RIVERSIDE CALIFORNIA

SYCAMORE HIGHLANDS

STORM DRAIN IMPROVEMENT PLANS

TRACTS 21167, 22408,

LOCHMOOR DRIVE

& CENTRAL AVENUE

CONSTRUCTION NOTES AND ESTIMATED QUANTITIES

	ITEM	QTY	UNIT
1	CONSTRUCT 30" RCP (D-LOAD PER PLAN)	444	LF
2	CONSTRUCT 24" RCP (D-LOAD PER PLAN)	170	LF
3	CONSTRUCT 18" RCP (D-LOAD PER PLAN)	1,080	LF
4	CONSTRUCT CATCH BASIN PER CITY OF RIVERSIDE STD. DWG. NO. 409 WITH DOUBLE FRAME & GRATE PERPENDICULAR TO FLOW	2	EA
5	CONSTRUCT CATCH BASIN PER CITY OF RIVERSIDE STD. DWG. NO. 409 WITH SINGLE FRAME & GRATE PERPENDICULAR TO FLOW	2	EA
6	CONSTRUCT MANHOLE EZ PER CITY OF RIVERSIDE STD. DWG. NO. 431	4	EA
7	CONSTRUCT LIGHT CLASS RIP-RAP 2" THICK	2,550	SF
8	CONSTRUCT GROUTED LIGHT CLASS RIP RAP WITH THE UPPER 6" TO 9" OF ROCK EXPOSED. MIN. T=2' (NATIVE SOURCE ROCK) PER DETAIL ON SHEET No. 5.	1,175	SF
9	CONSTRUCT CONCRETE COLLAR PER CITY OF RIVERSIDE STD. DWG. NO. 424.	3	EA
10	CONSTRUCT PIPE SLOPE ANCHOR PER DETAIL ON SHT. 4	4	EA
11	CONSTRUCT JUNCTION STRUCTURE C PER CITY OF RIVERSIDE STD. DWG. NO. 422	2	EA
12	CONSTRUCT SINGLE STRAIGHT HEADWALL PER DETAIL ON SHT. 6	5	EA
13	CONSTRUCT WING TYPE HEADWALL FOR 18" RCP PER DETAIL ON SHT. 4	1	EA
14	CONSTRUCT CONC. DROP INLET PER DETAIL ON SHT. 3	1	EA
15	CONSTRUCT SPECIAL CONNECTION TO CATCH BASIN PER DETAIL ON SHEET 5	1	EA
16	CONSTRUCT CATCH BASIN PER CITY OF RIVERSIDE STD. DWG. NO. 407	1	EA
17	REMOVE AND REPLACE EXIST. "V" DITCH TO FACILITATE CONSTRUCTION OF HEADWALL	L.S.	L.S.
18	CONSTRUCT CURB OUTLET PER CITY STD. 410 (5' CURB TRANSITION) WITH 3' TRANSITION FROM PIPE TO STRUCTURE	2	EA
19	CONSTRUCT C.B. PER CITY STD. 405	3	EA
20	CONSTRUCT 15" RCP (D-LOAD PER PLAN)	452	LF
21	CONSTRUCT PIPE TRANSITION PER DETAIL ON SHT. 6	2	EA
23	CONSTRUCT HEADWALL PER DETAIL ON SHT. 6	1	EA
24	CONSTRUCT MODIFIED CONCRETE COLLAR PER CITY STD. 424. CONC. THICKNESS ("T")=8	1	EA
25	CONSTRUCT 3' WIDE GUNITE DITCH (3" THICK). MIN. SLOPE 1%. TRANSITION BOTH ENDS TO JOIN FLUSH W/BACK OF SIDEWALK	65	LF
26	CONSTRUCT TEMPORARY BULKHEAD ON END OF PIPE	1	EA
27	CONSTRUCT GRATE INLET PER DETAIL SHEET 6	1	EA.
28	CONSTRUCT TRASH RACK PER DETAIL ON SHEET 8	3	EA
29	CONSTRUCT PROTECTION SCREEN PER DETAIL ON SHEET 8	3	EA

ALL CATCHBASINS ARE TO BE STENCILED WITH THE PHRASE "NO DUMPING – ONLY RAIN IN THE DRAIN" – 2" LETTERS SEE BELOW FOR LAYOUT OF STENCIL.

Figure 2

Use the frame stencil to spray 3 white block areas as illustrated.

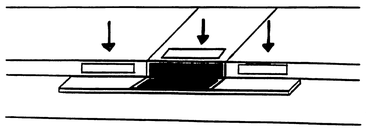
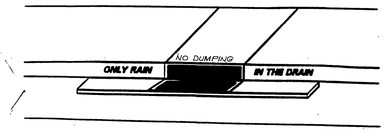
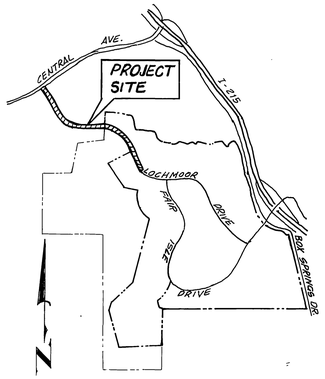


Figure 3

Center the stencils over the white block areas in the locations illustrated.





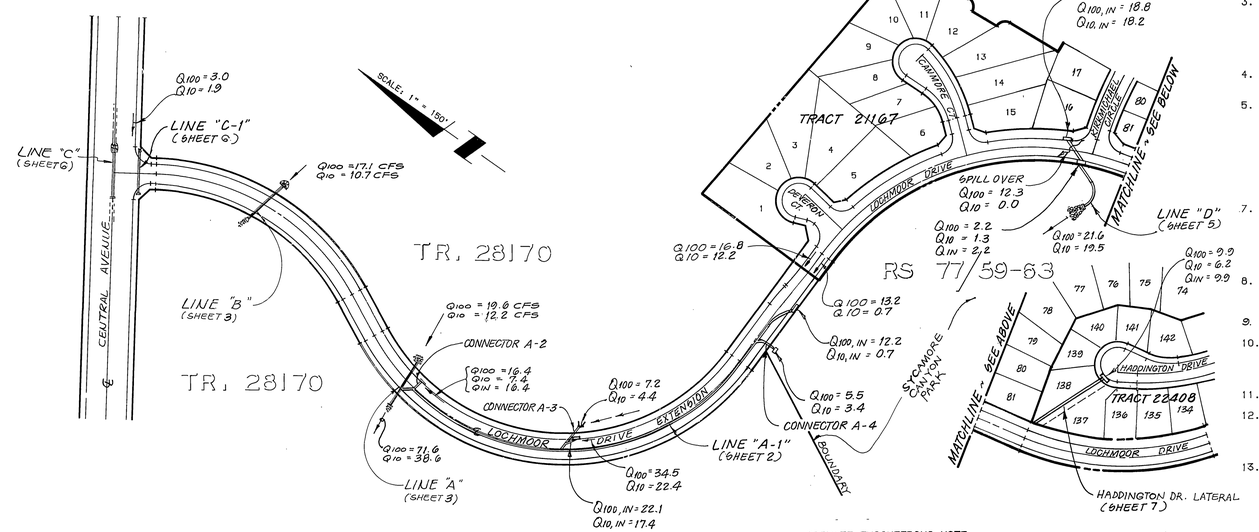
VICINITY MAP

NOT TO SCALE

GENERAL NOTES:

1. 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.
2. CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF RIVERSIDE DEPARTMENT OF PUBLIC WORK, STANDARD DRAWINGS. *STD. DWG. NO.101* THE STANDARD SPECS. FOR PUBLIC WORK CONSTRUCTION, CURRENT EDITION, *AND CALIFORNIA DEPT. OF TRANSPORTATION STANDARD PLANS DATED JULY, 1992.*
3. 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
4. QUANTITIES SHOWN ARE FOR INFORMATION ONLY. THE *OWNER* AND/OR CITY OF RIVERSIDE IS NOT RESPONSIBLE FOR THEIR ACCURACY
5. *THE CONTRACTOR/DEV. SHALL BE* RESPONSIBLE FOR PRESERVING OR REESTABLISHING AND REFERENCING SURVEY MONUMENTS DESTROYED, DISTURBED OR BURIED AS A RESULT OF CONSTRUCTION SHOWN HEREON.
7. THE CONTRACTOR SHALL CALL IN A LOCATION REQUEST TO UNDERGROUND SERVICE ALERT (USA). PHONE 1-800-227-2600 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.
8. *ANY TRAFFIC CONTROL STRIPING OBLITERATED AND/OR BADLY WORN DURING CONST. SHALL BE RESTORED BY THE CONTRACTOR WIN FIVE DAYS AFTER NOTIFICATION FROM THE CITY INSPECTORS.*
9. *CONTRACTOR TO VERIFY EXISTING STORM DRAIN ELEVATION PRIOR TO CONSTRUCTION.*
10. BEFORE THE RIPRAP 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.
11. ALL CROSS SECTIONS ARE TAKEN LOOKING DOWNSTREAM.
12. ALL STATIONING REFERS TO CENTERLINE OF CONSTRUCTION UNLESS OTHERWISE NOTED. STATIONING FOR LATERALS AND CONNECTOR PIPES REFER TO THE CENTERLINE — CENTER LINE INTERSECTION.
13. ALL FLAGGED ELEVATIONS SHALL BE STAKED IN THE FIELD BY THE PRIVATE ENGINEER.
16. PIPE BEDDING SHALL BE PER CITY OF RIVERSIDE STD. DWG. NO.452, CASE 1, UNLESS OTHERWISE SPECIFIED.
17. *THE STORM DRAIN CONTRACTOR SHALL ADJUST STORM DRAIN MANHOLES TO FINAL GRADE AFTER PAVING IS COMPLETED*

MB 33/43-44



INDEX MAP

SCALE 1" = 150'

NOTICE TO CONTRACTOR

THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES OR STRUCTURE SHOWN ON THESE PLANS WERE OBTAINED BY A SEARCH OF AVAILABLE RECORDS. THESE LOCATIONS ARE APPROXIMATE AND SHALL BE CONFIRMED IN THE FIELD BY THE CONTRACTOR, SO THAT ANY NECESSARY ADJUSTMENT CAN BE MADE IN ALIGNMENT AND/OR GRADE OF THE PROPOSED IMPROVEMENT. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT ANY UTILITY LINES SHOWN AND ANY OTHER LINES NOT OF RECORD OR NOT SHOWN ON THESE PLANS.

PRIVATE ENGINEERING NOTE
(NOT REQUIRED BY GOVERNING AGENCY)

CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSURE SOLE AND COMPLETE RESPONSIBILTY FOR JOB SITE CONDITION DURING THE COURSE OF CONSTRUCTION OF THE PROJECT. INCLUDUNG 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 LIABILITIES, REAL AND ALLEGED. IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF DESIGN PROFESSIONAL.

REGISTERED PROFESSIONAL ENGINEER
RICHARD N. YALE
NO. #040023
Exp. 12/31/97
CIVIL
STATE OF CALIFORNIA

AS BUILT
2-98

CITY OF RIVERSIDE BIZ. LIC. NO. 053595 EXP. DATE: 4-2-97

BENCHMARK:

CITY OF RIVERSIDE BENCHMARK [illegible]
[illegible]

SOUTHERN CALIFORNIA GAS COMPANY	CITY OF RIVERSIDE WATER SYSTEM	PACIFIC BELL TELEPHONE
7-1-96	8/3/96	6/5/96
APPROVED 9-19-91 DATE	APPROVED 6-16-91 DATE	APPROVED 7-22-91 DATE

KEITH INTERNATIONAL, INC.
• Planning • Civil Engineering • Environmental Services •
• Land Surveying • Public Works • Water Resources •
Inland Empire Division
28690 Cactus Ave., Ste. 300, Moreno Valley, CA 92555 (909) 653-0231

APPROVED BY: Richard N. Yale 3-25-96
RICHARD N. YALE / REG. CIVIL ENGINEER NO. 40023 DATE

MARK	REVISIONS	APPR.	DATE

DESIGNED BY M.T. DRAWN BY L.BIEC CHECKED BY C.V.A.

