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## Attachment 9

Traffic Study  
April 11, 2019



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**TRAFFIC STUDY  
OAKMONT OF SOQUEL  
ASSISTED LIVING FACILITY  
SOQUEL, CALIFORNIA IN  
SANTA CRUZ COUNTY**

**APRIL 11, 2019**

**Prepared for: Oakmont Senior Living**

**Prepared by: CRANE TRANSPORTATION GROUP**

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## I. INTRODUCTION

This report has been prepared by Crane Transportation Group to present traffic and parking information associated with the proposed Oakmont of Soquel Assisted Living Facility proposed in Soquel, California (Santa Cruz County). **Figure 1** shows the project location map.

Oakmont Senior Living proposes development of a 3.5 acre site located at 5630 Soquel Drive. The site is currently occupied by a church, consisting of a large assembly hall, offices and parking lots; all existing structures would be demolished and replaced by Oakmont's proposed senior housing facility. The new development would provide eighty-two (82) assisted living units and a total of eighty-nine (89) beds, with seventy-six (76) parking spaces. Primary access would be via a newly-constructed driveway intersecting Soquel Drive, located about 100 feet west of the existing access driveway serving the church. Emergency access would be provided via Rochelle Lane, an existing two-lane street dead-ending approximately mid-way at the project site's eastern boundary. Rochelle Lane connects to Monterey Avenue, a north-south, two-lane residential street intersecting Soquel Drive. **Figure 2** provides a map of roadways and lane configurations (roadway geometrics), and **Figure 3** shows the Site Plan.

## II. PROJECT DESCRIPTION

The proposed project will provide eighty-two (82) assisted living units, 23 of which would be reserved for residents needing memory care assistance. Seven (7) of the 82 units will provide two bedrooms, thus, there would be a total of eighty-nine (89) beds. All units will be licensed by the State of California Department of Social Services as a Residential Care Facility for the elderly, classified as "assisted living". Residents will receive meals in the dining room, and will be provided housekeeping services, a wide range of assistance from trained staff, an emergency response system and health screening. Breakfast will be served from 7:00 to 9:30AM, lunch from 11:30 AM to 1:30 PM, and dinner from 5:00 to 8:00 PM.

At move-in, the majority of Oakmont's residents will be in their early to late eighties. It is expected that few residents will drive, thus, Oakmont will provide a small bus with driver, available at all times, as well as a town car to take residents to shops, medical appointments and community activities.

The licensed facility will be operated on a 24-hour basis, seven days a week. The number of employees will fluctuate throughout the day. An estimated sixteen (16) employees will be required during the day and evening shifts, with six (6) employees during the night shift. At other Oakmont facilities over fifty percent employees are residents of the local community, and similar percentage of employees living in Santa Cruz County is anticipated for this facility.

## III. EXISTING CIRCULATION SYSTEM EVALUATION PROCEDURES

The project site is within Santa Cruz County, and is subject to County guidelines and analysis criteria. The County determined the need for a Traffic Impact Analysis (TIA), and County staff

specifically requested analysis of the intersections of Soquel Drive with Fairway Drive, Monterey Avenue and Park Avenue during weekday AM and PM peak hours in a letter dated 11/09/2018. Analysis was requested for existing, Near Term and Long Term (2035) conditions.

## A. ANALYSIS LOCATIONS

The following locations have been evaluated.

- Soquel Drive/Fairway Drive
- Soquel Drive/ Project Access intersection
- Soquel Drive/ Monterey Avenue
- Soquel Drive / Park Avenue

Figure 2 presents approach geometrics and effective control at the analysis intersections.

## B. VOLUMES

Weekday peak period turning movement counts were conducted as directed by Crane Transportation Group (CTG) in January 2019. Count periods were 7:00 to 9:00 AM and 4:00 to 6:00 PM. The peak traffic hours occurred 7:45 to 8:45 AM and 4:45 to 5:45 PM. Count results are shown on Figure 4, and raw count data are provided in the Appendix. Two-way peak hour volumes along Soquel Drive east of Fairway Drive were 1,516 vehicles during the AM peak hour and 2,042 vehicles during the PM peak hour.

The Inner Light Ministries Church pastor<sup>1</sup> stated that the church experiences virtually no traffic during the weekday AM or PM ambient peak periods, thus, counts were not conducted at the existing project access.

## C. ROADWAYS, INTERSECTIONS AND SITE ACCESS

The project site is accessed via a two-way driveway intersecting Soquel Drive. Neighboring land uses are all residential properties. The Santa Cruz Metropolitan Transit District (METRO) provides public transit along Soquel Drive; the nearest bus stops are located within a three or four minute walk to/from the project site.

**Soquel Drive** is an east-west arterial roadway that extends between downtown Santa Cruz as "Soquel Avenue" becoming Soquel Drive east of its interchange with Highway 1. It is designated Soquel Drive in the Santa Cruz County communities of Soquel and Aptos, and serves a wide variety of residential and commercial land uses. In the project vicinity the arterial is posted 35 miles per hour and is a four-lane divided arterial with left turn pockets serving intersecting driveways. It has signal controls at Fairway Drive and Park Avenue, with pedestrian signals, crosswalks and ramps for accessibility on all but the east leg of the Fairway Drive intersection, and on all legs of the Park Avenue intersection. Continuous curbs, gutters and

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<sup>1</sup> Telephone discussion with Reverend Deborah, Inner Light Ministries, February 5, 2019.

sidewalks are provided on both sides of the roadway in the project vicinity. A Class II (signed, striped) bike lane is provided along both sides of the roadway.

