOT ELEVATIONS AND CONTOURS) AND DRAINAGE STRUCTURES PRIOR TO COMMENCING FINE GRADING OPERATIONS. IF ANY DISCREPANCIES EXIST, THEY SHOULD BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CITY'S/OWNER'S AUTHORIZED REPRESENTATIVE. NUVIS IS NOT RESPONSIBLE FOR GRADING OR DRAINAGE DEVIATIONS MADE BY THE CONTRACTOR.

UNLESS DESIGNATED ON THE DRAWINGS OTHERWISE, IT IS THE INTENT OF THE DRAWINGS THAT THE GRADING BE A BALANCED CUT AND FILL OPERATION. IF, DURING GRADING OPERATIONS AN EXCESS OR DEFICIENCY OF EARTH BECOMES APPARENT, CONTRACTOR SHALL CEASE GRADING OPERATIONS AND IMMEDIATELY NOTIFY THE CITY'S/OWNER'S AUTHORIZED REPRESENTATIVE.

UNLESS DESIGNATED ON THE DRAWINGS OTHERWISE, NEW HARDSCAPE SURFACES SHALL BE FLUSH WITH ADJACENT EXISTING FINISH SURFACES.

FINISH SURFACE OF HARDSCAPE SHALL BE ONE INCH (1") ABOVE FINISH GRADE ADJACENT TO TURF AREAS AND TWO INCHES (2") ABOVE FINISH GRADE FOR GROUND COVER AREAS.

CONTOURS OR SPOT ELEVATIONS REPRESENT THE DESIGN INTENT OF FINISH GRADES AND SURFACES. SUBGRADES SHALL BE IN ACCORDANCE WITH THE DETAILS.

CONTRACTOR SHALL MEET EXISTING GRADE AT PROJECT LIMIT LINE WITH A SMOOTH AND CONTINUOUS TRANSITION.

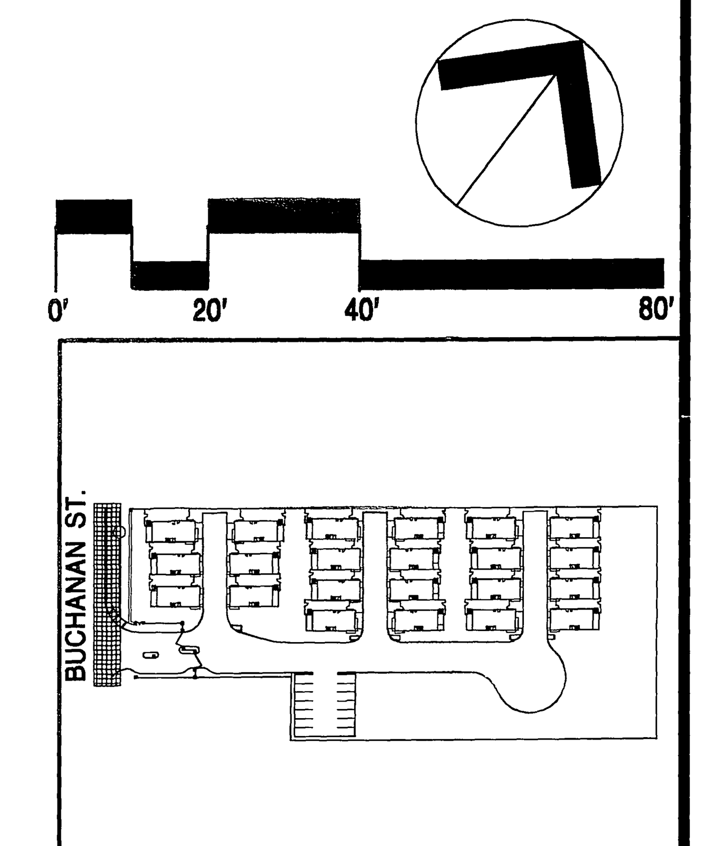
IT IS THE INTENT OF THE DRAWINGS TO MAINTAIN A POSITIVE DRAINAGE AWAY FROM SURROUNDING PROPERTY LINES AND ON-SITE STRUCTURES.

PROJECT GEOTECHNICAL REPORT OR RECOMMENDATIONS BY A STRUCTURAL ENGINEER SHALL TAKE PRECEDENCE FOR ALL SOIL CONDITIONS, MATERIALS, REINFORCEMENT, DIMENSIONS, AND SUBBASE.

CONSTRUCTION LEGEND

(1) CONCRETE PAVING.

NOTE: CONTRACTOR SHALL SUBMIT A SAMPLE OF FINISHES TO THE AUTHORIZED REPRESENTATIVE FOR REVIEW AND APPROVAL PRIOR TO PLACING THE ORDER.



INDEX MAP

UNDERGROUND SERVICE ALERT
CALL: TOLL FREE
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TWO WORKING DAY BEFORE YOU DIG

OWNER/DEVELOPER:
CENTEX HOMES
Southern California Coastal Division
250 Commerce, Suite 100
Irvine, California 92602
Phone: (949) 453-0113 Fax: (949) 453-8994

BENCHMARK
POINT ID: E2-R3
ELEVATION: 686.946
CHISLED SQUARE ON THE SOUTHEAST CORNER OF BUCHANAN WELL NO. 1 AT THE NORTHWEST CORNER OF MAGNOLIA AVENUE AND BUCHANAN STREET.
ADJUSTED & LEVELED: MAY 1997

LANDSCAPE ARCHITRECT:
NUVIS
LANDSCAPE ARCHITECTURE AND PLANNING
3151 AIRWAY AVENUE, SUITE J-3
COSTA MESA, CALIFORNIA
U.S.A. 92626-4640
FX: 714.754.7346
PH: 714.754.7311

REGISTERED LANDSCAPE ARCHITECT
PERRY A CARDOZA No. 3943
Signature
12/31/07 Expiration Date
06/22/06 Date
STATE OF CALIFORNIA

MARK	REVISIONS	APPR.	DATE

DESIGNED BY PC DRAWN BY SL CHECKED BY

CITY OF RIVERSIDE, CALIFORNIA
PUBLIC WORKS DEPARTMENT

APPROVED BY	BY	DATE
PRINCIPAL ENGINEER		7/20/06
TRAFFIC DIVISION		7/25/06
Plan		7/18

APPROVED BY
CITY ENGINEER
DATE 7/31/06

WDID #: 833C335325
PW06-0339

TRACT 32470
LANDSCAPE & IRRIGATION
CONSTRUCTION PLAN, LEGEND, NOTES & DETAILS

R-3899L
SHEET 2 OF 13

HORIZ. SCALE: PER PLAN VERT. SCALE: PER PLAN
FILE NO.

RR

INDEXED 9-27-06 GH

IRRIGATION NOTES

1 ALL LOCAL MUNICIPAL AND STATE LAWS, RULES AND REGULATIONS GOVERNING OR RELATING TO ANY PORTION OF THIS WORK ARE HEREBY INCORPORATED INTO AND MADE A PART OF THESE SPECIFICATIONS AND THEIR PROVISIONS SHALL BE CARRIED OUT BY THE CONTRACTOR.

2 THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES, STRUCTURES AND SERVICES BEFORE COMMENCING WORK. THE LOCATIONS OF UTILITIES, STRUCTURES AND SERVICES SHOWN IN THESE PLANS ARE APPROXIMATE ONLY. ANY DISCREPANCIES BETWEEN THESE PLANS AND ACTUAL FIELD CONDITIONS SHALL BE REPORTED TO THE OWNER'S REPRESENTATIVE.

3 THE CONTRACTOR SHALL OBTAIN THE PERTINENT ENGINEERING OR ARCHITECTURAL PLANS BEFORE BEGINNING WORK.

4 THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS REQUIRED TO PERFORM THE WORK INDICATED HEREIN BEFORE BEGINNING WORK.

5 THIS DESIGN IS DIAGRAMMATIC. ALL EQUIPMENT SHOWN IN PAVED AREAS IS FOR DESIGN CLARITY ONLY AND IS TO BE INSTALLED WITHIN PLANTING AREAS.

6 THE CONTRACTOR SHALL NOT WILLFULLY INSTALL ANY EQUIPMENT AS SHOWN ON THE PLANS WHEN IT IS OBVIOUS IN THE FIELD THAT UNKNOWN CONDITIONS EXIST THAT WERE NOT EVIDENT AT THE TIME THESE PLANS WERE PREPARED. ANY SUCH CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE PRIOR TO ANY WORK OR THE IRRIGATION CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY FOR ANY FIELD CHANGES DEEMED NECESSARY BY THE OWNER.

7 INSTALL ALL EQUIPMENT AS SHOWN IN THE DETAILS AND SPECIFICATIONS. CONTRACTOR SHALL BE RESPONSIBLE TO COMPLY WITH LOCAL CITY, COUNTY AND STATE REQUIREMENTS FOR BOTH EQUIPMENT AND INSTALLATION.

8 ACTUAL LOCATION FOR THE INSTALLATION OF THE BACKFLOW PREVENTER AND THE AUTOMATIC CONTROLLER IS TO BE DETERMINED IN THE FIELD BY THE OWNER'S AUTHORIZED REPRESENTATIVE.

9 CONTRACTOR IS TO PROVIDE AN ADDITIONAL PILOT WIRE FROM CONTROLLER ALONG ENTIRETY OF MAIN LINE TO THE LAST RCV ON EACH AND EVERY LEG OF MAIN LINE. LABEL SPARE WIRES AT BOTH ENDS.

10 ALL PIPE UNDER PAVED AREAS TO BE INSTALLED IN SLEEVING TWICE THE DIAMETER OF THE PIPE CARRIED. SEE LEGEND FOR TYPE. ALL WIRE UNDER PAVED AREAS TO BE INSTALLED IN A SCH. 40 SLEEVE THE SIZE REQUIRED TO EASILY PULL WIRE THROUGH. ALL SLEEVES TO BE INSTALLED WITH A MINIMUM DEPTH AS SHOWN ON THE SLEEVING DETAILS. SLEEVES TO EXTEND AT LEAST 12" PAST THE EDGE OF THE PAVING.

11 ALL QUICK COUPLER AND REMOTE CONTROL VALVES TO BE INSTALLED IN SHRUB OR GROUND COVER AREAS WHERE POSSIBLE. ALL QUICK COUPLER AND REMOTE CONTROL VALVES TO BE INSTALLED AS SHOWN ON THE INSTALLATION DETAILS. INSTALL ALL QUICK COUPLER AND REMOTE CONTROL VALVES WITHIN 18" OF HARDSCAPE.

12 ALL HEADS ARE TO BE INSTALLED WITH THE NOZZLE, SCREEN AND ARCS SHOWN ON THE PLANS. ALL HEADS ARE TO BE ADJUSTED TO PREVENT OVERSPRAY ONTO BUILDINGS, WALLS, FENCES AND HARDSCAPE. THIS INCLUDES, BUT NOT LIMITED TO, ADJUSTMENT OF DIFFUSER PIN OR ADJUSTMENT SCREW, REPLACEMENT OF PRESSURE COMPENSATING SCREENS, REPLACEMENT OF NOZZLES WITH MORE APPROPRIATE RADIUS UNITS AND THE REPLACEMENT OF NOZZLES WITH ADJUSTABLE ARC UNITS.

13 THE CONTRACTOR SHALL USE PROPER GROUNDING TECHNIQUES FOR GROUNDING THE CONTROLLER AND RELATED EQUIPMENT PER MANUFACTURERS SPECIFICATIONS. SWEENEY AND ASSOCIATES RECOMMENDS MEASURING FOR PROPER GROUND AT LEAST ONCE ANNUALLY, AND NECESSARY ADJUSTMENTS MADE TO COMPLY WITH MANUFACTURER SPECIFICATIONS.

WATER PRESSURE CALCULATIONS

WATER METER NUMBER	1	WATER METER SIZE	1"
HYDRAULIC GRADE LINE (FT)	N/A	WATER METER ELEVATION (FT)	N/A
ELEVATION DIFFERENCE (FT)	N/A	MIN. STATIC PRESSURE (PSI)	95
REMOTE CONTROL VALVE #	A36	REMOTE CONTROL VALVE SIZE	1"
R.C.V. DEMAND (GPM)	22	TOTAL DEMAND (GPM)	22
HIGHEST HEAD SERVED (FT)	N/A	STATIC PRESSURE AT HIGHEST HEAD	N/A

SIZE	DESCRIPTION	FLOW	#	PSI LOSS	
1"	SERVICE LINE (50 FT OF TYPE K COPPER)	22	1	7.6	PSI
1"	WATER METER (DISC TYPE)	22	2	2.8	PSI
1"	BACKFLOW PREVENTER (R/P TYPE)	22	3	12.0	PSI
1"	FILTRATION (WYE FILTER)	22	4	0.9	PSI
1"	PRESSURE REGULATOR (WILKINS 500HLR)	22	5	3.0	PSI
1"	BFD ASSEMBLY PIPING (BRASS W/ 4 ELLS)	22	6	9.1	PSI
1"	MASTER CONTROL VALVE	22	7	3.6	PSI
1"	FLOW SENSOR	22	8	1.0	PSI
1"	ISOLATION VALVES (BALL TYPE)	22	9	2.0	PSI
2"	840 FEET OF MAINLINE: CL. 315 PVC	22	10	3.5	PSI
N/A	FEET OF MAINLINE: CL. 315 PVC	22	11	-	PSI
2"	10 - 90 DEGREE ELBOWS	22	12	0.4	PSI
1"	REMOTE CONTROL VALVE	22	13	3.2	PSI
10%	LATERAL LINE LOSS	N/A	14	3.0	PSI
10%	FITTING LOSS (IN ADDITION TO ELBOWS SHOWN)	N/A	15	0.7	PSI
N/A	ELEVATION CHANGE (P.O.C. TO HIGHEST HEAD)	N/A	16	0.0	PSI
TOTAL SYSTEM PRESSURE LOSS (SUM OF #1 THRU #16)			17	52.8	PSI
PRESSURE REQUIRED AT HEAD			18	30.0	PSI
TOTAL PRESSURE REQUIRED (SUM OF #17 AND #18)			19	82.8	PSI
STATIC WATER PRESSURE (FROM ABOVE)			20	95.0	PSI
RESIDUAL PRESSURE (SUBTRACT #20 FROM #21)			21	12.2	PSI
SET PRV OR MCV AT (#20 PLUS 10 PSI)			22	92.8	PSI
PRESSURE BOOST, IF REQUIRED (SET TO ACHIEVE 30 PSI RESIDUAL)			23	N/A	PSI

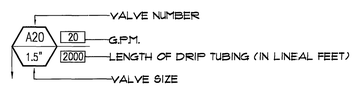
IRRIGATION CONTROLLER RUN TIMES

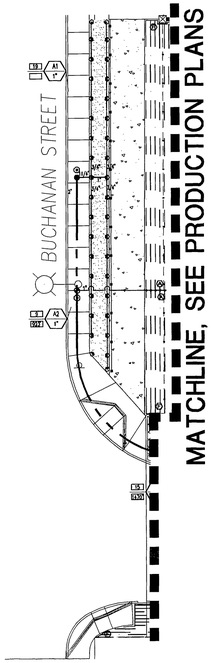
Controller : A

PLANT TYPE / SPRINKLER TYPE	Eto	AKc	PR RATE	IE	RUN TIME (HOURS)	QUANTITY	RUN TIME (HOURS)
Days Per Week: 6	7.6						
Shrub and Ground Covers:							
Drip	7.60	0.40	0.49	0.90	0.27	15	4.02
Turf Grass:							
Spray Heads	7.60	0.90	1.74	0.70	0.22	15	3.28
Trees:							
Bubbler Heads	7.60	0.80	3.00	0.90	0.09	8	0.70
CYCLES PER DAY: 1					TOTAL NUMBER OF STATIONS: 38		
						TOTAL RUN TIME IN HOURS: 8.00	

IRRIGATION MATERIAL LEGEND

SYMBOL Q	T	H	F	MANUFACT.	MODEL NO. / DESCRIPTION	GPM	PSI	RADIUS	DETAIL
				RAIN BIRD	1806-SAM-FRS POP-UP TURF HEAD W/ RAIN BIRD 5-Q/T/H NOZZLES	.10, .13, .20	30	5 FT	A
				RAIN BIRD	1806-SAM-FRS POP-UP TURF HEAD W/ RAIN BIRD 8-Q/T/H/F NOZZLES	.26, .35, .52, 1.58	30	8 FT	A
				RAIN BIRD	1806-SAM-FRS POP-UP TURF HEAD W/ RAIN BIRD 10-Q/T/H/F NOZZLES	.39, .52, .79, 1.57	30	10 FT	A
				RAIN BIRD	1806-SAM-FRS POP-UP TURF HEAD W/ RAIN BIRD 12-Q/T/H/F NOZZLES	.65, .87, 1.3, 2.60	30	12 FT	A
				RAIN BIRD	1806-SAM-FRS POP-UP TURF HEAD W/ RAIN BIRD 15-Q/T/H/F NOZZLES	.93, 1.23, 1.85, 3.710	30	15 FT	A
				RAIN BIRD	1806-SAM-FRS-15-EST/15-SST POP-UP TURF HEAD	.61, 1.21	30	4X15 FT 4X30 FT	A
				HUNTER	I-BT-06-CV-PCN-50 POP-UP BUBBLER HEAD, EACH SYMBOL REPRESENTS TWO BUBBLERS PER TREE, PLACE BUBBLERS AT EDGE OF ROOTBALL ON OPPOSITE SIDES OF TREE TYPICAL.	.50 (1.0)	30	N/A	A
			M	P.O.C.	1" DOMESTIC METER WITH 1" SERVICE LINE, VERIFY SIZE, LOCATION, AND STATIC WATER PRESSURE IN FIELD				N/A
			B	WATTS	009QT SERIES, 1" R/P BACKFLOW PREVENTION ASSEMBLY W/ MODEL 777 WYE STRAINER				B
			V	SUPERIOR	MODEL 3000 1" NORMALLY CLOSED MASTER CONTROL VALVE				C
			F	RAIN MASTER	FS-100 FLOW SENSOR, INSTALL PER MANUFACTURER'S RECOMMENDATIONS AND WIRE TO CONTROLLER				D
				WATTS	B-6000-SS-SH FULL PORT BRONZE VALVE, STAINLESS STEEL BALL, STEM AND HANDLE, 2" SIZE				E
				RAIN BIRD	33 DLRC (3/4") QUICK COUPLER VALVE				F
				HUNTER	ICV-XXJG-AS (1") SERIES PRESSURE REGULATED PLASTIC REMOTE CONTROL VALVE, SIZE AS SHOWN				G
				HUNTER	ICV-101G-AS SERIES DRIP VALVE ASSEMBLY, SIZE AS SHOWN, W/ AG. PRODUCTS #4E 200 MESH SCREEN FILTER (SIZE PER RCV) ACCU-SET PRESSURE REGULATOR AND FILTER SENTRY DIAPHRAM. SET OUTLET PRESSURE PER DRIP MANUFACTURERS RECOMMENDATIONS				H
			C	RAIN MASTER	EVOLUTION DX48-DX-FLOW CONTROLLER, INSTALLED WITHIN A STAINLESS STEEL ENCLOSURE (SEE BELOW FOR TYPE)				I
			R	W.C.S.	RAIN SENSOR, RS, MOUNT TO REAR OF ENCLOSURE AND WIRE TO CONTROLLER				I
			E	N/A	120 VOLT ELECTRICAL POWER, PROVIDED BY ELECTRICIAN, VERIFY ACTUAL LOCATION IN FIELD				N/A
— · — · —				RAIN BIRD	LD-06-12-XX LANDSCAPE DRIP TUBING W/ .6 GPH EMITTERS 12" ON CENTER, INSTALL TUBING ROWS A MAXIMUM OF 16" APART IN SHRUB AREAS. ALL TUBING SHALL BE INSTALLED 4" BELOW FINISHED SOIL GRADE W/ 9" WIRE STAKES FIVE (5) FEET ON CENTER. VERIFY THE LAYOUT AND SPACING IN THE FIELD PRIOR TO STARTING WORK				J,K,L
— · —●— · —				RAIN BIRD	600-CF-15MPT "SPIN-LOC" ADAPTER W/ APPROPRIATE PVC FITTING FOR CONNECTION BETWEEN PVC LATERAL LINES AND DRIP TUBING				K
		NO SYMBOL		RAIN BIRD	ALL CONNECTIONS BETWEEN DRIP TUBING SHALL BE MADE USING "SPIN-LOC" FITTINGS				L
			F	AG-PROD.	PROVIDE A FCH-H AUTOMATIC FLUSH VALVE AT END OF DRIP DISCHARGE HEADER USING THE COLLAR AS PROVIDED, INSTALL FLUSH VALVE INSIDE A SEPERATE VALVE BOX, ONE AT EACH END OF THE TUBING RUNS IN EACH DIRECTION, INSTALL 18" FROM PAVING				L,M
			A	RAIN BIRD	YD-500-34 AIR/VACUUM RELIEF VALVE INSTALLED WITH A FT-050 CONBINATION TEE AND A 3/4" X 1/2" REDUCER BUSHING, INSTALL AIR RELIEF ASSEMBLY INSIDE A 6" ROUND VALVE BOX AT THE HIGH POINT OF EACH PLANTER, MULTIPLE ARV'S SHALL BE REQUIRED PER RCV, VERIFY QUANTITY PRIOR TO STARTING WORK, INSTALL VALVE BOX 18" FROM PAVING AND AT HIGH POINT OF PLANTER AREA				L,N
———				AS APPROVED	PVC PIPE 3/4" - 1 1/2" CL. 200 AS LATERAL LINES 12" BELOW GRADE				O
——— — —				AS APPROVED	PVC PIPE 2" CL. 315 AS MAINLINES 18" BELOW GRADE				O
— — — — —				AS APPROVED	PVC PIPE SCH. 40 AS SLEEVING, TWICE THE DIAMETER OF PIPE OR WIRE BUNDLE CARRIED PLACE BELOW ALL PAVING, HARDSCAPE, ETC., AND AS DIRECTED BY DEVELOPER'S AUTHORIZED REPRESENTATIVE				P
	NO SYMBOL			AS APPROVED	IRRIGATION CONTROL WIRE #14UF AWG DIRECT BURIAL (U.L. APPROVED)				O,P,Q
	NO SYMBOL			3M	DBY DIRECT BURIAL WATER-PROOF WIRE CONNECTORS FOR USE ON ALL WIRE CONNECTIONS				Q





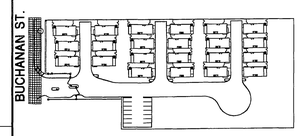
IRRIGATION PLAN

NOTE:
BUBBLERS AND LATERAL LINES ARE SHOWN WITHIN PAVING FOR CLARITY ONLY, ACTUAL LOCATION TO BE WITHIN PLANTER. BUBBLERS SHALL BE ALIGNED WITH TREES AND AS DIRECTED BY OWNER'S AUTHORIZED REPRESENTATIVE. CONFIRM ALL LAYOUT IN FIELD WITH OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO COMMENCING WORK.

