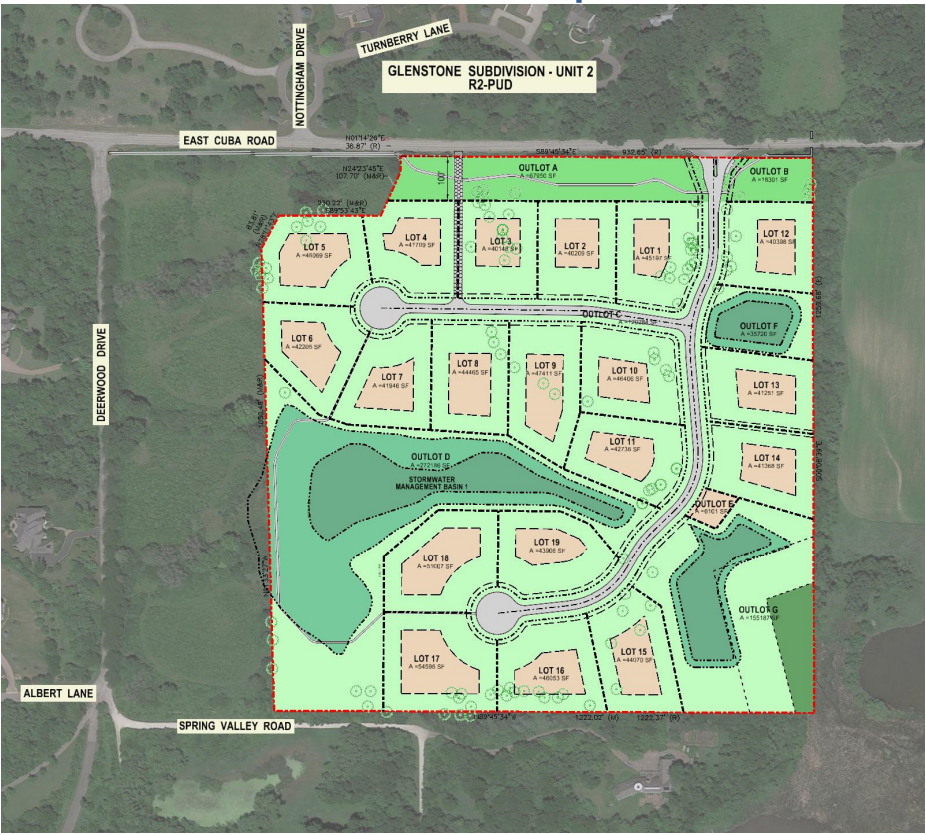


# Philip Estates Subdivision

3699 Cuba Road  
Long Grove, IL

## Preliminary Planned Unit Development Submittal



Dated: April 2020

CEAI Project No: 1291

Owner:

Prepared by:

Philip Estates, LLC  
8150 W. 159<sup>th</sup> Street  
Orland Park, IL 60462

**Cross**  
CROSS ENGINEERING & ASSOCIATES, INC.  
1955 Raymond Drive, Suite 119  
Northbrook, IL 60062  
Tel: 847/498-0800

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# **SECTION 1**

Plan Commission Zoning Board of Appeals General Zoning Application

Rider A – Legal Description

Map Amendment – Supplemental Information

Site Analysis

Consultant List



3110 Old McHenry Road 60047-9635  
Phone: 847-634-9440 Fax: 847-634-9408  
www.longgrove.net

## PLAN COMMISSION ZONING BOARD OF APPEALS GENERAL ZONING APPLICATION

### 1.0 General Information (See Subsection 5-11-8(E) of the Long Grove Zoning Code).

1.1 Applicant Name: PHILIP ESTATES, L. L. C.  
Address: 8150 W: 159th Street, Orland Park, IL 60462  
Telephone Number: 708-764-3612 E-mail Address: dmcmillan@rizzacars.com  
Fax number: \_\_\_\_\_  
Applicant's Interest in Property: Owner

### 1.2 Owner (if different from Applicant).

Name: Same  
Address: \_\_\_\_\_  
Telephone Number: \_\_\_\_\_ E-mail Address: \_\_\_\_\_  
Fax number: \_\_\_\_\_

### 1.3 Property.

Address of Property: 3699 Cuba Road  
Legal Description: Please attach Parcel Index Number(s): See Schedule A attached  
Present Zoning Classification R-1-PUD Size of Property (in acres) 34.82  
Has any zoning reclassification, variation, or special use permit/PUD been granted for the Property?  
Yes: X No: \_\_\_\_\_  
If yes, please identify the ordinance or other document granting such zoning relief: 2005-0-23  
(as amended, 2007)

Describe the nature of the zoning relief granted: Rezone to R-2-PUD

Present use of Property:

Residential \_\_\_\_\_ Commercial \_\_\_\_\_ Office \_\_\_\_\_ Open Space \_\_\_\_\_ Vacant X

Other (explain) \_\_\_\_\_

Present zoning and land use of surrounding properties within 250' of Property:

	Zoning Classification	Land Use
North:	<u>R-1, R-2</u>	<u>sf</u>
South:	<u>R-1 PUD</u>	<u>sf and vacant</u>
East:	<u>R-1 PUD</u>	<u>vacant</u>
West:	<u>R-1</u>	<u>sf</u>

**1.4 Trustees Disclosure.**

Is title to the Property in a land trust? Yes \_\_\_\_\_ No \_\_\_\_\_

If yes, full disclosure of all trustees, beneficiaries and their legal and equitable interests is required. Attach a copy of all documents showing ownership of the Property and the Applicant's and/ or Owner's control of or interest in the Property.

**1.5 Requested Action (Check as many as are applicable).**

\_\_\_\_\_ Appeal  
\_\_\_\_\_ Variation  
X Zoning Map Amendment (rezoning)  
X Preliminary PUD Plat  
\_\_\_\_\_ Code Interpretation  
\_\_\_\_\_ Special Use Permit (non-PUD)  
\_\_\_\_\_ Zoning Code Text Amendment  
\_\_\_\_\_ Final PUD Plat

**1.6 Supplemental Information (General):\*\***

Every Application filed shall, in addition to the data and information required above, provide the following general information when applicable to the use or development for which approval is being sought:

- (a) A description or graphic representation of any development or construction that will occur or any use that will be established or maintained if the requested relief is granted.
- (b) A table showing the following, as applicable:

- the total lot area of the lot, in acres and in square feet; and
  - the total existing and proposed lot area, expressed in acres, in square feet and as a percent of the total development area, devoted to: residential uses, business uses; office uses; college uses; institutional uses; open space; rights-of-way; streets; and off-street parking and loading areas; and
  - the existing and proposed number of dwelling units; and gross and net floor area devoted to residential uses, business uses, office uses, college uses, and institutional uses.
- (c) A table listing all bulk, space, and yard requirements; all parking requirements; and all loading requirements applicable to any proposed development or construction and showing the compliance of such proposed development or construction with each such requirement. When any lack of compliance is shown, the reason therefore shall be stated and an explanation of the village's authority, if any, to approve the Application despite such lack of compliance shall be set forth.
- (d) The certificate of a registered architect or civil engineer licensed by the State of Illinois, or of an owner-designer, that any proposed use, construction, or development complies with all provisions of this code and other village ordinances or complies with such provisions except in the manner and to the extent specifically set forth in said certificate.
- (e) A landscape development plan, including the location, size and species of plant materials.

**1.7 Supplemental Information (per specific request):**

\_\_\_\_\_ Appeals, Code Interpretations, and Variations: See 5-11-8(E)3, 4, & 5 of the Zoning Code and Form "A"

\_\_\_\_\_ Special Use Permit (non-PUD): See 5-11-8(E)7 of the Zoning Code and Form "B"

\_\_\_\_\_ Zoning Map Amendment (rezoning): See 5-11-8(E) 8 of the Zoning Code and Form "C"

\_\_\_\_\_ Zoning Code Text Amendment: See Form "D"

\_\_\_\_\_ Preliminary PUD Plat: See 5-11-18(D)(2) of the Zoning Code and Form "E"

\_\_\_\_\_ Final PUD Plat: See 5-11-18(D)(3) of the Zoning Code and Form "F"

**\*\* The scope and detail of information shall be appropriate to the subject matter of the Application, with special emphasis on those matters likely to be affected or impacted by the approval being sought in the Application. Information required in the application shall be considered the minimum information required for filing an application. Additional information including but not limited to graphic depictions, environmental impacts, plans for sewer and water service and storm water management, photometric plans, traffic studies and effects on property values, among others, should also be considered and may be helpful in detailing the Application.**

**Special Data Requests. In addition to the data and information required pursuant to this Application, every Applicant/Owner shall submit such other additional data, information, or documentation as the**

building superintendent or any board or commission before which the Application is pending may deem necessary or appropriate to a full and proper consideration and disposition of the particular Application.

**1.8 Consultants.** See attached schedule

Please provide the name, address, and telephone number of each professional or consultant advising Applicant with respect to this Application, including architects, contractors, engineers or attorneys:

Name: _____	Name: _____
Professional: _____	Professional: _____
Address: _____	Address: _____
Telephone: _____	Telephone: _____
E-mail: _____	E-mail: _____

Name: _____	Name: _____
Professional: _____	Professional: _____
Address: _____	Address: _____
Telephone: _____	Telephone: _____
E-mail: _____	E-mail: _____

**1.9 Village Officials or Employees.**

Does any official or employee of the Village have an interest, either directly or indirectly, in the Property? Yes: \_\_\_\_\_ No:

If yes, please identify the name of such official or employee and the nature and extent of that interest. (Use a separate sheet of paper if necessary.)

**1.10 Successive Applications (5-11-9).**

**Second Applications Without New Grounds Barred.** Whenever any Application filed pursuant to this code has been finally denied on its merits, a second Application seeking essentially the same relief, whether or not in the same form or on the same theory, shall not be brought unless in the opinion of the officer, board, or commission before which it is brought there is substantial new evidence available or a mistake of law or fact significantly affected the prior denial.

**New Grounds to Be Stated.** Any such second Application shall include a detailed statement of the grounds justifying consideration of such Application.

**Summary Denial With or Without Hearing.** Any such second Application may be denied by the building superintendent summarily, and without hearing, on a finding that no grounds appear that warrant a new hearing. In any case where such Application is set for hearing, the owner shall be required to establish grounds warranting reconsideration of the merits of its Application prior to being allowed to offer any evidence on the merits. Unless such grounds are established, the Application may be summarily dismissed for such failure.

**Exception.** Whether or not new grounds are stated, any such second Application filed more than two years after the final denial of a prior Application shall be heard on the merits as though no prior Application had been filed. The Applicant or Owner shall, however, be required to place in the record all evidence available concerning changes of conditions or new facts that have developed since the denial of the first Application. In the absence of such evidence, it shall be presumed that no new facts exist to support the new petition that did not exist at the time of the denial of the first Application.

**2.0 Required Submittals (See Specific Supplemental Information Form for filing Fees).**

- Fully completed Application with applicable supplementary information
- Non-refundable Filing Fee. Amount: \$ \_\_\_\_\_
- Planning Filing Fees. Amount: \$ \_\_\_\_\_
- Minimum Professional Fee/deposit Escrow. Amount \$ \_\_\_\_\_

**3.0 Certifications.** The Applicant and Owner certify that this Application is filed with the permission and consent of the Owner of the Property and that the person signing this Application is fully authorized to do so.

**3.1** The Applicant certifies that all information contained in this Application is true and correct to the best of Applicant's knowledge.

**3.2** The Applicant acknowledges that the Village may seek additional information relating to this Application and agrees to provide the Village with such information in a timely manner. Failure to provide such information may be grounds for denying an Application.



- 3.3 The Applicant and Owner agree to reimburse the Village for any and all costs relating to the processing of this Application, including any consultants' fees. By signing this Application, Applicant and Owner agree to be jointly and severally liable for such costs, and Owner further agrees to the filing and foreclosure of a lien against the Property for all such costs plus all expenses relating to collection, if such costs are not paid within 30 days after mailing of a demand for payment.
- 3.4 The Applicant agrees that the Village and its representatives have the right, and are hereby granted permission and a license, to enter upon the Property, and into any structures located there on, for purposes of conducting any inspections that may be necessary in connection with this Application.
- 3.5 The Owner, Applicant, and/or designated representative is required to be present during the meeting.

PHILIP ESTATES, L. L. C.

\_\_\_\_\_  
Name of Owner

\_\_\_\_\_  
Name of Applicant

\_\_\_\_\_  
Signature of Owner                      Date

\_\_\_\_\_  
Signature of Applicant                      Date

Joseph Rizza,  
Manager

4/1/20

**RIDER "A"**

**LEGAL DESCRIPTION**

**LOTS 1 THROUGH 12, BOTH INCLUSIVE, AND LOTS A THROUGH K, BOTH INCLUSIVE, IN CANTERBURY PARK PUD, BEING A SUBDIVISION OF PART OF THE NORTHEAST ¼ OF SECTION 26, TOWNSHIP 43 NORTH, RANGE 10, EAST OF THE THIRD PRINCIPAL MERIDIAN AS DESCRIBED ON THE PLAT THEREOF RECORDED IN THE OFFICE OF THE RECORDER OF DEEDS, LAKE COUNTY, ILLINOIS ON DECEMBER 22, 2009, AS DOCUMENT NO. 6553804.**

**Pins;**

**14-26-201-010 through 14-26-201-032, sequentially.**

**Philip Estates, L.L.C.**  
**Map Amendment – Supplemental Information**

- (a) As shown on the Application, the property is bordered by single family development to the north (R-1, R-2), sparse single family to the south (R-1 PUD), vacant property to the east (R-1 PUD) and sparse single family (R-1) to the west).
- (b) The trend of development in the immediate area has remained consistent (single family detached) since the 2005.
- (c) The existing zoning and development plan does not relate to any market demand and, despite marketing efforts, the property has remained vacant and undeveloped for the past 15 years.
- (d) The diminution in value of the property is not offset by any increase in the public health, safety or welfare.
- (e), (f) The property consists of approximately 35 acres. The increase in the number of lots from the currently approved 12 to the proposed 19 will have no adverse impact on the use, enjoyment or value of the surrounding properties.
- (g) The addition of 7 lots will have no impact on the future orderly development of the adjacent properties.
- (h) From a land use perspective the property is suitable for single family development under both the R-1 and R-2 zoning designations. However, the prospect of a successful development under the current zoning and approved plan is extremely remote given prevailing market conditions and development trend.
- (i) The addition of 7 lots will have no adverse impact on either the adequacy of the proposed ingress and egress, or the traffic conditions in the immediate vicinity. Both of these conclusions are supported by the accompanying traffic study prepared by KLOA.
- (j) The current plan was predicated on the development of a private, self-contained sanitary sewer facility, and individual wells. The proposed development will be served by County sanitary sewer and a central water supply from the Glenstone subdivision. The proposed utility service will significantly increase the marketability of the project, and represents positive impact on the health and safety of the community.
- (k) As mentioned above, despite intense marketing efforts, there have been no lot sales since the project was approved in its current configuration (2007). The development has not benefitted from the general (albeit modest) post 2008 market recovery, and, as indicated by those more modest developments approved by the Village, it no longer represents an economically viable undertaking.

(l) The proposed map amendment and Planned Unit Development will, hopefully, transform a vacant parcel encumbered by a failed development program into a viable, high quality single family neighborhood and valuable addition to the Village.

## **PHILIP ESTATES**

### **SITE ANALYSIS**

Total Area:	1,516,881 sf 34.82 acres
Total Number of Lots:	19
Total Lot Area:	841,152 sf (19.31 acres)
Average Lot Size:	44,271 sf (1.02 acres)
Minimum Lot Size:	40,149 sf
Maximum Lot Size:	54,596 sf
Total Common Open Space:	675,729 sf (15.51 acres)

## RIDER TO GENERAL ZONING APPLICATION

### CONSULTANTS

#### PLANNING/ENGINEERING:

Cross Engineering & Associates  
1955 Raymond Drive Suite 119  
Northbrook, IL 60062  
847 498-0800  
[scross@crossengineering.net](mailto:scross@crossengineering.net)

#### ATTORNEY:

David L. Shaw  
Fox Rothschild LLP  
601 Skokie Blvd. Ste. 306  
Northbrook, IL 60062  
312 666-2823  
[dshaw@foxrothschild.com](mailto:dshaw@foxrothschild.com)

#### LANDSCAPE DESIGN:

Larry Dziurdzik  
Allen Kracower & Assos.  
900 N. Shore Drive Ste. 205  
Lake Bluff, IL 60044  
847 604-9600  
[ldziurdzik@kracower.com](mailto:ldziurdzik@kracower.com)

#### TRAFFIC CONSULTANT:

KLOA  
9575 Higgins Road Ste. 400  
Rosemont, IL 60018  
Attn: Luay Aboona  
847 518-9900  
[laboona@kloainc.com](mailto:laboona@kloainc.com)

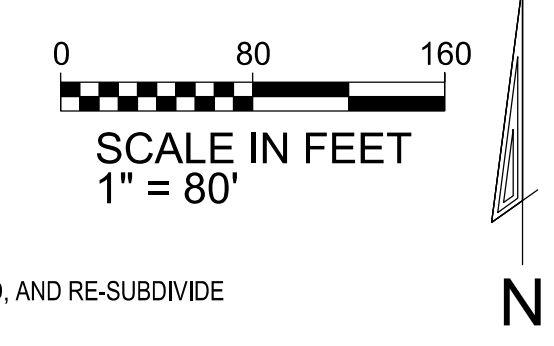
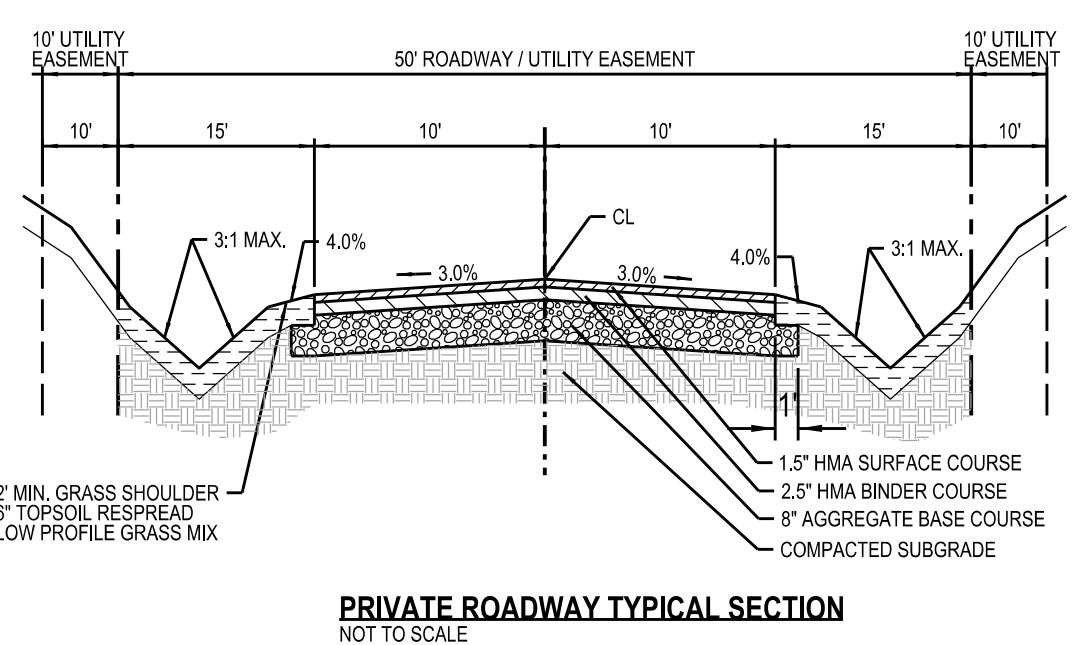
# **SECTION 2**

Preliminary PUD Plan

Preliminary Plat of Subdivision

Preliminary Engineering Plans

Preliminary Landscape and Tree Preservation Plans



**NOTES:**

- THE PROPOSED PLAN IS TO RE-ZONE THE PROPERTY FROM R1-PUD TO R2-PUD, AND RE-SUBDIVIDE THE EXISTING 12-LOT SUBDIVISION TO CREATE A 19-LOT SUBDIVISION.
- THE SUBDIVISION WILL BE SERVED BY A PRIVATE ROADWAY LOCATED WITHIN A 50-FOOT WIDE OUTLOT THAT WILL BE DESIGNATED A ROADWAY & UTILITY EASEMENT.
- A 10-FOOT WIDE UTILITY EASEMENT WILL BE PROVIDED ADJACENT TO THE ROADWAY & UTILITY EASEMENT FOR UTILITIES THAT CANNOT BE PLACED WITH THE ROADWAY & UTILITY EASEMENT.
- FACILITIES PLAN:**  
SANITARY SEWER - ONSITE LIFT STATION DISCHARGING TO THE EXISTING LAKE COUNTY SEWER WITHIN THE GLENSTONE SUBDIVISION - UNIT 2. UPON COMPLETION AND APPROVAL BY LAKE COUNTY THE LIFT STATION WILL BE CONVEYED TO LAKE COUNTY. THE LIFT STATION WILL BE SIZED TO PROVIDE CAPACITY FOR THE PHILIP ESTATES SUBDIVISION AND, AS REQUESTED BY LAKE COUNTY, THE PROPERTY LOCATED IMMEDIATELY EAST OF PHILIP ESTATES.  
WATER SUPPLY - ONSITE WATER DISTRIBUTION SYSTEM CONNECTED TO THE EXISTING WATER SYSTEM WITHIN GLENSTONE SUBDIVISION - UNIT 2.  
(AN EASEMENT AGREEMENT HAS BEEN NEGOTIATED WITH GLENSTONE HOA TO ALLOW CONNECTION TO THE EXISTING SANITARY SEWER AND WATERMAIN.)  
STORM DRAINAGE - ONSITE STORMWATER BASINS TO CONTROL STORMWATER RUNOFF IN ACCORDANCE WITH THE LAKE COUNTY STORMWATER ORDINANCE.
- A 5' WIDE PUBLIC SIDEWALK SHALL BE INSTALLED ALONG CUBA ROAD AS SHOWN. THE SIDEWALK SHALL RUN FROM DEERWOOD DRIVE TO THE LAKE COUNTY FOREST PRESERVE DISTRICT PROPERTY AT THE NORTHEAST CORNER OF THE PHILIP ESTATES PROPERTY. THE FINAL LOCATION OF THE SIDEWALK SHALL BE COORDINATED WITH THE VILLAGE, AND IS SUBJECT TO THERE BEING ADEQUATE ROW TO INSTALL THE SIDEWALK BEYOND THE LIMITS OF THE PHILIP ESTATES SUBDIVISION.

**SUBDIVISION DESIGN STANDARDS**

- EXISTING ZONING: R-1-PUD  
EXISTING NUMBER OF LOTS: 12  
PROPOSED ZONING: R2 - PUD
- LOT CALCULATIONS:**  
SUBDIVISION AREA (GROSS AREA): 34.82 AC  
CONSERVANCY DISTRICT AREA: 4.51 AC  
EXTERIOR ROAD ROW AREA: 0 ACRES
- PUD AREA CALCULATION:  
= GROSS AREA - EXT ROADS - 50% OF WETLANDS & CONSERV. DIST.  
= 35.529 AC - 0 AC - (0.5 x 4.91 AC) = 32.37 AC
- ALLOWABLE DENSITY:  
PUD BONUS LOTS: 2 ACRES PER LOT + 15% OF ALLOWABLE DENSITY OF 2 AC PER LOT
- LOT CALCULATION:  
TOTAL NUMBER OF LOTS:  $(32.37 / 2) \times 1.15 = 19$  LOTS
- PRIVATE ROADWAY EASEMENT**  
WIDTH: 50 FT  
CUL-DE-SAC RADIUS: 60 FT
- BUILDING SETBACKS**  
FRONT YARD: 75 FT  
SIDE: 40 FT  
REAR: 40 FT
- 100 FT SCENIC CORRIDOR EASEMENT ALONG CUBA ROAD

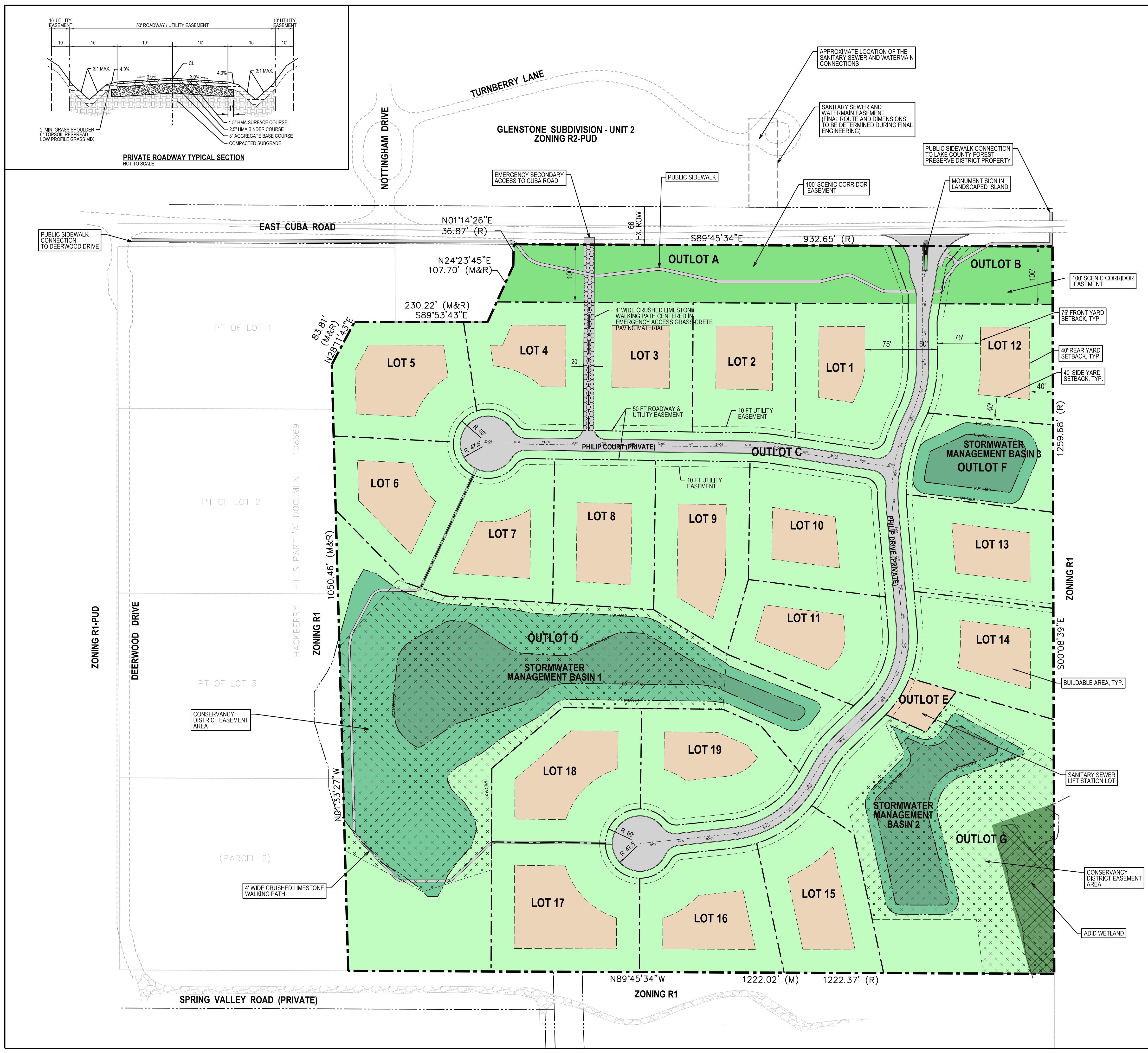
**LOT AREA SUMMARY**

Lot #	Lot Area (SF)	Lot Area (AC)
1	45,197	1.04
2	40,210	0.92
3	40,149	0.92
4	41,709	0.96
5	46,069	1.06
6	42,205	0.97
7	41,946	0.96
8	44,465	1.02
9	47,411	1.09
10	46,406	1.07
11	42,736	0.98
12	40,398	0.93
13	41,251	0.95
14	41,368	0.95
15	44,070	1.01
16	46,053	1.06
17	54,596	1.25
18	51,007	1.17
19	43,906	1.01
<b>Total Lot Area</b>	<b>841,152</b>	<b>19.31</b>

COMMON AREA SUMMARY	Area (SF)	Lot Area (AC)
OUTLOT A	67,950	1.56
OUTLOT B	18,301	0.42
OUTLOT C	120,284	2.76
OUTLOT D	272,186	6.25
OUTLOT E	6,101	0.14
OUTLOT F	35,720	0.82
OUTLOT G	155,187	3.56
<b>COMMON</b>	<b>675,729</b>	<b>15.51</b>

