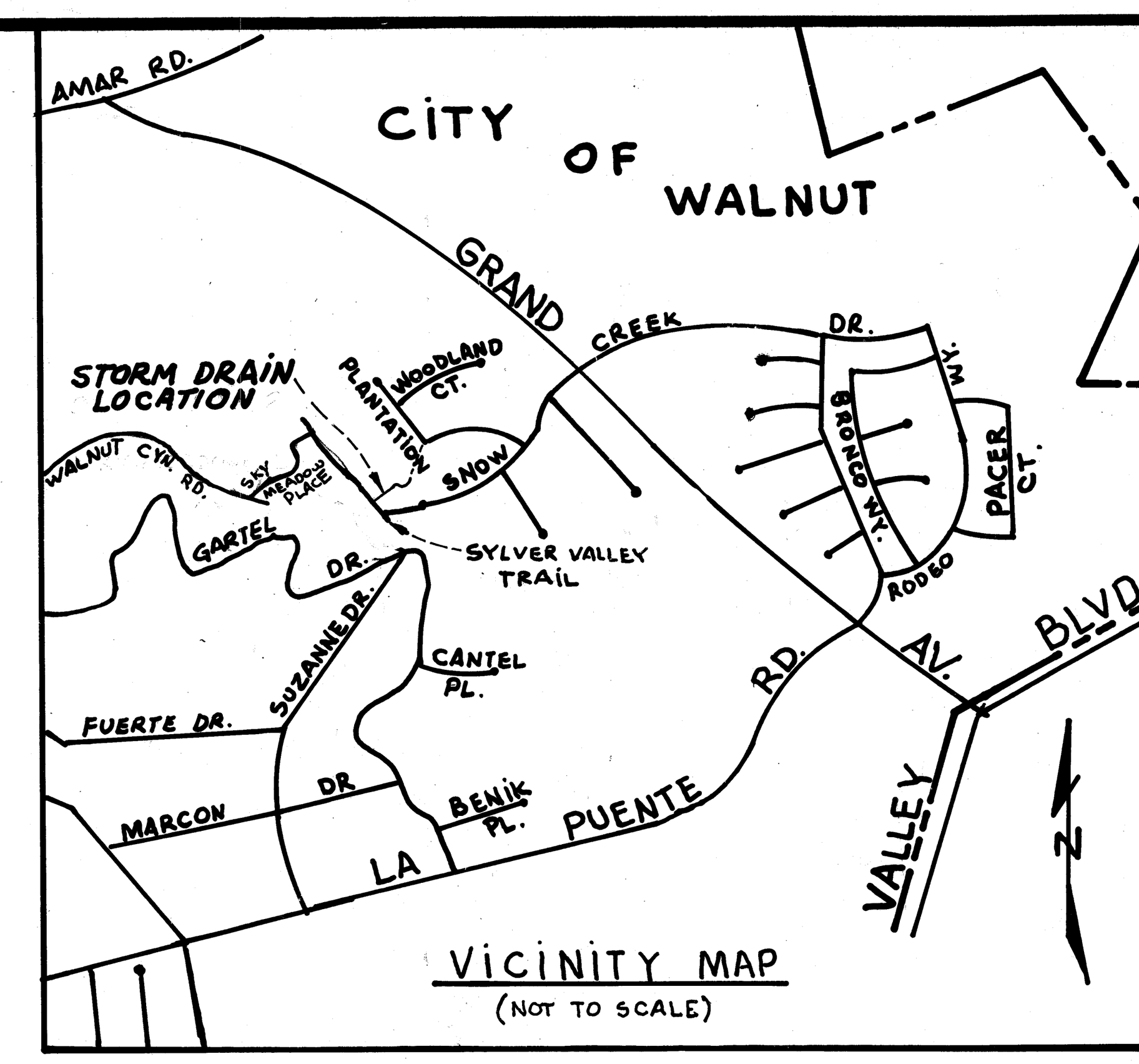
STORM DRAIN PLANS IN TRACT No. 46495

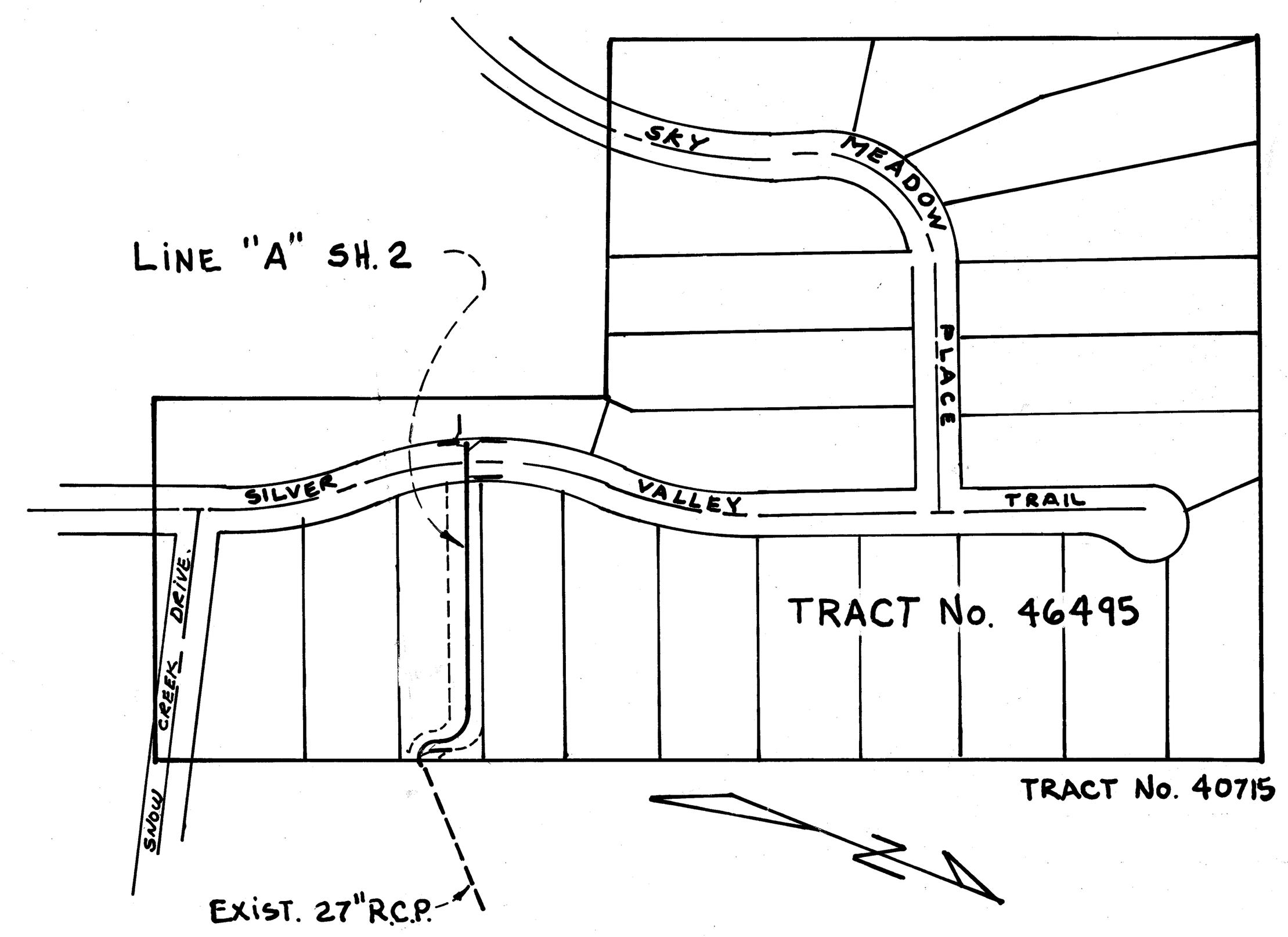
GENERAL NOTES

1. ELEVATIONS ARE IN FEET ABOVE U.S.C. & G.S. MEAN SEA LEVEL DATUM OF 1929. ALL WORK SHALL BE IN ACCORDANCE WITH THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION 1985 EDITION", INCLUDING SUPPLEMENTS AND SHALL BE PROSECUTED ONLY IN THE PRESENCE OF THE *CITY* ENGINEER.
2. APPROVAL OF THIS PLAN BY THE *CITY ENGINEER* DOES NOT CONSTITUTE A REPRESENTATION AS TO THE ACCURACY OF THE LOCATION, OR THE EXISTENCE OR NON-EXISTENCE OF ANY UNDERGROUND UTILITY, PIPE OR STRUCTURE WITHIN THE LIMITS OF THIS PROJECT. THIS NOTE APPLIES TO ALL SHEETS.
3. THE CONTRACTOR SHALL NOTIFY THE *CITY ENGINEER* .. BY TELEPHONE, *(714) 594-9702* AT LEAST 24 HOURS BEFORE STARTING ANY WORK UNDER THIS CONTRACT. THE CONTRACTOR SHALL SUBMIT A DEPOSIT FOR CONSTRUCTION INSPECTION TO THE *CITY*. ENGINEER, *CITY OF WALNUT* , AT LEAST 24 HOURS BEFORE STARTING ANY WORK UNDER THIS CONTRACT.
4. ALL CONSTRUCTION JOINTS IN THE FOOTING OF SLABS AND WALLS SHALL BE IN THE SAME PLANE. NO STAGGERING OF JOINTS WILL BE PERMITTED.
5. NO CONCRETE SHALL BE PLACED UNTIL THE FORMS AND REINFORCING STEEL HAS BEEN PLACED, INSPECTED AND APPROVED.
6. TRANSVERSE REINFORCEMENT AND TRANSVERSE JOINTS SHALL BE PLACED AT RIGHT ANGLES (OR RADIAL) TO CONDUIT CENTERLINE EXCEPT AS OTHERWISE SHOWN ON THE DRAWINGS.
