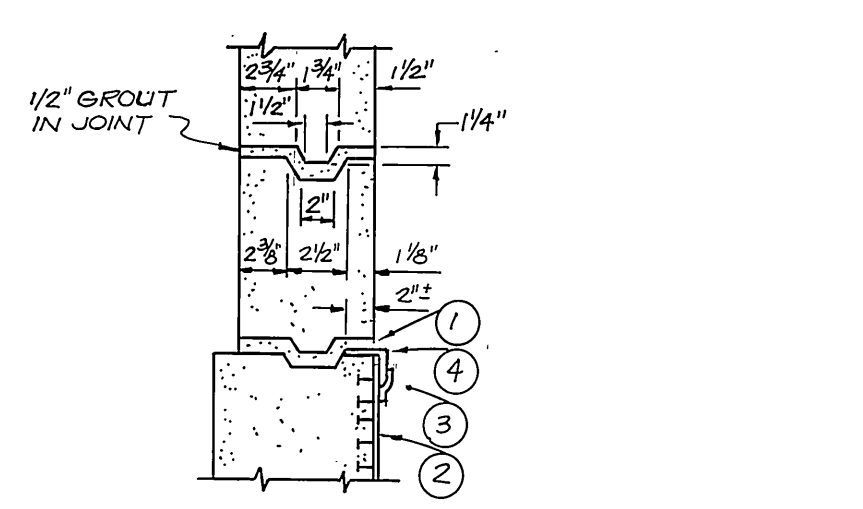
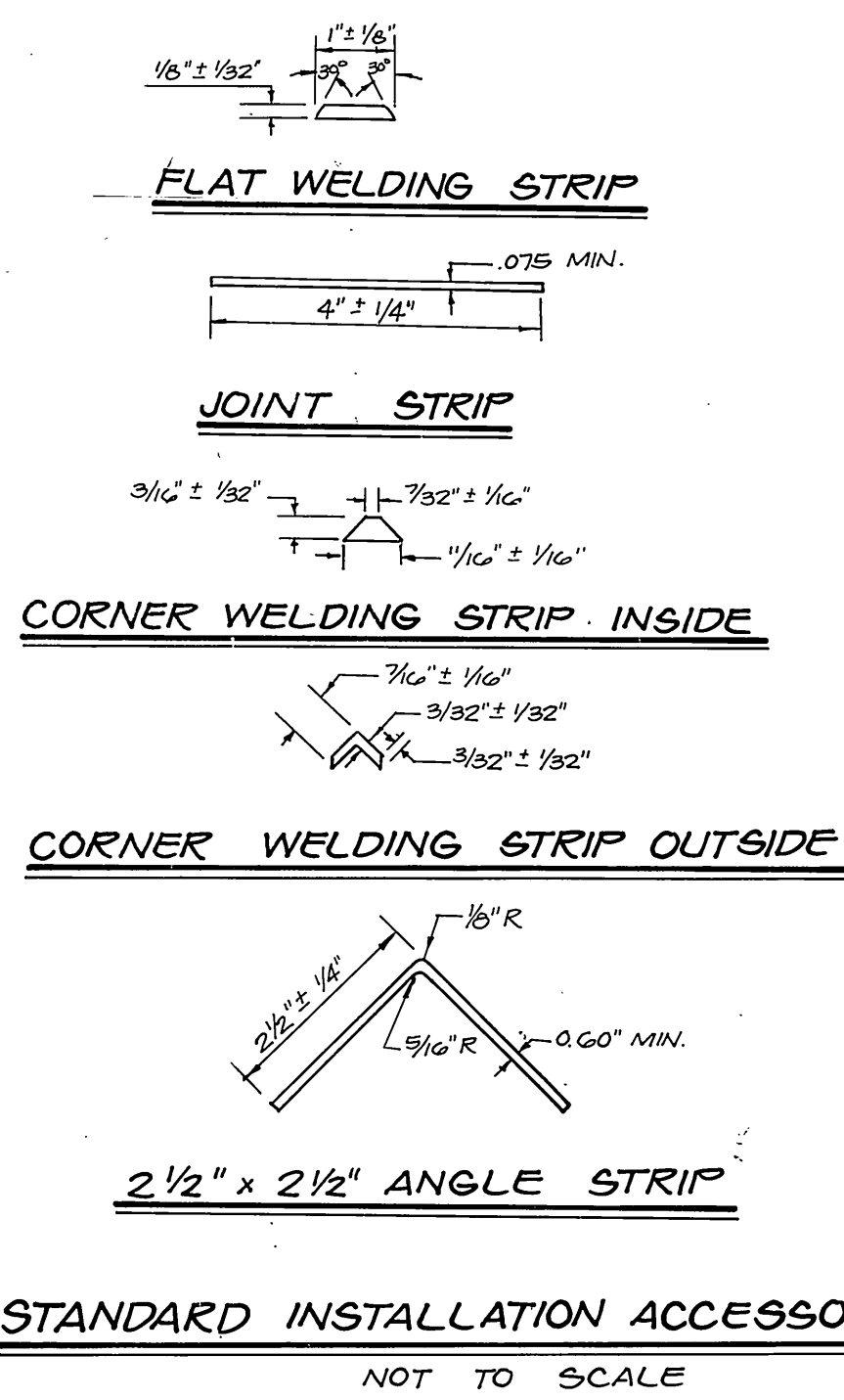
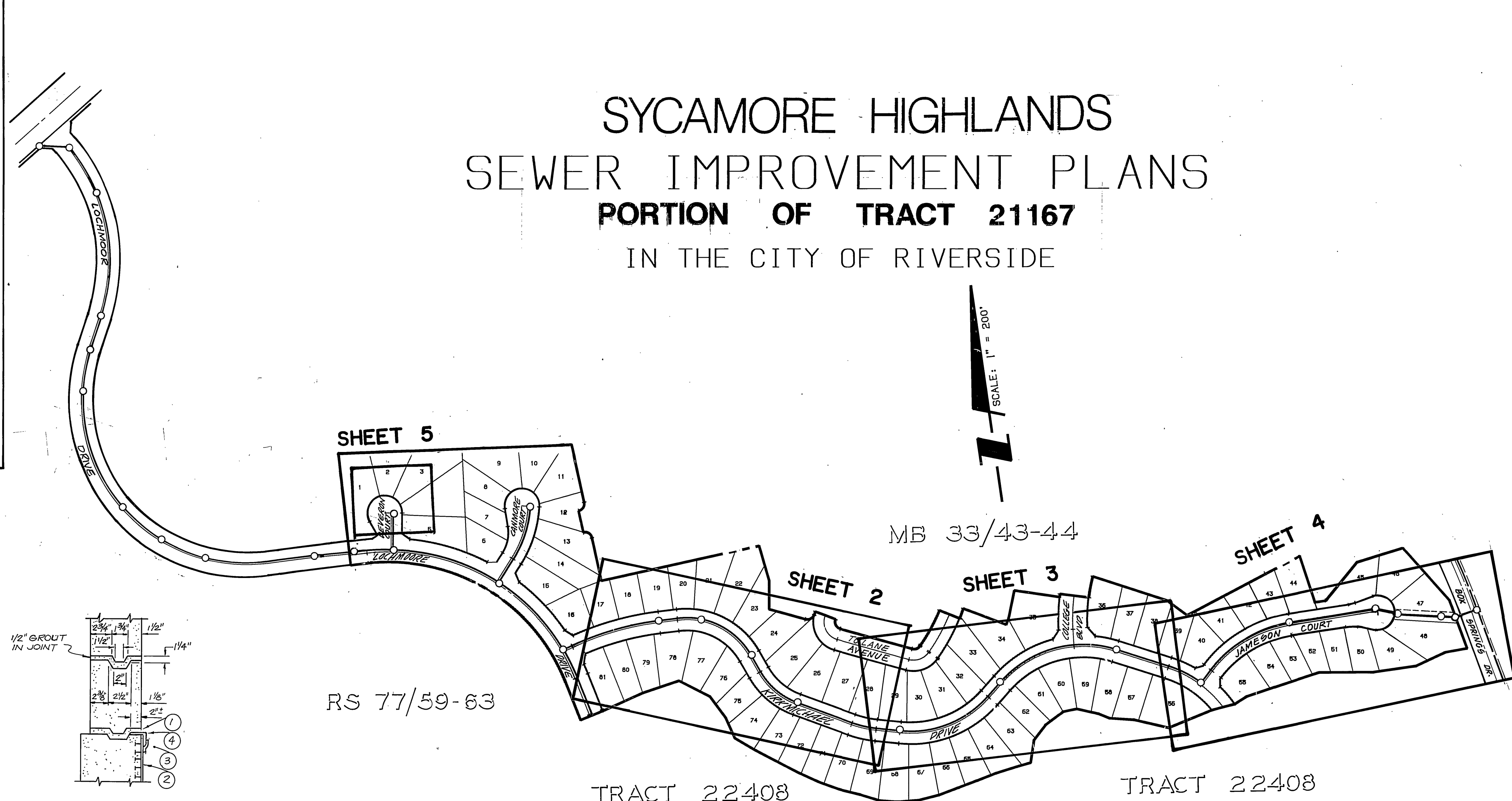
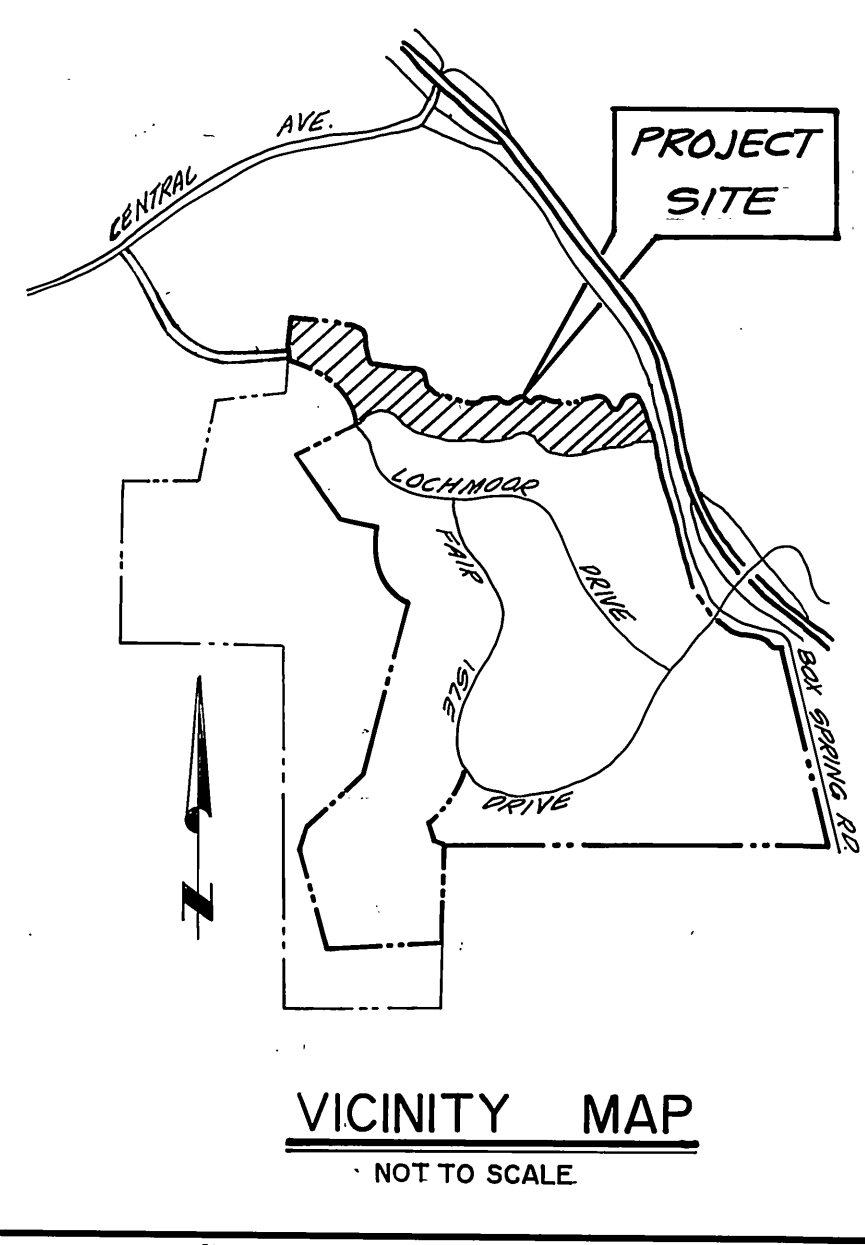