CITY OF RIVERSIDE
PUBLIC WORKS DEPARTMENT

APPROVED BY	DATE	BY
PRINCIPAL ENGINEER	10/28/96	
PARK DEPARTMENT		
STREET SERVICES	8/15/96	
CHIEF P. W. ENGINEER	11/8/96	

APPROVED BY: PUBLIC WORKS DIRECTOR
DATE 11/8/96

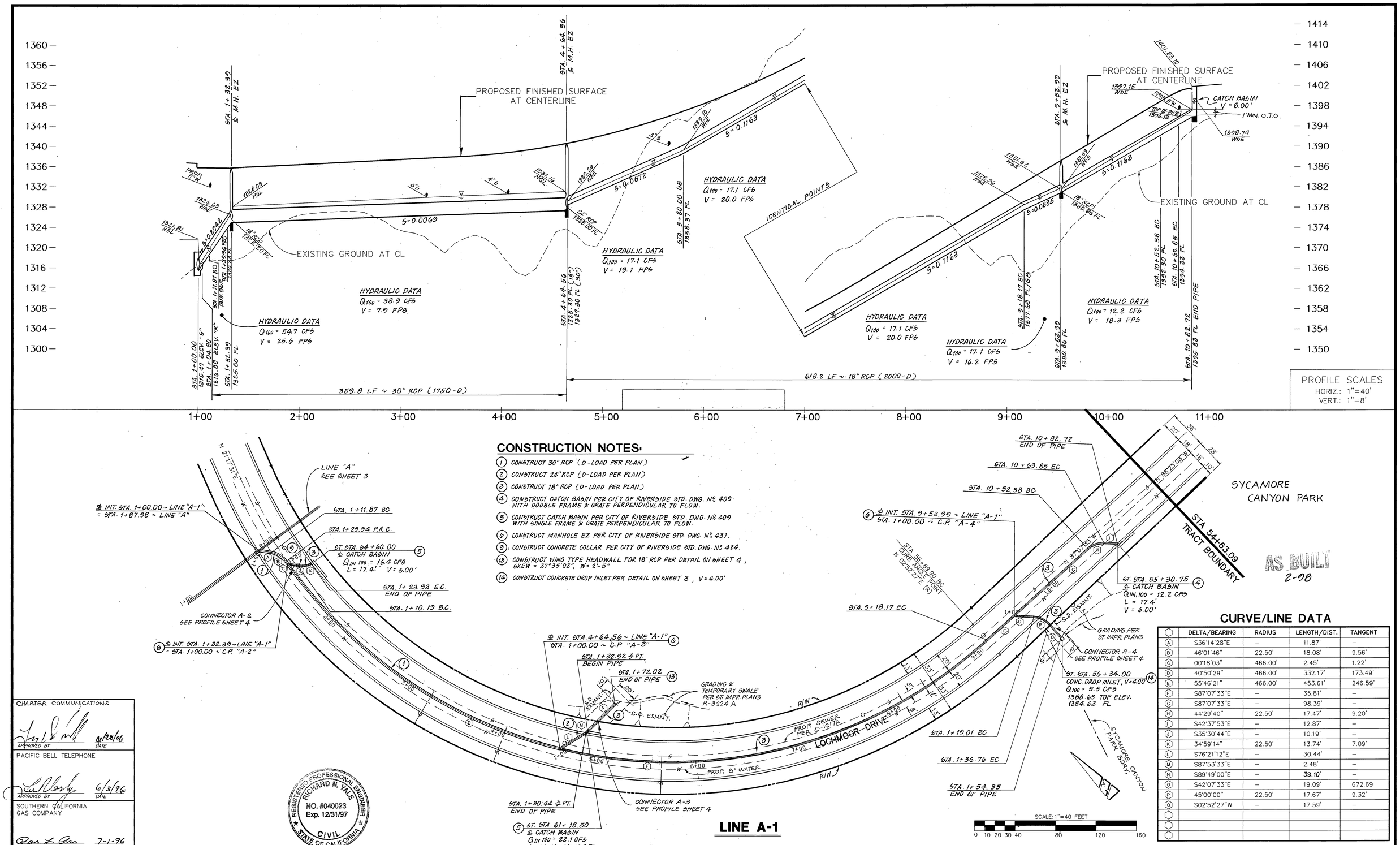
STORM DRAIN IMPROV. PLANS
TRACTS 21167, 22408, LOCHMOOR DR.
& CENTRAL AVENUE
TITLE SHEET

HORIZ. SCALE: AS SHOWN VERT. SCALE: AS SHOWN

ACCOUNT NO. D-599A

SHEET 1 OF 8

P STORM DRAIN TITEL SHEET TR. 21167 - 48(0.32)PF: 726006 272 11-Jun-90 01:49 PM / 726006-999
INDEXED 1-8-97



CONSTRUCTION NOTES:

1. CONSTRUCT 30" RCP (D-LOAD PER PLAN)
2. CONSTRUCT 24" RCP (D-LOAD PER PLAN)
3. CONSTRUCT 18" RCP (D-LOAD PER PLAN)
4. CONSTRUCT CATCH BASIN PER CITY OF RIVERSIDE STD. DWG. Nº 409 WITH DOUBLE FRAME & GRATE PERPENDICULAR TO FLOW.
5. CONSTRUCT CATCH BASIN PER CITY OF RIVERSIDE STD. DWG. Nº 409 WITH SINGLE FRAME & GRATE PERPENDICULAR TO FLOW.
6. CONSTRUCT MANHOLE EZ PER CITY OF RIVERSIDE STD. DWG. Nº 431.
9. CONSTRUCT CONCRETE COLLAR PER CITY OF RIVERSIDE STD. DWG. Nº 424.
13. CONSTRUCT WING TYPE HEADWALL FOR 18" RCP PER DETAIL ON SHEET 4, SKEW = 37°35'03", W = 2'-5"
14. CONSTRUCT CONCRETE DROP INLET PER DETAIL ON SHEET 3, V = 4.00'

CURVE/LINE DATA

	DELTA/BEARING	RADIUS	LENGTH/DIST.	TANGENT
A	S36°14'28"E	–	11.87'	–
B	46°01'46"	22.50'	18.08'	9.56'
C	00°18'03"	466.00'	2.45'	1.22'
D	40°50'29"	466.00'	332.17'	173.49'
E	55°46'21"	466.00'	453.61'	246.59'
F	S87°07'33"E	–	35.81'	–
G	S87°07'33"E	–	98.39'	–
H	44°29'40"	22.50'	17.47'	9.20'
I	S42°37'53"E	–	12.87'	–
J	S35°30'44"E	–	10.19'	–
K	34°59'14"	22.50'	13.74'	7.09'
L	S76°21'12"E	–	30.44'	–
M	S87°53'33"E	–	2.48'	–
N	S89°49'00"E	–	39.10'	–
O	S42°07'33"E	–	19.09'	672.69
P	45°00'00"	22.50'	17.67'	9.32'
Q	S02°52'27"W	–	17.59'	–

AS BUILT 2-98

CHARTER COMMUNICATIONS
APPROVED BY — DATE 11/28/96

PACIFIC BELL TELEPHONE
APPROVED BY — DATE 6/3/96

SOUTHERN CALIFORNIA GAS COMPANY
APPROVED BY — DATE 7-1-96

REGISTERED PROFESSIONAL ENGINEER RICHARD N. YALE NO. #040023 Exp. 12/31/97 CIVIL STATE OF CALIFORNIA

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 = 1360.91

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Inland Empire Division
22830 Cactus Ave., Ste. 300, Moreno Valley, CA 92553 (909) 653-0824

RICHARD N. YALE — DATE 3-25-96
R.C.E. No. 40023 expires 12/31/97

CITY OF RIVERSIDE WATER SYSTEM
APPROVED — DATE 8/29/96

MARK	REVISIONS	APPR.	DATE

DESIGNED BY RY DRAWN BY RM CHECKED BY RY

CITY OF RIVERSIDE, CALIFORNIA
PUBLIC WORKS DEPARTMENT

APPROVED BY	BY	DATE
DEPUTY P.W. DIRECTOR		11/8/96
PRINCIPAL ENGINEER		11/8/96
PARK DEPT		10-3-96
STREET SERVICES		7-5-96
TRAFFIC DIVISION		
FIRE DEPARTMENT		

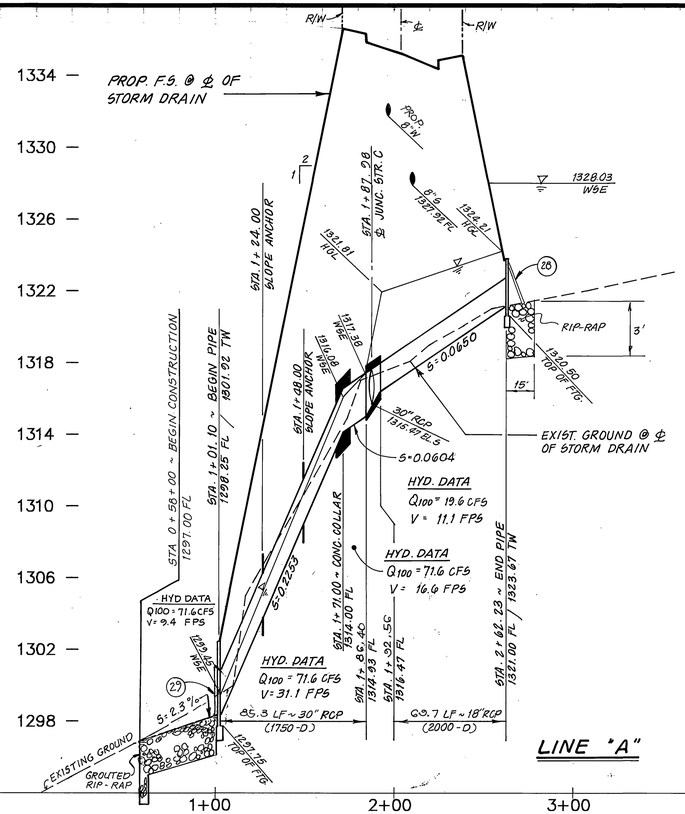
APPROVED BY — PUBLIC WORKS DIRECTOR — DATE 11/8/96

STORM DRAIN IMPROVEMENT PLANS
LOCHMOOR DRIVE
LINE A-1

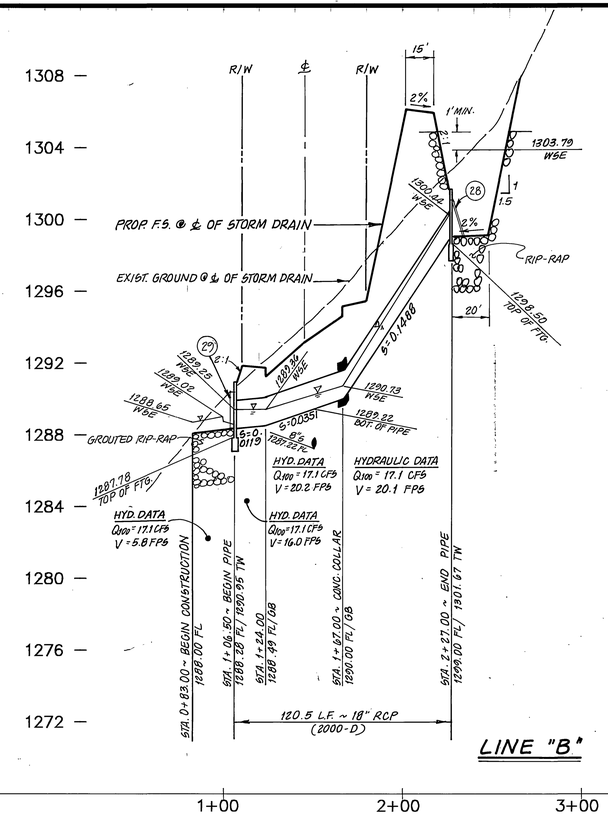
HORIZ. SCALE: 1" = 40' VERT. SCALE: 1" = 8'

ACCT. NO.
D-599A
SHEET 2 OF 8

INDEXED 1-8-97 GH



LINE "A"



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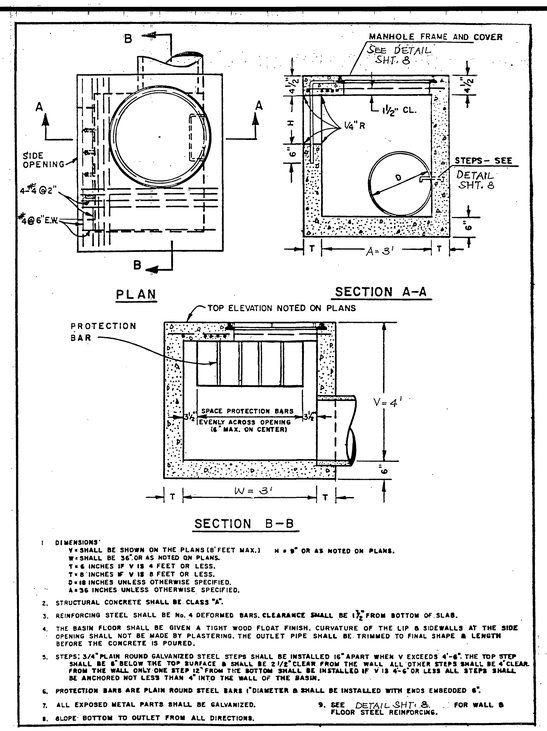


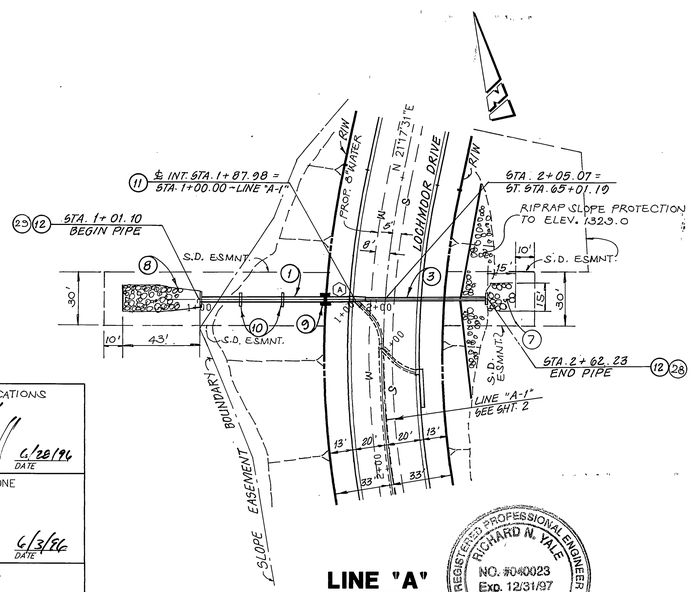
1. DIMENSIONS:
   V = SHALL BE SHOWN ON THE PLANS (8' FEET MAX.) H = 8" OR AS NOTED ON PLANS.
   W = SHALL BE 36" OR AS NOTED ON PLANS.
   T = 6 INCHES IF V IS 4 FEET OR LESS.
   T = 8 INCHES IF V IS 8 FEET OR LESS.
   D = 18 INCHES UNLESS OTHERWISE SPECIFIED.
   A = 36 INCHES UNLESS OTHERWISE SPECIFIED.
2. STRUCTURAL CONCRETE SHALL BE CLASS "A".
3. REINFORCING STEEL SHALL BE No. 4 DEFORMED BARS. CLEARANCE SHALL BE 1½" FROM BOTTOM OF SLAB.
4. THE BASIN FLOOR SHALL BE GIVEN A TIGHT WOOD FLOAT FINISH. CURVATURE OF THE LIP & SIDEWALLS AT THE SIDE OPENING SHALL NOT BE MADE BY PLASTERING. THE OUTLET PIPE SHALL BE TRIMMED TO FINAL SHAPE & LENGTH BEFORE THE CONCRETE IS POURED.
5. STEPS: 3/4" PLAIN ROUND GALVANIZED STEEL STEPS SHALL BE INSTALLED 16" APART WHEN V EXCEEDS 4'-6". THE TOP STEP SHALL BE 8" BELOW THE TOP SURFACE & SHALL BE 2 1/2" CLEAR FROM THE WALL. ALL OTHER STEPS SHALL BE 4" CLEAR FROM THE WALL. ONLY ONE STEP 12" FROM THE BOTTOM SHALL BE INSTALLED IF V IS 4'-6" OR LESS. ALL STEPS SHALL BE ANCHORED NOT LESS THAN 4" INTO THE WALL OF THE BASIN.
6. PROTECTION BARS ARE PLAIN ROUND STEEL BARS (¾" DIAMETER & SHALL BE INSTALLED WITH ENDS EMBEDDED 6".
7. ALL EXPOSED METAL PARTS SHALL BE GALVANIZED.
8. SLOPE BOTTOM TO OUTLET FROM ALL DIRECTIONS.
9. SEE DETAIL SHT. 8 FOR WALL & FLOOR STEEL REINFORCING.

