SYMBOL	MANUFACTURER - MODEL NUMBER	PATTERN	RADIUS	PSI	GPM Q	GPM H	GPM F	GPM TQ	DETAIL REF	REMARKS
V ▽	RAINBIRD-1806-SAM-PRS-10	Q,H,F	10'	30	.39	.79	1.57		4040	
⌓	RAINBIRD-1806-SAM-PRS-12	Q,H,F	12'	30	.65	1.30	2.60		4040	
⊘ ⓥ	RAINBIRD-1806-SAM-PRS-15	Q,H,F	15'	30	.93	1.85	3.70		4040	
●	RAINBIRD-1404 FLOOD BUBBLER	NA	NA	30			1		4040	
ⓒ	RAINBIRD - ESP-32MC, 32 STATION AUTOMATIC IRRIGATION CONTROLLER								4010	
M	DOMESTIC WATER METER BY OWNER, SIZE PER PLAN								N/A	INSTALL PER LOCAL CODE
	FEBCO 825Y 2" R.P. BACKFLOW PREVENTER UNIT								4011	
	GRISWALD 2000 SERIES REMOTE CONTROL VALVE, SIZE PER PLAN								4030	
	NIBCO T-113 GATE VALVE, LINE SIZE								4020	INSTALL IN PLANTING AREAS
ⓒ	RAINBIRD 44LRC QUICK COUPLER VALVE								4050	INSTALL AT 100' O.C.
	SCH 40 PVC PRESSURE SUPPLY LINE, SIZE PER PLAN									
	CLASS 200 PVC LATERAL LINE, SIZE PER PLAN									
	SCH 40 PVC PIPE SLEEVE TO ACCEPT LATERAL, MAINLINE AND UF, SIZE 2 x TIMES LINE SIZE									
NOT SHOWN	UF DIRECT BURIAL CONTROL WIRE • 12 GA.COMMON / • 14 GA. PILOT									
CALLOUT KEY	GPM — STATION • / VALVE SIZE									

REFER TO SHEET L-4 FOR IRRIGATION DETAILS.
REFER TO SHEET L-5 & L-6 FOR IRRIGATION SPECS.

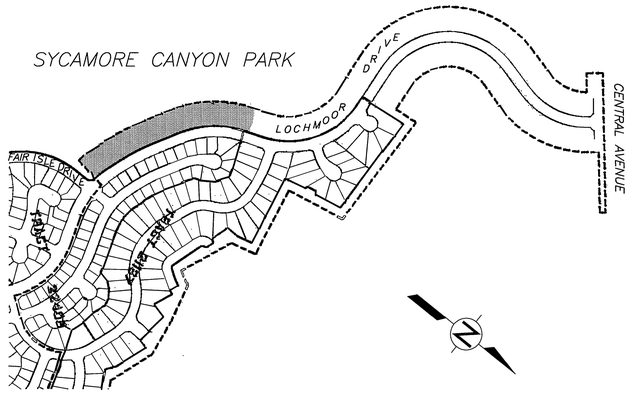
NOTE:
AFTER ESTABLISHMENT OF ALL PLANT MATERIAL CONTROLLER SHALL BE PROGRAMED TO IRRIGATE SOLELY DURING THE NIGHT TIME-TYP

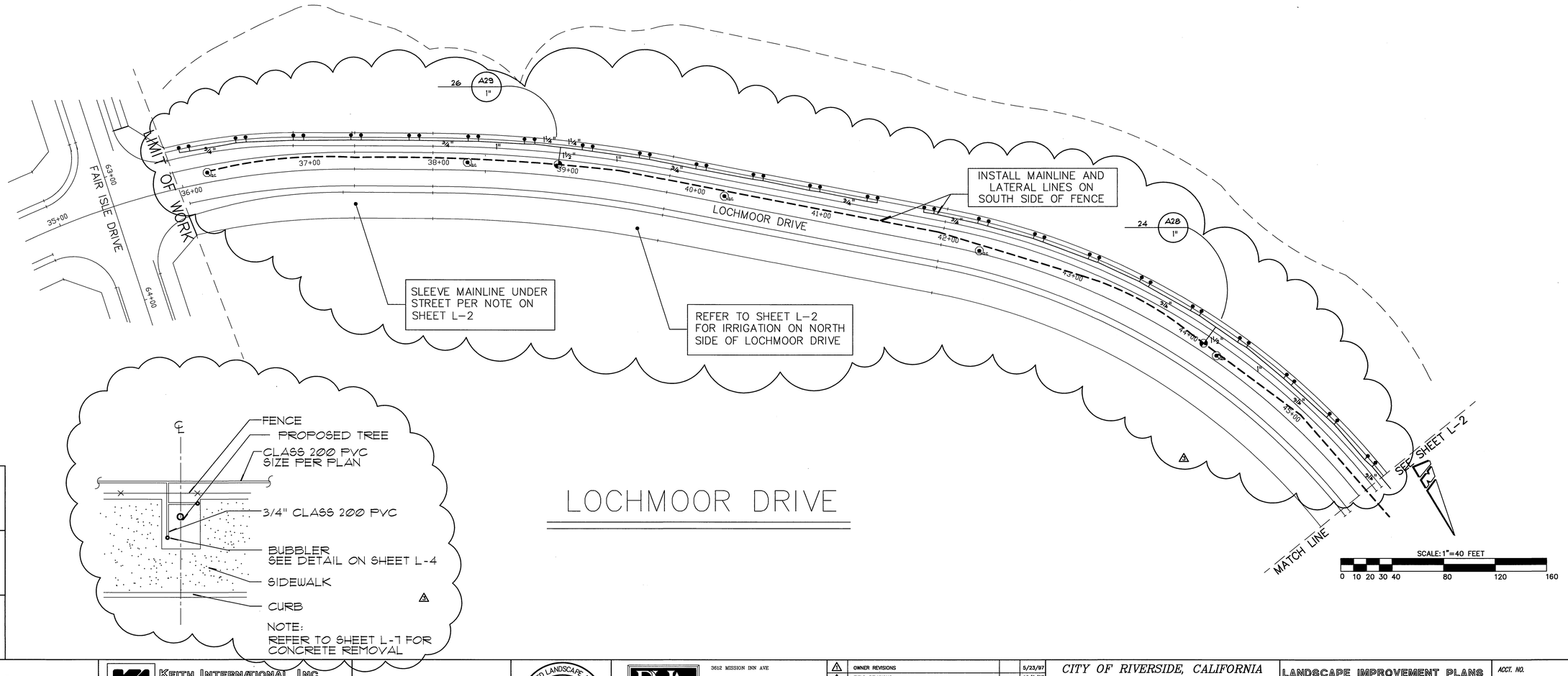
MAKE POINT OF CONNECTION IMMEDIATELY DOWNSTREAM OF 2" IRRIGATION METER, EXISTING. REFER TO SHEET L-2 FOR ADDITIONAL INFORMATION, AND EXTEND NEW PRESSURE LINE AS SHOWN. PIPE TO METER AND TO BACKFLOW UNIT TO BE TYPE 'K' COPPER OR AS PER LOCAL CODE.
STATIC WATER PRESSURE---------- 82 PSI
SYSTEM DESIGN PRESSURE---------- 65 PSI
PEAK IRRIGATION DEMAND---------- 66 PSI

SET 1 1/2" PRESSURE REGULATING MASTER VALVE @ 65 PSI. CONNECT TO MASTER VALVE STATION @ IRRIGATION CONTROLLER. (SEE SHEET L-2)

WATER LINES UPSTREAM OF IRRIGATION METERS ARE SHOWN FOR GENERAL INFORMATION ONLY. BECAUSE IT WAS REQUESTED BY THE CITY OF RIVERSIDE WATER DEPARTMENT. THEY ARE DIAGRAMMATIC AND APPROXIMATED. THE WATER METERS SHOULD BE INSTALLED FOLLOWING THE WATER PLANS AS PROVIDED BY THE ENGINEER (THE KEITH COMPANIES). TYPICAL FOR ALL IRRIGATION METERS SHOWN ON THESE PLANS.

MAIN LINES, VALVES, IRRIGATION METERS, ETC. ARE SHOWN ON THE STREET AND/OR SIDEWALK FOR CLARIFICATION ONLY. INSTALL IN PLANTER AREA THROUGHOUT THE SITE.





LOCHMOOR DRIVE

CENCOM CABLE T.V
APPROVED BY ____ DATE ____

PACIFIC BELL TELEPHONE
APPROVED BY ____ DATE ____

SOUTHERN CALIFORNIA GAS COMPANY
APPROVED BY ____ DATE ____

BENCHMARK:
CITY OF RIVERSIDE BENCHMARK H8-F.
P.K. NAIL AND CITY ENGINEER TAG IN THE EASTERLY CORNER OF CATCHBASIN AT THE SOUTHEAST CORNER OF CENTRAL AVENUE AT BOX SPRINGS BOULEVARD.

ELEVATION = 1360.81

KEITH INTERNATIONAL, INC.
• Planning • Civil Engineering • Environmental Services •
• Land Surveying • Public Works • Water Resources •
Inland Empire Division
22930 Cactus Ave., Ste. 300, Moreno Valley, CA 92553 (909) 653-0324
RICHARD N. YALE
R.G.E. No. 40023 expires 12/31/97
DATE ____

REGISTERED LANDSCAPE ARCHITECT — BRADLEY HLUBIK, MEMBER — Expiration Date 7/31/97 — Renewal Date — Date — STATE OF CALIFORNIA

RHA LANDSCAPE ARCHITECTS PLANNERS, INC
3612 MISSION INN AVE
RIVERSIDE, CALIFORNIA
92501
(909) 781-1930
LIC. #1512
FAX (909) 686-8091
JOB #97105 CONTACT: DOUG GROVE

MARK	REVISIONS	APPR.	DATE
1	OWNER REVISIONS		5/23/97
2	FIELD REVISIONS		10/9/97
3	ADD TREE BUBBLERS		5/11/98

DESIGNED BY DS DRAWN BY DS CHECKED BY ____

CITY OF RIVERSIDE, CALIFORNIA
PUBLIC WORKS DEPARTMENT

APPROVED BY	BY	DATE
DEPUTY P.W. DIRECTOR		
PRINCIPAL ENGINEER		
CHIEF P.W. INSPECTOR		
STREET SERVICES		
SURVEYOR		
TRAFFIC DIVISION		
PARKS DEPARTMENT	PJ	11/6/98

APPROVED BY
PUBLIC WORKS DIRECTOR
DATE ____

LANDSCAPE IMPROVEMENT PLANS
LOCHMOOR DRIVE EXTENSION
IRRIGATION PLAN
HORIZ. SCALE: 1" = 40' VERT. SCALE:

ACCT. NO.
R-3224
SHEET L-1 OF 13

PRJ\97prj\97105\AutoCadd\97105ip1.dwg
INDEXED 9-7-99 GH

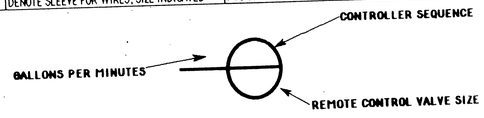
UNAUTHORIZED CHANGES AND USES

CAUTION: SCALITER IRRIGATION WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THE IRRIGATION PLAN. ALL CHANGES TO THE IRRIGATION PLAN MUST BE IN WRITING AND MUST BE APPROVED BY SCALITER IRRIGATION.

