Revised Draft SEIR Appendix 5.5a

Entrada South Hydrology and Drainage Concept (Part 1 of 6)

Revised Draft SEIR Appendix 5.5a

Entrada South Hydrology and Drainage Concept

LAND DEVELOPMENT DIVISION
STORM DRAIN & HYDROLOGY UNIT

TO: HUNSAKER & ASSOCIATES, INC. DATE 3/10/25
ATTN: JASON FUKUMITSU
CC: ALIREZA SAZEGARI

REVIEW OF HYDROLOGY STUDY

PD NO.	**2712**	**DATE OF REPORT**	**2/14/2025**
TR. NO.	**53295**	**PLAN CHECK NO.**	**6**
		PLAN CASE NO.	**ESTU2022000056**

We have reviewed your Hydrology Study and LID Plan.

[X] The Hydrology Study has been approved.

[X] The LID Plan has been approved.

[X] Refer to comments below:

COMMENTS:

1. Work within soft bottom drainage areas (which may include but is not limited to soft bottom basins, channels, watercourses, grade to drain) will require maintenance permits from Fish and Game, Army Corps of Engineers, and RWQCB prior to approval of the storm drain, and the permits must be still active prior to acceptance.

2. A Community Facilities District must be established prior to the recordation of the final map. This CFD will be to finance the future ongoing maintenance and capital replacement of all water quality devices/systems identified to be maintained by the County of Los Angeles.

3. Revise hydrology study when infrastructure alternative is chosen to reflect final engineering

REVIEWED BY _____
CHRISTIAN ASCENCIO - (626) 458-4921

APPROVED BY: _____
ALEX MIKHAILPOOR

HYDROLOGY STUDY
APPROVED

REVIEWED BY: _____ DATE 03/12/2025

APPROVED BY: _____ DATE 03/12/2025

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS
LAND DEVELOPMENT DIVISION

Hydrology and Drainage Concept Report for Entrada South (Vesting Tentative Tract 53295)

ESTU2022000056

VOLUME 1

County of Los Angeles

Hunsaker Project No:
0015-035-038
February 13, 2025

Prepared for:

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Under the supervision of:

REGISTERED PROFESSIONAL ENGINEER
JASON H. FUKUMITSU
No. 40695
CIVIL
STATE OF CALIFORNIA

Jason H. Fukumitsu 02/14/25

Jason H. Fukumitsu Date

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Job No. 0930, By Alliance Land Planning & Engineering, Inc.
Date: 12/2010

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Job No. 0930, By Alliance Land Planning & Engineering, Inc.
Date: 12/2017

VOLUME III – Entrada South – Evaluation of Conformance with Project LID Performance Standard

VOLUME IV – Entrada South Drainage Channel Analysis

1. INTRODUCTION

1.1 PURPOSE

The purpose of this report is to present the Final Hydrology Design for Entrada South (VTTM 53295) revised site plan. The report analyzes existing and proposed rough graded conditions for 50 –year, and Capital Storms along with the LID requirements.
A 24-Hour storm analysis based upon the Los Angeles County Rational, and Modified Rational Methods of Hydrology were used for clear, burned, and bulked conditions for the watershed(s).
Volume 1 of this report will supersede a previously approved Drainage Concept/Hydrology study on 11/16/17 per Alliance Land Planning & Engineering.
The first part of the report is divided into eight sections. Section 1 contains the introduction, and project description; Section 2 discusses the methodology used in the hydrologic analysis; Section 3 summarizes the design criteria used; Section 4 will discuss the results of this study; Section 5 includes the water quality requirements; Section 6 includes the recommendation & summary, and Section 7 includes a list of the references used in the preparation of this report. Section 8 includes all the appendices.
Volume 2 of this Drainage Concept Report includes all the references used in preparation of this report.
Volume 3 of this Drainage Concept Report includes Entrada South Conformance with the Newhall Low Impact Development Standard Memorandum prepared by Geosyntec.
Volume 4 of this report includes the Entrada South Drainage Channel Analysis for Unnamed Canyon 2.

1.2 PROJECT DESCRIPTION

The Entrada South Project consists of 430.9 acres of the 1,634 square miles of the Santa Clara River Basin Watershed. The project site is located south of Magic Mountain Park, east of Mission Village, west of the Old Road, and east of Westridge Parkway. The project site is downstream of the existing development of "Westridge" (Tract 45433) and golf course.

Existing Conditions:

Calculations and a map for existing conditions can be found in the aforementioned approved Drainage Concept Report by Alliance Land Planning & Engineering (Appendix D-1).
The project site is an undeveloped natural area and canyons. There are four debris basins that are intercepting natural flow and debris, and a prior storm drain that drains into the existing storm drain system in the Magic Mountain Parkway.
The existing storm drain along Magic Mountain Parkway is designed for both the Mission Village development and the proposed Entrada South development. The Westridge and Mission Village hydrology studies are made part of this report for the offsite hydrologic information. See Appendix D-9 and Appendix D-10 for copies of the proposed hydrology Exhibit for Mission Village and the Hydrology Concept Plan for Westridge

Proposed Conditions:

The project site will consist of commercial, residential, business, a park, a golf course, recreation, debris basins, and water quality basins. The natural Canyon ("Unnamed Canyon 2") will remain natural in the post-development condition and a grade stabilizing analysis will be performed by PACE Advanced Water Engineering (Volume IV).
The post-development storm flows will be consistent with the pre-development flow patterns. All-natural areas will pass through debris basins prior to entering the proposed drainage system, to remove all pollutants. All onsite drainage facilities will be designed and constructed to accommodate upstream areas. The site anticipates no upstream or downstream flooding.
There are no adverse post-development conditions anticipated for significant flooding, erosion, sedimentation/debris, nor negative water quality impacts.

2. METHODOLOGY

2.1 HYDROLOGIC

The project site has been divided into six (6) watersheds for analysis purposes, which include offsite areas. Each drainage watershed was delineated based on the proposed site grading and existing topography from the contributing undeveloped areas. The proposed drainage watersheds generally follow the natural drainage courses. Each of the main watersheds was delineated into subareas of less than 40 acres for the hydrology analysis. Two hydrologic methods were used for the drainage analysis - the Rational Method and the Modified Rational Methods included in the Los Angeles County Hydrology Manual.

The time of concentration (T_c) for each subarea was computed using the Los Angeles County-approved Hydrocalc. The program evaluates several hydrologic parameters such as soil type, land use, imperviousness, storm frequency, length, and slope of each reach to calculate a time of concentration. This data was used with the Los Angeles County-approved LAR04 software application to determine peak flow rates for all storm events.

Using the times of concentrations for each subarea, the Modified Rational Method was then used to calculate the 50-Year, 24-Hour peak runoff flow for each subarea. The undeveloped tributary areas were analyzed using a burned coefficient to calculate peak runoff rates. Unburned coefficients were used for all developed conditions as well as undeveloped conditions for storms other than the 50-year Capital Storm event.

The project's land use and imperviousness were determined from the Land Use and Imperviousness Table provided in the Los Angeles County Hydrology Manual. Soil types and rainfall corresponding to each subarea were obtained from the Hydrologic Maps in the Los Angeles County Hydrology Manual. Map H1-44 was used for this site.

2.2 HYDRAULICS

A hydraulic analysis was performed to evaluate water surface elevations and pipe capacities based on Manning's Equation. Manning's Equation is an empirical equation that applies to uniform flow in closed conduits and is a function of the velocity, flow area, and slope. Manning's Equation can be rearranged to solve for the friction slope which is used to determine the water surface profile. The analysis was performed using WSPG hydraulic software which computes uniform and non-uniform steady-flow water surface profiles and pressure gradients in a network of open channels and closed conduits. The use of WSPG software has been approved by the Los Angeles County Flood Control District.

A hydrograph analysis was also performed to determine the detention basin peak outflow. A hydrograph shows the rate of flow in relation to the time at a given point.

3. DESIGN CRITERIA

3.1 HYDROLOGIC DESIGN CRITERIA

Los Angeles County requires that several design criteria be followed when using the Rational and Modified Rational Method of Hydrology to determine capital flood flow.

The design criteria used are summarized below:

Hydrology Method:	Los Angeles County Flood Control District Rational Method and Modified Rational Method.
Hydrology Modeling Software	Hydrocalc, LAR04
Design Storm:	50-Year (burned-natural) 50-Year (clear-developed area)
50-Year Isohyet:	5.9”-6.3”
Soil Types:	98 and 20
Land Use and Imperviousness:	Undeveloped (1%) Golf Course (3%) Developed, Park (10%) Multifamily (74%) Commercial (91%) Water Storage Facility (91%)
Debris Potential Zone:	DPA-8 (35,500 cy / mi^2); area $\leq$ 0.1 mi^2
Peak Bulking Rate:	1.360 / mi^2; DPA-8 (area $\leq$ 0.1 mi^2)

3.2 HYDRAULIC DESIGN CRITERIA

The design criteria used is summarized below:

Hydraulic Method:	Manning’s Equation	
Hydraulic Software:	WSPG	
Manning’s Equation:	$Q = \frac{1.49}{n} * A * R^{\frac{2}{3}} * S^{\frac{1}{2}}$	
Roughness Coefficient:	n=0.013	for Reinforced Concrete Box and Reinforced Concrete Pipe

4. DISCUSSION/RESULTS

4.1 DISCUSSION

The hydrology analysis was based on the Los Angeles design criteria for the Modified Rational Method. Utilizing the HydroCalc 1.0.3. to determine the Tc (Time of Concentration), and the LAR04 to obtain the Hydrology Results.

LACFCD requires that storm drain facilities upstream of debris basins must be designed for the 50-year storm. In order to meet this requirement by LACFCD, the revised hydrology per the updated site plan for VTTM 53295 was designed for the 50-yr storm. As a result of the updated site plan and the 50-yr storm event, runoff from the proposed site increased. Mitigation measures to accommodate the increased flows are proposed. In order to avoid adverse impacts to existing storm drain facilities and adjacent properties, it is proposed that portions of the flows be diverted around efficiently.

4.2 WATERSHED DESCRIPTION/RESULTS

The project site has been divided into six watersheds for analysis purposes. The total drainage area, including some offsite contributing area, covers a total of 722.40 acres.

Watershed 100

Watershed-100 is 59.4 acres and generally flows from south to north, beginning in Tract 45433 then through the existing golf course, and continuing north through Entrada South Tract 53295. Said watershed has a total of (9) subareas which includes subarea 100A. Subarea 100A is 28.1 acres, it includes two storm drain outlets from an existing development (TR 45433) and an offsite golf course. The flow rate of the mentioned subarea is per approved DS 542 (Appendix D-10). The proposed watershed improvements consist of a natural area, a golf course, debris basins, a water quality basin, and a natural channel (Unnamed Canyon 2). See Appendix A-4 for golf course limits (not bulked).

The runoff from the entire watershed will eventually outlet to a debris basin south of Magic Mountain Parkway. Unnamed Canyon 2 runoff will have a separate inlet also into the debris basin. Flow is then getting picked up to the double box culvert Line D per PD 2637 and then into an existing channel (Line B of PD1052). 915.1 cfs comes from the approved DS 542 which includes the existing golf course (100A). Additionally, 66.7 cfs is added per the runoff from Watershed-100. The proposed 100-watershed and the corresponding Q from Westridge will ultimately be draining 981.8 cfs.

Watershed 200

Watershed-200 flows from the southwesterly corner of Entrada South Tract 53295 and continues northerly to the northwest corner of the tract. Watershed-200 is 160.1 acres and consists of a commercial area, a debris basin, and residential and multifamily condominiums. Watershed 200 is comprised of nineteen (19) subareas that drain to existing PD 2640 and PD 2641 which ultimately drains to the river.
PD 2640 and PD 2641 were designed with the previously approved Entrada South development. The revised Entrada South site plan and storm drain system will change the lateral locations and runoffs, but the total runoff flowing to the existing storm drain that is generated from this watershed, will be the same or lower than the approved plans, this is achieved by taking out 150cfs from legacy due to site plan changes, see table in Appendix B-6. Only one stretch before legacy will have a greater runoff than the approved plans. To ensure the pipe had enough capacity for the additional flow, hydraulic analysis was performed to Line "A6" of PD 2641, see Appendix B-4.5.
The proposed 200-watershed will ultimately be draining a total of 1,557.6 cfs of peak flows to PD 2640 and PD2641. 1,557.6 cfs is the sum of the peak flows without routing. Results for the 200-watershed analysis can be found in Appendix B-1 and Appendix B-2.2.

Watershed 300

Watershed-300 is 85.8 acres and falls entirely within Entrada South Tract 53295. It drains from south to northeast, generally along "A" Street. It consists of a commercial area, a water quality basin, and residential and multifamily condominiums. Watershed 300 is comprised of (11) subareas that drain to PD 2637 in Magic Mountain Parkway and to MTD 1764 in The Old Road.
Proposed watershed 300 will be draining 170.7 cfs to Line "A" of PD 2637. The total runoff draining to Line "A" of PD 2637 does exceed the design flow rate but does not exceed the pipe capacity. A hydraulic analysis was conducted to verify the pipe had sufficient capacity. For hydraulic results of Line "A" of PD 2637 and Line "B" of MTD 1764, see appendix B-4.1. Ultimately, the proposed Watershed 300 will be draining 1,291.8 cfs to Line "A" of MTD 1764, which also exceeds the design flow rate of the pipe. To ensure the pipe had the capacity and the additional flow does not impact downstream of the proposed project site, hydraulic analyses were conducted for Line "A" of MTD 1764 and the revised HGL is overlapped to latest approved plans and existing catch basins downstream, see results in Appendix B-4.2 and B-4.3.

Watershed 400

Watershed-400 is 78.4 acres, entirely within Tract 53295, and drains from the vicinity of the intersection of Commerce Center Drive and Magic Mountain Drive to the Magic Mountain Entrance. It consists of a commercial area, and multifamily condominiums. Watershed 400 is comprised of (6) subareas. This watershed drains to Line "C" of PD 2638, then to Line "B" of 2637, and ultimately outlets to the trapezoidal channel Line B of PD 1052.
The proposed 400-watershed will be draining 98.3 cfs to Line "C" of PD 2638. To ensure the pipe had capacity for the additional flow, a hydraulic analysis was performed to Line "C" of PD 2638 and Line "B" of PD 2637, see Appendix B-4.4.
Ultimately, 170.4 cfs will be draining to the trapezoidal channel of PD 1052 from the 400-watershed, which does not exceed the design flow.
The total runoff draining to the trapezoidal channel of "Line B" in PD 1052 will be 1,152.5 cfs. This is a combination of 100-Watershed and 400-Watershed per combined routing analysis. This does not exceed the channel Q50 design of 1,160cfs.

Watershed 500

Watershed-500 is 43.2 acres and drains from the south (in Tract 45433) to the north through Tract 53295 to The Old Road. It consists of a golf course, natural area, debris basin, and commercial area. Watershed 500 drains 78.7 cfs to Line "A" of MTD 1764 which is designed for 75.0 cfs. Due to the additional flow, hydraulic analysis was conducted of Line "A" of MTD 1764, see results in Appendix B-4.2. See Appendix A-4 for golf course limits (not bulked).

Watershed 600

Watershed 600 is 3.9 acres of natural area located in the easterly corner of the proposed project site, west of the Old Road. Watershed 600 drains 17.3cfs to Line "DD" of PD 2514-13 which is designed for 22.0 cfs, therefore there is no impact.
There is no proposed development in the area south of Watershed-600 and subarea 501. The offsite runoff is draining toward TR 45433. Therefore, no hydrologic analysis is performed in this report, see approved TR45433 hydrology for drainage detail.

5. WATER QUALITY REQUIREMENTS

An updated memorandum will be prepared by Geosyntec and will be submitted as Volume 3 of this Drainage Concept Report.

6. RECOMMENDATIONS & SUMMARY

Based upon the hydrologic and hydraulic analyses performed, the proposed improvements for the revised VTTM 53295 will not adversely impact the existing storm drain facilities or adjacent properties, since the following mitigation measures will be applied.
Part of the existing tributary area for Watershed 100 is diverted to Watershed 300. The reasons for this diversion are summarized below.

Per the latest approved revised hydrology per Alliance Land Planning & Engineering on 11/16/17 (See Appendix D-12), the offsite runoff from Westridge Developments was calculated to be 746.0 cfs. Per the DS542 hydrology (See Appendix D-10) which was approved on 12/26/17 the runoff from the Westridge Developments was revaluated. A previously unaccounted runoff per the Alliance hydrology was discovered and per the updated calculations the updated runoff discharge came up to be 915.1 cfs. The main reason for the diversion was the increased runoff from Westridge Developments (TR 45433). The design Q for Line D per PD 2637 is 949.2 and the design Q for Line B per PD 1052 is 1160 cfs. If part of the existing tributary area for Watershed 100 was not diverted to Watershed 300 the proposed flow rate would have exceeded the design flow rate for both Line D per PD 2637 and Line B per 1052. It would have also exceeded the pipe capacity for Line D. A non-compliance hydraulic analysis was done for Line D (See Appendix B-4.6) showing the H.G.L. coming out of the proposed finished surface. Hydraulic analysis was also done for Line A of MTD 1764 and Line A of PD 2637 to demonstrate the increased proposed flow rate due to the diversion does not negatively impact the pipe capacity.

The hydraulic analysis demonstrated that Line A of MTD 1764 and Line A of PD 2637 are sufficient for the increased runoff from Watershed 300, see B-4.1 and B-4.2 of Appendix B. Additionally, B-4.2 of Appendix B includes the hydraulic analysis for the riprap section. The updated analysis, reflecting the increased flow, indicates that velocities at the downstream river bottom remain below 3 fps, consistent with the original design parameters. The only concern was the increase in velocity of Line A of PD 2637. This diversion was accepted for this case because of the three proposed alternatives to address the concern in the increased velocity of Line A of PD2637. The first alternative (1A) proposes to construct a parallel line to Line A of PD2637, the second alternative (1B) proposes the removal and reconstruction of Line A of PD2637 to address the increase in velocity and the third alternative (B) proposed the construction of a new line through Media Center Lane, Entertainment Drive and Sky View Lane. One of these alternatives will be chosen during final engineering to address the increase in velocity for Line A of PD2637. The second condition this diversion was accepted was the as-built storm drain plans will be updated to document the increased Q and HGL.

Below are the summary tables for the proposed watersheds, debris basins, and water quality basins.

Table 1: Watershed Summary Tables

Watershed	Qcap[1] (CFS)	Qdesign [2](CFS)	PD No.
100[3]	981.8	949.2	P.D. 2637
200[4]	1,557.6	1,557.6	P.D. 2640
300	1,291.8	1,126	MTD 1764
400[3]	170.4	1,160	P.D. 2637
500	78.7	75	MTD 1764
600	17.3	22	PD 2514-13

Note:
1. Qcap (Capital Q) is based on the revised Entrada South hydrology, see Proposed Hydrology Summary Table (B-5, Appendix B: Proposed Calculation)
2. Qdesign is acquired from approved PDs plan (Appendix D: Reference Plans)
3. Watershed 100 and 400 outlets to Line "B" of PD 1052. Qcap combined is 1,157.2 cfs which is less than Qdesign of 1,160 cfs
4. See (B-6, Appendix B: Proposed Calculation) for 200-watershed balance summary table

Table 2: Debris Basin Summary Table

Basin #	Debris Volume Req.[1] (cy)	Debris Volume Provided (cy)	Maintenance Responsibility
1	149	155	Maintained by LACFCD
2	387	392	Maintained by LACFCD
3	334	345	Maintained by LACFCD
4	492	522	Maintained by LACFCD
5	380	453	Maintained by LACFCD
6	1,747	1,979	Maintained by LACFCD
7	167	172	Maintained by LACFCD

Note:
1. Debris Volume Required is calculated per Sedimentation Manual

Table 3: Water Quality Summary Table

Basin #	Volume Required (ac-ft)	Volume Provided (ac-ft)	Maintenance Responsibility
B	0.21	4.60	Maintained by Los Angeles County
C	0.17	0.90	Maintained by Los Angeles County

7. REFERENCES

Los Angeles County Department of Public Works Hydrology Manual, January 2006

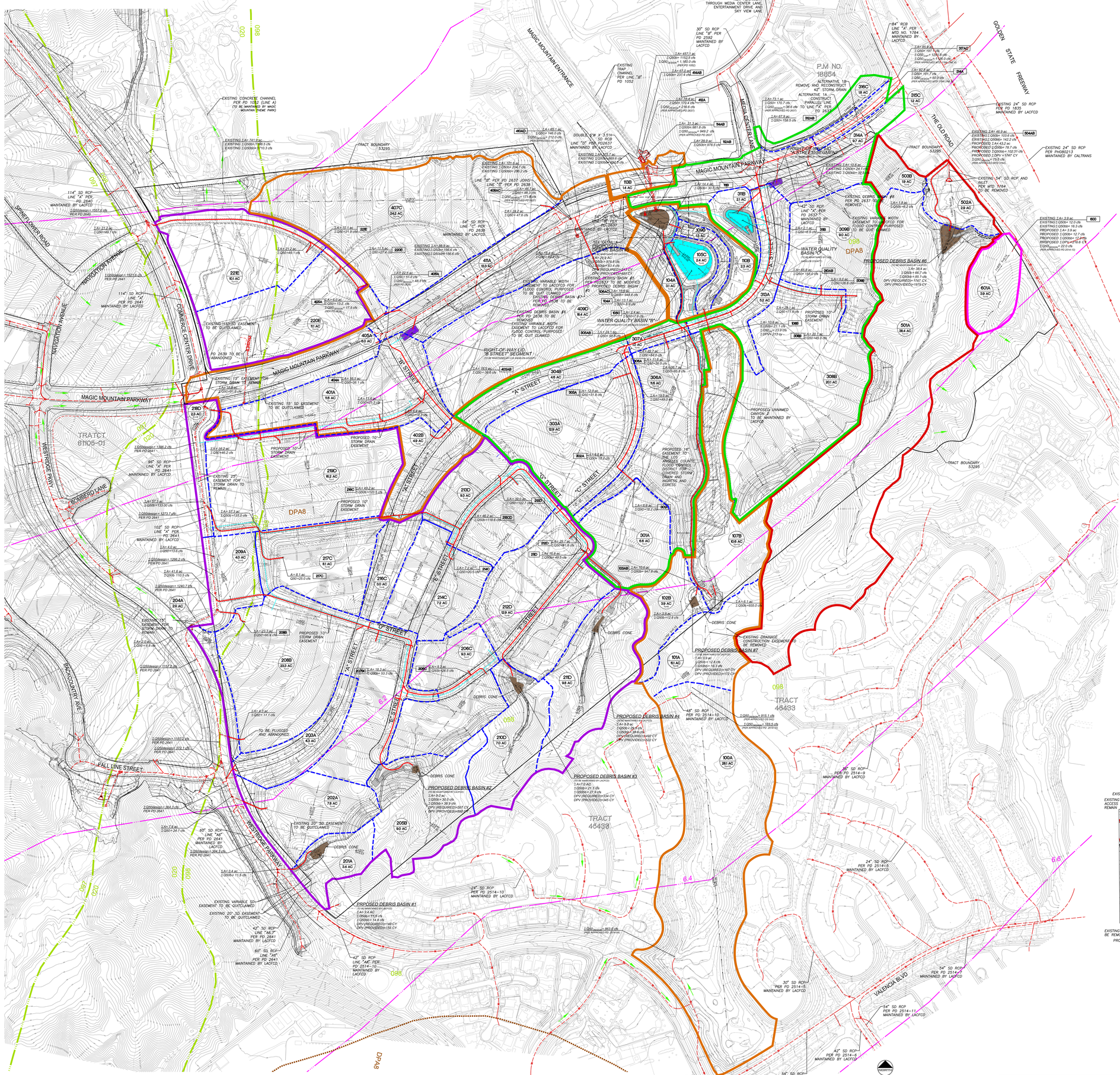
Los Angeles County Department of Public Works Sedimentation Manual, March 2006

Los Angeles County Department of Public Works Hydraulic Manual, March 1982

APPENDICES

Appendix A: Maps/Exhibits

A-1: Entrada South Proposed Hydrology Map



LEGEND:

- PHASING LIMITS
- PROPOSED 100 & 400 WATERSHED AREA
- PROPOSED 200 WATERSHED AREA
- PROPOSED 300 WATERSHED AREA
- PROPOSED 500 WATERSHED AREA
- PROPOSED 600 WATERSHED AREA
- PROPOSED SUBAREA BOUNDARY
- TIME OF CONCENTRATION PATH
- EXISTING STORM DRAIN
- PROPOSED STORM DRAIN
- WATER QUALITY
- ALTERNATIVE 1A AND 1B 96 STREET SEGMENT TO LINE "A" PER PD 2637
- ALTERNATIVE 1B W. ADDITION TO LINE "A" PER PD 2637
- SUBAREA NODE
- ACREAGE
- TIME OF CONCENTRATION
- DEBRIS PRODUCTION AREA
- SOIL CLASSIFICATION AREA
- ARMY CORPS OF ENGINEERS JURISDICTION
- EXISTING FLOODPLAIN SANTA CLARA RIVER WATER SURFACE ELEVATION
- EXISTING FLOODWAY
- FEMA ZONE
- OFFSITE FLOW PATH
- NATURAL CHANNEL
- WATER QUALITY BASIN
- RIGHT-OF-WAY-LID
- DEBRIS BASIN

DRAINAGE DESIGN CRITERIA:

1. 50-YR, 24-HR ISOHYETS: 5.9-6.3
2. SOIL TYPES 99 AND 20
3. DESIGN STORM: 50-YR, 24-HR
4. PERCENT IMPERVIOUS VALUES: 28, 108, 74%, 80%, 90%, 91%
5. DPA = 6, 35,500 CY PER SQ MI
6. BULK FACTOR= 1.28

NOTE:
1. NOT WITHIN COUNTY ADOPTED FLOODWAY
2. NOT WITHIN FEMA FLOOD ZONE "A"
3. ALL DEBRIS BASINS AND ALL CATCH BASINS SERVING CATCH BASINS ARE PUBLICLY MAINTAINED.
4. ALL LATERALS SERVING A BUILDER SITE WILL BE PRIVATELY MAINTAINED.
5. ALL MAINLINES ARE PUBLICLY MAINTAINED UNLESS NOTED OTHERWISE.

Subarea	Node	Soil Type	DPA Zone	Burn Factor	Backing Factor	% Imp	Area (Ac)	EXHIBIT A (Ac)	Mb Hr Isohyet (in)	Mb Hr Tc (mins)	Mb Hr Flow (cfs)	Q@6 (cfs)	Q@10 (cfs)	Q@25 (cfs)	Q@50a (cfs)	Q@50b (cfs)	100Yr Q (cfs)	Future Q (cfs)	Note	Land Use
100A		99	6		1.36	0.03	28.1	28.1	6.2	13								915.1	Subarea 100 & upstream lots are tributary to approved DB No2	Golf Course
101A		99	6	0.34	1.36	0.03	61.1	61.1	6.2	5	19.5	19.5	19.8					630.0		Golf Course
101B	101AB	99	6	0.34	1.36	0.03	61.1	61.1	6.2	5	19.5	19.5	19.8				19.5	630.0	Debris Basin #1	Natural/Debris Basin
102A		99	6		1.36	0.10	3.1	3.1	6.2	6	8.6	8.6	8.7	8.9	35.5			644.4	Debris Basin #1	Open Space/Debris Basin
102B		99	6		1.36	0.10	3.1	3.1	6.2	6	8.6	8.6	8.7	8.9	35.5			644.4	Water Quality Basin "6"	Water Quality Basin
103C	103AC	99	6	0.34	1.36	0.10	10.6	10.6	6.1	13	20.6	20.6	21.1	21.7	23.5			644.8		Natural/Canyon
103B	103B	99	6		1.36	0.10	10.7	10.7	6.1	5	23.1	23.1	23.6	24.3						Lacking Criteria
103B		99	6		1.36	0.10	2.3	13.0	6.0	10	5.2	25.3	5.2	30.0						Normalize
103B	103B	99	6		1.36	0.10		23.7				46.4		54.3						
103B	103AB	99	6		1.36	0.80	1.4	25.1	5.9	5	4.7	50.0	4.7	58.4				670.5		Public Road
103C	11AB	99	6			0.74	7.2	7.2				17.6		20.5				661.4		Public Road
201A		99	6	0.34	1.36	0.10	3.4	3.4	6.3	6	11.5	11.5	11.5	11.5	14.5		14.5		Debris Basin #1	Natural/Debris Basin
202A		99	6		1.36	0.74	7.9	7.9	6.3	5	24.1	24.1	24.1	24.1						Multi-Family Condo
202B		99	6		1.36	0.74	4.3	12.2	6.3	5	11.1	34.8	11.1	34.8						Public Road
202C		99	6		1.36	0.74	4.3	16.5	6.3	5	11.1	46.9	11.1	46.9						Public Road
203B		99	6	0.34	1.36	0.10	3.4	3.4	6.3	6	11.5	11.5	11.5	11.5	14.5		14.5	357	Debris Basin #2	Natural/Debris Basin
203C	207BC	99	6		1.36	0.74	8.3	8.3	6.3	5	26.5	26.5	26.5	26.5						Multi-Family Condo
204B		99	6		1.36	0.74	7	7	6.3	5	22.4	22.4	22.4	22.4						Multi-Family Condo
204C		99	6		1.36	0.74	7.2	7.2	6.3	5	23.0	23.0	23.0	23.0						Multi-Family Condo
204D	210AD	99	6			0.74	7	7	6.3	5	22.4	22.4	22.4	22.4						Multi-Family Condo
205A		99	6		1.36	0.74	7.2	7.2	6.3	5	23.0	23.0	23.0	23.0				354	Debris Basin #1	Natural/Debris Basin
205B		99	6		1.36	0.10	10.8	10.8	6.3	6	29.2	29.2	29.4	29.5	33.5			402	Debris Basin #2	Natural/Debris Basin
205C		99	6		1.36	0.74	4.5	15.3	6.3	5	14.4	43.6	14.4	43.6						Multi-Family Condo
205D		99	6		1.36	0.74	4.5	19.8	6.3	5	14.4	56.4	14.4	56.4						Multi-Family Condo
206A		99	6		1.36	0.74	4.5	4.5	6.3	5	13.9	13.9	13.9	13.9						Public Road
206B		99	6		1.36	0.74	4.5	8.8	6.3	5	13.9	26.8	13.9	26.8						Public Road
206C		99	6		1.36	0.74	4.5	13.3	6.3	5	13.9	40.7	13.9	40.7						Multi-Family Condo
206D		99	6		1.36	0.74	4.5	17.8	6.3	5	13.9	54.5	13.9	54.5						Multi-Family Condo
207A		99	6		1.36	0.98	3.5	46.2	6.3	6	9.3	122.5	9.3	122.5						Public Road
207B		99	6		1.36	0.74	2.1	2.1	6.3	6	6.8	6.8	6.8	6.8						Water Quality Basin "6"
207C		99	6		1.36	0.74	11.1	11.1	6.3	5	33.5	33.5	33.5	33.5						Open Space/Debris Basin
208B		99	6		1.36	0.74	10.3	10.3	6.3	5	31.1	31.1	31.1	31.1						Multi-Family Condo/Mixed Residential
208C		99	6		1.36	0.74	10.3	20.6	6.3	5	31.1	62.2	31.1	62.2						Multi-Family Condo/Mixed Residential
208D		99	6		1.36	0.74	10.3	30.9	6.3	5	31.1	93.3	31.1	93.3						Commercial/Business Park
209A		99	6		1.36	0.74	8.8	8.8	6.2	7	19.2	19.2	19.2	19.2						Multi-Family Condo
209B	209A	99	6		1.36	0.91	4.6	13.4	6.2	5	12.0	31.2	12.0	31.2						Public Road
209C		99	6		1.36	0.91	4.6	4.6	6.1	5	12.0	12.0	12.0	12.0						Public Road
209D	209AB	99	6		1.36	0.91	4.6	18.0	6.2	5	12.0	43.2	12.0	43.2						Public Road
210A		99	6		1.36	0.74	11.5	11.5	6.2	5	30.0	30.0	30.0	30.0						Public Road/Recreation
210B		99	6		1.36	0.74	11.5	23.0	6.2	5	30.0	60.0	30.0	60.0						Public Road
210C		99	6		1.36	0.74	8.1	31.1	6.1	5	22.5	82.5	22.5	82.5						Public Road
210D		99	6		1.36	0.74	9.0	29.1	6.1	6	26.8	71.9	26.8	71.9						Multi-Family Condo
211A	210AB	99	6		1.36			40.2				102.5		102.5						Public Road
211B	210AB	99	6		1.36	0.74	2.1	42.3	6.1	6	6.8	109.3	6.8	109.3						Water Quality Basin "6"
211C		99	6		1.36	0.80	5.2	10.7	6.0	9	13.5	179.7	13.5	179.7						Public Road
211D		99	6		1.36	0.74	9.8	9.8	6.0	5	27.1	27.1	27.1	27.1						Public Road
212A		99	6		1.36	0.10	1.2	1.2	6.0	5	4.3	4.3	4.3	4.3						Open Space
212B		99	6		1.36	0.10	1.2	1.2	6.0	5	5.2	5.2	5.2	5.2						Public Road
212C	213AC	99	6					80.8				187.9						1261.8		
213A		99	6		1.36	0.74	11.6	11.6	6.0	11	25.2	25.2	25.2	25.2						Multi-Family Condo
213B		99	6		1.36	0.74	6.5	6.5	6.0	8	14.1	14.1	14.1	14.1						Public Road
213C	402AB	99	6					16.5				36.6								
213D	402AB	99	6		1.36	0.91	6.5	23.0	5.9	11	13.2	51.0	13.2	51.0						Public Road
214A	406A	99	6		1.36	0.91	26.2	26.2	6.0	14	47.6	47.6	47.6	47.6						Commercial Business Park
214B		99	6		1.36	0.91	26.2	52.5	6.0	14	47.6	95.1	47.6	95.1						Commercial Business Park
214C	215AD	99	6			0.74	18.4	18.4	6.0	7	49.2	49.2	49.2	49.2						Multi-Family Condo
214D	215AD	99	6		1.36	0.91	13.3	31.7	6.0	9	24.1	73.2	24.1	73.2						Multi-Family Condo
215A	410A	99	6		1.36	0.91	13.3	45.0	5.9	14	24.1	170.5	24.1	170.5						Public Road
215B		99	6					19.4				170.5								Addition of Watershed 100 Hydrograph
215C	414AB							67.5				88.6		97.6						
215D								108.7				235.4		237.4				1152.9		Combined Flow of Watershed 100 and 400
301A		99	6	0.34	1.36	0.10	38.4	38.4	6.1	17	64.5	64.5	66.7	68.1				1940.1		Natural/Debris Basin
302A		99	6	0.34	1.36	0.10	4.3	4.3	6.1	5	8.1	8.1	8.2	8.4						Commercial Business Park
303B	304AB	99	6	0.34	1.36	0.31	1.9	6.2	6.1	5	6.1	6.1	6.2	6.3	6.5			184.56		Natural
303C								1.9				3.6						78.76		
401A		99	6	0.34	1.36	0.91	9.8	9.8	6.3	5	10.4	10.4	10.4	10.7	13.1			216.8	Valves per Hydraulic	Natural

200- Watershed Summary Table *

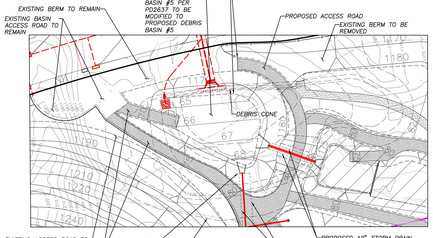
Subarea	FF/ LAT Node	Qbeign LAT per node (cfs)	LATERALS Qpeak LAT per ES Hydrology	Q DELTA PEAK LAT (50%/QPE)	D/S node Cumulative SQ	MAINLINE Approved PD Q 8HOUTH 1/5 yr LAT	Approved PD Q 8HOUTH 50/5 yr LAT	Approved FF Q 8HOUTH	Revised Q design (Approved Qbeign cumulative) x 1.5*	Delta Q (revised- design)
						364.1		364.1	364.1	0.0
201A	LAT "4A/4"	12.0	11.7	-0.3		364.1		364.1	364.1	0.0
202A	LAT "4A/4"	12.0	24.1	12.1		376.2	364.1	376.2	369.7	-6.5
						376.2	364.1	364.1	370.9	11.6
203A	LAT "4A/1"	0.8	11.1	10.3		376.2		372.1	370.9	11.6
Legac.*	Line A	924.6	774.6	-150.0		372.1		372.1	394.8	11.9
1A-LAT	LAT "1A"	10.0	0.0	-10.0		1,137.2		1,137.2	1,019.1	-118.1
204A	LAT "1A/3"	62.0	6.8	-55.2		1,137.2		1,137.2	1,019.1	-118.1
204B*	LAT "1A/3"	62.0	10.5	-51.5		1,137.2		1,346.7	1,137.7	-113.1
205A	LAT "1A/3"	8.0	13.9	5.9		1,137.2		1,346.7	1,137.7	-127.9
205B*	LAT "1A/3"	90.0	123.0	33.0		1,137.2		1,346.7	1,137.7	-127.9
207A	LAT "1A/3"	30.0	123.0	93.0		1,137.2		1,346.7	1,171.1	-122.2
208A	LAT "1A/3"	30.0	153.0	123.0		1,137.2		1,346.7	1,191.0	-121.2
210A*	LAT "1A/3"	66.0	73.9	-58.1				1,346.7	1,346.7	-39.3
North of Magic Mountain Parkway										
211A*	LAT "1A/3"	56.0	49.1	-13.1				1,511.6	1,482.3	-39.3
Total (cfs)		1,317.5	1,370.4	-39.3		1,137.2		1,511.6	1,511.6	-39.3

Notes

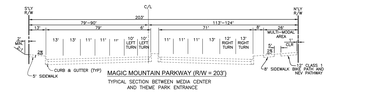
1. PD Values are per the latest approved revisions of PD2640 and PD2643 plans
2. Legacy Undeveloped QS50=564.2 cfs
   Legacy Ultimate QS0 to be limited to QS50=750 cfs
3. Revised Q is the approved Mainline Q + cumulative Q for each Lateral
4. Subarea 204B includes total subarea= 1,137.2 cfs
5. Subarea 207C includes total subarea= 2168, 2120.2120.2120.2147, 2242 and 2372
6. Subarea 210B1Q includes total subarea= 2280 and 2290
7. Subarea 212A1Q includes total subarea= 2308 and 2332
8. Values are in CFS

HYDROLOGY STUDY APPROVED

RECOMMENDED BY: _____ DATE: 05/22/2020
APPROVED BY: _____ DATE: 05/22/2020
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS
LAND DEVELOPMENT DIVISION



DETAIL A
DEBRIS BASIN #5
SCALE: 1"=40'



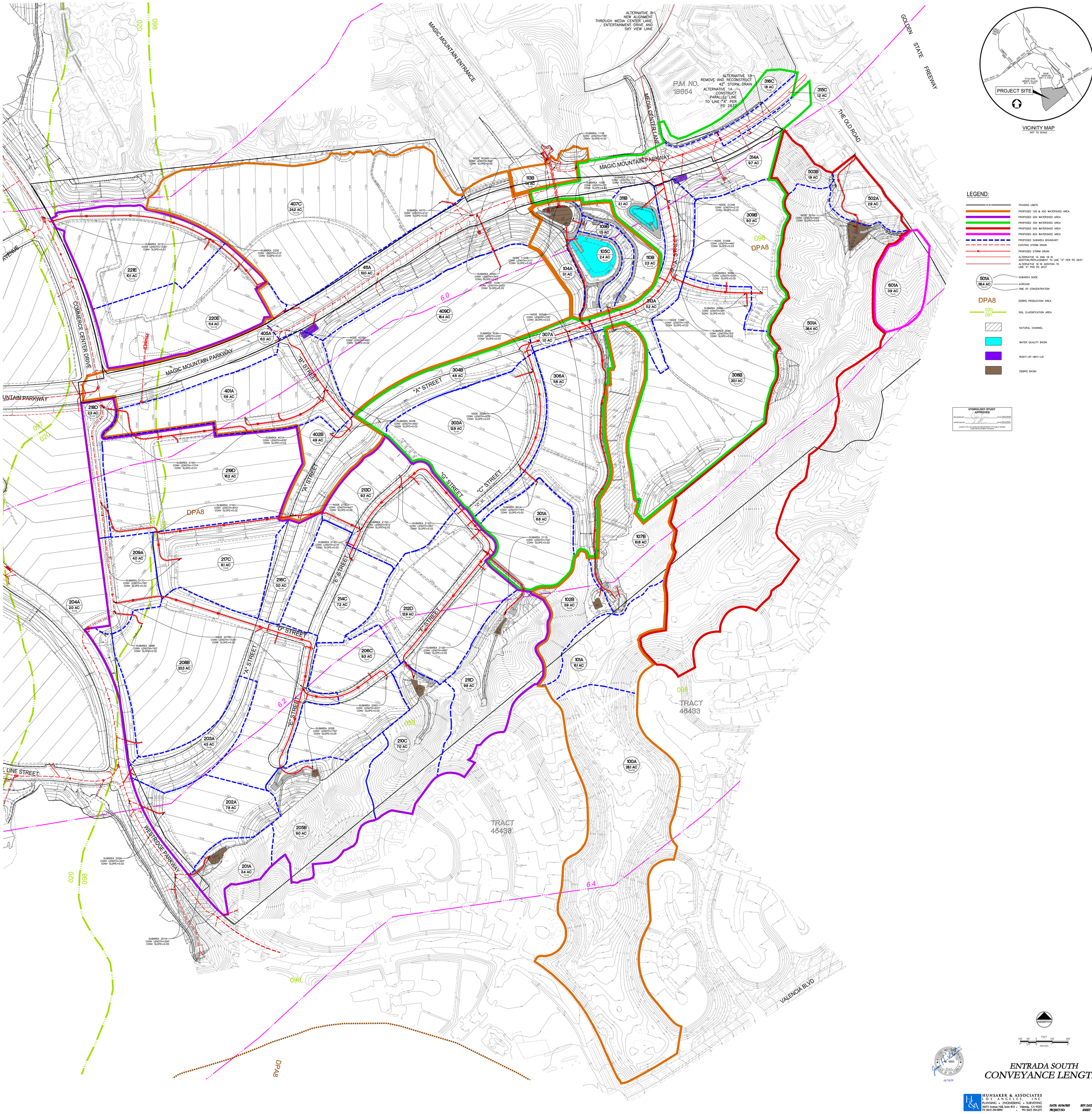
TYPICAL SECTION BETWEEN MEDIA CENTER AND THEME PARK ENTRANCE

DESIGNED				OWNER/DEVELOPER: FIVEPOINT, 24 SPINNEY COURT, SUITE 300, VALENCIA, CA 91355, TELEPHONE: (661) 255-4500, REPRESENTATIVE: MR. MILES HELFRICH	PLANS PREPARED BY: HUNSAKER & ASSOCIATES IRVINE, INC. PLANNING · ENGINEERING · SURVEYING, 3 HUGHES · IRVINE, CA 92618, (949) 583-1010 FAX (949) 583-0759	COUNTY OF LOS ANGELES
DRAWN						PROPOSED HYDROLOGY MAP FOR ENTRADA TRACT MAP 53295
CHECKED						IN THE UNINCORPORATED AREA OF THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA
NO.	REVISIONS	DATE	BY			

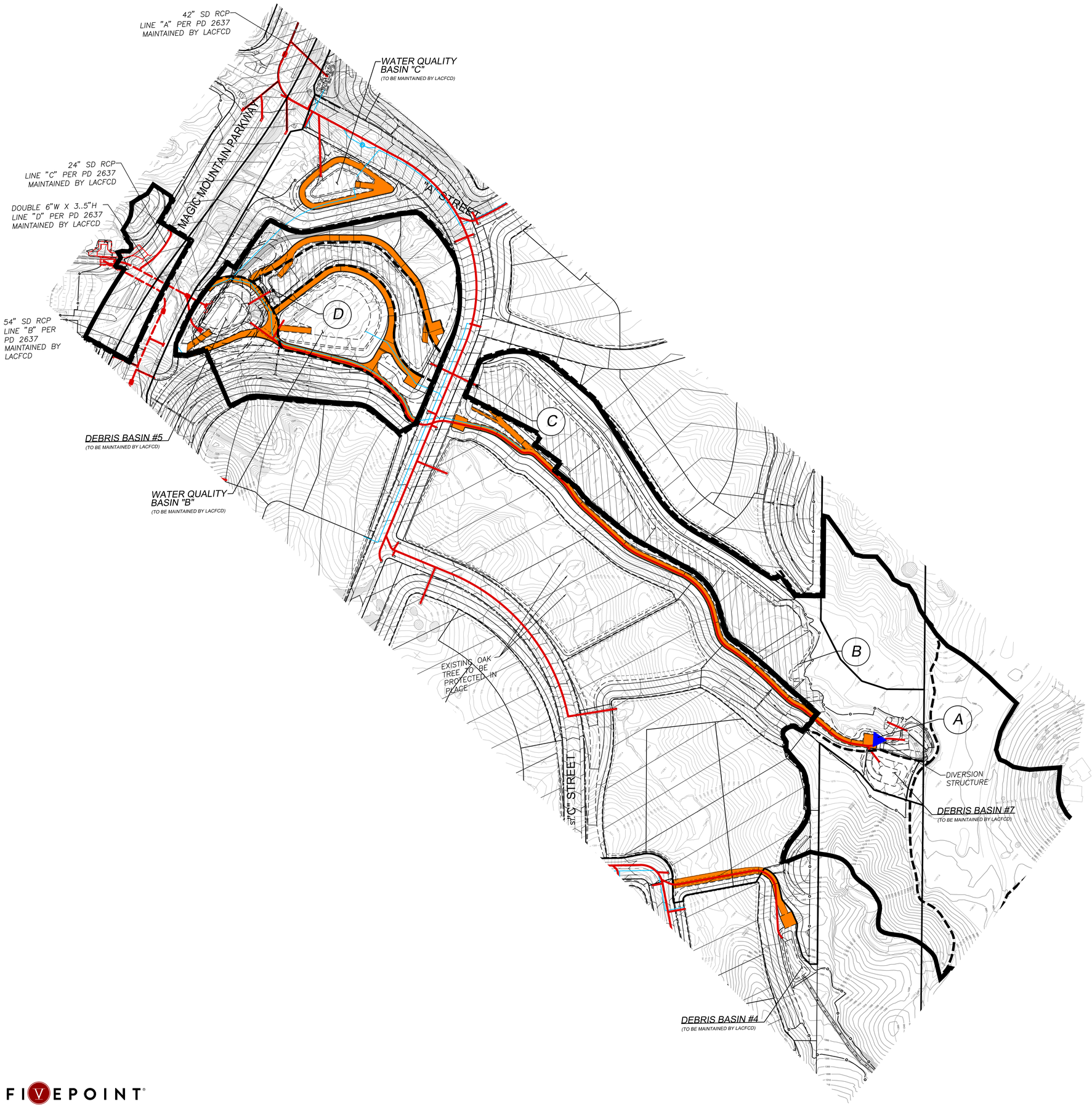
SCALE: AS SHOWN
DATE: 02/21/2023
CUP No.: RPPL2021-007-(5)
SHEET
1 OF 1 SHEETS

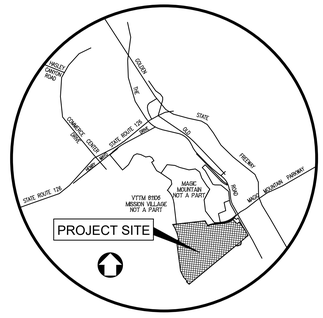
FIVEPOINT
24 SPINNEY COURT, SUITE 300
VALENCIA, CA 91355

A-2: Entrada South Conveyance Lengths Exhibit


MAGIC MOUNTAIN ENTRANCE
ALTERNATIVE 1B
NEW ALIGNMENT
THROUGH MEDIA CENTER LANE,
ENTERTAINMENT DRIVE AND
SKY VIEW LANE
P.M. NO. 18654
ALTERNATIVE 1B
REMOVE AND RECONSTRUCT
42" STORM DRAIN
ALTERNATIVE 1A
CONSTRUCT
PARALLEL LINE
TO LINE "A" PER
PD 2637
GOLDEN STATE FREEWAY
THE OLD ROAD
MEDIA CENTER LANE
MAGIC MOUNTAIN PARKWAY
COMMERCE CENTER DRIVE
"A" STREET
"B" STREET
"C" STREET
"D" STREET
"E" STREET
"F" STREET
"G" STREET
WESTRIDGE PARKWAY
VALENCIA BLVD
TRACT 45433
DPA8
098
020
097
6.0
6.2
6.4
407C 24.2 AC Tc=14
411A 13.0 AC Tc=13
409D 18.4 AC Tc=14
405A 6.0 AC Tc=11
401A 11.6 AC Tc=11
218D 2.3 AC Tc=8
221E 10.1 AC Tc=13
220E 11.4 AC Tc=13
219D 16.2 AC Tc=7
209A 4.0 AC Tc=8
217C 8.1 AC Tc=8
216C 3.0 AC Tc=8
214C 7.2 AC Tc=7
213D 9.3 AC Tc=6
212D 12.9 AC Tc=8
206C 9.3 AC Tc=7
204A 2.0 AC Tc=9
208B 23.3 AC Tc=7
203A 4.3 AC Tc=9
202A 7.9 AC Tc=9
205B 9.0 AC Tc=5
201A 3.4 AC Tc=9
210C 7.0 AC Tc=6
211D 9.8 AC Tc=8
113B 1.4 AC Tc=5
109B 1.5 AC
105C 2.4 AC Tc=5
104A 3.1 AC Tc=6
311B 2.1 AC Tc=5
110B 2.3 AC Tc=5
307A 1.0 AC Tc=5
304B 4.6 AC Tc=10
306A 11.6 AC Tc=12
303A 12.9 AC Tc=9
402B 4.9 AC Tc=6
301A 6.6 AC Tc=7
313A 5.2 AC Tc=6
316C 1.8 AC Tc=5
315C 1.2 AC Tc=5
314A 9.7 AC Tc=12
309B 9.0 AC Tc=6
503B 1.9 AC Tc=6
502A 2.9 AC Tc=6
501A 38.4 AC Tc=17
601A 3.9 AC Tc=6
308B 20.1 AC Tc=13
102B 3.9 AC Tc=8
107B 10.8 AC Tc=13
101A 6.1 AC Tc=9
100A 28.1 AC Tc=13
PROJECT SITE
VICINITY MAP
NOT TO SCALE
LEGEND:
PHASING LIMITS
PROPOSED 100 & 400 WATERSHED AREA
PROPOSED 200 WATERSHED AREA
PROPOSED 300 WATERSHED AREA
PROPOSED 500 WATERSHED AREA
PROPOSED 600 WATERSHED AREA
PROPOSED SUBAREA BOUNDARY
EXISTING STORM DRAIN
PROPOSED STORM DRAIN
ALTERNATIVE 1A AND 1B IN ADDITION/REPLACEMENT TO LINE "A" PER PD 2637
ALTERNATIVE 1B IN ADDITION TO LINE "A" PER PD 2637
SUBAREA NODE
ACREAGE
TIME OF CONCENTRATION
DEBRIS PRODUCTION AREA
SOIL CLASSIFICATION AREA
NATURAL CHANNEL
WATER QUALITY BASIN
RIGHT-OF-WAY-LID
DEBRIS BASIN
HYDROLOGY STUDY APPROVED
RECOMMEND BY: DATE 05/12/2025
APPROVED BY: DATE 05/12/2025
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS
LAND DEVELOPMENT DIVISION
NORTH
FEET
INCHES
ENTRADA SOUTH
CONVEYANCE LENGTHS
HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING • ENGINEERING • SURVEYING
26074 Avenue Hall, Suite #23 • Valencia, CA 91355
PH: (661) 294-9890 FX: (661) 294-9891
DATE: 05/04/2023
PROJECT NO:
REV. DATE:
SHEET 1 OF 1

A-3: Entrada South Unnamed Canyon 2 Exhibit





VICINITY MAP
NOT TO SCALE

LEGEND:

- PHASING LIMITS
- PROPOSED WATERSHED 100 BOUNDARY PER PROPOSED ENTRADA SOUTH HYDROLOGY MAP
- PROPOSED SUBAREA BOUNDARY FOR WATERSHED 100 PER PROPOSED ENTRADA SOUTH HYDROLOGY MAP
- EXISTING STORM DRAIN
- PROPOSED STORM DRAIN
- WQ — WATER QUALITY
- ACCESS ROAD
- NATURAL CHANNEL
- DIVERSION STRUCTURE

SUMMARY TABLE:

Node	Area	Q	QB	QBB	ΣQ	ΣQB	ΣQBB	DV	ΣDV	Note
A	N/A	13.0			13.0			N/A	N/A	Diversion Flow
B	6.2	12.1	12.3	14.0	25.1	25.3	27.0	213	213	Subarea 107B
C	4.4	8.5	8.8	9.9	33.6	34.1	36.9		213	
D	1.5	3.7	3.8		37.3	37.9	40.7		213	Subarea 109B

HYDROLOGY STUDY
APPROVED
REVIEWED BY:_____DATE 03/12/2025
APPROVED BY:_____DATE_____
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS
LAND DEVELOPMENT DIVISION

NORTH

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

TRACT 53295
UNNAMED CANYON 2 EXHIBIT
ENTRADA SOUTH

REGISTERED PROFESSIONAL ENGINEER
JOHN T. FLYNN
No. 40695
CIVIL
STATE OF CALIFORNIA
02/14/25

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite #23 ▪ Valencia, CA 91355
FX: (661) 294-9890 ▪ PH: (661) 294-2211

DATE: 02/04/2025 *REV. DATE:*
PROJECT NO: 0015-035-019 *SHEET 1 OF 1*

FIVEPOINT

H&S057-01_ENTRADA SOUTH UNNAMED CANYON 2 EXHIBIT.DWG

G:\Newhall Ranch\53295 Entrada South\Hydrology\H&S057-01_Entrada South Unnamed Canyon 2 Exhibit.dwg Plotted on Feb 04, 2025 by smorris

A-4: Entrada South Existing Golf Course Overlay

HYDROLOGY STUDY
APPROVED
REVIEWED BY: _____ DATE 03/12/2025
APPROVED BY: _____ DATE 03/12/2025
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS
LAND DEVELOPMENT DIVISION

LEGEND:

- PROPOSED 100 & 400 WATERSHED AREA
- PROPOSED 200 WATERSHED AREA
- PROPOSED 300 WATERSHED AREA
- PROPOSED 500 WATERSHED AREA
- PROPOSED SUBAREA BOUNDARY
- EXISTING GOLF COURSE

501A — SUBAREA NODE
38.4 AC — ACREAGE
Tc=17 — TIME OF CONCENTRATION

REGISTERED PROFESSIONAL ENGINEER
JAMES R. HUNSAKER
No. 40695
CIVIL
STATE OF CALIFORNIA
02/14/25

NORTH
FEET
100' 25' 0 50' 100'
1" 1/2" 0 1" 2"
INCHES

ENTRADA SOUTH
EXISTING GOLF COURSE

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING • ENGINEERING • SURVEYING
26074 Avenue Hall, Suite #23 • Valencia, CA 91355
FX: (661) 294-9890 • PH: (661) 294-2211

DATE: 10/05/2022
PROJECT NO:
REV. DATE:
SHEET 1 OF 1

D:\Hunsker Assoc\LA2329 Entrada\Storm Hydrology\Design Backup\Golf Course Line Work.dwg Plotted on Nov 13, 2024 by smiles

Appendix B: Proposed Calculations

B-1: Tc Calculations (Hydrocalc)

Peak Flow Hydrologic Analysis

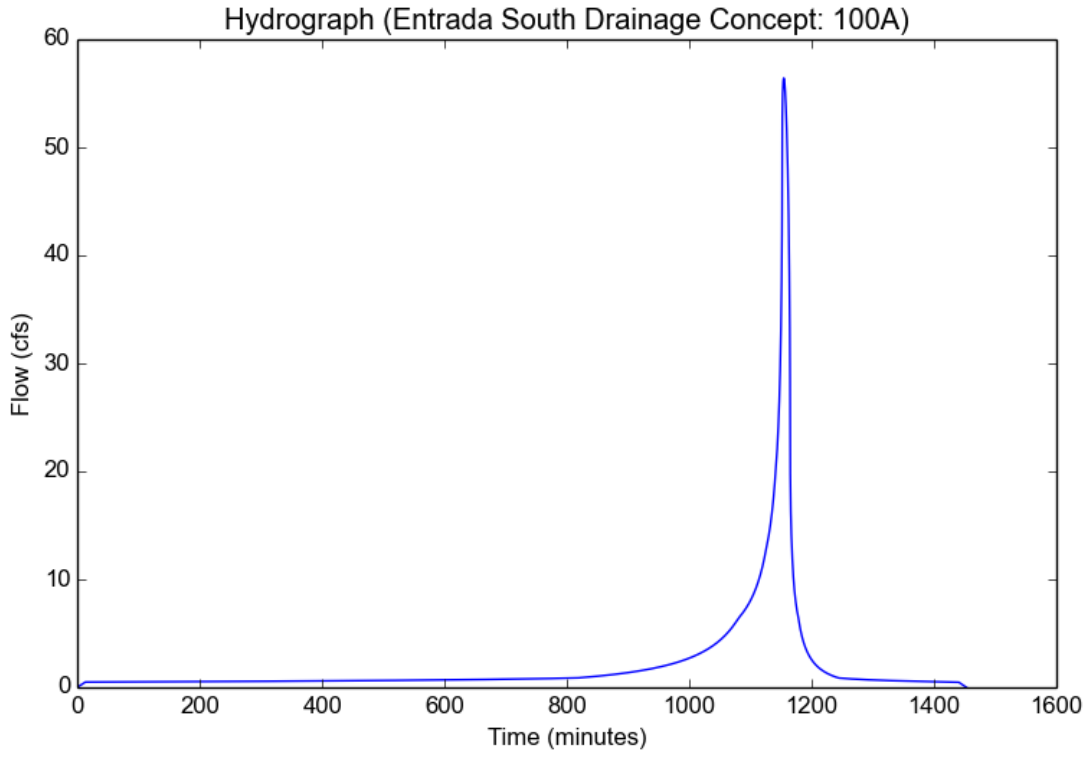
File location: G:/Newhall Ranch/53295 Entrada/Storm/Hydrology/Calculations/Hydrocalc/Proposed/Entrada South Drainage Concept Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Entrada South Drainage Concept
Subarea ID	100A
Area (ac)	28.1
Flow Path Length (ft)	2000.0
Flow Path Slope (vft/hft)	0.05
50-yr Rainfall Depth (in)	6.4
Percent Impervious	0.03
Soil Type	98
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.4
Peak Intensity (in/hr)	2.4369
Undeveloped Runoff Coefficient (Cu)	0.8216
Developed Runoff Coefficient (Cd)	0.8239
Time of Concentration (min)	13.0
Clear Peak Flow Rate (cfs)	56.4196
Burned Peak Flow Rate (cfs)	56.4196
24-Hr Clear Runoff Volume (ac-ft)	4.3015
24-Hr Clear Runoff Volume (cu-ft)	187372.2106



Peak Flow Hydrologic Analysis

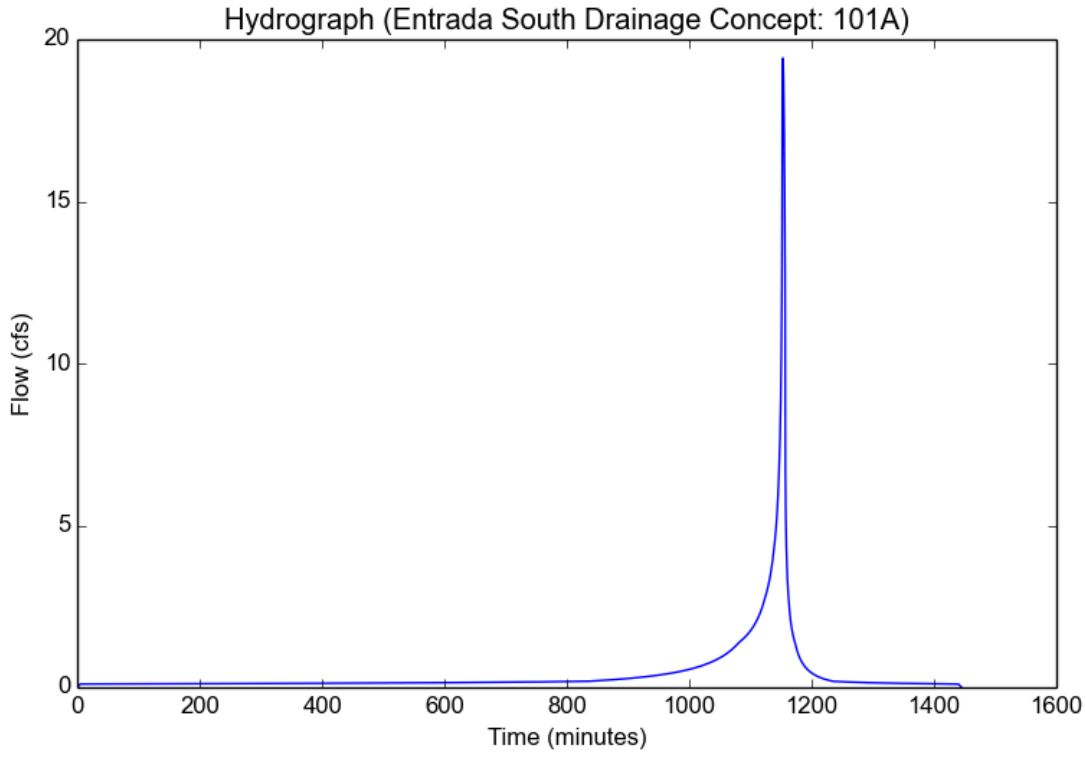
File location: G:/Newhall Ranch/53295 Entrada/Storm/Hydrology/Calculations/Hydrocalc/Proposed/Entrada South Drainage Concept Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Entrada South Drainage Concept
Subarea ID	101A
Area (ac)	6.1
Flow Path Length (ft)	500.0
Flow Path Slope (vft/hft)	0.05
50-yr Rainfall Depth (in)	6.2
Percent Impervious	0.03
Soil Type	98
Design Storm Frequency	50-yr
Fire Factor	0.34
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.2
Peak Intensity (in/hr)	3.6991
Undeveloped Runoff Coefficient (Cu)	0.8596
Developed Runoff Coefficient (Cd)	0.8609
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	19.4248
Burned Peak Flow Rate (cfs)	19.8598
24-Hr Clear Runoff Volume (ac-ft)	0.8868
24-Hr Clear Runoff Volume (cu-ft)	38628.9199



Peak Flow Hydrologic Analysis

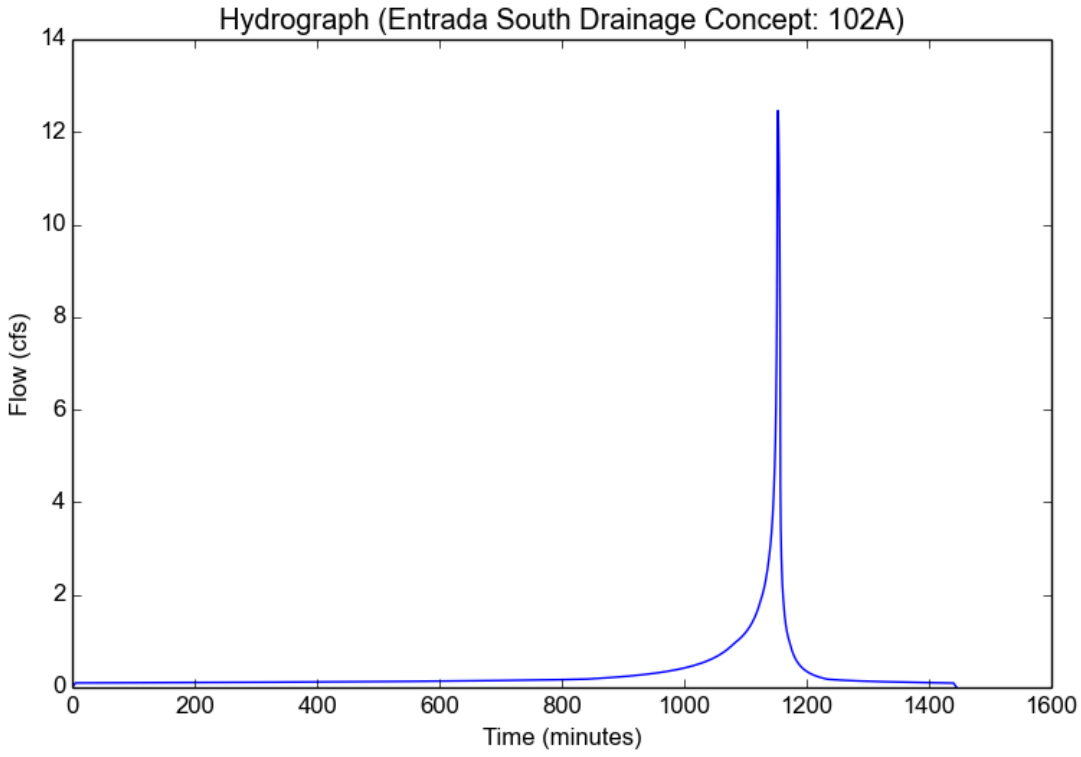
File location: G:/Newhall Ranch/53295 Entrada/Storm/Hydrology/Calculations/Hydrocalc/Proposed/Entrada South Drainage Concept Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Entrada South Drainage Concept
Subarea ID	102B
Area (ac)	3.9
Flow Path Length (ft)	700.0
Flow Path Slope (vft/hft)	0.13
50-yr Rainfall Depth (in)	6.2
Percent Impervious	0.1
Soil Type	98
Design Storm Frequency	50-yr
Fire Factor	0.34
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.2
Peak Intensity (in/hr)	3.6991
Undeveloped Runoff Coefficient (Cu)	0.8596
Developed Runoff Coefficient (Cd)	0.8637
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	12.4599
Burned Peak Flow Rate (cfs)	12.7324
24-Hr Clear Runoff Volume (ac-ft)	0.6558
24-Hr Clear Runoff Volume (cu-ft)	28568.5425



Peak Flow Hydrologic Analysis

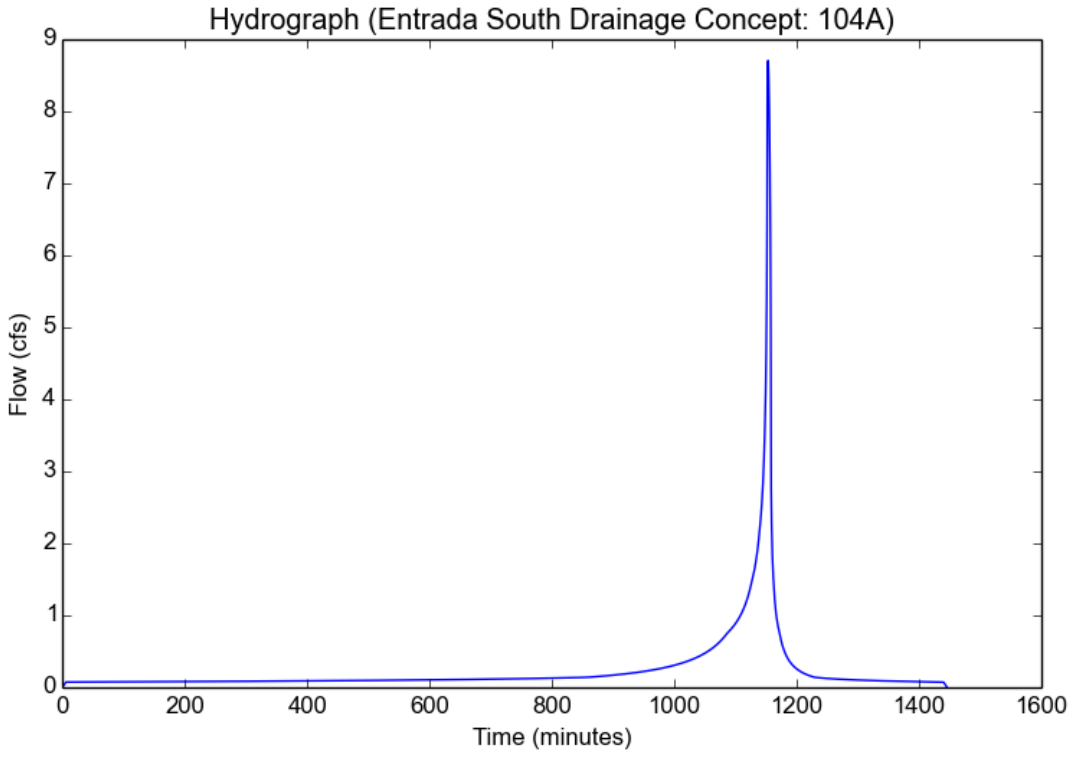
File location: G:/Newhall Ranch/53295 Entrada/Storm/Hydrology/Calculations/Hydrocalc/Proposed/Entrada South Drainage Concept Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Entrada South Drainage Concept
Subarea ID	104A
Area (ac)	3.1
Flow Path Length (ft)	697.0
Flow Path Slope (vft/hft)	0.1
50-yr Rainfall Depth (in)	6.0
Percent Impervious	0.1
Soil Type	98
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.0
Peak Intensity (in/hr)	3.2858
Undeveloped Runoff Coefficient (Cu)	0.8496
Developed Runoff Coefficient (Cd)	0.8546
Time of Concentration (min)	6.0
Clear Peak Flow Rate (cfs)	8.7052
Burned Peak Flow Rate (cfs)	8.7052
24-Hr Clear Runoff Volume (ac-ft)	0.4961
24-Hr Clear Runoff Volume (cu-ft)	21612.1575



