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DRAINAGE REPORT

SINGLE FAMILY RESIDENCE

for: KEELEY MIRCETIC



County of Ventura
Board of Supervisors Hearing
Case No. PL23-0009
Exhibit 2.9 - Drainage Report

DRAINAGE REPORT

SINGLE FAMILY RESIDENCE

**11820 Topa Vista Road
Ojai, CA 93060**

prepared for:

Keeley Mircetic

11820 Topa Vista Road
Ojai, CA 93060

prepared by:

Jensen Design & Survey, Inc.

1672 Donlon St.
Ventura, CA 93003

Dalton Cunicelli

Dalton Cunicelli, P.E.

September 11, 2023





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1.0 PROJECT OVERVIEW

1.1. PROJECT DESCRIPTION & LOCATION

The proposed project site is a 5.66 acre parcel east of Topa Vista Road and south of Ojai Road (Highway 150) near the city of Ojai. Keeley Mircetic (Owner) is proposing to reconstruct a single-family residence. The previous residence was destroyed during the Thomas Fire. This drainage report will also address existing unpermitted structures on the property. This site is located outside Ventura County unincorporated urban areas and does not require permanent storm water treatment.

1.2. SITE CONDITIONS

1.2.1. EXISTING DRAINAGE PATTERNS

The existing site is a 5.66 acre partially developed parcel. The property contains a driveway, a building pad from the previous residence, and a detached garage. The property drains to the north into a waterway on the property. The waterway goes from the western property through the site property and into the northeastern adjacent property.

1.2.2. PROPOSED DRAINAGE PATTERNS

The proposed plan will add a single-family residence and includes the currently unpermitted existing structures. The structures include animal structures, sheds, and shipping containers. There is no site grading proposed. The proposed drainage pattern is the same as the existing drainage pattern. The proposed residence will be located in the same footprint of the previous residence and will not increase the impervious area. The animal shade structure #6 is located on existing hardscape and does not increase the impervious area. There is no runoff from adjacent properties onto the parcel.

1.3. REPORT OBJECTIVE

The intent of this report is to meet the current Ventura County requirements. Due to the small increase in the impervious area, there is no additional runoff due the proposed conditions and does not have a significant impact downstream. Therefore, no detention will be necessary for the proposed improvements.

2.0 DESIGN METHODOLOGY

2.1. EXISTING ON-SITE CONDITIONS

The runoff was calculated using the rational method with the information and exhibits of the Ventura Technical Guidance Manual (TGM). The property runoff was calculated as one drainage area. The project is in the Upper Santa Paula Creek (Upper Sta Paula Ck) rainfall zone. The site has a mixture of Soil Types #1, 2, and 3 per Appendix B-15 of the TGM. The time of concentration is assumed to be less than 5 min given the size and the slope on the property. The soil type #2 was used for this analysis based on the majority of the development on the property is in the soil type #2 region. The intensity for the 10 year, 50, year, and 100 year was determined using Exhibits 4A, 4B, and 4D of the Hydrology Manual. The impervious area consists of compacted dirt, concrete driveway, and structures. The existing impervious area is 53,454 square feet, which is 22 percent of the site. See the Existing Drainage Exhibit in Appendix A. The Runoff C coefficient was determined using the TGM Exhibit 5B. See Table 1 for a summary of results.

Table 1. Existing Drainage Condition

Pre-Development Runoff (Area "A")			
	Q10	Q50	Q100
C (Runoff Coefficient)	0.60	0.61	0.61
I (Intensity) in/hr	4.104	6.048	6.948
Q=CIA (cfs)	13.96	20.91	24.02
q=cfs/acre	2.46	3.69	4.24

2.2. PROPOSED ON-SITE CONDITIONS

See Proposed Drainage Area Exhibit in Appendix A, which shows the impervious area on the site. The proposed condition adds 3,677 square feet of impervious area. The intensity and soil type remain unchanged from the existing conditions. The runoff coefficient is determined by the impervious area percentage and the intensity. The proposed impervious percentage is twenty three percent. The runoff coefficient from the TGM Exhibit 5B is about the same as the existing conditions. Therefore, the proposed runoff and existing runoff is the same and no detention is required. See the Table 2 for a summary of results. Table 3 shows a summary of the existing and proposed runoff values.

