SITE DEVELOPMENT PLAN
for
LONG ELEMENTARY
STORM SHELTER ADDITION

A TRACT OF LAND BEING PART OF LOT 3 OF THE JAMES MCCORMICK ESTATE AND SITUATED IN THE SOUTH 1/2 OF SECTION 18, TOWNSHIP 44 NORTH, RANGE 6 EAST OF THE 5TH PRINCIPAL MERIDIAN & ALL OF LOT A OF SAPPINGTON-DOERCREST CONSOLIDATION PLAT AS RECORDED IN PLAT BOOK 361 PAGE 106 ST. LOUIS COUNTY, MISSOURI

LEGEND

EXISTING CONTOURS	433
PROPOSED CONTOURS	433
EXISTING STORM SEWER	
PROPOSED STORM SEWER	ST ST
EXISTING SANITARY SEWER	
PROPOSED SANITARY SEWER	SAN SAN
RIGHT-OF-WAY	
EASEMENT	
CENTERLINE	
EXISTING TREE	
EXISTING SPOT ELEVATION	x 433.28
PROPOSED SPOT ELEVATION	433.28
SWALE	
TO BE REMOVED	T.B.R.
TO BE REMOVED & RELOCATED	T.B.R.& R.
TO BE USED IN PLACE	U.I.P.
ADJUST TO GRADE	A.T.G.
BACK OF CURB	B.C.
FACE OF CURB	F.C.
WATER MAIN	W W
GAS MAIN	GAS GAS
UNDERGROUND TELEPHONE	T T
OVERHEAD WIRE	OHE OHE
UNDERGROUND ELECTRIC	E E
SILTATION CONTROL	X X
FIRE HYDRANT	
POWER POLE	
WATER VALVE	WV
LIGHT STANDARD	

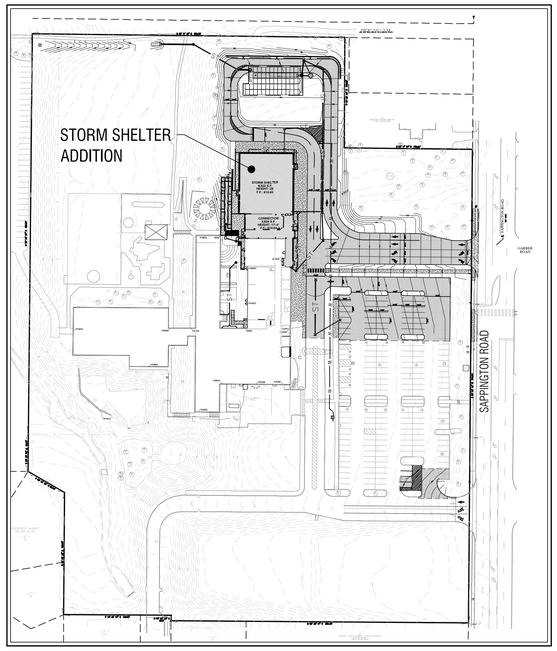
ABBREVIATIONS

N	NORTH
S	SOUTH
E	EAST
W	WEST
EX.	EXISTING
PR.	PROPOSED
CONC	CONCRETE
ASPH	ASPHALT
PB	PLAT BOOK
DB	DEED BOOK
PG	PAGE
SF	SQUARE FEET
AC	ACRES
ELEV	ELEVATION
FF	FINISH FLOOR
FL	FLOWLINE
PVC	POLYVINYL CHLORIDE PIPE
RCP	REINFORGED CONCRETE PIPE
STM	STORM
SAN	SANITARY
(S)	SAVE
(R)	REMOVE
(T.B.R.)	TO BE REMOVED
(U.I.P.)	USE IN PLACE

SYMBOLS

WATER MANHOLE	WMH
TELEPHONE MANHOLE	TMH
BRUSH & SHRUB LINE	
BOLLARD	
SIGN	
ELECTRIC YARD LIGHT	
BORING LOCATION	
MAIL BOX	MB
ELECTRIC BOX	EB
CLEAN OUT	CO
GAS VALVE	GV
GAS METER	GM
GAS DRIP	GD

LOCATION MAP
(NOT TO SCALE)



SITE/KEY PLAN
SCALE: 1"= 100'

PROPERTY DATA

OWNER:	LINDBERGH SCHOOLS
SITE ADDRESS:	9021 S. SAPPINGTON ROAD
LOCATOR NO.:	26L420982, 26L420841, 26L420621 AND 26L420861
SITE ACREAGE:	14.5 ACRES
ZONING:	R-1 SINGLE FAMILY RESIDENTIAL
WATERSHED:	GRAVOIS CREEK
FIRE DISTRICT:	CRESTWOOD FIRE & RESCUE
SCHOOL DISTRICT:	LINDBERGH SCHOOLS
FEMA MAP:	29189C0317K

BENCHMARKS

PROJECT

MSD BENCHMARK NO.19370
19370 NAVD88(SLC2011A) ELEV = 620.38 FTUS
OBSERVED AT 620.18 FTUS WITH A CARLSON BRX7 ROVER BROADCASTING THE MODOT CORS. VRS. NETWORK.

"SQ" ON WEST EDGE [LIGHT] STANDARD BASE AT NORTHWEST CORNER OF CRESTWOOD – EUCLID MASONIC TEMPLE PARKING LOT; 200' NORTH OF EDDIE AND PARK ROAD AND 100' EAST OF SAPPINGTON ROAD.

SITE

CUT SQUARE ON SIGN BASE IN THE MOST WEST SIGN BASE ON THE NORTH DRIVELAND OF THE SCHOOL PARKING LOT.

ELEV.: 611.59 FTUS

FLOOD ZONE NOTE

BY GRAPHIC PLOTTING ONLY, THIS PROPERTY DOES NOT LIE WITHIN ANY SPECIAL FLOOD ZONE AREAS ACCORDING TO THE FLOOD INSURANCE RATE MAP PANEL NUMBER 29189C0317K AND COMMUNITY NUMBER 290343 (CITY OF CRESTWOOD) WHICH BEARS AN EFFECTIVE DATE OF 2/4/2015.
THE PROPERTY LIES WITHIN UNSHADED ZONE X (AREAS DETERMINED TO BE OUTSIDE 500 YEAR FLOOD PLAIN).

INDEX OF SHEETS

GENERAL NOTES

1. ALL UTILITIES SHOWN HAVE BEEN LOCATED FROM AVAILABLE RECORDS. THEIR LOCATION SHOULD BE CONSIDERED APPROXIMATE. THE CONTRACTOR HAS THE RESPONSIBILITY TO NOTIFY ALL UTILITY COMPANIES, PRIOR TO CONSTRUCTION, TO HAVE EXISTING UTILITIES FIELD LOCATED. THE CONTRACTOR SHALL BE ON RECORD WITH THE MISSOURI ONE CALL SYSTEM. ALL PROPOSED UTILITIES SHALL BE UNDERGROUND
2. ALL ELEVATIONS ARE BASED ON NAVD88 DATUM.
3. TOPOGRAPHIC SURVEY BY MARLER SURVEYING, INC.
4. ALL ON-SITE MATERIALS AND METHODS OF CONSTRUCTION TO MEET THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF CRESTWOOD AND MSD.
5. ALL GRADED AREAS SHALL BE PROTECTED FROM EROSION BY EROSION CONTROL DEVICES AND/OR SEEDING AND MULCHING AS REQUIRED BY THE CITY OF CRESTWOOD.
6. PRIOR TO BEGINNING ANY WORK ON THE SITE, THE SUBCONTRACTOR SHALL CONTACT THE GENERAL CONTRACTOR FOR SPECIFIC INSTRUCTIONS RELEVANT TO THE SEQUENCING OF WORK.
7. GRADING CONTRACTOR SHALL INSTALL SILTATION CONTROL PRIOR TO STARTING THE GRADING. ADDITIONAL SILTATION CONTROL DEVICES SHALL BE INSTALLED AS DIRECTED BY THE CITY OF CRESTWOOD.
8. ALL FILLS AND BACKFILLS SHALL BE MADE OF SELECTED EARTH MATERIALS, FREE FROM BROKEN MASONRY, ROCK, FROZEN EARTH, RUBBISH, ORGANIC MATERIAL AND DEBRIS.
9. GRADING CONTRACTOR SHALL KEEP EXISTING ROADWAYS CLEAN OF MUD AND DEBRIS AT ALL TIMES.
10. PROPOSED CONTOURS SHOWN ARE FINISHED ELEVATIONS ON PAVED AREAS.
11. ALL GRADING AND DRAINAGE TO BE IN CONFORMANCE WITH CITY OF CRESTWOOD, AND MSD.
12. THE DRIVE ENTRANCES ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE CITY OF CRESTWOOD.
13. SEEDING, SODDING, MULCHING AND PLANTINGS FOR ALL DISTURBED AREAS SHALL BE SPECIFIED ON THE LANDSCAPE PLAN.
14. SIDEWALKS ALONG THE ACCESSIBLE ROUTE SHALL NOT HAVE A SLOPE EXCEEDING 1"V:20"H. SLOPES GREATER THAN 1"V:20"H MUST BE DESIGNED AS A RAMP. SIDEWALKS TO BE CONSTRUCTED TO THE CITY OF CRESTWOOD ADA STANDARDS.
15. SIDEWALKS, CURB RAMPS, RAMPS AND ACCESSIBLE PARKING SPACES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT APPROVED "AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES" (ADAAG) ALONG WITH THE REQUIRED GRADES, CONSTRUCTION MATERIALS, SPECIFICATIONS AND SIGNAGE. IF ANY CONFLICT OCCURS BETWEEN THE ADAA GUIDELINES AND THE INFORMATION ON THE PLANS, THE ADAA GUIDELINES SHALL TAKE PRECEDENCE AND THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER PRIOR TO ANY CONSTRUCTION.
16. A DRAINLAYER PERMIT MAY BE REQUIRED BY THE CITY OF CRESTWOOD FOR ALL PRIVATE STORM SEWERS.
17. NO GRADE SHALL EXCEED 3:1 SLOPE UNLESS APPROVED BY GEOTECHNICAL ENGINEER.
18. STORM WATER SHALL BE DISCHARGED AT AN ADEQUATE NATURAL DISCHARGE POINT. SINKHOLES ARE NOT ADEQUATE NATURAL DISCHARGE POINTS.
20. ALL LANDSCAPED AREAS TO BE FILLED WITH A MINIMUM OF 6" OF TOPSOIL.
21. ALL LANDSCAPED AREAS DISTURBED BY OFF-SITE WORK SHALL BE IMMEDIATELY SEEDED OR SODDED, AS DIRECTED BY THE CITY OF CRESTWOOD, UPON COMPLETION OF WORK IN THE AREA AFFECTED.
22. ADEQUATE TEMPORARY OFF-STREET PARKING FOR CONSTRUCTION EMPLOYEES SHALL BE PROVIDED. PARKING ON NON-SURFACED AREAS SHALL BE PROHIBITED IN ORDER TO ELIMINATE THE CONDITION WHEREBY MUD FROM CONSTRUCTION AND EMPLOYEES' VEHICLES IS TRACKED ONTO THE PAVEMENT CAUSING HAZARDOUS ROADWAY AND DRIVEWAY CONDITIONS.
23. ALL SEWER CONSTRUCTION AND MATERIALS TO BE IN ACCORDANCE WITH THE METROPOLITAN ST. LOUIS SEWER DISTRICT STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWER AND DRAINAGE FACILITIES, (LATEST EDITION).
24. BUILDING SETBACKS
    FRONT YARD: 45'
    SIDE YARD: 12'
    REAR YARD: 35' (OR 20% OF LOT DEPTH; 50' MAXIMUM)
25. NO ON-SITE ILLUMINATION SOURCE SHALL EXCEED SIXTEEN (16) FEET IN HEIGHT OR BE SO SITUATED THAT LIGHT IS CAST DIRECTLY ON ADJOINING PROPERTIES OR ROADWAYS. ILLUMINATION LEVELS SHALL COMPLY WITH THE PROVISIONS OF SECTION 1003.167 MISCELLANEOUS REGULATIONS OF THE CITY OF CRESTWOOD ZONING ORDINANCE. LIGHT STANDARDS SHALL BE SHIELDED AND MAINTAIN A CUT OFF ANGLE OF NOT MORE THAN 85 DEGREES.
26. A LAND DISTURBANCE PERMIT WILL BE REQUIRED. SITE PLAN/PLAT APPROVAL IS NOT TO BE CONSTRUED AS APPROVAL OF A LAND DISTURBANCE PERMIT.
27. SEDIMENT SHALL BE WASHED FROM ALL VEHICLES AT WASH DOWN STATION PRIOR TO LEAVING THE SITE. NO TRACKING OF MUD ONTO THE CITY OF CRESTWOOD ROADS SHALL BE ALLOWED.
28. ALL SIDEWALKS AND ASSOCIATED ACCESSIBILITY IMPROVEMENTS SHALL BE CONSTRUCTED TO THE CITY OF CRESTWOOD ACCESSIBLE STANDARDS.