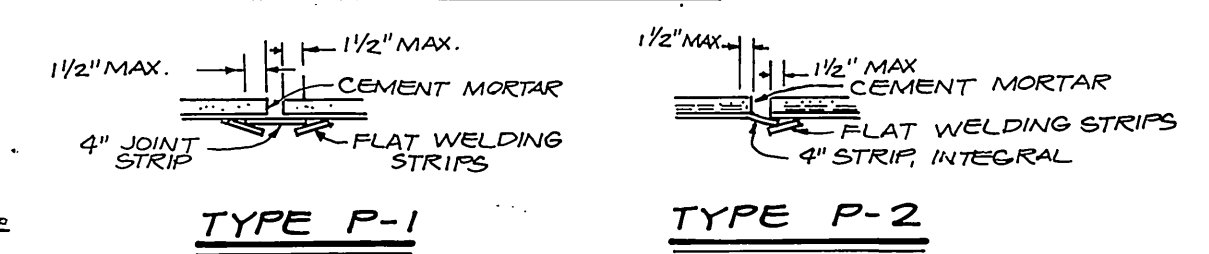
SYCAMORE HIGHLANDS SEWER IMPROVEMENT PLANS PORTION OF TRACT 21167 IN THE CITY OF RIVERSIDE



P.V.C. LINER INSTALLATION NOTES:

- 1 SET MANHOLE SHAFT AND GRADE RINGS IN CEMENT GROUT ON TOP OF PVC LINER.
- 2 T-LOCK PVC LINER INSTALLED IN PIPE BY PIPE FABRICATOR.
- 3 1-INCH WELD STRIP.
- 4 2 1/2" x 2 1/2" ANGLE STRIP.

VINYL LINER JOINTS



DETAILS FOR VINYL LINING

HOLD HARMLESS INDEMNIFICATION CLAUSE

THE CONTRACTOR AGREES THAT HE SHALL 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 APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD THE CITY OF RIVERSIDE, THE OWNER, AND THE PRIVATE ENGINEERS HARMLESS FOR 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.

EXISTING UNDERGROUND STRUCTURES

THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPE STRUCTURES OR CONDUITS SHOWN ON THESE PLANS ARE OBTAINED BY A SEARCH OF THE AVAILABLE RECORDS. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO EXISTING UTILITIES EXCEPT AS SHOWN ON THESE PLANS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNERS OF THE UTILITIES OR STRUCTURES CONCERNED BEFORE STARTING WORK. CONTRACTOR FURTHER ASSUMES ALL LIABILITY AND RESPONSIBILITY FOR THE UNDERGROUND UTILITY PIPES, CONDUITS OR STRUCTURES SHOWN OR NOT SHOWN ON THESE PLANS.

NOTICE TO CONTRACTOR

CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AND SHALL REPORT ALL DISCREPANCIES TO THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.

CONSTRUCTION NOTES

- 1 CONSTRUCT 8" VITRIFIED CLAY PIPE (VCP)
- 2 CONSTRUCT PRECAST CONCRETE SEWER MANHOLE PER STD. DWG. 500 (D=48")
- 3 CONSTRUCT 4" VCP LATERAL PER STD. DWG. NO. 562 & 562A
- 4 CONSTRUCT TRENCH BACKFILL PER STD. DWG. 453
- 5 CONSTRUCT CONCRETE SEWER ENCASEMENT PER PUBLIC UTILITIES STD. DWG. NR. CWD-022 X 023
- 6 CONSTRUCT PRECAST CONCRETE SEWER MANHOLE PER CITY STD. DWG. NR. 500 (D=48")
- 7 CONSTRUCT PIPE SLOPE ANCHOR PER OCEMA STD. PLAN 1333 (MODIFIED)
- 8 CONSTRUCT CONCRETE SEWER MANHOLE PER STD. DWG. NO. 500 (D=48") WITH PVC LINER.



