

TRAMES SOLUTIONS INC.

4225 Oceanside Blvd.,
#354H
Oceanside, CA 92056
(760) 291 - 1400

October 24, 2025

Mr. Anthony Massaro
Mars Hill Studio, Inc.
2533 Greenbriar Lane
Costa Mesa, CA 92626

Subject: Grace Church Trip Generation Evaluation (JN 0412-0003)

Dear Mr. Massaro:

Trames Solutions Inc. is pleased to submit the following trip generation evaluation for the proposed Grace Church project. It is our understanding that the project consists of converting two existing office buildings (22,015 sf and 21,820 sf) to a church (See Attachment A). The site is located at 3146/3152 Red Hill Ave. in the City of Costa Mesa.

Study Area/Project Description

The project will be located at 3146/3152 Red Hill Ave. The site will have an access point directly to Red Hill Ave. and secondary access points to Baker St. and Paularino Ave. Currently, site is occupied by an office building that will be converted to a church.

Trip Generation

The number of vehicular trips generated by a project on a weekday is typically determined from the trip rates included in the ITE **Trip Generation** manual (11th edition). For the office and church uses, the building area is used as the variable in determining the number of trips that will be generated.

Table 1 shows the trip rates during a typical weekday for the existing office and proposed church. Table 2 indicates that the existing office generates a total of approximately 475 trip-ends per day with 67 vehicle trips per hour during the AM peak hour and 64 vehicle trips per hour during the PM peak hour on a weekday. The proposed church is projected to generate a total of approximately 333 trip-ends per day with 14 vehicle trips per hour during the AM peak hour and 22 vehicle trips per hour during the PM peak hour on a weekday. Since the office is currently in use and generates traffic, the difference in the

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Page 2

number of trips are presented in Table 2. Based on the conversion to a church, a total of 142 trips per day would be reduced with a reduction of 53 trips during the AM peak hour and 42 trips during the PM peak hour.

CONCLUSIONS

The proposed project would consist of converting an office building to a church. Based on the analysis presented above, it appears that the church would generate fewer trips during the weekday peak hours than the existing office building. Therefore, the proposed project would likely not significantly impact the operations of the adjacent intersections and a full traffic study should not be required.

Please let me know if you have any questions. I can be contacted directly at (949) 244-2436.

Respectfully submitted,
Trames Solutions Inc.



Scott Sato, P.E.
Vice President

Attachment A – Site Plan

TABLE 1
PROJECT TRIP GENERATION RATES¹

Land Use	ITE Code	Quantity ²	Peak Hour Trip Rates						Daily	
			AM			PM				
			IN	OUT	Total	IN	OUT	Total		
General Office Building	710	43.835	TSF	1.34	0.18	1.52	0.24	1.20	1.44	10.84
Church	560	43.835	TSF	0.20	0.12	0.32	0.22	0.27	0.49	7.60

¹ Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, 11th Edition (2021).

² TSF = Thousand Square Feet

TABLE 2
PROJECT TRIP GENERATION SUMMARY

Land Use	ITE Code	Quantity ¹	Peak Hour						Daily	
			AM			PM				
			In	Out	Total	In	Out	Total		
General Office Building	710	43.835	TSF	59	8	67	11	53	64	475
Church	560	43.835	TSF	9	5	14	10	12	22	333
Net Change in Trips				-50	-3	-53	-1	-41	-42	-142

