

MEMORANDUM

To: Jay Joiner – The Gardner School / Viking Development

From: Rory Fancier, AICP, PTP – Kimley-Horn
Tim Sjogren, P.E., PTOE – Kimley-Horn

Date: October 24, 2019

RE: Parking Review for The Gardner School
Vernon Hills, Illinois

On behalf of The Gardner School, Kimley-Horn and Associates, Inc. (Kimley-Horn) evaluated the projected parking demand for the daycare facility proposed for the northeast quadrant of the intersection of Deerpath Drive/Phillip Road in Vernon Hills, Illinois. The subject development would include an approximately 16,055 square-foot facility with 45 parking spaces. Parking for the development is proposed at a ratio of approximately 2.8 spaces per 1,000 square feet. A copy of the proposed site plan is provided as **Attachment 1**.

The proposed parking supply was evaluated relative to the Village of Vernon Hills requirements, parking industry recommendations for similar land uses, and observed parking characteristics at an existing The Gardner School. This memorandum presents a review of the proposed parking supply and summarizes key findings and conclusions.

Executive Summary

The proposed parking supply reflects the unique operational characteristics of The Gardner School and is expected to support peak parking demand. Based on a review of The Gardner School Northbrook, parking demand is generally staggered, with morning student drop-off and afternoon student pick-up occurring over 2.5-hour periods. According to empirical data collected by Kimley-Horn, peak parking demand occurs at a ratio of 1.87 spaces per 1,000 square feet of gross floor area. The Gardner School Northbrook is considered representative of the proposed development in terms of size and enrollment; and therefore, parking demand observed at this location is expected to be generally similar to projected parking demand at the Vernon Hills location. Accordingly, the proposed development includes a total of 45 spaces or 2.8 spaces per 1,000 square feet of gross floor area which is expected to support peak demand.

Village of Vernon Hills Requirements

Off-street parking requirements for various land uses in the Village are outlined in Section 19.7 of the Code of Ordinances. Based on a review of the Code, specific parking requirements are not provided for a daycare facility. Parking requirements for similar land uses such as a preschool are also undefined. Where a land use is otherwise undefined, the Code requires 1 parking space per 200 square feet of gross floor area (i.e., 4 spaces per 1,000 square feet of gross floor area) for all other permitted or special uses. This is universally applied to all undefined uses without consideration for unique parking demand and operational characteristics. As the proposed parking supply is lower than the Code requirements, approval of a variance from Section 19.7 of the Code of Ordinance would be required.

Parking Research

A primary acknowledged source for national-level parking demand data is the Institute of Transportation Engineers (ITE) publication Parking Generation, Fifth Edition. The ITE Parking Generation manual provides average peak parking demand rates for a variety of land use categories. The land use category most similar to the proposed development is Land Use Code 565, Day Care Center. According to the ITE data provided for 45 study locations, the average peak parking demand for daycare centers is 2.45 spaces per 1,000 square feet. The 85th percentile parking demand is 3.47 spaces per 1,000 square feet. The 85th percentile parking demand reflects operational characteristics for a range of daycare facilities, including those which may have higher enrollment or staffing levels and concentrated student drop-off and pick-up periods. The parking supply proposed for The Gardner School Vernon Hills (i.e., 2.8 spaces per 1,000 square feet of gross floor area) reflects the unique operational characteristics of The Gardner School.

Empirical Parking Demand

In order to evaluate the unique parking demand characteristics of The Gardner School, a parking occupancy study was conducted for the existing Northbrook, Illinois location¹. This location was selected as it is an established daycare facility similar in size and enrollment as compared to the proposed Vernon Hills development. It should be noted that the Northbrook location is an established facility; current enrollment levels reflect growth over an approximately four-year period. It is anticipated initial enrollment at the Vernon Hills location would be lower, with projected future enrollment generally similar to Northbrook. A summary of the operational characteristics for the Northbrook location are outlined below.

- Building size is 16,068 sq. ft. of gross floor area
- Total parking supply is 48 spaces
- Enrollment is currently 163 students
- Approximately 30 staff are typically onsite Monday through Friday
- Morning drop-off activity is staggered between 7:00AM and 9:30AM
- Afternoon pick-up activity occurs between 3:30PM and 6:00PM

Parking occupancy counts were conducted at the Northbrook location on a typical weekday when enrollment levels are highest (i.e., Wednesday). The counts were conducted on October 2, 2019 from 7:00AM to 10:00AM and 3:30AM to 6:00PM. The count periods were selected in order to capture the peak student drop-off and pick-up periods. A summary of the observed parking occupancy is outlined in **Table 1**.

