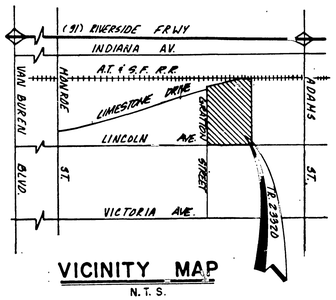
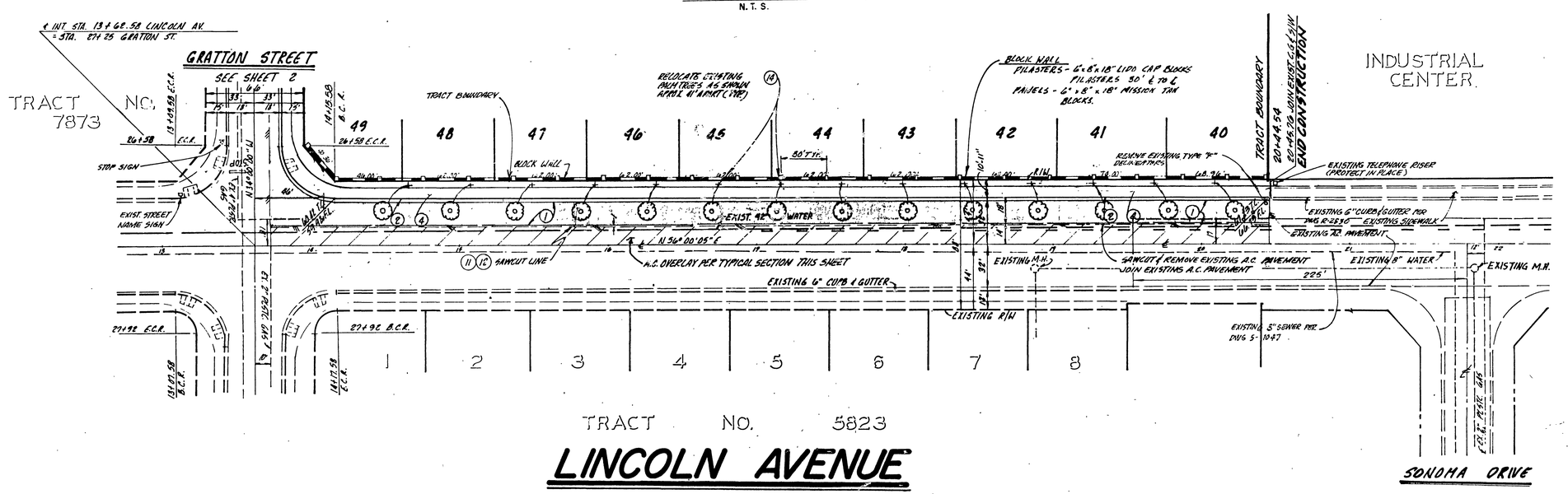
LINCOLN AVENUE
REVERSE FRONTAGE IMPROVEMENT PLAN
FOR
TRACT 23320



VICINITY MAP
N. T. S.



CITY BUSINESS TAX CERTIFICATE No. 041425
EXP. DATE: 11-1-90

DR-50-88

ORTON associates
landscape development
Ray L. Orton
LICENSE NO. 1214 (714) 985 7005
607 c. seventh st. ✕ upland • ca 91786

MARK	REVISIONS	APPR	DATE
ED	RELOCATE WALL & PARKWAY		2/89

DESIGNED BY PEO DRAWN BY CSL CHECKED BY PEO

CITY OF RIVERSIDE
PUBLIC WORKS DEPARTMENT

APPROVED BY	DATE	BY
PRINCIPAL ENGINEER		
PARK DEPARTMENT	10-21-88	RS
TRAFFIC DIVISION		
CHIEF P.W. ENGINEER	3-30	
PLANNING	10-22-88	CMD

APPROVED BY
PUBLIC WORKS DIRECTOR
DATE 3/31/89

TITLE SHEET
REVERSE FRONTAGE PLAN
FOR
TRACT 23320

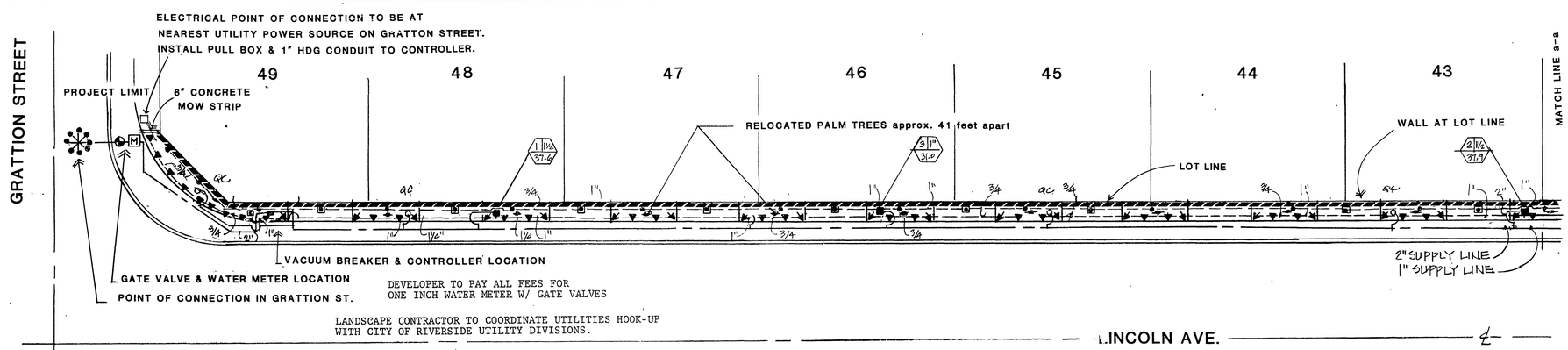
HORIZ SCALE: 1" = 4' VERT SCALE: 1" =

ACCOUNT NO. R-2999 L
SHEET 1 OF 6

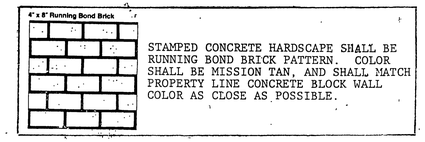
3/29/89

INDEXED 5-17-89 GH

PC-2703

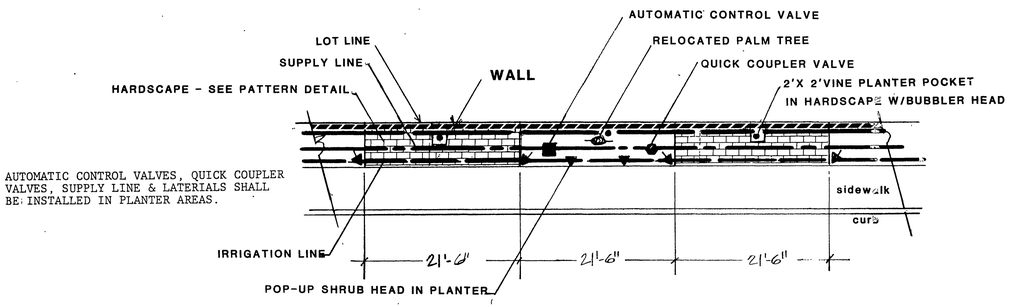


STATIC WATER PRESSURE: 90 - 100PSI
Corner Lincoln Ave. & Gratton St.
Source - C.R.W.D. - August 1988

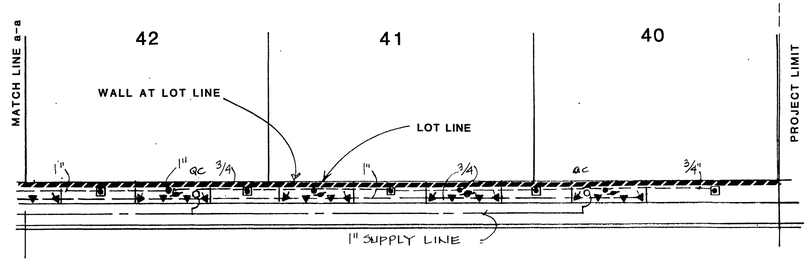


STAMPED CONCRETE HARDSCAPE SHALL BE RUNNING BOND BRICK PATTERN. COLOR SHALL BE MISSION TAN, AND SHALL MATCH PROPERTY LINE CONCRETE BLOCK WALL COLOR AS CLOSE AS POSSIBLE.

STAMPED CONCRETE DETAIL nts



TYPICAL CONSTRUCTION DETAIL 1" = 10'-0"

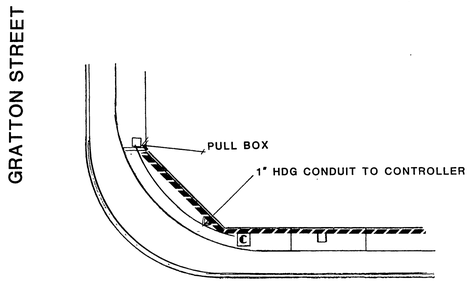


CONTRACTOR NOTE:
ALL LANDSCAPE AND IRRIGATION WORK TO BE SUPERVISED BY THE LANDSCAPE ARCHITECT AND THE PARK AND RECREATION DEPARTMENT AND UPON COMPLETION OF THE PROJECT, THE LANDSCAPE ARCHITECT WILL CERTIFY THAT THE WORK HAS BEEN COMPLETED IN ACCORDANCE WITH THE APPROVED PLANS.