SEWER BACKFLOW DEVICES (BASED ON FINISHED FLOOR ELEVATION) TO BE ADDED ON THE FOLLOWING LOTS:
16-17, 22-23, 25-27, 32, 36, 41-43, 45, 49-51, 53-54, 62-63, 71-72, 74-78, 80-81.
SUBJECT TO REVIEW.

SEWER QUANTITY ESTIMATE

NO.	DESCRIPTION	QUANTITY	UNIT
1	8" VCP SEWER	2012	LF
2	MANHOLES PER CITY STD. DWG. NO. 500 (D=48")	13	EA.
3	4" LATERAL PER STD. DWG. NO. 562 & 562A	2130	LF
4	W/ CLEANOUT PER STD. DWG. NO. 502A	71	EA.
5	CONSTRUCT CONCRETE SEWER ENCASEMENT PER PUBLIC UTILITIES STD. DWG. NO. CWD-023 X 023	40	LF
6	PRECAST CONCRETE SEWER MANHOLE PER STD. DWG. NO. 500 (D=60")	1	EA
7	CONSTRUCT PIPE SLOPE ANCHOR PER DETAIL SHOWN ON SHT. 4	3	EA.
8	MANHOLE PER CITY STD. DWG. NO. 500 (D=48") WITH PVC LINER.	2	EA.

GENERAL NOTES

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.

CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF RIVERSIDE DEPARTMENT OF PUBLIC WORKS, STANDARD DRAWINGS AND THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, CURRENT EDITION.

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.

QUANTITIES SHOWN ARE FOR INFORMATION ONLY AND THE CITY OF RIVERSIDE IS NOT RESPONSIBLE FOR THEIR ACCURACY.

PIPE BEDDING SHALL BE IN ACCORDANCE WITH THE CITY OF RIVERSIDE DEPARTMENT OF PUBLIC WORKS, STANDARD DRAWING NO. 452, CASE I AND THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, CURRENT EDITION.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING OR RE-ESTABLISHING AND REFERENCING SURVEY MONUMENTS DESTROYED, DISTURBED OR BURIED AS A RESULT OF CONSTRUCTION SHOWN HEREON.

ON ALL AREAS WITHIN PUBLIC RIGHT-OF-WAY, WHERE THE FILL IS ONE (1) FOOT OR GREATER, A LETTER WILL BE REQUIRED FROM THE SOILS ENGINEER, CERTIFYING THE COMPACTION OF THE FILL BELOW SUBGRADE, PRIOR TO ISSUANCE OF THE CONSTRUCTION PERMIT/CUT SHEETS.

THE CONTRACTOR SHALL CALL IN A LOCATION REQUEST TO UNDERGROUND SERVICE ALERT (USA), PHONE NO. 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.

CONTRACTOR IS TO VERIFY EXISTING SEWER ELEVATION PRIOR TO CONSTRUCTION.

LOCATION OF LATERALS TO BE DETERMINED IN THE FIELD AT THE DIRECTION OF THE OWNER. AVOID CONFLICT WITH PROPOSED AND/OR EXISTING FACILITIES.

NO FINISHED FLOOR ELEVATION SHALL BE LESS THAN 4' ABOVE THE SEWER FLOW LINE AT POINT OF CONNECTION WITHOUT HAVING A PROPER BACKWATER VALVE INSTALLED IN THE LATERAL.

A PLUG SHALL BE INSTALLED AND WILL REMAIN IN PLACE WHERE THE NEW SEWER CONNECTS WITH THE EXISTING SEWER UNTIL THE NEW SEWER IS ACCEPTED BY THE CITY.

THE SEWER CONTRACTOR SHALL ADJUST MANHOLES TO FINAL GRADE AFTER PAVING IS COMPLETED.

ALL FLAGGED ELEVATIONS SHALL BE STAKED IN THE FIELD BY THE PRIVATE ENGINEER.

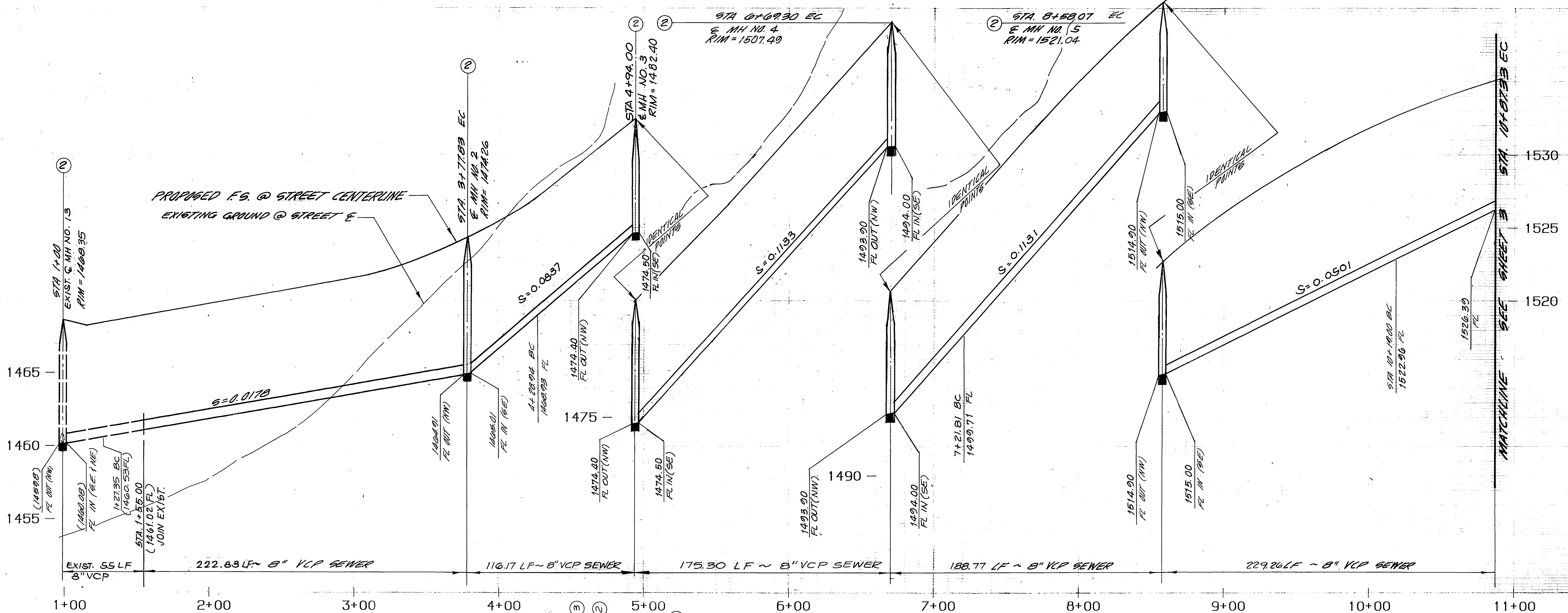
TRIM EDGE OF EXISTING PAVEMENT WHERE NEW PAVEMENT JOINS TO A SMOOTH, STRAIGHT LINE. CONSTRUCT MATCH-UP PAVING SHOWN ON PLAN AND OVERLAY PAVING AS DIRECTED IN THE FIELD TO PRODUCE A SMOOTH SECTION.

ANY TRAFFIC CONTROL STRIPING OBLITERATED AND/OR BADLY WORN DURING CONSTRUCTION SHALL BE RESTORED BY THE CONTRACTOR WITHIN FIVE DAYS AFTER NOTIFICATION FROM THE CITY INSPECTORS.