CONCRETE DROP INLET

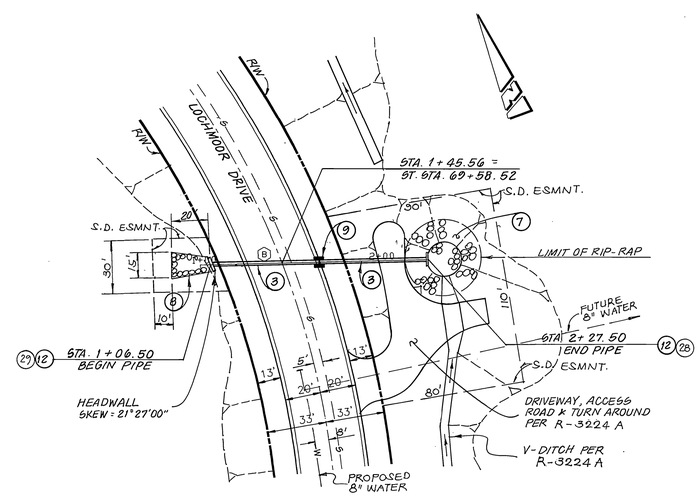
PROFILE SCALES
HORIZ.: 1"=40'
VERT.: 1"=4'

CONSTRUCTION NOTES:

1. CONSTRUCT 30" RCP (D-LOAD PER PLAN)
3. CONSTRUCT 18" RCP (D-LOAD PER PLAN)
7. CONSTRUCT LT. CLASS RIP-RAP 2' THICK
8. CONSTRUCT GROUTED LT. CLASS RIP-RAP WITH THE UPPER 6" TO 9" OF ROCK EXPOSED. MINIMUM T = 2' (NATIVE SOURCE ROCK), PER DETAIL SHEET No. 5
9. CONSTRUCT CONCRETE COLLAR PER CITY OF RIVERSIDE STD. DWG. No. 424.
10. CONSTRUCT PIPE SLOPE ANCHOR PER DETAIL ON SHEET 4.
11. CONSTRUCT JUNCTION STRUCTURE C PER CITY OF RIVERSIDE STD. DWG. No. 422; A = 45°; B = 30'; C = 5.3'; D1 = 18"; D2 = 30"; E = 5.0'; L = 7.0'; EL. R = 1316.88; EL. S = 1315.47'
12. CONSTRUCT SINGLE STRAIGHT HEADWALL PER DETAIL ON SHEET 6.
28. CONSTRUCT TRASH RACK PER DETAIL ON SHEET 8
29. CONSTRUCT PROTECTION SCREEN PER DETAIL ON SHEET 8



LINE "A"



LINE "B"

AS BUILT 2-98

CURVE/LINE DATA

	DELTA/BEARING	RADIUS	LENGTH/DIST.	TANGENT
A	S81°14'28"E	–	162.23'	–
B	S74°21'32"E	–	127.50'	–

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

CHARTER COMMUNICATIONS
APPROVED BY 6/28/96 DATE

PACIFIC BELL TELEPHONE
APPROVED BY 6/3/96 DATE

SOUTHERN CALIFORNIA GAS COMPANY
APPROVED BY 7-1-96 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 = 1360.91

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• Planning • Civil Engineering • Environmental Services •
• Land Surveying • Public Works • Water Resources •
Inland Empire Division
23690 Cactus Ave., Ste. 300, Moreno Valley, CA 92553 (909) 653-0234
RICHARD N. YALE DATE 3-25-96
R.C.E. No. 40023 expires 12/31/97

REGISTERED PROFESSIONAL ENGINEER RICHARD N. YALE NO. #040023 Exp. 12/31/97 CIVIL STATE OF CALIFORNIA

CITY OF RIVERSIDE WATER SYSTEM
APPROVED 8/29/96 DATE

MARK	REVISIONS	APPR.	DATE

DESIGNED BY RY DRAWN BY RM CHECKED BY RY

CITY OF RIVERSIDE, CALIFORNIA
PUBLIC WORKS DEPARTMENT

APPROVED BY	BY	DATE
DEPUTY P.W. DIRECTOR		11/6/96
PRINCIPAL ENGINEER		11/6/96
STREET SERVICES		11/5/96
TRAFFIC DIVISION		
PARKS DEPARTMENT		

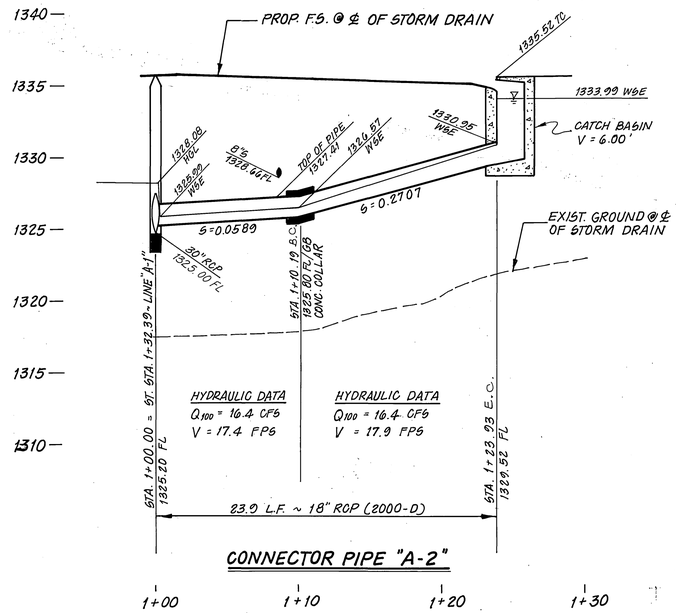
APPROVED BY
PUBLIC WORKS DIRECTOR
DATE 11/8/96

FRED

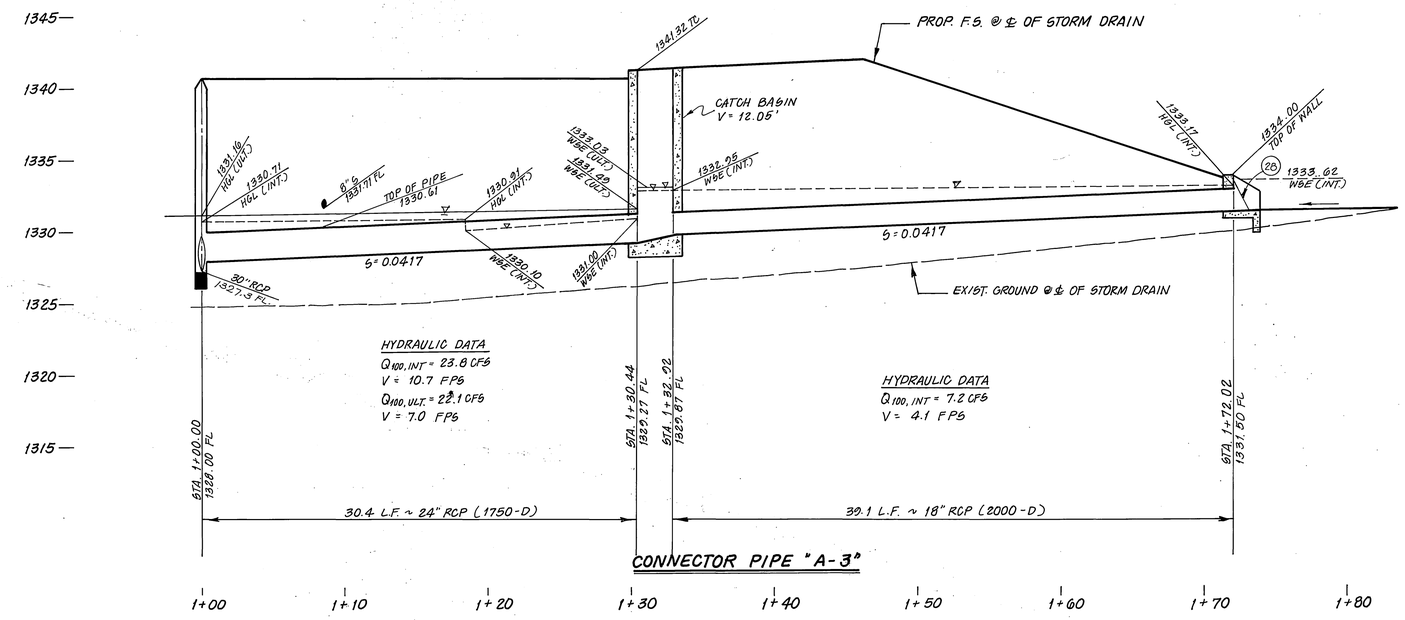
STORM DRAIN IMPROVEMENT PLANS
LOCHMOOR DRIVE
LINES "A" AND "B"
HORIZ. SCALE: 1" = 40' VERT. SCALE: 1" = 4'

ACCT. NO.
D-599A
SHEET 3 OF 8

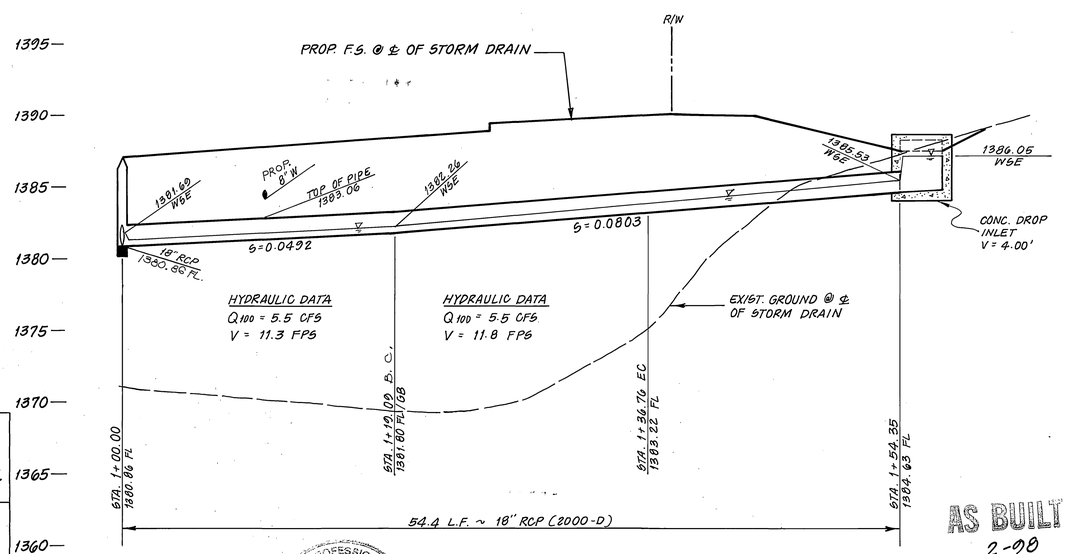
INDEXED 1-8-97 GH



CONNECTOR PIPE "A-2"



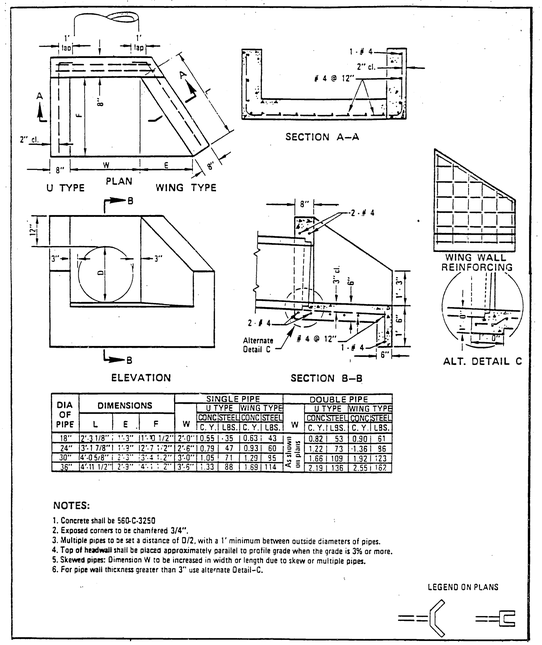
CONNECTOR PIPE "A-3"



AS BUILT 2-98

REGISTERED PROFESSIONAL ENGINEER RICHARD N. YALE NO. #040023 Exp. 12/31/97 CIVIL STATE OF CALIFORNIA

CONNECTOR PIPE "A-4"



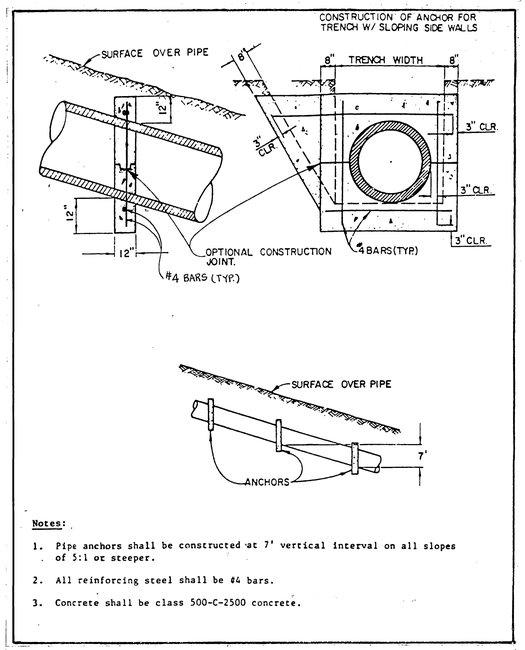
DIA OF PIPE	DIMENSIONS L	E	F	W	SINGLE PIPE U TYPE CONC. C.Y.	U TYPE STEEL LBS.	WING TYPE CONC. C.Y.	WING TYPE STEEL LBS.	W	DOUBLE PIPE U TYPE CONC. C.Y.	U TYPE STEEL LBS.	WING TYPE CONC. C.Y.	WING TYPE STEEL LBS.
18"	2'-11 1/8"	11'-9"	11'-11 1/2"	2'-0"	0.55	35	0.83	43	As shown on plans	0.82	53	0.90	61
24"	3'-1 7/8"	11'-9"	12'-1 1/2"	2'-6"	0.79	47	0.93	60		1.22	73	1.36	86
30"	4'-0 5/8"	12'-3"	13'-4 1/2"	3'-0"	1.05	71	1.29	95		1.66	109	1.92	123
36"	4'-11 1/2"	12'-9"	14'-1 1/2"	3'-6"	1.33	88	1.69	114		2.19	136	2.55	187

NOTES:

1. Concrete shall be 560-C-3250
2. Exposed corners to be chamfered 3/4".
3. Multiple pipes to be set a distance of D/2, with a 1' minimum between outside diameters of pipes.
4. Top of headwall shall be placed approximately parallel to profile grade when the grade is 3% or more.
5. Skewed pipes: Dimension W to be increased in width or length due to skew or multiple pipes.
6. For pipe wall thickness greater than 3" use alternate Detail-C.