IRRIGATION LEGEND

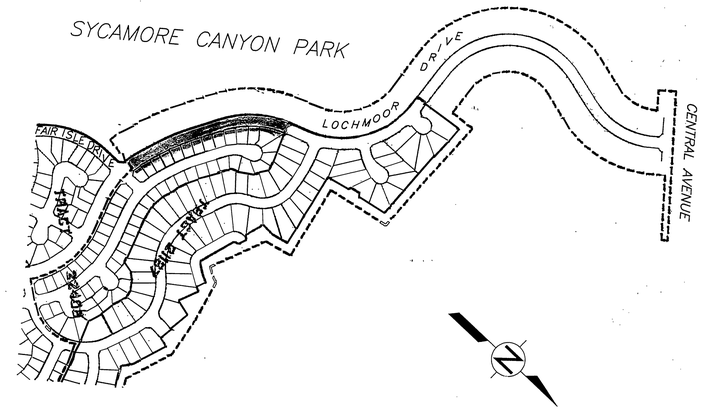
GENERAL LEGEND

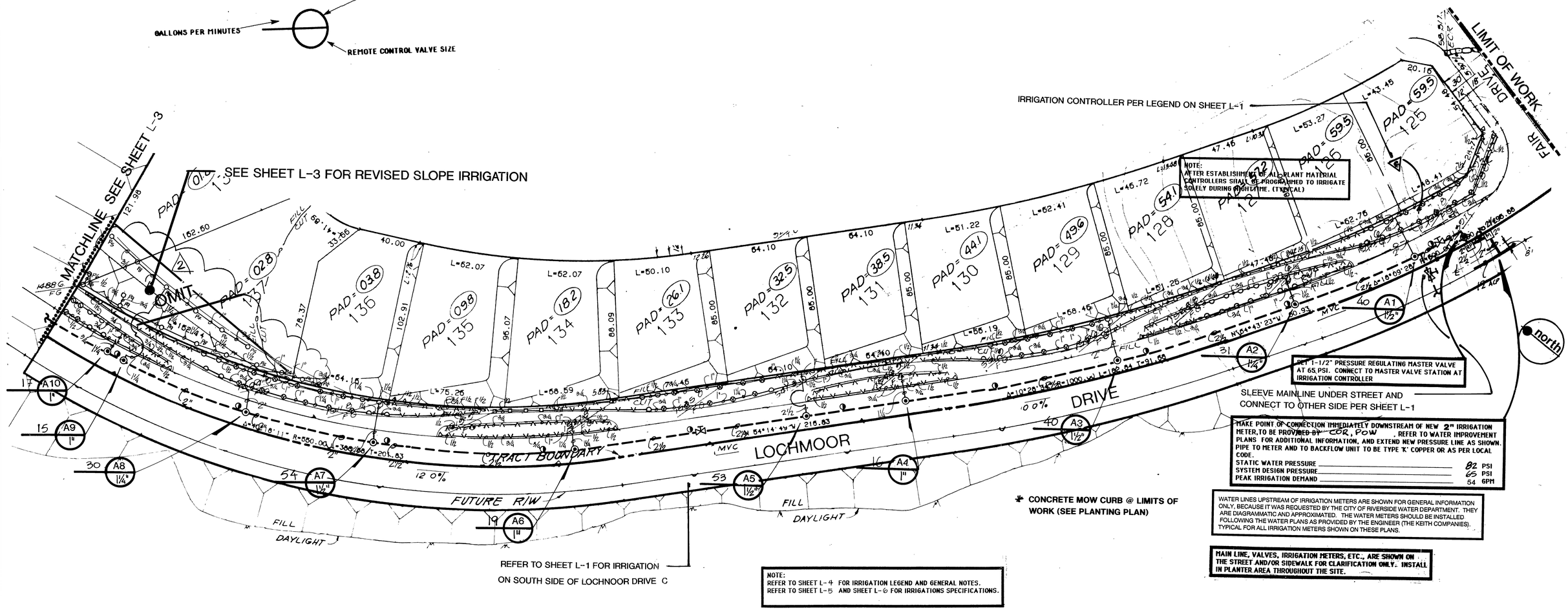
SYM.	DESCRIPTION	MANUF. & PART NO.	REFERENCE
	REMOTE CONTROL VALVE , SIZE INDICATED	GRISWOLD 2000 SERIES	DETAIL 4030
	MASTER VALVE , SIZE INDICATED	GRISWOLD 2230 SERIES	DETAIL 4030
RP	BACKFLOW PREVENTION UNIT SIZE INDICATED ON DRAWINGS	FEBCO 825Y-S	DETAIL 4011
	GATE VALVE, PIPE SIZE	2" AND SMALLER NIBCO T-113 2-1/2" AND LARGER NIBCO WD-2000	DETAIL 4020
	QUICK COUPLING VALVE	RAIN BIRD 44LRC	DETAIL 4050
M	NEW IRRIGATION METER BY DEVELOPER, SIZE INDICATED ON DRAWINGS	N/A	N/A
	PRESSURE SUPPLY LINE TO METER AND TO B.P.U. SIZE INDICATED	TYPE 'K' COPPER, OR AS PER LOCAL CODE	SPECIFICATION
	PRESSURE SUPPLY LINE , SIZE INDICATED	4" AND LARGER USE CLASS 200 (ASTM D-2241) 2",2-1/2" AND 3" USE PVC CLASS 315 1 1/2" AND SMALLER USE PVC SC.40	SPECIFICATION SPECIFICATION SPECIFICATION
	NON PRESSURE LINE , SIZE INDICATED	PVC CLASS 200	SPECIFICATION
	DENOTE MAIN LINE SLEEVE, SIZE INDICATED	PVC SC. 40	SPECIFICATION
	DENOTE LATERAL LINE SLEEVE, SIZE INDICATED	PVC SC. 40	SPECIFICATION
	DENOTE SLEEVE FOR WIRES, SIZE INDICATED	PVC SC. 40	SPECIFICATION



SPRINKLER HEADS

SYM	DESCRIPTION	MANUF. & PART NO.	GPM	RAD	PSI	ARC	DETAIL NO.
	HALF CIRCLE SPRAY HEAD	RAIN BIRD 1806-15H-SAM	1.85	15	30	180°	4040
	1/4 CIRCLE SPRAY HEAD	RAIN BIRD 1806-15Q-SAM	0.93	15	30	90°	4040
	ADJ. CIRCLE SPRAY HEAD	RAIN BIRD 1806-15VAN-SAM	N/A	N/A	30	N/A	4040
	HALF CIRCLE SPRAY HEAD	RAIN BIRD 1806-12H-SAM	1.3	12	30	180°	4040
	1/4 CIRCLE SPRAY HEAD	RAIN BIRD 1806-12Q-SAM	0.65	12	30	90°	4040
	HALF CIRCLE SPRAY HEAD	RAIN BIRD 1806-10HLA-SAM	0.79	10	30	180°	4040
	1/4 CIRCLE SPRAY HEAD	RAIN BIRD 1806-10QLA-SAM	0.39	10	30	180°	4040
	STRIP SPRAY HEAD	RAIN BIRD 1806-15SST-SAM	1.21	N/A	30	4X30	4040
	END STRIP SPRAY HEAD	RAIN BIRD 1806-15EST-SAM	0.61	N/A	30	4X15	4040





SCALITER IRRIGATION
IRRIGATION DESIGN-WATER MANAGEMENT
902 AARON DRIVE
REDLANDS, CALIFORNIA 92374
(714) 794-5811 (714) 794-5873

RHA LANDSCAPE ARCHITECTS PLANNERS, INC.
3612 SEVENTH STREET
RIVERSIDE, CALIFORNIA
92501
(909) 781-1930
FAX (909) 686-8091
LICENSE #1512
CONTACT:DOUG GROVE
JOB #97105

MARK	REVISIONS	APPR.	DATE
1	FIELD REVISIONS		10.9.97

DESIGNED BY ____ DRAWN BY ____ CHECKED BY ____

CITY OF RIVERSIDE
PUBLIC WORKS DEPARTMENT

APPROVED BY	DATE	BY
PRINCIPAL ENGINEER		
PARK DEPARTMENT	10-12-95	
TRAFFIC DIVISION		
CHIEF P. W. ENGINEER		

APPROVED BY
PUBLIC WORKS DIRECTOR
DATE

LANDSCAPE IMPROVEMENT PLANS
LOCHMOOR DRIVE EXTENSION
IRRIGATION PLAN

HORIZ. SCALE: 1" = 30 VERT. SCALE: 1" =

ACCOUNT NO. R-3224
SHEET L-2 OF 13

PC-3224-R/C

NOTE:
AFTER ESTABLISHMENT OF ALL PLANT MATERIAL CONTROLLER SHALL BE PROGRAMED TO IRRIGATE SOLELY DURING THE NIGHT TIME-TYP

MAKE POINT OF CONNECTION IMMEDIATELY DOWNSTREAM OF 2" IRRIGATION METER, EXISTING. REFER TO SHEET L-2 FOR ADDITIONAL INFORMATION, AND EXTEND NEW PRESSURE LINE AS SHOWN. PIPE TO METER AND TO BACKFLOW UNIT TO BE TYPE 'K' COPPER OR AS PER LOCAL CODE.

STATIC WATER PRESSURE---------- 82 PSI
SYSTEM DESIGN PRESSURE---------- 65 PSI
PEAK IRRIGATION DEMAND---------- 66 PSI

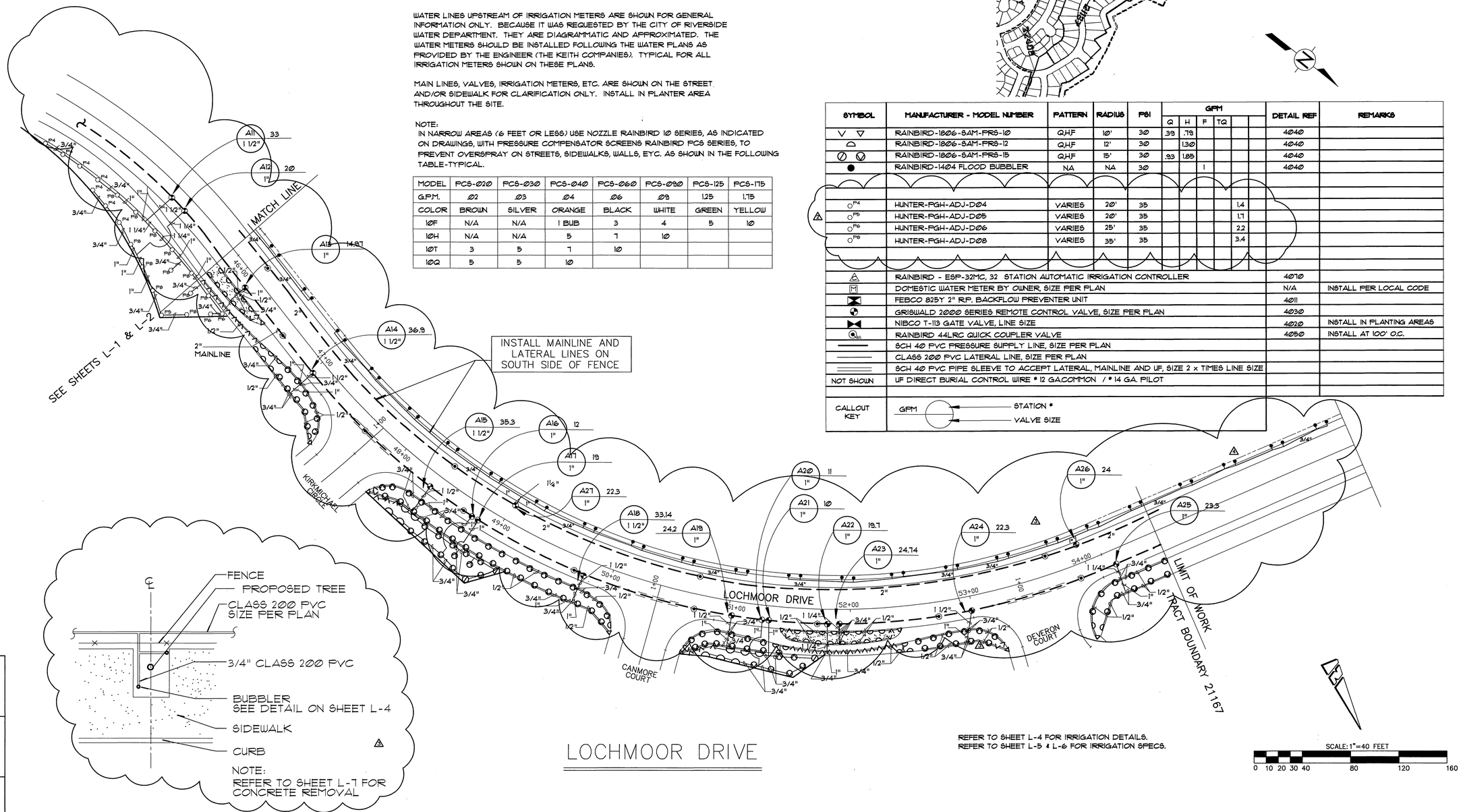
SET 1 1/2" PRESSURE REGULATING MASTER VALVE @ 65 PSI. CONNECT TO MASTER VALVE STATION @ IRRIGATION CONTROLLER (SEE SHEET L-2)

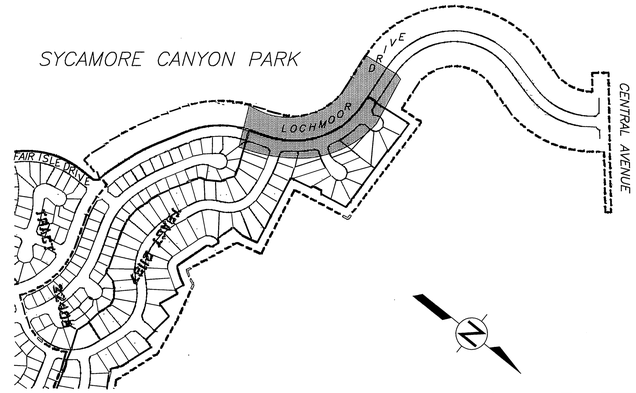
WATER LINES UPSTREAM OF IRRIGATION METERS ARE SHOWN FOR GENERAL INFORMATION ONLY. BECAUSE IT WAS REQUESTED BY THE CITY OF RIVERSIDE WATER DEPARTMENT. THEY ARE DIAGRAMMATIC AND APPROXIMATED. THE WATER METERS SHOULD BE INSTALLED FOLLOWING THE WATER PLANS AS PROVIDED BY THE ENGINEER (THE KEITH COMPANIES). TYPICAL FOR ALL IRRIGATION METERS SHOWN ON THESE PLANS.

MAIN LINES, VALVES, IRRIGATION METERS, ETC. ARE SHOWN ON THE STREET AND/OR SIDEWALK FOR CLARIFICATION ONLY. INSTALL IN PLANTER AREA THROUGHOUT THE SITE.

NOTE:
IN NARROW AREAS (6 FEET OR LESS) USE NOZZLE RAINBIRD 10 SERIES, AS INDICATED ON DRAWINGS, WITH PRESSURE COMPENSATOR SCREENS RAINBIRD PCS SERIES, TO PREVENT OVERSPRAY ON STREETS, SIDEWALKS, WALLS, ETC. AS SHOWN IN THE FOLLOWING TABLE-TYPICAL.

MODEL	PCS-020	PCS-030	PCS-040	PCS-060	PCS-080	PCS-125	PCS-175
G.P.M.	02	03	04	06	09	1.25	1.75
COLOR	BROWN	SILVER	ORANGE	BLACK	WHITE	GREEN	YELLOW
10F	N/A	N/A	1 BUB	3	4	5	10
10H	N/A	N/A	5	7	10		
10T	3	5	7	10			
10Q	5	5	10				





SYMBOL	MANUFACTURER - MODEL NUMBER	PATTERN	RADIUS	PSI	GPM Q	GPM H	GPM F	GPM TQ	DETAIL REF	REMARKS
▽ ▽	RAINBIRD-1806-SAM-PRS-10	Q,H,F	10'	30	.39	.79			4040	
⌓	RAINBIRD-1806-SAM-PRS-12	Q,H,F	12'	30		1.30			4040	
∅ ∅	RAINBIRD-1806-SAM-PRS-15	Q,H,F	15'	30	.93	1.85			4040	
●	RAINBIRD-1404 FLOOD BUBBLER	NA	NA	30			1		4040	
○P4	HUNTER-PGH-ADJ-04	VARIES	20'	35				1.4		
⚠ ○P5	HUNTER-PGH-ADJ-05	VARIES	20'	35				1.7		
○P6	HUNTER-PGH-ADJ-06	VARIES	25'	35				2.2		
○P8	HUNTER-PGH-ADJ-08	VARIES	35'	35				3.4		
△	RAINBIRD - ESP-32MC, 32 STATION AUTOMATIC IRRIGATION CONTROLLER								4070	
M	DOMESTIC WATER METER BY OWNER, SIZE PER PLAN								N/A	INSTALL PER LOCAL CODE
	FEBCO 825Y 2" R.P. BACKFLOW PREVENTER UNIT								4011	
	GRISWALD 2000 SERIES REMOTE CONTROL VALVE, SIZE PER PLAN								4030	
	NIBCO T-113 GATE VALVE, LINE SIZE								4020	INSTALL IN PLANTING AREAS
○SC	RAINBIRD 44LRC QUICK COUPLER VALVE								4050	INSTALL AT 100' O.C.
	SCH 40 PVC PRESSURE SUPPLY LINE, SIZE PER PLAN									
	CLASS 200 PVC LATERAL LINE, SIZE PER PLAN									
	SCH 40 PVC PIPE SLEEVE TO ACCEPT LATERAL, MAINLINE AND UF, SIZE 2 x TIMES LINE SIZE									
NOT SHOWN	UF DIRECT BURIAL CONTROL WIRE # 12 GA.COMMON / # 14 GA. PILOT									
CALLOUT KEY	GPM ○ — STATION # / VALVE SIZE									

REFER TO SHEET L-4 FOR IRRIGATION DETAILS.
REFER TO SHEET L-5 & L-6 FOR IRRIGATION SPECS.

