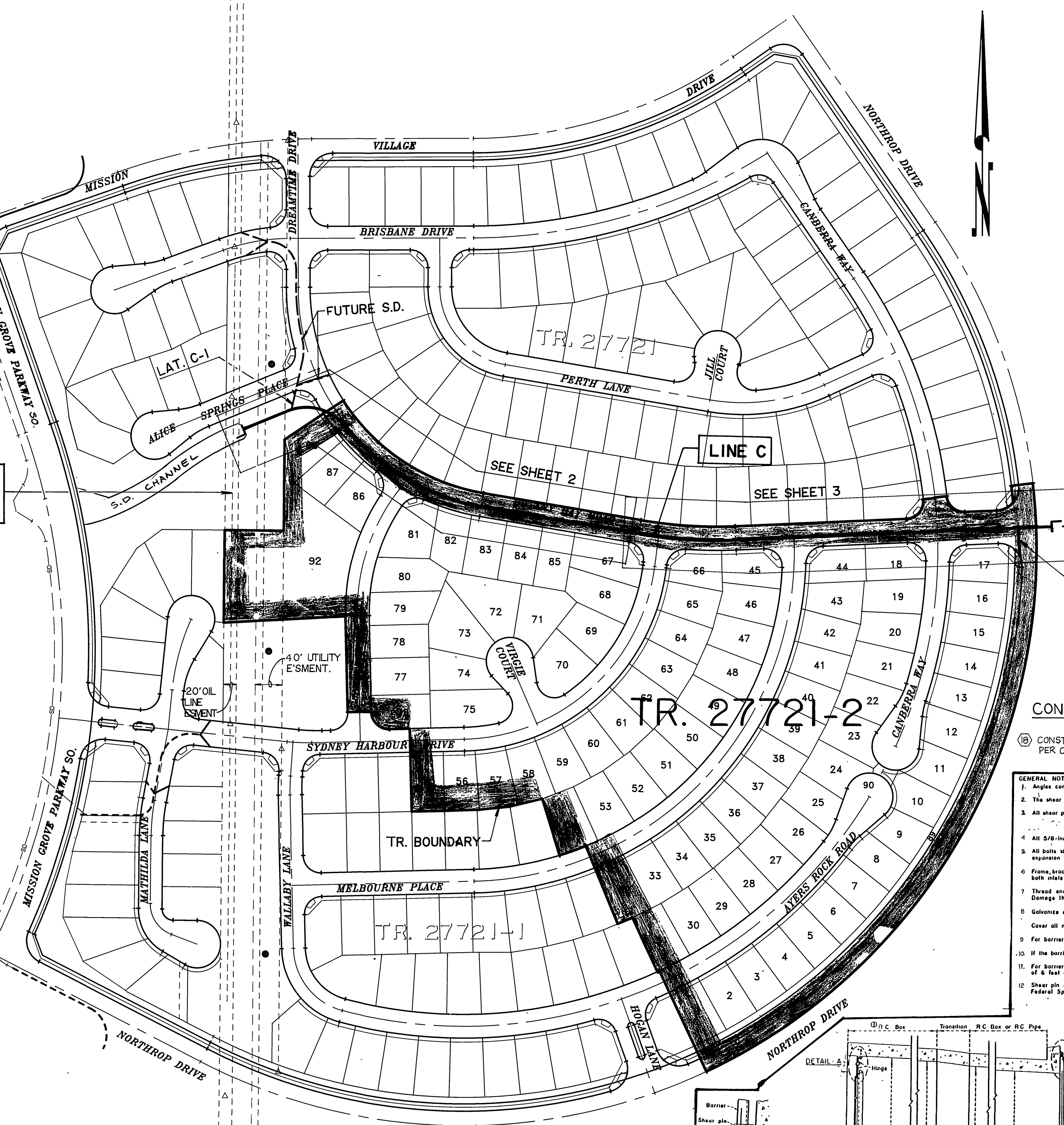
CAUTION!!
EXIST. 16" HP OIL LINE



INDEX MAP
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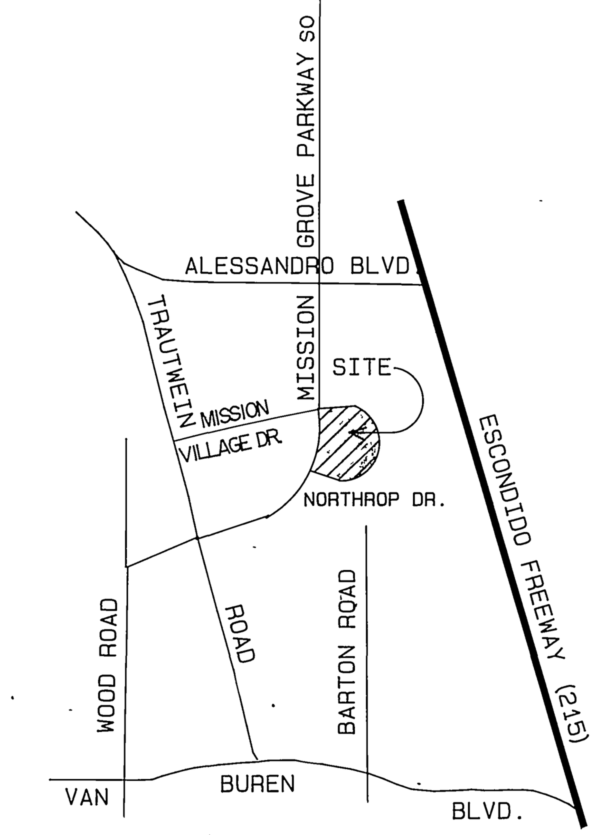


VICINITY MAP
N.T.S.

CONST. NOTES	QUANTITIES
(1) CONSTRUCT 18" R.C.P. (D-2000)	74 L.F.
(2) CONSTRUCT 36" R.C.P. (D-1250)	88 L.F.
(3) CONSTRUCT 84" R.C.P. (D-800) OR C.I.P.P.	1196 LF
(4) CONSTRUCT CATCH BASIN PER CITY OF RIVERSIDE STD. DWG. NO. 405.	1 EA.
(5) CONSTRUCT JUNCTION STRUCTURE "C" PER CITY OF RIVERSIDE STD. DWG. NO. 422	2 EA.
(6) CONSTRUCT JUNCTION STRUCTURE NO. 4 PER CITY OF RIVERSIDE STD. DWG. NO. 423	1 EA.
(7) CONSTRUCT MANHOLE "AX" PER CITY OF RIVERSIDE STD. DWG. NO. 430	2 EA.
