

TECHNICAL MEMORANDUM

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To: David J. Decker
Decker Properties, Inc.

From: Mike Scarmon, P.E., PTOE
KL Engineering, Inc.

Date: September 30, 2015

Subject: Catalina Crossing Apartments
Traffic Impact Study
City of Madison, Wisconsin

Executive Summary Statement

This traffic impact study concludes the existing facilities within the Secret Places Neighborhood are expected to adequately accommodate the traffic generated by the Catalina Crossing Apartments. No physical improvements are recommended as a result of this study. The study was completed using nationally recognized traffic engineering practices established by the Institute of Transportation Engineers and was in consultation with City of Madison Traffic Engineering staff in accordance with their recommended process.

Part A: Introduction

Purpose of Memo

This memo evaluates the traffic impacts of the proposed Catalina Crossing Apartments development in Madison, Wisconsin. Discussion of traffic impacts is focused on the interaction between projected trips generated by the development and the local roads of the surrounding Secret Places Neighborhood. This memo also evaluates the Catalina Crossing site plan proposed internal circulation and driveway locations, in relation to trip distribution.

Development Background

The proposed Catalina Crossing development owned by Decker Properties, Inc. is located at 4525 Secret Garden Drive, Madison, Wisconsin. The proposed development covers approximately 13 acres and consists of 16 buildings, with 113 total units containing a range of 1-3 bedrooms each. The two proposed driveways accessing the development are located on Catalina Parkway, one on either side of Bautista Drive. A site plan is included in **Appendix A**.

The proposed development is located on the north end of the Secret Places Neighborhood, which consists mainly of single-family detached housing, connected by green spaces and walkways throughout. As of January 2015, the property containing the proposed development was zoned as a Suburban Residential – Varied District 2, which allows for permitted and conditional development of multi-family housing.

Part B: Traffic Analysis

Background Traffic

Hourly traffic counts were completed on three local roads within the Secret Places Neighborhood by KL Engineering, Inc. in September 2015. These counts were collected approximately 100 feet north of Siggelkow Road at the entrance to the neighborhood. Average

weekday traffic (AWT) volumes were collected based on 72-hour counts from 12:00 AM Tuesday through 11:59 PM Thursday.

The counts show an Average Weekday Traffic Volume (AWT) of:

- Approximately 1,600 veh/day on Carncross Drive
- Approximately 930 veh/day on Canyon Parkway
- Approximately 625 veh/day on Catalina Parkway

Trip Generation

Trips generated by the proposed development were determined using rates from the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 9th Edition*. A trip is defined as a single or one-directional movement, with either the origin or destination of the trip being from the proposed development. The trip generation category from the ITE Manual was Low-Rise Apartment (Land Use 221).

Based on the ITE Manual, the Catalina Crossing development is projected to generate approximately 745 trips on an average weekday – half entering and half exiting the development. Approximately 58 of these trips are anticipated to occur during the AM peak hour (12 entering and 46 exiting), and approximately 70 trips are anticipated to occur during the PM peak hour (45 entering and 25 exiting). The trip generation data is summarized in the table below.

Catalina Crossing Apartments								
ITE Land Use Category 221 (Low-Rise Apartments)								
Time of Day	Independent Variable		Rate	Base Trip Generation				
				Total Trips	Entering %	Entering Trips	Exiting %	Exiting Trips
Average Weekday Trips	113	Dwelling Units	6.59	745	50%	373	50%	372
AM Peak Hour			0.51	58	20%	12	80%	46
PM Peak Hour			0.62	70	64%	45	36%	25

Trip Distribution

Vehicles entering and exiting the proposed development will use local neighborhood roads to access Siggelkow Road to the south. Three possible routes exist to accomplish this: Secret Garden Drive and Carncross Drive; Bautista Drive and Canyon Parkway; and Catalina Parkway. It is expected that the majority of trips (approximately 80%) will use Catalina Parkway, because of its direct access to Siggelkow Road with the fewest number of turns, stops, and traffic calming devices. The remaining trips are expected to be split evenly between the other two routes.

