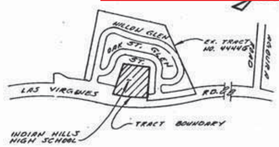
LINE	STATION TO STATION	FLOW (CFS)	DIAMETER (INCHES)	VELOCITY (FPS)	PIPE SLOPE (SO)	FRICTION SLOPE (SF)
"A"	0+99.17 TO 1+01.97	72.1	36	10.2	0.172	0.0090
	1+05.23 TO 1+68.61	70.0	36	9.9	0.172	0.0078
	1+68.61 TO 2+37.46	70.0	36	13.9 AVE	0.172	0.0177 - 0.0178
	2+41.46 TO 3+11.00	69.0	36	14.2 AVE	0.172	0.0179 - 0.0218
	3+15.67 TO 5+07.95	67.2	36	18.3 AVE	0.172	0.0234 - 0.0724
"B"	0+02.88 TO 0+05.21	1.8	18	1.8 AVE	0.496	0.0007 - 0.0011
	1+05.21 TO 0+18.00	1.8	18	6.1 AVE	0.496	0.0342 - 0.0053
"C"	0+02.57 TO 2+02.82	4.4	24	0.8 AVE	0.984	0.0001 - 0.0002
"D"	0+02.18 TO 9+00.00	1.0	18	0.6 AVE	0.132	0.0001

1

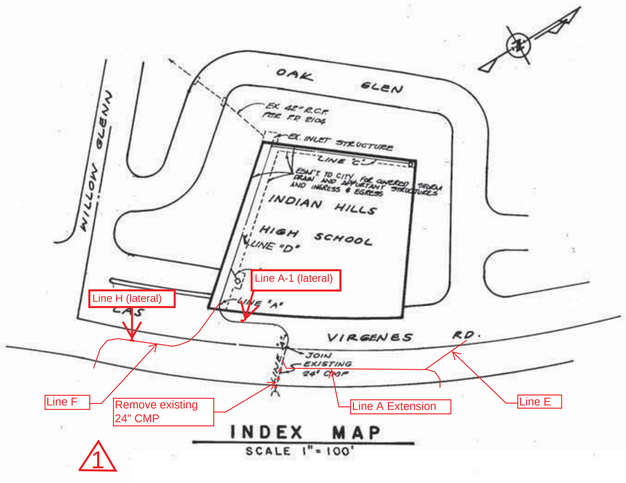
DESIGN DATUM: NAVD 1988
QUAD/ADJUSTMENT: MALIBU 1998
BM NUMBER: Y 10466
ELEV.=744.642 US SURVEY FEET DESCRIPTION: FD. DPW BM TAG IN TC, 1' N/O ECR, AT NE COR. OF LAS VIRGENES ROAD AND WILLOW GLEN STREET, 32.8' E/O CL OF LAS VIRGENESRD. & 46' N/O CL WILLOW GLEN ST.
NOTE:
DUE TO VERTICAL DATUM DIFFRENCE THE PROPOSED DESIGN IS AT AN ELEVATION 4.8 FEET HIGHER THAN AS-BUILT ELEVATIONS.

BENCH MARK:
B.M. CY 5587 ELEV. 756.671
COUNTY OF LOS ANGELES NO. CY5587 COUNTY SURVEYOR MONUMENT FLUSH 23 FEET EAST OF CENTERLINE OF LAS VIRGENES ROAD AND 0.5 MI S/O VENTURA FREEWAY AT TWIN OAKS RIDING ACADEMY 3 FT. N/O P.P. #1754238R 0.25 MI S/O RANDELL STREET MARKED (RM 57-21 1960)
QUAD. 1980

STORM DRAIN PLANS IN INDIAN HILLS H.S. P.D. No. 2353

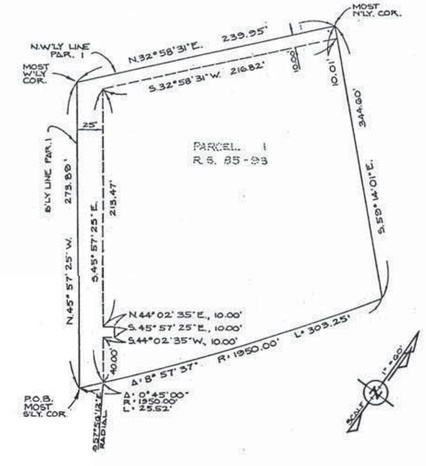


VICINITY MAP
SCALE 1"=600'



INDEX MAP
SCALE 1"= 100'

1



CALABASAS STORM DRAIN EASEMENTS

GENERAL NOTES (P.D.'S)