Peak Flow Hydrologic Analysis

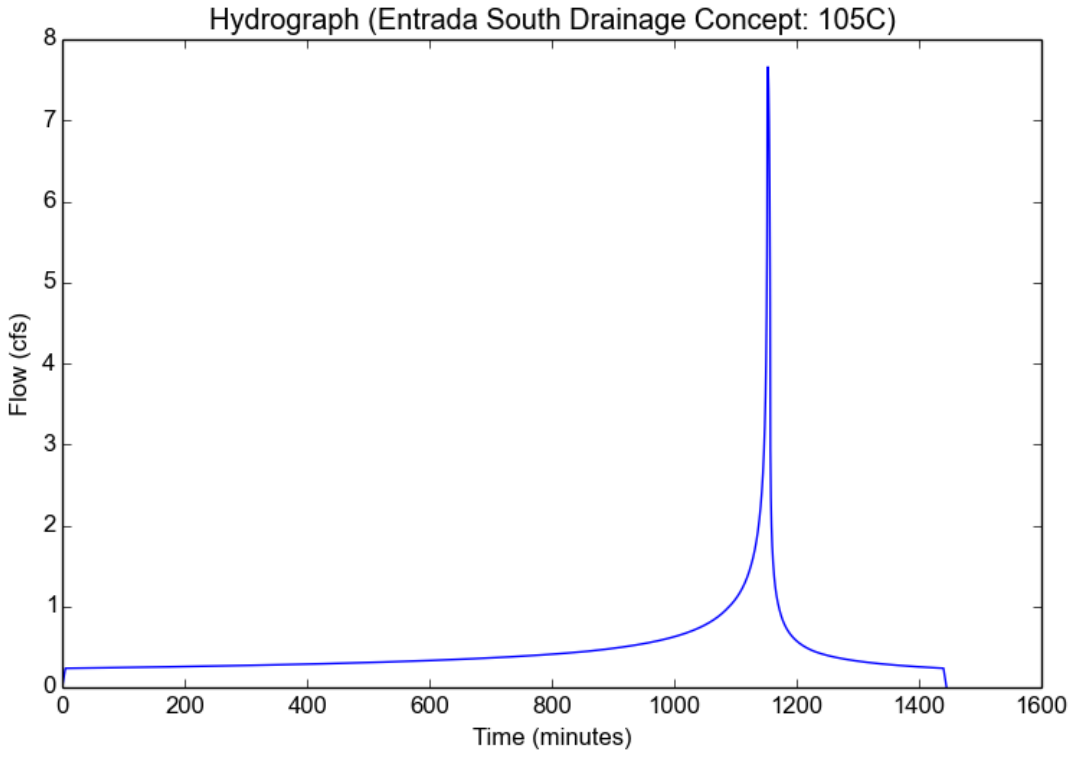
File location: G:/Newhall Ranch/53295 Entrada/Storm/Hydrology/Calculations/Hydrocalc/Proposed/Entrada South Drainage Concept Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Entrada South Drainage Concept
Subarea ID	105C
Area (ac)	2.4
Flow Path Length (ft)	225.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	6.0
Percent Impervious	0.8
Soil Type	98
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.0
Peak Intensity (in/hr)	3.5798
Undeveloped Runoff Coefficient (Cu)	0.8577
Developed Runoff Coefficient (Cd)	0.8915
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	7.6595
Burned Peak Flow Rate (cfs)	7.6595
24-Hr Clear Runoff Volume (ac-ft)	0.9184
24-Hr Clear Runoff Volume (cu-ft)	40006.7964



Peak Flow Hydrologic Analysis

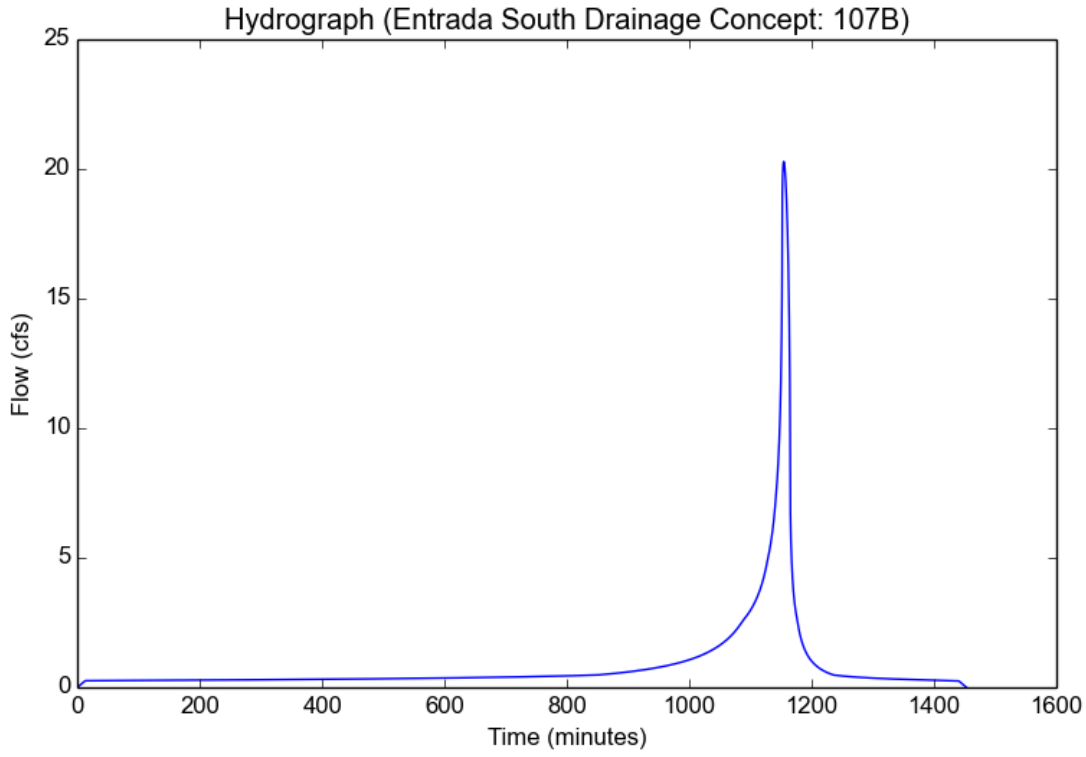
File location: G:/Newhall Ranch/53295 Entrada/Storm/Hydrology/Calculations/Hydrocalc/Proposed/Entrada South Drainage Concept Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Entrada South Drainage Concept
Subarea ID	107B
Area (ac)	10.6
Flow Path Length (ft)	1670.0
Flow Path Slope (vft/hft)	0.03
50-yr Rainfall Depth (in)	6.1
Percent Impervious	0.1
Soil Type	98
Design Storm Frequency	50-yr
Fire Factor	0.34
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.1
Peak Intensity (in/hr)	2.3227
Undeveloped Runoff Coefficient (Cu)	0.8155
Developed Runoff Coefficient (Cd)	0.8239
Time of Concentration (min)	13.0
Clear Peak Flow Rate (cfs)	20.2857
Burned Peak Flow Rate (cfs)	20.844
24-Hr Clear Runoff Volume (ac-ft)	1.7386
24-Hr Clear Runoff Volume (cu-ft)	75732.5305



Peak Flow Hydrologic Analysis

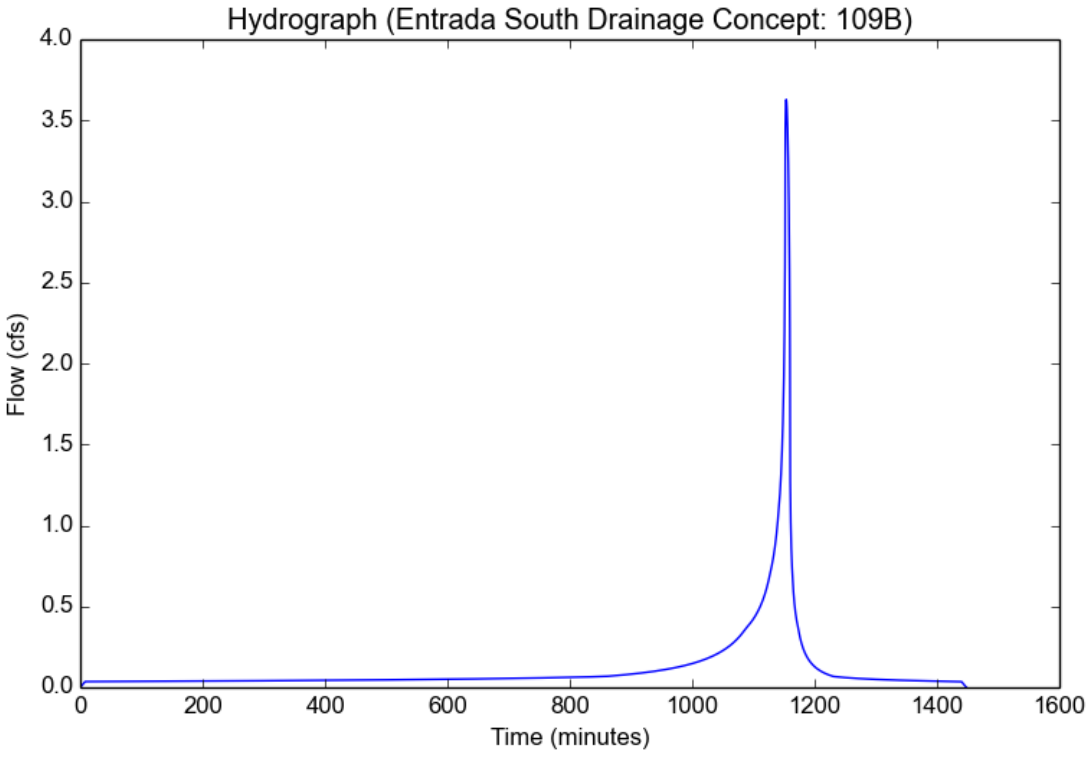
File location: G:/Newhall Ranch/53295 Entrada/Storm/Hydrology/Calculations/Hydrocalc/Proposed/Entrada South Drainage Concept Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Entrada South Drainage Concept
Subarea ID	109B
Area (ac)	1.5
Flow Path Length (ft)	667.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	6.0
Percent Impervious	0.1
Soil Type	98
Design Storm Frequency	50-yr
Fire Factor	0.34
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.0
Peak Intensity (in/hr)	2.8702
Undeveloped Runoff Coefficient (Cu)	0.8365
Developed Runoff Coefficient (Cd)	0.8429
Time of Concentration (min)	8.0
Clear Peak Flow Rate (cfs)	3.6289
Burned Peak Flow Rate (cfs)	3.7191
24-Hr Clear Runoff Volume (ac-ft)	0.24
24-Hr Clear Runoff Volume (cu-ft)	10456.3144



Peak Flow Hydrologic Analysis

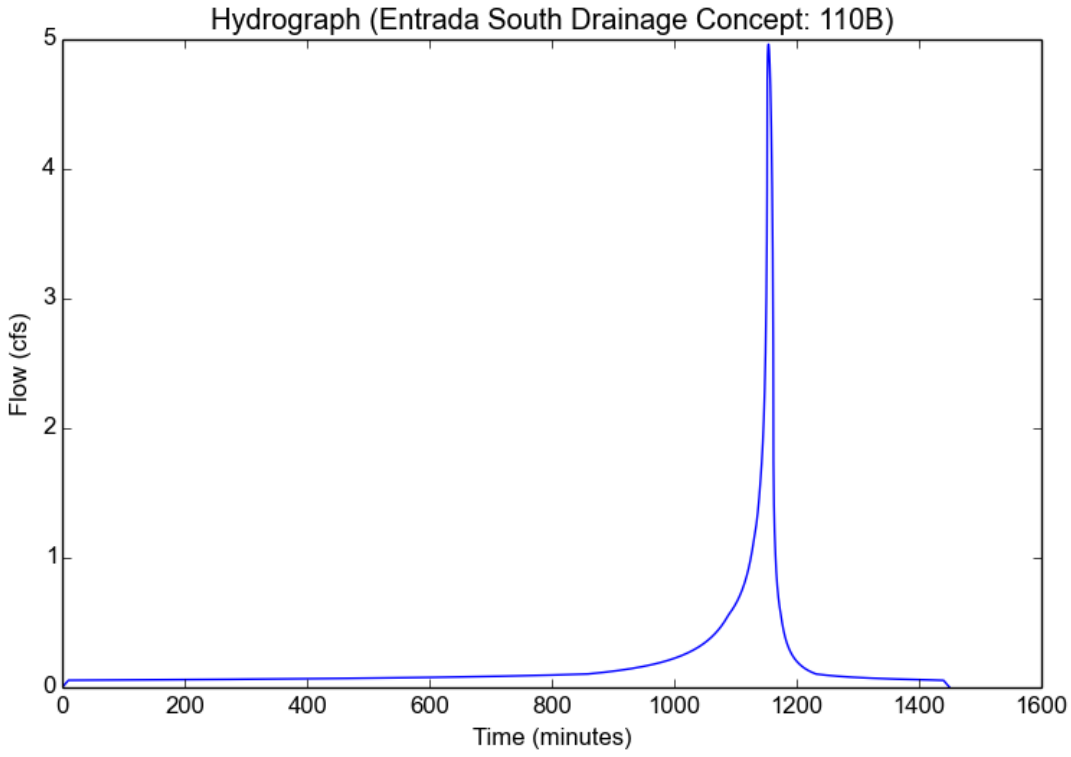
File location: G:/Newhall Ranch/53295 Entrada/Storm/Hydrology/Calculations/Hydrocalc/Proposed/Entrada South Drainage Concept Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Entrada South Drainage Concept
Subarea ID	110B
Area (ac)	2.3
Flow Path Length (ft)	776.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	6.0
Percent Impervious	0.1
Soil Type	98
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.0
Peak Intensity (in/hr)	2.5845
Undeveloped Runoff Coefficient (Cu)	0.8276
Developed Runoff Coefficient (Cd)	0.8348
Time of Concentration (min)	10.0
Clear Peak Flow Rate (cfs)	4.9623
Burned Peak Flow Rate (cfs)	4.9623
24-Hr Clear Runoff Volume (ac-ft)	0.3681
24-Hr Clear Runoff Volume (cu-ft)	16033.746



Peak Flow Hydrologic Analysis

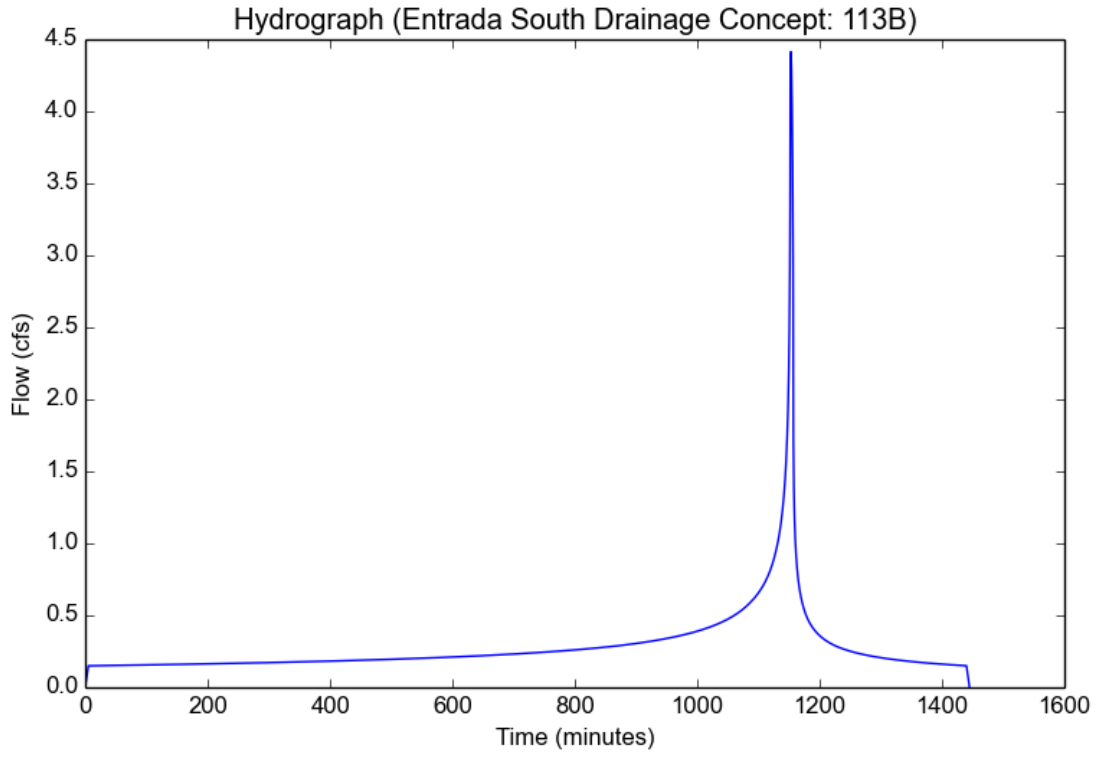
File location: G:/Newhall Ranch/53295 Entrada/Storm/Hydrology/Calculations/Hydrocalc/Proposed/Entrada South Drainage Concept Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Entrada South Drainage Concept
Subarea ID	113B
Area (ac)	1.4
Flow Path Length (ft)	400.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.9
Soil Type	98
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	5.9
Peak Intensity (in/hr)	3.5201
Undeveloped Runoff Coefficient (Cu)	0.8567
Developed Runoff Coefficient (Cd)	0.8957
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	4.414
Burned Peak Flow Rate (cfs)	4.414
24-Hr Clear Runoff Volume (ac-ft)	0.5704
24-Hr Clear Runoff Volume (cu-ft)	24846.5004



Peak Flow Hydrologic Analysis

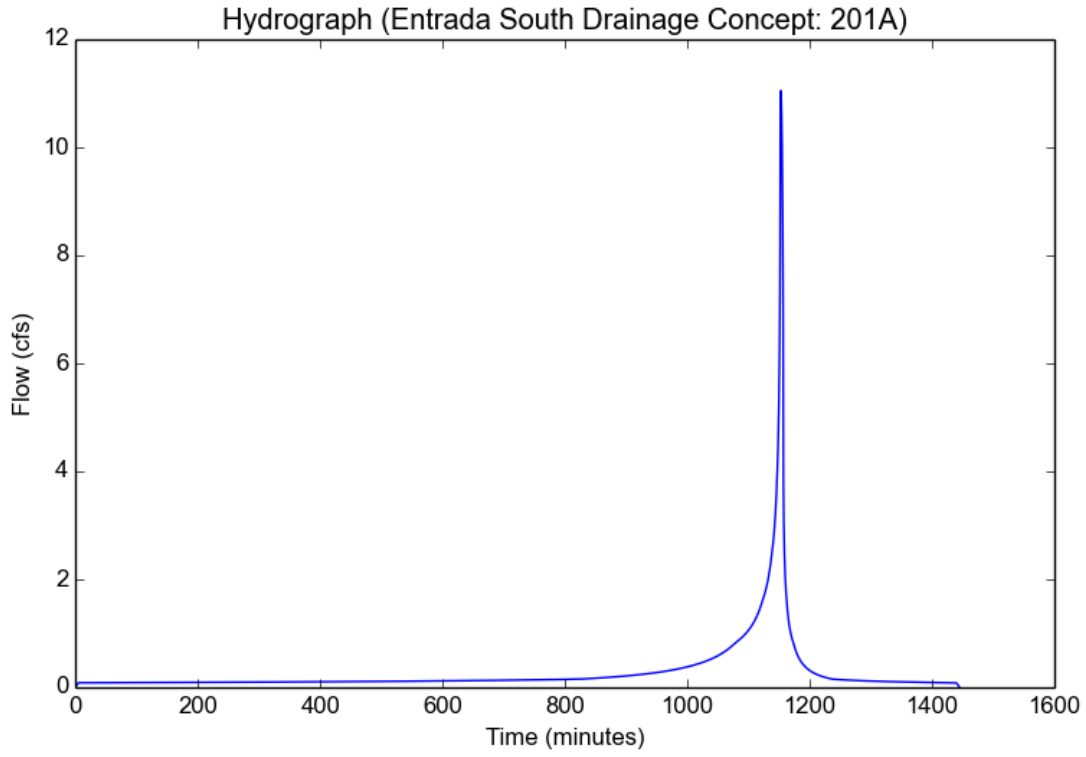
File location: G:/Newhall Ranch/53295 Entrada/Storm/Hydrology/Calculations/Hydrocalc/Proposed/Entrada South Drainage Concept Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Entrada South Drainage Concept
Subarea ID	201A
Area (ac)	3.4
Flow Path Length (ft)	377.0
Flow Path Slope (vft/hft)	0.23
50-yr Rainfall Depth (in)	6.3
Percent Impervious	0.1
Soil Type	98
Design Storm Frequency	50-yr
Fire Factor	0.34
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.3
Peak Intensity (in/hr)	3.7588
Undeveloped Runoff Coefficient (Cu)	0.8606
Developed Runoff Coefficient (Cd)	0.8646
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	11.0491
Burned Peak Flow Rate (cfs)	11.2895
24-Hr Clear Runoff Volume (ac-ft)	0.5858
24-Hr Clear Runoff Volume (cu-ft)	25515.7229



Peak Flow Hydrologic Analysis

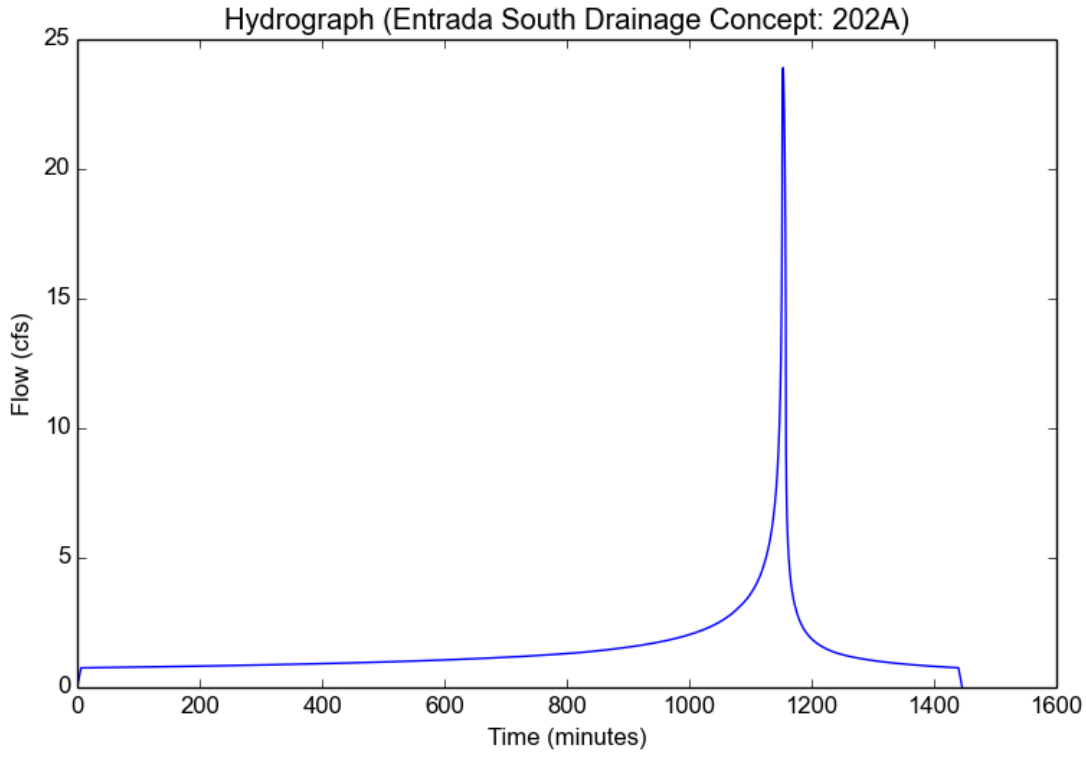
File location: G:/Newhall Ranch/53295 Entrada/Storm/Hydrology/Calculations/Hydrocalc/Proposed/Entrada South Drainage Concept Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Entrada South Drainage Concept
Subarea ID	202A
Area (ac)	7.8
Flow Path Length (ft)	570.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	6.3
Percent Impervious	0.74
Soil Type	98
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.3
Peak Intensity (in/hr)	3.4501
Undeveloped Runoff Coefficient (Cu)	0.8547
Developed Runoff Coefficient (Cd)	0.8882
Time of Concentration (min)	6.0
Clear Peak Flow Rate (cfs)	23.9029
Burned Peak Flow Rate (cfs)	23.9029
24-Hr Clear Runoff Volume (ac-ft)	2.9873
24-Hr Clear Runoff Volume (cu-ft)	130127.8386



Peak Flow Hydrologic Analysis

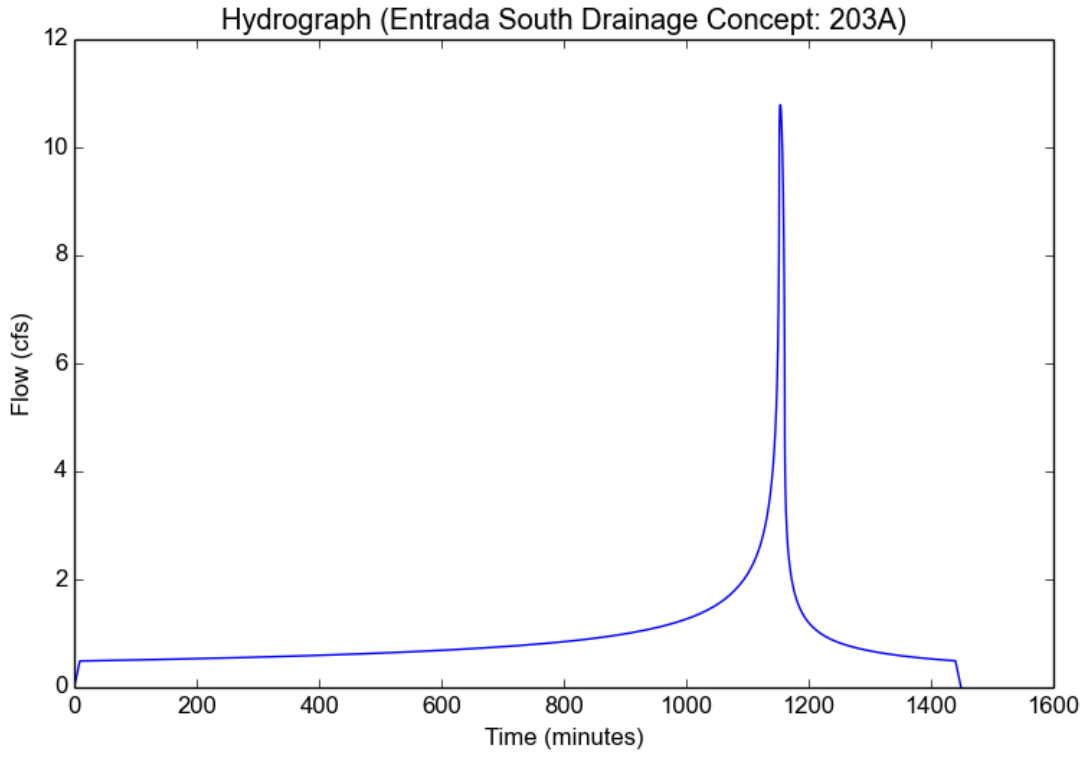
File location: G:/Newhall Ranch/53295 Entrada/Storm/Hydrology/Calculations/Hydrocalc/Proposed/Entrada South Drainage Concept Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Entrada South Drainage Concept
Subarea ID	203A
Area (ac)	4.3
Flow Path Length (ft)	1000.0
Flow Path Slope (vft/hft)	0.03
50-yr Rainfall Depth (in)	6.2
Percent Impervious	0.91
Soil Type	98
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.2
Peak Intensity (in/hr)	2.8062
Undeveloped Runoff Coefficient (Cu)	0.8345
Developed Runoff Coefficient (Cd)	0.8941
Time of Concentration (min)	9.0
Clear Peak Flow Rate (cfs)	10.7888
Burned Peak Flow Rate (cfs)	10.7888
24-Hr Clear Runoff Volume (ac-ft)	1.857
24-Hr Clear Runoff Volume (cu-ft)	80889.6537



Peak Flow Hydrologic Analysis

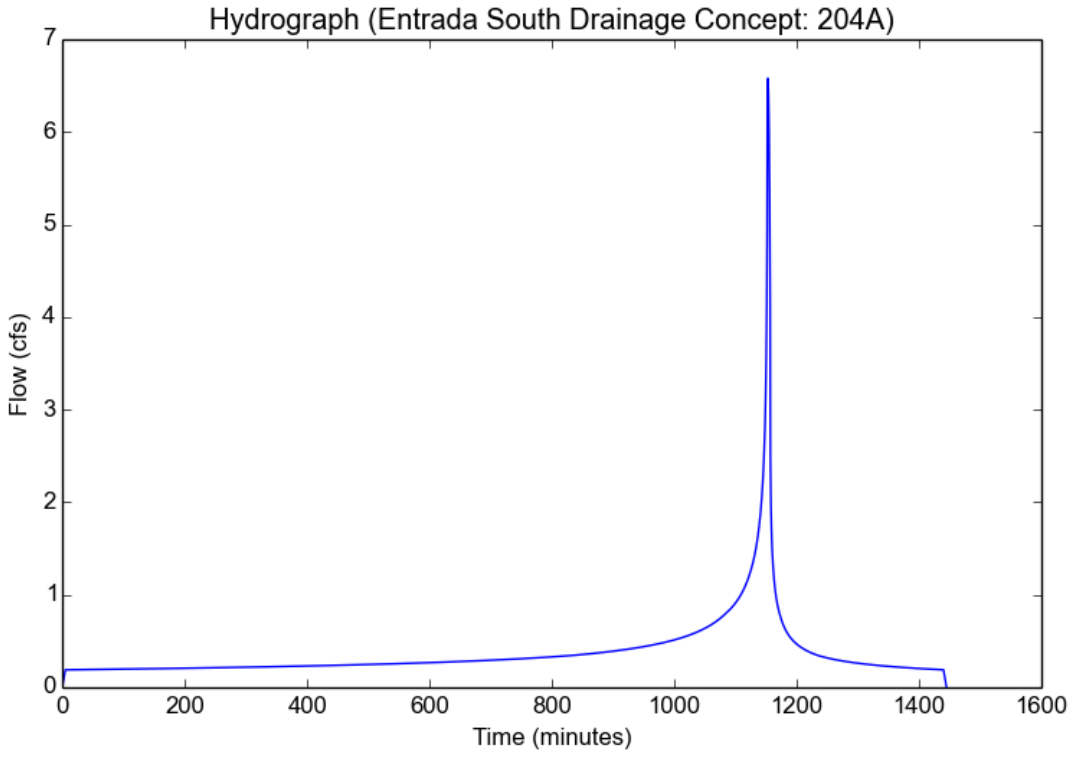
File location: G:/Newhall Ranch/53295 Entrada/Storm/Hydrology/Calculations/Hydrocalc/Proposed/Entrada South Drainage Concept Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Entrada South Drainage Concept
Subarea ID	204A
Area (ac)	2.0
Flow Path Length (ft)	183.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	6.2
Percent Impervious	0.74
Soil Type	98
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.2
Peak Intensity (in/hr)	3.6991
Undeveloped Runoff Coefficient (Cu)	0.8596
Developed Runoff Coefficient (Cd)	0.8895
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	6.5807
Burned Peak Flow Rate (cfs)	6.5807
24-Hr Clear Runoff Volume (ac-ft)	0.753
24-Hr Clear Runoff Volume (cu-ft)	32801.9856



Peak Flow Hydrologic Analysis

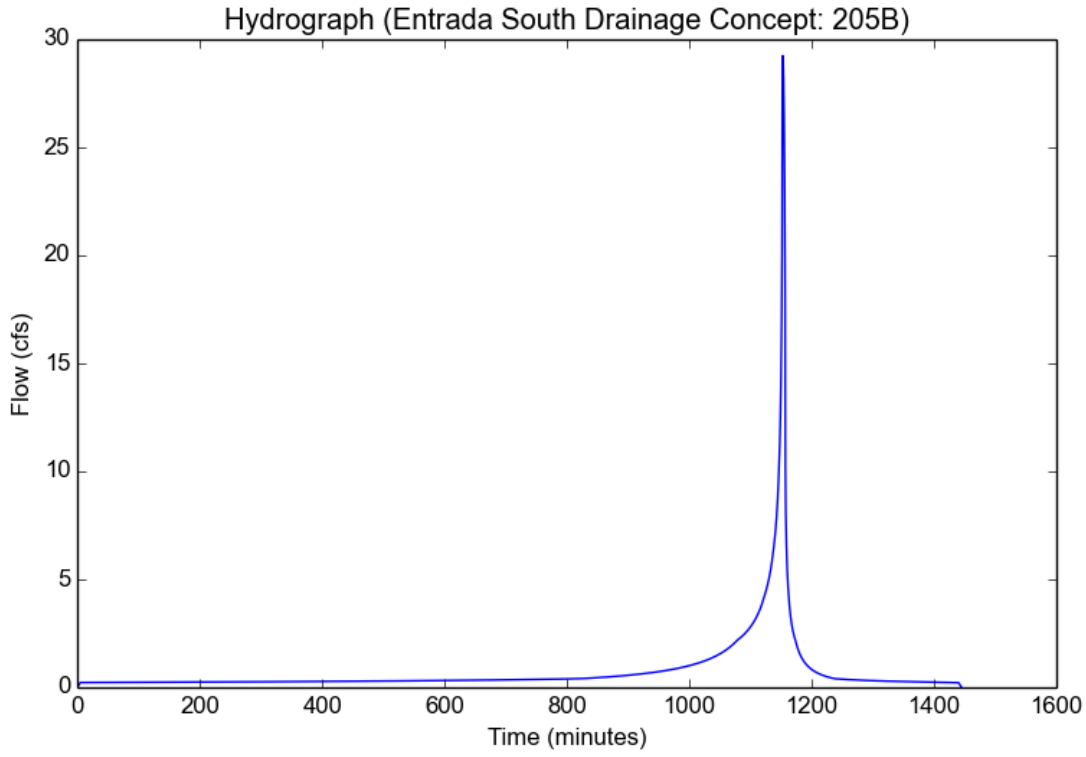
File location: G:/Newhall Ranch/53295 Entrada/Storm/Hydrology/Calculations/Hydrocalc/Proposed/Entrada South Drainage Concept Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Entrada South Drainage Concept
Subarea ID	205B
Area (ac)	9.0
Flow Path Length (ft)	545.0
Flow Path Slope (vft/hft)	0.3
50-yr Rainfall Depth (in)	6.3
Percent Impervious	0.1
Soil Type	98
Design Storm Frequency	50-yr
Fire Factor	0.34
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.3
Peak Intensity (in/hr)	3.7588
Undeveloped Runoff Coefficient (Cu)	0.8606
Developed Runoff Coefficient (Cd)	0.8646
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	29.2477
Burned Peak Flow Rate (cfs)	29.884
24-Hr Clear Runoff Volume (ac-ft)	1.5505
24-Hr Clear Runoff Volume (cu-ft)	67541.6196



Peak Flow Hydrologic Analysis

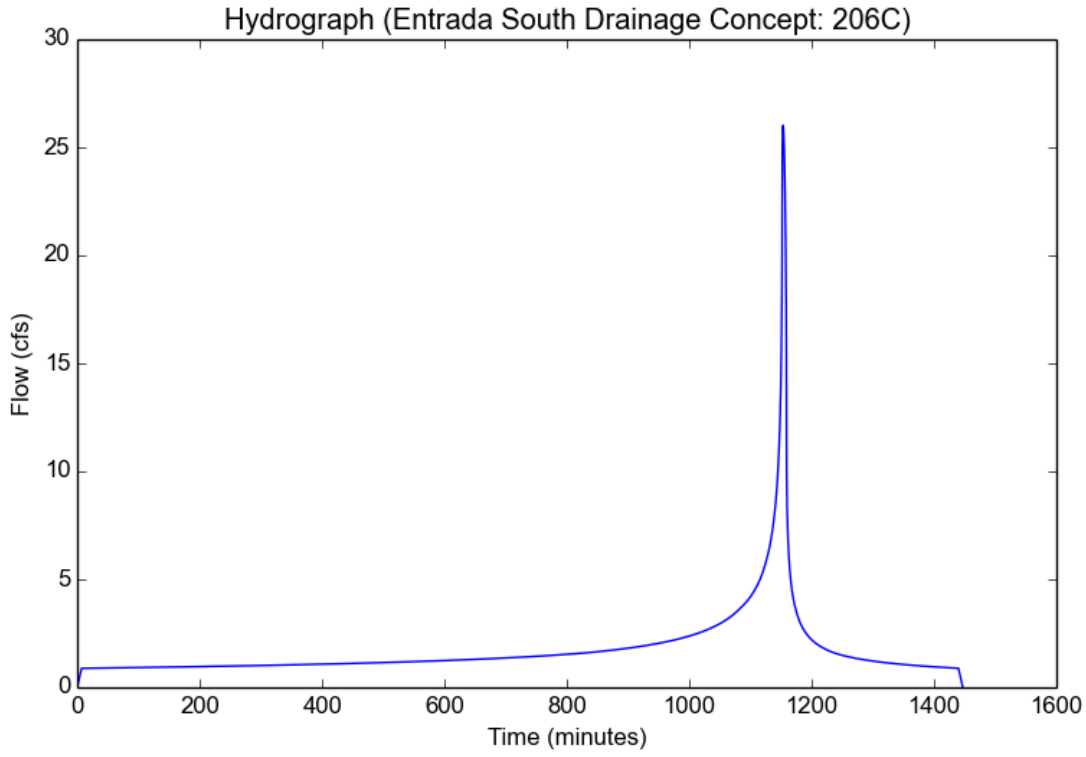
File location: G:/Newhall Ranch/53295 Entrada/Storm/Hydrology/Calculations/Hydrocalc/Proposed/Entrada South Drainage Concept Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Entrada South Drainage Concept
Subarea ID	206C
Area (ac)	9.3
Flow Path Length (ft)	630.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	6.2
Percent Impervious	0.74
Soil Type	98
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.2
Peak Intensity (in/hr)	3.158
Undeveloped Runoff Coefficient (Cu)	0.8456
Developed Runoff Coefficient (Cd)	0.8858
Time of Concentration (min)	7.0
Clear Peak Flow Rate (cfs)	26.017
Burned Peak Flow Rate (cfs)	26.017
24-Hr Clear Runoff Volume (ac-ft)	3.5015
24-Hr Clear Runoff Volume (cu-ft)	152524.9033



Peak Flow Hydrologic Analysis

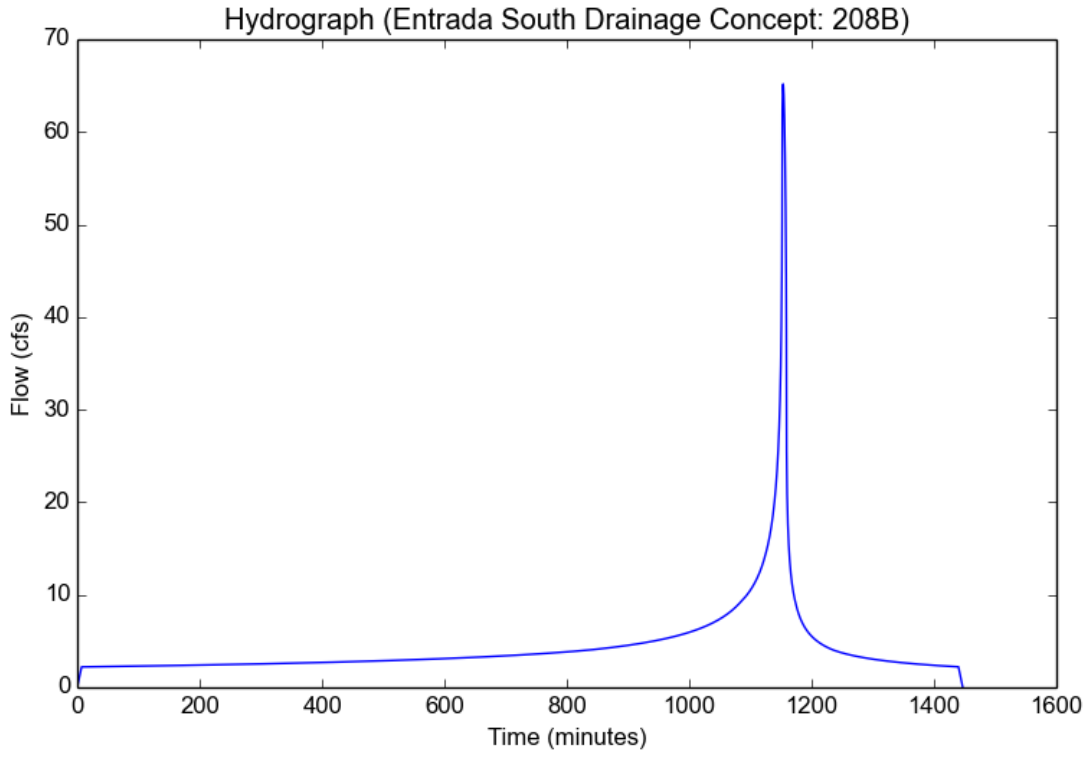
File location: G:/Newhall Ranch/53295 Entrada/Storm/Hydrology/Calculations/Hydrocalc/Proposed/Entrada South Drainage Concept Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Entrada South Drainage Concept
Subarea ID	208B
Area (ac)	23.3
Flow Path Length (ft)	623.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	6.2
Percent Impervious	0.74
Soil Type	98
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.2
Peak Intensity (in/hr)	3.158
Undeveloped Runoff Coefficient (Cu)	0.8456
Developed Runoff Coefficient (Cd)	0.8858
Time of Concentration (min)	7.0
Clear Peak Flow Rate (cfs)	65.1824
Burned Peak Flow Rate (cfs)	65.1824
24-Hr Clear Runoff Volume (ac-ft)	8.7726
24-Hr Clear Runoff Volume (cu-ft)	382132.2846



Peak Flow Hydrologic Analysis

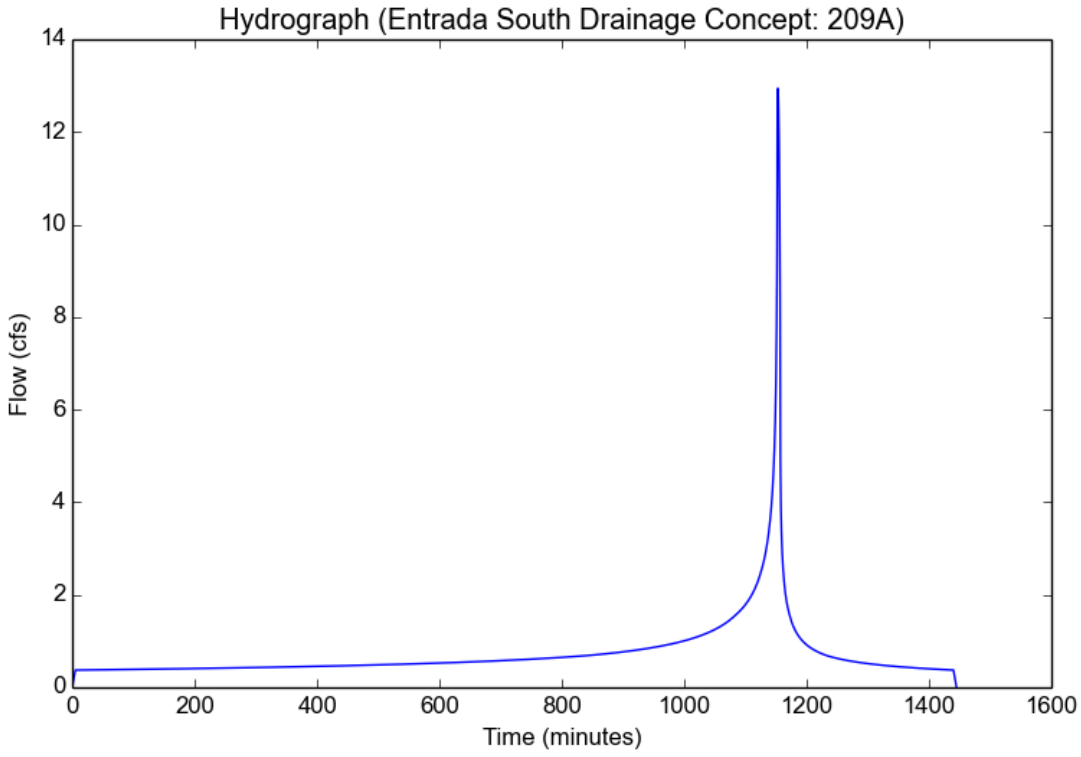
File location: G:/Newhall Ranch/53295 Entrada/Storm/Hydrology/Calculations/Hydrocalc/Proposed/Entrada South Drainage Concept Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Entrada South Drainage Concept
Subarea ID	209A
Area (ac)	4.0
Flow Path Length (ft)	430.0
Flow Path Slope (vft/hft)	0.05
50-yr Rainfall Depth (in)	6.1
Percent Impervious	0.74
Soil Type	98
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.1
Peak Intensity (in/hr)	3.6394
Undeveloped Runoff Coefficient (Cu)	0.8586
Developed Runoff Coefficient (Cd)	0.8892
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	12.9454
Burned Peak Flow Rate (cfs)	12.9454
24-Hr Clear Runoff Volume (ac-ft)	1.4802
24-Hr Clear Runoff Volume (cu-ft)	64477.5108



Peak Flow Hydrologic Analysis

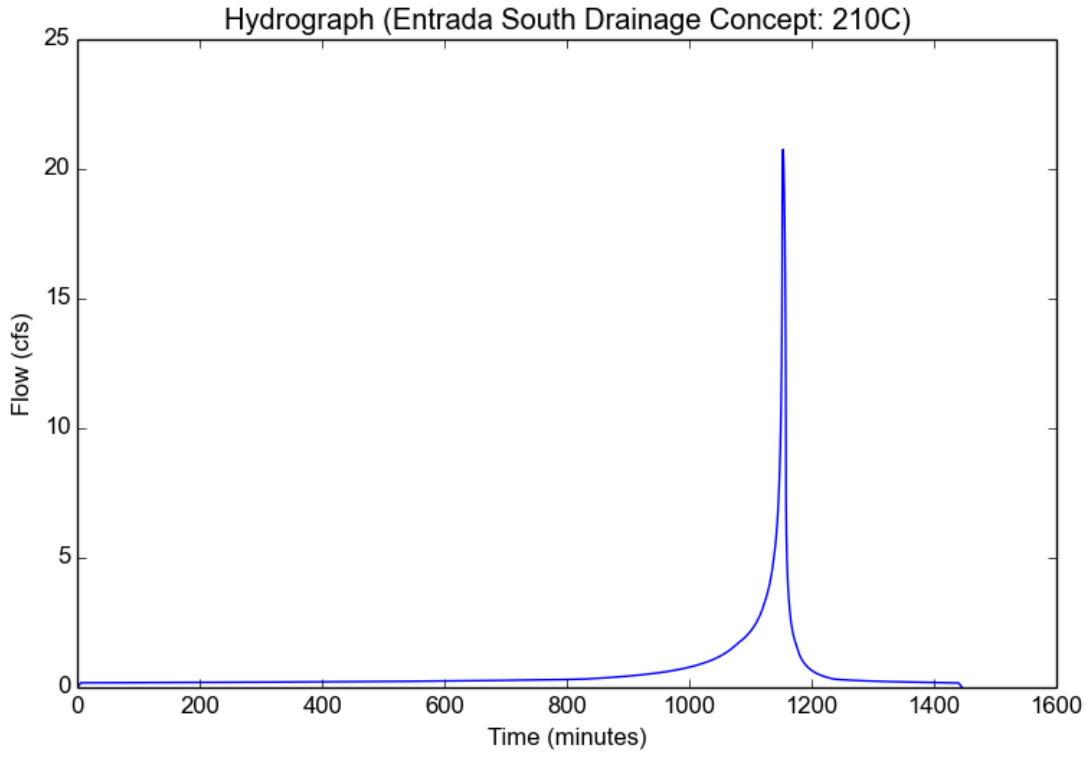
File location: G:/Newhall Ranch/53295 Entrada/Storm/Hydrology/Calculations/Hydrocalc/Proposed/Entrada South Drainage Concept Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Entrada South Drainage Concept
Subarea ID	210D
Area (ac)	7.0
Flow Path Length (ft)	907.0
Flow Path Slope (vft/hft)	0.14
50-yr Rainfall Depth (in)	6.3
Percent Impervious	0.1
Soil Type	98
Design Storm Frequency	50-yr
Fire Factor	0.34
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.3
Peak Intensity (in/hr)	3.4501
Undeveloped Runoff Coefficient (Cu)	0.8547
Developed Runoff Coefficient (Cd)	0.8593
Time of Concentration (min)	6.0
Clear Peak Flow Rate (cfs)	20.7519
Burned Peak Flow Rate (cfs)	21.218
24-Hr Clear Runoff Volume (ac-ft)	1.2059
24-Hr Clear Runoff Volume (cu-ft)	52528.6653



Peak Flow Hydrologic Analysis

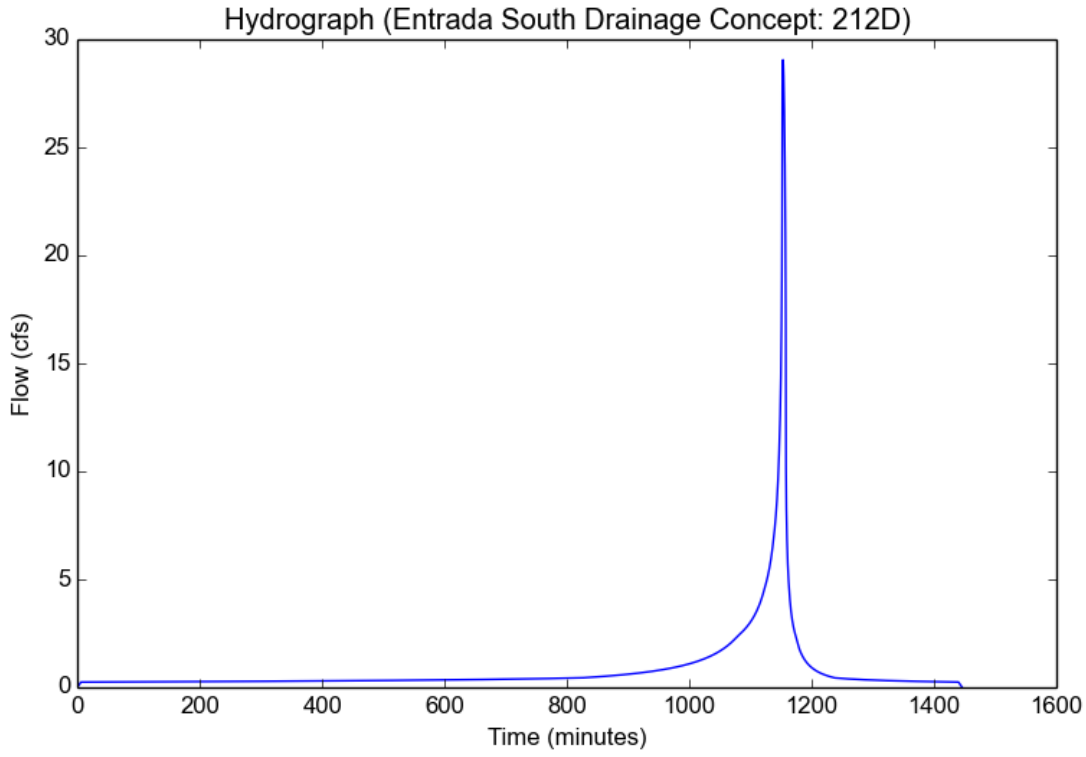
File location: G:/Newhall Ranch/53295 Entrada/Storm/Hydrology/Calculations/Hydrocalc/Proposed/Entrada South Drainage Concept Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Entrada South Drainage Concept
Subarea ID	211D
Area (ac)	9.8
Flow Path Length (ft)	909.0
Flow Path Slope (vft/hft)	0.15
50-yr Rainfall Depth (in)	6.3
Percent Impervious	0.1
Soil Type	98
Design Storm Frequency	50-yr
Fire Factor	0.34
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.3
Peak Intensity (in/hr)	3.4501
Undeveloped Runoff Coefficient (Cu)	0.8547
Developed Runoff Coefficient (Cd)	0.8593
Time of Concentration (min)	6.0
Clear Peak Flow Rate (cfs)	29.0527
Burned Peak Flow Rate (cfs)	29.7052
24-Hr Clear Runoff Volume (ac-ft)	1.6882
24-Hr Clear Runoff Volume (cu-ft)	73540.1314



Peak Flow Hydrologic Analysis

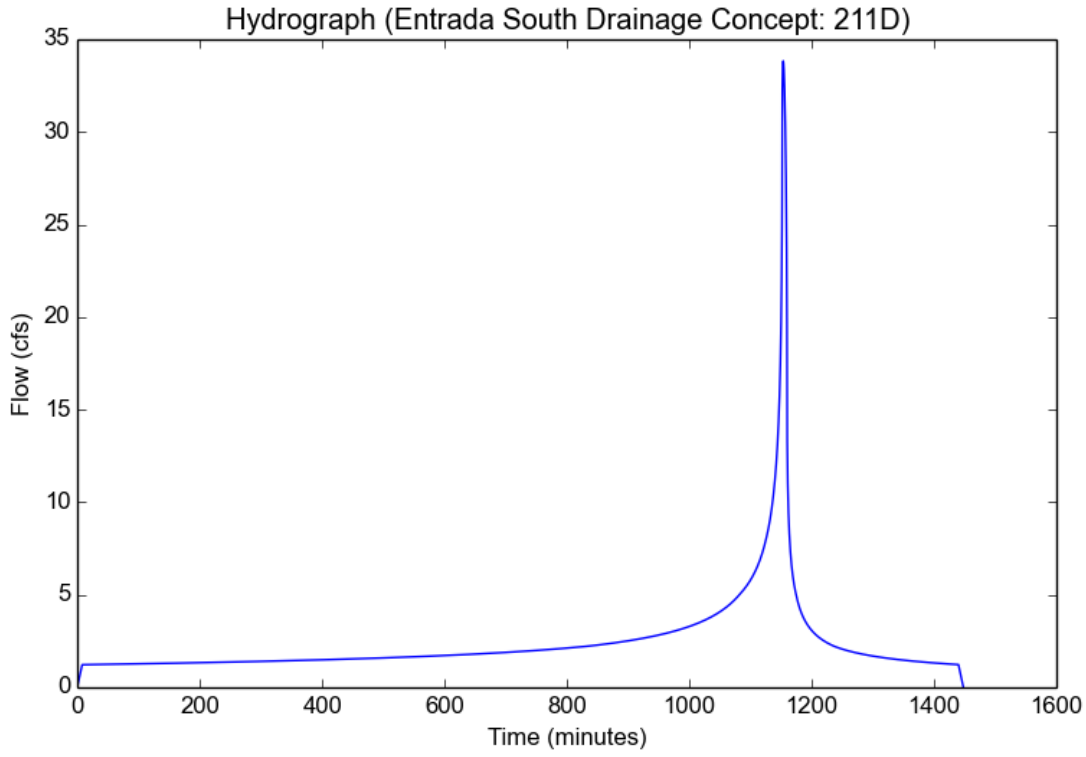
File location: G:/Newhall Ranch/53295 Entrada/Storm/Hydrology/Calculations/Hydrocalc/Proposed/Entrada South Drainage Concept Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Entrada South Drainage Concept
Subarea ID	212D
Area (ac)	12.9
Flow Path Length (ft)	795.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	6.2
Percent Impervious	0.74
Soil Type	98
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.2
Peak Intensity (in/hr)	2.9659
Undeveloped Runoff Coefficient (Cu)	0.8395
Developed Runoff Coefficient (Cd)	0.8843
Time of Concentration (min)	8.0
Clear Peak Flow Rate (cfs)	33.8328
Burned Peak Flow Rate (cfs)	33.8328
24-Hr Clear Runoff Volume (ac-ft)	4.8569
24-Hr Clear Runoff Volume (cu-ft)	211565.4173



Peak Flow Hydrologic Analysis

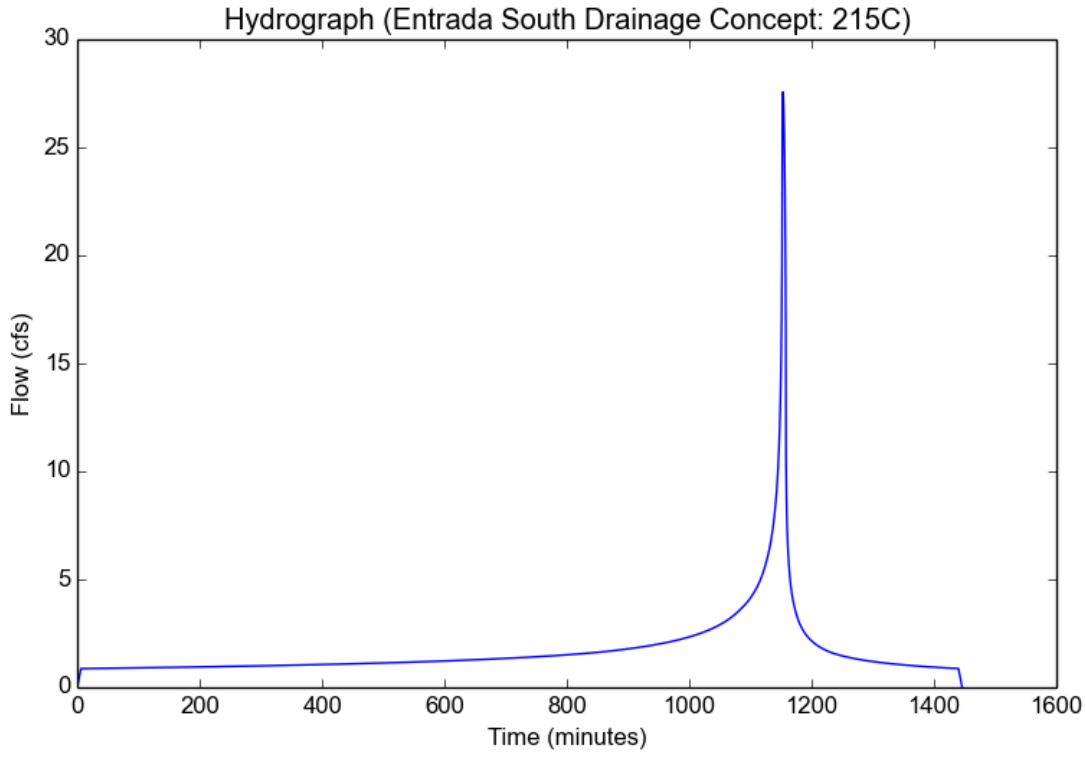
File location: G:/Newhall Ranch/53295 Entrada/Storm/Hydrology/Calculations/Hydrocalc/Proposed/Entrada South Drainage Concept Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Entrada South Drainage Concept
Subarea ID	213D
Area (ac)	9.3
Flow Path Length (ft)	462.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	6.1
Percent Impervious	0.74
Soil Type	98
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.1
Peak Intensity (in/hr)	3.3405
Undeveloped Runoff Coefficient (Cu)	0.8513
Developed Runoff Coefficient (Cd)	0.8873
Time of Concentration (min)	6.0
Clear Peak Flow Rate (cfs)	27.5671
Burned Peak Flow Rate (cfs)	27.5671
24-Hr Clear Runoff Volume (ac-ft)	3.4414
24-Hr Clear Runoff Volume (cu-ft)	149907.6813



Peak Flow Hydrologic Analysis

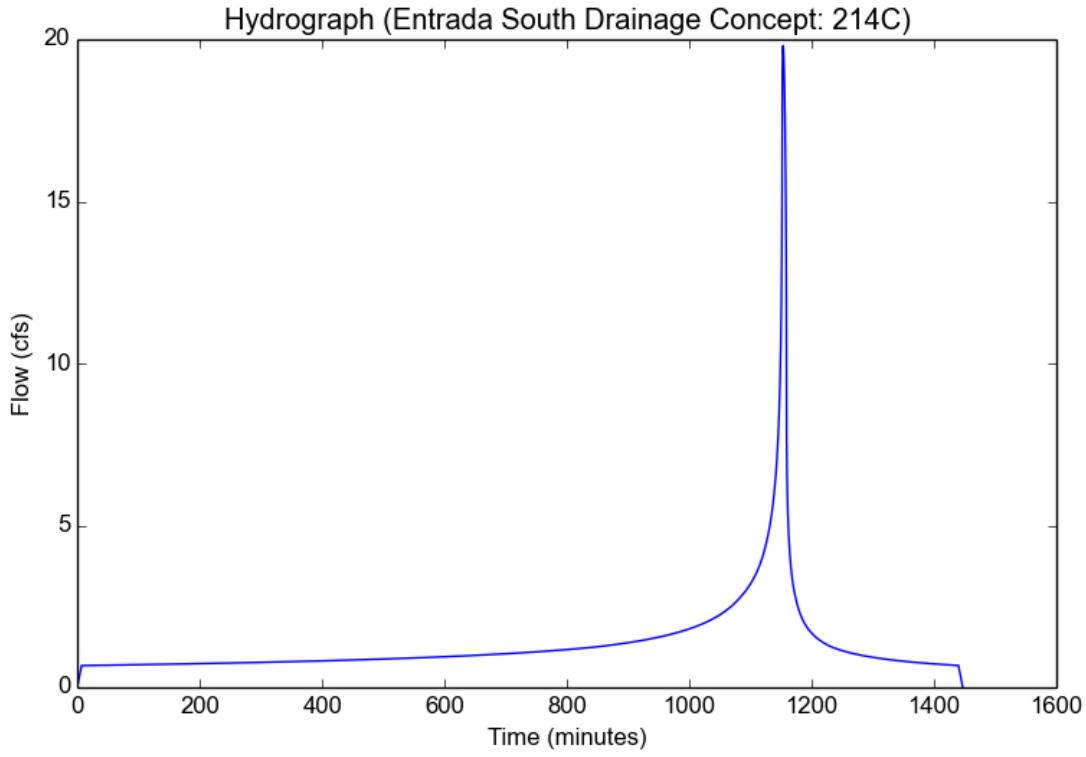
File location: G:/Newhall Ranch/53295 Entrada/Storm/Hydrology/Calculations/Hydrocalc/Proposed/Entrada South Drainage Concept Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Entrada South Drainage Concept
Subarea ID	214C
Area (ac)	7.2
Flow Path Length (ft)	700.0
Flow Path Slope (vft/hft)	0.025
50-yr Rainfall Depth (in)	6.1
Percent Impervious	0.74
Soil Type	98
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.1
Peak Intensity (in/hr)	3.1071
Undeveloped Runoff Coefficient (Cu)	0.844
Developed Runoff Coefficient (Cd)	0.8854
Time of Concentration (min)	7.0
Clear Peak Flow Rate (cfs)	19.808
Burned Peak Flow Rate (cfs)	19.808
24-Hr Clear Runoff Volume (ac-ft)	2.6643
24-Hr Clear Runoff Volume (cu-ft)	116056.0055



Peak Flow Hydrologic Analysis

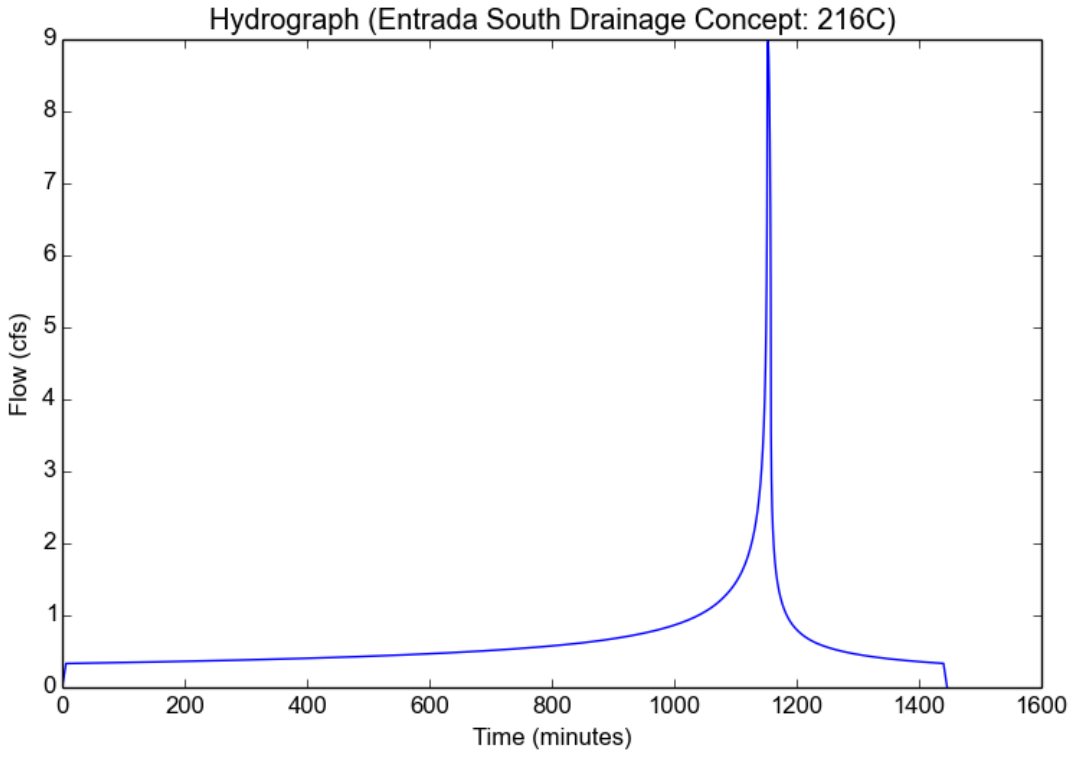
File location: G:/Newhall Ranch/53295 Entrada/Storm/Hydrology/Calculations/Hydrocalc/Proposed/Entrada South Drainage Concept Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Entrada South Drainage Concept
Subarea ID	216C
Area (ac)	3.0
Flow Path Length (ft)	670.0
Flow Path Slope (vft/hft)	0.06
50-yr Rainfall Depth (in)	6.1
Percent Impervious	0.9
Soil Type	98
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.1
Peak Intensity (in/hr)	3.3405
Undeveloped Runoff Coefficient (Cu)	0.8513
Developed Runoff Coefficient (Cd)	0.8951
Time of Concentration (min)	6.0
Clear Peak Flow Rate (cfs)	8.9707
Burned Peak Flow Rate (cfs)	8.9707
24-Hr Clear Runoff Volume (ac-ft)	1.2646
24-Hr Clear Runoff Volume (cu-ft)	55086.369



Peak Flow Hydrologic Analysis

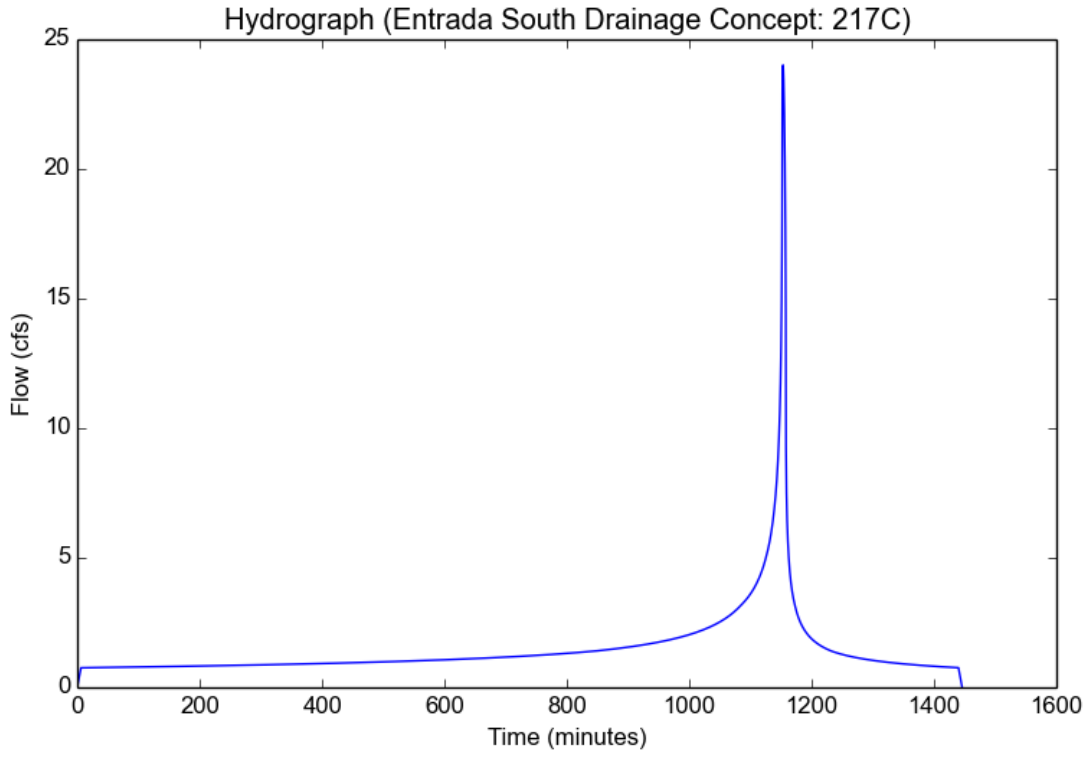
File location: G:/Newhall Ranch/53295 Entrada/Storm/Hydrology/Calculations/Hydrocalc/Proposed/Entrada South Drainage Concept Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Entrada South Drainage Concept
Subarea ID	217C
Area (ac)	8.1
Flow Path Length (ft)	485.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	6.1
Percent Impervious	0.74
Soil Type	98
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.1
Peak Intensity (in/hr)	3.3405
Undeveloped Runoff Coefficient (Cu)	0.8513
Developed Runoff Coefficient (Cd)	0.8873
Time of Concentration (min)	6.0
Clear Peak Flow Rate (cfs)	24.01
Burned Peak Flow Rate (cfs)	24.01
24-Hr Clear Runoff Volume (ac-ft)	2.9974
24-Hr Clear Runoff Volume (cu-ft)	130564.7547