PREPARED FOR:
Lindbergh Schools, Facilities Dept.
9350 Sappington Road
St. Louis, Missouri 63126-3043
Contact: Tom Parker
314-729-2400

PREPARED BY:

CEDC CIVIL ENGINEERING DESIGN CONSULTANTS
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STATE OF MISSOURI
BRANDON ASHER HARP
NUMBER E-28650
PROFESSIONAL ENGINEER
Brandon A. Harp, P.E.
Missouri Registration No. E-28650
CEDC License No.: 2003004674

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Fax: 314.729.1404
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SITE DEVELOPMENT PLAN
LONG ELEMENTARY SCHOOL
9021 SAPPINGTON ROAD
CRESTWOOD, MO 63126

Proj. # 2514	
No. Description	Date
City submittal	04-09-25

Title Sheet

C1

RICHTER LANE
(25' WIDE ROAD PB8 PG 100 & DB1210 PG124)

S 89° 17' 31" E 509.38'

PARCEL 3 TRACT 2
3,135 SQ. FT.
0.07± ACRES

4'H. BLACK VINYL CHAIN LINK FENCE WITH BLACK MESH

STORMTECH UNDERGROUND DETENTION
(MC7200 CHAMBERS)

NEW PLAY AREA

PICKUP & DROP OFF LANES
(PASSENGER VEHICLES)

S 00° 26' 44" W 179.66'

6" CONC. VERT. CURB

STOP SIGN

6'w. CONC. WALK

STORM SHELTER
9,022 S.F.
HEIGHT: 28'
F.F.: 610.63

'CONNECTOR'
3,828 S.F.
HEIGHT: 17'-4"
F.F.: 610.63

CONNECT EX. LATERAL TO NEW SAN MH

MONOLITHIC CONC. CURB & WALK

CURB RAMP

6' W. CONC. WALK

GATE

ASPHALT PAVEMENT

S 89° 17' 31" E 209.31'

PERPETUAL EASEMENT AGREEMENT FOR DRIVEWAY I1049/72 (ACCESS EASEMENT)

℄ SAPPINGTON ROAD
(60' WIDE)

GARBER ROAD

SCALE: 1"=20'

LEGEND

CONCRETE WALK

ASPHALT PAVEMENT

BRANDON ASHER HARP
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Brandon A. Harp, P.E.
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SITE DEVELOPMENT PLAN
LONG ELEMENTARY SCHOOL

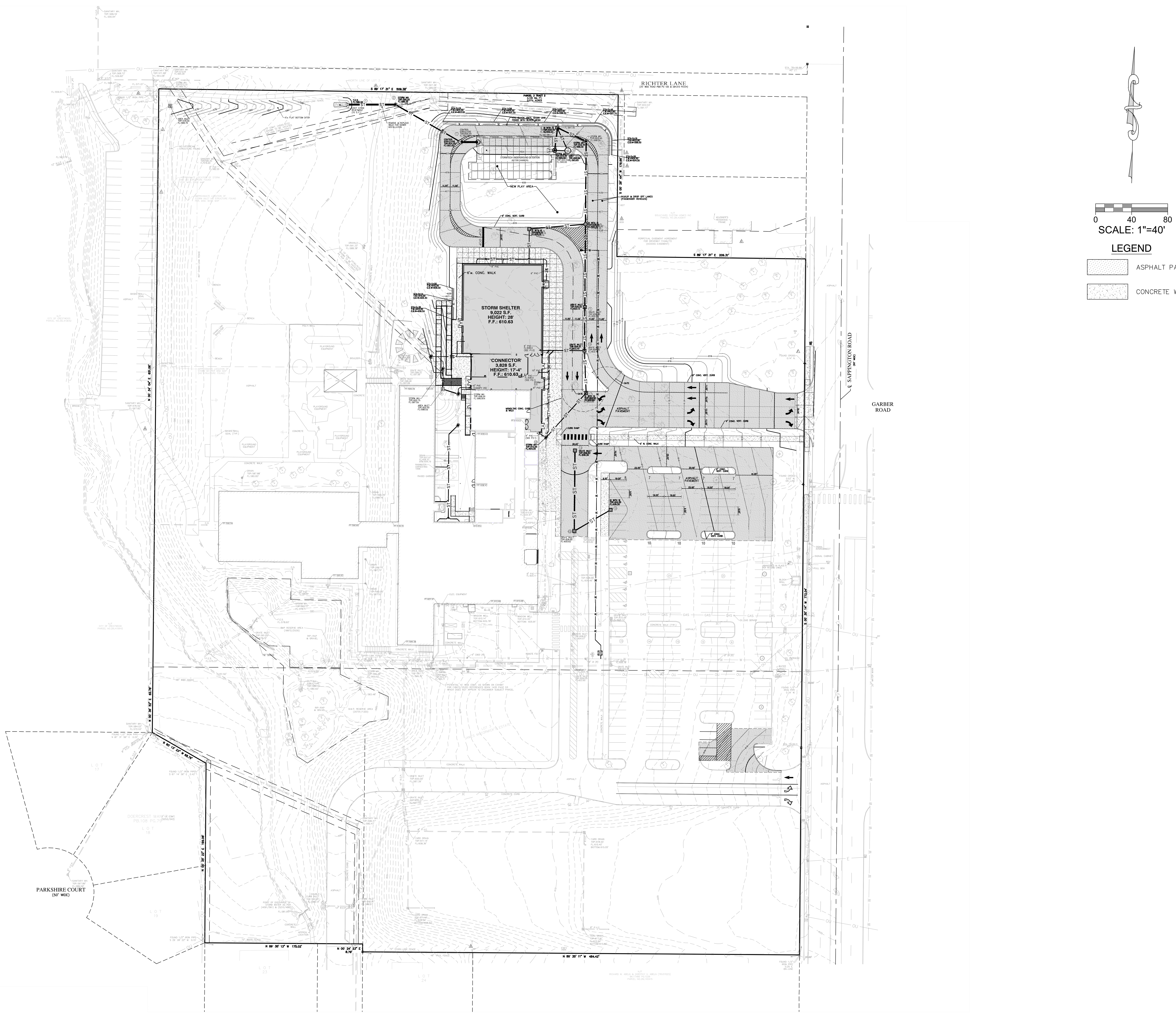
9021 SAPPINGTON ROAD
CRESTWOOD, MO 63126

Proj. # 2514

No.	Description	Date
	City submittal	04-09-25

Site Plan

C2



SCALE: 1"=40'

LEGEND

ASPHALT PAVEMENT

CONCRETE WALK

STATE OF MISSOURI
BRANDON ASHER HARP
NUMBER E-28650
PROFESSIONAL ENGINEER

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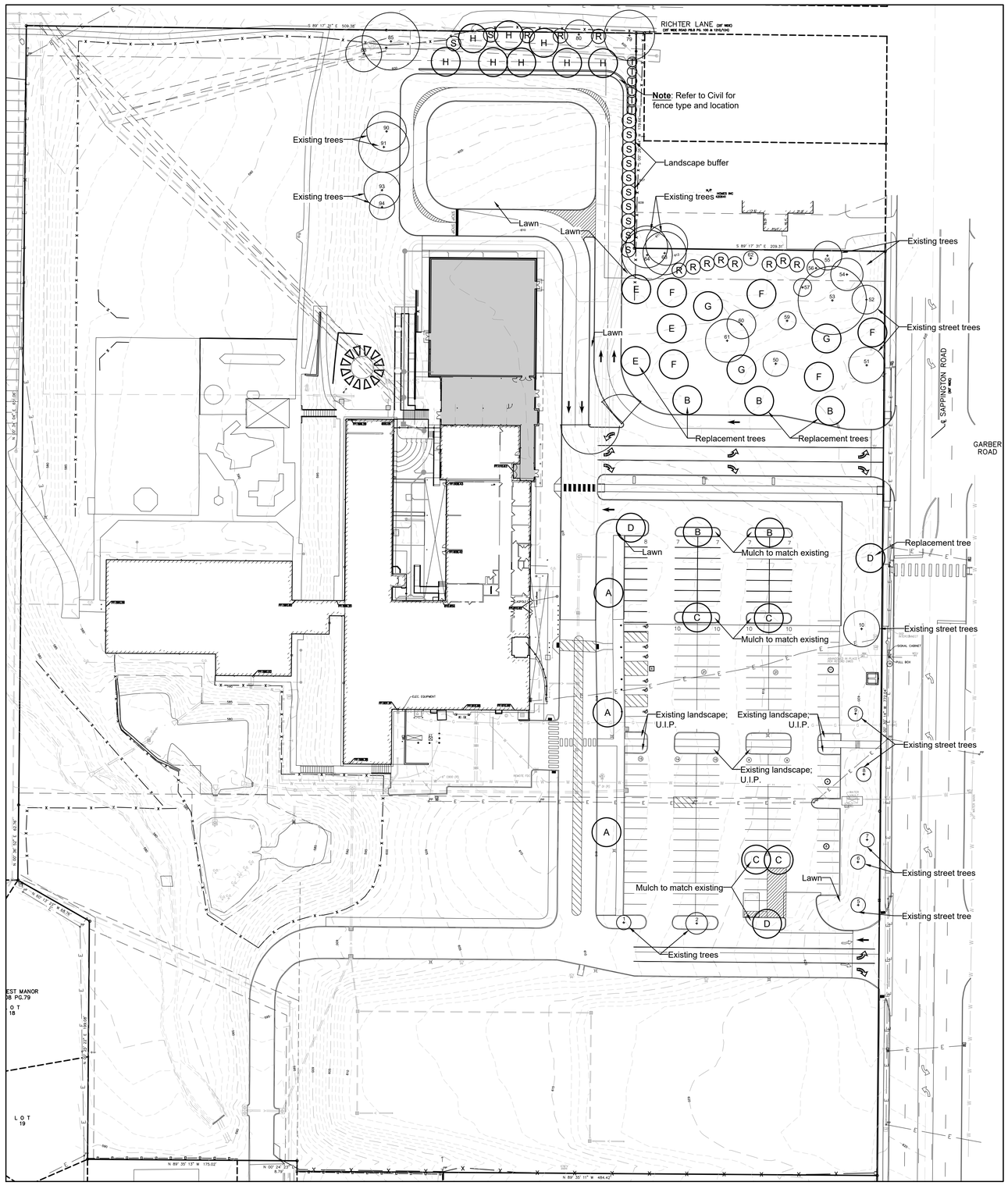
9021 SAPPINGTON ROAD
CRESTWOOD, MO 63126