(8) CONSTRUCT 1/4 TON GROUTED RIP-RAP	51 CY
(9) CONSTRUCT TIMBER BULKHEAD PER CITY OF RIVERSIDE STD. DWG. NO. 456	1 EA.
(10) CONSTRUCT CALTRANS HEADWALLS & ENDWALL (TYPE B) D-90 PER DETAIL ON SHEET 3.	2 EA.
(11) CONSTRUCT CUT-OFF WALL PER SECTION B-B ON SHEET 2	1 CY
(12) CONSTRUCT CONCRETE CHANNEL PER SECTION A-A ON SHEET2	4.0 CY
(13) CONST. 36" C.M.P.	15 LF
(14) CONST. TRASH RACK PER DETAIL ON THIS SHEET	1 EA
(15) CONSTRUCT CONC. PAD PER DETAIL ON SHT. 3	1 6CY
(16) CONSTRUCT PIPE CONNECTIONS PER DETAIL ON SHT. 2	2 EA
(17) CONSTRUCT 84" RCP. (D-800) ONLY	89 LF

CONST. NOTES (CONT.)

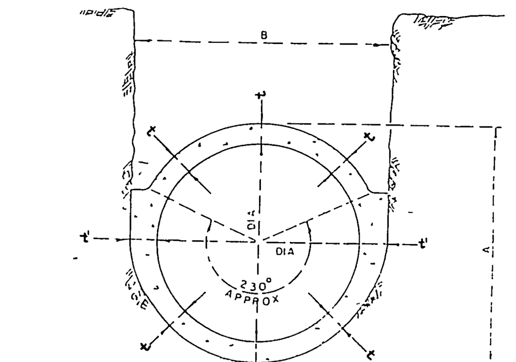
(18) CONSTRUCT CHAIN LINK FENCE (5'HIGH) PER CITY OF RIVERSIDE STD DWG. NO. 380 — 45LF.