NOTE:
MAINLINE SHOWN WITHIN PAVING FOR CLARITY ONLY, ACTUAL MAINLINE LOCATION TO BE A MINIMUM OF 18" OFF ADJACENT HARDSCAPE AND OTHER OBSTACLES TYP.

NOTE:
CONTRACTOR SHALL ADJUST ALL HEADS AS REQUIRED TO ACCOMODATE ANY VERTICAL OBSTRUCTIONS THAT MAY OCCUR, INCLUDING BUT NOT LIMITED TO LIGHT POLES, FIRE HYDRANTS, ETC. VERIFY ALL HEAD LAYOUT WITH OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO COMMENCING WORK.

0' 20' 40' 80'



INDEX MAP

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E-mail: emailsweeneyassoc.com

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Irvine, California 92602
Phone: (949) 453-0113 Fax: (949) 453-8994

BENCHMARK
POINT ID: E2-R3
ELEVATION: 686.946

CHISLED SQUARE ON THE SOUTHEAST CORNER OF BUCHANAN WELL NO. 1 AT THE NORTHWEST CORNER OF MAGNOLIA AVENUE AND BUCHANAN STREET.

ADJUSTED & LEVELED: MAY 1997

LANDSCAPE ARCHITECT:
NUVIS
LANDSCAPE ARCHITECTURE AND PLANNING
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COSTA MESA, CALIFORNIA
U.S.A. 92626-4640
FX: 714.754.7346
PH: 714.754.7311

REGISTERED LANDSCAPE ARCHITECT — ROBERT A. CARLSON — Signature — 12/31/07 Expiration Date — 06/22/06 Date — STATE OF CALIFORNIA

MARK	REVISIONS	APPR.	DATE

DESIGNED BY PC DRAWN BY SL CHECKED BY

CITY OF RIVERSIDE, CALIFORNIA
PUBLIC WORKS DEPARTMENT

APPROVED BY	BY	DATE
PRINCIPAL ENGINEER		
TRAFFIC DIVISION		
PARK		

APPROVED BY _____ CITY ENGINEER
DATE 2/21/06

WDID #: 833C335325

TRACT 32470
LANDSCAPE & IRRIGATION
IRRIGATION PLAN, LEGEND, NOTES

HORIZ. SCALE: PER PLAN VERT. SCALE: PER PLAN

PW06-0339

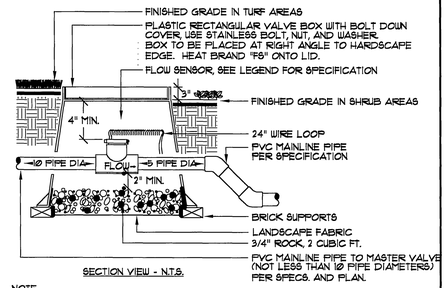
R-3899L

SHEET 13 OF 13

FILE NO.

RJZ

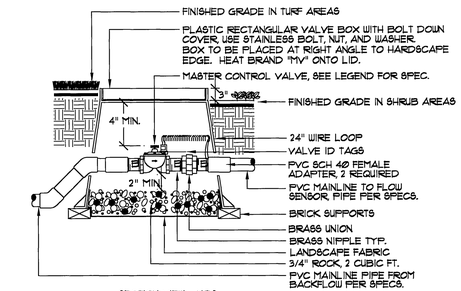
INDEXED 9-27-06 YH



SECTION VIEW - N.T.S.

NOTE:
INSTALL FLOW SENSOR AS PER THE MANUFACTURER'S RECOMMENDATIONS, WIRE TO IRRIGATION CONTROLLER.
USE 45 DEGREE ELLS TO ACHIEVE MAINLINE DEPTH ON THE DOWN-STREAM SIDE OF THE FLOW SENSOR.

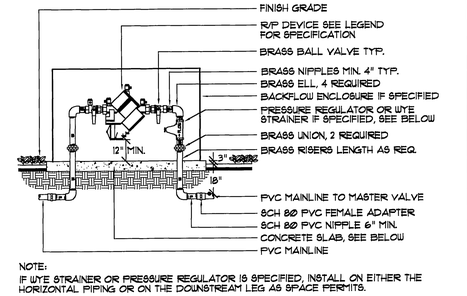
(D) FLOW SENSOR



SECTION VIEW - N.T.S.

NOTE:
USE 45 DEGREE ELLS TO ACHIEVE MAINLINE DEPTH FROM UP-STREAM SIDE OF THE MASTER VALVE ASSEMBLY.

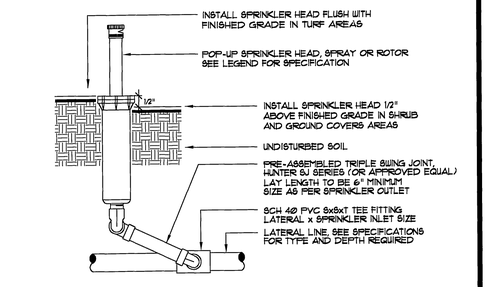
(C) MASTER CONTROL VALVE



NOTE:
IF WYE STRAINER OR PRESSURE REGULATOR IS SPECIFIED, INSTALL ON EITHER THE HORIZONTAL PIPING OR ON THE DOWNSTREAM LEG AS SPACE PERMITS.

CONCRETE SLAB SHALL BE MINIMUM 4" THICK, 18" WIDE AND EXTEND AT LEAST 8" PAST THE BACKFLOW ASSEMBLY PIPING. IF BACKFLOW ENCLOSURE IS SPECIFIED IN THE LEGEND, THE CONCRETE SLAB SHALL BE THE SIZE REQUIRED BY THE MANUFACTURER.

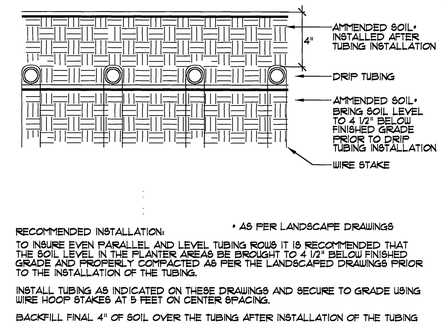
(B) BACKFLOW DEVICE



NOTE:
INSTALL SPRINKLER HEADS 6" FROM PAVING EDGE IN GROUND COVER AREAS.
INSTALL SPRINKLER HEADS 4" FROM PAVING EDGE IN TURF AREAS.

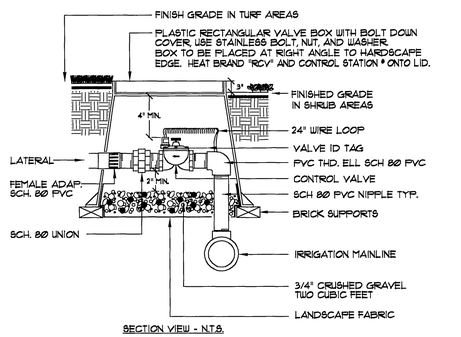
INSTALL SPRINKLER HEADS PLUMB. ADJUST SPRAYS OR NOZZLE STREAM TO COVER LANDSCAPE AREA WITHOUT OVERSPRAY ONTO PAVING, FENCES, WALLS OR BUILDINGS.

(A) POP-UP SPRINKLER



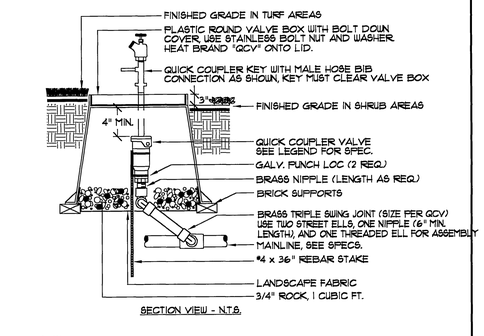
SECTION VIEW - N.T.S.

(H) DRIP RCV ASSEMBLY



SECTION VIEW - N.T.S.

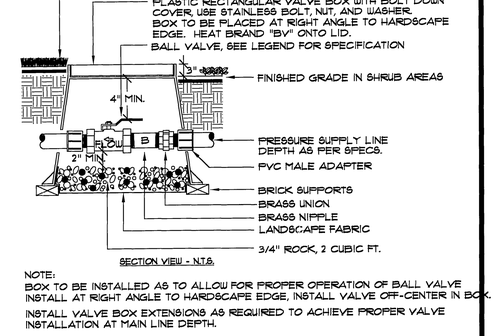
(G) REMOTE CONTROL VALVE



SECTION VIEW - N.T.S.

NOTE:
USE TEFLON TAPE ON ALL THREADED FITTINGS TYPICAL.

(F) QUICK COUPLER VALVE



SECTION VIEW - N.T.S.

NOTE:
BOX TO BE INSTALLED AS TO ALLOW FOR PROPER OPERATION OF BALL VALVE INSTALL AT RIGHT ANGLE TO HARDSCAPE EDGE, INSTALL VALVE OFF-CENTER IN BOX.

INSTALL VALVE BOX EXTENSIONS AS REQUIRED TO ACHIEVE PROPER VALVE INSTALLATION AT MAIN LINE DEPTH.

(E) BALL VALVE

RECOMMENDED INSTALLATION:

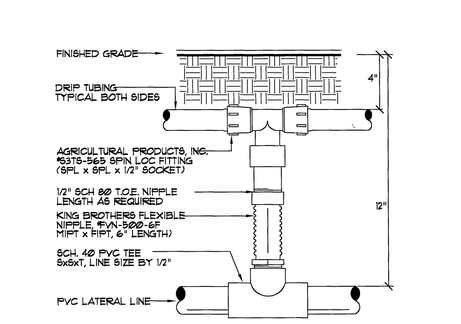
* AS PER LANDSCAPE DRAWINGS

TO INSURE EVEN PARALLEL AND LEVEL TUBING ROWS IT IS RECOMMENDED THAT THE SOIL LEVEL IN THE PLANTER AREAS BE BROUGHT TO 4 1/2" BELOW FINISHED GRADE AND PROPERLY COMPACTED AS PER THE LANDSCAPED DRAWINGS PRIOR TO THE INSTALLATION OF THE TUBING.

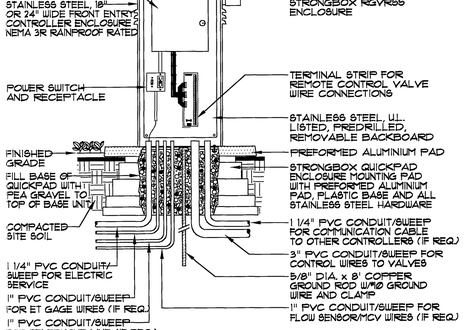
INSTALL TUBING AS INDICATED ON THESE DRAWINGS AND SECURE TO GRADE USING WIRE HOOP STAKES AT 5 FEET ON CENTER SPACING.

BACKFILL FINAL 4" OF SOIL OVER THE TUBING AFTER INSTALLATION OF THE TUBING

(K) DRIPLINE CONNECTION



(J) DRIPLINE CONNECTION



(I) CONTROLLER ENCLOSURE

Sweeney & Associates, Inc.
Irrigation Design & Consulting
38730 Sky Canyon Drive, Suite C
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E-mail lsweeney1@earthlink.net

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BENCHMARK
POINT ID: E2-R3
ELEVATION: 686.946

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ADJUSTED & LEVELED: MAY 1997

LANDSCAPE ARCHITRECT:
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LANDSCAPE ARCHITECTURE AND PLANNING
3151 AIRWAY AVENUE, SUITE J-3
COSTA MESA, CALIFORNIA
U.S.A. 92626-4640
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REGISTERED LANDSCAPE ARCHITECT GARY A. CARDOZA No. 3093 — Expiration Date 12/31/07 — 06/22/06 Date — STATE OF CALIFORNIA

MARK	REVISIONS	APPR.	DATE

DESIGNED BY PC DRAWN BY SL CHECKED BY

CITY OF RIVERSIDE, CALIFORNIA
PUBLIC WORKS DEPARTMENT

APPROVED BY	BY	DATE
PRINCIPAL ENGINEER		
TRAFFIC DIVISION		
Plan		

APPROVED BY
CITY ENGINEER
DATE 7/31/06

WDID #: 833C335325
PW06-6339

TRACT 32470
LANDSCAPE & IRRIGATION

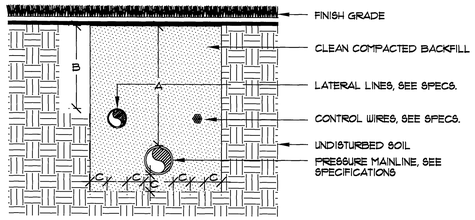
IRRIGATION DETAILS 1

R-3899L
SHEET 4 OF 13

HORIZ. SCALE: PER PLAN VERT. SCALE: PER PLAN
FILE NO.

BPZ

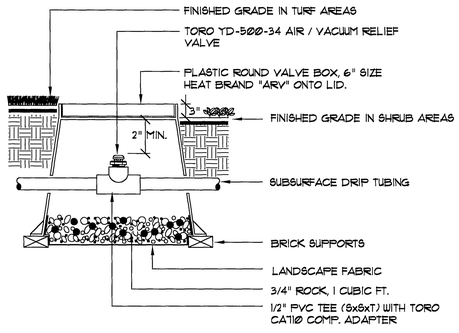
INDEXED 9-27-06 GH



DIMENSION	A	B	C
1/2" TO 2-1/2" IN SIZE	18"	12"	4"
3" TO 6" IN SIZE	24"		4"

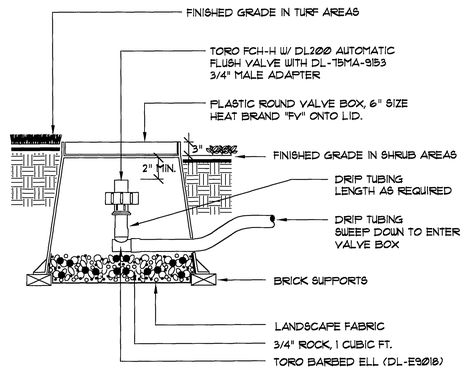
SECTION VIEW - N.T.S.

(O) PIPE INSTALLATION



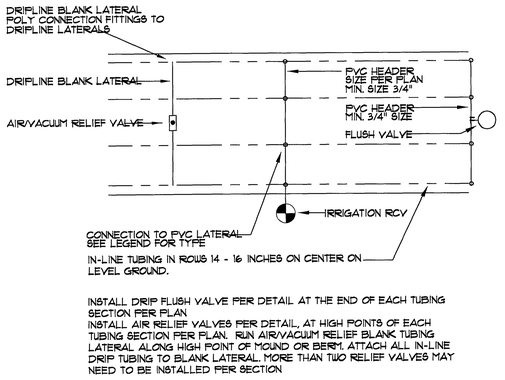
SECTION VIEW - N.T.S.

(N) AIR RELIEF VALVE



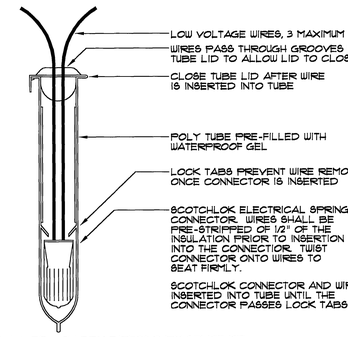
SECTION VIEW - N.T.S.

(M) FLUSH VALVE



INSTALL DRIP FLUSH VALVE PER DETAIL AT THE END OF EACH TUBING SECTION PER PLAN
INSTALL AIR RELIEF VALVES PER DETAIL, AT HIGH POINTS OF EACH TUBING SECTION PER PLAN. RUN AIR/VACUUM RELIEF BLANK TUBING LATERAL ALONG HIGH POINT OF MOUND OR BERM. ATTACH ALL IN-LINE DRIP TUBING TO BLANK LATERAL. MORE THAN TWO RELIEF VALVES MAY NEED TO BE INSTALLED PER SECTION

(L) DRIPLINE CONNECTION

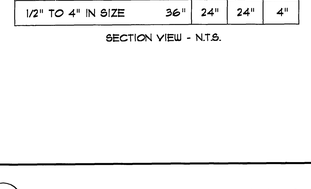


NOTE:
WIRE CONNECTOR SHALL BE A 3M DBY DIRECT BURY SPLICE KIT.

KIT SHALL INCLUDE A SCOTCHLOK Y SPRING CONNECTOR, A POLYPROPYLENE TUBE AND A WATERPROOF SEALING GEL. TUBE SHALL BE SUPPLIED PREFILLED WITH GEL.

DIRECT BURY SPLICE KIT SHALL BE USED TO ELECTRICALLY CONNECT 2 - 3 #14 OR 2 #12 PRE-STRIPPED COPPER WIRES. LARGER WIRES OR GREATER QUANTITIES OF WIRES SHALL REQUIRE A LARGER APPROVED WIRE CONNECTION.

(Q) WIRE CONNECTION



PVC SLEEVES TO BE TWICE THE DIAMETER OF THE PIPE OR WIRE BUNDLE CARRIED.

DETAIL ALSO FOR PIPE INSTALLED IN ROCK SOIL.

DIMENSION	A	B	C	D
1/2" TO 4" IN SIZE	36"	24"	24"	4"

SECTION VIEW - N.T.S.

(P) SLEEVE INSTALLATION

Sweeney & Associates, Inc.
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COSTA MESA, CALIFORNIA
U.S.A. 92626-4640
FX: 714.754.7346
PH: 714.754.7311

REGISTERED LANDSCAPE ARCHITECT — PAUL A. CARDOZA No. 2499 — STATE OF CALIFORNIA
12/31/07 Expiration Date
06/22/06 Date

MARK	REVISIONS	APPR.	DATE

DESIGNED BY PC DRAWN BY SL CHECKED BY

CITY OF RIVERSIDE, CALIFORNIA
PUBLIC WORKS DEPARTMENT

APPROVED BY	BY	DATE
PRINCIPAL ENGINEER		
TRAFFIC DIVISION		7/18

APPROVED BY
CITY ENGINEER
DATE 7/31/06

WDID #: 833C335325
PW06-0339

TRACT 32470
LANDSCAPE & IRRIGATION

IRRIGATION DETAILS 2

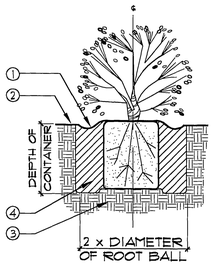
R-3899L
SHEET 5 OF 13

HORIZ. SCALE: PER PLAN VERT. SCALE: PER PLAN
FILE NO.

RR

INDEXED 9-27-06 HH

NOTES:
1. SEE SPECIFICATIONS PRIOR TO INSTALLATION OF PLANT MATERIALS.
2. CROWN OF ROOTBALL TO BE 1/2"-1" ABOVE FINISH GRADE.
3. PLANTING HOLE TO BE DUSTED WITH GYPSUM BEFORE BACKFILLING.