¹The Gardner School Oakbrook Terrace was selected to evaluate trip generation characteristics as it has one of the highest enrollments in The Gardner School system; however, this facility has a shared parking arrangement with the neighboring use; and therefore, parking demand for the daycare facility could not be isolated. For purposes of the parking study, the Northbrook location was selected for empirical data collection as it is similar in size and enrollment as the proposed Vernon Hills location.

Table 1. Observed Parking Occupancy – The Gardner School Northbrook

Time of Day	Occupied Spaces	Parking Demand Rate (per 1,000 sq. ft. gross floor area)	Percent Occupied
7:00AM	12	0.75	25%
7:15AM	12	0.75	25%
7:30AM	19	1.18	40%
7:45AM	24	1.49	50%
8:00AM	22	1.37	46%
8:15AM	21	1.31	44%
8:30AM	24	1.49	50%
8:45AM	24	1.49	50%
9:00AM	26	1.62	54%
9:15AM	30	1.87	63%
9:30AM	30	1.87	63%
9:45AM	29	1.80	60%
3:30PM	28	1.74	58%
3:45PM	25	1.56	52%
4:00PM	25	1.56	52%
4:15PM	27	1.68	56%
4:30PM	26	1.62	54%
4:45PM	23	1.43	48%
5:00PM	22	1.37	46%
5:15PM	21	1.31	44%
5:30PM	20	1.24	42%
5:45PM	20	1.24	42%
Average	23	1.44	48%

As shown in the table above, during the morning drop-off period peak parking demand occurred from 9:15 to 9:45AM with 30 spaces occupied. During the afternoon pick-up period, peak parking demand occurred from 3:30 to 3:45PM with 28 spaces occupied. According to the empirical data collected at the Northbrook location, peak parking demand for The Gardner School is equivalent to 1.87 spaces per 1,000 square feet.

Summary

The Village's Code of Ordinances does not specify parking requirements for a daycare facility. Where parking requirements are not provided for a specific use, the Code requires 1 space per 200 square feet of gross floor area or 4 spaces per 1,000 square feet of gross floor area. Based on a review of ITE data for daycare facilities and the unique operational characteristics of The Gardner School, the general parking requirement outlined in the Code of Ordinances may not be appropriate for the proposed development. Accordingly, approval of a variance from Section 19.7 of the Code of Ordinances would be required.

ITE data indicates an average parking demand ratio of 2.45 spaces per 1,000 square feet, which is lower than the Village's Code requirement. However, based on existing conditions at The Gardner School Northbrook, the anticipated peak parking demand for the Vernon Hills location is expected to be lower

than both the Village requirements and ITE data. A summary of the proposed parking supply as compared to Village requirements, ITE data, and empirical data is provided in **Table 2**.

