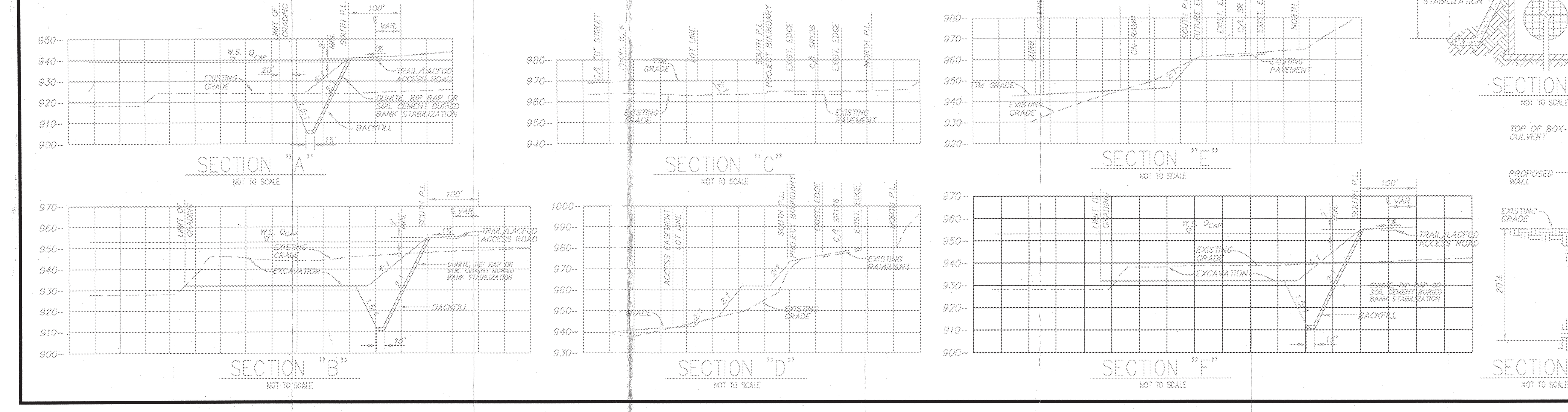
GEOLOGIC/GEOTECHNICAL MAP

ALLAN E. SEWARD ENGINEERING GEOLOGY, INC.

Date: 9-27-00 | Job No.: 00-1702A

PLATE II



EASEMENTS:

- (##) OLD ITEM NUMBER
- [##] NEW TITLE REPORT NUMBER
- NOT CALLED OUT ON MOST RECENT TITLE REPORT

NEW TITLE REPORT NO.	OLD ITEM NUMBER	OWNER	PURPOSE	REFERENCE	PHASE NUMBER
9 C	84 (II)	STANDARD OIL COMPANY OF CALIFORNIA	ROAD	DECEMBER 2, 1932 BOOK 40425 PAGE 96, O.R.	II
10 A	13 (II)	SOUTHERN CALIFORNIA EDISON COMPANY	POLES etc.	BOOK 7058 PAGE 323, Dds.	II
10 B	15 (II)	SOUTHERN CALIFORNIA EDISON COMPANY	POLES	JUNE 1, 1920 BOOK 7273 PAGE 4, Dds.	II
10 G	32 (II)	SOUTHERN CALIFORNIA EDISON COMPANY	POLES etc.	JANUARY 3, 1940 BOOK 17145 PAGE 246, O.R.	II
10 S	21 (II)	SOUTHERN CALIFORNIA EDISON COMPANY	ELECTRIC LINE	MAY 6, 1952 BOOK 38895 PAGE 355, O.R.	II
10 V	20 (II)	SOUTHERN CALIFORNIA EDISON COMPANY	ELECTRIC LINE	DECEMBER 21, 1953 BOOK 43431 PAGE 65, O.R.	II
10 X	85 (II)	SOUTHERN CALIFORNIA EDISON COMPANY	POLES	APRIL 29, 1954 BOOK 44457 PAGE 230, O.R.	II
10 II	102(II)	SOUTHERN CALIFORNIA EDISON COMPANY	TOWER LINES etc.	FEBRUARY 6, 1960 INSTRUMENT NO.3843, O.R.	II
10 JJ	103(II)	SOUTHERN CALIFORNIA EDISON COMPANY	ROADWAYS	APRIL 10, 1961 INSTRUMENT NO.3434, O.R.	II
10 VV	48 (I)	SOUTHERN CALIFORNIA EDISON CO.	TRANSMISSION LINES	JULY 23, 1964 INSTRUMENT NO.5047, O.R.	I
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10 III	40 (I)	SOUTHERN CALIFORNIA EDISON COMPANY	ELECTRICAL SUPPLY SYSTEMS	DECEMBER 2, 1971 INSTRUMENT NO.2421, O.R.	I
14 D	●	PACIFIC TELEPHONE AND TELEGRAPH COMPANY	POLES, ANCHORS AND WIRES	JANUARY 3, 1940 BOOK 17145 PAGE 266, O.R.	●
18 A	37 (II)	STATE OF CALIFORNIA	HIGHWAY	JANUARY 12, 1938 DOCUMENT NO.714-H (TORRENS)	II
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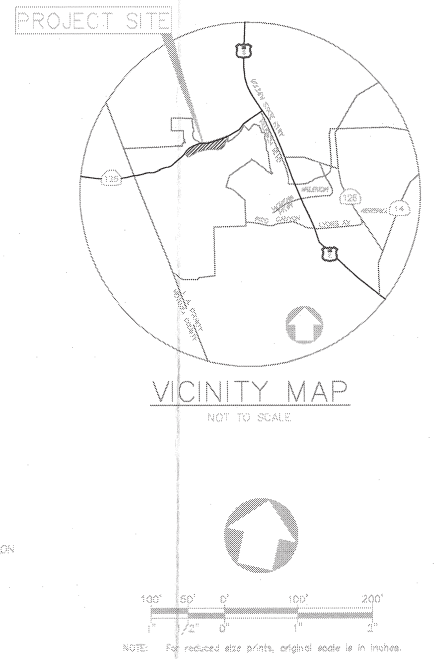
18 C	●	STATE OF CALIFORNIA	ROADWAY	MARCH 21, 1957 INSTRUMENT NO.97-426774, O.R.	●
20	34 (II)	AUGUST A. RUSEL MARY RUSEL	PIPE LINES	JUNE 14, 1940 BOOK 17598 PAGE 237, O.R.	II
23 C	●	SOUTHERN CALIFORNIA GAS COMPANY	PIPELINE	NOVEMBER 17, 1969 BOOK 34639 PAGE 56, O.R.	●
23 F	128(II)	SOUTHERN CALIFORNIA GAS COMPANY	PIPE LINES	FEBRUARY 5, 1979 INSTRUMENT NO.2154, O.R.	II
26 C	30 (II)	UNION OIL COMPANY	PIPE LINES	FEBRUARY 7, 1962 INSTRUMENT NO.3210, O.R.	II
35	●	TEXACO	ROADWAY & PUMP STATION	NOVEMBER 24, 1930 DOC 1980	●
42	57 (I)	EXXON CORPORATION	PIPE LINE	JUNE 21, 1979 INST. NO.79-675835, O.R.	I

LEGEND:

- 100 — LOT NO.
- 5,000 SF — LOT AREA (SQUARE FEET)
- 1210.5 — PAD ELEVATION
- PROJECT BOUNDARY
- RIGHT OF WAY
- EASEMENT
- FUTURE RIGHT OF WAY
- 950 — PROPOSED CONTOUR
- DAYLIGHT LINE
- SD — STORM DRAIN
- SS — SANITARY SEWER
- W — WATER
- RW — RECLAIMED WATER
- W — EXISTING WATER LINE
- EXISTING CMP INLET
- CATCH BASIN
- WATER GATE VALVE
- RIDGE LINE
- CUT & FILL
- SEA 23, RIVER CORRIDOR
- FEMA
- Q-CAP
- OIL WELL GPS POSITIONED
- OIL WELL DEPT. OF OIL AND GAS CALCULATED POSITION
- OIL WELL DIGITIZED POSITION
- OIL WELL DEPT. OF OIL AND GAS METAL DETECTOR POSITION
- EXISTING OAK TREE
- W.S. — WATER SURFACE
- TRAIL
- BURIED BANK STABILIZATION
- SIGHT DISTANCE LINE
- (A) — DETAILS ON SHEET 2

PROJECT SITE



100' 50' 0' 100' 200'

NOTE: For reduced size prints, original scale is in inches.

LEGEND

Symbol	Description
af	Artificial Fill
Caf	Compacted Artificial Fill
ac	Asphalt Concrete
debris	Fragments of Portland Cement Concrete, Asphalt Concrete and Rebar mixed with Artificial Fill
Qal	Quaternary Alluvium; Locally Includes Thin Patches of Artificial Fill
Qoa	Quaternary Older Alluvium; Locally Includes Thin Patches of Artificial Fill
TQs	Saugus Formation
Tp	Pico Formation
CPT-128	Location of Cone Penetration Test
RW-14	Location of Rotary-Wash Boring (5 7/8" D) (Piezometers Installed In RW-1, RW-3, RW-7, RW-11 and RW-13)
HS-13	Location of Hollow-Stem-Auger Boring (8" OD)
BA-4R	Location of Bucket-Auger Boring (24" D)
T-27R	Location of Exploratory Backhoe Pit
T-38D	Location of Exploratory Backhoe Pit for Buried Debris Assessment
(dashed line)	Geologic Contact, Locally Concealed by Artificial Fill
27	Strike and Dip of Bedding; Average Bedding Attitudes From Bucket-Auger Borings Are Shown In a Box
(arrowed line)	Approximate Location of Anticline Axis; Showing Direction of Plunge; Largely Concealed by Surficial Material
3 — 3'	Geologic Cross Section
3H — 3H'	Hydrogeologic Cross Section
5'	Contours of Historic High Ground Water Depths
12-16'	Recommended Removal Depths for Alluvium and Artificial Fill; Limits of Removals Designated by Heavy Solid Line
18'	Depth of Weak Soils Indicated by Testing
Exxon NL&F No. 77	Location of Existing Oil Well
6948 A B-6	Location of Water Well B-6 - Existing Agricultural Water Wells 6498A - LACFCD Wells; Some Locations Uncertain and/or Abandoned

PROJECT SUMMARY:

- GROSS AREA — 291.2 Acres
- TOTAL LOTS — 702
- TOTAL D.U. — 1,444
- EXISTING ZONING — SP (NEWHALL RANCH SPECIFIC PLAN)
- PROPOSED ZONING — SP (NEWHALL RANCH SPECIFIC PLAN)
- GENERAL PLAN LAND USE — SP (NEWHALL RANCH SPECIFIC PLAN)

LOT SUMMARY

LOT NUMBERS	TOTAL LOTS/ BLDGS	TYPE (USE)	TYP. DIMENSION and SIZE	TOTAL D.U.
2-30, 94-105, 107-116, 293-295, 297-307, 310-314, 317, 320-323, 341, 342,	77/	S.F.D.	32' x 105' 3,360 S.F.	77
32-41, 44-46, 49-58, 61-69, 72-80, 83-91, 93, 296, 318, 319, 324-340, 343-349, 351-371, 374-376, 379-396, 464-466, 489-493, 495-498	152/	S.F.D.	38' x 105' 3,990 S.F.	152
1, 31, 43, 47, 71, 92, 106, 117, 119-125, 127-140, 142-148, 228, 229, 254-256, 259-272, 274-292, 308, 309, 315, 372, 373, 377, 378, 397, 399-427, 429-431, 434-444, 446-449, 451-461, 463, 467	142/	S.F.D.	50' x 105' 5,250 S.F.	142
42, 48, 59, 60, 70, 81, 82, 118, 126, 141, 149-227, 230-253, 257, 258, 273, 316, 350, 398, 428, 432, 433, 445, 450, 462, 468, 484, 490-551,	180/	S.F.D.	60' x 105' 6,300 S.F.	180
552-559, 591-594, 568-577, 581-590, 602-607	38/70	ATTACHED CONDOMINIUMS	1,208,334 S.F.	373
560-567, 578-580, 595-601	19/38	APARTMENTS (FOR LEASE)	749,148 S.F.	520
608-616	9/15	MIXED USED/ COMMERCIAL (FOR LEASE)	472,151 S.F.	
617-633	17/17	MIXED USED/ COMMERCIAL (FOR LEASE)	1,264,071 S.F.	
662-671	10/	MIXED USED/ COMMERCIAL (FOR LEASE)	334,633 S.F.	
634-640	7/	RECREATIONS	147,889 S.F.	
641-644, 702	5/	DRAINAGE (WATER QUALITY CONTROL BASIN)	34,236 S.F.	
672, 683, 684	3/	PARK SITE	927,826 S.F.	
673	1/	SCHOOL SITE	441,817 S.F.	
645-661, 674-682, 685-701	43/	OPEN SPACE	1,980,592 S.F.	
TOTAL	702/140			1,444

GENERAL NOTES:

1. REQUEST PERMISSION TO FILE PARCEL MAP.
   a. 20 ACRE MINIMUM PARCELS WITH NO REQUIRED PUBLIC IMPROVEMENTS.
   b. SUB-TWENTY (20) ACRE PARCELS WITH PUBLIC ACCESS AND UTILITIES.
2. UNIT PHASING IS REQUESTED.
3. PERMISSION TO ADJUST LOT LINES IS REQUESTED (ACREAGES ARE APPROXIMATE).
4. PERMISSION TO RECORD ADDITIONAL OPEN SPACE LOTS IS REQUESTED.
5. PERMISSION TO RECORD JOINT ACCESS EASEMENTS (20' WIDE) AS LOTS REQUESTED.
6. REQUEST PERMISSION TO COMBINE LOTS.
7. PROPOSED STREET GRADING IS APPROXIMATE ONLY AND SUBJECT TO ADJUSTMENTS PENDING DETERMINATION OF FINAL DEVELOPMENT LAYOUT AND PLANS.
8. GRADING ±10 FT.
9. REQUEST PERMISSION TO MASS GRADE.
10. TOPO COMPILED 6/26/98 FROM DATA FLOWN 6/26/98.
11. REQUEST PERMISSION TO ADJUST UNIT TYPICALS AND BUILDINGS FOOTPRINTS WITHIN THE MINIMUM SETBACK REQUIREMENTS.
12. LOCATION OF TRAILS TO BE FINALIZED PRIOR TO FINAL MAP APPROVAL.
13. ALL DIMENSIONS SHOWN ARE APPROXIMATE.
14. MODIFIED STREET CROSS-SECTIONS AS SHOWN ON VESTING TENTATIVE TRACT MAP ARE REQUESTED. HOWEVER, PERMISSION IS SOUGHT TO CONSTRUCT STANDARD AND ALTERNATE STREET CROSS-SECTIONS AT THE DISCRETION THE SUBDIVIDER.
15. DEVELOPER REQUESTS THE ABILITY TO REPLACE TYPICAL STREET SECTIONS FOR "B", "C" TO "D" AND "T" TO "V" STREETS WITH MODIFIED LOCAL STREET (52' R/W), WITH PARKING BOTH SIDES OF STREET.
16. REQUEST PERMISSION TO CONSTRUCT ROLLED CURB & GUTTER IN STREETS IN FRONT OF ALL RESIDENTIAL LOTS EXCEPT ON THE SPINE ROAD.
17. WATER QUALITY BASINS ARE CONCEPTUAL ONLY. WATER QUALITY MEASURES WILL BE IMPLEMENTED AT THE DISCRETION OF THE DEVELOPER.

SPECIAL NOTES:

1. LOCATION & SIZE OF WATER QUALITY BASINS ARE APPROXIMATE. SIZES ARE DEPENDENT ON THE AMOUNT OF WATER QUALITY FILTRATION PROVIDED IN UPSTREAM PROJECTS.
2. DEPENDING ON WATER FILTER SIZE, DURING FINAL DESIGN, ANY EXCESS LOT AREA CAN BE INCORPORATED INTO ADJACENT LOTS AND THEIR LAND USE.
3. THE WATER QUALITY BASINS SHALL BE DEDICATED TO THE COUNTY WHEN COMPLETED AND ACCEPTED.

SURVEY NOTES:

VERTICAL DATUM. . . . . LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS BENCHMARK DESCRIBED AS FOLLOWS: LACDPW L5402 RND HD SPK IN LOWER CONC HDWL @ N END 24 FT W/O C/L THE OLD RD (W RDWY) AND 0.6 MI S/O HENRY MAYO DR @ MI MKR #6.25 NEWHALL QUAD, 1995 ADJUSTMENT (NAVD 1988) ELEVATION = 1031.951

THERE IS APPROXIMATELY 2.3 FEET DIFFERENCE BETWEEN PREVIOUS COUNTY OF LOS ANGELES DATUMS BASED UPON NAVD 1929 AND NAVD 1988 (NAVD 1988 IS 2.3 FEET HIGHER THAN NAVD 1929).

AERIAL PLANIMETRY . . . THIS SURVEY WAS PREPARED BY PHOTOGRAMMETRIC PROCESSES, UTILIZING AERIAL PHOTOGRAPHY DATED SEPTEMBER 19, 1999. THE OUTLINE OF BUILDINGS AND OTHER ROOFED IMPROVEMENTS, MAY INCLUDE EAVES, CANOPIES AND BALCONIES, SINCE BUILDINGS BELOW THESE ITEMS ARE NOT VISIBLE TO THE CAMERA.

TOPOGRAPHY. . . . . BY PHOTOGRAMMETRIC PROCESSES FROM LIDAR IMAGING DATED JUNE 24-28, 1998, AND COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS.

CONTOUR INTERVAL. . . . 2 FOOT.

SHEET INDEX

1	VESTING TENTATIVE TRACT MAP-TRACT NO. 53108 (1" = 100')
2	20 ACRE, SUB ≠ 20 ACRE PARCEL PHASING & DETAIL SHEET

REV:
DATE: JUNE 11, 2000

LEGAL DESCRIPTION:
PARCELS 14, 15, 16, 17 OF PARCEL MAP NO. 24500-01 PMB 293-34 / 67, RECORDS OF LOS ANGELES COUNTY.

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 Exp. 3-31-03 CIVIL STATE OF CALIFORNIA

PSOMAS
11444 West Olympic Boulevard, Suite 750
West Los Angeles, CA 90064-1549
(310) 954-3700 (310) 954-3777 (FAX)

JASON H. FUKUMITSU R.C.E. NO. 40695 DATE

DESIGNED: JFH
DRAFTED: MD/DB
CHECKED: JFH/WY

OWNER/DEVELOPER:
NEWHALL RANCH
23823 WEST VALENCIA BOULEVARD
VALENCIA, CALIFORNIA 91335
TELEPHONE: (661) 255-4000
REPRESENTATIVE: MR. DAVID CROWDER

MAJOR LAND DIVISION
VESTING TENTATIVE TRACT MAP
NO. 53108

4.1-B

IN THE UNINCORPORATED AREA OF THE COUNTY OF LOS ANGELES — STATE OF CALIFORNIA

PROJECT NO. 1NRC0107.00

SHEET 1 OF 2

RV01-01

GROUND WATER CONTOUR MAP

ALLAN E. SEWARD
ENGINEERING GEOLOGY, INC.

Date: 9-27-00 | Job No.: 00-1702

PLATE III

PROJECT SUMMARY:

GROSS AREA – 291.2 Acres
TOTAL LOTS – 702
TOTAL D.U. – 1,444
EXISTING ZONING – SP (NEWHALL RANCH SPECIFIC PLAN)
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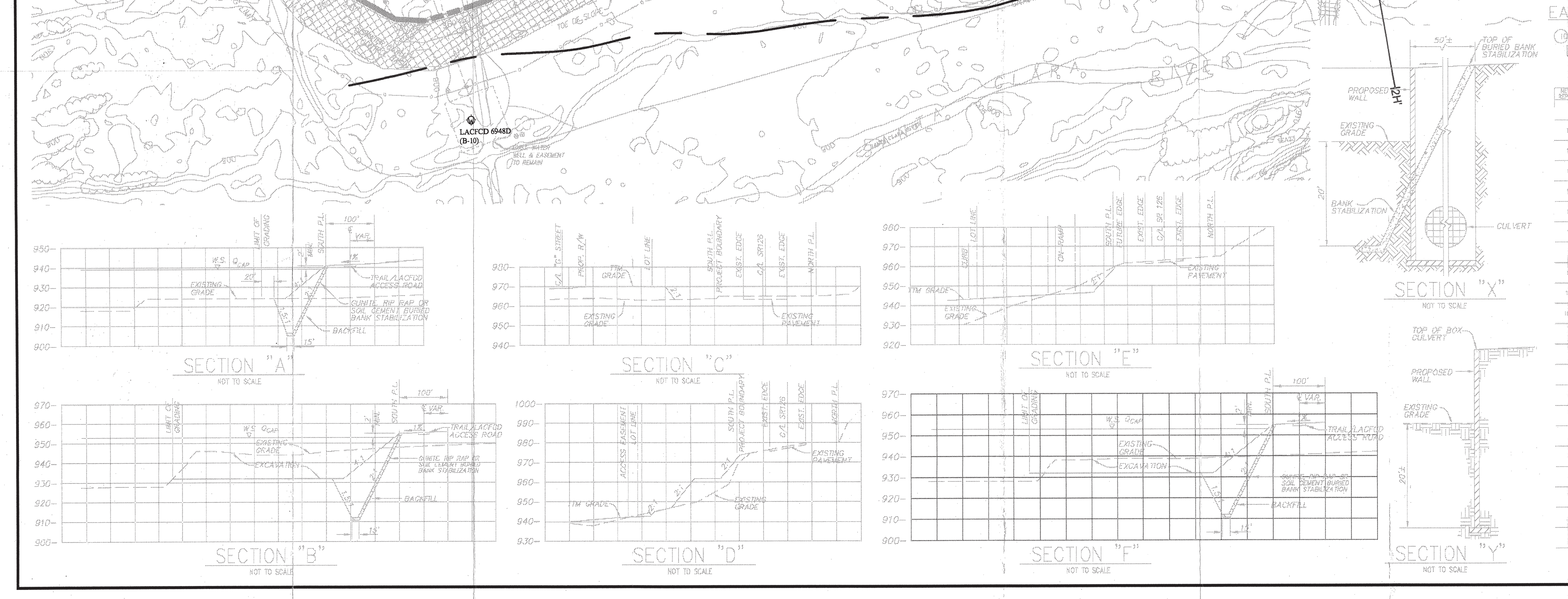

EASEMENTS:

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[10ZZ] NEW TITLE REPORT NUMBER
(pentagon) NOT CALLED OUT ON MOST RECENT TITLE REPORT

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LEGEND:

- 100 — LOT NO.
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- SS — SANITARY SEWER
- W — WATER
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- SEA23 — SEA 23, RIVER CORRIDOR
- FEMA — FEMA
- Q50 — Q–CAP
- OIL WELL GPS POSITIONED
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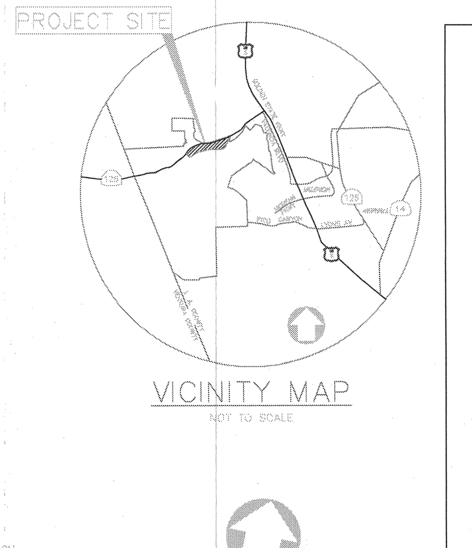
- EXISTING OAK TREE
- W.S. — WATER SURFACE
- TRAIL
- BURIED BANK STABILIZATION
- SIGHT DISTANCE LINE
- (A) — DETAILS ON SHEET 2

PROJECT SITE



VICINITY MAP
NOT TO SCALE

100' 50' 0' 100' 200'
1" 1/2" 0" 1" 2"
NOTE: For reduced size prints, original scale is in inches.

LEGEND

af	Artificial Fill
Caf	Compacted Artificial Fill
ac	Asphalt Concrete
debris	Fragments of Portland Cement Concrete, Asphalt Concrete and Rebar mixed with Artificial Fill
Qal	Quaternary Alluvium; Locally Includes Thin Patches of Artificial Fill
Qoa	Quaternary Older Alluvium; Locally Includes Thin Patches of Artificial Fill
TQs	Saugus Formation
Tp	Pico Formation
CPT-128	Location of Cone Penetration Test
RW-14	Location of Rotary-Wash Boring (5 7/8" D) (Piezometers Installed In RW-1, RW-3, RW-7, RW-11 and RW-13)
HS-13	Location of Hollow-Stem-Auger Boring (8" OD)
BA-4R	Location of Bucket-Auger Boring (24" D)
T-27R	Location of Exploratory Backhoe Pit
T-38D	Location of Exploratory Backhoe Pit for Buried Debris Assessment
	Geologic Contact, Locally Concealed by Artificial Fill
27	Strike and Dip of Bedding; Average Bedding Attitudes From Bucket-Auger Borings Are Shown In a Box
	Approximate Location of Anticline Axis; Showing Direction of Plunge; Largely Concealed by Surficial Material
3 — 3'	Geologic Cross Section
3H — 3H'	Hydrogeologic Cross Section
5'	Contours of Historic High Ground Water Depths
12-16'	Recommended Removal Depths for Alluvium and Artificial Fill; Limits of Removals Designated by Heavy Solid Line
18'	Depth of Weak Soils Indicated by Testing
Exxon NL&F No. 77	Location of Existing Oil Well
6948 A B-6	Location of Water Well B-6 - Existing Agricultural Water Wells 6498A - LACFCD Wells; Some Locations Uncertain and/or Abandoned

REV: ________
DATE: JUNE 11, 2000

LEGAL DESCRIPTION:
PARCELS 14, 15, 16, 17 OF PARCEL MAP NO. 24500–01 PMB 293–34 / 67, RECORDS OF LOS ANGELES COUNTY.