Table 2. Proposed Drainage Condition

Post-Development Runoff (Area "A")			
	Q10	Q50	Q100
C (Runoff Coefficient)	0.60	0.61	0.61
I (Intensity) in/hr	4.104	6.048	6.948
Q=CIA (cfs)	13.96	20.91	24.02
q=cfs/acre	2.46	3.69	4.24

Table 3. Summary of Runoff

Site Runoff (Area "A")			
	Q10	Q50	Q100
Pre-Development (cfs)	13.96	20.91	24.02
Post-Development (cfs)	13.96	20.91	24.02
Delta (cfs)	0.00	0.00	0.00

3.0 CONCLUSIONS

The Ventura Hydrology Manual Exhibits were used to calculate the existing and proposed runoff values. Ventura County requires the developed runoff to be equal or less than the existing runoff. The proposed drainage conditions match the existing drainage conditions without significantly increasing the runoff. No detention is required. The site is in unincorporated Ventura County and does not require permanent storm water treatment.

4.0 APPENDICES

APPENDIX A: HYDROLOGY EXHIBITS

Site Runoff Calculations

Project Information

Soil Type: 2
Rainfall Zone: Upper Santa Paula Creek (Upper Sta Paula Ck)
T_c (min): 5 min (assumed for both existing and proposed)

Rainfall Intensities

Per VCWPD Design Hydrology Manual. Exhibits 4A, 4B, 4D-Upper Sta Paula Ck

Storm Year	T _c (min)	Intensity (in/hr)
10	5	4.104
50	5	6.048
100	5	6.948

Existing Drainage Areas

Drainage Area "A"

Total Area: 246,884 ft² 53,454 ft² impervious
Total Area: 5.67 acre
Imp. %: 22

Runoff C, per VCWPD Design Hydrology Manual - Exhibit 5B (Soil 2)

Storm Year	Intensity (in/hr)	Imp. %	Runoff C
10	4.104	22	0.60
50	6.048	22	0.61
100	6.948	22	0.61

Pre-Development Runoff (Area "A")			
	Q10	Q50	Q100
C (Runoff Coefficient)	0.60	0.61	0.61
I (Intensity) in/hr	4.104	6.048	6.948
Q=CIA (cfs)	13.96	20.91	24.02
q=cfs/acre	2.46	3.69	4.24

Proposed Drainage Areas

Drainage Area "A"

Total Area: 246,884 ft² 57,131 ft² impervious
Total Area: 5.67 acre
Imp. %: 23

Runoff C, per VCWPD Design Hydrology Manual - Exhibit 5B (Soil 2)