AREA SUMMARY	Area (SF)	Area (AC)	
LOT AREA	841,152	19.31	55%
COMMON AREA	675,729	15.51	45%
<b>Total</b>	<b>1,516,881</b>	<b>34.82</b>	<b>100%</b>

LOT SUMMARY	Area (SF)	Area (AC)
Min. Lot	40,149	0.92
Max. Lot	54,596	1.25
Ave. Lot	44,271	1.02
<b>Total Parcel Area</b>	<b>34.82</b>	<b>AC</b>
<b>Density</b>	<b>0.55</b>	<b>Lots / AC</b>



PROJECT:  
**PHILIP ESTATES SUBDIVISION**  
CUBA ROAD, LONG GROVE, IL

PREPARED FOR:  
**PHILIP ESTATES, LLC**  
8150 W. 159th Street  
Orland Park, IL 60462

NO.	DATE	DESCRIPTION
1	3/11/20	Date Issued

CROSS ENGINEERING & ASSOCIATES, INC. © 2020

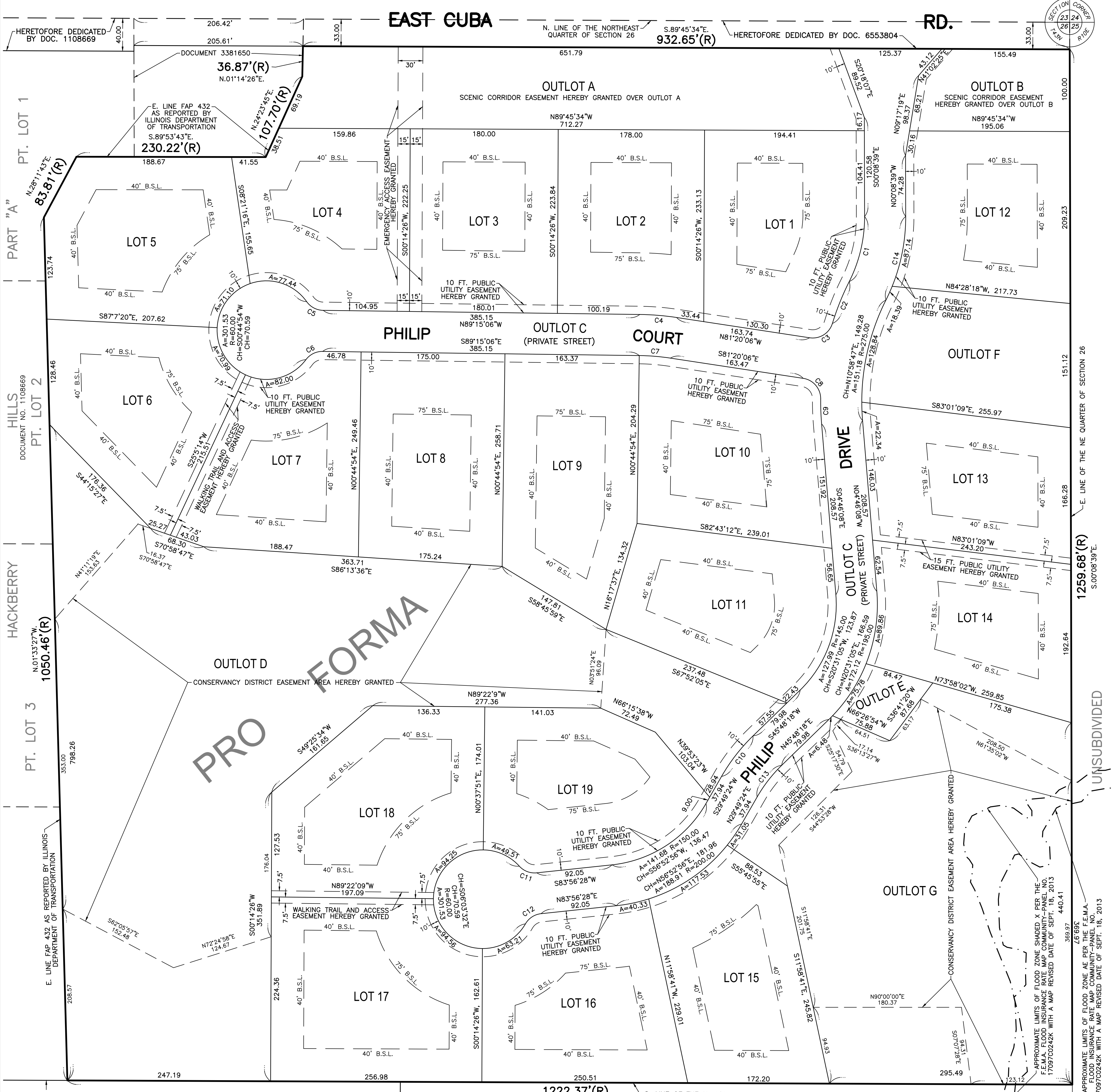
PRELIMINARY PUD PLAN



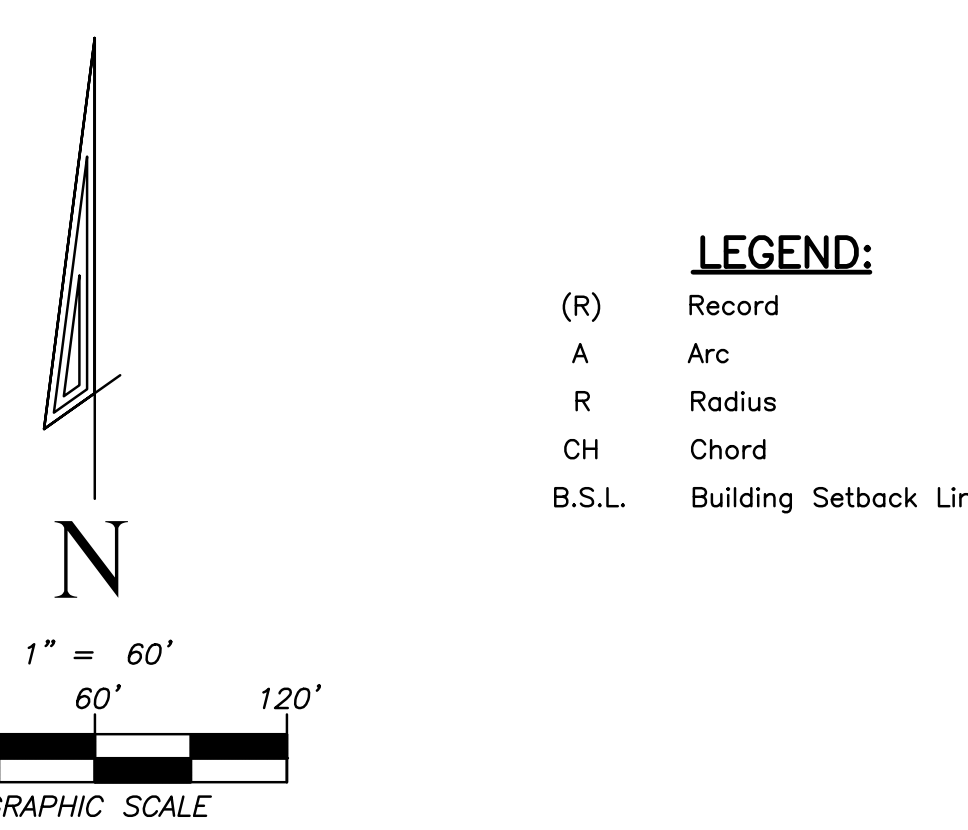
# PRELIMINARY PLAT

# PHILIP ESTATES SUBDIVISION

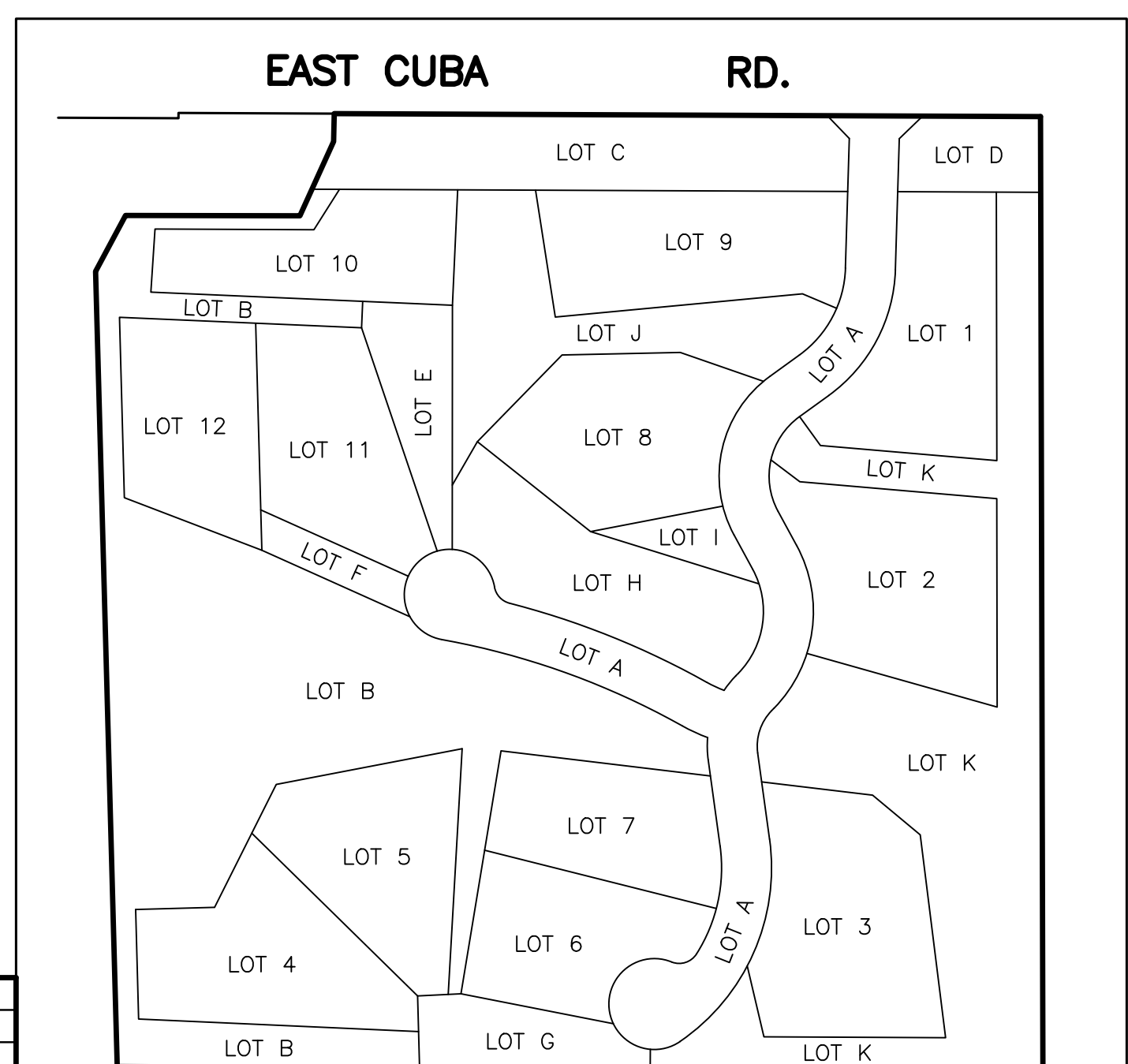
BEING A RESUBDIVISION OF LOTS 1 TO 12, INCLUSIVE, AND LOTS "A", "B", "C", "D", "E", "F", "G", "H", "I", "J" AND "K" IN CANTERBURY PARK PUD, BEING PART OF THE NORTHEAST QUARTER OF SECTION 26, TOWNSHIP 43 NORTH, RANGE 10, EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT OF SAID CANTERBURY PARK PUD RECORDED DECEMBER 22, 2009 AS DOCUMENT 6553804, IN LAKE COUNTY, ILLINOIS.



CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
C1	82.08	175.00	S13°17'31"W	81.33
C2	55.01	325.00	S21°52'45"W	54.95
C3	35.62	25.00	S7°50'51"W	32.68
C4	44.91	325.00	N85°17'36"W	44.87
C5	23.55	25.00	N62°16'03"W	22.69
C6	23.55	25.00	N63°45'51"E	22.69
C7	38.00	275.00	S85°17'36"E	37.97
C8	35.75	25.00	S40°21'58"E	32.78
C9	30.47	325.00	S02°04'58"E	30.46
C10	62.76	225.00	S37°48'51"W	62.56
C11	23.55	25.00	N69°04'29"W	22.69
C12	23.55	25.00	N56°57'26"E	22.69
C13	48.81	175.00	N37°48'51"E	48.66
C14	105.53	225.00	N13°17'31"E	104.56



**LOT 1**  
**SPRING VALLEY NEUMAN RESUBDIVISION**  
 DOCUMENT NO. 2201412



AREA SUMMARY	
LOT 1	45,197 SQUARE FEET OR 1.0376 ACRES
LOT 2	40,210 SQUARE FEET OR 0.9231 ACRES
LOT 3	40,149 SQUARE FEET OR 0.9217 ACRES
LOT 4	41,709 SQUARE FEET OR 0.9575 ACRES
LOT 5	46,089 SQUARE FEET OR 1.0576 ACRES
LOT 6	42,205 SQUARE FEET OR 0.9689 ACRES
LOT 7	41,946 SQUARE FEET OR 0.9629 ACRES
LOT 8	44,465 SQUARE FEET OR 1.0208 ACRES
LOT 9	47,411 SQUARE FEET OR 1.0884 ACRES
LOT 10	46,406 SQUARE FEET OR 1.0653 ACRES
LOT 11	42,738 SQUARE FEET OR 0.9811 ACRES
LOT 12	40,399 SQUARE FEET OR 0.9274 ACRES
LOT 13	41,251 SQUARE FEET OR 0.9470 ACRES
LOT 14	41,388 SQUARE FEET OR 0.9497 ACRES
LOT 15	44,078 SQUARE FEET OR 1.0117 ACRES
LOT 16	45,053 SQUARE FEET OR 1.0372 ACRES
LOT 17	54,596 SQUARE FEET OR 1.2534 ACRES
LOT 18	51,007 SQUARE FEET OR 1.1710 ACRES
LOT 19	43,906 SQUARE FEET OR 1.0079 ACRES
OUTLOT A	67,950 SQUARE FEET OR 1.5599 ACRES
OUTLOT B	18,301 SQUARE FEET OR 0.4201 ACRES
OUTLOT C	120,284 SQUARE FEET OR 2.7613 ACRES
OUTLOT D	272,186 SQUARE FEET OR 6.2485 ACRES
OUTLOT E	6,101 SQUARE FEET OR 0.1401 ACRES
OUTLOT F	35,720 SQUARE FEET OR 0.8200 ACRES
OUTLOT G	155,187 SQUARE FEET OR 3.5626 ACRES
TOTAL	1,516,881 SQUARE FEET OR 34.8227 ACRES

AT THE REQUEST OF CLIENT, THIS DRAWING HAS BEEN PREPARED FOR PRO-FORMA PURPOSES ONLY AND IS BASED STRICTLY ON OUR CALCULATION OF THE BOUNDARY SHOWN ON THE FINAL PLAT OF SUBDIVISION OF CANTERBURY PARK PUD, RECORDED DECEMBER 22, 2009 AS DOCUMENT 6553804.

NO ACTUAL SURVEY WORK HAS BEEN PERFORMED BY THIS SURVEYOR AS OF THE LATEST REVISION DATE SHOWN HEREON (MARCH 10, 2020)

DRAFTED BY: BJE		
PAGE: 1 OF 2		
ORDER NO.: 190173	MAR. 10, 2020	190173A COMMENTS REC. 3/4/2020 & 3/5/2020
FILE: 23-43-10	JAN. 30, 2020	190173A REVISED LOT CONFIGURATION
PROJECT NO.: 2593	AUG. 28, 2019	190173 PRELIMINARY PLAT
	REVISION DATE	ORDER NO. REVISION

DETAIL OF UNDERLYING LOTS PER CANTERBURY PARK PUD  
 RECORDED DECEMBER 22, 2009 AS DOCUMENT NO. 6553804

PREPARED BY:  
**EDWARD J. MOLLOY & ASSOCIATES**  
 A DIVISION OF THOMAS A. MOLLOY, LTD. - PROFESSIONAL LAND SURVEYING  
 1236 MARK STREET, BENSENVILLE, ILLINOIS 61016 (630) 595-2600 FAX: (630) 595-4700  
 E-MAIL: TMOLLOY@EJMOLLOY.COM

# PRELIMINARY PLAT

## PHILIP ESTATES SUBDIVISION

BEING A RESUBDIVISION OF LOTS 1 TO 12, INCLUSIVE, AND LOTS "A", "B", "C", "D", "E", "F", "G", "H", "I", "J" AND "K" IN CANTERBURY PARK PUD, BEING PART OF THE NORTHEAST QUARTER OF SECTION 26, TOWNSHIP 43 NORTH, RANGE 10, EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT OF SAID CANTERBURY PARK PUD RECORDED DECEMBER 22, 2009 AS DOCUMENT 6553804, IN LAKE COUNTY, ILLINOIS.

### PLAT OFFICER CERTIFICATE

STATE OF ILLINOIS    }  
                          } SS  
COUNTY OF LAKE     }

APPROVED AND ACCEPTED BY THE PLAT OFFICER OF THE VILLAGE OF LONG GROVE, LAKE COUNTY, ILLINOIS, AT A MEETING HELD THIS \_\_\_\_\_ DAY OF \_\_\_\_\_ A.D. 2020.

BY: \_\_\_\_\_  
                          PLAT OFFICER

### WALKING TRAIL AND ACCESS EASEMENT

THE WALKING TRAILS ON LOTS 6, 7, 17, 18 AND OUTLOTS A, B, C AND D SHALL BE AVAILABLE FOR THE USE BY LOT OWNERS WITHIN THE DEVELOPMENT AND THEIR INVITED GUESTS AS WELL AS THE GENERAL PUBLIC.

ALL WALKING TRAILS WITHIN THE PLANNED UNIT DEVELOPMENT SHALL REMAIN PRIVATE TRAILS AND THE RESPONSIBILITY FOR THE MAINTENANCE OF THE TRAILS SHALL REST SOLELY UPON THE LOT OWNERS WITHIN THE PLANNED UNIT DEVELOPMENT IN ACCORDANCE WITH THE COVENANTS AND RESTRICTIONS RECORDED IN CONJUNCTION WITH THE RECORDING OF PLAT. ALL WALKING TRAILS WITHIN THE PLANNED UNIT DEVELOPMENT SHALL BE PRESERVED AND MAINTAINED TO PERMIT THEIR USE FOR PEDESTRIAN PURPOSES. FOR PURPOSES HEREIN, PEDESTRIANS INCLUDE PERSONS REQUIRING MOTORIZED OR NON-MOTORIZED DEVICES FOR INDIVIDUAL PERSONAL MOBILITY.

ALSO THE RIGHT OF INGRESS AND EGRESS IS HEREBY GRANTED OVER, UPON AND THROUGH THE WALKING TRAILS EASEMENTS AT ALL TIMES FOR EMERGENCY VEHICLES OF ANY AND ALL TYPES AND FOR THE VILLAGE OF LONG GROVE MUNICIPAL STAFF AND THE LAKE COUNTY PUBLIC WORKS DEPARTMENT STAFF FOR ANY PURPOSE WHATSOEVER.

### PRIVATE ROAD AND EMERGENCY ACCESS EASEMENT PROVISIONS AND RESTRICTIONS

THE PRIVATE ROADS SHALL BE AVAILABLE FOR THE USE BY LOT OWNERS WITHIN THE DEVELOPMENT AND THEIR INVITED GUESTS. ALL ROADS WITHIN THE PLANNED UNIT DEVELOPMENT SHALL REMAIN PRIVATE ROADS AND RESPONSIBILITY FOR THE MAINTENANCE OF THE ROADS REST SOLELY UPON THE LOT OWNERS WITHIN THE PLANNED UNIT DEVELOPMENT IN ACCORDANCE WITH THE COVENANTS AND RESTRICTIONS RECORDED IN CONJUNCTION WITH THE RECORDING OF THIS PLAT. ALSO THE RIGHT OF INGRESS AND EGRESS IS HEREBY GRANTED OVER, UPON AND THROUGH THE PRIVATE ROAD AND EMERGENCY ACCESS EASEMENT AT ALL TIMES FOR EMERGENCY VEHICLES OF ANY AND ALL TYPES AND FOR THE VILLAGE OF LONG GROVE MUNICIPAL STAFF AND THE LAKE COUNTY PUBLIC WORKS DEPARTMENT STAFF FOR ANY PURPOSE WHATSOEVER.

### CONSERVANCY DISTRICT EASEMENT PROVISIONS

THE FOLLOWING PROHIBITIONS WILL PERTAIN TO ALL CONSERVANCY DISTRICT EASEMENT AREAS DEPICTED ON THE FACE OF THIS PLAT. EXCEPT AS MAY BE OTHERWISE INCIDENTAL TO INITIAL DEVELOPMENT WORK AUTHORIZED BY THE VILLAGE:

- (A) NO MAN-MADE STRUCTURE OF ANY KIND SHALL BE CONSTRUCTED IN THE FLOOD PLAIN.
- (B) THE FLOOD PLAIN SHALL NOT BE FILLED NOR SHALL THE GRADE BE ALTERED IN ANY RESPECT.
- (C) NO MATERIALS SHALL BE UTILIZED OR STORED WHICH SHALL HAVE THE POTENTIAL FOR POLLUTING EITHER SURFACE OR GROUND WATER.
- (D) THERE SHALL BE NO FLOODWAY ALTERATION.
- (E) THERE SHALL BE NO DISTURBING OF NATURAL VEGETATION.

### DRAINAGE AND DETENTION EASEMENT PROVISIONS

ALL DRAINAGE AND DETENTION EASEMENTS EXCLUDING THOSE EASEMENTS LABELED AS "DRAINAGE AND UTILITY EASEMENT" OR "DRAINAGE EASEMENT" ARE SUBJECT TO SAME RESTRICTIONS APPLICABLE TO CONSERVANCY DISTRICTS. IT IS PROHIBITED TO INSTALL, ERECT, OR MAINTAIN ANY STRUCTURE THEREON, EXCEPT FOR DRAINAGE IMPROVEMENTS WHICH ARE PART OF THE APPROVED PLANS AND SPECIFICATIONS FOR THE PLANNED UNIT DEVELOPMENT. ALL SUCH AREAS, AFTER COMPLETION OF ANY DRAINAGE IMPROVEMENTS, WHICH ARE CALLED FOR WITHIN SAID AREAS BY THE APPROVED PLANS AND SPECIFICATIONS, SHALL BE LEFT IN THEIR NATURAL CONDITION, EXCEPT FOR ANY SUCH PERIODIC MAINTENANCE, WHICH IS REQUIRED, AND SPECIFICALLY APPROVED BY THE VILLAGE. ALL NATURAL VEGETATION WITHIN THESE AREAS SHALL BE PRESERVED AND MAINTAINED. AND THESE AREAS SHALL NOT BE MOWED, CULTIVATED, SPRAYED OR IN ANY WAY DISTURBED, OTHER THAN AS SET FORTH IN THE APPROVED MANAGEMENT PLAN FOR THE PLANNED UNIT DEVELOPMENT, PROVIDED HOWEVER THAT THIS RESTRICTION DOES NOT PRECLUDE NORMAL AND CUSTOMARY LANDSCAPING OF DRAINAGE EASEMENT AREAS, WHICH ARE NOT WITHIN A SCENIC CORRIDOR EASEMENT OR CONSERVANCY DISTRICT EASEMENT AREA, AND ARE WITHIN FRONT YARDS OF LOTS, WHICH ARE IMMEDIATELY ADJACENT TO A PUBLIC OR PRIVATE ROAD, PROVIDED THAT ANY SUCH LANDSCAPING, INCLUDING BUT NOT LIMITED TO MOWING AND MAINTAINING OF GRASS, SHALL NOT IMPEDE THE DRAINAGE FUNCTION OF THE DRAINAGE EASEMENT AREAS.

### PUBLIC UTILITY EASEMENT PROVISIONS

A NON-EXCLUSIVE EASEMENT FOR SERVING THE SUBDIVISION AND OTHER PROPERTY WITH ELECTRIC, COMMUNICATIONS, SEWER, WATER, GAS AND DRAINAGE SERVICE IS HEREBY RESERVED TO THE VILLAGE OF LONG GROVE, OTHER GOVERNMENTAL AUTHORITIES HAVING JURISDICTION OVER THE LAND SUBDIVIDED HEREON, AND THOSE PUBLIC UTILITY AND CATV COMPANIES OPERATING UNDER FRANCHISE FROM THE VILLAGE OF LONG GROVE OR PURSUANT TO SOME OTHER LAWFUL AUTHORITY, INCLUDING BUT NOT LIMITED TO COMMONWEALTH EDISON COMPANY, AT&T, NIDOR AND COMCAST, THEIR RESPECTIVE SUCCESSORS AND ASSIGNS, JOINTLY AND SEVERALLY, TO INSTALL, OPERATE, MAINTAIN, REPLACE AND REMOVE, FROM TIME TO TIME, FACILITIES USED IN CONNECTION WITH UNDERGROUND TRANSMISSION AND DISTRIBUTION OF ELECTRICITY, SOUNDS AND SIGNALS, GAS MAINS OF ANY SUCH FACILITIES. THE GRADE OF THE SUBDIVIDED PROPERTY SHALL NOT BE ALTERED IN A MANNER SO AS TO INTERFERE WITH THE PROPER OPERATION AND MAINTENANCE THEREOF.

### SCENIC CORRIDOR EASEMENT PROVISIONS

A SCENIC CORRIDOR EASEMENT IN FAVOR OF THE VILLAGE IS HEREBY GRANTED OVER THOSE PARTS DESIGNATED AS "SCENIC CORRIDOR EASEMENT" SHOWN HEREON WHICH SHALL BE SUBJECT TO THE FOLLOWING CONDITIONS:

- A) ALL SIGNIFICANT NATURAL VEGETATION SHALL BE PRESERVED AND MAINTAINED, AND SHALL NOT BE MOWED, CULTIVATED, SPRAYED OR IN ANY WAY DISTURBED, EXCEPT AS OTHERWISE PROVIDED IN THE APPROVED PLANS AND SPECIFICATIONS FOR THE PLANNED UNIT DEVELOPMENT.
- B) NON NATIVE VEGETATION MAY BE EXISED, CONTROLLED, OR DESTROYED, IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS FOR THIS P.U.D. OR WITH THE PRIOR WRITTEN APPROVAL OF THE CSC.
- C) EXISTING WOODLANDS AND HEDGEROWS WITHIN THE SCENIC CORRIDOR SHALL NOT BE DESTROYED, EXCEPT AS OTHERWISE PROVIDED IN THE APPROVED PLANS AND SPECIFICATIONS FOR THE PLANNED UNIT DEVELOPMENT.
- D) BERMS MAY BE CONSTRUCTED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS FOR THE P.U.D. NON NATIVE FLOWERING PLANTS AND EVERGREEN TREES MAY BE UTILIZED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS FOR THE P.U.D. IT IS THE INTENT THAT THE VEGETATION, WHETHER IT BE NATIVE OR OTHERWISE, SHALL CONSTITUTE A SUITABLE SCREEN BETWEEN THE DEVELOPMENT'S LOTS AND THE ADJACENT ROAD RIGHT-OF-WAY TO ENSURE THAT VISUAL EVIDENCE OF HUMAN OCCUPANCY IS MINIMAL.

### PROFESSIONAL AUTHORIZATION:

STATE OF ILLINOIS    }  
                          } SS  
COUNTY OF DUPAGE  }

I, THOMAS A. MOLLOY, A PROFESSIONAL LAND SURVEYOR OF THE STATE OF ILLINOIS, LICENSE NUMBER 35-3409, DO HEREBY AUTHORIZE THE VILLAGE OF LONG GROVE, ITS STAFF OR AUTHORIZED AGENT, TO PLACE THIS DOCUMENT OF RECORD IN THE COUNTY RECORDERS OFFICE IN MY NAME AND IN COMPLIANCE WITH ILLINOIS STATUTES CHAPTER 104 PARAGRAPH 2, AS AMENDED.

SIGNED AT BENSENVILLE, ILLINOIS THIS 10TH DAY OF MARCH, A.D. 2020.