1. A permit shall be obtained and a deposit paid to the Department of Public Works at the Permit Counter, 900 South Fremont Avenue 8th Floor, Alhambra at least 72 hours prior to starting work under this contract. Copies of all other required permits, such as Flood Control District and Road Excavation, must be filed with the permit application.
2. When work is within a contract city, the contractor must contact the Director of Public Works of that City to determine the location to pay the inspection deposit.
3. The Contractor shall contact the district office listed on the "Application for Storm Drain Construction Inspection Form I", to arrange for an acceptable construction start date.
4. Approval of this plan by the County of Los Angeles does not constitute a representation to the accuracy of the location, the existence or nonexistence of any underground utility, pipe or structure within the limits of this project. This note applies to all sheets.
5. All work shall be in accordance with the "Standard Specifications for Public Works Construction 1991 Edition," including supplements and shall be prosecuted only in the presence of the Director of Public Works.
6. The contractor's attention is directed to Section 7-10.4.4 of the Standard Specifications for Public Works Construction in regard to safety orders and shall conform to the "Minimum Public Safety Requirements" as shown on Los Angeles County Engineer Standard S-2.
7. Elevations are in feet above U.S.C. & G.S. Mean Sea Level Datum of 1929, unless otherwise indicated.
8. No concrete shall be placed until the forms and reinforcing steel have been placed, inspected and approved.
9. All structural concrete shall be portland cement concrete with an ultimate 28 day compressive strength of 3250 p.s.i unless otherwise noted.
10. Transverse reinforcement and transverse joints shall be placed at right angles (or radial) to the conduit centerline except as otherwise shown on the drawings.
11. All steel adjacent to face of concrete shall be 2½" clearance unless otherwise specified.
12. Reinforcement shall be deformed bards of intermediate grade steel, per A.S.T.M. A-615-Grade 60.
13. All bar bends and hooks shall conform to the American Concrete Institute "Manual of Standard practice".
14. Dimensions from face of concrete to steel are to centerline of steel unless otherwise noted.
15. All steel that is to be continuous shall have minimum lap of 30 bar diameters or 18" whichever is greater.
16. All construction joints in the footing of slabs and walls shall be in the same plane. No staggering of joints will be permitted.
17. All exposed edges shall be finished with a 3/4" chamfer.
18. Unless otherwise shown, concrete dimensions shall be measured vertically or horizontally and parallel or at right angles (or radial) to the centerline of construction.

L.A.C.F.C.D. AND A.P.W.A. STANDARD DRAWINGS:

(1) - 2-D 193 - JUNCTION STRUCTURE NO. 4
(2) - 2-D 184 - MANHOLE NO. 2
(3) - 2-D 188 - TRANSITION STRUCTURE NO. 3
(4) - A.P.W.A. 306-0 - CURB OPENING CATCH BASIN, W=6.00'
(5) PIPE BEDDING PER STD. DWG. No. 2-D177 CASE III. (SEE NOTE 23)
(7) CHAIN LINK FENCE PER A.P.W.A. STD. PLAN 600-0
(8) L.A.C.R.D. - GUIDE MARKER PER STD 84-01

GEN. NOTES CONT'D.

19. The inspector shall have the option to require concrete backfill during construction when the pipe has less than one foot of cover. The concrete backfill shall consist of 1:3:5 mix, portland cement concrete poured from wall to wall of trench and from bottom of trench to a minimum of 4 inches over the top of the pipe.
20. All pipes shall be placed in trench in natural ground and/or compacted fill. The ground level before the trenching shall be at least 3 feet above the top of the pipe elevation, or at finish surface elevation, whichever is less.
21. All backfill and fills outside of street right of way shall be compacted to 90% of maximum desity as determined by ASTM Soil Compaction Test D 1557-78 Method "D" unless otherwise specified. This shall be certified by a geotechnical engineer. This certification shall be submitted to the Director of Public Works prior to acceptance of the work by the County.
22. All backfill and fills within street right of way shall be compacted in accordance with Section 306-1.3.4 of the Standard Specifications unless otherwise noted and inspected by the Department. Contractor shall notify the inspector at least 24 hours in advance for soil testing as required by the inspector.
23. Pipe bedding shall be:

According to Standard Drawing No. 2-0177, Case III, except bell and spigot pipe which shall be Case II bedding, unless otherwise shown "W" values shall be as specified on Standard Drawing No. 2-0177 for Case III bedding, Notes 3 (a), 3 (b), 3 (c). If the "W" value at the tip of the pipe is exceeded, the bedding shall be modified, and/or pipe of additional strength shall be provided. The proposed modification shall be approved by the Department.

24. Pipe shall be embedded 5 inches into all structure including inlet and outlet headwalls, unless otherwise specified.
25. All catch basins within the dedicated street righ-of-way shall be constructed per A.P.W.A. Standard Drawing and per the street plans, unless otherwise noted.
26. Unless otherwise specified in the profile on these plans, the pipe shall be manufactured with a minimum concrete cover over the steel in the invert of 0.75 inches for RCP up to 96 inches in diameter and 1.25 inches for pipe greater than 96 inches in diameter.
27. The contractor may have to have designed by a Civil Engineer and shall provide to the satisfaction of the Director of Public Works a system for contributory drainage to be operable at all times until this storm drain system is accepted.
28. All references on this plan to the County Engineer, Road Department, or Flood Control District shall apply to the appropriate elements of the Department of Public Works.
29. Existing utilities shall be mainted in place by the contractor, unless otherwise note.
30. Where the utilities are indicated on the Drawings to be supported, said supports shall be in accordance with Standard Plans for Public Works Construction No. 224-0, unless otherwise indicated.
31. 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 and 6 inches of concrete, unless otherwise shown.
32. Manholes No. 1,2,3, and 4, shall use the Standard Plans for Public Works Construction 630-1 for the "Frame and Cover" and 635-0 for the "Standard Drop Step".
33. This storm drain will not be accepted for maintenance until the streets have been paved, manholes brought to grade and the system cleaned to satisfaction of the Director of Public Works.