SCALE: 1"=40 FEET
0 10 20 30 40 80 120 160

LOCHMOOR DRIVE

CENCOM CABLE T.V
APPROVED BY ____ DATE ____

PACIFIC BELL TELEPHONE
APPROVED BY ____ DATE ____

SOUTHERN CALIFORNIA GAS COMPANY
APPROVED BY ____ DATE ____

BENCHMARK:
CITY OF RIVERSIDE BENCHMARK H8-F.
P.K. NAIL AND CITY ENGINEER TAG IN THE EASTERLY CORNER OF CATCHBASIN AT THE SOUTHEAST CORNER OF CENTRAL AVENUE AT BOX SPRINGS BOULEVARD.

ELEVATION = 1360.81

KEITH INTERNATIONAL, INC.
*Planning * Civil Engineering * Environmental Services*
*Land Surveying * Public Works * Water Resources*
Inland Empire Division
22550 Cactus Ave., Ste. 300, Moreno Valley, CA 92553 (909) 653-0834

RICHARD N. YALE
R.C.E. No. 40023 expires 12/31/97
DATE ____

REGISTERED LANDSCAPE ARCHITECT
RANDOLPH HILDEBRAND
Signature 7/31/97 Renewal Date
STATE OF CALIFORNIA

RHA LANDSCAPE ARCHITECTS PLANNERS INC.
3612 MISSION INN AVE
RIVERSIDE, CALIFORNIA
92501
(909) 781-1930
LIC. #1512
FAX (909) 686-8091
JOB #97105 CONTACT: DOUG GROVE

MARK	REVISIONS	APPR.	DATE
	OWNER REVISIONS		5/23/97
1	FIELD REVISIONS		10/9/97
2	ADD TREE BUBBLERS		5/11/98
3	CITY REVISIONS		6/15/98

DESIGNED BY DS DRAWN BY DS CHECKED BY ____

CITY OF RIVERSIDE, CALIFORNIA
PUBLIC WORKS DEPARTMENT

APPROVED BY	BY	DATE
DEPUTY P.W. DIRECTOR		
PRINCIPAL ENGINEER		
CHIEF P.W. INSPECTOR		
STREET SERVICES		
SURVEYOR		
TRAFFIC DIVISION		
PARKS DEPARTMENT	RD	6/17/98

APPROVED BY
PUBLIC WORKS DIRECTOR
DATE ____

LANDSCAPE IMPROVEMENT PLANS
LOCHMOOR DRIVE EXTENSION
IRRIGATION PLAN
HORIZ. SCALE: 1" = 40' VERT. SCALE:

ACCT. NO.
R-3224
SHEET L-3 OF 13

PC-3224-R/C

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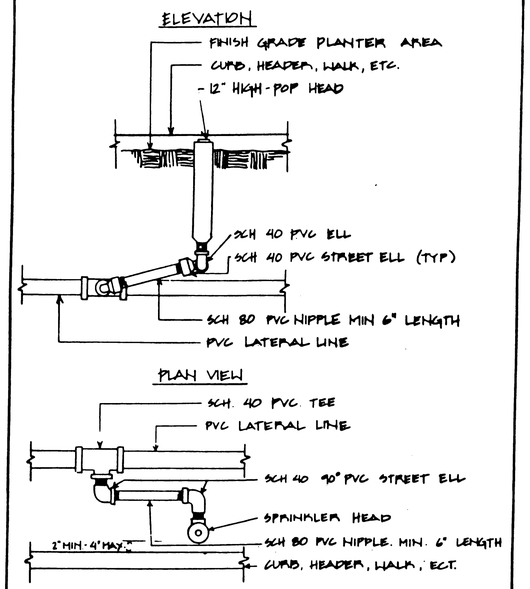
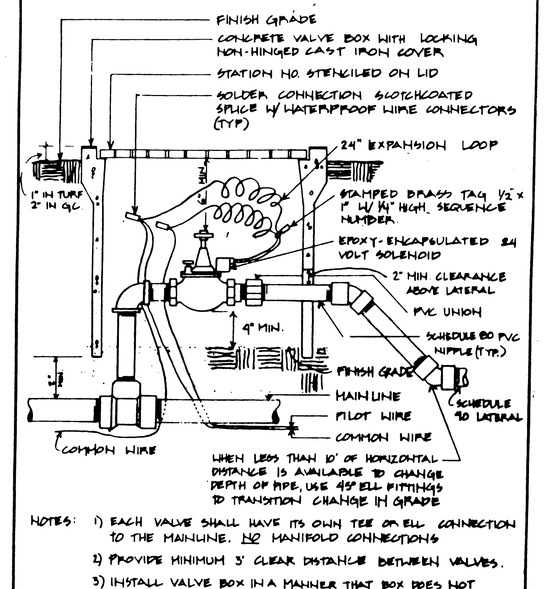
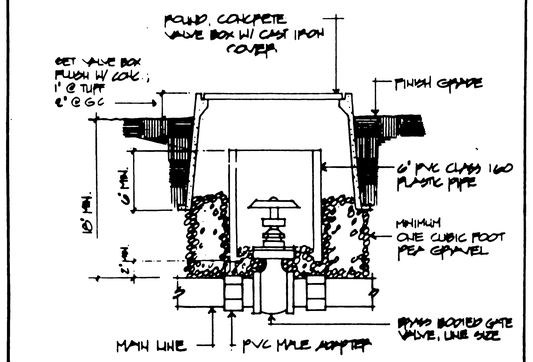
INDEXED 9-7-99 FH



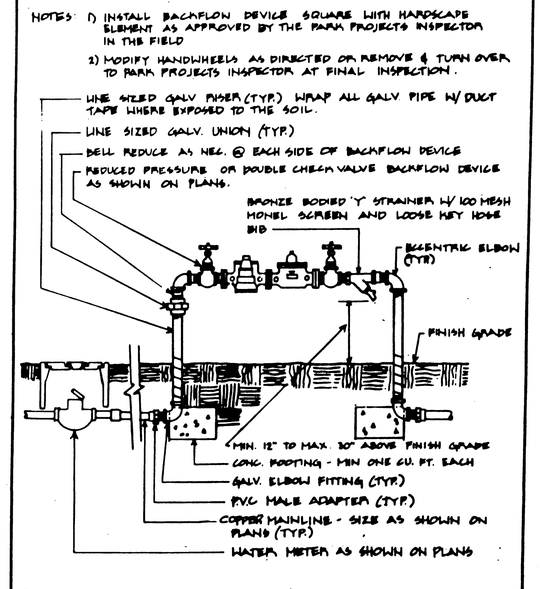
Approved / Date	Park & Recreation Department CITY OF RIVERSIDE	Detail No.
Revised Date	SPRAY HEAD	4040



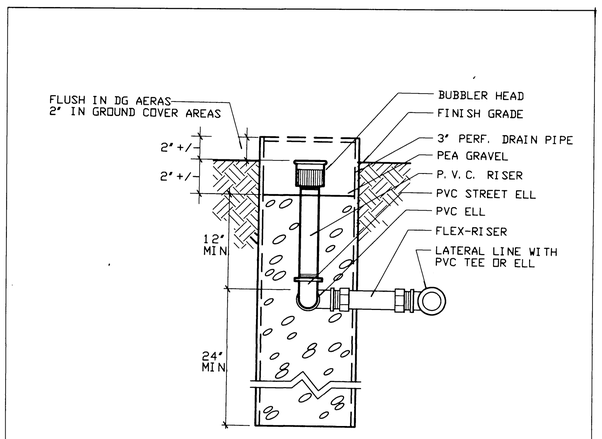
Approved Date	Park & Recreation Department CITY OF RIVERSIDE	Detail No.
Revised Date	AUTOMATIC VALVE	4030



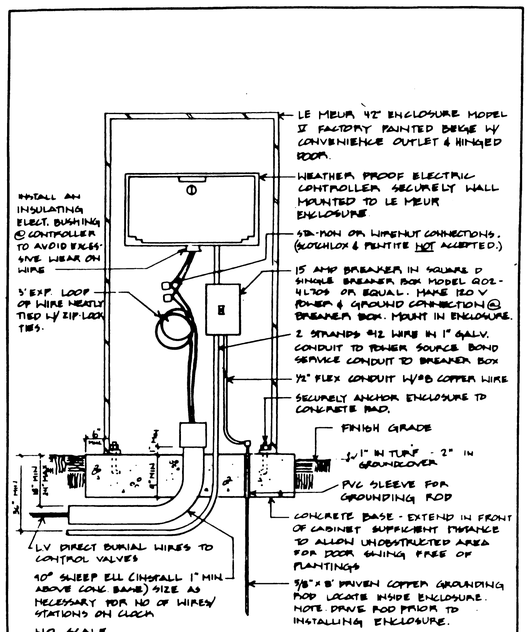
Approved Date	Park & Recreation Department CITY OF RIVERSIDE	Detail No.
Revised Date	GATE VALVE	4020



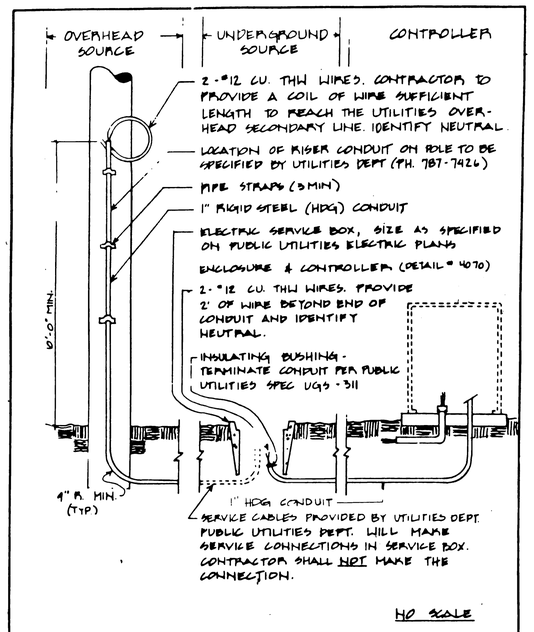
Approved Date	Park & Recreation Department CITY OF RIVERSIDE	Detail No.
Revised Date	REDUCED PRESSURE/DOUBLE CHECK VALVE BACKFLOW DEVICE	4011



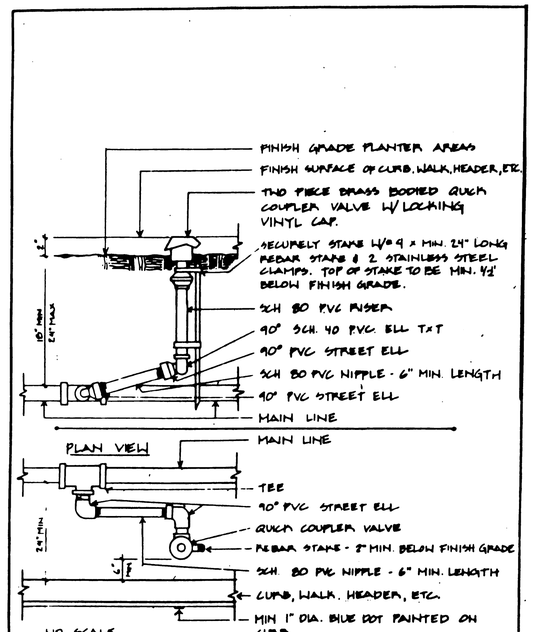
	BUBBLER IN PIPE



Approved Date	Park & Recreation Department CITY OF RIVERSIDE	Detail No.
Revised Date	CONTROLLER	4070



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



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

BENCHMARK:
CITY OF RIVERSIDE BENCHMARK H8-F.
P.K. NAIL AND CITY ENGINEER TAG IN THE EASTERLY CORNER OF CATCHBASIN AT THE SOUTHEAST CORNER OF CENTRAL AVENUE AT BOX SPRINGS BOULEVARD.

ELEVATION = 1360.81

KEITH INTERNATIONAL, INC.
• Planning • Civil Engineering • Environmental Services •
• Land Surveying • Public Works • Water Resources •
Inland Empire Division
22690 Cactus Ave., Ste. 200, Moreno Valley, CA 92553 (909) 653-0834

RICHARD N. YALE DATE
R.C.E. No. 40023 expires 12/31/97

REGISTERED LANDSCAPE ARCHITECT RICHARD HILBURN WEBER 2/25/97 STATE OF CALIFORNIA

RHA LANDSCAPE ARCHITECTS PLANNERS, INC.
3612 MISSION INN AVE
RIVERSIDE, CALIFORNIA
92501
(909) 781-1930
LIC. #1512
FAX (909) 686-8091
JOB #97105 CONTACT: DOUG GROVE

MARK	REVISIONS	APPR.	DATE

DESIGNED BY TM DRAWN BY TM CHECKED BY DG

CITY OF RIVERSIDE, CALIFORNIA
PUBLIC WORKS DEPARTMENT

APPROVED BY	BY	DATE
DEPUTY P.W. DIRECTOR		
PRINCIPAL ENGINEER		
CHIEF P.W. INSPECTOR		
STREET SERVICES		
SURVEYOR		
TRAFFIC DIVISION		
PARKS DEPARTMENT	RD	12/31/98

APPROVED BY:
PUBLIC WORKS DIRECTOR
DATE

LANDSCAPE IMPROVEMENT PLANS
LOCHMOOR DRIVE EXTENSION
IRRIGATION DETAILS

HORIZ. SCALE: VERT. SCALE:

ACCT. NO.
R-3224
SHEET L-4 OF 13

PC-3224-R/C

PRJ:\97PRJ\97105\AUTOCADD\9705ID.DWG
INDEXED 9-7-99 GH

IRRIGATION
SECTION 02441

PART 1 – GENERAL

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

1.02 SCOPE: The Work of this Section shall consist of furnishing all labor, materials, equipment, appliances and services necessary for the execution and completion of all Irrigation Work as shown on the Plans and as described in the Specifications including, but not necessarily limited to, the following:

Provide complete operating irrigation systems;
Installation of new and refurbishment of existing irrigation systems as necessary to provide complete operating irrigation systems for all planting areas;
120 volt electrical service for and connection to the controller;
Coordination with work of other Sections;
Testing;
Clean–up;
Replacements, Repairs, Guarantees and Warranty Work.

1.03 RELATED WORK:

Planting 02480

1.04 SUBMITTALS:

A. Materials List: The 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 the Project Specifications, unless material has been previously approved, and used on other projects by the City.