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 Exp. 3-31-03 CIVIL STATE OF CALIFORNIA

PSOMAS
11444 West Olympic Boulevard, Suite 750
West Los Angeles, CA 90064-1549
(310) 954-3700 (310) 954-3777 (FAX)

JASON H. FUKUMITSU R.C.E. NO. 40695 DATE

DESIGNED: JFH
DRAFTED: MD/DB
CHECKED: JFH/WY

OWNER/DEVELOPER:
NEWHALL RANCH
23823 WEST VALENCIA BOULEVARD
VALENCIA, CALIFORNIA 91335
TELEPHONE: (661) 255-4000
REPRESENTATIVE: MR. DAVID CROWDER

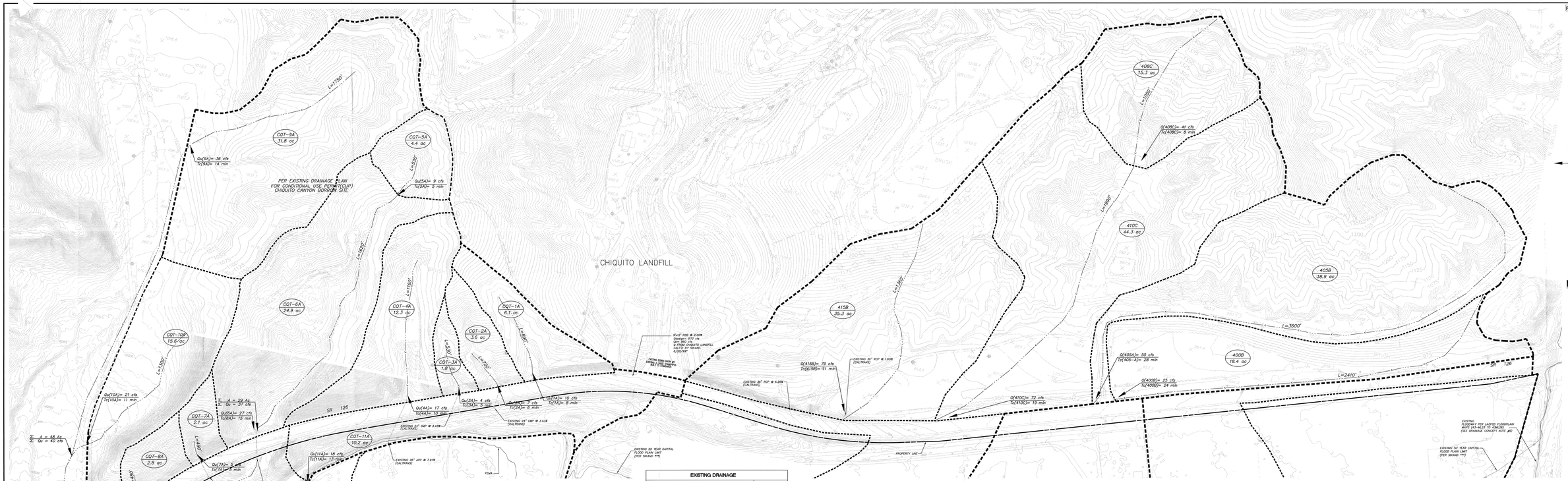
MAJOR LAND DIVISION
VESTING TENTATIVE TRACT MAP
NO. 53108

4.1-C

IN THE UNINCORPORATED AREA OF THE COUNTY OF LOS ANGELES STATE OF CALIFORNIA

PROJECT NO. 1NRC0107.00
SHEET 1 OF 2

RV01–01



EXISTING DRAINAGE

SUB-BASIN NUMBER	TIME OF CONCENTRATION (minutes)	SUB-BASIN AREA (acres)	INCREMENTAL SUB-BASINS Q (cfs)	INCREMENTAL SUB-BASINS Qb (cfs)	INCREMENTAL SUB-BASINS Qnb (cfs)	CUMULATIVE SUB-BASINS SUB-BASIN AREA (acres)	CUMULATIVE SUB-BASINS Qnb (cfs)
110A	22	22.7	27	41	52	—	—
111A	20	49.6	44	58	74	82.3	111
112A	24	12.3	24	28	35	53.1	76
410B	24	18.4	14	20	26	18.4	26
405A	28	28.5	27	28	30	—	—
410C	18	13.3	20	22	12	—	—
410A	8	12.7	25	27	13	—	—
415B	11	35.3	46	62	79	—	—
415A	20	28.4	35	44	61	—	—
420A	20	39.9	35	49	61	235.5	280
505A	30	36.5	33	33	43	—	—
510A	24	45.0	31	34	52	66.5	83
620A	22	12.4	10	14	18	12.4	18
					SUBTOTAL:	440.8	548
					CH-Qu(10):	127.3	283
					TOTAL:	568.1	831

EXISTING CHIQUITO PROJECT DRAINAGE

SUB-BASIN NUMBER	TIME OF CONCENTRATION (minutes)	INCREMENTAL SUB-BASINS 50-YEAR STORM EVENT SUB-BASIN AREA (acres)	Qu (cfs)	Qb (cfs)	Qnb (cfs)	DEBRIS PROJECTION (cy)
CQT-1A	8	6.1	10	13	16	165
CQT-2A	6	3.6	7	9	11	97
CQT-3A	5	1.8	4	5	6	47
CQT-4A	10	15.3	17	22	28	330
CQT-5A	5	4.4	10	12	15	118
CQT-6A	15	24.9	27	35	44	327
CQT-7A	6	2.1	5	6	8	57
CQT-8A	5	2.8	6	7	10	76
CQT-9A	14	31.8	56	65	81	859
CQT-10A	11	15.6	21	26	33	421
CQT-11A	17	10.2	18	19	29	137
CQT-12A	10	11.7	26	28	38	87
SUBTOTAL		137.3	187	227	283	2982

REFERENCES:

* THIS MAS CALCULATED BY SCANDI AND CAN BE FOUND THE NEWHALL RANCH SPECIFIC PLAN MASTER DRAINAGE STUDY, PREPARED BY SCANDI, DATED 06/28/94. APPROVED FOR REFERENCE.

** DEBRIS GENERATED WITHIN THESE SUB-BASINS WILL BE COLLECTED IN DEBRIS BASINS UPSTREAM OF S.R.126 AND WILL NOT ENTER THE RIVER VILLAGE DEVELOPMENT. THIS IS IN ACCORDANCE WITH THE NEWHALL RANCH SPECIFIC MASTER PLAN HYDROLOGY AND DRAINAGE CONCEPT - NORTHERLY SIDE DRAIN SYSTEMS PREPARED BY SCANDI AND DATED 06/28/94.

*** SCANDI 50-YEAR FLOODPLAIN PER DRAINAGE CONCEPT PLAN VTTM NO.53108 - EX41B172_SC_EX60.DWG

DRAINAGE DESIGN CRITERIA:

1. 50-YEAR 24-HOUR ISOHYET: 5.8
2. SOIL TYPE: 000
3. DESIGN STORM: 50 YEAR RETURN PERIOD
4. PERCENT IMPERVIOUS VALUES: SINGLE FAMILY = .428 MULTI FAMILY = .528 COMMERCIAL = .928 SCHOOL = .828 OPEN SPACE = .08 PARK = .158 ROADWAY = .100S
5. DP#= 09
6. BULK FACTOR= 1.27

LEGEND:

- 110A — SUB-BASIN NUMBER
- 7.3 ac — SUB-BASIN AREA (ac)
- PROJECT BOUNDARY
- SUB-BASIN BOUNDARY
- DRAINAGE AREA BOUNDARY
- RIGHT OF WAY
- EASEMENT
- 950 — PROPOSED CONTOUR
- DAYLIGHT LINE
- 50' — STORM DRAIN
- EXISTING CMP INLET
- CATCH BASIN
- FEMA LINE
- LOS ANGELES COUNTY FLOODWAY
- 6-CMP (Existing)
- BURIED BANK STABILIZATION
- DEBRIS BASIN CONTRIBUTING AREA
- FLOWPATH
- DEBRIS FLOWPATH
- Q — EXISTING SUBAREA Qsurfaced + Qultrad
- Qsub= 9 cfs, Tc(sub)= 15 min — EXISTING TIME OF CONCENTRATION
- Q — Qsurfaced/Qnatlap
- Qd — Qdeveloped
- Qs — Qsurfaced
- Qsb — Qsurfaced+Qultrad
- Qnb — Qsurfaced+Qultrad

PROJECT SITE

VICINITY MAP
NOT TO SCALE

NOTE: For reduced size prints, original scale is 0 inches.

LEGAL DESCRIPTION:
PARCELS 16, 17, 18, 17 OF PARCEL MAP NO. 24500-01 PMB 293-76 / 81, RECORDS OF LOS ANGELES COUNTY.

ROSS H. BARKER R.C.E. NO. C32799 DATE

PSOMAS
3765 South Higuera Street, Suite 100
San Luis Obispo, California 93401
(805) 546-0455 (805) 546-0151 (Fax)

DESIGNED: RB/JW
DRAFTED: AC
CHECKED: MG

OWNER/DEVELOPER:
NEWHALL RANCH
23823 WEST VALENCIA BOULEVARD
SANTA CLARITA, CALIFORNIA 91355
TELEPHONE: (661) 259-0578 FAX: (661) 259-0578
REPRESENTATIVE: MR. DAVID CRONKER

EXISTING DRAINAGE PLAN FOR VESTING TENTATIVE TRACT MAP NO. 53108
NEWHALL RANCH - LANDMARK VILLAGE
IN THE UNINCORPORATED AREA OF THE COUNTY OF LOS ANGELES

EXISTING AREAS
OFFSITE

REV: SEPT 21, 2005
DATE: SEPT 15, 2004

PROJECT NO.: RMR2002-08

SHEET 3 OF 6

4.2-D

RV062-03

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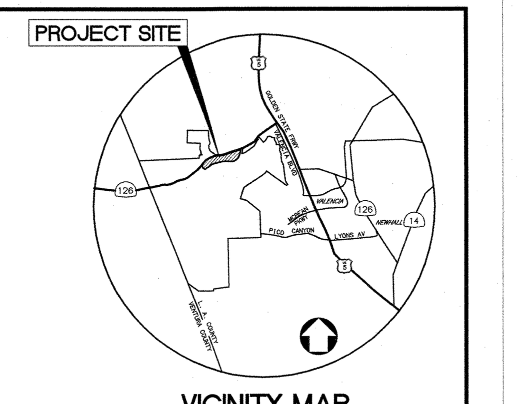
DRAINAGE CONCEPT NOTES:

1. HYDROLOGY INFORMATION AND STORM DRAIN ALIGNMENTS SHOWN ARE NOT NECESSARILY APPROVED.
2. ALL STREET DRAINAGE REQUIREMENTS WILL COMPLY WITH THE SATISFACTION OF THE DEPARTMENT OF PUBLIC WORKS.
3. DEDICATION OF THE NECESSARY EASEMENTS FOR THE STORM DRAIN SYSTEM SHOWN WILL BE TO THE SATISFACTION OF THE DEPARTMENT OF PUBLIC WORKS.
4. PAVED VEHICULAR ACCESS WILL BE PROVIDED TO ALL INLETS, OUTLETS AND BASINS TO THE SATISFACTION OF THE DEPARTMENT OF PUBLIC WORKS.
5. APPROVAL OF THE DRAINAGE CONCEPT DOES NOT CONSTITUTE DETERMINATION THAT THE OFFSITE IMPROVEMENTS ARE REQUIRED WITHIN THE MEANING OF GOVERNMENT CODE SECTION 66462.5, (EXCEPT AS NOTED).
6. DELINEATE THE FLOOD HAZARD AREA AND DEDICATE TO THE COUNTY OF LOS ANGELES THE RIGHT TO RESTRICT BUILDING WITHIN THAT AREA ON THE FINAL MAP.
7. THE PROPOSED WATER QUALITY BASIN, SWALES, DEBRIS BASINS AND STORM DRAIN FACILITIES WILL BE MAINTAINED BY LOS ANGELES COUNTY.
8. BECAUSE THE WATER QUALITY BASIN, AND SWALES PROVIDE AN OUTLET, AND NO PERCOLATION CONSIDERED, A 7-DAY PERCOLATION TEST WILL NOT BE REQUIRED.
9. FLOODWAY MAP WILL BE AMENDED AS PART OF THE RIVER ANALYSIS BY PACE ENGINEERING; TO BE SUBMITTED SEPARATELY.
10. CLOMR UNDER PREPARATION BY OTHERS; TO BE SUBMITTED SEPARATELY.
11. WHEN DUPLICATE DATA SHOWN ON BOTH TABLE & PLAN, PLAN DATA SHOWN FOR INFORMATIONAL PURPOSES ONLY.
12. ALL RIVER SWALES TO HAVE EMERGENCY OVERFLOW SPILLWAY FOR FLOOD DISCHARGE.
13. ENCROACHMENT INTO EXISTING MAIN LINE FLOODWAY AND FEMA ZONE "A" WILL BE MITIGATED.
14. PROPOSED DRAINAGE FACILITIES WITHIN CALTRANS R/W SHALL BE MAINTAINED BY CALTRANS.
15. CATCH BASIN, WATER QUALITY FACILITIES AND STORM DRAIN LINE WITHIN CALTRANS RIGHT OF WAY TO BE MAINTAINED BY CALTRANS.