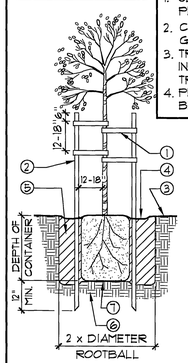


① A SHALLOW BASIN 2" DEEP SHALL BE FORMED AROUND ROOTBALL BELOW FINISH GRADE
② FINISH GRADE
③ UNDISTURBED NATIVE GRADE OR CERTIFIED COMPACTED FILL PER PROJECT GEOTECHNICAL SOILS REPORT
④ APPROVED BACKFILL, THOROUGHLY MIXED PRIOR TO INSTALLATION (SEE PROJECT AGRICULTURAL SOILS REPORT)

B SHRUB PLANTING
NOT TO SCALE — pltshr01.dwg

PREVAILING WINDS

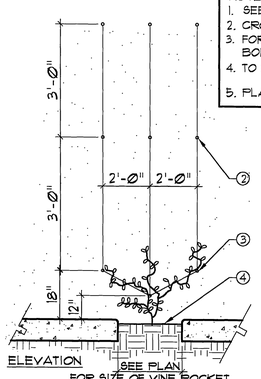
NOTES:
1. SEE SPECIFICATIONS PRIOR TO INSTALLATION OF PLANT MATERIALS.
2. CROWN OF ROOTBALL TO BE 1" ABOVE FINISH GRADE.
3. TREES INSTALLED WITHIN TURF AREAS SHALL BE INSTALLED WITH 'ARBOR-GARD' AT BASE OF TRUNK.
4. PLANTING HOLE TO BE DUSTED WITH GYPSUM BEFORE BACKFILLING.

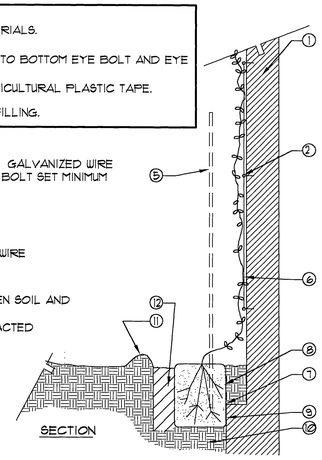


① TIRE STRIP TREE TIE OR APPROVED EQUAL
② Ø' LODGE POLE STAKE BOTH SIDES
③ FINISH GRADE
④ A SHALLOW BASIN 2" DEEP SHALL BE FORMED AROUND BALL BELOW FINISH GRADE. TREES PLANTED IN TURF AREAS SHALL NOT HAVE BASINS.
⑤ APPROVED BACKFILL, THOROUGHLY MIXED PRIOR TO INSTALLATION (SEE PROJECT AGRICULTURAL SOILS REPORT)
⑥ UNDISTURBED NATIVE GRADE OR CERTIFIED COMPACTED FILL PER PROJECT GEOTECHNICAL SOILS REPORT
⑦ ROOTBALL

A TREE PLANTING (DOUBLE STAKE - 15 GAL. & 24" BOX)
NOT TO SCALE — plttre03.dwg

NOTES:
1. SEE SPECIFICATIONS PRIOR TO INSTALLATION OF PLANT MATERIALS.
2. CROWN OF ROOTBALL TO BE 1/2"-1" ABOVE FINISH GRADE.
3. FOR EACH VINE, PLACE EYE BOLTS AS SHOWN, ATTACH WIRE TO BOTTOM EYE BOLT AND EYE BOLTS AT TOP OF WALL
4. TO SECURE VINE ON TUBULAR STEEL FENCE- USE GREEN HORTICULTURAL PLASTIC TAPE.
5. PLANTING HOLE TO BE DUSTED WITH GYPSUM BEFORE BACKFILLING.

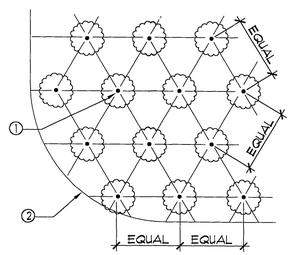




① WALL, FENCE, BUILDING AND/OR POST/PILASTER
② GALVANIZED EYE BOLTS SHALL BE 3/4" DIAMETER. GALVANIZED WIRE SHALL BE #12 GAUGE, (TYPICAL). GALVANIZED EYE- BOLT SET MINIMUM OF 1 1/2" DEEP
③ ATTACH ALL WIRES TO BOTTOM EYE-BOLT.
④ FINISH GRADE
⑤ REMOVE NURSERY STAKE
⑥ SPREAD VINE ON WALL OR FENCE AND SECURE TO WIRE
⑦ SET ROOTBALL TIGHT TO FOOTING
⑧ ROOTBALL
⑨ WATERPROOF MEMBRANE TO BE INSTALLED BETWEEN SOIL AND BUILDING WALL OR FOUNDATION.
⑩ UNDISTURBED NATIVE GRADE OR CERTIFIED COMPACTED FILL PER PROJECT GEOTECHNICAL SOILS REPORT
⑪ 2" DEEP SHALLOW BASIN
⑫ APPROVED BACKFILL

C VINE PLANTING WITH WIRE
SCALE: N.T.S. — pltvin01.dwg

NOTES:
1. ALL PLANTS SHALL BE PLANTED AT EQUAL SPACING (TRIANGULAR) UNLESS OTHERWISE INDICATED ON PLANS.
2. CENTERLINE OF PLANTS SHALL BE 1/2 OF EQUAL SPACING MINIMUM FROM EDGE OF PLANTING AREA.
3. INFILL PLANTS AS REQUIRED TO MAINTAIN SPACING AT IRREGULAR EDGES.



① TYPICAL PLANT SPACING VARIES - SEE PLANT LEGEND AND/OR PLANS
② EDGE OF PLANTING AREA

D GROUNDCOVER SPACING
NOT TO SCALE — pltgrc01.dwg

PLANTING PLAN NOTES

CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO FURNISH AND INSTALL PLANT MATERIAL AS SHOWN ON THE DRAWINGS AND AS DESCRIBED IN THE SPECIFICATIONS.

UNLESS DESIGNATED ON THE DRAWINGS OTHERWISE, STRUCTURAL IMPROVEMENTS AND HARDSCAPE SHALL BE INSTALLED PRIOR TO PLANTING OPERATIONS.

ALL WORK ON THE IRRIGATION SYSTEM, INCLUDING HYDROSTATIC, COVERAGE, AND OPERATIONAL TESTS AND THE BACKFILLING AND COMPACTION OF TRENCHES SHALL BE PERFORMED PRIOR TO PLANTING OPERATIONS.

PLANT LIST ON THE DRAWINGS SHALL BE USED AS A GUIDE ONLY. CONTRACTOR SHALL TAKEOFF AND VERIFY SIZES AND QUANTITIES BY PLAN CHECK.

SAMPLES OF FERTILIZERS, ORGANIC AMENDMENT, SOIL CONDITIONERS, AND SEED SHALL BE SUBMITTED PRIOR TO INCORPORATION. CONTRACTOR SHALL FURNISH TO THE CITY/OWNER'S AUTHORIZED REPRESENTATIVE A CERTIFICATE OF COMPLIANCE FOR SUCH FURNISHED MATERIALS.

LOCATIONS OF PLANT MATERIAL SHALL BE REVIEWED ON SITE BY THE CITY/OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO INSTALLATION.

AMENDMENTS, AS INDICATED IN THE SOILS REPORT SHOWN ON THE DRAWINGS, ARE BASED ON AGRICULTURAL SUITABILITY SOILS TESTS PERFORMED PRIOR TO GRADING AND WERE PRESENTED FOR BIDDING PURPOSES. IF NO SOILS REPORT EXISTS, CONTRACTOR SHALL PROPOSE ON AMENDMENTS AS STATED IN THE SPECIFICATIONS. CLIENT OR CONTRACTOR SHALL OBTAIN AGRICULTURAL SOILS TESTING AND RECOMMENDATIONS AFTER GRADING OPERATIONS AND PRIOR TO PLANT INSTALLATION.

TREES SHALL BE PLANTED NO CLOSER THAN TEN FEET (10') FROM UTILITIES.

TREES PLANTED WITHIN FIVE FEET (5') OF HARDSCAPE OR STRUCTURES SHALL BE INSTALLED WITH A ROOT BARRIER AS APPROVED BY THE CITY/OWNER'S AUTHORIZED REPRESENTATIVE.

IF, DURING PLANTING OPERATIONS THERE SEEMS TO BE MINIMAL OR NO PERCOLATION IN PLANTING PITS, CONTRACTOR SHALL CEASE PLANTING OPERATIONS AND IMMEDIATELY NOTIFY THE CITY/OWNER'S AUTHORIZED REPRESENTATIVE TO DISCUSS ALTERNATIVE TO MAINTAINING POSITIVE ROOTBALL DRAINAGE MEASURES.

PLANT LEGEND

TREES

SYM.	BOTANICAL NAME	COMMON NAME	SIZE
■	BETULA PENDULA	EUROPEAN WHITE BIRCH	24" BOX
●	BRACHYCHITON POPULNEUS	BOTTLE TREE	36" BOX
◇	CERCIS CANADENSIS	EASTERN REDBUD	24" BOX
×	JACARANDA MIMOSIFOLIA	JACARANDA	36" BOX
▽	LIGUSTRUM LUCIDUM	GLOSSY PRIVET	24" BOX
⊕	LAGERSTROEMIA INDICA	CRAPE MRYTLE	24" BOX
⬓	TRISTANIA CONFERTA	BRISBANE BOX	24" BOX
∴	PINUS HALEPENSIS	ALEPPO PINE	24" BOX

SHRUBS

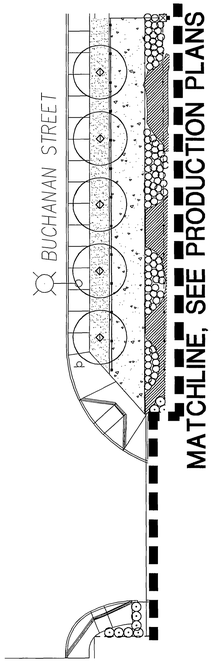
(B)	BUXUS JAPONICA	JAPANESE BOXWOOD	5 GAL
(*)	ESCALLONIA EXONIENSIS "FRADESII"	PINK PRINCESS ESCALLONIA	5 GAL
(•)	HEMEROCALLIS HYBRID "YELLOW"	YELLOW DAYLILY	5 GAL
(▲)	PHOENIX ROEBELINII	PYGMY DATE PALM	15 GAL
(–)	PHORMIUM TENAX "BRONZE BABY"	BRONZE NEW ZEALAND FLAX	5 GAL
(+)	PHOTINIA FRASERI	FRASER PHOTINIA	5 GAL
(//)	PITTOSPORUM TOBIRA "VARIEGATA"	VARIEGATED MOCK ORANGE	5 GAL
(□)	RHAPHIOLEPIS INDICA "BALLERINA"	PINK INDIA HAWTHORN	5 GAL
(⊕)	STRELITZIA REGINAE	BIRD OF PARADISE	5 GAL
(○)	ROSA 'PINK CARPET ROSE'	ROSE	5 GAL
(SF)	RHAPHIOLEPIS INDICA "SPRINGTIME"	INDIA HAWTHORN	5 GAL

VINES

CLYTOSTOMA CALLISTEGIOIDES	VIOLET TRUMPET VINE	5 GAL
DISTICTIS BUCCINATORIA	SCARLET TRUMPET VINE	5 GAL
LONICERA JAPONICA "PURPUREA"	JAPANESE HONEYSUCKLE	5 GAL

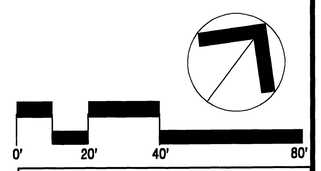
GROUNDCOVER

AGAPANTHUS 'PETER PAN'	LILY OF THE NILE	1 GAL. @ 12" O.C.
BOUGAINVILLEA 'OO LA LA'	DWARF BOUGAINVILLEA	1 GAL. @ 30" O.C.
LAVENDER ANGUSTIFOLIA	ENGLISH LAVENDER	1 GAL. @ 30" O.C.
LIRIOPE SUNPROOF	LILY TURF	1 GAL. @ 12" O.C.
MYOPORUM 'PACIFICUM'	MYOPORUM	1 GAL. @ 30" O.C.
PENNISETUM SETACEUM	FOUNTAIN GRASS	1 GAL. @ 24" O.C.
SODDED TURF	TURF	SOD



PLANTING PLAN

NOTE
LANDSCAPE ARCHITECT SHALL FIELD ADJUST SHRUB PLANTING TO BUFFER ALL UNDESIRABLE VIEWS.



INDEX MAP

UNDERGROUND SERVICE ALERT
CALL: TOLL FREE 1-800 227-2600
TWO WORKING DAY BEFORE YOU DIG

OWNER/DEVELOPER:
CENTEX HOMES
Southern California Coastal Division
250 Commerce, Suite 100
Irvine, California 92602
Phone: (949) 453-0113 Fax: (949) 453-8994

BENCHMARK
POINT ID: E2-R3
ELEVATION: 686.946
CHISLED SQUARE ON THE SOUTHEAST CORNER OF BUCHANAN WELL NO. 1 AT THE NORTHWEST CORNER OF MAGNOLIA AVENUE AND BUCHANAN STREET.
ADJUSTED & LEVELED: MAY 1997

LANDSCAPE ARCHITECT:
NUVIS
LANDSCAPE ARCHITECTURE AND PLANNING
3151 AIRWAY AVENUE, SUITE J-3
COSTA MESA, CALIFORNIA
U.S.A. 92626-4640
FX: 714.754.7349
PH: 714.754.7311
REGISTERED LANDSCAPE ARCHITECT — JOHN A. CARDOSA — No. 3993 — Signature 12/31/07 Expiration Date — P. Cardoso — 06/22/06 Date — STATE OF CALIFORNIA

MARK	REVISIONS	APPR.	DATE

DESIGNED BY PC DRAWN BY SL CHECKED BY

CITY OF RIVERSIDE, CALIFORNIA
PUBLIC WORKS DEPARTMENT

	APPROVED BY	BY	DATE
PRINCIPAL ENGINEER			
TRAFFIC DIVISION			
Plan			7/18/06

APPROVED BY: CITY ENGINEER
DATE 7/21/06

WDID #: 833C335325 — PW06-0339

TRACT 32470
LANDSCAPE & IRRIGATION
PLANTING PLAN, LEGEND, NOTES & DETAILS

R-3899L
SHEET 6 OF 13

HORIZ. SCALE: PER PLAN VERT. SCALE: PER PLAN FILE NO.

RNZ

INDEXED 9-27-06 GH

GENERAL CONDITIONS

1. DEFINITIONS

a. Words used herein in the masculine gender include the feminine and neuter, and vice versa; the singular number includes the plural, and the plural the singular. The word "person" includes a corporation, association or partnership.

b. Unless otherwise specifically defined herein, or unless the context requires a different meaning, all words, abbreviations, symbols, terms and phrases having a well known or technical meaning shall be so construed.

c. Whenever in these specifications, or in any documents or instruments where these specifications govern, the following terms are used, the intent and meaning thereof shall be as follows:

CONTRACT – Represents the entire and integrated agreement between the City/Owner and the Contractor. The contract documents form the Contract for construction.

CONTRACT DOCUMENTS – These specifications, the drawings, addenda issued prior to execution of the Contract, and the Contract between the City/Owner and the Contractor.

CONTRACTOR – The person or entity whose bid is accepted and to whom the Contract is awarded.

LANDSCAPE ARCHITECT – The professional services firm who prepared the project drawings and specifications for the City/Owner.

CITY/OWNER – Is the person or entity identified as such in the Contract.

WORK – The term "work" or "project" means the construction and services required by the Contract Documents and includes providing all labor, materials, equipment, transportation, tools, and incidentals necessary to complete the work in a satisfactory manner.

2. CONSTRUCTION PROCEDURE

Contractor shall not be relieved of obligations to perform the work in accordance with the Contract Documents either by activities or duties of the City/Owner, Landscape Architect, or by tests, inspections or approvals required or performed by persons other than the Contractor.

3. NON–ASSIGNABILITY

Neither the Contract that may be awarded, nor any of the monies that may become due to the Contractor under such Contract, may be assigned by said Contractor without the written consent of the City/Owner.

4. SERVICE OF NOTICE

The delivery or mailing of any notice, instruction, claim or protest, or other written communications, personally to the Contractor or to the City/Owner, shall constitute service thereof upon the Contractor, or the City/Owner, respectively.

5. SUBCONTRACTS

a. Contractor shall set forth in the bid the name and the location of each subcontractor who will perform work or labor or render service to the Contractor in or about the construction of the work.

b. Contractor must have the written consent of the City/Owner to substitute a subcontractor other than that designated in the bid.

6. BONDS AND INSURANCE

a. Before execution of the Contract with the City/Owner, the Contractor shall file with the City/Owner surety bonds and applicable public liability and property damage insurance satisfactory to the City/Owner in the amounts and for the purposes specified in the Contract. Bonds shall be duly executed by a responsible corporate surety, authorized to issue such bonds in the applicable State of the project and secured through an authorized agent. Contractor shall pay all bond premiums, costs and incidentals.

b. Changes in the work, or extensions of time, made pursuant to the Contract, shall in no way release the Contractor or surety from their obligations.

7. DRAWINGS AND SPECIFICATIONS

a. The contractor shall keep at the project site a copy of the drawings and specifications. In the event a discrepancy exists between figures and/or drawings, the discrepancy shall be immediately submitted to the City/Owner for clarification. Any adjustment made by the Contractor without obtaining such clarification from the City/Owner shall be at the Contractor's risk and expense and be subject to removal if said adjustment does not meet the approval of the City/Owner.

b. The Contract documents, as defined herein, are intended to be read together to describe a complete and finished piece of work, including all labor, materials and equipment necessary for the proper execution of the project. Anything in the specifications and not on the drawings, or on the drawings and not in the specifications, shall be as though shown or mentioned in both.

8. SHOP DRAWINGS OR PRODUCT DATA AND SAMPLES

a. Shop drawings, product data, samples, and similar submittals are not contract documents. The purpose of their submittals is to demonstrate for those portions of the work for which submittals are required the way the Contractor proposes to conform to the information given and the design concept expressed in the drawings.

b. The Contractor shall review, approve, and submit such submittals required by the contract documents with reasonable promptness and in such sequence or to cause no delay in the work.

c. The Landscape Architect's review of such submittals is for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents. Review of such submittals is not conducted for the purpose of determining accuracy and completeness of other duties such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor.

d. The Landscape Architect's review shall not constitute approval of safety precautions or, of any construction means, methods, techniques, sequences or procedures.

9. SUBSURFACE DATA

Where investigations of site conditions have been made including subsurface conditions in areas where work is to be performed under the Contract, such investigations are made only for the purpose of study and design. All soil and geological test hole data, water table elevations and agricultural suitability soil analyses apply only at the locations of the test and to the depths indicated.

10. CHANGE ORDERS

a. The City/Owner may at any time prior to acceptance of the work, by written order to Contractor and without notice to sureties, increase or decrease the estimated quantity of work or material, make alterations, deviations, additions to or omissions from the drawings and specifications, and make changes in the project as may be deemed necessary or advisable, within the general scope thereof.

b. No claim for additional work or material will be allowed unless supported by a written Change Order signed by the City/Owner and the Contractor stating their agreement upon all of the following:

- Change in the work.
- Amount of the adjustment in the Contract sum; and
- Extent of the adjustment in the Contract time, if any.

11. CONTROL OF MATERIALS

a. Materials, parts and equipment to be furnished by the Contractor shall be new, unless otherwise specified in these specifications or noted on the drawings. The materials shall be manufactured, handled, and used in a workmanlike manner.

b. All materials shall be subject to rigid inspection and if, in the opinion of the City/Owner the same do not comply with the contract documents, said materials shall be rejected and immediately removed from the premises at the expense of the Contractor.

c. Manufacturers warranties, guaranties, instructions sheets and parts lists, which are furnished with certain articles or materials incorporated in the work, shall be delivered to the City/Owner prior to acceptance of the work.

12. SAMPLES AND TESTS

The Contractor shall furnish such samples of all materials as requested by the Owner without charge. Labor and equipment necessary for the furnishing of such samples shall be the responsibility of the Contractor.

13. SUBSTITUTION OR EQUIVALENTS

a. For convenience in designation on the drawings or in the specifications, certain articles or materials to be incorporated in the work may be designated under a trade name or the name of a manufacturer and catalogue number. Subject to approval by the City/Owner or Landscape Architect, an alternative article or material may be utilized.

b. The burden of proof as to the quality and suitability of alternatives shall be upon the Contractor.