RIPRAP NOTES

1. ROCKS FOR GROUTED RIPRAP SHALL BE GOOD QUALITY BROKEN CONCRETE AND/OR RIVER RUN ROCK. THE SMALLEST DIMENSIONS SHALL EXCEED 3 INCHES AND THE LARGEST DIMENSION SHALL NOT EXCEED 18 INCHES. THE LARGEST DIMENSION SHALL NOT EXCEED 4 TIMES THE SMALLEST DIMENSION.
2. THERE SHALL BE A GROUT BED OF AT LEAST 2 INCHES BENEATH THE FIRST LAYER OF ROCK. ALL THE VOIDS BETWEEN THE ROCKS SHALL BE FILLED WITH GROUT. MAXIMUM SPACING BETWEEN ROCKS SHALL BE 2 INCHES.
3. SURFACE ROCKS SHALL BE IMBEDDED FROM 1/2 TO 2/3 OF THEIR MAXIMUM DIMENSION

NOTE: CONCRETE MAY BE SUBSTITUTED FOR THE GROUT.

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 SHOWN AND ANY OTHER LINES NOT OF RECORD OR NOT SHOWN ON THIS DRAWING.

James L. Sanchez — REGISTERED CIVIL ENGINEER No.
9-12-91 — DATE

NO	REVISION	REV. R.C.E. NO.	APPROVED BY	DATE
1	ADD TWO CONNECTIONS LINE A	NO. 80129		7-30-14

REGISTERED PROFESSIONAL ENGINEER WILLIAM C. CUNNINGHAM No. 80129 Exp. 09/30/14 CIVIL STATE OF CALIFORNIA

REVISION #1
07/31/2014

REGISTERED PROFESSIONAL ENGINEER JAMES L. SANCHEZ No. 29663 Exp. 6-31-95 CIVIL STATE OF CALIFORNIA

THESE PLANS PREPARDED UNDER THE SUPERVISION OF:
PFEILER & ASSOC. ENGINEERS
612 N. DIAMOND BAR BLVD.
DIAMOND BAR, CA. 91765
PHONE (714) 595-4077
SIGNATURE James L. Sanchez R.C.E. NO. 29663