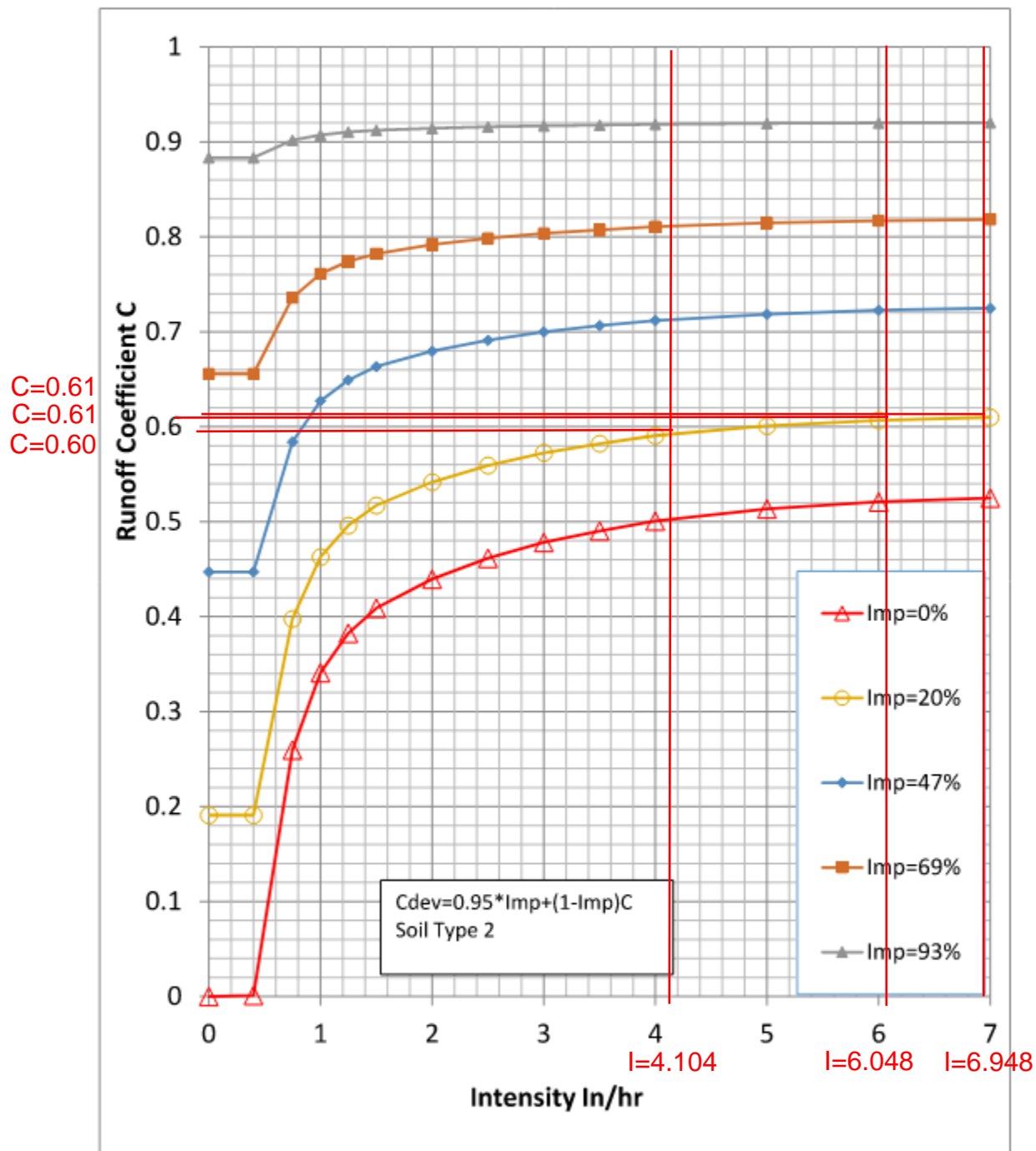
Storm Year	Intensity (in/hr)	Imp. %	Runoff C
10	4.104	23	0.60
50	6.048	23	0.61
100	6.948	23	0.61

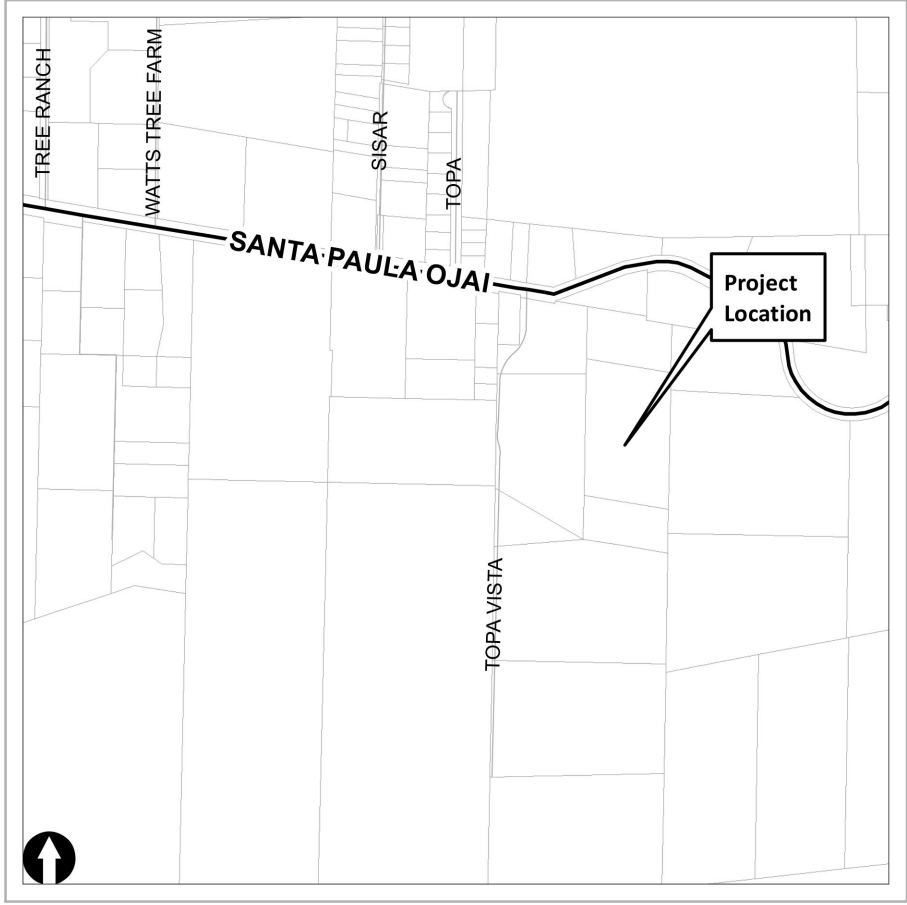
Post-Development Runoff (Area "A")			
	Q10	Q50	Q100
C (Runoff Coefficient)	0.60	0.61	0.61
I (Intensity) in/hr	4.104	6.048	6.948
Q=CIA (cfs)	13.96	20.91	24.02
q=cfs/acre	2.46	3.69	4.24