ALL CONCRETE INTERIOR SURFACES OF SHAFT AND CONE TO BE LINED WITH P.V.C. T-LOCK (OR CITY APPROVED EQUAL), MANHOLE BASE, FRAME AND COVER TO BE COATED WITH SANICON 100, POLYURETHANE LINER, OR CITY APPROVED EQUAL, PER MANUFACTURERS RECOMMENDATIONS. MANHOLE CONE AND SHAFT SHALL BE PRECAST CONCRETE AS MFD. BY INLAND CONCRETE ENTERPRISES OR CITY APPROVED EQUAL.

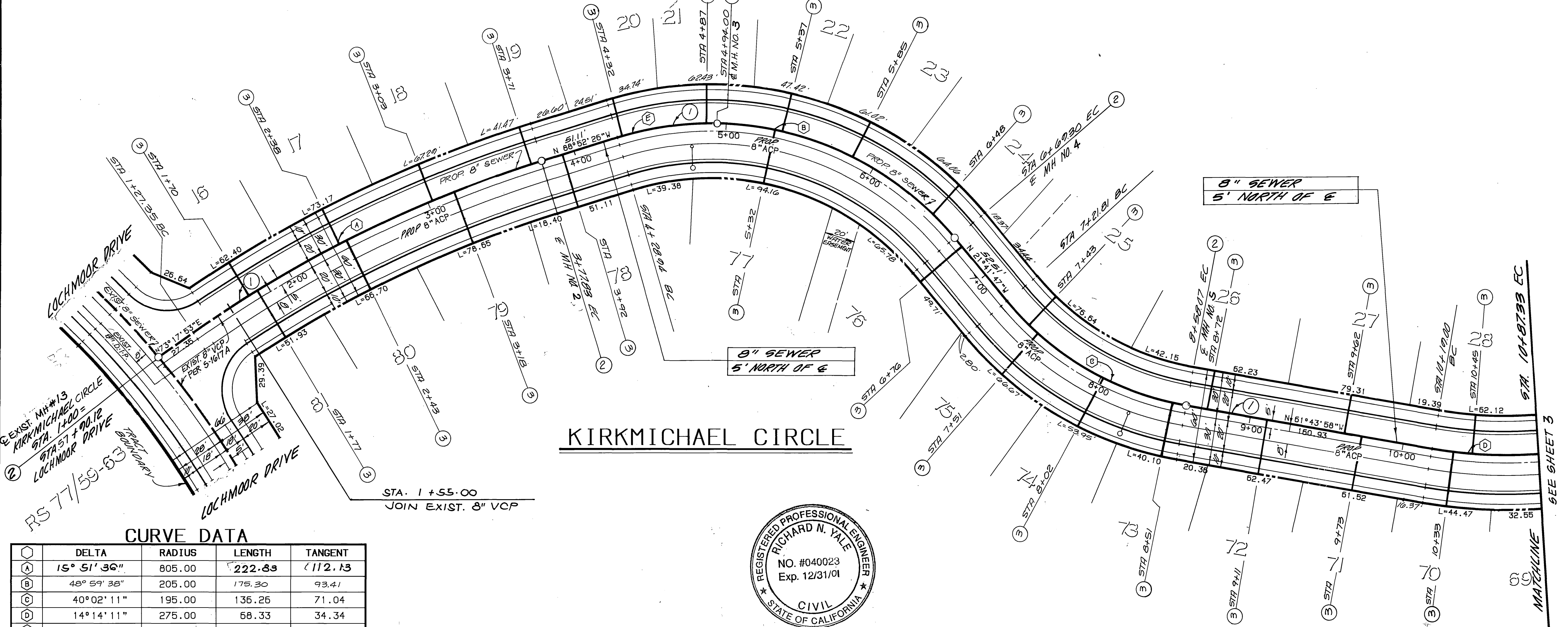
No person shall perform any construction activity or install any objects within the public rights-of-way or easements of the City of Riverside without a valid Construction Permit or, a Street Opening Permit or an Encroachment Permit issued by the City's Public Works Department.

<p>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</p>	<p>UNDERGROUND SERVICE ALERT 1-800-227-2600 CALL TWO WORKING DAYS BEFORE YOU DIG</p>	<p>CITY OF RIVERSIDE WATER SYSTEM Richard J. Drotick 1/21/98 Richard J. Drotick 7-5-91 APPROVED BY: DATE</p>	<p>KEITH INTERNATIONAL, INC. Planning • Civil Engineering • Environmental Services • Land Surveying • Public Works • Water Resources • Inland Empire Division 22690 Octavius Ave., Ste. 300, Moreno Valley, CA 92553 (909) 653-0254 Richard N. Yale 4/25/97 RICHARD N. YALE REG. CIVIL ENGINEER NO. 40023 DATE</p>	<p>CITY OF RIVERSIDE PUBLIC WORKS DEPARTMENT APPROVED BY: DATE BY: DATE BY: PRINCIPAL ENGINEER: 7/17/97 R PARK DEPARTMENT: - - - - - TRAFFIC DIVISION: - - - - - CHIEF P.W. ENGINEER: 7/17/97 MARK REVISIONS APPR. DATE DESIGNED BY: MI DRAWN BY: MP CHECKED BY: URW</p>	<p>CITY OF RIVERSIDE SEWER IMPROVEMENT PLANS TRACT 21167 TITLE SHEET ACCOUNT NO. S-1617 SHEET 1 OF 5 DATE 2-5-98</p>
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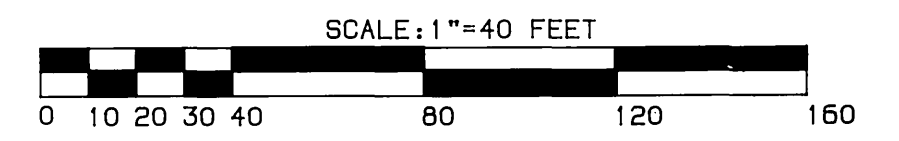
PROFILE SCALES
 HORIZ.: 1"=40'
 VERT.: 1"=4'

- CONSTRUCTION NOTES**
- ① - CONSTRUCT 8" VITRIFIED CLAY PIPE (VCP)
 - ② - CONSTRUCT PRECAST CONCRETE SEWER MANHOLE PER STD. DWG. NO. 500 (0-95)
 - ③ - CONSTRUCT 4" VCP LATERAL PER STD. DWG. NO. 562 & 562A



CURVE DATA

Δ	DELTA	RADIUS	LENGTH	TANGENT
A	15° 51' 36"	805.00	222.83	112.13
B	48° 59' 38"	205.00	175.30	93.41
C	40° 02' 11"	195.00	136.26	71.04
D	14° 14' 11"	275.00	68.33	34.34
E	18° 11' 01"	205.00	65.06	32.81