CITY OF CALABASAS, CALIFORNIA

REVIEWED BY: _____ DATE: 1/13/92
OFFICE OF THE CITY ENGINEER

SHT 1 OF 35 SHTS

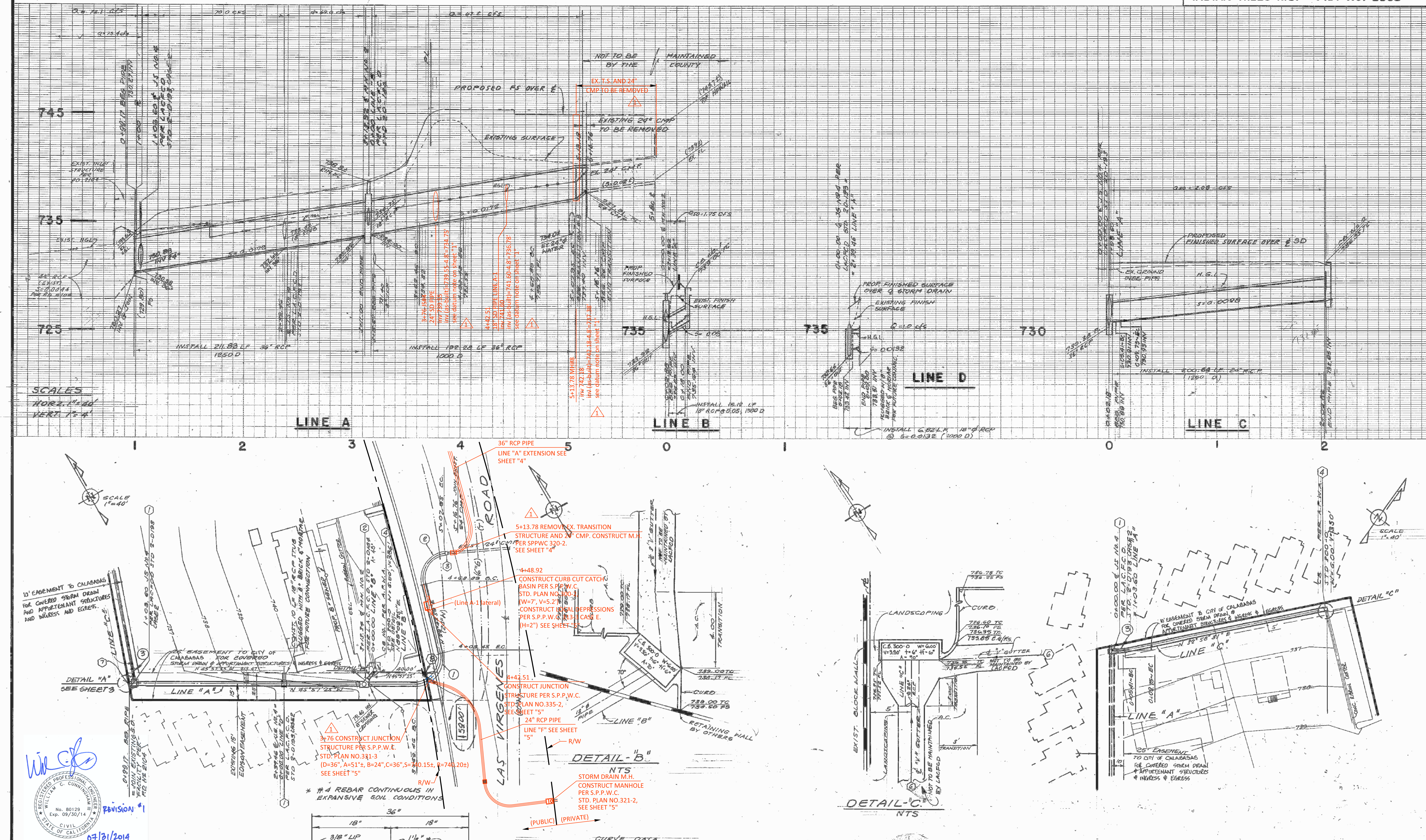
1

C-10

92-CLL-0004

90076-00

STORM DRAIN PLANS IN
INDIAN HILLS H.S. P.D. No. 2353



LINE A
LINE B
LINE C
LINE D
SCALES
HORZ. 1"=40'
VERT. 1"=4'
PROPOSED FS OVER ℄
EXISTING SURFACE
NOT TO BE MAINTAINED BY THE COUNTY
EX. T.S. AND 24" CMP TO BE REMOVED
EXISTING 24" CMP TO BE REMOVED
INSTALL 211.82 LF 36" RCP 1350 D
INSTALL 192.28 LF 36" RCP 1000 D
36" RCP PIPE
LINE "A" EXTENSION SEE SHEET "4"
5+13.78 REMOVE EX. TRANSITION STRUCTURE AND 24" CMP. CONSTRUCT M.H. PER SPPWC 320-2. SEE SHEET "4"
4+48.92
CONSTRUCT CURB CUT CATCH BASIN PER S.P.P.W.C. STD. PLAN NO.300-2 (W=7', V=5.2') CONSTRUCT LOCAL DEPRESSIONS PER S.P.P.W.C. 313-2 CASE E. (H=2") SEE SHEET "5"
(Line A-1 lateral)
4+42.51
CONSTRUCT JUNCTION STRUCTURE PER S.P.P.W.C. STD. PLAN NO.335-2, SEE SHEET "5"
24" RCP PIPE
LINE "F" SEE SHEET "5"
R/W
3+76 CONSTRUCT JUNCTION STRUCTURE PER S.P.P.W.C. STD. PLAN NO.331-3
STORM DRAIN M.H.
CONSTRUCT MANHOLE PER S.P.P.W.C. STD. PLAN NO.321-2, SEE SHEET "5"
(PUBLIC) (PRIVATE)
LAS VIRGENES ROAD
DETAIL "A" SEE SHEET 3
DETAIL - "B" NTS
DETAIL - "C" NTS
* #4 REBAR CONTINUOUS IN EXPANSIVE SOIL CONDITIONS
RIBBON GUTTER (NOT TO BE MAINTAINED BY L.A.C.F.C.D.)
RETAINING WALL BY OTHERS
REVISION #1
07/31/2014

NO.	REVISION	REVISED BY	APPROVED BY	DATE
1	ADD TWO CONNECTIONS - LINE A	NO.80129		7-30-14

CURVE DATA

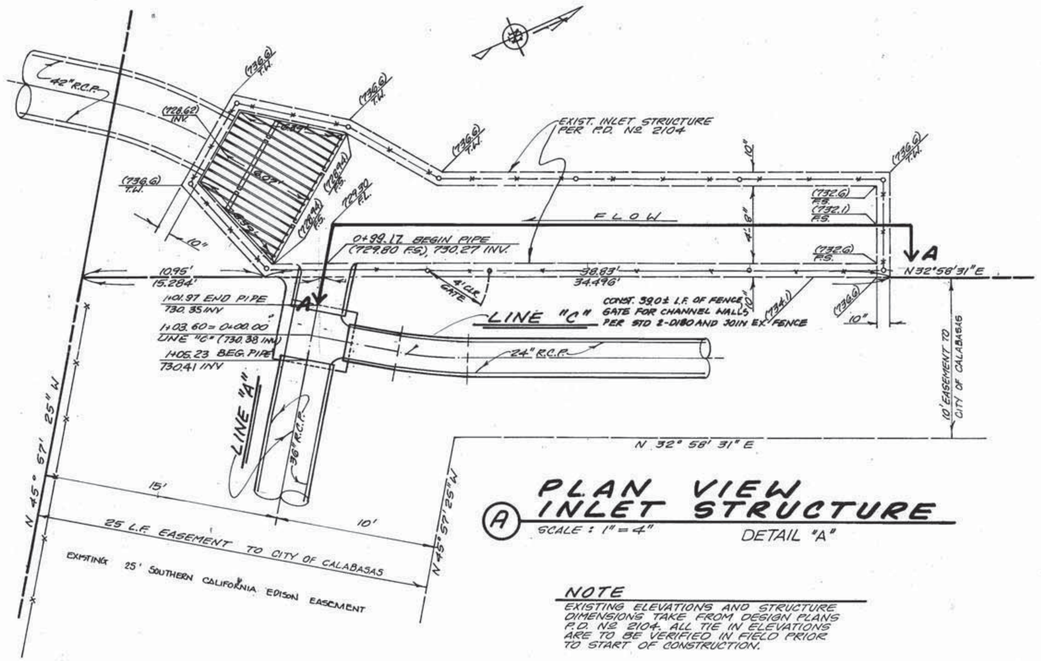
No.	Δ	R	LGT.	T
1	104°19'36"	22.50'	40.97'	28.97'
2	99°27'47"	22.50'	39.06'	26.56'
3	11°09'04"	22.50'	4.34'	2.20'

