

MEMORANDUM TO: Jennifer and Daniel Davis

FROM: Shahrzad Ainkeshavarzi  
Consultant

Luay R. Aboona, PE, PTOE  
Principal

DATE: April 24, 2025

SUBJECT: Proposed Trip Generation and Access Evaluation  
Davis Retreat  
Huntley, Illinois

This memorandum summarizes the results and findings of a trip generation and access evaluation conducted by Kenig, Lindgren, O'Hara, Aboona, Inc. (KLOA, Inc.) for the proposed Davis Retreat to be located at 40W702 Powers Road in Huntley, Illinois. The retreat is proposed to accommodate daytime events, including corporate events, field trips, women's retreat, baby showers, etc. The purpose of this evaluation is to evaluate the trip generation characteristics of the proposed retreat and to evaluate the adequacy of the existing access on Powers Road in accommodating the traffic volumes that will be generated by the proposed retreat. **Figure 1** shows the approximate location of the site and **Figure 2** shows an aerial view of the site.

### Existing Traffic Conditions

As indicated earlier, the site is located at 40W702 Powers Road approximately 1.15 miles east of IL 47. The site has frontage on Powers Road, off of which access to the site is provided. Powers Road in the vicinity of the site provides one lane in both the east and west directions. At its intersection with the existing access drive to the site, Powers Road does not provide any exclusive turn lane. Powers Road has unsignalized intersections with IL 47 approximately 1.15 miles west of the site and with Freeman Road approximately one mile south of the site. Powers Road is under the jurisdiction of Rutland Township, carries an Annual Average Daily Traffic (AADT) volume of 875 vehicles (Illinois Department of Transportation [IDOT], 2018) in the vicinity of the site, and has a posted speed limit of 40 miles per hour.



**Location of Site**

**Figure 2**



Aerial View of Site

Figure 2

## Characteristics of the Proposed Retreat

Currently, the site is being used as a personal homestead and farmland. As proposed, the plans call to develop the site adding an additional building to accommodate daytime activities such as corporate events, women's retreat, baby showers, field trips, etc. The building is proposed to contain bowling lanes, pistol range, party room, basketball courts, fitness studio, racquetball court, a mancave, and mezzanine. The site provides approximately 50 parking spaces with potential expansion to provide up to 100 parking spaces. However, it should be noted that the proposed retreat will be a sustainable development and the retreat ownership is seeking to accommodate all the event trips via coach buses. The overnight stays will be accommodated via the existing Hampton Inn located at 13000 IL-47, Huntly, Illinois. The commutes from/to Hampton Inn to/from the proposed retreat will be accommodated via the shuttle and bus services.

Access to the proposed retreat will continue to be provided via the existing full movement access drive off Powers Road located approximately 620 feet east of Ridgefield Boulevard. The access drive provides one inbound lane and one outbound lane. The outbound movements should be under stop sign control. It should be noted that the site has an access drive to Gary Lane, which will not be used as part of Davis Retreat's operations, and it will be used as an emergency-only access drive.

A copy of the site plan is included in the Appendix.

## Estimated Traffic Generation

The vehicle trip generation for the proposed retreat was calculated using data provided by ownership. The highest number of people that will be accommodated during one event is estimated to be between 50 to 100 people. It should be noted that a group of 100 people are rarely expected to be hosted within the retreat, as such the trips were generated based on an average of 75 people. As stated earlier, the guests will be encouraged to arrive to the proposed retreat in groups using coach buses which have an occupancy of 24 persons per bus. Furthermore, given the type of events planned, not all of the trips will be generated during the peak hours. However, in order to provide a conservative estimate of the generated trips, it was assumed that the trips will be made by personal vehicles, and all occur during the peak hours. It should be noted that events such as baby showers will generate more carpooled trips while corporate events are expected to generate more single-occupant vehicle trips. Therefore, a car occupancy rate of 1.5 person per vehicle was assumed to estimate the generated trips for an event with 75 guests.

It should be noted that there is a residential unit on the site that is being used by the owner of the retreat. Based on the information provided by the owner, one inbound trip and one outbound trip are expected to be generated by the residential unit during the morning and evening peak hours.

**Table 1** shows the estimated vehicle trip generation for the weekday morning and weekday evening peak hours when the guests arrive and leave the retreat, respectively.