NOTES:

1. LOCATION, SIZE AND NUMBER OF WATER QUALITY BASIN, SWALES AND FITER STRIP ARE APPROXIMATE. SIZES ARE DEPENDENT ON THE AMOUNT OF WATER QUALITY TREATMENT PROVIDED IN UPSTREAM PROJECTS.
2. DEPENDING ON WATER QUALITY FACILITY SIZE, DURING FINAL DESIGN, ANY EXCESS LOT AREA CAN BE INCORPORATED INTO ADJACENT LOTS AND THEIR LAND USE.
3. THE WATER QUALITY BASIN, SWALES AND FILTER STRIP SHALL BE DEDICATED TO THE COUNTY WHEN COMPLETED AND ACCEPTED.
4. CDS UNIT OR OTHER DEPARTMENT APPROVED EQUIVALENT BMPS MAY BE SUBSTITUTED AS APPROPRIATE DURING FINAL DESIGN.
5. WATER QUALITY FACILITIES ASSOCIATED WITH SR 126 ARE PER SEPARATE PLAN BY OTHERS.
6. TREATMENT BMPs ARE DESIGNED TO TREAT 80% OF THE TOTAL RUNOFF FROM IT'S TRIBUTARY AREA.
7. WATER QUALITY DEVICES TO BE MAINTAINED BY LA COUNTY LMD SPECIAL DISTRICT.

TREATMENT BMP CALCULATIONS BY DRAINAGE AREA LANDMARK VILLAGE CENTRAL

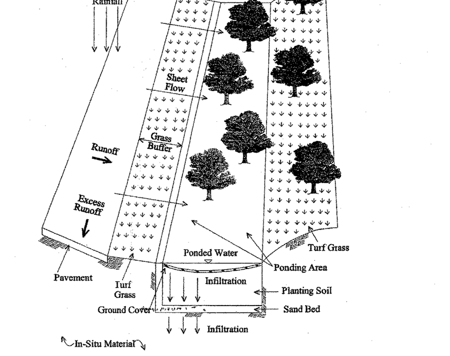
Subarea	Area (ac)	LA County Req. Qpm (cfs)	Project Design Qpm (cfs)	BMP Type	BMP Site	Bioretention Area (acres)	LA County Req. Vm (ac-ft)	Project Design Vm (ac-ft)
RVC-2A	10.9	0.4	N/A	Bioretention	RVC-12C	0.22	0.14	0.55
RVC-3A	11.9	1.3	N/A	Bioretention	RVC-12C	0.50	0.43	0.95
RVC-7A	10.2	1.4	N/A	Bioretention	RVC-12C	0.51	0.44	0.92
RVC-8A	5.1	0.7	N/A	Bioretention	RVC-12C	0.27	0.23	0.46
RVC-11B	16.4	2.0	3.2	Vegetative Swale	RVC-17C	N/A	0.65	N/A
RVC-18C	17.4	2.0	3.3	Vegetative Swale	RVC-21D	N/A	0.65	N/A
RVC-22D	2.5	0.4	–	WQ Extended Detention Basin	RVC-21D	N/A	0.14	0.30
RVC-23E	39.3	6.3	–	WQ Extended Detention Basin	RVC-21D	N/A	2.01	3.14
RVC-24E	7.4	1.2	1.9	WQ Extended Detention Basin	RVC-21D	N/A	0.38	0.81

TREATMENT BMP CALCULATIONS BY DRAINAGE AREA LANDMARK VILLAGE EAST

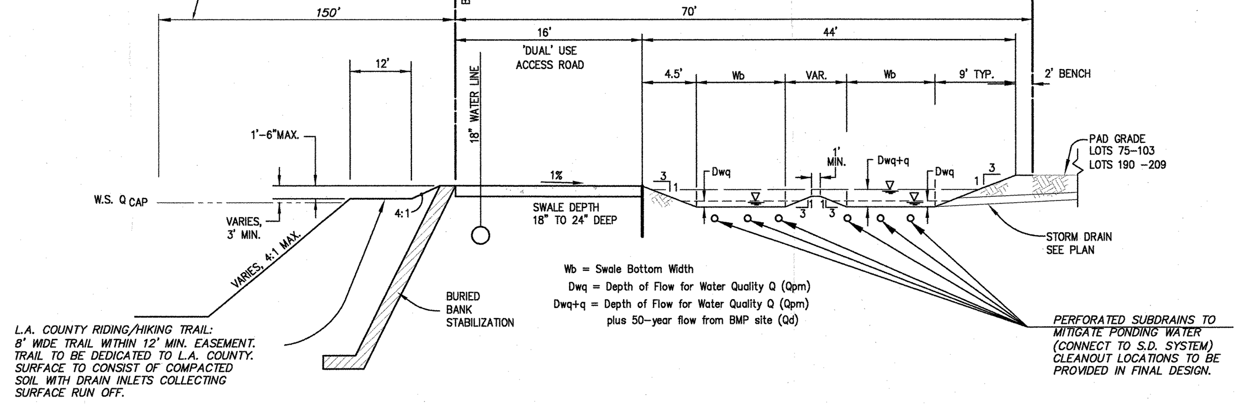
Subarea	Area (ac)	LA County Req. Qpm (cfs)	Project Design Qpm (cfs)	BMP Type	BMP Site	Bioretention Area (acres)	LA County Req. Vm (ac-ft)	Project Design Vm (ac-ft)
RVE-8A	22.8	2.5	N/A	Bioretention	RVE-8A	0.91	0.80	1.82
RVE-9A	5.7	0.6	N/A	Bioretention	RVE-9A	0.23	0.20	0.46
RVE-11B	16.2	1.8	2.9	Vegetative Swale	RVE-12C	N/A	0.59	N/A
RVE-13C	16.5	2.1	3.3	Vegetative Swale	RVE-16D	N/A	0.66	N/A
RVE-17D	18	2.0	3.1	Vegetative Swale	RVE-21F	N/A	0.63	N/A
RVE-20E	18.3	2.3	3.6	Vegetative Swale	RVE-24F	N/A	0.73	N/A
RVE-25F	14.4	1.6	2.5	Vegetative Swale	RVE-29G	N/A	0.51	N/A
RVE-27B	7.3	1.0	N/A	Bioretention	RVC-12C	0.38	0.32	0.66
RVE-28B	5	0.7	N/A	Bioretention	RVC-12C	0.26	0.22	0.45

TREATMENT BMP CALCULATIONS BY DRAINAGE AREA LANDMARK VILLAGE WEST

Subarea	Area (ac)	LA County Req. Qpm (cfs)	Project Design Qpm (cfs)	BMP Type	BMP Site	Bioretention Area (acres)	LA County Req. Vm (ac-ft)	Project Design Vm (ac-ft)
RVW-1A	10.8	2.0	2.1	Vegetative Swale	RVW-2A	N/A	0.63	N/A
RVW-2A	14.7	1.3	3.1	Vegetative Swale	RVW-2A	N/A	0.42	N/A



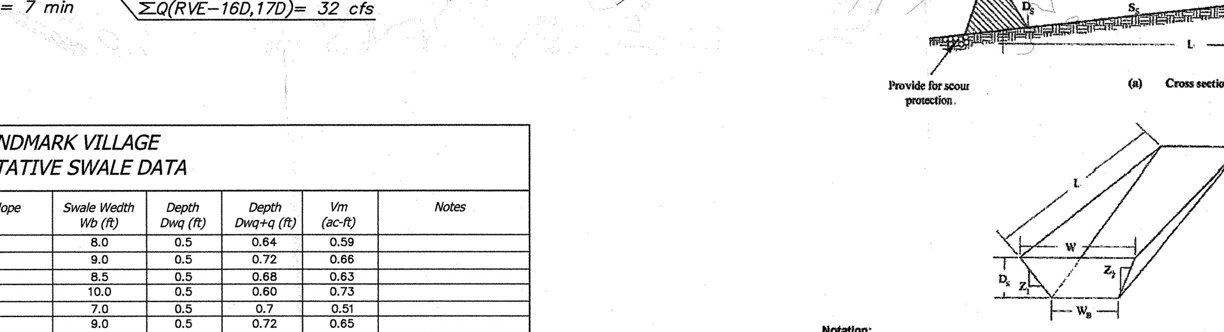
BIORETENTION DETAIL



WATER QUALITY SWALE CROSS-SECTION

LANDMARK VILLAGE VEGETATIVE SWALE DATA

BMP Site	Qpm (cfs)	Q50-Site (cfs)	Qpm+Q50 (cfs)	n	Longitudinal Slope s (ft/ft)	Swale Wedth Wb (ft)	Depth Dwq (ft)	Depth Dwq+q (ft)	Vm (ac-ft)	Notes
RVE-12C	2.9	1.0	3.9	0.25	0.01	8.0	0.5	0.64	0.59	
RVE-16D	3.3	2.0	5.3	0.25	0.01	9.0	0.5	0.72	0.66	
RVE-21F	3.1	1.0	4.1	0.25	0.01	8.5	0.5	0.68	0.63	
RVE-24F	3.6	2.0	5.6	0.25	0.01	10.0	0.5	0.60	0.73	
RVE-29B	2.5	1.0	3.5	0.25	0.01	7.0	0.5	0.7	0.51	
RVC-17C	3.2	2.0	5.2	0.25	0.01	9.0	0.5	0.72	0.65	
RVC-21D	3.3	3.0	6.3	0.25	0.01	9.0	0.5	0.72	0.65	
RVW-1A	2.1	N/A	2.1	0.25	0.01	6.0	0.5	0.48	0.63	UPSTREAM OF LINE L
RVW-2A	3.1	2.0	5.1	0.25	0.01	8.5	0.5	0.68	0.42	DOWNSTREAM OF LINE L



Notation:
L = Length of swale impoundment area per check dam (ft) (b) Dimensional view of swale impoundment area
D_S = Depth of check dam (ft)
S_S = Bottom slope of swale (ft/ft)
W = Top width of check dam (ft)
W_B = Bottom width of check dam (ft)
$Z_{1\&2}$ = Ratio of horizontal to vertical change in swale side slope (ft/ft)

PROPOSED VEGETATED SWALE DETAILS
N.T.S.

DRAINAGE DESIGN CRITERIA:

1. 50-YEAR 24-HOUR ISOHYET: 5.8
2. SOIL TYPE: 020
3. DESIGN STORM: 50 YEAR RETURN PERIOD
4. PERCENT IMPERVIOUS VALUES: SINGLE FAMILY - 42%, MULTI-FAMILY - 68%, COMMERCIAL - 92%, SCHOOL - 82%, OPEN SPACE - 0%, PARK - 15%, ROADWAY - 100%
5. DPA= 09
6. BULK FACTOR= 1.27

Q — Q unburned/develop
Qd — Q developed
Qb — Q burned
Qbb — Q burned+bulked
DP — DEBRIS PRODUCTION

NOTE: For reduced size prints, original scale is in inches.

REFERENCES:

* THIS WAS CALCULATED BY SIKAND AND CAN BE FOUND THE NEWHALL RANCH SPECIFIC PLAN MASTER HYDROLOGY AND DRAINAGE CONCEPT, DATED 06/28/99. APPENDED FOR REFERENCE.

** DEBRIS GENERATED WITHIN THESE SUB-BASINS WILL BE COLLECTED IN DEBRIS BASINS UPSTREAM OF S.R. 126 AND WILL NOT ENTER THE RIVER VILLAGE DEVELOPMENT. THIS IS IN ACCORDANCE WITH THE NEWHALL RANCH SPECIFIC MASTER PLAN HYDROLOGY AND DRAINAGE CONCEPT - NORTHERLY SIDE DRAIN SYSTEMS PREPARED BY SIKAND AND DATED 06/28/99.

*** SIKAND 50-YEAR FLOODPLAIN PER DRAINAGE CONCEPT PLAN VTTM NO. 53108 - EXHIBIT2_SC_EX60.DWG

SUSMP PLAN REV: SEPT. 21, 2005 DATE: SEPT. 15, 2004

LEGAL DESCRIPTION:
PARCELS 14, 15, 16, 17 OF PARCEL MAP NO. 24500-01 PMB 293-34 / 67, RECORDS OF LOS ANGELES COUNTY.