EDWARD J. MOLLOY AND ASSOCIATES, A DIVISION OF THOMAS A. MOLLOY, LTD.  
AN ILLINOIS PROFESSIONAL DESIGN FIRM - LICENSE NO. 184-004840

THOMAS A. MOLLOY  
ILLINOIS PROFESSIONAL LAND SURVEYOR NO. 35-3409  
(EXPIRES NOVEMBER 30, 2020 AND IS RENEWABLE)

### LAND SURVEYOR'S CERTIFICATE:

STATE OF ILLINOIS    }  
                          } SS  
COUNTY OF DUPAGE  }

I, THOMAS A. MOLLOY, AN ILLINOIS PROFESSIONAL LAND SURVEYOR, HEREBY CERTIFY THAT I HAVE SURVEYED AND RESUBDIVIDED THE FOLLOWING DESCRIBED PROPERTY TO-WIT:

LOTS 1 TO 12, INCLUSIVE, AND LOTS "A", "B", "C", "D", "E", "F", "G", "H", "I", "J" AND "K" IN CANTERBURY PARK PUD, BEING PART OF THE NORTHEAST QUARTER OF SECTION 26, TOWNSHIP 43 NORTH, RANGE 10, EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT OF SAID CANTERBURY PARK PUD RECORDED DECEMBER 22, 2009 AS DOCUMENT 6553804, IN LAKE COUNTY, ILLINOIS.

AND THAT THE PLAT HEREON DRAWN IS A REPRESENTATION OF SAID SURVEY AND RESUBDIVISION. DIMENSIONS ARE SHOWN IN FEET AND DECIMAL PARTS THEREOF.

THIS IS ALSO TO CERTIFY THAT BASED UPON EXAMINATION OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY (F.E.M.A.) FLOOD INSURANCE RATE MAP COMMUNITY-PANEL NO. 1709700242K WITH A MAP REVISED DATE OF SEPT. 18, 2013, SHOWS THAT THE MAJORITY OF THE PROPERTY RESUBDIVIDED HEREON FALLS WITHIN ZONE X, DEFINED AS AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN, A SMALL PORTION OF THE PROPERTY NEAR THE SOUTHWEST CORNER FALLS WITHIN SHADDED ZONE X, DEFINED AS AREAS OF 0.2% ANNUAL CHANCE FLOOD AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANCE FLOOD. A SMALL PORTION OF THE PROPERTY NEAR THE SOUTHWEST CORNER FALLS WITHIN ZONE AE, DEFINED AS SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD WITH A BASE FLOOD ELEVATION OF 730 DETERMINED.

THIS IS ALSO TO CERTIFY THAT THE LAND SURVEYED HEREIN IS WITHIN THE CORPORATE LIMITS OF THE VILLAGE OF LONG GROVE, ILLINOIS WHICH HAS ADOPTED A COMPREHENSIVE CITY PLAN AND IS EXERCISING THE SPECIAL POWER AUTHORIZED BY DIVISION 12 OF ARTICLE 11 OF THE ILLINOIS MUNICIPAL CODE.

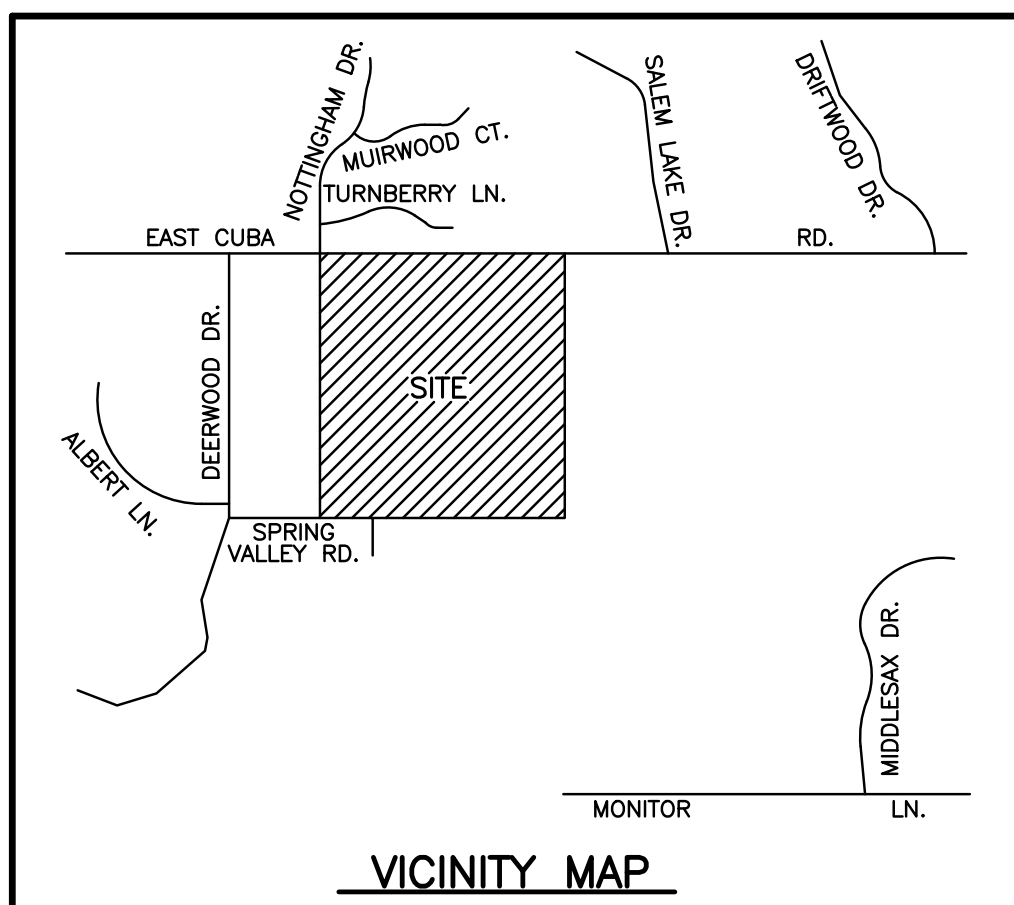
THIS IS ALSO TO CERTIFY THAT UPON COMPLETION OF CONSTRUCTION, CONCRETE MONUMENTS SHALL BE SHOWN, AND IRON PIPE STAKES AT ALL LOT CORNERS AND AT POINTS OF CHANGE IN ALIGNMENT WILL BE SET.

THIS IS ALSO TO CERTIFY THAT PART OF THE PROPERTY COVERED BY THIS PLAT OF RESUBDIVISION IS NOT SITUATED WITHIN 500 FEET OF A SURFACE DRAIN OR WATER COURSE SERVING A TRIBUTARY AREA OF 640 ACRES OR MORE.

SIGNED AT BENSENVILLE, ILLINOIS THIS 10TH DAY OF MARCH, A.D. 2020.

EDWARD J. MOLLOY AND ASSOCIATES, A DIVISION OF THOMAS A. MOLLOY, LTD.  
AN ILLINOIS PROFESSIONAL DESIGN FIRM - LICENSE NO. 184-004840

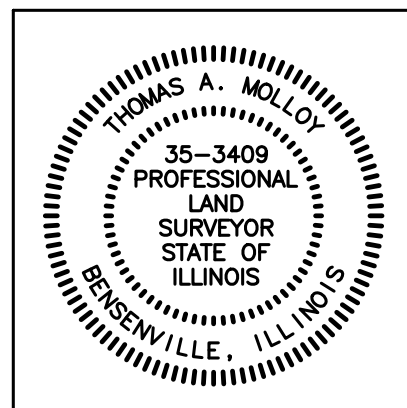
THOMAS A. MOLLOY  
ILLINOIS PROFESSIONAL LAND SURVEYOR NO. 35-3409  
(EXPIRES NOVEMBER 30, 2020 AND IS RENEWABLE)



### TAX PARCEL PERMANENT INDEX NUMBERS:

14-26-201-010  
14-26-201-011  
14-26-201-012  
14-26-201-013  
14-26-201-014  
14-26-201-015  
14-26-201-016  
14-26-201-017  
14-26-201-018  
14-26-201-019  
14-26-201-020  
14-26-201-021  
14-26-201-022  
14-26-201-023  
14-26-201-024  
14-26-201-025  
14-26-201-026  
14-26-201-027  
14-26-201-028  
14-26-201-030  
14-26-201-031  
14-26-201-032

PLAT SUBMITTED BY AND SEND TAX BILLS TO:  
PHILIP ESTATES, LLC  
8150 W. 159TH STREET  
ORLAND PARK, IL 60462



AT THE REQUEST OF CLIENT, THIS DRAWING HAS BEEN PREPARED FOR PRO-FORMA PURPOSES ONLY AND IS BASED STRICTLY ON OUR CALCULATION OF THE BOUNDARY SHOWN ON THE FINAL PLAT OF SUBDIVISION OF CANTERBURY PARK PUD, RECORDED DECEMBER 22, 2009 AS DOCUMENT 6553804.

NO ACTUAL SURVEY WORK HAS BEEN PERFORMED BY THIS SURVEYOR AS OF THE LATEST REVISION DATE SHOWN HEREON (MARCH 10, 2020)

DRAFTED BY: BJE		
PAGE: 2 OF 2		
ORDER NO.: 190173		
FILE: 23-43-10		
PROJECT NO.: 2593		
MAR. 10, 2020	190173A	COMMENTS REC. 3/4/2020 & 3/5/2020
JAN. 30, 2020	190173A	REVISED LOT CONFIGURATION
AUG. 28, 2019	190173	PRELIMINARY PLAT
REVISION DATE	ORDER NO.	REVISION

PREPARED BY:  
**EDWARD J. MOLLOY & ASSOCIATES**  
A DIVISION OF THOMAS A. MOLLOY, LTD. - PROFESSIONAL LAND SURVEYING  
1236 MARK STREET, BENSENVILLE, ILLINOIS 60106 (630) 595-2660 FAX:(630) 595-4700  
E-MAIL: TMOLLOY@EJMOLLOY.COM

**PROJECT CONTACT INFORMATION**

OWNER: Philip Estates, LLC  
8150 159th Street  
Orland Park, IL 60462

# PRELIMINARY ENGINEERING PLANS

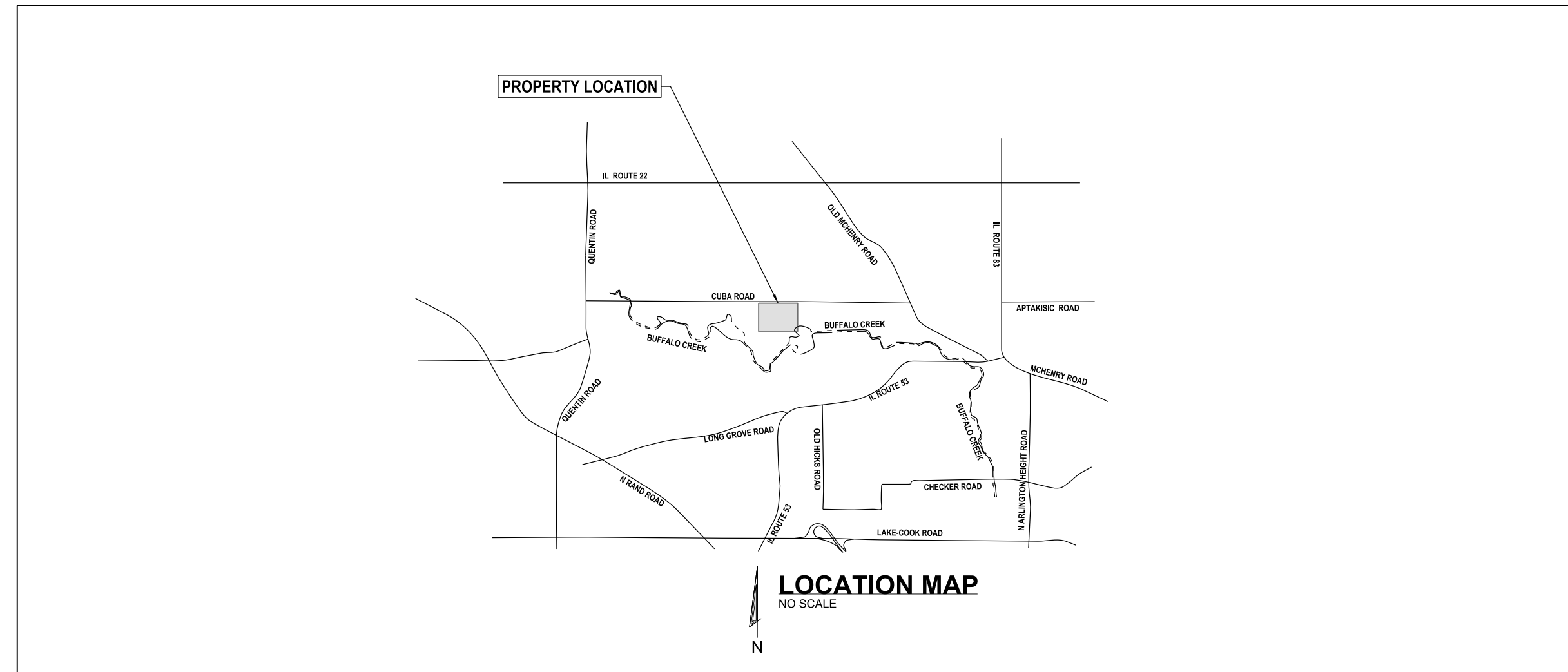
for

# PHILIP ESTATES SUBDIVISION

## CUBA ROAD

## LONG GROVE, ILLINOIS

CEAI PROJECT # 1291



**SOURCE BENCHMARKS**

LAKE COUNTY BENCHMARK 6-20A, BEING A CHISELED SQUARE ON TOP OF THE EAST END OF A CULVERT LOCATED AT THE NORTHEAST CORNER OF A DRIVEWAY AND EAST CUBA ROAD APPROXIMATELY 1.4 MILES WEST OF OLD MCHENRY ROAD. MEASURED NAVD 1988 DATUM ELEVATION = 740.41 (RECORD NGVD 1929 DATUM ELEVATION = 740.46)

LAKE COUNTY BENCHMARK 6-20, BEING A RAILROAD SPIKE IN THE NORTH FACE OF A UTILITY POLE ON SOUTH SIDE OF CUBA ROAD APPROXIMATELY 1.05 MILES WEST OF OLD MCHENRY ROAD AND BEING THE FIRST UTILITY POLE WEST OF CANTERBURY DRIVE. MEASURED NAVD 1988 DATUM ELEVATION = 756.36 (RECORD NGVD 1929 DATUM ELEVATION = 756.66)

**SITE BENCHMARKS**

1. BM #1: (SAME AS SOURCE BM 6-21 ABOVE. NAVD 1988 ELEVATION = 756.36)
2. BM#2: RAILROAD SPIKE IN FOURTH UTILITY POLE WEST OF CANTERBURY DRIVE ON THE SOUTH SIDE OF EAST CUBA ROAD. NAVD 1988 ELEVATION = 755.36

NOTE: ALL ELEVATIONS AND CONTOURS SHOWN HEREIN ARE ON THE NAVD 1988 DATUM.

**LEGEND (PROPOSED):**

- (A) — SANITARY SEWER & MH
- (B) — STORM SEWER & MH
- (C) — STORM CB/INLET
- (D) — YARD INLET
- (E) — FLARED END SECTION W/RIPRAP
- (F) — FIRE HYDRANT
- W — WATER MAIN & VALVE
- (G) — STREET LIGHT

**PROJECT DESCRIPTION**

RE-SUBDIVIDING AN EXISTING 12-LOT SUBDIVISION THAT WAS TO BE SERVED WITH INDIVIDUAL WATER WELLS AND A PRIVATE COMMUNITY WASTEWATER SYSTEM. THE EXISTING SUBDIVISION WAS NEVER DEVELOPED. THE PROPOSED SUBDIVISION WILL HAVE 19 LOTS, AND WILL HAVE COUNTY WASTEWATER SERVICE AND WATER SUPPLY FROM AN ADJACENT PRIVATE WATER SUPPLY SYSTEM.

**SHEET INDEX**

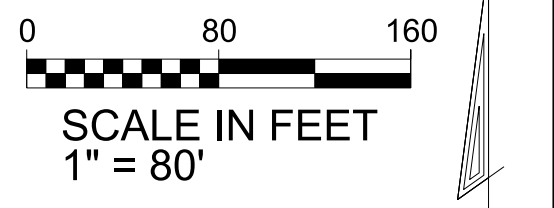
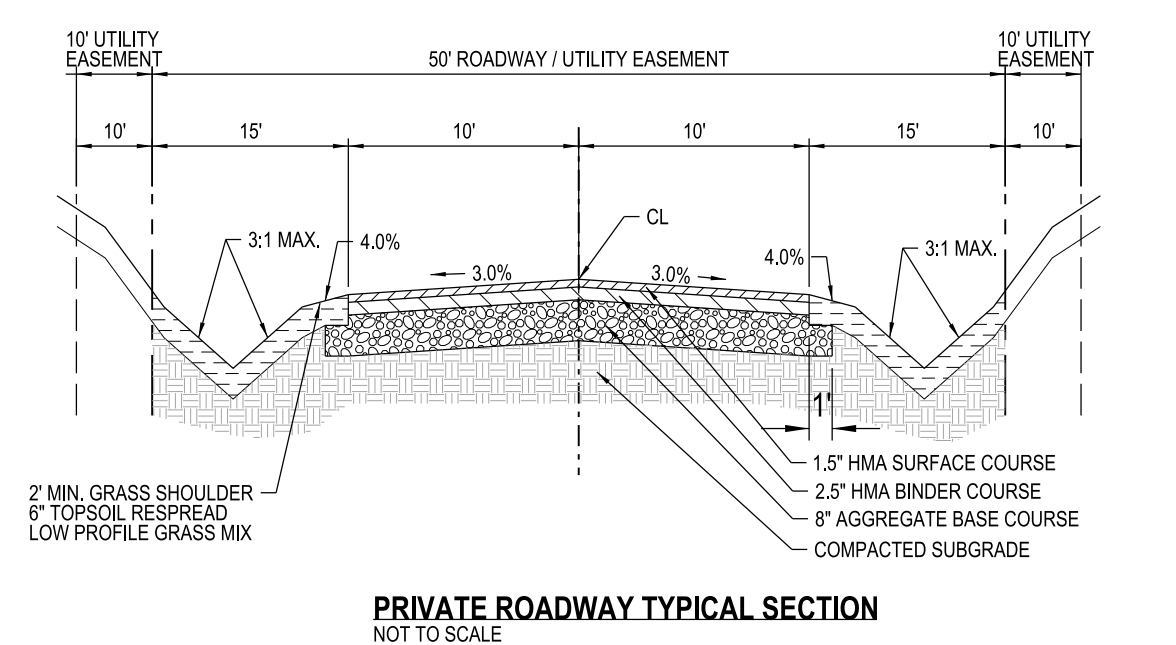
- 1 COVER SHEET
- 2 RECORDED PLAT OF SUBDIVISION
3. PRELIMINARY SITE PLAN - R2-PUD
4. PRELIMINARY GRADING PLAN
5. PRELIMINARY SANITARY SEWER AND WATERMAIN PLAN
6. CONSERVANCY SOILS EXHIBIT

NO.	DATE	DESCRIPTION
1	3/11/20	Date Issued

CROSS ENGINEERING & ASSOCIATES, INC. - 2020

COVER SHEET





- NOTES:**
1. THE PROPOSED PLAN IS TO RE-ZONE THE PROPERTY FROM R1-PUD TO R2-PUD, AND RE-SUBDIVIDE THE EXISTING 12-LOT SUBDIVISION TO CREATE A 19-LOT SUBDIVISION.
  2. THE SUBDIVISION WILL BE SERVED BY A PRIVATE ROADWAY LOCATED WITHIN A 50-FOOT WIDE OUTLOT THAT WILL BE DESIGNATED A ROADWAY & UTILITY EASEMENT.
  3. A 10-FOOT WIDE UTILITY EASEMENT WILL BE PROVIDED ADJACENT TO THE ROADWAY & UTILITY EASEMENT FOR UTILITIES THAT CANNOT BE PLACED WITH THE ROADWAY & UTILITY EASEMENT.
  4. **FACILITIES PLAN:**  
SANITARY SEWER - ONSITE LIFT STATION DISCHARGING TO THE EXISTING LAKE COUNTY SEWER WITHIN THE GLENSTONE SUBDIVISION - UNIT 2. UPON COMPLETION AND APPROVAL BY LAKE COUNTY, THE LIFT STATION WILL BE CONVEYED TO LAKE COUNTY. THE LIFT STATION WILL BE SIZED TO PROVIDE CAPACITY FOR THE PHILIP ESTATES SUBDIVISION AND, AS REQUESTED BY LAKE COUNTY, THE PROPERTY LOCATED IMMEDIATELY EAST OF PHILIP ESTATES.  
WATER SUPPLY - ONSITE WATER DISTRIBUTION SYSTEM CONNECTED TO THE EXISTING WATER SYSTEM WITHIN GLENSTONE SUBDIVISION - UNIT 2.  
(AN EASEMENT AGREEMENT HAS BEEN NEGOTIATED WITH GLENSTONE HOA TO ALLOW CONNECTION TO THE EXISTING SANITARY SEWER AND WATERMAIN.)  
STORM DRAINAGE - ONSITE STORMWATER BASINS TO CONTROL STORMWATER RUNOFF IN ACCORDANCE WITH THE LAKE COUNTY STORMWATER ORDINANCE.
  5. A 5' WIDE PUBLIC SIDEWALK SHALL BE INSTALLED ALONG CUBA ROAD AS SHOWN. THE SIDEWALK SHALL RUN FROM DEERWOOD DRIVE TO THE LAKE COUNTY FOREST PRESERVE DISTRICT PROPERTY AT THE NORTHEAST CORNER OF THE PHILIP ESTATES PROPERTY. THE FINAL LOCATION OF THE SIDEWALK SHALL BE COORDINATED WITH THE VILLAGE, AND IS SUBJECT TO THERE BEING ADEQUATE ROW TO INSTALL THE SIDEWALK BEYOND THE LIMITS OF THE PHILIP ESTATES SUBDIVISION.

**SUBDIVISION DESIGN STANDARDS**

EXISTING ZONING	R-1-PUD
EXISTING NUMBER OF LOTS	12
PROPOSED ZONING	R2 - PUD
TOTAL NUMBER OF LOTS	19
PRIVATE ROADWAY EASEMENT WIDTH	50 FT
CUL-DE-SAC RADIUS	60 FT
BUILDING SETBACK	
FRONT YARD	75 FT
SIDE	40 FT
REAR	40 FT
100 FT CONSERVANCY EASEMENT ALONG CUBA ROAD	

PROJECT:  
**PHILIP ESTATES SUBDIVISION**  
CUBA ROAD, LONG GROVE, IL

Lot #	Lot Area (SF)	Lot Area (AC)
1	45,197	1.04
2	40,210	0.92
3	40,149	0.92
4	41,709	0.96
5	46,069	1.06
6	42,205	0.97
7	41,946	0.96
8	44,465	1.02
9	47,411	1.09
10	46,406	1.07
11	42,736	0.98
12	40,398	0.93
13	41,251	0.95
14	41,368	0.95
15	44,070	1.01
16	46,053	1.06
17	54,596	1.25
18	51,007	1.17
19	43,906	1.01
<b>Total Lot Area</b>	<b>841,152</b>	<b>19.31</b>

**COMMON AREA SUMMARY**

	Area (SF)	Lot Area (AC)
OUTLOT A	67,950	1.56
OUTLOT B	18,301	0.42
OUTLOT C	120,284	2.76
OUTLOT D	272,186	6.25
OUTLOT E	6,101	0.14
OUTLOT F	35,720	0.82
OUTLOT G	155,187	3.56
<b>COMMON</b>	<b>675,729</b>	<b>15.51</b>

**AREA SUMMARY**

	Area (SF)	Area (AC)	
LOT AREA	841,152	19.31	55%
COMMON AREA	675,729	15.51	45%
<b>Total</b>	<b>1,516,881</b>	<b>34.82</b>	<b>100%</b>

**LOT SUMMARY**

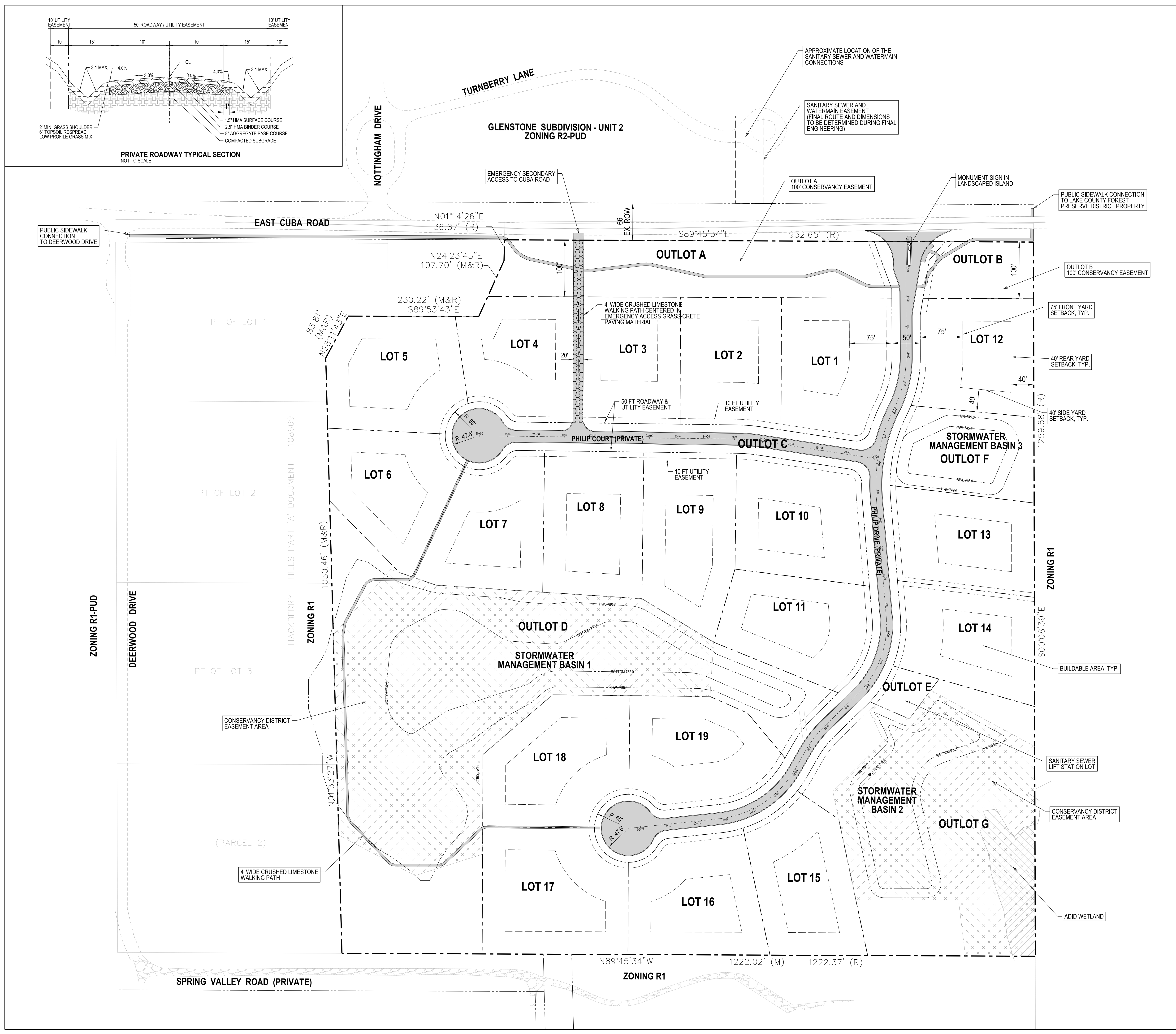
	Area (SF)	Area (AC)
Min. Lot	40,149	0.92
Max. Lot	54,596	1.25
Ave. Lot	44,271	1.02
<b>Total Parcel Area</b>	<b>34.82</b>	<b>AC</b>
<b>Density</b>	<b>0.55</b>	<b>Lots / AC</b>

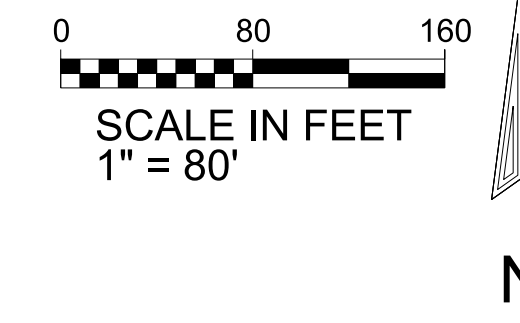
PREPARED FOR:  
**PHILIP ESTATES, LLC**  
8160 W. 159th Street  
Orland Park, IL 60462

NO.	DATE	DESCRIPTION
1	3/11/20	Date Issued

CROSS ENGINEERING & ASSOCIATES, INC. © 2020

PRELIMINARY SITEPLAN





- NOTES:**
1. ALL GRADING SHOWN HEREIN IS PRELIMINARY, AND SUBJECT TO CHANGE AT FINAL ENGINEERING BASED ON FINAL DESIGN AND CALCULATIONS. TOP OF FOUNDATIONS ARE ESTIMATED. ELEVATIONS MAY VARY BASED ON HOME TYPE AND ORIENTATION.
  2. ALL GRADING AND STORMWATER DESIGN SHALL BE IN ACCORDANCE WITH THE VILLAGE OF LONG GROVE AND CURRENT LAKE COUNTY WATERSHED DEVELOPMENT ORDINANCE DATED OCTOBER 13, 2015.
  3. AS PART OF THE SUBMISSION DEVELOPMENT, GRADING SHALL ONLY OCCUR WITHIN THE AREAS NEEDED TO CONSTRUCT THE ROADWAY, UTILITIES AND STORMWATER BASINS. ALL OTHER AREAS SHALL REMAIN AS IS UNTIL EACH LOT IS DEVELOPED.
  4. INDIVIDUAL LOT PERMITS AND LOT GRADING PLANS WILL BE SUBMITTED TO THE VILLAGE FOR ALL ADDITIONAL GRADING WITHIN THE INDIVIDUAL LOTS. DETAILED TREE SURVEYS SHALL BE PREPARED FOR EACH LOT AS PART OF THE BUILDING PERMIT APPLICATION. IF ANY ADDITIONAL TREES NEED TO BE REMOVED DUE TO THE LOT GRADING OR BUILDING PLACEMENT, THIS REQUEST SHALL BE INCLUDED IN THE BUILDING PERMIT APPLICATIONS.
  5. ALL DISTURBED AREAS SHALL BE RESPREAD WITH TOPSOIL AND SEEDING. SEE PRELIMINARY LANDSCAPE PLANS FOR LANDSCAPE AND RESTORATION INFORMATION AND DETAILS.