Summary

Site Runoff (Area "A")			
	Q10	Q50	Q100
Pre-Development (cfs)	13.96	20.91	24.02
Post-Development (cfs)	13.96	20.91	24.02
Delta (cfs)	0.00	0.00	0.00

EXHIBIT 5B. UPDATED RUNOFF COEFFICIENT CURVE- SOIL 2 (NRCS TYPE C)





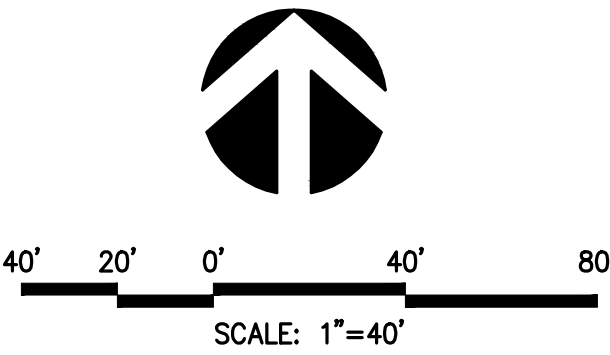
VICINITY MAP
NOT TO SCALE

LAND USE DATA

APN:	037-0-080-115
ADDRESS:	11820 TOPA VISTA ROAD OJAI, CA 93060
LOT SIZE:	5.66 ACRES (246,884 S.F.)
APPLICANT/OWNER:	KEELEY MIRCETIC
CONTACT:	ERIK NAGY JENSEN DESIGN & SURVEY (805) 654-6977
ZONING:	RE-5 AC/ HCWC
GENERAL PLAN DESIGNATION:	RURAL
EXISTING IMPERVIOUS AREA:	53,454 S.F.
TOTAL LOT COVERAGE:	21.65%

LEGEND

	PROPERTY BOUNDARY
	FENCE
	DIRT ROAD
	LANDSCAPE AREA
	CONCRETE
	EXISTING IMPERVIOUS AREA
	DRAINAGE ARROW



NOTE:
INFORMATION SHOWN HEREON, SUCH AS ASSESSOR'S PARCEL LINES & NUMBERS ARE PROVIDED BY THE COUNTY OF VENTURA GEOGRAPHIC INFORMATION SYSTEMS AND IS NOT BASED ON A FIELD SURVEY. ADDITIONAL EASEMENTS OF RECORD NOT SHOWN ON THIS MAP MAY EXIST AS A TITLE REPORT WAS NOT PROVIDED FOR THIS PROJECT. THIS DATA IS FOR CONCEPTUAL AND VISUAL PURPOSES ONLY AND IS NOT TO BE USED FOR MAPPING AND/OR FINAL DESIGN.