PFEILER & ASSOC. ENGINEERS
612 N. DIAMOND BAR BLVD.
DIAMOND BAR, CA. 91765
PHONE (714) 595-4077
SIGNATURE: James L. Sanchez R.C.E. NO. 29663

CITY OF CALABASAS, CALIFORNIA

REVIEWED BY: OFFICE OF THE CITY ENGINEER DATE: 1/15/92

STORM DRAIN PLANS IN
INDIAN HILLS H.S. P.D. No. 2353

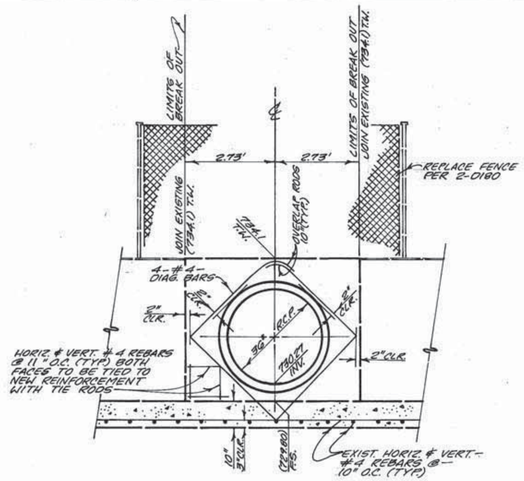


PLAN VIEW INLET STRUCTURE

(A) SCALE : 1" = 4" DETAIL "A"

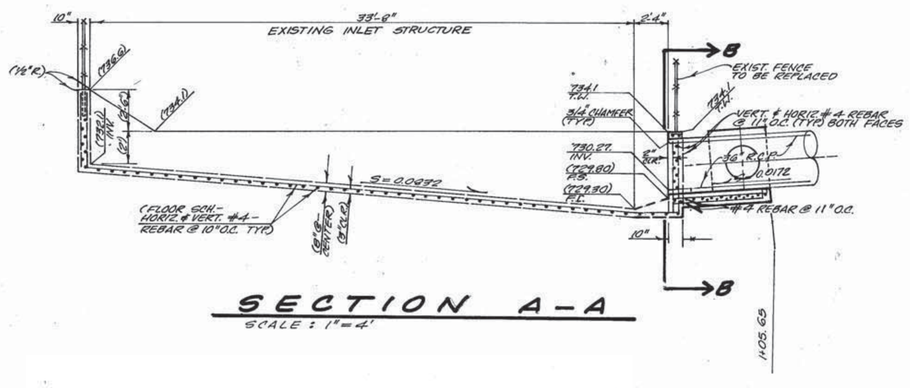
NOTE

EXISTING ELEVATIONS AND STRUCTURE DIMENSIONS TAKE FROM DESIGN PLANS P.D. NO 2104. ALL TIE IN ELEVATIONS ARE TO BE VERIFIED IN FIELD PRIOR TO START OF CONSTRUCTION.



SECTION B-B

SCALE : 1" = 2'



SECTION A-A

SCALE : 1" = 4'

NO.	REVISION	REVISED BY	APPROVED BY	DATE
1	ADD TWO CONNECTIONS LINE A	NO. 80129		7-30-14

REGISTERED PROFESSIONAL ENGINEER WILLIAM C. CUNNINGHAM No. 80129 Exp. 09/30/14 CIVIL STATE OF CALIFORNIA

REVISION #1
07/31/2014

REGISTERED PROFESSIONAL ENGINEER JAMES L. SANCHEZ No. 29663 Exp. 3-31-25 CIVIL STATE OF CALIFORNIA

PFEILER & ASSOC. ENGINEERS
612 N. DIAMOND BAR BLVD.
DIAMOND BAR, CA 91765
PHONE: (714) 595-4077

SIGNATURE James L. Sanchez R.C.E. NO. 29663

CITY OF CALABASAS, CALIFORNIA

REVIEWED BY: Dale E. Lein OFFICE OF THE CITY ENGINEER DATE: 1/15/92

SHT 3 OF 35 SHTS (1)