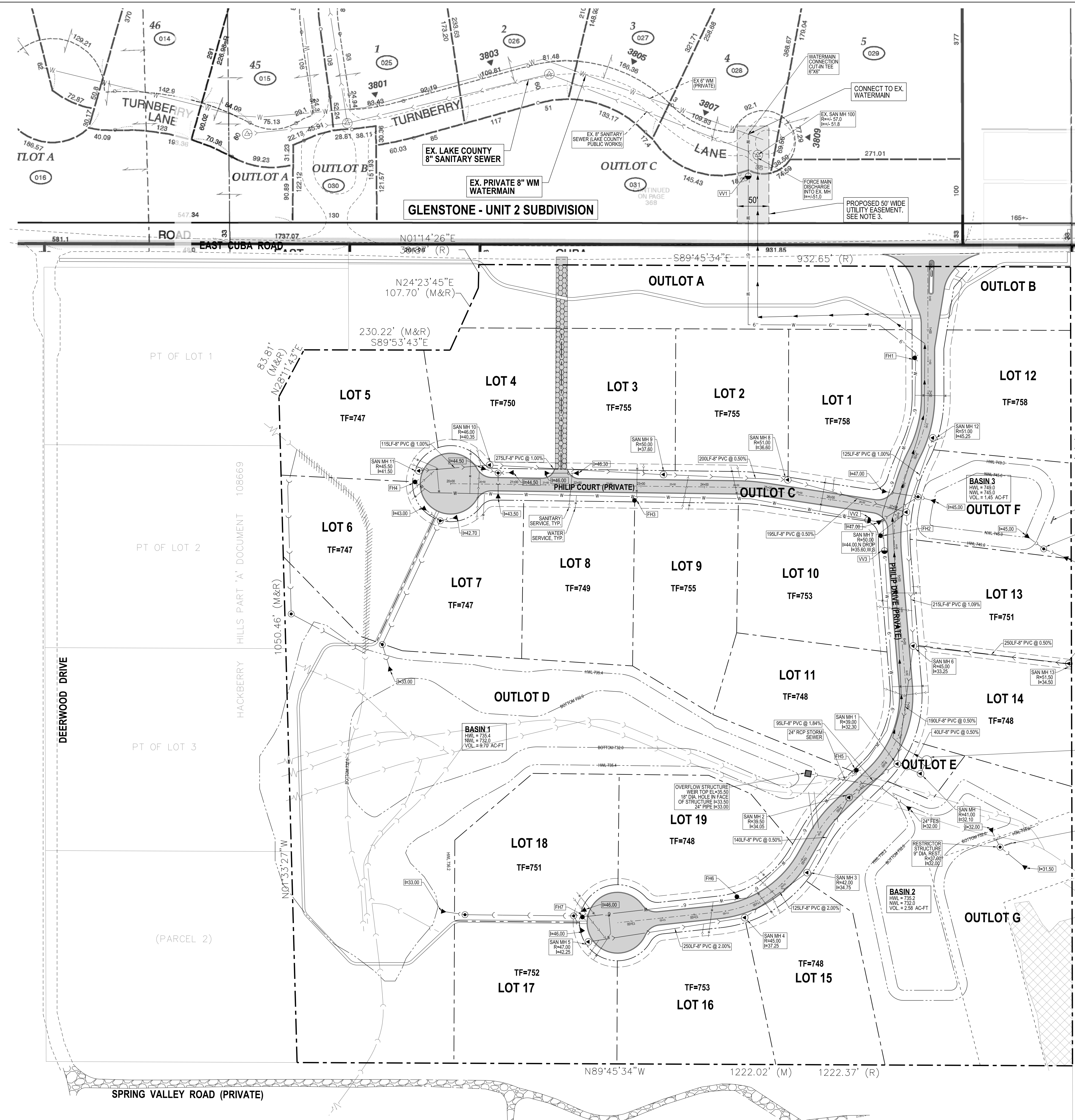
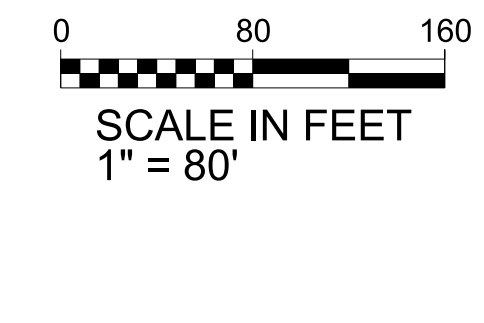
- LEGEND:**
- STORM STRUCTURE
  - STORM SEWER
  - ▶ STORM FLARED END
  - GRADING LIMITS FOR ROAD AND STORMWATER BASIN CONSTRUCTION
  - - - DRAINAGE DIVIDES (PROPOSED)

PROJECT:  
 PHILIP ESTATES SUBDIVISION  
 CUBA ROAD, LONG GROVE, IL

PREPARED FOR:  
 PHILIP ESTATES, LLC  
 8150 W. 159th Street  
 Orland Park, IL 60462

NO.	DATE	DESCRIPTION
1	3/11/20	Date Issued

PRELIMINARY GRADING PLAN



**NOTES:**

1. ALL IMPROVEMENTS SHALL BE INSTALLED IN ACCORDANCE WITH THE VILLAGE OF LONG GROVE AND LAKE COUNTY REQUIREMENTS, AND THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN ILLINOIS.
2. A. SANITARY SEWER: THE DEVELOPMENT IS PROPOSED TO BE SERVED BY A PRIVATE 8-INCH SANITARY SEWER, DISCHARGING TO AN ONSITE PROPOSED LIFT STATION AND FORCE MAIN. THE LIFT STATION WILL BE LOCATED ON OUTLOT E. IT WILL BE DESIGNED TO ACCOMMODATE THE 19-LOT PHILIP ESTATES SUBDIVISION AND, AS REQUESTED BY LAKE COUNTY, THE FUTURE DEVELOPMENT OF THE PROPERTY TO THE EAST OF PHILIP ESTATES. UPON APPROVAL BY LAKE COUNTY, THE LIFT STATION WILL BE CONVEYED TO LAKE COUNTY.  
THE FORCE MAIN WILL DISCHARGE ON THE NORTH SIDE OF CUBA ROAD INTO THE EXISTING LAKE COUNTY SANITARY SEWER WITHIN THE GLENSTONE UNIT 2 SUBDIVISION.  
B. WATERMAIN: THE PHILIP ESTATES SUBDIVISION WILL BE SERVED WITH A PRIVATE 6-INCH WATERMAIN SYSTEM THAT WILL BE CONNECTED TO THE EXISTING PRIVATE COMMUNITY WATER SUPPLY WITHIN THE GLENSTONE UNIT 2 SUBDIVISION LOCATED ON THE NORTH SIDE OF CUBA ROAD.
3. AN AGREEMENT WITH GLENSTONE - UNIT 2 HOME OWNERS' ASSOCIATION HAS BEEN SIGNED TO ALLOW CONNECTION OF THE SANITARY SEWER AND EXTENSION OF THE WATERMAIN. FINAL EASEMENT LOCATIONS FOR THE FORCE MAIN AND WATER MAIN CONNECTIONS WILL BE DETERMINED DURING FINAL ENGINEERING AFTER A TOPOGRAPHIC SURVEY AND TREE SURVEY OF THE ROUTE HAS BEEN COMPLETED.

**LEGEND (PROPOSED):**

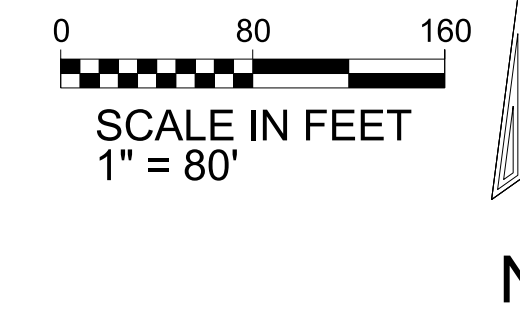
- SANITARY SEWER & MH
- STORM SEWER & MH
- STORM CB/INLET
- SANITARY FORCE MAIN
- FLARED END SECTION WR/IR RAP
- FIRE HYDRANT
- W - WATER MAIN & VALVE

PROJECT:  
**PHILIP ESTATES SUBDIVISION**  
CUBA ROAD, LONG GROVE, IL

PREPARED FOR:  
**PHILIP ESTATES, LLC**  
8150 W. 159th Street  
Orland Park, IL 60462

NO.	DATE	DESCRIPTION
1	3/11/20	Date Issued

PRELIMINARY  
SANITARY SEWER AND  
WATERMAIN  
PLAN



Map Unit Symbol	Map Unit Name
* 232A	Ashkum silty clay loam, 0 to 2 percent slopes
* 330A	Peotone silty clay loam, 0 to 2 percent slopes
370B	Saylesville silt loam, 2 to 4 percent slopes
530D3	Ozaukee silty clay loam, 6 to 12 percent slopes, severely eroded
530E2	Ozaukee silt loam, 12 to 20 percent slopes, eroded
696C2	Zurich silt loam, 4 to 6 percent slopes, eroded
840C2	Zurich and Ozaukee silt loams, 4 to 6 percent slopes, eroded
1107A	Sawmill silty clay loam, undrained, 0 to 2 percent slopes, frequently flooded
* W	Water

\* CONSIDERED LOWLAND CONSERVANCY SOILS

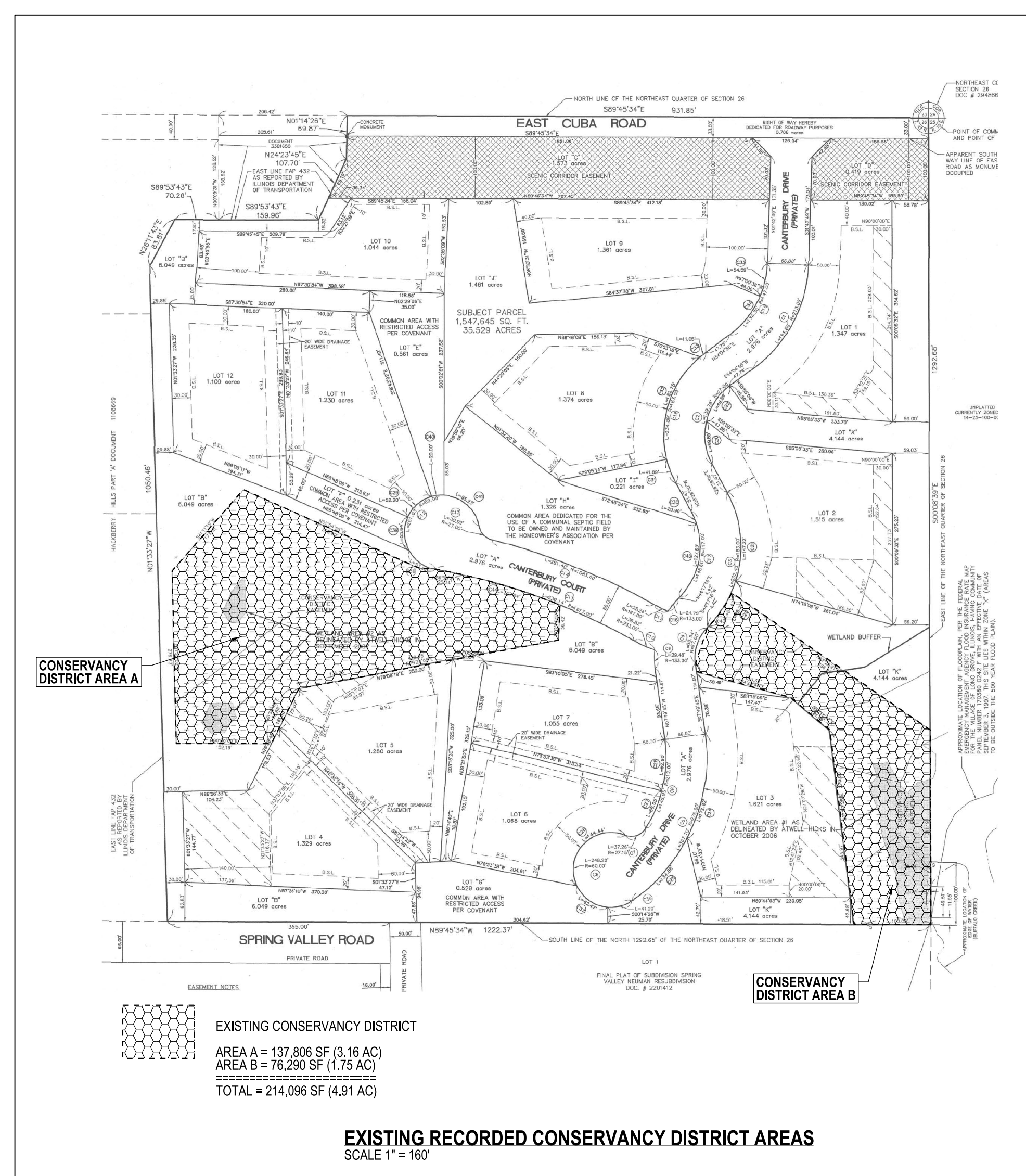
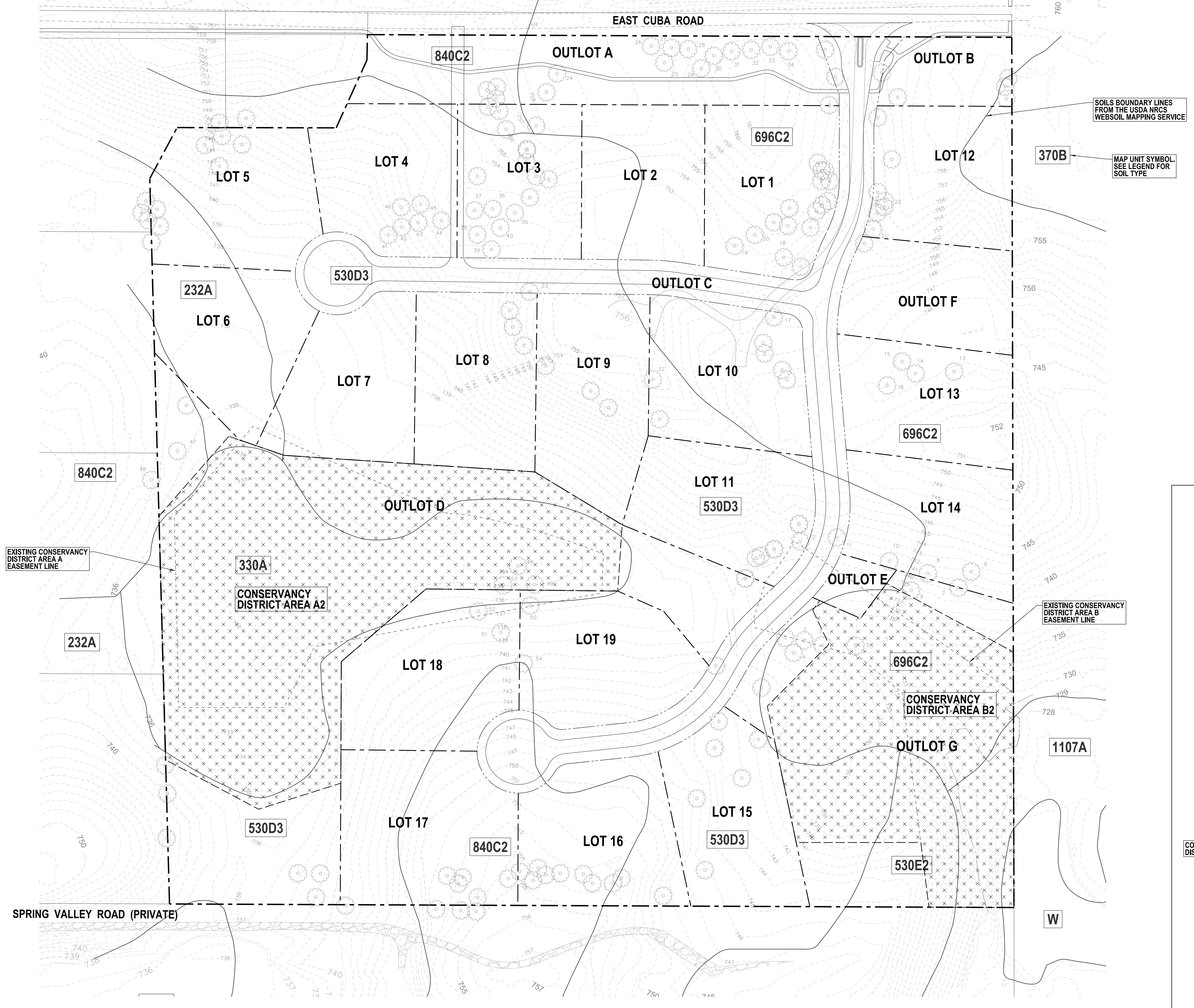
**CONSERVANCY DISTRICTS, EASEMENTS AND PROTECTED AREAS**

**LOWLAND CONSERVANCY DISTRICT:**  
 AS PART OF THE PREVIOUSLY APPROVED 12-LOT SUBDIVISION, TWO CONSERVANCY DISTRICT EASEMENTS WERE DESIGNATED ON THE SUBDIVISION PLAN. THE TOTAL EXISTING CONSERVANCY EASEMENT AREA IS 4.91 ACRES.

FOR THE PURPOSE OF THIS RESUBDIVISION WE PROPOSE TO MODIFY AND EXPAND THE EXISTING DISTRICT AREAS TO CREATE NEW CONSERVANCY DISTRICT AREAS. THE PROPOSED RE-SUBDIVISION TO THE 19-LOT PLAN WILL RESULT IN THE TOTAL PROPOSED CONSERVANCY EASEMENT AREA OF 7.12 ACRES.

**UPLAND CONSERVANCY DISTRICT:**

BASED ON A REVIEW OF THE EXISTING TOPOGRAPHY AND TREE SURVEY THERE ARE NO UPLAND CONSERVANCY DISTRICT AREAS IDENTIFIED ON THE PROPERTY.



PROJECT:  
**CANTERBURY PARK SUBDIVISION**  
 CUBA ROAD, LONG GROVE, IL

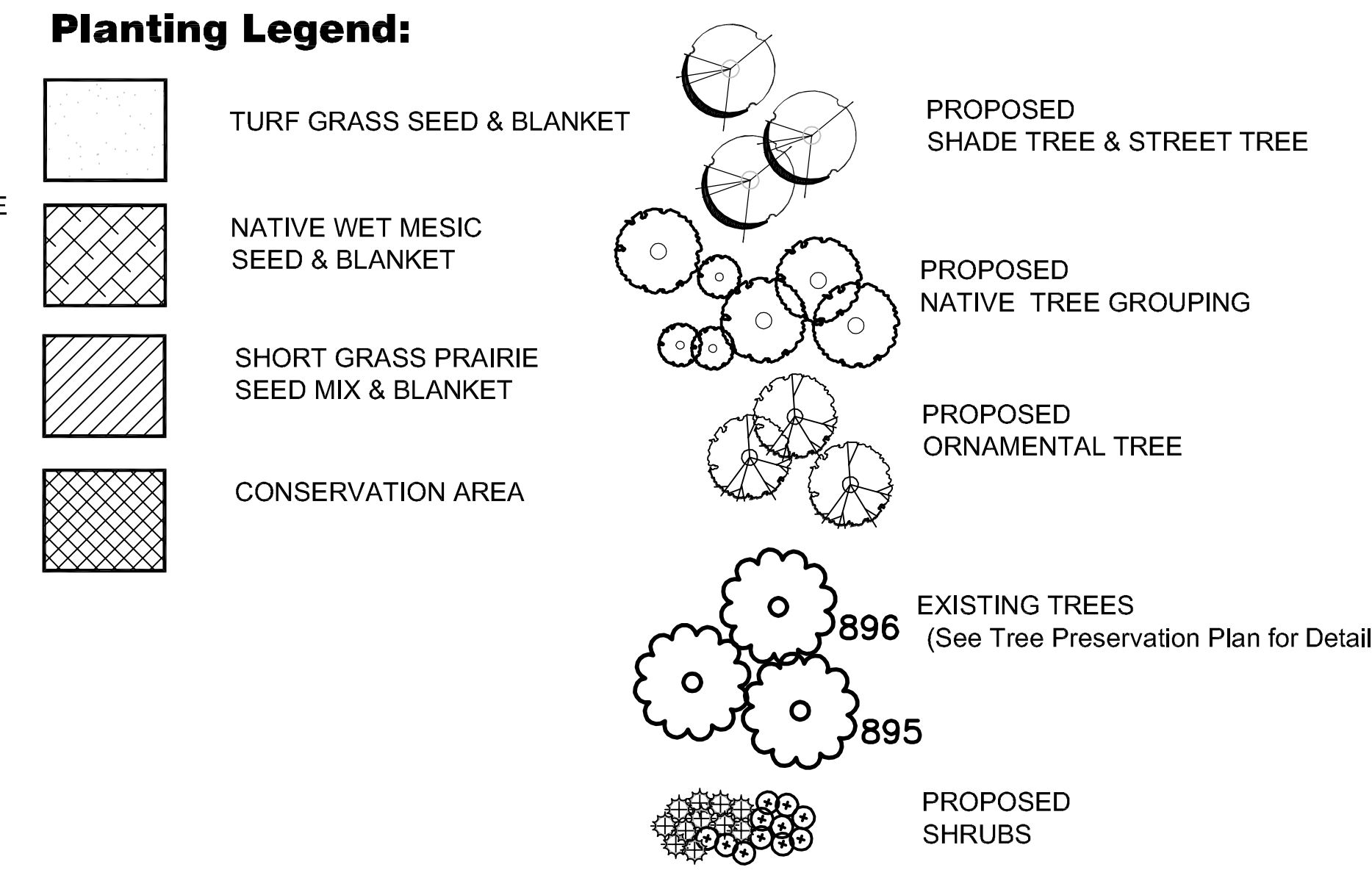
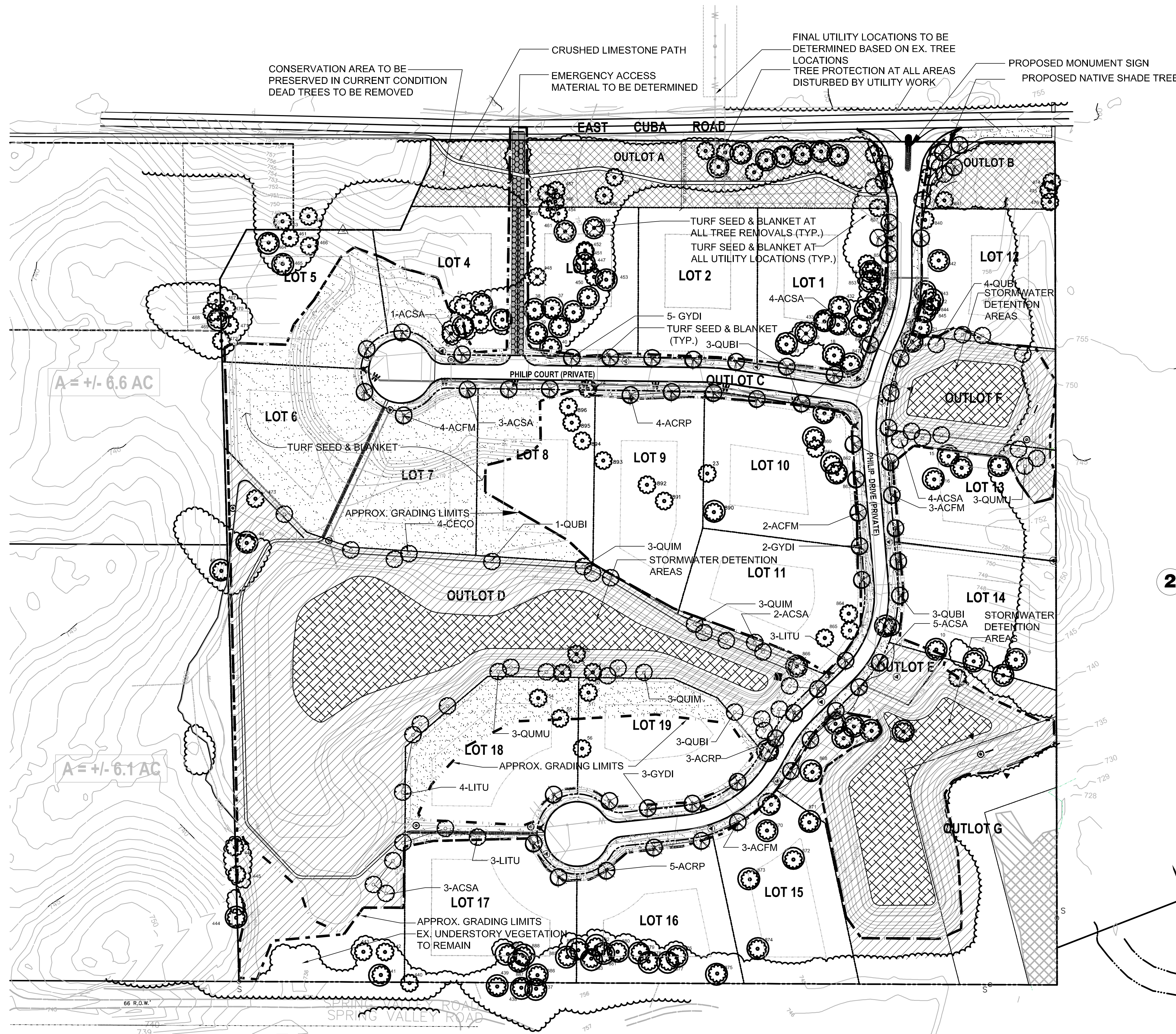
PREPARED FOR:  
**CANTERBURY PARK, LLC**  
 8150 W. 159th Street  
 Orland Park, IL 60462

NO.	DATE	DESCRIPTION
1	2/28/20	Date Issued

CROSS ENGINEERING & ASSOCIATES, INC. © 2020

CONSERVANCY SOILS EXHIBIT





KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	NOTES
<b>SHADE TREES</b>					
QUIM	11	Quercus imbricaria	Shingle Oak	2.5" Cal.	
QUMU	6	Quercus muehlenbergii	Chinquapin Oak	2.5" Cal.	
QUBI	18	Quercus bicolor	Swamp White Oak	2.5" Cal.	
ACRP	12	Acer rubrum 'Redpointe'	Redpointe Red Maple	2.5" Cal.	
ACFM	12	Acer freemanii 'Marmo'	Marmo Freeman Maple	2.5" Cal.	
CEOC	7	Celtis occidentalis	Common Hackberry	2.5" Cal.	
GYDI	10	Gymnocladus dioica	Kentucky Coffeetree	2.5" Cal.	
LITU	10	Liriodendron tulipifera	Tuliptree	2.5" Cal.	
<b>ORNAMENTAL TREES</b>					
BENI		Betula nigra	River Birch	6' ht. Clump	Heavy Specimen
AMGR		Amelanchier grandiflora 'Autumn Brilliance'	Serviceberry	6' ht. Clump	Heavy Specimen
CABE	4	Carpinus carolinia	American Hornbeam	6-8' ht. Clump	Heavy Specimen