STORM DRAIN NOTES

1. Quantities shown are for information only and the City of Riverside is not responsible for their accuracy.
2. Construction shall be in accordance with City of Riverside Dept. of Public Works Standard Drawings, Std. Dwg. No. 10 and the Standard Specifications for Public Works Construction, Current Edition.
3. It shall be the responsibility of the contractor to clear the right of way in accordance with the provisions of law as it affects each utility including irrigation lines and appurtenances and at no cost to the City.
4. Notice to contractor. The existence and location of any underground utility pipes or structures shown on these plans were obtained by a search of the available records. To the best of our knowledge there are no existing utilities exept as shown on these plans. The contractor is required to take precautionary measures to protect the utility lines shown and any other lines not of record or not shown on these plans.
5. The private engineer signing these plans is responsible for assuring the accuracy and acceptability of the work hereon. In the event of discrepancies arising during construction, the private engineer shall be responsible for determining an acceptable solution and revising the plans for approval by the City.
6. The contractor shall call in a locations request to UNDERGROUND SERVICE ALERT (USA), Phone No. 1-800-422-4133, two working days before digging. No construction permit will be issued by the Public Works Department involving excavation for underground facilities unless the applicant has been provided an Inquiry Identification Number by U.S.A.
7. The developer shall be responsible for preserving or re-establishing and referencing survey monuments destroyed, disturbed or buried as a result of construction shown hereon.
8. All embankment fill shall be compacted to minimum of 90% maximum dry density and shall be of an approved quality.
9. Before the Rip-Rap is accepted, as placed, at the outlet of any drainage structure, it shall be tested under flows as close as possible to design conditions with water obtained from fire hydrants in the immediate area.
10. All flagged elevations shall be staked in the field by the private engineer.
11. Contractor agrees that he shall assume sole and complete responsibility for job site conditions during the course of construction of this project, including safety of all persons and property; that this requirement shall apply continuously and not be limited to normal working hours; and that the contractor shall defend, indemnify and hold the owner and the engineer harmless from any and all liability, real or alleged, in connection with performance of work on this project, excepting for liability arising from the sole negligence of the owner or the engineer.
12. The concrete cover on the inside of all concrete pipe must be increased to provide a min. of 1.5" over the reinforcing when the design velocities exceed 20 fps. The aconcrete design strength in these reaches shall be:
fc = 5000 psi. for velocities exceeding 20 fps. and
fc = 6000 psi. for velocities exceeding 30 fps.

CAST-IN-PLACE REQUIREMENTS

1. FOR QUALITY CONTROL DURING PLACEMENT, EMPLOY AN EXPERIENCED R.C.E. OR TECHNICIAN HAVING SUITABLE C.I.P.P. EXPERIENCE
2. CONTROL CONCRETE BY MEANS OF 6"x12" TEST CYLINDERS MINIMUM OR 1 SET OF FOUR (4) CYLINDERS/100 C.Y. AND NOT LESS THAN TWO (2) SETS CYLINDERS PER EACH DAY,S POUR.
3. SUPPLYING BATCH PLANT SHALL BE INSPECTED AT THE START OF CONSTRUCTION AND NOT LESS THAN ONCE EACH WEEK THEREAFTER TO OBSERVE PLANT OPERATIONS BATCH WEIGHTS AND OTHER CONCRETE CONTROL MEASURES
4. CONCRETE MIXES SHALL NOT HAVE LESS THAN SIX (6) SACKS OF PORTLAND CEMENT/CU YD.
5. CONCRETE MIX DESIGNS SHALL BE SUBMITTED BY CONTRACTOR FOR APPROVAL PRIOR TO START OF CONSTRUCTION.
6. IF AND WHEN FLOW VELOCITY EXCEEDS 10 F.P.S. A 140' SEGMENT OF THE INVERT INVERT SHALL BE THICKENED 2 INCHES IN WALL THICKNESS AS "SACRIFICIAL CONCRETE" TO RESIST ABRASION. COMPRESSIVE STRENGTH OF CONCRETE FOR DESIGN VELOCITIES ≥ 20 F.P.S SHALL BE Fc = 4,000 PSI FOR DESIGN VELOCITIES ≥ 30 F.P.S Fc=5000 psi SHALL BE PROVIDED
7. MAXIMUM PERMISSIBLE CONCRETE SLUMP SHALL BE2 1/2", 1 1/2"MIN TO 2 1"2" MAX.
8. CONTRACTOR SHALL ALLOW INSPECTOR INTO PIPE WHILE UNDER CONSTRUCTION AND "ROD" FOR WALL THICKNESS AT A MIN. OF 25 C.Y. OF THE POUR
9. AT THE END OF ALL POURS AND AT THE END OF EACH WORKING DAY THE CONTRACTOR SHALL INSTALL #4 DOWELS 24" LONG 12" INTO LAST POUR AT 12" CENTERS AROUND THE CIRCUMFERENCE OF CAST-IN-PLACE PIPE