7. ALL CONCRETE SHALL BE PORTLAND CEMENT CONCRETE WITH AN ULTIMATE 28 DAYS COMPRESSIVE STRENGTH OF 3250 PSI.
8. ALL EXPOSED EDGES SHALL BE FINISHED WITH A 3/4" CHAMFER.
9. ALL STEEL ADJACENT TO FACE OF CONCRETE SHALL HAVE 2 1/2" CLEARANCE UNLESS OTHERWISE SPECIFIED.
10. REINFORCEMENT SHALL BE DEFORMED BARS OF INTERMEDIATE GRADE STEEL AS PER A.S.T.M. A-615 GRADE 60.
11. ALL BAR BENDS AND HOOKS SHALL CONFORM TO THE AMERICAN CONCRETE INSTITUTE "MANUAL OF STANDARD PRACTICE".
12. DIMENSIONS FROM FACE OF CONCRETE TO STEEL ARE TO CENTERLINE OF STEEL UNLESS OTHERWISE NOTED.
13. ALL BACKFILLS AND FILLS TO BE USED AS SUBGRADE SHALL BE COMPACTED TO A RELATIVE DENSITY OF 90% UNLESS OTHERWISE SPECIFIED.
14. ALL STEEL THAT IS TO BE CONTINUOUS SHALL HAVE A MINIMUM LAP OF 30 BAR DIAMETERS OR 18", WHICHEVER IS GREATER.
15. ALL CATCH BASINS AND CONNECTOR PIPES BETWEEN CATCH BASINS TO BE INSPECTED BY THE *CITY ENGINEER*
16. PIPE SHALL BE EMBEDDED 5 INCHES INTO ALL STRUCTURES INCLUDING INLET & HEADWALLS, UNLESS OTHERWISE SPECIFIED.
17. WHERE PIPE IS TO BE PLACED IN FILL, THE FILL SHALL BE COMPACTED TO A MINIMUM DEPTH OF 3 FEET ABOVE THE TOP OF PIPE PRIOR TO TRENCHING.