SPRINKLER LEGEND

SYMBOL	PART NO.	MANF'R	DESCRIPTION	PSI	RAD.	GPM
	570-6P FSQ	TORO	QUARTER ARC 6" POP-UP SHRUB SPRAY	25	7'	.80
	570-6P FSH	TORO	HALF ARC 6" POP-UP SHRUB SPRAY	25	7'	1.43
C	RC-7	RAINBIRD	AUTOMATIC SPRINKLER CONTROLLER IN "LE MEUR" ENCLOSURE			
	216-26-06	TORO	BRASS BODY ELECTRIC REMOTE CONTROL VALVE IN VALVE BOX			
	33D-3/4"	RAINBIRD	QUICK COUPLER VALVE W/VINYLE LOCKING COVER			
	RPA 200	RAINBIRD	2" REDUCED PRESSURE BACKFLOW PREVENTER W/ GATE VALVES			
	2001b CLASS	NIBCO	BRASS BODY RISING STEM GATE VALVE IN CONCRETE VALVE BOX			
	CLASS 200 PVC IRRIGATION LINE					
	SCHEDULE 40 PVC SUPPLY LINE		SLEEVE ALL LATERALS UNDER CONCRETE			
	1404	RAIN BIRD	PRESSURE COMPENSATING FULL CIRCLE BUBBLER 2'			1.24

VALVE STATION (2 | 1½ | 35.) VALVE SIZE / GALLONS PER MINUTE



ELECTRICAL POINT OF CONNECTION

NOTE:

IRRIGATION PLAN IS DIAGRAMMATIC DRAWING, WITH SUPPLY LINES SHOWN OVER WALKS AND PAVING. SUPPLY LINES & IRRIGATION LINES SHALL BE INSTALLED PARALLEL AND ADJACENT TO WALKS, WALLS, AND CURBS. LINES SHOWN IN PARKING AREAS TO BE INSTALLED IN PLANTERS. IRRIGATION LINES ACROSS DRIVEWAYS SHALL BE SCHEDULE 40 P.V.C.

COVERAGE TEST.
UPON COMPLETION OF THE IRRIGATION SYSTEM INSTALLATION AND PRIOR TO ANY PLANTING THE CONTRACTOR SHALL ADJUST SPRINKLER HEADS TO EVENLY AND PROPERLY DISTRIBUTE THE RATE OF PRECIPITATION OF THE WATER AND SHALL DETERMINE IF THE COVERAGE OF THE PLANTING AREAS IS COMPLETE AND ADEQUATE.

THE CONTRACTOR SHALL FURNISH ALL MATERIALS AND PERFORM ALL WORK REQUIRED TO CORRECT ANY INADEQUACIES OF COVERAGE DISCLOSED BY THE COVERAGE TEST.

CONTRACTOR SHALL FINISH GRADE ALL AREAS TO PROVIDE DRAINAGE OF SURFACE WATER AWAY FROM BUILDINGS TO HARDSCAPE AREAS AND/OR TO THE STREET.

DR-50-88

CITY OF RIVERSIDE/UTILITIES
WATER DIVISION: Robert A. Owen for P.O.C. date 10/21/88 approved
ELECT. DIVISION: Charles R. Rhoades date 10/20/88 approved

CITY OF RIVERSIDE
PARKS & RECREATION DEPARTMENT
Jerry A. Belen Date 10/21/88 approved

REGISTERED LANDSCAPE ARCHITECT — RAY L. ORTON — 2/15/89 — STATE OF CALIFORNIA

CITY BUSINESS TAX CERTIFICATE No. 041425
EXP. DATE: 11-1-90

ORTON associates
landscape development
RAY L ORTON
LICENSE NO 1214 (714) 885-7700
607 c. seventh st. · upland · ca 91786

MARK	REVISIONS	APPR.	DATE
PC	RELOCATE WALL @ PROMENADE		2/27

DESIGNED BY FEO DRAWN BY FEO CHECKED BY RO

CITY OF RIVERSIDE
PUBLIC WORKS DEPARTMENT

	APPROVED BY	DATE	BY
PRINCIPAL ENGINEER			
PARK DEPARTMENT		10-31-88	
TRAFFIC DIVISION		3-30	
CHIEF P.W. ENGINEER		10-22-88	
PLANNING		3/21/89	

APPROVED BY: PUBLIC WORKS DIRECTOR
DATE 3/31/89

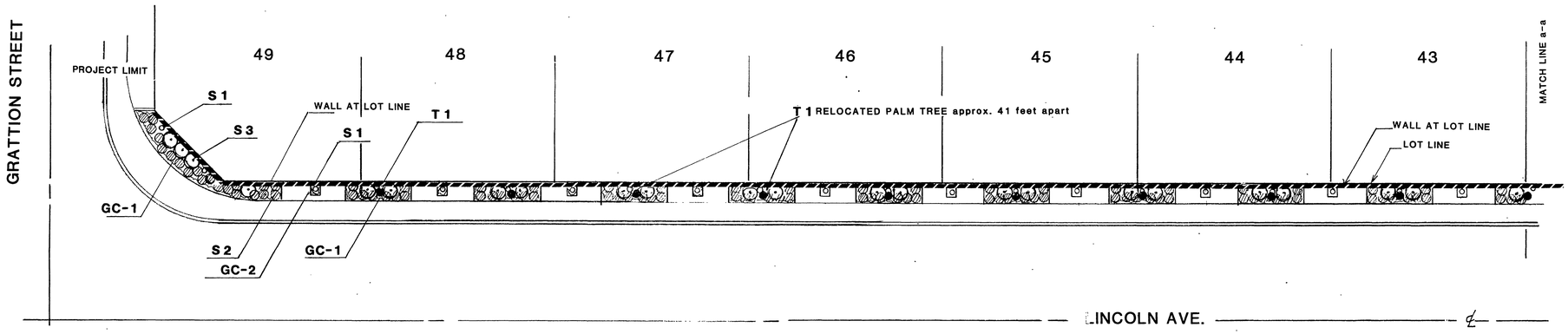
REVERSE FRONTAGE PLAN
FOR
TRACT 23320

ACCOUNT NO. R-2999 L
SHEET 2 OF 6

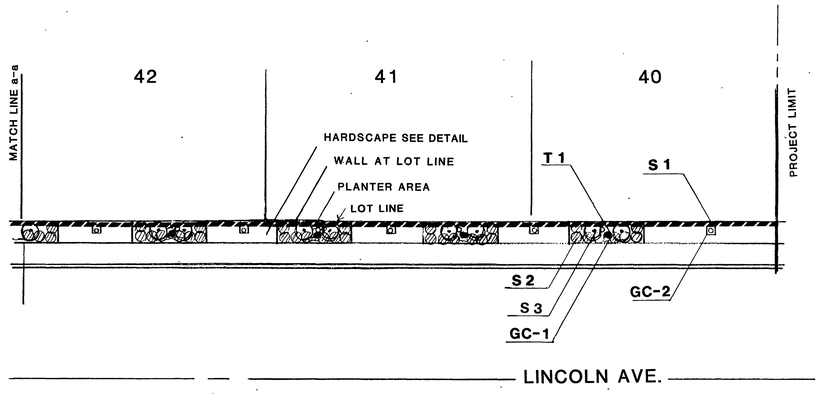
HORIZ. SCALE: 1" = 20' VERT. SCALE: 1" =

PC-2703

INDEXED 5-17-89



TYPICAL PLANTING DETAIL 1" - 10'-0"



PLANT LIST

ITEM	KEY	BOTANICAL NAME	COMMON NAME	SIZE	QUANITY	COMMENTS
TREES.	T-1	WASHINGTONIA PALMS	RELOCATE EXIST'G	TALL	14	SEE PLANTING SPEC'S.
SHURBS	S-1	FICUS PUMULA MINIMA	CREEPING FIG	1 gal.	32	ATTACH TO WALL
	S-2	RAPHIOLEPIS INDICA 'Clara'	INDIAN HAWTHORN WHITE BLOOM COLOR	5 gal.	34	PLANT 5" o.c.
	S-3	XYLOSMA CONGESTUM COMPACTUM	COMPACT XYLOSMA	5 gal.	32	
GROUND COVER:	GC-1	DELOSPERMA ALBA	WHITE ICE PALANT	FLATS AS REQ.		PLANT 12" o.c.
	GC-2	HYMENOCYCLUS LUTEOLA	YELLOW ICE PLANT	FLATS AS REQ.		PLANT 12" o.c.

NOTE: DO NOT PLANT GROUND COVER BENEATH SHRUBS.

NOTE: SEE PALM TREE PLANTING SPECIFICATIONS. SHEET 5

SOIL PREPARATION SHALL CONSIST OF CULTIVATING THE FOLLOWING SOIL ADMENDMENTS INTO THE UPPER 6 INCHES OF SOIL: 2 YARDS OF REDWOOD SHAVINGS, 20 LBS. 16-7-5 COMMERCIAL FERTILIZER, AND 100 LBS AGRICULTURAL GYPSUM PER 1,000 SQUARE FEET OF AREA.

BACK FILL ALL PLANTINGS WITH A MIXTURE OF 50% SOIL FROM PLANT PIT, 50% REDWOOD SHAVINGS AND AGRIFORM PLANT TABLETS, 21 GRAM 20-10-5 FORMULA, AS FOLLOWS: 1 TAB./1 GAL., 2 TAB./3 GAL., 3 TAB./5 GAL., 4 TAB./15 GAL., 6 TAB./24" BOX., 8 TAB./36 " BOX.

DR-50-88

CITY OF RIVERSIDE
PARKS & RECREATION DEPARTMENT
Jeffrey A. Bahr
Date 10-21-88 approved

REGISTERED LANDSCAPE ARCHITECT
Ray L. Orton
2/15/89
STATE OF CALIFORNIA

CITY BUSINESS TAX CERTIFICATE No. 041425
EXP. DATE: 11-1-90

ORTON associates
landscape development
Ray L. Orton
LICENSE NO 1214 (714) 985-7000
607 c. seventh st. · upland · ca 91786

MARK	REVISIONS	APPR.	DATE
FO	RELOCATE WALL @ PARKWAY		2/89

DESIGNED BY FEO DRAWN BY FEO CHECKED BY FEO

CITY OF RIVERSIDE
PUBLIC WORKS DEPARTMENT

APPROVED BY	DATE	BY
PRINCIPAL ENGINEER		
PARK DEPARTMENT	10-21-88	
TRAFFIC DIVISION		
CHIEF D. W. ENGINEER	3-30	
PLANNING	10-22-88	

APPROVED BY
PUBLIC WORKS DIRECTOR
DATE 3/31/89

REVERSE FRONTAGE PLAN
FOR
TRACT 23320

HORIZ. SCALE: 1"= 20' VERT. SCALE: 1"=

ACCOUNT NO.
R-2999 L
SHEET 3 OF 6

PC-2703

INDEXED 5-17-89 4H

SECTION 02441 - IRRIGATION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS:

The provisions of the "Standard Specifications for Public Works Construction", current edition, shall apply except as modified herein.

1.02 SCOPE:

A. General:

The work of this section shall include the furnishing of all labor, materials, equipment and services necessary to provide complete operating irrigation systems, including 120 volt electrical service to the controller, all as shown on the drawings and as specified.