LEGEND ON PLANS

WING AND U TYPE HEADWALLS FOR 12" TO 36" PIPES



Notes:

1. Pipe anchors shall be constructed at 7' vertical interval on all slopes of 5:1 or steeper.
2. All reinforcing steel shall be #4 bars.
3. Concrete shall be class 500-C-2500 concrete.

CONCRETE PIPE SLOPE ANCHOR

CHARTER COMMUNICATIONS
APPROVED BY — DATE 1-26-96

PACIFIC BELL TELEPHONE
APPROVED BY — DATE 6/3/96

SOUTHERN CALIFORNIA GAS COMPANY
APPROVED BY — DATE 7-1-96

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 = 1360.91

UNDERGROUND SERVICE ALERT
1-800-227-2600
CALL TWO WORKING DAYS BEFORE YOU DIG

KEITH INTERNATIONAL, INC.
• Planning • Civil Engineering • Environmental Services •
• Land Surveying • Public Works • Water Resources •
Inland Empire Division
32690 Outlus Ave., Ste 300, Moreno Valley, CA 92555 (909) 653-0234
RICHARD N. YALE — DATE 3-25-96
R.C.E. No. 40023 expires 12/31/97

CITY OF RIVERSIDE WATER SYSTEM
APPROVED — DATE 8/29/96

MARK	REVISIONS	APPR.	DATE

DESIGNED BY RY DRAWN BY RM CHECKED BY RY

CITY OF RIVERSIDE, CALIFORNIA
PUBLIC WORKS DEPARTMENT

APPROVED BY	BY	DATE
DEPUTY P.W. DIRECTOR	RM.G	11/4/96
PRINCIPAL ENGINEER		10/28/96
STREET SERVICES		10/25/96
TRAFFIC DIVISION		
PARKS DEPARTMENT		

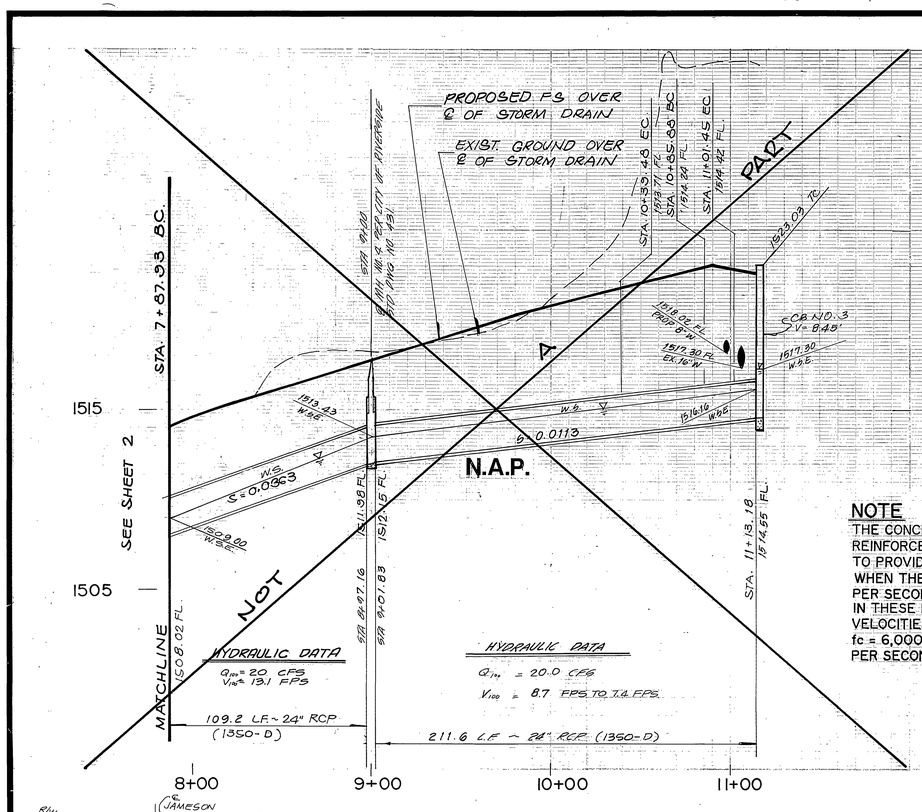
APPROVED BY — PUBLIC WORKS DIRECTOR
DATE 11/4/96

STORM DRAIN IMPROVEMENT PLANS
LOCHMOOR DRIVE EXTENSION
A-2, A-3, A-4
CONNECTOR PIPE PROFILE / DETAILS

HORIZ. SCALE: 1" = 5' VERT. SCALE: 1" = 5'

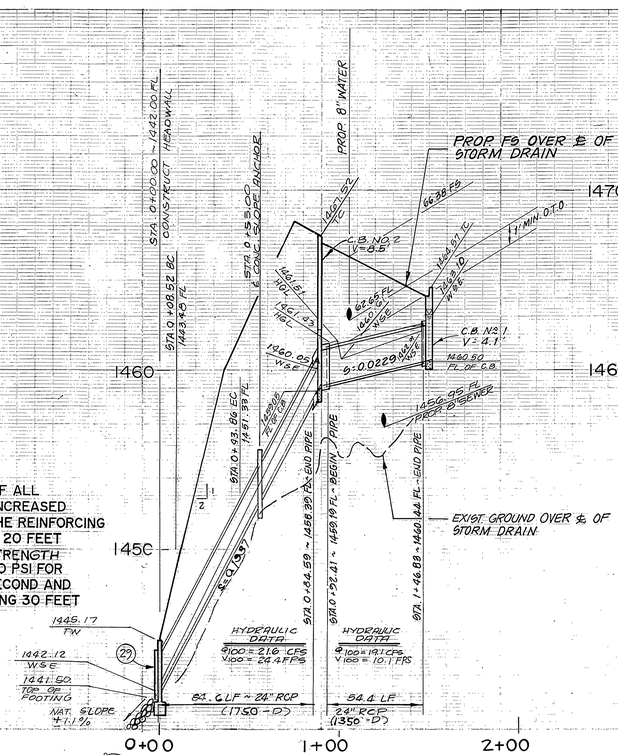
ACCT. NO.
D-599A
SHEET 4 OF 8

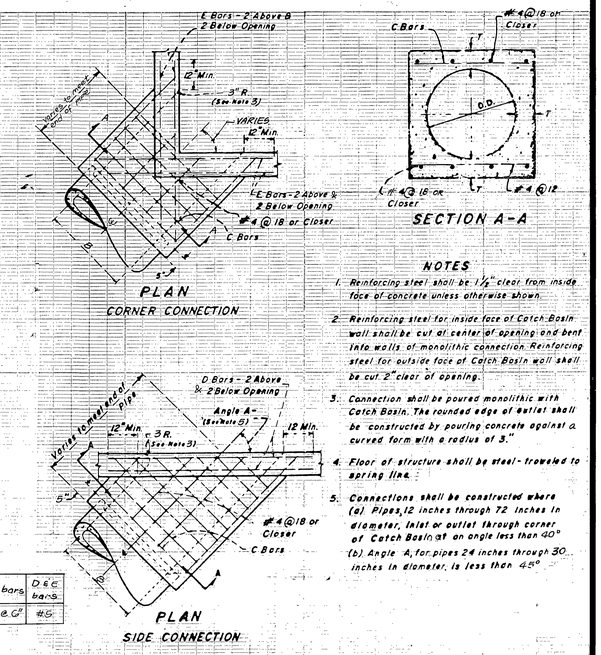
INDEXED 1-8-97 GH



NOTE

THE CONCRETE COVER ON THE INSIDE OF ALL REINFORCED CONCRETE PIPE MUST BE INCREASED TO PROVIDE A MINIMUM OF 1-1/2" OVER THE REINFORCING WHEN THE DESIGN VELOCITIES EXCEED 20 FEET PER SECOND. THE CONCRETE DESIGN STRENGTH IN THESE REACHES SHALL BE fc = 5,000 PSI FOR VELOCITIES EXCEEDING 20 FEET PER SECOND AND fc = 6,000 PSI FOR VELOCITIES EXCEEDING 30 FEET PER SECOND.





B	T	C bars	D & E bars
24"	5 1/4"	#40 @ 6"	#5

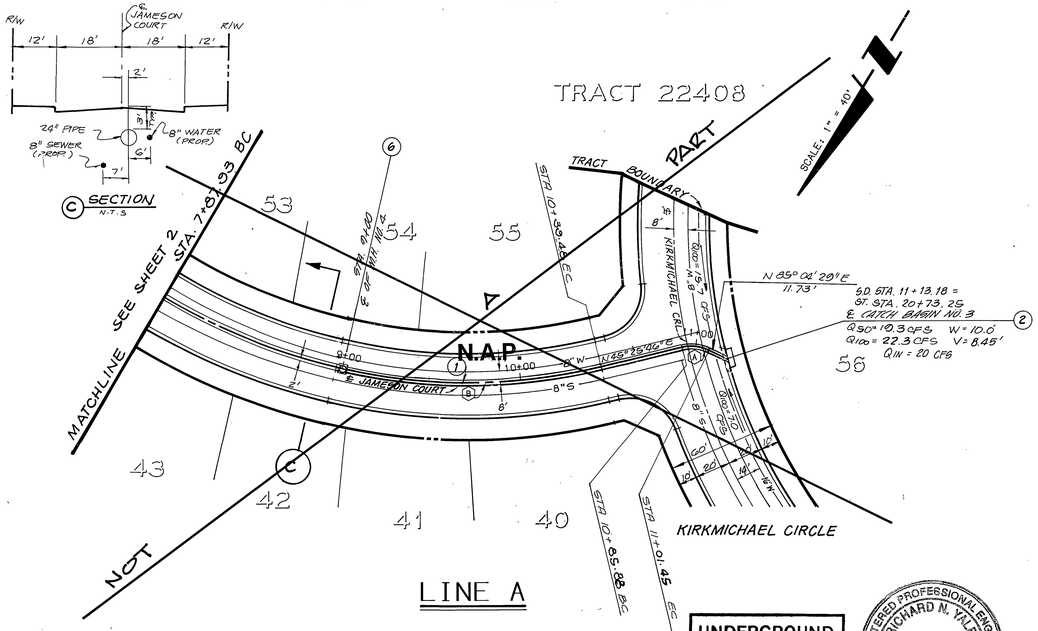
SPECIAL CONNECTIONS TO CATCH BASIN

NOT TO SCALE

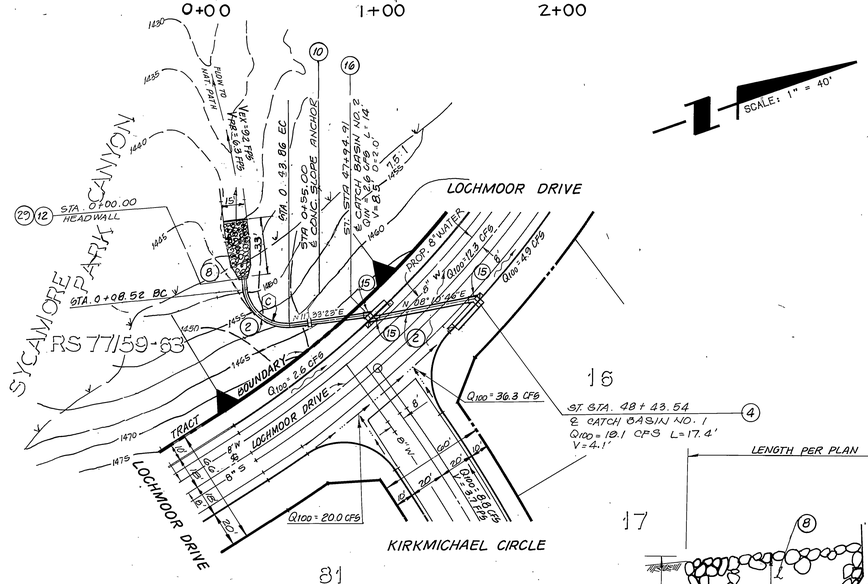
NOTES

1. Reinforcing steel shall be 1 1/2" clear from inside face of concrete unless otherwise shown.
2. Reinforcing steel for inside face of Catch Basin wall shall be cut at center of opening and bent into walls of monolithic connection. Reinforcing steel for outside face of Catch Basin wall shall be cut 2" clear of opening.
3. Connection shall be poured monolithic with Catch Basin. The rounded edge of outlet shall be constructed by pouring concrete against a curved form with a radius of 3".
4. Floor of structure shall be steel-troweled to spring line.
5. Connections shall be constructed where (a) Pipes 12 inches through 72 inches in diameter, inlet or outlet through corner of Catch Basin at an angle less than 40° (b) Angle A, for pipes 24 inches through 30 inches in diameter, is less than 45°

PROFILE SCALES
HORIZ: 1" = 40'
VERT: 1" = 4'



LINE A



LINE D

CONSTRUCTION NOTES

(2) — CONSTRUCT 24" R.C.P. (D-LOAD PER PLAN).