DIA	A	MIN B	t	MIN t'
24"	30'	30½	3"	3"
27'	33	33½"	3"	3'
30'	36	36½'	3"	3"
36'	43'	43½'	3½"	3½'
42'	50	50½	4'	4
48	56	58½	5	5'
54"	65	66	5½'	5½
60'	72'	73	6'	6
66'	79	80	6½"	6½"
72'	86	87	7	7
84"	100	101"	8	8
96	114	115'	9'	9'
120'	144	145	12	12'

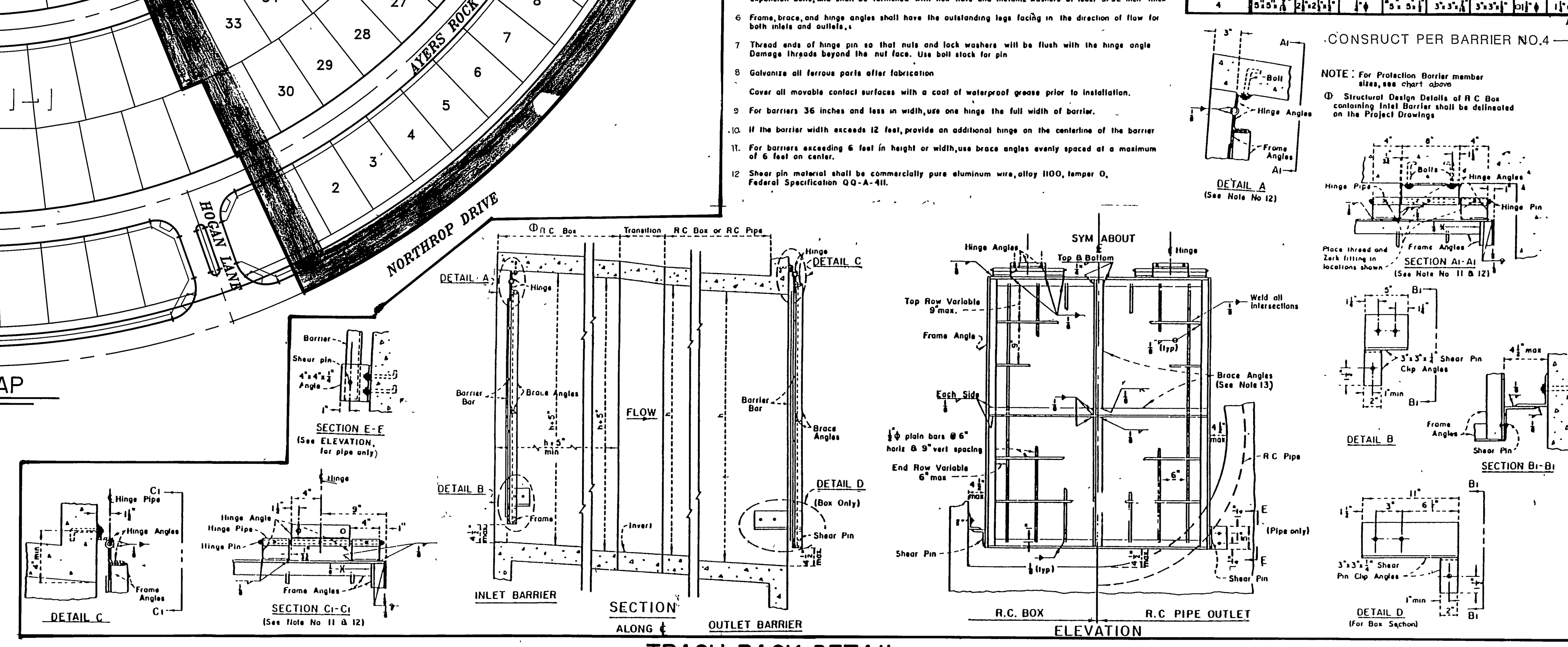
→CONSTRUCT 84"C.I.P.P.