C-12

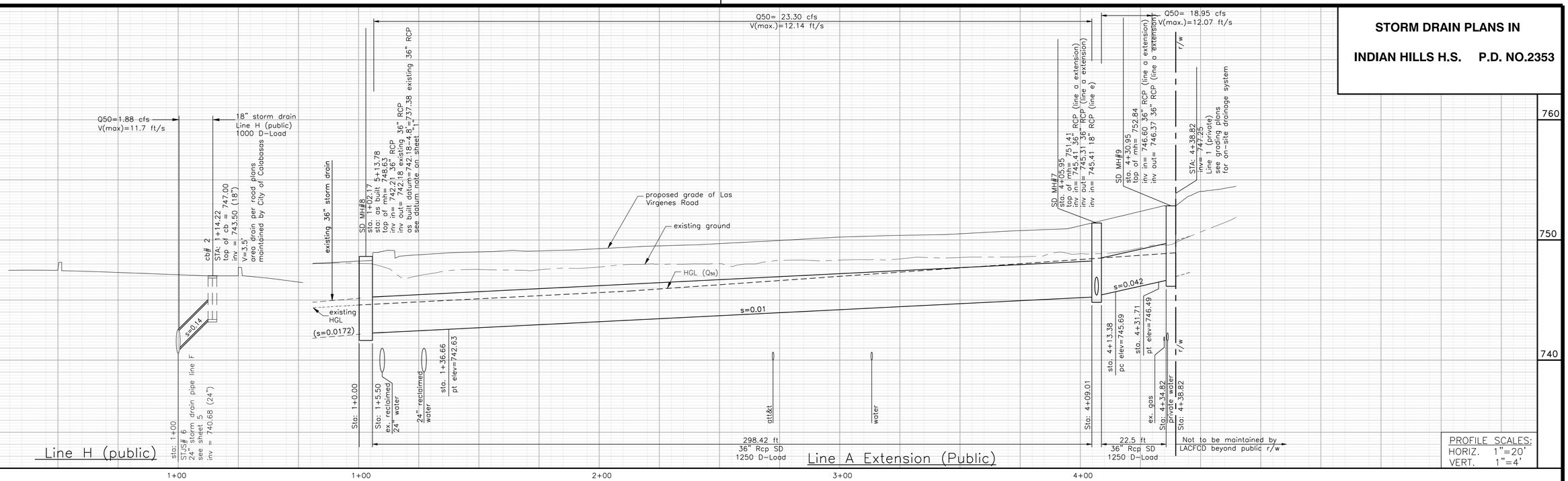
92-CLO-0004

90078-00

GM Jr (213) 699-8440 P.D. SHEET NO. 3 DATE: 4/90

STORM DRAIN PLANS IN

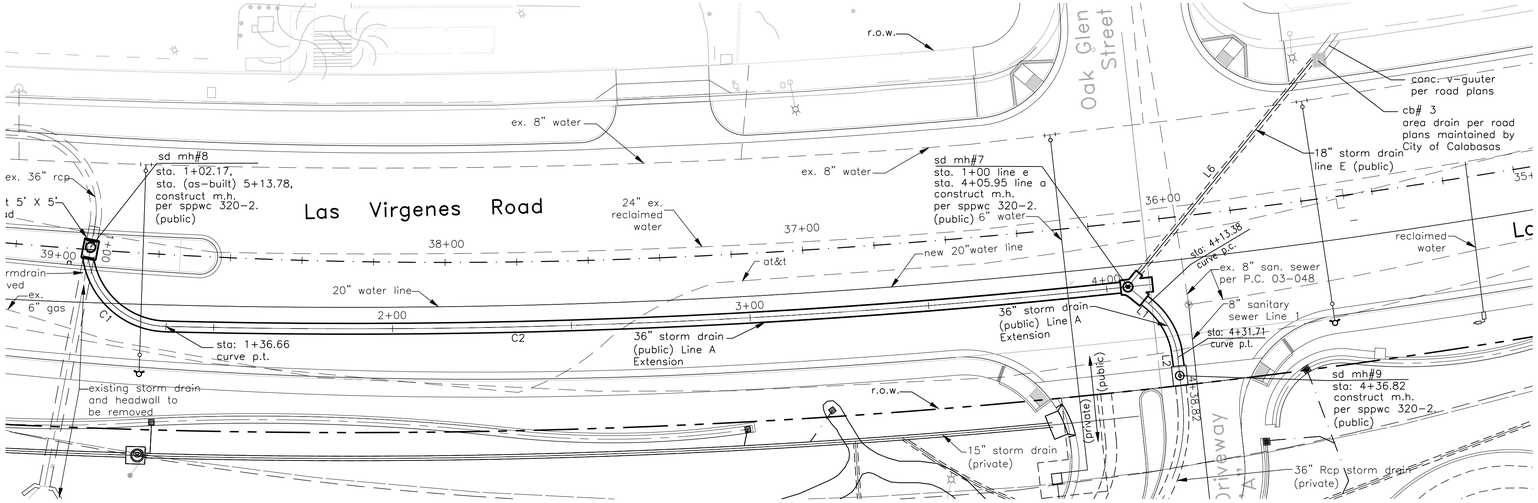
INDIAN HILLS H.S. P.D. NO.2353



PROFILE SCALES:
HORIZ. 1"=20'
VERT. 1"=4'

CURVE TABLE				
Curve	Radius	Length	Delta Angle	Tangent
C1	22.50'	31.16'	79°21'16"	18.66'
C2	2020.76'	267.26'	7°34'40"	133.83'
C3	22.50'	14.84'	37°46'38"	7.70'

LINE TABLE		
Line	Length	Bearing
L1	1.51'	N66°29'27"E
L2	2.36'	N68°35'16"W



Line A Extension (Public)

0 10 20 40

(IN FEET)
1 inch = 20 ft.

note:
utility locations are base on as-built plans. contractor shall verify locations and elevations prior to construction and notify utility company of any conflicts.