(5) — CONSTRUCT LT. CLASS GROUTED (GROUT TO MATCH COLOR OF NATIVE SOIL) SUBGRADE PER DETAIL THIS SHEET WITH UPPER 6" TO 9" EXPOSED. THICKNESS = 2.0 MIN. (NATIVE SOURCE, ROCK).

(10) — CONSTRUCT PIPE SLOPE ANCHOR PER DETAIL ON SHEET 4

(4) — CONSTRUCT CATCH BASIN PER CITY OF RIVERSIDE STD DWG NO. 409 WITH DOUBLE FRAME & GRATE PERPENDICULAR TO FLOW.

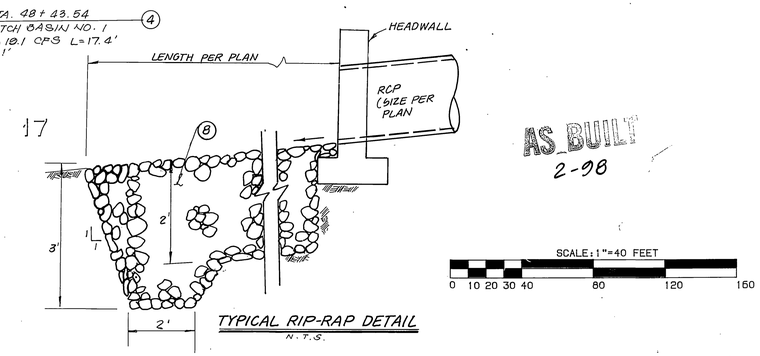
(12) — CONSTRUCT SINGLE STRAIGHT HEADWALL PER CALTRANS STD. PLAN D 89. SEE SHEET 6.

(15) — CONSTRUCT SPECIAL CONNECTIONS TO CATCH BASIN PER DETAIL ON THIS SHEET. USE SIDE CONNECTION DETAIL.

(16) — CONSTRUCT CATCH BASIN PER CITY OF RIVERSIDE STD. DWG. No. 407 WITH D=3.0'; L=14'; V=8.5'; t=10"

(29) — CONSTRUCT PROTECTION SCREEN PER DETAIL SHEET 8

AS BUILT 2-98



CURVE DATA

	DELTA	RADIUS	LENGTH	TANGENT
A	39°38'53"	22.50'	15.57'	8.11'
B	43°56'30"	328.00'	251.55'	132.38'
C	90°00'00"	22.50'	35.34'	22.50'

UNDERGROUND SERVICE ALERT
1-800-227-2600
CALL TWO WORKING DAYS BEFORE YOU DIG

REGISTERED PROFESSIONAL ENGINEER RICHARD N. YALE NO. #040023 Exp. 12/31/97 CIVIL STATE OF CALIFORNIA

BENCHMARK:
CITY OF RIVERSIDE BENCHMARK H3-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 - 1360.91

SOUTHERN CALIFORNIA GAS COMPANY — APPROVED 7-1-96
CITY OF RIVERSIDE WATER SYSTEM — APPROVED 8/29/96
PACIFIC BELL TELEPHONE — APPROVED 6/5/96
APPROVED 9-19-91 DATE

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) 653-0234
APPROVED BY: Richard N. Yale 3-25-96
RICHARD N. YALE REG CIVIL ENGINEER NO. 40023 DATE

MARK	REVISIONS	APPR.	DATE

DESIGNED BY MT DRAWN BY MP CHECKED BY ABD

CITY OF RIVERSIDE
PUBLIC WORKS DEPARTMENT

APPROVED BY	DATE	BY
PRINCIPAL ENGINEER	10/24/96	
PARK DEPARTMENT		
STREET SERVICES	5/16/96	
CHIEF P.W. ENGINEER	11/18/96	
DEPUTY CITY ENGINEER	10/24/96	

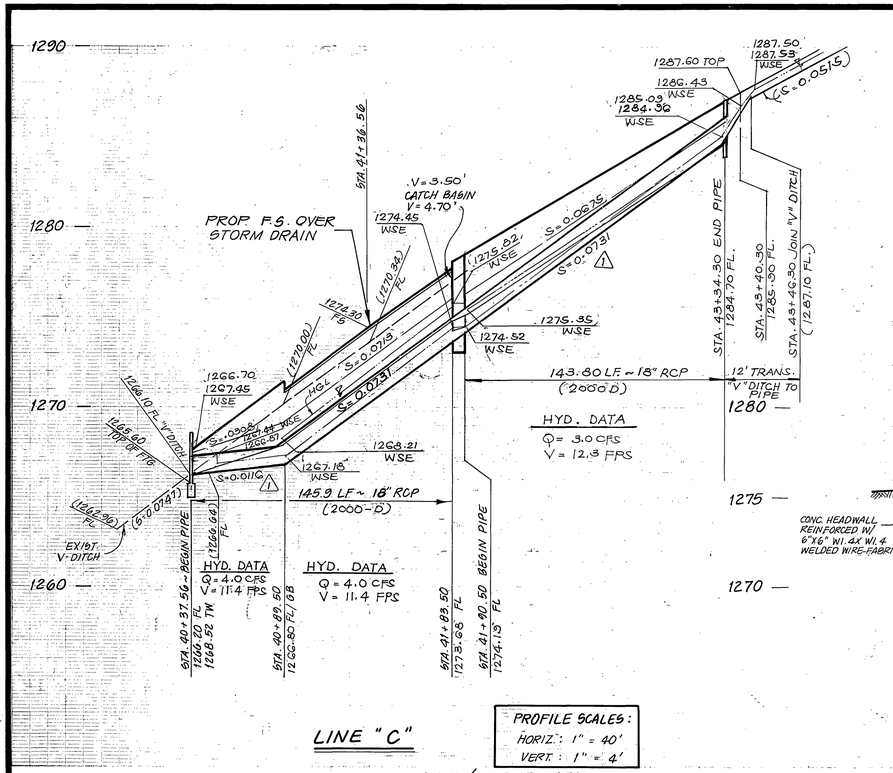
APPROVED BY
PUBLIC WORKS DIRECTOR
DATE 11/8/96

STORM DRAIN PLANS
TRACT 21167
LINE D

HORIZ. SCALE: 1" = 40' VERT. SCALE: 1" = 4'

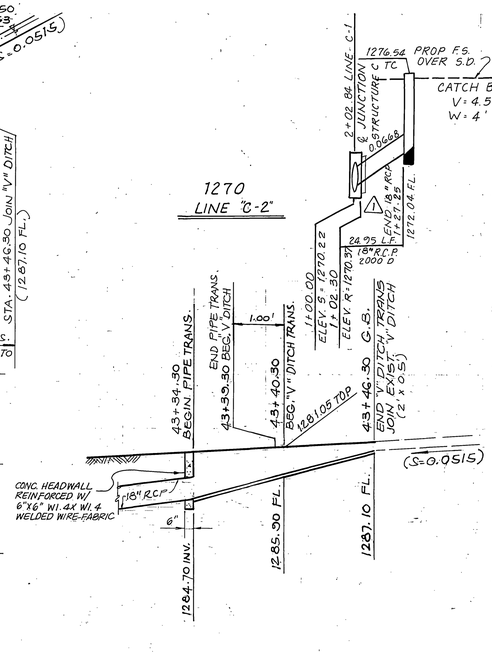
ACCOUNT NO. D-599A
SHEET 5 OF 8

•P• STORM DRAIN LINE B 3/3 - 48(0.32)PF: 726005 123 19-Dec-89 11:39 AM// 726005-5214
INDEXED 1-8-97



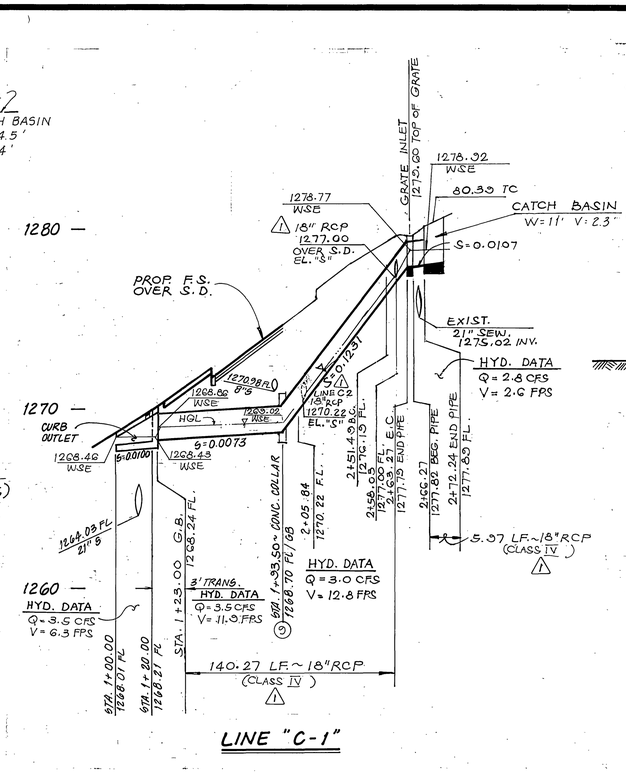
LINE "C"

PROFILE SCALES:
HORIZ.: 1" = 40'
VERT.: 1" = 4'

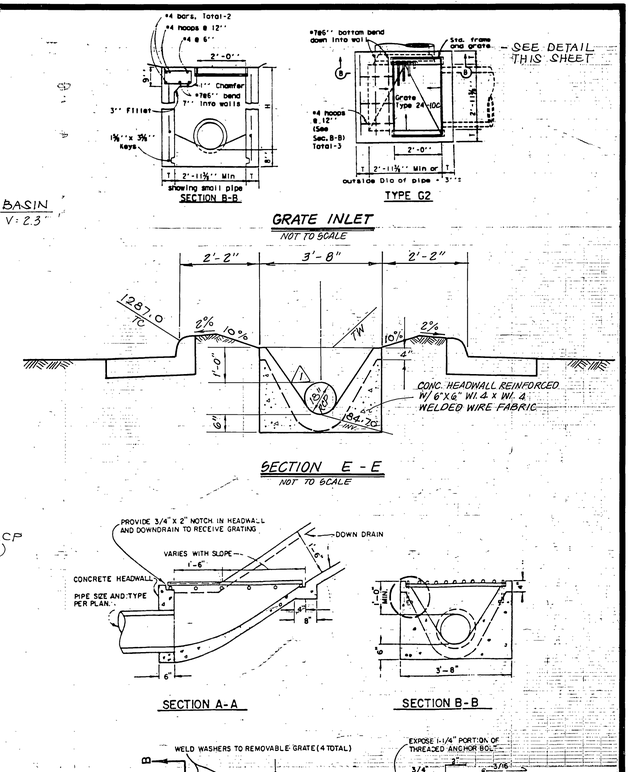


SECTION C-C

N.T.S.



LINE "C-1"



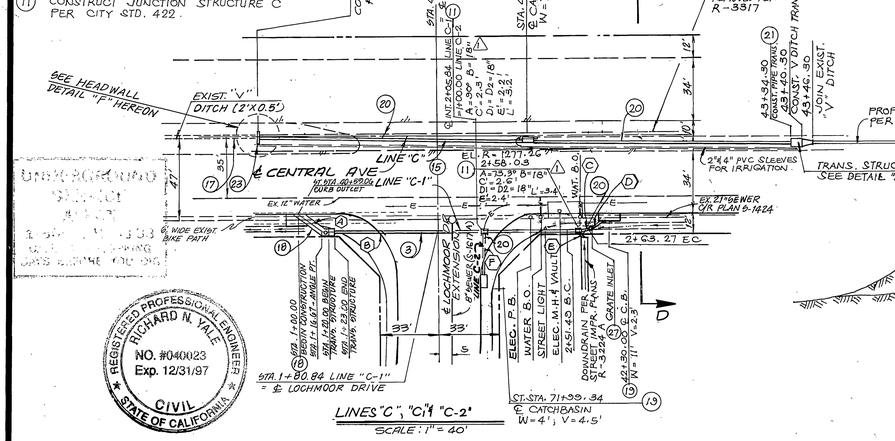
CONSTRUCTION NOTES

(21) CONSTRUCT PIPE TRANSITION PER DETAIL "A" THIS SHEET
(20) CONSTRUCT 18" RCP (D-LOAD PER PLAN).
(9) CONSTRUCT CONCRETE COLLAR PER CITY STD. DWG. 424
(23) CONSTRUCT HEADWALL PER DETAIL ON THIS SHEET
(17) REMOVE & REPLACE EXISTING "V" DITCH TO FACILITATE CONSTRUCTION OF HEADWALL
(3) CONSTRUCT 18" RCP. (D-LOAD PER PLAN).
(19) CONSTRUCT CATCH BASIN PER CITY STD. 405.
(18) CONSTRUCT CURB OUTLET PER CITY STD. 410.
(27) CONSTRUCT GRATE INLET PER DETAIL THIS SHEET
(11) CONSTRUCT JUNCTION STRUCTURE C PER CITY STD. 422.