18. ALL BACKFILL AND FILL AROUND CLOSED CONDUIT IN STREET RIGHTS OF WAY SHALL BE BROUGHT UP TO SUBGRADE OF THE ROAD OR TO 2 FEET ABOVE THE TOP OF THE CONDUIT, WHICHEVER IS LESS. THE ..... DEPARTMENT SHALL INSPECT ALL BACKFILL AND FILL ABOVE AFOREMENTIONED LIMITS. APPLICATION FOR AN ENGINEER OR INSPECTOR IN CONNECTION WITH THE WORK, SHALL BE MADE BY THE CONTRACTOR AT LEAST 24 HOURS BEFORE HIS SERVICE IS REQUIRED. CALL 226-8188
19. A PERMIT SHALL BE OBTAINED FROM THE ROAD DEPARTMENT AND SHALL BE SUBMITTED TO THE INSPECTOR PRIOR TO COMMENCING CONSTRUCTION WITHIN THEIR RIGHTS OF WAY.
20. *ALL REINFORCED CONCRETE PIPE SHALL BE BEDDED IN ACCORDANCE WITH LOS ANGELES COUNTY ENGINEER CASE Ad BEDDING PER STANDARD DRAWING D-54 UNLESS OTHERWISE NOTED. THE BEDDING MATERIAL PLACED FROM THE BOTTOM OF THE PIPE TO 1 FOOT OVER THE TOP OF THE PIPE SHALL BE SAND, CRUSHED AGGREGATE, OR NATIVE FREE-DRAINING GRANULAR MATERIAL AND SHALL HAVE A SAND EQUIVALENT OF 20 OR GREATER.*
21. THIS STORM DRAIN WILL NOT BE ACCEPTED FOR MAINTENANCE UNTIL THE STREETS HAVE BEEN PAVED, MANHOLES BROUGHT TO GRADE, AND THE SYSTEM IS CLEANED TO THE SATISFACTION OF THE *DIRECTOR OF CITY ENGINEER.*
22. *UNLESS OTHERWISE SHOWN, CONCRETE DIMENSIONS SHALL BE MEASURED VERTICALLY OR HORIZONTALLY AND PARALLEL OR AT RIGHT ANGLES (OR RADIAL) TO THE CENTER LINE OF CONSTRUCTION.*
23. A SOILS ENGINEER SHALL CERTIFY THAT ALL FILLS AND BACKFILLS OVER UNDERGROUND STORM DRAINS OUTSIDE OF ST.R/W HAVE BEEN COMPACTED OR CONSOLIDATED TO A 90% DENSITY. THIS CERTIFICATION SHALL BE SUBMITTED TO THE COUNTY ENGINEER PRIOR TO ACCEPTANCE OF THE WORK BY THE COUNTY.