REGISTERED PROFESSIONAL ENGINEER ROSS W. BARKER No. C-32799 Exp. 06/30/06 CIVIL STATE OF CALIFORNIA

PSOMAS
28470 Avenue Stanford, Suite 300
Santa Clarita, CA 91355
(661) 219-6000 (661) 775-2718 (FAX)
ROSS W. BARKER R.C.E. NO. C32799 9-22-2005 DATE

DESIGNED: AM/MH/EW
DRAFTED: AC/ML
CHECKED: MG/RB

OWNER/DEVELOPER: NEWHALL RANCH
23823 WEST VALENCIA BOULEVARD
VALENCIA, CALIFORNIA 91335
TELEPHONE: (661) 255-4000
REPRESENTATIVE: MR. FRED MACMURDO

DRAINAGE CONCEPT SUSMP PLAN VESTING TENTATIVE TRACT MAP NO. 53108
NEWHALL RANCH - LANDMARK VILLAGE
IN THE UNINCORPORATED AREA OF THE COUNTY OF LOS ANGELES

PROJECT NO. 1NRC0107.08
SHEET 2A OF 6
4.2-C
RV062-02A

Plotted: 09/21/05 19:00:12 V:\Newhall\PRODDATA\53108-MP\ENGR\MASTDES\VTTM\PI\RV062-02A.dwg ewinata

DRAINAGE CONCEPT NOTES:

1. HYDROLOGY INFORMATION AND STORM DRAIN ALIGNMENTS SHOWN ARE NOT NECESSARILY APPROVED.
2. ALL STREET DRAINAGE REQUIREMENTS WILL COMPLY WITH THE SATISFACTION OF THE DEPARTMENT OF PUBLIC WORKS.
3. DEDICATION OF THE NECESSARY EASEMENTS FOR THE STORM DRAIN SYSTEM SHOWN WILL BE TO THE SATISFACTION OF THE DEPARTMENT OF PUBLIC WORKS.
4. PAVED VEHICULAR ACCESS WILL BE PROVIDED TO ALL INLETS, OUTLETS AND BASINS TO THE SATISFACTION OF THE DEPARTMENT OF PUBLIC WORKS.
5. APPROVAL OF THE DRAINAGE CONCEPT DOES NOT CONSTITUTE DETERMINATION THAT THE OFFSITE IMPROVEMENTS ARE REQUIRED WITHIN THE MEANING OF GOVERNMENT CODE SECTION 66462.5, (EXCEPT AS NOTED).
6. DELINEATE THE FLOOD HAZARD AREA AND DEDICATE TO THE COUNTY OF LOS ANGELES THE RIGHT TO RESTRICT BUILDING WITHIN THAT AREA ON THE FINAL MAP.
7. THE PROPOSED WATER QUALITY BASIN, SWALES, DEBRIS BASINS AND STORM DRAIN FACILITIES WILL BE MAINTAINED BY LOS ANGELES COUNTY.
8. BECAUSE THE WATER QUALITY BASIN, AND SWALES PROVIDE AN OUTLET, AND NO PERCOLATION CONSIDERED, A 7-DAY PERCOLATION TEST WILL NOT BE REQUIRED.
9. FLOODWAY MAP WILL BE AMENDED AS PART OF THE RIVER ANALYSIS BY PACE ENGINEERING; TO BE SUBMITTED SEPARATELY.
10. CLOMR UNDER PREPARATION BY OTHERS; TO BE SUBMITTED SEPARATELY.
11. WHEN DUPLICATE DATA SHOWN ON BOTH TABLE & PLAN, PLAN DATA SHOWN FOR INFORMATIONAL PURPOSES ONLY.
12. ALL RIVER SWALES TO HAVE EMERGENCY OVERFLOW SPILLWAY FOR FLOOD DISCHARGE.
13. ENCROACHMENT INTO EXISTING MAIN LINE FLOODWAY AND FEMA ZONE "A" WILL BE MITIGATED.
14. PROPOSED DRAINAGE FACILITIES WITHIN CALTRANS R/W SHALL BE MAINTAINED BY CALTRANS.

LANDMARK VILLAGE (CENTER) POST PROJECT DRAINAGE					
50-YEAR STORM EVENT					
SUB-BASIN NUMBER	TIME OF CONCENTRATION (minutes)	AREA (acres)	Qdesign (cfs)	Qdesign Confluence (cfs) (MORA)	SD SYSTEM
RVC-2A RVC-3A RVC-7A RVC-8A RVC-12C	9 15 27 14 18	11.0 12.0 10.0 5.0 3.0	18 20 13 8 3	— — — — 63	LINE "G"
RVC-11B RVC-13C	11 12	16.0 2.0	30 3	— 33	LINE "H"
RVC-17C RVC-18C	19 14	2.0 17.0	2 29	— 31	LINE "I"
RVC-21D	16	3.0	3	3	LINE "J"
RVC-22D RVC-23E RVC-24E	12 21 22	3.0 39.0 7.0	7 53 12	— — 72	LINE "K"
			TOTAL	202	

LANDMARK VILLAGE (WEST) POST PROJECT DRAINAGE					
50-YEAR STORM EVENT					
SUB-BASIN NUMBER	TIME OF CONCENTRATION (minutes)	SUB-BASIN AREA (acres)	Qdesign (cfs)	Qdesign Confluence (cfs) (MORA)	SD SYSTEM
RVW-1A RVW-2A	14 14	11.0 15.0	17 28	— 33	LINE "L"
			TOTAL	33	

LANDMARK VILLAGE (EAST) POST PROJECT DRAINAGE					
50-YEAR STORM EVENT					
SUB-BASIN NUMBER	TIME OF CONCENTRATION (minutes)	SUB-BASIN AREA (acres)	Qdesign (cfs)	Qdesign Confluence (cfs) (MORA)	SD SYSTEM
RVE-1A/6A IS OFF-SITE PER TABLE BELOW				147	
RVE-7A RVE-8A RVE-9A	29 30 11	14.0 23.0 6.0	21 26 22	— — 198	LINE "A"
RVE-11B	14	16.0	27	27	LINE "B"
RVE-12C RVE-13C	15 19	1.0 17.0	1 25	— 26	LINE "B" LINE "C"
RVE-16D RVE-17D	20 15	2.0 18.0	2 30	— 32	LINE "D"
RVE-20E RVE-21F	16 7	18.0 1.0	28 1	— 29	LINE "E"
RVE-24F RVE-25F	14 16	2.0 14.0	2 22	— 24	LINE "F"
RVE-27B RVE-28B RVE-29B	12 10 14	7.0 5.0 1.0	15 11 1	— — 27	LINE "M"
			TOTAL	363	

LANDMARK VILLAGE OFF-SITE DRAINAGE									
50-YEAR STORM EVENT									
SUB-BASIN NUMBER	TIME OF CONCENTRATION (minutes)	SUB-BASIN AREA (acres)	Qu (cfs)	Qb (cfs)	Qbb (cfs)	Qdesign Confluence (cfs) (MORA)	DEBRIS PRODUCTION (cy)	DEBRIS BASIN (cy)	SD SYSTEM
RVE-1A	24	18.0	14	20	25	–	497		LINE "A"
RVE-2A	28	39.0	28	38	50	60	1050		
RVE-3B	8	15.0	24	32	41	–	413		
RVE-4B	19	44.0	41	55	72	83	1196		
CONFLUENCE (A AND B)		116.0				132			
RVE-6A	11	35.0	47	62	79	62	953		
			TOTAL	267	147	4109	4109		

SPECIAL WATER QUALITY NOTES:

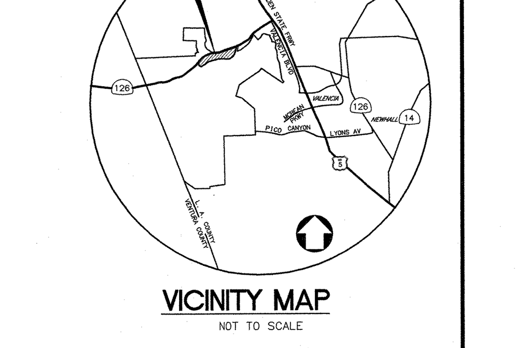
1. LOCATION, SIZE AND NUMBER OF WATER QUALITY BASIN, SWALES AND FITER STRIP ARE APPROXIMATE. SIZES ARE DEPENDENT ON THE AMOUNT OF WATER QUALITY TREATMENT PROVIDED IN UPSTREAM PROJECTS.
2. DEPENDING ON WATER QUALITY FACILITY SIZE, DURING FINAL DESIGN, ANY EXCESS LOT AREA CAN BE INCORPORATED INTO ADJACENT LOTS AND THEIR LAND USE.
3. THE WATER QUALITY BASIN, SWALES AND FILTER STRIP SHALL BE DEDICATED TO THE COUNTY WHEN COMPLETED AND ACCEPTED.
4. CDS UNIT OR OTHER DEPARTMENT APPROVED EQUIVALENT BMPS MAY BE SUBSTITUTED AS APPROPRIATE DURING FINAL DESIGN.
5. WATER QUALITY FACILITIES ASSOCIATED WITH SR 126 ARE PER SEPARATE PLAN BY OTHERS.

REFERENCES:

* THIS WAS CALCULATED BY SIKAND AND CAN BE FOUND THE NEWHALL RANCH SPECIFIC PLAN MASTER HYDROLOGY AND DRAINAGE CONCEPT, DATED 06/28/99. APPENDED FOR REFERENCE.

** DEBRIS GENERATED WITHIN THESE SUB-BASINS WILL BE COLLECTED IN DEBRIS BASINS UPSTREAM OF S.R. 126 AND WILL NOT ENTER THE RIVER VILLAGE DEVELOPMENT. THIS IS IN ACCORDANCE WITH THE NEWHALL RANCH SPECIFIC MASTER PLAN HYDROLOGY AND DRAINAGE CONCEPT - NORTHERLY SIDE DRAIN SYSTEMS PREPARED BY SIKAND AND DATED 06/28/99.

*** SIKAND 50-YEAR FLOODPLAIN PER DRAINAGE CONCEPT PLAN VTTM NO. 53108 - EXHIBIT2_SC_EX60.DWG



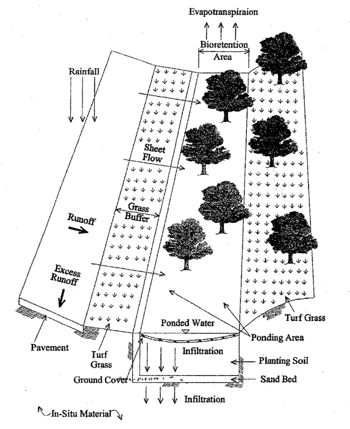
LEGEND:

- PROJECT BOUNDARY
- SUB-BASIN BOUNDARY
- DRAINAGE AREA BOUNDARY
- RIGHT OF WAY
- EASEMENT
- 950 PROPOSED CONTOUR
- DAYLIGHT LINE
- SD STORM DRAIN
- EXISTING CMP INLET
- CATCH BASIN
- FEMA LINE
- LACO_FLOOD LOS ANGELES COUNTY FLOODWAY
- Q50 Q-CAP (Existing) PER SEPARATE PLANS
- Q50 Q-CAP (Proposed) PER SEPARATE PLANS
- BURIED BANK STABILIZATION
- DEBRIS BASIN CONTRIBUTING AREA
- FLOWPATH
- DEBRIS FLOWPATH
- PROPOSED DEBRIS FLOWPATH
- Q(sub)= 9 cfs POST DEVELOPMENT SUBAREA Qdesign
- Tc(sub)= 15 min POST DEVELOPMENT TIME OF CONCENTRATION
- BIORETENTION
- PRE-TREATMENT/TRASH COLLECTION
- ON-SITE STORM DRAIN
- OFF-SITE STORM DRAIN
- VEGETATED TREATMENT SWALE
- TREATED RUNOFF AND FLOOD DISCHARGE POINTS FOR PROJECT AREA
- FLOOD DISCHARGE POINTS FOR PROJECT AREA
- EXTENDED DETENTION WQ BASIN
- VEGETATED CONVEYANCE SWALE (SUPPLEMENTAL TREATMENT)
- VEGETATED PRE-TREATMENT/CONVEYANCE DITCH
- RVC-00X / 0.0 ac — SUB-BASIN ID NUMBER / SUB-BASIN AREA (ac)

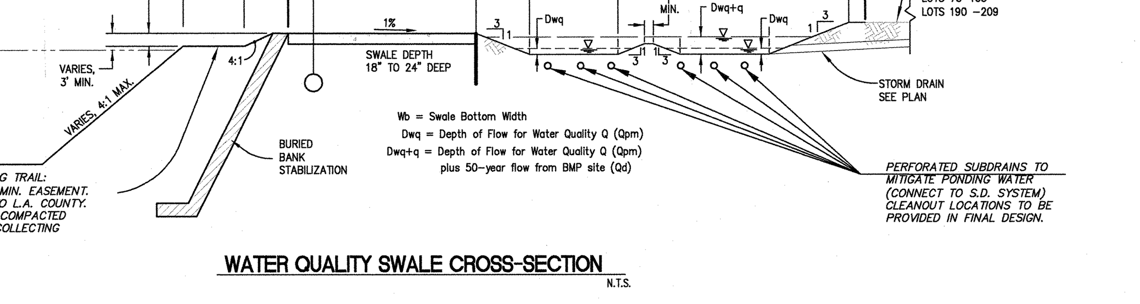
Q	Q unburned/develop
Qd	Q developed
Qb	Q burned
Qbb	Q burned+bulked
DP	DEBRIS PRODUCTION

DRAINAGE DESIGN CRITERIA:

1. 50-YEAR 24-HOUR ISOHYET: 5.8
2. SOIL TYPE: 020
3. DESIGN STORM: 50 YEAR RETURN PERIOD
4. PERCENT IMPERVIOUS VALUES: SINGLE FAMILY - 42%, MULTI-FAMILY - 68%, COMMERCIAL - 92%, SCHOOL - 82%, OPEN SPACE - 0%, PARK - 15%, ROADWAY - 100%
5. DPA= 09
6. BULK FACTOR= 1.27

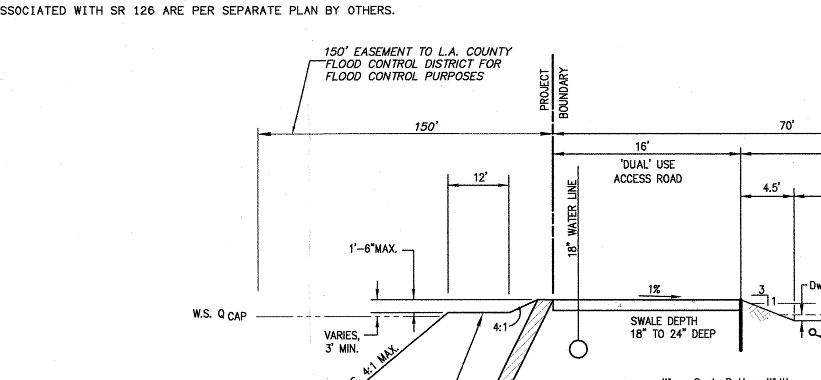


BIORETENTION DETAIL
N.T.S.