14. CERTIFICATES OF COMPLIANCE

When requested, Contractor shall furnish the City/Owner with a Certificate of Compliance stating that the material substantially meets the specifications

15. SUFFICIENCY OF TIME

Should the Contractor be obstructed or delayed in the prosecution or completion of the project by the act, neglect, delay or default of the City/Owner, or as a result of strikes, fire, flood, lighting, storms or earthquakes, or by unavoidable calamity, or other unforeseen causes that in the opinion of the City/Owner, are beyond the control of the Contractor, then the City/Owner may consider an extension of time for the completion of the project.

16. STOPPAGE OF WORK AND ANNULMENT OF CONTRACT

a. If the construction of the project be abandoned by the Contractor, or if at any time the City/Owner shall be of the opinion that the performance of the Contract is unnecessarily or unreasonably delayed, or that the Contractor is willfully violating any of the conditions or covenants of the Contract, the City/Owner may notify the Contractor not to resume or to discontinue, as the case may be, all work or any part thereof contemplated under the Contract by a written notice served upon Contractor. The City/Owner shall charge the expense of such equipment, labor and materials, plus ten percent (10%) of the cost thereof, for administrative expense against any sums of money due or to become due the Contractor, or against the sureties to the extent of their liability.

b. In lieu of the foregoing provisions to suspend the Contract, the City/Owner may pay the Contractor for the completed portions of the project according to the provisions of the Contract and may treat the portions remaining uncompleted as if said portions had never been included or contemplated by the Contract.

17. TEMPORARY SUSPENSION OF WORK

The City/Owner may order the Contractor to suspend the work on the project wholly or in part for such period of time as may be deemed necessary due to unsuitable weather or to such other conditions as may be considered unfavorable for the suitable prosecution of the work. Work shall be resumed when conditions are favorable or when the methods have been corrected, as directed and approved in writing by the City/Owner.

18. LAWS TO BE OBSERVED

The Contractor shall be fully informed of all State and National laws and municipal ordinances or regulations which in any manner affect those engaged or employed in the work, or the materials used in the work, or which in any way affect the conduct of the work, and of all such orders and decrees of bodies or tribunals having any jurisdiction or authority over the same.

19. LABOR CONDITIONS

Contractor shall comply with applicable Federal and State provisions of the Labor Code and Fair Employment Practices.

20. INDEMNIFICATION

a. To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the City/Owner, Landscape Architect, Landscape Architect's consultants, and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the work, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than work itself) including loss of use resulting therefrom, but only to the extent caused in whole or in part by negligent acts or omissions of the Contractor, a subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity which would otherwise exist as to a party or person described in this Section.

b. In claims against any person or entity indemnified under this Section by an employee of the Contractor, a subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under this section shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or a subcontractor under worker's compensation acts, disability benefit acts or other employee benefit acts.

c. The obligations of the Contractor under this section shall not extend to the liability of the Landscape Architect, the Landscape Architect's consultants, and agents and employees of any of them arising out of (1) the preparation or approval of maps, drawings, opinions, reports, surveys, change orders, designs or specifications, or (2) the giving of or the failure to give directions or instructions by the Landscape Architect, the Landscape Architect's consultants, and agents and employees of any of them provided such giving or failure to give is the primary cause of the injury or damage.

21. SAFETY OF PERSONS AND PROPERTY

a. The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Contract.

b. The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to: employees on the work and other persons who may be affected thereby; the work and materials and equipment to be incorporated therein,whether in storage on or off the site, under care, custody or control of the Contractor or the Contractor's subcontractors; and other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

c. The Contractor shall give notices and comply with applicable laws, ordinances, rules, regulations and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury or loss.

d. The Contractor shall so conduct operations as to offer the least possible obstruction and inconvenience to the public. The Contractor shall have under construction no greater amount of work than can be performed properly with due regard to the rights of the public.

22. PROJECT SITE MAINTENANCE

a. Throughout all phases of construction, and until acceptance of the work, the Contractor shall keep the project site clean and free from rubbish and debris.

b. Costs incurred due to cleanup operations shall be as included in the prices bid for the various items of work and no separate payment will be made therefor.

23. AIR POLLUTION

Contractor shall comply with all air pollution control rules, regulations, ordinances and statutes which apply to any work performed pursuant to the Contract and shall not discharge smoke, dust or any other air contaminants into the atmosphere in such quantity as will violate the regulations of any legally constituted authority.

24. NOISE CONTROL

Contractor shall comply with all local sound control and noise level regulations and ordinances which apply to any work performed pursuant to the Contract, and shall make every effort to control an undue noise resulting from the construction operation.

25. PESTICIDES/HERBICIDES

Contractor shall comply with all rules and regulations of the Department of Food and Agriculture, the Department of Health, the Department of Industrial Relations and all other agencies which govern the use of pesticides/herbicides required in the performance of the work.

26. DUST CONTROL

The Contractor shall abate dust nuisance by cleaning, sweeping and sprinkling with water, or other means as necessary, and shall save the City/Owner free and harmless from any claim for loss or damage sustained by others and resulting from operations on the project site.

27. UTILITIES

When placing concrete around or contiguous to any utility, the Contractor shall assume responsibility for costs to furnish and install a cushion of expansion joint material, clear opening or sleeve, or by other suitable means shall prevent embedment in or bonding with the concrete.

28. PATENTS AND ROYALTIES

The Contractor shall absorb in its bid, the patent fees or royalties on any patented article or process which may be furnished or used in the work. The Contractor shall indemnify and hold the City/Owner harmless from any legal actions that may be brought from infringement of patents.

29. PAYMENTS

a. The Contract sum is stated in the Contract and, including authorized adjustments, is the total amount payable by the City/Owner to the Contractor for performance of the work under the contract documents.

b. Before the first application for payment, the Contractor shall submit to the City/Owner a schedule of values allocated to various portions of the Work, prepared in such form and supported by such data to substantiate its accuracy as the Owner may require. This schedule, unless objected to by the City/Owner shall be used as a basis for reviewing the Contractor's applications for payment.

END OF SECTION

INSTRUCTIONS TO BIDDERS

1. SUBMITTALS

Bids shall be submitted in sealed envelopes bearing on the outside the name of the bidder, the bidder's address and the name of the project for which the bid is being submitted. Bids shall be delivered to:

_____
_____
_____

A copy of the bid shall be sent to NUVIS at:

_____

2. EXAMINATION OF CONSTRUCTION DOCUMENTS AND SITE

Each bidder shall inspect the construction documents (drawings and specifications) and site of the proposed project. The submission of a bid shall constitute and acknowledge that the bidder is familiar with all conditions which might affect the contemplated project.

If any discrepancies exist, they should be brought to the immediate attention of the City/Owner. Contractor shall assume all necessary revisions due to failure to give such notification.

3. REJECTION OF ALL BIDS

The City/Owner reserves the right to any time prior to the award, to reject all bids. The City/Owner also reserves the right to accept other than the lowest bidder, to accept one (1) part of a proposal and to waive any technical informalities in any proposal.

4. WITHDRAWAL OF BID

A bidder may withdraw the bid without prejudice. provided a written request for such withdrawal is delivered to the City/Owner prior to the commencement of the opening of bids.

END OF SECTION

UNDERGROUND SERVICE ALERT
CALL: TOLL FREE
1-800
227-2600
TWO WORKING DAY BEFORE YOU DIG

OWNER/DEVELOPER:
CENTEX HOMES
Southern California Coastal Division
250 Commerce, Suite 100
Irvine, California 92602
Phone: (949) 453-0113 Fax: (949) 453-8994

BENCHMARK
POINT ID: E2-R3
ELEVATION: 686.946

CHISLED SQUARE ON THE SOUTHEAST CORNER OF BUCHANAN WELL NO. 1 AT THE NORTHWEST CORNER OF MAGNOLIA AVENUE AND BUCHANAN STREET.

ADJUSTED & LEVELED: MAY 1997

LANDSCAPE ARCHITECT:
NUVIS
LANDSCAPE ARCHITECTURE AND PLANNING
3151 AIRWAY AVENUE, SUITE J-3
COSTA MESA, CALIFORNIA
U.S.A. 92626-4640
FX: 714.754.7346
PH: 714.754.7311

REGISTERED LANDSCAPE ARCHITECT – P. CARDOZA – STATE OF CALIFORNIA
12/31/07 Expiration Date
08/22/06 Date

MARK	REVISIONS	APPR.	DATE

DESIGNED BY PC DRAWN BY SL CHECKED BY

CITY OF RIVERSIDE, CALIFORNIA
PUBLIC WORKS DEPARTMENT

	BY	DATE
APPROVED BY		
PRINCIPAL ENGINEER	[illegible]	7/26/06
TRAFFIC DIVISION	[illegible]	7/12/06
Plan		

APPROVED BY _____ CITY ENGINEER
DATE 7/31/06

WDID #: 833C335325

PW06-0339

TRACT 32470
LANDSCAPE & IRRIGATION

GENERAL SPECIFICATIONS

R-3899L
SHEET 7 OF 13

HORIZ. SCALE: PER PLAN VERT. SCALE: PER PLAN FILE NO.

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INDEXED 9-27-06 GH

CONCRETE

A. GENERAL

1. Contractor shall provide all labor, materials and equipment to construct concrete items as indicated on the drawings and specified herein.
2. Concrete shall consist of portland cement, fine aggregate (sand), coarse aggregate and water, proportioned and mixed to attain a twenty-eight (28) day compressive strength of at least 2,500 pounds per square inch with a slump not to exceed three inches (3"). Concrete shall not contain reactive aggregate or calcium chloride.
3. In addition to complying with all pertinent codes and regulations of local governing agencies, Contractor shall comply with all pertinent recommendations contained in "Recommended Practice for Concrete Formwork", publication #347-78 of the American Concrete Institute.

B. MATERIALS

1. Cement shall be Type II low alkali portland cement conforming to ASTM C-150. Cement shall be of the same brand and type used throughout the project.
2. Sand shall consist of natural or manufactured granular material, free of deleterious amounts of organic material, mica, loam, clay, and other substances not suitable for portland cement concrete. Sand shall be thoroughly and uniformly washed.
3. Coarse aggregate shall be composed of gravel or a blended mixture of crushed rock and gravel containing no more than fifty (50) percent of crushed rock particles having all faces fractured and not less than twenty-five percent (25%) of gravel. Aggregates shall not exceed a diameter of one and one-half inches (1 1/2"). Blending shall produce a uniform, consistent percentage of each. Rock products shall be clean, hard, sound, durable, uniform in quality and free of any detrimental quantity of soft, friable, thin, elongated or laminated pieces, disintegrated material, organic matter, oil, alkali, or other deleterious substances.
4. Water shall not contain deleterious substances or any amount of impurities that will cause a change in the time of setting. The amount of water used in the mixture shall not exceed the amount necessary to permit material placement and consolidation.

C. FORMS

1. Forms shall be free of warp, set plumb and true to line and grade with upper edges flush with specified grade or finished surface of the constructed improvement, and not more than one-half inch (1/2") less in depth than the specified thickness of the edge of the concrete to be placed.
2. Wooden forms shall have a net thickness of at least one and one-half inches (1 1/2") and shall be free of imperfections which would impair the strength for the use intended. Forms shall be secured by nailing to side stakes of sufficient length and cross-sectional area to adequately resist lateral displacement during placement of concrete. Forms shall be clean and shall receive a coat of light oil immediately prior to placing concrete. Benders or thin plank forms may be used on curves.
3. Metal forms shall have sufficient rigidity to resist springing during placement of concrete. Forms shall be secured by means of metal stakes designed so as to be driven below the top of the forms through openings, locking them into position.

D. REINFORCEMENT

1. Reinforcement shall conform to the dimensions and details shown on the drawings and shall be cleaned thoroughly of all rust, mill scale, mortar, oil, dirt, or coating of any character which would be likely to destroy or impair its proper bonding with the concrete.
2. Reinforcing steel, where indicated on the drawings, shall be Grade 40 or Grade 60 billet steel, conforming to ASTM A-615.
3. Wire mesh reinforcement, where indicated on the drawings, shall conform to ASTM A-185.

E. TRANSIT MIXERS

1. Mixing shall be commenced as soon as possible after the cement is placed in contact with aggregates but in no event shall the intervening time period exceed thirty (30) minutes.
2. Mixing and delivery of ready-mixed concrete shall conform to ASTM C-94.
3. Adequate control of ready-mixed concrete shall provide for additional water to be added and mixed into the batch at the project site. Amount withheld shall not exceed two and one-half (2 1/2) gallons of water per cubic yard of mix.
4. The total elapsed time between the addition of water at the batch plant and discharging at project site shall not exceed ninety (90) minutes.

F. PLACING CONCRETE

1. Install embedded items accurately in their proper locations, secured against displacement, prior to placing concrete.
2. Concrete shall be placed on native grade, certified compacted subgrade, or subbase material, free of all loose and extraneous material, sufficiently dampened to ensure that no moisture will be absorbed from the fresh concrete.
3. Concrete shall be distributed uniformly and thoroughly vibrated in a manner that will encase the reinforcement, fill the forms and bring the surface true to grade and cross-section.
4. Equipment used shall not have any aluminum components coming into direct contact with the concrete.

G. FINISHING

1. Concrete surfaces shall be floated prior to steel troweling. Formed edges shall be rounded to a radius of one-half inch (1/2"). Edges at expansion joints shall be rounded to a radius of one-eighth inch (1/8").
2. Concrete finishes shall be as indicated on the drawings and specified herein.
3. No advertising impressions, stamp or mark of any description will be permitted on surface of concrete.
4. Concrete shall not be covered with plastic sheeting.
5. Broom finish, where indicated on the drawings, shall be performed after finish troweling by drawing the following broom types across the narrowest width of the concrete or in the direction as indicated on the drawings.
   a. Fine Broom – Push with fine or soft textured bristles.
   b. Medium Broom – Push with medium or medium stiff bristles.
   c. Heavy Broom – Push with coarse or stiff bristles.
6. Rock salt finish, where indicated on the drawings, shall be performed by applying rock salt evenly over entire surface just prior to the finish troweling. Press salt crystals into the surface with sufficient trowel pressure so that salt is embedded just barely below surface leaving the tops of the crystals exposed. Cure finished surface in accordance with generally accepted practice.
7. Colored concrete, where indicated on the drawings, shall be colored with the proper proportion of Chromix Admixture, as manufactured by L.M. Scofield Company, Los Angeles, California. Surfaces shall be finished uniformly with the specified finish or texture and cured with Lithochrome Colorwax (or Colorcure Concrete Sealer) in the matching color. All batching, placing finishing and curing shall be in accordance with Scofield's Technical Data Bulletins.
8. Retardant finish, where indicated on the drawings, shall be "exposed" using Lithochrome Concrete Surface Retarder by L.M. Scofield Company and applied in accordance with Scofield's Application Instructions D-203.
9. Stamped concrete, where indicated on the drawings, shall be performed by applying special forming tools while concrete is still in the plastic stage of set. Desired pattern shall be as indicated on the drawings. Contractor shall be licensed, tooled, and trained by Bomanite Corporation, or approved equal.

H. JOINTS

1. Expansion joints shall be as indicated on the drawings and at corners, radius points and at regular intervals not to exceed ten feet (10') on center. Set premolded expansion joint strip below finished surface, temporarily secured to top of expansion strip or use a removable plastic filler strip. Expansion joints shall be sealed with a polysulfide water-proof caulking.
2. Scored control joints shall be tooled to a minimum depth of three-quarters inch (3/4") and a radius of one-eighths inch (1/8") at five foot (5') intervals.
3. Saw cut joints, where specified shall be as indicated on the drawings or at intervals not to exceed ten feet (10') on center, and shall be cut to a minimum depth of one inch (1") and a width not to exceed one-quarter inch (1/4").

I. CURING

1. Curing compound shall form an impervious membrane and shall be a blend of pure waxes and alkali-resistant pigments in a solvent emulsion, manufactured by L.M. Scofield, or approved equal.
2. Spraying of curing compound shall commence as soon as free water leaves the surface but no later than three (3) hours following placement of concrete.

J. BELOW GRADE WATERPROOFING

1. Elastomeric waterproofing membrane shall be Multicoat MULASTICOAT as manufactured by Multicoat Corporation or an approved equal.
2. Deliver materials in manufacturer's original unopened containers.
3. Rates and application method shall be as recommended by the manufacturer.

K. GRAFFITI CONTROL

1. Product shall be Graffiti Control as manufactured by Sure Klean or an approved equal.
2. Deliver materials in manufacturer's original unopened containers.
3. Rates and application method shall be as recommended by the manufacturer.

L. REPAIRS AND REPLACEMENT

Costs incurred due to repair or replacement of defective or damaged work shall be the responsibility of the Contractor.

M. BACKFILLING

Backfill material shall be free from large clods, stones, and other objectionable materials, exceeding three inches (3") in diameter.

END OF SECTION

TEMPORARY ASPHALTIC CONCRETE PAVING

OMIT THIS SECTION

A. GENERAL

1. Contractor shall provide all labor, materials and equipment for furnishing, spreading, compacting and finishing asphaltic concrete paving as indicated on the drawings and specified herein.
2. Prior to placement of asphaltic concrete, Contractor shall be responsible for establishing subgrade and providing drainage in accordance with the Earthwork Section, and performing weed abatement operations as specified herein.
3. Surface of finished asphaltic concrete at any point shall not vary more than two one-hundredths foot (.02') from grade specified on drawings.

B. WEED ABATEMENT AND SOIL TREATMENT

1. Contractor shall apply an approved selective pre-emergent, surface-applied herbicide. Rates and application method shall be as recommended by the manufacturer.
2. Visible weeds shall be sprayed with an approved non-selective, post-emergent herbicide. Rates and application method shall be as recommended by the manufacturer.
3. Contractor shall apply spray chemicals when air currents are still; preventing drifting onto adjoining property and preventing any toxic exposure to persons whether or not they are in, or near, the project.

C. MATERIALS

1. Asphaltic concrete shall be the product of mixing coarse and fine aggregate with paving asphalt at a central mixing plant until all aggregate particles are uniformly coated.
2. Asphaltic concrete shall by Type 1, Class B, viscosity grade AR-4000.
3. Paving asphalt shall be steam-refined, produced from crude asphaltic petroleum or a mixture of refined liquid asphalt and refined solid asphalt. Paving asphalt shall be homogeneous and free from water and residues obtained by the artificial distillation of coal, coal tar or paraffin oil.
4. Aggregates shall be clean and free from decomposed or organic materials, and other deleterious substances.
5. Coarse aggregate shall be crushed mineral rock or crushed air-cooled blast furnace slag.
6. Fine aggregate shall be sand, rock dust, mineral filler or a blend of these material. Sand shall consist of natural or manufactured granular material. Mineral filler shall consist of portland cement or finely powdered material mechanically produced by the crushing of rock.

D. PLACING ASPHALTIC CONCRETE

1. Contractor shall provide and install headers in accordance with the details on the drawings at the line of termination of asphaltic concrete pavement. Headers shall be "foundation grade" S4S pressure treated Douglas fir. Headers shall remain in place upon completion of improvements.
2. At the time of delivery to the project site, the temperature of the mixture shall not be lower than 260°F or higher than 320°F.
3. Asphaltic concrete shall not be placed when the atmospheric temperature is below 40° F or during unsuitable weather.
4. Asphaltic concrete shall be evenly spread upon the subbase to such a depth that, after rolling, it will be of the specified cross-section and grade of the course as shown on the drawings and specified herein.
5. Depositing, distributing and spreading shall be accomplished in a single, continuous operation by means of a self-propelled, mechanical spreading and finishing machine equipped with a screed or strike-off assembly capable of being accurately regulated and adjusted to distribute a layer of asphaltic concrete to a definite pre-determined thickness.
6. Asphaltic concrete shall be thoroughly compacted by rolling.
7. The completed surface shall be smooth; free from ruts, humps, depressions or irregularities. Any ridges, indentations or other objectionable marks shall be eliminated.

E. REPAIR AND REPLACEMENT

Costs incurred due to repair or replacement of defective or damaged work shall be the responsibility of the Contractor.

END OF SECTION

NON-VEGETATIVE SITE MATERIALS

A. GENERAL

1. Contractor shall provide all labor, materials and equipment for furnishing, spreading and compacting subbase materials as indicated on the drawings and as specified herein.
2. Contractor shall be responsible for establishing subgrade, providing drainage, and performing weed abatement operations prior to placement of subbase materials.
3. Subbase materials shall be spread with a sufficient moisture content to obtain a relative compaction of not less than ninety percent (90%). Moisture content shall be uniformly distributed throughout the material.
4. Material shall be of such nature that it can be compacted readily under watering and rolling to form a firm, stable base that is spread in one (1) operation, free from pockets of large or fine material.

B. WEED ABATEMENT AND SOIL TREATMENT

1. Contractor shall apply, in areas to be installed with subbase materials, a selective pre-emergent, surface-applied herbicide. Application method shall be as recommended by manufacturer.
2. Visible weeds shall be sprayed with a non-selective, post-emergent herbicide. Application method shall be as recommended by manufacturer.