B. Related Work Specified Elsewhere:

Site Clear and Grub	02110
Site Grading	02210
Selected Site Demolition	02111
Planting	02480
Electrical	16530

1.03 SUBMITTALS:

A. Materials List:

Contractor shall submit a complete materials list for approval by the City prior to performing any work. Catalog data and full descriptive literature must be submitted whenever the use of items different than those specified is requested. Notarized certificate must be submitted by plastic pipe and fitting manufacturer indicating that material complies with specifications, unless material has been previously approved.

Material list shall be submitted using the following format:

Item	Description	Manufacturer	Model No.
1	Pressure Supply Line	Lasco	Sch. 40
2	Lawn Head	Rainbird	2400
etc.	etc.	etc.	etc.

B. "Record" Prints:

(1) Record accurately on one set of blue-line prints all changes in the work constituting departures from the original contract drawings, including changes in pressure and non-pressure line locations.

(2) The changes and dimensions shall be recorded in a legible and workmanlike manner to the satisfaction of the City. Prior to final inspection of work, submit record prints to City for approval.

(3) Dimension from two permanent points of reference (buildings, monuments, sidewalks, curbs, pavement, etc. Data to be shown on record prints shall be recorded day-to-day as the project is being installed.

(4) Show locations and depths of the following items:

a. Point of connection.

b. Routing of sprinkler pressure lines (dimension maximum 100 feet along routing).

c. Gate valves.

d. Sprinkler control valves.

e. Quick coupling valves.

f. Routing of control wires.

g. Related equipment (as may be directed).

(5) Maintain record prints onsite at all times.

1.04 INSPECTIONS:

A. Inspections will be required for:

(1) Pressure test of irrigation main line.

(2) Coverage test.

(3) Final inspection/start of maintenance.

(4) Final acceptance.

B. Inspection Requests:

Contractor shall notify the Park Projects Inspector in advance for requesting all inspections as follows:

Pressure supply line installation and testing - 36 hours (1-1/2 working days)
System layout - 36 hours (1-1/2 working days)
Coverage tests - 36 hours (1-1/2 working days)
Final Inspection - 48 hours (two working days)

When inspections have been conducted by other than the Park Projects Inspector, the Contractor shall show evidence of when and by whom these inspections were made.

No inspection will commence without "record" prints. In the event the Contractor calls for an inspection without up to date "record" prints, without completing previously noted corrections, or without preparing the system for inspection, the inspection will be cancelled and the Contractor back charged for the direct costs of all City personnel time and consultant time lost.

C. Closing in uninspected work:

Do not allow or cause any of the work of this section to be covered up or enclosed until it has been inspected, tested and approved by the City.

D. Coverage test:

When the sprinkler system is completed, Contractor shall perform a coverage test in the presence of the City to determine if the water coverage for planting areas is complete and adequate. This test must be accepted by the City before planting can commence.

E. Hydrostatic test:

(1) Prior to the installation of any valves, all pressure lines shall be tested under a hydrostatic pressure of 150 psi for a period of not less than two hours, with all ends of lines capped and the line fully charged with water after all air has been expelled from the line.

(2) All hydrostatic tests shall be made in the presence of the City. No pressure line shall be backfilled until it has been inspected, tested, approved in writing, and the mainline and valve locations have been noted on the "as-built" record drawings.

(3) Contractor shall furnish necessary force pump and all other test equipment.

1.05 TURNOVER ITEMS:

A. Controller Charts:

(1) Record prints must be approved by City before charts are prepared.

(2) Provide one controller chart (of the maximum size controller door will allow) for each automatic controller. Chart shall show the area covered by controller.

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

(4) Chart shall be marked with a different color to show the area of coverage for each station.

(5) When completed and approved, the chart shall be hermetically sealed between two pieces of plastic, each piece being minimum 20 mils in thickness. Chart shall be installed in the controller enclosure using velcro fasteners.

(6) Controller charts shall be completed prior to final inspection.

B. Operation and Maintenance Manuals:

Within 10 calendar days prior to acceptance of construction, prepare and deliver to the City all required descriptive materials, properly prepared in two individually bound copies of the operation and maintenance manual. The manual shall describe the material installed and shall be in sufficient detail to permit operating personnel to identify, operate, and maintain all equipment. Spare parts lists and related maufacturer's information shall be included for each equipment item installed. Each complete, bound manual shall include the following information:

(1) Index sheet stating Contractor's address and telephone number, including names and addresses and telephone numbers of local manufacturer's representatives.

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

C. Materials to be furnished:

(1) Supply as part of this contract the following items:

a. 4% additional sprinkler heads of each type and spray pattern shown.

b. Two (2) wrenches for disassembly and adjustment of each type sprinkler head installed.

c. Two keys for each automatic controller.

d. Two couplers with a 3/4" bronze hose bib, bent nose type with hand wheel and two coupler keys.

e. One valve box cover key.

f. "As-built" record drawings.

g. Remove and turn over backflow device valve handles.

h. Documentation of Water Department's inspection and acceptance of backflow device.

D. The above items shall be turned over to the City at the conclusion of the project - final inspection.

1.06 GUARANTEE:

A. General:

The entire sprinkler system, including all work done under this contract, shall be guaranteed against all defects and fault of material and workmanship for a period of one (1) year following the filing of the Notice of Completion. All materials used shall carry a manufacturer's guarantee of one (1) year.

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 the City within ten (10) calendar days of receipt of written notice from the City. When the nature of the repairs as determined by the City constitute an emergency (e.g. broken pressure line) the City 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 City by the Contractor, all at no additional cost to the City.

B. Form of Guarantee:

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, and that the work, materials, and equipment as installed will fulfill the requirements of the guarantee included in the specifications. We agree to repair or replace any or all of our work, together with any other adjacent work which may be displaced by so doing, that may prove to be defective in its workmanship or materials within a period of one (1) year from date of acceptance of the above named project by the City of Riverside, California, at no additional cost to the City. We shall make such repairs or replacements within 10 calendar days following written notification by the City. When the immediate repair or replacement of the work is necessary to ensure the public safety and welfare, which would be endangered by continued usage of the facility, such circumstance will be deemed an operational emergency. In the event of such an emergency after the City contacts our firm and after authorizing 24 hours to initiate repairs, if we fail to initiate and diligently complete such repairs in a timely manner, the Director may direct City forces to perform such functions as he may deem necessary to correct the work and immediately place the facility back in operational condition. If such procedure is implemented, we shall bear all expenses incurred by the City. In all cases, the judgement of the Director shall be final in determining whether an operational emergency exists. In the event of our failure to make such repairs or replacements within the time specified after receipt of written notice from the City (other than an operational emergency), we authorize the City to proceed to have said repairs or replacements made at our expense and we will pay the costs and charges therefore upon demand.

PROJECT: ____________
LOCATION: ____________

SIGNED: ____________
ADDRESS: ____________
PHONE: ____________

C. After the system has been completed, the Contractor shall instruct the Parks Department Representative in the operation and maintenance of the system and shall furnish a complete set of operating instructions.

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

PART 2 - MATERIALS

2.01 GENERAL:

All materials shall conform with Section 212 of the Standard Specification except as modified herein.

2.02 PIPE AND FITTINGS:

A. Pipe - General:

(1) Pressure supply lines 2 inches in diameter and up to 8 inches in diameter shall be either Class 315 solvent weld PVC or Class 200' rubber gasket type PVC. Solvent weld and ring type pipe shall not be used together on the same pressure supply line.

(2) Pressure supply lines 1-1/2 inches in diameter and smaller shall be minimum schedule 40 PVC.

(3) Non-pressure lines shall be minimum Class 200 PVC.

B. Steel Pipe:

Amend Standard Specifications Section 212-2.1.2 to read: "All steel pipe shall be hot-dipped galvanized,.....", and add: "All fittings for steel pipe shall be 250 pound rated galvanized malleable iron, banded pattern. Pipe sizes indicated on the drawings are nominal inside diameter, unless otherwise noted."

C. Plastic Pipe:

Add the following to Standard Specifications Section 212-2.1.3: All plastic pipe shall bear the following markings: manufacturer's name, nominal pipe size, schedule or class, type of material, pressure rating in PSI, NSF seal of approval, and date of extrusion.

Amend Standard Specification Section 212-2.1.3 to read: All plastic pipe fittings shall be standard weight schedule 40 and shall be injection molded of an improved PVC fitting compound. All threaded plastic fittings shall have injection molded threads. No cut threads will be accepted on PVC pipe and fittings. All tees and ells shall be manufactured in injection molds that are side gated. All threaded nipples shall be standard weight schedule 80 with molded threads.

Amend first sentence of Standard Specification Section 212-2.1.4 to read: "All rubber gasket PVC pipe, couplings, and fittings shall conform to ASTM D 2241 Type 1, Grade 1, 2000-PSI design stress"; and add the following to the section: "Couplings, rubber gaskets, and fittings shall be as approved by the pipe manufacturer. Ring-type rubber gasket couplings shall permit a five (5) degree deflection of the pipe at each coupling (2-1/2 degrees each side) without exfiltration or infiltration, cracking or breaking."

D. Asbestos Cement Pipe:

Add the following to Standard Specifications Section 212-2.1.6: Fittings for A.C.P. connection laterals shall be cast iron tees and bossed couplings except as follows:

(1) Double strap service clamps with rubber seals and flat bronze straps may be used for connections of 50 percent or less than the diameter of pipe.

(2) Tapped A.C.P. couplings with brass inserts may be used for connections of 3/4, 1, 1-1/4, 1-1/2 and 2 inches.

2.03 VALVES AND VALVE BOXES:

A. Manual Control Valves:

Add the following to Standard Specifications Section 212-2.2.3: Anti-siphon-type valves shall be all bronze with swivel-type replaceable seating members and an approved vacuum breaker as an integral part of assembly.

B. Remote Control Valves:

Add the following to Standard Specifications Section 212-2.2.4: Valves shall be spring-loaded, self-cleaning, packless diaphram activated, of a normally closed type. Valves shall be of the same manufacturer and series as the automatic controller.

Valve solenoid shall be corrosion-proof and constructed of stainless steel molded in epoxy to form one integral unit, and shall be 24 volt A.C., 2.0 watt maximum (2" and smaller valves).

Valve shall close against flow without chatter and with minimum closing surge pressure (minimum 5 seconds closing time per valve).

Valve shall be completely serviceable in the field without removing valve body from line.

C. Quick-Coupling Valves:

Add the following to Standard Specifications Section 212-2.2.6: Quick coupling valves shall have locking vinyl cover and shall be 1" in size.