24. THE CONTRACTOR'S ATTENTION IS DIRECTED TO SECTION 7-10. 4.1 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION IN REGARD TO SAFETY ORDERS.
25. THE CONTRACTOR SHALL CONFORM TO THE "MINIMUM PUBLIC SAFETY REQUIREMENTS" AS SHOWN ON LOS ANGELES COUNTY ENGINEER STANDARD S-2.
26. ALL PIPE SHALL BE PLACED IN A TRENCH IN NATURAL GROUND AND/OR COMPACTED FILL. THE GROUND LEVEL BEFORE THE TRENCHING SHALL BE AT LEAST 3 FEET ABOVE TOP OF PIPE ELEVATION, OR AT FINISH SURFACE ELEVATION, WHICHEVER IS LESS. ALL BACKFILL IN EASEMENTS SHALL BE COMPACTED TO THE DENSITY REQUIRED BY THE GRADING PLAN.
27. THE INSPECTOR MAY HAVE THE OPTION TO REQUIRE CONCRETE BACKFILL DURING CONSTRUCTION WHEN THE PIPE HAS LESS THAN ONE FOOT OF COVER AND IS SUBJECTED TO HEAVY EQUIPMENT TRAFFIC. THE CONCRETE BACKFILL SHALL CONSIST OF 1:3:5 MIX CEMENT CONCRETE POURED FROM WALL TO WALL OF TRENCH AND FROM BOTTOM OF TRENCH TO A MINIMUM DEPTH OF 4 INCHES OVER TOP OF PIPE.
28. "V_i" IS THE DEPTH OF INLET OF CATCH BASINS IN SERIES MEASURED FROM TOP OF CURB TO INVERT OF CONNECTOR PIPE.
29. MAIN LINE STORM DRAIN R.C. PIPE, WHERE INDICATED IN THE PROFILE SHALL BE MANUFACTURED WITH 1" OR 1 1/2" ADDITIONAL THICKNESS OF CONCRETE OVER THE INVERT REINFORCING.