Table 1  
ESTIMATED PEAK HOUR VEHICLE TRIP GENERATION

Type	Weekday Morning Peak Hour			Weekday Evening Peak Hour		
	In	Out	Total	In	Out	Total
Proposed Retreat	50	0	50	0	50	50
Existing Residential	1	1	2	1	1	2
<b>Total Trips</b>	<b>51</b>	<b>1</b>	<b>52</b>	<b>1</b>	<b>51</b>	<b>52</b>

## Evaluation

When the estimated peak hour traffic volumes anticipated to be generated by the proposed retreat are compared to the existing traffic volumes on the surrounding roadways, the generated traffic will not have a detrimental traffic impact on the area roadways based on the following:

- The proposed retreat will generate approximately 52 trips during the weekday morning peak hour and 52 trips during the weekday evening peak hour. These numbers are highly conservative as the trips will be significantly lower when coach buses are used to accommodate the trips.
- The site-generated trips will average approximately less than one vehicle every minute, which is low and not impactful.
- Given the connectivity of Powers Road to IL 47 and Freeman Road, traffic approaching and departing the site will be distributed thus reducing the traffic impact.

## Access Evaluation

As indicated earlier, access to the proposed retreat will be provided via the existing access drive off Powers Road providing one inbound lane and one outbound lane with outbound movements under stop sign control which will ensure that efficient and adequate access will be provided.

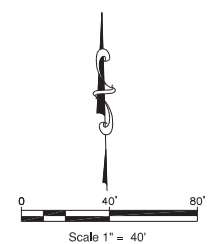
It should be noted that based on the right-turn lane warrant criteria summarized in Chapter 36 of the IDOT *Bureau of Design and Environment* (BDE) Manual, the minimum threshold to warrant an exclusive right-turn lane is 40 vehicles during peak hours. Since the proposed retreat is projected to generate 52 inbound trips during the morning peak hour which will access the site from east and west on Powers Road, a right-turn lane will not be warranted at the existing access drive. Furthermore, even when assuming that all the inbound traffic will be approaching from one direction on Powers Road, an exclusive right-turn lane or left-turn lane will not be warranted due to the low volume of the traffic that commutes on Powers Road based on the BDE turn lane warrant criteria.

## Conclusions

Based on the preceding evaluation and recommendations, the following conclusions have been made:

- The proposed retreat will be a low traffic generator and most of the generated trips will be accommodated via coach buses.
- The existing access drive off Powers Road will be adequate to accommodate the traffic estimated to be generated by the proposed retreat and will ensure efficient and flexible access is provided.
- Outbound movements from the access drive should be under stop sign control.
- Exclusive left-turn lanes and right-turn lanes will not be warranted on Powers Road at the access drive.