LINE / CURVE DATA

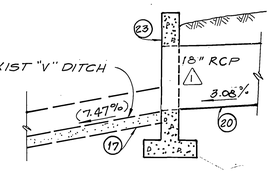
	DELTA	RADIUS	LENGTH	TANGENT
(A)	N86°20'18"W		16.67'	
(B)	N56°07'31"E		134.82	
(C)	30°00'00"	22.50'	11.78'	6.03'
(D)	N26°07'31"E		8.97	
(E)	S78°12'29"E		6.99	
(F)	S33°12'29"E		27.25	

SCALE 1"=40'



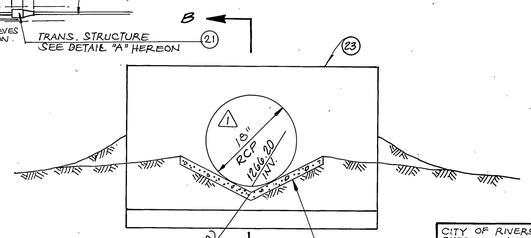
LINES "C", "C-1" & "C-2"

SCALE: 1" = 40'



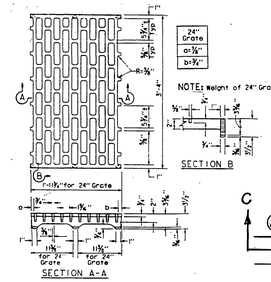
SECTION B-B

N.T.S.



DETAIL "F" - HEADWALL

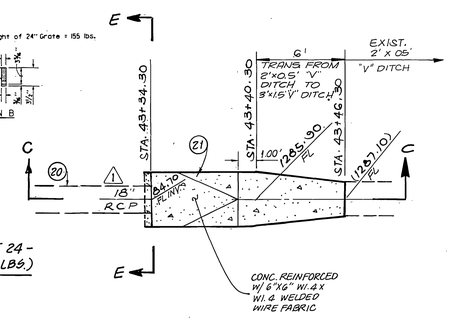
NOT TO SCALE



BYCYCLE PROOF GRATE TYPE 24 - 10 C (CAST NODULAR IRON, 202 LBS.)

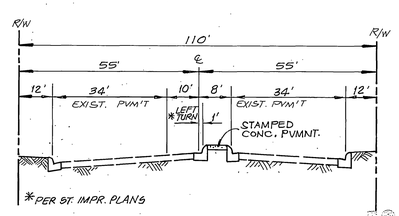
NOT TO SCALE

FOR GRATE INLET THIS SHEET ONLY



DETAIL "A" ~ PIPE TRANSITION

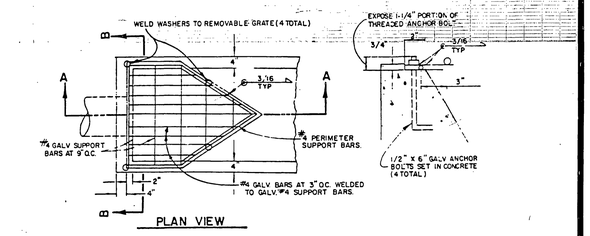
N.T.S.
(OCEMA STD. PLAN 1331 - MODIFIED)



SECTION D-D

N.T.S.

AS BUILT 2-98

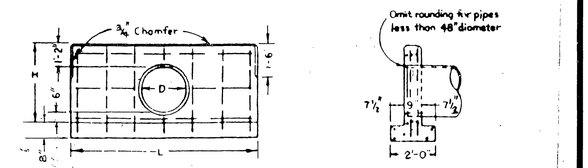


PLAN VIEW

NOTES:

1. Ground shall be pre-wetted to the satisfaction of the Building Official prior to placement of concrete.
2. Material for construction of downdrain shall be concrete reinforced with 6" x 6" W1.4 x W1.4 welded wire fabric.
3. Downdrain to pipe transition shall not be used within public road right-of-way.
4. Grate shall be hot dip galvanized after fabrication.

DOWNDRAIN TO PIPE TRANSITION



FRONT ELEV SINGLE HEADWALL

SECTION

D in	H ft-in	SINGLE L ft-in	Steel Lbs	Conc Cu Yds
15	2'-11"	6'-0"	40	0.75
18	3'-2"	7'-0"	50	0.91
30	4'-2"	10'-0"	85	1.52
24	3'-8"	8'-6"	75	1.20

GENERAL NOTES

1. No deduction made in quantities for thickness of pipe walls
2. All reinforcing steel #4 bars. All vertical and horizontal tie bars 18" maximum spacing.

SINGLE HEADWALL DETAIL

NOT TO SCALE
(CALTRANS STD. PLAN D89)

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 - 1360.91

KEITH INTERNATIONAL, INC.
• Planning • Civil Engineering • Environmental Services •
• Land Surveying • Public Works • Water Resources •
22690 Cactus Ave., Ste. 300, Moreno Valley, CA 92553 (909) 653-2524
Inland Empire Division

APPROVED BY: RICHARD N. YALE — REG CIVIL ENGINEER NO. 40023 — 3-25-96 DATE

	APPROVED	DATE
SOUTHERN CALIFORNIA GAS COMPANY		7-1-96
CITY OF RIVERSIDE WATER SYSTEM		9-19-91
PACIFIC BELL TELEPHONE		7-22-91

CITY OF RIVERSIDE OVERHEAD AND UNDERGROUND — APPROVED — 6-28-96 DATE

MARK	REVISIONS	BY	DATE
1	REVISED 15" RCP TO 18" RCP	RY	2-22-97

DESIGNED BY CJ DRAWN BY LDB CHECKED BY JRW

CITY OF RIVERSIDE
PUBLIC WORKS DEPARTMENT

APPROVED BY	DATE	BY
PRINCIPAL ENGINEER	10/28/96	
PARK DEPARTMENT		
STREET SERVICES	3/25/96	
CHIEF P. W. ENGINEER	11/4/96	
	10/29/96	

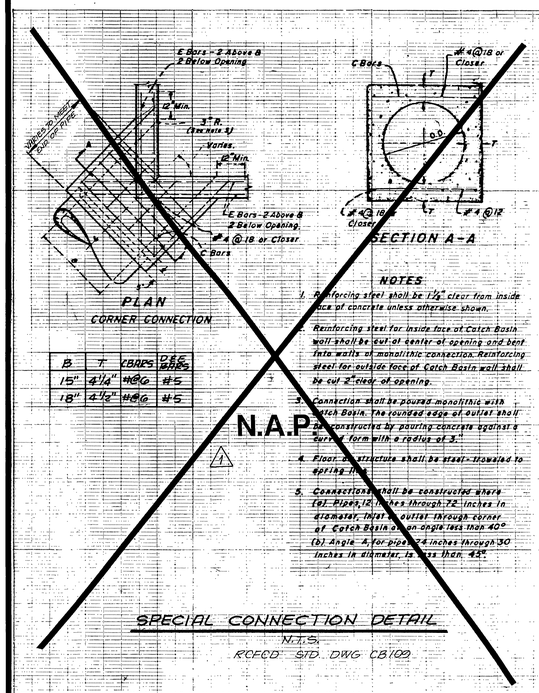
APPROVED BY: PUBLIC WORKS DIRECTOR — DATE 11/8/96

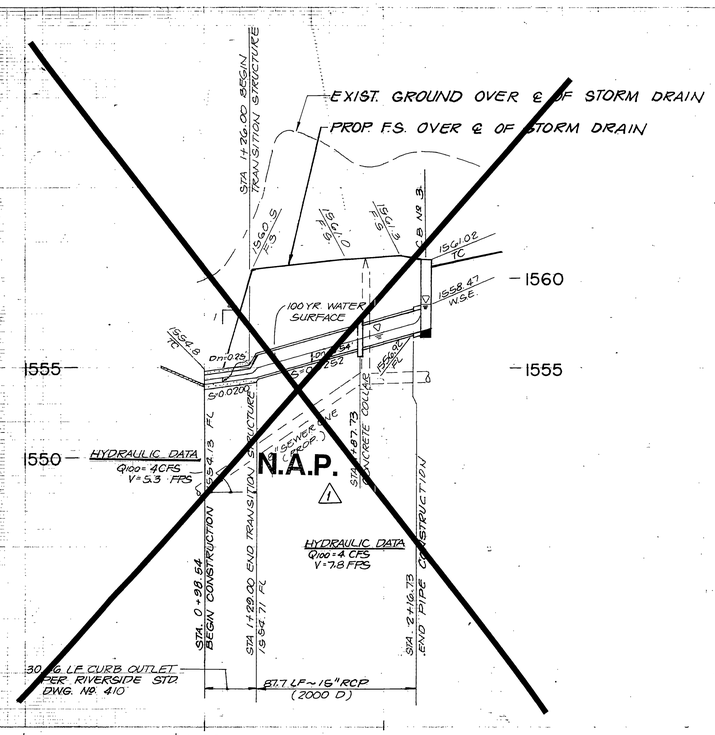
STORM DRAIN IMPROV. PLANS
CENTRAL AVENUE
LINES C, C-1 & C-2

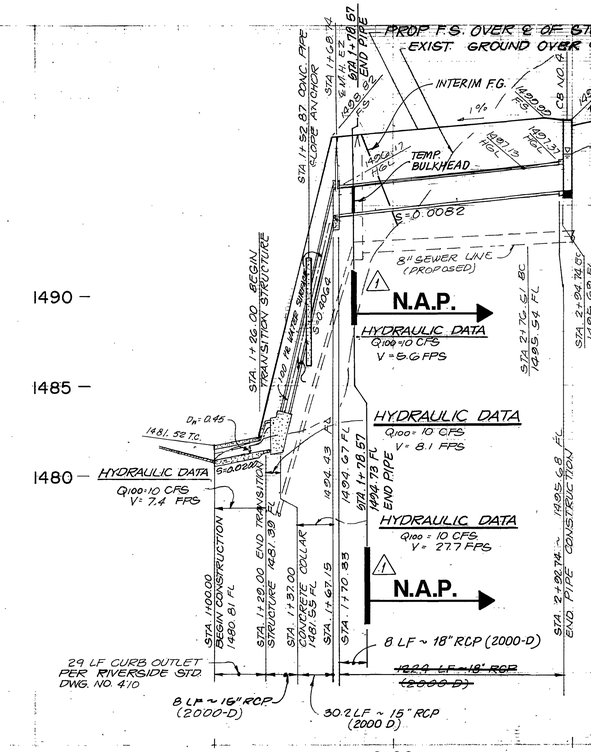
ACCOUNT NO. D-599A
SHEET 6 OF 8

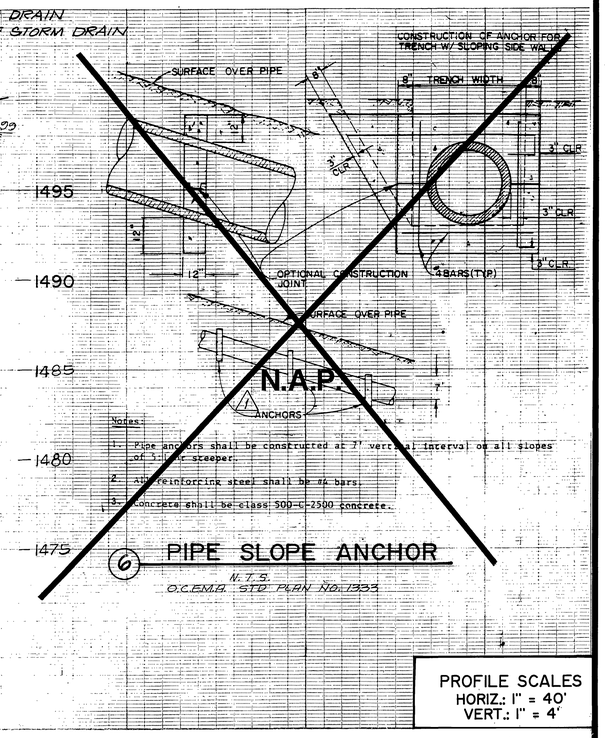
HORIZ. SCALE: AS SHOWN VERT. SCALE: AS SHOWN

INDEXED 1-8-97 GH

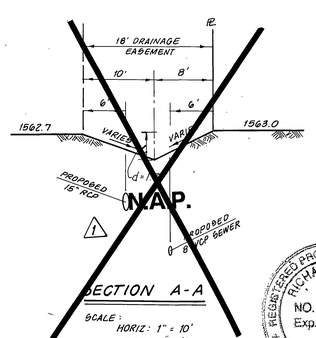


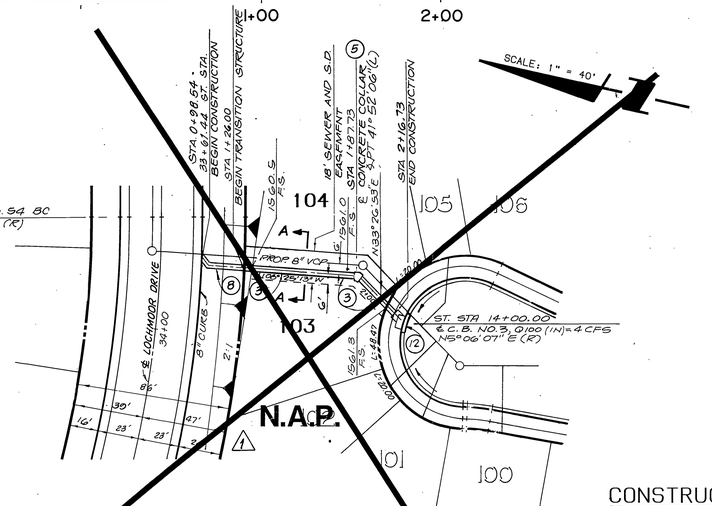




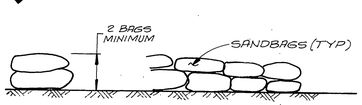


PROFILE SCALES
HORIZ.: 1" = 40'
VERT.: 1" = 4'





STONEHAVEN COURT LATERAL

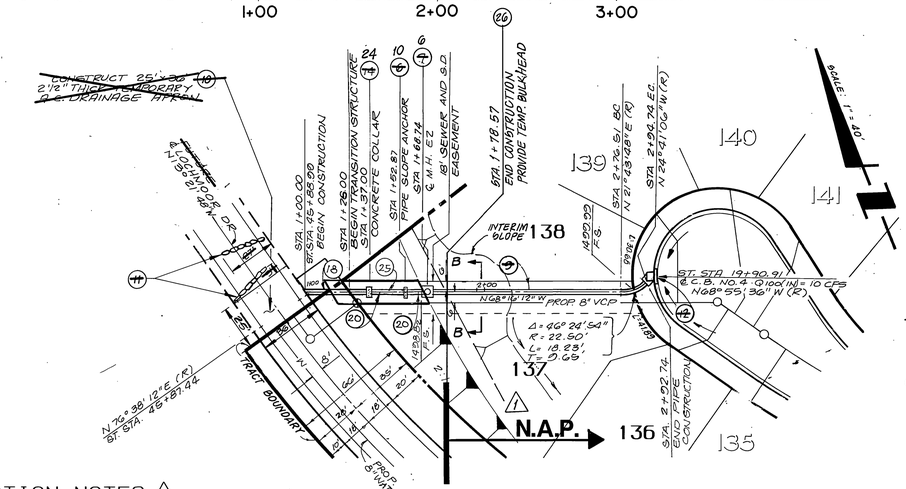


TYPICAL SECTION TYPICAL ELEVATION

SANDBAG VELOCITY REDUCER
N.T.S.