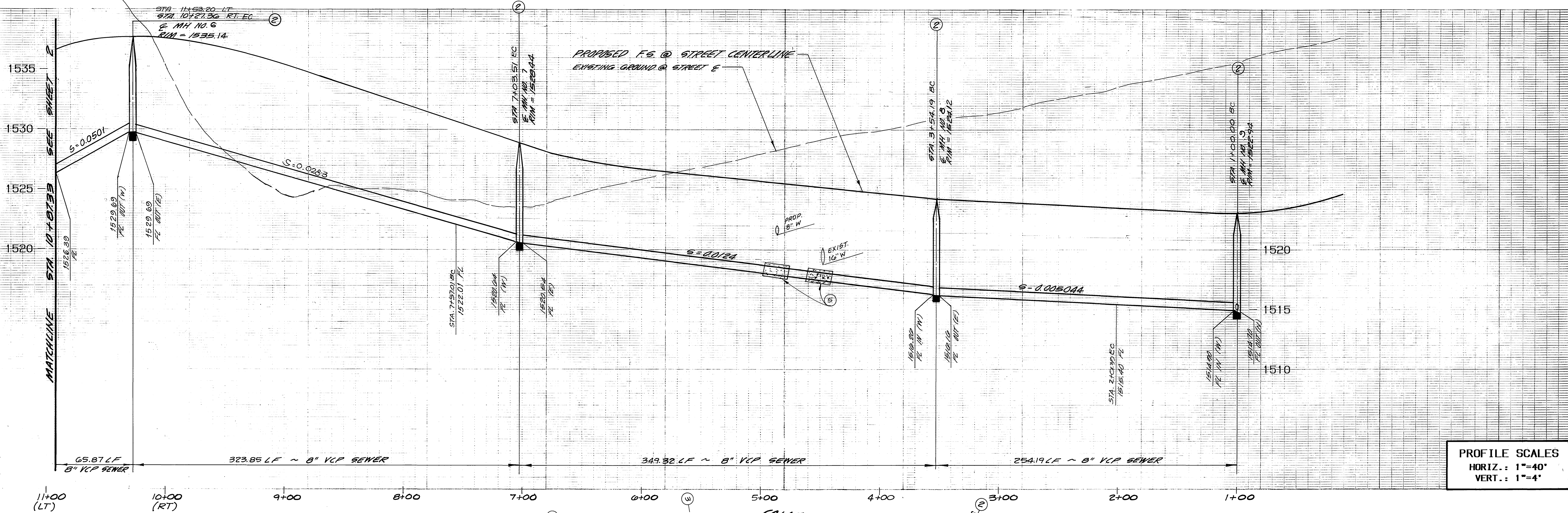
BENCHMARK:
 CITY OF RIVERSIDE BENCHMARK HB-F
 P.K. NAIL AND CITY ENGINEER TAG IN THE EASTERLY
 CORNER OF CATCHBASIN AT THE SOUTHEAST CORNER OF
 CENTRAL AVENUE AT BOX SPRINGS BOULEVARD
 ELEVATION - 1360.81

UNDERGROUND SERVICE ALERT
 CITY OF RIVERSIDE WATER SYSTEM
 Richard J. Dardik 1/21/98
 Richard J. Dardik 7-5-91
 APPROVED BY: DATE

KEITH INTERNATIONAL, INC.
 Planning • Civil Engineering • Environmental Services •
 Land Surveying • Public Works • Water Resources •
 Inland Empire Division
 2280 Clactus Ave., Ste. 200, Moreno Valley, CA 92553 (909) 653-0234
 Richard N. Yale 4/25/97
 RICHARD N. YALE REG. CIVIL ENGINEER NO. 40023 DATE

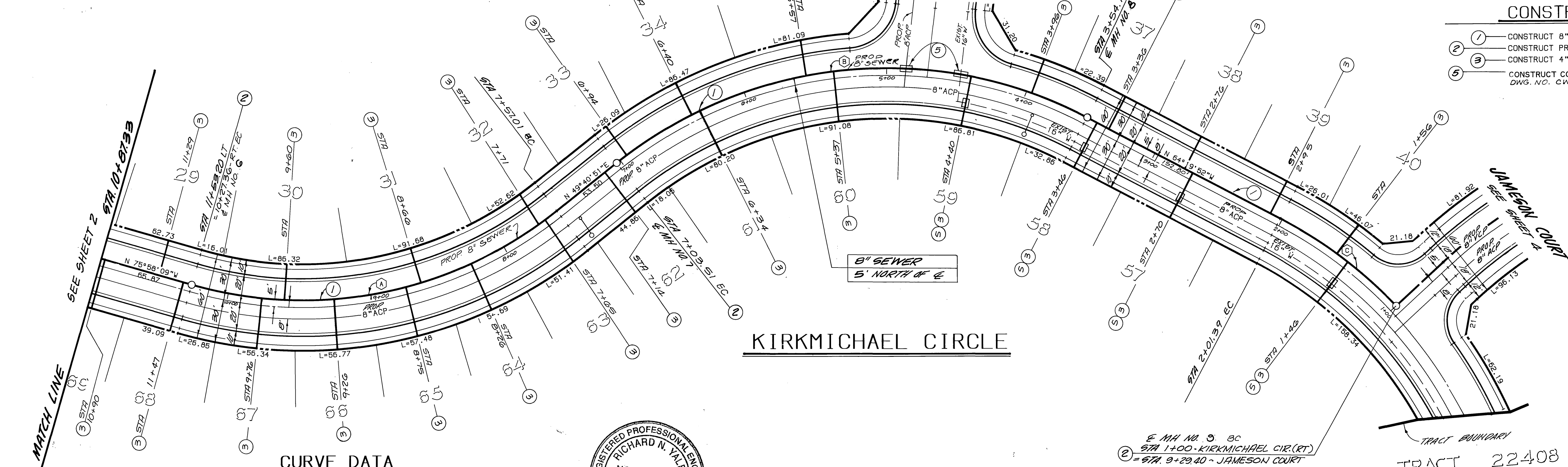
CITY OF RIVERSIDE PUBLIC WORKS DEPARTMENT
 APPROVED BY: DATE BY:
 PRINCIPAL ENGINEER: 7/17/98
 PARK DEPARTMENT: [Signature]
 TRAFFIC DIVISION: [Signature]
 CHIEF P.W. ENGINEER: [Signature]
 DESIGNED BY: MT DRAWN BY: MP CHECKED BY: JEW
 DATE: 2-5-98

ACCOUNT NO. S-1617
 SEWER IMPROVEMENT PLANS TRACT 21167
 KIRKMICHAEL CIRCLE
 SHEET 2 OF 5
 HORIZ. SCALE: 1"=40' VERT. SCALE: 1"=4'



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

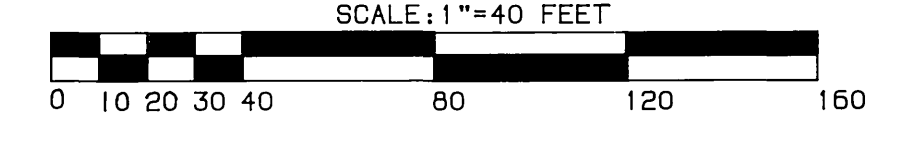
11+00 (LT) 10+00 (RT) 9+00 8+00 7+00 6+00 5+00 4+00 3+00 2+00 1+00



- CONSTRUCTION NOTES**
- 1 CONSTRUCT 8" VITRIFIED CLAY PIPE (VCP)
 - 2 CONSTRUCT PRECAST CONCRETE SEWER MANHOLE PER STD. DWG. NO. 500 (D=48")
 - 3 CONSTRUCT 4" VCP LATERAL PER STD. DWG. NO. 562 & 562 A
 - 5 CONSTRUCT CONCRETE SEWER ENCASEMENT PER PUBLIC UTILITIES STD. DWG. NO. CWD-022+023

CURVE DATA

DELTA	RADIUS	LENGTH	TANGENT
54°21'00"	285.00	270.35	146.31
65°59'17"	303.31	349.32	196.93
18°49'35"	308.58	101.39	51.15



BENCHMARK
 CITY OF RIVERSIDE BENCHMARK HS-1
 P.K. NAIL AND CITY ENGINEER TAG IN THE EASTERLY
 CORNER OF CATCHBASIN AT THE SOUTHEAST CORNER OF
 CENTRAL AVENUE AT ROY SPRINGS BOULEVARD.
 ELEVATION - 1360.91

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

CITY OF RIVERSIDE WATER SYSTEM
 Richard J. Duda 1/21/98
 Richard J. Duda 7-5-71
 APPROVED BY: DATE

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) 653-0254
 Richard N. Vale 4/25/97
 RICHARD N. VALE REG. CIVIL ENGINEER NO. 40023 DATE