WATER QUALITY SWALE CROSS-SECTION
N.T.S.

NOTE: For reduced size prints, original scale is in inches.



Notation:
L = Length of swale impoundment area per check dam (ft)
D_s = Depth of check dam (ft)
S_s = Bottom slope of swale (ft/ft)
W = Top width of check dam (ft)
W_B = Bottom width of check dam (ft)
$Z_{1\&2}$ = Ratio of horizontal to vertical change in swale side slope (ft/ft)

PROPOSED VEGETATED SWALE DETAILS
N.T.S.

HYDROLOGY PLAN

PROJECT AREA

REV: SEPT 21, 2005
DATE: SEPT. 15, 2004

LEGAL DESCRIPTION:
PARCELS 14, 15, 16, 17 OF PARCEL MAP NO. 24500-01 PMB 293-34 / 67, RECORDS OF LOS ANGELES COUNTY.

REGISTERED PROFESSIONAL ENGINEER ROSS W. BARKER No. C-32799 EXP. 06/30/06 CIVIL STATE OF CALIFORNIA

PSOMAS
28470 Avenue Stanford, Suite 300
Santa Clarita, CA 91355-1460
(661) 219-6000 (661) 775-2718 (FAX)

ROSS W. BARKER R.C.E. NO. C32799 DATE

DESIGNED: AM/MH/EW
DRAFTED: AC/ML
CHECKED: MG/RB

OWNER/DEVELOPER:
NEWHALL RANCH
23823 WEST VALENCIA BOULEVARD
VALENCIA, CALIFORNIA 91335
TELEPHONE: (661) 255-4000
REPRESENTATIVE: MR. FRED MACMURDO

DRAINAGE CONCEPT
VESTING TENTATIVE TRACT MAP
NO. 53108
NEWHALL RANCH - LANDMARK VILLAGE
IN THE UNINCORPORATED AREA OF THE COUNTY OF LOS ANGELES

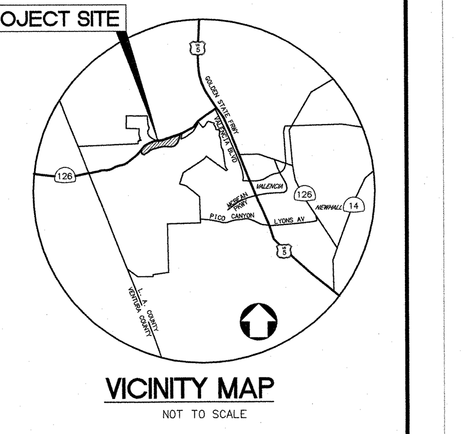
PROJECT NO. 1NRC0107.08
SHEET 2 OF 5
RV062-02

4.2-B

Plotted: 09/21/05 09:38:18 V:\Newhall\PRODDATA\53108-MP\ENGR\MASTDES\VTTM\P\RV062-02.DWG ewinata

LANDMARK VILLAGE OFF-SITE DRAINAGE

SUB-BASIN NUMBER	TIME OF CONCENTRATION (minutes)	SUB-BASIN AREA (acres)	Qu (cfs)	Qb (cfs)	Qbb (cfs)	Qdesign Confluence (cfs) (MORA)	DEBRIS PRODUCTION (cy)	DEBRIS BASIN (cy)	SD SYSTEM
50-YEAR STORM EVENT									
RVE-1A	24	18.0	14	20	25	–	497		LINE "A"
RVE-2A	28	39.0	28	38	50	60	1050		
RVE-3B	8	15.0	24	32	41	–	413		
RVE-4B	19	44.0	41	55	72	83	1196		
CONFLUENCE (A AND B)		116.0				132			
RVE-6A	11	35.0	47	62	79	62	953		
				Σ	267	147	4109	4109	



DRAINAGE DESIGN CRITERIA:

1. 50-YEAR 24-HOUR ISOHYET: 5.8
2. SOIL TYPE: 020
3. DESIGN STORM: 50 YEAR RETURN PERIOD
4. PERCENT IMPERVIOUS VALUES: SINGLE FAMILY – 42%, MULTI-FAMILY – 68%, COMMERCIAL – 92%, SCHOOL – 82%, OPEN SPACE – 0%, PARK – 15%, ROADWAY – 100%
5. DPA= 09
6. BULK FACTOR= 1.27

DRAINAGE CONCEPT NOTES:

1. HYDROLOGY INFORMATION AND STORM DRAIN ALIGNMENTS SHOWN ARE NOT NECESSARILY APPROVED.
2. ALL STREET DRAINAGE REQUIRMENTS WIIL COMPLY WITH THE SATISFACTION OF THE DEPARTMENT OF PUBLIC WORKS.
3. DEDICATION OF THE NECESSARY EASEMENTS FOR THE STORM DRAIN SYSTEM SHOWN WILL BE TO THE SATISFACTION OF THE DEPARTMENT OF PUBLIC WORKS.
4. PAVED VEHICULAR ACCESS WILL BE PROVIDED TO ALL INLETS, OUTLETS AND BASINS TO THE SATISFACTION OF THE DEPARTMENT OF PUBLIC WORKS.
5. APPROVAL OF THE DRAINAGE CONCEPT DOES NOT CONSTITUTE DETERMINATION THAT THE OFFSITE IMPROVEMENTS ARE REQUIRED WITHIN THE MEANING OF GOVERNMENT CODE SECTION 66462.5, (EXCEPT AS NOTED).
6. DELINEATE THE FLOOD HAZARD AREA AND DEDICATE TO THE COUNTY OF LOS ANGELES THE RIGHT TO RESTRICT BUILDING WITHIN THAT AREA ON THE FINAL MAP.
7. THE PROPOSED WATER QUALITY BASINS, DEBRIS BASINS AND STORM DRAIN FACILITIES WILL BE MAINTAINED BY LOS ANGELES COUNTY.
8. BECAUSE THE WATER QUALITY BASINS PROVIDE AN OUTLET, AND NO PERCOLATION CONSIDERED, A 7-DAY PERCOLATION TEST WILL NOT BE REQUIRED.
9. FLOODWAY MAP WILL BE AMENDED AS PART OF THE RIVER ANALYSIS BY PACE ENGINEERING; TO BE SUBMITTED SEPARATELY.
10. CLOMR UNDER PREPARATION BY OTHERS; TO BE SUBMITTED SEPARATELY.
11. WHEN DUPLICATE DATA SHOWN ON BOTH TABLE & PLAN, PLAN DATA SHOWN FOR INFORMATIONAL PURPOSES ONLY.

SPECIAL WATER QUALITY NOTES:

1. LOCATION, SIZE AND NUMBER OF WATER QUALITY BASIN, SWALES AND FITER STRIP ARE APPROXIMATE. SIZES ARE DEPENDENT ON THE AMOUNT OF WATER QUALITY TREATMENT PROVIDED IN UPSTREAM PROJECTS.
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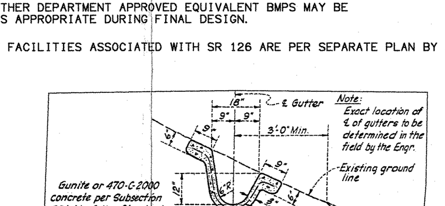
5. WATER QUALITY FACILITIES ASSOCIATED WITH SR 126 ARE PER SEPARATE PLAN BY OTHERS.



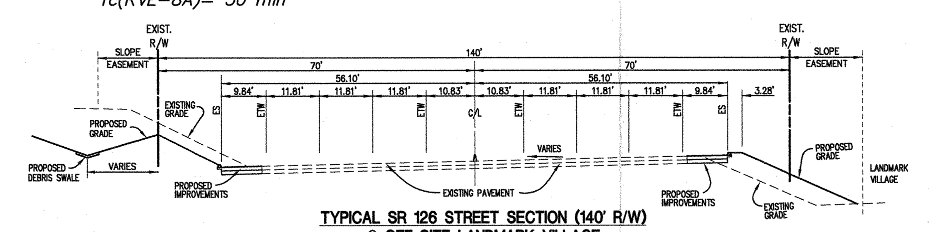
SLOPE PROTECTION GUTTERS
N.T.S.

REFERENCES:

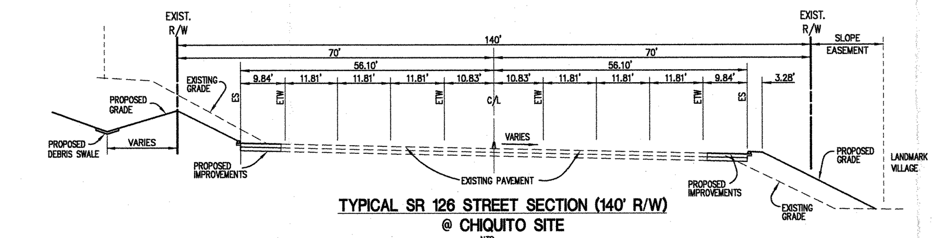
* THIS WAS CALCULATED BY SIKAND AND CAN BE FOUND THE NEWHALL RANCH SPECIFIC PLAN MASTER HYDROLOGY AND DRAINAGE CONCEPT, DATED 06/28/99. APPENDED FOR REFERENCE.

** DEBRIS GENERATED WITHIN THESE SUB-BASINS WILL BE COLLECTED IN DEBRIS BASINS UPSTREAM OF S.R. 126 AND WILL NOT ENTER THE RIVER VILLAGE DEVELOPMENT. THIS IS IN ACCORDANCE WITH THE NEWHALL RANCH SPECIFIC MASTER PLAN HYDROLOGY AND DRAINAGE CONCEPT – NORTHERLY SIDE DRAIN SYSTEMS PREPARED BY SIKAND AND DATED 06/28/99.

*** SIKAND 50-YEAR FLOODPLAIN PER DRAINAGE CONCEPT PLAN VTTM NO. 53108 – EXHIBIT2_SC_EX60.DWG



TYPICAL SR 126 STREET SECTION (140' R/W)
@ OFF-SITE LANDMARK VILLAGE
NTS



TYPICAL SR 126 STREET SECTION (140' R/W)
@ CHIQUITO SITE
NTS

SHEET INDEX

1–2	DRAINAGE CONCEPT PLAN (POST-PROJECT) –TRACT NO. 53108 (1" = 100')
2A	BMP PLAN (POST-PROJECT) –TRACT NO. 53108 (1" = 100')
3–4	DRAINAGE CONCEPT PLAN (EXISTING) –TRACT NO. 53108 (1" = 100')
5	DRAINAGE CONCEPT PLAN (S.C. RIVER) –TRACT NO. 53108 (1" = 100')

OFFSITE TRIBUTARY AREA

REV: SEPT 21, 2005
DATE: SEPT. 15, 2004

LEGAL DESCRIPTION:
PARCELS 14, 15, 16, 17 OF PARCEL MAP NO. 24500-01 PMB 293-34 / 67, RECORDS OF LOS ANGELES COUNTY.