30. A PERMIT SHALL BE OBTAINED FROM THE LOS ANGELES COUNTY FLOOD CONTROL DISTRICT PRIOR TO COMMENCING ANY CONSTRUCTION WORK UNDER THIS CONTRACT. CONTACT THE DISTRICT BY TELEPHONE AT (818) 458-3129 TO OBTAIN AN INSPECTION AND CONNECTION PERMIT AND TO MAKE DEPOSIT FOR CONSTRUCTION INSPECTION BY THE DISTRICT.
31. LONGITUDINAL STEEL SHALL BE CONTINUOUS AND EXTEND THROUGH ALL CONSTRUCTION JOINTS EXCEPT TRANSVERSE JOINTS IN RECTANGULAR CHANNELS AND AROUND ALL CORNERS UNLESS OTHERWISE SHOWN.
32. ALL CATCH BASINS WITHIN THE DEDICATED STREET RIGHT-OF-WAY SHALL BE CONSTRUCTED PER THE STREET PLANS.
33. THE CONTRACTOR SHALL PROVIDE FOR CONTRIBUTORY DRAINAGE AT ALL TIMES UNTIL THIS STORM STORM DRAIN SYSTEM IS OPERABLE.
34. ALL REFERENCES ON THIS PLAN TO THE COUNTY ENGINEER, ROAD DEPARTMENT, OR FLOOD CONTROL DISTRICT SHALL APPLY TO THE APPROPRIATE SECTIONS OF THE DEPARTMENT OF PUBLIC WORKS.
35. EXISTING UTILITIES SHALL BE MAINTAINED IN PLACE BY THE CONTRACTOR, UNLESS OTHERWISE NOTED.
36. WHERE THE UTILITIES ARE INDICATED ON THE DRAWINGS TO BE SUPPORTED, SAID SUPPORTS SHALL BE IN ACCORDANCE WITH STANDARD PLAN NO. 224-0, UNLESS OTHERWISE INDICATED.
37. ALL OPENINGS RESULTING FROM THE CUTTING OR PARTIAL REMOVAL OF EXISTING CULVERTS, PIPES OR SIMILAR STRUCTURES SHALL BE SEALED WITH 8 INCHES OF BRICK AND MORTAR OR 6 INCHES OF CONCRETE, UNLESS OTHERWISE SHOWN.
38. MANHOLES NO. 1,2,3, AND 4, SHALL USE THE STANDARD PLANS 630-0 FOR THE "FRAME AND COVER" AND 635-0 FOR THE "STANDARD DROP STEP"