D. Gate Valves:

All gate valves shall be capable of withstanding a minimum working pressure of not less than 150 psi.

E. Valve Boxes:

Add the following to Standard Specifications Section 212-2.2.7: All remote control valve boxes shall be rectangular concrete boxes with non-hinged locking cast-iron covers. Valve station number shall be stenciled in two-inch-high)2") numerals on cover using epoxy resin base paint of a contrasting color. Gate valve boxes shall be round concrete boxes with non-hinged locking cast iron covers marked either "Gate Valve" or "G. V." with letters cast or tooled in the cover.

2.04 BACKFLOW PREVENTER:

Add the following to Standard Specifications Section 212-2.3: The backflow prevention unit shall be a reduced pressure type vacuum breaker of the size, manufacture, and model number as indicated on the drawings. If not indicated, the device shall be the same size as the water service and the manufacturer and model number shall be as approved by the City.

2.05 ELECTRICAL MATERIALS

A. Conduit:

Amend Standard Specifications Section 212-3.2.1 to read: Conduit below paving shall be schedule 40 PVC of sufficient size to carry all proposed wiring. Wiring shall be in a separate sleeve.

B. Wire:

Add the following to Standard Specifications Section 212-3.2.2:

All common wire shall be white with a colored stripe. Stripe color shall be different for each controller installed. All control wire shall be of one color other than white or green. A different color control wire shall be used for each controller installed.

C. Electrical Service:

Materials for electrical service shall comply with the standard specifications, governing utility agency standards, and requirements of all applicable codes.

2.06 CONTROLLER UNIT:

Add the following to Standard Specifications Section 212-3.3:

Controllers shall be wall mounted type, as indicated on the drawings, with a heavy duty watertight case and locking hinged cover.

2.07 IRRIGATION HEADS:

All irrigation heads shall be as shown on the plans and shall conform with Section 212-2.4 of the Standard Specifications.

PART 3 - EXECUTION

3.01 GENERAL:

All work shall conform with Section 308 of the Standard Specifications except as modified herein. No work of this section other than sleeving under pavement shall commence prior to the completion and acceptance of all grading work specified in Section 02210.

Add the following to Standard Specifications Section 308-5.1:

A. 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 cost to the City.

B. Electrical Service:

Contractor shall provide electrical service as necessary and make 120V connection to the irrigation controllers.

C. Code Requirements:

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. 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.

In the event any equipment or methods indicated on the drawings or in specifications is in conflict with local codes, immediately notify the inspector prior to installing. If this notification is not provided, the Contractor shall assume full responsibility for the cost of all revisions necessary to comply with code.

D. Grades:

Before starting work of this section, the contractor shall obtain the written acceptance of the City of the fine grades, and written authorization for the work of this section to proceed. Contractor is to keep within the specified material depths with respect to finish grade. Failure to obtain such written acceptance may subject the contractor to adjusting the grades or depth of lines in order to achieve acceptable depths of cover, all as directed by the City and at no additional cost to the City.

E. Coordination with work of other trades:

Make all necessary measurements in the field to ensure precise fit of items in accordance the original design. Contractor shall coordinate the installation of all irrigation materials with all other work. Special attention shall be given to coordination of piping locations versus tree and shrub locations and sleeve locations versus pavement installation to avoid conflicts.

F. Contractor shall maintain record drawing blueprint on site at all times. Upon completion of work, transfer all as-built information on changes and dimensions to reproducible sepia prints. The changes and dimensions shall be recorded in a legible and workmanlike manner, to the satisfaction of the Park Projects Inspector.

3.02 TRENCHING AND BACKFILLING:

A. Trenching:

(1) Add the following to Standard Specifications Section 308-2.2: Dig trenches and support pipe continuously on bottom of ditch. Where lines occur under paved areas, depth dimensions shall be considered below subgrade.

(2) Amend Standard Specifications Section 308-2.2.2) to read: Water lines continuously pressurized - minimum 18 inches, maximum 24 inches. (These measurements are to be from subgrade elevation for piping under pavement.)

(3) Amend Standard Specifications Section 308-2.2, paragraph 3) to read: Lateral sprinkler lines - minimum 12 inches and maximum 16 inches.

(4) Add the following to Standard Specifications Section 308-2.2: Where it is necessary to excavate adjacent to existing trees, the contractor shall avoid injury to trees and tree roots. Excavation in areas where 2-inch and larger roots occur shall be done by hand. All roots 2 inches and larger in diameter shall be tunneled under and shall be heavily wrapped with wet burlap to prevent scarring or drying. Where trenching machine is run close to trees having roots smaller than 2 inches in diameter, the wall of the trench adjacent to the tree shall be hand trimmed, making a clean cut through the roots. Roots 1 inch and larger in diameter shall be painted with two coats of tree seal or approved equal. Trenches adjacent to trees shall be closed within 24 hours.

(5) Permanent Resurfacing: Add the following to Standard Specifications Section 308-5.1: All surface improvements damaged or removed as a result of the contractor's operations shall be reconstructed by the contractor to the same dimensions, except for pavement thickness, and with the same type materials used in the original work. Trench resurfacing shall be 1 inch greater in thickness than existing pavement. Concrete pavement shall be removed and replaced in "full panels" with no horizontal dimension less than five (5) feet. Contractor shall review the planned limits and lines of concrete removal and replacement with the Park Projects Inspector prior to sawcutting for removal work.

B. Backfill:

Amend Standard Specifications Section 308-2.2 to read: Backfill shall be uniformly tamped in 4-inch layers under and around the pipe for the full width of the trench and the full length of the pipe. 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.

Flooding in lieu of tamping is not allowed without specific prior written approval of the Soils Engineer and the Park Projects Inspector.

Under no circumstances shall the wheels of any vehicle not designed for the purpose of soils compaction be used to compact backfill.

3.03 PIPE INSTALLATION:

A. General: Add the following to Standard Specifications Section 308-5.2.1:

(1) Piping under existing pavement may be installed by jacking, boring, or hydraulic driving. However, no hydraulic driving is permitted under asphaltic concrete pavement.

(2) Cutting or breaking of existing pavement is not permitted except as approved by Park Projects Inspector. When approved, all necessary repairs and replacements will be made at no additional cost to the City.

(3) Carefully inspect all pipe and fittings before installation, removing all dirt, scale and burrs and reaming; install pipe with all markings up for visual inspection and verification.

(4) Contractor shall install concrete thrust blocking per the manufacturer's recommendations at all changes of direction and terminal points of pressure pipe.

(5) Parallel lines shall not be installed directly over one another. Provide a minimum of 12" horizontal separation for all parallel lines.

(6) For plastic-to-metal connections, work the metal connections first. Use a non-hardening pipe dope on all threaded plastic-to-metal connections, except where noted otherwise.

(7) All piping under pavement shall be sleeved using schedule 40 PVC sleeves. Each line shall be separately sleeved.

(8) Do not install multiple assemblies ("manifold") on plastic lines. Provide each equipment assembly (e.g. RCV, quick coupler, gate valve, head, backflow device) with its own connection to its service line.

B. Plastic Pipe: Add the following to Standard Specifications Section 308-5.2.3:

(1) Exercise care in handling loading, unloading and storing plastic pipe and fittings, store plastic pipe and fittings under cover until ready to install; transport plastic pipe on a vehicle with a bed long enough to allow pipe to lay flat, avoid undue bending and any concentrated external load.

(2) 360° applicators shall be used to apply primer and solvent on pipe sizes 2-1/2 inches and larger.

3.04 BACKFLOW INSTALLATION:

Add the following to Standard Specifications Section 308-5.3: Install backflow assemblies at locations approved in the field by the Park Projects Inspector and at heights required by local codes.

3.05 VALVE AND VALVE BOX INSTALLATION:

Amend Standard Specifications Section 308-5.3 to read: Valves shall be the same size as the pipeline in which they are installed unless otherwise specified on plans. Valves shall be installed a minimum of three feet in horizontal distance apart, each with its own connection to the pressure main line.

Amend Standard Specifications Section 308-5.3 to read: Install quick couplers and valve boxes per Parks and Recreation Department standard details.

Add the following to Standard Specifications Section 308-5.3: Valves shall be installed in shrub areas whenever possible. No valves or valve boxes, other then quick coupler valves shall be installed within a designated athletic playing field.

3.06 SPRINKLER HEAD INSTALLATION:

Amend Standard Specifications Section 308-5.4.1 to read: Sprinkler heads shall be installed as designated on the drawings and per Parks and Recreation standard details.

3.07 CONTROLLER INSTALLATION:

Add the following to Standard Specifications Section 308-5.3: The controller location, as shown on the plans, is diagrammatic. The final location of the controller shall be as approved by the Park Projects Inspector before installation. The Contractor shall coordinate the electrical service with this location. The controller shall be wall mounted within a Le Meur vandal resistent enclosure, unless noted otherwise on the plan. Controller enclosure shall be located in shrub areas and/or adjacent to other hardscape items. Enclosure shall be painted with two coats of paint, color as approved; submit samples. A 4" thick concrete slab for maintenance access shall be provided, size approximately 15 sq. ft., line, grade and dimensions as directed by the Park Projects Inspector.

Following establishment of the turf, the irrigation system shall be programmed to operate during the periods of minimal use of the project area (i.e., 11:00 p.m. through 6:00 a.m.).

3.08 WIRING:

Add the following to Standard Specifications Section 308-5.5: All splice connections shall occur in a valve box. All wire runs between the valve and the controller shall be a continuous run with no splices unless noted otherwise on the plan.

All low voltage wiring splices shall be made up as soldered connections, wrapped with a minimum of two (2) layers of electrical tape and sealed with Scotch-coat. Scotch-lok, Uni-pack, Penn-tite, or other similar type connectors are not acceptable.

3.09 FINISHING AND TESTING:

Add the following to Standard Specifications Section 308-5.6.2: Centerload all plastic pipe prior to pressure testing. Amend Standard Specifications Section 308-5.6.2 to read: Pressure test the mains - minimum 2 hours at 150 PSI. Add the following to Standard Specifications Section 308/5.6.2: The entire system shall be operating properly before any planting operations commence.

3.10 COMPLETION CLEANING:

Add the following to Standard Specifications Section 308: Upon completion of the work, Contractor shall smooth all ground surfaces, remove excess materials, rubbish, debris, etc., sweep adjacent streets, curbs, gutters, walkways and trails, and remove construction equipment from the premises.