C. AGGREGATE SUBBASE MATERIAL

1. Aggregate subbase material shall be as specified in the project geotechnical report OR consist of crushed rock and rock dust, uniformly graded with ninety percent (90%) passing three-quarter inch (3/4") sieve size and fifty percent (50%) to eighty percent (80%) passing three-eighths inch (3/8") sieve size, free from vegetable matter and other deleterious material.
2. Material shall be of such nature that it can be ompacted readily under watering and rolling to form a firm, stable base that is spread in one (1) operation, free from pockets of large fine material.

D. SAND SUBBASE MATERIAL

Sand utilized for subbase material shall be as specified in the project geotechnical report OR consist of natural or manufactured granular material free of clay, deleterious amounts of organic material broken glass, cans or other substances not suitable for the purposes intended.

E. SAND FOR SURFACE AREAS

Sand for surface areas shall consist of natural or manufactured granular material free of clay, deleterious amounts of organic material, broken glass, cans or other substances not suitable for the purposes intended. Washed concrete sand shall be thoroughly and uniformly washed. Plaster sand is unaccpetable for play areas.

F. DECOMPOSED GRANITE

Decomposed granite shall be the product of crushing rock or gravel; clean, hard, sound, urable, uniform in quality, and free of any detrimental quantity of soft, friable, thin, elongated or laminated pieces, disintegrated material, organic matter, oil, or other deleterious substances. Color shall be as inidicated on the drawings or selected by Landscape Architect.

END OF SECTION

CHAINLINK FENCING

OMIT THIS SECTION

A. GENERAL

Contractor shall provide all labor, materials and equipment to furnish and assemble chainlink fencing as indicated on the drawings and specified herein.

B. MATERIALS

1. All materials and fittings shall be new, commercial quality steel and galvanized. Minimum weight of coatings shall conform to ASTM A-120 for standard pipe, ASTM A-392 for chainlink fabric and ASTM A-153 for fittings and hardware.
2. Posts and rails shall be Schedule 40, sized as noted in the details on the drawings. Posts shall be fitted with rainproof tops.
3. Chainlink fabric shall be zinc-coated, 9-gauge, woven into two inch (2") mesh with knuckled finish top and bottom edges.
4. Horizontal tension wires shall be 7-gauge coil spring steel of good commercial quality and galvanized in accordance with ASTM A-116, Coating Class 3.
5. Truss rods shall be three-eighths inch (3/8") diameter steel rod with turnbuckle or truss tightener fabricated of commercial quality steel or malleable iron.

C. INSTALLATION

1. Posts shall be set in concrete footings conforming to the details shown on the drawings and in accordance with the requirements as specified in the Concrete Paving and Walls Section. Posts shall be spaced at a maximum of ten foot (10') intervals, measured from center to center of posts.
2. Steel truss rod and suitable tightening device shall extend from the nearest line post to the bottom of the end or corner post.
3. Fabric shall be stretched taut and securely fastened on the outward facing side of the posts, installed so that the top edge projects over the rail and extends to within two inches (2") of finish grade or finished surface.
4. Fabric shall be fastened to end and corner posts with a high carbon steel tension bar, and 12-gauge bands at intervals of sixteen inches (16"), and to line posts, top rail and bottom tension wire with 9-gauge tie wires at intervals of twenty-four inches (24").

END OF SECTION

UNDERGROUND SERVICE ALERT
CALL: TOLL FREE
1-800
227-2600
TWO WORKING DAY BEFORE YOU DIG

OWNER/DEVELOPER:
CENTEX HOMES
Southern California Coastal Division
250 Commerce, Suite 100
Irvine, California 92602
Phone: (949) 453-0113 Fax: (949) 453-8994

BENCHMARK
POINT ID: E2-R3
ELEVATION: 686.946
CHISLED SQUARE ON THE SOUTHEAST CORNER OF BUCHANAN WELL NO. 1 AT THE NORTHWEST CORNER OF MAGNOLIA AVENUE AND BUCHANAN STREET.
ADJUSTED & LEVELED: MAY 1997

LANDSCAPE ARCHITRECT:
NŪVIS
LANDSCAPE ARCHITECTURE AND PLANNING
3151 AIRWAY AVENUE, SUITE J-3
COSTA MESA, CALIFORNIA
U.S.A. 92626-4640
FX: 714.754.7346
PH: 714.754.7311

REGISTERED LANDSCAPE ARCHITECT · PERRY A CARDOZA No. 3943 · Signature · 12/31/07 Expiration Date · 06/22/06 Date · STATE OF CALIFORNIA

MARK	REVISIONS	APPR.	DATE

DESIGNED BY PC DRAWN BY SL CHECKED BY

CITY OF RIVERSIDE, CALIFORNIA
PUBLIC WORKS DEPARTMENT

APPROVED BY	BY	DATE
PRINCIPAL ENGINEER		
TRAFFIC DIVISION		7/25/06
Plan		7/12

APPROVED BY
CITY ENGINEER
DATE 7/31/06

WDID #: 833C335325
PW06-0339
TRACT 32470
LANDSCAPE & IRRIGATION
CONSTRUCTION SPECIFICATIONS 1
R-3899L
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HORIZ. SCALE: PER PLAN VERT. SCALE: PER PLAN
FILE NO.

INDEXED 9-27-06

CONCRETE BLOCK MASONRY

A. GENERAL

Contractor shall provide all labor, materials and equipment to construct concrete block masonry structures conforming to the dimensions and details indicated on the drawings and specified herein.

B. MATERIALS

1. Hollow load bearing masonry units shall be made with sand–gravel aggregate and shall conform to ASTM C–90 for Grade N–1 units, free of cracks or defects. Net size of units shall be shown on the drawings.
2. Mortar used in concrete block construction shall be one (1) part portland cement to two and one–half (2 1/2) to three (3) parts of sand, to which one–quarter (1/4) to one–half (1/2) part hydrated lime or lime putty has been added. Color shall be as indicated on the drawings or selected by the Landscape Architect.
3. Grout shall be one (1) part portland cement and two and one–quarter (2 1/4) to three (3) parts sand. For spaces four inches (4") or larger add one and one–quarter (1 1/4) to two (2) parts of aggregate.
4. Water shall be free of any amount of impurities that will cause change in the time of setting of portland cement. Quantity of water shall be the minimum required to produce a mixture sufficiently workable for the purpose intended.
5. Cement shall be Type II low alkali portland cement conforming to ASTM C–150. Cement shall be of the same brand and type used throughout the project.
6. Sand shall consist of natural or manufactured granular material, free of deleterious amounts of organic material, mica, loam or clay, conforming to ASTM G–404 for grout and ASTM C–144 for mortar. Sand shall be thoroughly and uniformly washed.
7. Coarse aggregate shall be composed of gravel or a blended mixture of crushed rock and gravel. Rock products shall be clean, hard, sound, durable, uniform in quality and free of any detrimental quantity of soft, friable, thin, elongated or laminated pieces, disintegrated material, organic matter, oil, alkali or other deleterious substance.
8. Reinforcing steel shall be Grade 40 or Grade 60 billet steel conforming to ASTM A–615. Varying grades shall not be used interchangeably in any one wall.

C. INSTALLATION

1. All work shall be performed in compliance with applicable building ordinances, the Uniform Building Code, and Masonry Design Manual.
2. All masonry walls shall be laid true, level, and plumb, and unless otherwise indicated on the drawings, shall be laid in a running bond pattern.
3. Concrete block which becomes wet shall be permitted to dry before commencing work.
4. Mortar joints shall be straight, clean, uniform in thickness of not less than three–eighths inch (3/8"), tooled to produce a slightly concave surface, and well bonded to block at edges.
5. Contractor shall provide expansion joints at corners and at thirty feet (30') on center or as required by local code.
6. All bolts and anchors to be inserted in the wall shall be solidly grouted in place.
7. Contractor shall provide weep holes in first layer of block as indicated in details on drawings or as required.

D. REINFORCEMENT

1. Reinforcement shall be placed as indicated on the drawings and as required by building codes.
2. Horizontal steel shall be laid in a course of bond beam block filled with grout.
3. A vertical dowel shall be provided in the foundation for each vertical bar. Vertical cores containing steel shall be filled solid with grout.

E. BELOW GRADE WATERPROOFING

1. Elastomeric waterproofing membrane shall be Multicoat MULASTICOAT as manufactured by Multicoat Corporation or an approved equal.
2. Deliver materials in manufacturer's original unopened containers.
3. Rates and application method shall be as recommended by the manufacturer.

F. GRAFFITI CONTROL

1. Product shall be Graffiti Control as manufactured by Sure Klean or an approved equal.
2. Deliver materials in manufacturer's original unopened containers.
3. Rates and application method shall be as recommended by the manufacturer.

G. REPAIRS AND REPLACEMENT

Costs incurred due to repair or replacement of defective or damaged work shall be the responsibility of the Contractor.

H. BACKFILLING

Backfill material, shall be deposited in accordance with the requirements as specified in the Earthwork Section.

END OF SECTION

MASONRY

A. GENERAL

Contractor shall provide all labor, materials and equipment to construct masonry structures conforming to the dimensions and details indicated on the drawings and specified herein.

B. MATERIALS

1. Brick shall be whole, sound, hard burned, give a clear ringing sound when struck together, and be uniform in quality. Brick shall be clean and free of dust or other foreign materials. Net size, color and texture of units shall be as shown on the drawings.
2. Hollow load bearing masonry unit shall be made with sand–gravel aggregate and shall conform to ASTM C–90 for Grade N–1 units, free of cracks or defects. Net size of units shall be shown on the drawings.
3. Stone shall be uniform in quality; clean and free of dust or other foreign materials.
4. Mortar used in masonry construction shall be one (1) part portland cement to two and one–half (2 1/2) parts of sand, to which one–quarter (1/4) to one–half (1/2) part hydrated lime or lime putty has been added. Color shall be as indicated on the drawings or as selected by Landscape Architect.
5. Grout for use in spaces less than two inches (2") clear in dimension shall be one (1) part portland cement and two and one–quarter (2 1/4) to three (3) parts sand. For spaces four inches (4") or larger add one and one–quarter (1 1/4) to two (2) parts of aggregate.
6. Water shall be free of any amount of impurities that will cause change in the time of setting of portland cement. Quantity of water shall be the minimum required to produce a mixture sufficiently workable for the purpose intended.
7. Cement shall be Type II low alkali portland cement conforming to ASTM C–150. Cement shall be of the same brand and type used throughout the project.
8. Sand shall consist of natural or manufactured granular material, free of deleterious amounts of organic material, mica, loam or clay conforming to ASTM C–404 for grout and ASTM C–144 for mortar. Sand shall be thoroughly and uniformly washed.
9. Coarse aggregate shall be composed of gravel or a blended mixture of crushed rock and gravel. Rock products shall be clean, hard, sound, durable, uniform in quality and free of any detrimental quantity of soft, friable, thin, elongated or laminated pieces, disintegrated material, organic matter, oil, alkali or other deleterious substance.
10. Reinforcing steel shall be Grade 40 or Grade 60 billet steel conforming to ASTM A–615. Varying grades shall not be used interchangeably in any one wall.

C. INSTALLATION

1. All work shall be performed in compliance with applicable local building ordinances and Uniform Building Code and Masonry Design Manual.
2. All walls shall be laid true, level, and plumb, and unless otherwise indicated on the drawings. Brick and concrete block shall be laid in a running bond pattern.
3. Brick and stone shall be clean, wetted immediately before laying and shall be laid on a full mortar bed with "push joints".
4. Concrete block which becomes wet shall be permitted to dry before commencing work.
5. Mortar joints for brick and concrete block shall be straight, clean, uniform in thickness of not less than three–eighths of an inch (3/8"), tooled to produce a slightly concave surface, and well bonded at edges.
6. Mortar joints for stone shall be tooled to produce a slightly concave surface, and well–bonded to stone at edges.
7. Contractor shall provide expansion joints at corners and at thirty feet (30') on center or as required by local code.
8. All bolts and anchors to be inserted in the wall shall be solidly grouted in place.
9. Contractor shall provide weep holes in first or second layer of brick as indicated in details on drawings or as required.

D. REINFORCEMENT

1. Reinforcement shall be placed as indicated on the drawings and as required by building codes.
2. Horizontal steel for concrete block walls shall be laid in a course of bond beam block filled with grout.
3. For concrete block walls, a vertical dowel shall be provided in the foundation for each vertical bar. Vertical cores containing steel shall be filled solid with grout.

E. LAYING PAVERS

1. Spread and screed setting bed to a uniform thickness, except for minor variations required to produce a true surface, level in plane or uniformly spread for drainage as shown on drawings.
2. Setting bed shall be three–quarter inch (3/4") minimum and one and one–quarter inch (1 1/4") maximum.
3. Apply a thin layer of cement paste (1/32" to 1/16") by brushing or troweling over setting bed or to bottom of brick. Set and level each brick.

F. BELOW GRADE WATERPROOFING

1. Elastomeric waterproofing membrane shall be Multicoat MULASTICOAT as manufactured by Multicoat Corporation or an approved equal.
2. Deliver materials in manufacturer's original unopened containers.
3. Rates and application method shall be as recommended by the manufacturer.

G. GRAFFITI CONTROL

1. Product shall be Graffiti Control as manufactured by Sure Klean or an approved equal.
2. Deliver materials in manufacturer's original unopened containers.
3. Rates and application method shall be as recommended by the manufacturer.

H. REPAIRS AND REPLACEMENT

Costs incurred due to repair or replacement of defective or damaged work shall be the responsibility of the Contractor.

I. BACKFILLING

Backfill material, shall be free from large clods, stones, and other objectionable materials, exceeding three inches (3") in diameter.

END OF SECTION

BRICK MASONRY

A. GENERAL

Contractor shall provide all labor, materials and equipment to construct brick masonry structures conforming to the dimensions and details indicated on the drawings and specified herein.

B. MATERIALS

1. Brick shall be whole, sound, hard burned, give a clear ringing sound when struck together, and be uniform in quality. Brick shall be clean and free of dust or other foreign materials. Net size, color and texture of units shall be as shown on the drawings.
2. Mortar used in brick masonry construction shall be one (1) part portland cement to two and one–half (2 1/2) parts of sand, to which one–quarter (1/4) to one–half (1/2) part hydrated lime or lime putty has been added. Color shall be as indicated on the drawings or as selected by Landscape Architect.
3. For use in spaces less than two inches (2") clear in dimension, grout shall be one (1) part portland cement and two and one–quarter (2 1/4) to three (3) parts sand.
4. Water shall be free of any amount of impurities that will cause change in the time of setting of portland cement. Quantity of water shall be the minimum required to produce a mixture sufficiently workable for the purpose intended.
5. Cement shall be Type II low alkali portland cement conforming to ASTM C–150. Cement shall be of the same brand and type used throughout the project.
6. Sand shall consist of natural or manufactured granular material, free of deleterious amounts of organic material, mica, loam or clay conforming to ASTM C–404 for grout and ASTM C–144 for mortar. Sand shall be thoroughly and uniformly washed.
7. Reinforcing steel shall be Grade 40 or Grade 60 billet steel conforming to ASTM A–615. Varying grades shall not be used interchangeably in any one wall.

C. INSTALLATION

1. All work shall be performed in compliance with applicable local building ordinances and Uniform Building Code.
2. All brick walls shall be laid true, level, and plumb, and unless otherwise indicated on the drawings, shall be laid in a running bond pattern.
3. Brick shall be clean, wetted immediately before laying and shall be laid on a full mortar bed with "push joints".
4. Mortar joints shall be straight, clean, uniform in thickness of not less than three–eighths inch (3/8"), tooled to produce a slightly concave surface, and well bonded to brick at edges.
5. Contractor shall provide expansion joints at corners and at thirty feet (30') on center or as required by local code.
6. All bolts and anchors to be inserted in the wall shall be solidly grouted in place.
7. Contractor shall provide weep holes in first or second layer of brick as indicated in details on drawings or as required.
8. Reinforcement shall be placed as indicated on the drawings and as required by building codes.

D. LAYING PAVERS

1. Spread and screed setting bed to a uniform thickness, except for minor variations required to produce a true surface, level in plane or uniformly spread for drainage as shown on drawings.
2. Setting bed shall be three–quarter inch (3/4") minimum and one and one–quarter inch (1 1/4") maximum.
3. Apply a thin layer of cement paste (1/32" to 1/16") by brushing or troweling over setting bed or to bottom of brick. Set and level each brick.

E. BELOW GRADE WATERPROOFING

1. Elastomeric waterproofing membrane shall be Multicoat MULASTICOAT as manufactured by Multicoat Corporation or an approved equal.
2. Deliver materials in manufacturer's original unopened containers.
3. Rates and application method shall be as recommended by the manufacturer.

F. GRAFFITI CONTROL

1. Product shall be Graffiti Control as manufactured by Sure Klean or an approved equal.
2. Deliver materials in manufacturer's original unopened containers.
3. Rates and application method shall be as recommended by the manufacturer.

G. REPAIRS AND REPLACEMENT

Costs incurred due to repair or replacement of defective or damaged work shall be the responsibility of the Contractor.

H. BACKFILLING

Backfill material, shall be deposited in accordance with the requirements as specified in the Earthwork Section.

END OF SECTION

STONE MASONRY

A. GENERAL

Contractor shall provide all labor, materials and equipment to construct stone masonry structures conforming to the dimensions and details indicated on the drawings and specified herein.

B. MATERIALS

1. Stone shall be uniform in quality; clean and free of dust or other foreign materials.
2. Mortar used in stone masonry construction shall be one (1) part portland cement to two and one–half (2 1/2) parts of sand, to which one–quarter (1/4) to one–half (1/2) part hydrated lime or lime putty has been added. Color shall be as indicated on the drawings or as selected by Landscape Architect.
3. For use in spaces less than two (2) inches clear in dimension, grout shall be one (1) part portland cement and two and one–quarter (2 1/4) to three (3) parts sand.
4. Water shall be free of any amount of impurities that will cause change in the time of setting of portland cement. Quantity of water shall be the minimum required to produce a mixture sufficiently workable for the purpose intended.
5. Cement shall be Type II low alkali portland cement conforming to ASTM C–150. Cement shall be of the same brand and type used throughout the project.
6. Sand shall consist of natural or manufactured granular material, free of deleterious amounts of organic material, mica, loam or clay conforming to ASTM C–404 for grout and ASTM C–144 for mortar. Sand shall be thoroughly and uniformly washed.
7. Reinforcing steel shall be Grade 40 or Grade 60 billet steel conforming to ASTM A–615. Varying grades shall not be used interchangeably in any one wall.

C. INSTALLATION

1. All work shall be performed in compliance with applicable building ordinances and Uniform Building Code.
2. All stone walls shall be laid true, level, and plumb, unless indicated otherwise on the drawings.
3. Stone shall be clean, wetted immediately before laying and shall be laid on a full mortar bed with "push joints".
4. Mortar joints shall be tooled to produce a slightly concave surface, and well bonded to stone at edges.
5. All bolts and anchors to be inserted in the wall shall be solidly grouted in place.
6. Contractor shall provide weep holes in first or second layer of stone as indicated in details on the drawings or as required.
7. Reinforcement shall be placed as indicated on the drawings and as required by building codes.

D. BELOW GRADE WATERPROOFING

1. Elastomeric waterproofing membrane shall be Multicoat MULASTICOAT as manufactured by Multicoat Corporation or an approved equal.
2. Deliver materials in manufacturer's original unopened containers.
3. Rates and application method shall be as recommended by the manufacturer.

E. GRAFFITI CONTROL

1. Product shall be Graffiti Control as manufactured by Sure Klean or an approved equal.
2. Deliver materials in manufacturer's original unopened containers.
3. Rates and application method shall be as recommended by the manufacturer.

F. REPAIRS AND REPLACEMENT

Costs incurred due to repair or replacement of defective or damaged work shall be the responsibility of the Contractor.

G. BACKFILLING

Backfill material, shall be deposited in accordance with the requirements as specified in the Earthwork Section.

END OF SECTION

UNDERGROUND SERVICE ALERT
CALL: TOLL FREE
1-800
227-2600
TWO WORKING DAY BEFORE YOU DIG

OWNER/DEVELOPER:
CENTEX HOMES
Southern California Coastal Division
250 Commerce, Suite 100
Irvine, California 92602
Phone: (949) 453–0113 Fax: (949) 453–8994

BENCHMARK
POINT ID: E2–R3
ELEVATION: 686.946

CHISLED SQUARE ON THE SOUTHEAST CORNER OF BUCHANAN WELL NO. 1 AT THE NORTHWEST CORNER OF MAGNOLIA AVENUE AND BUCHANAN STREET.