GENERAL NOTES:
1. Angles connected with shear pins shall fit snugly and truly face to face
2. The shear pin holes shall be drilled so as to provide a tight fit with the shear pins in place
3. All shear pins shall be peened on both ends after installation
4. All 5/8-inch diameter bolt holes shall be drilled on the gage lines of the angles.
5. All bolts shall be 5/8-inch in diameter embedded a minimum of 4 inches into concrete, or equivalent expansion bolts, and shall be furnished with hex nuts and metallic washers at least 3/32-inch thick
6. Frame, brace, and hinge angles shall have the outstanding legs facing in the direction of flow for both inlets and outlets.
7. Thread ends of hinge pin so that nuts and lock washers will be flush with the hinge angle Damage threads beyond the nut face. Use bolt stock for pin
8. Galvanize all ferrous parts after fabrication
Cover all movable contact surfaces with a coat of waterproof grease prior to installation.
9. For barriers 36 inches and less in width, use one hinge the full width of barrier.
10. If the barrier width exceeds 12 feet, provide an additional hinge on the centerline of the barrier
11. For barriers exceeding 6 feet in height or width, use brace angles evenly spaced at a maximum of 6 feet on center.
12. Shear pin material shall be commercially pure aluminum wire, alloy 1100, temper O, Federal Specification QQ-A-411.

Barrier No	Frame Angles	Brace Angles	Shear Pins	Inlet Hinge Angles Upper	Inlet Hinge Angles Lower	Outlet Hinge Angles	Hinge Std Pipe	Hinge Pin
1	2"x2"x¼"	2"x2"x¼"	½"φ	2"x2"x¼"	2"x2"x¼"	2"x2"x¼"	⌀½"φ	½"φ
2	3"x3"x5/16"	2"x2"x¼"	½"φ	2½"x2½"x¼"	2½"x2½"x¼"	2½"x2½"x¼"	⌀1"φ	½"φ
3	4"x4"x⅜"	2"x2"x¼"	¾"φ	3"x3"x¼"	3"x3"x¼"	3"x3"x¼"	⌀1¼"φ	1"φ
4	5"x5"x⅜"	2½"x2½"x¼"	½"φ	5"x5"x¼"	3"x3"x⅜"	3"x3"x¼"	⌀1½"φ	1½"φ

CONSRUCT PER BARRIER NO.4

NOTE: For Protection Barrier member sizes, see chart above
(1) Structural Design Details of R C Box containing Inlet Barrier shall be delineated on the Project Drawings



TRASH RACK DETAIL (14)
N.T.S.

FOUR COURNERS PIPELINE CO.
APPROVED BY [signature] DATE 4/8/94

REVIEWED BY W.M.W.D.
SHEETS 1 THROUGH 3
FOR NON-INTERFERENCE COMPLIANCE ONLY
[signature: Sten W. Appel] 6/3/94
ASSOCIATE ENGINEER RCE #48109 DATE

Underground Service Alert
Call: TOLL FREE
1 - 800
422 - 4133
TWO WORKING DAYS BEFORE YOU DIG

PRIVATE ENGINEERING NOTE

CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF DESIGN PROFESSIONAL

REGISTERED PROFESSIONAL ENGINEER — TECK C LOH — No. 50293 — Exp. 6-30-97 — CIVIL — STATE OF CALIFORNIA

PREPARED UNDER THE DIRECTION OF: [signature]
REGISTERED CIVIL ENGINEER NO. 50293
EXPIRATION DATE: 6/30/97 DATE: 5-12-94

J.F.DAVIDSON ASSOCIATES, INC.
-CIVIL ENGINEERS - SURVEYORS - PLANNERS-
3880 LEMON ST, RIVERSIDE CA 92501, (909) 686-0844, FAX 909-686-5954
3350 SHELBY ST., ONTARIO, CA 91764, (909) 944-2881, FAX 909-944-7761
77-564 COUNTRY CLUB DR., PALM DESERT CA 92260, (619) 360-3780, FAX 619-360-3789
27349 JEFFERSON ST., TEMECULA, CA 92390, (909) 676-7710, FAX 909-699-1981
(CITY BUSINESS TAX CERT. NO. 4994, EXP. 12-31-94)

SCALE: AS SHOWN
DATE: NOVEMBER 1993
BENCH MARK: P.K. NAIL AND TAG ON TOP OF 35'X50'X20' HIGH GRANITE BOULDER, 100' W'LY OF TRAUTWEIN ROAD AND 0.3 MILE N'LY OF WOOD ROAD. FB 735/74 EL: 1588.453

MARK	REVISIONS	APPR.	DATE

DESIGNED BY T.C.L. DRAWN BY K.Y. CHECKED BY J.D.S.