Material list shall be submitted using the following format:

Item	Description	Manufacturer	Model No.
1.	Pressure Supply Line	Lasco	Sch. 40
2.	Shrub Head	Rainbird	1800
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 the 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 irrigation pressure lines (dimension maximum 100 feet along routing).
   c. Gate valves.
   d. Irrigation remote control valves.
   e. Quick coupling valves.
   f. Routing of control wires.
   g. Related equipment (as may be directed).

5. Maintain record prints on site at all times.

1.05 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 is to commence without "record" prints available on the site. 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 may be canceled and the Contractor back charged for the direct costs of all City personnel time and consultant time lost, at the discretion of the Parks Department Representative.

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 irrigation system is completed, the 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 Park Projects Inspector or his designated representative. 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 "record" prints.
3. The Contractor shall furnish the necessary force pump and all other test equipment, and shall perform the test.

1.06 TURNOVER ITEMS:

A. Controller Charts:

1. "Record" prints must be approved by the Park Planning Coordinator before charts are prepared.
2. Provide one controller chart for each automatic controller. The chart shall show the entire area covered by the controller, preferably in a single sheet. The chart shall be a reduced copy of the approved "record" print. Reduce the print to a size that is the maximum dimensions that will fit within the controller door without folding. If the controller sequence is illegible at this reduction scale, the chart may be provided as a "multi–sheet" chart to provide adequate legibility.
3. Each control station on the Chart shall be marked with a different color to show its area of coverage.
4. When completed and approved, the chart shall be hermetically sealed between two pieces of plastic, each piece being minimum 20 mils in thickness. The chart shall be installed in the controller enclosure using Velcro fasteners, and three different color grease pencils (red, black and blue) shall be provided in the enclosure for maintenance notations on the chart.
5. Controller charts shall be completed prior to the final acceptance inspection.

B. Operation and Maintenance Manuals: Within a minimum of 14 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 manufacturer'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: Supply as part of this Contract the following items:

1. 4% additional irrigation heads of each type and spray pattern shown.
2. Two (2) special tools/wrenches for disassembly and adjustment of each type irrigation equipment/heads installed that require such special tools/wrenches.
3. Two keys for each type of automatic controller.
4. Two quick coupler "quills" with a 3/4" bronze hose bib, bent nose type with hand wheel and two quick coupler locking lid keys.
5. One valve box cover key.
6. "Record" prints.
7. Remove and turn over backflow device valve handles.
8. Documentation of Water Department's inspection and acceptance of backflow device.

The above items shall be turned over to the City at the conclusion of the Project – Final Acceptance Inspection.

1.07 GUARANTEE:

A. General: The entire irrigation 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 Final Acceptance of the Work as documented by the Notice of Completion filed with the Riverside County Recorder's Office. 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 fourteen (14) 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 IRRIGATION SYSTEM

PROJECT:
LOCATION:

We hereby guarantee the irrigation system we have furnished and installed against defects in materials and workmanship, ordinary wear and tear and unusual abuse, or neglect excepted, and that the Work has been completed in accordance with the Plans and Specifications. We agree to repair or replace any or all of the 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 after the date the Notice of Completion for the above named project is filed with the County Recorder by the City of Riverside, California, at no additional cost to the City. We shall make such repairs or replacements within 14 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 the Director 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 judgment 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 therefor upon demand.

SIGNED:
ADDRESS:

PHONE:

C. Operational Instruction: 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. Trench Settlement: 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 – LANDSCAPE AND IRRIGATION MATERIALS of the Standard Specification except as modified herein.

2.02 BACKFLOW PREVENTION DEVICE: Add the following to Standard Specifications Section 212–2.3 Backflow Preventer Assembly: The backflow prevention unit shall be a reduced pressure type vacuum breaker of the size, manufacture, and model number as indicated on the Plans. 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.

2.03 CONTROLLER UNIT: Add the following to Standard Specifications Section 212–3.3 Controller Unit:

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

2.04 ELECTRICAL MATERIALS:

A. Conduit: Amend Standard Specifications Section 212–3.2.1 Conduit to read: All conduit below grade shall be schedule 40 PVC of sufficient size to carry all proposed wiring. Conduit above grade shall be galvanized steel per the Standard Specifications. Low Voltage (24 volt) wiring shall be provided with a separate conduit/sleeve from both high voltage wiring (110/120 volt and higher) and the irrigation mainline sleeve. Wiring shall be in a separate sleeve.

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

C. Wire: Add the following to Standard Specifications Section 212–3.2.2 Conductors:

All low voltage conductors shall be 14 gauge for control and 12 gauge for common wires. All low voltage common wire shall be white with a colored stripe. Stripe color shall be different for each controller installed. All low voltage control wire shall be of one color other than white or green. A different color control wire shall be used for each controller installed.

2.05 IRRIGATION HEADS: All irrigation heads shall be as shown on the Plans and shall conform with Section 212–2.4 of the Standard Specifications.

2.06 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. Asbestos Cement Pipe (ACP): Add the following to Standard Specifications Section 212–2.1.6 Asbestos Cement Pipe and Fittings: Fittings for ACP 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 ACP couplings with brass inserts may be used for connections of 3/4, 1, 1–1/4, 1–1/2 and 2 inches.

(CONTINUED ON SHEET L–8)

BENCHMARK:
CITY OF RIVERSIDE BENCHMARK H8–F.
P.K. NAIL AND CITY ENGINEER TAG IN THE EASTERLY CORNER OF CATCHBASIN AT THE SOUTHEAST CORNER OF CENTRAL AVENUE AT BOX SPRINGS BOULEVARD.

ELEVATION = 1360.81

KEITH INTERNATIONAL, INC.
•Planning • Civil Engineering • Environmental Services•
•Land Surveying • Public Works • Water Resources•
Inland Empire Division
22890 Cactus Ave., Ste. 300, Moreno Valley, CA 92553 (909) 653–0234

DATE

RICHARD N. YALE
R.C.E. No. 40023 expires 12/31/97

REGISTERED LANDSCAPE ARCHITECT
RANDOLPH HLUBIK NO. 1512
Signature
7/31/97
Renewal Date
7/25/97
Date
STATE OF CALIFORNIA

RHA
LANDSCAPE ARCHITECTS PLANNERS, INC.
JOB #97105

3612 MISSION INN AVE
RIVERSIDE, CALIFORNIA
92501
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CONTACT: DOUG GROVE

MARK	REVISIONS	APPR.	DATE

DESIGNED BY TM DRAWN BY TM CHECKED BY DG

CITY OF RIVERSIDE, CALIFORNIA
PUBLIC WORKS DEPARTMENT

APPROVED BY	BY	DATE
DEPUTY P.W. DIRECTOR		
PRINCIPAL ENGINEER		
CHIEF P.W. INSPECTOR		
STREET SERVICES		
SURVEYOR		
TRAFFIC DIVISION		
PARKS DEPARTMENT	PD	11/23/98

APPROVED BY

PUBLIC WORKS DIRECTOR

DATE

LANDSCAPE IMPROVEMENT PLANS
LOCHMOOR DRIVE EXTENSION
IRRIGATION SPECIFICATIONS

HORIZ. SCALE: NA VERT. SCALE: NA

ACCT. NO.

R–3224

SHEET L–5 OF 13

PC–3224–R/C

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(CONTINUED FROM SHEET L-7)

C. Plastic Pipe: Add the following to Standard Specifications Section 212-2.1.3 Plastic Pipe for Use with Solvent Weld Socket or Threaded Fittings: 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 Specifications Section 212-2.1.3 Plastic Pipe for Use with Solvent Weld Socket or Threaded Fittings 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 Specifications Section 212-2.1.4 Plastic Pipe for Use with Rubber Ring Gaskets 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. Steel Pipe: Amend Standard Specifications Section 212-2.1.2 Steel Pipe 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 Plans are nominal inside diameter, unless otherwise noted."

2.07 VALVE BOXES AND VALVES:

A. Boxes:

1. Concrete Valve Boxes: Add the following to Standard Specifications Section 212-2.2.7 Valve Boxes: 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.

B. Valves:

1. Gate Valves: All gate valves shall be capable of withstanding a minimum working pressure of not less than 150 psi.
2. Manual Control Valves: Add the following to Standard Specifications Section 212-2.2.3 Manual Control Valves: 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.
3. Quick-Coupling Valves: Add the following to Standard Specifications Section 212-2.2.6 Quick Coupling Valves and Assemblies: Quick coupling valves shall have locking vinyl cover and shall be 1" in size.
4. Remote Control Valves: Add the following to Standard Specifications Section 212-2.2.4 Remote Control Valves: Valves shall be spring-loaded, self-cleaning, packless diaphragm activated, of a normally closed type.

   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.

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 General:

A. Irrigation System Design & Water Supply:

1. The irrigation system design is based upon an available water pressure of p.s.i. at a flow rate of g.p.m. Individual stations are designed to this minimum p.s.i. The system is also designed to withstand a maximum pressure of p.s.i. The Contractor shall verify the size of the existing water supply/meter and the existing operating water pressure at the water supply location shown on the Plans prior to starting construction. The Contractor shall notify the Park Projects Inspector in writing of any discrepancies noted. Failure to provide such written notification may cause the Contractor to provide for modifications to the irrigation system as necessary to provide for a fully operational system providing 100% coverage at the operating pressure available, all at no additional cost to the City.

2. Connection to, or the installation of, the water supply shall be at the location shown on the Plans. Minor changes caused by actual site conditions shall be made at no additional cost to the City.

B. Electrical Service: The Contractor shall provide electrical service as necessary and make 120 V connection to the irrigation controller.

C. Code Requirements: Prior to all Work of this Section, the Contractor shall 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 the 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 Plans or in the Specifications is in conflict with local codes, immediately notify the Park Projects Inspector prior to installing the Work. If this notification is not provided, the Contractor shall assume full responsibility for the cost of all revisions necessary to comply with all codes.

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. The 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 with the original design. The 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. Maintain Record Prints: The Contractor shall maintain "record" prints on site at all times. Upon completion of the Work, transfer all "record" 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 Trench Excavation and Backfill: 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, Subparagraph 2 Waterlines continuously pressurized) 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, Subparagraph 3 Lateral sprinkler lines) to read: Lateral irrigation lines - minimum 12 inches and maximum 16 inches.
4. Add the following to Standard Specifications Section 308-2.2 Trench Excavation and Backfill: 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 General: 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. The Contractor shall review the planned limits and lines of concrete removal and replacement with the Park Projects Inspector prior to saw-cutting for Removal Work.

B. Backfill: Amend Standard Specifications Section 308-2.2 Trench Excavation and Backfill 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 Irrigation Pipeline Installation, General:

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. The 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 Plastic Pipeline:

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 Installation of Valves, Valve Boxes, and Special Equipment: 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 Installation of Valves, Valve Boxes, and Special Equipment to read: Valves shall be the same size as the pipeline in which they are installed unless otherwise specified on the 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 Installation of Valves, Valve Boxes, and Special Equipment 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 Installation of Valves, Valve Boxes, and Special Equipment: Valves shall be installed in shrub areas whenever possible. No valves or valve boxes other than quick coupler valves shall be installed within a designated athletic playing field.

3.06 IRRIGATION HEAD INSTALLATION: Amend Standard Specifications Section 308-5.4.1 Sprinkler Head Installation and Adjustment, General to read: Irrigation heads shall be installed as designated on the Plans and per Parks and Recreation standard details. Upon coverage testing of the system if 100% coverage is not afforded by the system as designed, additional heads shall be added as necessary to achieve 100% coverage. Up to 5% of the total number of heads in the system are to be added at no additional cost to the City. If a greater number of heads is needed, cost shall be as negotiated by change order.

3.07 CONTROLLER INSTALLATION: Add the following to Standard Specifications Section 308-5.5 Automatic Control System Installation:

3.08 CONTROLLER INSTALLATION: Add the following to Standard Specifications Section 308-5.5 Automatic Control System Installation: 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 LeMeur vandal resistant enclosure, unless noted otherwise on the Plans. 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 sf., 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.).

3.09 WIRING: Add the following to Standard Specifications Section 308-5.5 Automatic Control System Installation: 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 Plans.

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.

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

3.11 COMPLETION CLEANING: Add the following to Standard Specifications Section 308 LANDSCAPE AND IRRIGATION INSTALLATION: Upon completion of the Work, the 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

BENCHMARK:
CITY OF RIVERSIDE BENCHMARK H8-F.
P.K. NAIL AND CITY ENGINEER TAG IN THE EASTERLY CORNER OF CATCHBASIN AT THE SOUTHEAST CORNER OF CENTRAL AVENUE AT BOX SPRINGS BOULEVARD.