¹ TSF = Thousand Square Feet

Attachment A

SITE PLAN

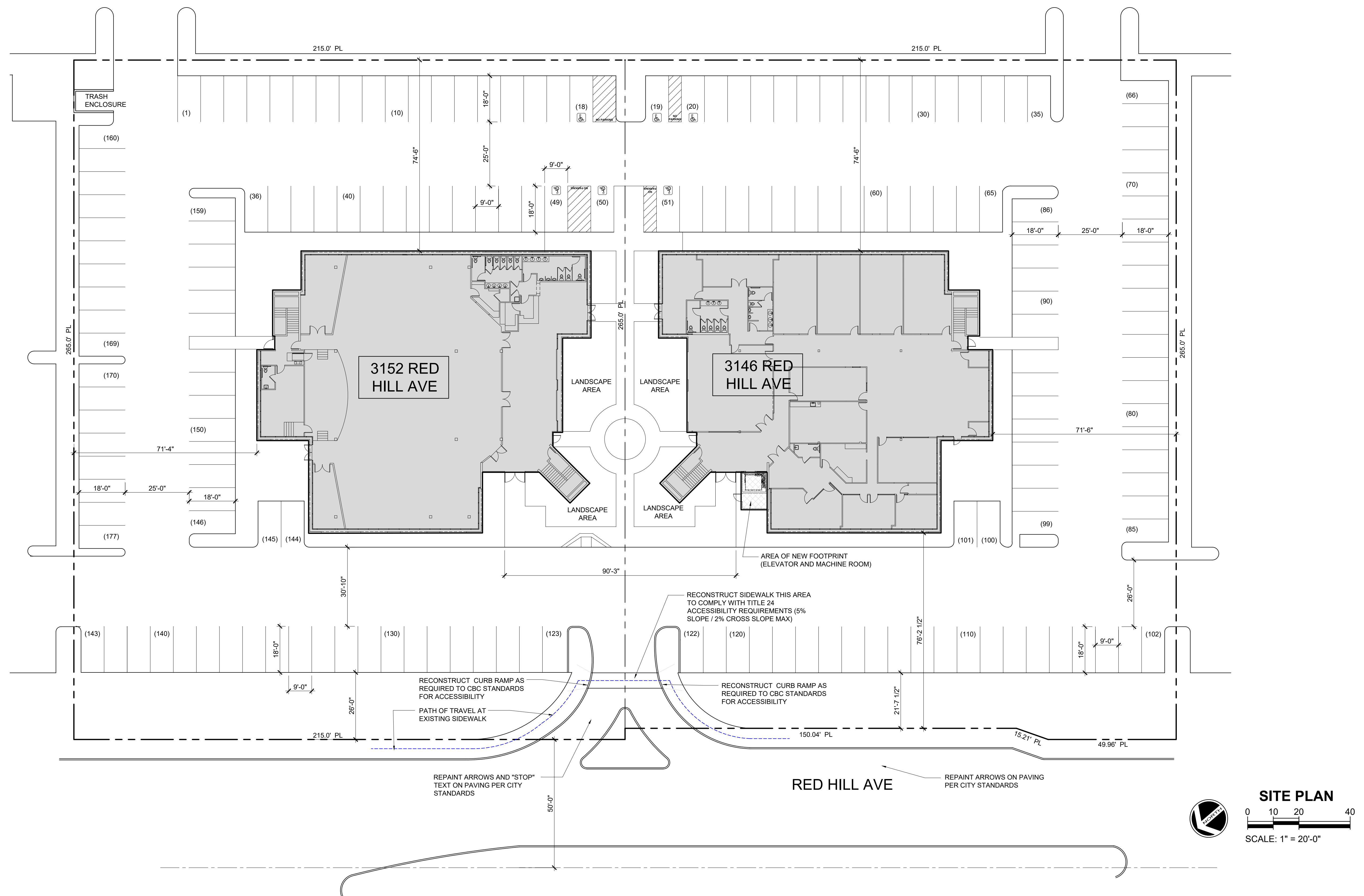


Revisions

GRACE FELLOWSHIP CHURCH

3146 & 3152 RED HILL AVE

COSTA MESA, CA

3146 RED HILL AVE - OCCUPANCY ANALYSIS - 1st FLOOR
3152 RED HILL AVE - OCCUPANCY ANALYSIS - 1st & 2nd FLOORS

A-3 OCCUPANCY

TYPE V-B CONSTRUCTION
NO ALLOWABLE AREA INCREASE DUE TO FRONTAGE IS NECESSARY

TYPE V-B (SPRINKLERED)	ALLOWABLE	PROPOSED
HEIGHT PER CBC TABLE 504.3	60'	28'
STORIES PER CBC TABLE 504.4	2	2
AREA PER STORY CBC TABLE 506.2	18,000 S.F.	11,115 S.F. (1F: 3146 RED HILL) 10,900 S.F. (2F: 3146 RED HILL) 10,980 S.F. (1F: 3152 RED HILL)

3152 RED HILL AVE - OCCUPANCY ANALYSIS - 2nd FLOOR

B OCCUPANCY

TYPE V-B CONSTRUCTION
NO ALLOWABLE AREA INCREASE DUE TO FRONTAGE IS NECESSARY

TYPE V-B (SPRINKLERED)	ALLOWABLE	PROPOSED
HEIGHT PER CBC TABLE 504.3	60'	28'
STORIES PER CBC TABLE 504.4	3	2
AREA PER STORY CBC TABLE 506.2	27,000 S.F.	10,840 S.F. (2F: 3152 RED HILL)

3146 RED HILL AVE - OCCUPANCY ANALYSIS

NAME	AREA	EXIST. OCCUPANCY	PROPOSED OCCUPANCY
(E) 1ST FLOOR (N) 1ST FLOOR	10,980 SF 135 SF	B -	A3 A3
(E) 2ND FLOOR (N) 2ND FLOOR	10,840 SF 60 SF	B -	A3 A3

3152 RED HILL AVE - OCCUPANCY ANALYSIS

NAME	AREA	EXIST. OCCUPANCY	PROPOSED OCCUPANCY
(E) 1ST FLOOR (E) 2ND FLOOR	10,980 SF 10,840 SF	B B	A3 B

3146 RED HILL AVE BUILDING AREA TOTALS:

(E) 1ST FLOOR CONDITIONED SPACE:	10,980 SF
(N) 1ST FLOOR CONDITIONED SPACE:	135 SF
(E) 2ND FLOOR CONDITIONED SPACE:	10,840 SF
(N) 2ND FLOOR CONDITIONED SPACE:	60 SF

TOTAL CONDITIONED SPACE: 22,015 SF

3152 RED HILL AVE BUILDING AREA TOTALS:

(E) 1ST FLOOR CONDITIONED SPACE:	10,980 SF
(E) 2ND FLOOR CONDITIONED SPACE:	10,840 SF

TOTAL CONDITIONED SPACE: 21,820 SF

PROJECT DATA:

APPLICANT: GRACE FELLOWSHIP CHURCH
3170 Red Hill Ave, Costa Mesa, CA 92626
(714) 549-8599

PROJECT ADDRESS: 3146 & 3152 RED HILL AVE

APPLICABLE CODES:

2022 CALIFORNIA BUILDING CODE
2022 CALIFORNIA ELECTRICAL CODE
2022 CALIFORNIA MECHANICAL CODE
2022 CALIFORNIA PLUMBING CODE
2022 CALIFORNIA ENERGY CODE
2022 CALIFORNIA UNIFORM ADMINISTRATIVE CODE
2022 CALIFORNIA FIRE CODE

OCCUPANCY GROUP:

A-3 / B
No. of Stories: 2 STORIES
Construction Type: TYPE V-B, SPRINKLERED
Scope of Work:
1. TENANT IMPROVEMENT TO CONVERT EXISTING OFFICES (B) TO CHURCH (A-3 / B)
2. SEISMIC RETROFIT
3. NEW FIRE SPRINKLERS (DEFERRED SUBMITTAL)

CUP SUBMITTAL 2

Issue Date 09/17/25

SITE PLAN

Sheet No.

A-1.1