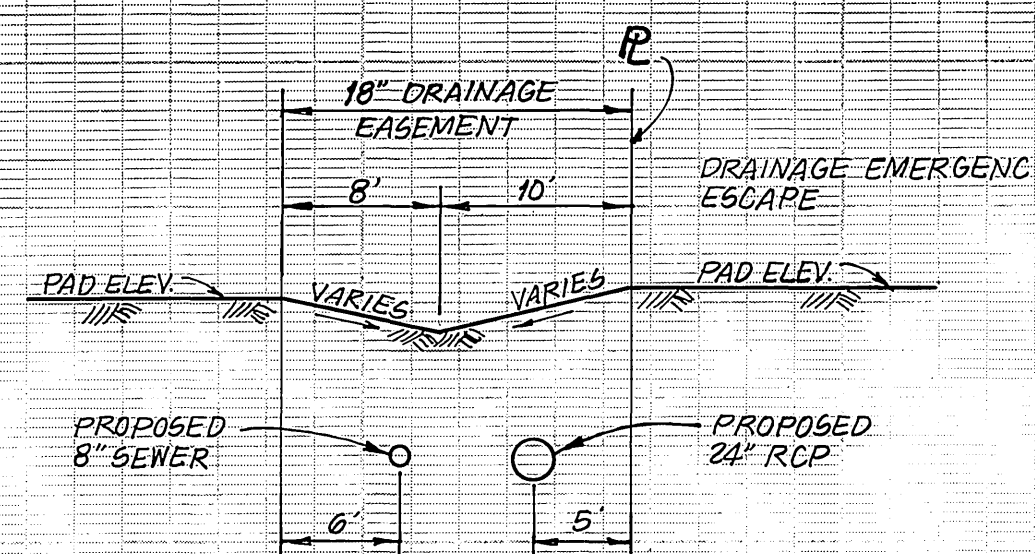
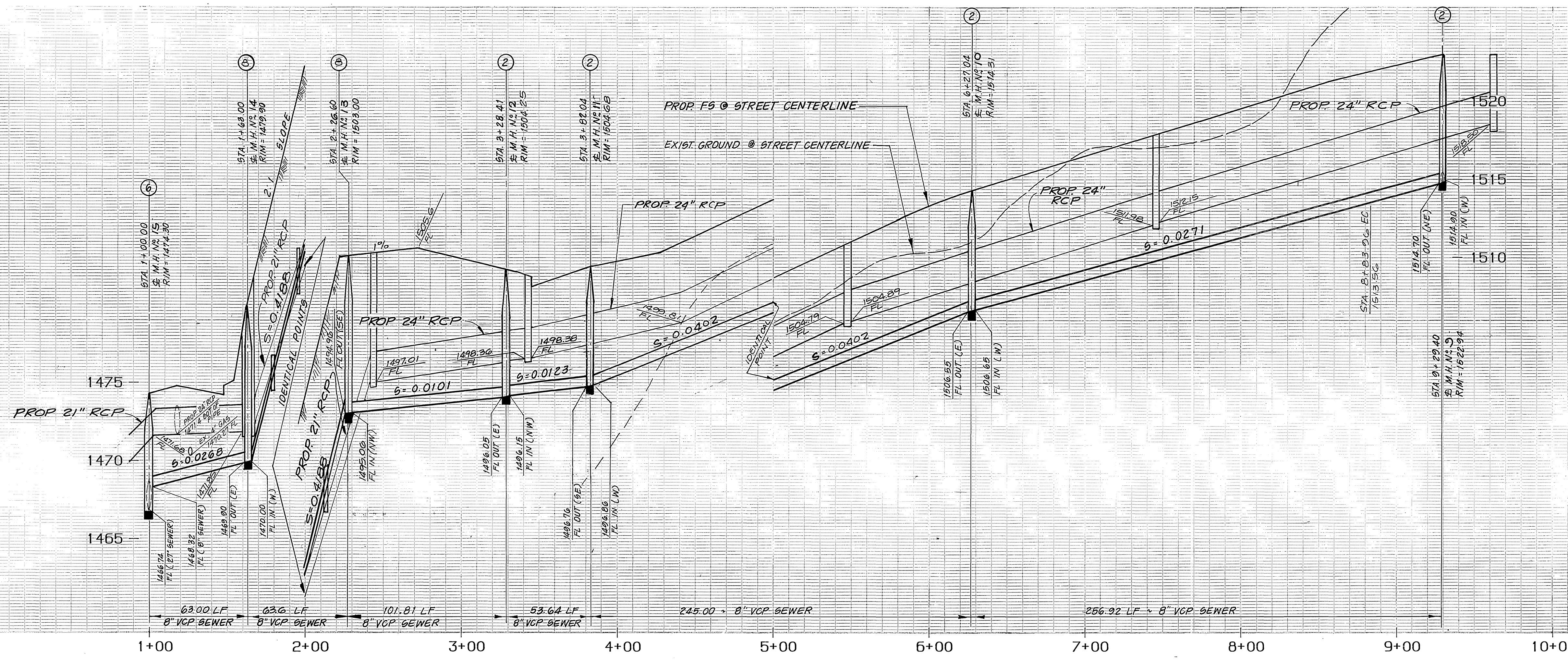
MARK	REVISIONS	DATE	APPR.	DATE

DESIGNED BY: MT DRAWN BY: MD CHECKED BY: JRN

CITY OF RIVERSIDE PUBLIC WORKS DEPARTMENT
 APPROVED BY: DATE BY: APPROVED BY: DATE BY:
 PRINCIPAL ENGINEER: [Signature] PUBLIC WORKS DIRECTOR: [Signature]
 PARK DEPARTMENT: [Signature]
 TRAFFIC DIVISION: [Signature]
 CHIEF P.W. ENGINEER: [Signature]
 DATE: 2-5-98

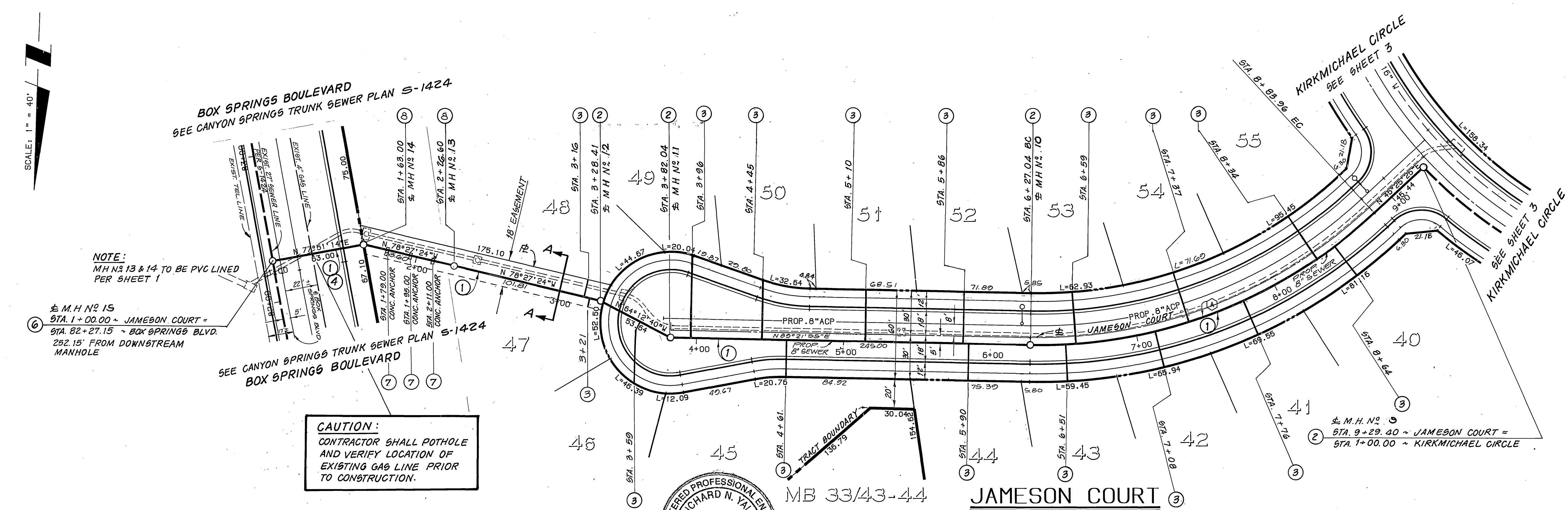
SEWER IMPROVEMENT PLANS
 TRACT 21167
 KIRKMICHAEL CIRCLE
 HORIZ. SCALE: 1"=40' VERT. SCALE: 1"=4'

ACCOUNT NO.
 S-1617
 SHEET 3 OF 5



SECTION A-A
SCALE: 1"=10'