REGISTERED PROFESSIONAL ENGINEER — ROSS W. BARKER — NO. C-32799 — EXP. 06/30/06 — CIVIL — STATE OF CALIFORNIA

PSOMAS
28470 Avenue Stanford, Suite 300
Santa Clarita, CA 91355-1460
(661) 219-6000 (661) 775-2718 (FAX)
9-22-2005
ROSS W. BARKER R.C.E. NO. C32799 DATE

DESIGNED: ML/SK/EW
DRAFTED: AC/ML
CHECKED: MG/RB

OWNER/DEVELOPER:
NEWHALL RANCH
23823 WEST VALENCIA BOULEVARD
VALENCIA, CALIFORNIA 91335
TELEPHONE: (661) 255-4000
REPRESENTATIVE: MR. FRED MACMURDO

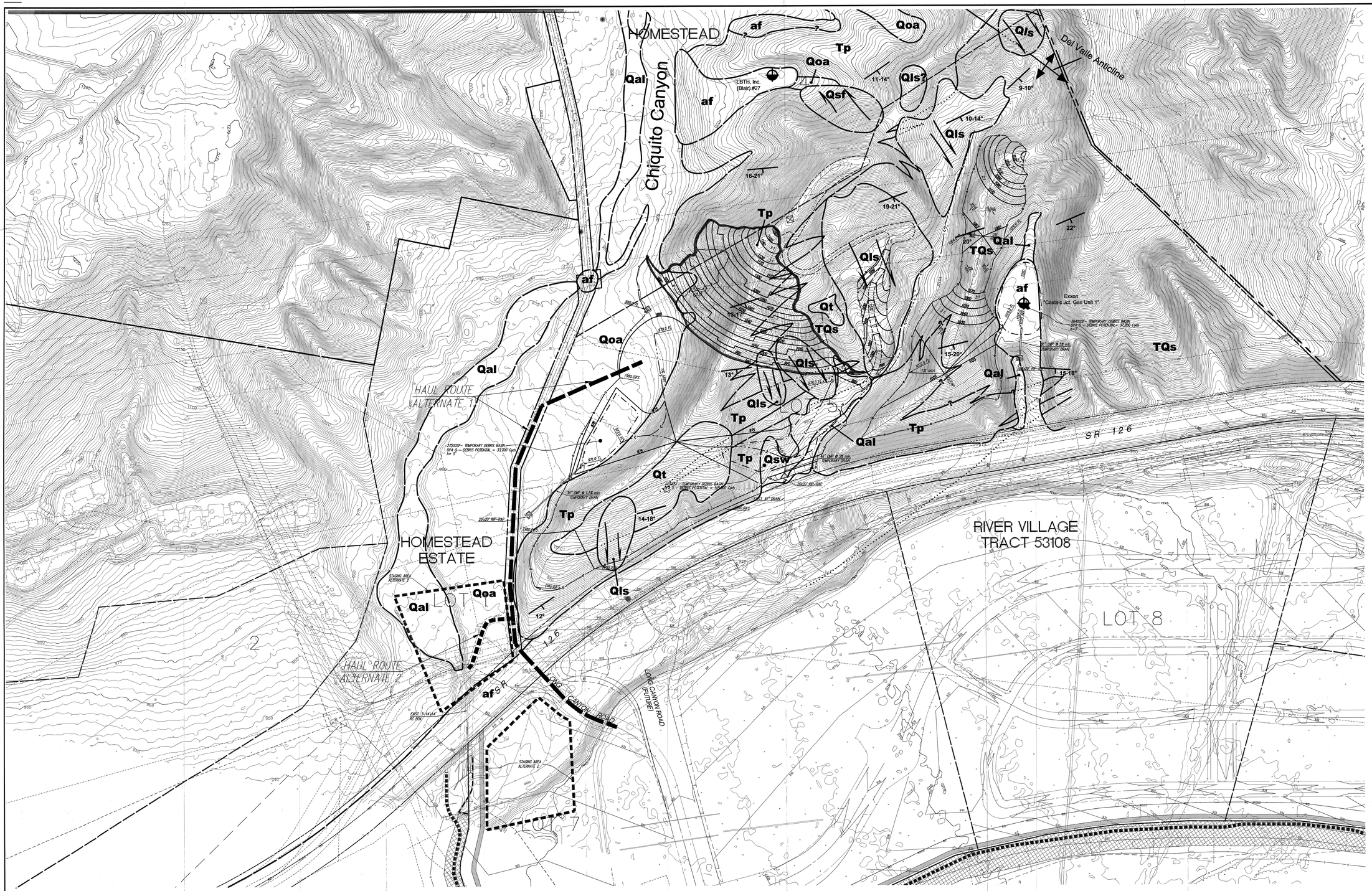
DRAINAGE CONCEPT PLAN FOR VESTING TENTATIVE TRACT MAP NO. 53108
NEWHALL RANCH - LANDMARK VILLAGE

IN THE UNINCORPORATED AREA OF THE COUNTY OF LOS ANGELES

PROJECT NO. 1NRC0107.08
SHEET 1 OF 6

4.2-A

RV062-01



ALLAN E. SEWARD ENGINEERING GEOLOGY, INC.
Geological And Geotechnical Consultants

Geologic/Geotechnical Map

Date: 11/14/03		Job No.: 03-2022-9	
Scale: 1" = 100'		CAD File: Geologic/Geotechnical Map-CC	
PLATE II	Geology by: Staff	Revised:	
	Drawn by: GSD		

LEGEND

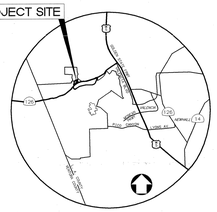
af	Artificial Fill
Qsw	Quaternary Slopewash Deposits
Qal	Quaternary Alluvium
Qoa	Quaternary Older Alluvium
Qls?	Quaternary Landslide, queried where uncertain
Qt	Quaternary Terrace Deposits
TQs	Lower Saugus Formation
Tp	Pico Formation
	Geologic Contact; Dotted where concealed, Queried where inferred
	Trace of Anticline, showing direction of plunge; Dotted where concealed
14-20°	Strike and Dip Range of Bedding
	Approximate Location of Oil Well

LEGEND:

- EXISTING PROPERTY LINE
- PROPERTY BOUNDARY
- EXISTING LOT LINE
- EXISTING EASEMENT
- 1000 — PROPOSED CONTOUR
- DAYLIGHT LINE
- CUT & FILL
- FLOW LINE
- BENCH
- SWALE
- HAUL ROUTE
- RCD3 — RIVER CORRIDOR-2003 (FORMERLY SEA 23)
- RC — RIVER CORRIDOR (FORMERLY SEA 23)
- FEMA — FEMA
- OSO — O-CAP
- DEBRIS BASIN
- OIL WELL GPS POSITIONED
- OIL WELL DEPT. OF OIL AND GAS CALCULATED POSITION
- OIL WELL DIGITIZED POSITION
- OIL WELL DEPT. OF OIL AND GAS METAL DETECTOR POSITION
- EXISTING OAK TREE
- RIP-RAP
- Qal — GEOLOGY

RAW EARTHWORK VOLUMES	
RAW CUT	1,519,000 Cubic Yards
RAW FILL	5,900 Cubic Yards
EXPORT	1,513,200 Cubic Yards

PROJECT SITE



VICINITY MAP
NOT TO SCALE

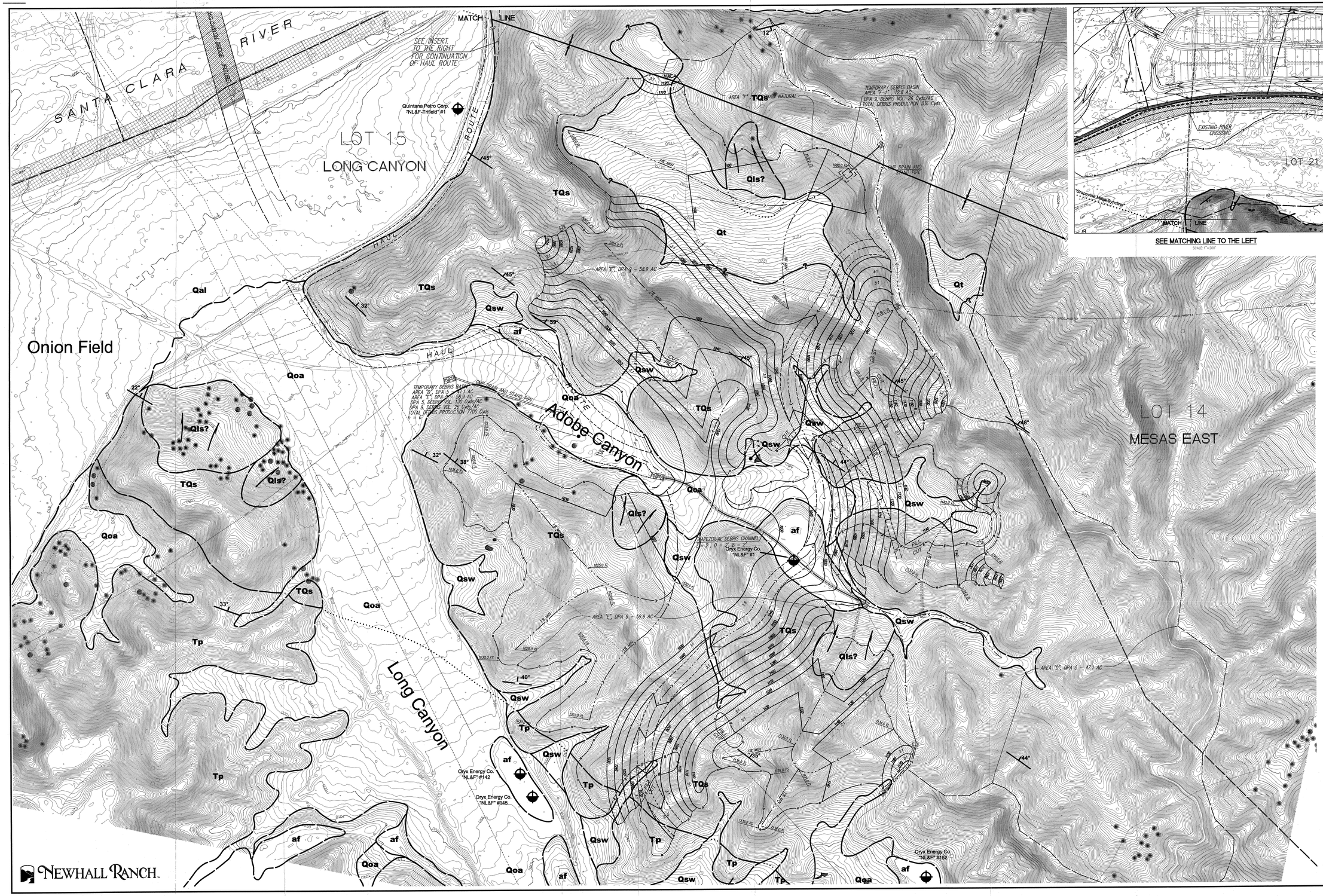
FEET 100 50 0 100 200
INCHES 1 1/2 0 1 2

Chiquito Canyon
PRELIMINARY BULK GRADING STUDY

4.1-F

PSOMAS

DATE: 10/8/03 REVISED ON: 10/21/03
JOB No: 1NRC0107.05 SHEET 1 OF 1



SEE MATCHING LINE TO THE LEFT

SCALE: 1"=200'

ALLAN E. SEWARD ENGINEERING GEOLOGY, INC.
Geological And Geotechnical Consultants

Geologic/Geotechnical Map

Date: 11/14/03	Job No.: 03-2022-9
Scale: 1" = 100'	CAD File: Geologic/Geotechnical Map - AC
PLATE I	Geology by: Staff / Drawn by: GSD / Revised:

LEGEND

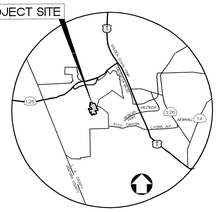
af	Artificial Fill
Qsw	Quaternary Slopewash Deposits
Qal	Quaternary Alluvium
Qoa	Quaternary Older Alluvium
Qls?	Quaternary Landslide, quarted where uncertain
Qt	Quaternary Terrace Deposits
TQs	Lower Saugus Formation
Tp	Pico Formation
	Geologic Contact; Dotted where concealed; Queried where inferred
	Trace of Syncline, showing direction of plunge; Dotted where concealed
	Strike and Dip of Bedding
	Approximate Strike and Dips of Bedding
	Approximate Location of Oil Well

LEGEND:

- EXISTING LOT LINE
- EXISTING EASEMENT
- 1100 PROPOSED CONTOUR
- DAYLIGHT LINE
- CUT & FILL
- FLOW LINE
- BENCH
- SWALE
- HAUL ROUTE ACCESS ROAD
- RC03 RIVER CORRIDOR-2003 (FORMERLY SEA 23)
- RC RIVER CORRIDOR (FORMERLY SEA 23)
- FEMA FEMA
- QSD Q-CAP
- DEBRIS TRIBUTARY LIMIT
- DEBRIS BASIN
- OIL WELL GPS POSITIONED
- OIL WELL DEPT. OF OIL AND GAS CALCULATED POSITION
- OIL WELL DIGITIZED POSITION
- OIL WELL DEPT. OF OIL AND GAS METAL DETECTOR POSITION
- EXISTING OAK TREE
- RIP-RAP
- SPINE FLOWER

RAW EARTHWORK VOLUMES	
RAW CUT	6,580,000 Cubic Yards
RAW FILL	238,850 Cubic Yards
EXPORT	6,341,150 Cubic Yards