REVIEWED LAND DEVELOPMENT DIVISION

BY _____
SUBDIVISION PLAN CHECKING SECTION DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE

REGISTERED PROFESSIONAL ENGINEER
WILLIAM C. CUNNINGHAM
No. 80129
Exp. 09/30/14
CIVIL
STATE OF CALIFORNIA

09/31/14
PROJECT ENGINEER DATE

STORM DRAIN PLANS

COUNTY OF LOS ANGELES, CALIFORNIA

PLANS PREPARED BY:

DIAMOND WEST INCORPORATED
24005 VENTURA BOULEVARD, SUITE 100
CALABASAS, CALIFORNIA, 91302
(818) 444-1800 (PHONE)
(818) 223-9215 (FAX)
WWW.DIAMONDWEST.NET

DWG

SHEET 4 OF 5

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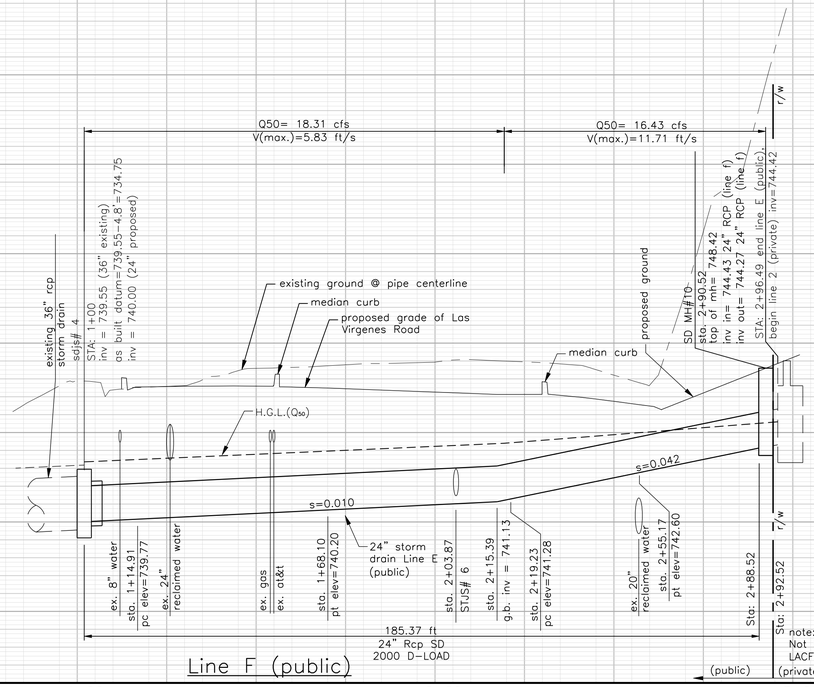
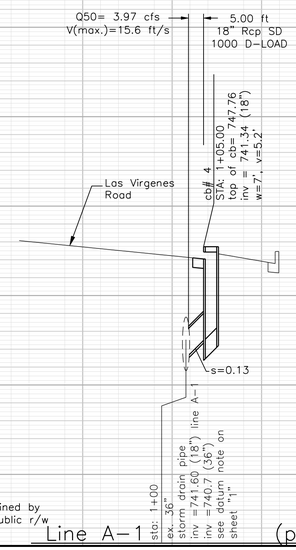
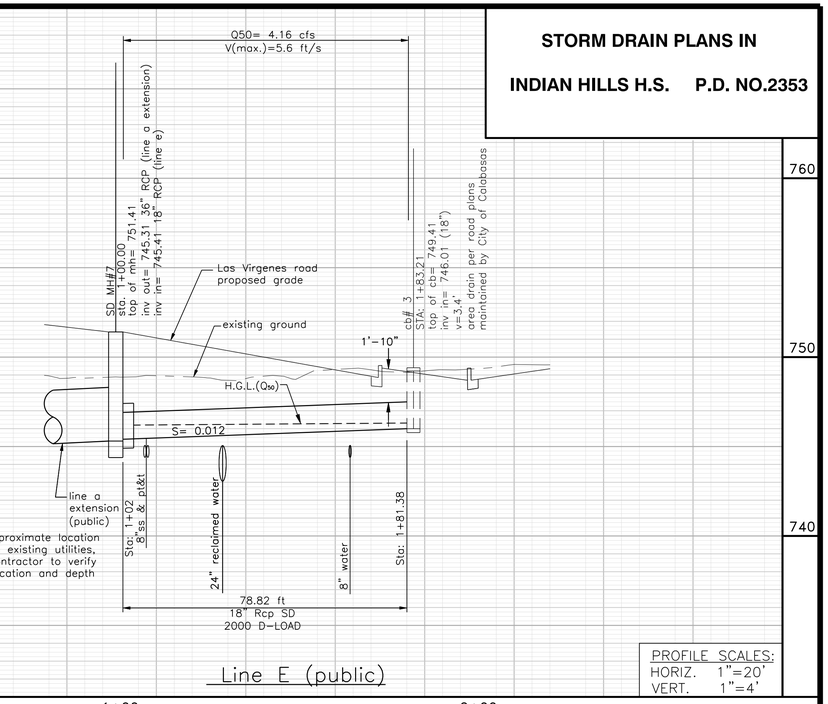
STORM DRAIN PLANS IN