- ## 2 PRELIMINARY PLANT LIST -
- ### GENERAL NOTES:
1. THE LANDSCAPE CONTRACTOR IS REQUIRED TO CONTACT J.U.L.I.E., THE COUNTY PUBLIC WORKS DEPARTMENT, THE VILLAGE OF LONG GROVE, AND ANY OTHER PUBLIC OR PRIVATE AGENCY NECESSARY FOR UTILITY LOCATION PRIOR TO ANY CONSTRUCTION.
  2. THIS DRAWING IS PART OF A COMPLETE SET OF BID DOCUMENTS, SPECIFICATIONS, ADDITIONAL DRAWINGS, AND EXHIBITS. UNDER NO CIRCUMSTANCES SHOULD THESE PLANS BE USED FOR CONSTRUCTION PURPOSES WITHOUT EXAMINING ACTUAL LOCATIONS OF UTILITIES ON SITE, AND REVIEWING ALL RELATED DOCUMENTS MENTIONED HEREIN, INCLUDING ANY RELATED DOCUMENTS PREPARED BY THE PROJECT ENGINEERS, CROSS ENGINEERING.
  3. THE LANDSCAPE ARCHITECT AND CONSULTANTS DO NOT WARRANT OR GUARANTEE THE ACCURACY AND COMPLETENESS OF THE WORK PRODUCT THEREIN BEYOND A REASONABLE STANDARD OF PROFESSIONAL CARE.
  4. IF ANY MISTAKES, OMISSIONS, OR DISCREPANCIES ARE FOUND TO EXIST WITH THE WORK PRODUCT, THE LANDSCAPE ARCHITECT SHALL BE PROMPTLY NOTIFIED SO THAT THEY MAY HAVE THE OPPORTUNITY TO TAKE ANY STEPS NECESSARY TO RESOLVE THE ISSUE. FAILURE TO PROMPTLY NOTIFY THE OWNER AND THE LANDSCAPE ARCHITECT OF SUCH CONDITIONS SHALL ABSOLVE THEM FROM ANY RESPONSIBILITY FOR THE CONSEQUENCES OF SUCH FAILURE.
  5. ACTIONS TAKEN WITHOUT THE KNOWLEDGE AND CONSENT OF THE OWNER AND THE LANDSCAPE ARCHITECT OR IN CONTRADICTION TO THE OWNER AND THE LANDSCAPE ARCHITECT'S WORK PRODUCT OR RECOMMENDATIONS, SHALL BECOME THE RESPONSIBILITY NOT OF THE OWNER AND THE LANDSCAPE ARCHITECT BUT FOR THE PARTIES RESPONSIBLE FOR THE TAKING OF SUCH ACTION.
  6. THE LOCATION OF THE UNDERGROUND UTILITIES AND/OR DRIVEWAYS ARE LOCATED ON ENGINEERING DRAWINGS PREPARED BY THE PROJECT ENGINEER, CROSS ENGINEERING AND ARE PRELIMINARY. THE MOST CURRENT REVISIONS ARE HEREIN MADE PART OF THIS DOCUMENT.
  7. UNDERGROUND UTILITIES EXIST THROUGHOUT THIS SITE AND MUST BE LOCATED PRIOR TO CONSTRUCTION.
  8. WHERE UNDERGROUND UTILITIES EXIST, FIELD ADJUSTMENT MUST BE APPROVED BY A REPRESENTATIVE OF THE OWNER PRIOR TO INSTALLATION.
  9. NEITHER THE OWNER NOR THE LANDSCAPE ARCHITECT ASSUMES RESPONSIBILITY WHATSOEVER, IN RESPECT TO THE CONTRACTOR'S ACCURACY IN LOCATING THE INDICATED PLANT MATERIAL.
  10. UNDER NO CIRCUMSTANCES SHOULD THESE PLANS BE USED WITHOUT REFERENCING THE ABOVE MENTIONED DOCUMENTS.
  11. CIVIL ENGINEERING BASE INFORMATION HAS BEEN PROVIDED BY CROSS ENGINEERING. SEE CROSS ENGINEERING DRAWINGS FOR UTILITY LOCATIONS. THE LOCATIONS OF VARIOUS UTILITIES ON THIS SET OF DRAWINGS IS ONLY PRELIMINARY AND SHOULD NOT BE RELIED UPON FOR CONSTRUCTION PURPOSES.
  12. REFER TO CIVIL ENGINEERING DOCUMENTS FOR DETAILED INFORMATION REGARDING SIZE, LOCATION, DEPTH AND TYPE OF UTILITIES.
  13. LOCATIONS OF ALL PLANT MATERIAL ILLUSTRATED ON THE LANDSCAPE PLANS ARE APPROXIMATE. FINAL LOCATIONS SHALL BE DETERMINED IN THE FIELD.
  14. THE PLANS CONTAINED HEREIN HAVE BEEN PREPARED TO MEET CERTAIN LANDSCAPING ORDINANCE REQUIREMENTS. ANY DEVIATION FROM THESE PLANS MAY RENDER THEM IN NON-COMPLIANCE WITH THE VILLAGE OF LONG GROVE LANDSCAPING ORDINANCE.

# 1 PRELIMINARY LANDSCAPE PLAN -

Scale: 1"=80'

**PRELIMINARY LANDSCAPE PLAN -**  
**PHILIP ESTATES SUBDIVISION**  
**CUBA ROAD**  
**LONG GROVE, ILLINOIS**

Prepared For:  
 Philip Estates, LLC  
 8150 W. 159th Street  
 Orland Park, IL 60462

SHEET TITLE: \_\_\_\_\_

ISSUED FOR: \_\_\_\_\_ DATE: \_\_\_\_\_

Village Submittal \_\_\_\_\_ 3-9-2020

PRINCIPAL: \_\_\_\_\_

PROJECT NUMBER: 202005 DESIGNED BY: LD

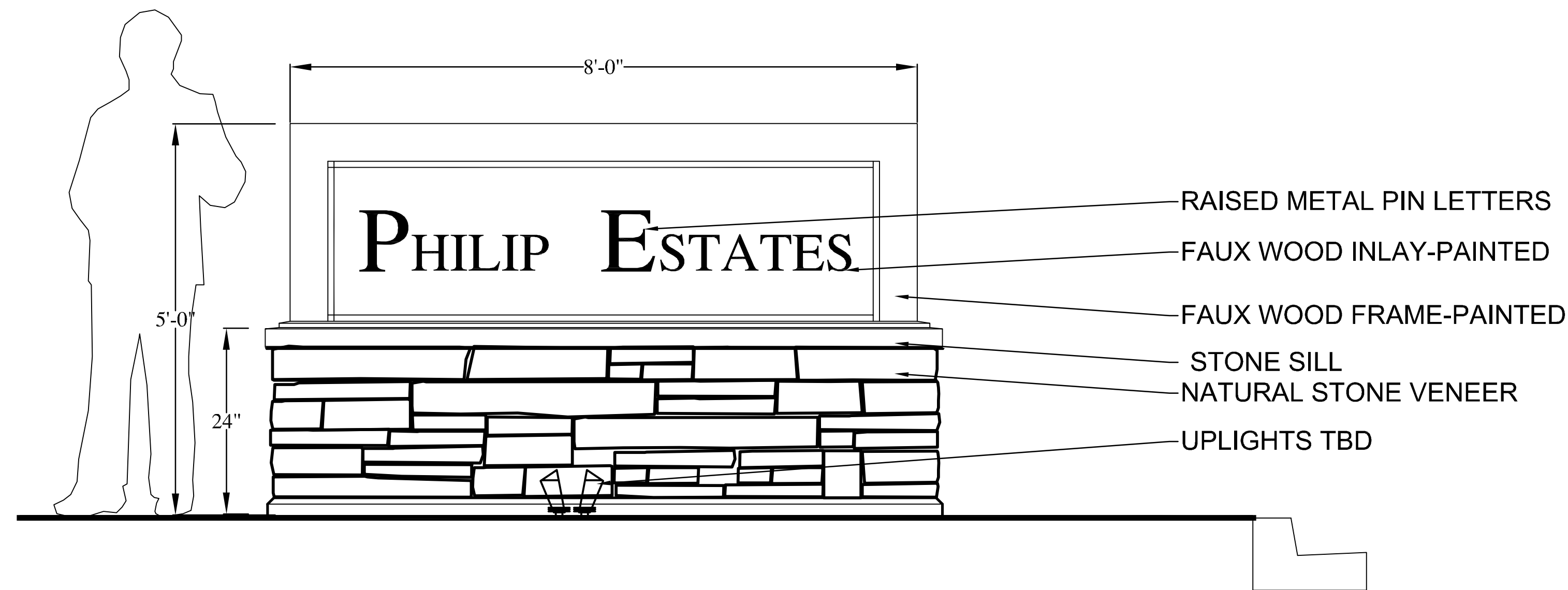
SCALE: AS NOTED REVIEWED BY: LD

DATE: 2-1-2020 PROJECT MANAGER: LD

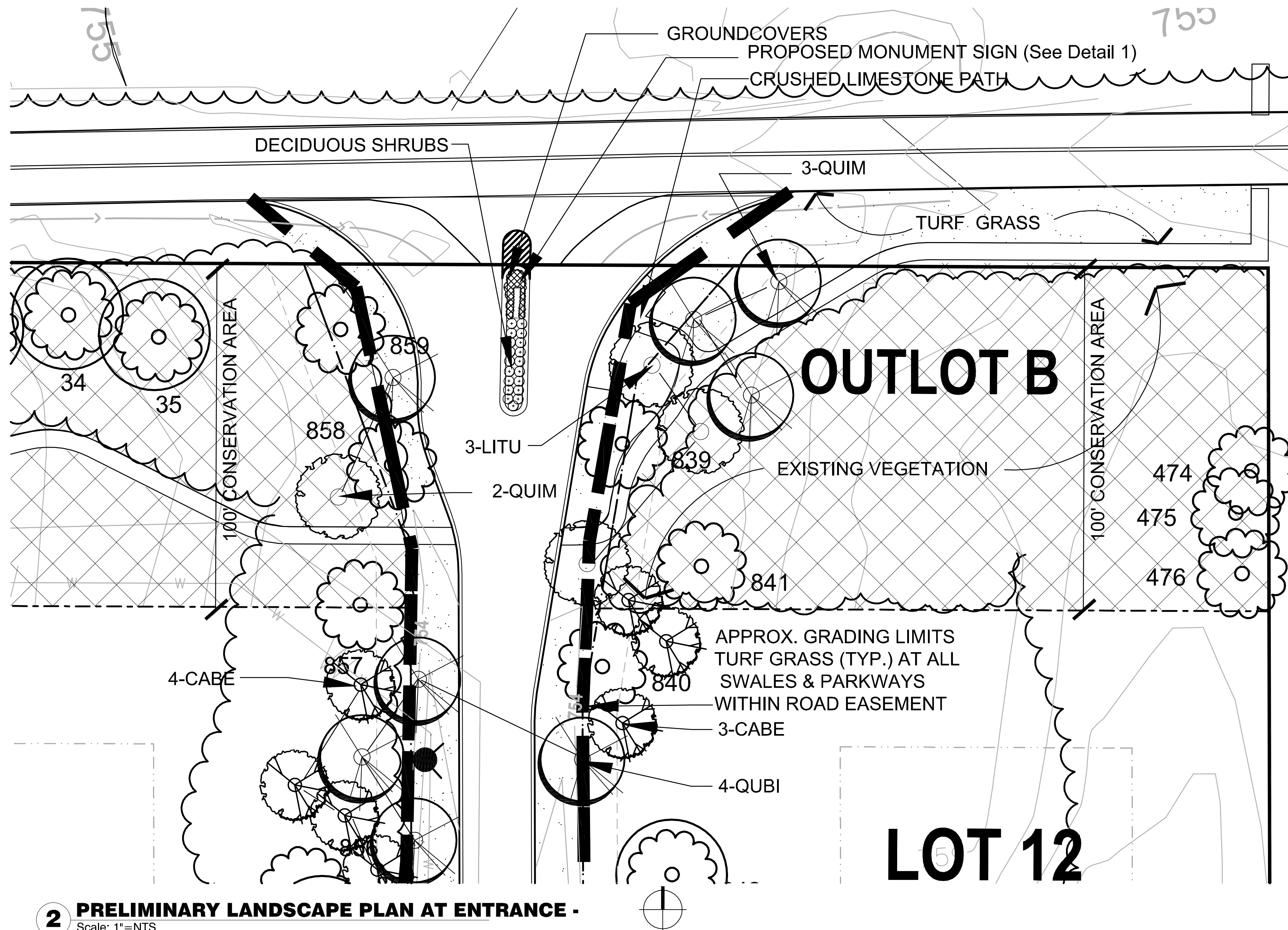
SHEET NUMBER: \_\_\_\_\_

**LP-1**





**1 PRELIMINARY MONUMENT SIGN -**  
Scale: 1"=NTS



**2 PRELIMINARY LANDSCAPE PLAN AT ENTRANCE -**  
Scale: 1"=NTS

Scientific Name	Common Name	OZ/Acre	Unit
Asclepias syriaca	common milkweed	2	Seed
Asclepias tuberosa	butterfly weed	2	Seed
Aster laevis	smooth blue aster	1	Seed
Coreopsis palmata	prairie coreopsis	1	Seed
Dalea candida	white prairie clover	1.5	Seed
Echinacea purpurea	broad-leaved purple coneflower	7	Seed
Liatris aspera	rough blazing star	0.5	Seed
Rudbeckia subtomentosa	Sweet Black Eyed Susan	1	Seed
Bouteloua curtipendula	Sideoats grama	2.75	Seed
Penstemon digitalis	foxglove beard tongue	0.5	Seed
Schizachyrium scoparium	little bluestem	36	Seed
Sporobolus heterolepis	prairie dropseed	16	Seed

**Short Grass Prairie Seed Mix**

Scientific Name	Common Name	PLS Ounces/Acre
Bouteloua curtipendula	Side Oats Grama	16.00
Elymus virginicus	Virginia Wild Rye	400.00
Koeleria cristata	June Grass	1.00
Panicum virgatum	Switch Grass	8.00
Schizachyrium scoparium	Little Bluestem	36.00
Avena sativa	Common Oat	360.00
Lolium multiflorum	Annual Rye	100.00
Amorpha canescens	Lead Plant	0.50
Anemone cylindrica	Thimbleweed	0.50
Asclepias syriaca	Common Milkweed	2.00
Asclepias tuberosa	Butterfly Milkweed	2.00
Aster ericoides	Heath Aster	0.25
Aster laevis	Smooth Blue Aster	1.00
Aster novae-angliae	New England Aster	0.50
Baptisia lactea	White Wild Indigo	2.00
Chamaecrista fasciculata	Partridge Pea	12.00
Coreopsis lanceolata	Sand Coreopsis	5.00
Coreopsis palmata	Prairie Coreopsis	1.00
Dalea candida	White Prairie Clover	1.50
Dalea purpurea	Purple Prairie Clover	1.50
Desmanthus illinoensis	Illinois Sensitive Plant	3.00
Echinacea purpurea	Broad-Leaved Purple Coneflower	7.00
Eryngium yuccifolium	Rattlesnake Master	3.00
Lespedeza capitata	Round-Head Bush Clover	2.00
Liatris aspera	Rough Blazing Star	0.50
Lupinus perennis	Wild Lupine	4.00
Monarda fistulosa	Wild Bergamot	0.75
Parthenium integrifolium	Wild Quinine	1.00
Penstemon digitalis	Foxglove Beard Tongue	0.50
Penstemon hirsutus	Hairy Beard Tongue	0.50
Pycnanthemum virginianum	Common Mountain Mint	1.00
Ratibida pinnata	Yellow Coneflower	6.00
Rudbeckia hirta	Black-Eyed Susan	5.00
Rudbeckia subtomentosa	Sweet Black-Eyed Susan	9.00
Silphium terebinthinaceum	Prairie Dock	0.50
Solidago rigida	Stiff Goldenrod	1.00
Solidago speciosa	Showy Goldenrod	0.50
Tradescantia ohiensis	Common Spiderwort	0.75
Verbena stricta	Hoary Vervain	1.00
Vernonia spp.	Ironweed (Various Mix)	4.00
Veronicastrum virginianum	Culvers Root	0.25

**Wet Mesic Seed Mix**

Prepared For:  
Philip Estates, LLC  
8150 W. 159th Street  
Orland Park, IL 60462

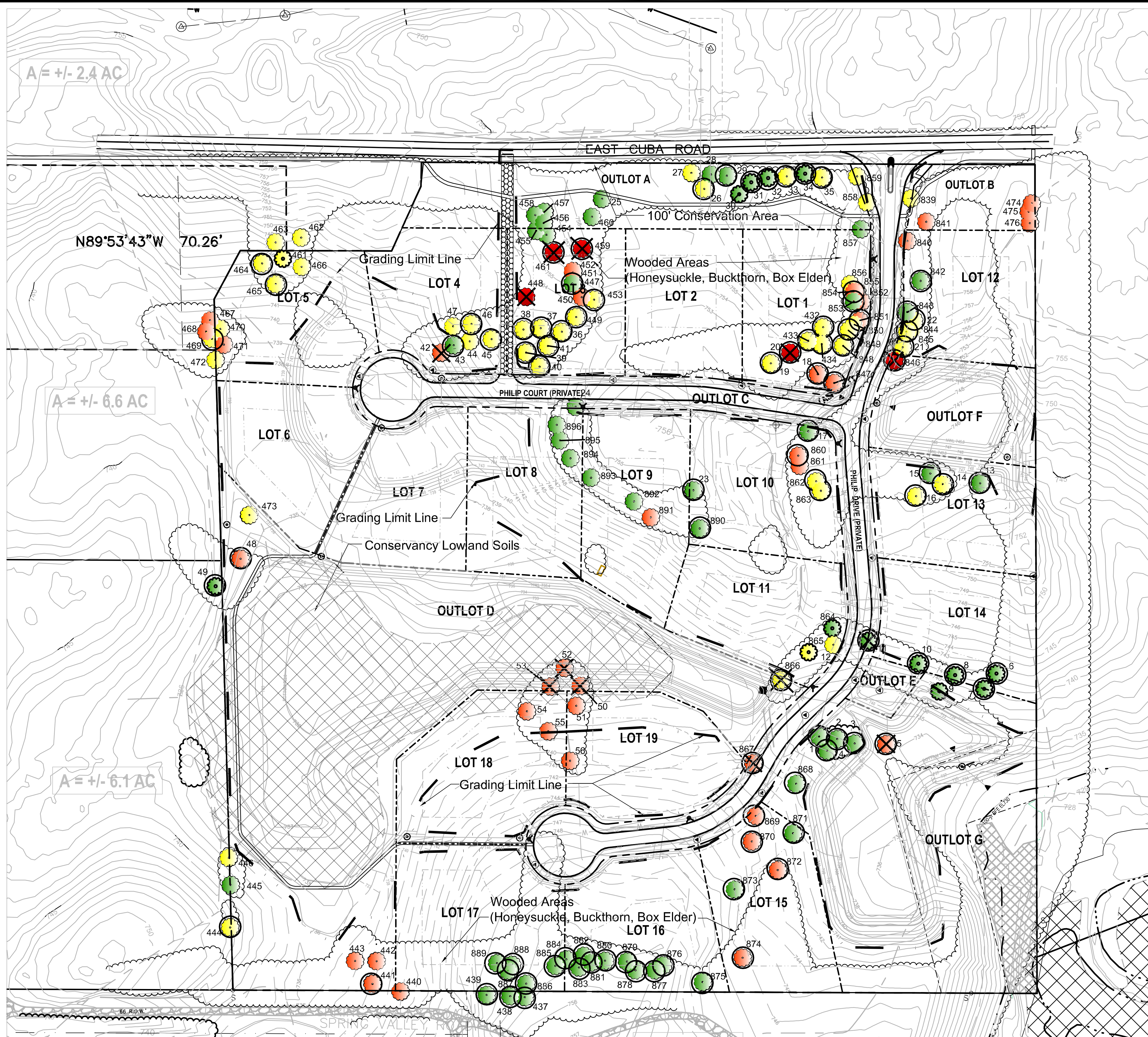
**LANDSCAPE PLAN DETAILS**  
**PHILIP ESTATES SUBDIVISION**  
CUBA ROAD  
LONG GROVE, ILLINOIS

ISSUED FOR: \_\_\_\_\_ DATE: \_\_\_\_\_  
Village Submittal 3-9-2020

PROJECT NUMBER: 202005  
SCALE: AS NOTED  
DATE: 2-1-2020







**LP-2**





**1 EXISTING TREE SURVEY & PRESERVATION PLAN**  
SCALE: 1"=80'

Existing Tree Legend:

-  GOOD TREE
-  FAIR TREE
-  POOR TREE
-  DEAD TREE
-  PROTECTED TREE per Village Ordinance
-  TREE to be REMOVED

GENERAL NOTES:

Existing trees were inventoried on October 17 and December 23, 2019. A total of 157 trees were identified on the property that had a minimum diameter at breast height (4.5') of 12". Trees were measured for diameter, and identified to their respective genus and species, as well as their general health condition. Trees that are identified as Protected Trees comply with Chapter 10, Tree Preservation ordinance as a Protected Tree in size and species. Tree were evaluated according to common horticultural standards and given a general description of the general health and structure, i.e., good, fair, poor. Tree locations

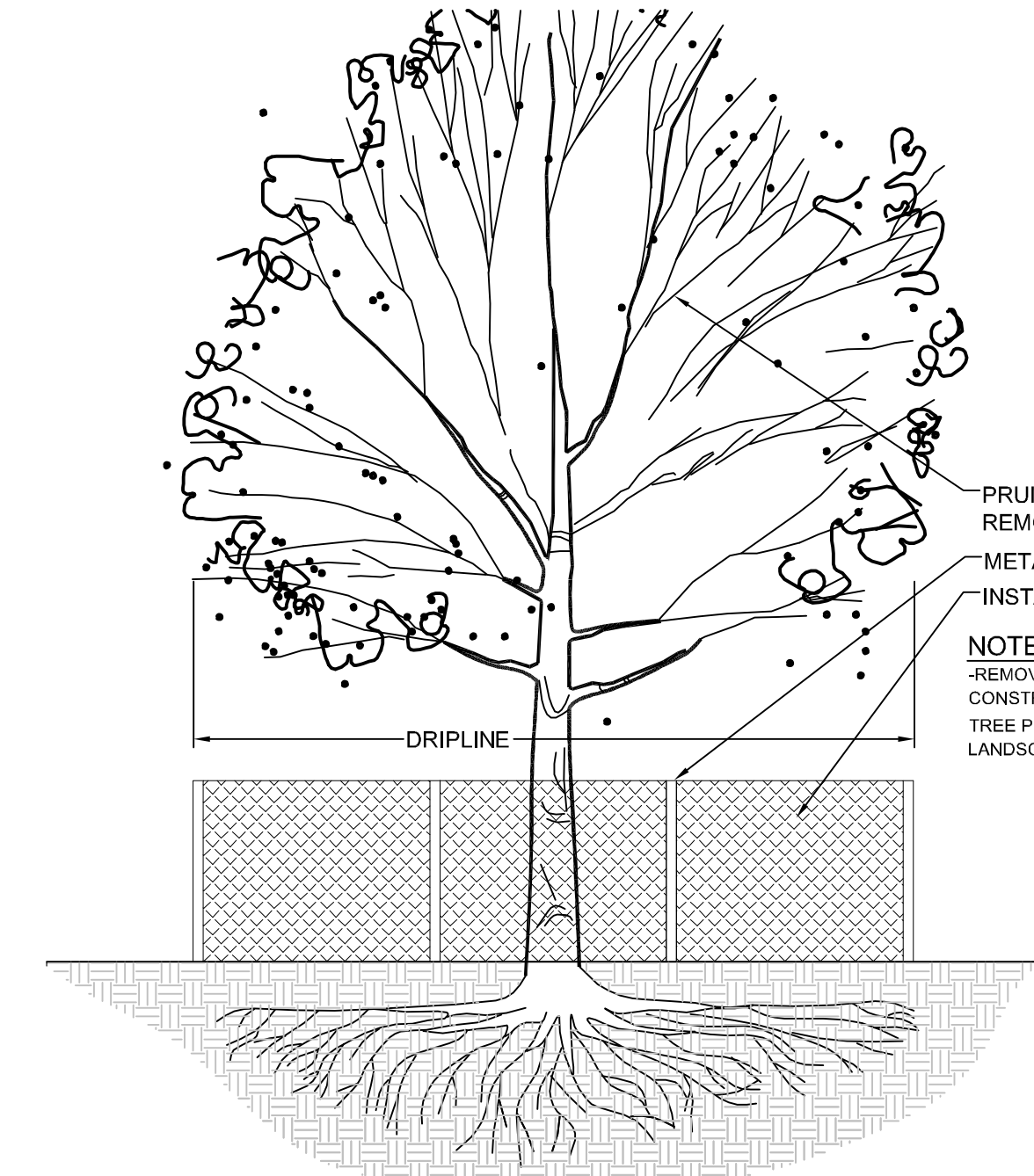
**Good:** Healthy branches and full crown, no major limbs in crown dead or dying, leaves healthy, no apparent wounds or diseases, no apparent hollow spots or gaps in the bark of the main trunk or major limbs. Good structure, few weak crotches, trunk not leaning excessively.

**Fair:** One or more of the following defects: Some major branches in crown dead or dying (but at least 50% still alive), apparent wounding, gaps in bark, oozing sap, areas of light colored or yellowed foliage, weak crotches, excessively leaning trunk, some broken major limbs or missing / broken or headed back central leader.

**Poor:** Over 50% of the tree is dead, major wounding, major disease, weak spots, hollow base, may result in imminent collapse of the tree, excessive lean of trunk, broken trunk, or partial/ complete uprooting of tree.