CITY OF RIVERSIDE, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS

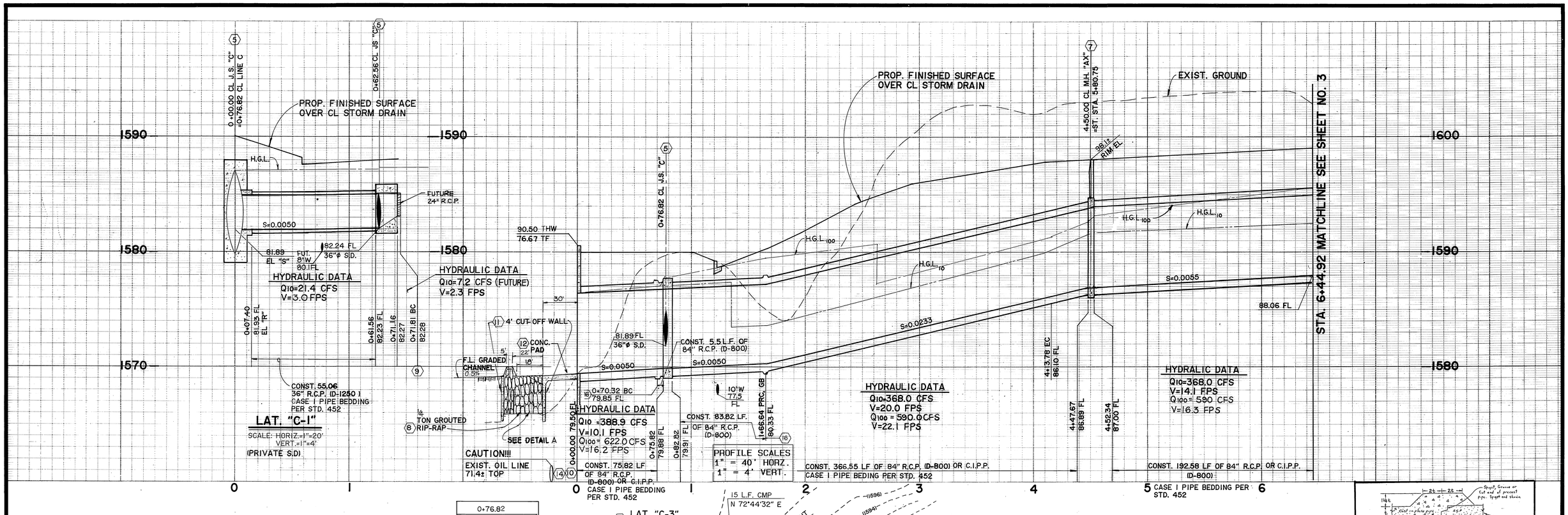
APPROVED BY	BY	DATE
PRINCIPAL ENGR.	[initials]	6/23/94
PARK DEPARTMENT	—	—
TRAFFIC DIVISION	—	—
CHIEF P.W. ENGR.	[initials]	6/30/94
STREET SERVICES	[initials]	[date]

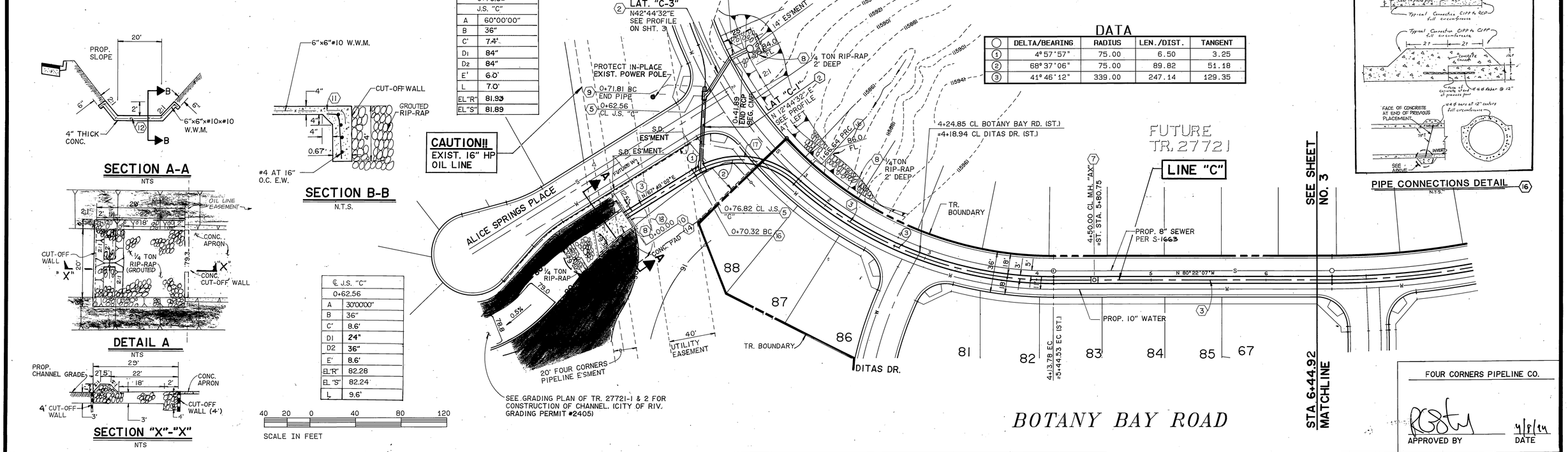
APPROVED BY [signature]
DIRECTOR OF PUBLIC WORKS
DATE 6/30/94