Peak Flow Hydrologic Analysis

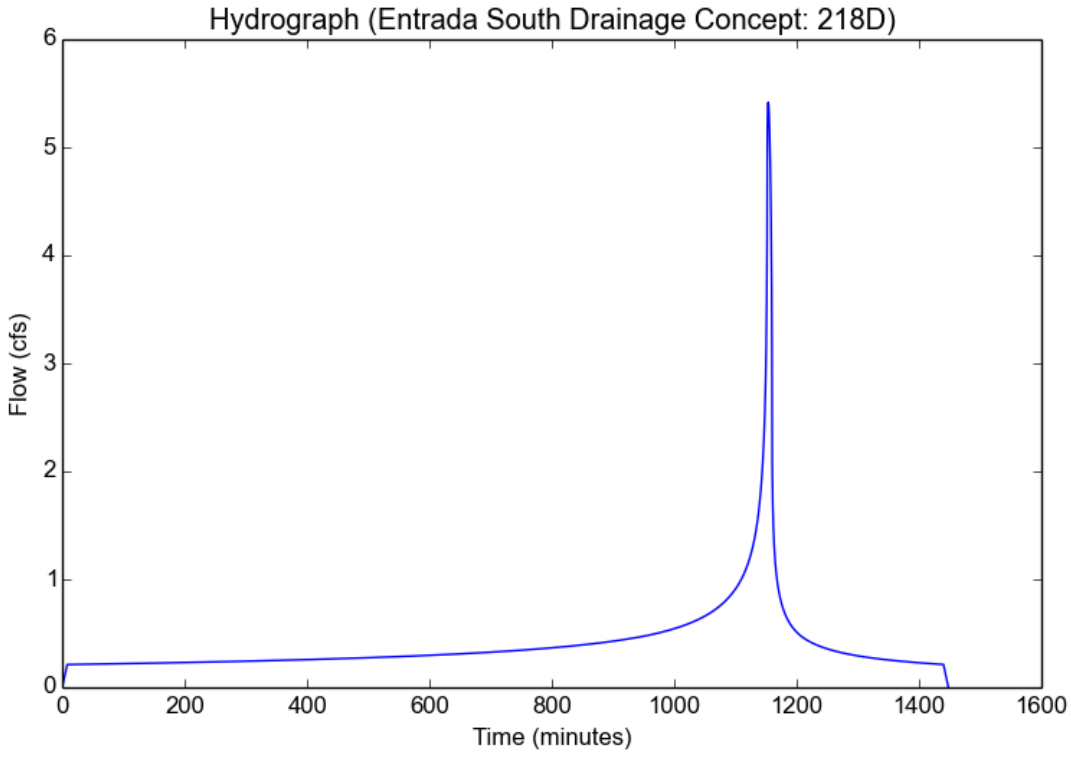
File location: G:/Newhall Ranch/53295 Entrada/Storm/Hydrology/Calculations/Hydrocalc/Proposed/Entrada South Drainage Concept Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Entrada South Drainage Concept
Subarea ID	218D
Area (ac)	2.3
Flow Path Length (ft)	744.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	6.0
Percent Impervious	0.74
Soil Type	20
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.0
Peak Intensity (in/hr)	2.8702
Undeveloped Runoff Coefficient (Cu)	0.5948
Developed Runoff Coefficient (Cd)	0.8207
Time of Concentration (min)	8.0
Clear Peak Flow Rate (cfs)	5.4176
Burned Peak Flow Rate (cfs)	5.4176
24-Hr Clear Runoff Volume (ac-ft)	0.8091
24-Hr Clear Runoff Volume (cu-ft)	35243.1986



Peak Flow Hydrologic Analysis

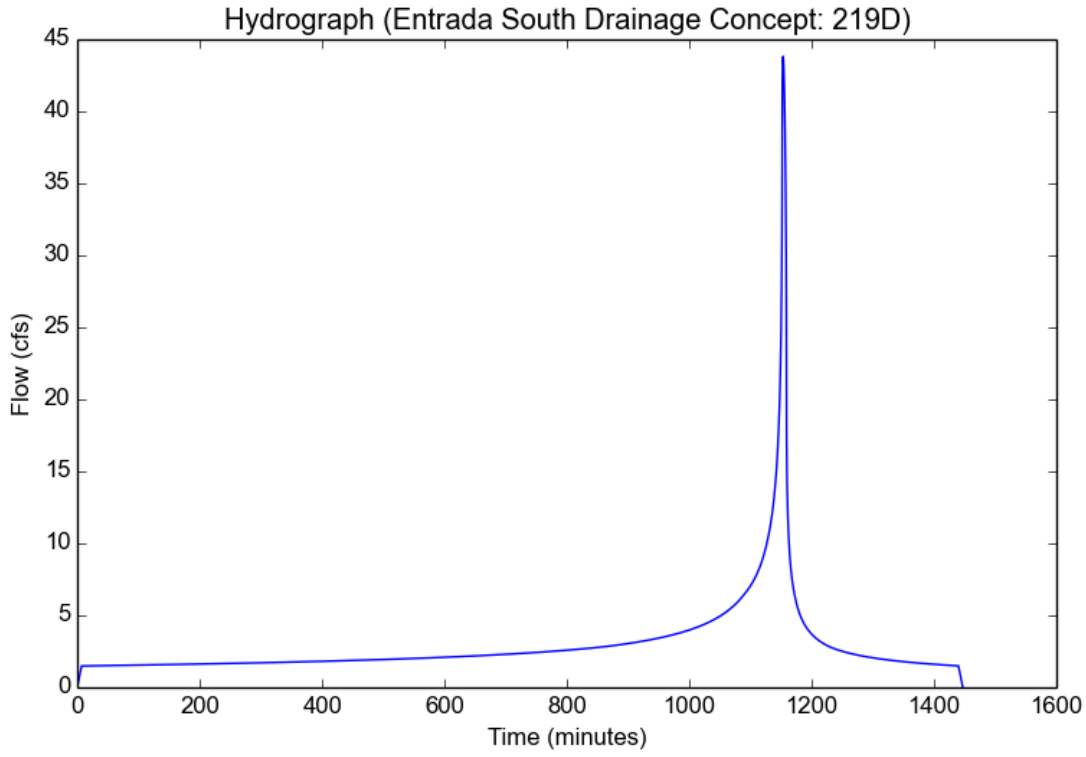
File location: G:/Newhall Ranch/53295 Entrada/Storm/Hydrology/Calculations/Hydrocalc/Proposed/Entrada South Drainage Concept Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Entrada South Drainage Concept
Subarea ID	219D
Area (ac)	16.2
Flow Path Length (ft)	560.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	6.0
Percent Impervious	0.74
Soil Type	98
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.0
Peak Intensity (in/hr)	3.0561
Undeveloped Runoff Coefficient (Cu)	0.8424
Developed Runoff Coefficient (Cd)	0.885
Time of Concentration (min)	7.0
Clear Peak Flow Rate (cfs)	43.8169
Burned Peak Flow Rate (cfs)	43.8169
24-Hr Clear Runoff Volume (ac-ft)	5.8901
24-Hr Clear Runoff Volume (cu-ft)	256573.3082



Peak Flow Hydrologic Analysis

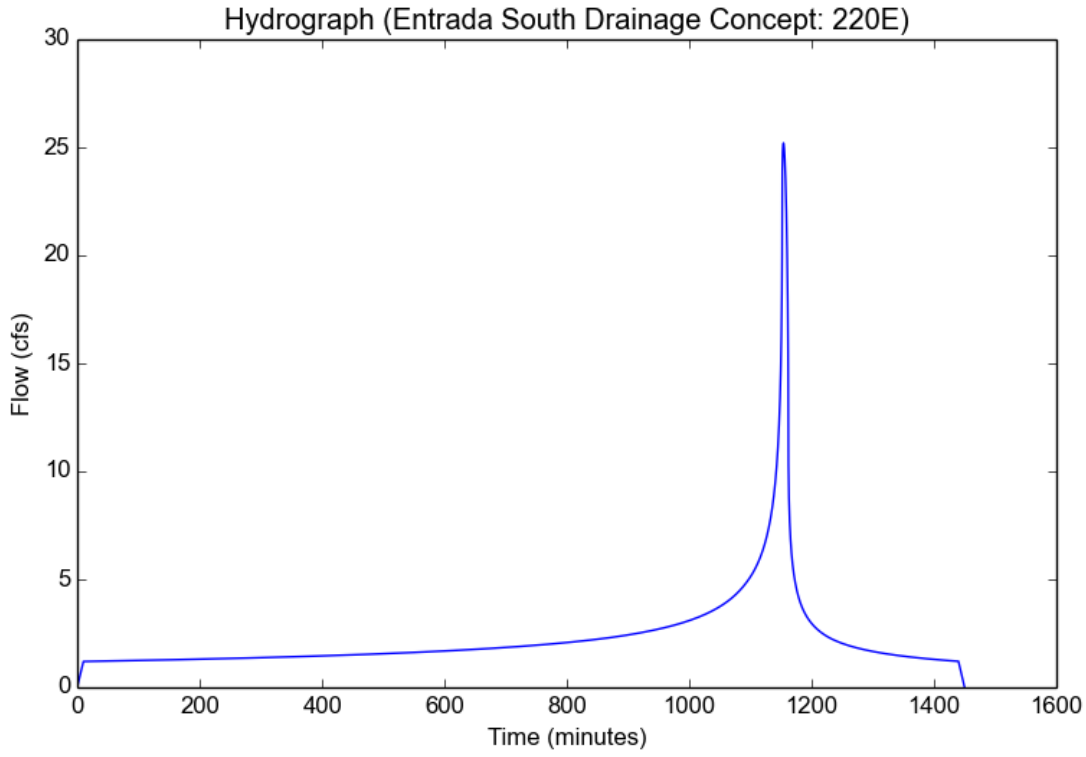
File location: G:/Newhall Ranch/53295 Entrada/Storm/Hydrology/Calculations/Hydrocalc/Proposed/Entrada South Drainage Concept Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Entrada South Drainage Concept
Subarea ID	220E
Area (ac)	11.1
Flow Path Length (ft)	1065.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.91
Soil Type	98
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	5.9
Peak Intensity (in/hr)	2.5414
Undeveloped Runoff Coefficient (Cu)	0.8262
Developed Runoff Coefficient (Cd)	0.8934
Time of Concentration (min)	10.0
Clear Peak Flow Rate (cfs)	25.2011
Burned Peak Flow Rate (cfs)	25.2011
24-Hr Clear Runoff Volume (ac-ft)	4.5573
24-Hr Clear Runoff Volume (cu-ft)	198514.9158



Peak Flow Hydrologic Analysis

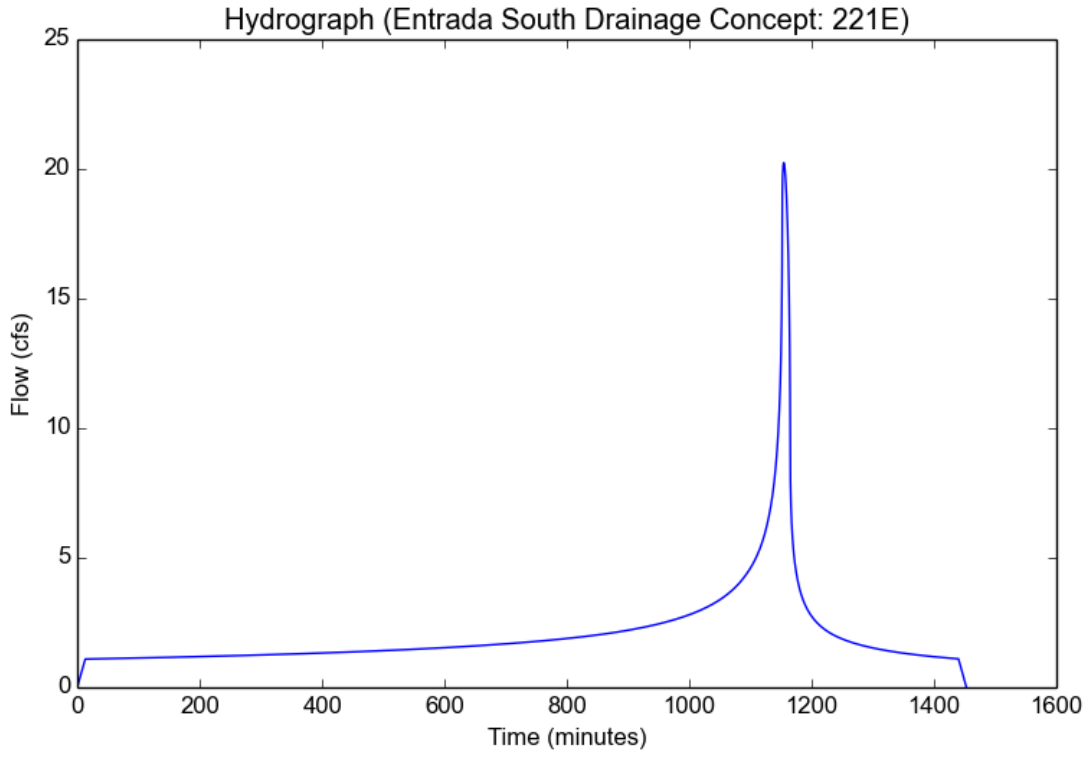
File location: G:/Newhall Ranch/53295 Entrada/Storm/Hydrology/Calculations/Hydrocalc/Proposed/Entrada South Drainage Concept Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Entrada South Drainage Concept
Subarea ID	221E
Area (ac)	10.1
Flow Path Length (ft)	1610.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.91
Soil Type	98
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	5.9
Peak Intensity (in/hr)	2.2466
Undeveloped Runoff Coefficient (Cu)	0.8114
Developed Runoff Coefficient (Cd)	0.892
Time of Concentration (min)	13.0
Clear Peak Flow Rate (cfs)	20.2403
Burned Peak Flow Rate (cfs)	20.2403
24-Hr Clear Runoff Volume (ac-ft)	4.1467
24-Hr Clear Runoff Volume (cu-ft)	180628.781



Peak Flow Hydrologic Analysis

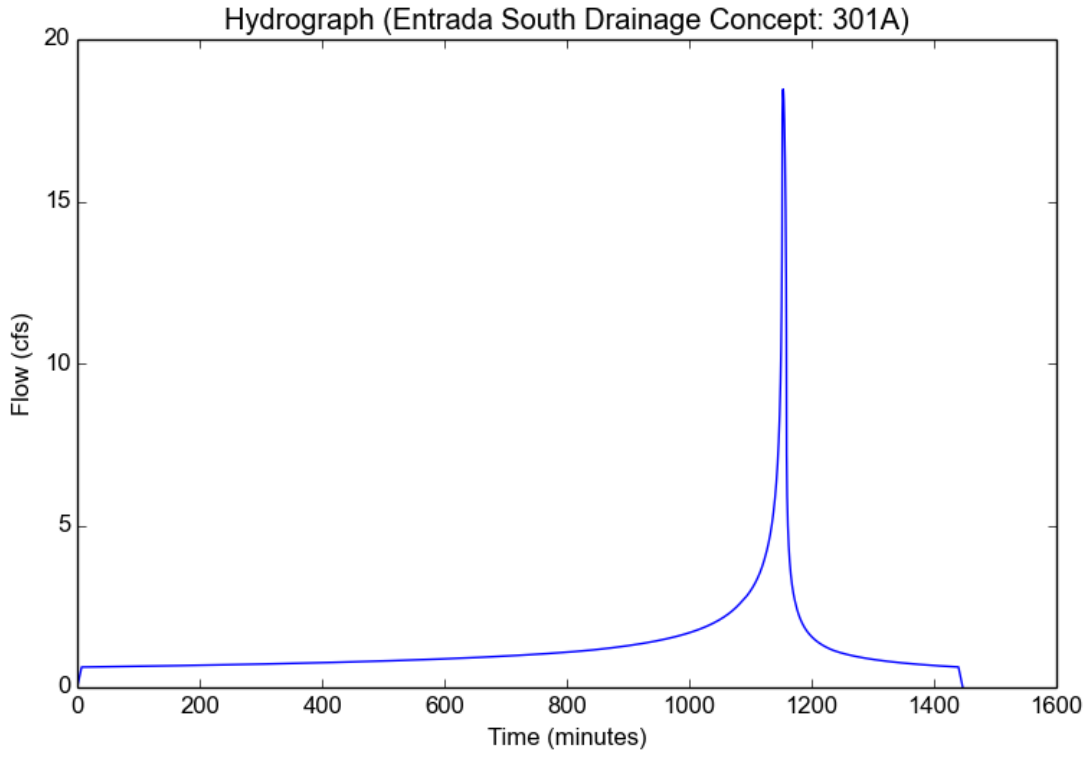
File location: G:/Newhall Ranch/53295 Entrada/Storm/Hydrology/Calculations/Hydrocalc/Proposed/Entrada South Drainage Concept Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Entrada South Drainage Concept
Subarea ID	301A
Area (ac)	6.6
Flow Path Length (ft)	578.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	6.2
Percent Impervious	0.74
Soil Type	98
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.2
Peak Intensity (in/hr)	3.158
Undeveloped Runoff Coefficient (Cu)	0.8456
Developed Runoff Coefficient (Cd)	0.8858
Time of Concentration (min)	7.0
Clear Peak Flow Rate (cfs)	18.4637
Burned Peak Flow Rate (cfs)	18.4637
24-Hr Clear Runoff Volume (ac-ft)	2.4849
24-Hr Clear Runoff Volume (cu-ft)	108243.4798



Peak Flow Hydrologic Analysis

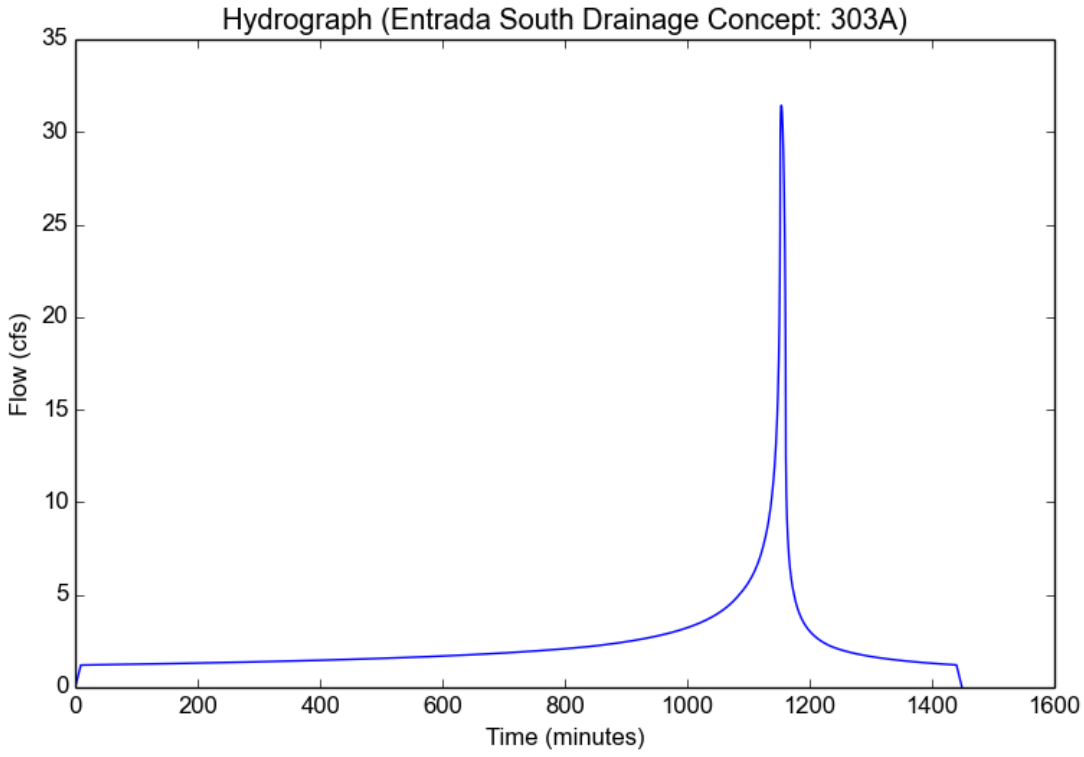
File location: G:/Newhall Ranch/53295 Entrada/Storm/Hydrology/Calculations/Hydrocalc/Proposed/Entrada South Drainage Concept Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Entrada South Drainage Concept
Subarea ID	303A
Area (ac)	12.9
Flow Path Length (ft)	880.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	6.1
Percent Impervious	0.74
Soil Type	98
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.1
Peak Intensity (in/hr)	2.7609
Undeveloped Runoff Coefficient (Cu)	0.8331
Developed Runoff Coefficient (Cd)	0.8826
Time of Concentration (min)	9.0
Clear Peak Flow Rate (cfs)	31.4349
Burned Peak Flow Rate (cfs)	31.4349
24-Hr Clear Runoff Volume (ac-ft)	4.7735
24-Hr Clear Runoff Volume (cu-ft)	207933.217



Peak Flow Hydrologic Analysis

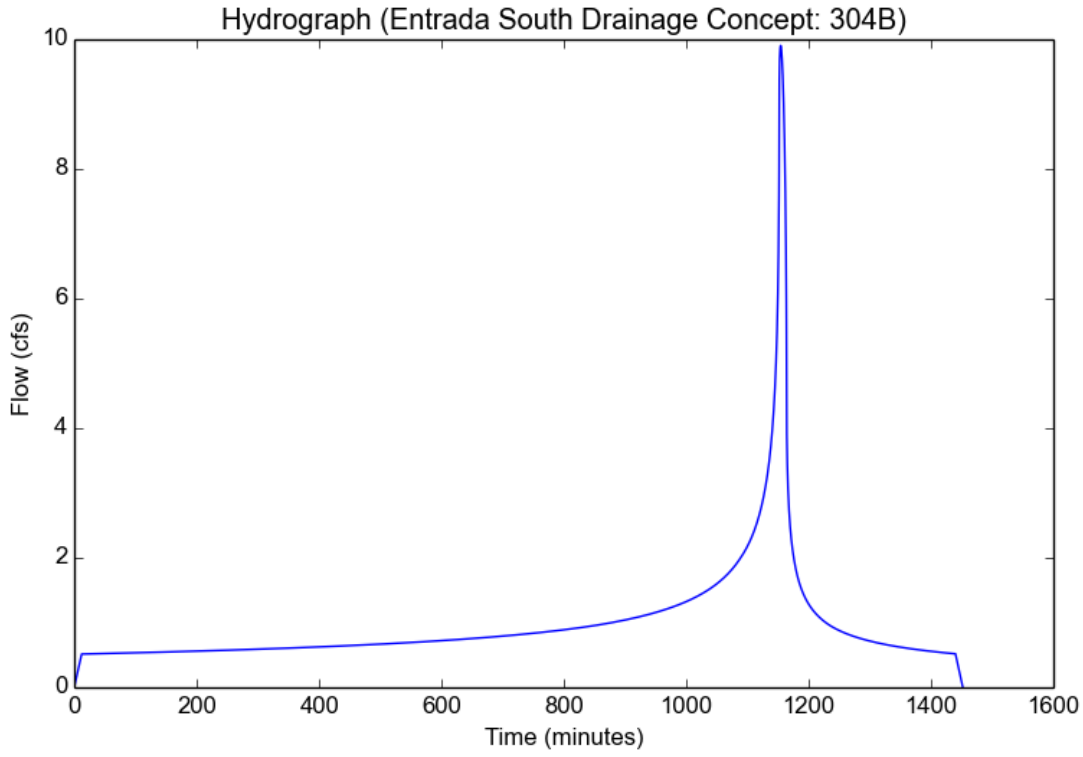
File location: G:/Newhall Ranch/53295 Entrada/Storm/Hydrology/Calculations/Hydrocalc/Proposed/Entrada South Drainage Concept Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Entrada South Drainage Concept
Subarea ID	304B
Area (ac)	4.6
Flow Path Length (ft)	1192.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	6.1
Percent Impervious	0.91
Soil Type	98
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.1
Peak Intensity (in/hr)	2.4118
Undeveloped Runoff Coefficient (Cu)	0.8202
Developed Runoff Coefficient (Cd)	0.8928
Time of Concentration (min)	12.0
Clear Peak Flow Rate (cfs)	9.905
Burned Peak Flow Rate (cfs)	9.905
24-Hr Clear Runoff Volume (ac-ft)	1.9539
24-Hr Clear Runoff Volume (cu-ft)	85109.9324



Peak Flow Hydrologic Analysis

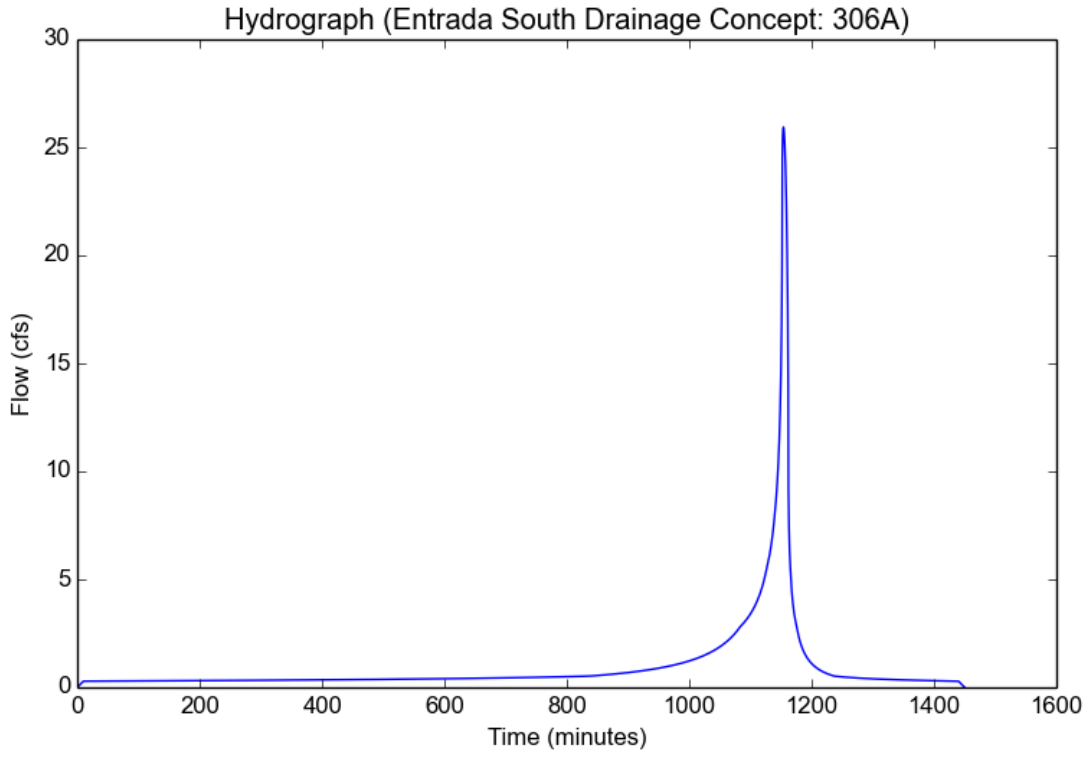
File location: G:/Newhall Ranch/53295 Entrada/Storm/Hydrology/Calculations/Hydrocalc/Proposed/Entrada South Drainage Concept Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Entrada South Drainage Concept
Subarea ID	306A
Area (ac)	11.6
Flow Path Length (ft)	1235.0
Flow Path Slope (vft/hft)	0.04
50-yr Rainfall Depth (in)	6.2
Percent Impervious	0.1
Soil Type	98
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.2
Peak Intensity (in/hr)	2.6706
Undeveloped Runoff Coefficient (Cu)	0.8303
Developed Runoff Coefficient (Cd)	0.8372
Time of Concentration (min)	10.0
Clear Peak Flow Rate (cfs)	25.9369
Burned Peak Flow Rate (cfs)	25.9369
24-Hr Clear Runoff Volume (ac-ft)	1.9502
24-Hr Clear Runoff Volume (cu-ft)	84952.3636



Peak Flow Hydrologic Analysis

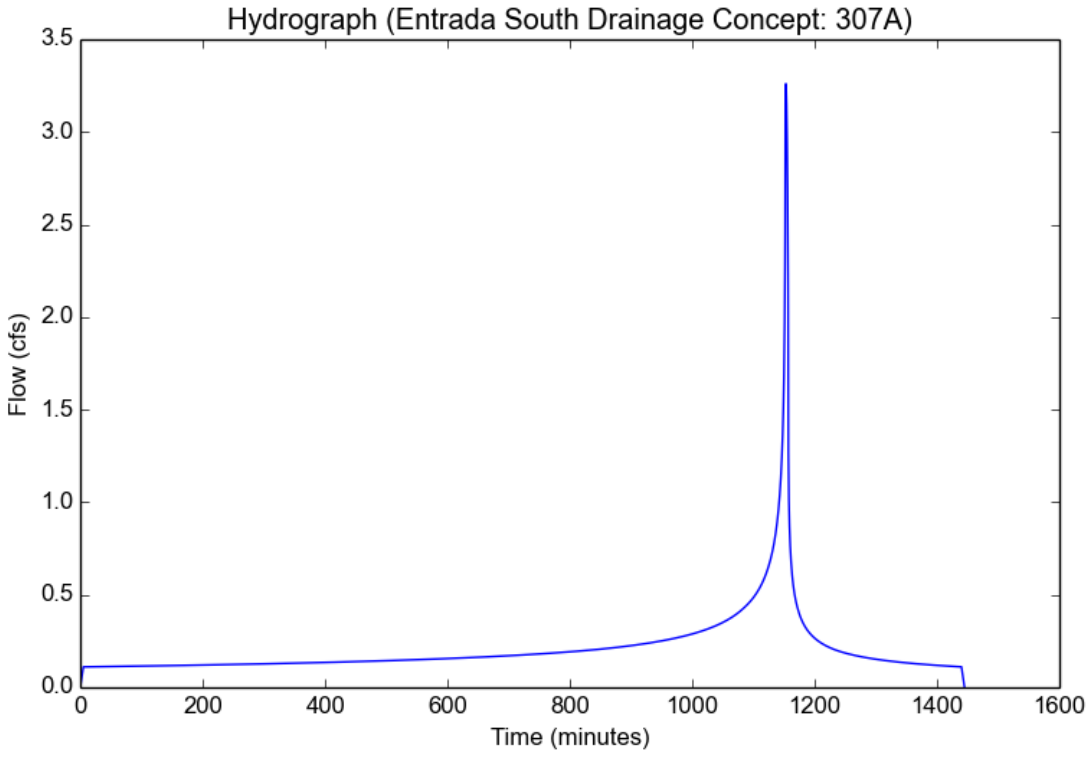
File location: G:/Newhall Ranch/53295 Entrada/Storm/Hydrology/Calculations/Hydrocalc/Proposed/Entrada South Drainage Concept Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Entrada South Drainage Concept
Subarea ID	307A
Area (ac)	1.0
Flow Path Length (ft)	396.0
Flow Path Slope (vft/hft)	0.046
50-yr Rainfall Depth (in)	6.1
Percent Impervious	0.9
Soil Type	98
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.1
Peak Intensity (in/hr)	3.6394
Undeveloped Runoff Coefficient (Cu)	0.8586
Developed Runoff Coefficient (Cd)	0.8959
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	3.2604
Burned Peak Flow Rate (cfs)	3.2604
24-Hr Clear Runoff Volume (ac-ft)	0.4215
24-Hr Clear Runoff Volume (cu-ft)	18362.226



Peak Flow Hydrologic Analysis

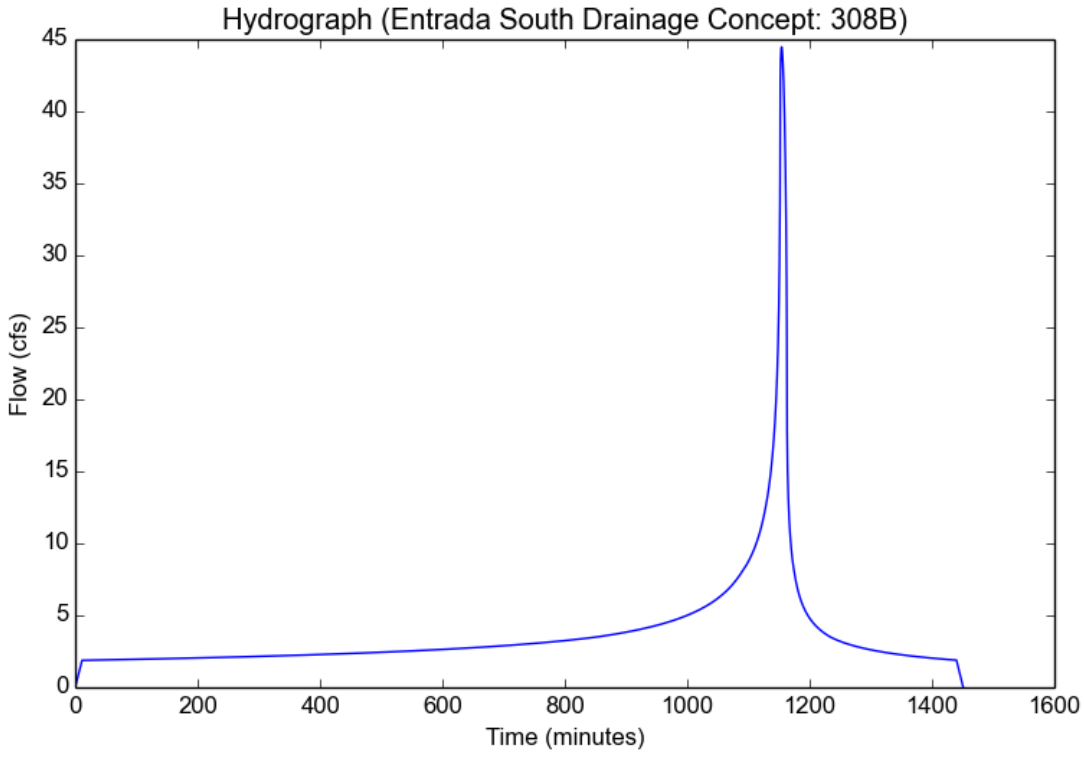
File location: G:/Newhall Ranch/53295 Entrada/Storm/Hydrology/Calculations/Hydrocalc/Proposed/Entrada South Drainage Concept Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Entrada South Drainage Concept
Subarea ID	308B
Area (ac)	20.1
Flow Path Length (ft)	1258.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	6.1
Percent Impervious	0.74
Soil Type	98
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.1
Peak Intensity (in/hr)	2.5124
Undeveloped Runoff Coefficient (Cu)	0.8253
Developed Runoff Coefficient (Cd)	0.8806
Time of Concentration (min)	11.0
Clear Peak Flow Rate (cfs)	44.4691
Burned Peak Flow Rate (cfs)	44.4691
24-Hr Clear Runoff Volume (ac-ft)	7.4378
24-Hr Clear Runoff Volume (cu-ft)	323989.5338



Peak Flow Hydrologic Analysis

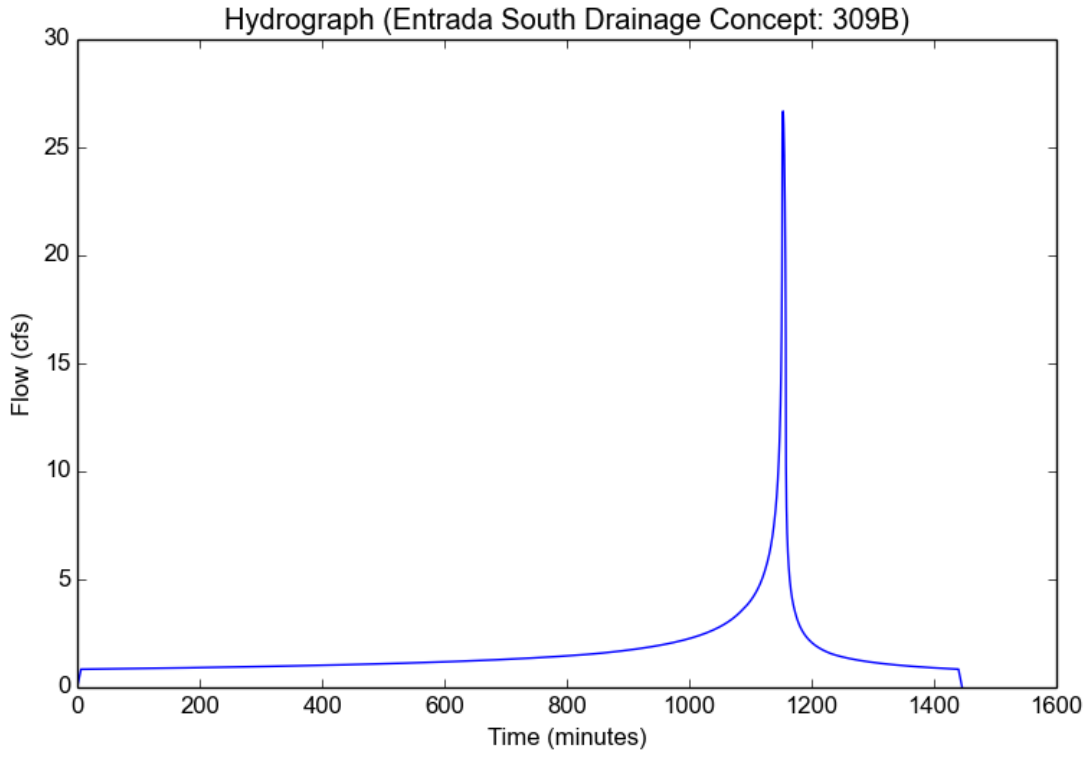
File location: G:/Newhall Ranch/53295 Entrada/Storm/Hydrology/Calculations/Hydrocalc/Proposed/Entrada South Drainage Concept Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Entrada South Drainage Concept
Subarea ID	309B
Area (ac)	9.0
Flow Path Length (ft)	545.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	6.1
Percent Impervious	0.74
Soil Type	98
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.1
Peak Intensity (in/hr)	3.3405
Undeveloped Runoff Coefficient (Cu)	0.8513
Developed Runoff Coefficient (Cd)	0.8873
Time of Concentration (min)	6.0
Clear Peak Flow Rate (cfs)	26.6778
Burned Peak Flow Rate (cfs)	26.6778
24-Hr Clear Runoff Volume (ac-ft)	3.3304
24-Hr Clear Runoff Volume (cu-ft)	145071.9497



Peak Flow Hydrologic Analysis

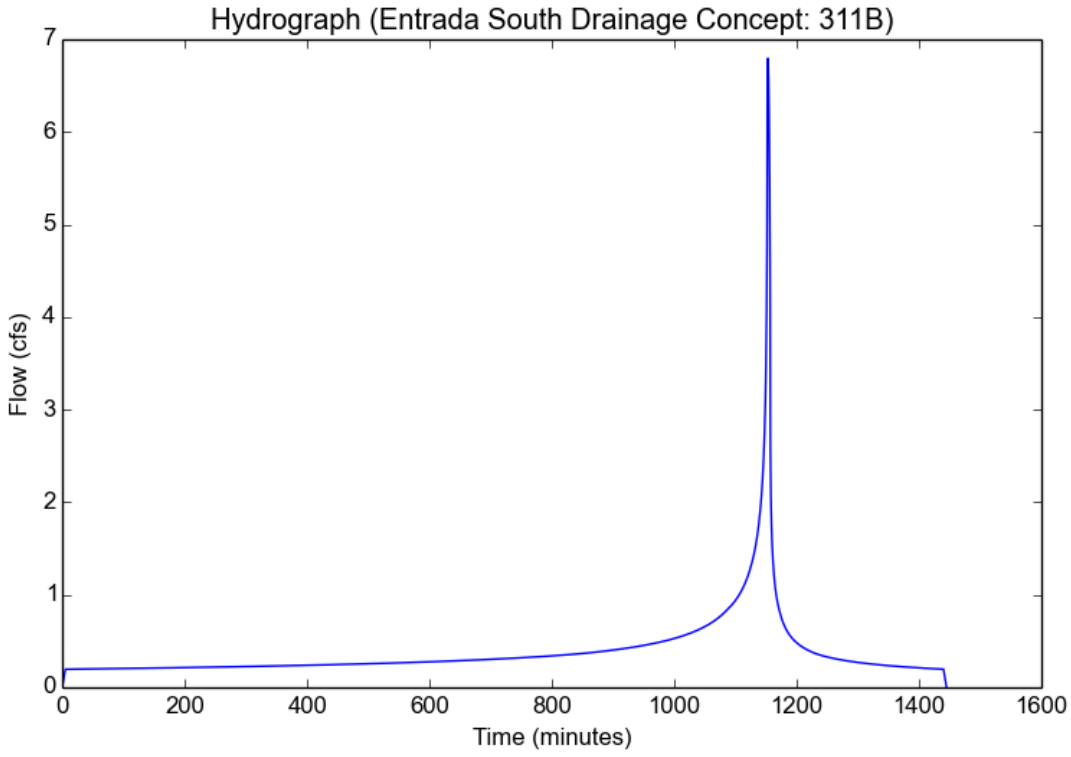
File location: G:/Newhall Ranch/53295 Entrada/Storm/Hydrology/Calculations/Hydrocalc/Proposed/Entrada South Drainage Concept Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Entrada South Drainage Concept
Subarea ID	311B
Area (ac)	2.1
Flow Path Length (ft)	385.0
Flow Path Slope (vft/hft)	0.05
50-yr Rainfall Depth (in)	6.1
Percent Impervious	0.74
Soil Type	98
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.1
Peak Intensity (in/hr)	3.6394
Undeveloped Runoff Coefficient (Cu)	0.8586
Developed Runoff Coefficient (Cd)	0.8892
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	6.7963
Burned Peak Flow Rate (cfs)	6.7963
24-Hr Clear Runoff Volume (ac-ft)	0.7771
24-Hr Clear Runoff Volume (cu-ft)	33850.6932



Peak Flow Hydrologic Analysis

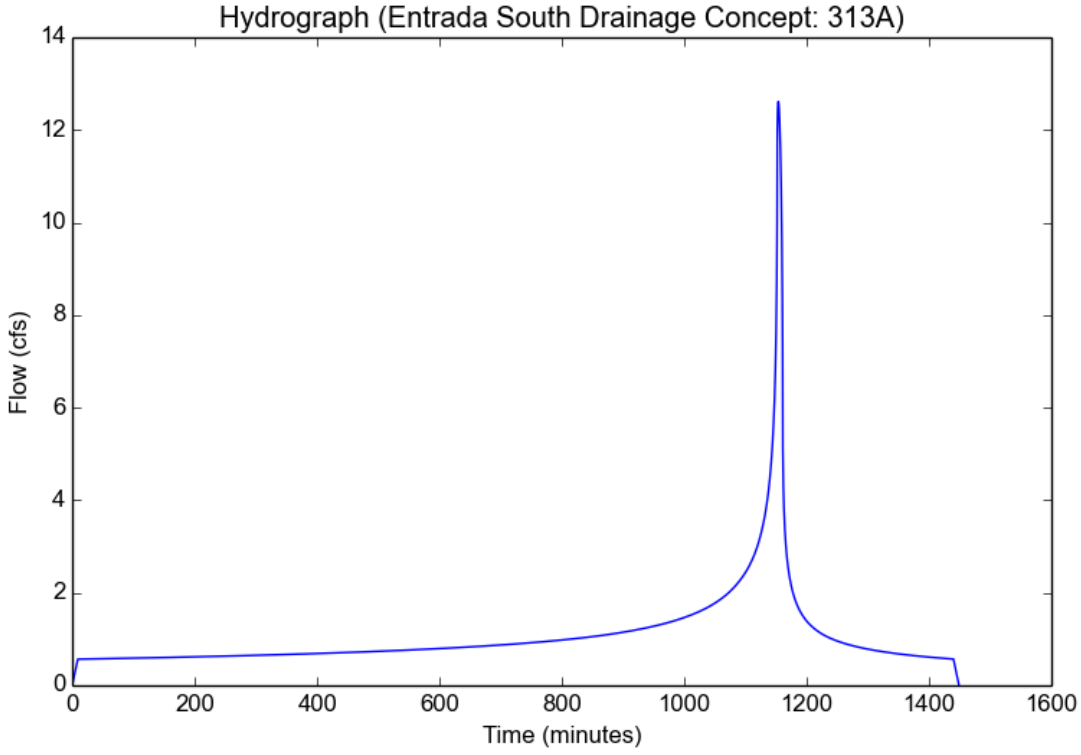
File location: G:/Newhall Ranch/53295 Entrada/Storm/Hydrology/Calculations/Hydrocalc/Proposed/Entrada South Drainage Concept Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Entrada South Drainage Concept
Subarea ID	313A
Area (ac)	5.2
Flow Path Length (ft)	1200.0
Flow Path Slope (vft/hft)	0.06
50-yr Rainfall Depth (in)	6.0
Percent Impervious	0.9
Soil Type	98
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.0
Peak Intensity (in/hr)	2.7157
Undeveloped Runoff Coefficient (Cu)	0.8317
Developed Runoff Coefficient (Cd)	0.8932
Time of Concentration (min)	9.0
Clear Peak Flow Rate (cfs)	12.6128
Burned Peak Flow Rate (cfs)	12.6128
24-Hr Clear Runoff Volume (ac-ft)	2.1553
24-Hr Clear Runoff Volume (cu-ft)	93883.7975



Peak Flow Hydrologic Analysis

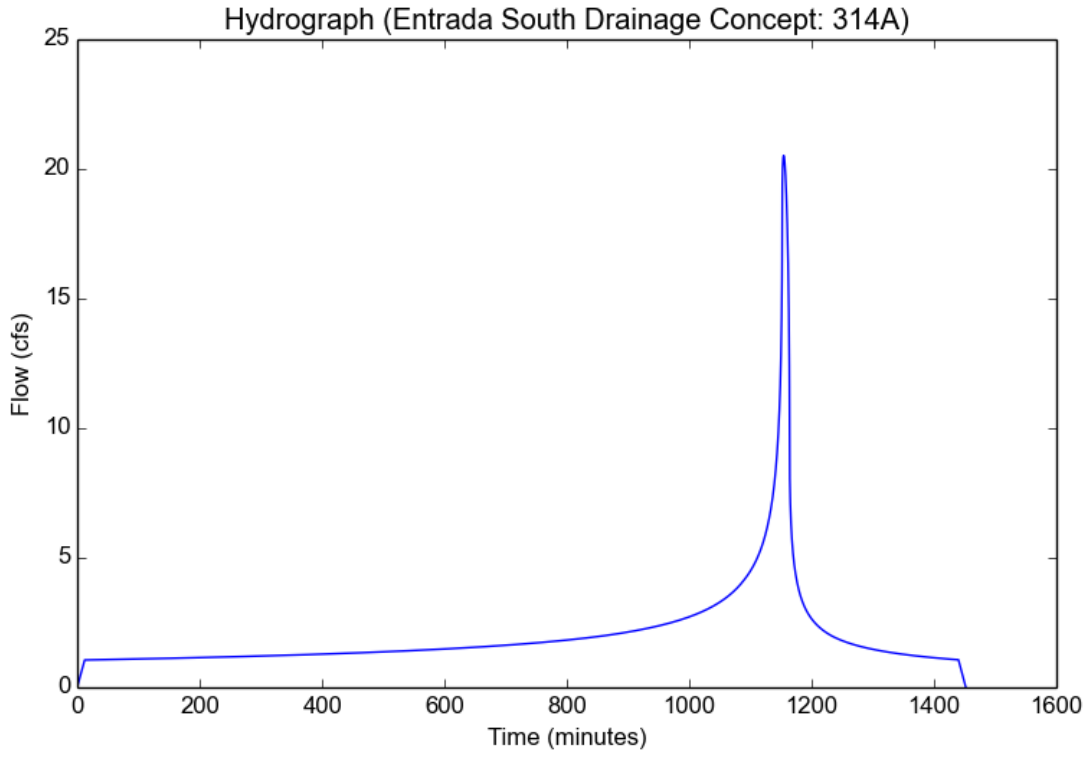
File location: G:/Newhall Ranch/53295 Entrada/Storm/Hydrology/Calculations/Hydrocalc/Proposed/Entrada South Drainage Concept Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Entrada South Drainage Concept
Subarea ID	314A
Area (ac)	9.7
Flow Path Length (ft)	1435.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	6.0
Percent Impervious	0.9
Soil Type	98
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.0
Peak Intensity (in/hr)	2.3722
Undeveloped Runoff Coefficient (Cu)	0.8181
Developed Runoff Coefficient (Cd)	0.8918
Time of Concentration (min)	12.0
Clear Peak Flow Rate (cfs)	20.5211
Burned Peak Flow Rate (cfs)	20.5211
24-Hr Clear Runoff Volume (ac-ft)	4.0204
24-Hr Clear Runoff Volume (cu-ft)	175128.2405



Peak Flow Hydrologic Analysis

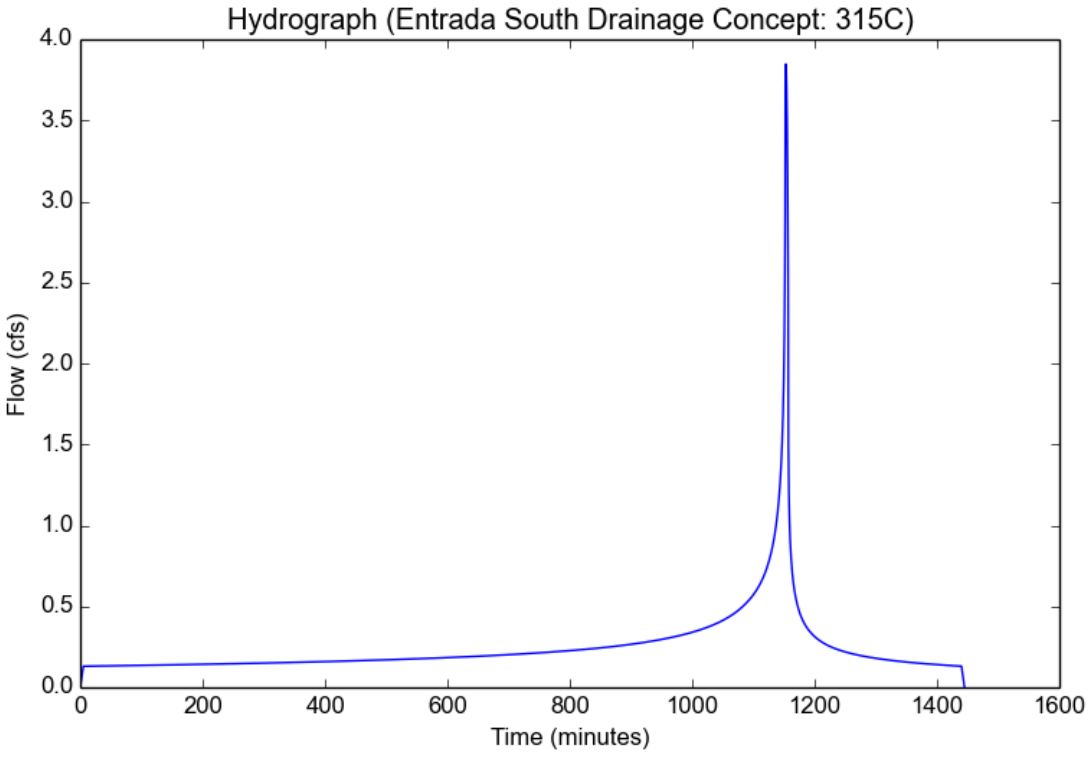
File location: G:/Newhall Ranch/53295 Entrada/Storm/Hydrology/Calculations/Hydrocalc/Proposed/Entrada South Drainage Concept Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Entrada South Drainage Concept
Subarea ID	315C
Area (ac)	1.2
Flow Path Length (ft)	562.0
Flow Path Slope (vft/hft)	0.06
50-yr Rainfall Depth (in)	6.0
Percent Impervious	0.9
Soil Type	98
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.0
Peak Intensity (in/hr)	3.5798
Undeveloped Runoff Coefficient (Cu)	0.8577
Developed Runoff Coefficient (Cd)	0.8958
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	3.848
Burned Peak Flow Rate (cfs)	3.848
24-Hr Clear Runoff Volume (ac-ft)	0.4974
24-Hr Clear Runoff Volume (cu-ft)	21665.7027



Peak Flow Hydrologic Analysis

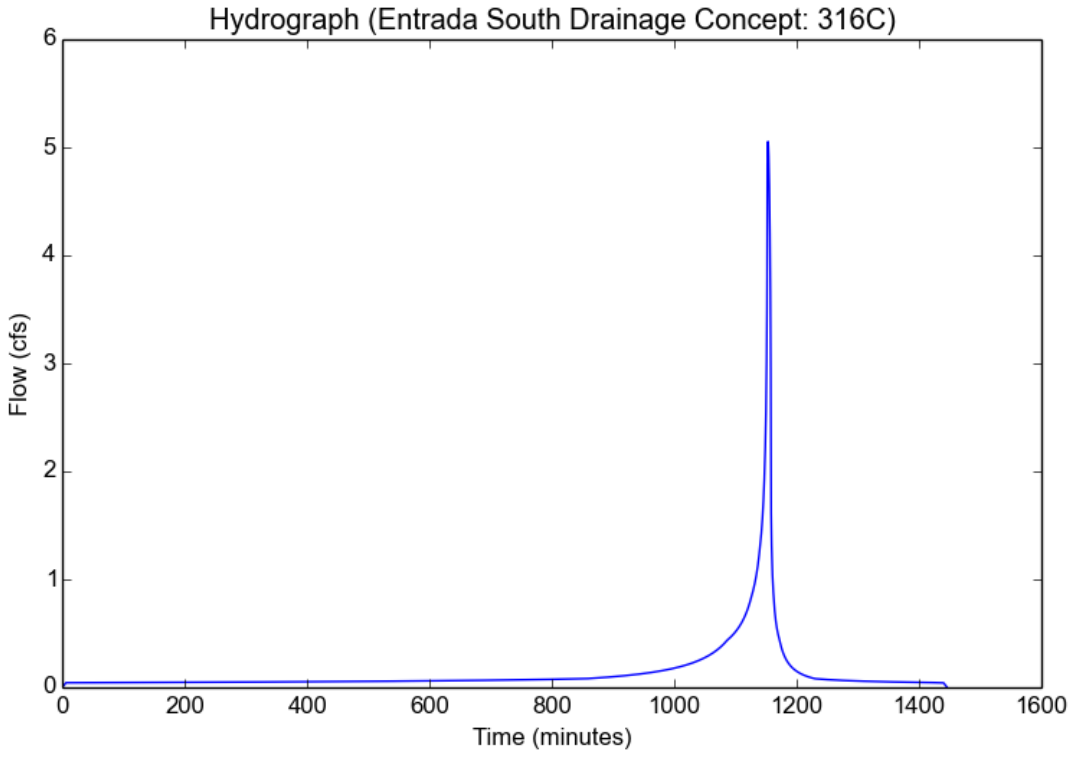
File location: G:/Newhall Ranch/53295 Entrada/Storm/Hydrology/Calculations/Hydrocalc/Proposed/Entrada South Drainage Concept Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Entrada South Drainage Concept
Subarea ID	316C
Area (ac)	1.8
Flow Path Length (ft)	600.0
Flow Path Slope (vft/hft)	0.04
50-yr Rainfall Depth (in)	6.0
Percent Impervious	0.1
Soil Type	98
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.0
Peak Intensity (in/hr)	3.2858
Undeveloped Runoff Coefficient (Cu)	0.8496
Developed Runoff Coefficient (Cd)	0.8546
Time of Concentration (min)	6.0
Clear Peak Flow Rate (cfs)	5.0546
Burned Peak Flow Rate (cfs)	5.0546
24-Hr Clear Runoff Volume (ac-ft)	0.2881
24-Hr Clear Runoff Volume (cu-ft)	12548.9947



Peak Flow Hydrologic Analysis

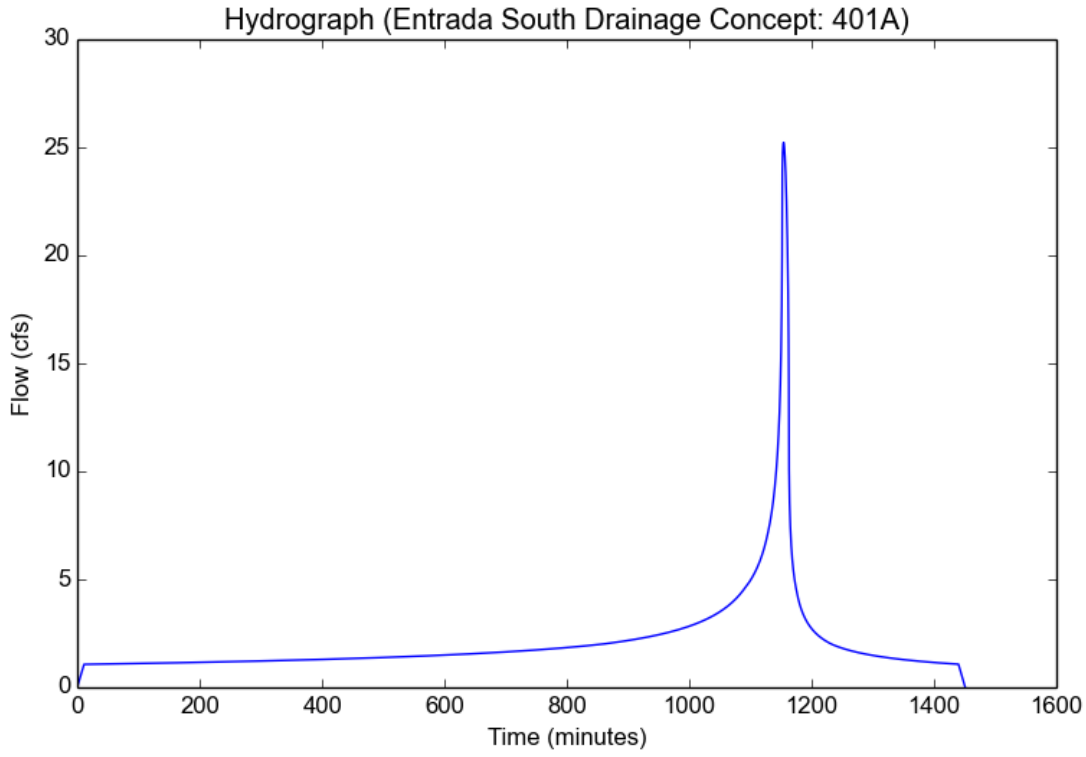
File location: G:/Newhall Ranch/53295 Entrada/Storm/Hydrology/Calculations/Hydrocalc/Proposed/Entrada South Drainage Concept Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Entrada South Drainage Concept
Subarea ID	401A
Area (ac)	11.6
Flow Path Length (ft)	1300.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	6.0
Percent Impervious	0.74
Soil Type	98
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.0
Peak Intensity (in/hr)	2.4712
Undeveloped Runoff Coefficient (Cu)	0.8234
Developed Runoff Coefficient (Cd)	0.8801
Time of Concentration (min)	11.0
Clear Peak Flow Rate (cfs)	25.2287
Burned Peak Flow Rate (cfs)	25.2287
24-Hr Clear Runoff Volume (ac-ft)	4.2176
24-Hr Clear Runoff Volume (cu-ft)	183718.1833



Peak Flow Hydrologic Analysis

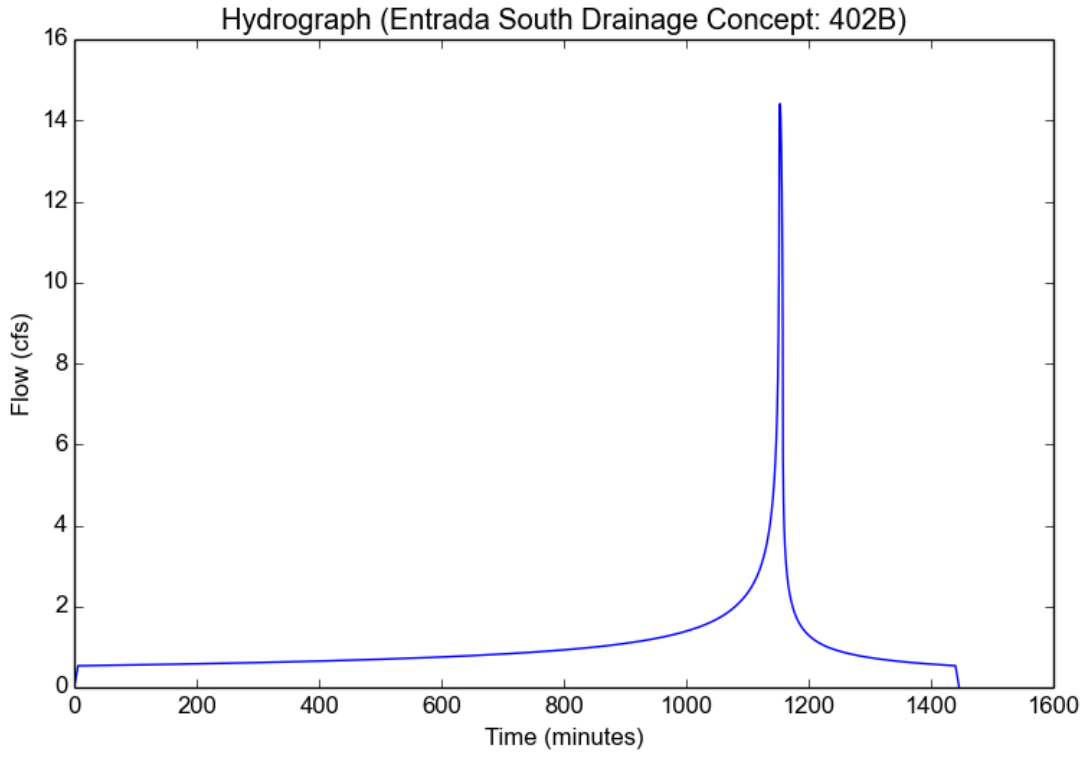
File location: G:/Newhall Ranch/53295 Entrada/Storm/Hydrology/Calculations/Hydrocalc/Proposed/Entrada South Drainage Concept Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Entrada South Drainage Concept
Subarea ID	402B
Area (ac)	4.9
Flow Path Length (ft)	714.0
Flow Path Slope (vft/hft)	0.06
50-yr Rainfall Depth (in)	6.0
Percent Impervious	0.9
Soil Type	98
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.0
Peak Intensity (in/hr)	3.2858
Undeveloped Runoff Coefficient (Cu)	0.8496
Developed Runoff Coefficient (Cd)	0.895
Time of Concentration (min)	6.0
Clear Peak Flow Rate (cfs)	14.4092
Burned Peak Flow Rate (cfs)	14.4092
24-Hr Clear Runoff Volume (ac-ft)	2.0309
24-Hr Clear Runoff Volume (cu-ft)	88467.7218



Peak Flow Hydrologic Analysis

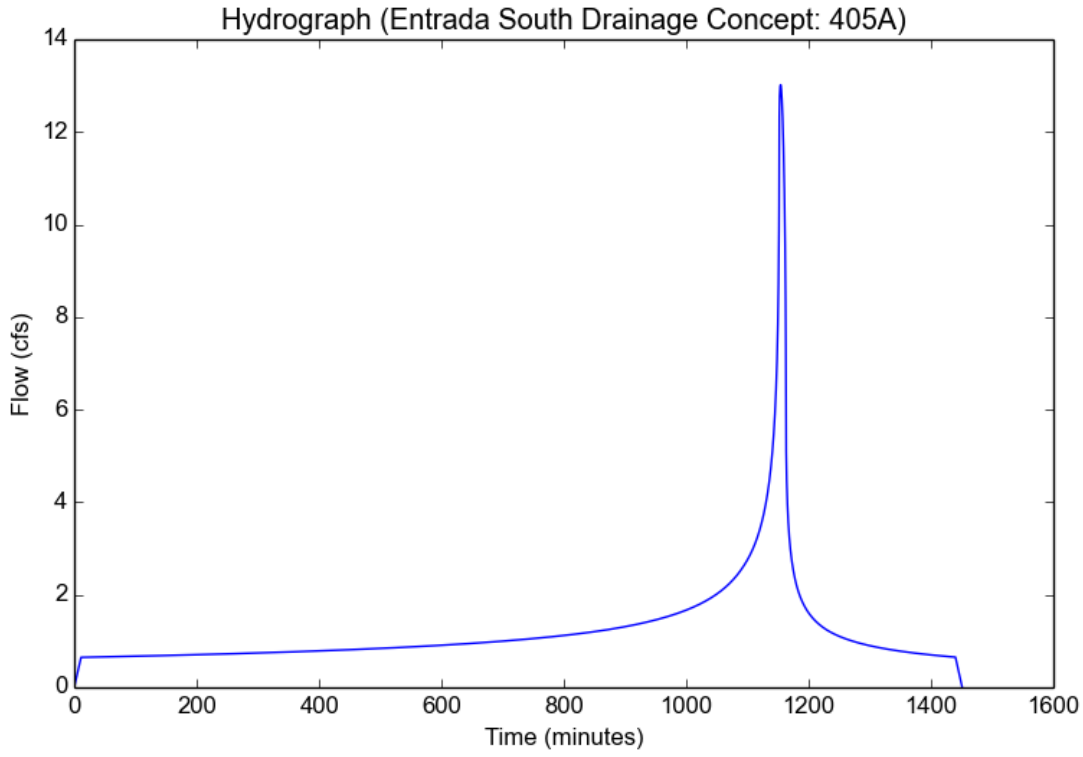
File location: G:/Newhall Ranch/53295 Entrada/Storm/Hydrology/Calculations/Hydrocalc/Proposed/Entrada South Drainage Concept Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Entrada South Drainage Concept
Subarea ID	405A
Area (ac)	6.0
Flow Path Length (ft)	1260.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.91
Soil Type	98
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	5.9
Peak Intensity (in/hr)	2.4301
Undeveloped Runoff Coefficient (Cu)	0.8212
Developed Runoff Coefficient (Cd)	0.8929
Time of Concentration (min)	11.0
Clear Peak Flow Rate (cfs)	13.0189
Burned Peak Flow Rate (cfs)	13.0189
24-Hr Clear Runoff Volume (ac-ft)	2.4634
24-Hr Clear Runoff Volume (cu-ft)	107304.8992