CONSTRUCTION NOTES 1

20 (3) — CONSTRUCT 15" R.C.P. (2000 D)
6 (11) — CONSTRUCT M.H. EZ PER CITY OF RIVERSIDE STD. DWG. NO. 431
9 (5) — CONSTRUCT CONCRETE COLLAR PER CITY OF RIVERSIDE STD. DWG No. 424
18 (8) — CONSTRUCT CURB OUTLET PER CITY OF RIVERSIDE STD DWG. Nº 410 (8' CURB TRANSITION, 3' TRANSITION FROM PIPE TO OUTLET DRAIN) PER STREET IMPROVEMENT PLAN.
10 (6) — CONSTRUCT PIPE SLOPE ANCHOR PER OCEMA STD PLAN No. 1333 (SEE DETAIL THIS SHEET.)
3 (9) — CONSTRUCT 18" RCP (2000 D)
(12) — ~~CONSTRUCT CATCH BASIN PER CITY OF RIVERSIDE STD DWG NO. 405 W/ A 0 V=4.0. MODIFY BASIN FLOOR TO SLOPE TO CORNER OUTLET FROM ALL DIRECTIONS. CONSTRUCT OUTLET CONNECTION PER RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT STD. DWG NO. CB109 DETAIL SHOWN THIS SHEET.~~
24 (14) — CONSTRUCT MODIFIED CONCRETE COLLAR PER CITY OF RIVERSIDE STD. DWG NO. 424 PROVIDE CONCRETE THICKNESS (T) = 8".



HADDINGTON DRIVE LATERAL

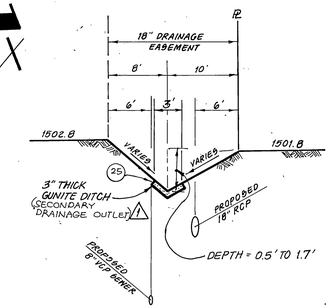
(10) ~~CONSTRUCT 36" x 36' TEMPORARY R.C. DRAINAGE APRON (TYP)~~

(11) ~~CONSTRUCT SANDBAG VELOCITY REDUCER SEE DETAIL THIS SHEET.~~

(25) CONSTRUCT 3' WIDE GUNITE DITCH (3" THICK). MIN. SLOPE 1% TRANSITION BOTH ENDS TO JOIN FLUSH W/ BACK OF SIDEWALK.

(26) CONSTRUCT TEMPORARY BULKHEAD ON END OF PIPE.

AS BUILT 2-98



SECTION B-B

SCALE:
HORIZ: 1" = 10'
VERT: 1" = 5'

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

REGISTERED PROFESSIONAL ENGINEER RICHARD N. YALE NO. #040023 Exp. 12/31/97 CIVIL STATE OF CALIFORNIA

FOR REVISION ONLY	
APPROVED BY: Richard N. Yale	3-25-96
RICHARD N. YALE R.C.E. NO. 40023 EXP. 12/31/97	DATE

BENCHMARK:
3.5 MILES NORTHWEST ALONG THE ATCHISON, TOPEKA AND SANTA FE RAILWAY FROM THE STATION AT MARCH FIELD. 76 FEET SOUTHEAST OF MILEPOST 6. SET VERTICALLY IN THE SOUTHWEST FACE OF A ROCK CUT, 7 FEET NORTHEAST OF THE NORTHEAST RAIL. 1.9 FEET ABOVE THE GROUND, AND ABOUT 1 FOOT HIGHER THAN THE TRACK. BRASS DISK STAMPED D1144 1961 ELEVATION 1451.887 (BRASS DISK IS BROKEN OFF FOUND ORIGINAL SHANK OF BRASS DISK WITH P.K. NAIL DRIVEN ALONG SIDE SHANK.

CITY OF RIVERSIDE WATER SYSTEM 1
Richard N. Yale 8/29/96
APPROVED BY DATE

THE KEITH COMPANIES
6296 RIVER CREST DRIVE SUITE K RIVERSIDE, CA 92507 (714) 653-0234

APPROVED BY: JAN 1990
BRIAN L. JENSEN REG. CIVIL ENGINEER NO. 30534 DATE

MARK	REVISIONS	APPR.	DATE
1	REVISED CONSTRUCTION NOTES NUMBERS, PORTION OF HADDINGTON DR. LATERAL & DETAILS, DELETED STONEHAVEN COURT LATERAL AND ADDED R.C.E. SIGN. BLOCK & STAMP		11/20/96

DESIGNED BY WEM DRAWN BY RR CHECKED BY CVA

CITY OF RIVERSIDE
PUBLIC WORKS DEPARTMENT

APPROVED BY	DATE	BY
PRINCIPAL ENGINEER	7/12/90	
PARK DEPARTMENT	—	
TRAFFIC DIVISION	—	
CHIEF P.W. ENGINEER	7/13/90	
	7/13/90	

APPROVED BY
PUBLIC WORKS DIRECTOR
DATE 7/19/90

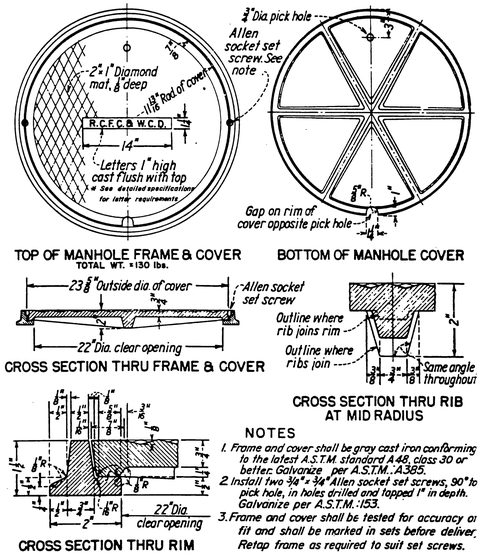
STORM DRAIN PLANS
TRACT 22408 1
~~STONEHAVEN COURT~~
HADDINGTON DRIVE

HORIZ. SCALE: 1" = 40' VERT. SCALE: 1" = 4'

ACCOUNT NO. D-593A 1
SHEET 7 OF 8

INDEXED 7-25-90 GH

S.D. - STONE/HADDING - LAST SHT OF ST. - 43(0.32)PF: 726005 122 11-Aug-89 08:30 AS / 726003-5302
INDEXED 1-8-97 GH

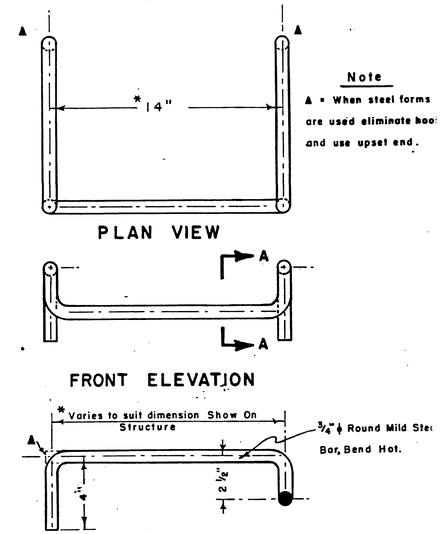


NOTES

1. Frame and cover shall be gray cast iron conforming to the latest A.S.T.M. standard A48, class 30 or better. Galvanize per A.S.T.M. A385.
2. Install two 3/4" x 3/4" Allen socket set screws, 90° to pick hole, in holes drilled and tapped 1" in depth. Galvanize per A.S.T.M. 153.
3. Frame and cover shall be tested for accuracy of fit and shall be marked in sets before deliver. Retap frame as required to suit set screws.

MANHOLE FRAME & COVER

N.T.S.

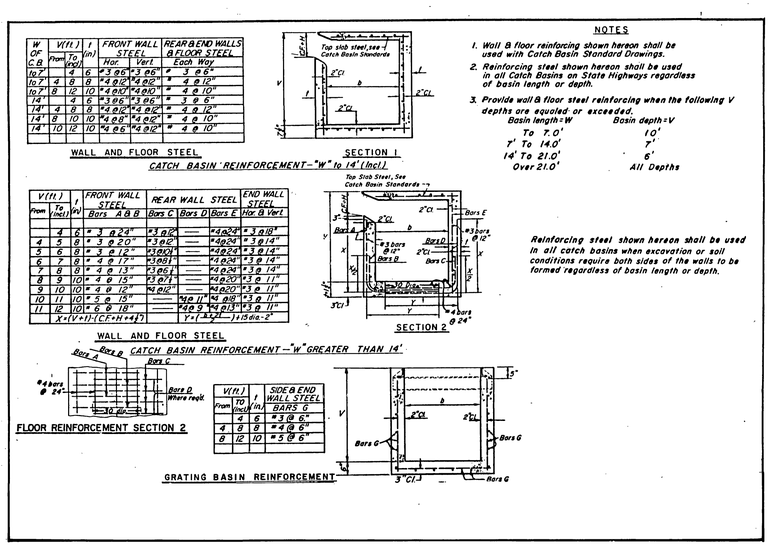


Note

▲ = When steel forms are used eliminate hook and use upset end.

DROP INLET STEP

N.T.S.



W OF C.B.	V(ft.) From	V(ft.) To (incl)	t (in)	FRONT WALL STEEL Hor.	FRONT WALL STEEL Vert.	REAR & END WALLS & FLOOR STEEL Each Way
to 7'		4	6	#3 @ 6"	#3 @ 6"	# 3 @ 6"
to 7'	4	8	8	#4 @ 12"	#4 @ 12"	# 4 @ 12"
to 7'	8	12	10	#4 @ 12"	#4 @ 10"	# 4 @ 10"
14'		4	6	#3 @ 6"	#3 @ 6"	# 3 @ 6"
14'	4	8	8	#4 @ 12"	#4 @ 12"	# 4 @ 12"
14'	8	10	10	#4 @ 8"	#4 @ 8"	# 4 @ 10"
14'	10	12	10	#4 @ 6"	#4 @ 12"	# 4 @ 10"

WALL AND FLOOR STEEL

CATCH BASIN REINFORCEMENT-"W" to 14' (Incl)

V(ft.) From	V(ft.) To (incl)	t (in)	FRONT WALL STEEL Bars A & B	REAR WALL STEEL Bars C	REAR WALL STEEL Bars D	REAR WALL STEEL Bars E	END WALL STEEL Hor. & Vert.
	4	6	# 3 @ 24"	#3 @ 12"	—	#4 @ 24"	# 3 @ 18"
4	5	8	# 3 @ 20"	#3 @ 12"	—	#4 @ 24"	# 3 @ 14"
5	6	8	# 3 @ 12"	#3 @ 12"	—	#4 @ 24"	# 3 @ 14"
6	7	8	# 4 @ 17"	#3 @ 8"	—	#4 @ 24"	# 3 @ 14"
7	8	8	# 4 @ 13"	#3 @ 6"	—	#4 @ 24"	# 3 @ 14"
8	9	10	# 4 @ 15"	#3 @ 7"	—	#4 @ 20"	# 3 @ 11"
9	10	10	# 4 @ 12"	#4 @ 12"	—	#4 @ 20"	# 3 @ 11"
10	11	10	# 5 @ 15"	—	#4 @ 11"	#4 @ 18"	# 3 @ 11"
11	12	10	# 6 @ 18"	—	#4 @ 9"	#4 @ 13"	# 3 @ 11"

$X = (V+1) - (CF + H + 4\frac{1}{2})$ $\quad Y = \left(\frac{X+2}{2}\right) + 15\,dia - 2"$

WALL AND FLOOR STEEL

CATCH BASIN REINFORCEMENT-"W" GREATER THAN 14'

V(ft.) From	V(ft.) To (incl)	t (in)	SIDE & END WALL STEEL BARS G
	4	6	# 3 @ 6"
4	8	8	# 4 @ 6"
8	12	10	# 5 @ 6"