ADJUSTED & LEVELED: MAY 1997

LANDSCAPE ARCHITRECT:
NUVIS
LANDSCAPE ARCHITECTURE AND PLANNING
3151 AIRWAY AVENUE, SUITE J-3
COSTA MESA, CALIFORNIA
U.S.A. 92626-4640
FX: 714.754.7346
PH: 714.754.7311

REGISTERED LANDSCAPE ARCHITECT
PERRY A CARDOZA No. 3943
Signature
12/31/07
Expiration Date
06/22/06
Date
STATE OF CALIFORNIA

MARK	REVISIONS	APPR.	DATE

DESIGNED BY PC DRAWN BY SL CHECKED BY

CITY OF RIVERSIDE, CALIFORNIA
PUBLIC WORKS DEPARTMENT

APPROVED BY	BY	DATE
PRINCIPAL ENGINEER		
TRAFFIC DIVISION		7/25/06
Plan		7/16

APPROVED BY
CITY ENGINEER
DATE 7/31/06

WDID #: 833C335325

PW06-0339

TRACT 32470
LANDSCAPE & IRRIGATION

CONSTRUCTION SPECIFICATIONS 2

R–3899L

SHEET 9 OF 13

HORIZ. SCALE: PER PLAN VERT. SCALE: PER PLAN

FILE NO.

SECTION 02810

LANDSCAPE IRRIGATION
PART 1 – GENERAL
1.01 Summary

A. It is the intent of the specifications and drawings that the finished system is complete in every respect and shall be ready for operation satisfactory to the Owner.

B. The work shall include all materials, labor, services, transportation, and equipment necessary to perform the work as indicated on the drawings, in these specifications, and as necessary to complete the contract.

1.02 Construction Drawings

A. Due to the scale of the drawings, it is not possible to indicate all offsets, fittings, sleeves, etc. which may be required. The Contractor shall carefully investigate the structural and finished conditions affecting all of his work and plan his work accordingly, furnishing such fittings, etc. as may be required to meet such conditions. Drawings are generally diagrammatic and indicative of the work to be installed. The work shall be installed in such a manner as to avoid conflicts between irrigation systems, planting, and architectural features.

B. All work called for on the drawings by notes or details shall be furnished and installed whether or not specifically mentioned in the specifications. When an item is shown on the plans but not shown on the specifications or vice versa, it shall be deemed to be as shown on both. The Landscape Architect shall have final authority for clarification.

C. The Contractor shall not willfully install the irrigation system as shown on the drawings when it is obvious in the field that obstructions, grade differences or discrepancies in area dimensions exist that might not have been considered in engineering. Such obstructions or differences should be brought to the attention of the Landscape Architect as soon as detected. In the event this notification is not performed, the Irrigation Contractor shall assume full responsibility for any revision necessary.

1.03 Quality Assurance

A. Provide at least one English speaking person who shall be present at all times during execution of this portion of the work and who shall be thoroughly familiar with the type of materials being installed and the manufacturer's recommended methods of installation and who shall direct all work performed under this section.

B. Manufacturer's directions and detailed drawings shall be followed in all cases where the manufacturer of articles used in this contract furnish directions covering points not shown in the drawings and specifications.

C. All local, municipal, and state laws, rules and regulations governing or relating to any portion of this work are hereby incorporated into and made a part of these specifications, and their provisions shall be carried out by the Contractor. Anything contained in these specifications shall not be construed to conflict with any of the above rules and regulations of the same. However, when these specifications and drawings call for or describe materials, workmanship, or construction of a better quality, higher standard, or larger size than is required by the above rules and regulations, the provisions of these specifications and drawings shall take precedence.

D. All materials supplied for this project shall be new and free from any defects. All defective materials shall be replaced immediately at no additional cost to Owner.

E. The Contractor shall secure the required licenses and permits including payments of charges and fees, give required notices to public authorities, verify permits secured or arrangements made by others affecting the work of this section.

1.04 Submittals

A. Materials List:

1. After award of contract and before any irrigation system materials are ordered from suppliers or delivered to the job site, submit to the Owner a complete list of all irrigation system materials, or processes proposed to be furnished and installed as part of this contract.

2. The submittals shall include the following information:

a. A title sheet with the job name, the contractors name, contractor's address and telephone number, submittal date and submittal number.

b. An index sheet showing the item number (i.e. 1,2,3, etc.); an item description (i.e. sprinkler head); the manufacturer's name (i.e. Hunter Industries); the item model number (i.e. I-40-ADV/36V); and the page(s) in the submittal set that contain the catalog cuts.

c. The catalog cuts shall be one or two pages from the most recent manufacturer's catalog that indicate the product submitted. Do not submit parts lists, exploded diagrams, price lists or other extra information.

d. The catalog cuts shall clearly indicate the manufacturer's name and the item model number. The item model number, all specified options and specified sizes shall be circled on the catalog cuts.

e. Submittals for equipment indicated on the legend without manufacturer names, or "as approved", shall contain the manufacturer, Class or Schedule, ASTM numbers and/or other certifications as indicated in these specifications.

f. Submittal format requirements:

i. Submittals shall be provided as one complete package for the project. Multiple partial submittals will not be reviewed.

ii. Submittal package shall be stapled or bound in such a way as to allow for disassembly for review processing.

iii. Submittal package shall have all pages numbered in the lower right hand corner. Page numbers shall correspond with submittal index.

3. The Landscape Architect or City's authorized representative will allow no substitutions without prior written acceptance.

4. Manufacturer's warranties shall not relieve the Contractor of his liability under the guarantee. Such warranties shall only supplement the guarantee.

5. The Landscape Architect or City's authorized representative will not review the submittal package unless provided in the format described above.

B. Substitutions:
1. If the Irrigation Contractor wishes to substitute any equipment or materials for those equipment or materials listed on the irrigation drawings and specifications, he may do so by providing the following information to the Landscape Architect or City's authorized representative for approval.

2. Provide a written statement indicating the reason for making the substitution.

3. Provide catalog cut sheets, technical data, and performance information for each substitute item.

4. Provide in writing the difference in installed price if the item is accepted.

1.05 Existing Conditions

A. The Contractor shall verify and be familiar with the locations, size and detail of points of connection provided as the source of water, electrical supply, and telephone line connection to the irrigation system.

B. Irrigation design is based on the available static water pressure shown on the drawings. Contractor shall verify static water on the project prior to the start of construction. Should a discrepancy exist, notify the Landscape Architect and City's authorized representative prior to beginning construction.

C. Prior to cutting into the soil, the Contractor shall locate all cables, conduits, sewer septic tanks, and other utilities as are commonly encountered underground and he shall take proper precautions not to damage or disturb such improvements. If a conflict exists between such obstacles and the proposed work, the Contractor shall promptly notify the Landscape Architect and Owner who will arrange for relocations. The Contractor will proceed in the same manner if a rock layer or any other such conditions are encountered.

D. The Contractor shall protect all existing utilities and features to remain on and adjacent to the project site during construction. Contractor shall repair, at his own cost; all damage resulting from his operations or negligence.

E. The Irrigation Contractor shall coordinate with the General Contractor for installation of required sleeving as shown on the plans.
F. The Contractor shall verify and be familiar with the existing irrigation systems in areas adjacent to and within the Project area of work.

G. The Contractor shall protect all existing irrigation systems, in areas adjacent to and within the project area of work, from damage due to his operations.

H. Contractor shall notify City's Representative if any existing system is temporarily shut off, capped or modified. Provide 48-hour notice, prior to turning off or modifying any existing irrigation system.

I. The Contractor shall repair or replace all existing irrigation systems, in areas adjacent to and within the project area of work, damaged by the construction of this project. Adjacent irrigation systems shall be made completely operational and provide complete coverage of the existing landscaped areas. All repairs shall be complete to the satisfaction of the City's Representative.

1.06 Inspections

A. The Contractor shall permit the Landscape Architect and City's authorized representative to visit and inspect at all times any part of the work and shall provide safe access for such visits.

B. Where the specifications require work to be tested by the Contractor, it shall not be covered over until accepted by the Landscape Architect, City's authorized representative, and/or governing agencies. The Contractor shall be solely responsible for notifying the Landscape Architect, Owner, and governing agencies, a minimum of 48 hours in advance, where and when the work is ready for testing. Should any work be covered without testing or acceptance, it shall be, if so ordered, uncovered at the Contractor's expense.

C. Inspections will be required for the following at a minimum:

1. System layout

2. Pressure test of irrigation mainline (Four hours at 125 PSI or 120% of static water pressure, which ever is greater.) Mainline pressure loss during test shall not exceed 2 PSI.

3. Coverage test of irrigation system. Test shall be performed prior to any planting.

4. Final inspection prior to start of maintenance period

5. Final acceptance

D. Site observations and testing will not commence without the field record drawings as prepared by the Irrigation Contractor. Record drawings must complete and up to date for each site visit.

E. Work that fails testing and is not accepted will be retested. Hourly rates and expenses of the Landscape Architect, City's authorized representative, and governing agencies for reinspection or retesting will be paid by the Irrigation Contractor at no additional expense to Owner.

1.07 Storage and Handling

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

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

1.08 Cleanup and Disposal

A. Dispose of waste, trash, and debris in accordance with applicable laws and ordinances and as prescribed by authorities having jurisdiction. Bury no such waste material and debris on the site. Burning of trash and debris will not be permitted. The Contractor shall remove and dispose of rubbish and debris generated by his work and workmen at frequent intervals or when ordered to do so by the City's authorized representative.

B. At the time of completion the entire site will be cleared of tools, equipment, rubbish and debris which shall be disposed of off-site in a legal disposal area.

1.09 Turnover Items

A. Record Drawings:

1. Record accurately on one set of drawings all changes in the work constituting departures from the original contract drawings and the actual final installed locations of all required components as shown below.

2. The record drawings shall be prepared to the satisfaction of the owner. Prior to final inspection of work, submit record drawings to the Landscape Architect or City's authorized representative.

3. All record drawings shall be prepared using AutoCAD 2000 drafting software and the original irrigation drawings as a base. No manual drafted record drawings shall be acceptable. The Contractor may obtain digital base files from the Landscape Architect or City's authorized representative.

4. If the Contractor is unable to provide the AutoCAD drafting necessary for the record drawings the irrigation designer does provide record drawing drafting as a separate service.

5. Prior to final inspection of work, submit record drawings plotted onto vellum sheets for review by the Landscape Architect or City's authorized representative. After acceptance by the Landscape Architect, City Inspector or City's authorized representative re-plot the record drawings onto reproducible Mylar sheets. The Contractor shall also provide record drawing information on a digital AutoCAD Release 2000 drawing file. All digital files shall be provided on a compact disc (CD) clearly marked with the project name, file descriptions and date.

6. Record drawing information and dimensions shall be collected on a day-to-day basis during the installation of the pressure mainline to fully indicate all routing locations and pipe depths. Locations for all other irrigation equipment shall be collected prior to the final inspection of the work.

7. Two dimensions from two permanent points of reference such as buildings, sidewalks, curbs, streetlights, hydrants, etc. shall be shown for each piece of irrigation equipment shown below. Where multiple components are installed with no reasonable reference point between the components, dimensioning may be made to the irrigation equipment. All irrigation symbols shall be clearly shown matching the irrigation legend for the drawings. All lettering on the record drawings shall be minimum 1/8 inch in size.

8. Show locations, depths and the of the following items:

a. Point of connection (including water poc, backflow devices, master control valves, flow sensors, etc.)

b. Routing of sprinkler pressure main lines (dimensions shown at a maximum of 100 feet along routing)

c. Isolation valves

d. Automatic remote control valves (indicate station number and size)

e. Quick coupling valves

f. Routing of control wires where separate from irrigation mainline

g. Irrigation controllers (indicate controller number and station count)

h. Related equipment (as may be directed)

9. Provide one controller chart for each automatic controller. Chart shall show the area covered by the particular controller. The areas covered by the individual control valves shall be indicated using colored highlighter pens. A minimum of six individual colors shall be used for the controller chart unless less than six control valves are indicated. 10. Landscape Architect or City's authorized representative must approve record drawings before controller charts are prepared.

11. The chart is to be a reduced copy of the actual "record" drawing. In the event the controller sequence is not legible when the drawing is reduced, it shall be enlarged to a readable size.

12. When completed and approved, the chart shall be hermetically sealed between two pieces of plastic, each piece being a minimum 20 mils in thickness.

B. Operation and Maintenance Manuals:
1. Two individually bound copies of operation and maintenance manuals shall be delivered to the Landscape Architect or City's authorized representative at least 10 calendar days prior to final inspection. The manuals shall describe the material installed and the proper operation of the system.

2. Each complete, bound manual shall include the following information:

a. Index sheet stating Contractor's address and telephone number, duration of guarantee period, list of equipment including names and addresses of local manufacturer representatives.

b. Operating and maintenance instructions for all equipment.

c. Spare parts lists and related manufacturer information for all equipment.
C. Equipment:

1. Supply as a part of this contract the following items:

a. Two (2) wrenches for disassembly and adjustment of each type of sprinkler head used in the irrigation system.

b. Three 30-inch sprinkler keys for manual operation of control valves.

c. Two keys for each automatic controller.

d. Two quick coupler keys with a 1" bronze hose bib, bent nose type with hand wheel and two coupler lid keys.

e. One valve box cover key or wrench.

f. Six extra sprinkler heads of each size and type.

g. For specified butterfly valves if required: One (1) 5-foot long valve handle, to fit 2-inch square AWWA operating nut, for use with the specified butterfly valves.

2. The above equipment shall be turned over to City's authorized representative at the final inspection.

1.10 Completion

A. At the time of the pre-maintenance period inspection, the Landscape Architect, City's authorized representative, and governing agencies will inspect the work, and if not accepted, will prepare a list of items to be completed by the Contractor. Punch list to be checked off by contractor and submitted to Landscape Architect or City's Authorized representative prior to any follow-up meeting. This checked off list to indicate that all punch list items have been completed. At the time of the post-maintenance period or final inspection the work will be re-inspected and final acceptance will be in writing by the Landscape Architect, City's authorized representative, and governing agencies.

B. The City's authorized representative shall have final authority on all portions of the work.

C. After the system has been completed, the Contractor shall instruct City's authorized representative in the operation and maintenance of the irrigation system and shall furnish a complete set of operating and maintenance instructions.

D. Any settling of trenches which may occur during the one-year period following acceptance shall be repaired to the City's satisfaction by the Contractor without any additional expense to the owner. Repairs shall include the complete restoration of all damage to planting, paving or other improvements of any kind as a result of the work.

1.11 Guarantee

A. The entire sprinkler system, including all work done under this contract, shall be unconditionally guaranteed against all defects and fault of material and workmanship, including settling of backfilled areas below grade, for a period of one (1) year following the filing of the Notice of Completion.

B. Should any problem with the irrigation system be discovered within the guarantee period, it shall be corrected by the Contractor at no additional expense to owner within ten (10) calendar days of receipt of written notice from Owner. When the nature of the repairs as determined by the Owner constitute an emergency (i.e. broken pressure line) the Owner may proceed to make repairs at the Contractor's expense. Any and all damages to existing improvement resulting either from faulty materials or workmanship, or from the necessary repairs to correct same, shall be repaired to the satisfaction of the owner by the Contractor, all at no additional cost to the Owner.

C. Guarantee shall be submitted on Contractors own letterhead as follows:

GUARANTEE FOR SPRINKLER IRRIGATION SYSTEM

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

PROJECT NAME:
PROJECT LOCATION:

CONTRACTOR NAME:
ADDRESS:

TELEPHONE:

SIGNED:

DATE:

PART 2 – MATERIALS
2.01 Summary

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

2.02 Pipe

A. Pressure supply line between the water meter and the backflow prevention device shall be type K copper, one size larger than backflow device.

B. Pressure supply lines 2 inches in diameter and up to 3 inches in diameter downstream of backflow prevention unit shall be Class 315 solvent weld PVC. Piping shall conform to ASTM D2241.

C. Non-pressure lines 3/4 inch in diameter and larger downstream of the remote control valve shall be SCH 40 solvent weld PVC conforming to ASTM D1785.

D. Reclaimed water PVC pipe to be color-coded purple in color marked on two sides with reclaimed water warning statements "Caution-Reclaimed Water". Reclaimed water piping must be accepted by the local reclaimed water governing agencies.

2.03 Metal Pipe and Fittings

A. Brass pipe shall be 85 percent red brass, ANSI, IPS Standard 125 pounds, Schedule 40 screwed pipe.

B. Fittings shall be medium brass, screwed 125-pound class.

C. Copper pipe and fittings shall be Type "K" sweat soldered.

2.04 Plastic Pipe and Fittings

A. Pipe shall be marked continuously with manufacturer's name, nominal pipe size, schedule or class, PVC type and grade, National Sanitation Foundation approval, Commercial Standards designation, and date of extrusion.

B. All plastic pipe shall be extruded of an improved PVC virgin pipe compound in accordance with ASTM D2672, ASTM D2241 or ASTM D1785.

C. All solvent weld PVC fittings shall be standard weight Schedule 40 (and Schedule 80 where specified on the irrigation detail sheet) and shall be injection molded of an improved virgin PVC fitting compound. Slip PVC fittings shall be the "deep socket" bracketed type. Threaded plastic fittings shall be injection molded. All tees and ells shall be side gated. All fittings shall conform to ASTM D2464 and ASTM D2466.

D. All threaded nipples shall be standard weight Schedule 80 with molded threads and shall conform to ASTM D1785.

E. All solvent cementing of plastic pipe and fittings shall be a two-step process, using primer and solvent cement applied per the manufacturer's recommendations. Cement shall be of a fluid consistency, not gel-like or ropy. Solvent cementing shall be in conformance with ASTM D2564 and ASTM D2855.

F. When connection is plastic to metal, female adapters shall be hand tightened, plus one turn with a strap wrench. Joint compound shall be non-lead base Teflon paste, tape, or equal.

2.05 Valves

A. Ball Valves

1. Ball valves shall be of the manufacturer, size, and type indicated on the drawings.

2. Ball valves shall be constructed of a bronze or stainless steel body, stainless steel ball and stem. Ball valves shall have threaded connections.

3. All ball valves shall have a minimum working pressure of not less than 150 PSI and shall conform to AWWA standards.

B. Quick Coupler Valves:

1. Quick coupler valves shall be of the manufacturer, size, and type indicated on the drawings.

2. Quick coupler valves shall be brass with a wall thickness guaranteed to withstand normal working pressure of 150 psi without leakage. Valves shall have 1" female threads opening at base, with two-piece body. Valves to be operated only with a coupler key, designed for that purpose. Coupler key is inserted into valve and a positive, watertight connection shall be made between the coupler key and valve.

3. Vinyl quick coupler cover to be purple in color with the words "Warning-Reclaimed Water-Do Not Drink" permanently marked on lid.

C. Automatic Control Valves:

1. Automatic control valves shall be of the manufacturer, size, and type indicated on the drawings.

2. Automatic control valves shall be electrically operated.

Sweeney & Associates, Inc.
Irrigation Design & Consulting
38730 Sky Canyon Drive, Suite C
Murrieta, CA 92563
Ph. 951-461-6830 Fax. 951-461-6850
E-mail: email@sweeneyassoc.com
LANDSCAPE • IRRIGATION • AUDITOR • Certified

UNDERGROUND SERVICE ALERT
CALL: TOLL FREE
1-800
227-2600
TWO WORKING DAY BEFORE YOU DIG

OWNER/DEVELOPER:
CENTEX HOMES
Southern California Coastal Division
250 Commerce, Suite 100
Irvine, California 92602
Phone: (949) 453-0113 Fax: (949) 453-8994

BENCHMARK
POINT ID: E2-R3
ELEVATION: 686.946

CHISLED SQUARE ON THE SOUTHEAST CORNER OF BUCHANAN WELL NO. 1 AT THE NORTHWEST CORNER OF MAGNOLIA AVENUE AND BUCHANAN STREET.

ADJUSTED & LEVELED: MAY 1997

LANDSCAPE ARCHITRECT:
NUVIS
LANDSCAPE ARCHITECTURE AND PLANNING
3151 AIRWAY AVENUE, SUITE J-3
COSTA MESA, CALIFORNIA
U.S.A. 92626-4640
FX: 714.754.7346
PH: 714.754.7311

REGISTERED LANDSCAPE ARCHITECT
PERRY A. CARDOZA No. 3943
Signature 12/31/07
Expiration Date
06/22/06
Date
STATE OF CALIFORNIA

MARK	REVISIONS	APPR.	DATE

DESIGNED BY PC DRAWN BY SL CHECKED BY

CITY OF RIVERSIDE, CALIFORNIA
PUBLIC WORKS DEPARTMENT

APPROVED BY	BY	DATE
PRINCIPAL ENGINEER		
TRAFFIC DIVISION		7/25/06
Plan		7/18

APPROVED BY
CITY ENGINEER
DATE 7/31/06

WDID #: 833C335325

PW06-0339

TRACT 32470
LANDSCAPE & IRRIGATION

IRRIGATION SPECIFICATIONS 1

R-3899L

SHEET 10 OF 13

HORIZ. SCALE: PER PLAN VERT. SCALE: PER PLAN

FILE NO.