TRACT 27721-2
STORM DRAIN IMPROVEMENT PLAN
TITLE SHEET
FOR: KAUFMAN & BROAD.

PROJECT NO. D-632
SHEET 1 OF 3
FILE NO.: 9212818

FRED [initials]
INDEXED 7-29-95 [initials]





0+76.82 J.S. "C"	
A	60°00'00"
B	36"
C'	7.4'
D1	84"
D2	84"
E'	6.0'
L	7.0'
EL"R"	81.93
EL"S"	81.89

℄ J.S. "C" 0+62.56	
A	30°00'00"
B	36"
C'	8.6'
D1	24"
D2	36"
E'	8.6'
EL"R"	82.28
EL "S"	82.24
L	9.6'

DATA

	DELTA/BEARING	RADIUS	LEN./DIST.	TANGENT
1	4°57'57"	75.00	6.50	3.25
2	68°37'06"	75.00	89.82	51.18
3	41°46'12"	339.00	247.14	129.35

FOUR CORNERS PIPELINE CO.

APPROVED BY — DATE 4/8/94

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REGISTERED PROFESSIONAL ENGINEER — TECK C. LOH — No. 50293 — Exp. 6-30-97 — CIVIL — STATE OF CALIFORNIA

PREPARED UNDER THE DIRECTION OF: Teck Loh
REGISTERED CIVIL ENGINEER NO. 50293
EXPIRATION DATE: 6/30/97 DATE: 5-12-94

J.F. DAVIDSON ASSOCIATES, INC.
-CIVIL ENGINEERS - SURVEYORS - PLANNERS-

3880 LEMON ST. RIVERSIDE CA 92501 (909) 686-0844 FAX 909-686-9854
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27349 JEFFERSON ST. TEMECULA, CA 92390 (909) 676-7710 FAX 909-699-1981

SCALE: 1" = 40'
DATE: NOVEMBER 1993
BENCH MARK: P.K. NAIL AND TAG ON TOP OF 35' X 50' X 20' HIGH GRANITE BOULDER, 100' W'LY OF TRAUTWEIN ROAD AND 0.3 MILE N'LY OF WOOD ROAD. FB 735/74 ELEV: 1588.453

MARK	REVISIONS	APPR.	DATE

DESIGNED BY TCL DRAWN BY KPY/ CHECKED BY J.D.S.

CITY OF RIVERSIDE, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS

APPROVED BY	BY	DATE
PRINCIPAL ENGR.		6/14/94
PARK DEPARTMENT	—	—
TRAFFIC DIVISION	—	—
CHIEF P.W.ENGR.		6/14/94
STREET SERVICES		6/14/94