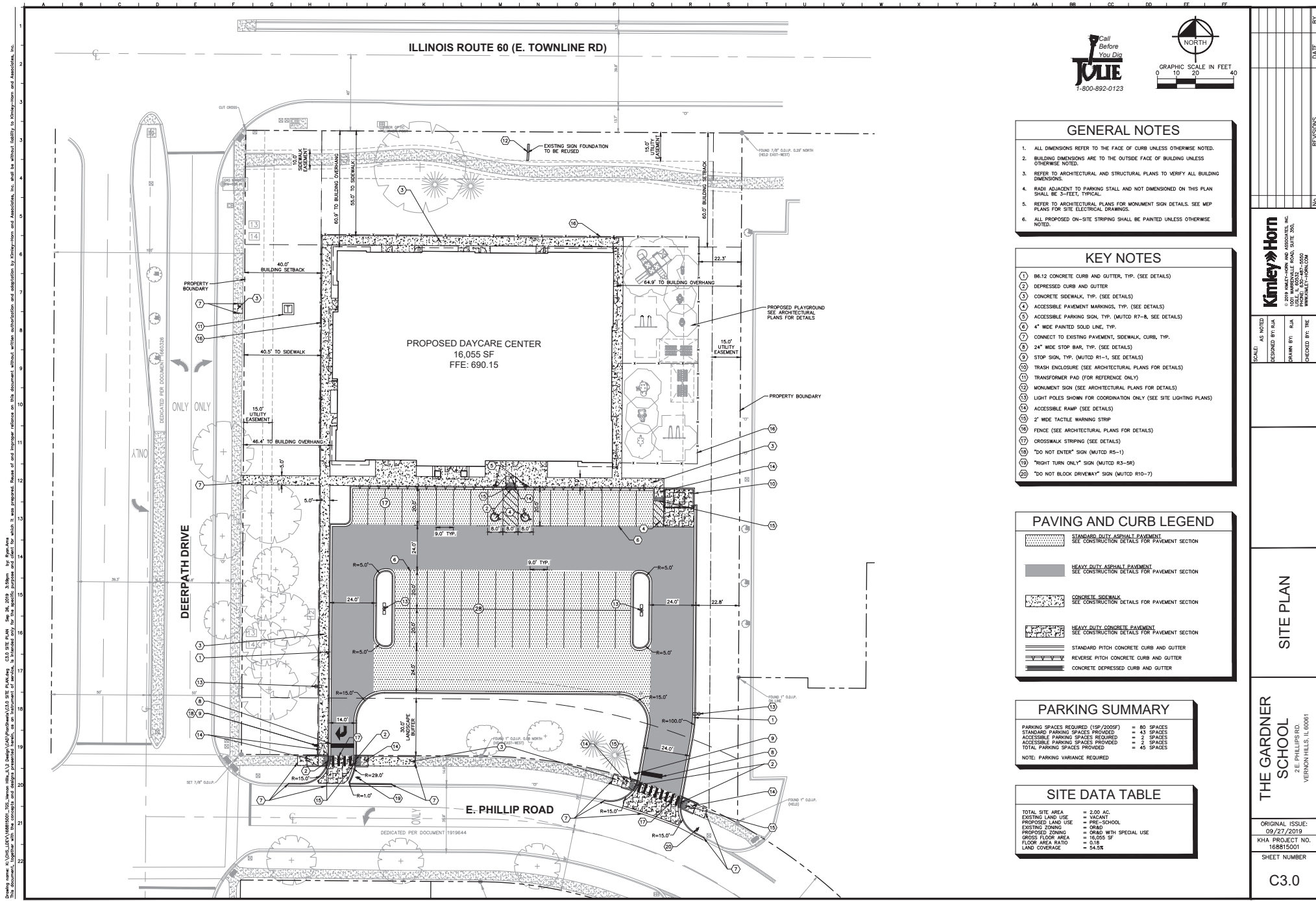
Table 2. Comparison of Proposed Parking Supply and Available Data

Data Source	Parking Ratio (per 1,000 sq. ft.)
Proposed Parking Supply	2.8 spaces
Village Code of Ordinances	4 spaces
ITE <u>Parking Generation</u> manual	2.45 spaces (average) 3.74 spaces (85 th percentile)
Empirical – The Gardner School Northbrook	1.44 spaces (average) 1.87 spaces (peak)

The empirical parking demand reflects the unique operational characteristics of The Gardner School, including the staggered student drop-off and pick-up periods, and the high carpool (i.e., sibling) rate observed at existing facilities². Therefore, the proposed parking supply of 45 spaces or 2.8 spaces per 1,000 square feet of gross floor area is expected to be sufficient to support peak parking demand. Parking spillover to adjacent properties is not anticipated.

Please do not hesitate to contact us with any questions related to the information in this memorandum.

²Based on data supplied by The Gardner School, approximately 23 percent of student enrollment at the Oakbrook Terrace location is carpools (i.e., siblings).



- ### GENERAL NOTES
1. ALL DIMENSIONS REFER TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
 2. BUILDING DIMENSIONS ARE TO THE OUTSIDE FACE OF BUILDING UNLESS OTHERWISE NOTED.
 3. REFER TO ARCHITECTURAL AND STRUCTURAL PLANS TO VERIFY ALL BUILDING DIMENSIONS.
 4. RADI ADJACENT TO PARKING STALL AND NOT DIMENSIONED ON THIS PLAN SHALL BE 3'-FEET, TYPICAL.
 5. REFER TO ARCHITECTURAL PLANS FOR MONUMENT SIGN DETAILS. SEE MEP PLANS FOR SITE ELECTRICAL DRAWINGS.
 6. ALL PROPOSED ON-SITE STRIPING SHALL BE PAINTED UNLESS OTHERWISE NOTED.