Proj. # 2514

No.	Description	Date
	City submittal	04-09-25

Overall Site Plan

C3



Landscape Plan
SCALE 1"=40'
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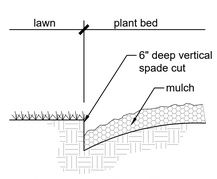
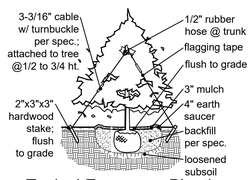
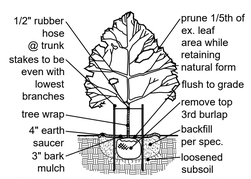


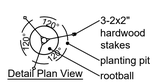
Spade Cut Bed Edge



Typical Evergreen Planting



Typical Canopy Tree Planting



Detail Plan View

Existing Tree Inventory

ID	Tree Name	DBH	Canopy Diameter	Condition Rating	Comment	Points
1	Maple	5	12	3		30
2	Maple	6	18	3		30
5	Maple	3	8	3		30
6	Maple	5	8	4		30
7	Ginkgo	2	8	3	Slight lean	30
8	Maple	3	8	3		30
9	Maple	3	8	3		30
10	Maple	12	30	3		30
50	Maple	13	20	2	Wires in trunk	30
51	Oak	14	30	2		30
52	Oak	12	24	2	Sprouts	30
53	Oak	36	57	4		30
54	Maple	17	27	2		30
55	Oak	13	24	3	Near driveway	30
56	Dogwood	5	15	3		10
57	Oak	4	15	3	Galls	30
59	Oak	9	15	2	Galls, trunk cavity	30
60	Juniper	11	24	2	Lean	20
61	Oak	16	36	1	Galls, roots covered in gravel	30
62	Oak	4	12	3		30
63	Persimmon	11	36	2	Lean	20
64	Shagbark Hickory	12	42	2	Lean	30
79	Oak	11	42	2	Sprouts	30
80	Shagbark Hickory	20	24	2	Vines	30
85	Oak	23	48	2	Vines, at fence	30
88	Oak	22	30	2	Lean, poor form	30
90	Oak	20	33	2	Sprouts	30
91	Shagbark Hickory	15/22	42	2	Twin (15x22)	30
93	Hackberry	11	30	2	Girdling roots	30
94	Hackberry	9	21	2	Girdling roots	30
					Total points	**860**

PLANTING SCHEDULE

ID	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS	MO NATIVE	POINTS
CANOPY-SHADE TREE (STREET, BUFFER, AND REPLACEMENT)							
A	3	Tilia americana 'Redmond'	Redmond American Linden	2.5" caliper	B & B	8.52 %	90
B	5	Ulmus parvifolia 'Emer II'	Allee Elm	2.5" caliper	B & B		150
C	4	Zelkova serrata 'Green Vase'	Green Vase Zelkova	2.5" caliper	B & B		120
D	3	Acer x freemanii 'Jeffersred'	Autumn Blaze Maple	2.5" caliper	B & B		90
E	3	Acer saccharum	Sugar Maple	2" caliper	B & B	8.52 %	90
F	5	Quercus bicolor	Swamp White Oak	2" caliper	B & B	14.2 %	150
G	3	Celtis occidentalis	Hackberry	2" caliper	B & B	8.52 %	90
H	8	Taxodium distichum	Baldcypress	2" caliper	B & B	22.72 %	240
EVERGREEN TREE (BUFFER AND REPLACEMENT)							
R	11	Picea abies	Norway Spruce	6' tall	B & B		330
S	12	Pinus strobus	Eastern White Pine	6' tall	B & B		360
T	6	Thuja 'Green Giant'	Green Giant Western Arborvitae	6' tall	B & B		120
					Total %	**62.48 %**	
						Total points	**1,830**

Planting Schedule Notes:

1) MO native column includes cultivars of Missouri native tree and plant species.

Tree Replacement Summary:

Protected tree DBH to be removed = **400** DBH

400 DBH / 9 DBH = 44.4 x 3 DBH = **133.3** caliper inches of replacement trees required

133.3 caliper inches = **14** (2.5 caliper inch size) and **50** (2 caliper inch size) replacement trees needed

133.5 caliper inch replacement trees provided

Landscape Notes:

1) Lawn areas shall be turf-type Tall Fescue Grass or approved equivalent.

2) All 3:1 or steeper slopes shall be lawn seed and have erosion control blanket.

3) Topsoil in all disturbed lawn areas at 6" depth.

4) Soil mix in all shrub beds at 8" depth.

5) All mulch to be double ground bark mulch.

6) Bed edges to be spade cut.

7) All existing volunteer trees and vegetation within the property to be removed.

Typical Street Tree Placement Requirements Per City of Crestwood:

- Trees shall be planted a minimum ten (10) feet from underground utilities and at-grade utility structures.
- Planting of trees within easements should be avoided where possible. Planting within easements must be approved by owner of said easement.
- No shrubs or trees shall be located within ten (10) feet of a fire hydrant.

STATE OF MISSOURI
JERALD SAUNDERS
NUMBER LA-7
LANDSCAPE ARCHITECT
4/9/25

Jerald Saunders - Landscape Architect
MO License # LA-007

Consultants:

Long Elementary School

9021 Sappington Road
Crestwood, Missouri 63126

Revisions:

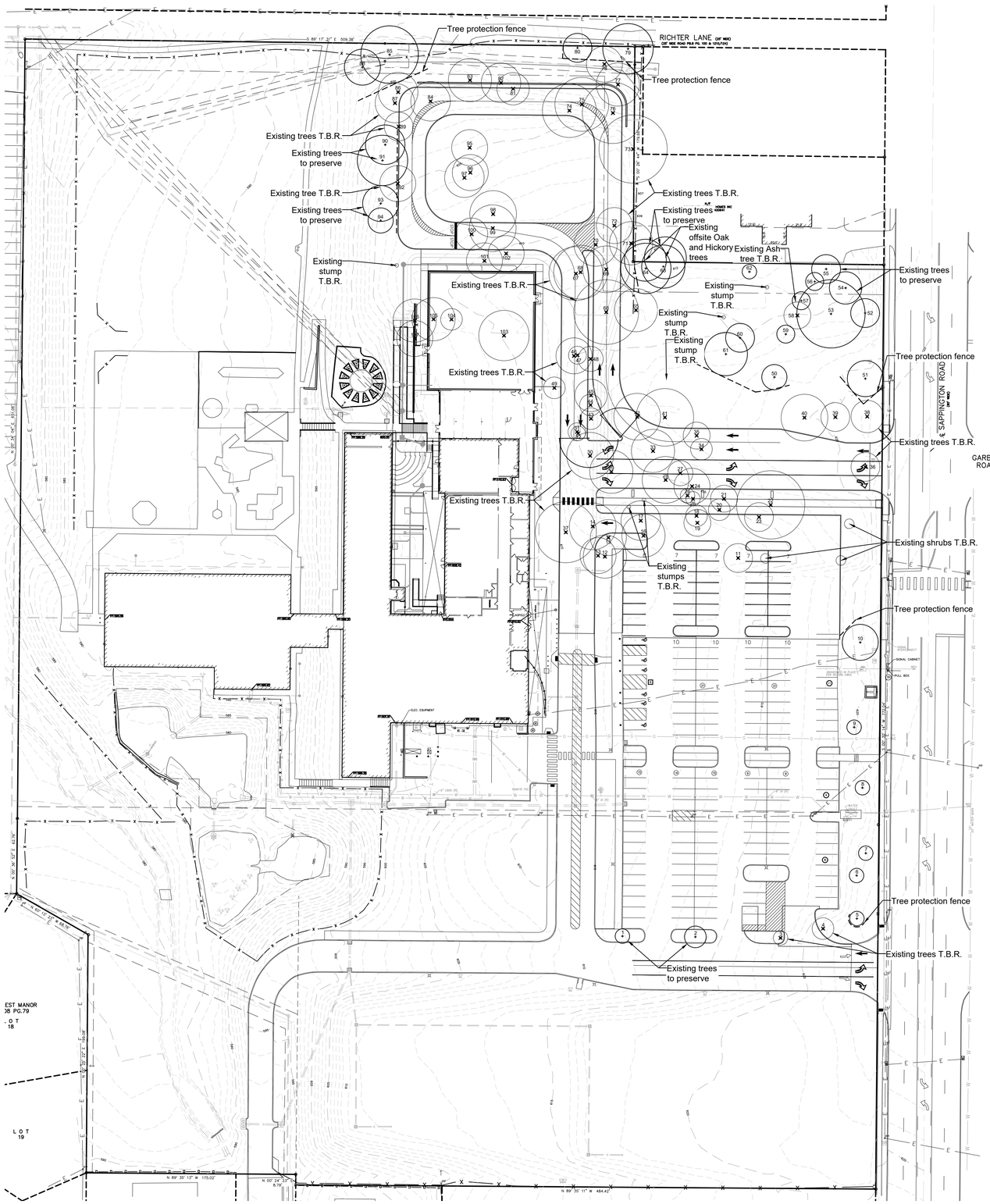
Date	Description	No.