END OF SECTION

BJ/0017o/c
05/12/87

REVERSE FRONTAGE

GENERAL NOTES FOR PLAN CHECK

1. All related work shall conform to the City of Riverside Park and Recreation Department Standards.

2. Contact the Park Projects Inspector a minimum of 48 hours in advance at (714) 782-5223 to schedule inspection. Inspections shall be required:

a. Prior to the installation of irrigation lines of components.

b. Prior to installation of hardscape.

c. When plant locations have been spotted if the field prior to digging plant pits.

d. While digging plant pits and planting/relocating trees.

e. After planting and all other indicated or specified work has been completed for start of maintenance.

f. At end of maintenance/final acceptance (contractor/developer will be released from maintenance only upon reciept of written notification from the City that the Park and Recreation Department is assuming maintenance responsibilities).

3. The Contractor/Developer shall maintain all plantings for a minimum period of one (1) year.

NOTE:

+ ALL WIRES UNDER CONCRETE SHALL BE SLEEVED PER CITY OF RIVERSIDE PARK AND RECREATION DEPARTMENT STANDARDS.

+ ALL PIPING UNDER CONCRETE SHALL BE SEPERATELY SLEEVED PER CITY OF RIVERSIDE - PARK AND RECREATION DEPARTMENT STANDARDS.

DR-50-88

CITY BUSINESS TAX CERTIFICATE No. 041425
EXP. DATE: 11-1-90

Ray L. Orton
2/15/89

ORTON associates
landscape development
Ray L. Orton
LICENSE NO
(714) 985-7000
607 e. seventh st. · upland · ca 91786

MARK	REVISIONS	APPR.	DATE
FO	RELOCATE WALL @ PARKWAY		2/89

DESIGNED BY FEO DRAWN BY FEO CHECKED BY FEO

CITY OF RIVERSIDE
PUBLIC WORKS DEPARTMENT

APPROVED BY	DATE	BY
PRINCIPAL ENGINEER		
PARK DEPARTMENT	10-21-88	GB
TRAFFIC DIVISION		
CHIEF P. W. ENGINEER	3-30	
PLANNING	10-22-88	

3/29/89

APPROVED BY Barry Beck
PUBLIC WORKS DIRECTOR
DATE 3/31/89

SPECIFICATION SHEET
REVERSE FRONTAGE PLAN
FOR
TRACT 23320

HORIZ SCALE: 1" = VERT. SCALE: 1" =

ACCOUNT NO.
R-2999 L

SHEET 4 OF 6

PC-2703

INDEXED 5-17-89

SECTION 02480 - PLANTING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS:

The provisions of the "Standard Specifications for Public Works Construction" shall apply except as modified herein.

1.02 SCOPE:

The work required is indicated on the drawings and includes, but is not necessarily limited to: soil preparation; finish grading (as distinguished from fine grading per Section 02210); planting trees; guying and staking trees; planting shrubs and groundcover; hydroseeding turf; soil erosion control; maintenance; plant establishment; guarantees; and replacements.

1.03 SOILS TEST:

The Contractor shall notify the Park Projects Inspector upon completion of fine grading and prior to commencement of soil preparation work. The City will obtain agronomic soils tests for all planting areas after completion of fine grading and prior to start of soil preparation work. Tests will be performed by an approved agronomic soils testing laboratory and will include a fertility and suitability analysis with written recommendations for soil preparation, planting backfill mix, auger hole requirements, and post plant fertilization program. The soils report recommendations shall take precedence over the minimum amendment and fertilizer application rates specified herein only when they exceed the specified minimums. Contractor shall allow a minimum two week period for the soils testing work commencing upon acceptance of the fine grading work per Section 02210 by the Park Projects Inspector.

1.04 GUARANTEE:

A. All trees installed under the contract shall be guaranteed against any and all poor, inadequate or inferior materials and/or workmanship for a period of one (1) year following final acceptance.

B. During the guarantee period, any material found to be dead, missing, or in poor condition shall be replaced by the contractor within ten (10) days of written notification. Park and Recreation Department shall be the sole judge as to the condition of the material.

C. Replacement shall be made in accordance with City standards.

D. Material and labor involved in replacing plant material shall be provided by the contractor at no additional cost to the City.

1.05 INSPECTIONS:

Inspections will be required. The Contractor shall contact the Park Projects Inspector at least 48 hours (2 working days) in advance of an anticipated inspection. An inspection will be required at each of the steps listed below:

A. Upon completion of fine grading and prior to commencement of soil preparation, for acceptance of fine grading work and taking of soils samples.

B. Inspection of completed finish grading work following soil amendment work.

C. When container plants and/or bare root stock are spotted for planting, but before planting holes are excavated.

D. When planting and all other indicated or specified work has been completed.

E. During application of pre-emergent chemical.

F. At start of plant establishment period.

G. At end of the plant establishment period, prior to final acceptance of the project for maintenance by the City, this acceptance for maintenance will be confirmed in writing by the Park and Recreation Department.

1.06 SUBMITTALS:

A. The following written certifications are required to be submitted to the Park Projects Inspector upon delivery of the respective materials to the job site:

Total Quantity of commercial fertilizers, by type
Total Quantity of soil amendments and conditioners, by type
Total Quantity of seed, by type
Total Quantity of mulch
Total Quantity of iron sulphate

1.07 PLANT ESTABLISHMENT PERIOD:

The length of the Plant Establishment Period shall be as specified in Section 6-7.4 of the Special Provisions; see also Subsection 3.08 of this section regarding start of plant establishment period.

PART 2 - MATERIALS

2.01 GENERAL:

All materials shall conform with Section 212 of the Standard Specifications except as modified herein.

2.02 FERTILIZER, SOIL AMENDMENTS AND CONDITIONERS:

Add the following to Standard Specifications Section 212-1.2.3:

A. Planting Tablets: Tightly compressed long-lasting, slow-release fertilizer tablets weighing 21 grams, with a potential acidity of not more than 5 percent by weight and having an analysis of 20-10-5 derived from the sources listed in the following guaranteed analysis:

GUARANTEED ANALYSIS

Total Nitrogen (N) 20%
Derived from urea formaldehyde
7.0% water soluble nitrogen
13.0% water insoluble nitrogen

Available Phosphoric Acid (P_2O_5) 10%
Derived from calcium phosphate

Soluble Potash (K_2O) 5%

Combined Calcium (Ca) 2.6%
Derived from calcium phosphates

Combined Sulfur (S) 1.6%
Derived from ferrous and,potassium sulfates

Iron (expressed as elemental Fe) 35%
Derived from ferrous sulfate

B. Commercial fertilizer shall bear the manufacturer's guaranteed statement of analysis and shall meet the following minimum requirements: 16% nitrogen, 6% phosphoric acid, and 8% potash.

C. Organic Soil Amendment:

Shall be type 1 organic soil amendment, wood based product, nitrogen stabilized.

D. Soil Conditioners:

Add to Standard Specifications, new Section 212-1.2.6: Inorganic conditioners shall be agricultural grade gypsum, soil sulfur and iron sulfate. Iron sulphate shall be ferric sulphate or ferrous sulphate in pelleted or granular form containing not less than 18.5% iron, expressed as metallic iron, and shall be registered as an agricultural mineral with the State Department of Agriculture in compliance with Article 2 "Fertilizing Materials", Section 1030 of the Agriculture Code.

2.03 SEED:

Add the following to Standard Specifications Section 212-1.3:

Turf Seed Mix	Proportion by weight	Purity	Germination
Perrennial Rye (50% 'Penn Fine', 50% 'Derby')	20%	95%	90%
PJ Bluegrass (50% 'Rugby' 50% 'Parade')	60%	98%	80%
Un-Hulled Bermuda (Certified Arizona Common)	20%	98%	85%

(Note: For applications in May through September, use Hulled Bermuda.)

Seeding rate: 218 pounds per acre (5 pounds per 1,000 square feet)

2.04 HYDROSEEDING MATERIALS:

Add the following to Standard Specifications Section 212-1.3:

Water: All water used shall be potable domestic water as drawn from the City pressure main. See General Provisions section 7-8.5 regarding temporary construction meter and charges for water drawn from City fire hydrants.

Seed: Turf seed mix as specified.

Mulch: Fiber shall be produced from cellulose such as wood pulp or similar organic material and shall be of such character that it will disperse into a uniform slurry when mixed with water. The fiber shall be of such character that when used in the applied mixture, an absorptive or porous mat, but not a membrane, will result on the surface of the ground. Materials which inhibit germination or growth shall not be present in the mixture.

Binding Agent: Dry powder organic concentrate, Ecology Controls M-Binder or equal, as available from Robinson Fertilizer Company 714/538-3575.

Fertilizers:

A. 16-7-12 (+Iron) resin coated prills, Agriform, or City approved equal.

B. Single super phosphate 0-18-0.

2.05 PLANTS:

A. Add the following to Standard Specifications Section 212-1.4.1:

All plants shall be true to name, and one of each bundle or lot shall be tagged with the name and size of plants in accordance with the standards of practice recommended by the American Association of Nurserymen. The root condition of plants furnished in containers shall be determined by removal of earth from the roots of not less than two plants nor more than 2% of the total number of plants of

each species or variety except when container-grown plants are from several different sources; in which case, the roots of not less than two plants of each species or variety from each source shall be checked by the Park Projects Inspector at his option. The selection of plants to be checked will be made by the Park Projects Inspector.

All plants rendered unsuitable for planting shall be considered as samples, and replacements shall be provided at no additional cost. In case the sample plants are found to be defective, the entire lot or lots of plants represented by the defective samples will be rejected.

B. Amend the Standard Specifications Section 212-1.4.2 and 212.1.4.3: All trees and shrubs supplied by contractor shall be of the specified standard height and diameter set by the American Standard for Nursery Stock. The height of the trees shall be measured from the root crown to the last division of the terminal leader and the diameter shall be measured six (6) inches above the crown roots. The trees shall stand erect without support.

C. Add to Standard Specifications, new Section 212-1.4.6: Rooted cuttings will also be acceptable.

D. Bare root stock shall conform to the American Nurseryman's Association standards. Minimum caliper shall be two (2) inch diameter and minimum height shall be twelve (12) feet.