Peak Flow Hydrologic Analysis

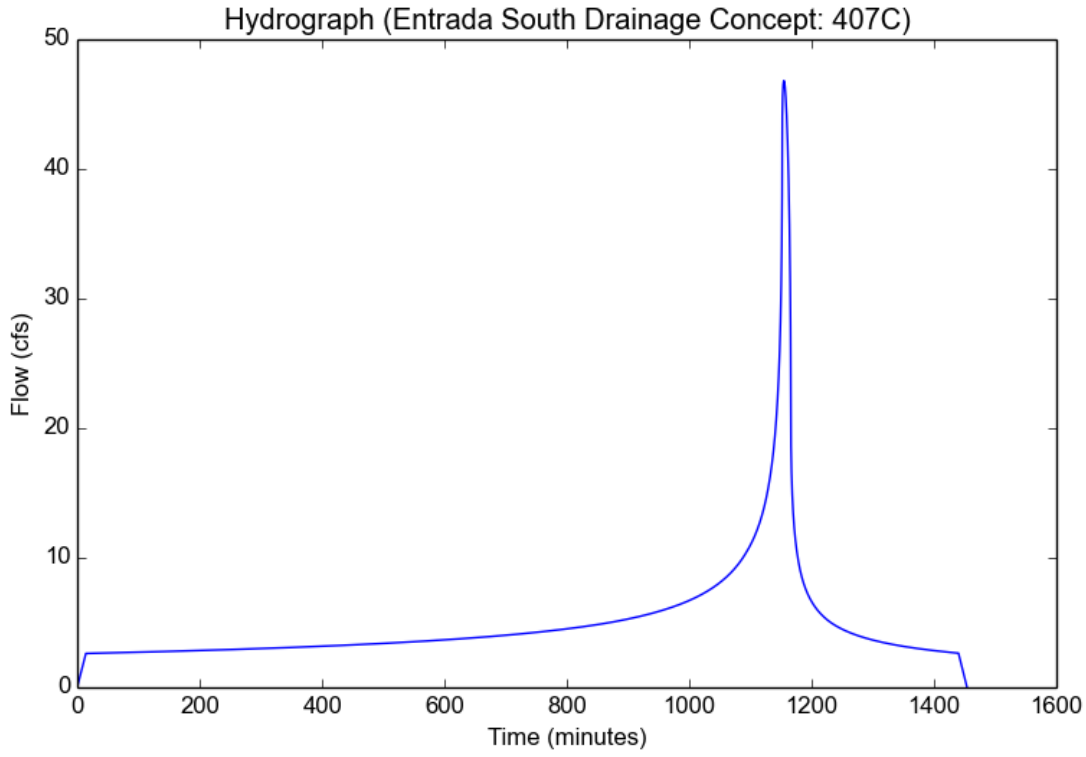
File location: G:/Newhall Ranch/53295 Entrada/Storm/Hydrology/Calculations/Hydrocalc/Proposed/Entrada South Drainage Concept Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Entrada South Drainage Concept
Subarea ID	407C
Area (ac)	24.2
Flow Path Length (ft)	1812.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.91
Soil Type	98
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	5.9
Peak Intensity (in/hr)	2.1697
Undeveloped Runoff Coefficient (Cu)	0.8073
Developed Runoff Coefficient (Cd)	0.8917
Time of Concentration (min)	14.0
Clear Peak Flow Rate (cfs)	46.8172
Burned Peak Flow Rate (cfs)	46.8172
24-Hr Clear Runoff Volume (ac-ft)	9.9356
24-Hr Clear Runoff Volume (cu-ft)	432793.0246



Peak Flow Hydrologic Analysis

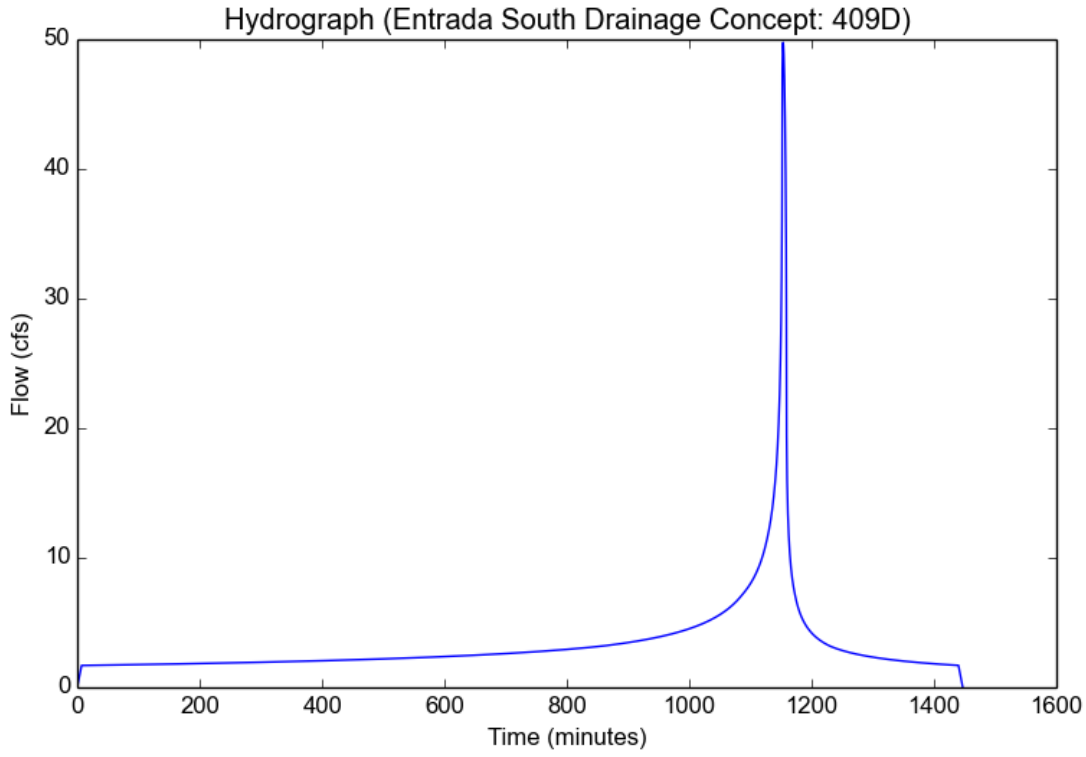
File location: G:/Newhall Ranch/53295 Entrada/Storm/Hydrology/Calculations/Hydrocalc/Proposed/Entrada South Drainage Concept Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Entrada South Drainage Concept
Subarea ID	409D
Area (ac)	18.4
Flow Path Length (ft)	575.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	6.0
Percent Impervious	0.74
Soil Type	98
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.0
Peak Intensity (in/hr)	3.0561
Undeveloped Runoff Coefficient (Cu)	0.8424
Developed Runoff Coefficient (Cd)	0.885
Time of Concentration (min)	7.0
Clear Peak Flow Rate (cfs)	49.7673
Burned Peak Flow Rate (cfs)	49.7673
24-Hr Clear Runoff Volume (ac-ft)	6.69
24-Hr Clear Runoff Volume (cu-ft)	291416.5969



Peak Flow Hydrologic Analysis

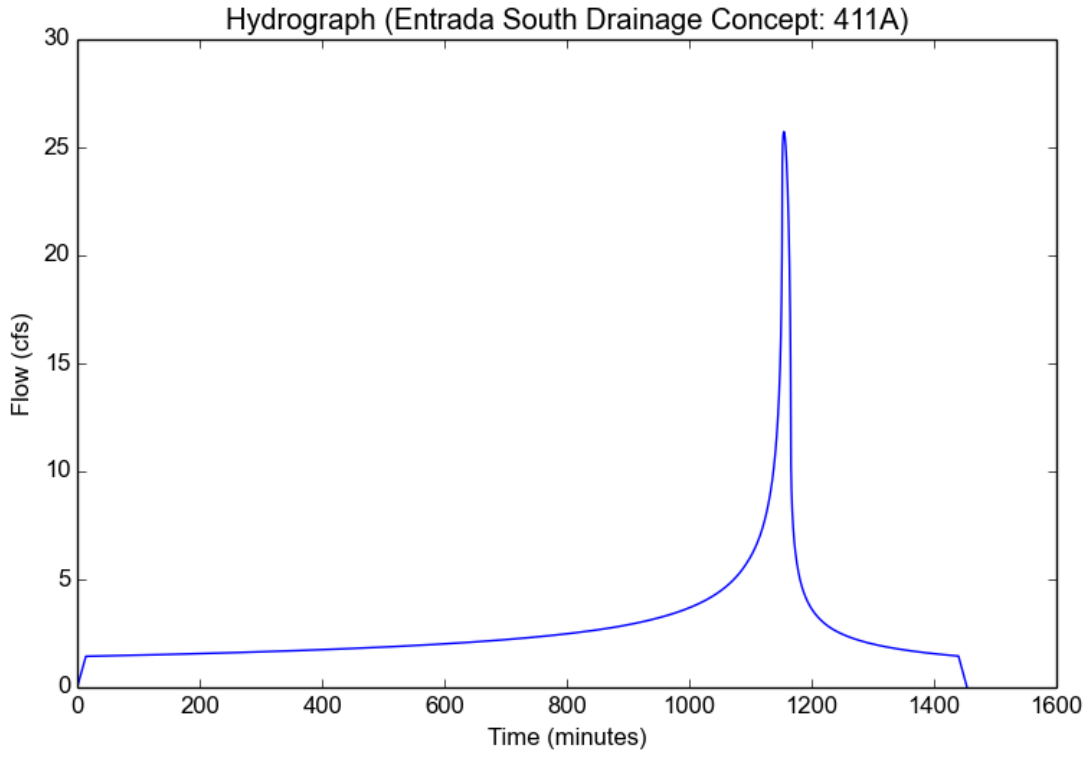
File location: G:/Newhall Ranch/53295 Entrada/Storm/Hydrology/Calculations/Hydrocalc/Proposed/Entrada South Drainage Concept Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Entrada South Drainage Concept
Subarea ID	411A
Area (ac)	13.3
Flow Path Length (ft)	1946.0
Flow Path Slope (vft/hft)	0.03
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.91
Soil Type	98
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	5.9
Peak Intensity (in/hr)	2.1697
Undeveloped Runoff Coefficient (Cu)	0.8073
Developed Runoff Coefficient (Cd)	0.8917
Time of Concentration (min)	14.0
Clear Peak Flow Rate (cfs)	25.7301
Burned Peak Flow Rate (cfs)	25.7301
24-Hr Clear Runoff Volume (ac-ft)	5.4605
24-Hr Clear Runoff Volume (cu-ft)	237857.3235



Peak Flow Hydrologic Analysis

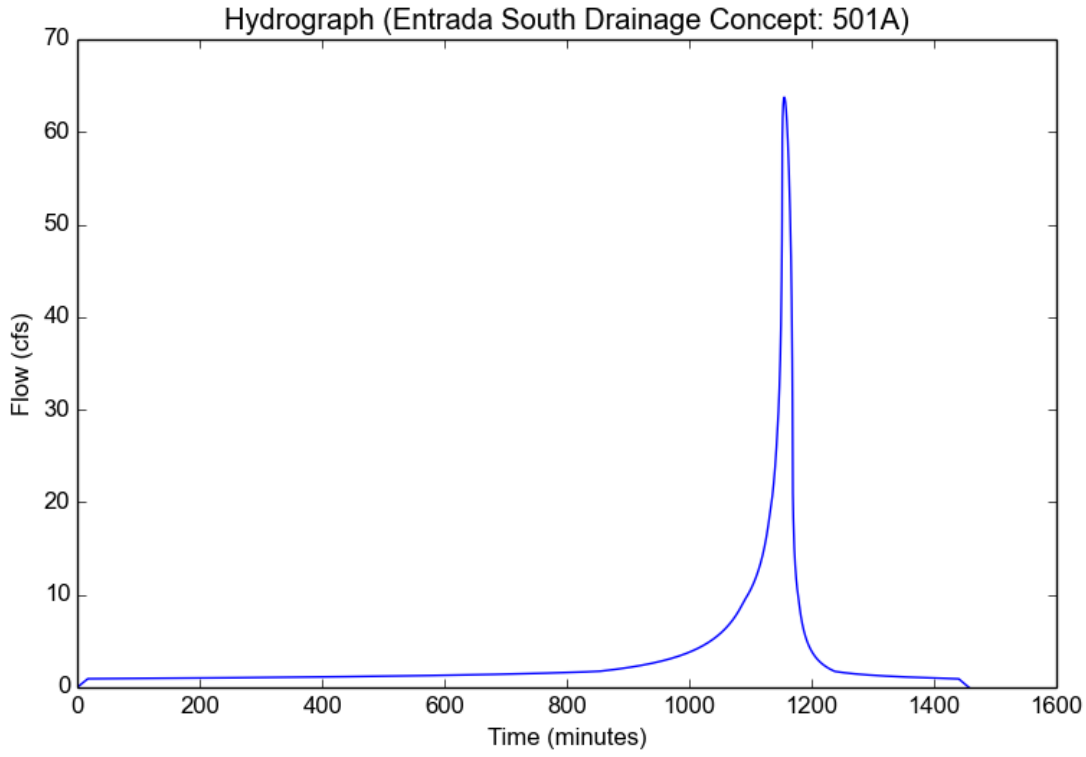
File location: G:/Newhall Ranch/53295 Entrada/Storm/Hydrology/Calculations/Hydrocalc/Proposed/Entrada South Drainage Concept Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Entrada South Drainage Concept
Subarea ID	501A
Area (ac)	38.4
Flow Path Length (ft)	2897.0
Flow Path Slope (vft/hft)	0.05
50-yr Rainfall Depth (in)	6.1
Percent Impervious	0.1
Soil Type	98
Design Storm Frequency	50-yr
Fire Factor	0.34
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.1
Peak Intensity (in/hr)	2.0476
Undeveloped Runoff Coefficient (Cu)	0.8008
Developed Runoff Coefficient (Cd)	0.8108
Time of Concentration (min)	17.0
Clear Peak Flow Rate (cfs)	63.7469
Burned Peak Flow Rate (cfs)	65.6224
24-Hr Clear Runoff Volume (ac-ft)	6.2969
24-Hr Clear Runoff Volume (cu-ft)	274290.7902



Peak Flow Hydrologic Analysis

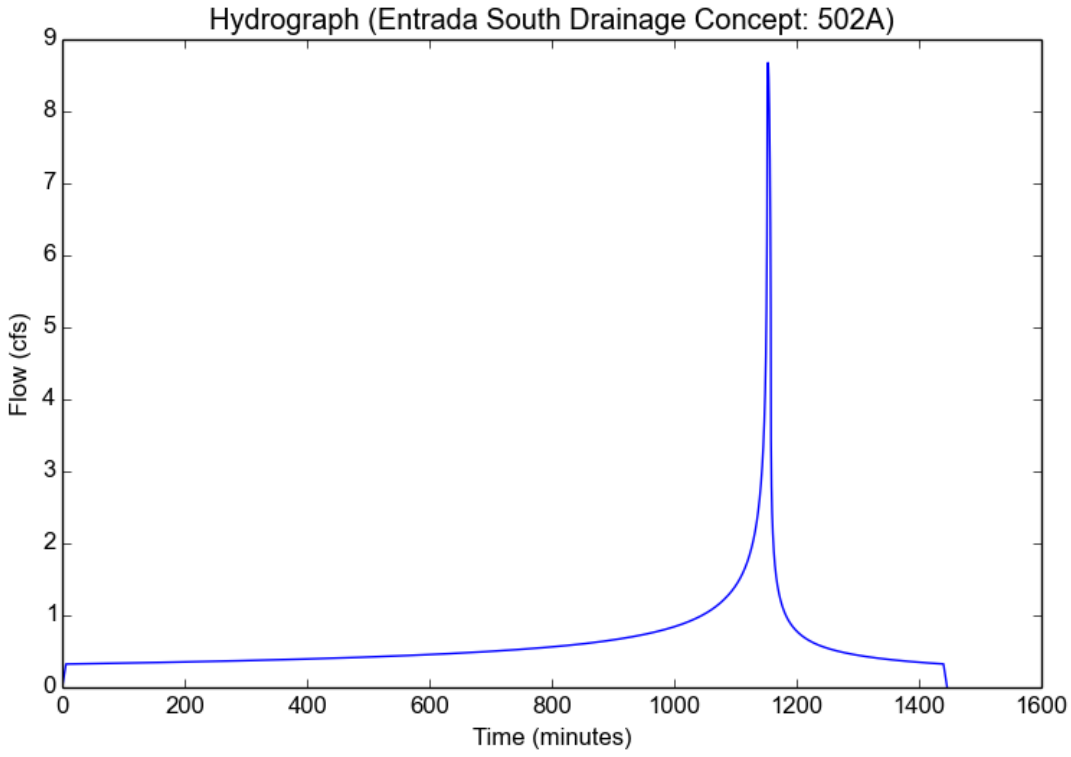
File location: G:/Newhall Ranch/53295 Entrada/Storm/Hydrology/Calculations/Hydrocalc/Proposed/Entrada South Drainage Concept Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Entrada South Drainage Concept
Subarea ID	502A
Area (ac)	2.9
Flow Path Length (ft)	391.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	6.1
Percent Impervious	0.91
Soil Type	98
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.1
Peak Intensity (in/hr)	3.3405
Undeveloped Runoff Coefficient (Cu)	0.8513
Developed Runoff Coefficient (Cd)	0.8956
Time of Concentration (min)	6.0
Clear Peak Flow Rate (cfs)	8.6764
Burned Peak Flow Rate (cfs)	8.6764
24-Hr Clear Runoff Volume (ac-ft)	1.2318
24-Hr Clear Runoff Volume (cu-ft)	53656.7036



Peak Flow Hydrologic Analysis

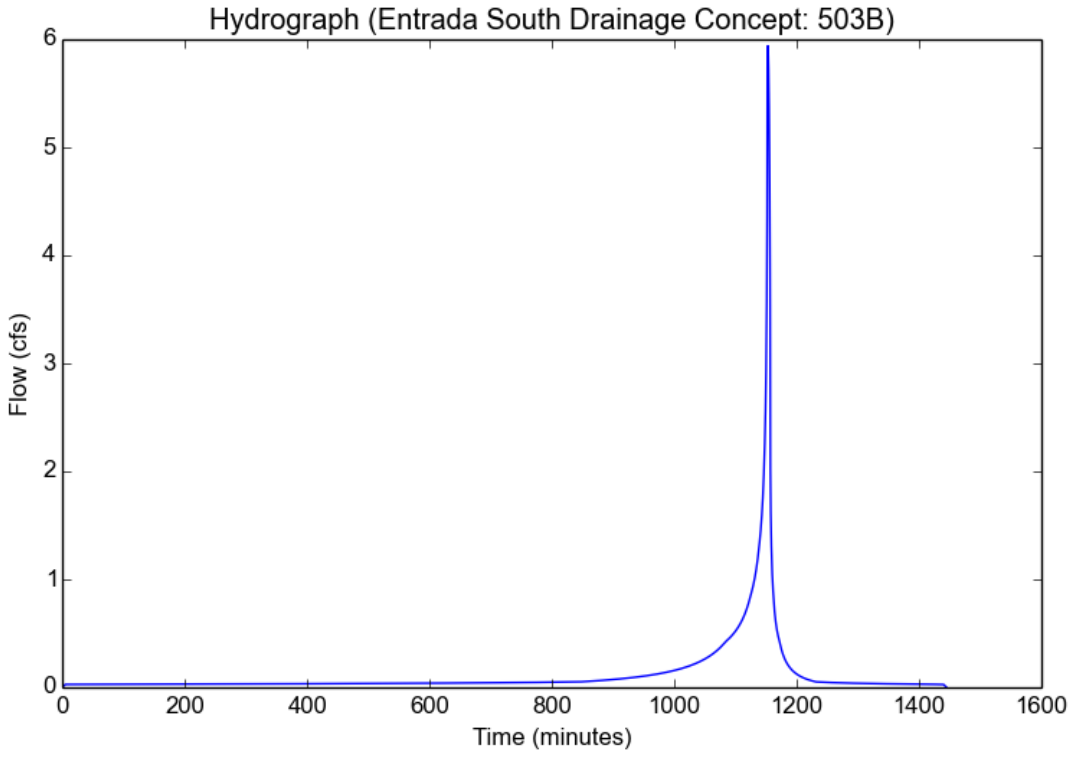
File location: G:/Newhall Ranch/53295 Entrada/Storm/Hydrology/Calculations/Hydrocalc/Proposed/Entrada South Drainage Concept Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Entrada South Drainage Concept
Subarea ID	503B
Area (ac)	1.9
Flow Path Length (ft)	240.0
Flow Path Slope (vft/hft)	0.05
50-yr Rainfall Depth (in)	6.1
Percent Impervious	0.01
Soil Type	98
Design Storm Frequency	50-yr
Fire Factor	0.34
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.1
Peak Intensity (in/hr)	3.6394
Undeveloped Runoff Coefficient (Cu)	0.8586
Developed Runoff Coefficient (Cd)	0.8591
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	5.9403
Burned Peak Flow Rate (cfs)	6.0751
24-Hr Clear Runoff Volume (ac-ft)	0.2568
24-Hr Clear Runoff Volume (cu-ft)	11184.1265



Peak Flow Hydrologic Analysis

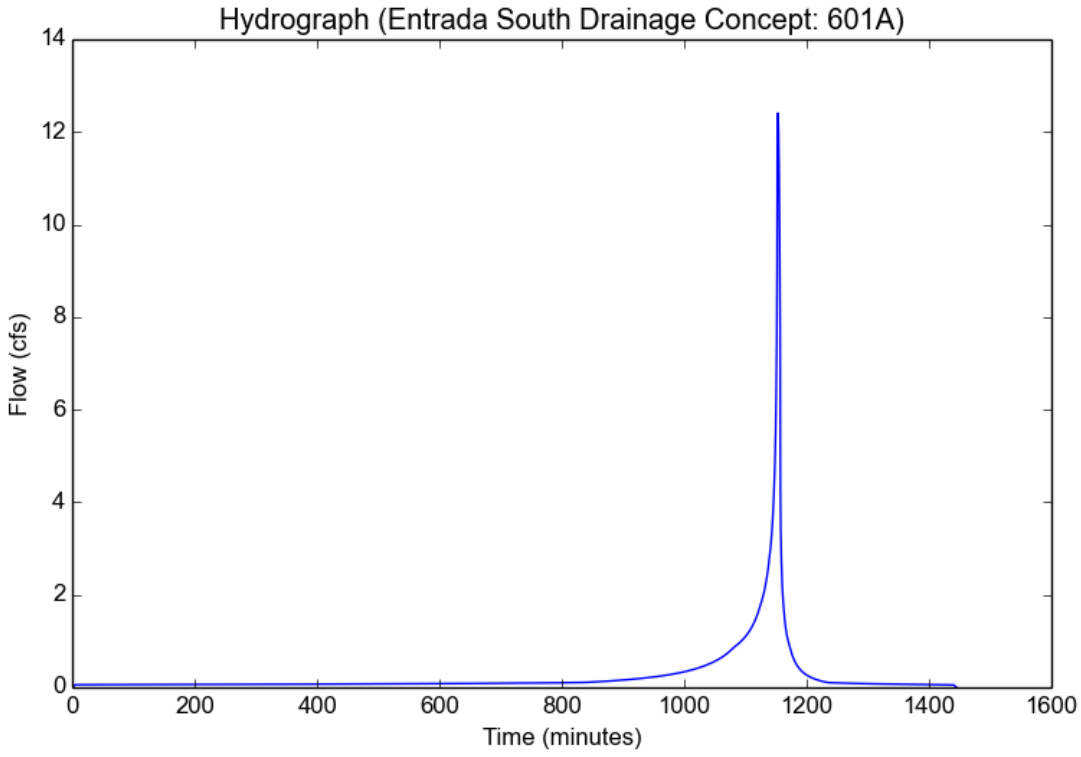
File location: G:/Newhall Ranch/53295 Entrada/Storm/Hydrology/Calculations/Hydrocalc/Proposed/Entrada South Drainage Concept Report.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	Entrada South Drainage Concept
Subarea ID	601A
Area (ac)	3.9
Flow Path Length (ft)	670.0
Flow Path Slope (vft/hft)	0.13
50-yr Rainfall Depth (in)	6.2
Percent Impervious	0.01
Soil Type	98
Design Storm Frequency	50-yr
Fire Factor	0.34
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	6.2
Peak Intensity (in/hr)	3.6991
Undeveloped Runoff Coefficient (Cu)	0.8596
Developed Runoff Coefficient (Cd)	0.8601
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	12.4075
Burned Peak Flow Rate (cfs)	12.6872
24-Hr Clear Runoff Volume (ac-ft)	0.5416
24-Hr Clear Runoff Volume (cu-ft)	23591.0742



B-2: Modified Rational Method of Hydrology LAR04 Results (Clear & Burn)

B-2.1: 100 Watershed LAR04 Results

Clear

Program Package Serial Number: 2061

11/13/24 FILE: p-100 INPUT DATA: English Units RAINFALL SOIL FILE: English (In) OUTPUT DATA: English Units PAGE 1

LOS ANGELES COUNTY FLOOD CONTROL DISTRICT PROG F0601M

MODIFIED RATIONAL METHOD HYDROLOGY - STORM YEAR = 50 SOIL DATA FILE: C:\civild\scr_soilx_34.dat

ENTRADA SOUTH PROPOSED WATERSHED

LOCATION		SUBAREA AREA(Ac)	SUBAREA Q(CFS)	TOTAL AREA(Ac)	TOTAL Q(CFS)	CONV TYPE	CONV LNGTH(Ft)	CONV SLOPE	CONV SIZE(Ft)	CONV Z	CONTROL Q(CFS)	SOIL NAME	TC	STORM DAY 4 RAIN ZONE	PCT IMPV
3582	101A	6.1	19.49	6.1	19.49	0	0.	.00000	.00	.00	0.	98	5	A31	.03
3582	102B	3.9	12.50	3.9	12.50	0	0.	.00000	.00	.00	0.	98	5	A31	.10
3582	103AB	3.9	12.50	10.0	32.00	4	2430.	.02000	8.00	.00	0.	98	0	A31	.00
3582	104A	3.1	8.93	13.1	28.70	0	0.	.00000	.00	.00	0.	98	6	A31	.10
3582	105C	2.4	7.94	2.4	7.94	0	0.	.00000	.00	.00	0.	98	5	A31	.80
3582	106AC	2.4	7.94	15.5	33.13	0	0.	.00000	.00	.00	0.	98	0	A31	.00
3582	107B	10.6	20.58	10.6	20.58	0	0.	.00000	.00	.00	0.	98	13	A31	.10
3582	108B	.0	.00	10.6	20.58	4	150.	.02000	3.50	.00	0.	98	99	A31	.00
3582	109B	1.5	3.73	12.1	24.27	4	75.	.02000	3.50	.00	0.	98	8	A31	.10
3582	110B	2.3	5.15	14.4	29.33	0	0.	.00000	.00	.00	0.	98	10	A31	.10
3582	111B	.0	.00	14.4	29.33	0	0.	.00000	.00	.00	0.	98	99	A31	.00
3582	112AB	14.4	29.33	29.9	62.18	5	310.	.09000	6.00	.00	0.	98	0	A31	.00
3582	113B	1.4	4.65	1.4	4.65	4	160.	.02000	2.00	.00	0.	98	5	A31	.90
3582	114AB	1.4	4.39	31.3	65.58	0	0.	.00000	.00	.00	0.	98	0	A31	.00

Burn

MODIFIED RATIONAL METHOD HYDROLOGY - STORM YEAR = 50 SOIL DATA FILE: C:\civild\scr_soilx_34.dat

ENTRADA SOUTH PROPOSED WATERSHED

LOCATION		SUBAREA AREA(Ac)	SUBAREA Q(CFS)	TOTAL AREA(Ac)	TOTAL Q(CFS)	CONV TYPE	CONV LNGTH(Ft)	CONV SLOPE	CONV SIZE(Ft)	CONV Z	CONTROL Q(CFS)	SOIL NAME	TC	STORM DAY 4 RAIN ZONE	PCT IMPV
3582	101A	6.1	19.92	6.1	19.92	0	0.	.00000	.00	.00	0.	298	5	A31	.03
3582	102B	3.9	12.76	3.9	12.76	0	0.	.00000	.00	.00	0.	298	5	A31	.10
3582	103AB	3.9	12.76	10.0	32.68	4	2430.	.02000	8.00	.00	0.	98	0	A31	.00
3582	104A	3.1	8.93	13.1	29.28	0	0.	.00000	.00	.00	0.	98	6	A31	.10
3582	105C	2.4	7.94	2.4	7.94	0	0.	.00000	.00	.00	0.	98	5	A31	.80
3582	106AC	2.4	7.94	15.5	33.68	0	0.	.00000	.00	.00	0.	98	0	A31	.00
3582	107B	10.6	21.10	10.6	21.10	0	0.	.00000	.00	.00	0.	298	13	A31	.10
3582	108B	.0	.00	10.6	21.10	4	150.	.02000	3.50	.00	0.	98	99	A31	.00
3582	109B	1.5	3.81	12.1	24.88	4	75.	.02000	3.50	.00	0.	298	8	A31	.10
3582	110B	2.3	5.15	14.4	29.95	0	0.	.00000	.00	.00	0.	98	10	A31	.10
3582	111B	.0	.00	14.4	29.95	0	0.	.00000	.00	.00	0.	98	99	A31	.00
3582	112AB	14.4	29.95	29.9	63.35	5	310.	.09000	6.00	.00	0.	98	0	A31	.00
3582	113B	1.4	4.65	1.4	4.65	4	160.	.02000	2.00	.00	0.	98	5	A31	.90
3582	114AB	1.4	4.39	31.3	66.72	0	0.	.00000	.00	.00	0.	98	0	A31	.00

B-2.2: 200 Watershed LAR04 Results

Clear

MODIFIED RATIONAL METHOD HYDROLOGY - STORM YEAR = 50 SOIL DATA FILE: C:\civild\scr_soilx_34.dat

LOCATION		SUBAREA AREA(Ac)	SUBAREA Q(CFS)	TOTAL AREA(Ac)	TOTAL Q(CFS)	CONV TYPE	CONV LNGTH(Ft)	CONV SLOPE	CONV SIZE(Ft)	CONV Z	CONTROL Q(CFS)	SOIL NAME	TC	STORM DAY 4 RAIN ZONE	PCT IMPV
3582	201A	3.4	11.28	3.4	11.28	4	260.	.05000	3.50	.00	0.	98	5	A32	.10
3582	202A	7.8	24.05	11.2	34.65	4	320.	.02000	2.00	.00	0.	98	6	A32	.74
3582	203A	4.3	11.08	15.5	44.57	0	0.	.00000	.00	.00	0.	98	9	A32	.91
3582	204A	2.0	6.82	17.5	50.60	0	0.	.00000	.00	.00	0.	98	5	A32	.74
3582	205B	9.0	29.86	9.0	29.86	4	750.	.05000	3.50	.00	0.	98	5	A32	.10
3582	206C	9.3	26.51	9.3	26.51	4	637.	.02000	2.00	.00	0.	98	7	A32	.74
3582	207BC	9.3	26.12	18.3	52.75	4	1530.	.03000	4.00	.00	0.	98	0	A32	.00
3582	208B	23.3	66.41	41.6	109.90	4	162.	.02000	2.00	.00	0.	98	7	A32	.74
3582	209A	4.0	13.63	21.5	62.66	0	0.	.00000	.00	.00	0.	98	5	A32	.74
3582	210D	7.0	20.88	7.0	20.88	4	999.	.05000	3.50	.00	0.	98	6	A32	.10
3582	211D	9.8	29.24	16.8	48.43	4	702.	.02000	3.50	.00	0.	98	6	A32	.10
3582	212D	12.9	34.52	29.7	80.71	4	687.	.02000	3.50	.00	0.	98	8	A32	.74
3582	213D	9.3	28.67	39.0	101.68	4	972.	.02000	3.50	.00	0.	98	6	A32	.74
3582	214C	7.2	20.52	7.2	20.52	4	216.	.02000	3.50	.00	0.	98	7	A32	.74
3582	215CD	39.0	100.12	46.2	117.62	4	447.	.02000	3.50	.00	0.	98	0	A32	.00
3582	216C	3.0	9.32	49.2	122.50	4	870.	.02000	3.50	.00	0.	98	6	A32	.90
3582	217C	8.1	24.97	57.3	132.00	4	760.	.02000	3.50	.00	0.	98	6	A32	.74
3582	218D	2.3	5.73	2.3	5.73	0	0.	.00000	.00	.00	0.	20	8	A32	.74
3582	219D	16.2	46.18	18.5	51.91	4	1074.	.01000	2.00	.00	0.	98	7	A32	.74
3582	220E	11.1	27.39	11.1	27.39	4	315.	.01000	3.00	.00	0.	98	10	A32	.91
3582	221E	10.1	21.90	21.2	49.12	4	1030.	.01000	3.00	.00	0.	98	13	A32	.91

Burn

MODIFIED RATIONAL METHOD HYDROLOGY - STORM YEAR = 50 SOIL DATA FILE: C:\civild\scr_soilx_34.dat

LOCATION		SUBAREA AREA(Ac)	SUBAREA Q(CFS)	TOTAL AREA(Ac)	TOTAL Q(CFS)	CONV TYPE	CONV LNGTH(Ft)	CONV SLOPE	CONV SIZE(Ft)	CONV Z	CONTROL Q(CFS)	SOIL NAME	TC	STORM DAY 4 RAIN ZONE	PCT IMPV
3582	201A	3.4	11.51	3.4	11.51	4	260.	.05000	3.50	.00	0.	298	5	A32	.10
3582	202A	7.8	24.05	11.2	34.86	4	320.	.02000	2.00	.00	0.	98	6	A32	.74
3582	203A	4.3	11.08	15.5	44.83	0	0.	.00000	.00	.00	0.	98	9	A32	.91
3582	204A	2.0	6.82	17.5	50.86	0	0.	.00000	.00	.00	0.	98	5	A32	.74
3582	205B	9.0	30.46	9.0	30.46	4	750.	.05000	3.50	.00	0.	298	5	A32	.10
3582	206C	9.3	26.51	9.3	26.51	4	637.	.02000	2.00	.00	0.	98	7	A32	.74
3582	207BC	9.3	26.12	18.3	53.34	4	1530.	.03000	4.00	.00	0.	98	0	A32	.00
3582	208B	23.3	66.41	41.6	110.50	4	162.	.02000	2.00	.00	0.	98	7	A32	.74
3582	209A	4.0	13.63	21.5	62.92	0	0.	.00000	.00	.00	0.	98	5	A32	.74
3582	210D	7.0	21.32	7.0	21.32	4	999.	.05000	3.50	.00	0.	298	6	A32	.10
3582	211D	9.8	29.85	16.8	49.47	4	702.	.02000	3.50	.00	0.	298	6	A32	.10
3582	212D	12.9	34.52	29.7	81.76	4	687.	.02000	3.50	.00	0.	98	8	A32	.74
3582	213D	9.3	28.67	39.0	102.72	4	972.	.02000	3.50	.00	0.	98	6	A32	.74
3582	214C	7.2	20.52	7.2	20.52	4	216.	.02000	3.50	.00	0.	98	7	A32	.74
3582	215CD	39.0	101.15	46.2	118.63	4	447.	.02000	3.50	.00	0.	98	0	A32	.00
3582	216C	3.0	9.32	49.2	123.51	4	870.	.02000	3.50	.00	0.	98	6	A32	.90
3582	217C	8.1	24.97	57.3	132.98	4	760.	.02000	3.50	.00	0.	98	6	A32	.74
3582	218D	2.3	5.73	2.3	5.73	0	0.	.00000	.00	.00	0.	20	8	A32	.74
3582	219D	16.2	46.18	18.5	51.91	4	1074.	.01000	2.00	.00	0.	98	7	A32	.74
3582	220E	11.1	27.39	11.1	27.39	4	315.	.01000	3.00	.00	0.	98	10	A32	.91
3582	221E	10.1	21.90	21.2	49.12	4	1030.	.01000	3.00	.00	0.	98	13	A32	.91

B-2.3: 300 Watershed LAR04 Results

MODIFIED RATIONAL METHOD HYDROLOGY - STORM YEAR = 50 SOIL DATA FILE: C:\civild\scr_soilx_34.dat

LOCATION	SUBAREA AREA(Ac)	SUBAREA Q(CFS)	TOTAL AREA(Ac)	TOTAL Q(CFS)	CONV TYPE	CONV LNGTH(Ft)	CONV SLOPE	CONV SIZE(Ft)	CONV Z	CONTROL Q(CFS)	SOIL NAME	TC	STORM DAY 4 RAIN ZONE	PCT IMPV
3582 301A	6.6	18.20	6.6	18.20	4	147.	.02000	2.00	.00	0.	98	7	A31	.74
3582 302A	.0	.00	6.6	18.20	4	635.	.03000	3.50	.00	0.	98	99	A31	.00
3582 303A	12.9	31.76	19.5	48.97	4	200.	.03000	3.50	.00	0.	98	9	A31	.74
3582 304B	4.6	10.02	4.6	10.02	0	0.	.00000	.00	.00	0.	98	12	A31	.91
3582 305AB	4.6	10.02	24.1	58.81	4	230.	.03000	3.50	.00	0.	98	0	A31	.00
3582 306A	11.6	25.98	35.7	84.23	4	793.	.03000	3.50	.00	0.	98	10	A31	.10
3582 307A	1.0	3.32	36.7	85.76	0	0.	.00000	.00	.00	0.	98	5	A31	.90
3582 308B	20.1	45.01	20.1	45.01	4	80.	.02000	2.00	.00	0.	98	11	A31	.74
3582 309B	9.0	26.84	29.1	71.85	4	630.	.05000	2.50	.00	0.	98	6	A31	.74
3582 310AB	29.1	70.65	65.8	154.96	4	440.	.03000	3.50	.00	0.	98	0	A31	.00
3582 311B	2.1	6.93	2.1	6.93	4	110.	.02000	2.00	.00	0.	98	5	A31	.74
3582 312AB	2.1	6.67	67.9	158.49	4	210.	.03000	3.50	.00	0.	98	0	A31	.00
3582 313A	5.2	12.95	73.1	170.69	0	0.	.00000	.00	.00	0.	98	9	A31	.90
3582 314A	9.7	21.12	82.8	191.68	0	0.	.00000	.00	.00	0.	98	12	A31	.90
3582 315C	1.2	3.99	1.2	3.99	0	0.	.00000	.00	.00	0.	98	5	A31	.90
3582 316C	1.8	5.19	3.0	9.17	0	0.	.00000	.00	.00	0.	98	6	A31	.10
3582 317AC	3.0	9.17	85.8	197.91	0	0.	.00000	.00	.00	0.	98	0	A31	.00

B-2.4: 400 Watershed LAR04 Results

Clear
Combined with 100-Watershed

MODIFIED RATIONAL METHOD HYDROLOGY - STORM YEAR = 50 SOIL DATA FILE: C:\civild\scr_soilx_34.dat

LOCATION		SUBAREA AREA(Ac)	SUBAREA Q(CFS)	TOTAL AREA(Ac)	TOTAL Q(CFS)	CONV TYPE	CONV LNGTH(Ft)	CONV SLOPE	CONV SIZE(Ft)	CONV Z	CONTROL Q(CFS)	SOIL NAME	TC	STORM DAY 4 RAIN ZONE	PCT IMPV
3582	401A	11.6	25.17	11.6	25.17	4	635.	.02000	2.00	.00	0.	98	11	A30	.74
3582	402B	4.9	14.25	4.9	14.25	4	462.	.02000	2.00	.00	0.	98	6	A30	.90
3582	403AB	4.9	13.88	16.5	38.57	4	460.	.02000	2.50	.00	0.	98	0	A30	.00
3582	404A	.0	.00	16.5	38.05	0	0.	.00000	.00	.00	0.	98	99	A30	.00
3582	405A	6.0	13.21	22.5	50.97	0	0.	.00000	.00	.00	0.	98	11	A30	.91
3582	406A	.0	.00	22.5	50.97	0	0.	.00000	.00	.00	0.	98	99	A30	.00
3582	407C	24.2	47.55	24.2	47.55	4	212.	.02000	2.50	.00	0.	98	14	A30	.91
3582	408AC	24.2	47.50	46.7	98.32	0	0.	.00000	.00	.00	0.	98	0	A30	.00
3582	409D	18.4	49.15	18.4	49.15	4	340.	.22000	2.00	.00	0.	98	7	A30	.74
3582	410AD	18.4	49.02	65.1	146.03	4	662.	.02000	4.50	.00	0.	98	0	A30	.00
3582	411A	13.3	26.13	78.4	170.37	0	0.	.00000	.00	.00	0.	98	14	A30	.91
3582	412A	.0	.00	78.4	170.37	0	0.	.00000	.00	.00	0.	98	99	A30	.00
3582	413B*	31.3	66.00	31.3	66.00	0	0.	.00000	.00	.00	0.	98	0	A30	.00
3582	414AB	31.3	66.00	109.7	235.37	0	0.	.00000	.00	.00	0.	98	0	A30	.00

NOTES:
*413B is per 100-Watershed Hydrograph. See next sheet for hydrograph input data.

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7 83582  413B    31.3 411155     66.200  4
8  5   0.      0. 100.      1. 200.      1. 300.      1. 400.      1.
8 10 500.      1. 600.      1. 700.      2. 800.      2. 900.      2.
8 151000.      3.1050.      5.1100.      8.1110.     10.1120.     12.
8 201130.     15.1131.     15.1132.     16.1133.     16.1134.     17.
8 251135.     17.1136.     18.1137.     18.1138.     19.1139.     19.
8 301140.     20.1141.     21.1142.     22.1143.     23.1144.     24.
8 351145.     25.1146.     26.1147.     28.1148.     30.1149.     34.
8 401150.     40.1151.     46.1152.     53.1153.     60.1154.     65.
8 451155.     66.1156.     65.1157.     64.1158.     60.1159.     56.
8 501160.     52.1161.     47.1162.     42.1163.     37.1164.     32.
8 551165.     27.1166.     23.1167.     19.1168.     17.1169.     16.
8 601170.     14.1171.     14.1172.     13.1173.     12.1174.     11.
8 651175.     11.1176.     10.1177.     10.1178.      9.1179.      9.
8 701180.      9.1181.      8.1182.      8.1183.      8.1184.      7.
8 751185.      7.1186.      7.1187.      6.1188.      6.1189.      6.
8 801190.      6.1191.      6.1192.      5.1193.      5.1194.      5.
8 851195.      5.1196.      5.1197.      5.1198.      5.1199.      4.
8 901200.      4.1201.      4.1202.      4.1203.      4.1204.      4.
8 951205.      4.1206.      4.1207.      4.1208.      4.1209.      3.
81001210.      3.1211.      3.1212.      3.1213.      3.1214.      3.
81051215.      3.1216.      3.1217.      3.1218.      3.1219.      3.
81101220.      3.1221.      3.1222.      3.1223.      3.1224.      3.
81151225.      2.1226.      2.1227.      2.1228.      2.1229.      2.
81201230.      2.1231.      2.1232.      2.1233.      2.1234.      2.
81251235.      2.1236.      2.1237.      2.1238.      2.1239.      2.
81301240.      2.1241.      2.1242.      2.1243.      2.1244.      2.
81351245.      2.1246.      2.1247.      2.1248.      2.1249.      2.
81401250.      2.1251.      2.1252.      2.1253.      2.1254.      2.
81451255.      2.1256.      2.1257.      2.1258.      2.1259.      2.
81501260.      2.1261.      2.1262.      2.1263.      2.1264.      2.
81551265.      2.1266.      2.1267.      2.1268.      2.1269.      2.
81601270.      2.1271.      2.1272.      2.1273.      2.1274.      2.
81651275.      2.1276.      2.1277.      2.1278.      2.1279.      2.
81701280.      2.1281.      2.1282.      2.1283.      2.1284.      2.
81751285.      2.1286.      2.1287.      2.1288.      2.1289.      1.
81801290.      1.1291.      1.1292.      1.1293.      1.1294.      1.
81851295.      1.1296.      1.1297.      1.1298.      1.1299.      1.
81901300.      1.1310.      1.1320.      1.1330.      1.1340.      1.
81951350.      1.1360.      1.1370.      1.1380.      1.1390.      1.
82001400.      1.1420.      1.1440.      1.1460.      1.1500.      1.
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Burn
Combined with 100-Watershed

MODIFIED RATIONAL METHOD HYDROLOGY - STORM YEAR = 50 SOIL DATA FILE: C:\civild\scr_soilx_34.dat

LOCATION	SUBAREA AREA(Ac)	SUBAREA Q(CFS)	TOTAL AREA(Ac)	TOTAL Q(CFS)	CONV TYPE	CONV LNGTH(Ft)	CONV SLOPE	CONV SIZE(Ft)	CONV Z	CONTROL Q(CFS)	SOIL NAME	TC	STORM DAY 4 RAIN ZONE	PCT IMPV
3582 401A	11.6	25.17	11.6	25.17	4	635.	.02000	2.00	.00	0.	98	11	A30	.74
3582 402B	4.9	14.25	4.9	14.25	4	462.	.02000	2.00	.00	0.	98	6	A30	.90
3582 403AB	4.9	13.88	16.5	38.57	4	460.	.02000	2.50	.00	0.	98	0	A30	.00
3582 404A	.0	.00	16.5	38.05	0	0.	.00000	.00	.00	0.	98	99	A30	.00
3582 405A	6.0	13.21	22.5	50.97	0	0.	.00000	.00	.00	0.	98	11	A30	.91
3582 406A	.0	.00	22.5	50.97	0	0.	.00000	.00	.00	0.	98	99	A30	.00
3582 407C	24.2	47.55	24.2	47.55	4	212.	.02000	2.50	.00	0.	98	14	A30	.91
3582 408AC	24.2	47.50	46.7	98.32	0	0.	.00000	.00	.00	0.	98	0	A30	.00
3582 409D	18.4	49.15	18.4	49.15	4	340.	.22000	2.00	.00	0.	98	7	A30	.74
3582 410AD	18.4	49.02	65.1	146.03	4	662.	.02000	4.50	.00	0.	98	0	A30	.00
3582 411A	13.3	26.13	78.4	170.37	0	0.	.00000	.00	.00	0.	98	14	A30	.91
3582 412A	.0	.00	78.4	170.37	0	0.	.00000	.00	.00	0.	98	99	A30	.00
3582 413B*	31.3	67.00	31.3	67.00	0	0.	.00000	.00	.00	0.	98	0	A30	.00
3582 414AB	31.3	67.00	109.7	237.37	0	0.	.00000	.00	.00	0.	98	0	A30	.00

NOTES:
*413B is per 100-Watershed Hydrograph. See next sheet for hydrograph input data.

```
7 83582  413B    31.3 411155     67.200  4
8  5   0.      0. 100.      1. 200.      1. 300.      1. 400.      1.
8 10 500.      2. 600.      2. 700.      2. 800.      2. 900.      2.
8 151000.      4.1050.      6.1100.      8.1110.     11.1120.     13.
8 201130.     16.1131.     16.1132.     16.1133.     17.1134.     17.
8 251135.     18.1136.     18.1137.     19.1138.     19.1139.     20.
8 301140.     21.1141.     22.1142.     22.1143.     23.1144.     24.
8 351145.     26.1146.     28.1147.     29.1148.     31.1149.     35.
8 401150.     41.1151.     47.1152.     54.1153.     61.1154.     66.
8 451155.     67.1156.     67.1157.     65.1158.     62.1159.     57.
8 501160.     53.1161.     48.1162.     43.1163.     38.1164.     32.
8 551165.     28.1166.     24.1167.     20.1168.     18.1169.     16.
8 601170.     15.1171.     14.1172.     13.1173.     13.1174.     12.
8 651175.     11.1176.     11.1177.     10.1178.     10.1179.     10.
8 701180.      9.1181.      9.1182.      8.1183.      8.1184.      8.
8 751185.      7.1186.      7.1187.      7.1188.      7.1189.      6.
8 801190.      6.1191.      6.1192.      6.1193.      6.1194.      6.
8 851195.      5.1196.      5.1197.      5.1198.      5.1199.      5.
8 901200.      5.1201.      5.1202.      4.1203.      4.1204.      4.
8 951205.      4.1206.      4.1207.      4.1208.      4.1209.      4.
81001210.      4.1211.      4.1212.      4.1213.      4.1214.      3.
81051215.      3.1216.      3.1217.      3.1218.      3.1219.      3.
81101220.      3.1221.      3.1222.      3.1223.      3.1224.      3.
81151225.      3.1226.      3.1227.      3.1228.      3.1229.      3.
81201230.      3.1231.      3.1232.      3.1233.      3.1234.      2.
81251235.      2.1236.      2.1237.      2.1238.      2.1239.      2.
81301240.      2.1241.      2.1242.      2.1243.      2.1244.      2.
81351245.      2.1246.      2.1247.      2.1248.      2.1249.      2.
81401250.      2.1251.      2.1252.      2.1253.      2.1254.      2.
81451255.      2.1256.      2.1257.      2.1258.      2.1259.      2.
81501260.      2.1261.      2.1262.      2.1263.      2.1264.      2.
81551265.      2.1266.      2.1267.      2.1268.      2.1269.      2.
81601270.      2.1271.      2.1272.      2.1273.      2.1274.      2.
81651275.      2.1276.      2.1277.      2.1278.      2.1279.      2.
81701280.      2.1281.      2.1282.      2.1283.      2.1284.      2.
81751285.      2.1286.      2.1287.      2.1288.      2.1289.      2.
81801290.      2.1291.      2.1292.      2.1293.      2.1294.      2.
81851295.      2.1296.      2.1297.      2.1298.      2.1299.      2.
81901300.      2.1310.      2.1320.      2.1330.      2.1340.      2.
81951350.      1.1360.      1.1370.      1.1380.      1.1390.      1.
82001400.      1.1420.      1.1440.      1.1460.      1.1500.      1.
```

B-2.5: 500 Watershed LAR04 Results

Clear

MODIFIED RATIONAL METHOD HYDROLOGY - STORM YEAR = 50 SOIL DATA FILE: C:\civild\scr_soilx_34.dat

LOCATION		SUBAREA AREA(Ac)	SUBAREA Q(CFS)	TOTAL AREA(Ac)	TOTAL Q(CFS)	CONV TYPE	CONV LNGTH(Ft)	CONV SLOPE	CONV SIZE(Ft)	CONV Z	CONTROL Q(CFS)	SOIL NAME	TC	STORM DAY 4 RAIN ZONE	PCT IMPV
3582	501A	38.4	64.88	38.4	64.88	4	560.	.03000	3.50	.00	0.	98	17	A31	.10
3582	502A	2.9	8.73	41.3	72.06	0	0.	.00000	.00	.00	0.	98	6	A31	.91
3582	503B	1.9	6.07	1.9	6.07	0	0.	.00000	.00	.00	0.	98	5	A31	.01
3582	504AB	1.9	6.07	43.2	76.81	0	0.	.00000	.00	.00	0.	98	0	A31	.00

Burn

MODIFIED RATIONAL METHOD HYDROLOGY - STORM YEAR = 50 SOIL DATA FILE: C:\civild\scr_soilx_34.dat

LOCATION		SUBAREA AREA(Ac)	SUBAREA Q(CFS)	TOTAL AREA(Ac)	TOTAL Q(CFS)	CONV TYPE	CONV LNGTH(Ft)	CONV SLOPE	CONV SIZE(Ft)	CONV Z	CONTROL Q(CFS)	SOIL NAME	TC	STORM DAY 4 RAIN ZONE	PCT IMPV
3582	501A	38.4	66.65	38.4	66.65	4	560.	.03000	3.50	.00	0.	298	17	A31	.10
3582	502A	2.9	8.73	41.3	73.83	0	0.	.00000	.00	.00	0.	98	6	A31	.91
3582	503B	1.9	6.20	1.9	6.20	0	0.	.00000	.00	.00	0.	298	5	A31	.01
3582	504AB	1.9	6.20	43.2	78.69	0	0.	.00000	.00	.00	0.	98	0	A31	.00

B-3: Watershed Calculations

B-3.1: Proposed Debris Production Calculation

PROPOSED WATERSHED 100

PROPOSED SUBAREA 102B

Using eq 3.3.3 of sedimentation manual (March 2006)

$$DP = DPR_{(A)} \times A_u \left(\frac{A_u}{A}\right) + DPR_{(A_u)} \times A_u \left(\frac{A_d}{A}\right) \qquad \textbf{Equation 3.3.3}$$

$$A_d = A_{d_1} + A_{d_2} + A_{d_3}$$

$$A_u = A - A_d$$

$DPR_{(A)}$	35500	CU YD/SQ MI	DPR FOR DPA 8 (Total Area)
$DPR_{(AU)}$	35500	CU YD/SQ MI	DPR FOR DPA 8 (Undeveloped Area)
A	0.0061	SQ MI	
A_U	0.0047	SQ MI	Undeveloped Area
A_D	0.0014	SQ MI	Developed Area

DP= 166.85 CU YD

PROPOSED SUBAREA 107B

Using eq 3.3.3 of sedimentation manual (March 2006)

$DPR_{(A)}$	35500	CU YD/SQ MI	DPR FOR DPA 8 (Total Area)
$DPR_{(AU)}$	35500	CU YD/SQ MI	DPR FOR DPA 8 (Undeveloped Area)
A	0.0166	SQ MI	
A_U	0.0060	SQ MI	Undeveloped Area
A_D	0.0106	SQ MI	Developed Area

DP= 213.00 CU YD

PROPOSED WATERSHED 200

PROPOSED SUBAREA 201A

Using eq 3.3.3 of sedimentation manual (March 2006)

$$DP = DPR_{(A)} \times A_u \left(\frac{A_u}{A}\right) + DPR_{(A_u)} \times A_u \left(\frac{A_d}{A}\right) \qquad \textbf{Equation 3.3.3}$$

$$A_d = A_{d_1} + A_{d_2} + A_{d_3}$$

$$A_u = A - A_d$$

$DPR_{(A)}$	35500	CU YD/SQ MI	DPR FOR DPA 8 (Total Area)
$DPR_{(AU)}$	35500	CU YD/SQ MI	DPR FOR DPA 8 (Undeveloped Area)
A	0.0053	SQ MI	
A_U	0.0042	SQ MI	Undeveloped Area
A_D	0.0011	SQ MI	Developed Area
DP=	149.10	CU YD	

PROPOSED SUBAREA 205B

Using eq 3.3.3 of sedimentation manual (March 2006)

$DPR_{(A)}$	35500	CU YD/SQ MI	DPR FOR DPA 8 (Total Area)
$DPR_{(AU)}$	35500	CU YD/SQ MI	DPR FOR DPA 8 (Undeveloped Area)
A	0.0141	SQ MI	
A_U	0.0109	SQ MI	Undeveloped Area
A_D	0.0032	SQ MI	Developed Area
DP=	386.95	CU YD	

PROPOSED SUBAREA 210D

Using eq 3.3.3 of sedimentation manual (March 2006)

$DPR_{(A)}$	35500	CU YD/SQ MI	DPR FOR DPA 8 (Total Area)
$DPR_{(AU)}$	35500	CU YD/SQ MI	DPR FOR DPA 8 (Undeveloped Area)
A	0.0110	SQ MI	
A_U	0.0094	SQ MI	Undeveloped Area
A_D	0.0016	SQ MI	Developed Area
DP=	333.70	CU YD	

PROPOSED SUBAREA 211D

Using eq 3.3.3 of sedimentation manual (March 2006)

$DPR_{(A)}$	35500	CU YD/SQ MI	DPR FOR DPA 8 (Total Area)
$DPR_{(AU)}$	35500	CU YD/SQ MI	DPR FOR DPA 8 (Undeveloped Area)
A	0.0153	SQ MI	
A_U	0.0139	SQ MI	Undeveloped Area
A_D	0.0014	SQ MI	Developed Area

DP= 492.03 CU YD

PROPOSED WATERSHED 500

PROPOSED SUBAREA 501A

Using eq 3.3.3 of sedimentation manual (March 2006)

$$DP = DPR_{(A)} \times A_u \left(\frac{A_u}{A}\right) + DPR_{(A_u)} \times A_u \left(\frac{A_d}{A}\right)$$ **Equation 3.3.3**

$$A_d = A_{d_1} + A_{d_2} + A_{d_3}$$

$$A_u = A - A_d$$

$DPR_{(A)}$	35500	CU YD/SQ MI	DPR FOR DPA 8 (Total Area)
$DPR_{(AU)}$	35500	CU YD/SQ MI	DPR FOR DPA 8 (Undeveloped Area)
A	0.0600	SQ MI	
A_U	0.0462	SQ MI	Undeveloped Area
A_D	0.0138	SQ MI	Developed Area

DP= 1640.10 CU YD

PROPOSED SUBAREA 503B

Using eq 3.3.1 of sedimentation manual (March 2006)

$$DP = DPR_{(A)} \times A$$ **Equation 3.3.1**

DP = Debris Production in yd^3

DPR = Debris Production Rate in yd^3/mi^2

$DPR_{(A)}$	35500	CU YD/SQ MI	DPR FOR DPA 8 (Total Area)
A	0.0030	SQ MI	Total Area

DP= 106.50 CU YD

PROPOSED WATERSHED 600

PROPOSED SUBAREA 601A

Using eq 3.3.1 of sedimentation manual (March 2006)

Equation 3.3.1

$$DP = DPR_{(A)} \times A$$

DP = Debris Production in yd^3
DPR = Debris Production Rate in yd^3/mi^2

$DPR_{(A)}$	35500	CU YD/SQ MI	DPR FOR DPA 8 (Total Area)
A	0.0061	SQ MI	Total Area
DP=	216.55	CU YD	

B-3.2: Proposed Bulk Flow Calculation

PROPOSED WATERSHED 100

PROPOSED SUBAREA 102B

REFER TO EQUATION 3.4.3 IN SEDIMENTATION MANUAL-2nd EDITION MARCH 2006

For partially developed watersheds (see Figure 3.3.3):

$$Q_B = BF_{(A)} \times \left(\frac{Q_{(A)}\ A_u}{A}\right)\left(\frac{A_u}{A}\right) + BF_{(A_u)} \times \left(\frac{Q_{(A)}\ A_u}{A}\right)\left(\frac{A_d}{A}\right) + \left(\frac{Q_{(A)}\ A_d}{A}\right) \qquad \textbf{Equation 3.4.3}$$

Q=Burned Discharge	12.76	CFS	
$BF_{(A)}$	1.360	unitless	BF FOR DPA 8 (Total Area)
$BF_{(Au)}$	1.360	unitless	BF FOR DPA 8 (Undeveloped Area)
A	0.0061	SQ MI	Total Area
A_U	0.0047	SQ MI	Undeveloped Area
A_d	0.0014	SQ MI	Developed Area
Q=	16.30	CFS	

PROPOSED SUBAREA 107B

REFER TO EQUATION 3.4.3 IN SEDIMENTATION MANUAL-2nd EDITION MARCH 2006

Q=Burned Discharge	21.10	CFS	
$BF_{(A)}$	1.360	unitless	BF FOR DPA 8 (Total Area)
$BF_{(Au)}$	1.360	unitless	BF FOR DPA 8 (Undeveloped Area)
A	0.0166	SQ MI	Total Area
A_U	0.0060	SQ MI	Undeveloped Area
A_d	0.0106	SQ MI	Developed Area
Q=	23.85	CFS	

PROPOSED WATERSHED 200

PROPOSED SUBAREA 201A

REFER TO EQUATION 3.4.3 IN SEDIMENTATION MANUAL-2nd EDITION MARCH 2006

For partially developed watersheds (see Figure 3.3.3):

$$Q_B = BF_{(A)} \times \left(\frac{Q_{(A)}\ A_u}{A}\right)\left(\frac{A_u}{A}\right) + BF_{(A_u)} \times \left(\frac{Q_{(A)}\ A_u}{A}\right)\left(\frac{A_d}{A}\right) + \left(\frac{Q_{(A)}\ A_d}{A}\right) \qquad \textbf{Equation 3.4.3}$$

Q=Burned Discharge	11.51	CFS	
$BF_{(A)}$	1.360	unitless	BF FOR DPA 8 (Total Area)
$BF_{(Au)}$	1.360	unitless	BF FOR DPA 8 (Undeveloped Area)
A	0.0053	SQ MI	Total Area
A_U	0.0042	SQ MI	Undeveloped Area
A_d	0.0011	SQ MI	Developed Area
Q=	14.79	CFS	

PROPOSED SUBAREA 205B

REFER TO EQUATION 3.4.3 IN SEDIMENTATION MANUAL-2nd EDITION MARCH 2006

Q=Burned Discharge	30.46	CFS	
$BF_{(A)}$	1.360	unitless	BF FOR DPA 8 (Total Area)
$BF_{(Au)}$	1.360	unitless	BF FOR DPA 8 (Undeveloped Area)
A	0.0141	SQ MI	Total Area
A_U	0.0109	SQ MI	Undeveloped Area
A_d	0.0032	SQ MI	Developed Area
Q=	38.94	CFS	

PROPOSED SUBAREA 210D

REFER TO EQUATION 3.4.3 IN SEDIMENTATION MANUAL-2nd EDITION MARCH 2006

Q=Burned Discharge	21.32	CFS	
$BF_{(A)}$	1.360	unitless	BF FOR DPA 8 (Total Area)
$BF_{(Au)}$	1.360	unitless	BF FOR DPA 8 (Undeveloped Area)
A	0.0110	SQ MI	Total Area
A_U	0.0094	SQ MI	Undeveloped Area
A_d	0.0016	SQ MI	Developed Area
Q=	27.88	CFS	

PROPOSED SUBAREA 211D

REFER TO EQUATION 3.4.3 IN SEDIMENTATION MANUAL-2nd EDITION MARCH 2006

Q=Burned Discharge	29.85	CFS	
$BF_{(A)}$	1.360	unitless	BF FOR DPA 8 (Total Area)
$BF_{(Au)}$	1.360	unitless	BF FOR DPA 8 (Undeveloped Area)
A	0.0153	SQ MI	Total Area
A_U	0.0139	SQ MI	Undeveloped Area
A_d	0.0014	SQ MI	Developed Area
Q=	39.61	CFS	

PROPOSED WATERSHED 500

PROPOSED SUBAREA 501A

REFER TO EQUATION 3.4.3 IN SEDIMENTATION MANUAL-2nd EDITION MARCH 2006

For partially developed watersheds (see Figure 3.3.3):

$$Q_B = BF_{(A)} \times \left(\frac{Q_{(A)}\ A_u}{A}\right)\left(\frac{A_u}{A}\right) + BF_{(A_u)} \times \left(\frac{Q_{(A)}\ A_u}{A}\right)\left(\frac{A_d}{A}\right) + \left(\frac{Q_{(A)}\ A_d}{A}\right)$$

Equation 3.4.3

Q=Burned Discharge	66.65	CFS	
$BF_{(A)}$	1.360	unitless	BF FOR DPA 8 (Total Area)
$BF_{(Au)}$	1.360	unitless	BF FOR DPA 8 (Undeveloped Area)
A	0.0600	SQ MI	Total Area
A_U	0.0462	SQ MI	Undeveloped Area
A_d	0.0138	SQ MI	Developed Area
Q=	85.13	CFS	

PROPOSED SUBAREA 503B

REFER TO EQUATION 3.4.1 IN SEDIMENTATION MANUAL-2nd EDITION MARCH 2006

For single undeveloped watersheds (see Figure 3.3.1):

$$Q_B = BF_{(A)} \times Q_{(A)}$$

Equation 3.4.1

Q=Burned Discharge	6.20	CFS	
$BF_{(A)}$	1.360	unitless	BF FOR DPA 8 (Total Area)
Q=	8.43	CFS	

PROPOSED WATERSHED 600

PROPOSED SUBAREA 601A

REFER TO EQUATION 3.4.1 IN SEDIMENTATION MANUAL-2nd EDITION MARCH 2006

For single undeveloped watersheds (see Figure 3.3.1):

$$Q_B = BF_{(A)} \times Q_{(A)}$$ **Equation 3.4.1**

Q=Burned Discharge	12.69	CFS	
$BF_{(A)}$	1.360	unitless	BF FOR DPA 8 (Total Area)
Q=	17.26	CFS	

B-4: Hydraulic Method Results (WSPG)

B-4.1: Line “A” of PD 2637 & Line “B” of MTD 1764

```
T1 Magic Mountain Parkway DS 542                                                0
T2 SD Line A
T3 Entered by: W Lee 01/22/2014
SO      5.0001079.560  1                        1081.640
R      30.2101081.220  1      .013                              .000    .000 0
R      37.6001081.710  1      .013                              .240    .000 0
JX     37.6201081.710  1  2   .013    2.650         1082.380     -71.0        .001
R     320.0301100.260  1      .013                             9.173    .000 0
R     329.9001100.880  1      .013                              .322    .000 0
JX    329.9201100.880  1  3   .013    1.09          1101.930     -71.6        .001
R     486.8101109.040  1      .013                             5.119    .000 0
JX    486.8101109.040  1  3   .014    3.160         1109.780     -90.0        .001
R     542.4601112.066  1      .013                             3.402    .000 0
JX    542.4701112.068  1  2   .013    4.510         1112.800     -90.0        .001
R     668.7001118.900  1      .013                             2.535    .000 0
JX    668.7501118.930  1  3   .013    3.260         1119.930      90.0        .002
R     698.5201120.700  1      .013                             1.087    .000 0
JX    698.5201120.700  1  1   .013     .001         1121.000     -43.6        .002
R     759.6201123.970  1      .013                             1.896    .000 0
JX    927.5901131.268  1  2   .013     .001         1132.070     -69.8       5.466
R     996.8501134.310  1      .013                             2.283    .000 1
JX   1053.7401136.760  1  2   .013    2.130         1137.640      65.6     -36.847
JX   1108.9301139.200  1  2   .013    4.200         1140.390      44.2     -34.541
R    1134.0401140.370  1      .013                          -15.993    .000 0
R    1187.2101142.660  1      .013                              .000    .000 0
SH   1187.2101142.660  1                        1142.660
CD   1  4   1    .000   3.500     .000  .000  .000   .00
CD   2  4   1    .000   2.000     .000  .000  .000   .00
CD   3  4   1    .000   1.500     .000  .000  .000   .00
Q           170.700   .0
```

LINE B PER MTD 1764
LINE A PER PD 2637

Program Package Serial Number: 1656

WATER SURFACE PROFILE LISTING Date: 7- 3-2024 Time: 3:48: 3

Magic Mountain Parkway DS 542
SD Line A
Entered by: W Lee 01/22/2014

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
5.000	1079.560	2.299	1081.859	191.70	28.62	12.72	1094.58	.00	3.46	3.32	3.500	.000	.00	1 .0
25.210	.0658					.0613	1.54	2.30	3.55	2.25	.013	.00	.00	PIPE
30.210	1081.220	2.309	1083.528	191.70	28.48	12.59	1096.12	.05	3.46	3.32	3.500	.000	.00	1 .0
7.390	.0663					.0607	.45	2.36	3.52	2.24	.013	.00	.00	PIPE
37.600	1081.710	2.312	1084.022	191.70	28.43	12.55	1096.57	.00	3.46	3.31	3.500	.000	.00	1 .0
JUNCT STR	.0000					.0621	.00	2.36	3.51		.013	.00	.00	PIPE
37.620	1081.710	2.252	1083.962	189.05	28.89	12.96	1096.92	.05	3.45	3.35	3.500	.000	.00	1 .0
42.575	.0657					.0631	2.69	2.30	3.64	2.23	.013	.00	.00	PIPE
80.195	1084.506	2.261	1086.768	189.05	28.75	12.83	1099.60	.05	3.45	3.35	3.500	.000	.00	1 .0
166.019	.0657					.0592	9.84	2.31	3.61	2.23	.013	.00	.00	PIPE
246.214	1095.411	2.358	1097.770	189.05	27.41	11.67	1109.44	.04	3.45	3.28	3.500	.000	.00	1 .0
73.816	.0657					.0527	3.89	2.40	3.33	2.23	.013	.00	.00	PIPE
320.030	1100.260	2.463	1102.723	189.05	26.13	10.61	1113.33	.04	3.45	3.20	3.500	.000	.00	1 .0
9.870	.0628					.0493	.49	2.50	3.06	2.26	.013	.00	.00	PIPE
329.900	1100.880	2.479	1103.359	189.05	25.95	10.46	1113.82	.00	3.45	3.18	3.500	.000	.00	1 .0
JUNCT STR	.0000					.0493	.00	2.52	3.02		.013	.00	.00	PIPE
329.920	1100.880	2.450	1103.330	187.96	26.13	10.61	1113.94	.04	3.45	3.21	3.500	.000	.00	1 .0
156.890	.0520					.0477	7.49	2.49	3.08	2.41	.013	.00	.00	PIPE

Program Package Serial Number: 1656

WATER SURFACE PROFILE LISTING Date: 7- 3-2024 Time: 3:48: 3

Magic Mountain Parkway DS 542
SD Line A
Entered by: W Lee 01/22/2014

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
486.810	1109.040	2.535	1111.575	187.96	25.19	9.85	1121.43	.00	3.45	3.13	3.500	.000	.00	1 .0
JUNCT STR	.0000					.0545	.00	2.60	2.87		.014	.00	.00	PIPE
486.810	1109.040	2.447	1111.487	184.80	25.73	10.28	1121.76	.07	3.45	3.21	3.500	.000	.00	1 .0
55.650	.0544					.0470	2.62	2.52	3.03	2.34	.013	.00	.00	PIPE
542.460	1112.066	2.499	1114.565	184.80	25.14	9.82	1124.38	.00	3.45	3.16	3.500	.000	.00	1 .0
JUNCT STR	.1963					.0477	.00	2.52	2.91		.013	.00	.00	PIPE
542.470	1112.068	2.376	1114.444	180.29	25.93	10.44	1124.88	.02	3.45	3.27	3.500	.000	.00	1 .0
15.236	.0541					.0495	.75	2.40	3.13	2.30	.013	.00	.00	PIPE
557.706	1112.893	2.384	1115.277	180.29	25.83	10.36	1125.63	.02	3.45	3.26	3.500	.000	.00	1 .0
110.994	.0541					.0466	5.17	2.41	3.11	2.30	.013	.00	.00	PIPE
668.700	1118.900	2.490	1121.390	180.29	24.63	9.42	1130.81	.00	3.45	3.17	3.500	.000	.00	1 .0
JUNCT STR	.6007					.0453	.00	2.53	2.86		.013	.00	.00	PIPE
668.750	1118.930	2.401	1121.331	177.03	25.16	9.83	1131.16	.04	3.44	3.25	3.500	.000	.00	1 .0
29.770	.0595					.0452	1.35	2.44	3.01	2.20	.013	.00	.00	PIPE
698.520	1120.700	2.456	1123.156	177.03	24.54	9.35	1132.51	.03	3.44	3.20	3.500	.000	.00	1 .0
61.100	.0535					.0416	2.54	2.49	2.88	2.28	.013	.00	.00	PIPE
759.620	1123.970	2.567	1126.536	177.03	23.41	8.51	1135.05	.03	3.44	3.10	3.500	.000	.00	1 .0
JUNCT STR	.0434					.0353	5.94	2.60	2.64		.013	.00	.00	PIPE