Drawn: KP
Checked: RS

LOOMIS ASSOCIATES
landscape architects + planners
730 jaunt 40 park drive, chesterfield, missouri 63005
t. 636-519-8668
www.loomis-associates.com

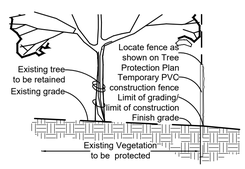
Loomis Associates Inc.
Missouri State Certificate of Authority #: LAC #000019

Sheet Title: Landscape Plan
Sheet No: L2.01
Date: 4/9/25
Job #: 584.078



Tree Preservation Plan
SCALE 1"=40'

0 40 80 160



Tree Protection Detail

Existing Tree Inventory

ID	Tree Name	DBH	Canopy Diameter	Condition Rating	Comment	Protected Tree	To Be Removed	Preserved
1	Maple	5	12	3				X
2	Maple	6	18	3				X
3	Maple	7	12	3			X	
4	Maple	6	18	3			X	
5	Maple	3	8	3				X
6	Maple	5	8	4				X
7	Ginkgo	2	8	3	Slight lean			X
8	Maple	3	8	3				X
9	Maple	3	8	3				X
10	Maple	12	30	3				X
11	Maple	9	24	2	Twin (9x9), vines, lean		X	
12	Oak	16	36	3			X	
13	Oak	12	30	2	Galls, sprouts		X	
14	Pine	14	40	2			X	
15	Pine	15	30	2			X	
16	Pine	25	36	3	Vines	X	X	
17	Walnut	13	33	3	Vines, lean		X	
18	Locust	5	18	1	Lean		X	
19	Locust	6	22	1	Vines, lean		X	
20	Elm	6	18	2	Half canopy		X	
21	Hackberry	14	22	2	Twin (14x14), vines, gidling roots		X	
22	Oak	36	57	3	Vines	X	X	
23	Oak	5	24	3			X	
24	Pine	15	30	2	Sprouts		X	
25	Locust	6	12	2	Lean		X	
26	Maple	3	8	2	Lean		X	
27	Oak	10	21	2	Galls, sprouts		X	
28	Pine	23	40	2	Vines	X	X	
29	Pine	20	36	2	Sparse canopy		X	
30	Maple	29	40	3		X	X	
31	Walnut	6	15	2	Lean		X	
32	Walnut	4	12	2	Lean		X	
33	Locust	28	36	1	Vines, poor structure		X	
34	Maple	6	18	2	Borers at base of trunk		X	
35	Maple	10	22	2	Lean		X	
36	Oak	11	24	3	Rebar		X	
37	Oak	25	50	3		X	X	
38	Oak	14	27	2	Vines, cavity at base of trunk		X	
39	Oak	11	24	3			X	
40	Oak	22	40	3	Galls, sprouts	X	X	
41	Maple	21	48	3	Vines	X	X	
42	Locust	26	40	1	In decline, conks, trunk wound		X	
43	Oak	8	18	2	Slight lean		X	
44	Walnut	9	18	2	Vines		X	
45	Oak	11	27	3			X	
46	Elm	11	30	1	Vines, in fence		X	
47	Honeylocust	8	15	2			X	
48	Oak	10	21	3			X	
49	Juniper	10	18	3			X	
50	Maple	13	20	2	Wires in trunk			X
51	Oak	14	30	2				X
52	Oak	12	24	2	Sprouts			X
53	Oak	36	57	4		X		X
54	Maple	17	27	2				X
55	Oak	13	24	3	Near driveway			X
56	Dogwood	5	15	3				X
57	Oak	4	15	3	Galls			X
58	Ash	11	22	1	Borers		X	
59	Oak	9	15	2	Galls, trunk cavity			X
60	Juniper	11	24	2	Lean			X
61	Oak	16	36	1	Galls, roots covered in gravel			X
62	Oak	4	12	3				X
63	Persimmon	11	36	2	Lean			X
64	Shagbark Hickory	12	42	2	Lean			X
65	Black Cherry	9	36	2	Lean		X	
66	Oak	34	54	2	Vines, in fence		X	
67	Oak	23	45	2	Vines, trunk cavity, co-joined at base		X	
68	Oak	33	45	2	Vines, trunk cavity, co-joined at base		X	
69	Shagbark Hickory	19	40	2	Lean		X	
70	Shagbark Hickory	13	36	3	Broken branch		X	
71	Oak	30	36	3	Vines, in fence		X	
72	Shagbark Hickory	12	30	3			X	
73	Oak	25	57	3	At fence and retaining wall		X	
74	Oak	20	50	2	Vines	X	X	
75	Shagbark Hickory	22	45	2	Vines	X	X	
76	Oak	25	45	1			X	
77	Oak	24	36	1	Lean, lightning damage		X	
78	Oak	13	30	1	Lean		X	
79	Oak	11	42	2	Sprouts			X
80	Shagbark Hickory	20	24	2	Vines	X		X
81	Maple	8	27	3	Triple (8x8x8)		X	
82	Maple	9	33	3	Triple (7x9x9)		X	
83	Shagbark Hickory	16	36	2	Vines		X	
84	Shagbark Hickory	19	33	3	Broken branch	X	X	
85	Oak	23	48	2	Vines, at fence	X		X
86	Oak	23	33	2	Vines	X	X	
87	Ash	10	33	3			X	
88	Oak	22	30	2	Lean, poor form			X
89	Shagbark Hickory	18	24	2		X	X	
90	Oak	20	33	2	Sprouts	X		X
91	Shagbark Hickory	15/22	42	2	Twin (15x22)	X		X
92	Shagbark Hickory	16	30	2	Lean		X	
93	Hackberry	11	30	2	Girdling roots			X
94	Hackberry	9	21	2	Girdling roots			X
95	Shagbark Hickory	13	30	2			X	
96	Shagbark Hickory	13	30	3			X	
97	Oak	21	33	3		X	X	
98	Oak	17	40	2	Lean		X	
99	Shagbark Hickory	18	40	3		X	X	
100	Shagbark Hickory	15	27	3			X	
101	Shagbark Hickory	17	30	2	Vines		X	
102	Shagbark Hickory	15	30	2	Vines		X	
103	Hackberry	26	42	2	Exposed roots	X	X	
104	Ash	6	18	2			X	
105	Pine	30	36	3		X	X	
106	Pine	22	36	3		X	X	
107	Pine	17	30	2			X	

Tree Replacement Summary:

Protected trees to be removed = **17** existing trees
(trees # 16, 22, 28, 30, 37, 40, 41, 74, 75, 84, 86, 89, 97, 99, 103, 105, 106)

Protected tree DBH to be removed = **400** DBH

Tree Condition Rating:

Excellent	=	4
Good	=	3
Fair	=	2
Poor	=	1
Dead	=	0

Crestwood Tree Protection Standards.
Any existing tree identified for preservation on a Tree Preservation Plan submitted and approved by the Director of Public Services shall be protected as indicated on the approved plan and as described herein.
1. Tree protection measures identified by a Tree Preservation Plan, or otherwise required as stated herein or by a permit issued by the Director of Public Works, should be in place and fully installed prior to redevelopment or construction of a site.
2. Developer(s) of a site shall be responsible for the replacement of protected trees damaged beyond repair if the trees are harmed due to lack of protection or through negligence on the part of the developer/contractor.
3. Tree Protection Measures. Measures utilized by developers and their contractors before and during construction and development of a site shall include the following:
a. Tree Protection Fencing. Tree protection fencing shall have a minimum height of four (4) feet and be installed in such a manner that it maintains its rigidity and effectiveness as a barrier. Standard materials used for tree protection fencing shall include plastic mesh construction or chain-link fencing. Other suitable tree protection fencing materials may be used with approval from the Director of Public Services. Tree protection signs shall be provided along the perimeter of the Tree Protection Zone and shall be maintained throughout the duration of construction. Signs shall be no smaller than eleven and a half (11.5) inches and no larger than twenty-four (24) inches along the longest side of the sign. Signs shall contain the phrase "Tree Protection Zone" in large lettering with contrasting color to the background.
b. Root Pruning. Existing trees to remain on site in which critical root zones may potentially be impacted from grading, excavations, wall or foundation construction, or utility trenching shall be root pruned prior to construction activities. Root pruning shall be performed using either manual or mechanical methods such as chainsaws, vibrating knife, rock saw, narrow trencher or other equipment approved by the Director of Public Works. The use of equipment that tears, rips, or pulls roots is prohibited.
c. Tree Protection Mats. If construction equipment, vehicle, or heavy foot traffic is anticipated and unavoidable within the critical root zone of an existing tree to be saved, tree protection matting should be installed prior to construction activities. Tree protection matting should be installed over a sufficient layer of mulch or wood chips to assist with the dispersion of heavy loading.
d. Siltation Fencing. Where there is potential for erosion from construction activities, siltation fencing should be installed to prevent erosion and sediment buildup within established tree protection zones. Siltation fencing should be installed outside of the critical rootzone of tree(s) to prevent damage to roots. Siltation fencing shall remain in place for the entirety of construction and shall not be removed until vegetation on site has established adequately enough to prevent erosion.
e. Tree Protection Supervisor. A developer and/or their contractor(s) shall provide a designated tree protection supervisor on-site whenever equipment or trucks are placed or are moving near the trees to be protected in order to ensure compliance with all tree protective measures.
1. Tree Protection Zone. Tree protection fencing shall be placed at the dripline or limits of the Critical Root Zone, as approved by the Director of Public Works of each tree to be protected within the area of disturbance. The fencing shall be used to create a designated tree protection zone that shall be installed prior to construction of any type commencing and must be maintained for the entirety of construction. The tree protection zone shall comply with the following:
a. Construction equipment, vehicles, trailers, excessive foot traffic, and storage of materials must remain outside of the tree protection zone.
b. Erosion control measures shall be installed to prevent siltation or erosion within the tree protection zone.
c. Trenching or excavation is prohibited within the tree protection zone.
d. No grade or earthwork changes are to be made within the tree protection zone.
e. Spoils from trenching or other excavations shall not be placed within the tree protection zone.
f. Underground utilities and irrigation lines shall be routed around tree protection zones. Where underground utility and irrigation lines must pass through a tree protection zone, they shall be tunneled or bored.
g. No burn piles or debris pits shall be placed within the tree protection zone.
h. No ashes, garbage, chemicals, or other debris shall be dumped in the tree protection zone.
i. Herbicides used within the tree protection zone must be safe for use around trees.
j. Removal of brush or other landscape material if required within the tree protection zone shall be accomplished using hand-operated equipment.

MISSOURI
JERALD SAUNDERS
NUMBER LA-7
LANDSCAPE ARCHITECT
4/9/25
Jerald Saunders - Landscape Architect
MO License # LA-007

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Crestwood, Missouri 63126

Revisions:

Date	Description	No.