2.06 BACKFILL MATERIAL

Add the following to the Standard Specifications Section 212:

A. Top soil shall be free of noxious weed seed and shall be of a loam characteristic, fertile and friable.

B. Wood shavings shall be leached nitrogen fortified and shall be free of foreign matter.

C. Soil used for backfill of planting pits for container plants shall be enriched using the following blend per cubic yard (agronomic soil test recommendations to be reviewed prior to soil mixing):

60% site soil — 3 lbs. gypsum
40% wood shavings — 2 lbs. iron sulphate
2 lbs. commercial fertilizer

Bare root stock backfill shall consist of 10% wood shavings and 90% site soil with fertilizer and soil conditioners as specified for container plants.

D. All soil backfill shall be bulk mixed, not individually mixed at each plant pit.

2.07 HEADERS, STAKES AND TIES:

A. Add the following to Standard Specifications Section 212-1.5.3:

(1) Tree stakes shall be straight-grained lodgepole pine, or City approved equal. Stakes shall be free from knots, checks, split, or disfigurements.

(2) Tree ties shall be made from tire casing, 22" long by 3/4" wide, fastened to tree stake with two galvanized 5d roofing nails each.

B. Add the following new section to Standard Specifications Section 212-1.5(d), Concrete Curbing - Concrete shall be 5 sack mix with a maximum slump test of four inches (4"). Provide sufficient concrete forming and stakes (maximum 3' o.c.) to provide continuous line without waving.

2.08 JUTE NETTING:

Jute netting shall be new and shall be of uniform, plain-weave, flame-retardant mesh. The mesh shall be dyed green and shall be made from unbleached single jute yarn. The yarn shall be of loosely twisted construction and shall not vary in thickness by more than one-half its normal diameter. Jute netting shall be furnished in rolled strips and shall meet the following requirements:

Width - 48 inches, with a tolerance of one inch wider or narrower.

Minimum 78 warp ends per width of roll.

Minimum 41 weft ends per yard of length.

Weight shall average 1.22 pounds per linear yard, with a tolerance of 5 percent heavier or lighter.

PART 3 - EXECUTION

3.01 GENERAL:

All work shall conform with Section 308 of the Standard Specification, except as modified herein.

3.02 WEED CONTROL MEASURES:

Add the following to Standard Specifications Section 308-2.4:

A. Upon completion of all fine grading work per Section 02210 Grading, and prior to soil preparation, perform weed control measures as follows:

1. Irrigate all areas designated to be planted for a minimum of 10 minutes per setting, two settings per day for seven days to germinate all weed seed possible.

2. Apply a contact weed killer and allow sufficient time to obtain complete kill of all weeds germinated.

3. Repeat step one above.

4. Repeat step two above.

3.03 SOIL PREPARATION:

Add the following to Standard Specifications Section 308-2.3:

A. All fine grading and mounding per Section 02210 and weed control measures shall be completed prior to soil preparation.

B. This work shall not commence until the agronomic soils test has been completed. Should 30 calendar days elapse between completion of soil preparation and commencement of planting, all areas shall be prepared again.

C. Planting areas with slopes 3:1 and steeper shall not be soil prepared. In lieu of soil preparation, such slopes will require fertilizer tablets for all plantings per Section 3.05, c. below. In all planting areas with gradients less than 3:1, a layer of soil amendments shall be spread and rototilled into the soil to a minimum depth of 4 inches, or as recommended by the soils report, so that the soil shall be loose, friable, and free from rocks, sticks, and other objects undesirable to planting.

D. The following soil amendments shall be added per 1,000 square feet to all planting areas with gradients less than 3:1 (agronomic soil test recommendations shall take precedence where these minimum amounts are exceeded):

(1) 6 cubic yards organic amendment.

(2) 15 pounds commercial fertilizer.

(3) 100 pounds gypsum.

(4) Soil sulfur per soils report.

3.04 FINISH GRADING:

The Contractor shall finish grade all planting areas filling as needed or removing surplus dirt, raking to remove all rocks and debris over 1 inch in diameter, and floating to a smooth uniform grade. All areas shall slope to drain. Flow lines shall be established to existing roads, curbs, swales, and/or a sidewalks as shown on the plans and as directed. All fill material placed within the top 12" from finish grade elevations in all planting areas shall be topsoil.

All landscape areas shall be finish graded, (as distinguished from fine grading specified in Section 02210) to "dress out", maintain, and/or re-establish finish grades and flow lines as approved prior to amending the soil. Contractor shall call for inspection upon completion of finish grading work. Contractor shall not proceed with planting work until finish grades have been inspected and accepted by the Park Projects Inspector.

3.05 EROSION CONTROL:

Add new section to the Standard Specifications: 308-4.6(f) Jute Netting:

All slopes areas exceeding 3:1 shall receive jute netting. Netting shall also be provided during the maintenance period, when and as directed by the Park Projects Inspector, along flow lines and other locations where erosion is evident. Jute netting shall be installed loosely, up and down the slope. The installed netting shall fit the soil surface contour and shall be held in place by 9-inch long, 11-gage (minimum) steel wire staples driven vertically into the soil at approximately 24-inch spacing. Jute netting strips shall overlap along the sides at least 6 inches. Ends of strips shall be buried in the soil at least 6 inches. Lap all ends of rolls a minimum of 24".

3.06 PLANTING:

A. Amend the Standard Specifications Section 308-4.5 to coordinate with Section 2.06 herein for specified backfill mix.

B. Add the following to the Standard Specification Section 308-4.5:

(1) Soil surrounding planting pit shall be in a friable condition and moist to a depth of 8".

(2) Backfill using specified soil mix to within 8" of finish grade. At this depth, place the plant fertilizer tablets Agriform 20-10-5, 21 grams each, or City approved equal. A minimum of 1 tablet for 1 gallon, 3 tablets for 5 gallons, 5 tablets for 15 gallons, and 8 tablets for a 24" box. Complete backfilling to finish grade.

(3) Trees (other than relocated palms) shall be planted at such a depth that the crown roots bear the same relative position to finish grade as they did to the soils where they were grown. Backfill after planting shall be compacted carefully into place without injuring the roots of the tree or breaking up the ball of earth surrounding the roots.

C. Add the following to Standard Specifications Section 308-4.7:

(1) On slopes exceeding 3:1 ratio, apply 5 gram Agriform tablets, one per plant in lieu of soil preparation work.

(2) Mulch and fertilize groundcover areas using 1.5 cubic yards of wood shavings and 5 lbs. of the specified commercial fertilizer per 1,000 square feet. Repeat fertilization at 30 day intervals throughout the duration of the contract up to 4 applications, after which decrease frequency to once every 90 days.

(3) All groundcover and bare dirt areas are to be treated with a pre-emergent chemical (subject to approval by the Park Inspector prior to application). Chemicals are to be applied by a licensed Pest Control Agent. This treatment shall be applied at the following times during the contract: a) before planting, b) at beginning of plant establishment period, and c) at end of plant establishment period. The Park Projects Inspector, (714) 782-5223, shall be given a minimum of 48 hours (2 working days) notice prior to each application. No chemicals shall be applied other than in the presence of the Inspector.

3.07 TREE STAKING:

Amend the Standard Specifications Section 308-4.6.1 and 308.4.6.2 to read: Stake trees per Park and Recreation Department standard detail.

3.08 TURF PLANTING:

Add the following to Standard Specifications Section 308-4.8.2, b:

Mixing of hydroseed slurry: 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 of fiber, M-Binder, seed, fertilizer and water in the designated unit proportions.

Fiber	1,000 lbs./acre
Fertilizers:	
NPK	870 lbs./acre
Single superphosphate	200 lb./acre
Seed	as specified in Section 2.03
M-Binder	100 lbs./acre on slopes exceeding 5:1
Water	3,000 gal./acre
Agricultural Grade Gypsum	500 lb./acre

With agitation system operating at part speed, water shall be added to the tank, good recirculation shall be established. Materials shall be added in such a manner that they are uniformly blended into the mixture in the following sequence:

When tank is 1/3 filled with water:

Add binding agent - 1/2 acre requirement.
Add 3 - 50 pound bales of fiber.
Add seed - 1/2 acre requirement.
Add fertilizer - 1/2 acre requirement.

Agitate mixture at full speed when the tank is half-filled with water.

Add remainder fiber requirement, 7 bales before tank is 3/4 full. Add remainder fertilizers, seed and gypsum. Slurry distribution should begin immediately.

Area to be hydroseeded shall be moistened to a depth of six inches just prior to application.

Application: Hydroseed slurry shall be applied under high-pressure evenly and result in a uniform coat on all areas to be treated. Care shall be exercised to assure that plants in place are not subjected to the direct force of the application. Slurry shall be immediately removed from walks, structures, plants, etc., that are inadvertently sprayed.

All bare spots shall be reseeded by the Contractor within 10 days. The Contractor shall be responsible for all reseeded areas for as long after seeding as necessary until acceptable germination and establishment is realized and approved by the City.

The slurry shall not be sprayed on undesignated areas. Any slurry spilled or sprayed into areas other than those designated to receive spray shall be cleaned up at the Contractor's expense to the satisfaction of the City.

3.09 WATERING:

Add the following to Standard Specifications Section 308-4.9.5:

A. It shall be the Contractor's responsibility to maintain a balanced watering program to ensure proper growth until final acceptance of the work.

B. Immediately after planting, apply water to each plant. Apply water in a moderate stream in the planting hole until the material about the roots is completely saturated from the bottom of the hole to the top of the ground.

C. Apply water in sufficient quantities and as often as seasonal conditions require to keep the planted areas moist at all times, well below the root system of plants.

D. Irrigation:

(1) Contractor shall properly and completely maintain the irrigation system. A balanced water program shall be maintained to ensure proper germination and growth until final acceptance of the work. Plants which cannot be watered sufficiently with the irrigation system shall be watered by means of a hose.

(2) All controllers are to have each station individually adjusted on a weekly basis. System shall be set considering the applicatoin rate each area is capable of receiving. The system shall operate on short intervals, with the cycle repeating at a later time to reduce runoff.

3.10 MAINTENANCE:

Amend the Standard Specifications Section 308-6 to read: All areas within the work limits of this contract shall be maintained by the contractor for the duration of the contract until final acceptance.

3.11 START OF PLANT ESTABLISHMENT: Add the following to Standard Specifications Section 308-6:

A. Criteria for Start of Plant Establishment Period:

(1) The plant establishment period shall not start until all elements of the project that impact the landscape are completed in accordance with the contract documents. Projects will not be segmented into phases.

(2) Permanent power to remote controllers shall be established.