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

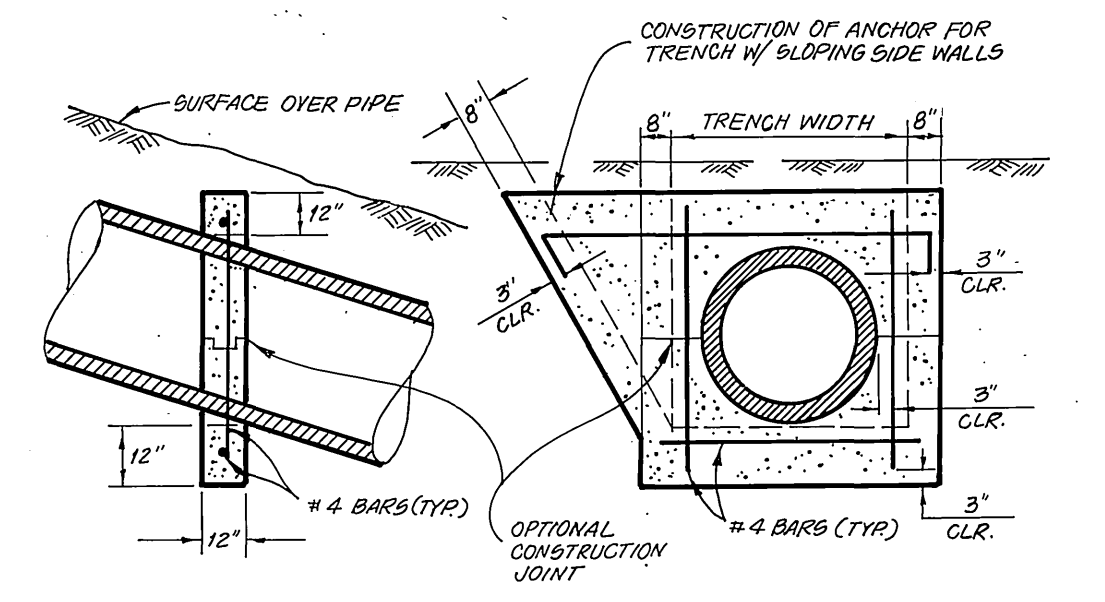


BOX SPRINGS BOULEVARD
SEE CANYON SPRINGS TRUNK SEWER PLAN S-1424

SEE CANYON SPRINGS TRUNK SEWER PLAN S-1424
BOX SPRINGS BOULEVARD

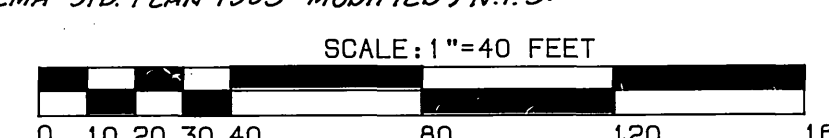
CAUTION:
CONTRACTOR SHALL POTHOLE
AND VERIFY LOCATION OF
EXISTING GAS LINE PRIOR
TO CONSTRUCTION.

- CONSTRUCTION NOTES**
1. CONSTRUCT 8" VITRIFIED CLAY PIPE (VCP)
 2. CONSTRUCT PRECAST CONCRETE SEWER MANHOLE PER STD. DWG. NO. 500 (D=48")
 3. CONSTRUCT 4" VCP LATERAL PER STD. DWG. NO. 562 & 562A
 4. CONSTRUCT TRENCH BACKFILL PER STD. DWG. 453
 5. CONSTRUCT PRECAST CONCRETE SEWER MANHOLE PER STD. DWG. NO. 500 (D=60")
 6. CONSTRUCT PIPE SLOPE ANCHOR PER OCEMA STD. PLAN I333 - MODIFIED. (SEE BELOW)
 7. CONSTRUCT PRECAST CONCRETE SEWER MANHOLE PER STD. DWG. NO. 500 (D=48") WITH PVC LINER.



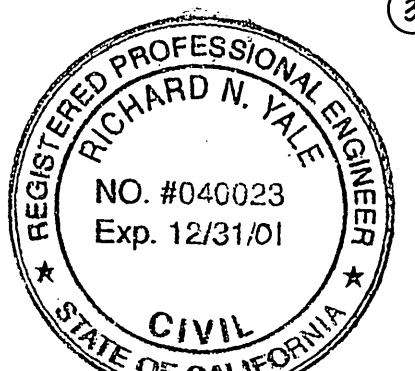
- NOTES:**
1. PIPE ANCHORS SHALL CONSTRUCTED AT 1' VERTICAL INTERVAL ON ALL SLOPES OF 3:1 OR STEEPER
 2. ALL REINFORCING STEEL SHALL BE #4 BARS
 3. CONCRETE SHALL BE CLASS 500-C-2500 CONCRETE.

CONCRETE PIPE SLOPE ANCHOR
(OCEMA STD. PLAN I333 - MODIFIED) N.T.S.



CURVE DATA

DELTA	RADIUS	LENGTH	TANGENT
43°56'30"	335.00	256.92	135.15



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**
1-800-227-2500
CALL TWO WORKING
DAYS BEFORE YOU DIG

CITY OF RIVERSIDE
WATER SYSTEM
Richard I. Dolek 1/21/98
Richard I. Dolek 7-5-91
APPROVED BY: DATE

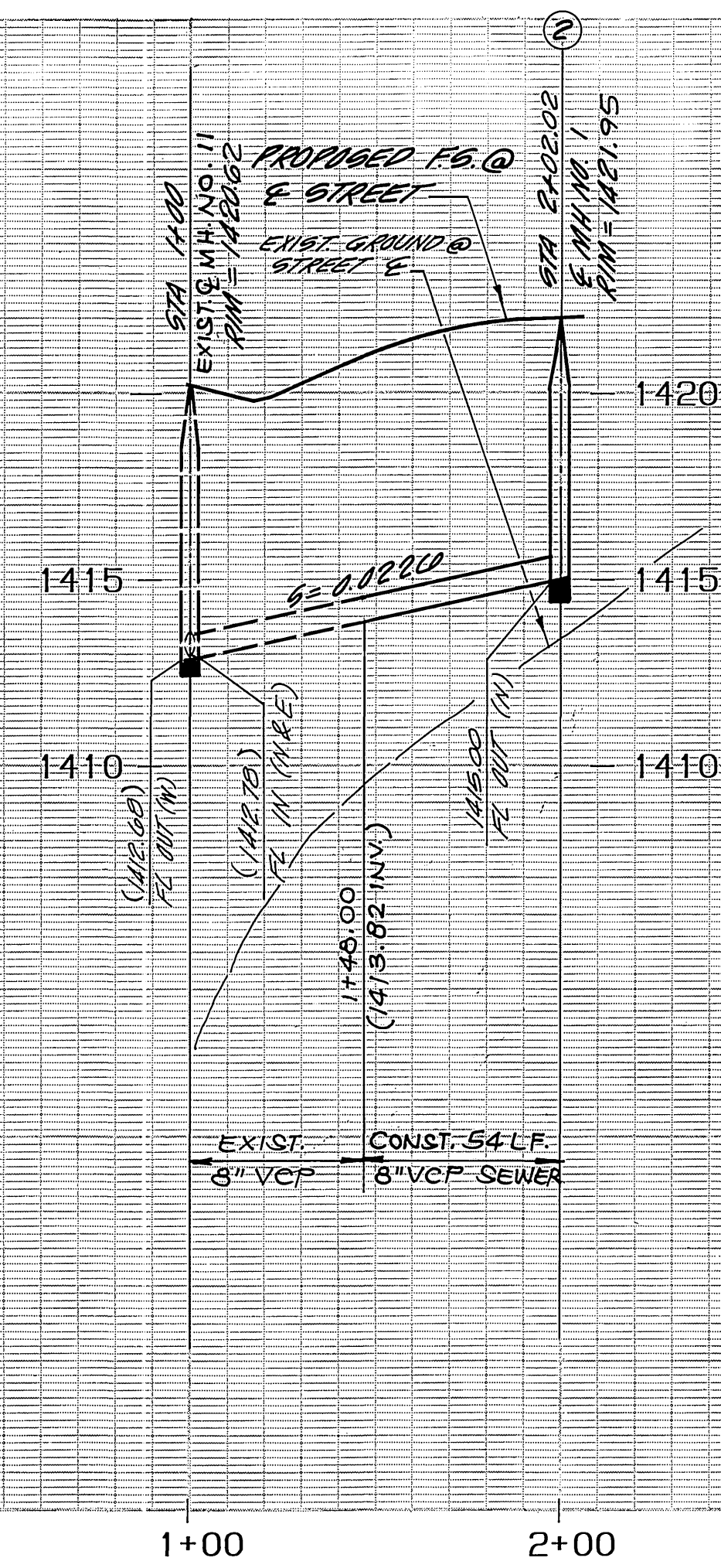
KEITH INTERNATIONAL, INC.
Planning • Civil Engineering • Environmental Services •
Land Surveying • Public Works • Water Resources •
Inland Empire Division
22890 Cactus Ave., Ste. 300, Moreno Valley, CA 92553 (909) 663-0234
Richard N. Vale 4/25/97
RICHARD N. VALE REG. CIVIL ENGINEER NO. 40023 DATE