ELEVATION = 1360.81

KEITH INTERNATIONAL, INC.
• Planning • Civil Engineering • Environmental Services •
• Land Surveying • Public Works • Water Resources •
Inland Empire Division
22890 Cactus Ave., Ste. 300, Moreno Valley, CA 92553 (909) 653-0234

DATE

RICHARD N. YALE
R.C.E. No. 40023 expires 12/31/97

REGISTERED LANDSCAPE ARCHITECT
RANDOLPH HLUBIK NO. 1512
Signature
7/31/97
Renewal Date
7/25/97
Date
STATE OF CALIFORNIA

RHA
LANDSCAPE ARCHITECTS PLANNERS INC.
JOB #97105

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CONTACT: DOUG GROVE

MARK	REVISIONS	APPR.	DATE

DESIGNED BY TM DRAWN BY TM CHECKED BY DG

CITY OF RIVERSIDE, CALIFORNIA
PUBLIC WORKS DEPARTMENT

APPROVED BY	BY	DATE
DEPUTY P.W. DIRECTOR		
PRINCIPAL ENGINEER		
CHIEF P.W. INSPECTOR		
STREET SERVICES		
SURVEYOR		
TRAFFIC DIVISION		
PARKS DEPARTMENT	RD	11/23/98

APPROVED BY
PUBLIC WORKS DIRECTOR
DATE

LANDSCAPE IMPROVEMENT PLANS
LOCHMOOR DRIVE EXTENSION
IRRIGATION SPECIFICATIONS

HORIZ. SCALE: NA VERT. SCALE: NA

ACCT. NO.
R-3224
SHEET L-6 OF 13

PC-3224-R/C

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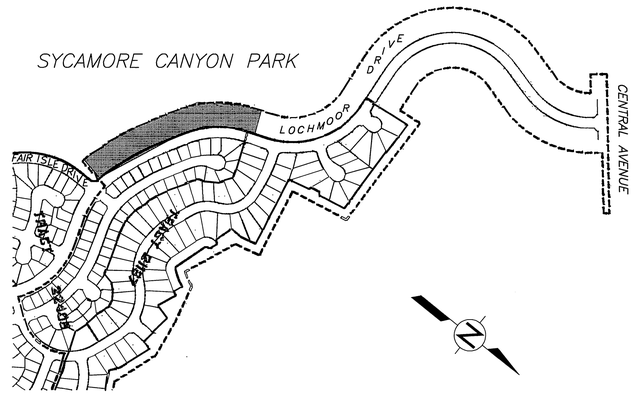
SYMBOL	BOTANICAL NAME COMMON NAME	SIZE	SPACING	REMARKS	REFERENCE
TREES					
STREET TREE	QUERCUS DOUGLASII BLUE OAK	24" BOX	45' O.C.	STANDARD △	REFER TO DETAIL 'A' SHEET L-11

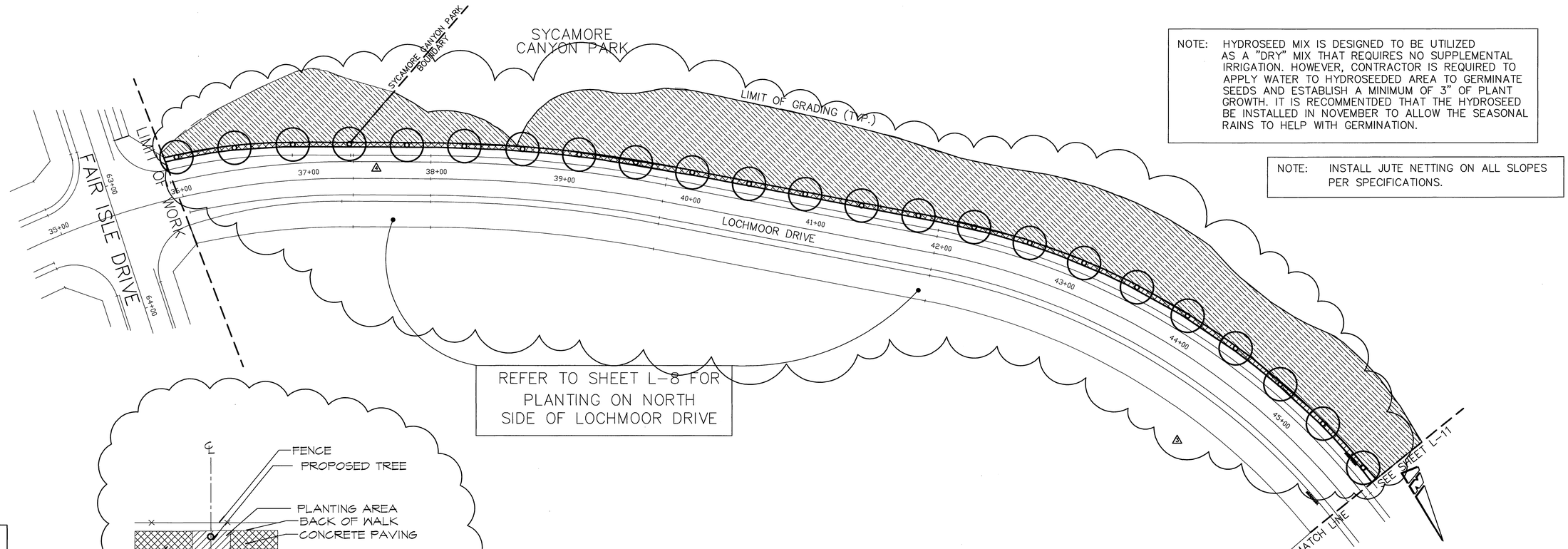
SYMBOL	BOTANICAL NAME COMMON NAME	LBS. PER ACRE	% BY WEIGHT
HYDROSEED			
SLOPES WITHIN SYCAMORE CANYON PARK	LASTHENIA CHYSOSTOMA	3	8%
	ERIOPHYLLUM CONFERTIFLORUM	6	14%
	ENCELIA FARINOSA	4	10%
	ESCHSCHOLZIA CALIFORNICA	3	4%
	LUPINUS BICOLOR	5	4%
	ERIOGONUM FASCICULATUM	8	20%
	SALVIA APIANA	6	20%
	ZORRO FESCUE	5	20%
		40	100%

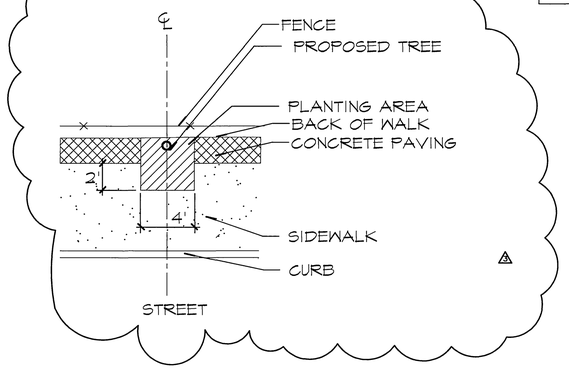
△ CONCRETE PAVING TO MATCH EXISTING PAVING IN THICKNESS AND FINISH



NOTE: HYDROSEED MIX IS DESIGNED TO BE UTILIZED AS A "DRY" MIX THAT REQUIRES NO SUPPLEMENTAL IRRIGATION. HOWEVER, CONTRACTOR IS REQUIRED TO APPLY WATER TO HYDROSEEDED AREA TO GERMINATE SEEDS AND ESTABLISH A MINIMUM OF 3" OF PLANT GROWTH. IT IS RECOMMENTDED THAT THE HYDROSEED BE INSTALLED IN NOVEMBER TO ALLOW THE SEASONAL RAINS TO HELP WITH GERMINATION.

NOTE: INSTALL JUTE NETTING ON ALL SLOPES PER SPECIFICATIONS.





△ SEE DETAIL 'A' SHEET L-11

CENCOM CABLE T.V	APPROVED BY _____ DATE _____
PACIFIC BELL TELEPHONE	APPROVED BY _____ DATE _____
SOUTHERN CALIFORNIA GAS COMPANY	APPROVED BY _____ DATE _____

BENCHMARK:
CITY OF RIVERSIDE BENCHMARK H8-F.
P.K. NAIL AND CITY ENGINEER TAG IN THE EASTERLY CORNER OF CATCHBASIN AT THE SOUTHEAST CORNER OF CENTRAL AVENUE AT BOX SPRINGS BOULEVARD.

ELEVATION = 1360.81

KEITH INTERNATIONAL, INC.
•Planning • Civil Engineering • Environmental Services•
•Land Surveying • Public Works • Water Resources•
Inland Empire Division
22930 Cactus Ave., Ste. 300, Moreno Valley, CA 92553 (909) 653-3334

RICHARD N. YALE DATE _____
R.C.E. No. 40023 expires 12/31/97

REGISTERED LANDSCAPE ARCHITECT
RANDOLPH HILDRED HESTER
Signature 7/21/97 Date
STATE OF CALIFORNIA

RHA LANDSCAPE ARCHITECTS PLANNERS, INC.
3612 MISSION INN AVE
RIVERSIDE, CALIFORNIA
92501
(909) 781-1930
LIC. #1512
FAX (909) 686-8091
JOB #97105 CONTACT: DOUG GROVE

MARK	REVISIONS	APPR.	DATE
△	OWNER REVISIONS		5/23/97
△	FIELD REVISION		10/9/97
△	ADD TREES		5/11/98
△	ADD CONCRETE PAVING		8/17/98

DESIGNED BY TM DRAWN BY TM CHECKED BY _____

CITY OF RIVERSIDE, CALIFORNIA
PUBLIC WORKS DEPARTMENT

APPROVED BY	BY	DATE
DEPUTY P.W. DIRECTOR		
PRINCIPAL ENGINEER		
CHIEF P.W. INSPECTOR		
STREET SERVICES		
SURVEYOR		
TRAFFIC DIVISION		
PARKS DEPARTMENT	RJH	12/17/97

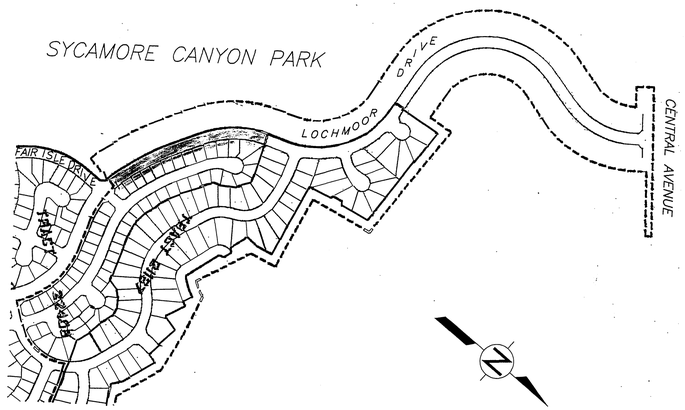
APPROVED BY _____
PUBLIC WORKS DIRECTOR
DATE _____

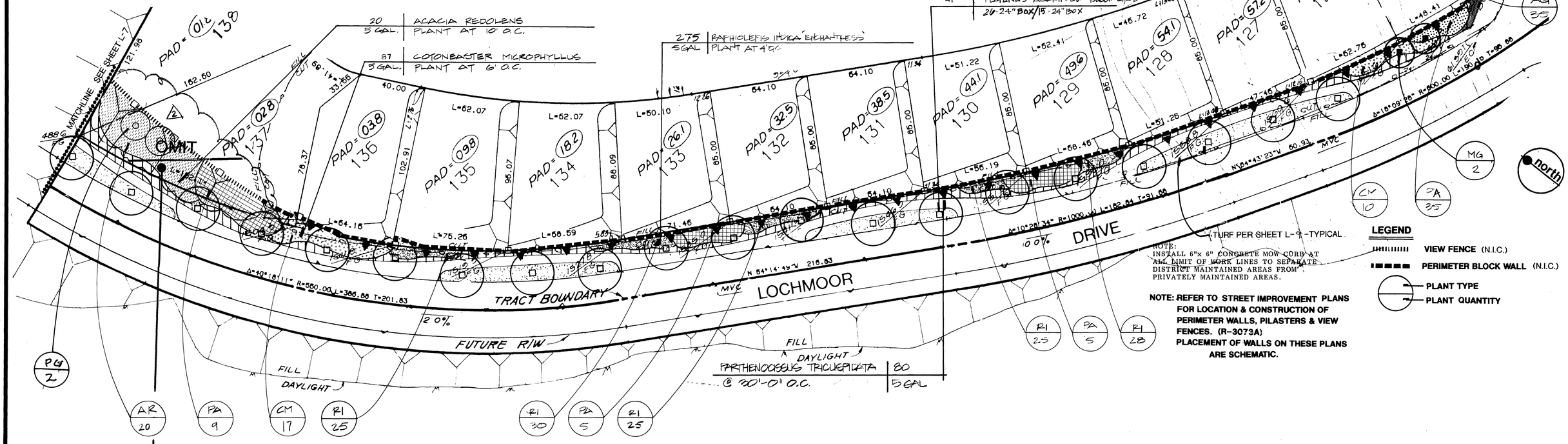
LANDSCAPE IMPROVEMENT PLANS
LOCHMOOR DRIVE EXTENSION
PLANTING PLAN
HORIZ. SCALE: 1" = 40' VERT. SCALE:

ACCT. NO.
R-3224
SHEET L-7 OF 13

PRJ:\97prj\97105\AutoCadd\97105pp1.dwg
INDEXED 9-7-99 FH

ABBREV.	BOTANICAL NAME COMMON NAME	SIZE	SPACING	REMARKS
TREES				
PG	PODOCARPUS GRACILIOR FERN PINE	15 GAL.	REFER TO PLAN	STANDARD
MG	MAGNOLIA GRANDIFORA SOUTHERN MAGNOLIA	15 GAL.	REFER TO PLAN	STANDARD
PC	PRUNUS CERASIFERA 'AUTOPURPUREA' PURPLE-LEAF PLUM	15 GAL.	REFER TO PLAN	STANDARD
SHRUBS				
AG	AGAPANTHUS AFRICANUS 'QUEEN ANNE' DWARF LILY-OF-THE-NILE	1 GAL.	REFER TO PLAN	
AR	ACACIA REDOLENS NCN	5 GAL.	REFER TO PLAN	
PT	PITTOSPORUM TOBIRA 'WHEELERS DWARF' TOBIRA	5 GAL.	REFER TO PLAN	
RI	RAPHIOLEPIS INDICA 'ENCHANTRESS' INDIA HAWTHORN	5 GAL.	REFER TO PLAN	
CM	COTONEASTER MYCROPHYLLUS ROCKSPRAY COTONEASTER	5 GAL.	REFER TO PLAN	
PA	PLUMBAGO AURICULATA CAPE PLUMBAGO	5 GAL.	REFER TO PLAN	
XC	XYLOSMA CONGESTUM 'COMPACTA' DWARF XYLOSMA	5 GAL.	REFER TO PLAN	
VINES				
PT	PARTHENOCISSUS TICUSPIDATA BOSTON IVY	5 GAL.	30'-0" O.C.	
GROUND COVERS				
GS	GAZANIA 'MITSUWA ORANGE' ORANGE GAZANIA W/ 1" THICK LAYER OF MULCH	ROOTED CUTTINGS	12" O.C.	
TURF				
	MARATHON IIa	HYDROSEED @ 10 LBS/1000 S.F.		





(TURF PER SHEET L-9 -TYPICAL

NOTE:
INSTALL 6"x 6" CONCRETE MOW CURB AT ALL LIMIT OF WORK LINES TO SEPARATE DISTRICT MAINTAINED AREAS FROM PRIVATELY MAINTAINED AREAS.

NOTE: REFER TO STREET IMPROVEMENT PLANS FOR LOCATION & CONSTRUCTION OF PERIMETER WALLS, PILASTERS & VIEW FENCES. (R-3073A) PLACEMENT OF WALLS ON THESE PLANS ARE SCHEMATIC.