Drawn: KP
Checked: RS

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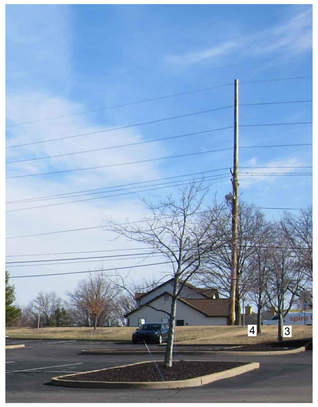
Missouri State Certificate of Authority #: LAC #000019

Sheet Title: Tree Preservation Plan
Sheet No: L1.01
Date: 4/9/25
Job #: 584.078



Existing trees # 3 and 4

Existing trees # 12 - 16

Existing trees # 11 and 16 - 23

Existing trees # 16 - 21 and 24, 27, 30, and 33

Existing trees # 29 and 30

Existing trees # 18 - 22 and 24 - 26

Existing trees # 34 and 35

Existing trees # 33 and 42

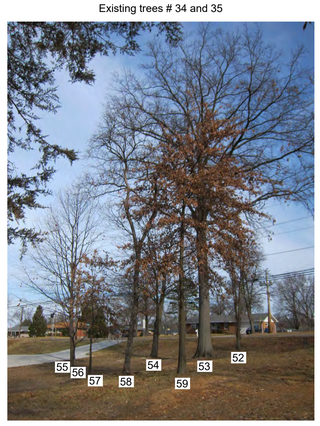
Existing trees # 41 and 42

Existing trees # 33 and 42 - 44

Existing trees # 41 and 44 - 45

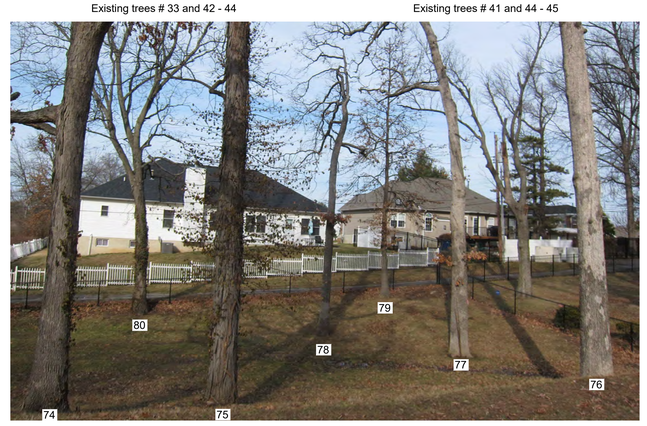
Existing trees # 46 - 48

Existing tree # 49

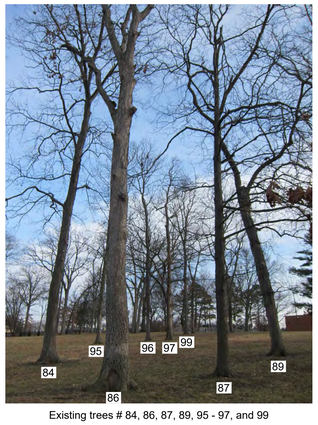


Existing trees # 52 - 59

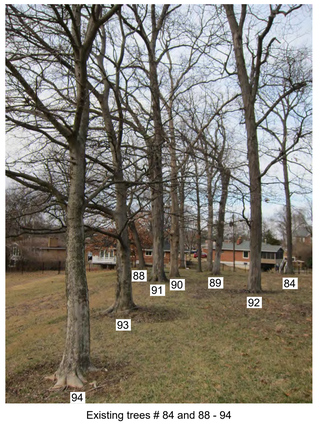
Existing trees # 67 - 75, 77 - 79, and 81 - 83



Existing trees # 74 - 80



Existing trees # 84, 86, 87, 89, 95 - 97, and 99



Existing trees # 84 and 88 - 94

Existing trees # 96 - 102

Existing trees # 95 - 97

Existing trees # 67, 68, and 98 - 102

Existing tree # 103

Existing trees # 105 - 107

Photographs of Existing Trees To Be Removed

Jerald Saunders - Landscape Architect
MO License # LA-007

Consultants:

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Revisions:

Date	Description	No.

Drawn: KP
Checked: RS

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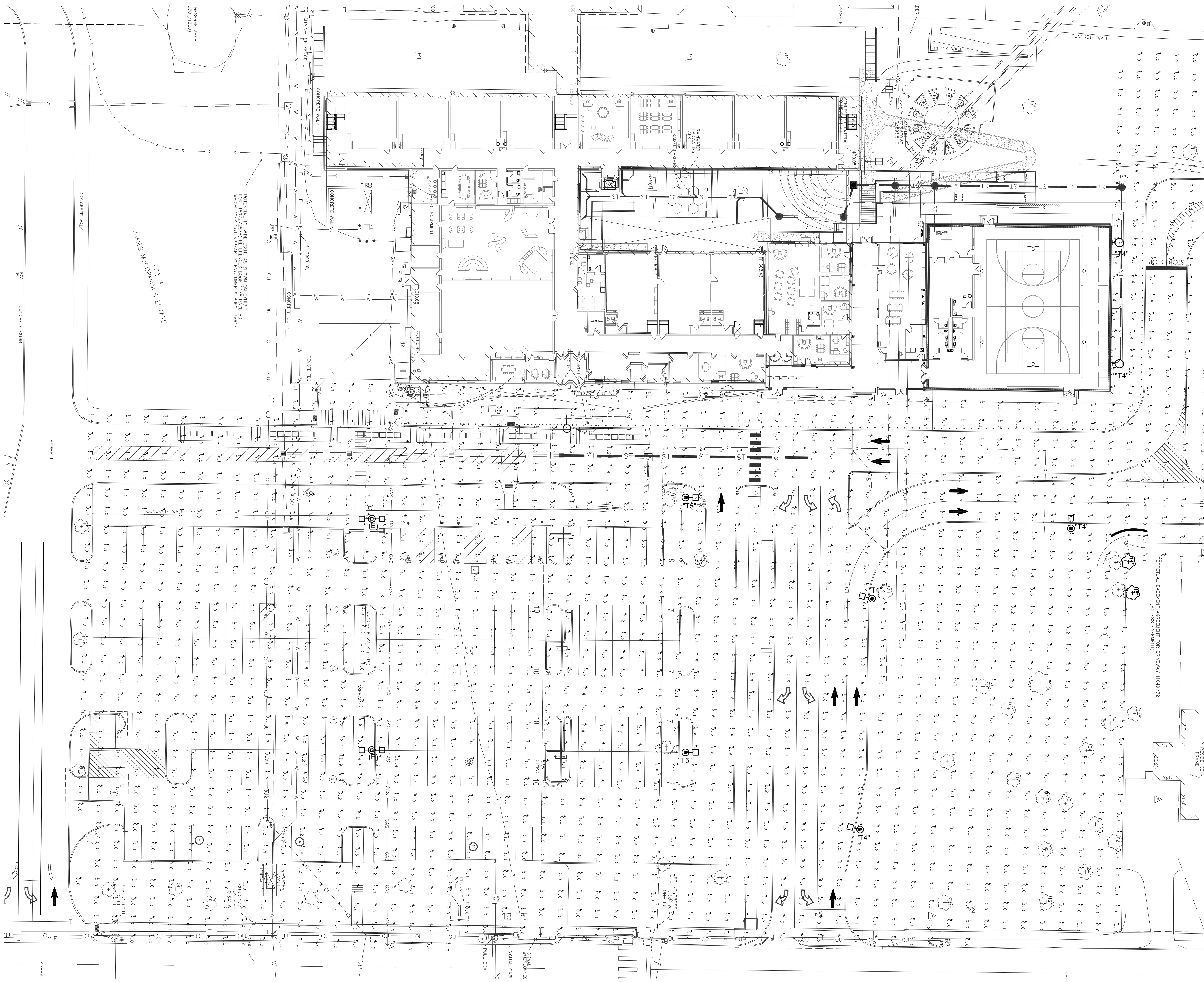
Sheet Title: Tree Preservation Plan - Photographs

Sheet No: L1.02

Date: 4/9/25
Job #: 584.078



1
E0.11
ELECTRICAL SITE PHOTOMETRICS
SCALE: 1"=30'-0"

AVERAGE OF NEW AREA: 1.5 FC
MOUNTING HEIGHT: 20'-0" AFG

LinmoreLED
ULTRA PERFORMANCE LIGHTING

PROJECT NAME	DATE
CAT. NUMBER	
NOTES	

SPEC SHEET

Site Lighter (SL1)

AREA LIGHT LED FIXTURE

BUY AMERICAN ACT COMPLIANT

DLC LISTED PREMIUM
Bluetooth Ready
cULus LISTED
IP65 IK08 up to 20kA 0-10V

Projected L70 up to 189,000 hours

10 YEAR PERFORMANCE WARRANTY L70

Guaranteed Performance
Performance of the light fixture is guaranteed for 10 years, including lumen output (L70), color temperature, and LED driver.

Superior Heat Dissipation
Extruded aluminum body is exceptional at moving thermal energy, allowing long lasting performance even at high ambient temperatures.

Controls and Sensors
Optional integrated controls systems available including basic on/off, dimming and UltraLink Bluetooth NLC wireless controls.

KEY FEATURES

- Up to 174 LPW
- 8,500 to 62,000 Lumens
- Up to 55°C
- 200-480V High-Voltage Driver (optional)
- Dimmable 0-10V
- Patented Rapid Mount Bracket (optional)
- Turtle-friendly Lighting option available

info@linmoreled.com - 1 -

PROGRESS PRINT SUBMITTAL

Seal:
STATE OF MISSOURI
MARCUS ECKSTEIN
NUMBER PE-2019017810
PROFESSIONAL ENGINEER
Marcus Eckstein Engineer
MO# PE-2019017810

Original Issue Date:
01-15-2025

Revisions:

No.	Date

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Project No.
24-0203

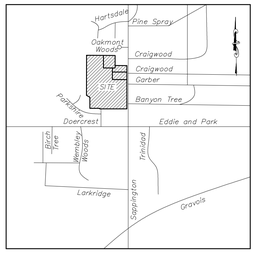
Drawing Title:

Drawn:

Checked:

Drawing No.
E0.11

LONG ELEM



ALTA/NSPS LAND TITLE SURVEY

A TRACT OF LAND BEING PART OF LOT 3 OF THE JAMES MCCORMICK ESTATE AND SITUATED IN THE SOUTH 1/2 OF SECTION 18, TOWNSHIP 44 NORTH, RANGE 6 EAST OF THE 5TH PRINCIPAL MERIDIAN & ALL OF LOT A OF SAPPINGTON-DOERCREST CONSOLIDATION PLAT AS RECORDED IN PLAT BOOK 361 PAGE 106 ST. LOUIS COUNTY, MISSOURI

VICINITY MAP
NOT TO SCALE

SCALE:
1 inch = 20 ft.