MARK REVISIONS APPR. DATE
DESIGNED BY: MT DRAWN BY: RAM CHECKED BY: JRW

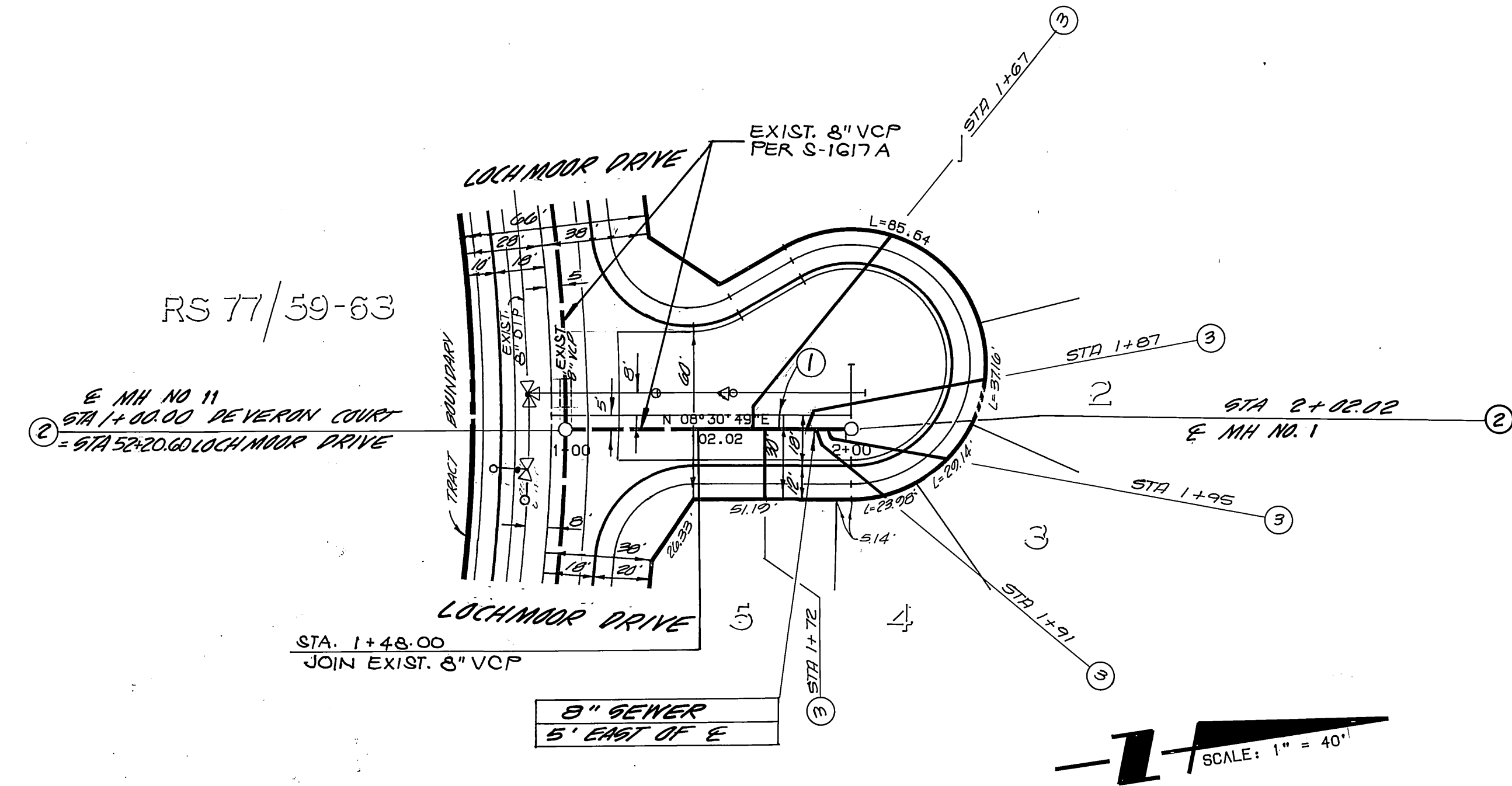
**CITY OF RIVERSIDE
PUBLIC WORKS DEPARTMENT**
APPROVED BY: DATE: 7/17/97 BY: [Signature]
PRINCIPAL ENGINEER
TRAFFIC DIVISION
CHIEF P. W. ENGINEER

APPROVED BY: DATE: 2-5-98 BY: [Signature]
PUBLIC WORKS DIRECTOR

ACCOUNT NO.
S-1617
SHEET 4 OF 5



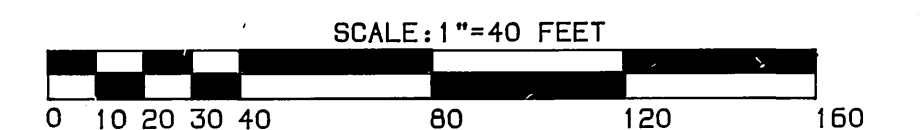
PROFILE SCALES
 HORIZ.: 1"=40'
 VERT.: 1"=4'



DEVERON COURT

CONSTRUCTION NOTES

- ① — CONSTRUCT 8" VITRIFIED CLAY PIPE (VCP)
- ② — CONSTRUCT PRECAST CONCRETE SEWER MANHOLE PER STD DWG. NO. 500 (6'-48")
- ③ — CONSTRUCT 4" VCP LATERAL PER STD. DWG. NO. 562 & 562 A



BENCH-MARK:

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**
 1-800-227-2000
 CALL TWO WORKING
 DAYS BEFORE YOU DIG

**CITY OF RIVERSIDE
 WATER SYSTEM**
 Richard S. Durbak 1/21/98
 Richard S. Durbak 7-5-91
 APPROVED BY: DATE

KEITH INTERNATIONAL, INC.
 Planning • Civil Engineering • Environmental Services •
 Land Surveying • Public Works • Water Resources •
 Inland Empire Division
 22830 Cactus Ave., Ste. 300, Moreno Valley, CA 92553 (909) 853-0234
 Richard N. Yale 4/25/97
 RICHARD N. YALE REG. CIVIL ENGINEER NO. 40023 DATE

MARK	REVISIONS	APPD	DATE
DESIGNED BY: MT	DRAWN BY: MP	CHECKED BY: JRN	

**CITY OF RIVERSIDE
 PUBLIC WORKS DEPARTMENT**
 APPROVED BY: DATE BY: APPROVED BY:
 PRINCIPAL ENGINEER 3/10/91 R. Mc Grath
 TRAFFIC DIVISION
 CHIEF P. W. ENGINEER
 DATE 2-5-98

**SEWER IMPROVEMENT PLANS
 TRACT 21167
 DEVERON CT.**
 HORIZ. SCALE: 1"=40' VERT. SCALE: 1"=4'

ACCOUNT NO.
 5-1617
 SHEET 5 OF 5