RVZ

INDEXED 9-27-06 LH

C. Guarantee shall be submitted on Contractors own letterhead as follows:

GUARANTEE FOR SPRINKLER IRRIGATION SYSTEM

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

PROJECT NAME:
PROJECT LOCATION:

CONTRACTOR NAME:
ADDRESS:

TELEPHONE:

SIGNED:

DATE:

PART 2 – MATERIALS
2.01 Summary

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

2.02 Pipe

A. Pressure supply line between the water meter and the backflow prevention device shall be type K copper, one size larger than backflow device.

B. Pressure supply lines 2 inches in diameter and up to 3 inches in diameter downstream of backflow prevention unit shall be Class 315 solvent weld PVC. Piping shall conform to ASTM D2241.

C. Non-pressure lines 3/4 inch in diameter and larger downstream of the remote control valve shall be SCH 40 solvent weld PVC conforming to ASTM D1785.

2.03 Metal Pipe and Fittings

A. Brass pipe shall be 85 percent red brass, ANSI, IPS Standard 125 pounds, Schedule 40 screwed pipe.

B. Fittings shall be medium brass, screwed 125-pound class.

C. Copper pipe and fittings shall be Type "K" sweat soldered.

2.04 Plastic Pipe and Fittings

A. Pipe shall be marked continuously with manufacturer's name, nominal pipe size, schedule or class, PVC type and grade, National Sanitation Foundation approval, Commercial Standards designation, and date of extrusion.

B. All plastic pipe shall be extruded of an improved PVC virgin pipe compound in accordance with ASTM D2672, ASTM D2241 or ASTM D1785.

C. All solvent weld PVC fittings shall be standard weight Schedule 40 (and Schedule 80 where specified on the irrigation detail sheet) and shall be injection molded of an improved virgin PVC fitting compound. Slip PVC fittings shall be the "deep socket" bracketed type. Threaded plastic fittings shall be injection molded. All tees and ells shall be side gated. All fittings shall conform to ASTM D2464 and ASTM D2466.

D. All threaded nipples shall be standard weight Schedule 80 with molded threads and shall conform to ASTM D1785.

E. All solvent cementing of plastic pipe and fittings shall be a two-step process, using primer and solvent cement applied per the manufacturer's recommendations. Cement shall be of a fluid consistency, not gel-like or ropy. Solvent cementing shall be in conformance with ASTM D2564 and ASTM D2855.

F. When connection is plastic to metal, female adapters shall be hand tightened, plus one turn with a strap wrench. Joint compound shall be non-lead base Teflon paste, tape, or equal.

2.05 Valves

A. Ball Valves

1. Ball valves shall be of the manufacturer, size, and type indicated on the drawings.

2. Ball valves shall be constructed of a bronze or stainless steel body, stainless steel ball and stem. Ball valves shall have threaded connections.

3. All ball valves shall have a minimum working pressure of not less than 150 PSI and shall conform to AWWA standards.

B. Quick Coupler Valves:

1. Quick coupler valves shall be of the manufacturer, size, and type indicated on the drawings.

2. Quick coupler valves shall be brass with a wall thickness guaranteed to withstand normal working pressure of 150 psi without leakage. Valves shall have 1" female threads opening at base, with two-piece body. Valves to be operated only with a coupler key, designed for that purpose. Coupler key is inserted into valve and a positive, watertight connection shall be made between the coupler key and valve.

C. Automatic Control Valves:

1. Automatic control valves shall be of the manufacturer, size, and type indicated on the drawings.

2. Automatic control valves shall be electrically operated.

2.05 Valves

A. Ball Valves

1. Ball valves shall be of the manufacturer, size, and type indicated on the drawings.

2. Ball valves shall be constructed of a bronze or stainless steel body, stainless steel ball and stem. Ball valves shall have threaded connections.

3. All ball valves shall have a minimum working pressure of not less than 150 PSI and shall conform to AWWA standards.

B. Quick Coupler Valves:

1. Quick coupler valves shall be of the manufacturer, size, and type indicated on the drawings.

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C. Automatic Control Valves:

1. Automatic control valves shall be of the manufacturer, size, and type indicated on the drawings.

2. Automatic control valves shall be electrically operated.

2.07 Valve Boxes

A. Valve boxes shall be fabricated from a durable, weather-resistant plastic material resistant to sunlight and chemical action of soils.

B. The valve box cover shall be green in color and secured with a hidden latch mechanism or bolts.

C. The cover and box shall be capable of sustaining a load of 1,500 pounds.

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

E. The plastic irrigation valve box cover shall be an overlapping type.

F. Automatic control valve and ball valve boxes shall be 16"x11"x12" 'nominal' rectangular size. Valve box covers shall be marked "RCV" with the valve identification number, or "GV" "heat branded" onto the cover in 2 inch high letters / numbers.

G. Quick coupler valve boxes shall be 10" circular size. Valve box covers shall be marked with "QCV" "heat branded" onto the cover in 2-inch high letters.

2.08 Automatic Controller

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

B. Controller enclosure shall be of the manufacturer, size, and type indicated on the drawings.

2.09 Electrical

A. All electrical equipment shall be NEMA Type 3, waterproofed for exterior installations.

B. All electrical work shall conform to local codes and ordinances.

2.10 Low Voltage Control Wiring

A. Remote control wire shall be direct-burial AWG-UF type, size as indicated on the drawings, and in no case smaller than 14 gauge.

B. Connections shall be of the manufacturer, size, and type as indicated on the drawings

C. Ground wires shall be white in color. Control wires shall be red (where two or more controllers are used, the control wires shall be a different color for each controller. These colors shall be noted on the "Record Drawings" plans located on controller door).

2.11 Irrigation Heads
A. Irrigation heads shall be of the manufacturer, size, type, with radius of throw, operating pressure, and discharge rate indicated on the drawings.

B. Irrigation heads shall be used as indicated on the drawings.

2.12 Miscellaneous Equipment

A. Landscape Fabric: Landscape fabric for valve box assemblies shall be 5.0- oz. weight woven polypropylene weed barrier. Landscape fabric shall have a burst strength of 225 PSI, a puncture strength of 60 lbs. and capable of water flow of 12 gallons per minute per square foot.
Type: DeWitt Pro 5 Weed Barrier or approved equal.

B. Equipment such as flow sensors, rain sensors, and master valves shall be of the manufacturer, size and type indicated on the drawings.all

PART 3 – EXECUTION

3.01 Site Conditions

A. Inspections:

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

2. Verify that irrigation system may be installed in strict accordance with all pertinent codes and regulations, the original design, the referenced standards, and the manufacturer's recommendations.

B. Discrepancies:

1. In the event of discrepancy, immediately notify the Landscape Architect or City's authorized representative.

2. Do not proceed with installation in areas of discrepancy until all discrepancies have been resolved.

C. Grades:

1. Before starting work, carefully check all grades to determine that work may safely proceed, keeping within the specified material depths with respect to finish grade.

2. Final grades shall be accepted by the Engineer before work on this section will be allowed to begin.

D. Field Measurements:

1. Make all necessary measurements in the field to ensure precise fit of items in accordance with the original design. Contractor shall coordinate the installation of all irrigation materials with all other work.

2. All scaled dimensions are approximate. The Contractor shall check and verify all size dimensions prior to proceeding with work under this section.

3. Exercise extreme care in excavating and working near existing utilities. Contractor shall be responsible for damages to utilities, which are caused by his operations or neglect.

E. Diagrammatic Intent:

The drawings are essentially diagrammatic. The size and location of equipment and fixtures are drawn to scale where possible. Provide offsets in piping and changes in equipment locations as necessary to conform with structures and to avoid obstructions or conflicts with other work at no additional expense to Owner.

F. Layout:

1. Prior to installation, the Contractor shall stake out all pressure supply lines, routing and location of sprinkler heads, valves, backflow preventer, and automatic controller.
2. Layout irrigation system and make minor adjustments required due to differences between site and drawings. Where piping is shown on drawings under paved areas, but running parallel and adjacent to planted areas, install the piping in the planted areas.

G. Water Supply:

Connections to, or the installation of, the water supply shall be at the locations shown on the drawings. Minor changes caused by actual site conditions shall be made at no additional expense to Owner.

H. Electrical Service:

1. Connections to the electrical supply shall be at the locations shown on the drawings. Minor changes caused by actual site conditions shall be made at no additional expense to Owner.

2. Contractor shall make electrical connections to the irrigation controller. Electrical power source to controller locations shall be provided by others.

3.02 Trenching

A. Excavations shall be straight with vertical sides, even grade, and support pipe continuously on bottom of trench. Trenching excavation shall follow layout indicated on drawings to the depths below finished grade and as noted. Where lines occur under paved area, these dimensions shall be considered below subgrade.

B. Provide minimum cover of 18 inches on pressure supply lines 2 inches and smaller.

C. Provide minimum cover of 30 inches on pressure supply lines 21/2 inches and larger.

D. Provide minimum cover of 18 inches for control wires.

E. Provide minimum cover of 36 inches on pressure supply lines under vehicular travel ways.

F. Provide minimum cover of 12 inches for non-pressure lines.

G. Pipes installed in a common trench shall have a 4-inch minimum space between pipes.

3.03 Backfilling

A. Backfill material on all lines shall be the same as adjacent soil free of debris, litter, and rocks over 1/2 inch in diameter.

B. Backfill shall be tamped in 4-inch layers under the pipe and uniformly on both sides for the full width of the trench and the full length of the pipe. dackfill materials shall be sufficiently damp to permit thorough compaction, free of voids. Backfill shall be compacted to dry density equal to adjacent undisturbed soil and shall conform to adjacent grades.

C. Flooding in lieu of tamping is not allowed.

D. Under no circumstances shall truck wheels be used to compact backfill.

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

3.04 Piping

A. Piping under existing pavement may be installed by jacking, boring, or hydraulic driving. No hydraulic driving is permitted under asphalt pavement.

B. Cutting or breaking of existing pavement is not permitted.

C. Carefully inspect all pipe and fittings before installation, removing dirt, scale, burrs, and reaming. Install pipe with all markings up for visual inspection and verification.

D. Remove all dented and damaged pipe sections.
E. All lines shall have a minimum clearance of 4 inches from each other and 12 inches from lines of other trades.

F. Parallel lines shall not be installed directly over each other.

G. In solvent welding, use only the specified primer and solvent cement and make all joints in strict accordance with the manufacturer's recommended methods including wiping all excess solvent from each weld. Allow solvent welds at least 15 minutes setup time before moving or handling and 24 hours curing time before filling.

H. PVC pipe shall be installed in a manner, which will provide for expansion and contraction as recommended by the pipe manufacturer.
I. Centerload all plastic pipe prior to pressure testing.

J. All threaded plastic-to-plastic connections shall be assembled using Teflon tape or Teflon paste.
K. For plastic-to-metal connections, work the metal connections first. Use a non-hardening pipe dope an all threaded plastic-to-metal connections, except where noted otherwise. All plastic-to-metal connections shall be made with plastic female adapters.

3.05 Controller

A. The exact location of the controller shall be approved by the Landscape Architect or City's authorized representative before installation. The electrical service shall be coordinated with this location.

B. The Irrigation Contractor shall be responsible for the final electrical hook up to the irrigation controller.
C. The irrigation system shall be programmed to operate during the periods of minimal use of the design area.

3.06 Control Wiring

A. Low voltage control wiring shall occupy the same trench and shall be installed along the same route as the pressure supply lines whenever possible.

B. Where more than one wire is placed in a trench, the wiring shall be taped together in a bundle at intervals of 10 feet. Bundle shall be secured to the mainline with tape at intervals of 20 feet.

C. All connections shall be of an approved type and shall occur in a valve box. Provide an 18-inch service loop at each connection.

D. An expansion loop of 12 inches shall be provided at each wire connection and/or directional change, and one of 24 inches shall be provided at each remote control valve.

E. A continuous run of wire shall be used between a controller and each remote control valve. Under no circumstances shall splices be used without prior approval.

3.07 Valves

A. Automatic control valves, quick coupler, and gate valves are to be installed in the approximate locations indicated on the drawings.

B. Valve shall be installed in shrub areas whenever possible.

C. Install all valves as indicated in the detail drawings.

D. Valves to be installed in valve boxes shall be installed one valve per box.

3.08 Valve Boxes

A. Valve boxes shall be installed in shrub areas whenever possible.

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

3.09 Irrigation Heads
A. Irrigation heads shall be installed as indicated on the drawings.

B. Spacing of heads shall not exceed maximum indicated on the drawings.

C. Riser nipples shall be of the same size as the riser opening in the sprinkler body.

3.10 Backflow Prevention Units

A. Backflow Prevention Units shall be installed as indicated on the drawings. The backflow prevention unit shall be installed in accordance with the requirements set forth by local codes.

B. The exact location of the backflow device shall be approved by the Landscape Architect or City's authorized representative before installation.
C. The contractor shall be responsible for the testing and certification of the backflow device for proper operation. Testing and certification shall be performed by a state qualified backflow tester.
3.11 Miscellaneous Equipment

A. Install all assemblies specified herein according to the respective detail drawings or specifications, using best standard practices.

B. Quick coupler valves shall be set approximately 18 inches from walks, curbs, header boards, or paved areas where applicable.

C. Install devices such as rain sensors, master valves, and flow sensors as indicated on the drawings and as recommended by the manufacturer.

3.12 Flushing the System

A. Prior to installation of irrigation heads, the valves shall be opened and a full head of water used to flush out the lines and risers.

B. Irrigation heads shall be installed after flushing the system has been completed.

3.13 Adjusting the System
A. Contractor shall adjust valves, align heads, and check the coverage of each system prior to coverage test.

B. If it is determined by the Landscape Architect or City's authorized representative that additional adjustments or nozzle changes will be required to provide proper coverage, all necessary changes or adjustments shall be made prior to any planting.

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

D. Automatic control valves are to be adjusted so that the irrigation heads and drip tubing operate at the pressure recommended by the manufacturer.

3.14 Testing and Observation

A. Do not allow or cause any of the work of this section to be covered up or enclosed until it has been observed, tested and accepted by the Landscape Architect, Owner, and governing agencies.

B. The Contractor shall be solely responsible for notifying the Landscape Architect, Owner, and governing agencies, a minimum of 48 hours in advance, where and when the work is ready for testing.

C. When the sprinkler system is completed, the Contractor shall perform a coverage test of each system in its entirety to determine if the water coverage for the planted areas is complete and adequate in the presence of the Landscape Architect.

D. The Contractor shall furnish all materials and perform all work required to correct any inadequacies of coverage due to deviations from the plans, or where the system has been willfully installed as indicated on the drawings when it is obviously inadequate, without bringing this to the attention of the Landscape Architect. This test shall be accepted by the Landscape Architect and accomplished before starting any planting.

E. Final inspection will not commence without record drawings as prepared by the Irrigation Contractor.

3.15 Maintenance

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

3.16 Completion Cleaning

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

END OF SECTION

Sweeney & Associates, Inc.
Irrigation Design & Consulting
38730 Sky Canyon Drive, Suite C
Murrieta, CA 92563
Ph. 909-461-6830 Fax. 909-461-6850
E-mail: lsweeney1@earthlink.net
Landscape Irrigation Auditor Certified

UNDERGROUND SERVICE ALERT
CALL: TOLL FREE
1-800
227-2600
TWO WORKING DAY BEFORE YOU DIG

OWNER/DEVELOPER:
CENTEX HOMES
Southern California Coastal Division
250 Commerce, Suite 100
Irvine, California 92602
Phone: (949) 453-0113 Fax: (949) 453-8994

BENCHMARK
POINT ID: E2-R3
ELEVATION: 686.946

CHISLED SQUARE ON THE SOUTHEAST CORNER OF BUCHANAN WELL NO. 1 AT THE NORTHWEST CORNER OF MAGNOLIA AVENUE AND BUCHANAN STREET.

ADJUSTED & LEVELED: MAY 1997

LANDSCAPE ARCHITECT:
NŪVIS
LANDSCAPE ARCHITECTURE AND PLANNING
3151 AIRWAY AVENUE, SUITE J-3
COSTA MESA, CALIFORNIA
U.S.A. 92626-4640
FX: 714.754.7346
PH: 714.754.7311

REGISTERED LANDSCAPE ARCHITECT — PERRY A CARDOZA No 3943 — Signature — 12/31/07 Expiration Date — 06/22/06 Date — STATE OF CALIFORNIA

MARK	REVISIONS	APPR.	DATE

DESIGNED BY PC DRAWN BY SL CHECKED BY

CITY OF RIVERSIDE, CALIFORNIA
PUBLIC WORKS DEPARTMENT

APPROVED BY	BY	DATE
PRINCIPAL ENGINEER	[signature]	7/26/06
TRAFFIC DIVISION	[signature]	7/25/06
Plan	[signature]	7/18

APPROVED BY [signature]
CITY ENGINEER
DATE 7/21/06

WDID #: 833C335325

PW06-0339

TRACT 32470
LANDSCAPE & IRRIGATION

IRRIGATION SPECIFICATIONS 2

R-3899L

SHEET 11 OF 13

HORIZ. SCALE: PER PLAN VERT. SCALE: PER PLAN

FILE NO.

RVZ

INDEXED 9-27-06 LH

GENERAL PLANTING

A. GENERAL

1. Contractor shall provide all labor, materials and equipment for the installation of plant material as indicated on the drawings and as specified herein.
2. Contractor shall coordinate planting with other site improvements. Unless otherwise specified, structural improvements shall be installed prior to planting operations.
3. Contractor shall be responsible for locating and staking existing sewer, water and utility lines above or below grade that might be damaged as a result of planting operations. Contractor shall assume sole responsibility for any cost incurred due to damage and for replacement of aforementioned utilities.
4. All work on the irrigation system, including hydrostatic, coverage, and operational tests, and the backfilling and compaction of trenches shall be performed prior to planting operations.
5. Samples of fertilizers, soil conditioners, seed, or other materials shall be submitted to City/Owner forty-eight (48) hours prior to incorporation in the work.
6. An agricultural suitability and fertility analysis soils report shall take precedence over these specifications.

B. PLANT MATERIAL QUALITY

1. Plant material shall be in accordance with the State Department of Agriculture's regulations for nursery inspections, rules and grading. All plants shall be of No. 1 Grade and have a normal habit of growth, and shall be sound, healthy, vigorous and free of insect infestations, plant diseases, sun scalds, fresh bark abrasions or other objectionable disfigurements. All plants shall have a normal, well-developed branch system and vigorous and fibrous root system which is not root bound and is free of kinked or girdling roots.
2. Nursery growth stock shall be selected from high quality, well-shaped stock, grown under climatic conditions similar to those in the project locale. Minimum acceptable size of plants as indicated in the drawings shall correspond with that normally expected for the species and variety of commercially available nursery stock.
3. Where applicable, caliper shall be the diameter of the trunk one foot (1') above the ground surface.
4. Oversize plants may be used if not root bound, but shall not increase the Contract price. Up to ten percent (10%) of undersized plants in any one (1) variety and grade may be used; provided they are larger than the average size of the next smallest grade.
5. Scientific and common names conform to customary nursery usage.
6. Types and sizes of plant materials shall be as indicated on the drawings. Quantities shown are a guide only; Contractor shall verify quantities by plan check.
7. The City/Owner reserves the right to refuse or reject any unsuitable plant material. Unsuitable plants shall be removed from the project site and replaced at the Contractor's expense. Replacement plants shall be the same species, variety, size and conditions as specified.
8. Pruning of plant materials shall not be done prior to delivery. After planting, pruning shall be limited to the minimum necessary to remove injured twigs and branches, dead wood and suckers.
9. Plant material is subject to substitution based upon availability. Substituted material shall be approved in advance by the City/Owner.

C. FERTILIZERS

1. Fertilizers shall comply with applicable requirements of the State Agricultural Code and shall be packaged, first grade, commercial quality products identified as to source, type of material, weight and manufacturer's guaranteed analysis. Fertilizers shall not contain toxic ingredients in quantities harmful to human, animal, or plant life. When requested, Contractor shall furnish the City/Owner with Certificate of Compliance stating that the material substantially meets the specifications.
2. Commercial fertilizer shall be a pelleted, beaded, or granular product having the chemical analysis specified herein and shall be free-flowing material delivered in original unopened containers. Use of material which becomes caked or otherwise damaged shall not be permitted.
3. Organic base fertilizer shall be comprised of decomposed animal, fish and vegetable matter with humic acids and a bacterial stimulant, manufactured as Gro-Power by Southern California Organic Fertilizer Co., Glendale, California, or approved equal.

D. AMENDMENTS

1. Nitrogen stabilized organic amendment shall be a ground or processed wood product derived from wood of redwood, fir or cedar, treated with a non-toxic agent to absorb water quickly. Nitrogen content, based on dry weight, shall be 0.5% for redwood and 0.7% for fir and cedar. Iron content, based on dry weight, shall be 0.1%. Pine sawdust is not acceptable.
2. When requested, Contractor shall furnish the City/Owner with a delivery receipt and Certificate of Compliance stating that the material substantially meets the specifications.