● – DENOTES SET 1/2" x 18" REBAR WITH CAP STAMPED "MARLER L.S.-347-D"
■ – SET MAG SPIKE
+ – DENOTES FOUND CROSS
⊥ – DENOTES FOUND ANCHOR CROSS
○ – DENOTES FOUND 1/2" IRON PIPE UNLESS NOTED
⊠ – DENOTES FOUND CONCRETE MONUMENT
▥ – DENOTES WOODEN HUB SET ON-LINE

GENERAL NOTES

1. THE BASIS OF BEARING OF THIS SURVEY IS GRID NORTH, MISSOURI EAST ZONE, NAD83.
2. THE PROPERTY HAS AN COMBINED LAND AREA OF 633,304 SQUARE FEET OR 14.53± ACRES OF LAND.
3. THE PROPERTY IS DESIGNATED BY ST. LOUIS COUNTY PARCEL NUMBERS 26L420982, 26L420841, 26L420621 AND 26L420861.
4. SOURCE OF DEED REFERENCE IS DEED BOOK 3783 PAGE 419, DEED BOOK 25062 PAGE 1774, DEED BOOK 25062 PAGE 1771 AND DEED BOOK 23442 PAGE 3413.
5. THIS MAP COMPLIES WITH THE MISSOURI MAP ACCURACY STANDARDS, CLASS III.
6. R.= RECORD AND S. = SURVEYED.
7. THERE WAS NO EVIDENCE OF RECENT EARTH MOVING WORK, BUILDING CONSTRUCTION, OR BUILDING ADDITIONS OBSERVED IN THE PROCESS OF CONDUCTING THE FIELDWORK.
8. THERE WAS NO EVIDENCE OF RECENT STREET OR SIDEWALK CONSTRUCTION OR REPAIRS OBSERVED IN THE PROCESS OF CONDUCTING THE FIELDWORK.

SCHEDULE "B" TITLE EXCEPTION NOTES

THIS SURVEY IS BASED ON A TITLE REPORT PREPARED BY ST. LOUIS TITLE COMMITMENT NO. STL2405442, DATED AUGUST 15, 2024 AT 8:00 A.M. ITEMS NOT LISTED BELOW ARE STANDARD EXCEPTIONS AND/OR ARE NOT MATTERS OR ISSUES THAT PERTAIN TO THIS SURVEY.

2. TWENTY FIVE FOOT ROAD RIGHT OF WAY, AS DESCRIBED AND BEING RECORDED IN BOOK 1210 PAGE 124. (AS TO PARCEL 1 AND 2) **AFFECTS SUBJECT PROPERTY AS SHOWN.**

3. EASEMENT GRANTED TO THE METROPOLITAN ST. LOUIS SEWER DISTRICT, ACCORDING TO INSTRUMENT RECORDED IN BOOK 4192, PAGE 575. (AS TO PARCEL 1) **AFFECTS SUBJECT PROPERTY AS SHOWN.**

4. CONTRACT FOR SEWAGE TREATMENT AGREEMENT, ACCORDING TO INSTRUMENT BEING RECORDED IN BOOK 4206 PAGE 210, BOOK 4206,PAGE 213 AND BOOK 4244, PAGE 605. (AS TO PARCEL 1 AND 2) **AFFECTS SUBJECT PROPERTY NOT A PLOTTABLE ITEM.**

5. EASEMENT GRANTED TO UNION ELECTRIC COMPANY BY THE INSTRUMENT RECORDED IN BOOK 5253 PAGE 343. (AS TO PARCEL 2) **AFFECTS SUBJECT PROPERTY AS SHOWN.**

6. EASEMENT GRANTED FOR ROAD, ACCORDING TO DEED FROM MINNIE R. WERNER BY THE INSTRUMENT RECORDED IN BOOK 1547 PAGE 302. (AS TO PARCEL 3) **PARENT PARCEL DEED AFFECTS SUBJECT PROPERTY ROADWAY SHOWN ON THIS SURVEY.**

7. RIGHT-OF-WAY OF NORTH-SOUTH COUNTY ROAD AS SHOWN ON 1864 PITZMAN SURVEY BY THE INSTRUMENT RECORDED IN SURVEYOR'S RECORD BOOK 4 PAGE 328. (AS TO PARCEL 3) **ADJOINS SUBJECT PROPERTY, COUNTY ROAD IS NOW SAPPINGTON ROAD.**

8. EASEMENT GRANTED TO THE METROPOLITAN ST. LOUIS SEWER DISTRICT BY THE INSTRUMENT RECORDED IN BOOK 4550 PAGE 574 AND BOOK 4865 PAGE 517. (AS TO PARCEL 3) **AFFECTS SUBJECT PROPERTY AS SHOWN.**

9. EASEMENT GRANTED TO ST. LOUIS COUNTY WATER FOR PURPOSES RELATED TO WIDENING AND RELOCATING SAPPINGTON ROAD, BY THE INSTRUMENT RECORDED IN BOOK 6552 PAGE 2157. (AS TO PARCEL 3) NOTE: SUBDIVISION OF LAND OF JOHANN GEORG AFF RECORDED AUGUST 3, 1910 IN PLAT BOOK 8 PAGE 100 DEDICATES A STRIP OF LAND 25 FEET WIDE FOR A ROADWAY FOR THE USE OF THE OWNERS OF LOTS IN THE SUBDIVISION, SAID ROADWAY NOW BEING KNOWN AS RICHTER LANE. THERE ARE NO RECORDED RIGHTS IN RICHTER LANE APPURTENANT TO THE PROPERTY. need deed 3311/540

10. ENCROACHMENT OF ROCK RETAINING WALL, LOCATED PRIMARILY ON PROPERTY TO THE EAST, IN THE NORTHEASTERN QUADRANT OF PARCEL 3 TRACT 1, ACCORDING TO SURVEY DATED FEBRUARY 25, 2019 AND BEARING JOB NUMBER 1901-051.1 PREPARED BY MARLER SURVEYING COMPANY, INC. **AFFECTS SUBJECT PROPERTY, ENCROACHMENT IS STILL IN PLACE.**

11. PERSONAL EASEMENT FOR THE USE OF THE EASEMENT CREATED BY INSTRUMENT RECORDED IN BOOK 11049 PAGE 72, GRANTED TO RUTH ANN ARADO AND JOHN J. ARADO, WIFE AND HUSBAND, ACCORDING TO INSTRUMENT RECORDED IN BOOK 11049 PAGE 84, WITH DECLARATION THAT THE EASEMENTS CREATED BY THE INSTRUMENT RECORDED IN BOOK 11049 PAGE 72 ARE OTHERWISE EXCLUSIVE TO THE DOMINANT ESTATE. (AS TO PARCEL 3) **BENEFITS PARCEL 3 ALLOWING ACCESS TO PARCEL 3**

12. RECIPROCAL RESTRICTION AND COVENANTS PROHIBITING RESUBDIVISION AND CERTAIN ADDITIONAL DEVELOPMENT OF THE PROPERTY AND PROPERTY LOCATED TO THE EAST FOR SO LONG AS ANY CURRENT OWNER RESIDES ON AFFECTED PROPERTY, ACCORDING TO INSTRUMENT RECORDED BOOK 11049 PAGE 84 (AS TO PARCEL 3) **AFFECTS SUBJECT PROPERTY, NOT A PLOTTABLE ITEM.**

13. RIGHT OF FIRST REFUSAL IN RUTH ANN ARADO AND JOHN J. ARADO, WIFE AND HUSBAND, TO PURCHASE THE PROPERTY FOR SO LONG AS THE ARADOS' OR EITHER OF THEM RESIDE ON CERTAIN PROPERTY LOCATED TO THE EAST, ACCORDING TO INSTRUMENT RECORDED IN BOOK 11049 PAGE 84. (AS TO PARCEL 3) **AFFECTS SUBJECT PROPERTY, NOT A PLOTTABLE ITEM.**

14. AGREEMENT BY RUTH ANN ARADO AND JOHN J. ARADO, WIFE AND HUSBAND, TO GRANT EASEMENTS FOR CABLE TV SERVICE AND LACLEDE GAS SERVICE THROUGH CERTAIN PROPERTY LOCATED TO THE EAST, ACCORDING TO INSTRUMENT RECORDED IN BOOK 11049 PAGE 84. (AS TO PARCEL 3) **AFFECTS SUBJECT PROPERTY, NOT A PLOTTABLE ITEM. EASEMENT LOCATION IS NOT STATED IN THE DOCUMENT.**

15. ENCROACHMENT(S) OF CHAIN LINK FENCE OVER THE SOUTHERN BOUNDARY AND FOR THE ENCROACHMENT OF THE PVC PIPES OVER THE EASTERN BOUNDARY, AS REFERENCED ON SURVEY EXECUTED BY MARLER SURVEYING COMPANY, INC., ON FEBRUARY 25, 2019, AS JOB/ORDER NUMBER 1901-051.1. (AS TO PARCEL 3) **AFFECTS SUBJECT PROPERTY, FENCE ENCROACHMENT IS STILL IN PLACE, PVC PIPES WERE NOT OBSERVED DURING THIS SURVEY.**

16. BUILDING LINES, RESTRICTIONS, UTILITY, DRAINAGE, STORM SEWER, SANITARY SEWER, AND WATERLINE EASEMENTS SHOWN ON THE PLAT RECORDED IN PLAT BOOK 108 PAGE 79 ADJOINS SUBJECT PROPERTY, (**DOES NOT DIRECTLY AFFECT SUBJECT PROPERTY**) AND PLAT BOOK 361 PAGE 106. (AS TO PARCEL 4) **AFFECTS SUBJECT PROPERTY AS SHOWN.**

17. EASEMENT GRANTED TO METROPOLITAN ST. LOUIS SEWER DISTRICT BY THE INSTRUMENT RECORDED IN BOOK 4192 PAGE 573 AND BOOK 4192 PAGE 575 AFFECTS SUBJECT PROPERTY AS SHOWN, AND BOOK 18972 PAGE 2541. (AS TO PARCEL 4) **AFFECTS SUBJECT PROPERTY AS SHOWN.**

18. TERMS AND PROVISIONS OF SEWER AGREEMENT RECORDED IN BOOK 5210 PAGE 482, 5210 PAGE 488 AND BOOK 18972 PAGE 2535. (AS TO PARCEL 4) **AFFECTS SUBJECT PROPERTY AS SHOWN. BOOK 5210 PAGE 488, EXACT LOCATION CANNOT BE DETERMINED AND IS SHOWN BY PHYSICAL DISCHARGE LOCATION ON THIS SURVEY.**

19. TERMS AND PROVISIONS OF MAINTENANCE AGREEMENT RECORDED ON IN BOOK 4091 PAGE 561. (AS TO PARCEL 4) **AFFECTS SUBJECT PROPERTY AS SHOWN. EXACT LOCATION CANNOT BE DETERMINED AND IS SHOWN BY PHYSICAL DISCHARGE LOCATION ON THIS SURVEY.**