APPROVED BY DIRECTOR OF PUBLIC WORKS
DATE 6/20/94

TRACT 22721-2

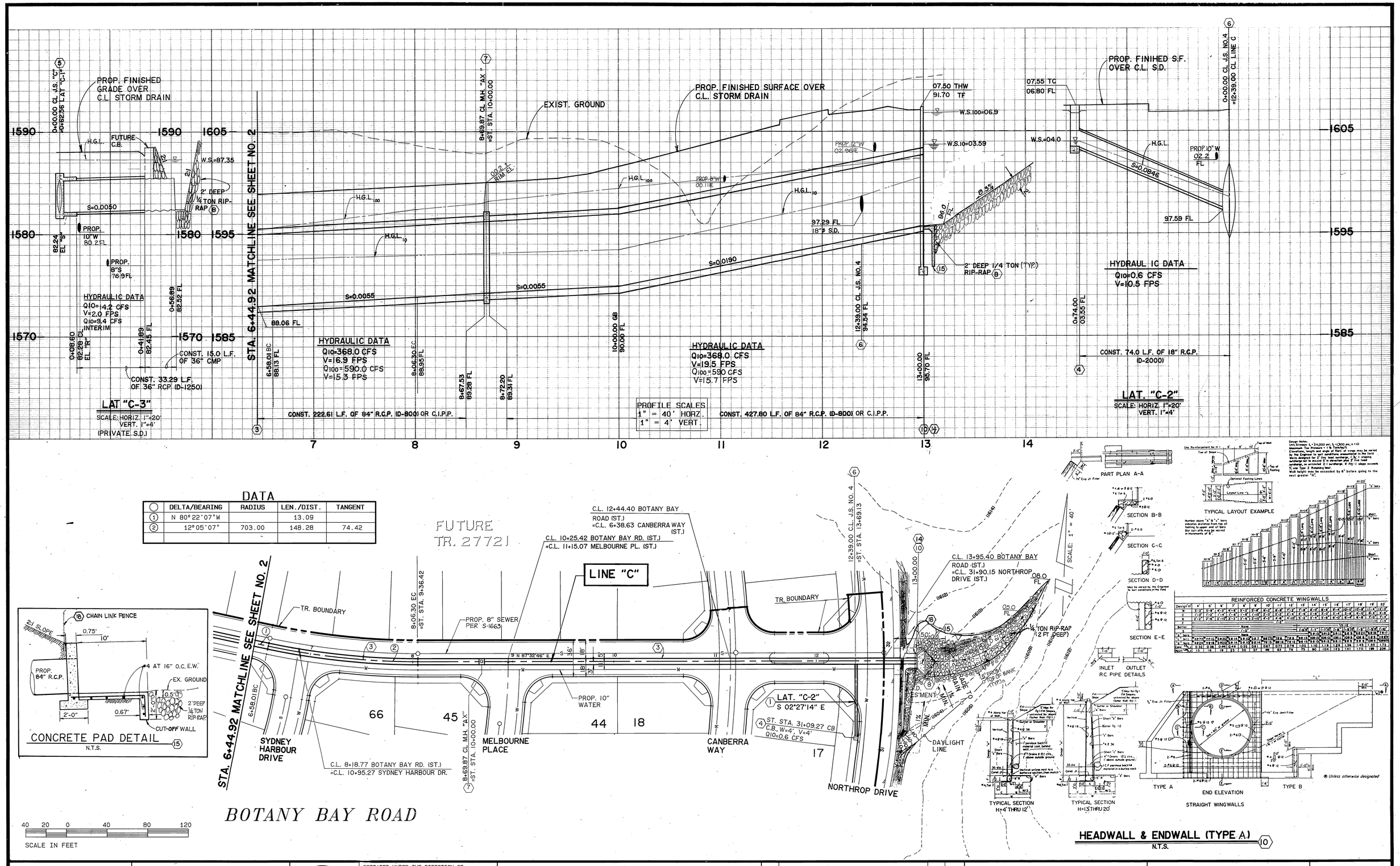
STORM DRAIN IMPROVEMENT PLAN
BOTANY BAY ROAD

FOR: KAUFMAN & BROAD

PROJECT NO. D-632
SHEET 2 OF 3
FILE NO.: 9212818

FRED

INDEXED 7-23-94



DATA

	DELTA/BEARING	RADIUS	LEN./DIST.	TANGENT
1	N 80°22'07"W		13.09	
2	12°05'07"	703.00	148.28	74.42

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MARK	REVISIONS	APPR.	DATE

DESIGNED BY TCL DRAWN BY DLF/KPY/CHECKED BY J.D.S.

FED

CITY OF RIVERSIDE, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS

APPROVED BY	BY	DATE
PRINCIPAL ENGR.		6/20/94
PARK DEPARTMENT	—	—
TRAFFIC DIVISION	—	—
CHIEF P.W. ENGR.		6/20/94
STREET SERVICES		6/20/94

APPROVED BY
DIRECTOR OF PUBLIC WORKS
DATE 6/20/94

TRACT 22721-2

STORM DRAIN IMPROVEMENT PLAN

BOTANY BAY ROAD

FOR: KAUFMAN & BROAD

PROJECT NO. D-632

SHEET 3 OF 3

FILE NO.: 9212818

INDEXED 7-27-94