LEGEND

- VIEW FENCE (N.I.C.)
- PERIMETER BLOCK WALL (N.I.C.)
- PLANT TYPE
- PLANT QUANTITY

THE PARTICULAR SPACING OF SHRUBS SHALL PREVAIL OVER A NUMERICAL QUANTITY. ADJUST AS REQUIRED

REGISTERED LANDSCAPE ARCHITECT
CHANDOLPH HLUBIK NO. 1512
Signature
7/25/97
Date
STATE OF CALIFORNIA

RHA
LANDSCAPE ARCHITECTS PLANNERS, INC.
3612 SEVENTH STREET
RIVERSIDE, CALIFORNIA
92501
(909) 781-1930
FAX (909) 686-8091
LICENSE #1512
CONTACT: DOUG GROVE
JOB #97105

MARK	REVISIONS	APPR.	DATE
1	City Planting Revision		7/16/97
2	FIELD REVISIONS		10/8/97

DESIGNED BY _____ DRAWN BY _____ CHECKED BY DG

CITY OF RIVERSIDE
PUBLIC WORKS DEPARTMENT

APPROVED BY	DATE	BY
PRINCIPAL ENGINEER		
PARK DEPARTMENT	10-12-95	MH
TRAFFIC DIVISION		
CHIEF P. W. ENGINEER		

APPROVED BY
PUBLIC WORKS DIRECTOR
DATE

LANDSCAPE IMPROVEMENT PLANS
LOCHMOOR DRIVE EXTENSION
PLANTING PLAN

HORIZ. SCALE: 1" = 30 VERT. SCALE: 1" =

ACCOUNT NO.
R-3224
SHEET L-8 OF 13

PC-3224-R/C

INDEXED 9-7-99 GH

SYMBOL	BOTANICAL NAME / COMMON NAME	LBS. PER ACRE	% BY WEIGHT
HYDROSEED			
SLOPES WITHIN SYCAMORE CANYON PARK			
	LASTHENIA CHRYSOSTOMA	3	8%
	EROPHYLLUM CONFERTIFLORUM	6	14%
	ENCELIA FARINOSA	4	10%
	ESCHSCHOLZIA CALIFORNICA	3	4%
	LUPINUS BICOLOR	5	4%
	ERIOGONUM FASCICULATUM	8	20%
	SALVIA APIANA	6	20%
	ZORRO FESCUE	5	20%
		40	100%

SYMBOL	BOTANICAL NAME / COMMON NAME	SIZE	SPACING	REMARKS	REFERENCE
TREES					
	PINUS CANARIENSIS CANARY ISLAND PINE	15 GAL	REFER TO PLAN	STANDARD	REFER TO DETAIL 'A' & 'B' SHEET L-11
	PYRUS CALLERYANA 'ARISTOCRAT' ORNAMENTAL PEAR	15 GAL.	REFER TO PLAN	STANDARD	REFER TO DETAIL 'A' & 'B' SHEET L-11
	PRUNUS CERASIFERA 'AUTOPURPUREA' PURPLE-LEAF PLUM	15 GAL.	REFER TO PLAN	STANDARD	REFER TO DETAIL 'A' & 'B' SHEET L-11
	TRISTANIA CONFERTA BRISBANE BOX	15 GAL.	REFER TO PLAN	STANDARD	REFER TO DETAIL 'A' & B SHEET L-11
STREET TREE					
	QUERCUS DOUGLASII BLUE OAK	24" BOX	45' O.C.	STANDARD	REFER TO DETAIL 'A' & 'B' SHEET L-11
SHRUBS					
	AGAPANTHUS AFRICANUS 'QUEEN ANNE' DWARF LILY-OF-THE-NILE	1 GAL.	REFER TO PLAN		REFER TO DETAIL 'C' & 'H'
	ACACIA REDOLENS NCN	5 GAL.	REFER TO PLAN		REFER TO DETAIL 'C' & 'H' SHEET L-11
	PITTOSPORUM TOBIRA 'WHEELERS DWARF' TOBIRA	5 GAL.	REFER TO PLAN		REFER TO DETAIL 'C' & 'H' SHEET L-11
	XYLOSMA CONGESTUM XYLOSMA	5 GAL.	REFER TO PLAN		REFER TO DETAIL 'C' & 'H' SHEET L-11
	RAPHIOLEPIS INDICA 'ENCHANTRESS' INDIA HAWTHORN	5 GAL.	REFER TO PLAN		REFER TO DETAIL 'C' & 'H' SHEET L-11
	JUNIPERUS SABINA 'BROADMOOR' JUNIPER	5 GAL.	REFER TO PLAN		REFER TO DETAIL 'C' & 'H' SHEET L-11
	RAPHIOLEPIS INDICA 'ENCHANTRESS' INDIA HAWTHORN	5 GAL.	REFER TO PLAN		REFER TO DETAIL 'C' & 'H' SHEET L-11
	COTONEASTER MYCROPHYLLUS ROCKSPRAY COTONEASTER	5 GAL.	REFER TO PLAN		REFER TO DETAIL 'C' & 'H' SHEET L-11
	PLUMBAGO AURICULATA CAPE PLUMBAGO	5 GAL.	REFER TO PLAN		REFER TO DETAIL 'C' & 'H' SHEET L-11

SYMBOL	BOTANICAL NAME / COMMON NAME	SIZE	SPACING	REMARKS	REFERENCE
VINES					
▼	PARTHENOCISSUS TICUSPIDATA BOSTON IVY	5 GAL.	30'-0" O.C.		REFER TO DETAIL 'D' SHEET L-11
GROUND COVERS					
	GAZANIA 'MITSUWA ORANGE' ORANGE GAZANIA W/ 1" THICK LAYER OF MULCH	ROOTED CUTTINGS	12" O.C.	TRIANGULAR SPACE	REFER TO DETAIL 'E' SHEET L-11
	TRACHELOSPERMUM JASMINOIDES STAR JASMINE	1 GAL.	24" O.C.	TRIANGULAR SPACE	REFER TO DETAIL 'E' SHEET L-11
TURF					
	MARATHON IIs	HYDROSEED @ 10 LBS./1000 SF.			

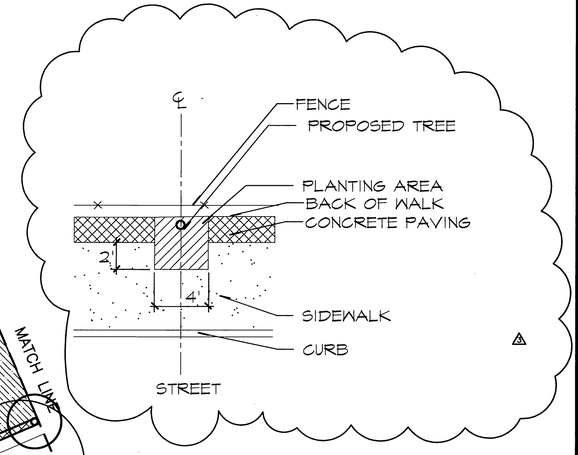
DECOMPOSED GRANITE

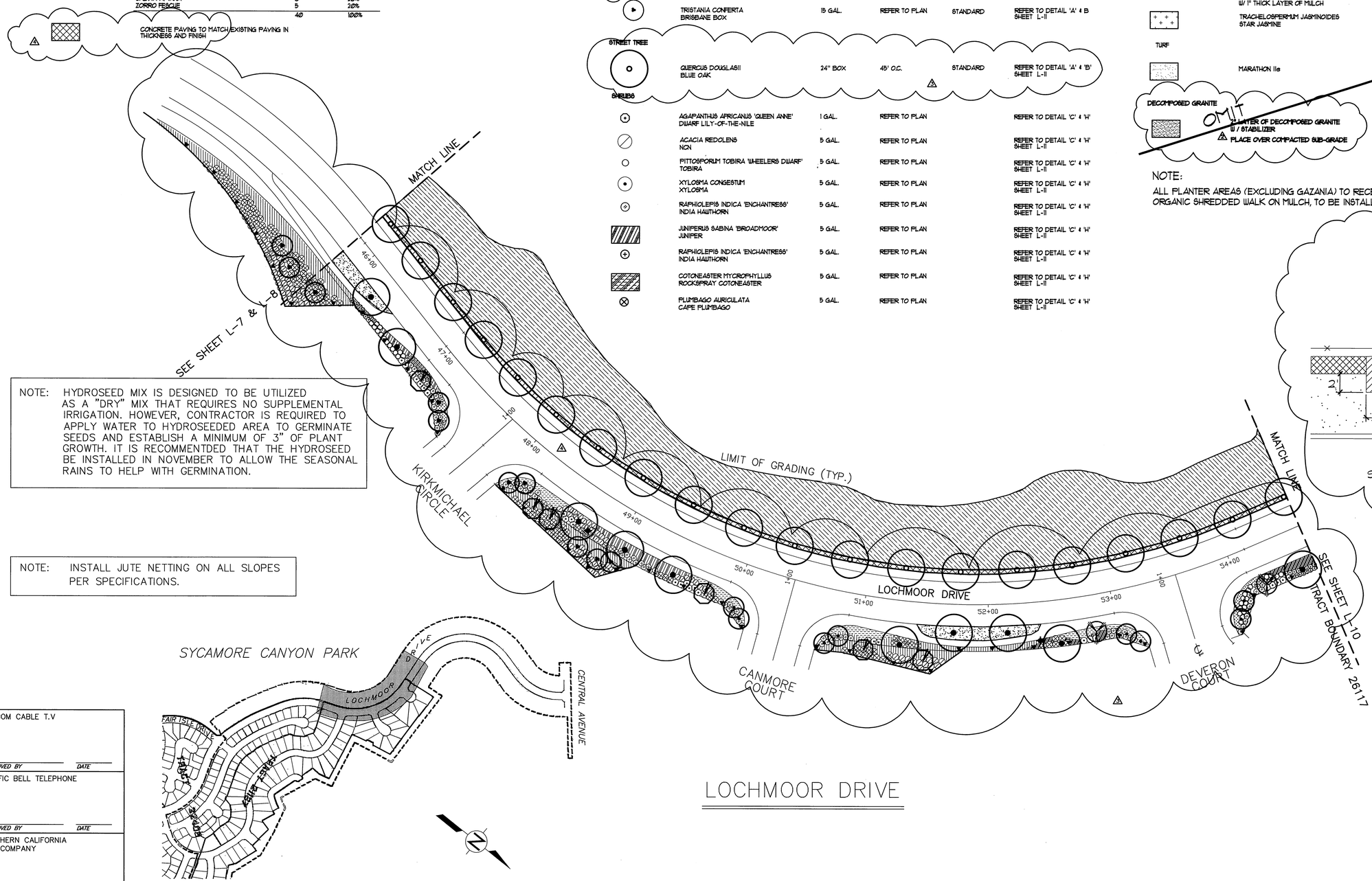
~~OMIT~~

2" LAYER OF DECOMPOSED GRANITE W / STABILIZER

⚠ PLACE OVER COMPACTED SUB-GRADE

NOTE:
ALL PLANTER AREAS (EXCLUDING GAZANIA) TO RECEIVE A 2" THICK LAYER OF ORGANIC SHREDDED WALK ON MULCH, TO BE INSTALLED PER SPECIFICATIONS.





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NOTE: INSTALL JUTE NETTING ON ALL SLOPES PER SPECIFICATIONS.

LOCHMOOR DRIVE

CENCOM CABLE T.V
APPROVED BY ____ DATE ____

PACIFIC BELL TELEPHONE
APPROVED BY ____ DATE ____

SOUTHERN CALIFORNIA GAS COMPANY
APPROVED BY ____ DATE ____

BENCHMARK:
CITY OF RIVERSIDE BENCHMARK H8-F.
P.K. NAIL AND CITY ENGINEER TAG IN THE EASTERLY CORNER OF CATCHBASIN AT THE SOUTHEAST CORNER OF CENTRAL AVENUE AT BOX SPRINGS BOULEVARD.

ELEVATION = 1360.81

KEITH INTERNATIONAL, INC.
•Planning • Civil Engineering • Environmental Services•
•Land Surveying • Public Works • Water Resources•
Inland Empire Division
23692 Cactus Ave., Ste. 300, Moreno Valley, CA 92553 (909) 653-0234

RICHARD N. YALE DATE ____
R.C.E. No. 40023 expires 12/31/97

REGISTERED LANDSCAPE ARCHITECT
RANDOLPH HLUBIK MEYER
Signature 7/31/97 Date
STATE OF CALIFORNIA

RHA LANDSCAPE ARCHITECTS PLANNERS INC
3612 MISSION INN AVE
RIVERSIDE, CALIFORNIA
92501
(909) 781-1930
LIC. #1512
FAX (909) 686-8091
JOB #97105 CONTACT: DOUG GROVE

MARK	REVISIONS	APPR.	DATE
⚠	FIELD REVISIONS		10/9/97
⚠	ADD TREES		5/11/98
⚠	ADD CONCRETE PAVING		8/17/98

DESIGNED BY TM DRAWN BY TM CHECKED BY ____

CITY OF RIVERSIDE, CALIFORNIA
PUBLIC WORKS DEPARTMENT

APPROVED BY	BY	DATE
DEPUTY P.W. DIRECTOR		
PRINCIPAL ENGINEER		
CHIEF P.W. INSPECTOR		
STREET SERVICES		
SURVEYOR		
TRAFFIC DIVISION		
PARKS DEPARTMENT	RD	08/25/98

APPROVED BY ____ PUBLIC WORKS DIRECTOR
DATE ____

LANDSCAPE IMPROVEMENT PLANS
LOCHMOOR DRIVE EXTENSION
PLANTING PLAN

HORIZ. SCALE: 1" = 40' VERT. SCALE:

ACCT. NO.
R-3224
SHEET L-9 OF 13

PC-3224-R/C

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INDEXED 9.7.99 GH

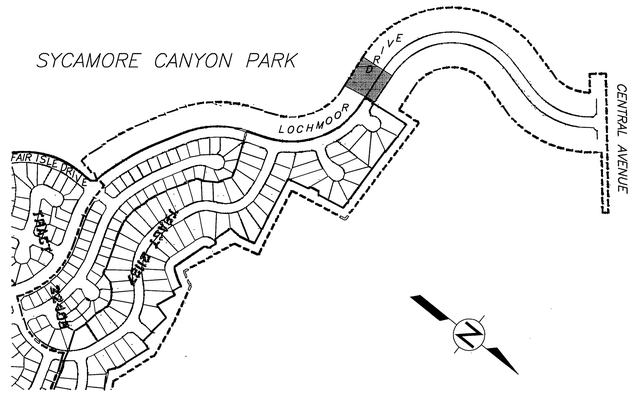
SYMBOL	BOTANICAL NAME COMMON NAME	SIZE	SPACING	REMARKS	REFERENCE
TREES					
STREET TREE	QUERCUS DOUGLASII BLUE OAK	24" BOX	45' O.C.	STANDARD	REFER TO DETAIL 'A' & 'B' SHEET L-11