20. TERMS AND PROVISIONS OF CONDEMNATION SUIT RECORDED IN BOOK 6572 PAGE 2436. (AS TO PARCEL 4) **AFFECTS SUBJECT PROPERTY, WIDENS THE RIGHT-OF-WAY OF SAPPINGTON ROAD FROM 40' TO 80' WIDE, ALSO ESTABLISHES A TEMPORARY CONSTRUCTION AND SLOPE LICENSE TO EXTEND FOR 360 DAYS, DOCUMENT DATED MARCH 8, 1972, TEMPORARY LICENSE HAS EXPIRED. NOT PLOTTED ON THIS SURVEY.**

21. EASEMENT GRANTED TO UNION ELECTRIC BY THE INSTRUMENT RECORDED IN BOOK 5253 PAGE 343 AND BOOK 1435 PAGE 53. (AS TO PARCEL 4) **AFFECTS SUBJECT PROPERTY AS SHOWN.**

22. RESTRICTIONS CONTAINED IN DEED RECORDED IN BOOK 3783 PAGE 419. (AS TO PARCEL 4) **PARENT PARCEL DEED. AFFECTS SUBJECT PROPERTY, NOT A PLOTTABLE ITEM.**

23. TERMS AND PROVISIONS OF MAINTENANCE AGREEMENT RECORDED IN BOOK 20701 PAGE 1320. (AS TO PARCEL 4) **AFFECTS SUBJECT PROPERTY AS SHOWN.**

NOTES OF INTEREST

△A – SUBJECT'S CONCRETE WALK EXTENDS INTO THE RIGHT-OF-WAY OF THE RIGHT-OF-WAY OF RICHTER LANE
△B – SUBJECT'S CHAIN-LINK FENCE EXTENDS INTO THE RIGHT-OF-WAY OF THE RIGHT-OF-WAY OF RICHTER LANE
△C – SUBJECT'S CHAIN-LINK FENCE EXTENDS ONTO THE ADJOINER'S PROPERTY AS SHOWN.
△D – SUBJECT'S STONE WALL EXTENDS ONTO THE ADJOINER'S PROPERTY AS SHOWN.
△E – ADJOINER'S CONCRETE DRIVE AND RESIDENCE EXTENDS INTO THE GRANTED ACCESS EASEMENT AS SHOWN.
△F – UTILITY GUY WIRE EXTENDS ONTO THE SUBJECT'S PROPERTY AS SHOWN.
△G – UTILITY GUY WIRE AND UTILITY POLE EXTENDS ONTO THE SUBJECT'S PROPERTY AS SHOWN.
△H – SUBJECT APPEARS TO BE UTILIZING ASPHALT DRIVE ACROSS PUBLIC ADJOINING PROPERTY FOR ACCESS. NO EASEMENT OF RECORD PROVIDED.
△I – OVERHEAD UTILITIES EXTENDS ONTO SUBJECT PROPERTY, NO EASEMENT OF RECORD PROVIDED.
△J – ASPHALT PARKING LOT EXTENDS ONTO SUBJECT PROPERTY AS SHOWN.
△K – SUBJECT APPEARS TO BE UTILIZING CONCRETE WALK THAT EXTENDS ONTO ADJOINING PROPERTY FOR ACCESS TO PUBLIC ROADWAY NO EASEMENT OF RECORD PROVIDED.

BENCHMARK

MSD. BENCHMARK NO.19370
19370 NAVD88(SLC2011A) ELEV = 620.38 FTUS
OBSERVED AT 620.18 FTUS WITH A CARLSON BRX7 ROVER BROADCASTING THE MODOT CORS. VRS. NETWORK.

"SQ" ON WEST EDGE [LIGHT] STANDARD BASE AT NORTHWEST CORNER OF CRESTWOOD – EUCLID MASONIC TEMPLE PARKING LOT; 200' NORTH OF EDDIE AND PARK ROAD AND 100' EAST OF SAPPINGTON ROAD.

SITE BENCHMARK

CUT SQUARE ON SIGN BASE IN THE MOST WEST SIGN BASE ON THE NORTH DRIVELAND OF THE SCHOOL PARKING LOT.

ELV.611.59 FTUS

FLOOD ZONE NOTES

BY GRAPHIC PLOTTING ONLY, THIS PROPERTY DOES NOT LIE WITHIN ANY SPECIAL FLOOD ZONE AREAS ACCORDING TO THE FLOOD INSURANCE RATE MAP PANEL NUMBER 29189C0317K AND COMMUNITY NUMBER 290343 (CITY OF CRESTWOOD) WHICH BEARS AN EFFECTIVE DATE OF 2/4/2015. THE PROPERTY LIES WITHIN UNSHADED ZONE X (AREAS DETERMINED TO BE OUTSIDE 500 YEAR FLOOD PLAIN).

NOTE:

THE UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SOURCES AND THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. THE VERIFICATION OF THE ACTUAL LOCATIONS OF ALL UNDERGROUND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THIS DRAWING, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE LOCATED PRIOR TO GRADING OR CONSTRUCTION OF IMPROVEMENTS.

MISSOURI ONE CALL TICKET NUMBER 241851404

AMEREN MISSOURI ELECTRIC
AT&T DISTRIBUTION
CHARTER COMMUNICATIONS
13 BROADBAND
MISSOURI AMERICAN WATER CO.
MCI
SPIRE MO EAST
ST. LOUIS METROPOLITAN SEWER DIST.
ST. LOUIS COUNTY TRANSPORTATION
UNITE PRIVATE NETWORKS

LAND DESCRIPTION

PARCEL 1:
A TRACT OF LAND IN SECTION 18 TOWNSHIP 44 NORTH RANGE 6 EAST IN THE COUNTY OF ST. LOUIS, MISSOURI, AND DESCRIBED AS: BEGINNING AT AN IRON PIPE IN THE WEST LINE OF SAPPINGTON ROAD, DISTANT 180 FEET SOUTH OF THE NORTH LINE OF PROPERTY CONVEYED TO ROBERT H. J. WARNER AND WIFE BY DEED RECORDED IN BOOK 1210, PAGE 124 OF THE ST. LOUIS COUNTY RECORDS, MEASURED ALONG THE WEST LINE OF SAPPINGTON ROAD, THENCE ALONG THE WEST LINE OF SAPPINGTON ROAD SOUTH 0 DEGREES 50 MINUTES WEST 116 FEET TO AN IRON PIN, THENCE NORTH 88 DEGREES 57 MINUTES WEST, 278.96 FEET TO IRON PIN, THENCE NORTH 0 DEGREES 50 MINUTES EAST, 72.29 FEET TO AN IRON PIPE, THENCE SOUTH 88 DEGREES 57 MINUTES EAST, 49.70 FEET TO AN OLD IRON PIN, THENCE NORTH 0 DEGREES 50 MINUTES EAST, 43.71 FEET TO AN IRON PIPE AND THENCE SOUTH 88 DEGREES 57 MINUTES EAST, 229.26 FEET TO THE POINT OF BEGINNING.
LESS AND EXCEPTING THAT PORTION CONVEYED TO THE ST. LOUIS COUNTY, MISSOURI, ACCORDING TO GENERAL WARRANTY DEED RECORDED IN BOOK 6550, PAGE 884.

PARCEL 2:
A TRACT OF LAND, BEING AND SITUATED IN THE NORTHEAST CORNER OF LOT 3 IN THE SUBDIVISION OF THE SOUTHEAST FRACTIONAL HALF OF SECTION 18, TOWNSHIP 44 NORTH, RANGE 6 EAST, IN ST. LOUIS COUNTY, MISSOURI, BEING PART OF THE SAME PROPERTY CONVEYED IN BOOK S PAGE 519, BOOK O-5 PAGE 447 AND IN BOOK 297 PAGE 142 OF THE RECORDS OF THE CITY (FORMER COUNTY) OF ST. LOUIS, MISSOURI, SAID LOT 3 CONTAINING 40 ACRES, ACCORDING TO A PLAT THEREOF RECORDED IN ST. LOUIS LAND COURT AND THE PROPERTY HEREBY CONVEYED HAS A FRONTAGE OF 134 FEET MORE OR LESS ALONG SAPPINGTON ROAD, BY A DEPTH BETWEEN PARALLEL LINES OF 249.26 FEET MORE OR LESS, AND IS BOUNDED ON THE EAST BY SAPPINGTON ROAD, ON THE NORTH BY PROPERTY NOW OR FORMERLY OF JACOB HEUTEL AND WIFE BY DEED DATED NOVEMBER 14, 1959 AND RECORDED IN BOOK 4198 PAGE 594 AND ON THE WEST AND SOUTH BY PROPERTY NOW OR FORMERLY OF SCHOOL DISTRICT R-8 OF ST. LOUIS COUNTY, MISSOURI BY DEED DATED JUNE 28, 1957 AND RECORDED IN BOOK 3783 PAGE 419.

PARCEL 3:
TRACT 1: A TRACT OF LAND SITUATED IN LOT 3 OF THE SUBDIVISION OF THE SOUTH FRACTIONAL 1/2 OF SECTION 18, TOWNSHIP 44 NORTH, RANGE 6 EAST IN ST. LOUIS COUNTY, MISSOURI, BEING A PART OF THE JAMES MCCORMICK ESTATE, DESCRIBED AS FOLLOWS: BEGINNING AT A POINT IN THE WEST LINE OF PROPERTY CONVEYED TO ROBERT WERNER BY DEED RECORDED IN BOOK 724 PAGE 354 OF THE ST. LOUIS COUNTY RECORDS, 15 FEET SOUTH OF THE NORTH LINE OF SAID LOT 3; THENCE SOUTHWARDLY ALONG SAID WEST LINE 208.71 FEET TO A POINT; THENCE WESTWARDLY ALONG A LINE PARALLEL TO THE NORTH LINE OF SAID LOT 3, 208.71 FEET TO A POINT; THENCE NORTHWARDLY ALONG A LINE PARALLEL TO SAID WEST LINE 208.71 FEET TO A POINT; THENCE EASTWARDLY ALONG A LINE PARALLEL TO SAID NORTH LINE OF LOT 3, 208.71 FEET TO THE PLACE OF BEGINNING.
TRACT 2: A STRIP OF LAND 15 FEET WIDE LOCATED WITHIN LOT 3 OF THE SUBDIVISION OF THE SOUTH FRACTIONAL 1/2 OF SECTION 18, TOWNSHIP 44 NORTH, RANGE 6 EAST, IN ST. LOUIS COUNTY, MISSOURI, BEING A PART OF THE JAMES MCCORMICK ESTATE AS DEPICTED ON 1864 SURVEY BY PITZMAN RECORDED IN ST. LOUIS CITY SURVEYORS RECORD BOOK 4 PAGE 328, AND DESCRIBED AS FOLLOWS: BEGINNING AT THE POINT OF INTERSECTION OF THE WEST LINE OF PROPERTY CONVEYED TO ROBERT H. J. WERNER BY DEED RECORDED OCTOBER 6, 1925 IN BOOK 724 PAGE 354 AND THE SOUTH LINE OF A PRIVATE RIGHT OF WAY 25 FEET WIDE AS CREATED BY PLAT BY JOHANN GEORG AFF RECORDED AUGUST 3, 1910 IN PLAT BOOK 8 PAGE 100; THENCE SOUTH ALONG THE WESTERN LINE OF PROPERTY CONVEYED BY DEED RECORDED IN BOOK 724 PAGE 354, 15 FEET TO THE NORTHERN LINE OF PROPERTY CONVEYED TO JOHN S. HAMMACK AND LORA E. HAMMACK, HIS WIFE, BY DEED RECORDED OCTOBER 10, 1938 IN BOOK 1547 PAGE 302; THENCE WEST AND ALONG THE NORTHERN LINE OF PROPERTY CONVEYED BY DEED RECORDED IN BOOK 1547 PAGE 302, 208.71 FEET TO THE EASTERN LINE OF PROPERTY CONVEYED TO MARY JANE WEAVER BY DEED RECORDED MARCH 6, 1942 IN BOOK 1856 PAGE 267; THENCE NORTH AND ALONG THE EASTERN LINE OF THE PROPERTY CONVEYED BY DEED RECORDED IN BOOK 1856 PAGE 267; 15 FEET TO THE SOUTH LINE OF THE PRIVATE RIGHT OF WAY 25 FEET WIDE CREATED BY PLAT RECORDED IN PLAT BOOK 8 PAGE 100, SAID PRIVATE RIGHT OF WAY BEING NOW KNOWN AS RICHTER LANE; THENCE EAST AND ALONG THE SOUTH LINE OF SAID RICHTER LANE, 208.71 FEET TO THE POINT OF BEGINNING.