PROJECT SITE



VICINITY MAP
NOT TO SCALE

FEET 100 50 0 100 200
INCHES 1 1/2 0 1 2

Adobe Canyon
PRELIMINARY BULK GRADING STUDY

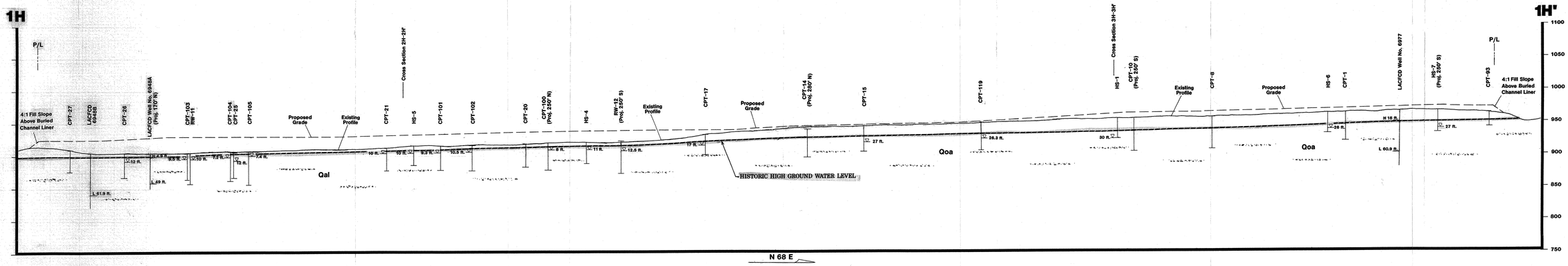
4.1-E

PSOMAS

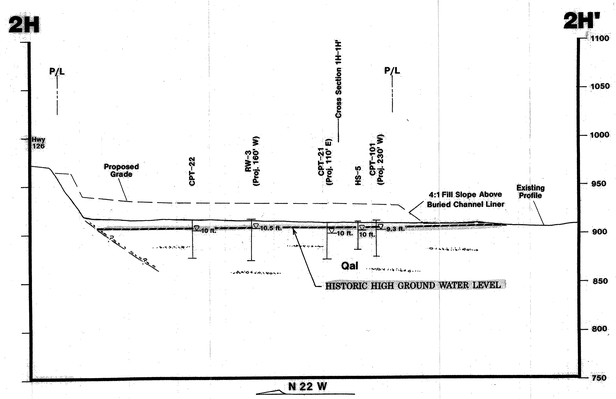
DATE: 10/8/03 REVISED ON: 10/21/03
JOB No: 1NRC0107.05 SHEET 1 OF 1

RV0.39-01.dwg

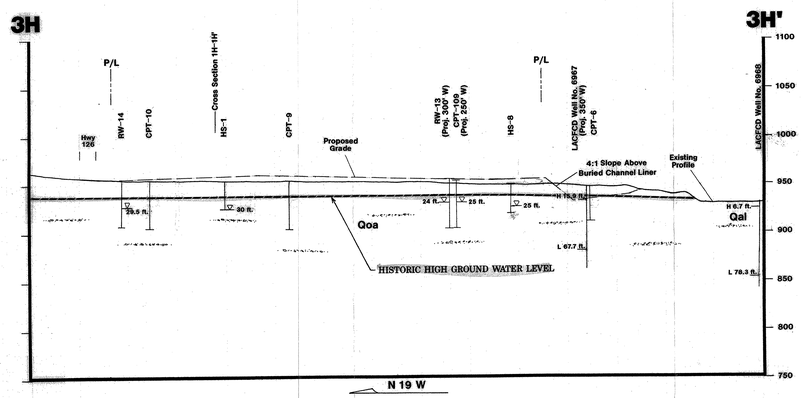
HYDROGEOLOGIC CROSS SECTION

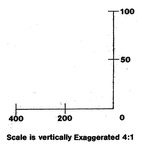


HYDROGEOLOGIC CROSS SECTION



HYDROGEOLOGIC CROSS SECTION

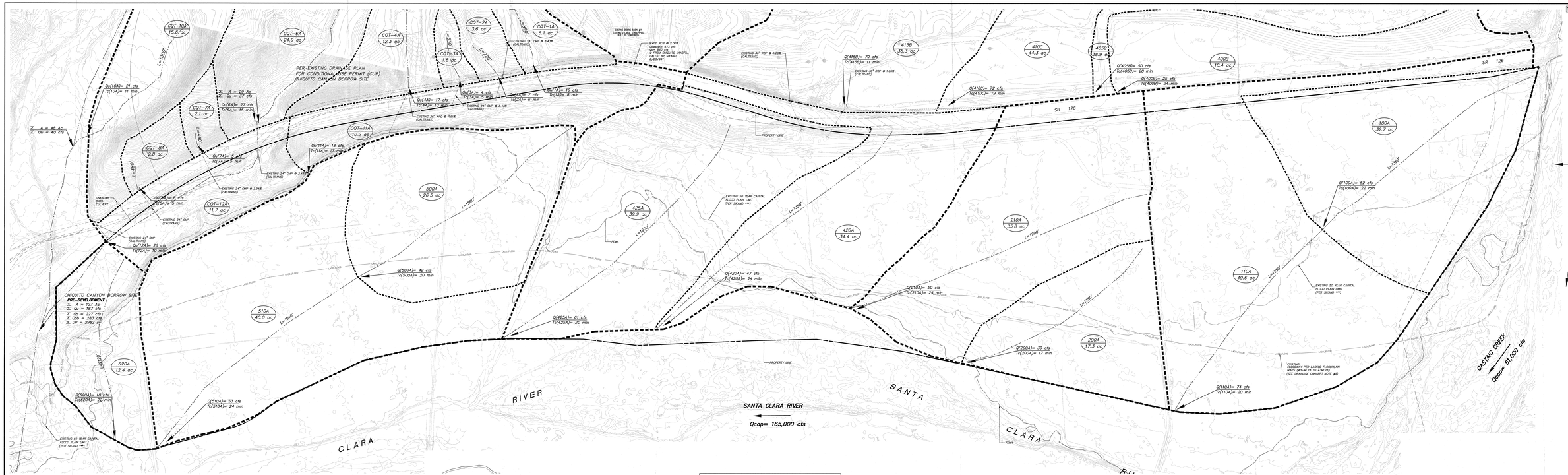




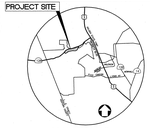
NOTE: Historic High Ground Water Levels Interpolated from measured ground water, historic LACFCD Well Data, and Robson (1972)

ALLAN E. SEWARD
ENGINEERING GEOLOGY, INC.
SINCE 1956

Date: 9/27/00		Job No.: 00-1702R-4	
Scale: H: 1" = 200' V: 1" = 50'	Geology by: BJS Drawn by: DGG/BJS	Revised:	4.1-D



PROJECT SITE



VICINITY MAP
NOT TO SCALE

LEGEND:

110A	SUB-BASIN NUMBER
207.3 ac	SUB-BASIN AREA (ac)
	PROJECT BOUNDARY
	SUB-BASIN BOUNDARY
	DRAINAGE AREA BOUNDARY
	RIGHT OF WAY
	EASEMENT
950	PROPOSED CONTOUR
	DAYLIGHT LINE
	STORM DRAIN
	EXISTING CMP INLET
	CATCH BASIN
	FEMA LINE
LACFCD	LOS ANGELES COUNTY FLOODWAY
	6-CMP (Existing)
	BURIED BANK STABILIZATION
	DEBRIS BASIN CONTRIBUTING AREA
	FLOWPATH
	DEBRIS FLOWPATH
Q(sub)= 9 cfs Tc(sub)= 15 min	EXISTING SUBAREA (Assumed + Inclosed) EXISTING TIME OF CONCENTRATION
Q	Qunburned/Developed
Qd	Qdeveloped
Qb	Qburned
Qbb	Qburned+mitigated
Qbb	Qburned+mitigated

DRAINAGE DESIGN CRITERIA:

1. 50-YEAR 24-HOUR ISOHYETS: 5.8
2. SOIL TYPE: D
3. DESIGN STORM: 50 YEAR RETURN PERIOD
4. PERCENT IMPERVIOUS VALUES: SINGLE FAMILY = .625 MULTI FAMILY = .75 COMMERCIAL = .90 INDUSTRIAL = .90 OPEN SPACE = .05 PARKS = .05 ROADWAY = .2208
5. DRA= D9
6. BULK FACTOR= 1.27

NOTE: For reduced size prints, original scale is in inches.

EXISTING DRAINAGE

SUB-BASIN NUMBER	TIME OF CONCENTRATION (minutes)	INCREMENTAL SUB-BASINS: SUB-BASIN AREA (acres)	INCREMENTAL SUB-BASINS: Q (cfs)	INCREMENTAL SUB-BASINS: Qb (cfs)	INCREMENTAL SUB-BASINS: Qbb (cfs)	CUMULATIVE SUB-BASINS: SUB-BASIN AREA (acres)	CUMULATIVE SUB-BASINS: Qbb (cfs)
100A	22	32.7	27	41	52	---	---
110A	22	49.6	41	64	74	82.3	111
200A	17	17.3	17	24	30	---	---
210A	24	35.8	29	45	39	53.1	76
400B	24	18.4	14	20	25	—	—
405A	28	35.9	27	38	50	—	—
410C	19	15.3	25	32	41	—	—
415B	11	35.3	46	62	79	—	—
420A	24	34.4	23	33	47	—	—
425A	20	39.9	33	47	61	226.5	290
500A	20	26.5	33	33	42	---	---
510A	24	40.0	33	47	53	66.5	83
620A	22	12.4	10	14	18	12.4	18
					SUBTOTAL	440.8	348
					CH-QUITO	127.3	283
					TOTAL	568.1	831

EXISTING CHIQUITO PROJECT DRAINAGE

SUB-BASIN NUMBER	TIME OF CONCENTRATION (minutes)	INCREMENTAL SUB-BASINS: SUB-BASIN AREA (acres)	50-YEAR STORM EVENT: Qu (cfs)	50-YEAR STORM EVENT: Qb (cfs)	50-YEAR STORM EVENT: Qbb (cfs)	50-YEAR STORM EVENT: DEBRIS PRODUCTION (m3)
CQT-1A	8	6.1	10	13	16	140
CQT-2A	8	3.6	6	8	10	82
CQT-3A	8	1.8	3	4	5	41
CQT-4A	10	12.3	17	22	28	332
CQT-6A	15	24.9	27	36	49	672
CQT-8A	15	24.9	27	36	49	672
CQT-7A	5	2.1	5	6	8	57
CQT-10A	8	15.6	25	32	41	429
CQT-11A	14	31.8	39	49	61	858
CQT-10A	11	15.6	21	27	35	431
CQT-11A	11	10.2	18	18	18	54
CQT-12A	10	11.7	26	29	28	81
SUBTOTAL		127.3	187	227	283	2862

REFERENCES:

* THIS MAP CALCULATED BY SIXANO AND CAN BE FOUND THE NEWHALL RANCH SPECIFIC PLAN MASTER HYDROLOGY AND DRAINAGE CONCEPT, DATED 08/28/06. APPROVED FOR REFERENCE.
** DEBRIS GENERATED WITHIN THESE SUB-BASINS WILL BE COLLECTED IN DEBRIS BASINS UPSTREAM OF THE FLOW AND WILL NOT ENTER THE RIVER VALLEY. DEVELOPMENT OF THESE IS IN ACCORDANCE WITH THE NEWHALL RANCH SPECIFIC PLAN MASTER HYDROLOGY AND DRAINAGE CONCEPT - NORTHERLY SIDE DRAIN SYSTEMS PREPARED BY SIXANO AND DATED 08/28/06.
*** SIXANO 50-YEAR FLOODPLAIN PER DRAINAGE CONCEPT PLAN VTTM NO. 53108 - CH1013T2_SC_EX60.DWG

LEGAL DESCRIPTION:
PARCELS 1A, 1B, 1E, 1F OF PARCEL MAP NO. 24500-01 PMB 293-34 / 37 ET, RECORDS OF LOS ANGELES COUNTY.

PSOMAS
3665 Nome Street, Suite 110
Denver, CO 80205
303.297.9390 (877) 770-7772 (FAX)
BOSS & BARKER R.C.E. NO. C32799 EXP.

DESIGNED: WL/JW/EW
DRAWN: WL/EW
CHECKED: WL/RB

OWNER/DEVELOPER:
NEWHALL RANCH.
23823 WEST VALENCIA BOULEVARD
VALENCIA, CALIFORNIA 91355
TELEPHONE: (661) 255-4000
REPRESENTATIVE: MR. FRED MAGAURO

EXISTING AREAS ON-SITE

REV. SEPT 21, 2005
DATE: SEPT 13, 2004

EXISTING DRAINAGE PLAN FOR VESTING TENTATIVE TRACT MAP NO. 53108

NEWHALL RANCH - LANDMARK VILLAGE

IN THE UNINCORPORATED AREA OF THE COUNTY OF LOS ANGELES

PROJECT NO. NWR02012.08
SHEET 4 OF 6
4.2-E
RV062-04