BENCH MARK:
C.G. 3393 EL. 722.369
R.D.B.M. TAG. 60 FT. S & 40 FT. W
C/L INT. GRAND & TEMPLE AVE.



VICINITY MAP
(NOT TO SCALE)



INDEX MAP
SCALE: 1"=200'

INDEX TO STANDARD DRAWINGS

DWG. NO.	TITLE
	LACFCD
2-D 102	MANHOLE NO. 1
2-D 107	CONCRETE RINGS, REDUCER AND PIPE FOR MANHOLE SHAFT
2-D 112	JUNCTION STRUCTURE NO. ?
2-D 96	STANDARD DROP STEP
2-D 171	STANDARD A-615 REINFORCING BARS
2-D 177	PIPE BEDDING IN TRENCHES
2-D 160	C.B. NO. 3
2-D 188	TRANSITION STRUCTURE NO. 3
2-D 190	PIPE CONNECTIONS TO EXISTING STORM DRAINS
2-D 193	JUNCTION STRUCTURE NO. 4
2-D 224	CONNECTION TO C.B
2-D 256	CATCH BASIN OUTLET TRANSITION STRUCTURE
2-D 393	CONCRETE COLLAR FOR PIPE 12 INCHES THROUGH 66 INCHES
2-D 400	SAMPLE SHEET FOR USE AS A GUIDE IN PREPARING CALCULATIONS FOR SHORING OF EXCAVATIONS
2-D 413	UNIFIED SOIL CLASSIFICATION SYSTEM
2-D 428	CONCRETE RINGS AND PIPE FOR SPECIAL MANHOLE SHAFT
2-D 461	MODIFICATIONS FOR SIDE OPENING CATCH BASINS
2-D 466	CRITERIA FOR THE DESIGN OF SHORING FOR EXCAVATIONS
2-D 476	PORTABLE SECURITY FENCE FOR OPEN TRENCHES

PRIVATE ENGINEERS NOTICE TO CONTRACTORS

THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES OR STRUCTURES 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 THIS MAP.

THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES NOT OF RECORD OR NOT SHOWN ON THIS DRAWING.

Wes Lind — REGISTERED CIVIL ENGINEER NO.
9-27-88 — DATE

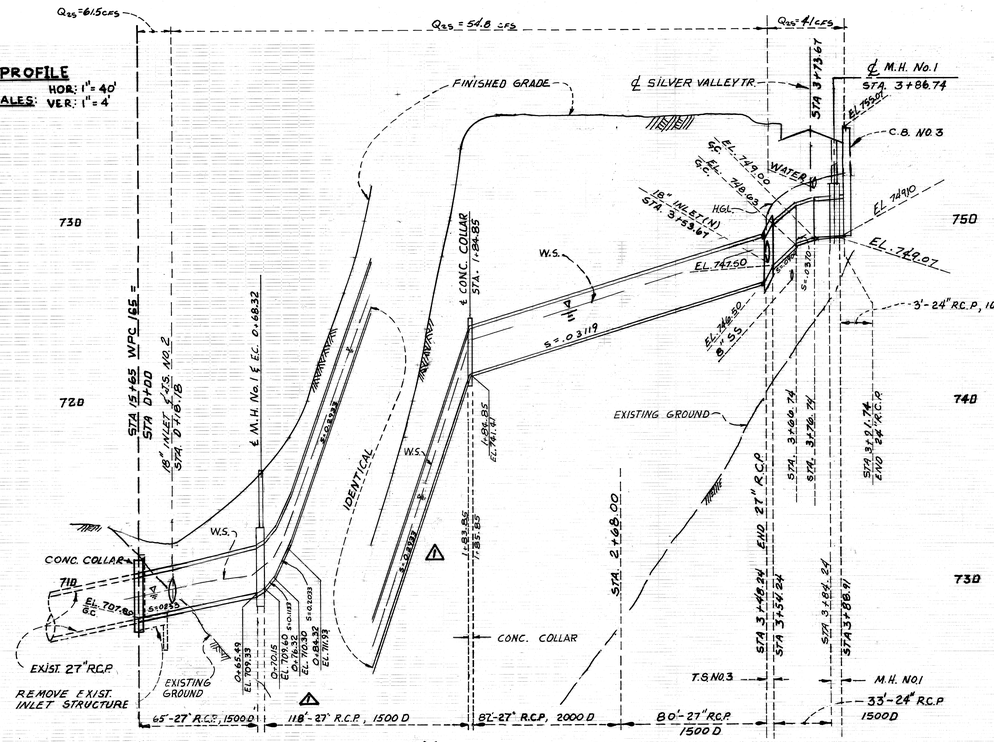
No.	REVISION	REVISED BY	APPROVED BY	DATE
1	REVISED VERTICAL ALIGNMENT OF LINE "A" AND LINE "B" DUE TO CHANGE IN FILL SLOPE.	ROBERT STRUB		