This distribution results in approximately 600 additional trips per day on Catalina Parkway, 46 of which are estimated to occur during the AM peak hour and 56 of which are estimated to occur during the PM peak hour. Approximately 75 additional trips per day are expected on Secret Garden Drive, Bautista Drive, Carncross Drive, and Canyon Parkway, with fewer than 10 additional trips expected during each peak hour. The projected trip distribution is shown in **Appendix B**.

The Marsh Road Neighborhood Plan, adopted in 1999, shows a planned connection between Catalina Parkway and Beegs Road, ultimately accessing Marsh Road. When completed, this connection will alleviate some of the traffic on Catalina Parkway south of the proposed development, and result in greater mobility of vehicles throughout the neighborhood.

Impacts on Local Roads

The traffic generated by the proposed development is expected to have the greatest impact on Catalina Parkway. The projected development traffic added to the observed existing traffic results in approximately 1,225 vehicles per day at this location, approximately double the traffic that currently exists. This is approximately 375 vehicles per day fewer than currently use Carncross Drive, and 300 vehicles per day more than use Canyon Parkway.

Catalina Parkway has a greater roadway width (40 feet) compared to Secret Garden Drive and Bautista Drive (32 feet). The wider roadway width, along with the limited number of required stops and turns, makes Catalina Parkway the preferred route for vehicles exiting the proposed apartments.

Additional traffic generated by future single-family housing on Catalina Parkway is expected to further increase traffic; however traffic volumes on Catalina Parkway are expected to maintain levels which can be reasonably accommodated, and all neighborhood roads are expected to function acceptably.

The proposed development is expected to have a lesser impact on the other roadways within the neighborhood. The 75 additional daily trips on each route equate to a small percentage of existing traffic, and not expected to significantly impact traffic operations at these locations.

In addition to the traffic operations on local roads, safety is a major factor when considering impacts of the proposed development. The surrounding neighborhood contains families with children, in addition to Secret Places Park and several green spaces connected by neighborhood pathways and sidewalks. The projected traffic volumes discussed above equate to approximately one additional vehicle per minute during the busiest period (PM peak hour). This additional traffic volume is not anticipated to have a negative impact on the crash potential on existing roadways. Traffic calming measures, including traffic circles and raised center islands are currently in use. A map of existing traffic control and calming measures is shown in **Appendix C**.

Siggelkow Road Impacts

Nearly all of the vehicles accessing the proposed development will use Siggelkow Road. Siggelkow road is an east-west roadway located south of the Secret Places Neighborhood that is classified by the Madison Area Transportation Planning Board as an urban collector transitioning into a minor arterial west of Holscher Road. Siggelkow Road is a four-lane divided roadway west of the Canyon Parkway intersection, a two-lane divided roadway between Canyon Parkway and Catalina parkway, and a two-lane undivided roadway east of Catalina Parkway.

The most recent publicly available traffic volume data on Siggelkow Road is from 2009. It indicates an AWT of approximately 5,200 vehicles per day between Marsh Road and Holscher Road and an AWT of 1,275 vehicles per day east of Catalina Parkway. Additional traffic on Siggelkow Road generated by the proposed development is expected to be approximately 745 vehicles per day. The intersections of neighborhood roads with Siggelkow Road are expected to sufficiently accommodate these additional trips, because the critical turning movements will be right turns exiting and left turns into the neighborhood. These turning movements are expected to experience little traffic conflict due to the lack of traffic generators to the east. Left turns into the neighborhood all have adequate left turn storage lanes to remove them from through lanes while waiting for a gap in oncoming traffic.

The future level of service on Siggelkow Road will likely be dictated by the all-way stop controlled intersection at Marsh Road. Additional sources of increased traffic on Siggelkow

Road are expected to affect this intersection and traffic operations in the area. These sources of additional traffic include background traffic growth, ongoing development within Secret Places Neighborhood, and the planned Juniper Ridge development south of Siggelkow Road. Further analysis of projected traffic generators and Siggelkow Road facilities would be necessary to determine the overall impact of this added traffic on future operations of the roadway. A detailed analysis of Siggelkow Road and its intersections is not within the scope of this study, so no additional data collection or traffic analysis was completed.