(3) The plant establishment period for the project shall not begin until after the first mowing of the newly planted turf areas. New turf shall not be mowed until attaining a minimum height of 2 inches. All turf shall be maintained at a mowing height of 1-1/2 inches.

(4) Written acceptance of the City must be obtained to start the plant establishment period.

(5) If the project maintenance fails to continuously meet standards required, the plant establishment period "day count" will be suspended and will not recommence until the Contractor has corrected all deficiencies.

3.12 MAINTENANCE TASKS: Add the following to Standard Specifications Section 308-6:

A. General:

During the contract period provide all watering, weeding, mowing, fertilizing and cultivation and spraying necessary to keep the plants and turf in a healthy growing condition and to keep the planted areas neat, edged, and attractive. All shrubs planted by the contractor shall be pinched and pruned as necessary to encourage new growth and to eliminate rank sucker growth. Old wilted flowers and dead foliage shall be immediately pinched or cut off. Do not prune trees without written approval of the City.

B. Iron Chlorosis:

After planting and during the plant establishment period, in the event that any plantings exhibit iron chlorosis symptoms, apply FE 138 Geigy or equivalent at manufacturer's recommended rates.

C. Replacement Plantings:

During the plant establishment period, should the appearance of any planting installed by the Contractor indicate weakness, that plant shall be replaced immediately with a new, healthy plant. At the end of the plant establishment period, all plant materials shall be in a healthy, growing condition and spaced as indicated on the plans.

D. Fertilization:

The Contractor shall apply commercial fertilizer to all turf areas at a rate of 10 pounds per 1,000 square feet, and all groundcover areas at a rate of 5 pounds per 1,000 square feet, at 30-day intervals, for 3 applications as a minimum, above and beyond the original soil preparation application.

E. Planting Establishment:

All planting areas that do not show a prompt establishment of plant material shall be replanted at 10-day intervals until the plant material is established. If a good rate of growth has not been demonstrated within 30 days of first planting/hydroseeding, the Contractor shall be responsible to determine the appropriate horticultural practices necessary to obtain good growth. The Contractor shall obtain agronomic soils testing of all areas not showing good growth and shall provide copies of the test results to the City to verify the appropriateness of all maintenance work performed. If additional soil amendments are needed, up to a maximum 25% beyond the application rate specified, such amendments shall be provided by the Contractor at no additional cost to the City.

F. Grading and Drainage:

During the plant establishment period all flow lines shall be maintained to allow for free flow of surface water. Displaced material which interferes with drainage shall be removed and placed as directed. Low spots and pockets shall be graded to drain properly. Jute netting shall be installed at flow lines and other locations where erosion is evident, when directed by the Park Projects Inspector.

(1) Damage to planting areas shall be repaired immediately and throughout the plant establishment period. Depressions caused by vehicles, bicycles, or foot traffic shall be filled and leveled. Replant damaged areas.

(2) All paved areas shall be washed and maintained in a clean and clean condition at all times.

(3) All subsurface drains and inlets shall be periodically cleared of debris, leaves and trash and flushed with clear water to avoid build up of silt and debris.

(4) Debris and trash shall be removed from the site weekly at a minimum.

G. Disease and Pest Control:

Add the following to Standard Specifications Section 308-6: Throughout the plant establishment period, all plants shall be maintained in a disease and pest free condition. A licensed pest control operator shall be retained by the Contractor to recommend and apply all pesticides, herbicides, and fungicides. Exterminate gophers, moles, and all other rodents, and repair damage.

3.13 END OF PLANT ESTABLISHMENT PERIOD:

A. When the contractor believes he has completed the plant establishment period and the entire project is ready for final acceptance, he shall request inspection of the project. The City will inspect the project for final acceptance. Deficiencies noted during inspection shall extend the plant establishment period until all are corrected.

B. All planting areas shall show a good rate of growth and shall be well established "filled in" plantings free of voids. Bare areas will be unacceptable. Contractor shall provide sod or plantings from flats as necessary to fill in all bare areas. Such sod or plantings shall be planted a minimum of 10 days prior to the end of the plant establishment period and shall have roots "knit-in" to the native soil.

C. Final acceptance shall occur only upon written acceptance of the project for maintenance by the City.

3.14 CLEAN UP:

Upon completion of the work, the Contractor shall smooth all ground surfaces; remove excess materials, rubbish, debris, etc.; sweep adjacent streets, curbs, gutters; wash down all walkways, and trails; and remove construction equipment from the premises.

END OF SECTION

BJ/0020o/c
08/28/88

CITY OF RIVERSIDE
PARK AND RECREATION DEPARTMENT
STANDARD SPECIFICATIONS

Section 02481 - PALM TREE RELOCATION

PART 1 - GENERAL

1.01 REFERENCE SPECIFICATION:

All work shall conform to the "Standard Specifications for Public Works Construction" Current Edition, prepared by the Southern California Chapter of the American Public Works Association and Southern California District of the Associated General Contractors of California, published by Building News, Inc., Los Angeles, California, and all amendments thereto adopted by the City of Riverside, and as provided herein.

1.02 GUARANTEE:

All relocated palm trees shall be guaranteed against any and all poor, inadequate or inferior workmanship for a period of one year following relocation. At the end of the guarantee period any material found dead or not in a satisfactory growth condition shall be removed from the site. These trees shall be replaced at no expense to the City with the same variety and size as originally designated and its maintenance period extended accordingly.

1.03 INSPECTIONS & PERMITS:

A. INSPECTION: The contractor shall contact the Street Tree Inspector at 351-6126 a minimum of two working days in advance to schedule required inspections. Inspections are required as follows:

1. On-site inspection of all equipment to be used in tree relocation work.

2. Inspection and approval of new tree locations prior to digging.

3. Inspection of defronding and tying prior to moving of trees.

4. Inspection of replanting operatings and trees in place following relocation.

5. Inspection for final acceptance and release from maintenance following completion of the maintenence period.

B. PERMITS: Parks Department and Public Works Department permits are required prior to commencement of tree relocation and/or removal work for all trees. Backfill of all holes is to be inspected by Public Works for proper compaction.

1.04 MAINTENANCE:

The contractor shall be responsible for maintenance of all relocated trees for a minimum period of one year. Trees shall be maintained in a good growth condition throughout the maintenance period. Maintenance work shall include periodic watering and weeding of the tree basin. Trees shall be maintained in a plumb position until accepted. The contractor shall provide his own source of water and/or watering truck. All water used shall be paid for by the contractor. At time of final acceptance, all watering basins shall be weed free and shall be filled in with clean top soil and all guy wires removed as directed by the Street Tree Inspector.

The contractor will be released from maintenance only upon receipt of written notification from the City that the Park and Recreation Department is assuming maintenance responsibilities.

1.05 PROTECTION AND RESTORATION OF EXISTING IMPROVEMENTS:

Contractor's attention is directed to Section 7-9 of the Reference Specification which shall govern this work. Contractor shall proceed at his own risk.

PART 2 - MATERIALS

2.01 TOPSOIL:

All soil used for planting shall conform to the requirements of Class "C" top soil as defined in subsection 212-1.2 of the Reference Specification.

2.02 ROOT GROWTH STIMULATE:

Stimulant shall be Vitamin B-1 as manufactured by Cal-liquid, Cooke, Chican, Ortho, or City approved equal.

2.03 PLANT TABLETS:

Planting fertilizer tablets shall be slow-release type, 21 grams. Tablets shall be in compressed form with the following minimum available percentages:

N-20 percent, P-10 percent, and K-5 percent.

PART 3 - EXECUTION

3.01 GENERAL:

All relocation work is to be done in a workmanlike manner by personnel experienced in this type of work to the satisfaction of the Street Tree Inspector.

3.02 DEFRONDING AND TYING:

In preparing palm trees for relocation, all dead fronds shall be removed and the entire trunk skinned clean to the height of green fronds. Care shall be taken to prevent injury to the trunk of the tree. Green fronds below a horizontal position shall be neatly cut off leaving a 4" stub.

All remaining fronds above horizontal shall be lifted up and tied together around the crown in an upright position. Due caution shall be taken not to bind or injure the crown. Binder twine shall be used in tying up tne fronds; wire will not be permitted. After tying, the tips of the fronds shall be "hedged-of" above the crown. Defronding and tying work shall be completed prior to digging the rootball, six months after replanting any ties that remain shall be removed by contractor.

3.03 PLANT PITS:

New planting pits shall be dug prior to removal of trees from their existing location. All pits shall be dug in accordance with Section 308-4.5 of the Reference Specification.

3.04 DIGGING THE ROOTBALL:

When digging out the rootball, no excavation shall be done closer than 24" to the trunk at ground level and the excavation shall extend below the major root system to a minimum depth of six (6) feet. The bottom of the rootball shall be cut off square and perpendicular to the trunk below the major root system. Under no conditions shall the contractor cut down the size of the rootball in width or depth.

The contractor shall not free-fall, drag, roll or abuse the tree or put a strain on the crown at any time. A protective device shall be used around the trunk of the tree while lifting and relocating so as not to scar or skin the trunk in any way. This device shall consist of either a rubber or leather sling or a sling made out of timbers sufficiently sized to withstand the cable/choker pressure. At no time will trees be balled out and laid on the ground with rootball left exposed to direct sunlight and air. The rootball shall be kept moist and shaded at all times.

3.05 ROOT GROWTH STIMULANT:

Root growth stimulant shall be applied when the backfilling is between half to two thirds up the rootball. Application rate shall be one (1) quart for trees less than thirty (30) feet in height, two (2) quarts for trees thirty (30) feet and larger in height. Stimulant shall be poured full strength equally distributed around the rootball, and water-jetted into the backfill.

3.06 PLANT TABLETS:

Twenty-one gram tablets shall be placed in the upper one-third of the planting pit, 12-inches from rootball at a rate of one tablet per inch of trunk diameter.

3.07 PLANTING:

When the trees are replanted in their new location, they shall be placed 18" minimum to 24" maximum deeper in the ground than they originally stood. The trees shall be placed with their vertical axis in a plumb position. When the trees are in position for backfilling, a minimum of 36" of water shall be placed in the hole before any backfill is added. Backfilling shall continue with clean topsoil and water. Trees shall be "mudded-in" for the full height of the rootball and up to the ground surface. When directed by the Street Tree Inspector, relocated palm trees shall be guyed and/or braced until accepted.

A watering basin shall be provided at each tree. Basins shall extend a minimum of 3 feet out from the trunk all around and shall be a minimum of one foot deep.