REGISTERED PROFESSIONAL ENGINEER — MANUEL A. DELGADO — No. C040637 — Exp. 3-31-91 — CIVIL — STATE OF CALIFORNIA

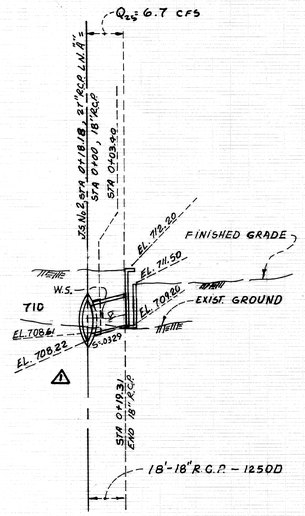
PLANS PREPARED BY:
W. R. LIND
44 SOUTH CHESTER AVE.
PASADENA, CALIFORNIA 91106
(818) 577-4300
SIGNATURE: *Manuel Delgado* R.C.E. NO. 40637 DATE 1-12-89

CITY OF WALNUT
RONALD L. KRANZER CITY ENGINEER
APPROVED: *Ronald L. Kranzer* R.C.E. NO. 18503 DATE: 2-16-89
RONALD L. KRANZER

STORM DRAIN PLANS IN TRACT No. 46495



LINE "A"



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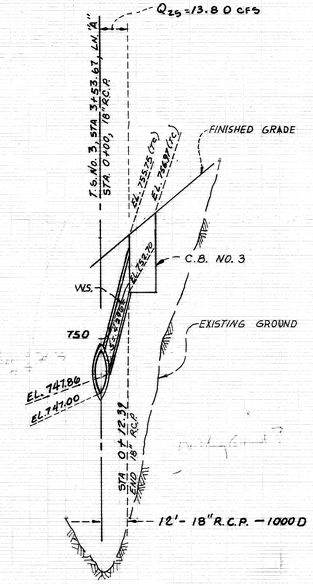
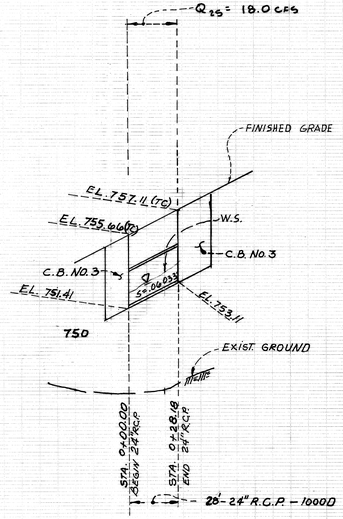
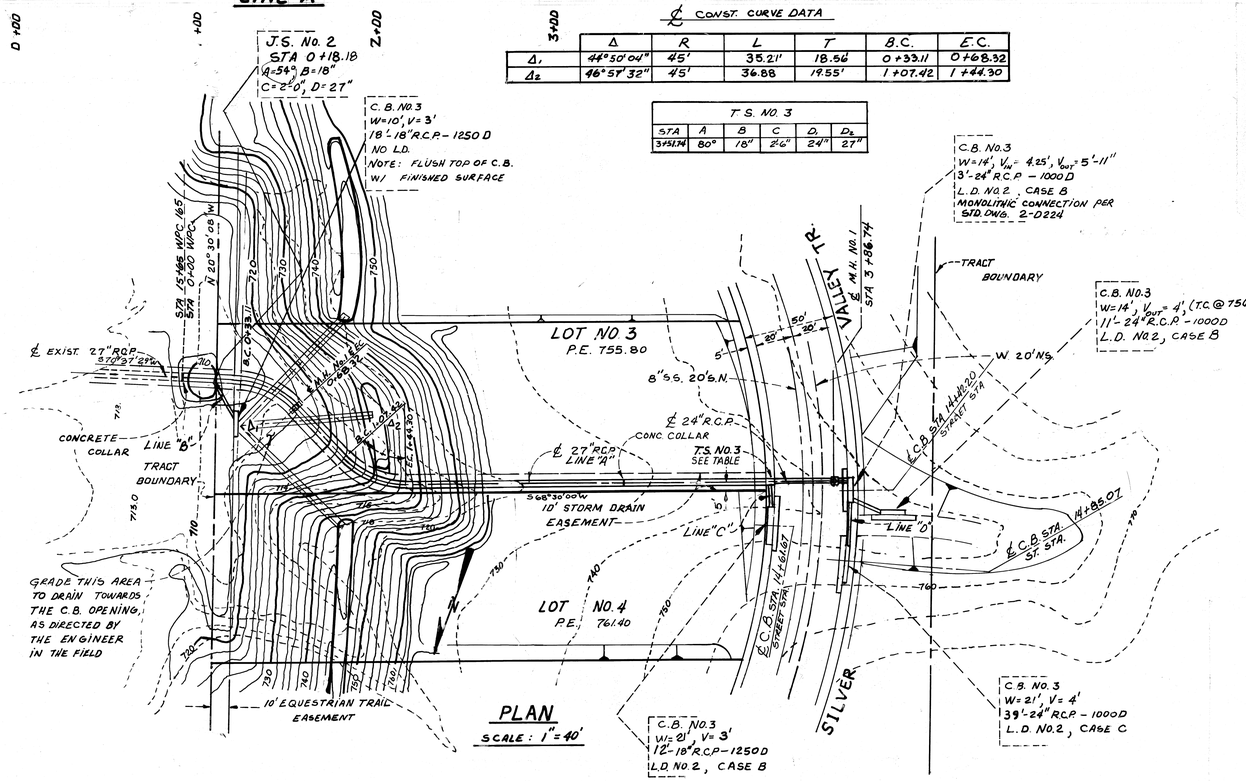