NOTES

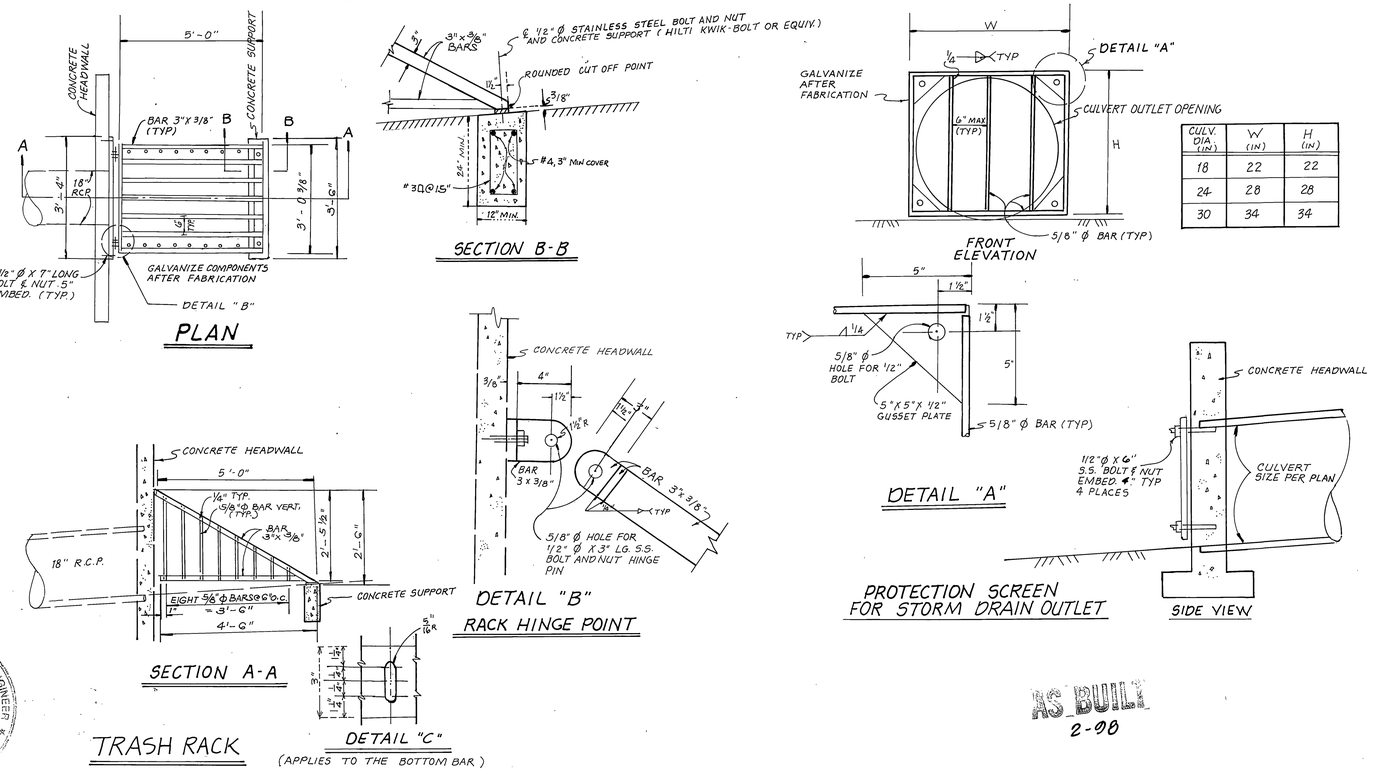
1. Wall & floor reinforcing shown hereon shall be used with Catch Basin Standard Drawings.
2. Reinforcing steel shown hereon shall be used in all Catch Basins on State Highways regardless of basin length or depth.
3. Provide wall & floor steel reinforcing when the following V depths are equaled or exceeded.

Basin length = W	Basin depth = V
To 7.0'	10'
7' To 14.0'	7'
14' To 21.0'	6'
Over 21.0'	All Depths

Reinforcing steel shown hereon shall be used in all catch basins when excavation or soil conditions require both sides of the walls to be formed regardless of basin length or depth.

DROP INLET REINFORCEMENT

N.T.S.



CULV. DIA. (IN.)	W (IN)	H (IN)
18	22	22
24	28	28
30	34	34

REGISTERED PROFESSIONAL ENGINEER RICHARD N. VALE NO. 040023 Exp. 12/31/97 CIVIL STATE OF CALIFORNIA

AS BUILT 2-98

KEITH INTERNATIONAL, INC.
• Planning • Civil Engineering • Environmental Services •
• Land Surveying • Public Works • Water Resources •
Inland Empire Division
22820 Cactus Ave., Ste. 300, Moreno Valley, CA 92553 (909) 653-0234

Richard N. Vale 3-25-96

MARK	REVISIONS	APPR.	DATE

DESIGNED BY D.L. DRAWN BY RM CHECKED BY TB

CITY OF RIVERSIDE
PUBLIC WORKS DEPARTMENT

APPROVED BY	DATE	BY
PRINCIPAL ENGINEER	10/10/96	
PARK DEPARTMENT	—	—
TRAFFIC DIVISION	—	—
CHIEF P. W. ENGINEER	11/4/96	
STREET SERVICES	10/15/96	

APPROVED BY
PUBLIC WORKS DIRECTOR
DATE 11/4/96

STORM DRAIN IMPROVEMENT PLANS
DETAILS

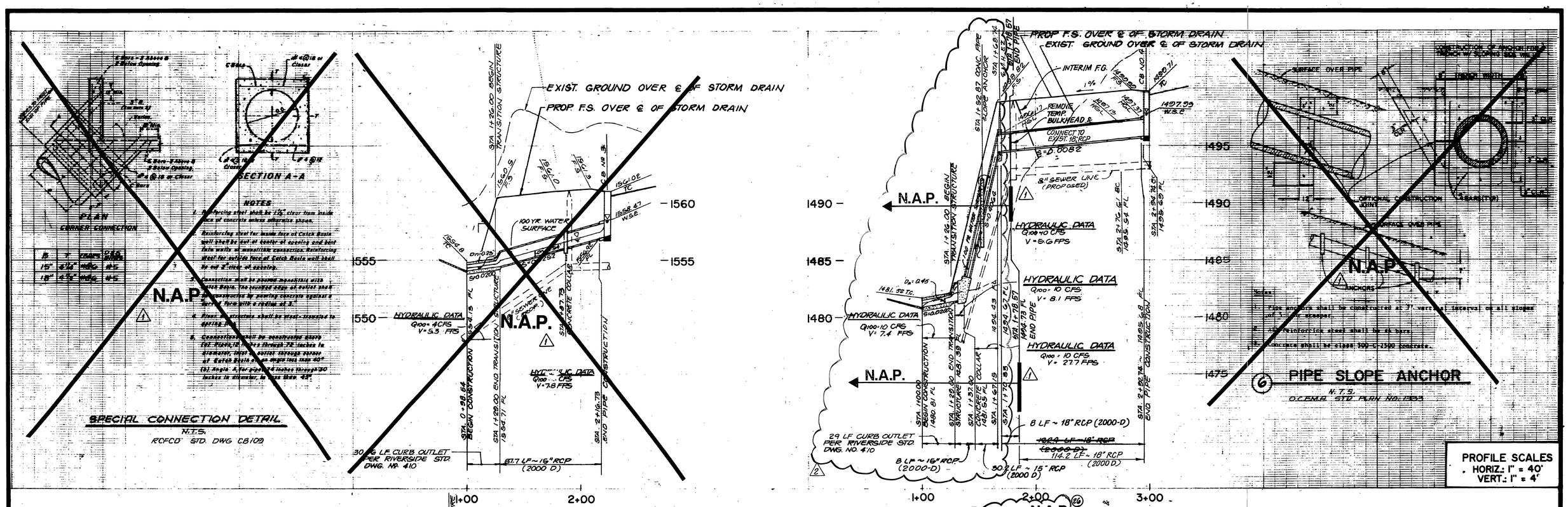
HORIZ. SCALE: 1" VERT. SCALE: 1" =

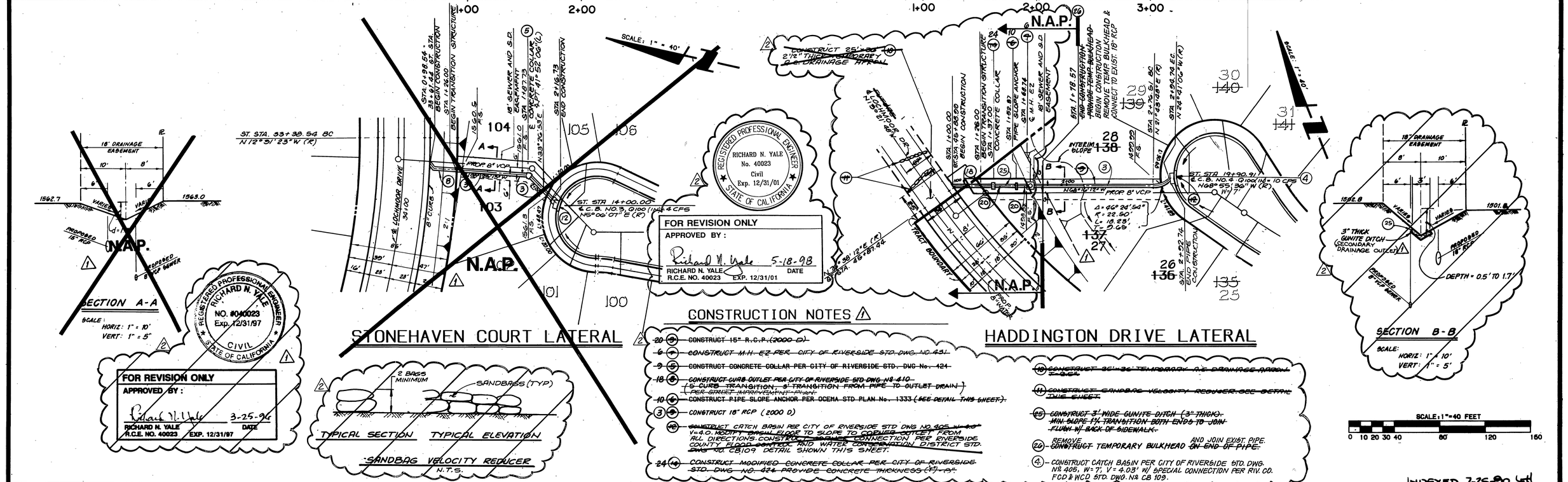
ACCOUNT NO. D-599A

SHEET 8 OF 8

FILED 10/28/96 10/29/96

INDEXED 1-8-97





CONSTRUCTION NOTES

20 (9) CONSTRUCT 15" R.C.P. (2000 D)

6 (7) CONSTRUCT M.H. EZ PER CITY OF RIVERSIDE STD DWG. NO. 431

9 (5) CONSTRUCT CONCRETE COLLAR PER CITY OF RIVERSIDE STD. DWG. No. 424

18 (8) CONSTRUCT CURB OUTLET PER CITY OF RIVERSIDE STD DWG. NO. 410 (5' CURB TRANSITION, 3' TRANSITION FROM PIPE TO OUTLET DRAIN) PER STREET IMPROVEMENT PLAN.

10 (4) CONSTRUCT PIPE SLOPE ANCHOR PER OCEMA STD PLAN No. 1333 (SEE DETAIL THIS SHEET.)

3 (9) CONSTRUCT 18" RCP (2000 D)

10 (10) CONSTRUCT CATCH BASIN PER CITY OF RIVERSIDE STD DWG. NO. 405, W=8', V=4.0. MODIFY BASIN FLOOR TO SLOPE TO CONNECT OUTLET FROM ALL DIRECTIONS. CONSTRUCT CONNECTION PER RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT STD. DWG NO. CB109 DETAIL SHOWN THIS SHEET.

24 (10) CONSTRUCT MODIFIED CONCRETE COLLAR PER CITY OF RIVERSIDE STD. DWG. NO. 424 PROVIDE CONCRETE THICKNESS (T) = 8".

(10) CONSTRUCT 25'x25' 2½" THICK ASPHALT TEMPORARY D.S. DRAINAGE APRON

(11) CONSTRUCT SANDBAG VELOCITY REDUCER. SEE DETAIL THIS SHEET.

(25) CONSTRUCT 3' WIDE GUNITE DITCH (3" THICK). MIN. SLOPE 1% TRANSITION BOTH ENDS TO JOIN FLUSH W/ BACK OF SIDEWALK.

(20) REMOVE AND JOIN EXIST. PIPE. CONSTRUCT TEMPORARY BULKHEAD ON END OF PIPE.

(4) - CONSTRUCT CATCH BASIN PER CITY OF RIVERSIDE STD. DWG. NO. 405, W=7', V=4.03' W/ SPECIAL CONNECTION PER RIV. CO. FCD & WCD STD. DWG. NO. CB 109.

BENCHMARK:
3.5 MILES NORTHWEST ALONG THE ATCHISON, TOPEKA AND SANTA FE RAILWAY FROM THE STATION AT MARCH FIELD. 75 FEET SOUTHEAST OF MILEPOST 6. SET VERTICALLY IN THE SOUTHWEST FACE OF A ROCK CUT, 7 FEET NORTHEAST OF THE NORTHEAST RAIL. 1.9 FEET ABOVE THE GROUND, AND ABOUT 1 FOOT HIGHER THAN THE TRACK. BRASS DISK STAMPED D1144 1961 ELEVATION 1451.867 (BRASS DISK IS BROKEN OFF FOUND ORIGINAL SHANK OF BRASS DISK WITH P.K. NAIL DRIVEN ALONG SIDE SHANK.

CITY OF RIVERSIDE WATER SYSTEM
APPROVED BY — DATE 8/29/96

THE KEITH COMPANIES
5296 RIVER CREST DRIVE SUITE K
RIVERSIDE, CA 92507
(714) 653-0234
APPROVED BY: — DATE JAN 1990
BRIAN L. JENSEN REG CIVIL ENGINEER NO. 30534

MARK	REVISIONS	APPR.	DATE
6	REVISED PER TRACT MAP PHASING		6-29-96
1	REVISED CONSTRUCTION NOTES NUMBERS		
	PORTION OF HADDINGTON DR. LATERAL & DETAILS		
	DELETED STONEHAVEN COURT LATERAL AND		
	ADDED R.C.E. SIGN. BLOCK & STAMP		

DESIGNED BY WEM DRAWN BY RK CHECKED BY CVA

CITY OF RIVERSIDE
PUBLIC WORKS DEPARTMENT

APPROVED BY	DATE	BY
PRINCIPAL ENGINEER	7/12/90	
PARK DEPARTMENT	—	—
TRAFFIC DIVISION	—	—
CHIEF P. W. ENGINEER	7/13/90	
	7/17/90	

APPROVED BY — PUBLIC WORKS DIRECTOR — DATE 7/19/90

STORM DRAIN PLANS
TRACT 22408-7
~~STONEHAVEN COURT~~
HADDINGTON DRIVE

HORIZ. SCALE: 1" = 40' VERT. SCALE: 1" = 4'

ACCOUNT NO. D-593A
SHEET 7 OF 8

INDEXED 7-25-90 JH

30728

S.D. - STONE/HADDING - LAST SHT OF ST. - 43 ID.321 PF: 725005 122 11-Aug-89 08:30 AM / 725003-5302

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