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SCALE: 1"=40'
DATE: 9/11/2023

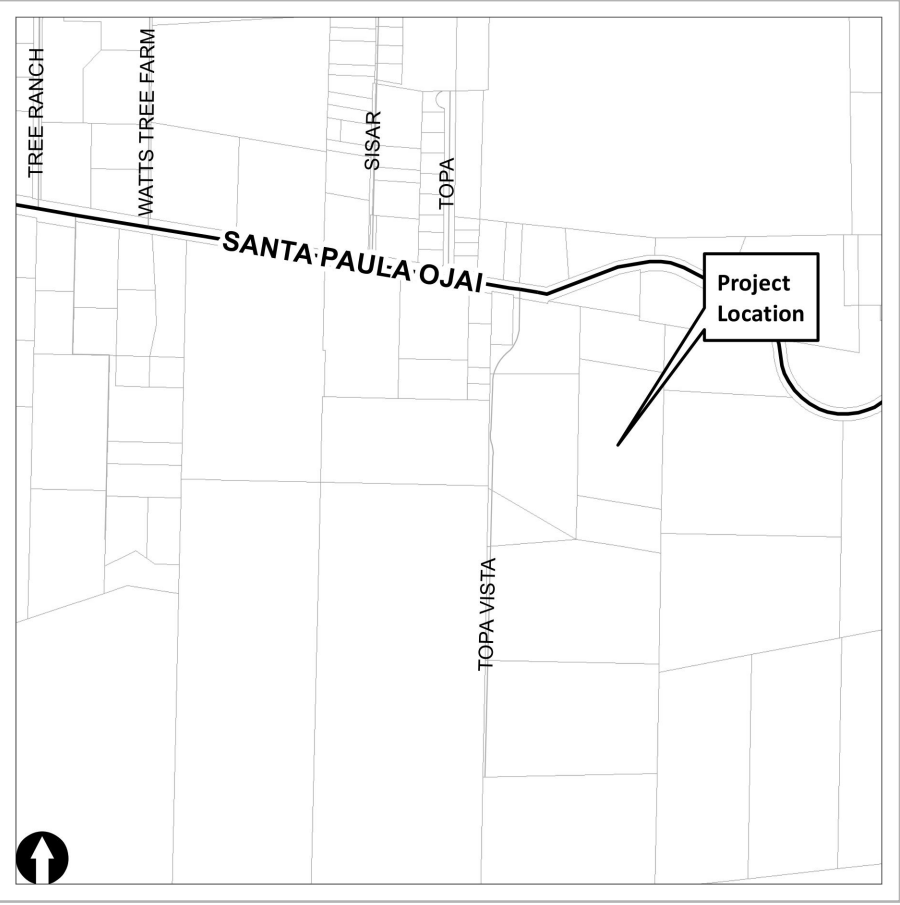
J.N.: MIR26483
DWG. NAME: 6483 EX SITE PLAN.dwg

EXISTING DRAINAGE EXHIBIT
FOR
KEELEY MIRCETIC

11820 TOPA VISTA ROAD
OJAI

COUNTY OF VENTURA STATE OF CALIFORNIA

SHEET
1
OF 1



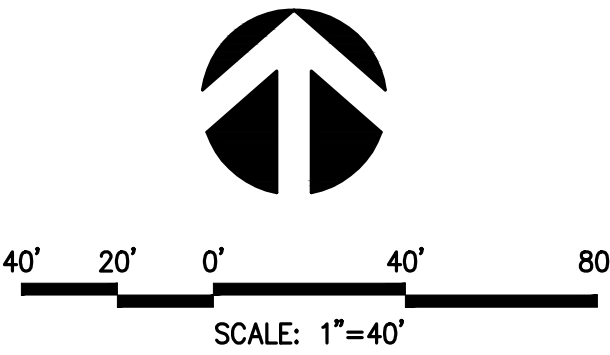
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CONTACT:	ERIK NAGY JENSEN DESIGN & SURVEY (805) 654-6977
ZONING:	RE-5 AC/ HCWC
GENERAL PLAN DESIGNATION:	RURAL
TOTAL IMPERVIOUS AREA:	57,131 S.F.
TOTAL LOT COVERAGE:	23.14%

LEGEND

	PROPERTY BOUNDARY/ DRAINAGE AREA
	FENCE
	DIRT ROAD
	LANDSCAPE AREA
	CONCRETE
	EXISTING IMPERVIOUS AREA
	NEW IMPERVIOUS AREA
	DRAINAGE ARROW



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DWG. NAME: 6483 SITE PLAN.dwg

PROPOSED DRAINAGE EXHIBIT
FOR
KEELEY MIRCETIC

11820 TOPA VISTA ROAD
OJAI
COUNTY OF VENTURA STATE OF CALIFORNIA

SHEET
1
OF 1