E. TOPSOIL

1. Topsoil shall consist of fertile, friable soil of loamy character, and shall contain an amount of organic matter normal to the area. It shall be reasonably free from weeds, refuse, roots, heavy or stiff clay, stones larger than one inch (1") in diameter, sticks, brush, litter and other deleterious substances. Topsoil may be obtained from the site if approved by the City/Owner.
2. When required, imported topsoil shall be subject to inspection and testing at the source of supply prior to delivery to the project.

F. MATERIAL DELIVERY AND INSPECTION

1. Plant material shall be delivered with legible identification labels, handled and stored adequately to maintain a healthy condition, protecting them from drying out, windburn or any other injury.
2. Inspection of plant materials required by City/Owner, County, State or Federal authorities shall be the responsibility of the Contractor. When requested, Contractor shall furnish copies of such permits or certificates to City/Owner.

G. SOIL PREPARATION (TURF AND GROUND COVER AREAS)

1. Fertilizing and conditioning materials shall be as specified in the project agricultural suitability report.
2. If an agricultural suitability report is not available, the following amendments, or approved equal, shall be mechanically spread and uniformly cultivated into the upper six inches (6") per 1,000 square feet of soil by suitable equipment operated at approximately right angles in at least two (2) directions:

4 CY	Nitrogen stabilized organic amendment
150 LBS	Gro-Power Plus
100 LBS	Agricultural gypsum

3. Resulting soil shall be clean, in a friable condition and suitable for planting.

H. WEED ABATEMENT OPERATIONS

1. The irrigation system and finish grade shall be completed prior to weed abatement operations.
2. Contractor shall operate the irrigation system to keep planting areas uniformly moist for a period of three (3) weeks (21 consecutive calendar days). At the end of the three (3) week period, Contractor shall spray all visible weeds with a contact herbicide. Application method shall be as recommended by manufacturer. After spraying, planting areas shall remain unwatered for a minimum of forty-eight (48) hours. Remove weeds from site.
3. Water seven (7) additional consecutive calendar days from the first application, and apply a contact herbicide as may be necessary. After second spraying, water shall not be applied for an additional forty-eight (48) hour period. Applications shall continue at seven (7) day intervals as determined by the City/Owner.
4. Contractor shall apply spray chemicals when air currents are still; preventing drifting onto adjoining property and preventing any toxic exposure to persons whether or not they are in or near the project.
5. Weeds and debris shall be disposed of off-site.

I. BACKFILL

1. Backfill shall be as specified in the project agricultural suitability report; machine-mixed and approved by the City/Owner prior to incorporation in planting pits.
2. If a agricultural suitability report is not available, the following amendments or approved equal, shall be incorporated:

6	parts by volume	On-site soil
4	parts by volume	Nitrogen stabilized organic amendment
17	LBS per CY of mix	Gro-Power Plus
1	LB per CY of mix	Iron sulfate
10	LBS per CY of mix	Agricultural gypsum

J. INSTALLATION

1. Stake plant locations and secure approval from the City/Owner before excavating pits. Excavated pits shall be as indicated in the details on the drawings. Dust sides of pits with gypsum before backfilling.
2. Containers shall be opened and removed such that the rootball is not injured.
3. Water all planting areas thoroughly after installation of plant materials. Additional backfill shall be added to fill voids caused by water settlement.

K. TREE STAKING

Trees shall be staked at time of planting as indicated in the details on the drawings.

L. GUARANTEE

1. Contractor shall guarantee plant material through one (1) full year after the date of acceptance of the work.
2. Replacement plant material shall be of the same species, variety, & size as originally planted and shall be guaranteed for one (1) full year from the date of re-planting.
3. Cost incurred due to replacement of dead or dying plant material shall be the responsibility of the Contractor.

END OF SECTION

PLANTING – STOLONIZED TURF

A. GENERAL

This section is supplemental to the General Planting Section. Where applicable, planting shall be in accordance with conditions therein.

B. PLANT MATERIAL QUALITY

1. Stolons shall be fresh cut living sections of runners and stems between two inches (2") and four inches (4") in length; free from weeds, diseases, and insects; grown from high quality true-to-type vegetative stock and meet or exceed the standards for regulation for nursery inspection of the applicable State of the project.
2. Contractor shall furnish the City/Owner with delivery receipts and a Certificate of Compliance stating that the material substantially meets the specifications.

C. INSTALLATION

1. Prepare soil and provide weed abatement operations in accordance with the General Planting Section. Rake, cultivate, float and roll until areas to receive turf are in a smooth and uniform condition.
2. Finish grade for turf areas shall be one inch (1") below the finish surface of walks, curbs, or related hardscape.
3. Prior to stolonizing, soil shall be moist to a minimum depth of one inch (1").
4. Stolons shall be as indicated on the drawings.
5. Stolons shall be hydroseeded in accordance with the Hydroseeding Section.

END OF SECTION

PLANTING – HYDROSEEDING

A. GENERAL

This section is supplemental to the General Planting Section. Where applicable, planting shall be in accordance with conditions therein.

B. PLANT MATERIAL QUALITY

1. Seed shall be fresh, clean, pure new crop seed. Seed shall be delivered to the site, unmixed, in separate sealed containers. Each sealed container shall bear the seed suppliers tag indicating the container weight, seed type, seed purity and germination, and certificate of release by a County agricultural commissioner.
2. Contractor shall furnish the City/Owner with delivery receipts and a Certificate of Compliance stating that the material substantially meets the specifications.
3. An agriculatural suitablility report that has been prepared for the specific site shall take precendent over the following materials. If such report is not available, the following materials shall be of such a character that when dispersed in a uniform slurry shall form an absorbent porous mat:

3000 gallons per acre	Fresh water
2000 pounds per acre	Wood cellulose fiber
80 pounds per acre*	Organic stabilizer
1000 pounds per acre**	Gro-Power Plus, or approved equal

*80 pounds per acre in summer, 120 pounds per acre in winter.

**In turf areas where soil is prepared with Gro-Power Plus, use 400 lbs/acre.

4. Seed mixture shall be as indicated on the drawings.
5. Water shall be fresh, free of impurities, excess chlorine and salts.
6. Fiber shall be clean, weed-free mulch of wood cellulose containing no germination or growth-inhibiting factors. Fiber shall contain a harmless, temporary green dye.

C. INSTALLATION

1. Mixing shall be performed in a tank, with a built-in continuous agitation and recirculation system, of sufficient operating capacity to produce a homogeneous slurry and a discharge system which will apply the slurry to the designated areas at a continuous and uniform rate.
2. The slurry preparation shall take place at the project site and shall begin by adding water to the tank when the engine is at halt throttle. When the water level has reached the height of the agitator shaft, good recirculation shall be established, and at this time the seed shall be added. Fertilization shall then be added followed by the wood cellulose fiber, when the tank is at least one-third (1/3) filled with water. Spraying shall commence immediately when the tank is full.
3. Contractor shall spray designated areas with the slurry in a sweeping motion, in an arched stream, until a uniform coat is achieved and the material is spread at the required rate per acre.
4. A slurry mixture which has not been applied within four (4) hours after mixing shall be rejected and replaced at the Contractor's expense.
5. Slopes shall be hydroseeded after weed abatement operations and planting of trees and shrubs.
6. Costs incurred for repair or replacement of bare, sparse or damaged areas shall be the responsibility of the Contractor.

END OF SECTION

PLANTING – SODDED TURF

A. GENERAL

This section is supplemental to the General Planting Section. Where applicable, planting shall be in accordance with conditions therein.

B. PLANT MATERIAL QUALITY

1. Sod shall be grown from high quality propagative material, free from weeds, diseases, and insects, and shall be in accordance with the standards for regulation for nursery inspection of the applicable State of the project.
2. Sod shall be machine cut at a uniform thickness of five-eighths of an inch (5/8") (excluding top growth and thatch). Individual pieces shall be cut to the supplier's standard width and length with an allowable deviation of two percent (2%). Broken rolls or uneven ends will not be acceptable.
3. Sod shall be harvested, delivered and installed within a twenty-four (24) hour period.
4. Contractor shall furnish the City/Owner with delivery receipts and a Certificate of Compliance stating that the material substantially meets the specifications.

C. INSTALLATION

1. Prepare soil and provide weed abatement operations in accordance with the General Planting Section. Rake, cultivate, float and roll until areas to receive turf are in a smooth and uniform condition.
2. Finish grade for turf areas shall be one inch (1") below the finish surface of walks, curbs, or related hardscape.
3. Prior to sodding, soil shall be moist to a minimum depth of one inch (1").
4. Prior to installation, area to be sodded shall receive sulphate of ammonia at the rate of one (1) pound per 200 square feet.
5. Sod shall be laid and tamped with butt joint in a staggered "running bond" pattern.
6. After installation, sod shall be rolled with a 200-pound water-filled lawn roller.
7. Sod shall be as indicated on the drawings.

END OF SECTION

PLANTING – PALMS **OMIT THIS SECTION**

A. GENERAL

This section is supplemental to the General Planting Section. Where applicable, planting shall be in accordance with conditions therein.

B. DEFRONDING and TYING

1. Palm trunk condition shall be free of any scarring or blemishes.
2. Contractor shall remove dead fronds and skin the entire trunk clean to the height of the green fronds. Majority of green fronds shall be removed, leaving ten (10) to fifteen (15) at the apex. Remaining fronds shall have thirty to fifty percent (30% to 50%) of the length cut off and shall be lifted up and tied together in two (2) locations in an upright position with cotton rope or cord of not less than one-quarter inch (1/4"). Wire will not be permitted.
3. "Pineapple" shall be formed to the satisfaction of the City/Owner. Wrap fronds in burlap and keep moist.
4. Pruning shall be done with sterilized reciprocal saws. Chain saws will not be allowed. Saw blades shall be sterilized before and between pruning each frond by immersing the blade in a solution of fifty percent (50%) household bleach and fifty percent (50%) domestic water for five (5) minutes. Solution shall be kept up to strength by the regular addition of more bleach.
5. Defronding and tying work shall be completed prior to digging the root ball.

C. DIGGING THE ROOTBALL

1. Rootball size shall be based upon a 5:1 ratio of brown trunk height to rootball diameter.
2. Excavation shall extend below the major root system to minimum depth of four feet (4'). The bottom of the rootball shall be cut off square and perpendicular to the trunk below the major root system.
3. No excavation shall be done closer than twenty-four inches (24") to the trunk at ground level.
4. Rootball shall be wrapped in burlap and keep moist.

D. DELIVERY and STORAGE

1. Contractor shall not free-fall, drag, roll, or abuse the palm or put a strain on the crown at any time. A protective device shall be used around the trunk of the palm while lifting.
2. Rootball shall not be left exposed to direct sunlight or air.
3. Should palms not be planted the day they arrive, Contractor shall protect the crowns and rootballs from the sun and reflected heat from the ground.
4. Palms shall be laid in a single layer on a flat surface. Avoid storing on a concrete or asphaltic concrete surface.
5. Covering material shall be equivalent to a 90% shade cloth or burlap. Plastic or rubberized tarpaulins shall not be permitted.
6. In no case shall palms be stored for more than forty-eight (48) hours.

E. BACKFILL

Backfill for palms shall be 100% river sand. For each cubic yard of sand, blend two (2) pounds of 16-16-16 commercial fertilizer prior to placement in planting hole.

F. INSTALLATION

1. Palms shall be planted when weather and soil conditions are suitable in accordance with accepted arbor practice, preferably between mid April and mid September.
2. Top of the rootball shall have the same elevation to adjacent grades that it had in the original growing field.
3. Root growth stimulant shall be equally distributed around the rootball and water jetted into the backfill when the backfilling is between one-half (1/2) to two-thirds (2/3) up the rootball. Stimulant shall be Vitamin B-1 as manufactured by Cal-liquid, Cooke, Chican, or Ortho. Application rate shall be as recommended by the manufacturer.

G. UNTYING PALMS

1. The strings tying the palm fronds shall be cut forty-five (45) to sixty (60) calendar days after planting during the summer months and ninety (90) calendar days during the winter months.
2. Contractor shall not trim palms for thirty (30) calendar days after untying.

END OF SECTION

UNDERGROUND SERVICE ALERT
CALL: TOLL FREE
1-800
227-2600
TWO WORKING DAY BEFORE YOU DIG

OWNER/DEVELOPER:
CENTEX HOMES
Southern California Coastal Division
250 Commerce, Suite 100
Irvine, California 92602
Phone: (949) 453-0113 Fax: (949) 453-8994

BENCHMARK
POINT ID: E2-R3
ELEVATION: 686.946
CHISLED SQUARE ON THE SOUTHEAST CORNER OF BUCHANAN WELL NO. 1 AT THE NORTHWEST CORNER OF MAGNOLIA AVENUE AND BUCHANAN STREET.
ADJUSTED & LEVELED: MAY 1997

LANDSCAPE ARCHITRECT:
NŪVIS
LANDSCAPE ARCHITECTURE AND PLANNING
3151 AIRWAY AVENUE, SUITE J-3
COSTA MESA, CALIFORNIA
U.S.A. 92626-4640
FX: 714.754.7346
PH: 714.754.7311

REGISTERED LANDSCAPE ARCHITECT – PERRY A CARDOZA No. 3943 – Signature – 12/31/07 Expiration Date – 06/22/06 Date – STATE OF CALIFORNIA

MARK	REVISIONS	APPR.	DATE

DESIGNED BY PC DRAWN BY SL CHECKED BY

CITY OF RIVERSIDE, CALIFORNIA
PUBLIC WORKS DEPARTMENT

APPROVED BY	BY	DATE
PRINCIPAL ENGINEER	[signature]	[illegible]
TRAFFIC DIVISION	[signature]	7/25/06
Plan	[signature]	7/18

APPROVED BY [signature] CITY ENGINEER
DATE 7/31/06

WDID #: 833C335325
PW06-0339

TRACT 32470
LANDSCAPE & IRRIGATION
PLANTING SPECIFICATIONS

R-3899L
SHEET 12 OF 13

HORIZ. SCALE: PER PLAN VERT. SCALE: PER PLAN
FILE NO.

R12

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POST–INSTALLATION MAINTENANCE PERIOD

A. GENERAL

1. Contractor shall provide all labor, materials and equipment to perform work during the Post–Installation Maintenance Period, as specified herein, including but not limited to; adequate watering of plant material, replacing unsuitable plant material and controlling weeds, rodents and other pests.
2. Contractor shall maintain the project on a continuous basis from the first day after planting is completed, until acceptance of the work.
3. Costs incurred due to damage or replacement during Post–Installation Maintenance Period shall be the responsibility of the Contractor.
4. Unless stipulated otherwise by the City/Owner, the Post–Installation Maintenance Period shall consist of a minimum of ninety (90) consecutive calendar days.
5. Post–Installation Maintenance Period may be extended by the City/Owner if the project is improperly maintained, appreciable replacement is required, or other corrective work becomes necessary.

B. EXECUTION

1. All areas including, but not limited to, turf, ground cover, and concrete flatwork, shall be kept clean and free of weeds, litter and debris.
2. Subsurface drains and catch basin grates shall be kept clear of leaves, litter and debris to ensure unimpeded passage of water. Drainlines shall be periodically flushed with clear water to avoid build–up of silt and debris.
3. Before weeds exceed two inches (2") in height, they shall be removed and disposed of off–site. Serious weeds shall be spot sprayed and left in place for seven (7) calendar days. Areas sprayed shall remain unwatered for a minimum of forty–eight (48) hours. Dead weeds shall be removed seven (7) calendar days after application and disposed of off–site.
4. If the City/Owner notifies the Contractor of failure to control weeds as specified herein, the Contractor shall kill all weeds within ten (10) calendar days of such notification. The Post–Installation Maintenance Period will be extended for every day after the ten (10) calendar days until such weeds have been killed.
5. Contractor shall take appropriate steps to eliminate rodents.

C. IRRIGATION SYSTEM

1. Contractor shall operate the irrigation system automatically and shall properly and completely maintain all parts of the irrigation system.
2. Contractor shall provide for delivery of water in sufficient quantities and adjust water application to compensate for seasonal conditions.
3. Costs incurred due to repair or replacement of equipment shall be the responsibility of the Contractor. Replacement parts shall be identical to the material and as indicated on the drawings and specified herein.

D. TURF

1. Prior to acceptance of the project and maintenance period, turf areas shall be established with a uniform 80% coverage, healthy vigorous growth and to a minimum of two inches (2") in height. Costs incurred for repair or replacement of bare, sparse or damaged areas shall be the responsibility of the Contractor.
2. If an agricultural suitability soils report is not available, turf areas shall be fertilized with Gro–Power Hi–nitrogen 14–4–9 or approved equal every forty–five (45) calendar days, at a rate recommended by the manufacturer.
3. First mowing of turf shall be performed when the grass is two and one–half inches (2 1/2") in height. After initial mowing, turf shall be cut as often as necessary to maintain the turf at a height of two inches (2") for bluegrass and fescues and one inch (1") for bermuda.
4. Contractor shall trim around irrigation heads to allow for unimpeded spray; at the base of trees; and at borders along walks, mowstrips and curbs.
5. Contractor shall remove all grass clippings from project site.

E. GROUND COVER AREAS

If an agricultural suitability soils report is not available, ground cover areas shall be fertilized with Gro–Power Hi–nitrogen 14–4–9 or approved equal every forty–five (45) calendar days, at a rate recommended by the manufacturer.

F. TREES

1. If required, or at the direction of the City/Owner, trees planted as part of the Contract shall be pruned or headed back, to eliminate diseased or damaged growth, reduce toppling or wind damage, maintain growth within space limitations, maintain natural appearance, due to vandalism, and to balance the crown with the root structure.
2. Staking of trees shall be checked frequently for damage, and to prevent chaffing or girdling. Costs incurred due to damage or replacement due to improper staking materials shall be the responsibility of the Contractor.
3. At the request of the City/Owner, wounds over one and one–half inch (1 1/2") in diameter may be sealed with an approved tree seal.
4. Dead or dying trees shall be immediately replaced at the Contractor's expense with material of the same species and size and guaranteed as described in these specifications.
5. Contractor shall exercise preventive measures when using stringline trimmers near tree trunks. Costs incurred due to damage or replacement of trees due to improper measures shall be the responsibility of the Contractor.

G. SLOPES

1. Prior to acceptance of the project and maintenance period, slopes shall be established with a uniform 80% coverage, healthy vigorous growth. Costs incurred for repair or replacement of bare, sparse or damaged areas shall be the responsibility of the Contractor.
2. Seed for replacement shall be of the same type and quantity ratio as specified in the Plant List on the drawings.
3. If a soils report is not available, slopes shall be fertilized with Gro–Power Hi–nitrogen 14–4–9 or approved equal every forty–five (45) calendar days, at a rate recommended by the manufacturer.

I. PALM TREES

1. Maintenance shall include, but not limited to, spraying to control or prevent disease and weekly water management including soil probing, observation of soil moisture sensing devices (where applicable), and palm tree pruning.
2. Pruning shall be done with sterilized reciprocal saws (not chain saws) to prevent transmission of disease causing agents from tree to tree. Saw blades shall be sterilized before and between pruning of each frond by immersing the blade in a solution of fifty percent (50%) household bleach and fifty percent (50%) water for five (5) minutes. The solution should be kept up to strength by the regular addition of more bleach.

H. INSPECTION

Upon completion of the Post–Installation Maintenance Period, Contractor shall request an inspection for acceptance of the work performed in accordance with the Contract Documents. The request shall be made to the City/Owner, a minimum of seven (7) calendar days prior to the date for inspection.

END OF SECTION

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227-2600
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OWNER/DEVELOPER:
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Southern California Coastal Division
250 Commerce, Suite 100
Irvine, California 92602
Phone: (949) 453–0113 Fax: (949) 453–8994

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CHISLED SQUARE ON THE SOUTHEAST CORNER OF BUCHANAN WELL NO. 1 AT THE NORTHWEST CORNER OF MAGNOLIA AVENUE AND BUCHANAN STREET.

ADJUSTED & LEVELED: MAY 1997

LANDSCAPE ARCHITECT:
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LANDSCAPE ARCHITECTURE AND PLANNING
3151 AIRWAY AVENUE, SUITE J-3
COSTA MESA, CALIFORNIA
U.S.A. 92626-4640
FX: 714.754.7346
PH: 714.754.7311

REGISTERED LANDSCAPE ARCHITECT — JOHN A. CANDELA No. 3742 — STATE OF CALIFORNIA
Signature 12/31/07 Expiration Date
09/29/06 Date

MARK	REVISIONS	APPR.	DATE

DESIGNED BY PC DRAWN BY SL CHECKED BY

CITY OF RIVERSIDE, CALIFORNIA
PUBLIC WORKS DEPARTMENT

APPROVED BY	BY	DATE
PRINCIPAL ENGINEER		
TRAFFIC DIVISION		
PARKS		

APPROVED BY
CITY ENGINEER
DATE 7/31/06

WDID #: 833C335325

TRACT 32470
LANDSCAPE & IRRIGATION

MAINTAINANCE SPECIFICATIONS

HORIZ. SCALE: PER PLAN VERT. SCALE: PER PLAN

PW06-0339

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