**Dead:** Tree is completely dead, no display of foliage, tree has fallen to the ground.

**Protected Tree:** Tree (s) designated in the Village Ordinance of having a minimum diameter at breast height of 8"-10" or greater and consist of the following species:  
 Basswood / Linden  
 Black Walnut  
 Hackberry  
 Hickory  
 Ironwood  
 Black Oak / Bur Oak/ Hill's Oak/ Red Oak/ Swamp White Oak/ White Oak  
 Sugar Maple  
 Wild Black Cherry

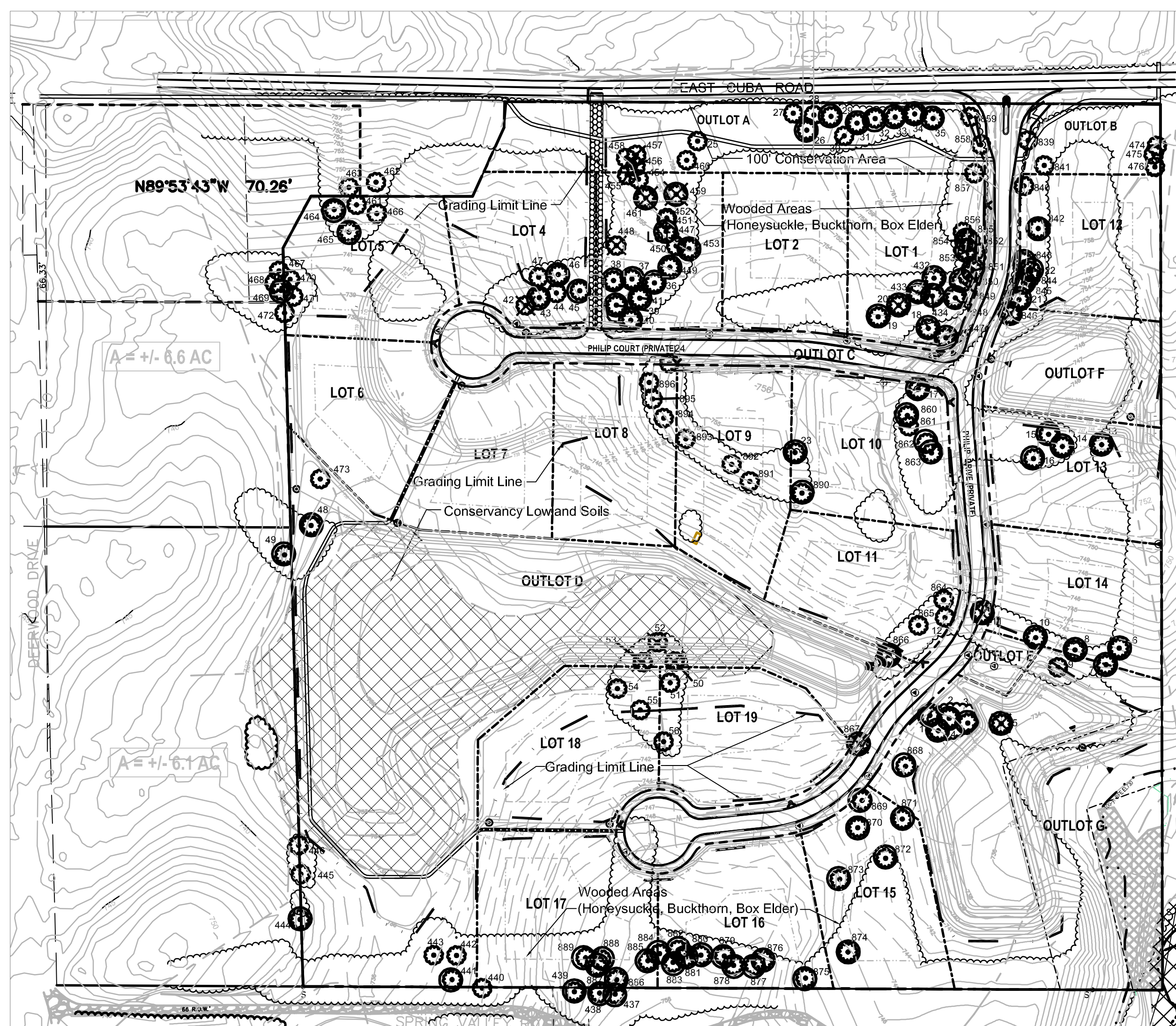


PRUNE BRANCHES IF DIRECTED BY LANDSCAPE ARCHITECT  
 REMOVE ALL DEAD LIMBS FROM CANOPY  
 METAL FENCE POSTS WITH 48" HT. PLASTIC MESH  
 INSTALL FENCE ALONG DRIPLINE OF TREE TO BE PRESERVED

NOTE:  
 REMOVE PROTECTIVE FENCING ONLY AFTER ALL CONSTRUCTION WORK HAS BEEN COMPLETED  
 TREE PROTECTION FENCE LAYOUT TO BE STAKED ON-SITE FOR REVIEW BY LANDSCAPE ARCHITECT PRIOR TO INSTALLATION

**2 TYPICAL TREE PROTECTION FENCE**  
SCALE: NTS

SHEET TITLE:		ISSUED FOR:		DATE:	
EXISTING TREE SURVEY & PRESERVATION PLAN		Village Submittal		3-9-2020	
PRINCIPAL:					
PROJECT NUMBER:		DESIGNED BY:			
202005		LD			
SCALE:		REVIEWED BY:			
AS NOTED		LD			
DATE:		PROJECT MANAGER:			
2-1-2020		LD			
SHEET NUMBER:					
<b>TS-1</b>					



**1 EXISTING TREE SURVEY & PRESERVATION KEY PLAN**  
SCALE: NTS

Tag No.	Scientific Name	Common Name	Size (DBH)	Condition	Heritage Tree
1	<i>Quercus rubra</i>	Northern Red Oak	36"	Good	X
2	<i>Quercus rubra</i>	Northern Red Oak	30"	Good	X
3	<i>Quercus rubra</i>	Northern Red Oak	30"	Good	X
4	<i>Quercus rubra</i>	Northern Red Oak	30"	Fair	X
5	<i>Celtis occidentalis</i>	Common Hackberry	27"	Poor	X
6	<i>Tilia americana</i>	Linden/ Basswood	30"	Good	X
7	<i>Acer saccharum</i>	Sugar Maple	30"	Good	X
8	<i>Acer saccharum</i>	Sugar Maple	30"	Good	X
9	<i>Gleditsia triacanthos</i>	Honeylocust	26"	Good	X
10	<i>Tilia americana</i>	Linden/ Basswood	36"	Good	X
11	<i>Tilia americana</i>	Linden/ Basswood	36"	Good	X
12	<i>Fraxinus americana</i>	Green Ash	24"	Fair	X
13	<i>Tilia americana</i>	Linden/ Basswood	24"	Fair	X
14	<i>Tilia americana</i>	Linden/ Basswood	20"	Fair	X
15	<i>Tilia americana</i>	Linden/ Basswood	20"	Fair	X
16	<i>Celtis occidentalis</i>	Common Hackberry	30"	Fair	X
17	<i>Acer saccharum</i>	Sugar Maple	12"	Fair	X
18	<i>Acer saccharum</i>	Sugar Maple	12"	Fair / Poor	X
19	<i>Acer saccharum</i>	Sugar Maple	18"	Good	X
20	<i>Acer saccharum</i>	Sugar Maple	30"	Dead	X
21	<i>Quercus rubra</i>	Red Oak	30"	Fair	X
22	<i>Acer saccharum</i>	Sugar Maple	8"-12"	Fair	X
23	<i>Quercus rubra</i>	Red Oak	30"	Good	X
24	<i>Fraxinus americana</i>	Green Ash	24"	Fair	X
25	<i>Gleditsia triacanthos</i>	Honeylocust	24"	Good	X
26	<i>Celtis occidentalis</i>	Common Hackberry	24"	Fair	X
27	<i>Gleditsia triacanthos</i>	Honeylocust	18"	Fair	X
28	<i>Gleditsia triacanthos</i>	Honeylocust	12"	Good	X
29	<i>Celtis occidentalis</i>	Common Hackberry	24"	Good	X
30	<i>Gleditsia triacanthos</i>	Honeylocust	18"	Good	X
31	<i>Quercus rubra</i>	Red Oak	18"	Good	X
32	<i>Acer saccharum</i>	Sugar Maple	18"	Good	X
33	<i>Acer saccharum</i>	Sugar Maple	36"	Fair	X
34	<i>Quercus rubra</i>	Red Oak	18"	Good	X
35	<i>Acer saccharum</i>	Sugar Maple	24"	Fair	X
36	<i>Acer saccharum</i>	Sugar Maple	24"	Fair	X
37	<i>Acer saccharum</i>	Sugar Maple	25"	Fair	X
38	<i>Quercus rubra</i>	Red Oak	27"	Fair	X
39	<i>Quercus rubra</i>	Red Oak	18"	Fair	X
40	<i>Quercus palustris</i>	Pin Oak	18"	Fair	X
41	<i>Quercus palustris</i>	Pin Oak	16"	Fair	X
42	<i>Fraxinus americana</i>	Green Ash	36"	Poor	X
43	<i>Quercus palustris</i>	Pin Oak	18"	Good	X
44	<i>Gleditsia triacanthos</i>	Honeylocust	14"	Fair	X
45	<i>Quercus palustris</i>	Pin Oak	16"	Fair	X
46	<i>Quercus palustris</i>	Pin Oak	18"	Fair	X
47	<i>Gleditsia triacanthos</i>	Honeylocust	14"	Fair	X
48	<i>Quercus rubra</i>	Red Oak	30"	Poor	X
49	<i>Quercus rubra</i>	Red Oak	30"	Good	X
50	<i>Alnus glutinosa</i>	Black Alder	8"-10"-12"	Fair	X
51	<i>Alnus glutinosa</i>	Black Alder	10"-8"-12"	Fair	X
52	<i>Alnus glutinosa</i>	Black Alder	12"-8"-12"	Fair	X
53	<i>Alnus glutinosa</i>	Black Alder	10"-8"-12"	Fair	X
54	<i>Quercus rubra</i>	Red Oak	24"	Fair	X
55	<i>Quercus rubra</i>	Red Oak	30"	Fair	X
56	<i>Quercus rubra</i>	Red Oak	28"	Fair	X
432	<i>Quercus palustris</i>	Pin Oak	30"	Fair	X
433	<i>Acer saccharum</i>	Sugar Maple	36"	Fair	X
434	<i>Prunus serotina</i>	Black Cherry	10"	Fair	X
437	<i>Prunus serotina</i>	Black Cherry	18"	Good	X
438	<i>Prunus serotina</i>	Black Cherry	14"	Good	X
439	<i>Prunus serotina</i>	Black Cherry	12"	Good	X
440	<i>Acer negundo</i>	Box Elder	14"	Poor	X
441	<i>Acer saccharum</i>	Sugar Maple	24"	Poor	X
442	<i>Gleditsia triacanthos</i>	Honeylocust	18"	Poor	X
443	<i>Gleditsia triacanthos</i>	Honeylocust	18"	Poor	X
444	<i>Tilia americana</i>	Linden/ Basswood	18"	Fair	X
445	<i>Acer platanoides</i>	Norway Maple	20"	Good	X
446	<i>Acer platanoides</i>	Norway Maple	24"	Fair	X
447	<i>Acer saccharum</i>	Sugar Maple	24"	Good	X
448	<i>Tilia americana</i>	Linden/ Basswood	30"	Dead	X
449	<i>Acer saccharum</i>	Sugar Maple	20"	Fair	X
450	<i>Ostrya virginiana</i>	Ironwood	18"	Poor	X
451	<i>Prunus serotina</i>	Black Cherry	14"	Poor	X
452	<i>Prunus serotina</i>	Black Cherry	14"	Poor	X
453	<i>Acer saccharum</i>	Sugar Maple	24"	Fair	X
454	<i>Tilia americana</i>	Linden/ Basswood	20"	Good	X
455	<i>Quercus palustris</i>	Pin Oak	24"	Good	X
456	<i>Quercus palustris</i>	Pin Oak	20"	Good	X
457	<i>Quercus palustris</i>	Pin Oak	20"	Good	X
458	<i>Quercus bicolor</i>	Swamp White Oak	22"	Good	X
459	<i>Acer saccharum</i>	Sugar Maple	22"	Dead	X
460	<i>Gleditsia triacanthos</i>	Honeylocust	18"	Good	X
461	<i>Aesculus hippocastanum</i>	Horsechestnut	18"	Fair	X
462	<i>Gleditsia triacanthos</i>	Honeylocust	18"	Fair	X
463	<i>Acer rubrum</i>	Red Maple	18"	Fair	X
464	<i>Tilia americana</i>	Linden/ Basswood	20"	Fair	X
465	<i>Acer rubrum</i>	Red Maple	18"	Fair	X
466	<i>Acer rubrum</i>	Red Maple	18"	Fair	X
467	<i>Betula Species</i>	Birch Species	12"-18"	Poor	
468	<i>Betula Species</i>	Birch Species	10"-12"	Poor	
469	<i>Tilia americana</i>	Linden/ Basswood	24"	Fair	X
470	<i>Betula Species</i>	Birch Species	12"-18"	Fair	
471	<i>Betula Species</i>	Birch Species	10"-12"	Poor	
472	<i>Betula Species</i>	Birch Species	10"-12"-18"	Fair	
473	<i>Gleditsia triacanthos</i>	Honeylocust	30"	Fair	
474	<i>Prunus serotina</i>	Black Cherry	22"	Poor	X
475	<i>Prunus serotina</i>	Black Cherry	18"	Poor	X
476	<i>Prunus serotina</i>	Black Cherry	18"	Poor	X
884	<i>Quercus rubra</i>	Northern Red Oak	20"	Good	X
839	<i>Gleditsia triacanthos</i>	Honey Locust	22"	Good	X
840	<i>Gleditsia triacanthos</i>	Honey Locust	22"	Good	X
841	<i>Gleditsia triacanthos</i>	Honey Locust	20"	Good	X
842	<i>Quercus palustris</i>	Pin Oak	28"	Good	X
843	<i>Quercus palustris</i>	Pin Oak	24"	Good	X
844	<i>Acer saccharum</i>	Sugar Maple	17"	Good	X
845	<i>Acer saccharum</i>	Sugar Maple	19"	Good	X
846	<i>Acer saccharum</i>	Sugar Maple	17"	Dead	X
847	<i>Acer saccharum</i>	Sugar Maple	28"	Good	X
848	<i>Acer saccharum</i>	Sugar Maple	24"	Good	X
849	<i>Acer saccharum</i>	Sugar Maple	18"	Fair	X
850	<i>Acer saccharum</i>	Sugar Maple	14"	Good	X
851	<i>Acer saccharum</i>	Sugar Maple	14"	Fair	X
852	<i>Acer saccharum</i>	Sugar Maple	24"	Good	X
853	<i>Acer saccharum</i>	Sugar Maple	10"	Good	X
854	<i>Acer saccharum</i>	Sugar Maple	10"	Good	X
855	<i>Ulmus americana</i>	American Elm	21"	Good	X
856	<i>Fraxinus pennsylvanica</i>	Green Ash	26"	Good	X
857	<i>Gleditsia triacanthos</i>	Honey Locust	21"	Good	X
858	<i>Gleditsia triacanthos</i>	Honey Locust	22"	Good	X
859	<i>Celtis occidentalis</i>	Hackberry	27"	Good	X
860	<i>Prunus serotina</i>	Black Cherry	12"	Good	X
861	<i>Morus alba</i>	White Mulberry	18"	Fair	X
862	<i>Quercus palustris</i>	Pin Oak	26"	Good	X
863	<i>Quercus palustris</i>	Pin Oak	20"	Good	X
864	<i>Acer saccharum</i>	Sugar Maple	25"	Good	X
865	<i>Aesculus hippocastanum</i>	Horse Chestnut	21"	Good	X
866	<i>Prunus serotina</i>	Black Cherry	20"	Good	X
867	<i>Acer saccharum</i>	Sugar Maple	11"	Dead	X
868	<i>Acer saccharum</i>	Sugar Maple	16"	Poor	X
869	<i>Acer saccharum</i>	Sugar Maple	18"	Good	X
870	<i>Acer saccharum</i>	Sugar Maple	22"	Good	X
871	<i>Acer saccharum</i>	Sugar Maple	18"	Good	X
872	<i>Quercus macrocarpa</i>	Bur Oak	18"	Good	X
873	<i>Acer saccharum</i>	Sugar Maple	17"	Good	X
874	<i>Quercus macrocarpa</i>	Bur Oak	18"	Good	X
875	<i>Acer saccharum</i>	Sugar Maple	14"	Good	X
876	<i>Quercus macrocarpa</i>	Bur Oak	24"	Good	X
877	<i>Quercus rubra</i>	Northern Red Oak	22"	Good	X
878	<i>Quercus macrocarpa</i>	Bur Oak	24"	Good	X
879	<i>Quercus macrocarpa</i>	Bur Oak	22"	Good	X
880	<i>Quercus macrocarpa</i>	Bur Oak	22"	Good	X
881	<i>Quercus macrocarpa</i>	Bur Oak	20"	Good	X
882	<i>Quercus rubra</i>	Northern Red Oak	20"	Good	X
883	<i>Quercus macrocarpa</i>	Bur Oak	22"	Good	X
884	<i>Quercus rubra</i>	Northern Red Oak	20"	Good	X
885	<i>Quercus macrocarpa</i>	Bur Oak	22"	Good	X
886	<i>Quercus rubra</i>	Northern Red Oak	23"	Good	X
887	<i>Quercus rubra</i>	Northern Red Oak	22"	Good	X
888	<i>Quercus macrocarpa</i>	Bur Oak	18"	Good	X
889	<i>Quercus rubra</i>	Northern Red Oak	23"	Good	X
890	<i>Quercus palustris</i>	Pin Oak	22"	Good	X
891	<i>Gleditsia triacanthos</i>	Honey Locust	21"	Good	X
892	<i>Gleditsia triacanthos</i>	Honey Locust	22"	Good	X
893	<i>Gleditsia triacanthos</i>	Honey Locust	18"	Good	X
894	<i>Acer saccharum</i>	Sugar Maple	16"	Good	X
895	<i>Acer saccharum</i>	Sugar Maple	13"	Good	X
896	<i>Fraxinus pennsylvanica</i>	Green Ash	24"	Good	X

Prepared For:  
Philip Estates, LLC  
8150 W. 159th Street  
Orland Park, IL 60462

PHILIP ESTATES SUBDIVISION  
CUBA ROAD  
LONG GROVE, ILLINOIS

**TREE INVENTORY**

ISSUED FOR: \_\_\_\_\_ DATE: \_\_\_\_\_  
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 Village Submittal 3-9-2020  
 PRINCIPAL: \_\_\_\_\_  
 PROJECT NUMBER: 202005 DESIGNED BY: LD  
 SCALE: AS NOTED REVIEWED BY: LD  
 DATE: 2-1-2020 PROJECT MANAGER: LD  
 SHEET NUMBER: **TS-2**



# **SECTION 3**

Traffic Impact Study

# Traffic Impact Study Proposed Residential Development

Long Grove, Illinois



Prepared For:

**Philip Estates, LLC**



May 20, 2019

# 1. Introduction

This report summarizes the methodologies, results, and findings of a traffic impact study conducted by Kenig, Lindgren, O'Hara, Aboona, Inc. (KLOA, Inc.) for the proposed residential development to be located on the south side of Cuba Road east of Nottingham Drive in Long Grove, Illinois. As proposed the site, which is currently vacant, will be developed to provide a single-family subdivision with 19 lots. Access to the site will be provided via a full movement access drive at the approximate location of the existing curb cut off Cuba Road located approximately 960 feet east of Nottingham Drive.

The purpose of this study was to examine background traffic conditions, assess the impact that the proposed development will have on traffic conditions in the area, and determine if any roadway or access improvements are necessary to accommodate traffic generated by the proposed residential development.

**Figure 1** shows the location of the site in relation to the area roadway system. **Figure 2** shows an aerial view of the site.

The sections of this report present the following:

- Existing roadway conditions
- A description of the proposed development
- Directional distribution of the development traffic
- Vehicle trip generation for the development
- Future traffic conditions including access to the development
- Traffic analyses for the weekday morning and weekday evening peak hours
- Recommendations with respect to adequacy of the site access and adjacent roadway system

Traffic capacity analyses were conducted for the weekday morning and weekday evening peak hours for the following conditions:

1. Existing Conditions - Analyzes the capacity of the existing roadway system using existing peak hour traffic volumes in the surrounding area.
2. Future Conditions – Analyzes the projected traffic volumes which include the existing traffic volumes increased by an ambient area growth factor (growth not attributable to any particular development) and the traffic estimated to be generated by the proposed subject development.



**Site Location**

**Figure 1**





Aerial View of Site

Figure 2

## 2. Existing Conditions

Existing transportation conditions in the vicinity of the site were documented based on field visits conducted by KLOA, Inc. in order to obtain a database for projecting future conditions. The following provides a description of the geographical location of the site, physical characteristics of the area roadway system including lane usage and traffic control devices, and existing peak hour traffic volumes.

### Site Location

The site, which is currently vacant, is located on the south side of East Cuba Road east of Nottingham Drive. Land uses in the vicinity of the site are primarily residential.

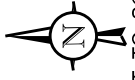
### Existing Roadway System Characteristics

The characteristics of the existing roadways near the development are described below. **Figure 3** illustrates the existing roadway characteristics.

*Cuba Road* is an east-west local road that provides one lane in each direction in the vicinity of the site. At its unsignalized intersection with Deerwood Drive, Cuba Drive provides a combined through/right-turn lane on the eastbound approach and a combined through/left-turn lane on the westbound approach. At its unsignalized intersection with Nottingham Drive, Cuba Drive provides a combined through/left-turn lane on the eastbound approach and a combined through/right-turn lane on the westbound approach. Cuba Road is under the jurisdiction of the Village of Long Grove, carries an annual average daily traffic (AADT) volume of 2,400 vehicles (IDOT 2015), and has a posted speed limit of 30 miles per hour.

*Deerwood Drive* is a private road that provides one lane in each direction and extends from Cuba Road to its terminus as a cul-de-sac south of Cuba Road. At its unsignalized intersection with Cuba Road, Deerwood Drive provides a combined left-turn/right-turn lane on the northbound approach that is under stop sign control.

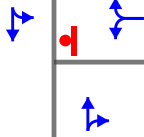
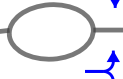
*Nottingham Drive* is a private road that provides one lane in each direction and extends from Cuba Road to its terminus as a cul-de-sac north of Cuba Road. At its unsignalized intersection with Cuba Road, Nottingham Drive provides a combined left-turn/right-turn lane on the southbound approach. It should be noted that Nottingham Drive serves the Glenstone neighborhood.



NOT TO SCALE

CUBA ROAD

NOTTINGHAM DRIVE



DEERWOOD DRIVE



SITE

LEGEND



- TRAVEL LANE



- STOP SIGN

Proposed Residential  
Development  
Long Grove, Illinois

Existing Roadway Characteristics



Job No: 19-112

Figure: 3

## Existing Traffic Volumes

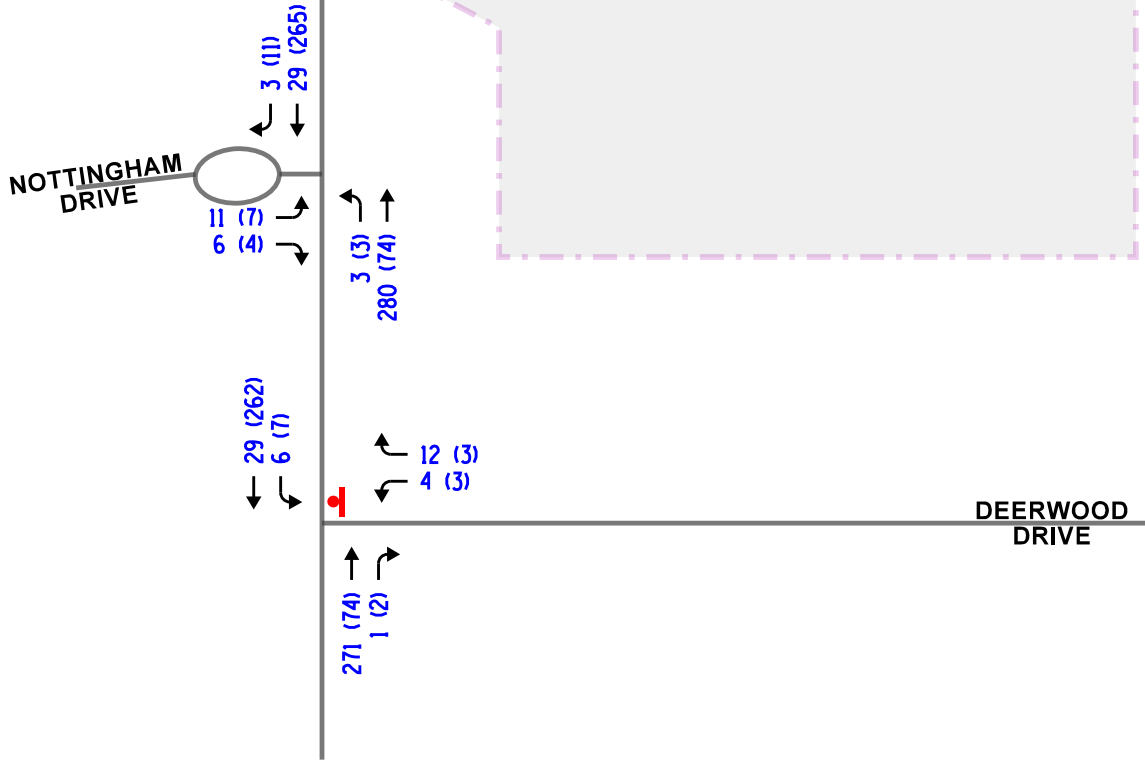
In order to determine current traffic conditions in the vicinity of the site, KLOA, Inc. conducted peak period traffic counts using manual traffic counts on Wednesday, May 1, 2019, during the weekday morning (6:30 A.M. to 9:00 A.M.) and weekday evening (4:00 P.M. to 6:30 P.M.) peak periods at the following intersections:

- Cuba Road with Deerwood Drive
- Cuba Road with Nottingham Drive

The results of the traffic counts showed that the weekday morning peak hour of traffic occurs from 7:15 A.M. to 8:15 A.M. and the weekday evening peak hour of traffic occurs from 5:15 P.M. to 6:15 P.M. **Figure 4** illustrates the existing peak hour traffic volumes. Copies of the traffic count summary sheets are included in the Appendix.



NOT TO SCALE



SITE

**LEGEND**

00 - AM PEAK HOUR (7:15-8:15 AM)

(00) - PM PEAK HOUR (5:15-6:15 PM)

Proposed Residential  
Development  
Long Grove, Illinois

Existing Traffic Volumes



Job No: 19-112

Figure: 4

### 3. Traffic Characteristics of the Proposed Development

In order to properly evaluate future traffic conditions in the surrounding area, it was necessary to determine the traffic characteristics of the proposed development, including the directional distribution and volumes of traffic that it will generate.

#### Proposed Site and Development Plan

As proposed, the plans call for developing a single-family subdivision with 19 lots. Access to the site will be provided via a full movement access drive off Cuba Road. This access road will be at the approximate location of the existing curb cut located approximately 960 feet east of Nottingham Drive. This access road will provide one inbound lane and one outbound lane and outbound movements should be under stop sign control. A copy of the preliminary site plan depicting the proposed development and access is included in the Appendix.

#### Directional Distribution

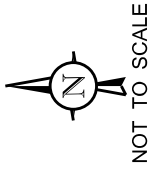
The directions from which residents of the proposed development will approach and depart the site were estimated based on existing travel patterns, as determined from the traffic counts. **Figure 5** illustrates the directional distribution of the development-generated traffic.

#### Estimated Site Traffic Generation

The volume of traffic generated by the proposed residential development was estimated using data published in the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 10<sup>th</sup> Edition. The “Single-Family Homes Detached Housing” (Land-Use Code 210) was used. **Table 2** tabulates the vehicle trips anticipated for this development. The ITE trip rate graphs are included in the Appendix.

Table 1  
ESTIMATED SITE-GENERATED TRAFFIC VOLUMES

ITE Land Use Code	Type/Size	Weekday Morning Peak Hour			Weekday Evening Peak Hour			Daily Two-Way Trips
		In	Out	Total	In	Out	Total	
210	Single-Family Homes (19 Units)	5	13	18	13	8	21	226



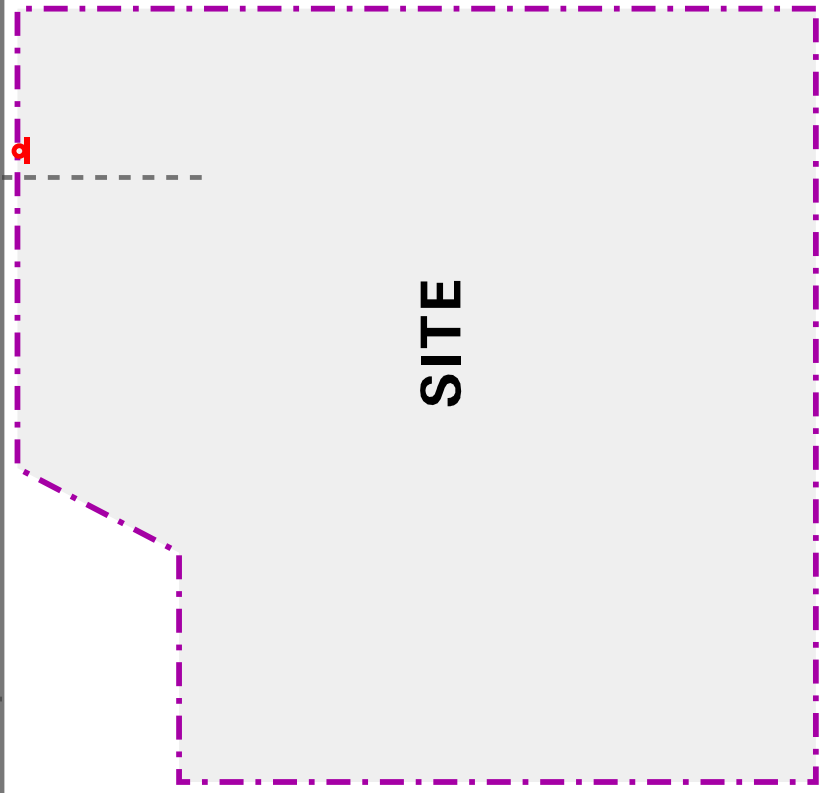
NOTTINGHAM DRIVE

25%

960'

75%

CUBA ROAD



DEERWOOD DRIVE

- LEGEND**
- 00% - PERCENT DISTRIBUTION
  - 00' - DISTANCE IN FEET
  - 🛑 - PROPOSED STOP SIGN

Proposed Residential Development  
Long Grove, Illinois

Estimated Directional Distribution



Job No: 19-112 Figure: 5

## 4. Projected Traffic Conditions

The total projected traffic volumes include the existing traffic volumes, increase in background traffic due to growth, and the traffic estimated to be generated by the proposed subject development.