- ### KEY NOTES
- 1) 86.12 CONCRETE CURB AND GUTTER, TYP. (SEE DETAILS)
 - 2) DEPRESSED CURB AND GUTTER
 - 3) CONCRETE SIDEWALK, TYP. (SEE DETAILS)
 - 4) ACCESSIBLE PAVEMENT MARKINGS, TYP. (SEE DETAILS)
 - 5) ACCESSIBLE PARKING SIGN, (MUTCD R7-8, SEE DETAILS)
 - 6) 4" WIDE PAINTED SOLID LINE, TYP.
 - 7) CONNECT TO EXISTING PAVEMENT, SIDEWALK, CURB, TYP.
 - 8) 24" WIDE STOP BAR, TYP. (SEE DETAILS)
 - 9) STOP SIGN, TYP. (MUTCD R1-1, SEE DETAILS)
 - 10) TRASH ENCLOSURE (SEE ARCHITECTURAL PLANS FOR DETAILS)
 - 11) TRANSFORMER PAD (FOR REFERENCE ONLY)
 - 12) MONUMENT SIGN (SEE ARCHITECTURAL PLANS FOR DETAILS)
 - 13) LIGHT POLES SHOWN FOR COORDINATION ONLY (SEE SITE LIGHTING PLANS)
 - 14) ACCESSIBLE RAMP (SEE DETAILS)
 - 15) 2" WIDE TACTILE WARNING STRIP
 - 16) FENCE (SEE ARCHITECTURAL PLANS FOR DETAILS)
 - 17) CROSSWALK STRIPING (SEE DETAILS)
 - 18) "DO NOT ENTER" SIGN (MUTCD R5-1)
 - 19) "RIGHT TURN ONLY" SIGN (MUTCD R3-3R)
 - 20) "DO NOT BLOCK DRIVEWAY" SIGN (MUTCD R10-7)

- ### PAVING AND CURB LEGEND
- | | |
|--|---|
| | STANDARD DUTY ASPHALT PAVEMENT
SEE CONSTRUCTION DETAILS FOR PAVEMENT SECTION |
| | HEAVY DUTY ASPHALT PAVEMENT
SEE CONSTRUCTION DETAILS FOR PAVEMENT SECTION |
| | CONCRETE SIDEWALK
SEE CONSTRUCTION DETAILS FOR PAVEMENT SECTION |
| | HEAVY DUTY CONCRETE PAVEMENT
SEE CONSTRUCTION DETAILS FOR PAVEMENT SECTION |
| | STANDARD PITCH CONCRETE CURB AND GUTTER |
| | REVERSE PITCH CONCRETE CURB AND GUTTER |
| | CONCRETE DEPRESSED CURB AND GUTTER |

PARKING SUMMARY

PARKING SPACES REQUIRED (19P/2005P)	= 80 SPACES
STANDARD PARKING SPACES PROVIDED	= 40 SPACES
ACCESSIBLE PARKING SPACES REQUIRED	= 2 SPACES
ACCESSIBLE PARKING SPACES PROVIDED	= 2 SPACES
TOTAL PARKING SPACES PROVIDED	= 42 SPACES

NOTE: PARKING VARIANCE REQUIRED

SITE DATA TABLE

TOTAL SITE AREA	= 2.00 AC.
EXISTING LAND USE	= VACANT
PROPOSED LAND USE	= PRE-SCHOOL
EXISTING ZONING	= ORAD
PROPOSED ZONING	= ORAD WITH SPECIAL USE
GROSS FLOOR AREA	= 16,055 SF
FLOOR AREA RATIO	= 0.8
LAND COVERAGE	= 54.5%

Kimley-Horn

SCALE: AS NOTED
DESIGNED BY: KHA
DRAWN BY: KHA
CHECKED BY: TFE

SITING PLAN

THE GARDNER SCHOOL
2 E. PHILLIPS RD.
VERMONT, IL 60061

ORIGINAL ISSUE:
09/27/2019
KHA PROJECT NO.
168815001
SHEET NUMBER
C3.0

NO. REVISIONS
DATE BY