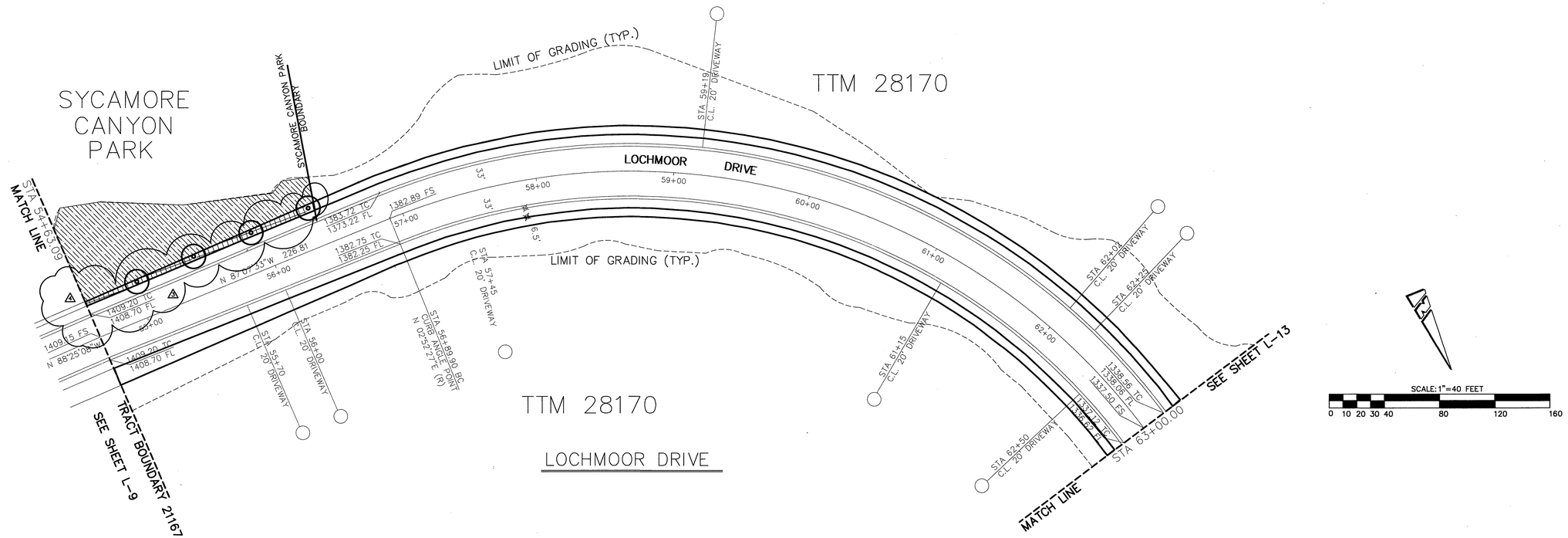
SYMBOL	BOTANICAL NAME COMMON NAME	LBS. PER ACRE	% BY WEIGHT
HYDROSEED			
SLOPES WITHIN SYCAMORE CANYON PARK	LASTHENIA CHYSOSTOMA	3	8%
	ERIOPHYLLUM CONFERTIFLORUM	6	14%
	ENCELIA FARINOSA	4	10%
	ESCHSCHOLZIA CALIFORNICA	3	4%
	LUPINUS BICOLOR	5	4%
	ERIOGONUM FASCICULATUM	8	20%
	SALVIA APIANA	6	20%
	ZORRO FESCUE	5	20%
		40	100%

CONCRETE PAVING TO MATCH EXISTING PAVING IN THICKNESS AND FINISH

NOTE: HYDROSEED MIX IS DESIGNED TO BE UTILIZED AS A "DRY" MIX THAT REQUIRES NO SUPPLEMENTAL IRRIGATION. HOWEVER, CONTRACTOR IS REQUIRED TO APPLY WATER TO HYDROSEEDED AREA TO GERMINATE SEEDS AND ESTABLISH A MINIMUM OF 3" OF PLANT GROWTH. IT IS RECOMMENTDED THAT THE HYDROSEED BE INSTALLED IN NOVEMBER TO ALLOW THE SEASONAL RAINS TO HELP WITH GERMINATION.

NOTE: INSTALL JUTE NETTING ON ALL SLOPES PER SPECIFICATIONS.





CENCOM CABLE T.V	APPROVED BY _____ DATE _____
PACIFIC BELL TELEPHONE	APPROVED BY _____ DATE _____
SOUTHERN CALIFORNIA GAS COMPANY	APPROVED BY _____ DATE _____

BENCHMARK:
CITY OF RIVERSIDE BENCHMARK H8-F.
P.K. NAIL AND CITY ENGINEER TAG IN THE EASTERLY CORNER OF CATCHBASIN AT THE SOUTHEAST CORNER OF CENTRAL AVENUE AT BOX SPRINGS BOULEVARD.

ELEVATION = 1360.81

KEITH INTERNATIONAL, INC.
•Planning • Civil Engineering • Environmental Services•
•Land Surveying • Public Works • Water Resources•
Inland Empire Division
23692 Cadiz Ave., Ste. 300, Moreno Valley, CA 92553 (909) 653-0334

RICHARD N. YALE DATE _____
R.C.E. No. 40023 expires 12/31/97

REGISTERED LANDSCAPE ARCHITECT RANDOLPH HUBBS 1617 Signature 7/31/97 Renewal Date Date STATE OF CALIFORNIA

RHA LANDSCAPE ARCHITECTS PLANNERS, INC
3612 MISSION INN AVE
RIVERSIDE, CALIFORNIA
92501
(909) 781-1930
LIC. #1512
FAX (909) 686-8091

JOB #97105 CONTACT: DOUG GROVE

MARK	REVISIONS	APPR.	DATE
1	OWNER REVISIONS		5/23/97
2	FIELD REVISION		10/9/97
3	CITY REVISIONS		6/15/98
4	CITY REVISIONS		8/17/98

DESIGNED BY TM DRAWN BY TM CHECKED BY _____

CITY OF RIVERSIDE, CALIFORNIA
PUBLIC WORKS DEPARTMENT

APPROVED BY	BY	DATE
DEPUTY P.W. DIRECTOR		
PRINCIPAL ENGINEER		
CHIEF P.W. INSPECTOR		
STREET SERVICES		
SURVEYOR		
TRAFFIC DIVISION		
PARKS DEPARTMENT	BS	11/25/98

APPROVED BY _____
PUBLIC WORKS DIRECTOR
DATE _____

LANDSCAPE IMPROVEMENT PLANS
LOCHMOOR DRIVE EXTENSION
PLANTING PLAN

HORIZ. SCALE: 1" = 40' VERT. SCALE:

ACCT. NO.
R-3224
SHEET L-10 OF 13

PC-3224-R/C

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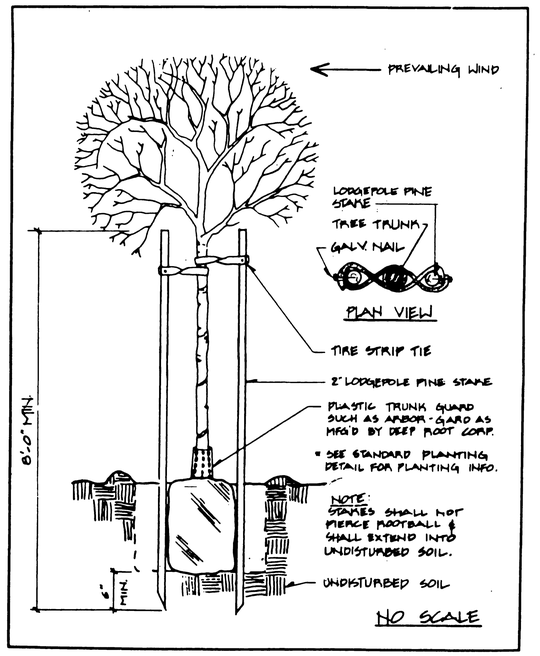
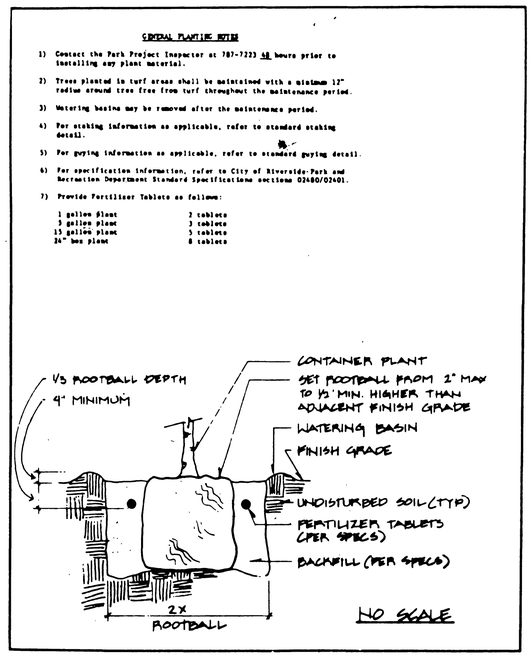
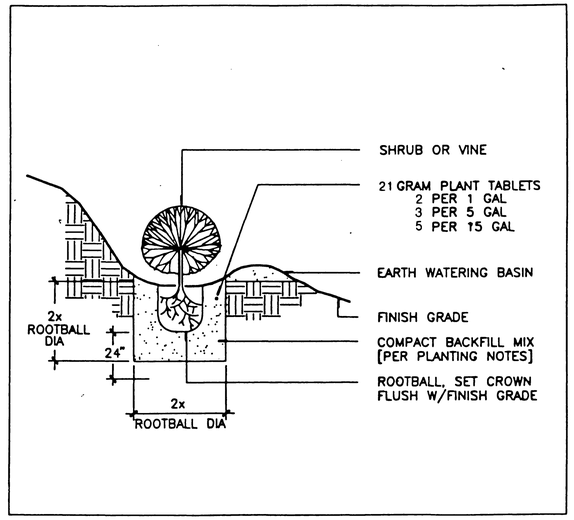
INDEXED 9-7-99 GH



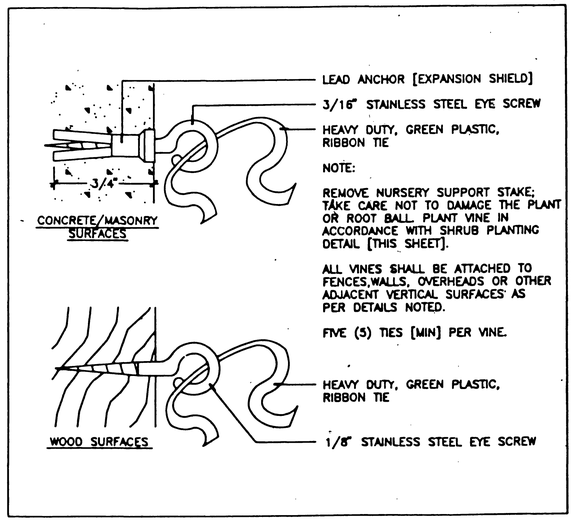
Ⓐ **TREE DETAIL**



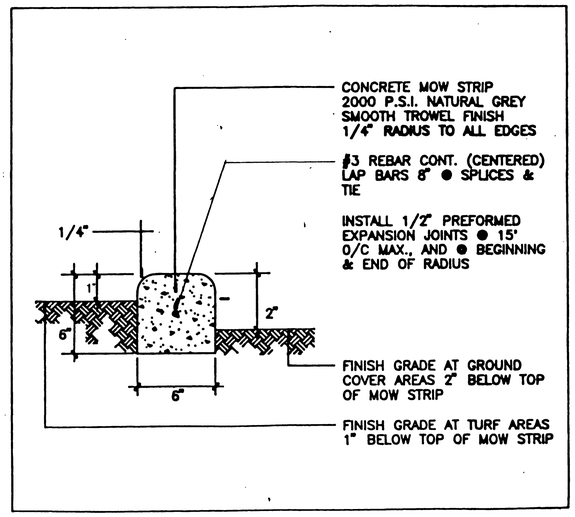
Ⓑ **PLANTING DETAIL**



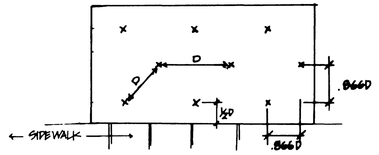
Ⓒ **SHRUB DETAIL**



Ⓓ **VINE TIES**



Ⓔ **CONC. MOW CURB**



Ⓗ **SHRUB SPACING DETAIL**

BENCHMARK:
CITY OF RIVERSIDE BENCHMARK H8-F.
P.K. NAIL AND CITY ENGINEER TAG IN THE EASTERLY CORNER OF CATCHBASIN AT THE SOUTHEAST CORNER OF CENTRAL AVENUE AT BOX SPRINGS BOULEVARD.

ELEVATION = 1360.81

KEITH INTERNATIONAL, INC.
• Planning • Civil Engineering • Environmental Services •
• Land Surveying • Public Works • Water Resources •
Inland Empire Division
23692 Center Ave., Ste. 208, Moreno Valley, CA 92553 (909) 653-5324

RICHARD N. YALE
R.C.E. No. 40023 expires 12/31/97
DATE

REGISTERED LANDSCAPE ARCHITECT
JAMESON HLUBIK No. 1511
12/31/97
STATE OF CALIFORNIA

RHA LANDSCAPE ARCHITECTS PLANNERS INC
JOB #97105

3612 MISSION INN AVE
RIVERSIDE, CALIFORNIA
92501
(909) 781-1930
LIC #1512
FAX (909) 686-8091
CONTACT: DOUG GROVE

MARK	REVISIONS	APPR.	DATE

DESIGNED BY TM DRAWN BY TM CHECKED BY DG

CITY OF RIVERSIDE, CALIFORNIA
PUBLIC WORKS DEPARTMENT

APPROVED BY	BY	DATE
DEPUTY P.W. DIRECTOR		
PRINCIPAL ENGINEER		
CHIEF P.W. INSPECTOR		
STREET SERVICES		
SURVEYOR		
TRAFFIC DIVISION		
PARKS DEPARTMENT	DG	11/25/98

APPROVED BY
PUBLIC WORKS DIRECTOR
DATE

LANDSCAPE IMPROVEMENT PLANS
LOCHMOOR DRIVE EXTENSION
PLANTING DETAILS

HORIZ. SCALE: VERT. SCALE:

ACCT. NO.
R-3224
SHEET L-11 OF 13

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PLANTING
SECTION 02480

PART 1 – GENERAL

1.01 RELATED DOCUMENTS:

A. Standard Specifications: The provisions of the Standard Specifications shall apply except as modified herein.

B. Reference Standards: American Association of Nurserymen Standards.

1.02 SCOPE: The Work of this Section shall consist of furnishing all labor, materials, equipment, appliances and services necessary for the execution and completion of all Planting Work as shown on the Plans and as described in the Specifications including, but not necessarily limited to, the following:

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;
Coordination with Work of other Sections;
Testing;
Clean–up;
Replacements, Repairs, Guarantees and Warranty Work.

1.03 RELATED WORK:

Irrigation 02441

1.04 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 will take precedence over the minimum amendment and fertilizer application rates specified herein if and when they exceed the specified minimums. The Contractor shall allow a minimum two week period for the soils testing work commencing upon the Park Projects Inspector's acceptance of grade/the fine grading work per Section 02210.