### Development Traffic Assignment

The estimated weekday morning and evening peak hour traffic volumes that will be generated by the proposed residential development were assigned to the roadway system in accordance with the previously described directional distribution (Figure 5). The total new traffic assignment for the development is illustrated in **Figure 6**.

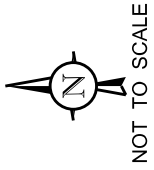
### Background Traffic Conditions

The existing traffic volumes (Figure 4) were increased by a regional growth factor to account for the increase in existing traffic related to regional growth in the area (i.e., not attributable to any particular planned development). Based on 2050 Average Daily Traffic (ADT) projections provided by the Chicago Metropolitan Agency for Planning (CMAP) in a letter dated May 3, 2019, the existing traffic volume were increased by an annually compounded growth rate for five years (one-year buildout plus five years) totaling four percent to represent Year 2025 total projected conditions. A copy of the CMAP 2050 projections letter is included in the Appendix.

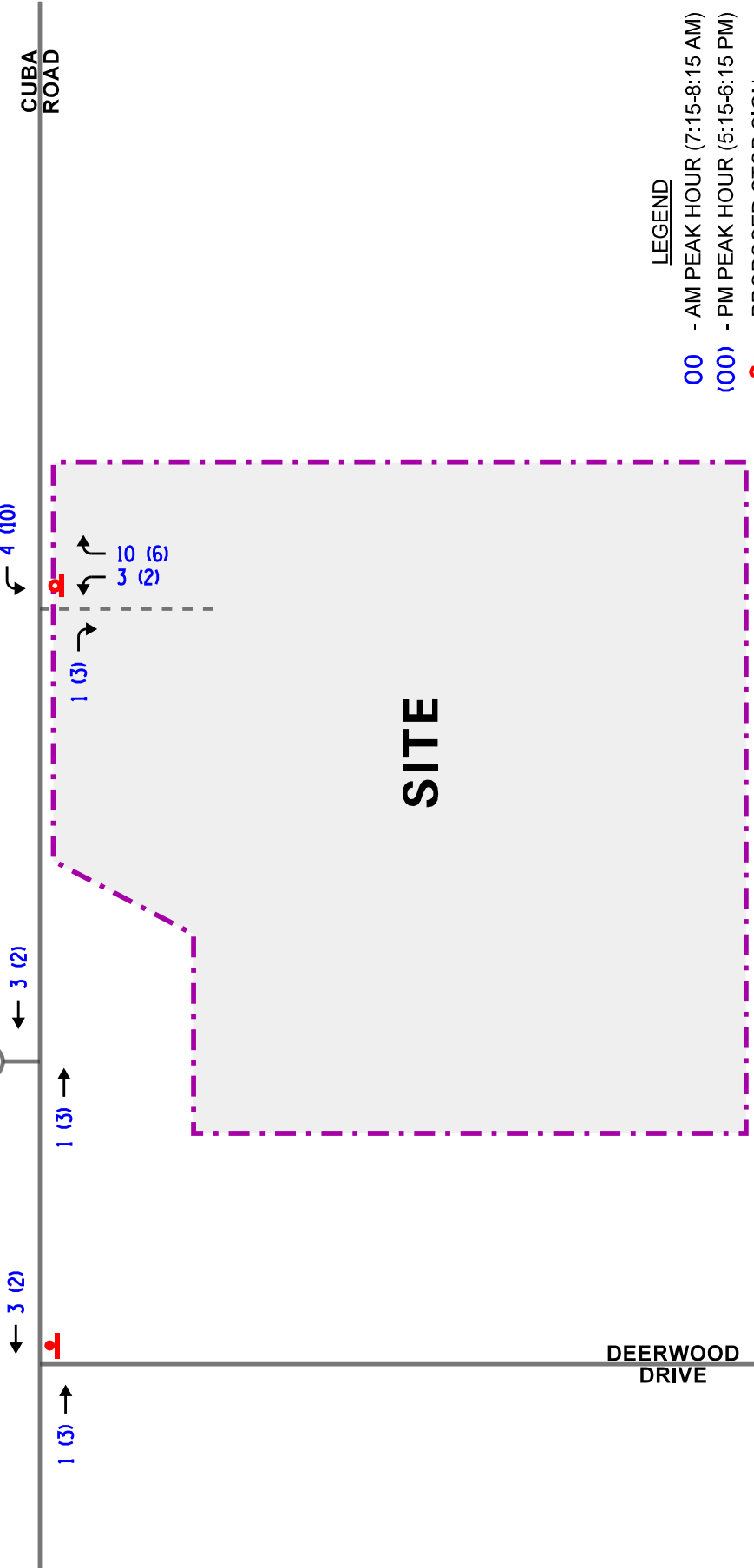
### Total Projected Traffic Volumes

The development-generated traffic (Figure 6) was added to the existing traffic volumes increased by a regional growth factor to determine the Year 2025 total projected traffic volumes, as illustrated in **Figure 7**.





NOTTINGHAM DRIVE



**LEGEND**

- 00 - AM PEAK HOUR (7:15-8:15 AM)
- (00) - PM PEAK HOUR (5:15-6:15 PM)
- PROPOSED STOP SIGN

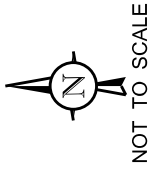
Proposed Residential Development  
Long Grove, Illinois

Estimated Site-Generated Traffic Volumes

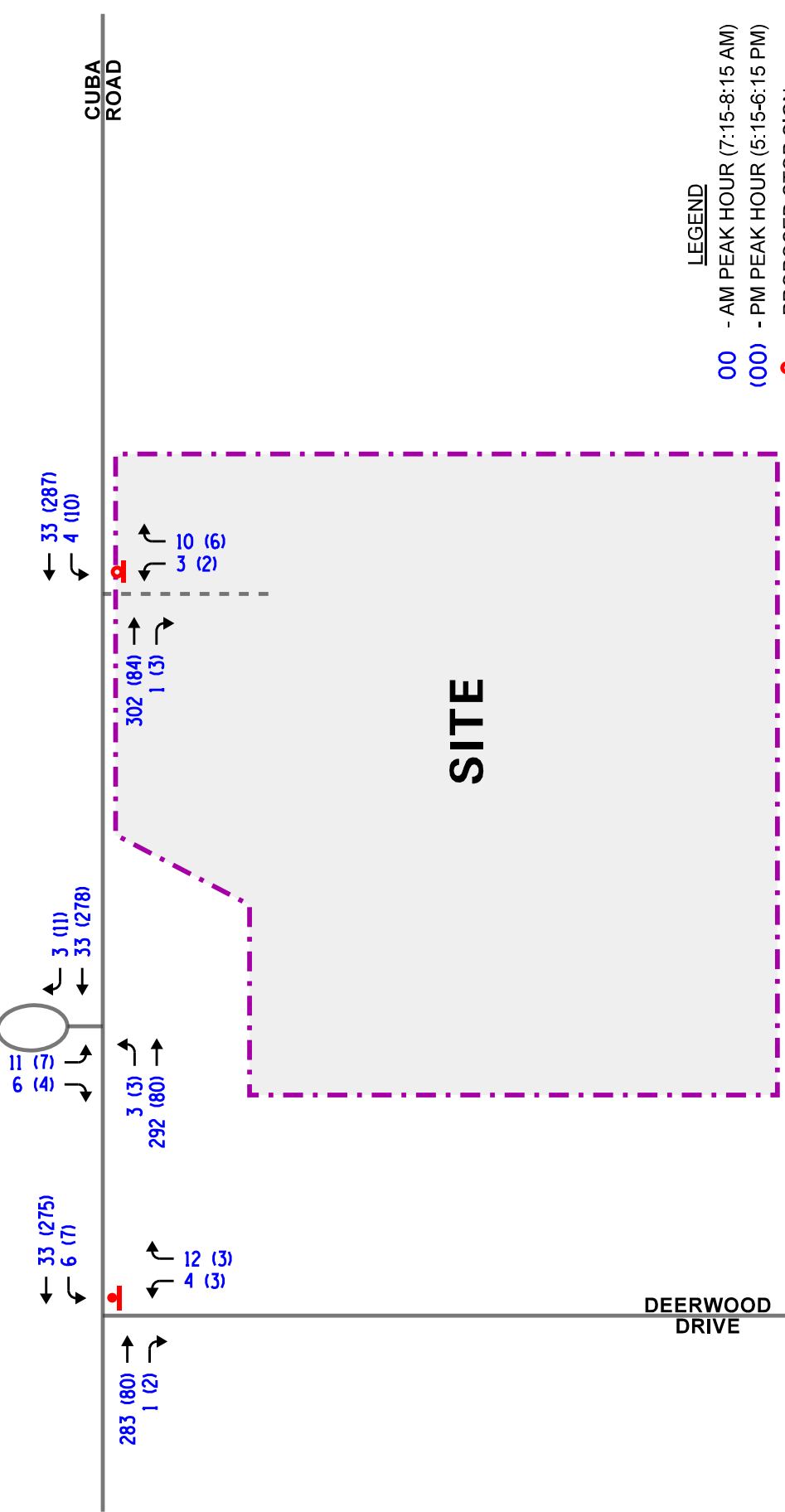


Job No: 19-112

Figure: 6



NOTTINGHAM DRIVE



- LEGEND**
- 00 - AM PEAK HOUR (7:15-8:15 AM)
  - (00) - PM PEAK HOUR (5:15-6:15 PM)
  - 🚦 - PROPOSED STOP SIGN

Proposed Residential Development  
Long Grove, Illinois

Total Projected Traffic Volumes



Job No: 19-112

Figure: 7

## 5. Traffic Analysis and Recommendations

The following provides an evaluation conducted for the weekday morning and weekday evening peak hours. The analysis includes conducting capacity analyses to determine how well the roadway system and access drives are projected to operate and whether any roadway improvements or modification are required.

### Traffic Analyses

Roadway and adjacent or nearby intersection analyses were performed for the weekday morning, and weekday evening peak hours for the existing (Year 2019) and future projected (Year 2025) traffic volumes.

The traffic analyses were performed using the methodologies outlined in the Transportation Research Board's *Highway Capacity Manual (HCM)*, 6<sup>th</sup> Edition and analyzed using the Synchro/SimTraffic 10 computer software.

The analyses for the unsignalized intersections determine the average control delay to vehicles at an intersection. Control delay is the elapsed time from a vehicle joining the queue at a stop sign (includes the time required to decelerate to a stop) until its departure from the stop sign and resumption of free flow speed. The methodology analyzes each intersection approach controlled by a stop sign and considers traffic volumes on all approaches and lane characteristics.

The ability of an intersection to accommodate traffic flow is expressed in terms of level of service, which is assigned a letter from A to F based on the average control delay experienced by vehicles passing through the intersection. The *Highway Capacity Manual* definitions for levels of service and the corresponding control delay for signalized intersections and unsignalized intersections are included in the Appendix of this report.

Summaries of the traffic analysis results showing the level of service and overall intersection delay (measured in seconds) for the existing and Year 2025 total projected conditions are presented in **Tables 2** and **3**. A discussion of the intersections follows. Summary sheets for the capacity analyses are included in the Appendix.

Table 2  
CAPACITY ANALYSIS RESULTS – YEAR 2019 EXISTING CONDITIONS

Intersection	Weekday Morning Peak Hour		Weekday Evening Peak Hour	
	LOS	Delay	LOS	Delay
<b>Cuba Road with Deerwood Drive</b>				
• Westbound Approach	A	7.9	A	7.4
• Northbound Approach	B	10.4	B	10.0
<b>Cuba Road with Nottingham Drive</b>				
• Eastbound Approach	A	7.3	A	8.0
• Southbound Approach	B	10.2	B	10.9
LOS = Level of Service Delay is measured in seconds				

Table 3  
CAPACITY ANALYSIS RESULTS – YEAR 2025 PROJECTED CONDITIONS

Intersection	Weekday Morning Peak Hour		Weekday Evening Peak Hour	
	LOS	Delay	LOS	Delay
<b>Cuba Road with Deerwood Drive</b>				
• Westbound Approach	A	8.0	A	7.4
• Northbound Approach	B	10.5	B	10.1
<b>Cuba Road with Nottingham Drive</b>				
• Eastbound Approach	A	7.3	A	8.0
• Southbound Approach	B	10.3	B	11.1
<b>Cuba Road with Proposed Access Drive</b>				
• Westbound Approach	A	8.0	A	7.4
• Northbound Approach	B	10.6	A	9.6
LOS = Level of Service Delay is measured in seconds				

## Discussion and Recommendations

The following summarizes how the intersections are projected to operate and identifies any roadway and traffic control improvements necessary to accommodate the development traffic.

### *Cuba Road with Deerwood Drive*

The results of the capacity analysis indicate that all the turning movements currently operate at Level of Service (LOS) B or better during the weekday morning and evening peak hours. Under future conditions, all the turning movements are projected to continue to operate at LOS B or better during the weekday morning and evening peak hours with increases in delay of less than one second and 95<sup>th</sup> percentile queues of one to two vehicles for both peak hours.

### *Cuba Road with Nottingham Drive*

The results of the capacity analysis indicate that all the turning movements currently operate at LOS B or better during the weekday morning and evening peak hours. Under future conditions, all the turning movements are projected to continue to operate at LOS B or better during the weekday morning and evening peak hours with increases in delay of less than one second and 95<sup>th</sup> percentile queues of one to two vehicles for both peak hours.

### *Cuba Road with the Proposed Access Drive*

The results of the capacity analysis indicate that all the turning movements will operate at LOS B or better during the weekday morning and evening peak hours with 95<sup>th</sup> percentile queues of one to two vehicles during both peak hours. Inspection of the projected traffic volumes and the requirements for right-turn and left-turn lanes found in IDOT's *Bureau of Design and Environment Manual (BDE) Manual*, Chapter 36, Figure 36-3.A and Section 36-3.01(b) indicates that an exclusive eastbound right-turn lane and an exclusive westbound left-turn lane on Cuba Road at this access drive will not be necessary due to a low volume of right and left turns. A copy of Figure 36-3.A and Section 36-3.01(b) are included in the Appendix.

## 6. Conclusion

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

- The residential development will generate a low volume of traffic during the weekday morning and evening peak hours and will have a low traffic impact on the surrounding roadway network.
- The results of the capacity analysis indicate that the proposed residential development will not have a significant impact on the operations of Cuba Road with Deerwood Drive and Cuba Road with Nottingham Drive.
- The proposed access system will be adequate and efficient in serving the proposed residential development traffic.
- Based on the projected traffic volumes, an eastbound right-turn lane and a westbound left-turn will not be warranted on Cuba Road at the proposed access drive.

# Appendix

Traffic Count Summary Sheets  
Preliminary Site Plan  
CMAP Projections Letter  
Level of Service Criteria  
Capacity Analysis Summary Sheets  
Turn Lane Warrants  
ITE Trip Generation Sheets

# Traffic Count Summary Sheets



Long Grove, IL Weather: Cool and Morning Rain  
 Cuba Rd and Nottingham Dr  
 Wednesday May 1, 2019

05/02/19  
 10:09:01

URNS/TEAPAC[Ver 3.61.12] - 15-Minute Counts: All Vehicles - by Mvmt

Intersection # 5 cuba/nottingham

Begin Time	N-Approach			E-Approach			S-Approach			W-Approach			Int Total
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	
630	0	0	0	0	0	0	0	0	0	0	0	0	0
645	3	0	0	2	0	0	0	0	0	0	0	1	6
700	0	0	0	1	0	0	0	0	0	0	0	0	1
715	1	0	1	0	0	0	0	0	0	0	0	1	3
730	3	0	4	1	0	0	0	0	0	0	0	1	9
745	1	0	3	0	0	0	0	0	0	0	0	1	5
800	1	0	3	2	0	0	0	0	0	0	0	0	6
815	1	0	3	0	0	0	0	0	0	0	0	1	5
830	1	0	2	1	0	0	0	0	0	0	0	0	4
845	0	0	0	0	0	0	0	0	0	0	0	0	0
1600	2	0	0	0	0	0	0	0	0	0	0	1	3
1615	0	0	0	1	0	0	0	0	0	0	0	2	3
1630	1	0	1	1	0	0	0	0	0	0	0	0	3
1645	0	0	3	1	0	0	0	0	0	0	0	1	5
1700	0	0	0	1	0	0	0	0	0	0	0	1	2
1715	1	0	2	1	0	0	0	0	0	0	0	0	4
1730	0	0	1	4	0	0	0	0	0	0	0	1	6
1745	2	0	3	3	0	0	0	0	0	0	0	0	8
1800	1	0	1	3	0	0	0	0	0	0	0	2	7
1815	0	0	1	1	0	0	0	0	0	0	0	0	2
<b>Total</b>	<b>18</b>	<b>0</b>	<b>28</b>	<b>23</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>13</b>	<b>82</b>

Long Grove, IL Weather: Cool and Morning Rain  
 Cuba Rd and Nottingham Dr  
 Wednesday May 1, 2019

05/02/19  
 10:09:01

URNS/TEAPAC[Ver 3.61.12] - 15-Minute Counts: All Vehicles - Totals

Intersection # 5 cuba/nottingham

Begin Time	Approach Totals				Exit Totals				Int Total
	N	E	S	W	N	E	S	W	
630	0	0	0	0	0	0	0	0	0
645	3	2	0	1	3	0	0	3	6
700	0	1	0	0	1	0	0	0	1
715	2	0	0	1	1	1	0	1	3
730	7	1	0	1	2	4	0	3	9
745	4	0	0	1	1	3	0	1	5
800	4	2	0	0	2	3	0	1	6
815	4	0	0	1	1	3	0	1	5
830	3	1	0	0	1	2	0	1	4
845	0	0	0	0	0	0	0	0	0
1600	2	0	0	1	1	0	0	2	3
1615	0	1	0	2	3	0	0	0	3
1630	2	1	0	0	1	1	0	1	3
1645	3	1	0	1	2	3	0	0	5
1700	0	1	0	1	2	0	0	0	2
1715	3	1	0	0	1	2	0	1	4
1730	1	4	0	1	5	1	0	0	6
1745	5	3	0	0	3	3	0	2	8
1800	2	3	0	2	5	1	0	1	7
1815	1	1	0	0	1	1	0	0	2
<b>Total</b>	<b>46</b>	<b>23</b>	<b>0</b>	<b>13</b>	<b>36</b>	<b>28</b>	<b>0</b>	<b>18</b>	<b>82</b>



Long Grove, IL Weather: Cool and Morning Rain  
 Cuba Rd and Nottingham Dr  
 Wednesday May 1, 2019

05/02/19  
 10:09:01

URNS/TEAPAC[Ver 3.61.12] - 15-Minute Flow Rates: Appr/Exit Totals

Intersection # 5 cuba/nottingham

Begin Time	Approach Totals				Exit Totals				Int Total
	N	E	S	W	N	E	S	W	
630	0	0	0	0	0	0	0	0	0
645	12	8	0	4	12	0	0	12	24
700	0	4	0	0	4	0	0	0	4
715	8	0	0	4	4	4	0	4	12
730	28	4	0	4	8	16	0	12	36
745	16	0	0	4	4	12	0	4	20
800	16	8	0	0	8	12	0	4	24
815	16	0	0	4	4	12	0	4	20
830	12	4	0	0	4	8	0	4	16
845	0	0	0	0	0	0	0	0	0
1600	8	0	0	4	4	0	0	8	12
1615	0	4	0	8	12	0	0	0	12
1630	8	4	0	0	4	4	0	4	12
1645	12	4	0	4	8	12	0	0	20
1700	0	4	0	4	8	0	0	0	8
1715	12	4	0	0	4	8	0	4	16
1730	4	16	0	4	20	4	0	0	24
1745	20	12	0	0	12	12	0	8	32
1800	8	12	0	8	20	4	0	4	28
1815	4	4	0	0	4	4	0	0	8



Long Grove, IL Weather: Cool and Morning Rain  
 Cuba Rd and Nottingham Dr  
 Wednesday May 1, 2019

05/02/19  
 10:09:01

URNS/TEAPAC[Ver 3.61.12] - 60-Minute Volumes: Appr/Exit Totals

Intersection # 5 cuba/nottingham

Begin Time	Approach Totals				Exit Totals				Int Total
	N	E	S	W	N	E	S	W	
630	5	3	0	2	5	1	0	4	10
645	12	4	0	3	7	5	0	7	19
700	13	2	0	3	5	8	0	5	18
715	17	3	0	3	6	11	0	6	23
730	19	3	0	3	6	13	0	6	25
745	15	3	0	2	5	11	0	4	20
800	11	3	0	1	4	8	0	3	15
815	7	1	0	1	2	5	0	2	9*
830	3	1	0	0	1	2	0	1	4*
845	0	0	0	0	0	0	0	0	0*
1600	7	3	0	4	7	4	0	3	14
1615	5	4	0	4	8	4	0	1	13
1630	8	4	0	2	6	6	0	2	14
1645	7	7	0	3	10	6	0	1	17
1700	9	9	0	2	11	6	0	3	20
1715	11	11	0	3	14	7	0	4	25
1730	9	11	0	3	14	6	0	3	23
1745	8	7	0	2	9	5	0	3	17*
1800	3	4	0	2	6	2	0	1	9*
1815	1	1	0	0	1	1	0	0	2*

Long Grove, IL Weather: Cool and Morning Rain  
 Cuba Rd and Deerwood Dr  
 Wednesday May 1, 2019

05/02/19  
 10:07:09

URNS/TEAPAC[Ver 3.61.12] - 15-Minute Counts: All Vehicles - by Mvmt

Intersection # 4 cuba/deerwood

Begin Time	N-Approach			E-Approach			S-Approach			W-Approach			Int Total
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	
630	0	0	0	0	3	0	4	0	2	0	28	0	37
645	0	0	0	0	6	1	3	0	0	0	33	0	43
700	0	0	0	0	2	0	2	0	0	0	50	0	54
715	0	0	0	0	3	0	2	0	1	0	76	0	82
730	0	0	0	0	10	4	5	0	1	0	79	0	99
745	0	0	0	0	8	1	3	0	1	1	53	0	67
800	0	0	0	0	8	1	2	0	1	0	63	0	75
815	0	0	0	0	10	0	0	0	0	0	30	0	40
830	0	0	0	0	7	0	0	0	2	0	20	0	29
845	0	0	0	0	4	0	3	0	2	1	32	0	42
1600	0	0	0	0	35	3	1	0	0	0	11	0	50
1615	0	0	0	0	56	2	1	0	0	0	14	0	73
1630	0	0	0	0	48	1	0	0	0	0	4	0	53
1645	0	0	0	0	66	0	2	0	0	0	6	0	74
1700	0	0	0	0	59	0	1	0	3	0	8	0	71
1715	0	0	0	0	83	2	1	0	0	0	8	0	94
1730	0	0	0	0	62	0	0	0	2	1	15	0	80
1745	0	0	0	0	75	1	0	0	0	1	31	0	108
1800	0	0	0	0	42	4	2	0	1	0	20	0	69
1815	0	0	0	0	20	3	2	0	0	0	12	0	37
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>607</b>	<b>23</b>	<b>34</b>	<b>0</b>	<b>16</b>	<b>4</b>	<b>593</b>	<b>0</b>	<b>1277</b>

Long Grove, IL Weather: Cool and Morning Rain  
 Cuba Rd and Deerwood Dr  
 Wednesday May 1, 2019

05/02/19  
 10:07:09

URNS/TEAPAC[Ver 3.61.12] - 15-Minute Counts: All Vehicles - Totals

Intersection # 4 cuba/deerwood

Begin Time	Approach Totals				Exit Totals				Int Total
	N	E	S	W	N	E	S	W	
630	0	3	6	28	0	32	0	5	37
645	0	7	3	33	0	36	1	6	43
700	0	2	2	50	0	52	0	2	54
715	0	3	3	76	0	78	0	4	82
730	0	14	6	79	0	84	4	11	99
745	0	9	4	54	0	56	2	9	67
800	0	9	3	63	0	65	1	9	75
815	0	10	0	30	0	30	0	10	40
830	0	7	2	20	0	20	0	9	29
845	0	4	5	33	0	35	1	6	42
1600	0	38	1	11	0	12	3	35	50
1615	0	58	1	14	0	15	2	56	73
1630	0	49	0	4	0	4	1	48	53
1645	0	66	2	6	0	8	0	66	74
1700	0	59	4	8	0	9	0	62	71
1715	0	85	1	8	0	9	2	83	94
1730	0	62	2	16	0	15	1	64	80
1745	0	76	0	32	0	31	2	75	108
1800	0	46	3	20	0	22	4	43	69
1815	0	23	2	12	0	14	3	20	37
<b>Total</b>	<b>0</b>	<b>630</b>	<b>50</b>	<b>597</b>	<b>0</b>	<b>627</b>	<b>27</b>	<b>623</b>	<b>1277</b>



Long Grove, IL Weather: Cool and Morning Rain  
 Cuba Rd and Deerwood Dr  
 Wednesday May 1, 2019

05/02/19  
 10:07:09

URNS/TEAPAC[Ver 3.61.12] - 15-Minute Flow Rates: by Movement

Intersection # 4 cuba/deerwood

Begin Time	N-Approach			E-Approach			S-Approach			W-Approach			Int Total
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	
630	0	0	0	0	12	0	16	0	8	0	112	0	148
645	0	0	0	0	24	4	12	0	0	0	132	0	172
700	0	0	0	0	8	0	8	0	0	0	200	0	216
715	0	0	0	0	12	0	8	0	4	0	304	0	328
730	0	0	0	0	40	16	20	0	4	0	316	0	396
745	0	0	0	0	32	4	12	0	4	4	212	0	268
800	0	0	0	0	32	4	8	0	4	0	252	0	300
815	0	0	0	0	40	0	0	0	0	0	120	0	160
830	0	0	0	0	28	0	0	0	8	0	80	0	116
845	0	0	0	0	16	0	12	0	8	4	128	0	168
1600	0	0	0	0	140	12	4	0	0	0	44	0	200
1615	0	0	0	0	224	8	4	0	0	0	56	0	292
1630	0	0	0	0	192	4	0	0	0	0	16	0	212
1645	0	0	0	0	264	0	8	0	0	0	24	0	296
1700	0	0	0	0	236	0	4	0	12	0	32	0	284
1715	0	0	0	0	332	8	4	0	0	0	32	0	376
1730	0	0	0	0	248	0	0	0	8	4	60	0	320
1745	0	0	0	0	300	4	0	0	0	4	124	0	432
1800	0	0	0	0	168	16	8	0	4	0	80	0	276
1815	0	0	0	0	80	12	8	0	0	0	48	0	148

Long Grove, IL Weather: Cool and Morning Rain  
 Cuba Rd and Deerwood Dr  
 Wednesday May 1, 2019

05/02/19  
 10:07:09

URNS/TEAPAC[Ver 3.61.12] - 15-Minute Flow Rates: Appr/Exit Totals

Intersection # 4 cuba/deerwood

Begin Time	Approach Totals				Exit Totals				Int Total
	N	E	S	W	N	E	S	W	
630	0	12	24	112	0	128	0	20	148
645	0	28	12	132	0	144	4	24	172
700	0	8	8	200	0	208	0	8	216
715	0	12	12	304	0	312	0	16	328
730	0	56	24	316	0	336	16	44	396
745	0	36	16	216	0	224	8	36	268
800	0	36	12	252	0	260	4	36	300
815	0	40	0	120	0	120	0	40	160
830	0	28	8	80	0	80	0	36	116
845	0	16	20	132	0	140	4	24	168
1600	0	152	4	44	0	48	12	140	200
1615	0	232	4	56	0	60	8	224	292
1630	0	196	0	16	0	16	4	192	212
1645	0	264	8	24	0	32	0	264	296
1700	0	236	16	32	0	36	0	248	284
1715	0	340	4	32	0	36	8	332	376
1730	0	248	8	64	0	60	4	256	320
1745	0	304	0	128	0	124	8	300	432
1800	0	184	12	80	0	88	16	172	276
1815	0	92	8	48	0	56	12	80	148

Long Grove, IL Weather: Cool and Morning Rain  
 Cuba Rd and Deerwood Dr  
 Wednesday May 1, 2019

05/02/19  
 10:07:09

URNS/TEAPAC[Ver 3.61.12] - 60-Minute Volumes: by Movement

Intersection # 4 cuba/deerwood

Begin Time	N-Approach			E-Approach			S-Approach			W-Approach			Int Total
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	
630	0	0	0	0	14	1	11	0	3	0	187	0	216
645	0	0	0	0	21	5	12	0	2	0	238	0	278
700	0	0	0	0	23	5	12	0	3	1	258	0	302
715	0	0	0	0	29	6	12	0	4	1	271	0	323
730	0	0	0	0	36	6	10	0	3	1	225	0	281
745	0	0	0	0	33	2	5	0	4	1	166	0	211
800	0	0	0	0	29	1	5	0	5	1	145	0	186
815	0	0	0	0	21	0	3	0	4	1	82	0	111*
830	0	0	0	0	11	0	3	0	4	1	52	0	71*
845	0	0	0	0	4	0	3	0	2	1	32	0	42*
1600	0	0	0	0	205	6	4	0	0	0	35	0	250
1615	0	0	0	0	229	3	4	0	3	0	32	0	271
1630	0	0	0	0	256	3	4	0	3	0	26	0	292
1645	0	0	0	0	270	2	4	0	5	1	37	0	319
1700	0	0	0	0	279	3	2	0	5	2	62	0	353
1715	0	0	0	0	262	7	3	0	3	2	74	0	351
1730	0	0	0	0	199	8	4	0	3	2	78	0	294
1745	0	0	0	0	137	8	4	0	1	1	63	0	214*
1800	0	0	0	0	62	7	4	0	1	0	32	0	106*
1815	0	0	0	0	20	3	2	0	0	0	12	0	37*

Long Grove, IL Weather: Cool and Morning Rain  
 Cuba Rd and Deerwood Dr  
 Wednesday May 1, 2019

05/02/19  
 10:07:09

URNS/TEAPAC[Ver 3.61.12] - 60-Minute Volumes: Appr/Exit Totals

Intersection # 4 cuba/deerwood

Begin Time	Approach Totals				Exit Totals				Int Total
	N	E	S	W	N	E	S	W	
630	0	15	14	187	0	198	1	17	216
645	0	26	14	238	0	250	5	23	278
700	0	28	15	259	0	270	6	26	302
715	0	35	16	272	0	283	7	33	323
730	0	42	13	226	0	235	7	39	281
745	0	35	9	167	0	171	3	37	211
800	0	30	10	146	0	150	2	34	186
815	0	21	7	83	0	85	1	25	111*
830	0	11	7	53	0	55	1	15	71*
845	0	4	5	33	0	35	1	6	42*
1600	0	211	4	35	0	39	6	205	250
1615	0	232	7	32	0	36	3	232	271
1630	0	259	7	26	0	30	3	259	292
1645	0	272	9	38	0	41	3	275	319
1700	0	282	7	64	0	64	5	284	353
1715	0	269	6	76	0	77	9	265	351
1730	0	207	7	80	0	82	10	202	294
1745	0	145	5	64	0	67	9	138	214*
1800	0	69	5	32	0	36	7	63	106*
1815	0	23	2	12	0	14	3	20	37*

# Preliminary Site Plan



**NOTES:**

THE PROPOSED PLAN IS TO BE USED TO OBTAIN THE NECESSARY PERMITS TO DEVELOP THE PROPERTY TO BE SUBDIVIDED AND TO BE USED TO OBTAIN THE NECESSARY PERMITS TO DEVELOP THE PROPERTY TO BE SUBDIVIDED AND TO BE USED TO OBTAIN THE NECESSARY PERMITS TO DEVELOP THE PROPERTY TO BE SUBDIVIDED.