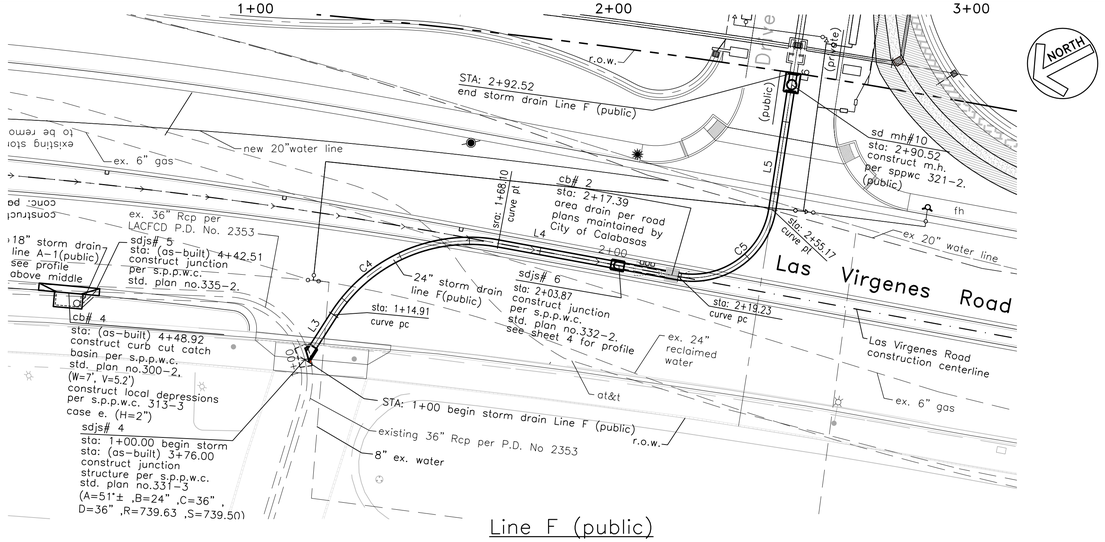
INDIAN HILLS H.S. P.D. NO.2353

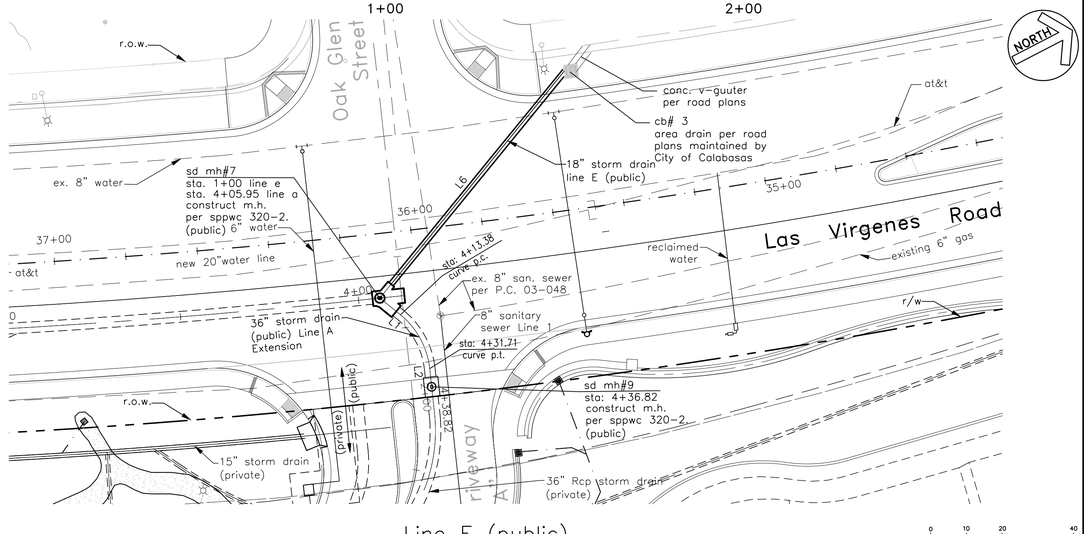






PROFILE SCALES:
HORIZ. 1"=20'
VERT. 1"=4'





0 10 20 40
(IN FEET)
1 inch = 20 ft.

CURVE TABLE				
Curve	Radius	Length	Delta Angle	Tangent
C4	45.00'	53.19'	67°43'15"	30.19'
C5	22.50'	35.95'	91°32'20"	23.11'

LINE TABLE		
Line	Length	Bearing
L3	14.91'	S29°55'33"E
L4	51.12'	S37°47'42"W
L5	30.10'	S53°44'38"E
L6	5.60'	N53°31'18"W
L6	78.82'	N23°30'33"W

note:
utility locations are base on as-built plans. contractor shall verify locations and elevations prior to construction and notify utility company of any conflicts.

REVIEWED LAND DEVELOPMENT DIVISION

BY _____ SUBDIVISION PLAN CHECKING SECTION DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE

REGISTERED PROFESSIONAL ENGINEER WILLIAM C. CUNNINGHAM III No. 80129 Exp. 09/30/14 CIVIL STATE OF CALIFORNIA

09/31/14
PROJECT ENGINEER DATE

STORM DRAIN PLANS

COUNTY OF LOS ANGELES, CALIFORNIA

PLANS PREPARED BY:

DIAMOND WEST INCORPORATED
24005 VENTURA BOULEVARD, SUITE 100
CALABASAS, CALIFORNIA, 91302
(818) 444-1800 (PHONE)
(818) 223-9215 (FAX)
WWW.DIAMONDWEST.NET

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SHEET 5 OF 5

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