Program Package Serial Number: 1656

WATER SURFACE PROFILE LISTING Date: 7- 3-2024 Time: 3:48: 3

Magic Mountain Parkway DS 542
SD Line A
Entered by: W Lee 01/22/2014

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
927.590	1131.268	2.846	1134.114	177.03	21.13	6.93	1141.05	.02	3.44	2.73	3.500	.000	.00	1 .0
28.819	.0439					.0303	.87	2.87	2.12	2.46	.013	.00	.00	PIPE
956.409	1132.534	2.973	1135.507	177.03	20.32	6.41	1141.92	.02	3.44	2.50	3.500	.000	.00	1 .0
25.269	.0439					.0282	.71	2.99	1.92	2.46	.013	.00	.00	PIPE
981.678	1133.644	3.158	1136.802	177.03	19.37	5.83	1142.63	.01	3.44	2.08	3.500	.000	.00	1 .0
15.172	.0439					.0276	.42	3.17	1.63	2.46	.013	.00	.00	PIPE
996.850	1134.310	3.440	1137.750	177.03	18.47	5.30	1143.05	3.50	3.44	.91	3.500	.000	.00	1 .0
JUNCT STR	.0431							3.50	1.00		.013	.00	.00	PIPE
1053.740	1136.760	3.438	1140.198	174.90	18.25	5.17	1145.37	3.50	3.44	.93	3.500	.000	.00	1 .0
JUNCT STR	.0442							3.50	1.00		.013	.00	.00	PIPE
1108.930	1139.200	2.746	1141.946	170.70	21.08	6.90	1148.85	.44	3.43	2.88	3.500	.000	.00	1 .0
25.110	.0466					.0301	.76	3.19	2.22	2.34	.013	.00	.00	PIPE
1134.040	1140.370	2.864	1143.234	170.70	20.25	6.37	1149.60	.00	3.43	2.70	3.500	.000	.00	1 .0
19.457	.0431					.0280	.55	2.86	2.02	2.41	.013	.00	.00	PIPE
1153.497	1141.208	2.970	1144.178	170.70	19.61	5.97	1150.15	.00	3.43	2.51	3.500	.000	.00	1 .0
21.315	.0431					.0262	.56	2.97	1.86	2.41	.013	.00	.00	PIPE
1174.812	1142.126	3.154	1145.280	170.70	18.70	5.43	1150.71	.00	3.43	2.09	3.500	.000	.00	1 .0
12.398	.0431					.0256	.32	3.15	1.58	2.41	.013	.00	.00	PIPE

Program Package Serial Number: 1656

WATER SURFACE PROFILE LISTING Date: 7- 3-2024 Time: 3:48: 3

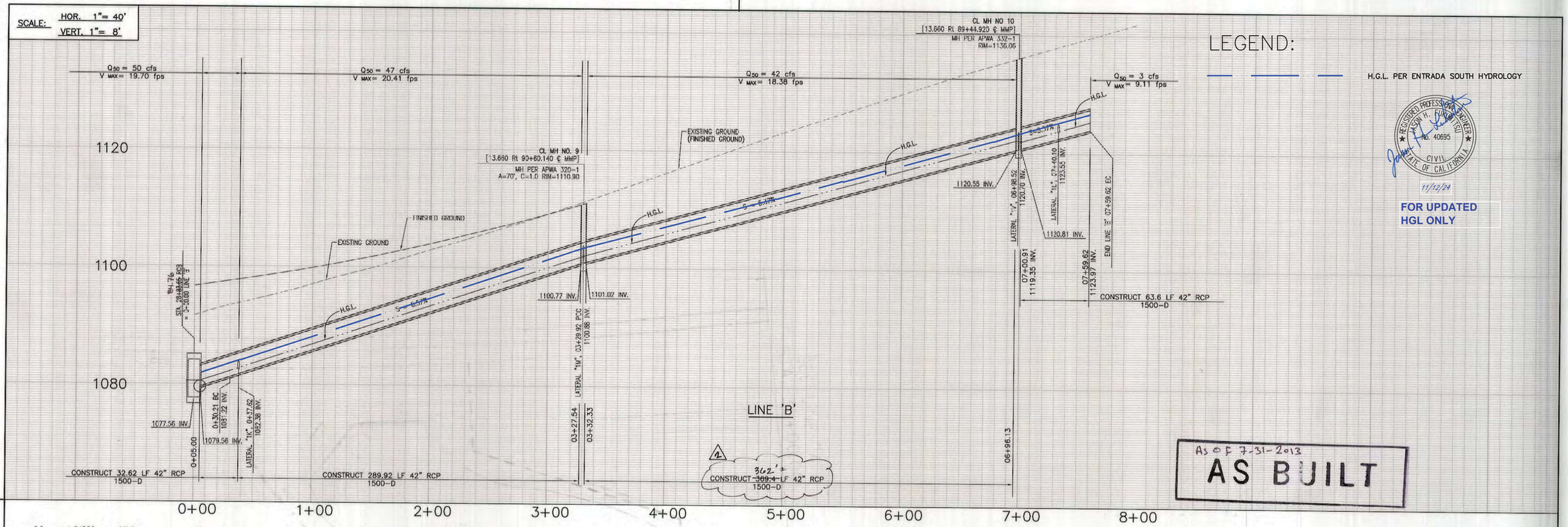
Magic Mountain Parkway DS 542

SD Line A

Entered by: W Lee 01/22/2014

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
1187.210	1142.660	3.431	1146.091	170.70	17.82	4.93	1151.03	.00	3.43	.97	3.500	.000	.00	1 .0

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



LEGEND:

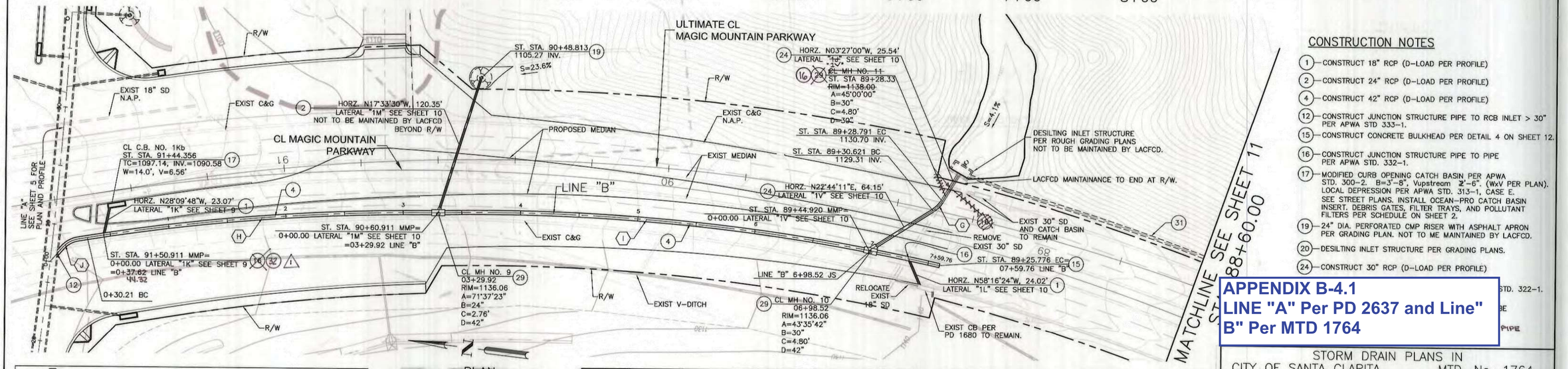
H.G.L. PER ENTRADA SOUTH HYDROLOGY

REGISTERED PROFESSIONAL ENGINEER
JASON H. FUKUMITSU
No. 40695
CIVIL
STATE OF CALIFORNIA

11/12/24

FOR UPDATED HGL ONLY

AS OF 7-31-2013
AS BUILT



CONSTRUCTION NOTES

1. CONSTRUCT 18" RCP (D-LOAD PER PROFILE)
2. CONSTRUCT 24" RCP (D-LOAD PER PROFILE)
4. CONSTRUCT 42" RCP (D-LOAD PER PROFILE)
12. CONSTRUCT JUNCTION STRUCTURE PIPE TO RCB INLET > 30" PER APWA STD 333-1.
15. CONSTRUCT CONCRETE BULKHEAD PER DETAIL 4 ON SHEET 12.
16. CONSTRUCT JUNCTION STRUCTURE PIPE TO PIPE PER APWA STD. 332-1.
17. MODIFIED CURB OPENING CATCH BASIN PER APWA STD. 300-2. B=3'-8", Vupstream 2'-6". (WxV PER PLAN). LOCAL DEPRESSION PER APWA STD. 313-1, CASE E. SEE STREET PLANS. INSTALL OCEAN-PRO CATCH BASIN INSERT. DEBRIS GATES, FILTER TRAYS, AND POLLUTANT FILTERS PER SCHEDULE ON SHEET 2.
19. 24" DIA. PERFORATED CMP RISER WITH ASPHALT APRON PER GRADING PLAN. NOT TO ME MAINTAINED BY LACFCD.
20. DESILTING INLET STRUCTURE PER GRADING PLANS.
24. CONSTRUCT 30" RCP (D-LOAD PER PROFILE)

APPENDIX B-4.1
LINE "A" Per PD 2637 and Line" B" Per MTD 1764

Curve Data

CURVE	RADIUS	LENGTH	TANGENT	DELTA
G	25.00'	11.330'	5.764'	25°58'01"
H	1764.00'	299.715'	150.219'	09°44'06"
I	1754.929'	429.836'	215.999'	14°02'01"
J	22.50'	15.46'	8.05'	39°22'14"
K	11.25'	5.63'	2.87'	28°39'21"
L	1830.24'	414.77'	208.28'	12°59'04"

PLAN
SCALE: 1" = 40'
40' 20' 0' 40' 80'
GRAPHIC SCALE

APPROVED FOR CONSTRUCTION BY:
ROBERT G. NEWMAN, P.E., L.S.
DIRECTOR OF PUBLIC WORKS
CITY OF SANTA CLARITA
for PGN 6-7-06
DATE

NO.	REVISIONS	REVISED BY	APPROVED BY	DATE
1	REVISED JUNCTION STRUCTURE	8/29/07		9-12-07
2	AS-BUILT REVISION FROM INSPECTOR FIELD NOTES	1/20/2010		2-22-10

REGISTERED PROFESSIONAL ENGINEER
JON M. AUSTIN
RCE 58726
Exp. 03/31/07
CIVIL
STATE OF CALIFORNIA
PROJECT ENGINEER 5-31-06
DATE

MetroPointe Engineers
3555 Harbor Gateway South, Suite A
Costa Mesa, CA 92626
(714) 438-1095

STORM DRAIN PLANS IN
CITY OF SANTA CLARITA MTD. No. 1764
CITY OF SANTA CLARITA

STORM DRAIN PLAN AND PROFILE
MTD NO. 1764
SYSTEM "B"

DWG | SHEET 7 OF 21

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

LEGEND:

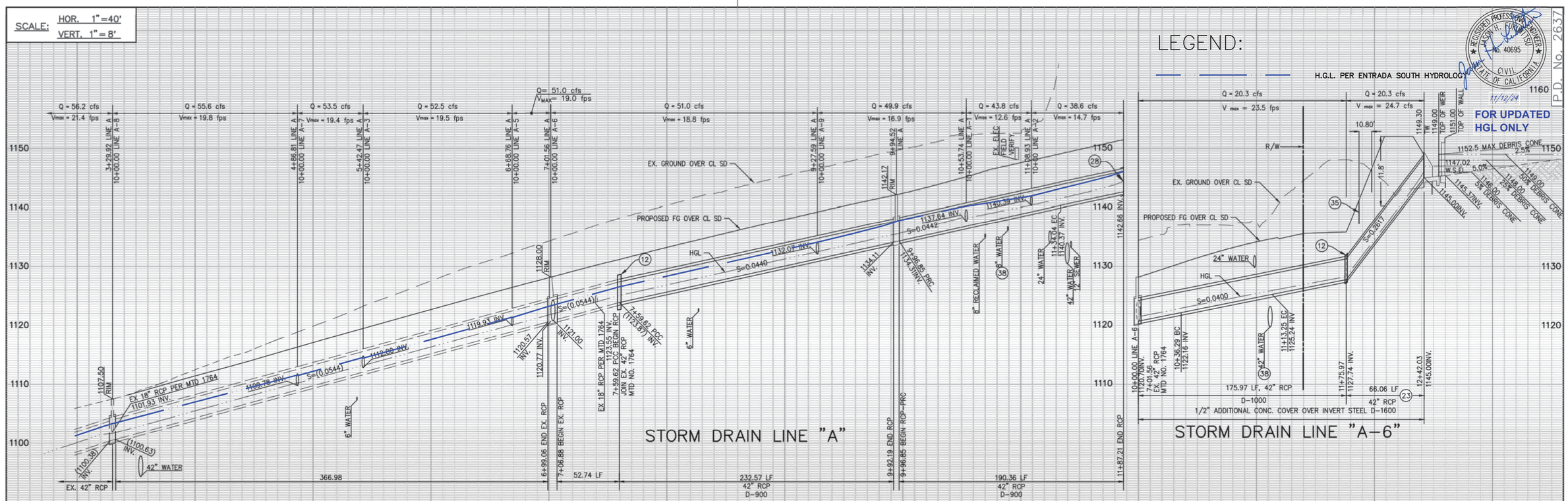
H.G.L. PER ENTRADA SOUTH HYDROLOGY

FOR UPDATED HGL ONLY

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA
11/12/24

P.D. No. 2637

DDN No. 43-F551



CONSTRUCTION NOTES:

1. CONSTRUCT 18" RCP (D-LOAD PER PROFILE)
2. CONSTRUCT 24" RCP (D-LOAD PER PROFILE)
5. CONSTRUCT 42" RCP (D-LOAD PER PROFILE)
7. CONSTRUCT JUNCTION STRUCTURE PIPE TO PIPE PER SPPWC STD. 331-3.
8. CONSTRUCT MANHOLE PIPE TO PIPE PER SPPWC STD. 322-2.
9. CONSTRUCT CURB OPENING CATCH BASIN PER SPPWC STD. 300-3 AND LOCAL DEPRESSION PER SPPWC STANDARD PLAN 313-3, PER STREET PLAN. INSTALL AUTOMATIC RETRACTABLE SCREEN (ARS) AND CONNECTOR PIPE SCREEN PER DETAIL SHEET 12.
12. CONSTRUCT CONCRETE COLLAR FOR RCP PER SPPWC STD. 380-4.
23. PROVIDE RUBBER GA… TRANSITION (3 JOINT…
28. CONSTRUCT BRICK A…
29. CONSTRUCT CLEANOU…
33. CONSTRUCT MANHOLE… STD. 320-2.
35. CONSTRUCT BACKFILL…
38. CONSTRUCT CONCRETE BLANKET PER SPPWC 225-2

GRAPHIC SCALE: 1" = 40'

JUNCTION STRUCTURE TABLE

LINE #	A	B	C	D	EL S	EL R
A-1	65°35'	24"	2.26'	42"	1137.64	1137.75
A-2	44°11'	18"	3.22'	42"	1140.30	1140.70
					112.80	1113.02
					140.88	1140.95
					119.93	1119.99
					109.78	1110.12
					132.07	1132.20

APPENDIX B-4.1
LINE "A" Per PD 2637 and Line" B" Per MTD 1764

Line Table		
Line #	Length	Bearing
L1	53.17'	N11° 52' 12"W
L2	138.13'	N79° 21' 38"W
L3	105.89'	N49° 35' 06"E
L4	138.71'	N27° 44' 55"W
L5	47.93'	S25° 33' 05"E
L6	~~57.15'~~ 12.30'	N40° 12' 41"E

Line Table		
Line #	Length	Bearing
L7	55.61'	N16° 51' 31"E
L8	36.29'	N22° 34' 09"E
L9	128.77'	N26° 25' 37"W
L10	48.82'	N31° 11' 51"W
L11	152.83'	N03° 31' 53"E

Curve Table				
Curve #	Length	Radius	Delta	Tangent
C1	237.23'	1754.99'	007°44'42"	118.80'
C2	137.20'	90.00'	087°20'34"	85.92'
C3	13.52'	22.50'	034°25'01"	6.97'
C4	76.96'	90.00'	048°59'46"	41.01'
C5	15.27'	90.00'	09°43'17"	7.65'

Line Table		
Line #	Length	Bearing
L12	40.91'	N 49°55'59" E

GRAPHIC SCALE: 1" = 40'

REVIEWED LAND DEVELOPMENT DIVISION
BY STORM DRAIN SECTION 08/13/2018 DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
2	REVISED LINE A4 PER RELOCATED CATCH BASIN	Jason H Fukumitsu		5/28/19

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA
8/10/18 JASON H. FUKUMITSU DATE

STORM DRAIN PLANS IN
DS 542 P.D. No. 2637
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 ▪ Valencia, CA 91355 ▪ PH: (661) 294-2211 ▪ FX: (661) 294-9890

DWG

SHEET 3 OF 17

G:\Newhall Ranch\61105 Mission Village\61105-01\Storm\PD 2637\HMV102-03 - Sheet 3.dwg Plotted On Jun 27, 2018 - 5:35pm by dinar

B-4.2: Line “A” of MTD 1764

```
T1 MTD 1764                                                                  0
T2 LINE A
T3 BY Rip Rap Outlet Structure
SO   1122.2821037.270  2                        1039.770
R    1174.4101038.320  2      .040                                 .000    .000 0
TS   1200.0001042.125  1      .040                                 .000
R    1288.6801055.310  1      .040                                 .000
TS   1308.6901059.060  3      .013                                 .000
R    1308.7001059.082  3      .013                                 .000
TS   1308.7101059.084  3      .013                                 .000
R    1339.8901059.290  3      .013                                 .000    .000 0
R    1616.5501060.670  3      .013                               -9.656    .000 0
JX   1683.1901061.000  3  4   .013   48.000         1063.370         84.0        .000
R    1720.1201061.190  3      .013                                 .000    .000 0
R    1983.4001062.510  3      .013                               -9.196    .000 1
R    2043.4701062.810  3      .013                                 .000    .000 0
R    2180.4301063.490  3      .013                                4.784    .000 0
R    2236.7901064.110  3      .013                                1.969    .000 1
R    2486.2201066.830  3      .013                               -3.930    .000 0
TS   2496.0601066.930  5      .013                               -0.155
JX   2884.7601077.680  5  6   .013  197.100         1079.560         45.0       -6.124
R    3378.6101091.310  5      .013                               -7.781    .000 0
JX   3441.0901091.940  5  7   .013   78.700         1092.150         45.0        -.983
R    3849.3901096.030  5      .013                               -6.432    .000 0
JX   4044.6801097.990  5  9   .013   10.000         1099.880        -90.0       11.189
R    4084.0001098.380  5      .013                                2.253    .000 0
SH   4084.0001098.380  5                        1098.300
CD   1  1   0    .000   3.000   10.000 2.000 2.000   .00
CD   2  1   0    .000   1.000   58.00074.50074.500   .00
CD   3  3   0    .000   8.000   10.000  .000  .000   .00
CD   4  4   1    .000   3.000     .000  .000  .000   .00
CD   5  3   0    .000   7.000   10.000  .000  .000   .00
CD   6  4   1    .000   3.500     .000  .000  .000   .00
CD   7  4   1    .000   4.500     .000  .000  .000   .00
CD   8  4   1    .000   1.500     .000  .000  .000   .00
CD   9  4   1    .000   2.000     .000  .000  .000   .00
Q          1006.000   .0
```

MTD 1764
LINE A
BY Rip Rap Outlet Structure

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
1122.282	1037.270	2.500	1039.770	1339.80	2.19	.07	1039.84	.00	1.48	430.50	1.000	58.000	****	0 .0
3.331	.0201					.0023	.01	2.50	.32	1.54	.040	.00	****	TRAP
1125.613	1037.337	2.433	1039.770	1339.80	2.30	.08	1039.85	.00	1.48	420.55	1.000	58.000	****	0 .0
3.257	.0201					.0027	.01	2.43	.34	1.54	.040	.00	****	TRAP
1128.871	1037.403	2.368	1039.771	1339.80	2.41	.09	1039.86	.00	1.48	410.84	1.000	58.000	****	0 .0
3.187	.0201					.0030	.01	2.37	.37	1.54	.040	.00	****	TRAP
1132.057	1037.467	2.304	1039.771	1339.80	2.53	.10	1039.87	.00	1.48	401.36	1.000	58.000	****	0 .0
3.120	.0201					.0034	.01	2.30	.39	1.54	.040	.00	****	TRAP
1135.177	1037.530	2.242	1039.772	1339.80	2.65	.11	1039.88	.00	1.48	392.11	1.000	58.000	****	0 .0
3.056	.0201					.0039	.01	2.24	.41	1.54	.040	.00	****	TRAP
1138.234	1037.591	2.182	1039.773	1339.80	2.78	.12	1039.89	.00	1.48	383.08	1.000	58.000	****	0 .0
2.997	.0201					.0044	.01	2.18	.44	1.54	.040	.00	****	TRAP
1141.231	1037.652	2.123	1039.774	1339.80	2.92	.13	1039.91	.00	1.48	374.27	1.000	58.000	****	0 .0
2.943	.0201					.0050	.01	2.12	.46	1.54	.040	.00	****	TRAP
1144.174	1037.711	2.065	1039.776	1339.80	3.06	.15	1039.92	.00	1.48	365.67	1.000	58.000	****	0 .0
2.895	.0201					.0057	.02	2.06	.49	1.54	.040	.00	****	TRAP
1147.068	1037.769	2.009	1039.778	1339.80	3.21	.16	1039.94	.00	1.48	357.28	1.000	58.000	****	0 .0
2.854	.0201					.0065	.02	2.01	.52	1.54	.040	.00	****	TRAP

MTD 1764
LINE A
BY Rip Rap Outlet Structure

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
1149.922	1037.827	1.954	1039.781	1339.80	3.37	.18	1039.96	.00	1.48	349.09	1.000	58.000	****	0 .0
2.822	.0201					.0074	.02	1.95	.56	1.54	.040	.00	****	TRAP
1152.744	1037.884	1.900	1039.784	1339.80	3.53	.19	1039.98	.00	1.48	341.10	1.000	58.000	****	0 .0
2.804	.0201					.0084	.02	1.90	.59	1.54	.040	.00	****	TRAP
1155.548	1037.940	1.848	1039.788	1339.80	3.71	.21	1040.00	.00	1.48	333.31	1.000	58.000	****	0 .0
2.441	.0201					.0095	.02	1.85	.63	1.54	.040	.00	****	TRAP
1157.989	1037.990	1.802	1039.792	1339.80	3.87	.23	1040.02	.00	1.48	326.53	1.000	58.000	****	0 .0
HYDRAULIC JUMP														
1157.989	1037.990	1.196	1039.186	1339.80	7.61	.90	1040.09	.00	1.48	236.24	1.000	58.000	****	0 .0
.755	.0201					.0647	.05	1.20	1.55	1.54	.040	.00	****	TRAP
1158.744	1038.004	1.175	1039.179	1339.80	7.84	.95	1040.13	.00	1.48	233.02	1.000	58.000	****	0 .0
1.176	.0201					.0719	.08	1.17	1.61	1.54	.040	.00	****	TRAP
1159.920	1038.028	1.140	1039.168	1339.80	8.22	1.05	1040.22	.00	1.48	227.88	1.000	58.000	****	0 .0
1.155	.0201					.0819	.09	1.14	1.71	1.54	.040	.00	****	TRAP
1161.075	1038.051	1.106	1039.158	1339.80	8.62	1.15	1040.31	.00	1.48	222.87	1.000	58.000	****	0 .0
1.132	.0201					.0931	.11	1.11	1.82	1.54	.040	.00	****	TRAP
1162.207	1038.074	1.074	1039.148	1339.80	9.04	1.27	1040.42	.00	1.48	217.98	1.000	58.000	****	0 .0
1.106	.0201					.1060	.12	1.07	1.93	1.54	.040	.00	****	TRAP

MTD 1764
LINE A
BY Rip Rap Outlet Structure

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
1163.313	1038.096	1.042	1039.138	1339.80	9.48	1.40	1040.53	.00	1.48	213.21	1.000	58.000	****	0 .0
1.079	.0201					.1207	.13	1.04	2.05	1.54	.040	.00	****	TRAP
1164.393	1038.118	1.011	1039.129	1339.80	9.95	1.54	1040.67	.00	1.48	208.57	1.000	58.000	****	0 .0
1.052	.0201					.1373	.14	1.01	2.18	1.54	.040	.00	****	TRAP
1165.444	1038.139	.980	1039.120	1339.80	10.43	1.69	1040.81	.00	1.48	204.04	1.000	58.000	****	0 .0
1.023	.0201					.1564	.16	.98	2.32	1.54	.040	.00	****	TRAP
1166.468	1038.160	.951	1039.111	1339.80	10.94	1.86	1040.97	.00	1.48	199.63	1.000	58.000	****	0 .0
.995	.0201					.1780	.18	.95	2.46	1.54	.040	.00	****	TRAP
1167.463	1038.180	.922	1039.102	1339.80	11.48	2.05	1041.15	.00	1.48	195.33	1.000	58.000	****	0 .0
.966	.0201					.2027	.20	.92	2.62	1.54	.040	.00	****	TRAP
1168.429	1038.199	.894	1039.093	1339.80	12.04	2.25	1041.34	.00	1.48	191.14	1.000	58.000	****	0 .0
.938	.0201					.2309	.22	.89	2.78	1.54	.040	.00	****	TRAP
1169.366	1038.218	.866	1039.085	1339.80	12.62	2.47	1041.56	.00	1.48	187.06	1.000	58.000	****	0 .0
.909	.0201					.2630	.24	.87	2.95	1.54	.040	.00	****	TRAP
1170.276	1038.237	.839	1039.076	1339.80	13.24	2.72	1041.80	.00	1.48	183.08	1.000	58.000	****	0 .0
.881	.0201					.2995	.26	.84	3.14	1.54	.040	.00	****	TRAP
1171.157	1038.254	.813	1039.068	1339.80	13.89	2.99	1042.06	.00	1.48	179.21	1.000	58.000	****	0 .0
.854	.0201					.3413	.29	.81	3.34	1.54	.040	.00	****	TRAP

MTD 1764
LINE A
BY Rip Rap Outlet Structure

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
1172.010	1038.272	.788	1039.060	1339.80	14.56	3.29	1042.35	.00	1.48	175.44	1.000	58.000	****	0 .0
.826	.0201					.3889	.32	.79	3.54	1.54	.040	.00	****	TRAP
1172.837	1038.288	.764	1039.052	1339.80	15.27	3.62	1042.67	.00	1.48	171.76	1.000	58.000	****	0 .0
.800	.0201					.4432	.35	.76	3.77	1.54	.040	.00	****	TRAP
1173.636	1038.304	.739	1039.044	1339.80	16.02	3.99	1043.03	.00	1.48	168.18	1.000	58.000	****	0 .0
.774	.0201					.5051	.39	.74	4.00	1.54	.040	.00	****	TRAP
1174.410	1038.320	.716	1039.036	1339.80	16.80	4.38	1043.42	.00	1.48	164.70	1.000	58.000	****	0 .0
TRANS STR	.1487					.3461	8.86	.72	4.26		.040	.00	****	TRAP
1200.000	1042.125	3.279	1045.404	1339.80	24.68	9.46	1054.86	.00	5.71	23.11	3.000	10.000	2.00	0 .0
41.259	.1487					.1607	6.63	3.28	2.84	3.31	.040	.00	2.00	TRAP
1241.259	1048.259	3.210	1051.469	1339.80	25.42	10.03	1061.50	.00	5.71	22.84	3.000	10.000	2.00	0 .0
29.483	.1487					.1790	5.28	3.21	2.95	3.31	.040	.00	2.00	TRAP
1270.742	1052.643	3.102	1055.745	1339.80	26.66	11.04	1066.78	.00	5.71	22.41	3.000	10.000	2.00	0 .0
17.938	.1487					.2043	3.67	3.10	3.14	3.31	.040	.00	2.00	TRAP
1288.680	1055.310	2.996	1058.306	1339.80	27.96	12.14	1070.45	.00	5.71	21.99	3.000	10.000	2.00	0 .0
TRANS STR	.1874					.0142	.28	3.00	3.34		.013	.00	2.00	TRAP
1308.690	1059.060	7.642	1066.702	1339.80	17.53	4.77	1071.47	.00	8.00	10.00	8.000	10.000	.00	0 .0
.010	2.1951					.0053	.00	7.64	1.12	.93	.013	.00	.00	BOX

---------- WARNING - Flow depth near top of box conduit ----------

MTD 1764
LINE A
BY Rip Rap Outlet Structure

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
1308.700	1059.082	7.739	1066.821	1339.80	17.31	4.65	1071.47	.00	8.00	10.00	8.000	10.000	.00	0 .0
TRANS STR	.1951					.0053	.00	7.74	1.10		.013	.00	.00	BOX
		WARNING - Flow depth near top of box conduit												
1308.710	1059.084	7.646	1066.730	1339.80	17.52	4.77	1071.50	.00	8.00	10.00	8.000	10.000	.00	0 .0
31.180	.0066					.0052	.16	7.65	1.12	7.05	.013	.00	.00	BOX
		WARNING - Flow depth near top of box conduit												
1339.890	1059.290	7.876	1067.167	1339.80	17.01	4.49	1071.66	.05	8.00	10.00	8.000	10.000	.00	0 .0
128.605	.0050					.0050	.64	7.93	1.07	7.88	.013	.00	.00	BOX
		WARNING - Flow depth near top of box conduit												
1468.495	1059.932	7.876	1067.808	1339.80	17.01	4.49	1072.30	.05	8.00	10.00	8.000	10.000	.00	0 .0
148.055	.0050					.0049	.72	7.93	1.07	7.88	.013	.00	.00	BOX
		WARNING - Flow depth near top of box conduit												

MTD 1764
LINE A
BY Rip Rap Outlet Structure

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
1616.550	1060.670	8.000	1068.670	1339.80	16.75	4.36	1073.03	.00	8.00	10.00	8.000	10.000	.00	0 .0
JUNCT STR	.0050					.0069	.46	8.00	1.04		.013	.00	.00	BOX
				---------- WARNING - Flow depth near top of box conduit ----------										
1683.190	1061.000	8.659	1069.659	1291.80	16.15	4.05	1073.71	.00	8.00	10.00	8.000	10.000	.00	0 .0
36.930	.0051					.0069	.25	8.66	1.01	7.56	.013	.00	.00	BOX
1720.120	1061.190	8.723	1069.913	1291.80	16.15	4.05	1073.96	.00	8.00	10.00	8.000	10.000	.00	0 .0
263.280	.0050					.0069	1.81	.00	1.01	7.64	.013	.00	.00	BOX
1983.400	1062.510	9.676	1072.186	1291.80	16.15	4.05	1076.23	.00	8.00	10.00	8.000	10.000	.00	0 .0
60.070	.0050					.0069	.41	9.68	1.01	7.65	.013	.00	.00	BOX
2043.470	1062.810	9.789	1072.599	1291.80	16.15	4.05	1076.65	.00	8.00	10.00	8.000	10.000	.00	0 .0
136.960	.0050					.0069	.94	.00	1.01	7.67	.013	.00	.00	BOX
2180.430	1063.490	10.239	1073.729	1291.80	16.15	4.05	1077.78	.00	8.00	10.00	8.000	10.000	.00	0 .0
56.360	.0110					.0069	.39	.00	1.01	5.63	.013	.00	.00	BOX
2236.790	1064.110	10.329	1074.439	1291.80	16.15	4.05	1078.49	.00	8.00	10.00	8.000	10.000	.00	0 .0
54.299	.0109					.0069	.37	.00	1.01	5.65	.013	.00	.00	BOX
2291.089	1064.702	10.146	1074.848	1291.80	16.15	4.05	1078.90	.00	8.00	10.00	8.000	10.000	.00	0 .0
HYDRAULIC JUMP														

MTD 1764
LINE A
BY Rip Rap Outlet Structure

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
2291.089	1064.702	5.140	1069.842	1291.80	25.13	9.81	1079.65	.05	8.00	10.00	8.000	10.000	.00	0 .0
13.207	.0109					.0140	.19	5.19	1.95	5.65	.013	.00	.00	BOX
2304.297	1064.846	5.132	1069.978	1291.80	25.17	9.84	1079.82	.05	8.00	10.00	8.000	10.000	.00	0 .0
181.923	.0109					.0150	2.73	5.19	1.96	5.65	.013	.00	.00	BOX
2486.220	1066.830	4.893	1071.723	1291.80	26.40	10.82	1082.55	.06	8.00	10.00	8.000	10.000	.00	0 .0
TRANS STR	.0102					.0161	.16	4.95	2.10		.013	.00	.00	BOX
2496.060	1066.930	4.869	1071.799	1291.80	26.53	10.93	1082.73	.06	7.00	10.00	7.000	10.000	.00	0 .0
JUNCT STR	.0277					.0193	7.50	4.93	2.12		.013	.00	.00	BOX
2884.760	1077.680	3.821	1081.501	1094.70	28.65	12.74	1094.24	.07	7.00	10.00	7.000	10.000	.00	0 .0
.675	.0276					.0224	.02	3.89	2.58	3.54	.013	.00	.00	BOX
2885.436	1077.699	3.822	1081.521	1094.70	28.64	12.74	1094.26	.07	7.00	10.00	7.000	10.000	.00	0 .0
147.809	.0276					.0210	3.11	3.89	2.58	3.54	.013	.00	.00	BOX
3033.244	1081.778	4.009	1085.787	1094.70	27.31	11.58	1097.37	.06	7.00	10.00	7.000	10.000	.00	0 .0
93.706	.0276					.0185	1.73	4.07	2.40	3.54	.013	.00	.00	BOX
3126.950	1084.364	4.204	1088.569	1094.70	26.04	10.53	1099.10	.06	7.00	10.00	7.000	10.000	.00	0 .0
65.988	.0276					.0162	1.07	4.26	2.24	3.54	.013	.00	.00	BOX
3192.938	1086.186	4.409	1090.595	1094.70	24.83	9.57	1100.17	.05	7.00	10.00	7.000	10.000	.00	0 .0
49.028	.0276					.0142	.70	4.46	2.08	3.54	.013	.00	.00	BOX

MTD 1764
LINE A
BY Rip Rap Outlet Structure

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
3241.966	1087.539	4.625	1092.163	1094.70	23.67	8.70	1100.86	.05	7.00	10.00	7.000	10.000	.00	0 .0
37.503	.0276					.0125	.47	4.67	1.94	3.54	.013	.00	.00	BOX
3279.469	1088.574	4.850	1093.424	1094.70	22.57	7.91	1101.33	.04	7.00	10.00	7.000	10.000	.00	0 .0
29.104	.0276					.0110	.32	4.89	1.81	3.54	.013	.00	.00	BOX
3308.573	1089.377	5.087	1094.464	1094.70	21.52	7.19	1101.65	.04	7.00	10.00	7.000	10.000	.00	0 .0
22.666	.0276					.0097	.22	5.13	1.68	3.54	.013	.00	.00	BOX
3331.239	1090.003	5.335	1095.338	1094.70	20.52	6.54	1101.88	.04	7.00	10.00	7.000	10.000	.00	0 .0
17.538	.0276					.0086	.15	5.37	1.57	3.54	.013	.00	.00	BOX
3348.776	1090.487	5.596	1096.082	1094.70	19.56	5.94	1102.03	.03	7.00	10.00	7.000	10.000	.00	0 .0
13.326	.0276					.0076	.10	5.63	1.46	3.54	.013	.00	.00	BOX
3362.102	1090.854	5.869	1096.723	1094.70	18.65	5.40	1102.13	.03	7.00	10.00	7.000	10.000	.00	0 .0
9.779	.0276					.0067	.07	5.90	1.36	3.54	.013	.00	.00	BOX
3371.882	1091.124	6.155	1097.280	1094.70	17.78	4.91	1102.19	.03	7.00	10.00	7.000	10.000	.00	0 .0
6.729	.0276					.0059	.04	6.18	1.26	3.54	.013	.00	.00	BOX
3378.610	1091.310	6.456	1097.766	1094.70	16.96	4.46	1102.23	.02	7.00	10.00	7.000	10.000	.00	0 .0
JUNCT STR	.0101					.0074	.47	6.48	1.18		.013	.00	.00	BOX

---------- WARNING - Flow depth near top of box conduit ----------

MTD 1764
LINE A
BY Rip Rap Outlet Structure

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
3441.090	1091.940	4.990	1096.929	1016.00	20.36	6.44	1103.37	.04	6.85	10.00	7.000	10.000	.00	0 .0
9.246	.0100					.0094	.09	5.02	1.61	4.87	.013	.00	.00	BOX
3450.336	1092.033	4.993	1097.026	1016.00	20.35	6.43	1103.45	.04	6.85	10.00	7.000	10.000	.00	0 .0
277.644	.0100					.0088	2.44	5.03	1.60	4.87	.013	.00	.00	BOX
3727.980	1094.814	5.237	1100.051	1016.00	19.40	5.84	1105.90	.03	6.85	10.00	7.000	10.000	.00	0 .0
121.410	.0100					.0077	.94	5.27	1.49	4.87	.013	.00	.00	BOX
3849.390	1096.030	5.493	1101.523	1016.00	18.50	5.31	1106.84	.11	6.85	10.00	7.000	10.000	.00	0 .0
JUNCT STR	.0100					.0065	1.27	5.60	1.39		.013	.00	.00	BOX
4044.680	1097.990	5.957	1103.946	1006.00	16.89	4.43	1108.38	.09	6.80	10.00	7.000	10.000	.00	0 .0
20.599	.0099					.0055	.11	6.05	1.22	4.85	.013	.00	.00	BOX
4065.279	1098.194	6.181	1104.375	1006.00	16.28	4.11	1108.49	.08	6.80	10.00	7.000	10.000	.00	0 .0
14.480	.0099					.0049	.07	6.26	1.15	4.85	.013	.00	.00	BOX
4079.759	1098.338	6.482	1104.820	1006.00	15.52	3.74	1108.56	.07	6.80	10.00	7.000	10.000	.00	0 .0
4.241	.0099					.0044	.02	6.56	1.07	4.85	.013	.00	.00	BOX
		---------- WARNING - Flow depth near top of box conduit ----------												
4084.000	1098.380	6.800	1105.180	1006.00	14.79	3.40	1108.58	.07	6.80	10.00	7.000	10.000	.00	0 .0

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

Q_{50} = 1180 cfs
V_{MAX} = 32.56 fps

Q_{50} = 1180 cfs
V_{MAX} = 15.63 fps

Q_{50} = 1132 cfs
V_{MAX} = 14.19 fps

SANTA CLARA RIVER

HGL SANTA CLARA RIVER

ELEV 1070.0'

PROVIDE SUPPORT PER APWA STD. 224-1

ELEV 1059.31'

ELEV 1055.31'

EXISTING GROUND

HGL

ELEV 1037.27'

ELEV 1038.32'

ELEV 1037.25'

2.00% MIN

4'-6"

EXISTING ARMORFLEX

STA. 12+88.88 BEGIN TRANS. 1055.31'

STA. 13+08.69 END TRANS. 1058.06

EXIST. 18"SS 1046.12 INV.

13+39.89 BC * 1059.21 INV.

RELOCATE 24" GAS (SO. CAL. GAS)

EXIST. 8" GAS (SO. CAL. GAS)

RELOCATE ELEC. CONDUIT (FIELD VERIFY)

16+16.35 EC * 1080.59 INV.

LATERAL "1W" 16+31.36 1082.59 INV.

CL SKYVIEW LANE STA. 16+77.64

CL MH NO. 1 STA. 17+58.69 RIM=1080.0

FINISHED GROUND

EXISTING GROUND

S=0.50%

36" STORM DRAIN 16+83.75 1083.37 INV.

LATERAL "1X" 16+97.64 1082.89 INV.

17+20.12 BC * 1081.11 INV.

RELOCATED PROPOSED 18"OIL EXXON/MOBIL 1084.29 INV.

* 1081.51 INV.

CONSTRUCT 375.14 LF 10'W x 8'H RCB
SEE DETAILS ON SHEETS 15 & 16
USE CONC & REINF FOR 20' MAX. EARTH COVER
PER CALTRANS STANDARD PLAN D80C ON SHEET 16.

CONSTRUCT 116.17 LF 10'W x 8'H RCB
SEE DETAILS ON SHEETS 15 & 16

TRANSITION STRUCTURE PER CALTRANS STD. PLAN D86A
SEE SHEET 19.

EXIST 30" R.C. PIPE @ LEFT

EXIST 6" DIP FORCE MAIN @LEFT

LINE 'A'

STA 11+00.00 1037.25'

STA 11+22.28 1037.27'

STA 11+74.41 1038.32' BEGIN TRANSITION

STA 12+00.00 END TRANSITION

CONSTRUCT 166.4 LF RIPRAP OUTLET STRUCTURE PER DETAILS ON SHEET 12 AND 12B

10 11 12 13 14 15 16 17 18

MATCHLINE SEE SHEET 4
STA. 18+00.00

LEGEND:

H.G.L. FOR DIVERSION Q PER PROPOSED ENTRADA SOUTH HYDROLOGY

REGISTERED PROFESSIONAL ENGINEER JASON A. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA

02/14/25

FOR UPDATED HGL ONLY

As of 7-31-2013
AS BUILT

REGISTERED PROFESSIONAL ENGINEER JEFFREY B. MCMURRY NO. C80083 6/30/2010 CIVIL STATE OF CALIFORNIA

2

* ALL RCB INVERT ELEVATIONS TO BE 1" HIGHER THAN DESIGN INVERT.

** NOT TO BE MAINTAINED BY LACFCD.

CONSTRUCTION NOTES

1. CONSTRUCT 18" RCP (D-LOAD PER PROFILE)
6. CONSTRUCT 10' x 8' RCB PER CALTRANS STD D80A ON SHEET 16.
8. CONSTRUCT MANHOLE CONCRETE BOX STORM DRAIN PER APWA STD 323-1.
9. CONSTRUCT TRANSITION STRUCTURE PER CALTRANS DETAIL D86A ON SHEET 20.
11. CONSTRUCT JUNCTION STRUCTURE PIPE TO RCB INLET < 30" PER APWA STD 334-1.
12. CONSTRUCT JUNCTION STRUCTURE PIPE TO RCB INLET > 30" PER APWA STD 333-1.
14. CONSTRUCT RIPRAP OUTLET STRUCTURE PER DETAIL 2 ON SHEET 12A.
17. MODIFIED CURB OPENING CATCH BASIN PER APWA STD. 300-2 MINIMUM B=3'-8", MINIMUM Vupstream 2'-6". (WxV PER PLAN LOCAL DEPRESSION PER APWA STD. 313-1, CASE E. SEE STREET PLANS. INSTALL OCEAN-PRO CATCH BASIN INSERT, 3 DEBRIS GATES, 5 FILTER TRAYS, AND 10 POLLUTANT FILTERS.
25. CONSTRUCT 4' WIDE, 4" THICK PCC PEDESTRIAN ACCESS TO MANHOLE PER DETAIL 3 ON SHEET 12. CONSTRUCT MINIMUM 5'X CONCRETE PAD AROUND MANHOLE LID.
26. CONSTRUCT CHAIN LINK FENCE AND GATE PER APWA STD. 600-2.
27. CONSTRUCT 16' WIDE DRIVEWAY APPROACH PER APWA STD. 110-1, TYPE A. W=16', X=3', Y=4'. DRIVEWAY SHALL BE 6" THICK PCC.
30. CONSTRUCT 6" THICK A.C. ACCESS ROAD PER SECTION HERE.

...RAP PAD PER DETAIL ON

...D RIPRAP PAD PER DETAIL

APPENDIX B-4.2
LINE "A" Per MTD 1764

LEGEND

A — SECTION
10 — SHEET

TYPICAL SECTION — RCB
No Scale
STA 12+88.68 — (SEE SHEET 16 FOR RCB DETAILS)

BEDDING MATERIAL BELOW BOTTOM OF RCB SHALL BE 12" C.A.B.

slope 1:6 slope 1:6

EXISTING ARMORFLEX NOT TO BE MAINTAINED BY LACFCD

SANTA CLARA RIVER

STA. 11+22.28 BEGIN TRAP CHANNEL

STA. 11+74.41 BEGIN TRANSITION

STA. 12+00.00 END TRANSITION

STA. 12+88.88 BEGIN TRANS.

STA. 13+08.69 END TRANS.

EXIST. MH

END CL&F

EXISTING CONC. CHANNEL PER PD 1680 TO REMAIN

PROPOSED 24" SD PER CALTRANS EA 07 187014

PROPOSED CL "THE OLD ROAD"

REMOVE EXIST. SD

EXISTING 18" SD TO BE REMOVED

CONNECT 12" PVC (C.B. NO. 1Xb=1072.5') INV.

CL MH NO. 1 STA. 17+58.69 RIM=1080.0

1079.50

END REMOVE EX. SD

CL CB NO. 1Wb STA.685+84.52 TOR TC=1079.0 INV=1073.44 W=14' V=8.56'

CL INTERSECTION STA. 16+72.64

R/W

LINE 'A'

40'X40' TURNAROUND

HORZ. N51°52'44"W 24.84'
LATERAL "1W" SEE SHEET 11

N16°08'05"W

CL INT 16+22.98=
0+00.00 = LATERAL "1W"
A=35°43'39"
B=18', C=5'

CONNECT EXIST 36" SD STA. 16+84.04
A=96°1'35", B=36", C=4'

PROPOSED 20' WIDE EASEMENT TO CITY OF SANTA CLARITA FOR COVERED STORM DRAIN, APPURTENANT STRUCTURES, AND INGRESS AND EGRESS PURPOSES. SEE SHEET 21 FOR DATA.

REMOVE EX. A.C. ROAD

EXIST SEWER PC 11819

SKYVIEW LANE (PRIVATE AND FUTURE)

CONNECT 4" PVC SUBDRAIN TO 12" PVC. **

CL CB NO. 1Xb STA.685+65.327 TOR TC=1078.5 INV=1067.44 W=14' V=8.88' 7.5'

HORZ. N51°52'44"E 36.22'
LATERAL "1X" SEE SHT. 11

CL INT 16+83.31=
0+00.00 = LATERAL "1X"
A=35°43'39", B=18', C=5'

EXIST 36" RCP PER PD 2592 TO REMAIN

FUTURE, PUBLIC ENTRANCE

EXIST 24" GAS

FLOW

6" AC ON 4" CAB
S=2% S=2%
AC PAVEMENT DETAIL
No Scale

EASEMENT TO CITY OF SANTA CLARITA FOR FLOOD CONTROL PURPOSES SEE SHEET 21 FOR DATA.

EASEMENT TO THE CITY OF SANTA CLARITA FOR INGRESS AND EGRESS PURPOSES. SEE SHEET 21 FOR DATA.

JOIN EXISTING A.C. ACCESS ROAD @ STA. 14+00

JOIN EXIST. ARTICLE

PLAN
SCALE: 1" = 40'
40' 20' 0' 40' 80'
GRAPHIC SCALE

Curve Data

CURVE	RADIUS	LENGTH	TANGENT	DELTA
A	1640.36'	276.67'	138.67'	09°39'48"
B	1640.36'	263.28'	131.92'	09°11'46"

APPROVED FOR CONSTRUCTION BY:
ROBERT G. NEWMAN, P.E., L.S.
DIRECTOR OF PUBLIC WORKS
CITY OF SANTA CLARITA
DATE 7-26-07

NO.	REVISIONS	REVISED BY	APPROVED BY	DATE
1	Outlet Structure Revised per sheet 3B (Void Sheet 3A). Old Road superelevation revision and PVC connect to C.B. No.1xb.	7/18/07		8-1-07
2	REVISE TRUCK TURNAROUND AND ADJACENT FENCING.	9/5/2009		9-15-09
3	AS-BUILT REVISIONS FROM INSPECTOR FIELD NOTES	1/19/2010		2-23-10

REGISTERED PROFESSIONAL ENGINEER JON M. AUSTIN RCE 58726 Exp. 03/31/07 CIVIL STATE OF CALIFORNIA
PROJECT ENGINEER 7/18/07 DATE

MetroPointe Engineers
3555 Harbor Gateway South, Suite A
Costa Mesa, CA 92626
(714) 438-1095

STORM DRAIN PLANS IN
CITY OF SANTA CLARITA MTD. No. 1764

CITY OF SANTA CLARITA

STORM DRAIN PLAN AND PROFILE
MTD NO. 1764
SYSTEM A
FROM STA. 10+00 TO STA. 18+00

DWG

SHEET 3B OF 21

DRAWING

DRAWING NUMBER

SAFCO PRODUCTS • NEW HOPE, MINNESOTA

Storm Drain - MTD 1764
Sheet 3B of 21

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

LEGEND:

H.G.L. FOR DIVERSION Q PER PROPOSED ENTRADA SOUTH HYDROLOGY

REGISTERED PROFESSIONAL ENGINEER
JASON N. FUNAKOSHI
No. 40695
CIVIL
STATE OF CALIFORNIA
11/12/24

FOR UPDATED HGL ONLY

AS OF 7-31-2013
AS BUILT

Q 50 = 1132 cfs
V MAX = 24.18 fps

Q 50 = 1132 cfs
V MAX = 26.94 fps

Q 50 = 1132 cfs
V MAX = 28.51 fps

Q 50 = 1132 cfs
V MAX = 28.21 fps

Q 50 = 1126 cfs
V MAX = 27.24 fps

1090
1070
1050

MATCHLINE SEE SHEET 3
STA. 18+00.00

MATCHLINE SEE SHEET 5
STA. 28+00.00

EXISTING GROUND
FINISHED GROUND
H.G.L.

CL MH NO. 2
STA. 21+80.43 GB
RIM=1078.27

CL MH NO. 3
STA. 24+95.06
RIM=1082.93

CL MH NO. 4
STA. 27+75.00
RIM=1091.10

S=0.50%
S=1.09%
S=2.76%

*1061.51 INV.
19+83.40 EC
1062.43 INV.*
20+43.47 BC
1062.73 INV.*
21+80.43 GB
1063.41 INV.*
LATERAL "1T" 21+92.40
1065.51 INV.
LATERAL "1S" 22+14.82
1065.76 INV.
22+36.79 PCC
1064.03 INV.*
LATERAL "1U" 23+75.74
1067.51 INV.
LATERAL "1R" 24+37.85
1067.55 INV.
24+86.22
1066.75 INV.*
24+96.06
1066.35 INV.*
LATERAL "1Q" 25+35.37
1071.00 INV.
LATERAL "1R" 26+71.71
1073.67 INV.
SLURRY BACKFILL SUPPORT
27+92.05
PROPOSED 24" VCP SEWER
1068.74 INV.*
*1075.25 INV.

CONSTRUCT 686.22 LF 10'W x 8'H RCB
SEE DETAIL ON SHEETS 15 & 16

CONSTRUCT 686.22 LF 10'W x 8'H RCB
SEE DETAIL ON SHEETS 15 & 16

LINE 'A' (2)

24+86.22
24+96.06
25+35.37

CONSTRUCT ~~45.31~~ 39.31 LF
10'W x 7'H RCB
SEE DETAIL ON SHEET 14

TRANS 10'W x 8'H RCB
TO 10'W x 7'H RCB

CONSTRUCT 215.76 LF 10'W x 7'H RCB
SEE DETAIL ON SHEETS 15 & 16

CONSTRUCT 48.87 LF 10'W x 7'H RCB
SEE DETAIL ON SHEETS 15 & 16

* ALL RCB INVERT ELEVATIONS TO BE 1" HIGHER THAN DESIGN INVERT ELEVATIONS

18 19 20 21 22 23 24 25 26 27 28

TYPE 30S-Z INLET
684+21.7±, 110.2'± RT
TG= 1075.8±, V=4'±
NOT TO BE MAINTAINED BY LACFCD

PROP. STORM DRAIN PER CALTRANS EA 07-187014

24"W 600mm RCP 30'± @ 4.6%±

CL C.B. NO. 1Sb
ST. STA. 684+17.652
TC=1076.61, INV.=1070.03
W=7', V=6.56'

EXIST. CONC. CHANNEL TO BE REMOVED

2 CL INT LACSD 6" SSFM
0+57.22 – LATERAL "1S"
PROVIDE PIPE SUPPORT PER LACSD STD PLAN S-a-217.
PROVIDE MINIMUM 8" CLEARANCE FROM BOTTOM OF 6" SSFM TO TOP OF 24" RCP.

684+41.146 THE OLD ROAD= 10+00.00

EXISTING 6" SSFM

6"SSFM
CL THE OLD ROAD

EXIST. CONC. CHANNEL TO BE REMOVED

11 CL INT 22+00.49=
0+00.00 – LATERAL "1T"

LINE 'A'

19+83.40 EC
N25°20'5"W
20+43.47 BC

R/W

CONTINUE BRIDGE DETAIL B-2, STD. PLAN BD-3 TO OUTLET STRUCTURE, REFERENCE SHEET 20. IN UNPAVED AREAS.

PROPOSED 20' WIDE EASEMENT TO LACFCD FOR COVERED STORM DRAIN, APPURTENANT STRUCTURES, AND INGRESS AND EGRESS PURPOSES. SEE SHEET 21 FOR DATA

8 CL MH NO. 2
STA 21+80.43
RIM=1078.27

17 CL CB NO. 1Tc
ST. STA. 684+21.317
TC=1078.89, INV.=1067.91
W=14', V=10.98'

28 HORZ. N71°56'35"E, 4.01'
LATERAL "1T" SEE SHEET 10A

HORZ. N71°45'04"E, 107.86'
LATERAL "1S" SEE SHEET 10

22+36.79 PCC

CL INT 22+14.82=
0+00.00 – LATERAL "1S"

HORZ. N72°06'17"E, 13.12'
LATERAL "1T" SEE SHEET 10

ST. STA. 684+21.074
TG=1079.02, INV.=1070.79
NOT TO BE MAINTAINED BY LACFCD

RETAINING WALL SEE SEPARATE PLAN

SEE GRADING PLAN

2 CL C.B. 1Rb
ST. STA. 683+50.00
TC=1081.25, INV.=1080.91
W=7', V=6.56'

10 STA. 24+96.06
END TRANS.

8 CL MH NO. 3
STA 24+95.06
RIM=1082.93

CL INT 23+75.74=
0+00.00 – LATERAL "1U"

1 LAT "1R" SEE SHEET 10A

11 CL INT 24+37.85=
0+00.00 – LATERAL "1R"

10 STA. 24+86.22
BEGIN TRANS.

1 HORZ. N66°04'48"E, 24.70'
LATERAL "1Q" SEE SHEET 11

19 28 HORZ. N66°04'48"E, 4.00'
LATERAL "1Q" SEE SHEET 11

CL INT 25+35.37=
0+00.00 – LATERAL "1Q"

17 ST. STA. 92+11.325 MMP
TC=1089.15, INV.=1082.21
W=7', V=6.89'

1 HORZ. N78°04'11"E, 61.87'
LATERAL "1P" SEE SHEET 10

17 CL C.B. NO. 1Pb
ST. STA. 682+55.033=
TC=1088.97, INV.=1081.87
W=10', V=7.22

2 HORZ. N63°18'07"E, 85.65'
LATERAL "1P" SEE SHEET 10

78' 147' 69' 37' 28'

8 CL MH NO. 4
STA 27+75.00
RIM=1090.84
1091.10

7

CL INT 27+51.06=
0+00.00 – LATERAL "1P"

PROPOSED 24" VCP SEWER (BY OTHERS)

2 CL C.B. NO. 1Qb
ST. STA. 683+20.508
TC=1084.78, INV.=1076.56
W=7', V=8.22'

17 19 ST. STA. 683+20.960
TG=1084.77, INV.=1081.18

EXIST. TERRACE DRAIN

CONSTRUCTION NOTES

1. CONSTRUCT 18" RCP (D-LOAD PER PROFILE)
2. CONSTRUCT 24" RCP (D-LOAD PER PROFILE)
6. CONSTRUCT 10' x 8' RCB PER CALTRANS STD D80A ON SHEET 16.
7. CONSTRUCT 10' x 7' RCB PER CALTRANS STD D80A ON SHEET 16.
8. CONSTRUCT MANHOLE CONCRETE BOX STORM DRAIN PER APWA STD 323-1.
10. CONSTRUCT TRANSITION STRUCTURE SINGLE RCB TO SINGLE RCB PER APWA STD 341-1.
11. CONSTRUCT JUNCTION STRUCTURE PIPE TO RCB INLET < 30" PER APWA STD 334-1.
17. MODIFIED CURB OPENING CATCH BASIN PER APWA STD. 300-2. B=3'-8", Vupstream ≥ 2'-6". (WxV PER PLAN). LOCAL DEPRESSION PER APWA STD. 313-1, CASE E. SEE STREET PLANS. INSTALL OCEAN-PRO CATCH BASIN INSERT. DEBRIS GATES, FILTER TRAYS, AND POLLUTANT FILTERS PER SCHEDULE ON SHEET 2.
18. GRATING CATCH BASIN PER STREET PLANS. NOT TO BE MAINTAINED BY LACFCD.
19. 24" DIA. PERFORATED CMP RISER WITH ASPHALT APRON PER GRADING PLAN. NOT TO BE MAINTAINED BY LACFCD.

APPENDIX B-4.2
LINE "A" Per MTD 1764

PLAN
SCALE: 1" = 40'

GRAPHIC SCALE
40' 20' 0' 40' 80'

APPROVED FOR CONSTRUCTION BY:

ROBERT G. NEWMAN, P.E., L.S.
DIRECTOR OF PUBLIC WORKS
CITY OF SANTA CLARITA
DATE

Curve Data

CURVE	RADIUS	LENGTH	TANGENT	DELTA
B	1640.36'	263.28'	131.93'	09°11'46"
C	1640.36'	193.32'	96.77'	06°45'08"
D	3636.48'	1612.61'	819.78'	25°24'29"

NO.	REVISIONS	REVISED BY	APPROVED BY	DATE
1	LACSD 24" VCP SEWER CROSSING	6/29/07		9-17-07
2	OLD ROAD SUPERELEVATION REVISION, SEE CALTRANS PLAN SET SHEET P-8. RELOCATED LATERAL "1R"	6/29/07		9-17-07
3	AS-BUILT REVISION FROM INSPECTOR FIELD NOTES			1/19/2010

REGISTERED PROFESSIONAL ENGINEER
JON M. AUSTIN
RCE 58726
Exp. 03/31/10
CIVIL
STATE OF CALIFORNIA
PROJECT ENGINEER
6/29/07
DATE

MetroPointe Engineers
3555 Harbor Gateway South, Suite A
Costa Mesa, CA 92626
(714) 438-1095

STORM DRAIN PLANS IN
CITY OF SANTA CLARITA MTD. No. 1764

CITY OF SANTA CLARITA

STORM DRAIN PLAN AND PROFILE
MTD NO. 1764
SYSTEM A
FROM STA. 18+00 TO STA. 28+00

DWG | SHEET 4A OF 21

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

LEGEND:

H.G.L. FOR DIVERSION Q PER PROPOSED ENTRADA SOUTH HYDROLOGY

JASON H. FORSYTHE No. 40695 CIVIL STATE OF CALIFORNIA
11/12/24

FOR UPDATED HGL ONLY

As of 7-31-2013
AS BUILT

*ALL RCB INVERT ELEVATIONS TO BE 1" HIGHER THAN DESIGN INVERT ELEVATIONS.

Q_{50}= 1126 cfs
V_{MAX}= 27.16 fps

Q_{50}= 1077 cfs
V_{MAX}= 27.61 fps

Q_{50}= 1016 cfs
V_{MAX}= 18.96 fps

EXISTING GROUND
FINISHED GROUND
H.G.L.
S=2.76%
S=1.00%

MATCHLINE SEE SHEET 4 STA. 28+00.00

MATCHLINE SEE SHEET 6 STA. 38+00.00

CL MMP STA. 29+20.95

PROVIDE SUPPORT PER APWA STD. 224-1

PROTECT IN PLACE 3-3" EXIST. ELECT CONDUIT (FIELD VERIFY)

CL MH NO. 5 STA. 30+75.00 RIM=1099.45 1099.53

CL MH NO. 6 STA. 33+78.61 RIM=1104.53 1109.69

CL MH NO. 7 STA. 37+00.00 RIM=1107.84 1108.02

1075.25 INV. LATERAL "1N" 28+30.35 1078.06 INV.
PROPOSED 42" WTR 1084.30 INV.
PROTECT IN PLACE EXIST. TELE CONDUIT (FIELD VERIFY)
LINE 'B' 28+84.76 1079.56 INV.
PROTECT IN PLACE EXIST. 20" WTR C.L.W.A. 48"COVER (FIELD VERIFY)
RELOCATE EXIST. 16" ACP WTR VALENCIA WATER (FIELD VERIFY)
PROTECT IN PLACE EXIST. CABLE TV (FIELD VERIFY)
PROTECT IN PLACE 4-5" EXIST. ELECT (FIELD VERIFY)
LATERAL "1J" 30+12.20 1083.07' INV.
LATERAL "1H" 30+42.38 1083.74 INV.
LATERAL "1G" 30+80.89 1084.45 INV.
PROTECT IN PLACE EXIST. ELECT (FIELD VERIFY)
LATERAL "1Z" 32+34.97 1090.00 INV.
33+78.61 1091.23 INV.
LATERAL "1F" 33+84.34 1093.29 INV.
LATERAL "1E" 34+41.09 1092.15 INV.
LATERAL "1D" 35+26.93 1095.37 INV.
1095.46 INV.

CONSTRUCT 556.33 LF 10'W x 7'H RCB SEE DETAILS ON SHEETS 15 & 16
CONSTRUCT 556.33 LF 10'W x 7'H RCB SEE DETAILS ON SHEETS 15 & 16
CONSTRUCT 358.91 LF 10'W x 7'H RCB SEE DETAILS ON SHEETS 15 & 16

LINE 'A'

28 29 30 31 32 33 34 35 36 37 38

CL MAGIC MOUNTAIN PARKWAY
EXIST 18" SD
CL INT. 91+71.086 MMP =STA. 682+07.799 THE OLD ROAD
CL INT. 30+04.41 S.D. =STA. 91+59.42 MMP
CL INT. 30+17.33= 0+00.00 LATERAL "1Y"
CL INT. 30+12.20= 0+00.00 LATERAL "1J"
CL INT. 28+30.29 0+00.00 LATERAL "1N"
CL INT. 28+67.87 0+00.00 LINE 'B'
CL C.B. NO. 1Jd ST. STA. 681+71.538 TC=1096.78, INV.=1090.39 W=14', V=6.56'
EXIST 10'X5' RCB TO BE REMOVED
HORZ. N72°09'47"E, 99.12' LATERAL "1J" SEE SHEET 9
CL C.B. NO. 1Hb ST. STA. 681+66.580 TC=1098.47, INV.=1090.03 W=14', V=8.50'
CL INT. 30+80.89= 0+00.00 LATERAL "1G"
CL INT. 32+34.97= 0+00.00 LATERAL "1Z"
EXIST (2) 54" RCP TO BE REMOVED
ST. STA. 678+83.437 =10+00.00
CL INT. 33+84.26 0+00.00 LATERAL "1F"
CL C.B. NO. 1Db ST. STA. 680+21.467 TC=1106.51, INV.=1099.92 W=7', V=6.56'
HORZ. N51°04'44"E, 85.65' LATERAL "1D" SEE SHEET 9 PROVIDE RUBBER GASKET JOINTS.
PROP. MEDIAN
CL THE OLD ROAD
LINE 'A'
CL INT. 35+26.84 0+00.00 LATERAL "1D"
CL MH NO. 7 37+00.00 RIM=1107.84 1108.02 DEBRIS CONE DPV=1775 CY S=0.1%
R/W
PROP. V-DITCH PER ROUGH GRADING PLANS.
HORZ. N58°48'44"E, 24.66' LATERAL "1H" SEE SHEET 9
CL INT. 30+42.38= 0+00.00 LATERAL "1H"
HORZ. N61°51'11"E, 66.16' LATERAL "1N" SEE SHEET 10
CL MH NO. 5 30+75.00 RIM=1099.45 1099.53
CL C.B. NO. 1Nd ST. STA. 91+47.647 MMP TC=1094.20, INV.=1087.69 W=14', V=6.56'
HORZ. S46°34'26"W, 74.28' LATERAL "1Y" SEE SHEET 11
CL C.B. NO. 1Yb STA. 91+29.234 MMP= TC=1101.02, INV=1094.46 W=7.0', V=6.56'
LINE 'B' SEE SHEET 7 FOR PLAN & PROFILE
CL C.B. NO. 1Gb ST. STA. 681+55.239 TC=1100.54, INV.=1090.99 W=5', V=2.9'
HORZ. N58°06'20"W, 49.00' LATERAL "1G" SEE SHEET 9
HORZ. N53°38'02"E, 23.33' LATERAL "1Z" SEE SHEET 11
CL C.B. NO. 1Zb ST. STA. 681+10.040 TG=1103.27, INV=1096.56 W=6.5', V=6.72'
CL MH NO. 6 33+78.61 RIM=1104.53 1104.69
HORZ. N53°19'32"E, 7.65' LATERAL "1F" SEE SHEET 20
CL C.B. NO. 1Fa ST. STA. 680+63.443 TC=1104.95, INV.=1098.35 W=14', V=6.56'
LINE "C" SEE SHEET 8 FOR PLAN AND PROFILE
SEE CHEVRON GRADING PLAN
PROPOSED 24"VCP SEWER (BY OTHERS)

CONSTRUCTION NOTES

1 CONSTRUCT 18" RCP (D-LOAD PER PROFILE)
5 CONSTRUCT 54" RCP (D-LOAD PER PROFILE)
7 CONSTRUCT 10' x 7' RCB PER CALTRANS STD D80A ON SHEET 16.
8 CONSTRUCT MANHOLE CONCRETE BOX STORM DRAIN PER APWA STD 323-1.
11 CONSTRUCT JUNCTION STRUCTURE PIPE TO RCB INLET < 30" PER APWA STD 334-1.
12 CONSTRUCT JUNCTION STRUCTURE PIPE TO RCB INLET > 30" PER APWA STD 333-1.
17 MODIFIED CURB OPENING CATCH BASIN PER APWA STD. 300-2. B=3'-8", Vupstream ≥ 2'-6". (WxV PER PLAN). LOCAL DEPRESSION PER APWA STD. 313-1, CASE E. SEE STREET PLANS. INSTALL OCEAN-PRO CATCH BASIN INSERT. DEBRIS GATES, FILTER TRAYS, AND POLLUTANT FILTERS PER SCHEDULE ON SHEET 2.
19 24" DIA. PERFORATED CMP RISER WITH ASPHALT APRON PER GRADING PLAN. NOT TO BE MAINTAINED BY LACFCD.
22 CONSTRUCT MANHOLE PIPE TO PIPE PER APWA STD. 320-1.
31 CURBSIDE GRATING CATCH BASIN PER CHEVRON GRADING PLANS. NOT TO BE MAINTAINED BY LACFCD.