**SUBDIVISION DESIGN STANDARDS**

PROPOSED ZONING	R2-PUD
TOTAL NUMBER OF LOTS	19
PRIVATE ROADWAY EMPLOYMENT	10 FT
MIN. CURB OR SAC RADIUS	30 FT
BUILDING SETBACK	10 FT
FRONT YARD	40 FT
REAR	40 FT

100 FT CONSERVANCY EASEMENT ALONG CUBA ROAD

Lot #	Lot Area (SF)	Lot Area (AC)
1	47,608	1.09
2	40,125	0.92
3	41,111	0.93
4	49,284	1.13
5	45,271	1.04
6	41,419	0.95
7	40,276	0.92
8	40,379	0.93
9	46,139	1.06
10	40,071	0.92
11	40,008	0.92
12	41,621	1.00
13	40,631	0.93
14	40,436	0.93
15	41,871	0.95
16	64,674	1.48
17	44,607	1.02
18	41,087	0.94
19	48,876	1.12
<b>Total Lot Area</b>	<b>838,946</b>	<b>19.26</b>

COMMON AREA SUMMARY	Area (SF)	Lot Area (AC)
OUTLOT A	67,950	1.56
OUTLOT B	18,301	0.42
OUTLOT C	121,111	2.81
OUTLOT D	304,467	6.99
OUTLOT E	4,051	0.09
OUTLOT F	31,811	0.73
OUTLOT G	126,114	2.90
<b>COMMON</b>	<b>678,007</b>	<b>15.56</b>

AREA SUMMARY	Area (SF)	Area (AC)	
LOT AREA	838,946	19.26	55%
COMMON AREA	678,007	15.56	45%
<b>Total</b>	<b>1,516,953</b>	<b>34.82</b>	<b>100%</b>

LOT SUMMARY	Area (SF)	Area (AC)
Min. Lot	40,008	0.92
Max. Lot	64,674	1.48
Ave. Lot	44,155	1.01
<b>Total Parcel Area</b>	<b>34.82</b>	<b>AC</b>
<b>Density</b>	<b>0.55</b>	<b>lots / AC</b>



Cross Engineering & Associates, Inc.  
1000 Peachtree Street, Suite 1100  
Atlanta, GA 30309  
Tel: 404.525.1100



PROJECT: CANTERBURY PARC SUBDIVISION  
CUBA ROAD, LONG GROVE, GA

PREPARED FOR: CANTERBURY PARC, LLC  
Cubac Park, L. 60042

DATE: 10/15/2024

SCALE: 1" = 100'

CONCEPT SITEPLAN

R2 - PUD

Sheet No. 120

Page 4 of 6

# CMAP Projections Letter



# Chicago Metropolitan Agency for Planning

233 South Wacker Drive  
Suite 800  
Chicago, Illinois 60606  
  
312 454 0400  
www.cmap.illinois.gov

May 3, 2019

Elise Purguette  
Consultant  
Kenig, Lindgren, O'Hara and Aboona, Inc.  
9575 West Higgins Road  
Suite 400  
Rosemont, IL 60018

**Subject: Cuba Road east of Nottingham Drive  
IDOT**

Dear Ms. Purguette:

In response to a request made on your behalf and dated May 3, 2019, we have developed year 2050 average daily traffic (ADT) projections for the subject location.

ROAD SEGMENT	Current Volume	Year 2050 ADT
Cuba Rd east of Nottingham Rd	2,400	3,100

Traffic projections are developed using existing ADT data provided in the request letter and the results from the March 2019 CMAP Travel Demand Analysis. The regional travel model uses CMAP 2050 socioeconomic projections and assumes the implementation of the ON TO 2050 Comprehensive Regional Plan for the Northeastern Illinois area. The provision of this data in support of your request does not constitute a CMAP endorsement of the proposed development or any subsequent developments.

If you have any questions, please call me at (312) 386-8806.

Sincerely,

Jose Rodriguez, PTP, AICP  
Senior Planner, Research & Analysis

cc: Quigley (IDOT)  
S:\AdminGroups\ResearchAnalysis\2019\_ForecastsTraffic\LongGrove\la-21-19\la-21-19.docx



## Level of Service Criteria

LEVEL OF SERVICE CRITERIA

<b>Signalized Intersections</b>		
<b>Level of Service</b>	<b>Interpretation</b>	<b>Average Control Delay (seconds per vehicle)</b>
A	Favorable progression. Most vehicles arrive during the green indication and travel through the intersection without stopping.	≤10
B	Good progression, with more vehicles stopping than for Level of Service A.	>10 - 20
C	Individual cycle failures (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may begin to appear. Number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.	>20 - 35
D	The volume-to-capacity ratio is high and either progression is ineffective or the cycle length is too long. Many vehicles stop and individual cycle failures are noticeable.	>35 - 55
E	Progression is unfavorable. The volume-to-capacity ratio is high and the cycle length is long. Individual cycle failures are frequent.	>55 - 80
F	The volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.	>80.0
<b>Unsignalized Intersections</b>		
<b>Level of Service</b>	<b>Average Total Delay (SEC/VEH)</b>	
A	0 - 10	
B	> 10 - 15	
C	> 15 - 25	
D	> 25 - 35	
E	> 35 - 50	
F	> 50	

Source: *Highway Capacity Manual*, 2010.

Capacity Analysis Summary Sheets  
Existing Weekday Morning Peak Hour Conditions

HCM 6th TWSC  
1: Deerwood Drive & Cuba Road

05/03/2019

Intersection						
Int Delay, s/veh	0.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	271	1	6	29	4	12
Future Vol, veh/h	271	1	6	29	4	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	330	1	7	35	5	15

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	331	0	380
Stage 1	-	-	-	-	331
Stage 2	-	-	-	-	49
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1228	-	622
Stage 1	-	-	-	-	728
Stage 2	-	-	-	-	973
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1228	-	618
Mov Cap-2 Maneuver	-	-	-	-	618
Stage 1	-	-	-	-	724
Stage 2	-	-	-	-	973

Approach	EB	WB	NB
HCM Control Delay, s	0	1.4	10.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	685	-	-	1228	-
HCM Lane V/C Ratio	0.028	-	-	0.006	-
HCM Control Delay (s)	10.4	-	-	7.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

HCM 6th TWSC  
2: Cuba Road & Nottingham Drive

05/03/2019

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	3	280	29	3	11	6
Future Vol, veh/h	3	280	29	3	11	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	341	35	4	13	7

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	39	0	-	0	386 37
Stage 1	-	-	-	-	37 -
Stage 2	-	-	-	-	349 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1571	-	-	-	617 1035
Stage 1	-	-	-	-	985 -
Stage 2	-	-	-	-	714 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1571	-	-	-	615 1035
Mov Cap-2 Maneuver	-	-	-	-	615 -
Stage 1	-	-	-	-	982 -
Stage 2	-	-	-	-	714 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	10.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1571	-	-	-	718
HCM Lane V/C Ratio	0.002	-	-	-	0.029
HCM Control Delay (s)	7.3	0	-	-	10.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Capacity Analysis Summary Sheets  
Existing Weekday Evening Peak Hour Conditions

HCM 6th TWSC  
1: Deerwood Drive & Cuba Road

05/03/2019

Intersection						
Int Delay, s/veh	0.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	74	2	7	262	3	3
Future Vol, veh/h	74	2	7	262	3	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	90	2	9	320	4	4

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	92	0	429
Stage 1	-	-	-	-	91
Stage 2	-	-	-	-	338
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1503	-	583
Stage 1	-	-	-	-	933
Stage 2	-	-	-	-	722
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1503	-	579
Mov Cap-2 Maneuver	-	-	-	-	579
Stage 1	-	-	-	-	926
Stage 2	-	-	-	-	722

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	724	-	-	1503	-
HCM Lane V/C Ratio	0.01	-	-	0.006	-
HCM Control Delay (s)	10	-	-	7.4	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

HCM 6th TWSC  
2: Cuba Road & Nottingham Drive

05/03/2019

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Vol, veh/h	3	74	265	11	7	4
Future Vol, veh/h	3	74	265	11	7	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	90	323	13	9	5

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	336	0	-	0	428 330
Stage 1	-	-	-	-	330 -
Stage 2	-	-	-	-	98 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1223	-	-	-	584 712
Stage 1	-	-	-	-	728 -
Stage 2	-	-	-	-	926 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1223	-	-	-	582 712
Mov Cap-2 Maneuver	-	-	-	-	582 -
Stage 1	-	-	-	-	726 -
Stage 2	-	-	-	-	926 -

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1223	-	-	-	623
HCM Lane V/C Ratio	0.003	-	-	-	0.022
HCM Control Delay (s)	8	0	-	-	10.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1



Capacity Analysis Summary Sheets  
Projected Weekday Morning Peak Hour Conditions

HCM 6th TWSC  
1: Deerwood Drive & Cuba Road

05/09/2019

Intersection						
Int Delay, s/veh	0.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	283	1	6	33	4	12
Future Vol, veh/h	283	1	6	33	4	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	345	1	7	40	5	15

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	346	0	400
Stage 1	-	-	-	-	346
Stage 2	-	-	-	-	54
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1213	-	606
Stage 1	-	-	-	-	716
Stage 2	-	-	-	-	969
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1213	-	602
Mov Cap-2 Maneuver	-	-	-	-	602
Stage 1	-	-	-	-	712
Stage 2	-	-	-	-	969

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	10.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	671	-	-	1213	-
HCM Lane V/C Ratio	0.029	-	-	0.006	-
HCM Control Delay (s)	10.5	-	-	8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

HCM 6th TWSC  
2: Cuba Road & Nottingham Drive

05/09/2019

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	3	292	33	3	11	6
Future Vol, veh/h	3	292	33	3	11	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	356	40	4	13	7

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	44	0	-	0	406 42
Stage 1	-	-	-	-	42 -
Stage 2	-	-	-	-	364 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1564	-	-	-	601 1029
Stage 1	-	-	-	-	980 -
Stage 2	-	-	-	-	703 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1564	-	-	-	599 1029
Mov Cap-2 Maneuver	-	-	-	-	599 -
Stage 1	-	-	-	-	977 -
Stage 2	-	-	-	-	703 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	10.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1564	-	-	-	703
HCM Lane V/C Ratio	0.002	-	-	-	0.029
HCM Control Delay (s)	7.3	0	-	-	10.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

HCM 6th TWSC  
 3: Proposed Access Drive & Cuba Road

05/09/2019

Intersection						
Int Delay, s/veh	0.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	302	1	4	33	3	10
Future Vol, veh/h	302	1	4	33	3	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	368	1	5	40	4	12

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	369	0	419
Stage 1	-	-	-	-	369
Stage 2	-	-	-	-	50
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1190	-	591
Stage 1	-	-	-	-	699
Stage 2	-	-	-	-	972
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1190	-	589
Mov Cap-2 Maneuver	-	-	-	-	589
Stage 1	-	-	-	-	696
Stage 2	-	-	-	-	972

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	10.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	654	-	-	1190	-
HCM Lane V/C Ratio	0.024	-	-	0.004	-
HCM Control Delay (s)	10.6	-	-	8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Capacity Analysis Summary Sheets  
Projected Weekday Evening Peak Hour Conditions

HCM 6th TWSC  
1: Deerwood Drive & Cuba Road

05/09/2019

Intersection						
Int Delay, s/veh	0.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	80	2	7	275	3	3
Future Vol, veh/h	80	2	7	275	3	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	98	2	9	335	4	4

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	100	0	452
Stage 1	-	-	-	-	99
Stage 2	-	-	-	-	353
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1493	-	565
Stage 1	-	-	-	-	925
Stage 2	-	-	-	-	711
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1493	-	561
Mov Cap-2 Maneuver	-	-	-	-	561
Stage 1	-	-	-	-	919
Stage 2	-	-	-	-	711

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	10.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	707	-	-	1493	-
HCM Lane V/C Ratio	0.01	-	-	0.006	-
HCM Control Delay (s)	10.1	-	-	7.4	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

HCM 6th TWSC  
2: Cuba Road & Nottingham Drive

05/09/2019

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	3	80	278	11	7	4
Future Vol, veh/h	3	80	278	11	7	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	98	339	13	9	5

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	352	0	-	0	452
Stage 1	-	-	-	-	346
Stage 2	-	-	-	-	106
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	1207	-	-	-	565
Stage 1	-	-	-	-	716
Stage 2	-	-	-	-	918
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1207	-	-	-	563
Mov Cap-2 Maneuver	-	-	-	-	563
Stage 1	-	-	-	-	713
Stage 2	-	-	-	-	918

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	11.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1207	-	-	-	605
HCM Lane V/C Ratio	0.003	-	-	-	0.022
HCM Control Delay (s)	8	0	-	-	11.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

HCM 6th TWSC  
 3: Proposed Access Drive & Cuba Road

05/09/2019

Intersection						
Int Delay, s/veh	0.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	84	3	10	287	2	6
Future Vol, veh/h	84	3	10	287	2	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	102	4	12	350	2	7

Major/Minor	Major1	Major2	Minor1	Minor2		
Conflicting Flow All	0	0	106	0	478	104
Stage 1	-	-	-	-	104	-
Stage 2	-	-	-	-	374	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1485	-	546	951
Stage 1	-	-	-	-	920	-
Stage 2	-	-	-	-	696	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1485	-	541	951
Mov Cap-2 Maneuver	-	-	-	-	541	-
Stage 1	-	-	-	-	911	-
Stage 2	-	-	-	-	696	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	9.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	800	-	-	1485	-
HCM Lane V/C Ratio	0.012	-	-	0.008	-
HCM Control Delay (s)	9.6	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-



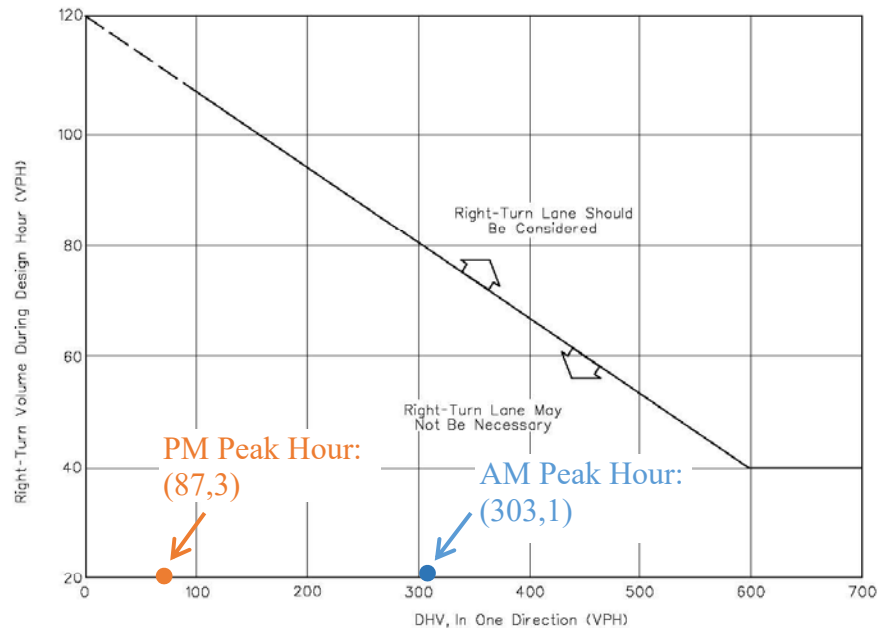
# Turn Lane Warrants

# Cuba Road and the Proposed Access Drive Year 2025 Right Turn Lane Warrant

Illinois

INTERSECTIONS

October 2015



*Note: For highways with a design speed below 50 mph (80 km/hr), with a DHV in one direction of less than 300, and where right turns are greater than 40, an adjustment should be used. To read the vertical axis of the chart, subtract 20 from the actual number of right turns.*

## Example

Given: Design Speed = 35 mph (60 km/hr)  
 DHV (in one direction) = 250 vph  
 Right Turns = 100 vph

Problem: Determine if a right-turn lane is warranted.

Solution: To read the vertical axis, use  $100 - 20 = 80$  vph. The figure indicates that right-turn lane is not necessary, unless other factors (e.g., high crash rate) indicate a lane is needed.

## GUIDELINES FOR RIGHT-TURN LANES AT UNSIGNALIZED INTERSECTIONS ON TWO-LANE HIGHWAYS

Figure 36-3.A

**36-3.01(b) Left-Turn Lanes**

The accommodation of left turns is often the critical factor in proper intersection design. Left-turn lanes can significantly improve both the level of service and intersection safety. Always use an exclusive left-turn lane at all intersections on divided urban and rural highways with a median wide enough to accommodate a left-turn lane, regardless of traffic volumes. Consider using an exclusive left-turn lane for the following:

- at any unsignalized intersection on a two-lane urban or rural highway that satisfies the criteria in Figures 36-3.C, D, E, F, or G;
- at any signalized intersection where the left-turning volume is equal to or greater than 75 vph for a single turn lane or 300 vph for a dual turn lane;
- any intersection where a capacity analysis determines a left-turn lane is necessary to meet the level-of-service criteria, including dual left-turn lanes;
- for uniformity of intersection design along the highway if other intersections have left-turn lanes (i.e., to satisfy driver expectancy); or
- any intersection where the crash experience, traffic operations, sight distance restrictions (e.g., intersection beyond a crest vertical curve), or engineering judgment indicates a significant conflict related to left-turning vehicles.

# ITE Trip Generation Sheets

# Single-Family Detached Housing (210)

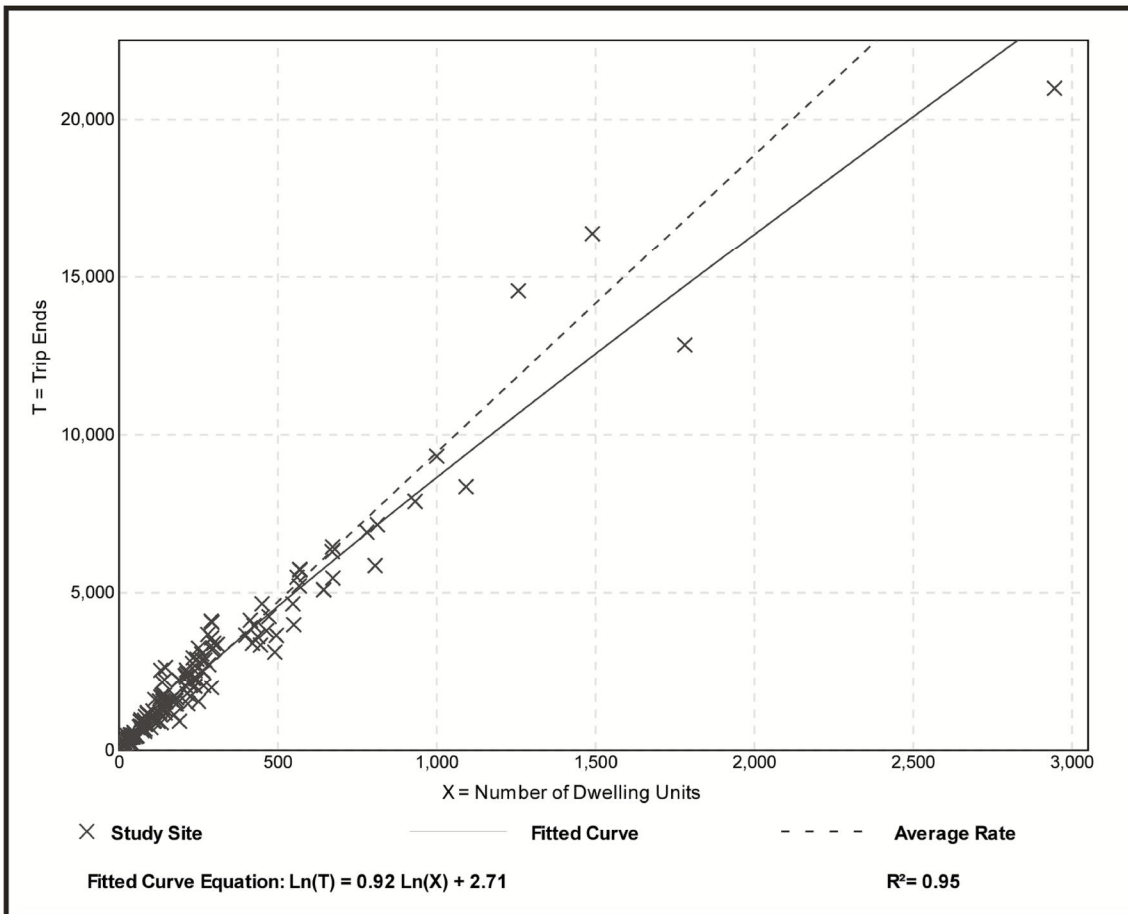
**Vehicle Trip Ends vs: Dwelling Units**  
**On a: Weekday**

**Setting/Location: General Urban/Suburban**  
 Number of Studies: 159  
 Avg. Num. of Dwelling Units: 264  
 Directional Distribution: 50% entering, 50% exiting

## Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
9.44	4.81 - 19.39	2.10

## Data Plot and Equation



# Single-Family Detached Housing (210)

**Vehicle Trip Ends vs: Dwelling Units**  
**On a: Weekday,**  
**Peak Hour of Adjacent Street Traffic,**  
**One Hour Between 7 and 9 a.m.**

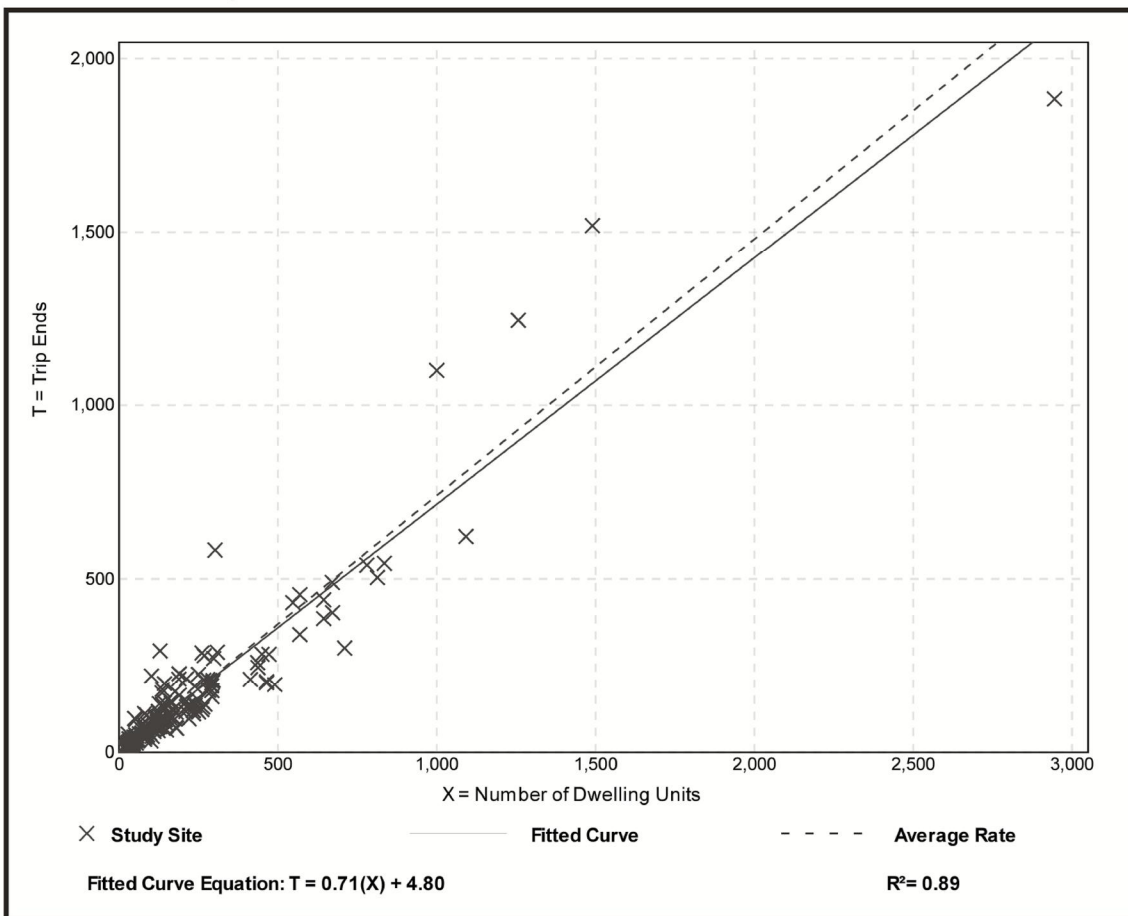
**Setting/Location: General Urban/Suburban**

Number of Studies: 173  
 Avg. Num. of Dwelling Units: 219  
 Directional Distribution: 25% entering, 75% exiting

## Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.74	0.33 - 2.27	0.27

## Data Plot and Equation



# Single-Family Detached Housing (210)

**Vehicle Trip Ends vs: Dwelling Units**  
**On a: Weekday,**  
**Peak Hour of Adjacent Street Traffic,**  
**One Hour Between 4 and 6 p.m.**

**Setting/Location: General Urban/Suburban**

Number of Studies: 190  
 Avg. Num. of Dwelling Units: 242  
 Directional Distribution: 63% entering, 37% exiting

## Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.99	0.44 - 2.98	0.31

## Data Plot and Equation