**Fairway Drive** is a north-south minor arterial extending from a signalized intersection with Soquel Drive, opposite Izant Court, northward to terminate at an intersection with Metalwood Drive – Ironwood Ranch Way in the hills north of the community of Soquel. The roadway serves a mix of land uses, but is predominantly residential-serving. At Soquel Drive the roadway has curbs, gutters and sidewalks on both sides.

**Monterey Avenue** is a north-south, two-lane residential road that extends from a dead-end within a residential area just north of Highway 1, north to a stop sign controlled intersection with Soquel Drive. The roadway and neighborhood have a rural atmosphere, without curbs, gutters or sidewalks.

**Rochelle Lane**, a short two-way, paved residential roadway without curb, gutter or sidewalk. It would provide emergency access to the project site mid-way along the eastern site boundary. Rochelle Lane is approximately 275 feet long, extending from a gate at the project site's eastern boundary to intersect Monterey Avenue.

**Park Avenue** is a generally north-south arterial roadway that extends northeast from an intersection with Monterey Avenue near Capitola Beach to a full interchange with Highway 1. North of the Highway 1 interchange, Park Avenue serves a variety of commercial and educational uses. At its intersection with Soquel Drive it is a commercial-serving arterial roadway with signal, crosswalk and pedestrian heads on all approaches. Curbs, gutters and sidewalks are provided on both sides of the roadway. Park Avenue narrows and there are no sidewalks north of Soquel Drive. The roadway terminates in the hills just north of Viking Court.

**Site access** would be via a single, two-way driveway intersecting Soquel Drive; the current driveway serving the Inner Light Ministries church would be relocated to the west to best accommodate the new Assisted Living facility layout. The main access drive would be restricted to right turn in, right turn out vehicle movements. A "NO LEFT TURN" sign would be posted on the outbound project driveway near Soquel Drive. The driveway would serve all staff, residents and visitors, and would lead to the front-door drop-off/pick-up as well as the 76 onsite parking spaces. Three handicapped parking spaces would be located convenient to the building's front portico.

**Transit:** The Santa Cruz Metropolitan Transit District (METRO) provides public transit along Soquel Drive; the nearest bus stops are located within a three or four minute walk to/from the project site.

## D. INTERSECTION LEVEL OF SERVICE

### 1. ANALYSIS METHODOLOGY

Transportation engineers and planners commonly use a grading system called level of service (LOS) to measure and describe the operational status of the local roadway network. LOS is a description of the quality of a roadway facility's operation, ranging from LOS A (indicating free-flow traffic conditions with little or no delay) to LOS F (representing oversaturated conditions where traffic flows exceed design capacity, resulting in long queues and delays). Intersections, rather than roadway segments between intersections, are almost always the capacity controlling locations for any circulation system.

**Signalized Intersections.** For signalized intersections, the 2010 *Highway Capacity Manual* (Transportation Research Board, National Research Council) methodology was utilized. With this methodology, operations are defined by the level of service and average control delay per vehicle (measured in seconds) for the entire intersection. For a signalized intersection, control delay is the portion of the total delay attributed to traffic signal operation. This includes delay associated with deceleration, acceleration, stopping, and moving up in the queue. **Table 1** summarizes the relationship between delay and LOS for signalized intersections.

**Unsignalized Intersections.** For unsignalized (all-way stop-controlled and side-street stop-controlled) intersections, the 2010 *Highway Capacity Manual* (Transportation Research Board, National Research Council) methodology for unsignalized intersections was utilized. For side-street stop-controlled intersections, operations are defined by the level of service and average control delay per vehicle (measured in seconds), with delay reported for the stop sign controlled approaches or turn movements, although overall delay is also typically reported for intersections along state highways. The delay at an unsignalized intersection incorporates delay associated with deceleration, acceleration, stopping, and moving up in the queue. **Table 2** summarizes the relationship between delay and LOS for unsignalized intersections.

**Table 1**

**SIGNALIZED INTERSECTION LOS CRITERIA**

Level of Service	Description	Average Control Delay (Seconds Per Vehicle)
A	Operations with very low delay occurring with favorable progression and/or short cycle lengths.	≤ 10.0
B	Operations with low delay occurring with good progression and/or short cycle lengths.	10.1 to 20.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.1 to 35.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, and/or high volume-to-capacity (V/C) ratios. Many vehicles stop and individual cycle failures are noticeable.	35.1 to 55.0
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	55.1 to 80.0
F	Operation with delays unacceptable to most drivers occurring due to oversaturation, poor progression, or very long cycle lengths.	> 80.0

Source: 2010 Highway Capacity Manual (Transportation Research Board).

**Table 2**

**UNSIGNALIZED INTERSECTION LOS CRITERIA**

Level of Service	Description	Average Control Delay (Seconds Per Vehicle)
A	Little or no delays	≤ 10.0
B	Short traffic delays	10.1 to 15.0
C	Average traffic delays	15.1 to 25.0
D	Long traffic delays	25.1 to 35.0
E	Very long traffic delays	35.1 to 50.0
F	Extreme traffic delays with intersection capacity exceeded (for an all-way stop), or with approach/turn movement capacity exceeded (for a side street stop controlled intersection)	> 50.0

Source: 2010 Highway Capacity Manual (Transportation Research Board).