APPENDIX B-4.2
LINE "A" Per MTD 1764

Curve Data				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
D	3636.46'	1612.61'	819.78'	25°24'29"
E	22.50'	15.46'	8.05'	39°22'14"

PLAN
SCALE: 1" = 40'
40' 20' 0' 40' 80'
GRAPHIC SCALE

APPROVED FOR CONSTRUCTION BY:
ROBERT G. NEWMAN, P.E., L.S.
DIRECTOR OF PUBLIC WORKS
CITY OF SANTA CLARITA
DATE 6-7-06

NO.	REVISIONS	REVISED BY	APPROVED BY	DATE
1	LACSD 24"VCP SEWER CROSSING	8/29/07		9-12-07

JON M. AUSTIN RCE 58726 Exp. 03/31/07 CIVIL STATE OF CALIFORNIA
PROJECT ENGINEER 5-31-06 DATE

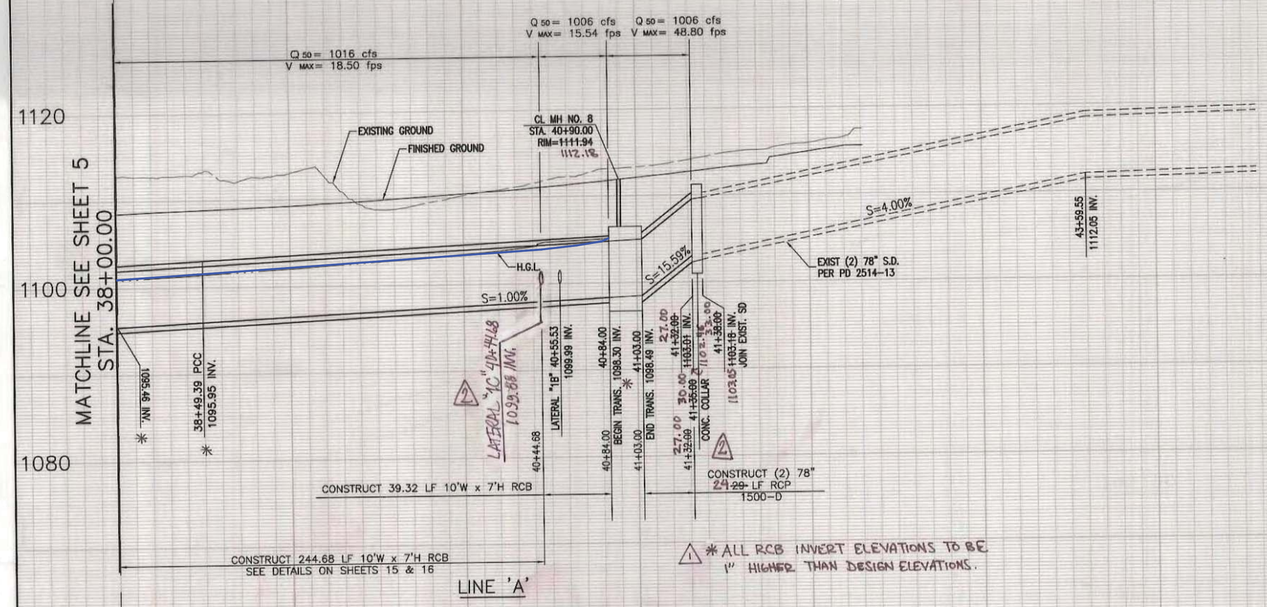
MetroPointe Engineers
3555 Harbor Gateway South, Suite A
Costa Mesa, CA 92626
(714) 438-1095

STORM DRAIN PLANS IN CITY OF SANTA CLARITA MTD. No. 1764
CITY OF SANTA CLARITA

STORM DRAIN PLAN AND PROFILE
MTD NO. 1764
SYSTEM A
FROM STA. 28+00 TO STA. 38+00

DWG SHEET 5 OF 21

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



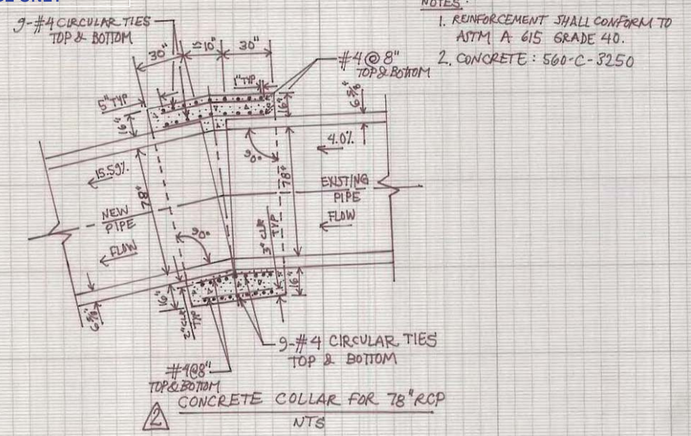
⚠1 * ALL RCB INVERT ELEVATIONS TO BE 1" HIGHER THAN DESIGN ELEVATIONS.

REGISTERED PROFESSIONAL ENGINEER
JASON H. FORMATTSU
No. 40695
CIVIL
STATE OF CALIFORNIA
11/12/24

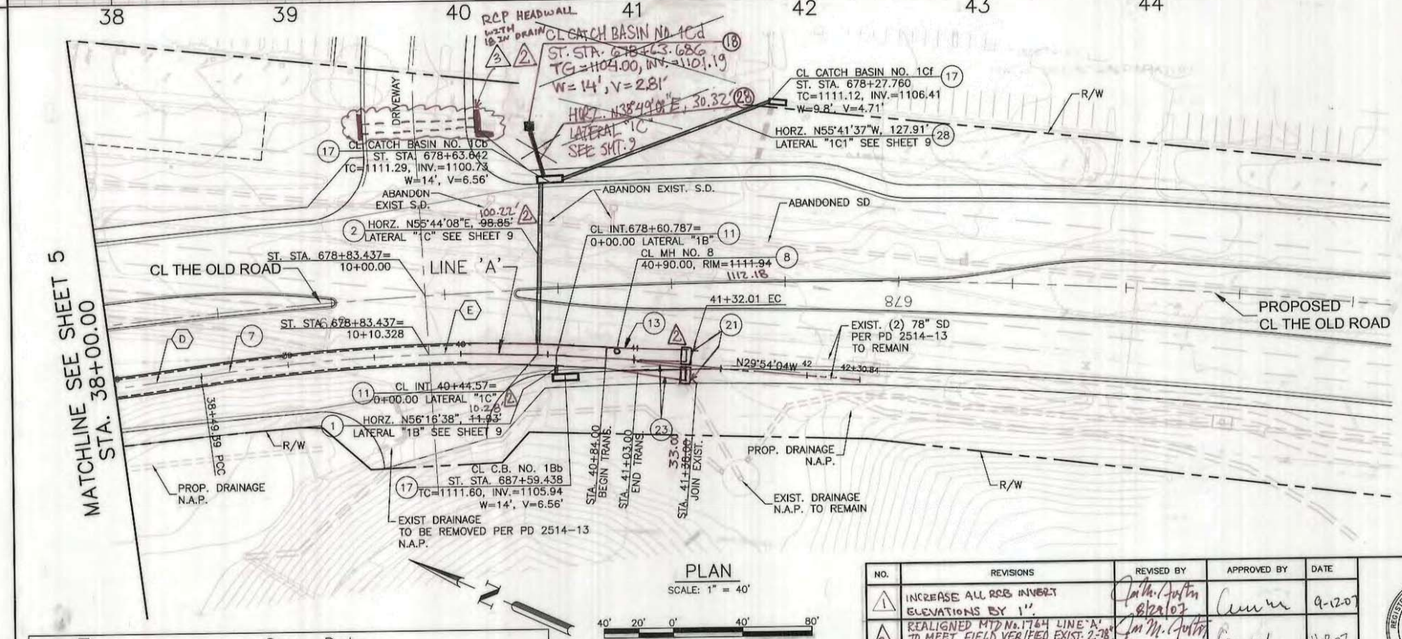
FOR UPDATED HGL ONLY

LEGEND:

H.G.L. FOR DIVERSION Q PER PROPOSED ENTRADA SOUTH HYDROLOGY



NOTES:
1. REINFORCEMENT SHALL CONFORM TO ASTM A 615 GRADE 40.
2. CONCRETE: 560-C-3250



PLAN
SCALE: 1" = 40'
40' 20' 0' 40' 80'
GRAPHIC SCALE

Curve Data				
CURVE	RADIUS	LENGTH	TANGENT	DELTA
D	3636.48'	1612.61'	819.78'	25°24'29"
E	~~1148.25'~~	~~282.61'~~	~~142.02'~~	~~14°06'07"~~
⚠2	1000.00'	245.81'	123.53'	14°05'02"

APPROVED FOR CONSTRUCTION BY:
ROBERT G. NEWMAN, P.E., L.S.
DIRECTOR OF PUBLIC WORKS
CITY OF SANTA CLARITA
DATE 6-7-06

NO.	REVISIONS	REVISED BY	APPROVED BY	DATE
⚠1	INCREASE ALL RCB INVERT ELEVATIONS BY 1"	8/22/07		9-12-07
⚠2	REALIGNED MTD No.1764 LINE 'A' TO MEET FIELD VERIFIED EXIST. 2-78" CONCRETE COLLAR. DETAIL FOR 78"RCP	11-6-07		11-8-07
⚠3	AS-BUILT REVISION. LAT 1C EXT. NOT CONSTRUCTED.	1/19/2010		2-23-10

REGISTERED PROFESSIONAL ENGINEER
JON M. AUSTIN
RCE 58726
Exp. 03/31/07
CIVIL
STATE OF CALIFORNIA
PROJECT ENGINEER 5-31-06 DATE

MetroPointe Engineers
3555 Harbor Gateway South, Suite A
Costa Mesa, CA 92626
(714) 438-1095

As of 7-31-2013
AS BUILT

CONSTRUCTION NOTES

(1) CONSTRUCT 18" RCP (D-LOAD PER PROFILE)
(2) CONSTRUCT 24" RCP (D-LOAD PER PROFILE)
(7) CONSTRUCT 10' x 7' RCB PER CALTRANS STD D80A ON SHEET 16.
(11) CONSTRUCT JUNCTION STRUCTURE PIPE TO RCB INLET < 30" PER APWA STD 334-1.
(13) CONSTRUCT TRANSITION STRUCTURE DOUBLE RCP TO SINGLE RCB PER MODIFIED APWA STD 342-1 & 343-1 PER DETAIL 1 SHEET 12.
(17) MODIFIED CURB OPENING CATCH BASIN PER APWA STD. 300-2. B=3'-8", Vupstream ≥ 2'-6". (WxV PER PLAN). LOCAL DEPRESSION PER APWA STD. 313-1, CASE E. SEE STREET PLANS. INSTALL OCEAN-PRO CATCH BASIN INSERT. DEBRIS GATES, FILTER TRAYS, AND POLLUTANT FILTERS PER SCHEDULE ON SHEET 2.
(18) GRATING CATCH BASIN PER STREET PLANS. NOT TO BE MAINTAINED BY LACFCD.
(21) CONSTRUCT CONCRETE COLLAR FOR RCP PER APWA STD. ~~380-2~~ DETAIL HEREON. ⚠2
(23) CONSTRUCT 78" RCP (D-LOAD PER PROFILE)

...G PLANS. NOT TO BE

APPENDIX B-4.2
LINE "A" Per MTD 1764

STORM DRAIN PLANS IN
CITY OF SANTA CLARITA MTD. No. 1764
CITY OF SANTA CLARITA
STORM DRAIN PLAN AND PROFILE
MTD NO. 1764
SYSTEM A
FROM STA. 38+00 TO 41+38.00
DWG SHEET 6 OF 21

DRAWING NUMBER
NUMBER
Storm Drain - MTD 1764
Sheet 6 of 21

B-4.3: Laterals “1S” and “1T”

```
T1 MTD1764                                                                    0
T2 CB LAT "1S"
T3 AS
SO    005.0001066.180  1                        1074.170
R     066.0001066.510  1      .013                              .000    .000 0
R     107.0001070.030  1      .013                              .000    .000 0
WE    107.0001070.030  2      .500
R     110.0001070.030  2      .014
WX    110.0001070.030  2      .500
R     146.0001071.620  1      .013
WE    146.0001071.620  3      .500
R     149.0001071.620  3      .014
SH    149.0001071.620  3                        1071.650
CD   1  4   1    .000   2.000     .000  .000  .000   .00
CD   2  2   0    .000   6.560    3.000  .000  .000   .00
CD   3  2   0    .000   4.000    3.000  .000  .000   .00
Q             3.000   .0
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Program Package Serial Number: 1656

WATER SURFACE PROFILE LISTING Date: 6-21-2024 Time:12:59:43

MTD1764
CB LAT "1S"
AS

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
5.000	1066.180	7.990	1074.170	3.00	.95	.01	1074.18	.00	.60	.00	2.000	.000	.00	1 .0
61.000	.0054					.0002	.01	7.99	.00	.58	.013	.00	.00	PIPE
66.000	1066.510	7.671	1074.181	3.00	.95	.01	1074.19	.00	.60	.00	2.000	.000	.00	1 .0
41.000	.0859					.0002	.01	7.67	.00	.29	.013	.00	.00	PIPE
107.000	1070.030	4.158	1074.188	3.00	.95	.01	1074.20	.00	.60	.00	2.000	.000	.00	1 .0
WALL	ENTRANCE													
107.000	1070.030	4.179	1074.209	3.00	.24	.00	1074.21	.00	.31	3.00	6.560	3.000	.00	0 .0
3.000	.0000					.0000	.00	4.18	.02	.00	.014	.00	.00	RECTANG
110.000	1070.030	4.179	1074.209	3.00	.24	.00	1074.21	.00	.31	3.00	6.560	3.000	.00	0 .0
WALL	EXIT													
110.000	1070.030	4.179	1074.209	3.00	.95	.01	1074.22	.00	.60	.00	2.000	.000	.00	1 .0
36.000	.0442					.0002	.01	4.18	.00	.34	.013	.00	.00	PIPE
146.000	1071.620	2.596	1074.216	3.00	.95	.01	1074.23	.00	.60	.00	2.000	.000	.00	1 .0
WALL	ENTRANCE													
146.000	1071.620	2.614	1074.234	3.00	.38	.00	1074.24	.00	.31	3.00	4.000	3.000	.00	0 .0
3.000	.0000					.0000	.00	2.61	.04	.00	.014	.00	.00	RECTANG
149.000	1071.620	2.614	1074.234	3.00	.38	.00	1074.24	.00	.31	3.00	4.000	3.000	.00	0 .0

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T1 MTD1764                                                                  0
T2 CB LAT "1T"
T3 AS
SO    005.0001065.540  1                        1073.890
R     013.0001067.910  1      .013                              .000    .000 0
WE    013.0001067.910  2      .500
R     016.0001067.910  2      .014
WX    016.0001067.910  2      .500
R     020.0001070.790  4      .013
WE    020.0001070.790  3      .500
R     023.0001070.790  3      .014
SH    023.0001070.790  3                        1070.790
CD   1  4   1    .000   1.500     .000  .000  .000   .00
CD   2  2   0    .000  10.980    3.000  .000  .000   .00
CD   3  2   0    .000   8.230    3.000  .000  .000   .00
CD   4  4   1    .000   1.000     .000  .000  .000   .00
Q            4.000   .0
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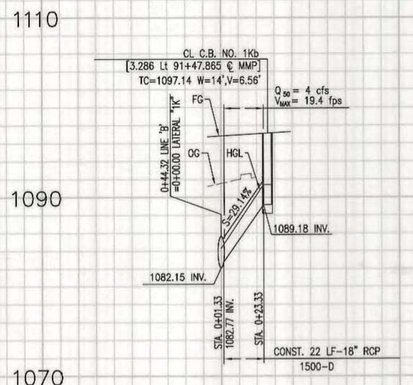
Program Package Serial Number: 1656

WATER SURFACE PROFILE LISTING Date: 6-21-2024 Time: 1: 0:23

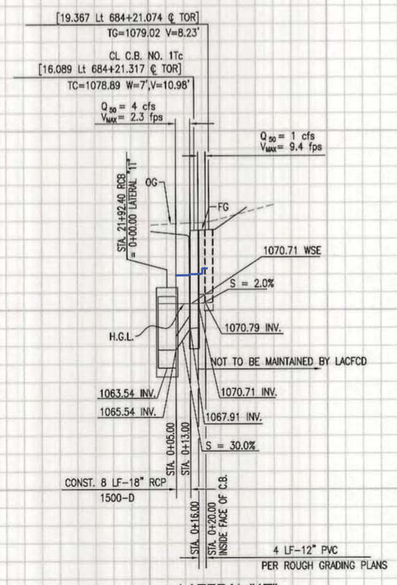
MTD1764
CB LAT "1T"
AS

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
5.000	1065.540	8.350	1073.890	4.00	2.26	.08	1073.97	.00	.77	.00	1.500	.000	.00	1 .0
8.000	.2962					.0015	.01	8.35	.00	.27	.013	.00	.00	PIPE
13.000	1067.910	5.992	1073.902	4.00	2.26	.08	1073.98	.00	.77	.00	1.500	.000	.00	1 .0
WALL	ENTRANCE													
13.000	1067.910	6.111	1074.021	4.00	.22	.00	1074.02	.00	.38	3.00	10.980	3.000	.00	0 .0
3.000	.0000					.0000	.00	6.11	.02	.00	.014	.00	.00	RECTANG
16.000	1067.910	6.111	1074.021	4.00	.22	.00	1074.02	.00	.38	3.00	10.980	3.000	.00	0 .0
WALL	EXIT													
16.000	1067.910	6.112	1074.022	4.00	5.09	.40	1074.42	.00	.85	.00	1.000	.000	.00	1 .0
4.000	.7200					.0126	.05	6.11	.00	.25	.013	.00	.00	PIPE
20.000	1070.790	3.282	1074.072	4.00	5.09	.40	1074.48	.00	.85	.00	1.000	.000	.00	1 .0
WALL	ENTRANCE													
20.000	1070.790	3.884	1074.674	4.00	.34	.00	1074.68	.00	.38	3.00	8.230	3.000	.00	0 .0
3.000	.0000					.0000	.00	3.88	.03	.00	.014	.00	.00	RECTANG
23.000	1070.790	3.884	1074.674	4.00	.34	.00	1074.68	.00	.38	3.00	8.230	3.000	.00	0 .0

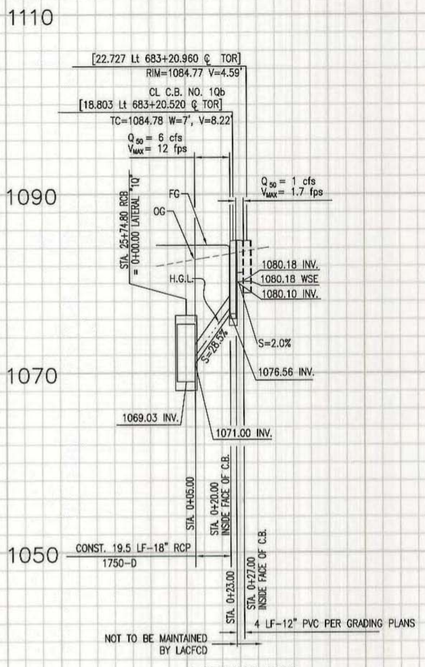
SCALE: HOR. 1"= 40'
VERT. 1"= 8'



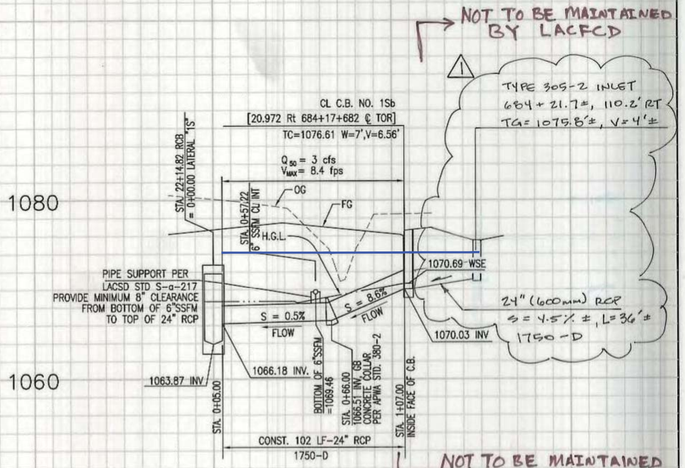
LATERAL "1K"
SEE SHEET 7 FOR PLAN VIEW



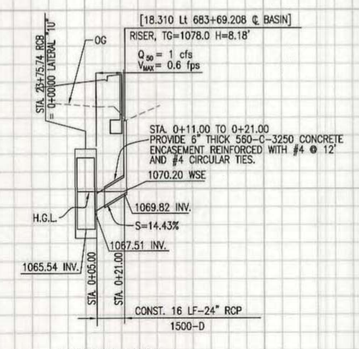
LATERAL "1T"
SEE SHEET 4A FOR PLAN VIEW



LATERAL "1Q"
SEE SHEET 4A FOR PLAN VIEW



LATERAL "1S"
SEE SHEET 4A FOR PLAN VIEW



LATERAL "1U"
SEE SHEET 4A FOR PLAN VIEW

REGISTERED PROFESSIONAL ENGINEER
JASON A. [illegible]
No. 40695
CIVIL
STATE OF CALIFORNIA
11/12/24

FOR UPDATED HGL ONLY

LEGEND:

REVISED H.G.L. PER PROPOSED ENTRADA SOUTH HYDROLOGY

As of 7-31-2013
AS BUILT

APPENDIX B-4.3
Laterals "1S" and "1T"

NO.	REVISIONS	REVISED BY	APPROVED BY	DATE
1	AS-BUILT REVISION FROM INSPECTOR FIELD NOTES	JMcClue		2-23-10

APPROVED FOR CONSTRUCTION BY:
ROBERT G. NEWMAN, P.E., L.S.
DIRECTOR OF PUBLIC WORKS
CITY OF SANTA CLARITA
DATE 9-17-09

REGISTERED PROFESSIONAL ENGINEER
JON M. AUSTIN
RCE 58726
Exp. 03/31/10
CIVIL
STATE OF CALIFORNIA
PROJECT ENGINEER
DATE 8/29/07

MetroPointe Engineers
3555 Harbor Gateway South, Suite A
Costa Mesa, CA 92626
(714) 438-1095

STORM DRAIN PLANS IN
CITY OF SANTA CLARITA MTD NO. 1764
CITY OF SANTA CLARITA
STORM DRAIN PLAN AND PROFILE
MTD NO. 1764
LATERALS

DWG
SHEET 10A OF 21

B-4.4: Line “C” of PD 2638 & Line “B” of PD 2637

```
T1 PD 2637/2638                                                                                                  0
T2 LINE C
T3 BY WLL
SO    854.6901156.000  1                          1159.206
R    1018.6701157.040  1      .013                                        .000    .000 0
R    1088.1801157.500  1      .013                                      88.503    .000 0
R    1156.5001158.000  1      .013                                      -1.580    .000 0
R    1185.0001158.305  1      .013                                       -.659    .000 0
JX   1185.4901158.310  1  2   .013    4.500         1159.990           -90.0        -.011
R    1276.0001159.280  1      .013                                      -2.094    .000 0
JX   1276.5401159.286  1  2   .013    2.300         1160.660            90.0        -.012
R    1288.0001159.407  1      .013                                       -.265    .000 0
JX   1288.5401159.413  1  2   .013    0.001         1161.150           -90.0        -.012
R    1500.1201161.680  1      .013                                      -4.894    .000 0
JX   1503.6801161.715  1  4   .013   49.200         1162.180           -45.0        -.082
R    1555.9801162.280  1      .013                                      -1.210    .000 0
JX   1565.3301162.350  1  4   .013   47.600         1162.910            55.0        -.216
R    1586.1901162.600  1      .013                                      -0.483    .000 0
R    1618.8201162.990  1      .013                                     -10.386    .000 0
JX   1620.2401163.010  1  2   .013    6.800         1164.610            90.0        0.000
R    1629.2701163.120  1      .013                                        .000    .000 0
R    1648.0401163.340  1      .013                                       8.962    .000 0
JX   1683.0101163.760  1  2   .013    9.000         1165.250           -90.0        0.811
R    1788.6301165.030  1      .013                                      -2.449    .000 0
JX   1791.3701165.060  1  2   .013    0.001         1166.580           -49.0        -.064
R    1975.5601172.300  1      .013                                      -4.271    .000 0
R    2255.2501183.400  1      .013                                        .000    .000 0
JX   2260.1701184.070  1  4   .013    0.001         1185.060           -45.0         .000
TS   2265.3501184.740  4      .013                                        .000
R    2468.7601191.540  4      .013                                        .000         0
R    2600.2901195.930  4      .013                                      -1.870    .000 0
TS   2605.7801197.120  3      .013                                        .078    .000 0
R    2858.7201205.210  3      .013                                      -3.597   0.000 0
R    2930.7001207.500  3      .013                                      -1.023   0.000 0
JX   2934.0901207.720  3  2   .013   12.900         1208.180            31.0       -8.633
R    2965.7301208.630  3      .013                                     -80.571    .000 0
R    2983.4701209.190  3      .013                                        .000    .000 0
SH   2983.4701209.190  3                          1209.190
CD   1  4   1    .000   4.500     .000  .000  .000   .00
CD   2  4   1    .000   1.500     .000  .000  .000   .00
CD   3  4   1    .000   2.500     .000  .000  .000   .00
CD   4  4   1    .000   3.500     .000  .000  .000   .00
Q            38.100   .0
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Program Package Serial Number: 1656

WATER SURFACE PROFILE LISTING Date:11-12-2024 Time:11:58:34

PD 2637/2638
LINE C
BY WLL

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
854.690	1156.000	3.800	1159.800	170.40	11.89	2.20	1162.00	.00	3.80	3.26	4.500	.000	.00	1 .0
57.532	.0063					.0069	.40	3.80	1.00	4.50	.013	.00	.00	PIPE
912.222	1156.365	4.031	1160.396	170.40	11.34	2.00	1162.39	.00	3.80	2.75	4.500	.000	.00	1 .0
106.448	.0063					.0066	.70	4.03	.85	4.50	.013	.00	.00	PIPE
1018.670	1157.040	4.115	1161.155	170.40	11.18	1.94	1163.09	.11	3.80	2.52	4.500	.000	.00	1 .0
69.510	.0066					.0065	.45	4.22	.80	4.04	.013	.00	.00	PIPE
1088.180	1157.500	4.101	1161.601	170.40	11.20	1.95	1163.55	.00	3.80	2.56	4.500	.000	.00	1 .0
19.580	.0073					.0066	.13	4.10	.81	3.74	.013	.00	.00	PIPE
1107.760	1157.643	4.063	1161.706	170.40	11.28	1.97	1163.68	.00	3.80	2.67	4.500	.000	.00	1 .0
HYDRAULIC JUMP														
1107.760	1157.643	3.546	1161.189	170.40	12.68	2.50	1163.68	.01	3.80	3.68	4.500	.000	.00	1 .0
48.740	.0073					.0084	.41	3.55	1.17	3.74	.013	.00	.00	PIPE
1156.500	1158.000	3.447	1161.447	170.40	13.04	2.64	1164.09	.01	3.80	3.81	4.500	.000	.00	1 .0
4.741	.0107					.0086	.04	3.45	1.24	3.15	.013	.00	.00	PIPE
1161.241	1158.051	3.466	1161.517	170.40	12.96	2.61	1164.13	.01	3.80	3.79	4.500	.000	.00	1 .0
23.759	.0107					.0081	.19	3.47	1.23	3.15	.013	.00	.00	PIPE
1185.000	1158.305	3.641	1161.946	170.40	12.36	2.37	1164.32	.01	3.80	3.54	4.500	.000	.00	1 .0
JUNCT STR	.0102					.0089	.00	3.65	1.10		.013	.00	.00	PIPE

PD 2637/2638
LINE C
BY WLL

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
1185.490	1158.310	3.164	1161.474	165.90	13.89	2.99	1164.47	.01	3.76	4.11	4.500	.000	.00	1 .0
90.510	.0107					.0096	.87	3.17	1.44	3.09	.013	.00	.00	PIPE
1276.000	1159.280	3.267	1162.547	165.90	13.41	2.79	1165.34	.01	3.76	4.01	4.500	.000	.00	1 .0
JUNCT STR	.0111					.0098	.01	3.28	1.35		.013	.00	.00	PIPE
1276.540	1159.286	3.102	1162.388	163.60	13.99	3.04	1165.43	.01	3.74	4.16	4.500	.000	.00	1 .0
11.460	.0106					.0103	.12	3.11	1.47	3.07	.013	.00	.00	PIPE
1288.000	1159.407	3.105	1162.512	163.60	13.98	3.03	1165.55	.01	3.74	4.16	4.500	.000	.00	1 .0
JUNCT STR	.0111					.0103	.01	3.11	1.47		.013	.00	.00	PIPE
1288.540	1159.413	3.106	1162.519	163.60	13.97	3.03	1165.55	.01	3.73	4.16	4.500	.000	.00	1 .0
130.136	.0107					.0097	1.27	3.12	1.47	3.05	.013	.00	.00	PIPE
1418.676	1160.807	3.232	1164.039	163.60	13.38	2.78	1166.82	.01	3.73	4.05	4.500	.000	.00	1 .0
52.532	.0107					.0088	.46	3.24	1.36	3.05	.013	.00	.00	PIPE
1471.208	1161.370	3.382	1164.752	163.60	12.76	2.53	1167.28	.01	3.73	3.89	4.500	.000	.00	1 .0
22.734	.0107					.0079	.18	3.39	1.24	3.05	.013	.00	.00	PIPE
1493.943	1161.614	3.547	1165.161	163.60	12.16	2.30	1167.46	.01	3.73	3.68	4.500	.000	.00	1 .0
6.177	.0107					.0071	.04	3.55	1.12	3.05	.013	.00	.00	PIPE
1500.120	1161.680	3.735	1165.415	163.60	11.59	2.09	1167.50	.01	3.73	3.38	4.500	.000	.00	1 .0
JUNCT STR	.0098					.0051	.02	3.74	1.00		.013	.00	.00	PIPE

PD 2637/2638
LINE C
BY WLL

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
1503.680	1161.715	5.572	1167.287	114.40	7.19	.80	1168.09	.00	3.15	.00	4.500	.000	.00	1 .0
52.300	.0108					.0034	.18	.00	.00	2.41	.013	.00	.00	PIPE
1555.980	1162.280	5.203	1167.483	114.40	7.19	.80	1168.29	.00	3.15	.00	4.500	.000	.00	1 .0
JUNCT STR	.0075					.0023	.02	.00	.00		.013	.00	.00	PIPE
1565.330	1162.350	5.949	1168.299	66.80	4.20	.27	1168.57	.00	2.38	.00	4.500	.000	.00	1 .0
20.860	.0120					.0012	.02	.00	.00	1.72	.013	.00	.00	PIPE
1586.190	1162.600	5.727	1168.327	66.80	4.20	.27	1168.60	.00	2.38	.00	4.500	.000	.00	1 .0
32.630	.0120					.0012	.04	.00	.00	1.72	.013	.00	.00	PIPE
1618.820	1162.990	5.394	1168.384	66.80	4.20	.27	1168.66	.00	2.38	.00	4.500	.000	.00	1 .0
JUNCT STR	.0141					.0010	.00	5.39	.00		.013	.00	.00	PIPE
1620.240	1163.010	5.481	1168.491	60.00	3.77	.22	1168.71	.00	2.25	.00	4.500	.000	.00	1 .0
9.030	.0122					.0009	.01	5.48	.00	1.62	.013	.00	.00	PIPE
1629.270	1163.120	5.379	1168.499	60.00	3.77	.22	1168.72	.00	2.25	.00	4.500	.000	.00	1 .0
18.770	.0117					.0009	.02	.00	.00	1.63	.013	.00	.00	PIPE
1648.040	1163.340	5.191	1168.531	60.00	3.77	.22	1168.75	.00	2.25	.00	4.500	.000	.00	1 .0
JUNCT STR	.0120					.0008	.03	.00	.00		.013	.00	.00	PIPE
1683.010	1163.760	4.921	1168.681	51.00	3.21	.16	1168.84	.00	2.07	.00	4.500	.000	.00	1 .0
37.396	.0120					.0007	.02	.00	.00	1.49	.013	.00	.00	PIPE

PD 2637/2638
LINE C
BY WLL

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
1720.406	1164.210	4.500	1168.710	51.00	3.21	.16	1168.87	4.50	2.07	.00	4.500	.000	.00	1 .0
35.175	.0120					.0006	.02	4.50	.00	1.49	.013	.00	.00	PIPE
1755.581	1164.633	4.082	1168.715	51.00	3.36	.18	1168.89	.00	2.07	2.61	4.500	.000	.00	1 .0
19.661	.0120					.0006	.01	4.08	.25	1.49	.013	.00	.00	PIPE
1775.242	1164.869	3.840	1168.709	51.00	3.53	.19	1168.90	.00	2.07	3.18	4.500	.000	.00	1 .0
13.388	.0120					.0007	.01	3.84	.29	1.49	.013	.00	.00	PIPE
1788.630	1165.030	3.672	1168.702	51.00	3.67	.21	1168.91	.00	2.07	3.49	4.500	.000	.00	1 .0
JUNCT STR	.0110					.0007	.00	3.67	.32		.013	.00	.00	PIPE
1791.370	1165.060	3.640	1168.700	51.00	3.70	.21	1168.91	.00	2.07	3.54	4.500	.000	.00	1 .0
.987	.0393					.0007	.00	3.64	.33	1.10	.013	.00	.00	PIPE
1792.357	1165.099	3.597	1168.696	51.00	3.74	.22	1168.91	.00	2.07	3.60	4.500	.000	.00	1 .0
HYDRAULIC JUMP														
1792.357	1165.099	1.099	1166.198	51.00	16.95	4.46	1170.66	.01	2.07	3.87	4.500	.000	.00	1 .0
42.125	.0393					.0393	1.66	1.11	3.39	1.10	.013	.00	.00	PIPE
1834.481	1166.755	1.099	1167.854	51.00	16.95	4.46	1172.32	.01	2.07	3.87	4.500	.000	.00	1 .0
141.079	.0393					.0395	5.57	1.11	3.39	1.10	.013	.00	.00	PIPE
1975.560	1172.300	1.097	1173.397	51.00	17.01	4.49	1177.89	.00	2.07	3.86	4.500	.000	.00	1 .0
64.540	.0397					.0397	2.56	1.10	3.40	1.10	.013	.00	.00	PIPE

PD 2637/2638
LINE C
BY WLL

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
2040.099	1174.861	1.097	1175.958	51.00	17.01	4.49	1180.45	.00	2.07	3.86	4.500	.000	.00	1 .0
146.121	.0397					.0413	6.04	1.10	3.40	1.10	.013	.00	.00	PIPE
2186.221	1180.661	1.074	1181.735	51.00	17.50	4.75	1186.49	.00	2.07	3.84	4.500	.000	.00	1 .0
69.029	.0397					.0461	3.18	1.07	3.54	1.10	.013	.00	.00	PIPE
2255.250	1183.400	1.039	1184.439	51.00	18.35	5.23	1189.67	.00	2.07	3.79	4.500	.000	.00	1 .0
JUNCT STR	.1362					.0460	.23	1.04	3.78		.013	.00	.00	PIPE
2260.170	1184.070	1.075	1185.145	51.00	17.49	4.75	1189.89	.00	2.07	3.84	4.500	.000	.00	1 .0
TRANS STR	.1293					.0382	.20	1.08	3.54		.013	.00	.00	PIPE
2265.350	1184.740	1.260	1186.000	51.00	16.36	4.15	1190.15	.00	2.23	3.36	3.500	.000	.00	1 .0
45.538	.0334					.0334	1.52	1.26	2.99	1.26	.013	.00	.00	PIPE
2310.888	1186.262	1.260	1187.522	51.00	16.36	4.15	1191.68	.00	2.23	3.36	3.500	.000	.00	1 .0
157.872	.0334					.0345	5.44	1.26	2.99	1.26	.013	.00	.00	PIPE
2468.760	1191.540	1.240	1192.780	51.00	16.71	4.34	1197.12	.01	2.23	3.35	3.500	.000	.00	1 .0
4.076	.0334					.0355	.14	1.25	3.08	1.26	.013	.00	.00	PIPE
2472.836	1191.676	1.239	1192.915	51.00	16.72	4.34	1197.26	.01	2.23	3.35	3.500	.000	.00	1 .0
83.990	.0334					.0380	3.20	1.25	3.09	1.26	.013	.00	.00	PIPE
2556.825	1194.479	1.197	1195.677	51.00	17.54	4.78	1200.45	.01	2.23	3.32	3.500	.000	.00	1 .0
43.465	.0334					.0434	1.89	1.20	3.30	1.26	.013	.00	.00	PIPE

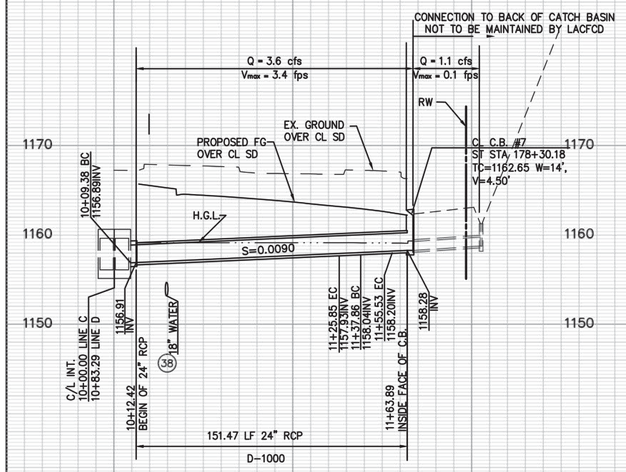
PD 2637/2638
LINE C
BY WLL

Station / L/Elem	Invert Elev / Ch Slope	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head / SF Ave	Energy Grd.El. / HF	Super Elev / SE Dpth	Critical Depth / Froude N	Flow Top Width / Norm Dp	Height/Dia.-FT / "N"	Base Wt or I.D. / X-Fall	ZL / ZR	No Wth Prs/Pip / Type Ch
2600.290	1195.930	1.156	1197.086	51.00	18.39	5.25	1202.34	.01	2.23	3.29	3.500	.000	.00	1 .0
TRANS STR	.2167					.0390	.21	1.16	3.53		.013	.00	.00	PIPE
2605.780	1197.120	1.538	1198.658	51.00	16.10	4.02	1202.68	.00	2.31	2.43	2.500	.000	.00	1 .0
96.965	.0320					.0314	3.05	1.54	2.49	1.53	.013	.00	.00	PIPE
2702.745	1200.221	1.548	1201.769	51.00	15.97	3.96	1205.73	.00	2.31	2.43	2.500	.000	.00	1 .0
112.499	.0320					.0294	3.30	1.55	2.45	1.53	.013	.00	.00	PIPE
2815.243	1203.819	1.612	1205.432	51.00	15.23	3.60	1209.03	.00	2.31	2.39	2.500	.000	.00	1 .0
43.477	.0320					.0261	1.13	1.62	2.27	1.53	.013	.00	.00	PIPE
2858.720	1205.210	1.682	1206.892	51.00	14.52	3.27	1210.17	.00	2.31	2.35	2.500	.000	.00	1 .0
8.669	.0318					.0241	.21	1.69	2.09	1.54	.013	.00	.00	PIPE
2867.389	1205.486	1.702	1207.188	51.00	14.32	3.19	1210.37	.00	2.31	2.33	2.500	.000	.00	1 .0
22.787	.0318					.0224	.51	1.71	2.04	1.54	.013	.00	.00	PIPE
2890.176	1206.211	1.778	1207.989	51.00	13.66	2.90	1210.88	.00	2.31	2.27	2.500	.000	.00	1 .0
15.410	.0318					.0201	.31	1.78	1.87	1.54	.013	.00	.00	PIPE
2905.586	1206.701	1.860	1208.561	51.00	13.02	2.63	1211.19	.00	2.31	2.18	2.500	.000	.00	1 .0
10.872	.0318					.0180	.20	1.86	1.71	1.54	.013	.00	.00	PIPE
2916.458	1207.047	1.949	1208.996	51.00	12.42	2.39	1211.39	.00	2.31	2.07	2.500	.000	.00	1 .0
7.484	.0318					.0162	.12	1.95	1.55	1.54	.013	.00	.00	PIPE

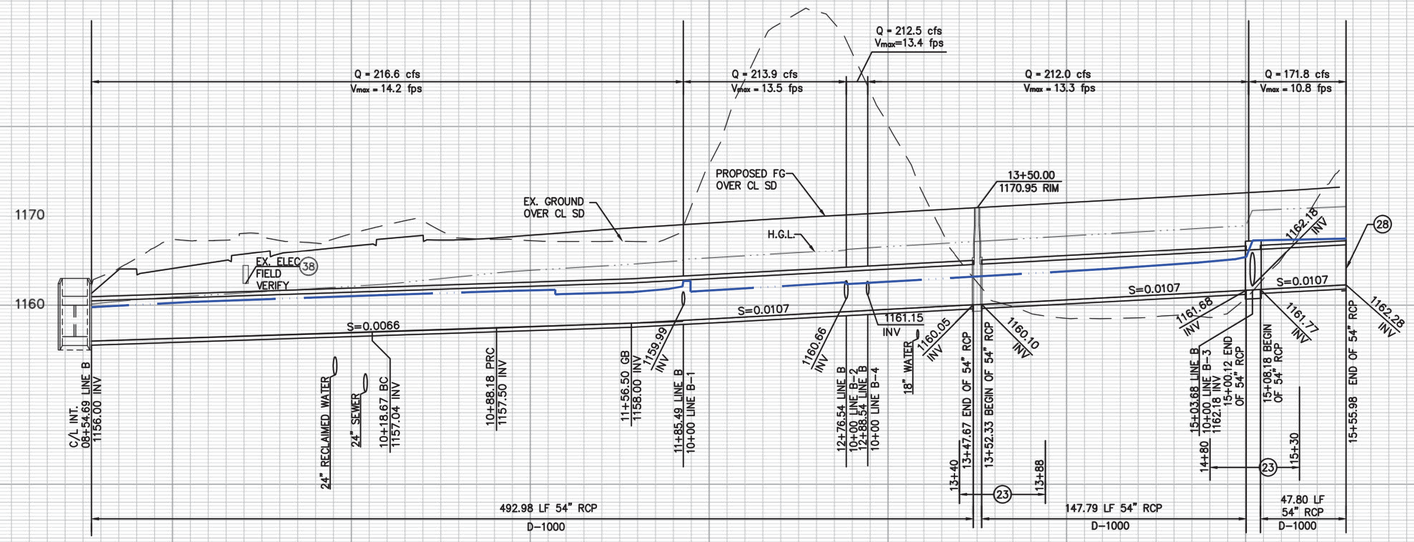
PD 2637/2638
LINE C
BY WLL

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
2923.942	1207.285	2.050	1209.335	51.00	11.84	2.18	1211.51	.00	2.31	1.92	2.500	.000	.00	1 .0
4.810	.0318					.0148	.07	2.05	1.39	1.54	.013	.00	.00	PIPE
2928.752	1207.438	2.166	1209.604	51.00	11.29	1.98	1211.58	.00	2.31	1.70	2.500	.000	.00	1 .0
1.948	.0318					.0138	.03	2.17	1.22	1.54	.013	.00	.00	PIPE
2930.700	1207.500	2.312	1209.812	51.00	10.76	1.80	1211.61	2.50	2.31	1.32	2.500	.000	.00	1 .0
JUNCT STR	.0649					.0110	.04	2.50	1.00		.013	.00	.00	PIPE
2934.090	1207.720	3.238	1210.958	38.10	7.76	.94	1211.89	.00	2.09	.00	2.500	.000	.00	1 .0
31.640	.0288					.0086	.27	.00	.00	1.32	.013	.00	.00	PIPE
2965.730	1208.630	2.778	1211.408	38.10	7.76	.94	1212.34	.00	2.09	.00	2.500	.000	.00	1 .0
12.111	.0316					.0086	.10	2.78	.00	1.28	.013	.00	.00	PIPE
2977.841	1209.012	2.500	1211.512	38.10	7.76	.94	1212.45	.00	2.09	.00	2.500	.000	.00	1 .0
5.629	.0316					.0080	.05	2.50	.00	1.28	.013	.00	.00	PIPE
2983.470	1209.190	2.281	1211.470	38.10	8.11	1.02	1212.49	.00	2.09	1.41	2.500	.000	.00	1 .0

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



STORM DRAIN "C"



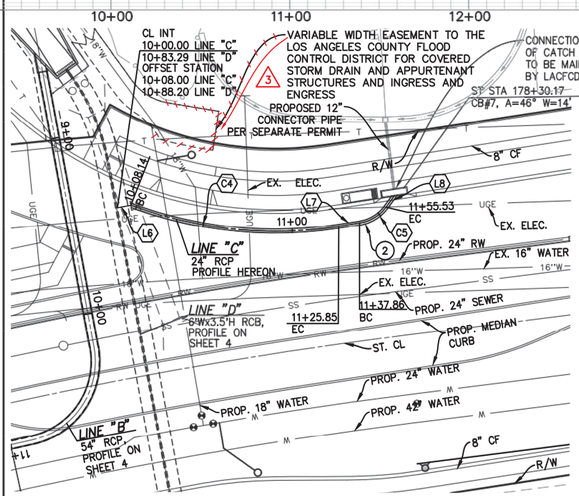
STORM DRAIN LINE "B"

REGISTERED PROFESSIONAL ENGINEER
JASON H. FUKUMITSU
No. 40695
CIVIL
STATE OF CALIFORNIA
11/12/24

FOR UPDATED HGL ONLY

P.D. No. 2637

DDN No. 43-F551



MAGIC MOUNTAIN PARKWAY
STORM DRAIN "C"

GRAPHIC SCALE: 1" = 40'

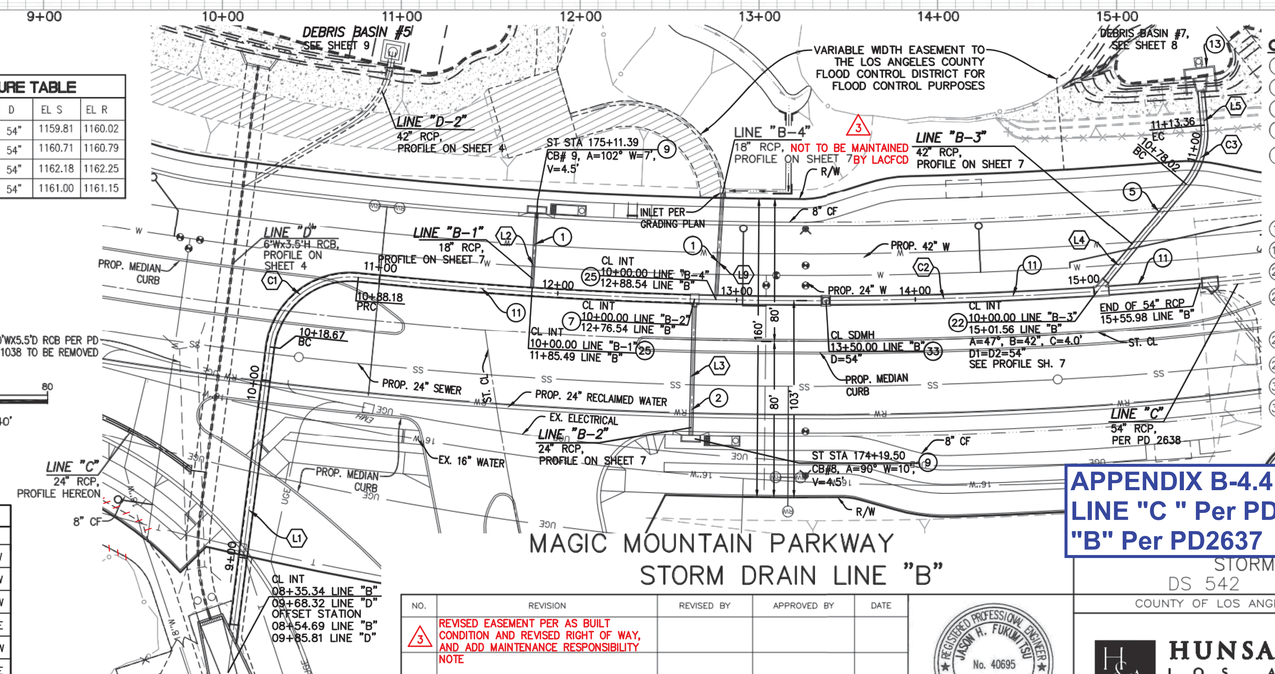
JUNCTION STRUCTURE TABLE						
LINE #	A	B	C	D	EL S	EL R
B-1	90°00'	18"	–	54"	1159.81	1160.02
B-2	90°00'	24"	1.75'	54"	1160.71	1160.79
B-3	46°35'	42"	3.98'	54"	1162.18	1162.25
B-4	87°45'	18"	–	54"	1161.00	1161.15

GRAPHIC SCALE: 1" = 40'

10'WX5.5'D RCB PER PD 1038 TO BE REMOVED

Curve Table				
Curve #	Length	Radius	Delta	Tangent
C1	69.51	45.00	088°29'58"	43.84
C2	361.61	2477.00	007°19'25"	158.52
C3	35.34	45.00	045°00'00"	18.64
C4	117.71	232.00	029°04'11"	60.15
C5	17.67	22.50	045°00'00"	9.32

Line Table		
Line #	Length	Bearing
L1	183.34'	N11° 56' 19"W
L2	37.50'	N15° 41' 22"W
L3	76.49'	N17° 47' 43"W
L4	78.02	N20° 25' 05"E
L5	18.97	N24° 34' 55"W
L6	7.64	N78° 03' 42"E
L7	12.01	S79° 55' 59"W
L8	8.36	S34° 55' 59"W
L9	59.79	N15° 49' 00"E



MAGIC MOUNTAIN PARKWAY
STORM DRAIN LINE "B"

CONSTRUCTION NOTES:

1. CONSTRUCT 18" RCP (D-LOAD PER PROFILE)
2. CONSTRUCT 24" RCP (D-LOAD PER PROFILE)
5. CONSTRUCT 42" RCP (D-LOAD PER PROFILE)
7. CONSTRUCT JUNCTION STRUCTURE PIPE TO PIPE PER SPPWC STD. 331-3.
9. CONSTRUCT CURB OPENING CATCH BASIN PER SPPWC STD. 300-3 AND LOCAL DEPRESSION PER SPPWC STANDARD PLAN 313-3, PER STREET PLAN. INSTALL AUTOMATIC RETRACTABLE SCREEN (ARS) AND CONNECTOR PIPE SCREEN PER DETAIL SHEET 12.
11. CONSTRUCT 54" RCP (D-LOAD PER PROFILE)
13. CONSTRUCT DESILTING INLET PER DETAIL ON SHEET NO. 8
22. CONSTRUCT TRANSITION STRUCTURE PIPE PER SPPWC STD. 340-2.
23. PROVIDE RUBBER GASKET JOINTS ON BOTH SIDES OF CUT/FILL TRANSITION (3 JOINTS MIN. EACH SIDE OR 24' MIN EACH SIDE)
25. CONSTRUCT JUNCTION STRUCTURE PIPE TO PIPE PER SPPWC STD. 332-3.
28. CONSTRUCT BRICK AND MOTOR PLUG
33. CONSTRUCT MANHOLE PIPE TO PIPE PER SPPWC STD. 320-2.
38. CONSTRUCT CONCRETE BLANKET PER SPPWC 225-2

APPENDIX B-4.4
LINE "C " Per PD 2641 and Line "B" Per PD2637

REVIEWED LAND DEVELOPMENT DIVISION
BY _____ STORM DRAIN SECTION
08/13/2018 DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
3	REVISED EASEMENT PER AS BUILT CONDITION AND REVISED RIGHT OF WAY, AND ADD MAINTENANCE RESPONSIBILITY NOTE			

REGISTERED PROFESSIONAL ENGINEER
JASON H. FUKUMITSU
No. 40695
CIVIL
STATE OF CALIFORNIA
8/10/18
JASON H. FUKUMITSU DATE

STORM DRAIN PLANS IN
DS 542 P.D. No. 2637
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 ▪ Valencia, CA 91355 ▪ PH: (661) 294-2211 ▪ FX: (661) 294-9890

DWG

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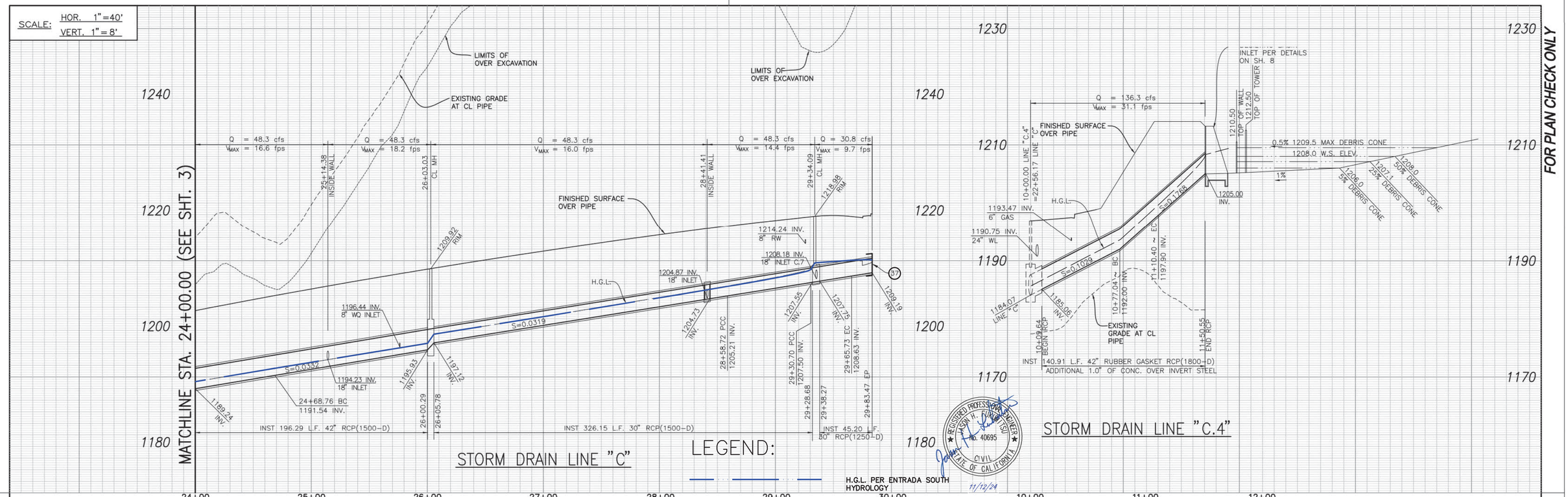
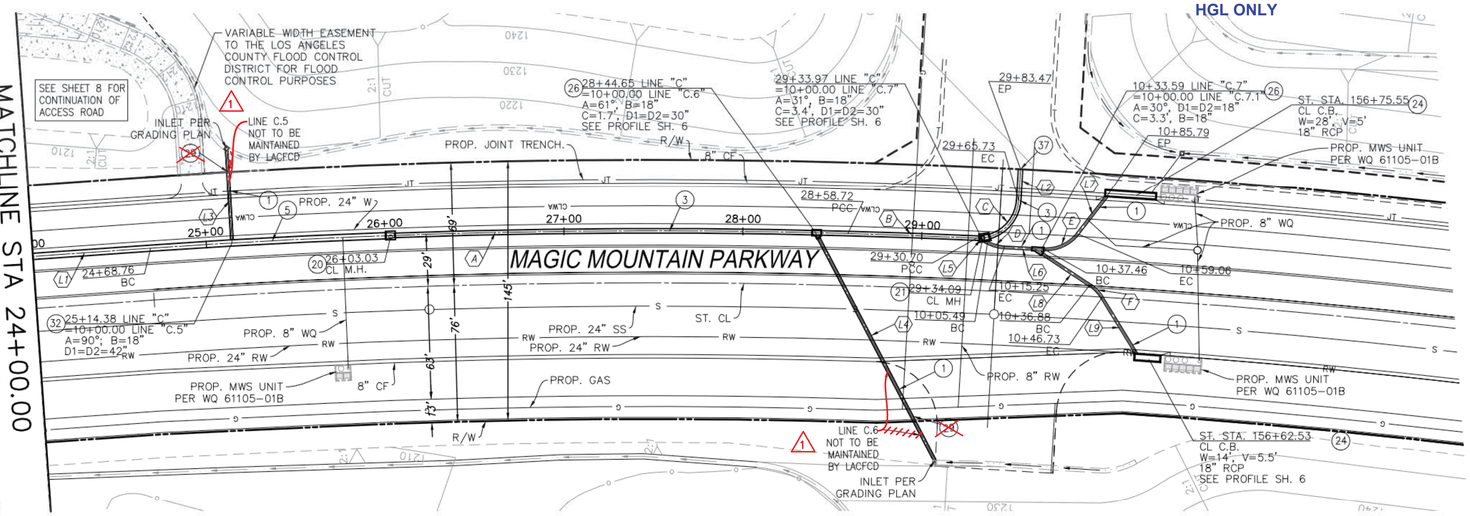
SCALE: HOR. 1"=40'
VERT. 1"=8'



FOR PLAN CHECK ONLY

DDN 43-F552



SD LINE "C" LINE TABLE		
LINE	LENGTH	BEARING
L1	64.76'	N56°01'25"E
L2	17.74'	N26°37'46"W
L3	52.15'	N33°191'39"W
L4	143.33'	S57°39'51"E
L5	5.49'	S87°39'58"W
L6	22.21'	S62°49'18"W
L7	26.73'	S07°48'38"W
L8	36.99'	S61°37'45"E
L9	36.88'	S86°42'51"E

SD LINE "C" CURVE TABLE				
LINE	DELTA	RADIUS	LENGTH	TANGENT
A	05°32'42"	4029.46'	389.96'	195.13'
B	01°01'24"	4029.46'	71.98'	35.99'
C	89°13'18"	22.50'	35.04'	22.20'
D	24°50'39"	22.50'	9.76'	4.96'
E	55°00'40"	22.50'	21.60'	11.72'
F	25°05'06"	22.50'	9.85'	5.01'

STORM DRAIN LINE "C"

CONSTRUCTION NOTES:

1 INSTALL 18" R.C.P. (SEE PROFILE FOR D-LOAD)
3 INSTALL 30" R.C.P. (SEE PROFILE FOR D-LOAD)
5 INSTALL 42" R.C.P. (SEE PROFILE FOR D-LOAD)
20 CONSTRUCT M.H. PER S.P.P.W.C. STD. PLAN 320-2
21 CONSTRUCT M.H. PER S.P.P.W.C. STD. PLAN 321-2
24 CONSTRUCT MODIFIED CURB OPENING CATCH BASIN PER S.P.P.W.C. STD. PLAN NO. 300-3
26 CONSTRUCT T.S. PER S.P.P.W.C. STD. PLAN 340-2
~~29 CONSTRUCT CLEANOUT PER DETAIL 29 ON SHEET 5~~
32 CONSTRUCT J.S. PER S.P.P.W.C. STD. PLAN 332-2
37 CONSTRUCT 8" BRICK AND MORTAR PLUG

FOR UPDATED HGL ONLY

APPENDIX B-4.4
LINE "C " Per PD 2641 and Line "B" Per PD2637

REGISTERED PROFESSIONAL ENGINEER VINCENT PING-XUEN IP No. 2522 Exp. 09/20 GEOTECHNICAL STATE OF CALIFORNIA

CERTIFIED ENGINEERING GEOLOGIST ANDREW A. PRICE No. 1208 STATE OF CALIFORNIA

REVIEWED LAND DEVELOPMENT DIVISION
BY _____ STORM DRAIN SECTION
08/20/18 DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
1	REVISED MAINTENANCE RESPONSIBILITY NOTE ON LINES C.5 AND C.6			

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA
JASON H. FUKUMITSU DATE 8-16-18

STORM DRAIN PLANS IN
TRACT No. 61105-1 P.D. No. 2638
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 ▪ Valencia, CA 91355 ▪ PH: (661) 294-2211 ▪ FX: (661) 294-9890

DWG

SHEET 4 OF 9

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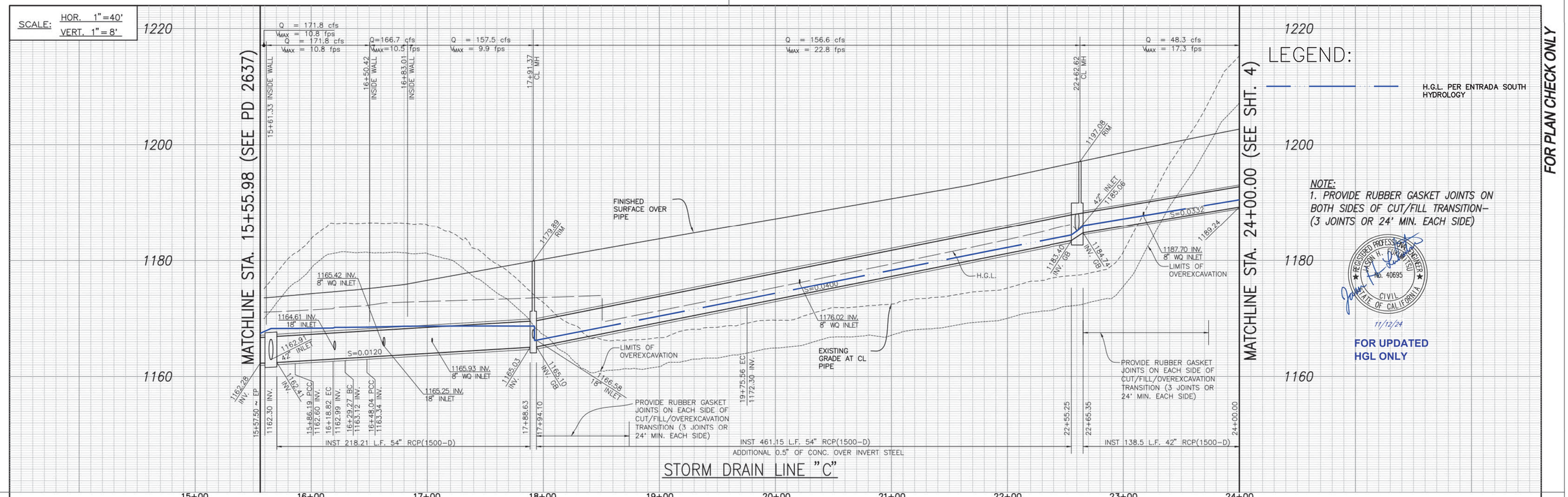
SCALE: HOR. 1"=40'
VERT. 1"=8'



STORM DRAIN LINE "C"

LEGEND:

H.G.L. PER ENTRADA SOUTH HYDROLOGY

NOTE:
1. PROVIDE RUBBER GASKET JOINTS ON BOTH SIDES OF CUT/FILL TRANSITION-(3 JOINTS OR 24' MIN. EACH SIDE)

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA
11/12/24

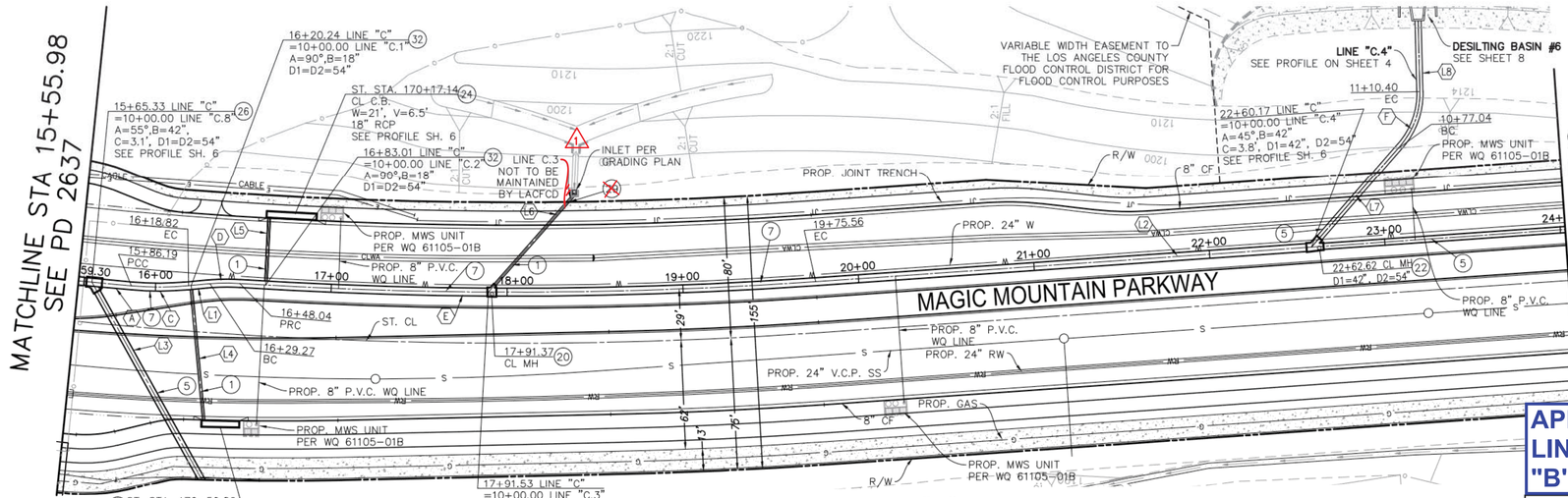
FOR UPDATED HGL ONLY

FOR PLAN CHECK ONLY

DDN 43-F552

CONSTRUCTION NOTES:

1. INSTALL 18" R.C.P. (SEE PROFILE FOR D-LOAD)
5. INSTALL 42" R.C.P. (SEE PROFILE FOR D-LOAD)
7. INSTALL 54" R.C.P. (SEE PROFILE FOR D-LOAD)
20. CONSTRUCT M.H. PER S.P.P.W.C. STD. PLAN 320-2
22. CONSTRUCT M.H. PER S.P.P.W.C. STD. PLAN 322-2
24. CONSTRUCT MODIFIED CURB OPENING CATCH BASIN PER S.P.P.W.C. STD. PLAN NO. 300-3 LD PER S.P.P.W.C. 313-3 CASE E, H=2'(TYP.)
26. CONSTRUCT T.S. PER S.P.P.W.C. STD. PLAN 340-2
~~29. CONSTRUCT CLEANOUT PER DETAIL 29 ON SHEET 5~~
32. CONSTRUCT J.S. PER S.P.P.W.C. STD. PLAN 332-2



SD LINE "C" LINE TABLE		
LINE	LENGTH	BEARING
L1	10.46'	N54°39'21"E
L2	428.44'	N56°01'25"E
L3	120.20'	S59°05'27"E
L4	77.14'	N35°20'39"W
L5	38.51'	N27°11'34"W
L6	68.78'	S11°27'02"W
L7	77.04'	S11°01'25"W
L8	40.16'	S31°27'00"E

SD LINE "C" CURVE TABLE				
LINE	DELTA	RADIUS	LENGTH	TANGENT
A	00°41'56"	2477.00'	30.21'	5.11'
C	10°23'08"	180.00'	32.63'	16.36'
D	08°57'43"	120.00'	18.77'	9.40'
E	07°35'39"	2471.00'	327.51'	164.00'
F	42°28'26"	45.00'	33.36'	17.49'

REGISTERED PROFESSIONAL ENGINEER VINCENT PING-KUEN LO No. 2522 Exp. 2/20 GEOTECHNICAL STATE OF CALIFORNIA

CERTIFIED ENGINEERING GEOLOGIST ANDREW A. PRICE No. 1709 STATE OF CALIFORNIA

REVIEWED LAND DEVELOPMENT DIVISION
BY _____ STORM DRAIN SECTION
08/20/18 DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
1	REVISED MAINTENANCE RESPONSIBILITY NOTE ON LINE C.3			

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA
8-16-18
JASON H. FUKUMITSU DATE

APPENDIX B-4.4
LINE "C " Per PD 2641 and Line "B" Per PD2637

STORM DRAIN PLANS IN
TRACT No. 61105-1 P.D. No. 2638
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 ▪ Valencia, CA 91355 ▪ PH: (661) 294-2211 ▪ FX: (661) 294-9890

DWG

S:\Newhall Ranch\JL\5825\Bridges\Vert\25x40\5825_Bridges_Vert_25x40_20250819.dwg, 8/19/2025 8:48:46 AM, by ormonn

B-4.5: Line “A6” of PD 2641

```
T1 PD 2641                                                                                                  0
T2 LINE A6
T3 BY WLL
SO   1016.2701271.180  1                          1286.827
R    1026.7701272.330  1      .013                                          .000    .000 0
R    1040.9501273.880  1      .013                                         9.027    .000 0
JX   1116.1501282.117  1  2   .013   11.100         1284.790          -80.0       -3.624
JX   1134.6901284.150  1  2   .013    1.000         1285.800           90.0        -.272
R    1233.7701295.005  1      .013                                       -5.272    .000 0
JX   1235.7201295.219  1  3   .013   24.100         1296.500          -44.0        -.093
R    1242.0801295.910  1      .013                                        .000    .000 0
JX   1300.0001299.860  1  2   .013    2.600         1301.730          -55.0       -3.141
JX   1308.5501300.438  1  2   .013    3.300         1303.320           58.0        -.397
R    1497.6701313.240  1      .013                                       -8.918    .000 0
R    1502.3301313.560  1      .013                                       -0.222    .000 0
R    1601.5001318.130  1      .013                                       -4.715    .000 0
R    1748.3701324.890  1      .013                                         .000    .000 0
R    1781.2401326.400  1      .013                                       20.926    .000 0
JX   1785.5001326.410  1  3   .013   11.500         1327.200          -44.0        2.712
R    1799.9801326.460  1      .013                                        9.218    .000 0
JX   1805.9301326.480  1  4   .013  145.500         1327.370          -30.0        3.788
R    1826.9101326.550  1      .013                                       13.356    .000 0
R    1854.6401326.640  1      .013                                         .000    .000 0
R    1934.4901326.890  1      .013                                      -38.125    .000 0
R    2081.5001327.370  1      .013                                         .000    .000 0
R    2100.8301327.430  1      .013                                        9.232    .000 0
JX   2103.6701327.440  1  2   .013     .001         1331.520          -90.0         .000
R    2162.5701327.630  1      .013                                         .000    .000 0
R    2214.9401327.800  1      .013                                       25.004    .000 0
R    2308.3501328.100  1      .013                                         .000    .000 0
SH   2308.3501328.100  1                          1328.100
CD   1  4   1    .000   5.000     .000  .000  .000   .00
CD   2  4   1    .000   1.500     .000  .000  .000   .00
CD   3  4   1    .000   2.000     .000  .000  .000   .00
CD   4  4   1    .000   3.500     .000  .000  .000   .00
CD   5  4   1    .000   4.500     .000  .000  .000   .00
Q           207.400   .0
```