LINE "C"



LINE "D"



PLAN

SCALE: 1" = 40'

℄ CONST. CURVE DATA

	Δ	R	L	T	B.C.	E.C.
Δ1	44°50'04"	45'	35.21'	18.56	0+33.11	0+68.32
Δ2	46°57'32"	45'	36.88	19.55'	1+07.42	1+44.30

T.S. NO. 3

STA	A	B	C	D1	D2
3+51.74	80°	18"	24"	24"	27"

HYDRAULIC ELEMENTS

LOCATION	PIPE REACH FROM STA.	PIPE REACH TO STA.	Q (C.F.S.)	PIPE SIZE (IN)	VELOCITY (F.P.S.)	REMARKS	
LINE "A"							
	0+00	0+18.18	61.50	27"	29.85	OPEN CH.	*
	0+18.18	1+10.00	54.80	27"	35.60	"	*
	1+10.00	1+30.00	54.80	27"	25.76	"	*
	1+30.00	3+48.00	54.80	27"	13.78	"	
	3+48.00	3+91.74	41.00	24"	13.05	PRESS. FLOW	

* REINFORCING STEEL SHALL HAVE 1/2" INCREASED COVER AND/OR MIN. 1 1/2" CLEAR INSIDE FACE TO REINFORCING STEEL @ FLOWLINE.

No.	REVISION	REVISION BY	APPROVED BY	DATE
⚠	REVISED VERTICAL ALIGNMENT OF LINE "A" AND LINE "B" DUE TO CHANGE IN FILL SLOPE.	ROBERT STRUB		

REGISTERED PROFESSIONAL ENGINEER — MANUEL A. DELGADO — No. C 040637 — Exp. 3-31-91 — CIVIL — STATE OF CALIFORNIA

PREPARED BY:
W. R. LIND
44 SOUTH CHESTER AVENUE
PASADENA, CALIFORNIA 91106
(818) 577-4300

SIGNATURE: Manuel A. Delgado — DATE 1-12-89 — R.C.E. NO. 40637

CITY OF WALNUT
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RONALD L. KRANZER

SHT 2 OF 2 SHTS

15068 15076