3.08 CLEAN-UP:

Following planting work, all remaining excavations shall be backfilled and compacted in accordance with the requirements of the Public Works Department. Burying of debris in holes will not be permitted. All excess soil and debris from the relocation work shall be disposed of off the site by the contractor. The site shall be left neat and clean to the satisfaction of the City.

END OF SECTION

BJ/0138o/c
05/21/87

DR-50-88

CITY BUSINESS TAX CERTIFICATE No. 041425
EXP. DATE: 11-1-90

ORTON associates
landscape development
LICENSE NO 1214 714/685-7000
607 seventh st. • upland • ca 91786

MARK	REVISIONS	APPR.	DATE
PO	RELOCATE WALL @ PARKWAY		2/89

DESIGNED FEO DRAWN BY FEO CHECKED BY FEO

CITY OF RIVERSIDE
PUBLIC WORKS DEPARTMENT

	APPROVED BY	DATE	BY
PRINCIPAL ENGINEER			
PARK DEPARTMENT		10-21-88	
TRAFFIC DIVISION			
CITY ENGINEER		3-30	
PLANNING		10-22-88	

APPROVED BY
PUBLIC WORKS DIRECTOR
DATE 3/31/89

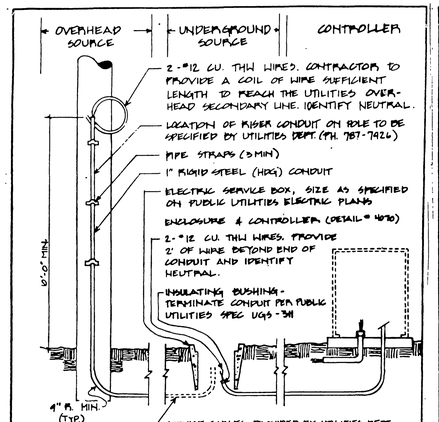
SPECIFICATION SHEET
REVERSE FRONTAGE PLAN
FOR
TRACT 23320

HORIZ SCALE: 1"= ' VERT. SCALE: 1"=

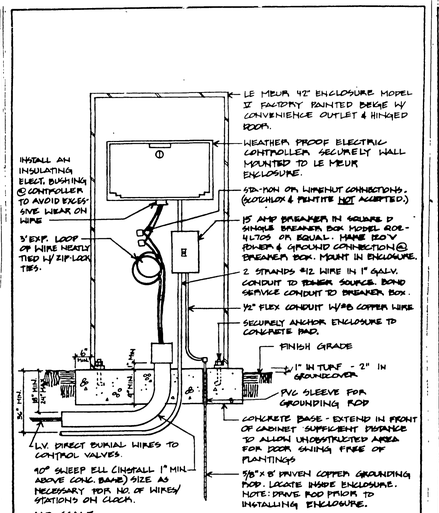
ACCOUNT NO. R-2999 L.
SHEET 5 OF 6

PC-2703

INDEXED 5-17-89



Approved / Date	Park & Recreation Department CITY OF RIVERSIDE	Detail No.
Revised / Date	UTILITY SERVICE	4060



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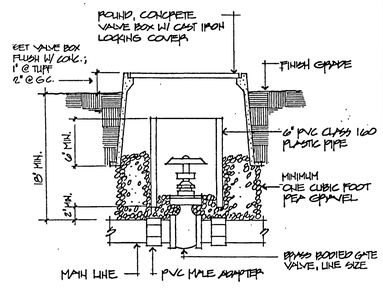
Revised / Date	CONTROLLER	4070



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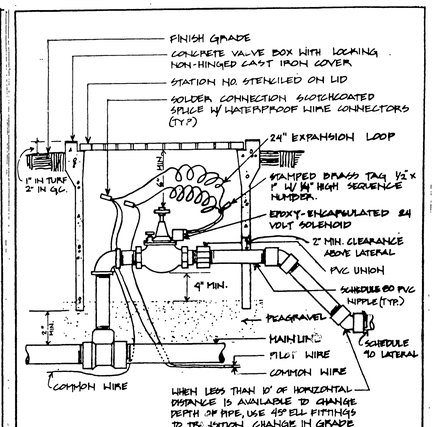
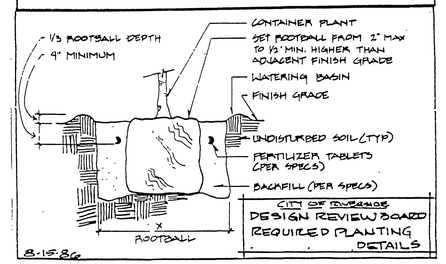
Approved / Date	Park & Recreation Department CITY OF RIVERSIDE	Detail No.
Revised / Date	GATE VALVE	402



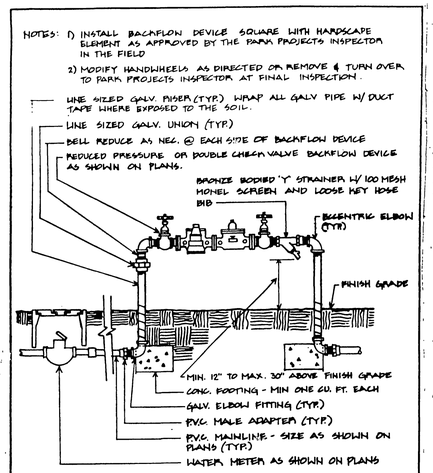
NOTES:
1) EACH VALVE SHALL HAVE ITS OWN TEE OR ELL CONNECTION TO THE MAINLINE. NO MANIFOLD CONNECTIONS
2) PROVIDE MINIMUM 3' CLEAR DISTANCE BETWEEN VALVES.
3) INSTALL VALVE BOX IN A MANNER THAT BOX DOES NOT REST ON ANY IRRIGATION LINE.

NO SCALE

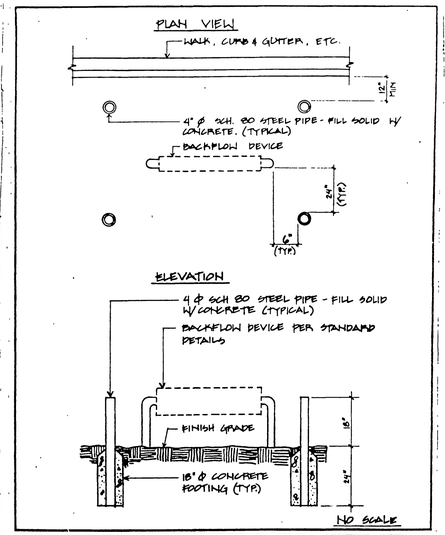
Approved / Date	Park & Recreation Department CITY OF RIVERSIDE	Detail No.
Revised / Date	AUTOMATIC VALVE	4030



NOTES:
1) INSTALL BACKFLOW DEVICE SQUARE WITH HARDSCAPE ELEMENT AS APPROVED BY THE PARK PROJECTS INSPECTOR IN THE FIELD
2) MODIFY HANDWHEELS AS DIRECTED OR REMOVE & TURN OVER TO PARK PROJECTS INSPECTOR AT FINAL INSPECTION.



Approved / Date	Park & Recreation Department CITY OF RIVERSIDE	Detail No.
Revised / Date	REDUCED PRESSURE/DOUBLE CHECK VALVE BACKFLOW DEVICE	4011



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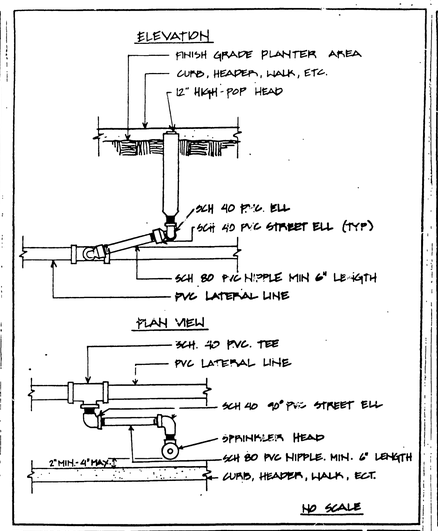
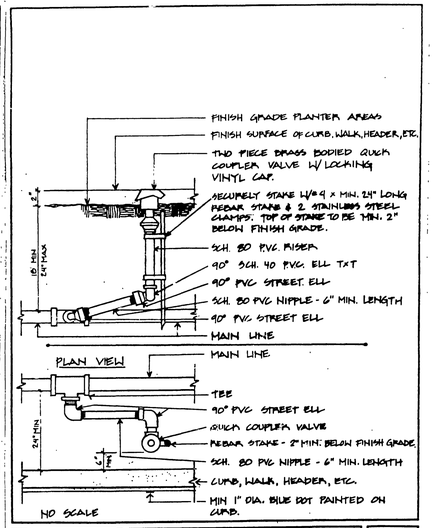
Approved / Date	Park & Recreation Department CITY OF RIVERSIDE	Detail No.
Revised / Date	BARRIER POSTS	4019



NO SCALE

Approved / Date	Park & Recreation Department CITY OF RIVERSIDE	Detail No.
Revised / Date	SPRAY HEAD	4040



NO SCALE

Approved / Date	Park & Recreation Department CITY OF RIVERSIDE	Detail No.
Revised / Date	QUICK COUPLER	4050

DR-50-88

CITY BUSINESS TAX CERTIFICATE No. 041425
EXP. DATE: 11-1-90

ORTON associates
ndscape development
Ray L Orton
LICENSE NO 1214 (714) 985-7861
607 e. seventh st. · upland · ca 91786

Ray L Orton 2/15/89

MARK	REVISIONS	APPR.	DATE
	RELOCATE WALL @ PARKWAY		2/89

DESIGNED BY FEO DRAWN BY FEO CHECKED BY FEO

CITY OF RIVERSIDE
PUBLIC WORKS DEPARTMENT

APPROVED BY	DATE	BY
PRINCIPAL ENGINEER		
PARK DEPARTMENT	10-21-88	
TRAFFIC DIVISION		
CHIEF P. W. ENGINEER	3-30	
PLANNING	3-31-89	
7/14/89		

APPROVED BY
PUBLIC WORKS DIRECTOR
DATE 3/31/89

DETAIL SHEET
REVERSE FRONTAGE PLAN
FOR
TRACT 23829

ACCOUNT NO. R-2999 L
SHEET 6 OF 6

HOR. SCALE: 1"= ' VERT. SCALE: 1"=

INDEXED 5-17-89 JH

PC-2703