Program Package Serial Number: 1656

WATER SURFACE PROFILE LISTING Date:10-14-2024 Time:11:21:24

PD 2641
LINE A6
BY WLL

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
1016.270	1271.180	15.647	1286.827	406.50	20.70	6.66	1293.48	.00	4.89	.00	5.000	.000	.00	1 .0
10.500	.1095					.0244	.26	15.65	.00	2.42	.013	.00	.00	PIPE
1026.770	1272.330	14.753	1287.083	406.50	20.70	6.66	1293.74	.00	4.89	.00	5.000	.000	.00	1 .0
6.874	.1093					.0244	.17	.00	.00	2.42	.013	.00	.00	PIPE
1033.644	1273.081	14.370	1287.451	406.50	20.70	6.66	1294.11	.00	4.89	.00	5.000	.000	.00	1 .0
HYDRAULIC JUMP														
1033.644	1273.081	2.663	1275.744	406.50	38.24	22.71	1298.45	5.00	4.89	4.99	5.000	.000	.00	1 .0
7.306	.1093					.0783	.57	5.00	4.62	2.42	.013	.00	.00	PIPE
1040.950	1273.880	2.675	1276.555	406.50	38.02	22.44	1299.00	.06	4.89	4.99	5.000	.000	.00	1 .0
JUNCT STR	.1095					.0755	5.67	2.73	4.58		.013	.00	.00	PIPE
1116.150	1282.117	2.679	1284.796	395.40	36.92	21.16	1305.96	.05	4.88	4.99	5.000	.000	.00	1 .0
JUNCT STR	.1097					.0719	1.33	2.73	4.44		.013	.00	.00	PIPE
1134.690	1284.150	2.705	1286.855	394.40	36.37	20.54	1307.40	.19	4.88	4.98	5.000	.000	.00	1 .0
5.358	.1096					.0700	.37	2.90	4.35	2.37	.013	.00	.00	PIPE
1140.048	1284.737	2.717	1287.454	394.40	36.17	20.32	1307.77	.19	4.88	4.98	5.000	.000	.00	1 .0
39.414	.1096					.0654	2.58	2.91	4.31	2.37	.013	.00	.00	PIPE
1179.462	1289.055	2.824	1291.879	394.40	34.49	18.47	1310.35	.17	4.88	4.96	5.000	.000	.00	1 .0
30.245	.1096					.0578	1.75	2.99	4.00	2.37	.013	.00	.00	PIPE

PD 2641
LINE A6
BY WLL

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
1209.707	1292.369	2.937	1295.306	394.40	32.88	16.79	1312.10	.15	4.88	4.92	5.000	.000	.00	1 .0
24.063	.1096					.0511	1.23	3.09	3.71	2.37	.013	.00	.00	PIPE
1233.770	1295.005	3.057	1298.062	394.40	31.35	15.27	1313.33	.12	4.88	4.87	5.000	.000	.00	1 .0
JUNCT STR	.1097					.0527	.10	3.18	3.44		.013	.00	.00	PIPE
1235.720	1295.219	2.772	1297.991	370.30	33.14	17.05	1315.04	.00	4.85	4.97	5.000	.000	.00	1 .0
6.360	.1087					.0567	.36	2.77	3.89	2.30	.013	.00	.00	PIPE
1242.080	1295.910	2.796	1298.706	370.30	32.79	16.70	1315.40	.13	4.85	4.96	5.000	.000	.00	1 .0
JUNCT STR	.0682					.0549	3.18	2.93	3.83		.013	.00	.00	PIPE
1300.000	1299.860	2.815	1302.675	367.70	32.28	16.18	1318.86	.13	4.84	4.96	5.000	.000	.00	1 .0
JUNCT STR	.0676					.0545	.47	2.95	3.75		.013	.00	.00	PIPE
1308.550	1300.438	2.780	1303.217	364.40	32.50	16.40	1319.62	.13	4.84	4.97	5.000	.000	.00	1 .0
13.023	.0677					.0547	.71	2.91	3.81	2.61	.013	.00	.00	PIPE
1321.573	1301.319	2.792	1304.112	364.40	32.31	16.21	1320.32	.13	4.84	4.97	5.000	.000	.00	1 .0
82.266	.0677					.0511	4.21	2.92	3.78	2.61	.013	.00	.00	PIPE
1403.839	1306.888	2.903	1309.791	364.40	30.81	14.74	1324.53	.12	4.84	4.93	5.000	.000	.00	1 .0
54.324	.0677					.0452	2.46	3.02	3.51	2.61	.013	.00	.00	PIPE
1458.163	1310.566	3.021	1313.587	364.40	29.37	13.40	1326.99	.11	4.84	4.89	5.000	.000	.00	1 .0
39.507	.0677					.0400	1.58	3.13	3.25	2.61	.013	.00	.00	PIPE

PD 2641
LINE A6
BY WLL

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
1497.670	1313.240	3.146	1316.386	364.40	28.01	12.18	1328.57	.10	4.84	4.83	5.000	.000	.00	1 .0
4.660	.0687					.0373	.17	3.24	3.01	2.60	.013	.00	.00	PIPE
1502.330	1313.560	3.164	1316.724	364.40	27.82	12.02	1328.74	.10	4.84	4.82	5.000	.000	.00	1 .0
21.132	.0461					.0365	.77	3.26	2.97	2.94	.013	.00	.00	PIPE
1523.462	1314.534	3.190	1317.724	364.40	27.56	11.79	1329.52	.09	4.84	4.81	5.000	.000	.00	1 .0
78.038	.0461					.0341	2.66	3.28	2.93	2.94	.013	.00	.00	PIPE
1601.500	1318.130	3.326	1321.455	364.40	26.27	10.72	1332.17	.00	4.84	4.72	5.000	.000	.00	1 .0
13.605	.0460					.0316	.43	3.33	2.70	2.94	.013	.00	.00	PIPE
1615.105	1318.756	3.357	1322.113	364.40	25.99	10.49	1332.60	.00	4.84	4.70	5.000	.000	.00	1 .0
48.803	.0460					.0295	1.44	3.36	2.65	2.94	.013	.00	.00	PIPE
1663.908	1321.002	3.505	1324.507	364.40	24.78	9.54	1334.04	.00	4.84	4.58	5.000	.000	.00	1 .0
35.965	.0460					.0263	.95	3.51	2.44	2.94	.013	.00	.00	PIPE
1699.873	1322.658	3.664	1326.322	364.40	23.63	8.67	1334.99	.00	4.84	4.42	5.000	.000	.00	1 .0
27.380	.0460					.0236	.65	3.66	2.23	2.94	.013	.00	.00	PIPE
1727.252	1323.918	3.838	1327.756	364.40	22.53	7.88	1335.64	.00	4.84	4.22	5.000	.000	.00	1 .0
21.118	.0460					.0213	.45	3.84	2.03	2.94	.013	.00	.00	PIPE
1748.370	1324.890	4.031	1328.922	364.40	21.48	7.16	1336.09	.63	4.84	3.95	5.000	.000	.00	1 .0
14.143	.0459					.0194	.27	4.66	1.83	2.94	.013	.00	.00	PIPE

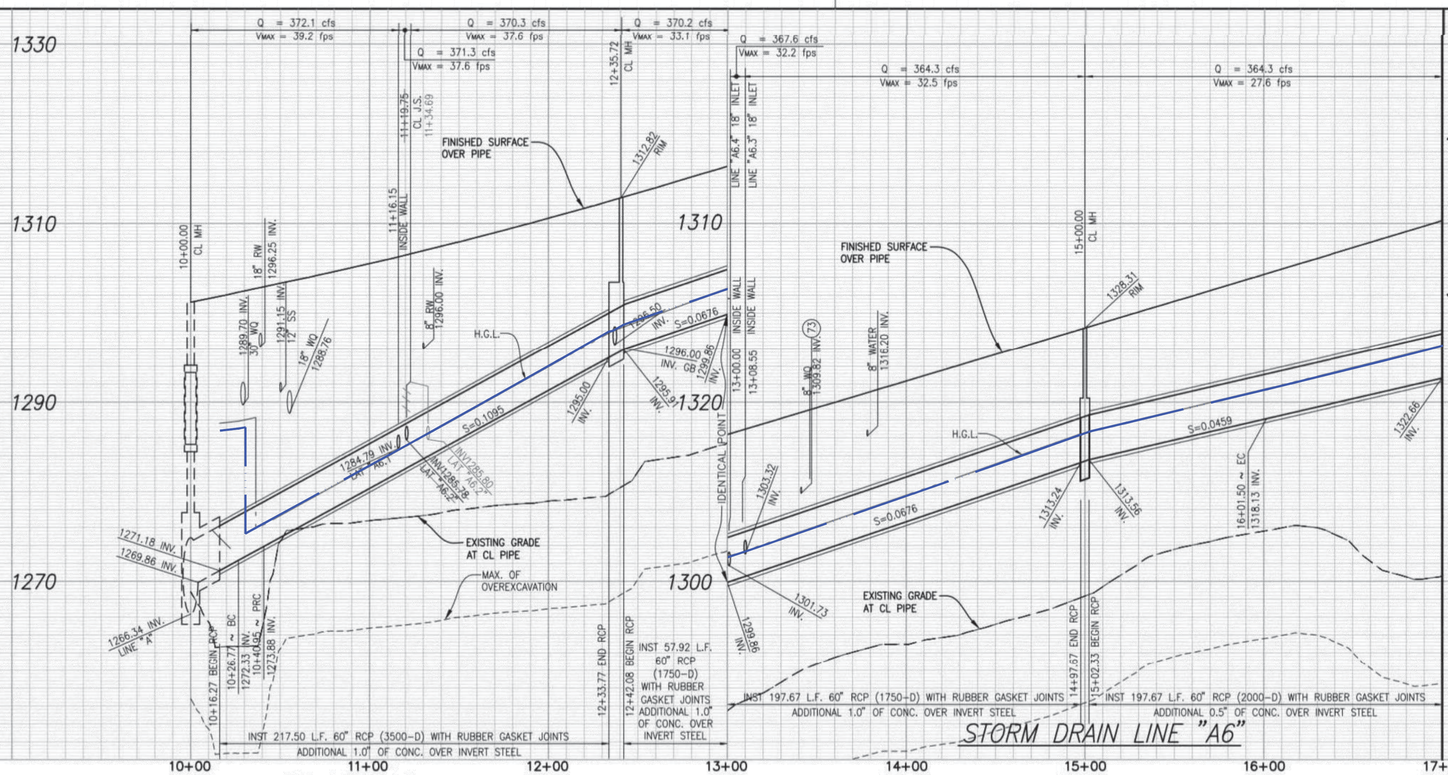
PD 2641
LINE A6
BY WLL

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
1762.513	1325.540	4.217	1329.757	364.40	20.62	6.60	1336.36	.53	4.84	3.63	5.000	.000	.00	1 .0
12.319	.0459					.0180	.22	4.75	1.65	2.94	.013	.00	.00	PIPE
1774.832	1326.106	4.473	1330.579	364.40	19.66	6.00	1336.58	.41	4.84	3.07	5.000	.000	.00	1 .0
6.408	.0459					.0172	.11	4.88	1.41	2.94	.013	.00	.00	PIPE
1781.240	1326.400	4.836	1331.236	364.40	18.75	5.46	1336.69	5.00	4.84	1.78	5.000	.000	.00	1 .0
JUNCT STR	.0023					.0178	.08	5.00	1.00		.013	.00	.00	PIPE
1785.500	1326.410	5.630	1332.040	352.90	17.97	5.02	1337.06	.00	4.81	.00	5.000	.000	.00	1 .0
14.480	.0034					.0184	.27	.00	.00	5.00	.013	.00	.00	PIPE
1799.980	1326.460	6.167	1332.627	352.90	17.97	5.02	1337.64	.00	4.81	.00	5.000	.000	.00	1 .0
JUNCT STR	.0034					.0124	.07	.00	.00		.013	.00	.00	PIPE
1805.930	1326.480	9.773	1336.253	207.40	10.56	1.73	1337.99	.00	4.10	.00	5.000	.000	.00	1 .0
20.980	.0033					.0063	.13	.00	.00	5.00	.013	.00	.00	PIPE
1826.910	1326.550	9.970	1336.520	207.40	10.56	1.73	1338.25	.00	4.10	.00	5.000	.000	.00	1 .0
27.730	.0032					.0063	.18	9.97	.00	5.00	.013	.00	.00	PIPE
1854.640	1326.640	10.055	1336.696	207.40	10.56	1.73	1338.43	.00	4.10	.00	5.000	.000	.00	1 .0
79.850	.0031					.0063	.51	.00	.00	5.00	.013	.00	.00	PIPE
1934.490	1326.890	10.537	1337.427	207.40	10.56	1.73	1339.16	.00	4.10	.00	5.000	.000	.00	1 .0
147.010	.0033					.0063	.93	10.54	.00	5.00	.013	.00	.00	PIPE

PD 2641
LINE A6
BY WLL

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
2081.500	1327.370	10.990	1338.360	207.40	10.56	1.73	1340.09	.00	4.10	.00	5.000	.000	.00	1 .0
19.330	.0031					.0063	.12	.00	.00	5.00	.013	.00	.00	PIPE
2100.830	1327.430	11.163	1338.593	207.40	10.56	1.73	1340.33	.00	4.10	.00	5.000	.000	.00	1 .0
JUNCT STR	.0035					.0063	.02	11.16	.00		.013	.00	.00	PIPE
2103.670	1327.440	11.171	1338.611	207.40	10.56	1.73	1340.34	.00	4.10	.00	5.000	.000	.00	1 .0
58.900	.0032					.0063	.37	11.17	.00	5.00	.013	.00	.00	PIPE
2162.570	1327.630	11.355	1338.985	207.40	10.56	1.73	1340.72	.00	4.10	.00	5.000	.000	.00	1 .0
52.370	.0032					.0063	.33	.00	.00	5.00	.013	.00	.00	PIPE
2214.940	1327.800	11.700	1339.500	207.40	10.56	1.73	1341.23	.00	4.10	.00	5.000	.000	.00	1 .0
93.410	.0032					.0063	.59	11.70	.00	5.00	.013	.00	.00	PIPE
2308.350	1328.100	11.992	1340.092	207.40	10.56	1.73	1341.82	.00	4.10	.00	5.000	.000	.00	1 .0

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



LEGEND:

REVISED H.G.L. PER PROPOSED ENTRADA SOUTH HYDROLOGY

P.D. NO. 2641

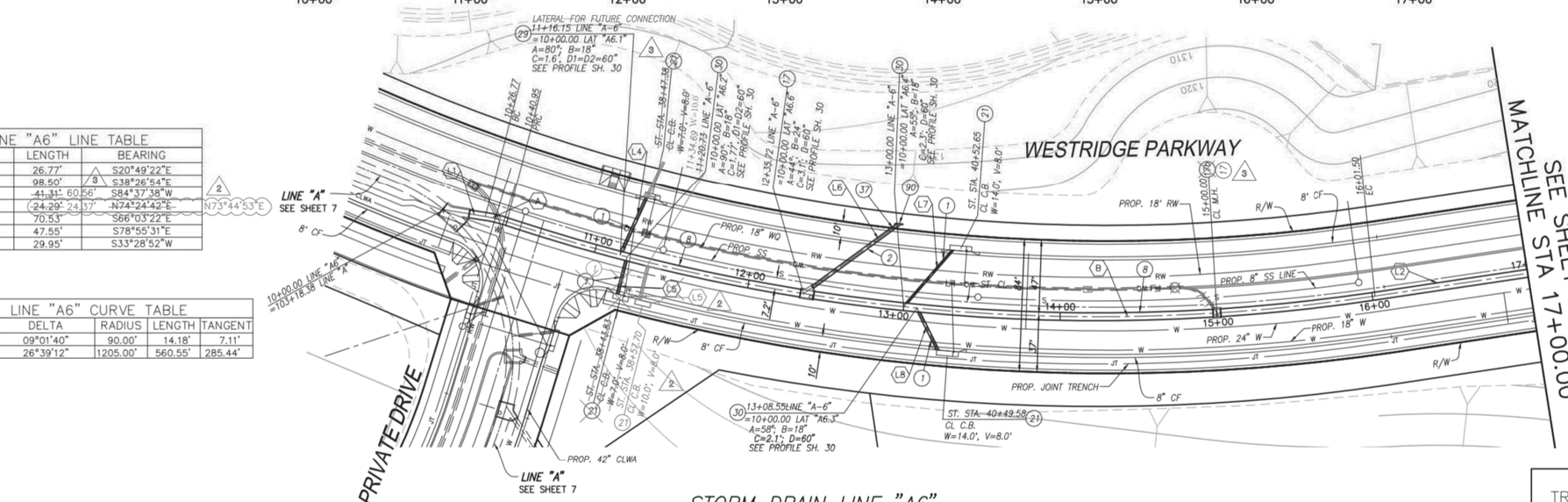
REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA

11/12/24

FOR UPDATED HGL ONLY

LINE "A6" LINE TABLE		
LINE	LENGTH	BEARING
L1	26.77'	S20°49'22"E
L2	98.50'	S38°26'54"E
L3	41.31' 60.56'	S84°37'38"W
L4	24.29' 24.37'	N74°24'42"E
L5	70.53'	S66°03'22"E
L6	47.55'	S78°55'31"E
L7	29.95'	S33°28'52"W

LINE "A6" CURVE TABLE				
	DELTA	RADIUS	LENGTH	TANGENT
A	09°01'40"	90.00'	14.18'	7.11'
B	26°39'12"	1205.00'	560.55'	285.44'



SEE SHEET 18 MATCHLINE STA 17+00.00

CONSTRUCTION NOTES

1. INSTALL 18" R.C.P. (SEE PROFILE FOR D-LOAD)
2. INSTALL 24" R.C.P. (SEE PROFILE FOR D-LOAD)
8. INSTALL 60" R.C.P. (SEE PROFILE FOR D-LOAD)
9. INSTALL 96" R.C.P. (SEE PROFILE FOR D-LOAD)
17. CONSTRUCT M.H. PER S.P.P.W.C.. STD. PLAN 320-2
17b. ~~CONSTRUCT MODIFIED M.H. PER S.P.P.W.C. STD. PLAN NO. 320-2 PER DETAILS ON SHEET 33~~
21. CONSTRUCT CURB OPENING CATCH BASIN PER S.P.P.W.C. STD. PLAN NO. 300-3 (MODIFIED CATCH BASIN PER DETAIL ON SHEET 38 AND SHEET 39
29. CONSTRUCT J.S. PER S.P.P.W.C. STD. PLAN 331-3
30. CONSTRUCT J.S. PER S.P.P.W.C. STD. PLAN 332-2
37. CONSTRUCT CLEANOUT PER DETAIL 37 ON SHEET 25
90. CONSTRUCT BRICK AND MORTAR PLUG

Dwg No. 43-F553.1-38

REGISTERED PROFESSIONAL ENGINEER VINCENT PING-KUEN No. 2622

REGISTERED ENGINEERING GEOLOGIST ANDREW A. [illegible] No. 1209 CALIFORNIA

APPENDIX B-4.5
LINE "A6" Per PD 2641

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA

GRAPHIC SCALE: 1" = 40'

REVIEWED LAND DEVELOPMENT DIVISION
BY [signature] STORM DRAIN SECTION 10/04/2018 DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
2	ADDED STRUCTURAL DETAIL SHEETS 38 AND 39. ADDED CONSTRUCTION NOTE 91.REVISED CONSTRUCTION NOTE 21.			8/14/19
	REVISED TOTAL SHEET NUMBER. REVISE HYDRAULIC ELEMENTS REVISE AND ADD LATERALS/MAINLINE			
	REVISED "00" PRIVATE DRIVE			
3	REMOVED CATCH BASIN ON WESTRIDGE PARKWAY, EXTENDED LAT A6.1, ADDED LABELS AND UPDATED WATER QUALITY LINE			3/15/2021

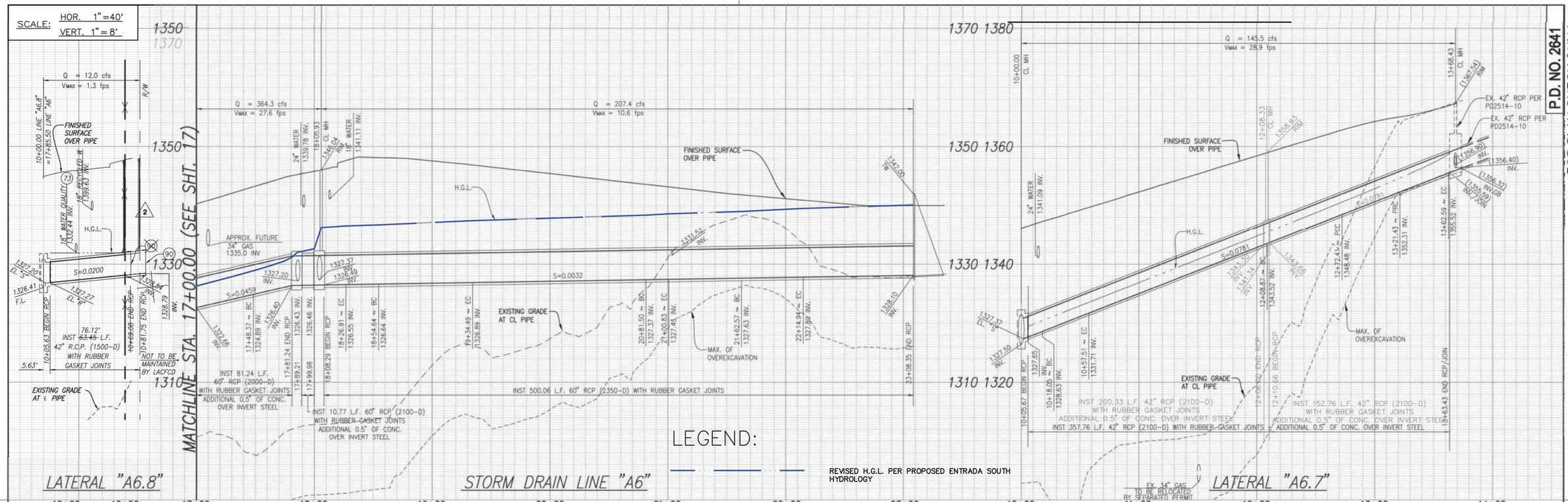
REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA
JASON H. FUKUMITSU DATE 8/29/18

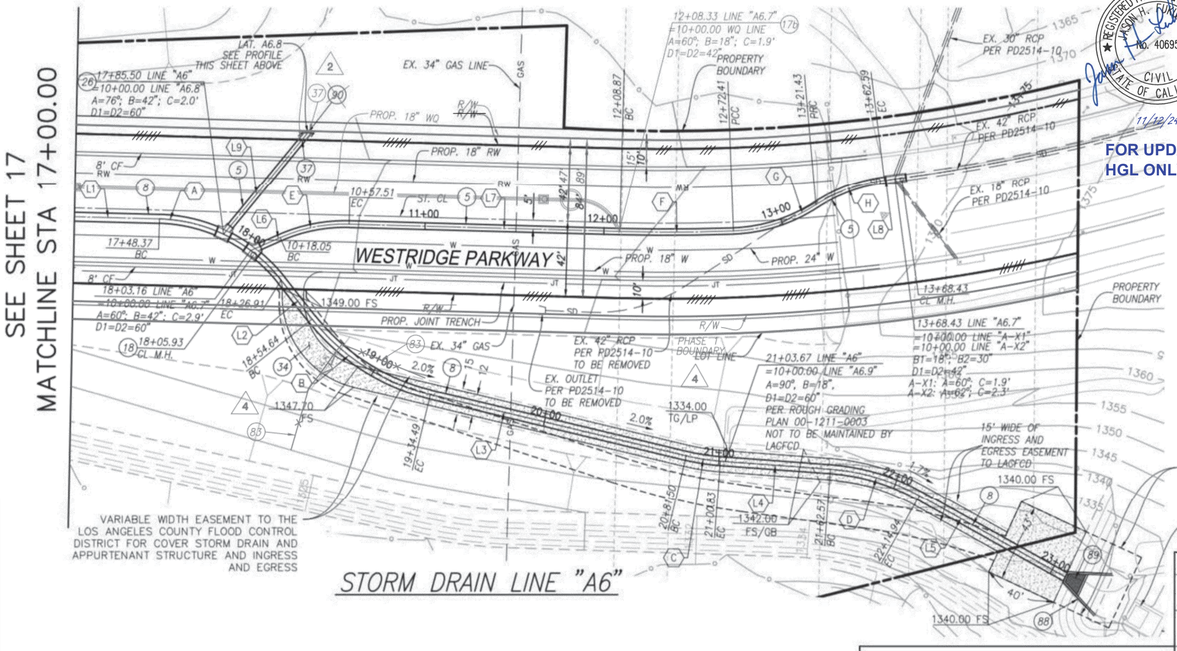
STORM DRAIN PLANS IN
TRACT No. 61105-01 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 ▪ Valencia, CA 91355 ▪ PH: (661) 294-2211 ▪ FX: (661) 294-9890

DWG SHEET 17 OF 37 39

© Westfall Ranch \61105\ Missions\Design\61105dp05.dwg 11/12/2024 10:18:42 by jjohnson





LINE "A6" LINE TABLE		
LINE	LENGTH	BEARING
L1	48.37'	S38°26'54"E
L2	27.73'	N11°33'06"E
L3	147.01'	N26°34'23"W
L4	61.74'	N35°48'19"W
L5	93.41'	N10°48'03"W

LINE "A6" CURVE TABLE				
	DELTA	RADIUS	LENGTH	TANGENT
A	50°00'00"	90.00'	78.54'	41.97'
B	38°07'29"	120.00'	79.85'	41.47'
C	09°13'56"	120.00'	19.34'	9.69'
D	25°00'16"	120.00'	52.37'	26.61'

LINE "A6.7" LINE TABLE		
LINE	LENGTH	BEARING
L6	18.05'	N63°33'50"W
L7	151.37'	S38°26'54"E
L8	0.84'	S47°04'02"E

LINE "A6.7" CURVE TABLE				
	DELTA	RADIUS	LENGTH	TANGENT
E	25°06'56"	90.00'	39.45'	20.05'
F	03°37'21"	1005.00'	63.54'	31.78'
G	31°12'04"	90.00'	49.01'	25.13'
H	26°12'18"	90.00'	41.16'	20.95'

LINE "A6.8" LINE TABLE		
LINE	LENGTH	BEARING
L9	74.06' 81.75'	N89°25'59"E

CONSTRUCTION NOTES

5. INSTALL 42" R.C.P. (SEE PROFILE FOR D-LOAD)
8. INSTALL 60" R.C.P. (SEE PROFILE FOR D-LOAD)
18. CONSTRUCT M.H. PER S.P.P.W.C., STD. PLAN 322-2
26. CONSTRUCT T.S. PER S.P.P.W.C., STD. PLAN 340-2
34. CONSTRUCT 3" ASPHALT CONCRETE OVER 4" CRUSHED MISCELLANEOUS BASE PER DETAIL ON SHEET 22 (WIDTH PER PLAN)
37. CONSTRUCT CLEANOUT PER DETAIL 37 ON SHEET 25
88. CONSTRUCT HEADWALL PER CALTRANS STANDARD D90
89. INSTALL INCLINED TRASH RACK PER S.P.P.W.C. 361-2
90. CONSTRUCT BRICK AND MORTAR PLUG
176. CONSTRUCT MODIFIED M.H. PER S.P.P.W.C. STD. PLAN NO. 320-2 PER DETAIL ON SHEET 33
73. CONSTRUCT CONCRETE BLANKET PER S.P.P.W.C. 225
83. CONSTRUCT CHAIN LINK FENCE AND GATE PER S.P.P.W.C. 225

REVIEWED LAND DEVELOPMENT DIVISION
BY Ben Mig STORM DRAIN SECTION 10/04/2018 DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
2	REVISED TOTAL SHEET NUMBER.	Jason H. Fukumitsu		8/14/19
	REVISE HYDRAULIC ELEMENTS REVISE AND ADD LATERALS/MAINLINE REVISED "00" PRIVATE DRIVE			
4	REVISE RIGHT OF WAY AND BOUNDARY LINE ADDED FENCING AND GATE	Jason H. Fukumitsu	M.D. Sp	9/28/2021

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA
11/19/24
FOR UPDATED HGL ONLY
8/29/18 JASON H. FUKUMITSU DATE
CERTIFIED ENGINEERING GEOLOGIST ANDREW A. PRICE No. 1709 STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER VINCENT PING-KUEN TO No. 2522 Exp. 6/30 CIVIL STATE OF CALIFORNIA

APPENDIX B-4.5
LINE "A6" Per PD 2641

Dwg No. 43-F553.1-38

STORM DRAIN PLANS IN
TRACT No. 61105-01 P.D. No. 2641
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 ▪ Valencia, CA 91355 ▪ Ph: (661) 294-2211 ▪ Fx: (661) 294-9890

DWG | SHEET 18 OF 39 39

J:\drp\Projects\Newhall Ranch\61105 Mission Village\61105-01\Storm\PD 2641\WM0080-18_SD_Plan.dwg Plotted on Aug 28, 2018--1:51pm by wallaw

B-4.6: Line “D” of PD 2637 (Non-Compliance Study)

```
T1 Magic Mountain Parkway                                                0
T2 SD Box
T3 Non-Compliance Study for Line D
SO    700.0001146.870  1                        1150.370
R     960.0001154.670  1      .014                          .000
JX    986.1801155.440  1  5   .014  170.400*       1156.000        45.0         .000
TS   1000.0001155.870  2      .014                          .000
WX   1000.0001155.870  3
R    1004.0001155.880  3      .013                          .000    .000 0
R    1057.1701156.060  3      .013                        25.400    .000 0
JX   1066.1401156.090  3  4   .013    4.700**       1156.890       -45.0         .000
R    1258.4201156.750  3      .013                          .000    .000 0
R    1303.4001161.000  3      .013                          .000    .000 0
R    1311.6301166.100  3      .013                          .000    .000 0
WE   1311.6301166.100  3      .500
R    1311.6301166.100  6      .014                          .000
TS   1317.4001168.000  7      .014                          .000
R    1317.4001168.000  7      .014                          .000
SH   1317.4001168.000  7                        1168.000
CD   1  1   0    .000   7.000    8.000 1.000 1.000   .00
CD   2  2   0    .000   7.000   13.000  .000  .000   .00
CD   3  3   1   1.000   3.500   12.000  .000  .000   .00
CD   4  4   1    .000   1.500     .000  .000  .000   .00
CD   5  4   1    .000   4.500     .000  .000  .000   .00
CD   6  2   0    .000   6.000   15.000  .000  .000   .00
CD   7  2   0    .000   6.000   36.000  .000  .000   .00
Q          1110.600*** .0
```

Notes:

* Q per Proposed Entrada South Hydrology-Per Watershed 400 QCap

** Q per Proposed Entrada South Hydrology-Per Subarea 113B

*** 1110.6 cfs is the projected flow for Line D, highlighting non-compliance due to the additional 132.1 cfs, which is the difference between the approved 38.6 cfs (Per Approved PD 2637 and the proposed 170.7 cfs in Watershed 300.

Program Package Serial Number: 1656

WATER SURFACE PROFILE LISTING Date:11-12-2024 Time:12:20: 5

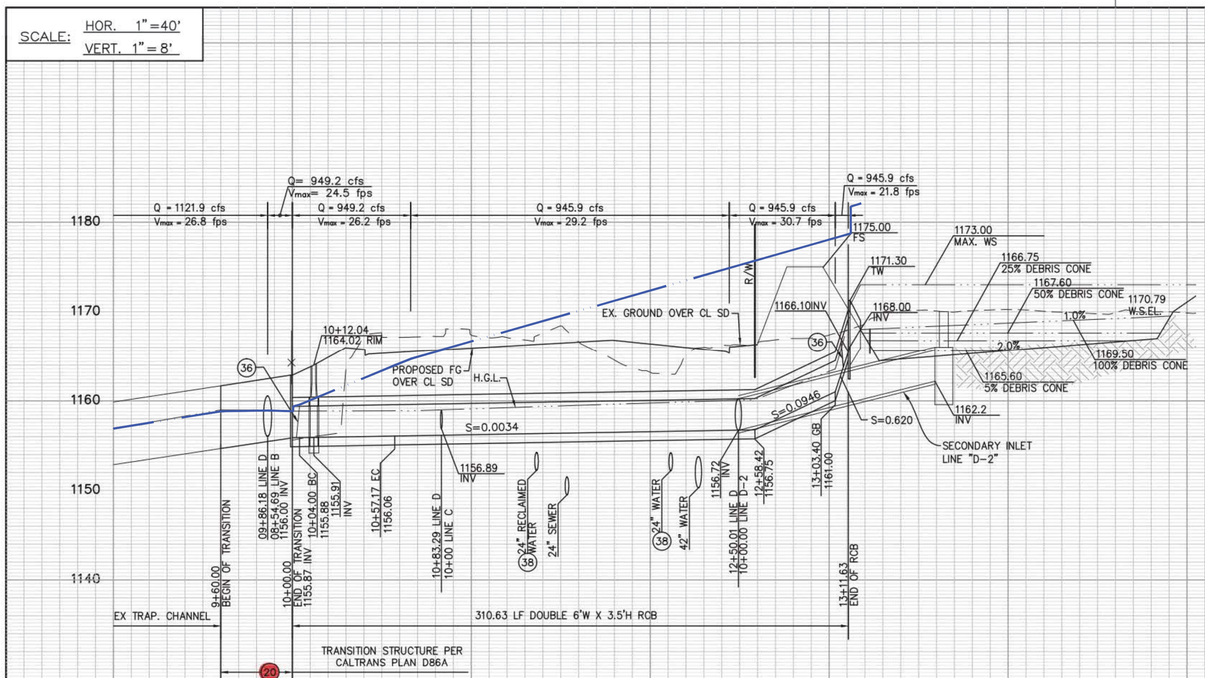
Magic Mountain Parkway
SD Box

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
700.000	1146.870	3.780	1150.650	1285.70	28.88	12.95	1163.60	.00	6.96	15.56	7.000	8.000	1.00	0 .0
97.508	.0300					.0222	2.17	3.78	3.01	3.52	.014	.00	1.00	TRAP
797.508	1149.795	3.879	1153.674	1285.70	27.91	12.09	1165.77	.00	6.96	15.76	7.000	8.000	1.00	0 .0
94.567	.0300					.0199	1.88	3.88	2.88	3.52	.014	.00	1.00	TRAP
892.075	1152.632	4.020	1156.652	1285.70	26.61	10.99	1167.64	.00	6.96	16.04	7.000	8.000	1.00	0 .0
67.925	.0300					.0174	1.18	4.02	2.70	3.52	.014	.00	1.00	TRAP
960.000	1154.670	4.166	1158.836	1285.70	25.37	9.99	1168.83	.00	6.96	16.33	7.000	8.000	1.00	0 .0
JUNCT STR	.0294					.0202	.53	4.17	2.54		.014	.00	1.00	TRAP
986.180	1155.440	3.460	1158.900	1115.30	28.13	12.28	1171.18	.00	6.45	14.92	7.000	8.000	1.00	0 .0
TRANS STR	.0311					.0266	.37	3.46	3.04		.014	.00	1.00	TRAP
1000.000	1155.870	2.958	1158.828	1115.30	29.00	13.06	1171.89	.00	6.11	13.00	7.000	13.000	.00	0 .0
WALL	EXIT													
1000.000	1155.870	3.500	1159.370	1115.30	28.71	12.80	1172.17	.00	3.50	12.00	3.500	12.000	.00	1 1.0
4.000	.0025					.0574	.23	3.50	2.82	3.50	.013	.00	.00	BOX
1004.000	1155.880	3.720	1159.600	1115.30	28.71	12.80	1172.40	.00	3.50	12.00	3.500	12.000	.00	1 1.0
53.170	.0034					.0574	3.05	.00	2.82	3.50	.013	.00	.00	BOX
1057.170	1156.060	7.951	1164.011	1115.30	28.71	12.80	1176.81	.00	3.50	12.00	3.500	12.000	.00	1 1.0
JUNCT STR	.0033					.0569	.51	7.95	2.82		.013	.00	.00	BOX

Magic Mountain Parkway
SD Box

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope				SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch	
1066.140	1156.090	8.642	1164.732	1110.60	28.59	12.69	1177.42	.00	3.50	12.00	3.500	12.000	.00	1 1.0
192.280	.0034				.0569	10.94	8.64	2.81	3.50	.013	.00	.00	BOX	
1258.420	1156.750	18.927	1175.677	1110.60	28.59	12.69	1188.37	.00	3.50	12.00	3.500	12.000	.00	1 1.0
44.980	.0945				.0569	2.56	18.93	2.81	2.40	.013	.00	.00	BOX	
1303.400	1161.000	17.238	1178.238	1110.60	28.59	12.69	1190.93	.00	3.50	12.00	3.500	12.000	.00	1 1.0
8.230	.6197				.0569	.47	17.24	2.81	1.23	.013	.00	.00	BOX	
1311.630	1166.100	12.606	1178.706	1110.60	28.59	12.69	1191.40	.00	3.50	12.00	3.500	12.000	.00	1 1.0
WALL	ENTRANCE													
1311.630	1166.100	15.622	1181.722	1110.60	4.74	.35	1182.07	.00	5.54	15.00	6.000	15.000	.00	0 .0
TRANS STR	.3293				.0001	.00	15.62	.21		.014	.00	.00	RECTANG	
1317.400	1168.000	14.066	1182.066	1110.60	2.19	.07	1182.14	.00	3.09	36.00	6.000	36.000	.00	0 .0

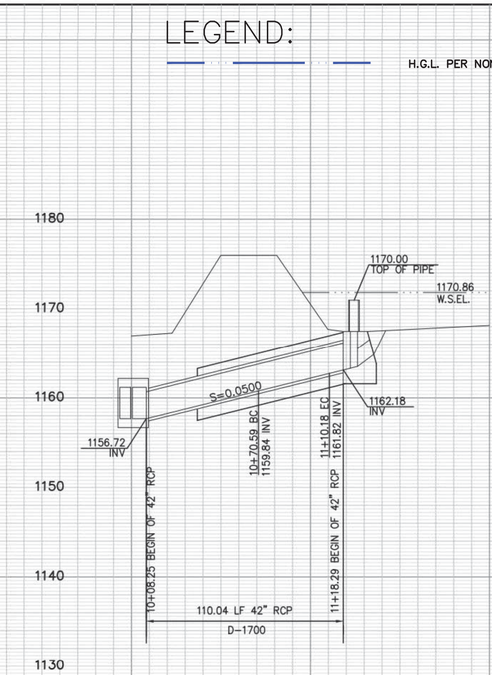
SCALE: HOR. 1"=40'
VERT. 1"=8'



STORM DRAIN LINE "D"

LEGEND:

H.G.L. PER NON-COMPLIANCE STUDY



LINE "D-2" SECONDARY INLET

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA

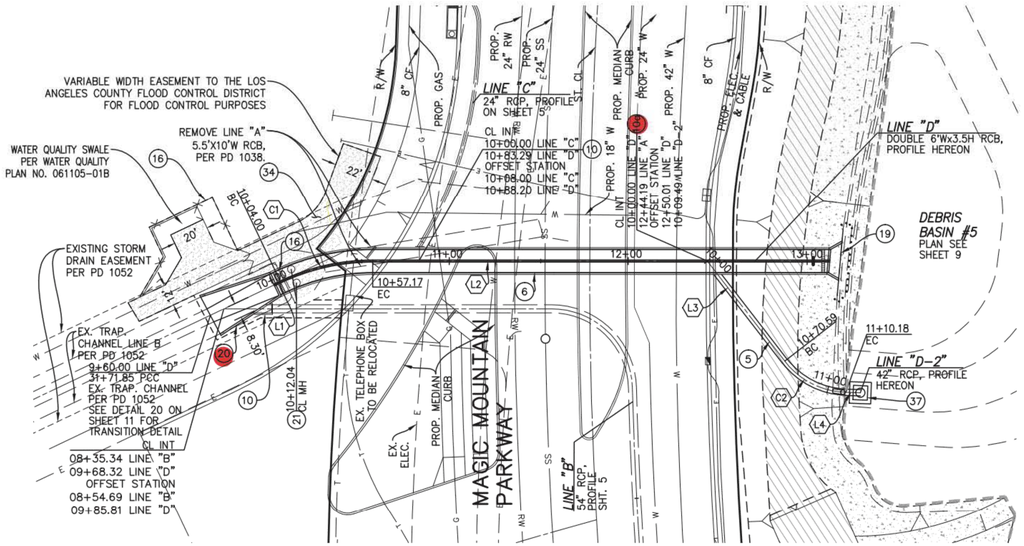
11/14/24

FOR UPDATED HGL ONLY

P.D. No. 2637

DDN No. 43-F551

9+00 10+00 11+00 12+00 13+00 14+00 15+00 10+00 11+00



STORM DRAIN LINE "D"

OUTLET STRUCTURE										
A	B	D	H	W	L	M	N	a	ANGLE
1'	9"	6"	7'	12'-7"	40'	N/A	N/A	1161.67'	4°

INLET STRUCTURE					
H	a	L	M	N	ANGLE
6'	1169.0'	5.8'	7.09'	N/A	30°

Not a part of this approval

CONSTRUCT MODIFIED JUNCTION STRUCTURE AT WING WALL WITH PARAPET

Line Table		
Line #	Length	Bearing
L1	4.00'	N37° 19' 36"W
L2	255.47'	N11° 56' 18"W
L3	70.59'	N40° 16' 26"E
L4	8.12'	N10° 07' 55"W

Curve Table				
Curve #	Length	Radius	Delta	Tangent
C1	53.17'	120.00'	025°23'18"	27.03'
C2	39.59'	45.00'	050°24'21"	21.18'

JUNCTION STRUCTURE TABLE						
LINE #	A	B	C	D	EL S	EL R
D-2	52'13"	36"	3.13'	72"	1156.72	1156.72

GRAPHIC SCALE: 1" = 40'

REGISTERED PROFESSIONAL ENGINEER JASON H. FUKUMITSU No. 40695 CIVIL STATE OF CALIFORNIA

8/10/18

CERTIFIED ENGINEERING GEOLOGIST ANDREW A. PRICE No. 1705 STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER VINCENT PING-KUEN P No. 25210 GEOTECHNICAL STATE OF CALIFORNIA

CONSTRUCTION NOTES:

1. (5) CONSTRUCT 42" RCP (D-1040 PER PROFILE)
2. (6) CONSTRUCT DOUBLE REINFORCED CONCRETE BOX CULVERT PER S.P.P.W.C. 390-1. USE 6'W X 4'H REINFORCED CONCRETE BASE FOR STRUCTURE STEEL, SEE NOTES HEREON. ~~6'W x 3.5'H~~
3. (10) CONSTRUCT JUNCTION STRUCTURE PIPE TO RCB PER SPPWC 333-2
4. (10A) CONSTRUCT MODIFIED JUNCTION STRUCTURE PIPE TO RCB PER SPPWC 333-2, SEE SHEET 16 AND 17 FOR DETAIL.
5. (16) CONSTRUCT CHAIN LINK FENCE PER SPPWC STD. PLAN NO 600-3
6. (19) CONSTRUCT ELEVATED INLET PER DETAIL ON SHEET 10
7. (20) CONSTRUCT MODIFIED TRANSITION STRUCTURE PER CALTRANS DETAIL D86A, SEE DETAIL 20 ON SHEET 11
8. (21) CONSTRUCT MANHOLE CONCRETE BOX STORM DRAIN PER SPPWC STD 323-2
9. (34) CONSTRUCT VARIABLE WIDTH 3" ASPHALT CONCRETE OVER 4" CRUSHED AGGREGATE BASE PER DETAIL ON SHEET 11
10. (36) INSTALL SLOPE PROTECTION BARRIER PER SPPWC STD. 360-2, USE 2(TWO) 4'(H) X6'(W) AND MODIFIED TO 3.5'(H) X 6'(W)
11. (37) INSTALL DEBRIS DAMS AND OUTLET WORKS PER LOS ANGELES COUNTY PUBLIC WORKS STANDARD PLAN #3097-0
12. (38) CONSTRUCT CONCRETE BLANKET PER SPPWC 225-2

STANDARD 390-1 PRECAST REINFORCED CONCRETE BOX NOTES:

1. THE FOLLOWING NOTES REFER TO KEY DETAILS IN THE STANDARD PLAN. THESE NOTES ARE NOT ALL ENCOMPASSING. THE CONTRACTOR SHOULD REVIEW THE STANDARD PLAN IN ITS ENTIRETY.
2. M… TAIL ON SHEET 6
3. E…
4. …CRETE BOX BEVELS
5. V… …N SHEET 13

APPENDIX B-4.6
LINE "D" Per PD 2637

REVIEWED LAND DEVELOPMENT DIVISION
BY STORM DRAIN SECTION 08/13/2018 DATE

NO.	REVISION	REVISED BY	APPROVED BY	DATE
1	ADD INLET AND OUTLET STRUCTURE DIMENSION AND			11/15/18
	REVISE CONSTRUCTION NOTE PER STRUCTURAL REVIEW. REMOVING NOT A PART OF THIS APPROVAL			

STORM DRAIN PLANS IN
DS 542 P.D. No. 2637
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

HUNSAKER & ASSOCIATES
LOS ANGELES, INC.
PLANNING ▪ ENGINEERING ▪ SURVEYING
26074 Avenue Hall, Suite 23 ▪ Valencia, CA 91355 ▪ PH: (661) 294-2211 ▪ FX: (661) 294-9890

DWG | SHEET 4 OF 17

G:\Newhall Ranch\61105 Mission Village\61105-01\Storm\PD 2637\HMW102-04 – Sheet 4.dwg Plotted On Jul 25, 2018–1:13pm by wallanl

B-5: Proposed Hydrology Summary Table

Entrada South Proposed Condition

Subarea	Node	Soil Type	DPA Zone	Burn Factor	Bulking Factor	% Imp	Area (Ac)	ΣAREA (Ac)	50-Yr Isohyet (in)	50-Yr Tc (min)	50-Yr Flow (cfs)	ΣQ50 (cfs)	Qb (cfs)	ΣQb (cfs)	Q50bb (cfs)	ΣQ50bb (cfs)	ΣDPV (cy)	Future ΣQcap (cfs)	Note	Land Use
100A		98	8	0	1.36	0.03	28.1	28.1	6.2	13								915.1	Subarea 100 & upstream Q's are modeled in approved DS 542. 915.1 cfs added from approved DS 542.	Golf Course
101A		98	8	0.34	1.36	0.03	6.1	6.1	6.2	5	19.5	19.5	19.9	19.9				935.0		Golf Course
102B		98	8	0.34	1.36	0.10	3.9	3.9	6.2	5	12.5	12.5	12.8	12.8	16.3		167	12.8	Debris Basin #7	Natural/Debris Basin
	103AB							10.0				32.0		32.7				947.8		
104A		98	8	0	1.36	0.10	3.1	13.1	6.0	6	8.9	28.7	8.9	29.3				944.4	Debris Basin #5	Open Space/Debris Basin
105C			8	0	1.36	0.80	2.4	2.4	6.0	5	7.9	7.9	7.9	7.9					Water Quality Basin "B"	Water Quality Basin
	106AC	98						15.5				33.1		33.7				948.8		
107B		98	8	0.34	1.36	0.10	10.6	10.6	6.1	13	20.6	20.6	21.1	21.1	23.9		213			Natural/Canyon
	108B							10.6				20.6		21.1						
109B		98	8	0.34	1.36	0.10	1.5	12.1	6.0	8	3.7	24.3	3.8	24.9						Unamed Canyon
110B		98	8	0	1.36	0.10	2.3	14.4	6.0	10	5.2	29.3	5.2	30.0						Recreation
	111B							14.4				29.3		30.0						
	112AB							29.9				62.2		63.4				978.5		
113B		98	8	0	1.36	0.90	1.4	1.4	5.9	5	4.7	4.7	4.7	4.7						Public Road
	114AB							31.3				65.6		66.7				981.8		
201A		98	8	0.34	1.36	0.10	3.4	3.4	6.3	5	11.3	11.3	11.5	11.5	14.8		149		Debris Basin #1	Natural/Debris Basin
202A		98	8	0	1.36	0.74	7.8	11.2	6.3	6	24.1	34.7	24.1	34.9						Multi Family Condo
203A		98	8	0	1.36	0.91	4.3	15.5	6.3	9	11.1	44.6	11.1	44.8						Public Road
204A		98	8	0	1.36	0.74	2.0	17.5	6.3	5	6.8	50.6	6.8	50.9						Open Space
205B		98	8	0.34	1.36	0.10	9.0	9.0	6.3	5	29.9	29.9	30.5	30.5	38.9		387		Debris Basin #2	Natural/Debris Basin
206C		98	8	0	1.36	0.74	9.3	9.3	6.3	7	26.5	26.5	26.5	26.5						Multi Family Condo
	207BC							18.3				52.8		53.3						
208B		98	8	0	1.36	0.74	23.3	41.6	6.3	7	66.4	109.9	66.4	110.5						Multi Family Condo
209A		98	8	0	1.36	0.74	4.0	21.5	6.3	5	13.6	62.7	13.6	62.9						Multi Family Condo
210D		98	8	0.34	1.36	0.10	7.0	7.0	6.3	6	20.9	20.9	21.3	21.3	27.9		334		Debris Basin #3	Natural/Debris Basin
211D		98	8	0.34	1.36	0.10	9.8	16.8	6.3	6	29.2	48.4	29.9	49.5	39.6		492		Debris Basin #4	Natural/Debris Basin
212D		98	8	0	1.36	0.74	12.9	29.7	6.3	8	34.5	80.7	34.5	81.8					Multi Family Condo	Multi Family Condo
213D		98	8	0	1.36	0.74	9.3	39.0	6.3	6	28.7	101.7	28.7	102.7						Multi Family Condo
214C		98	8	0	1.36	0.74	7.2	7.2	6.3	7	20.5	20.5	20.5	20.5						Multi Family Condo
	215CD							46.2				117.6		118.6						
216C		98	8	0	1.36	0.90	3.0	49.2	6.3	6	9.3	122.5	9.3	123.5						Public Road
217C		98	8	0	1.36	0.74	8.1	57.3	6.3	6	25.0	132.0	25.0	133.0						Multi Family Condo
218D		20	8	0	1.36	0.74	2.3	2.3	6.3	8	5.7	5.7	5.7	5.7						Open Space/Acess Road
219D		98	8	0	1.36	0.74	16.2	18.5	6.3	7	46.2	51.9	46.2	51.9						Multi Family Condo/Mixed Residential
220E		98	8	0	1.36	0.91	11.1	11.1	6.3	10	27.4	27.4	27.4	27.4						Commercial Business Park
221E		98	8	0	1.36	0.91	10.1	21.2	6.3	13	21.9	49.1	21.9	49.1						Commercial Business Park
301A		98	8	0	1.36	0.74	6.6	6.6	6.2	7	18.2	18.2	18.2	18.2						Multi Family Condo
	302A							6.6				18.2		18.2						
303A		98	8	0	1.36	0.74	12.9	19.5	6.1	9	31.8	49.0	31.8	49.0						Multi Family Condo
304B		98	8	0	1.36	0.91	4.6	4.6	6.1	12	10.0	10.0	10.0	10.0						Public Road
	305AB							24.1				58.8		58.8						
306A		98	8	0	1.36	0.10	11.6	35.7	6.2	10	26.0	84.2	26.0	84.2						Public Park/Recreation
307A		98	8	0	1.36	0.90	1.0	36.7	6.1	5	3.3	85.8	3.3	85.8						Public Road
308B		98	8	0	1.36	0.74	20.1	20.1	6.1	11	45.0	45.0	45.0	45.0						Multi Family Condo
309B		98	8	0	1.36	0.74	9.0	29.1	6.1	6	26.8	71.9	26.8	71.9						Multi Family Condo
	310AB		8		1.36			65.8				155.0		155.0						Public Road
311B		98	8	0	1.36	0.74	2.1	2.1	6.1	5	6.9	6.9	6.9	6.9					Water Quality Basin "C"	Water Quality Basin/Open Space
	312AB							67.9				158.5		158.5					Connect to PD2637	
313A		98	8	0	1.36	0.90	5.2	73.1	6.0	9	13.0	170.7	13.0	170.7						Public Road
314A		98	8	0	1.36	0.90	9.7	82.8	6.0	12	21.1	191.7	21.1	191.7						Public Road
315C		98	8	0	1.36	0.10	1.2	1.8	6.0	5	4.0	4.0	4.0	4.0						Open Space
316C		98	8	0	1.36	0.00	1.2	3.0	6.0	6	5.2	9.2	5.2	9.2						Public Road
	317AC							85.8				197.9		197.9				1291.8		
401A		98	8	0	1.36	0.74	11.6	11.6	6.0	11	25.2	25.2	25.2	25.2						Multi Family Condo
402B		98	8	0	1.36	0.90	4.9	4.9	6.0	6	14.3	14.3	14.3	14.3						Public Road
	403AB							16.5				38.6		38.6						
	404A							16.5				38.1		38.1						
405A		98	8	0	1.36	0.91	6.0	22.5	5.9	11	13.2	51.0	13.2	51.0						Public Road
	406A							22.5				51.0		51.0						
407C		98	8	0	1.36	0.91	24.2	24.2	5.9	14	47.6	47.6	47.6	47.6						Commercial Business Park
	408AC							46.7				98.3		98.3						
409D		98	8	0	1.36	0.74	18.4	18.4	6.0	7	49.2	49.2	49.2	49.2						Multi Family Condo
	410AD							65.1				146.0		146.0						
411A		98	8	0	1.36	0.91	13.3	78.4	5.9	14	26.1	170.4	26.1	170.4						Public Road
	412A							78.4				170.4		170.4						
	413B							31.3				66.0		67.0					Addition of Watershed 100 Hydrograph	
	414AB							109.7				235.4		237.4				1,152.5	Combined Flow of Watershed 100 and 400	
501A		98	8	0.34	1.36	0.10	38.4	38.4	6.1	17	64.9	64.9	66.7	66.7	85.1		1640.1		Debris Basin #6	Natural/Debris Basin
502A		98	8	0	1.36	0.91	2.9	41.3	6.1	6	8.7	72.1	8.7	73.8						Commercial Business ParK
503B		98	8	0.34	1.36	0.01	1.9	1.9	6.1	5	6.1	6.1	6.2	6.2	8.5		106.50			Natural
	504AB							43.2				76.8		78.7				78.70		
601A		98	8	0.34	1.36	0.01	3.9	3.9	6.2	5	12.4	12.4	12.7	12.7	17.3		216.6	216.6	Values per HydroCalc	Natural

B-6: 200-Watershed LAT/Mainline Summary Table

200- Watershed Summary Table [8]

	LATERALS					MAINLINE				
Subarea	**PD[1] LAT Name**	**Qdesign LAT per approved PD**	**Qpeak LAT per ES Hydrology**	**Q DELTA PEAK LAT [QES-QPD]**	**D/S node Cumulative ΔQ**	**Approved PD Q ROUTED U/S of LAT**	**Approved PD Q ROUTED D/S of LAT**	**Approved PD DESIGN**	**Revised Q design (Approved Qdesign+ cumulative Δ Q)[3]**	**Delta Q (revised- design)**
						364.3		364.3	364.3	0.0
201A	LAT "A6.8"	12.0	11.5	-0.5						
					-0.5	370.2	364.3	370.2	369.7	-0.5
202A	LAT "A6.6"	12.0	24.1	12.1						
					11.6		364.3	364.3	375.9	11.6
						371.3				
203A	LAT "A6.1"	0.8	11.1	10.3						
					21.9		372.1	372.1	394.0	21.9
Legacy [2]	Line A	929.8	779.8	-150.0						
					-128.1	1,157.2		1,157.2	1,029.1	-128.1
UN-USED	LAT "A.6"	10.0	0.0	-10.0						
					-138.1	1,157.2	1,157.2	1,157.2	1,019.1	-138.1
204A	LAT "A.17"	82.0	6.8	-75.2						
					-213.3	1,240.7	1,240.7	1,240.7	1,027.4	-213.3
208B[4]	LAT "A.16"	25.0	110.5	85.5						
					-127.8	1,266.2	1,266.2	1,266.2	1,138.4	-127.8
209A	LAT "A.15"	8.0	13.6	5.6						
					-122.2	1,273.7	1,273.7	1,273.7	1,151.5	-122.2
217C[5]	LAT "A.14"	36.0	133.0	97.0						
					-25.2	1,306.2	1,306.2	1,306.2	1,281.0	-25.2
219D[6]	LAT "A.13"	66.0	51.9	-14.1						
					-39.3		1,306.2	1,306.2	1,266.9	-39.3
North of Magic Mountin Parkway										
						1,521.6		1,521.6	1,482.3	-39.3
221E[7]	LAT "A.30"	36.0	49.1	13.1						
					-26.2	1,557.6		1,557.6	1,531.4	-26.2
Total (cfs)		1,217.6	1,191.4	-26.2						

Notes

1. PD Values are per the latest approved revisions of PD2640 and PD2641 plans
2. Legacy Undeveloped Q50B=584.2 cfs
   Legacy Ultimate Q50 to be limited to Q50B=750 cfs
3. Revised Q is the approved Mainline Q + cumulative ΔQ for each Lateral
4. Subarea 208B Q includes total suabreas: 205B, 206C and 208B
5. Subarea 217C Q includes total suabreas: 210D, 211D,212D,213D,214C,216C and 217C
6. Subarea 219D Q includes total suabreas: 218D and 219D
7. Subarea 222E Q includes total suabreas: 220E and 221E
8. Values are in CFS

B-7: Debris Basin Calculation

Project Entrada South
Basin 1

%	Required Volume
100	149
50	75
25	37
5	8

Elevation	depth	Area (sf)	Volume (CF)	total Volume (CF)	Total Volume (CY)	% of required debris
1336.00		0				
1336.15	0.15	3120.37	234.03	234	9	5%
1336.30	0.15	3199.42	473.98	708	26	
1336.45	0.15	3279.09	485.89	1,194	44	25%
1336.60	0.15	3359.39	497.89	1,692	63	
1336.75	0.15	3440.32	509.98	2,202	82	50%
1337.25	0.50	3714.58	1788.73	3,990	148	
1337.30	0.05	3742.39	186.42	4,177	155	100%

Project Entrada South
Basin 2

%	Required Volume
100	387
50	194
25	97
5	19

Elevation	depth	Area (sf)	Volume (CF)	total Volume (CF)	Total Volume (CY)	% of required debris
1330.00		0				
1330.60	0.60	2005.07	601.52	602	22	5%
1331.00	0.40	2115.92	824.20	1,426	53	
1331.60	0.60	2362.68	1343.58	2,769	103	25%
1332.00	0.40	2735.58	1019.65	3,789	140	
1332.50	0.50	3188.21	1480.95	5,270	195	50%
1333.00	0.50	3418.97	1651.80	6,922	256	
1334.00	1.00	3908.98	3663.98	10,586	392	100%

Project Entrada South
Basin 3

%	Required Volume
100	334
50	167
25	84
5	17

Elevation	depth	Area (sf)	Volume (CF)	total Volume (CF)	Total Volume (CY)	% of required debris
1311.00		0				
1311.25	0.25	5192.68	649.08	649	24	5%
1311.50	0.25	5381.82	1321.81	1,971	73	
1311.60	0.10	5458.24	542.00	2,513	93	25%
1312.00	0.40	5766.90	2245.03	4,758	176	50%
1312.50	0.50	6158.20	2981.28	7,739	287	
1312.75	0.25	6356.13	1564.29	9,303	345	100%

Project Entrada South
Basin 4

%	Required Volume
100	492
50	246
25	123
5	25

Elevation	depth	Area (sf)	Volume (CF)	total Volume (CF)	Total Volume (CY)	% of required debris
1277.00		0				
1277.25	0.25	3607.07	450.88	451	17	
1277.35	0.10	3666.97	363.70	815	30	5%
1277.50	0.15	3757.37	556.83	1,371	51	
1278.00	0.50	4063.36	1955.18	3,327	123	25%
1278.50	0.50	4376.57	2109.98	5,437	201	
1278.75	0.25	4535.89	1114.06	6,551	243	
1278.85	0.10	4600.13	456.80	7,007	260	50%
1279.50	0.65	5024.77	3128.09	10,136	375	
1280.00	0.50	5359.81	2596.15	12,732	472	
1280.25	0.25	5530.09	1361.24	14,093	522	100%

Project Entrada South
Basin 5

%	Required Volume
100	380
50	190
25	95
5	19

Elevation	depth	Area (sf)	Volume (CF)	total Volume (CF)	Total Volume (CY)	% of required debris
1164.50		0				
1165.00	0.50	1862.39	465.60	466	17	
1165.10	0.10	2306.78	208.46	674	25	5%
1166.00	0.90	5839.28	3665.73	4,340	161	25%
1166.20	0.20	6672.99	1251.23	5,591	207	50%
1167.00	0.80	9936.45	6643.78	12,235	453	100%

Project Entrada South
Basin 6

%	Required Volume
100	1747
50	874
25	437
5	87

Elevation	depth	Area (sf)	Volume (CF)	total Volume (CF)	Total Volume (CY)	% of required debris
1100.00		0				
1101.00	1.00	4751.25	2375.63	2,376	88	5%
1102.00	1.00	6406.87	5579.06	7,955	295	
1102.75	0.75	6805.38	4954.59	12,909	478	25%
1104.25	1.50	8653.97	11594.51	24,504	908	50%
1106.00	1.75	11008.26	17204.45	41,708	1545	
1107.00	1.00	12448.13	11728.20	53,436	1979	100%

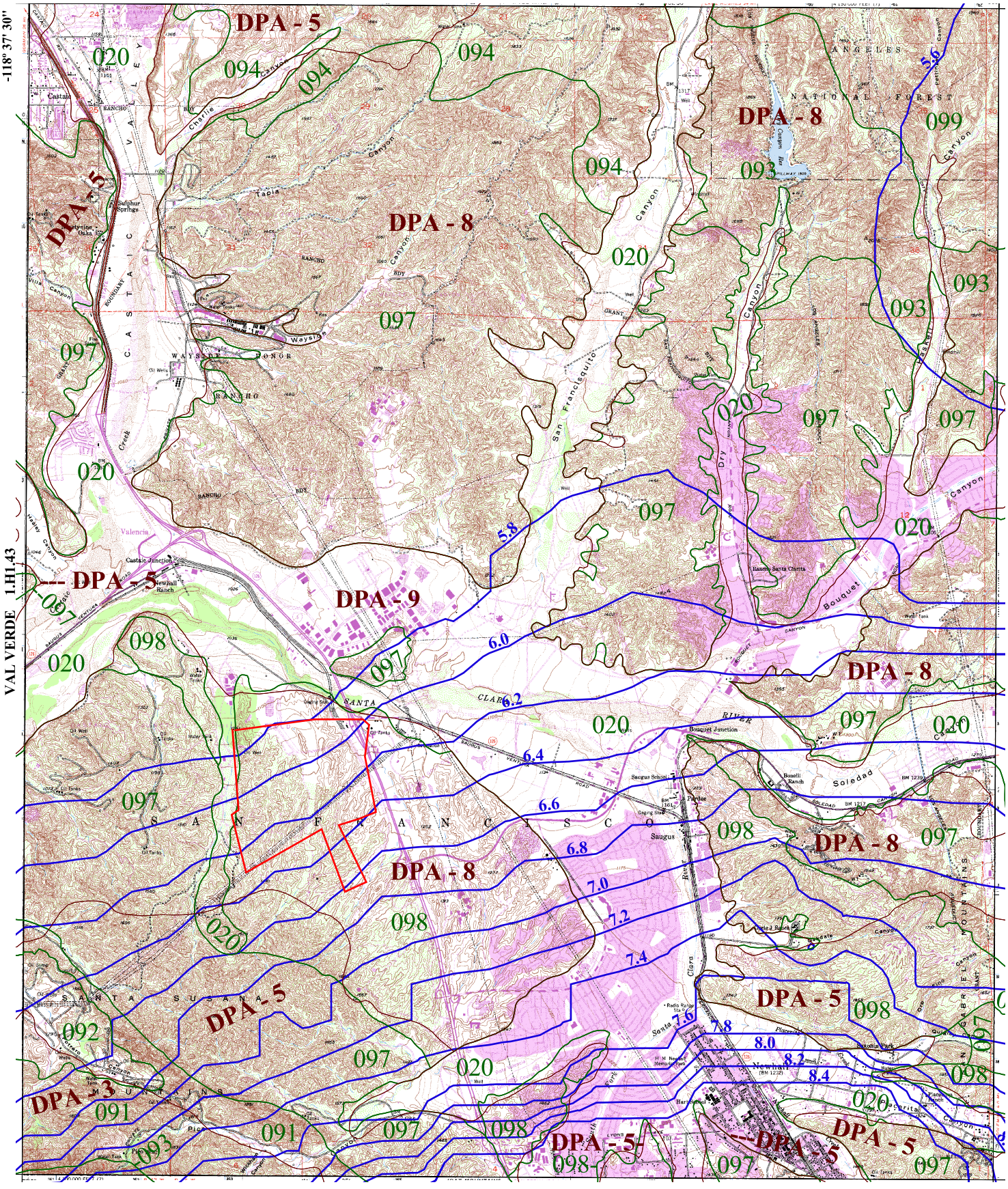
Project Entrada South
Basin 7

%	Required Volume
100	167
50	84
25	42
5	8

Elevation	depth	Area (sf)	Volume (CF)	total Volume (CF)	Total Volume (CY)	% of required debris
1246.00		0				
1246.20	0.20	2913.15	291.32	291	11	5%
1246.50	0.30	3109.73	903.43	1,195	44	25%
1246.75	0.25	3277.48	798.40	1,993	74	
1246.85	0.10	3345.59	331.15	2,324	86	50%
1247.00	0.15	3448.93	509.59	2,834	105	
1247.50	0.50	3802.34	1812.82	4,647	172	100%

Appendix C: Hydrologic References

C-1: 50-Year, 24-Hour Isohyet (LACDPW)


34° 30' 00"
WARM SPRINGS MOUNTAIN 1-H1.53
-118° 37' 30"
VAL VERDE 1.H1.43
MINT CANYON 1-H1.45
-118° 30' 00"
OAT MOUNTAIN 1-H1.35
34° 22' 30"
DPA - 5
DPA - 8
DPA - 9
DPA - 3
020
094
097
098
099
092
091
093
5.6
5.8
6.0
6.2
6.4
6.6
6.8
7.0
7.2
7.4
7.6
7.8
8.0
8.2
8.4
SAN FRANCISCO
SANTA SUSANA MOUNTAINS
CASTAIC VALLEY
ANGELES NATIONAL FOREST
Castaic Junction
Valencia
Saugus
Bouquet Junction
Newhall
Soledad Canyon
Bouquet Canyon
San Francisquito Canyon
Dry Canyon
Santa Clara River
016
SOIL CLASSIFICATION AREA
7.2
INCHES OF RAINFALL
DPA - 6
DEBRIS POTENTIAL AREA
N
W
E
S
1 0 1 2 Miles
25-YEAR 24-HOUR ISOHYET REDUCTION FACTOR: 0.878
10-YEAR 24-HOUR ISOHYET REDUCTION FACTOR: 0.714
N E W H A L L
50-YEAR 24-HOUR ISOHYET
1-H1.44
LOS ANGELES COUNTY
PUBLIC WORKS
Public Service That Works