Part C: Site Plan Evaluation

The proposed site plan for the Catalina Crossing Apartments was evaluated for traffic impacts on the surrounding neighborhood roads. The location of driveways accessing the development was evaluated and deemed appropriate. Because Catalina Parkway is the preferred route for vehicles to travel through the neighborhood, it is preferred that the driveways access Catalina Parkway directly. It is also preferred that the driveways form "T" intersections with Catalina Parkway, to encourage drivers to turn onto Catalina Parkway and avoid traveling on narrower, more indirect roads.

Internal circulation within the proposed site plan was also evaluated. The north driveway is the closest driveway for 54% (137 of 252) of the parking spaces within the development, although the majority of vehicles are expected to use Catalina Parkway to access Siggelkow Road. This will likely cause some motorists to gravitate to the south driveway when entering or exiting the development. Internal circulation allows adequate travel routes to each driveway. This is expected to result in a well-balanced distribution of vehicles between the driveways and efficient overall operations within the development and at the driveways.

Part D: Conclusions

The proposed Catalina Crossing Apartments development in Madison, Wisconsin has been evaluated for traffic impacts on the surrounding neighborhood. The impacts are summarized as follows:

Trip Generation and Distribution:

- Expected trip generation of approximately 745 vehicle trips per day
- 600 vehicles per day are expected to use Catalina Parkway.

Traffic Impacts:

- Catalina Parkway is the preferred route for the generated traffic to enter and exit the neighborhood
- Catalina Parkway and other local roads are expected to safely and efficiently accommodate the additional traffic generated by the proposed development
- Intersections with Siggelkow Road also expected to operate acceptably.

Site Plan Evaluation:

The proposed site plan for the Catalina Crossing Apartments provides adequate internal circulation and proper driveway locations to promote efficient access and use of local roads.

The existing facilities within the Secret Places Neighborhood are expected to adequately accommodate the traffic generated by the Catalina Crossing Apartments. No physical improvements are recommended as a result of this study.

APPENDIX A

Site Plan

NOTE:
LANDSCAPE & SITE LIGHTING ELEMENTS
SHOWN FOR GRAPHIC PURPOSES ONLY.
REFER TO CIVIL, LANDSCAPE, AND SITE
LIGHTING DRAWINGS FOR MORE
INFORMATION.

JLA
architects + planners

JOSEPH LEE + ASSOCIATES
2418 CROSSROADS DRIVE, SUITE 2300
MADISON, WISCONSIN 53718
608.241.9500

JLA PROJECT NUMBER: 14-1103

DECKER PROPERTIES,
INC.

CATALINA CROSSING
APARTMENTS

PROGRESS DOCUMENTS

These documents reflect progress and intent and may be subject to change, including additional detail. These are not final construction documents and should not be used for final bidding or construction-related purposes.

DATE OF ISSUANCE 24 JUNE 2015

Revision Schedule		
Mark	Description	Date

SHEET TITLE

OVERALL
MASTERPLAN

SHEET NUMBER

ASP-100

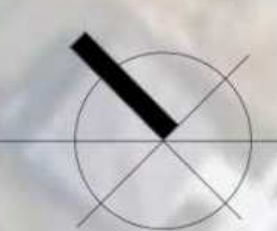
CONCEPTUAL DATA 12.84 ACRES - 8.80 UNITS/ACRE

BUILDING	TYPE	QTY	UNITS						BIKE PARKING		PARKING			
			ST	1BR	1BR+	2BR	3BR	TOTAL	BR'S	TOTAL	RATIO	COVERED	SURFACE	TOTAL
A	2	0	8	0	16	0	24	40			32	21	54	2.25 / UNIT
B	7	0	0	0	14	28	42	112			56	37	94	2.24 / UNIT
C	5	0	0	0	35	0	35	70			70	8	78	2.23 / UNIT
D	2	0	0	0	12	0	12	24			24	19	26	2.17 / UNIT
TOTALS			8	0	77	28	113	246			182	70	252	2.23 / UNIT
			0%	7%	0%	68%	25%							