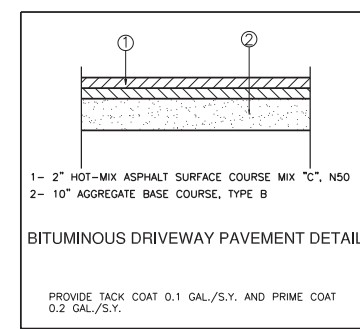
# Appendix



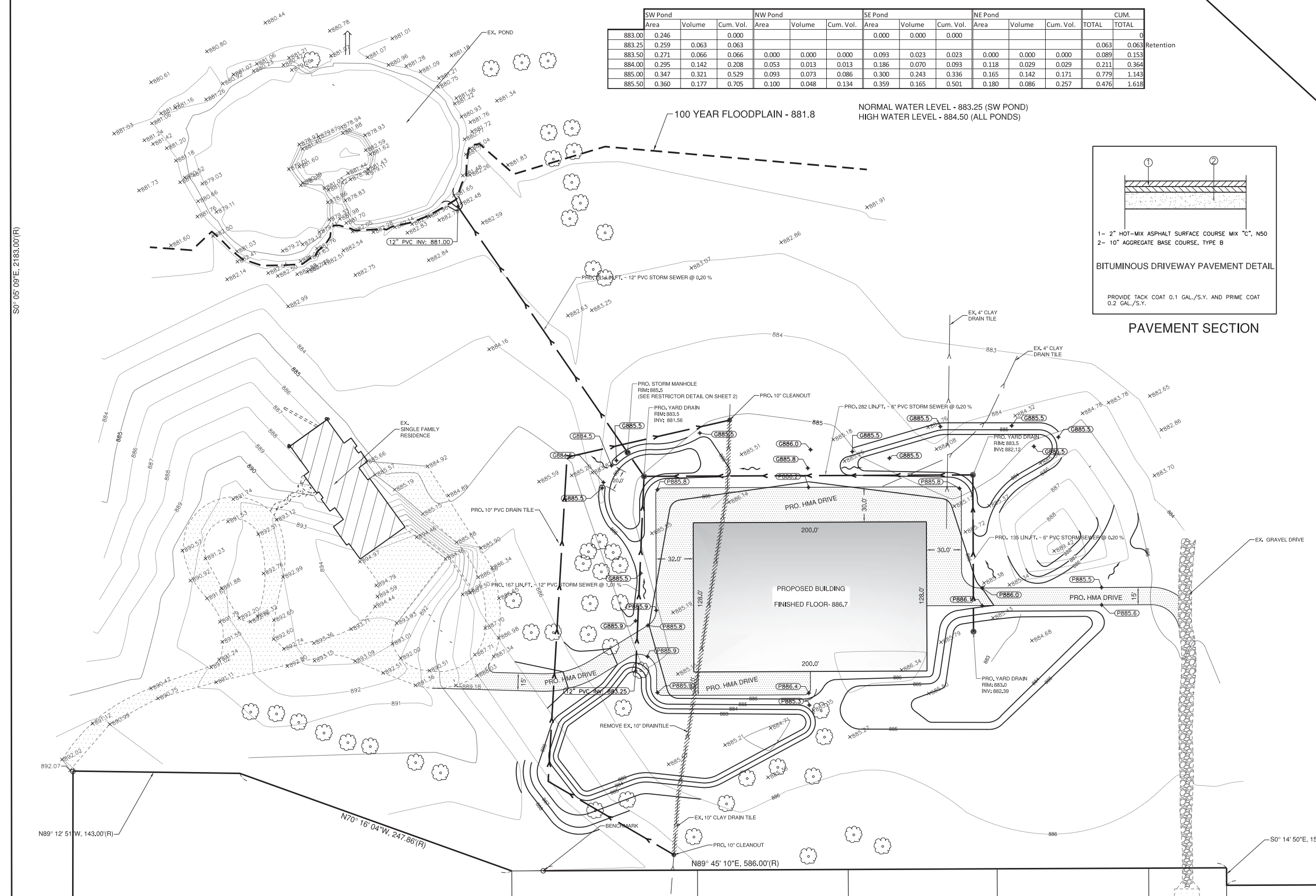
Detention Pond Volume Calculation

SW Pond			NW Pond			SE Pond			NE Pond			CUM.	
Area	Volume	Cum. Vol.	Area	Volume	Cum. Vol.	Area	Volume	Cum. Vol.	Area	Volume	Cum. Vol.	TOTAL	TOTAL
883.00	0.246	0.000				0.000	0.000	0.000					
883.25	0.259	0.063				0.093	0.023	0.023				0.063	0.063
883.50	0.271	0.066	0.000	0.000	0.000	0.093	0.023	0.023	0.000	0.000	0.000	0.089	0.153
884.00	0.295	0.142	0.053	0.013	0.013	0.186	0.070	0.093	0.118	0.029	0.029	0.211	0.364
885.00	0.347	0.321	0.529	0.093	0.073	0.086	0.300	0.243	0.336	0.165	0.142	0.779	1.143
885.50	0.360	0.177	0.705	0.100	0.048	0.134	0.359	0.165	0.501	0.180	0.086	0.257	1.618

NORMAL WATER LEVEL - 883.25 (SW POND)  
HIGH WATER LEVEL - 884.50 (ALL PONDS)



PAVEMENT SECTION



S0° 05' 09" E, 2183.00'(R)

GERALD L. HEINZ & ASSOCIATES, INC.  
CONSULTING ENGINEERS & LAND SURVEYORS  
206 NORTH RIVER STREET  
EAST DUNDEE, ILLINOIS 60118

NO.	DATE	REVISIONS	NO.	DATE	REVISIONS
1	10-30-17	PER COUNTY REVIEW			
2	11-10-17	PER COUNTY REVIEW			

SITE PLAN

DAVIS SITE  
KANE COUNTY, ILLINOIS

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DATE:	09/19/2017
JOB NO.:	E-2376
SCALE:	1"=40'
SHEET	4 OF 5