C-2: Los Angeles County Proportion Impervious Data Table

Proportion Impervious Data

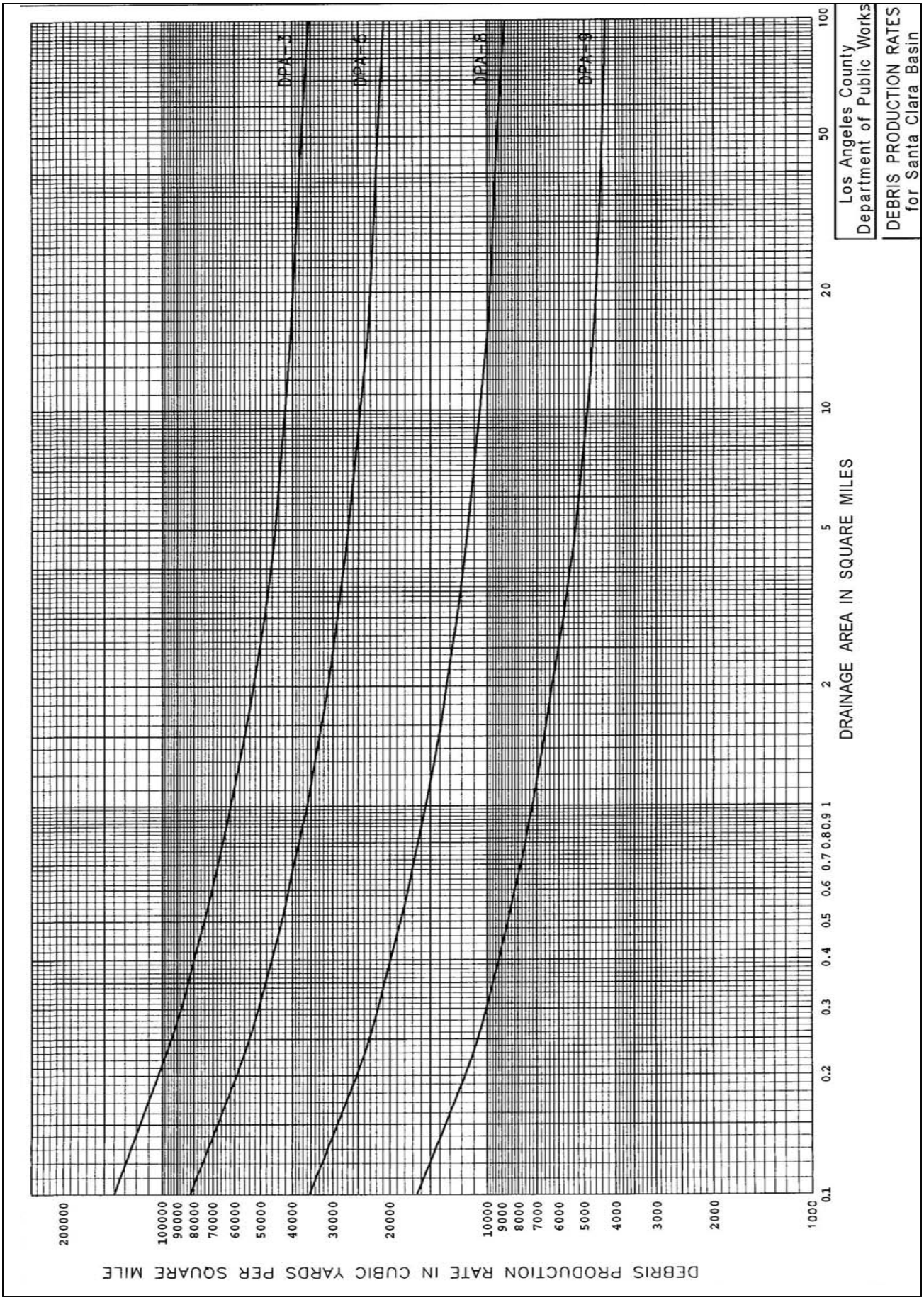
Code	Land Use Description	% Impervious
1111	High-Density Single Family Residential	42
1112	Low-Density Single Family Residential	21
1121	Mixed Multi-Family Residential	74
1122	Duplexes, Triplexes and 2-or 3-Unit Condominiums and Townhouses	55
1123	Low-Rise Apartments, Condominiums, and Townhouses	86
1124	Medium-Rise Apartments and Condominiums	86
1125	High-Rise Apartments and Condominiums	90
1131	Trailer Parks and Mobile Home Courts, High-Density	91
1132	Mobile Home Courts and Subdivisions, Low-Density	42
1140	Mixed Residential	59
1151	Rural Residential, High-Density	15
1152	Rural Residential, Low-Density	10
1211	Low- and Medium-Rise Major Office Use	91
1212	High-Rise Major Office Use	91
1213	Skyscrapers	91
1221	Regional Shopping Center	95
1222	Retail Centers (Non-Strip With Contiguous Interconnected Off-Street	96
1223	Modern Strip Development	96
1224	Older Strip Development	97
1231	Commercial Storage	90
1232	Commercial Recreation	90
1233	Hotels and Motels	96
1234	Attended Pay Public Parking Facilities	91
1241	Government Offices	91
1242	Police and Sheriff Stations	91
1243	Fire Stations	91
1244	Major Medical Health Care Facilities	74
1245	Religious Facilities	82
1246	Other Public Facilities	91
1247	Non-Attended Public Parking Facilities	91
1251	Correctional Facilities	91
1252	Special Care Facilities	74
1253	Other Special Use Facilities	86
1261	Pre-Schools/Day Care Centers	68
1262	Elementary Schools	82
1263	Junior or Intermediate High Schools	82
1264	Senior High Schools	82
1265	Colleges and Universities	47
1266	Trade Schools and Professional Training Facilities	91
1271	Base (Built-up Area)	65
1271.01	Base High-Density Single Family Residential	42
1271.02	Base Duplexes, Triplexes and 2-or 3-Unit Condominiums and T	55

Code	Land Use Description	% Impervious
1271.03	Base Government Offices	91
1271.04	Base Fire Stations	91
1271.05	Base Non-Attended Public Parking Facilities	91
1271.06	Base Air Field	45
1271.07	Base Petroleum Refining and Processing	91
1271.08	Base Mineral Extraction - Oil and Gas	10
1271.09	Base Harbor Facilities	91
1271.10	Base Navigation Aids	47
1271.11	Base Developed Local Parks and Recreation	10
1271.12	Base Vacant Undifferentiated	1
1272	Vacant Area	2
1273	Air Field	45
1274	Former Base (Built-up Area)	65
1275	Former Base Vacant Area	2
1276	Former Base Air Field	91
1311	Manufacturing, Assembly, and Industrial Services	91
1312	Motion Picture and Television Studio Lots	82
1313	Packing Houses and Grain Elevators	96
1314	Research and Development	91
1321	Manufacturing	91
1322	Petroleum Refining and Processing	91
1323	Open Storage	66
1324	Major Metal Processing	91
1325	Chemical Processing	91
1331	Mineral Extraction - Other Than Oil and Gas	10
1332	Mineral Extraction - Oil and Gas	10
1340	Wholesaling and Warehousing	91
1411	Airports	91
1411.01	Airstrip	10
1412	Railroads	15
1412.01	Railroads-Attended Pay Public Parking Facilities	91
1412.02	Railroads-Non-Attended Public Parking Facilities	91
1412.03	Railroads-Manufacturing, Assembly, and Industrial Services	91
1412.04	Railroads-Petroleum Refining and Processing	91
1412.05	Railroads-Open Storage	66
1412.06	Railroads-Truck Terminals	91
1413	Freeways and Major Roads	91
1414	Park-and-Ride Lots	91
1415	Bus Terminals and Yards	91
1416	Truck Terminals	91
1417	Harbor Facilities	91
1418	Navigation Aids	47
1420	Communication Facilities	82
1420.01	Communication Facilities-Antenna	2

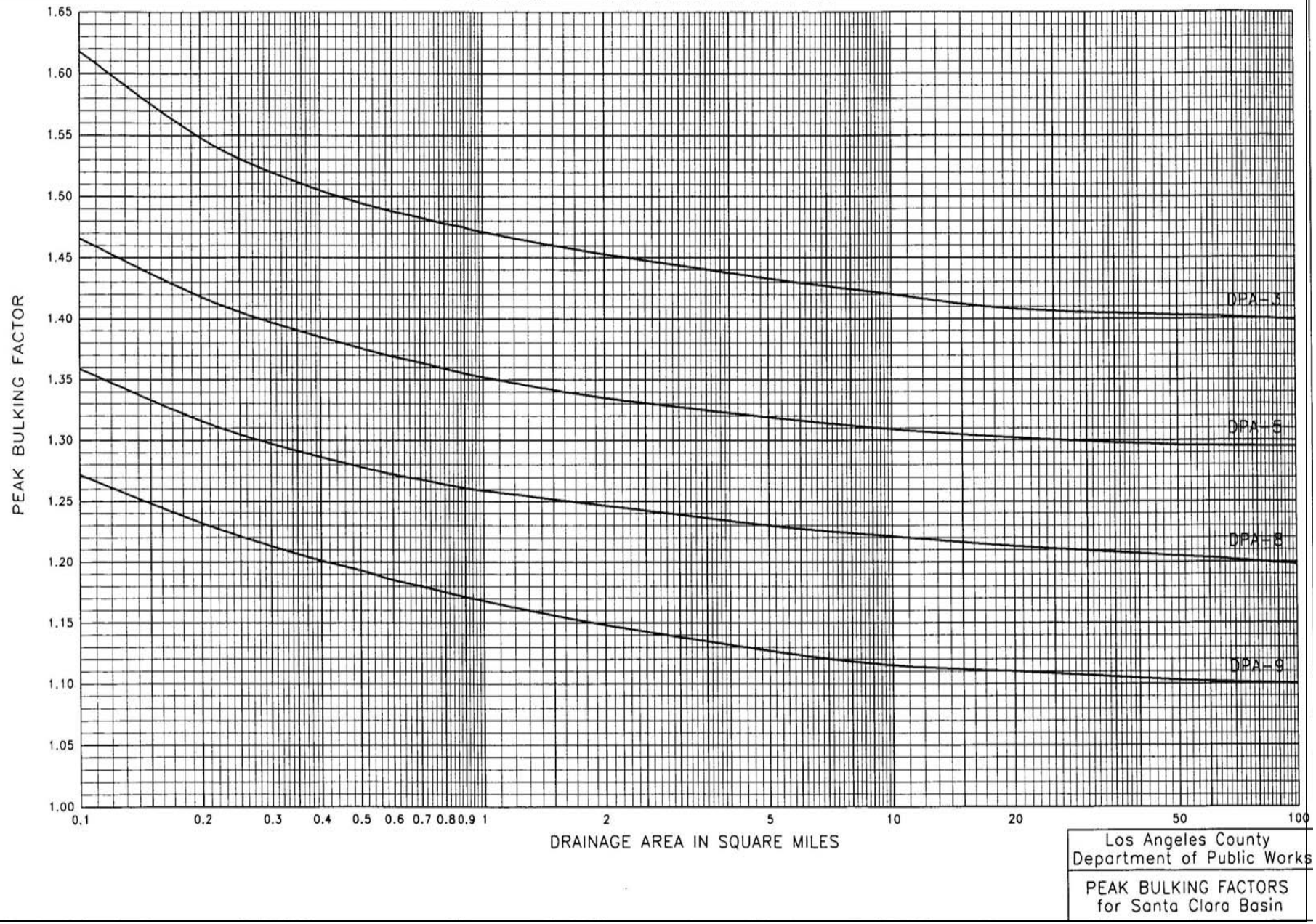
Code	Land Use Description	% Impervious
1431	Electrical Power Facilities	47
1431.01	Electrical Power Facilities-Powerlines (Urban)	2
1431.02	Electrical Power Facilities-Powerlines (Rural)	1
1432	Solid Waste Disposal Facilities	15
1433	Liquid Waste Disposal Facilities	96
1434	Water Storage Facilities	91
1435	Natural Gas and Petroleum Facilities	91
1435.01	Natural Gas and Petroleum Facilities-Manufacturing, Assembly, and In	91
1435.02	Natural Gas and Petroleum Facilities-Petroleum Refining and Processing	91
1435.03	Natural Gas and Petroleum Facilities-Mineral Extraction – Oil and Gas	10
1435.04	Natural Gas and Petroleum Facilities-Vacant Undifferentiated	1
1436	Water Transfer Facilities	96
1437	Improved Flood Waterways and Structures	100
1440	Maintenance Yards	91
1450	Mixed Transportation	90
1460	Mixed Transportation and Utility	91
1460.01	Mixed Utility and Transportation-Improved Flood Waterways and Structures	100
1460.02	Mixed Utility and Transportation-Railroads	15
1460.03	Mixed Utility and Transportation-Freeways and Major Roads	91
1500	Mixed Commercial and Industrial	91
1600	Mixed Urban	89
1700	Under Construction (Use appropriate value)	91
1810	Golf Courses	3
1821	Developed Local Parks and Recreation	10
1822	Undeveloped Local Parks and Recreation	2
1831	Developed Regional Parks and Recreation	2
1832	Undeveloped Regional Parks and Recreation	1
1840	Cemeteries	10
1850	Wildlife Preserves and Sanctuaries	2
1850.01	Wildlife-Commercial Recreation	90
1850.02	Wildlife-Other Special Use Facilities	86
1850.03	Wildlife-Developed Local Parks and Recreation	10
1860	Specimen Gardens and Arboreta	15
1870	Beach Parks	10
1880	Other Open Space and Recreation	10
2110	Irrigated Cropland and Improved Pasture Land	2
2120	Non-Irrigated Cropland and Improved Pasture Land	2
2200	Orchards and Vineyards	2
2300	Nurseries	15
2400	Dairy, Intensive Livestock, and Associated Facilities	42
2500	Poultry Operations	62
2600	Other Agriculture	42
2700	Horse Ranches	42

Code	Land Use Description	% Impervious
3100	Vacant Undifferentiated	1
3200	Abandoned Orchards and Vineyards	2
3300	Vacant With Limited Improvements (Use appropriate value)	42
3400	Beaches (Vacant)	1
4100	Water, Undifferentiated	100
4200	Harbor Water Facilities	100
4300	Marina Water Facilities	100
4400	Water Within a Military Installation	100

C-3: Los Angeles County Debris Production Rates for Santa Clara Basin


DEBRIS PRODUCTION RATE IN CUBIC YARDS PER SQUARE MILE
200000
100000
90000
80000
70000
60000
50000
40000
30000
20000
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
2
5
10
20
50
100
DRAINAGE AREA IN SQUARE MILES
DPA-3
DPA-4
DPA-5
DPA-6
Los Angeles County
Department of Public Works
DEBRIS PRODUCTION RATES
for Santa Clara Basin

C-4: Los Angeles County Peak Bulking Factors for Santa Clara Basin


PEAK BULKING FACTOR
1.65
1.60
1.55
1.50
1.45
1.40
1.35
1.30
1.25
1.20
1.15
1.10
1.05
1.00
DPA-3
DPA-5
DPA-8
DPA-9
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
2
5
10
20
50
100
DRAINAGE AREA IN SQUARE MILES
Los Angeles County
Department of Public Works
PEAK BULKING FACTORS
for Santa Clara Basin

Appendix D: Reference Plans

D-1: Drainage Concept Hydrology Study LID/SUSMP Report
Job No. 0930, By Alliance Land Planning & Engineering, Inc.
Date:12/2010

DRAINAGE CONCEPT
HYDROLOGY STUDY
LID/SUSMP REPORT

County of Los Angeles

Entrada
Tentative Tract No. 53295
Job No. 0930

DRAINAGE CONCEPT/HYDROLOGY STUDY/SUSMP/LID PLAN

APPROVED FOR AREA AND Q ONLY

APPROVED BY: Lizbeth Calderon RCE NO C68828 DATE: 1/27/2011

CHECKED BY: _____ DATE: 1-27-11

LAND DEVELOPMENT DIVISION
LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

Prepared For:
Newhall Land & Farming, Co.
25124 Springfield Ct. Suite 300
Valencia, CA 91355

REGISTERED PROFESSIONAL ENGINEER
CRAIG M. WHITTENER
C 53929
6-30-12
STATE OF CALIF

Prepared By:
Alliance Land Planning & Engineering, Inc.
2248 Faraday Ave.
Carlsbad, CA 92008

DECEMBER 2010

DRAINAGE CONCEPT
HYDROLOGY STUDY
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HYDROLOGY DESIGN CRITERIA

- Storm Event= 25-yr, 50-yr (sump)
- 50-year, 24-hour rainfall depth varies from 6.2" to 5.8"
- Soil Classification Area = 098 and 097
- Debris Production Area = 5 and 8

Time of concentration calculated using County of Los Angeles "T_c" Software. For sub-areas shown with T_c greater than 5 min.

Flow rates calculated using modified rational method (depth method); County of Los Angeles Hydrology software.

Project Overview

The proposed project, Entrada VTTM No. 53295, is a 389 acre portion of the Newhall Ranch Master Plan Development. Entrada consists of many different land uses; commercial, office, park & school sites, condominiums and single family lots. Also part of the Entrada project is the extension of Magic Mountain Parkway from The Old Road to the western project boundary, and a 2,000 ft. extension of Westridge Parkway.

Post-development storm flows from the project site will be consistent with the pre-development flow patterns. All natural areas will pass through debris basins prior to entering the proposed drainage system, to remove all debris. All onsite drainage facilities will be designed and constructed to accommodate upstream areas. There is no flooding anticipated upstream or downstream as a result of the project.

Anticipated runoff pollutants from the project site are consistent with these typically found with single family, condominium and commercial/office developments, oil/grease, sediments, nutrients, metals, trash/debris, organics and bacteria. To mitigate the projects water quality impacts the project will be subject to section 402(P) of the FCWA (Federal Clean Water Act), which governs storm water discharges under the NPDES (National Pollutant Discharge Elimination System) Program. The NPDES Program requires all flood control facilities be in compliance with the Los Angeles County General Permit or under conditions placed upon individual NPDES Permits. All project development will be required to comply with applicable NPDES requirements that are in effect at the time improvements are designed.

There are no adverse post-development conditions anticipated for significant flooding, erosion, sedimentation/debris, nor negative water quality impacts.

ENTRADA SOUTH

DRAINAGE CONCEPT REPORT

EXISTING CONDITION

Program Package Serial Number: 2084
01/08/10 FILE: 201E-A INPUT DATA: English Units RAINFALL SOIL FILE: English (In) OUTPUT DATA: English Units PAGE 1
LOS ANGELES COUNTY FLOOD CONTROL DISTRICT PROG F0601M

MODIFIED RATIONAL METHOD HYDROLOGY - STORM YEAR = 50 SOIL DATA FILE: C:\civild\lasoilx.dat

TENT. TRACT 53295 DRAINAGE CONCEPT - EXIST. CONDITION - BASIN A

LOCATION		SUBAREA AREA(Ac)	SUBAREA Q(CFS)	TOTAL AREA(Ac)	TOTAL Q(CFS)	CONV TYPE	CONV LNGTH(Ft)	CONV SLOPE	CONV SIZE(Ft)	CONV Z	CONTROL Q(CFS)	SOIL NAME	TC	STORM DAY 4 RAIN ZONE	PCT IMPV
201	1A	17.7	46.07	17.7	46.07	2	1300.	.08000	.00	.00	0.	298	9	A32	.10
201	2A	33.1	72.06	50.8	114.87	4	100.	.01000	3.75	.00	0.	298	12	A31	.01

BULKING CALCULATION

SAMPLE CALCULATION

Q_{BB} - Q BURNED BULKED Q_B - Q BURNED

DPA B - BULKING FACTOR = 1.36

$Q_{BB} = Q_B \times$ BULKING FACTOR

AREA 1A

Q_B = 46.07 cfs DPA 8 Q_{BB} = 62.66 cfs ADD 16.59 cfs TO All DOWNSTREAM

AREA 2A

Q_B = 72.06 cfs DPA 8 Q_{BB} = 98.00 cfs ADD 25.94 cfs TO All Downstream

Program Package Serial Number: 2084
01/08/10 FILE: 201E-A INPUT DATA: English Units RAINFALL SOIL FILE: English (In) OUTPUT DATA: English Units PAGE 2
LOS ANGELES COUNTY FLOOD CONTROL DISTRICT PROG F0601M

MODIFIED RATIONAL METHOD HYDROLOGY - STORM YEAR = 50 SOIL DATA FILE:
HYDROGRAPH AT POINT 2A
HYDROGRAPH AT 201 2A STORM DAY 4 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	.60	100	2.46	200	2.53	300	2.63	400	2.78
500	2.96	600	3.18	700	3.46	800	3.85	900	4.69
1000	7.16	1050	10.48	1100	15.37	1110	19.88	1120	24.17
1130	29.24	1131	30.01	1132	30.61	1133	31.21	1134	31.98
1135	32.61	1136	33.29	1137	34.32	1138	35.37	1139	36.47
1140	37.83	1141	39.55	1142	41.27	1143	42.92	1144	44.63
1145	47.00	1146	49.40	1147	52.00	1148	54.77	1149	62.84
1150	71.31	1151	80.83	1152	91.61	1153	102.69	1154	108.57
1155	112.68	1156	114.87	1157	114.00	1158	111.66	1159	108.26
1160	103.07	1161	91.04	1162	78.37	1163	65.69	1164	52.73
1165	40.61	1166	35.20	1167	31.32	1168	28.27	1169	26.03
1170	24.20	1171	22.67	1172	21.24	1173	20.07	1174	18.97
1175	18.09	1176	17.28	1177	16.65	1178	15.92	1179	15.37
1180	14.82	1181	14.17	1182	13.85	1183	13.39	1184	12.93
1185	12.48	1186	12.32	1187	11.89	1188	11.62	1189	11.21
1190	10.94	1191	10.69	1192	10.44	1193	10.20	1194	9.97
1195	9.74	1196	9.52	1197	9.44	1198	9.06	1199	8.84
1200	8.77	1201	8.56	1202	8.33	1203	8.11	1204	8.03
1205	7.97	1206	7.76	1207	7.57	1208	7.51	1209	7.16
1210	7.10	1211	7.04	1212	6.84	1213	6.79	1214	6.59
1215	6.55	1216	6.36	1217	6.17	1218	6.14	1219	5.97
1220	5.95	1221	5.93	1222	5.89	1223	5.72	1224	5.69
1225	5.50	1226	5.46	1227	5.42	1228	5.23	1229	5.18
1230	5.14	1231	5.12	1232	4.94	1233	4.91	1234	4.75
1235	4.72	1236	4.54	1237	4.52	1238	4.50	1239	4.42
1240	4.39	1241	4.37	1242	4.29	1243	4.27	1244	4.25
1245	4.23	1246	4.21	1247	4.19	1248	4.17	1249	4.15
1250	4.09	1251	4.07	1252	4.06	1253	4.05	1254	3.99
1255	3.98	1256	3.98	1257	3.92	1258	3.90	1259	3.89
1260	3.84	1261	3.83	1262	3.87	1263	3.81	1264	3.80
1265	3.74	1266	3.79	1267	3.73	1268	3.73	1269	3.72
1270	3.71	1271	3.65	1272	3.70	1273	3.64	1274	3.63
1275	3.62	1276	3.57	1277	3.61	1278	3.55	1279	3.55
1280	3.54	1281	3.54	1282	3.48	1283	3.53	1284	3.47
1285	3.46	1286	3.46	1287	3.46	1288	3.46	1289	3.40
1290	3.45	1291	3.44	1292	3.39	1293	3.38	1294	3.37
1295	3.37	1296	3.36	1297	3.35	1298	3.30	1299	3.29
1300	3.28	1310	3.20	1320	3.12	1330	3.03	1340	2.92
1350	2.87	1360	2.80	1370	2.72	1380	2.69	1390	2.61
1400	2.58	1420	2.50	1440	2.44	1460	1.00	1500	1.00

TOTAL VOLUME THIS HYDROGRAPH = 11.98(Ac.Ft)

Basin A

Subarea	Area (Ac)	%imp	Soil Type	Length (ft)	Slope (ft/ft)	Isohyet (in)	Tc-calculated (min)	Intensity (in/hr)	Cu	Cd
1A	17.7	0.10	98	1550	0.130	6.20	9	2.81	0.83	0.84
2A	33.1	0.01	98	2000	0.070	6.10	12	2.41	0.81	0.81

Program Package Serial Number: 2084
01/08/10 FILE: 201E-B INPUT DATA: English Units RAINFALL SOIL FILE: English (In) OUTPUT DATA: English Units PAGE 1
LOS ANGELES COUNTY FLOOD CONTROL DISTRICT PROG F0601M

MODIFIED RATIONAL METHOD HYDROLOGY - STORM YEAR = 50 SOIL DATA FILE: C:\civild\lasoilx.dat

TENT. TRACT 53295 DRAINAGE CONCEPT - EXIST. CONDITION - BASIN B

LOCATION		SUBAREA AREA(Ac)	SUBAREA Q(CFS)	TOTAL AREA(Ac)	TOTAL Q(CFS)	CONV TYPE	CONV LNGTH(Ft)	CONV SLOPE	CONV SIZE(Ft)	CONV Z	CONTROL Q(CFS)	SOIL NAME	TC	STORM DAY 4 RAIN ZONE	PCT IMPV
201	1A	10.6	24.12	10.6	24.12	4	60.	.04000	2.00	.00	0.	298	11	A31	.01
201	2A	.0	.00	10.6	24.12	4	1.	.01000	2.00	.00	0.	298	99	A31	.01

BULKING CALCULATION

SAMPLE CALCULATION

Q_{BB} - Q BURNED BULKED Q_B - Q BURNED

DPA 8 - BULKING FACTOR = 1.36

$Q_{BB} = Q_B \times$ BULKING FACTOR

AREA 1A

Q_B = 24.12 CFS DPA 8 Q_{BB} = 32.80 CFS ADD 8.68 cfs TO All DOWNSTREAM

Program Package Serial Number: 2084
01/08/10 FILE: 201E-B INPUT DATA: English Units RAINFALL SOIL FILE: English (In) OUTPUT DATA: English Units PAGE 2
LOS ANGELES COUNTY FLOOD CONTROL DISTRICT PROG F0601M

MODIFIED RATIONAL METHOD HYDROLOGY - STORM YEAR = 50 SOIL DATA FILE:
HYDROGRAPH AT POINT 2A
HYDROGRAPH AT 201 2A STORM DAY 4 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	.00	100	1.00	200	1.00	300	1.00	400	1.00
500	1.00	600	1.00	700	1.00	800	1.00	900	1.00
1000	1.42	1050	2.13	1100	3.13	1110	4.25	1120	5.05
1130	6.14	1131	6.35	1132	6.40	1133	6.52	1134	6.72
1135	6.87	1136	7.02	1137	7.26	1138	7.52	1139	7.78
1140	8.08	1141	8.49	1142	8.85	1143	9.27	1144	9.59
1145	10.08	1146	10.77	1147	11.38	1148	11.91	1149	14.05
1150	16.69	1151	18.94	1152	21.35	1153	23.57	1154	24.12
1155	24.11	1156	23.75	1157	23.06	1158	22.36	1159	21.61
1160	19.18	1161	16.24	1162	13.57	1163	10.65	1164	7.85
1165	6.50	1166	6.02	1167	5.34	1168	5.01	1169	4.66
1170	4.39	1171	4.11	1172	3.92	1173	3.72	1174	3.53
1175	3.38	1176	3.25	1177	3.11	1178	3.03	1179	2.91
1180	2.82	1181	2.71	1182	2.61	1183	2.54	1184	2.46
1185	2.39	1186	2.35	1187	2.29	1188	2.20	1189	2.13
1190	2.09	1191	2.03	1192	2.02	1193	1.95	1194	1.88
1195	1.87	1196	1.83	1197	1.78	1198	1.73	1199	1.68
1200	1.66	1201	1.63	1202	1.57	1203	1.52	1204	1.55
1205	1.53	1206	1.46	1207	1.46	1208	1.42	1209	1.37
1210	1.36	1211	1.32	1212	1.30	1213	1.31	1214	1.27
1215	1.21	1216	1.20	1217	1.17	1218	1.15	1219	1.12
1220	1.13	1221	1.12	1222	1.09	1223	1.07	1224	1.04
1225	1.05	1226	1.01	1227	1.00	1228	1.00	1229	1.00
1230	1.00	1231	1.00	1232	1.00	1233	1.00	1234	1.00
1235	1.00	1236	1.00	1237	1.00	1238	1.00	1239	1.00
1240	1.00	1241	1.00	1242	1.00	1243	1.00	1244	1.00
1245	1.00	1246	1.00	1247	1.00	1248	1.00	1249	1.00
1250	1.00	1251	1.00	1252	1.00	1253	1.00	1254	1.00
1255	1.00	1256	1.00	1257	1.00	1258	1.00	1259	1.00
1260	1.00	1261	1.00	1262	1.00	1263	1.00	1264	1.00
1265	1.00	1266	1.00	1267	1.00	1268	1.00	1269	1.00
1270	1.00	1271	1.00	1272	1.00	1273	1.00	1274	1.00
1275	1.00	1276	1.00	1277	1.00	1278	1.00	1279	1.00
1280	1.00	1281	1.00	1282	1.00	1283	1.00	1284	1.00
1285	1.00	1286	1.00	1287	1.00	1288	1.00	1289	1.00
1290	1.00	1291	1.00	1292	1.00	1293	1.00	1294	1.00
1295	1.00	1296	1.00	1297	1.00	1298	1.00	1299	1.00
1300	1.00	1310	1.00	1320	1.00	1330	1.00	1340	1.00
1350	1.00	1360	1.00	1370	1.00	1380	1.00	1390	1.00
1400	1.00	1420	1.00	1440	1.00	1460	1.00	1500	1.00

TOTAL VOLUME THIS HYDROGRAPH = 3.03(Ac.Ft)

Basin B

Subarea	Area (Ac)	%imp	Soil Type	Length (ft)	Slope (ft/ft)	Isohyet (in)	Tc-calculated (min)	Intensity (in/hr)	Cu	Cd
1A	10.6	0.01	98	1700	0.100	6.0	11	2.47	0.82	0.82

Program Package Serial Number: 2084
05/04/10 FILE: 201E-C INPUT DATA: English Units RAINFALL SOIL FILE: English (In) OUTPUT DATA: English Units PAGE 1
LOS ANGELES COUNTY FLOOD CONTROL DISTRICT PROG F0601M

MODIFIED RATIONAL METHOD HYDROLOGY - STORM YEAR = 50 SOIL DATA FILE: C:\civild\lasoilx.dat

TENT. TRACT 53295 DRAINAGE CONCEPT - EXIST. CONDITION - BASIN C STORM DAY 4

LOCATION		SUBAREA AREA(Ac)	SUBAREA Q(CFS)	TOTAL AREA(Ac)	TOTAL Q(CFS)	CONV TYPE	CONV LNGTH(Ft)	CONV SLOPE	CONV SIZE(Ft)	CONV Z	CONTROL Q(CFS)	SOIL NAME	TC	RAIN ZONE	PCT IMPV
201	1A	214.4	649.00	214.4	649.00	2	1780.	.05000	.00	.00	0.	98	0	A32	.00
201	2A	33.2	84.00	247.6	692.40	2	600.	.05000	.00	.00	0.	98	0	A32	.00
201	3A	30.2	57.14	277.8	744.80	2	400.	.05000	.00	.00	0.	298	17	A32	.10
201	4A	7.1	21.79	284.9	746.24	2	1300.	.03000	.00	.00	0.	298	6	A31	.01
201	5A	17.9	42.96	302.8	757.11	2	160.	.02000	.00	.00	0.	298	10	A31	.01
201	6B	15.9	36.20	15.9	36.20	2	220.	.07000	.00	.00	0.	298	11	A31	.10
201	7B	10.7	28.41	26.6	64.25	2	1200.	.05000	.00	.00	0.	298	8	A31	.01
201	8B	16.9	40.56	43.5	99.30	2	530.	.05000	.00	.00	0.	298	10	A31	.01

CONFLUENCE Q'S

201 9A TA 1160 QA 753.19 QAB 845.86 QB 92.67 201 9B TB 1158 QB 98.58 QBA 797.95 QA 699.37

201 9AB TAB 1160 QAB 845.86 QA 753.19 QB 92.67

LOCATION		SUBAREA AREA(Ac)	SUBAREA Q(CFS)	TOTAL AREA(Ac)	TOTAL Q(CFS)	CONV TYPE	CONV LNGTH(Ft)	CONV SLOPE	CONV SIZE(Ft)	CONV Z	CONTROL Q(CFS)	SOIL NAME	TC	RAIN ZONE	PCT IMPV
201	9AB	43.5	98.58	346.3	845.86	2	1100.	.05000	.00	.00	0.	298	0	A31	.00
201	10A	29.4	73.89	375.7	869.57	4	100.	.01000	7.75	.00	0.	298	9	A31	.01

BULKING CALCULATION

SAMPLE CALCULATION

Q_{BB} - Q BURNED BULKED Q_B - Q BURNED

DPA 8 - BULKING FACTOR = 1.36

$Q_{BB} = Q_B \times$ BULKING FACTOR

AREA 4A Q_B = 21.79 cfs	DPA 8	Q_{BB} = 29.63 cfs	ADD 7.84 cfs TO All DOWNSTREAM
AREA 5A Q_B = 42.96 cfs	DPA 8	Q_{BB} = 58.43 cfs	ADD 15.47 cfs TO All Downstream
AREA 6B Q_B = 36.20 cfs	DPA 8	Q_{BB} = 49.23 cfs	ADD 13.03 cfs TO All Downstream
EA 7B Q_B = 28.41 cfs	DPA 8	Q_{BB} = 38.64 cfs	ADD 10.23 cfs TO All Downstream
AREA 8B Q_B = 40.56 cfs	DPA 8	Q_{BB} = 55.16 cfs	ADD 14.60 cfs TO All DOWNSTREAM
AREA 10A Q_B = 73.89 cfs	DPA 8	Q_{BB} = 100.47 cfs	ADD 26.60 cfs TO All Downstream

Program Package Serial Number: 2084
05/04/10 FILE: 201E-C INPUT DATA: English Units RAINFALL SOIL FILE: English (In) OUTPUT DATA: English Units PAGE 2
LOS ANGELES COUNTY FLOOD CONTROL DISTRICT PROG F0601M

MODIFIED RATIONAL METHOD HYDROLOGY - STORM YEAR = 50 SOIL DATA FILE:
HYDROGRAPH AT POINT 10A
HYDROGRAPH AT 201 10A STORM DAY 4 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	.60	100	32.22	200	34.02	300	35.67	400	37.51
500	40.29	600	43.28	700	47.33	800	51.88	900	59.72
1000	77.52	1050	98.39	1100	132.72	1110	149.91	1120	177.12
1130	212.07	1131	215.62	1132	219.01	1133	222.77	1134	226.63
1135	230.40	1136	234.37	1137	238.94	1138	243.77	1139	249.01
1140	254.69	1141	261.61	1142	268.91	1143	277.07	1144	286.10
1145	297.03	1146	308.54	1147	320.79	1148	333.95	1149	354.62
1150	377.26	1151	403.85	1152	435.51	1153	473.33	1154	510.81
1155	555.96	1156	612.43	1157	682.35	1158	755.70	1159	824.75
1160	867.47	1161	869.57	1162	833.34	1163	775.83	1164	704.61
1165	630.44	1166	560.75	1167	498.62	1168	444.48	1169	398.14
1170	358.49	1171	324.90	1172	296.03	1173	271.49	1174	250.24
1175	232.27	1176	217.13	1177	204.65	1178	193.85	1179	184.50
1180	176.16	1181	168.96	1182	162.65	1183	157.02	1184	151.59
1185	146.86	1186	142.69	1187	138.75	1188	135.04	1189	131.58
1190	128.61	1191	125.65	1192	122.81	1193	120.09	1194	117.64
1195	115.10	1196	112.68	1197	110.57	1198	108.37	1199	106.25
1200	104.39	1201	102.46	1202	100.85	1203	99.20	1204	97.84
1205	96.60	1206	95.23	1207	93.96	1208	92.64	1209	90.93
1210	89.60	1211	88.32	1212	87.11	1213	85.81	1214	84.58
1215	83.56	1216	82.55	1217	81.38	1218	80.59	1219	79.45
1220	78.47	1221	77.34	1222	76.45	1223	75.60	1224	74.79
1225	73.86	1226	73.20	1227	72.61	1228	72.07	1229	71.40
1230	71.09	1231	70.42	1232	69.90	1233	69.18	1234	68.58
1235	67.95	1236	67.16	1237	66.45	1238	65.70	1239	64.86
1240	64.12	1241	63.44	1242	62.84	1243	62.32	1244	61.87
1245	61.46	1246	61.06	1247	60.66	1248	60.27	1249	59.89
1250	59.46	1251	59.13	1252	58.82	1253	58.52	1254	58.18
1255	57.91	1256	57.62	1257	57.26	1258	56.94	1259	56.67
1260	56.28	1261	55.98	1262	55.71	1263	55.48	1264	55.28
1265	55.04	1266	54.93	1267	54.68	1268	54.46	1269	54.22
1270	53.96	1271	53.62	1272	53.39	1273	53.01	1274	52.73
1275	52.32	1276	51.97	1277	51.65	1278	51.36	1279	51.02
1280	50.82	1281	50.50	1282	50.26	1283	50.03	1284	49.80
1285	49.60	1286	49.42	1287	49.25	1288	49.10	1289	48.89
1290	48.79	1291	48.62	1292	48.40	1293	48.24	1294	48.10
1295	47.97	1296	47.85	1297	47.75	1298	47.65	1299	47.47
1300	47.33	1310	45.67	1320	44.41	1330	43.42	1340	42.17
1350	40.87	1360	39.32	1370	38.14	1380	37.51	1390	36.88
1400	36.20	1420	34.81	1440	33.93	1460	31.27	1500	30.92

TOTAL VOLUME THIS HYDROGRAPH = 129.15(Ac.Ft)

```
7   201    1A   214.4 411155    649.200  4
8  5   0.       0. 100.      24. 200.      25. 300.      26. 400.      28.
8 10 500.      29. 600.      32. 700.      35. 800.      38. 900.      44.
8 151000.      55.1050.      68.1100.      89.1110.     107.1120.     127.
8 201130.     145.1131.     147.1132.     150.1133.     154.1134.     158.
8 251135.     163.1136.     169.1137.     175.1138.     180.1139.     186.
8 301140.     192.1141.     197.1142.     204.1143.     212.1144.     220.
8 351145.     229.1146.     241.1147.     257.1148.     273.1149.     295.
8 401150.     341.1151.     414.1152.     497.1153.     578.1154.     641.
8 451155.     649.1156.     594.1157.     509.1158.     419.1159.     330.
8 501160.     259.1161.     213.1162.     185.1163.     167.1164.     152.
8 551165.     142.1166.     133.1167.     126.1168.     119.1169.     114.
8 601170.     109.1171.     105.1172.     101.1173.      98.1174.      95.
8 651175.      93.1176.      90.1177.      88.1178.      86.1179.      84.
8 701180.      82.1181.      80.1182.      78.1183.      77.1184.      76.
8 751185.      74.1186.      73.1187.      71.1188.      70.1189.      69.
8 801190.      68.1191.      67.1192.      67.1193.      66.1194.      65.
8 851195.      64.1196.      63.1197.      62.1198.      61.1199.      60.
8 901200.      59.1201.      59.1202.      58.1203.      58.1204.      57.
8 951205.      56.1206.      55.1207.      55.1208.      54.1209.      54.
81001210.      53.1211.      52.1212.      52.1213.      51.1214.      51.
81051215.      51.1216.      51.1217.      51.1218.      51.1219.      50.
81101220.      50.1221.      49.1222.      48.1223.      48.1224.      47.
81151225.      47.1226.      46.1227.      46.1228.      45.1229.      45.
81201230.      45.1231.      45.1232.      45.1233.      45.1234.      44.
81251235.      44.1236.      43.1237.      43.1238.      43.1239.      42.
81301240.      42.1241.      43.1242.      42.1243.      42.1244.      42.
81351245.      41.1246.      41.1247.      40.1248.      40.1249.      40.
81401250.      40.1251.      40.1252.      40.1253.      40.1254.      40.
81451255.      40.1256.      39.1257.      39.1258.      38.1259.      38.
81501260.      38.1261.      38.1262.      38.1263.      38.1264.      38.
81551265.      37.1266.      37.1267.      37.1268.      37.1269.      37.
81601270.      36.1271.      36.1272.      36.1273.      36.1274.      36.
81651275.      36.1276.      36.1277.      36.1278.      35.1279.      35.
81701280.      35.1281.      35.1282.      35.1283.      35.1284.      35.
81751285.      35.1286.      35.1287.      35.1288.      34.1289.      34.
81801290.      34.1291.      33.1292.      33.1293.      33.1294.      33.
81851295.      33.1296.      33.1297.      33.1298.      33.1299.      33.
81901300.      33.1310.      32.1320.      31.1330.      30.1340.      29.
81951350.      28.1360.      28.1370.      27.1380.      27.1390.      26.
82001400.      25.1420.      25.1440.      24.1460.      24.1500.      24.
7   201    2A    33.2 411155     84.200  4
8  5   0.       0. 100.       2. 200.       3. 300.       3. 400.       3.
8 10 500.       4. 600.       4. 700.       4. 800.       5. 900.       5.
8 151000.       7.1050.       9.1100.      12.1110.      14.1120.      17.
8 201130.      19.1131.      20.1132.      20.1133.      21.1134.      21.
8 251135.      22.1136.      23.1137.      23.1138.      24.1139.      25.
8 301140.      26.1141.      27.1142.      28.1143.      29.1144.      30.
8 351145.      31.1146.      33.1147.      35.1148.      37.1149.      41.
8 401150.      48.1151.      56.1152.      65.1153.      76.1154.      83.
8 451155.      84.1156.      81.1157.      74.1158.      64.1159.      53.
8 501160.      44.1161.      37.1162.      32.1163.      27.1164.      24.
8 551165.      21.1166.      20.1167.      18.1168.      17.1169.      16.
8 601170.      15.1171.      15.1172.      14.1173.      14.1174.      13.
8 651175.      13.1176.      12.1177.      12.1178.      12.1179.      11.
8 701180.      11.1181.      11.1182.      10.1183.      10.1184.      10.
8 751185.      10.1186.      10.1187.       9.1188.       9.1189.       9.
8 801190.       9.1191.       9.1192.       9.1193.       8.1194.       8.
8 851195.       8.1196.       8.1197.       8.1198.       8.1199.       8.
8 901200.       8.1201.       7.1202.       7.1203.       7.1204.       7.
8 951205.       7.1206.       7.1207.       7.1208.       7.1209.       7.
81001210.       7.1211.       7.1212.       7.1213.       6.1214.       6.
81051215.       6.1216.       6.1217.       6.1218.       6.1219.       6.
81101220.       6.1221.       6.1222.       6.1223.       6.1224.       6.
81151225.       6.1226.       6.1227.       6.1228.       6.1229.       6.
81201230.       6.1231.       5.1232.       5.1233.       5.1234.       5.
81251235.       5.1236.       5.1237.       5.1238.       5.1239.       5.
81301240.       5.1241.       5.1242.       5.1243.       5.1244.       5.
81351245.       5.1246.       5.1247.       5.1248.       5.1249.       5.
81401250.       5.1251.       5.1252.       5.1253.       5.1254.       5.
81451255.       5.1256.       5.1257.       5.1258.       5.1259.       5.
81501260.       5.1261.       5.1262.       5.1263.       5.1264.       5.
81551265.       5.1266.       4.1267.       4.1268.       4.1269.       4.
81601270.       4.1271.       4.1272.       4.1273.       4.1274.       4.
81651275.       4.1276.       4.1277.       4.1278.       4.1279.       4.
81701280.       4.1281.       4.1282.       4.1283.       4.1284.       4.
81751285.       4.1286.       4.1287.       4.1288.       4.1289.       4.
81801290.       4.1291.       4.1292.       4.1293.       4.1294.       4.
81851295.       4.1296.       4.1297.       4.1298.       4.1299.       4.
81901300.       4.1310.       4.1320.       4.1330.       4.1340.       4.
81951350.       3.1360.       3.1370.       3.1380.       3.1390.       3.
82001400.       3.1420.       3.1440.       3.1460.       2.1500.       2.
```

Basin C

Subarea	Area (Ac)	%imp	Soil Type	Length (ft)	Slope (ft/ft)	Isohyet (in)	Tc-calculated (min)	Intensity (in/hr)	Cu	Cd
3A	30.0	0.10	98	3160	0.050	6.40	17	2.15	0.80	0.81
4A	7.1	0.01	98	660	0.100	6.2	6	3.40	0.85	0.85
5A	17.9	0.01	98	1300	0.050	6.20	10	2.67	0.82	0.82
6B	15.9	0.10	98	1580	0.063	6.20	11	2.55	0.82	0.83
7B	10.7	0.01	98	980	0.065	6.20	8	2.97	0.84	0.84
8B	16.9	0.01	98	1300	0.050	6.10	10	2.63	0.82	0.82
10A	29.4	0.01	98	1140	0.050	6.10	9	2.76	0.83	0.83

Program Package Serial Number: 2084
01/17/08 FILE: 201E-D INPUT DATA: English Units RAINFALL SOIL FILE: English (In) OUTPUT DATA: English Units PAGE 1
LOS ANGELES COUNTY FLOOD CONTROL DISTRICT PROG F0601M

MODIFIED RATIONAL METHOD HYDROLOGY - STORM YEAR = 50 SOIL DATA FILE: C:\civild\lasoilx.dat

TENT. TRACT 53295 DRAINAGE CONCEPT - EXIST. CONDITION - BASIN D

LOCATION		SUBAREA AREA(Ac)	SUBAREA Q(CFS)	TOTAL AREA(Ac)	TOTAL Q(CFS)	CONV TYPE	CONV LNGTH(Ft)	CONV SLOPE	CONV SIZE(Ft)	CONV Z	CONTROL Q(CFS)	SOIL NAME	TC	STORM DAY 4 RAIN ZONE	PCT IMPV
201	1A	20.0	43.54	20.0	43.54	4	100.	.01000	2.50	.00	0.	298	12	A31	.01
201	2A	.0	.00	20.0	43.46	4	1.	.01000	2.50	.00	0.	294	99	A31	.00

BURNED CALCULATION

SAMPLE CALCULATION

Q_{BB} - Q BURNED BULKED Q_B - Q BURNED

DPA B - BULKING FACTOR = 1.36

$Q_{BB} = Q_B \times$ BULKING FACTOR

AREA 1A

Q_B: 43.54 CFS DPA 8 Q_{BB} = 59.21 CFS ADD 15.67 cfs TO All DOWNSTREAM

Program Package Serial Number: 2084
01/17/08 FILE: 201E-D INPUT DATA: English Units RAINFALL SOIL FILE: English (In) OUTPUT DATA: English Units PAGE 2
LOS ANGELES COUNTY FLOOD CONTROL DISTRICT PROG F0601M

MODIFIED RATIONAL METHOD HYDROLOGY - STORM YEAR = 50 SOIL DATA FILE:

HYDROGRAPH AT POINT
HYDROGRAPH AT 201 2A STORM DAY 4 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	.00	100	1.00	200	1.00	300	1.00	400	1.02
500	1.09	600	1.17	700	1.27	800	1.42	900	1.71
1000	2.68	1050	4.01	1100	5.91	1110	7.78	1120	9.40
1130	11.37	1131	11.71	1132	11.97	1133	12.23	1134	12.54
1135	12.83	1136	13.08	1137	13.46	1138	13.91	1139	14.36
1140	14.87	1141	15.54	1142	16.29	1143	16.98	1144	17.66
1145	18.59	1146	19.68	1147	20.73	1148	21.80	1149	24.98
1150	29.48	1151	33.54	1152	37.69	1153	41.54	1154	43.41
1155	43.46	1156	43.34	1157	42.62	1158	41.31	1159	40.00
1160	38.68	1161	35.00	1162	29.77	1163	25.03	1164	20.03
1165	15.11	1166	12.27	1167	11.15	1168	10.04	1169	9.32
1170	8.71	1171	8.20	1172	7.73	1173	7.31	1174	6.93
1175	6.61	1176	6.32	1177	6.09	1178	5.86	1179	5.65
1180	5.47	1181	5.24	1182	5.07	1183	4.94	1184	4.76
1185	4.59	1186	4.50	1187	4.41	1188	4.28	1189	4.14
1190	4.01	1191	3.93	1192	3.84	1193	3.75	1194	3.66
1195	3.57	1196	3.48	1197	3.44	1198	3.35	1199	3.21
1200	3.17	1201	3.13	1202	3.04	1203	2.95	1204	2.91
1205	2.91	1206	2.86	1207	2.77	1208	2.73	1209	2.64
1210	2.55	1211	2.55	1212	2.51	1213	2.46	1214	2.42
1215	2.38	1216	2.33	1217	2.24	1218	2.20	1219	2.15
1220	2.11	1221	2.11	1222	2.11	1223	2.07	1224	2.02
1225	1.98	1226	1.93	1227	1.93	1228	1.89	1229	1.84
1230	1.84	1231	1.84	1232	1.80	1233	1.75	1234	1.71
1235	1.67	1236	1.62	1237	1.58	1238	1.57	1239	1.56
1240	1.54	1241	1.54	1242	1.53	1243	1.51	1244	1.51
1245	1.51	1246	1.51	1247	1.51	1248	1.51	1249	1.51
1250	1.50	1251	1.48	1252	1.48	1253	1.48	1254	1.47
1255	1.45	1256	1.45	1257	1.44	1258	1.42	1259	1.42
1260	1.40	1261	1.39	1262	1.40	1263	1.40	1264	1.39
1265	1.37	1266	1.37	1267	1.37	1268	1.36	1269	1.35
1270	1.35	1271	1.34	1272	1.34	1273	1.34	1274	1.32
1275	1.32	1276	1.31	1277	1.31	1278	1.31	1279	1.29
1280	1.29	1281	1.29	1282	1.28	1283	1.27	1284	1.28
1285	1.26	1286	1.26	1287	1.26	1288	1.26	1289	1.25
1290	1.24	1291	1.26	1292	1.25	1293	1.23	1294	1.23
1295	1.23	1296	1.23	1297	1.23	1298	1.21	1299	1.20
1300	1.20	1310	1.17	1320	1.14	1330	1.11	1340	1.07
1350	1.06	1360	1.03	1370	1.00	1380	1.00	1390	1.00
1400	1.00	1420	1.00	1440	1.00	1460	1.00	1500	1.00

TOTAL VOLUME THIS HYDROGRAPH = 4.57(Ac.Ft)

Basin D

Subarea	Area (Ac)	%imp	Soil Type	Length (ft)	Slope (ft/ft)	Isohyet (in)	Tc-calculated (min)	Intensity (in/hr)	Cu	Cd
1A	20	0.01	98	1800	0.072	6.10	12	2.41	0.81	0.81

Program Package Serial Number: 2084
01/07/10 FILE: 201E-E INPUT DATA: English Units RAINFALL SOIL FILE: English (In) OUTPUT DATA: English Units PAGE 1
LOS ANGELES COUNTY FLOOD CONTROL DISTRICT PROG F0601M

MODIFIED RATIONAL METHOD HYDROLOGY - STORM YEAR = 50 SOIL DATA FILE: C:\civild\lasoilx.dat

TENT. TRACT 53295 DRAINAGE CONCEPT - EXIST. CONDITION - BASIN E

LOCATION		SUBAREA AREA(Ac)	SUBAREA Q(CFS)	TOTAL AREA(Ac)	TOTAL Q(CFS)	CONV TYPE	CONV LNGTH(Ft)	CONV SLOPE	CONV SIZE(Ft)	CONV Z	CONTROL Q(CFS)	SOIL NAME	TC	STORM RAIN ZONE	DAY 4 PCT IMPV
201	1A	12.7	37.15	12.7	37.15	2	1700.	.07000	.00	.00	0.	298	7	A32	.10
201	2A	39.1	92.29	51.8	121.23	2	2100.	.04500	.00	.00	0.	298	11	A32	.01
201	3A	49.8	97.02	101.6	204.71	4	100.	.01000	4.50	.00	0.	298	15	A31	.01

BULKING CALCULATION

SAMPLE CALCULATION

Q_{BB} - Q BURNED BULKED Q_B - Q BURNED

DPA B - BULKING FACTOR = 1.36

$Q_{BB} = Q_B \times$ BULKING FACTOR

AREA 1A

Q_B = 37.15 cfs DPA 8 Q_{BB} = 50.52 cfs ADD 13.37 cfs TO All DOWNSTREAM

AREA 2A

Q_B = 92.29 cfs DPA 8 Q_{BB} = 125.51 cfs ADD 33.22 cfs TO All Downstream

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AREA 3A

Q_B = 97.02 cfs DPA 8 Q_{BB} = 131.95 cfs ADD 34.93 cfs TO All Downstream

Program Package Serial Number: 2084
01/07/10 FILE: 201E-E INPUT DATA: English Units RAINFALL SOIL FILE: English (In) OUTPUT DATA: English Units PAGE 2
LOS ANGELES COUNTY FLOOD CONTROL DISTRICT PROG F0601M

MODIFIED RATIONAL METHOD HYDROLOGY - STORM YEAR = 50 SOIL DATA FILE:
HYDROGRAPH AT POINT 3A
HYDROGRAPH AT 201 3A STORM DAY 4 REDUCTION FACTOR = 1.000

TIME	Q	TIME	Q	TIME	Q	TIME	Q	TIME	Q
0	.60	100	4.97	200	5.14	300	5.35	400	5.60
500	5.89	600	6.26	700	6.72	800	7.41	900	9.08
1000	13.92	1050	20.26	1100	29.97	1110	36.31	1120	44.86
1130	54.68	1131	55.89	1132	56.90	1133	58.31	1134	59.94
1135	61.41	1136	62.52	1137	64.04	1138	65.61	1139	67.20
1140	69.06	1141	71.43	1142	73.93	1143	76.70	1144	79.42
1145	83.50	1146	87.56	1147	91.67	1148	95.64	1149	106.49
1150	117.79	1151	129.40	1152	142.41	1153	157.67	1154	167.77
1155	177.98	1156	187.67	1157	195.51	1158	200.94	1159	204.53
1160	204.71	1161	202.52	1162	197.55	1163	189.29	1164	171.69
1165	152.55	1166	132.86	1167	112.56	1168	93.21	1169	82.18
1170	73.58	1171	66.64	1172	60.99	1173	56.38	1174	52.09
1175	48.60	1176	45.50	1177	43.07	1178	40.65	1179	38.59
1180	36.79	1181	34.93	1182	33.54	1183	32.26	1184	30.89
1185	29.78	1186	28.75	1187	27.76	1188	26.81	1189	26.08
1190	25.24	1191	24.61	1192	23.84	1193	23.08	1194	22.52
1195	22.00	1196	21.49	1197	21.00	1198	20.33	1199	19.84
1200	19.55	1201	18.94	1202	18.52	1203	18.10	1204	17.89
1205	17.50	1206	17.10	1207	16.71	1208	16.49	1209	15.94
1210	15.58	1211	15.41	1212	15.05	1213	14.86	1214	14.50
1215	14.16	1216	13.99	1217	13.66	1218	13.51	1219	13.02
1220	12.89	1221	12.59	1222	12.48	1223	12.20	1224	12.27
1225	12.00	1226	11.72	1227	11.63	1228	11.35	1229	11.24
1230	11.14	1231	10.86	1232	10.75	1233	10.46	1234	10.36
1235	10.09	1236	10.00	1237	9.73	1238	9.63	1239	9.42
1240	9.34	1241	9.26	1242	9.12	1243	9.04	1244	8.97
1245	8.84	1246	8.76	1247	8.67	1248	8.60	1249	8.54
1250	8.41	1251	8.36	1252	8.30	1253	8.25	1254	8.14
1255	8.09	1256	8.05	1257	7.95	1258	7.91	1259	7.88
1260	7.78	1261	7.75	1262	7.72	1263	7.63	1264	7.60
1265	7.58	1266	7.55	1267	7.46	1268	7.44	1269	7.41
1270	7.39	1271	7.31	1272	7.35	1273	7.27	1274	7.24
1275	7.22	1276	7.14	1277	7.13	1278	7.11	1279	7.03
1280	7.07	1281	6.99	1282	6.97	1283	6.95	1284	6.94
1285	6.86	1286	6.91	1287	6.83	1288	6.82	1289	6.74
1290	6.80	1291	6.78	1292	6.71	1293	6.70	1294	6.69
1295	6.67	1296	6.66	1297	6.65	1298	6.58	1299	6.56
1300	6.55	1310	6.33	1320	6.22	1330	6.07	1340	5.91
1350	5.80	1360	5.68	1370	5.54	1380	5.47	1390	5.37
1400	5.29	1420	5.12	1440	4.98	1460	2.78	1500	2.78

TOTAL VOLUME THIS HYDROGRAPH = 23.94(Ac.Ft)

Basin E

Subarea	Area (Ac)	%imp	Soil Type	Length (ft)	Slope (ft/ft)	Isohyet (in)	Tc-calculated (min)	Intensity (in/hr)	Cu	Cd
1A	12.7	0.10	98	800	0.070	6.30	7	3.21	0.85	0.86
2A	39.7	0.01	98	1700	0.070	6.20	11	2.55	0.82	0.82
3A	49.8	0.01	98	2160	0.035	6.10	15	2.17	0.81	0.81

Program Package Serial Number: 2084
05/04/10 FILE: 201E-F INPUT DATA: English Units RAINFALL SOIL FILE: English (In) OUTPUT DATA: English Units PAGE 1
LOS ANGELES COUNTY FLOOD CONTROL DISTRICT PROG F0601M

MODIFIED RATIONAL METHOD HYDROLOGY - STORM YEAR = 50 SOIL DATA FILE: C:\civild\lasoilx.dat
TENT. TRACT 53295 DRAINAGE CONCEPT - EXIST. CONDITION - BASIN F STORM DAY 4

LOCATION		SUBAREA AREA(Ac)	SUBAREA Q(CFS)	TOTAL AREA(Ac)	TOTAL Q(CFS)	CONV TYPE	CONV LNGTH(Ft)	CONV SLOPE	CONV SIZE(Ft)	CONV Z	CONTROL Q(CFS)	SOIL NAME	TC	RAIN ZONE	PCT IMPV
201	1A	35.8	63.87	35.8	63.87	2	100.	.10000	.00	.00	0.	297	16	A32	.01
201	2A	37.4	77.54	73.2	141.09	2	1200.	.06000	.00	.00	0.	297	12	A32	.01
201	3A	42.0	74.93	115.2	213.84	2	300.	.06000	.00	.00	0.	297	16	A32	.01
201	4A	37.6	67.08	152.8	279.62	2	760.	.05000	.00	.00	0.	297	16	A32	.01
201	5A	27.4	56.81	180.2	331.42	2	50.	.05000	.00	.00	0.	297	12	A32	.01
201	6A	37.1	68.64	217.3	397.77	2	820.	.05000	.00	.00	0.	297	15	A32	.01
201	7A	24.9	51.62	242.2	443.07	2	70.	.05000	.00	.00	0.	297	12	A32	.01
201	8B	48.2	95.79	48.2	95.79	2	1570.	.06000	.00	.00	0.	297	13	A32	.01
201	9B	42.4	78.45	90.6	169.13	2	180.	.06000	.00	.00	0.	297	15	A32	.01

CONFLUENCE Q'S

201 10A TA 1159 QA 443.00 QAB 611.41 QB 168.41 201 10B TB 1158 QB 169.05 QBA 610.23 QA 441.18
201 10AB TAB 1159 QAB 611.41 QA 443.00 QB 168.41

LOCATION		SUBAREA AREA(Ac)	SUBAREA Q(CFS)	TOTAL AREA(Ac)	TOTAL Q(CFS)	CONV TYPE	CONV LNGTH(Ft)	CONV SLOPE	CONV SIZE(Ft)	CONV Z	CONTROL Q(CFS)	SOIL NAME	TC	RAIN ZONE	PCT IMPV
201	10AB	90.6	169.05	332.8	611.41	2	710.	.05000	.00	.00	0.	297	0	A32	.00
201	11A	33.0	68.42	365.8	670.95	2	920.	.04000	.00	.00	0.	297	12	A32	.01
201	12A	30.2	62.61	396.0	722.34	2	130.	.05000	.00	.00	0.	297	12	A32	.01
201	13A	22.1	45.82	418.1	761.52	2	1320.	.04000	.00	.00	0.	297	12	A32	.01
201	14A	50.0	76.88	468.1	827.08	2	160.	.01000	.00	.00	0.	297	21	A32	.01
201	15C	37.7	64.64	37.7	64.64	2	590.	.05000	.00	.00	0.	220	14	A32	.01
201	16C	24.0	41.15	61.7	105.17	2	300.	.04000	.00	.00	0.	220	14	A32	.01
201	17C	28.7	73.00	90.4	174.31	2	1100.	.06000	.00	.00	0.	98	0	A32	.00
201	18C	37.9	62.66	128.3	232.41	2	800.	.07000	.00	.00	0.	220	15	A32	.01

CONFLUENCE Q'S

201 19A TA 1162 QA 825.99 QAC 1026.79 QC 200.80 201 19C TC 1158 QC 230.14 QCA 960.90 QA 730.75
201 19AC TAC 1161 QAC 1034.13 QA 822.13 QC 212.00

LOCATION		SUBAREA AREA(Ac)	SUBAREA Q(CFS)	TOTAL AREA(Ac)	TOTAL Q(CFS)	CONV TYPE	CONV LNGTH(Ft)	CONV SLOPE	CONV SIZE(Ft)	CONV Z	CONTROL Q(CFS)	SOIL NAME	TC	RAIN ZONE	PCT IMPV
201	19AC	128.3	230.14	596.4	1034.13	2	890.	.06000	.00	.00	0.	220	0	A32	.00
201	20A	.0	.00	596.4	1030.71	2	1.	.01000	.00	.00	0.	220	99	A32	.01
201	21A	17.8	34.07	614.2	1059.32	2	1160.	.04000	.00	.00	0.	297	14	A32	.01
201	22A	78.7	112.32	692.9	1158.48	2	600.	.04000	.00	.00	0.	297	21	A30	.01
201	23A	12.1	22.02	705.0	1161.51	2	830.	.05000	.00	.00	0.	220	11	A30	.01
201	24A	36.9	56.24	741.9	1198.47	2	100.	.05000	.00	.00	0.	220	15	A30	.01

BULKING CALCULATION

SAMPLE CALCULATION

Q_{BB} - Q BURNED BULKED Q_B - Q BURNED

DPA 5 - BULKING FACTOR = 1.47 DPA 8 - BULKING FACTOR = 1.36

$Q_{BB} = Q_B \times$ BULKING FACTOR

AREA 1A

Q_B = 63.87 cfs DPA 5 Q_{BB} = 93.89 cfs ADD 30.02 cfs TO All DOWNSTREAM

AREA 2A

Q_B = 77.54 cfs DPA 5 Q_{BB} = 113.98 cfs ADD 36.44 TO All Downstream

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AREA 3A

Q_B = 74.93 cfs DPA 5 Q_{BB} = 110.15 cfs ADD 35.22 cfs TO All Downstream

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AREA 4A

Q_B = 67.08 cfs DPA 5 Q_{BB} = 98.61 cfs ADD 31.53 cfs TO All Downstream

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AREA 5A

Q_B = 56.81 cfs 60% DPA 5, 40% DPA 8 Q_{BB} = 81.01 cfs ADD 24.21 cfs TO All DOWNSTREAM

AREA 6A

Q_B = 68.64 cfs 80% DPA 5, 20% DPA 8 Q_{BB} = 99.39 cfs ADD 30.75 cfs TO All DOWNSTREAM

AREA 7A

Q_B = 51.62 cfs DPA 8 Q_{BB} = 70.20 cfs ADD 18.58 cfs TO All DOWNSTREAM

AREA 8B

Q_B = 95.79 cfs 70% DPA 5, 30% DPA 8 Q_{BB} = 137.65 cfs ADD 41.86 cfs TO All DOWNSTREAM

AREA 9B

Q_B = 78.45 cfs DPA 8 Q_{BB} = 106.69 cfs ADD 28.24 TO All DOWNSTREAM

+ 276.85

AREA 11A Q_B = 68.42 cfs	DPA 8	Q_{BB} = 93.05 cfs	ADD 24.63 cfs TO All DOWNSTREAM
AREA 12A Q_B = 62.61 cfs	DPA 8	Q_{BB} = 85.15 cfs	ADD 22.54 cfs TO All DOWNSTREAM
AREA 13A Q_B = 45.82 cfs	DPA 8	Q_{BB} = 62.32 cfs	ADD 16.50 cfs TO All DOWNSTREAM
AREA 14A Q_B = 76.88 cfs	DPA 8	Q_{BB} = 104.56 cfs	ADD 27.68 cfs TO All DOWNSTREAM
AREA 15C Q_B = 64.64 cfs	30% DPA 5 70% DPA 8	Q_{BB} = 90.04 cfs	ADD 25.40 cfs TO All DOWNSTREAM
AREA 16C Q_B = 41.15 cfs	DPA 8	Q_{BB} = 55.96 cfs	ADD 14.81 cfs TO All DOWNSTREAM
AREA 18C Q_B = 62.66 cfs	DPA 8	Q_{BB} = 85.22 cfs	ADD 22.56 cfs TO All DOWNSTREAM
AREA 21A Q_B = 34.07 cfs	DPA 8	Q_{BB} = 46.34 cfs	ADD 12.27 cfs TO All DOWNSTREAM
AREA 22A Q_B = 112.32 cfs	DPA 8	Q_{BB} = 152.76 cfs	ADD 40.44 cfs TO All DOWNSTREAM
AREA 23A Q_B = 22.02 cfs	DPA 8	Q_{BB} = 29.95 cfs	ADD 7.93 cfs TO All DOWNSTREAM
AREA 24A Q_B = 56.24 cfs	DPA 8	Q_{BB} = 76.49 cfs	ADD 20.25 cfs TO All DOWNSTREAM
			+ 235.01

Σ 10AB = 611.41 cfs + 276.85 cfs = 888.26 cfs

Σ 19AC = 1034.13 cfs + 430.97 cfs = 1,465.10 cfs

COUNTY OF LOS ANGELES
DRAINAGE CONCEPT/
HYDROLOGY STUDY
EXISTING CONDITION
FOR
ENTRADA SOUTH
TENTATIVE TRACT 53295

DRAINAGE CONCEPT/HYDROLOGY STUDY/SUSMP/LID PLAN
APPROVED FOR AREA AND Q ONLY
APPROVED BY: Richard Adler RCE NO 26439 DATE: 11/29/10
CHECKED BY: _____ DATE: _____
LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
LAND DEVELOPMENT DIVISION

LEGEND

- TRACT BOUNDARY
- PRIMARY BASIN LIMITS
- SUB-AREA BASIN LIMITS
- Tc ..... TIME OF CONCENTRATION (MIN.)
- A ..... SUB-AREA IN ACRES
- Q25 ..... 25 YR. FREQUENCY FLOWRATE
- Q50 ..... 50 YR. FREQUENCY FLOWRATE
- Q50B ..... 50 YR. BURNED FREQUENCY FLOWRATE
- Q50BU ..... 50 YR. BURNED AND BULKED FREQUENCY FLOWRATE
- Q10 ..... Q CATCH BASIN
- AD DEVELOPED AREA ..... SUMMATION OF AREA IN ACRES
- QI EXISTING AREA ..... SUMMATION OF FLOW IN CUBIC FEET PER SEC.
- DRAINAGE AREA DESIGNATION / DRAINAGE AREA IN ACRES
- STORM DRAIN LINE
- FLOW DIRECTION
- CHANNEL FLOW

DESIGN CRITERIA:

STORM EVENT	50 YR. — SUMP & UNDEVELOPED LOCATIONS 25 YR NON-SUMP LOCATIONS
50yr-24hr RAINFALL ISOHYET	5.8" TO 6.2" PER REPORT
SOIL TYPE	SOIL B & 9.97
DEBRIS PRODUCTION AREA	DPA: B & 5

LEGAL DESCRIPTION

A PORTION OF THE NORTHWEST QUARTER OF SECTION 2 & THE NORTHEAST QUARTER OF SECTION 3, T4N, R17W, SBM IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA.

NOTES:

1. COMPLY WITH ALL STREET DRAINAGE REQUIREMENTS TO THE SATISFACTION OF THE CITY OF SANTA CLARITA.
2. DEDICATE THE NECESSARY EASEMENTS FOR THE STORM DRAIN SYSTEM TO THE SATISFACTION OF THE CITY OF SANTA CLARITA.
3. PROVIDE VEHICULAR ACCESS TO ALL INLETS AND OUTLETS TO THE SATISFACTION OF THE COUNTY OF LOS ANGELES AND THE CITY OF SANTA CLARITA.
4. APPROVAL OF THIS DRAINAGE CONCEPT/HYDROLOGY STUDY DOES NOT CONSTITUTE DETERMINATION THAT THE OFFSITE IMPROVEMENTS ARE REQUIRED WITHIN THE MEANING OF GOVERNMENT CODE SECTION 66462.5.
5. AN OFFSITE DRAINAGE COVENANT FOR ACCEPTANCE OF DRAINAGE (AND DRAINAGE FACILITIES) MAY BE REQUIRED.
6. PLACE A NOTE OF FLOOD HAZARD AND SHOW THE NATURAL DRAINAGE COURSES ON THE FINAL MAP.
7. AN EASEMENT TO THE LOS ANGELES FLOOD CONTROL DISTRICT TO BE GRANTED ON THE FINAL MAP FOR COVERED STORM DRAIN APPURTENANT STRUCTURES AND STORM DRAIN INGRESS AND EGRESS OVER ALL PRIVATE STREETS.
8. A DRAINAGE BENEFIT ASSESSMENT AREA MAY BE REQUIRED FOR THE MAINTENANCE OF THE PROPOSED STORM DRAIN FACILITIES.
9. PROPOSED STORM DRAIN NETWORK TO BE MAINTAINED BY LOS ANGELES COUNTY FLOOD CONTROL DISTRICT UNLESS OTHERWISE NOTED.

ALLIANCE LAND PLANNING & ENGINEERING INC.
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SUITE 200
TEMECULA, CA 92590
TEL: (951) 294-2760
FAX: (951) 294-1928

CIVIL ENGINEERING • LAND PLANNING • HILLSIDE DESIGN • SURVEYING

PLANS PREPARED BY:
ALLIANCE LAND PLANNING & ENGINEERING INC.
2248 FARADAY AVE. CARLSBAD, CA. 92008
(760) 431-9896

PLANS PREPARED UNDER THE DIRECTION OF:
CRAIG A. HUBBER R.C.E. 51929 — 9-14-10 DATE

REGISTERED PROFESSIONAL ENGINEER — CRAIG ALAN HUBBER — No. 51929 — EXP 6-30-12 — CIVIL — STATE OF CALIFORNIA

PLANS PREPARED FOR:
NEWHALL LAND
23823 WEST VALENCIA BOULEVARD
VALENCIA, CALIFORNIA 91355
TELEPHONE: (661) 255-4000
REPRESENTATIVE : ALEX HERRELL

NO.	DATE	BY	APPR

1	COUNTY OF LOS ANGELES	1 SHEETS

DRAINAGE CONCEPT/
HYDROLOGY STUDY
FOR ENTRADA SOUTH
TENTATIVE TRACT 53295
EXISTING CONDITION

ENTRADA DRAINAGE CONCEPT-EXISTING CONDITION

PLAN PREPARATION DATE: DEC 01 2010

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