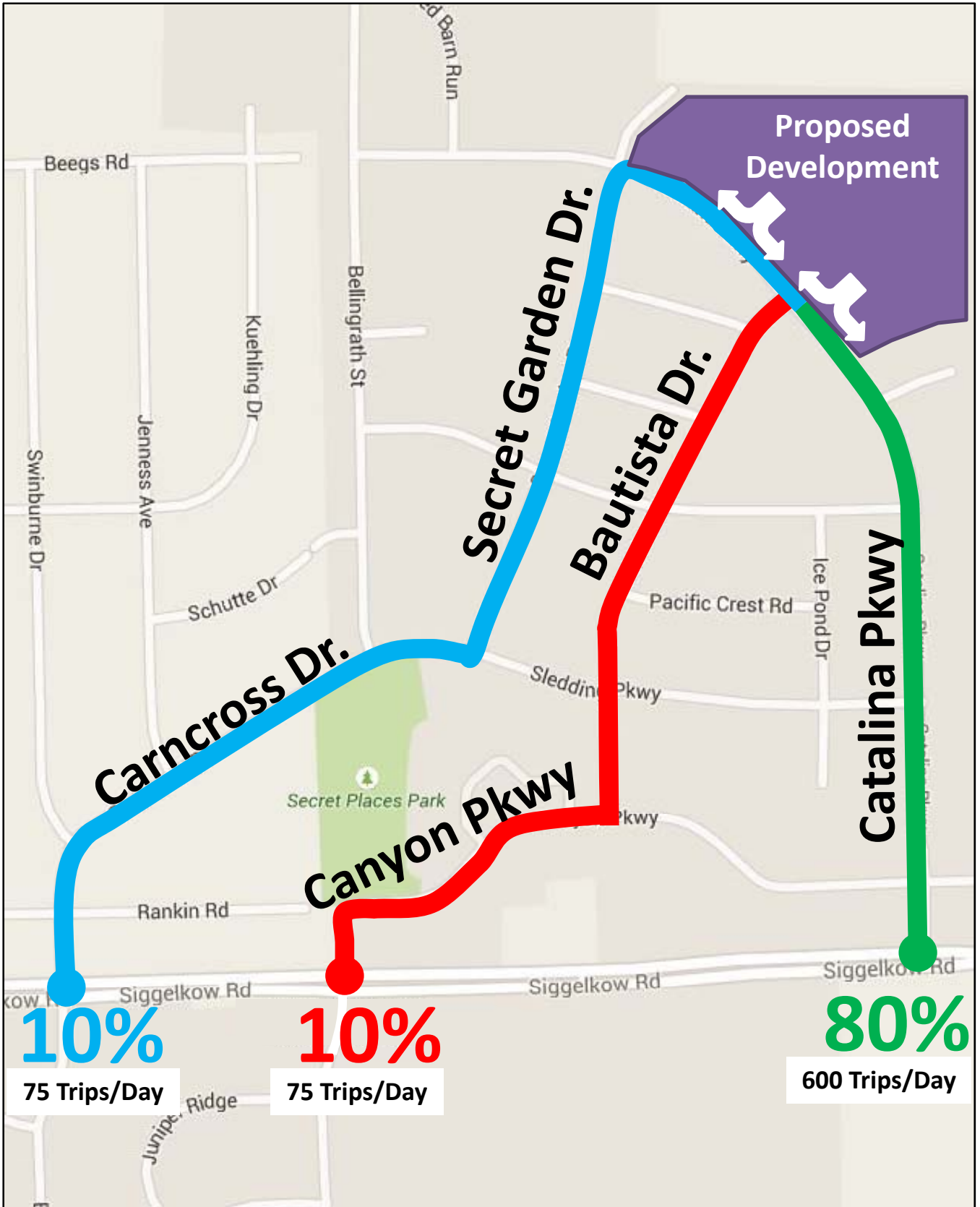
CATALINA CROSSING MASTERPLAN
CONCEPT DESIGN

24 JUNE, 2015
SCALE: 1"=70'



APPENDIX B

Development Trip Distribution



APPENDIX C

Existing Neighborhood Traffic Control