1.05 GUARANTEE: The guarantee requirements of the Special Provisions are supplemented as follows as they pertain to the tree planting portion of the Work. 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 the date the Project Notice of Completion is filed with the County Recorder. During the guarantee period, any trees 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 trees. Replacement shall be made in accordance with City standards. Material and labor involved in replacing trees shall be provided by the Contractor at no additional cost to the City.

1.06 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. Fine Grade Prior to Commencement of Soil Preparation: Upon completion of fine grading and prior to commencement of soil preparation, for acceptance of fine grading work/grade and taking of soils samples.

B. Finish Grade: Inspection of completed finish grading work following soil preparation work.

C. Plant Material: Inspection of plant materials upon delivery to the job site, but prior to planting.

D. Plant Locations: When container plants and/or bare root stock are spotted for planting, but before planting holes are excavated.

E. Completed Planting: When planting and all other indicated or specified work has been completed.

F. Chemical Applications: During application of pre–emergent chemical.

G. Start of Plant Establishment: At the start of the Plant Establishment Period.

H. End of the Plant Establishment: Prior to Final Acceptance of the Project for maintenance by the City, the project will be inspected for end of the Plant Establishment Period. Acceptance for maintenance will be confirmed in writing by the Park and Recreation Department.

1.07 SUBMITTALS: 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

1.08 PLANT ESTABLISHMENT PERIOD: The length of the Plant Establishment Period shall be as specified in Section 6–7.4 of the Special Provisions; regarding length of plant establishment and criteria to start, see also Subsections 3.12 Maintenance and Plant Establishment and 3.13 Start of Plant Establishment Period.

PART 2 – MATERIALS

2.01 GENERAL: All materials shall conform with Section 212 – Landscape and Irrigation Materials 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 Commercial Fertilizer:

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 (P205). 10%
Derived from calcium phosphate

Soluble Potash (K20). 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, and free of foreign matter.

D. Soil Conditioners: Add to Standard Specifications, new Section as follows:

212–1.2.6 Inorganic Conditioners. 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 Food and Agriculture in compliance with Chapter 5 "Fertilizing Materials", of Division 7 of the Food and Agriculture Code of California, commencing at Section 14501.

2.03 HEADERS, STAKES AND TIES: Add the following to Standard Specifications Section 212–1.5 Headers, Stakes and Ties:

A. Headers: Standard Specifications Section 212–1.5.2 Headers and Stakes replace with the following to read:

Headers shall be Concrete Headers/Mow 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.

B. Tree Stakes: Shall be straight–grained lodgepole pine, or City approved equal. Stakes shall be free from knots, checks, split, or disfigurements.

C. 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.

2.04 HYDROSEEDING MATERIALS:

A. Binding Agent: Shall be a dry powder organic concentrate, Ecology Controls "M–Binder" as available from Robinson Fertilizer Company, Anaheim, CA 714/632–9715 or City approved equal.

B. Fertilizers:

1. Controlled Release Fertilizer (CRF): Shall have an analysis of 16–7–12 (+Iron), 9–12 mo. formulation resin coated prills, "Sierrablen" as manufactured by Grace Sierra Chemical Co., Milpitas, CA 1–800–492–8255 or City approved equal.

2. Single Super Phosphate: Shall have an analysis of 0–18–0, and shall be as manufactured by Grace–Sierra, or City approved equal.

C. Fiber Mulch: 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.

D. Seed: Seed mix as specified.

E. Water: All water used for hydroseeding shall be potable domestic water. See General Provisions section 7–8.5 regarding availability of water and temporary construction meter and charges for water drawn from City fire hydrants.

2.05 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.

2.06 PLANTS: Add the following to Standard Specifications Section 212–1.4 Plants:

A. General: Add the following to sub–section 212–1.4.1 General: All plants shall be true to name, with at least one of each bundle or lot tagged with the name and size in accordance with the American Association of Nurserymen Standards. In all cases, botanical names shall take precedence over common names. All plants and planting materials shall meet or exceed the specifications of Federal, State, and County Laws requiring inspection for plant disease and insect control.

B. Quality and Size:

1. Quality: All plant material shall comply with the definition for number one nursery stock per the current edition of "Horticultural Standards" as adopted by the American Association of Nurserymen.
2. Size: Add the following to Standard Specifications Sections 212–1.4.2 Trees and 212.1.4.3 Shrubs:
   a) All container plants supplied by the 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.
   b) All palm trees shall be of a minimum overall height of 8 to 12 feet as measured from the crown of the rootball to the tips of the fronds, or four feet of brown trunk whichever is greater.
   c) All container grown plants shall be the size(s) as noted on the approved plans, but in no case less than a minimum 15 gallon container size, with minimum calipre and height in accordance with the American Association of Nurseryman standards for container plants. Where substitution of bare root stock is approved by the Street Tree Inspector, 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.

C. 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.

D. Cuttings: Modify Standard Specifications Section 212–1.4.6 Cuttings to read: All cuttings used on the project shall be fully rooted cuttings unless otherwise approved in writing by the City.

2.07 SEED: Refer to plan.

PART 3 – EXECUTION

3.01 GENERAL: All Work shall conform with Section 308 LANDSCAPE AND IRRIGATION INSTALLATION of the Standard Specification, except as modified herein.

At the Contractor's option, subject to the Park Project Inspector's acceptance of the material available and the appropriateness of the planting season, bare root stock may be substituted for the required 15 gallon and 24" box tree species if commercially available as bare root plantings and provided the corresponding minimum caliper and height requirements of Subsection 2.06 PLANTS, Subparagraph C. Bare Root Stock above are met, all at no change in contract price.

3.02 WEED CONTROL MEASURES: 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 Topsoil Preparation and Conditioning:

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

B. Excluded Areas: 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 as specified below.

(CONTINUED ON L–16)

BENCHMARK:
CITY OF RIVERSIDE BENCHMARK H8–F.
P.K. NAIL AND CITY ENGINEER TAG IN THE EASTERLY CORNER OF CATCHBASIN AT THE SOUTHEAST CORNER OF CENTRAL AVENUE AT BOX SPRINGS BOULEVARD.

ELEVATION = 1360.81

KEITH INTERNATIONAL, INC.
•Planning • Civil Engineering • Environmental Services•
•Land Surveying • Public Works • Water Resources•
Inland Empire Division
22890 Cactus Ave., Ste. 300, Moreno Valley, CA 92553 (909) 653–0234

DATE

RICHARD N. YALE
R.C.E. No. 40023 expires 12/31/97

REGISTERED LANDSCAPE ARCHITECT
RANDOLPH HLUBIK NO. 1512
Signature
7/31/97
Renewal Date
7/25/97
Date
STATE OF CALIFORNIA

RHA
LANDSCAPE ARCHITECTS PLANNERS INC
3612 MISSION INN AVE
RIVERSIDE, CALIFORNIA
92501
(909) 781–1930
LIC. #1512
FAX (909) 686–8091
JOB #97105
CONTACT: DOUG GROVE

MARK	REVISIONS	APPR.	DATE

DESIGNED BY TM DRAWN BY TM CHECKED BY DG

CITY OF RIVERSIDE, CALIFORNIA
PUBLIC WORKS DEPARTMENT

APPROVED BY	BY	DATE
DEPUTY P.W. DIRECTOR		
PRINCIPAL ENGINEER		
CHIEF P.W. INSPECTOR		
STREET SERVICES		
SURVEYOR		
TRAFFIC DIVISION		
PARKS DEPARTMENT	RG	11/23/98

APPROVED BY
PUBLIC WORKS DIRECTOR
DATE

LANDSCAPE IMPROVEMENT PLANS
LOCHMOOR DRIVE EXTENSION
PLANTING SPECIFICATIONS

HORIZ. SCALE: VERT. SCALE:

ACCT. NO.
R–3224
SHEET L–12 OF 13

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(CONTINUED FROM L-15)

C. Soil Preparation: In all planting areas with gradients less than 3:1, areas to be soil prepared shall first be cross ripped to a minimum depth of 6" with tractor tines spaced at maximum 18" on center. Following cross-rip operations, 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. Amendment Application Rates: 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 Type I organic soil 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 roads, curbs, drainage swales and inlets, and/or 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:

308-4.9.6 Jute Netting. All slopes areas exceeding 3:1 shall receive jute netting. Netting shall also be provided during the Plant Establishment 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 into the soil at least 6 inches. Lap all ends of rolls a minimum of 24".

3.06 INSPECTION OF CONTAINER PLANTS: The root condition of plants furnished in containers will be checked by the Park Projects Inspector 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 from a single source and proposed for use in the Work. When container-grown plants are from several different sources, the roots of not less than two plants of each species or variety from each source my be checked by the 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 by virtue of this inspection 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.

3.07 PLANTING BACKFILL:

A. Mixing: All backfill materials shall be bulk mixed, not individually mixed at each plant pit.

B. Proportions: Backfill for planting pits shall be enriched using the following blend per cubic yard (agronomic soil test recommendations shall be reviewed prior to soil mixing):

1. Container Plants:
   60% top soil — 3 lbs. gypsum
   40% Type I Organic Amendment — 2 lbs. iron sulphate
   2 lbs. commercial fertilizer
2. Bare Root Stock:
   10% wood shavings — 90% top soil
   fertilizer and soil conditioners as specified for container plants.

3.08 PLANTING:

A. Tree and Shrub Planting: Add the following to the Standard Specification Section 308-4.5 Tree and Shrub Planting:

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.

B. Groundcover and Vine Planting: Add the following to Standard Specifications Section 308-4.7 Groundcover and Vine Planting:

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 shall be treated with a pre-emergent chemical (subject to approval by the Park Inspector prior to application). Chemicals shall 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.

3.09 TREE STAKING: Amend the Standard Specifications Section 308-4.6.1 Method A Tree Staking and 308.4.6.2 Method B Tree Staking to read: Stake trees in accordance with the Park and Recreation Department's standard detail.

3.10 TURF PLANTING: Add the following to Standard Specifications Section 308-4.8.2, (b), Method 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 following designated unit proportions:

Fiber Mulch:	1,500 lbs./acre
Fertilizers:	
CRF	870 lbs./acre (20#/1000 SF)
Single superphosphate	200 lb./acre (4 1/2#/1000 SF)
Seed:	as specified in Subsection 2.03 above
Binding Agent:	100 lbs./acre (use on all slopes 5:1 and steeper)
Water:	3,000 gal./acre (maximum)
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 (assumes a nominal 1500 gallon tank):

When tank is 1/3 filled with water:

Add binding agent - 1/2 acre requirement.
Add 5 - 50 pound bales of fiber mulch.
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 mulch requirement, 10 bales, before tank is 3/4 full. Add remainder fertilizers, seed and gypsum. Slurry distribution should begin immediately.

Pre-moistening: 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.

Clean-up: The slurry shall not be sprayed on non-designated 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.

Reseeding: 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.

3.11 WATERING: Add the following to Standard Specifications Section 308-4.9.5 Watering:

A. Responsibility: It shall be the Contractor's responsibility to maintain a balanced watering program to ensure proper growth until Final Acceptance of the Work.

B. Initial Watering: 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. Ongoing Watering: 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. The 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 application 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.

3.12 MAINTENANCE AND PLANT ESTABLISHMENT: Amend the first sentence of Standard Specifications Section 308-6 MAINTENANCE AND PLANT ESTABLISHMENT to read: " The Contractor shall maintain all areas within the Work Limits of this Contract on a continuous basis...until Final Acceptance".

3.13 START OF PLANT ESTABLISHMENT: Add the following to Standard Specifications Section 308-6 MAINTENANCE AND PLANT ESTABLISHMENT:

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. For Plant Establishment purposes "First Mowing" is defined as the first mowing after the point in time that a minimum of 85% of the turf area has attained a minimum height of 2". Until the above specified percentage of turf area is established and mown, the Contractor shall mow as necessary to maintain those portions of turf exceeding 2" at the mowing height of 1 1/2 inches. At no time shall any turf exceed 3" in height.
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.

3.14 MAINTENANCE TASKS: Add the following to Standard Specifications Section 308-6 MAINTENANCE AND PLANT ESTABLISHMENT:

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 neat 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 daily.

G. Disease and Pest Control: 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.

3.15 END OF PLANT ESTABLISHMENT PERIOD: Add the following to Standard Specification Section 308-6 MAINTENANCE AND PLANT ESTABLISHMENT:

A. Request for Inspection: When the Contractor believes he has completed the Plant Establishment Period and the 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. Established Plantings: 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. The 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. Written Acceptance: Final Acceptance shall occur only upon written acceptance of the Project for maintenance by the City.

3.16 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

BENCHMARK:
CITY OF RIVERSIDE BENCHMARK H8-F.
P.K. NAIL AND CITY ENGINEER TAG IN THE EASTERLY CORNER OF CATCHBASIN AT THE SOUTHEAST CORNER OF CENTRAL AVENUE AT BOX SPRINGS BOULEVARD.

ELEVATION = 1360.81

KEITH INTERNATIONAL, INC.
•Planning • Civil Engineering • Environmental Services•
•Land Surveying • Public Works • Water Resources•
Inland Empire Division
22690 Cactus Ave., Ste. 300, Moreno Valley, CA 92553 (909) 653-0234

DATE ____
RICHARD N. YALE
R.C.E. No. 40023 expires 12/31/97

REGISTERED LANDSCAPE ARCHITECT
RANDOLPH HLUBIK NO. 1512
Signature
7/31/97
Renewal Date
7/25/97
Date
STATE OF CALIFORNIA

RHA LANDSCAPE ARCHITECTS PLANNERS INC.
JOB #97105
3612 MISSION INN AVE
RIVERSIDE, CALIFORNIA
92501
(909) 781-1930
LIC. #1512
FAX (909) 686-8091
CONTACT: DOUG GROVE

MARK	REVISIONS	APPR.	DATE

DESIGNED BY TM DRAWN BY TM CHECKED BY [signature]

CITY OF RIVERSIDE, CALIFORNIA
PUBLIC WORKS DEPARTMENT

APPROVED BY	BY	DATE
DEPUTY P.W. DIRECTOR		
PRINCIPAL ENGINEER		
CHIEF P.W. INSPECTOR		
STREET SERVICES		
SURVEYOR		
TRAFFIC DIVISION		
PARKS DEPARTMENT		1/23/98

APPROVED BY
PUBLIC WORKS DIRECTOR
DATE ____

LANDSCAPE IMPROVEMENT PLANS
LOCHMOOR DRIVE EXTENSION
PLANTING SPECIFICATIONS
HORIZ. SCALE: VERT. SCALE:

ACCT. NO.
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