PARCEL 4:
LOT A OF SAPPINGTON-DOERCREST CONSOLIDATION PLAT, A SUBDIVISION IN ST. LOUIS COUNTY, MISSOURI ACCORDING TO THE PLAT RECORDED IN PLAT BOOK 361 PAGE 106 OF THE ST. LOUIS COUNTY RECORDER OF DEEDS OFFICE.

LEGEND

● PP	UTILITY POLE	(R. & S.)	RECORD AND SURVEYED
←	GUY WIRE	D.B.	DEED BOOK
☼	LIGHT STANDARD	PG.	PAGE
☼	ELECTRIC YARD LIGHT	N/F	NOW OR FORMERLY
GM ▲	GAS METER	—T—	TELEPHONE LINE
GV ⋈	GAS VALVE	—G—	GAS LINE MARK
●	FIRE HYDRANT	—E—	UNDERGROUND ELECTRIC
⊙	DOWNSPOUT	—OU—	OVERHEAD UTILITY
Ⓢ	MANHOLE	—W—	WATERLINE
C.O. ○	CLEAN-OUT	—FO—	FIBER OPTIC
6	HANDICAP PARKING COUNT	12" +	TREE WITH SIZE
148	REGULAR PARKING SPACES	✹	BUSH
ITEM #10	REFLECT ITEM NUMBER ON SCHEDULE B II	∩	TREE STUMP
Ⓟ	PHONE MANHOLE	LA	LANDSCAPE AREA
TCB ▭	TELEPHONE CONTROL BOX	BH ◕	BORE LOCATION
EB ⊠	ELECTRIC BOX	●	BOLLARD
ET ⊠	ELECTRIC TRANSFORMER	Well ○	WATER WELL
EM ▲	ELECTRIC METER	Ⓦ	WATER MANHOLE
MB ⊠	MAIL BOX	WSV ⋈	WATER SHUT OFF VALVE
AC	AIR CONDITIONER UNIT	WM ▲	WATER METER
—○—	SIGN	SP △	WATER SPRINKLER
○	POST	ICV ⋈	IRRIGATION CONTROL VALVE
⊜	DRAIN	WF ⋈	WATER FAUCET
▥	GRATE INLET		

TABLE A

OPTIONAL SURVEY RESPONSIBILITIES AND SPECIFICATIONS

NOTE: THE NINTEEN (19) ITEMS OF TABLE A ARE TO SELECTED, AND THE EXACT WORDING OF AND FEE FOR ANY SELECTED ITEM, MAY BE NEGOTIATED BETWEEN THE SURVEYOR AND CLIENT. ANY ADDITIONAL ITEMS NEGOTIATED BETWEEN THE SURVEYOR AND CLIENT MUST BE IDENTIFIED AS 20(A), 20(B), ETC. ANY ADDITIONAL ITEMS NEGOTIATED BETWEEN THE SURVEYOR AND CLIENT, AND ANY NEGOTIATED CHANGES TO THE WORDING OF TABLE A ITEM MUST BE EXPLAINED PURSUANT TO SECTION 6.D.II.(G). NOTWITHSTANDING TABLE A ITEMS 5 AND 11, IF AN ENGINEERING DESIGN SURVEY IS DESIRED AS PART OF AN ALTA/NSPS LAND TITLE SURVEY, SUCH SERVICES SHOULD BE NEGOTIATED UNDER TABLE A, ITEM 20.

IF CHECKED, THE FOLLOWING OPTIONAL ITEMS ARE TO BE INCLUDED IN THE ALTA/NSPS LAND TITLE SURVEY, EXCEPT AS OTHERWISE QUALIFIED (SEE NOTE ABOVE):

1. __X__ MONUMENTS PLACED (OR A REFERENCE MONUMENT OR WITNESS TO THE CORNER) AT ALL MAJOR CORNERS OF THE BOUNDARY OF THE SURVEYED PROPERTY, UNLESS ALREADY MARKED OR REFERENCED BY EXISTING MONUMENTS OR WITNESSES IN DOSE PROXIMITY TO THE CORNER.
2. __X__ ADDRESS(ES) OF THE SURVEYED PROPERTY IF DISCLOSED IN DOCUMENTS PROVIDED TO OR OBTAINED BY THE SURVEYOR, OR OBSERVED WHILE CONDUCTING THE FIELDWORK.
3. __X__ FLOOD ZONE CLASSIFICATION (WITH PROPER ANNOTATION BASED ON FEDERAL FLOOD INSURANCE RATE MAPS OR THE STATE OR LOCAL EQUIVALENT) DEPICTED BY SCALED MAP LOCATION AND GRAPHIC PLOTTING ONLY.
4. __X__ GROSS LAND AREA (AND OTHER AREAS IF SPECIFIED BY THE CLIENT).
5. __X__ VERTICAL RELIEF WITH THE SOURCE OF INFORMATION (E.G., GROUND SURVEY, AERIAL MAP), CONTOUR INTERVAL, DATUM, AND ORIGINATING BENCHMARK IDENTIFIED.
6. _____ (A) IF THE CURRENT ZONING CLASSIFICATION, SETBACK REQUIREMENTS, THE HEIGHT AND FLOOR SPACE AREA RESTRICTIONS, AND PARKING REQUIREMENTS SPECIFIC TO THE SURVEYED PROPERTY ARE SET FORTH IN A ZONING REPORT OR LETTER PROVIDED TO THE SURVEYOR BY THE CLIENT OR THE CLIENT'S DESIGNATED REPRESENTATIVE, LIST THE ABOVE ITEMS ON THE PLAT OR MAP AND IDENTIFY THE DATE AND SOURCE OF THE REPORT OR LETTER.
   _____ (B) IF THE ZONING SETBACK REQUIREMENTS SPECIFIC TO THE SURVEYED PROPERTY ARE SET FORTH IN A ZONING REPORT OR LETTER PROVIDED TO THE SURVEYOR BY THE CLIENT OR THE CLIENT'S DESIGNATED REPRESENTATIVE, AND IF THOSE REQUIREMENTS DO NOT REQUIRE AN INTERPRETATION BY THE SURVEYOR, GRAPHICALLY DEPICT THE BUILDING SETBACK REQUIREMENTS ON THE PLAT OR MAP. IDENTIFY THE DATE AND SOURCE OF THE REPORT OR LETTER.
7. __X__ (A) EXTERIOR DIMENSIONS OF ALL BUILDINGS AT GROUND LEVEL.
   (B) SQUARE FOOTAGE OF.
   __X__ (1) EXTERIOR FOOTPRINT OF ALL BUILDINGS AT GROUND LEVEL.
   ______ (2) OTHER AREAS AS SPECIFIED BY THE CLIENT.
   __X__ (C) MEASURED HEIGHT OF ALL BUILDINGS ABOVE GRADE AT A LOCATION SPECIFIED BY THE CLIENT. IF NO LOCATION IS SPECIFIED, THE POINT OF MEASUREMENT SHALL BE IDENTIFIED.
8. __X__ SUBSTANTIAL FEATURES OBSERVED IN THE PROCESS OF CONDUCTING THE FIELDWORK (IN ADDITION TO THE IMPROVEMENTS AND FEATURES REQUIRED PURSUANT TO SECTION 5 ABOVE) (E.G., PARKING LOTS, BILLBOARDS, SIGNS, SWIMMING POOLS, LANDSCAPED AREAS, SUBSTANTIAL AREAS OF REFUSE).
9. __X__ NUMBER AND TYPE (E.G., DISABLED, MOTORCYCLE, REGULAR AND OTHER MARKED SPECIALIZED TYPES) OF CLEARLY IDENTIFIABLE PARKING SPACES ON SURFACE PARKING AREAS, LOTS AND IN PARKING STRUCTURES. STRIPING OF CLEARLY IDENTIFIABLE PARKING SPACES ON SURFACE PARKING AREAS AND LOTS.
10. _____AS DESIGNATED BY THE CLIENT, A DETERMINATION OF THE RELATIONSHIP AND LOCATION OF CERTAIN DIVISION OR PARTY WALLS WITH RESPECT TO ADJOINING PROPERTIES.
11. __X__ EVIDENCE OF UNDERGROUND UTILITIES EXISTING ON OR SERVING THE SURVEYED PROPERTY (IN ADDITION TO THE OBSERVED EVIDENCE OF UTILITIES REQUIRED PURSUANT TO SECTION 5.E.IV.) AS DETERMINED BY:

    ______(A) PLANS AND/OR REPORTS PROVIDED BY CLIENT (WITH REFERENCE AS TO THE SOURCES OF INFORMATION)

    __X__(B) MARKINGS COORDINATED BY THE SURVEYOR PURSUANT TO A PRIVATE UTILITY LOCATE REQUEST.

NOTE TO THE CLIENT, INSURER, AND LENDER – WITH REGARD TO TABLE A, ITEM 11, INFORMATION FROM THE SOURCES CHECKED ABOVE WILL BE COMBINED WITH OBSERVED EVIDENCE OF UTILITIES PURSUANT TO SECTION 5.E.IV. TO DEVELOP A VIEW OF THE UNDERGROUND UTILITIES. HOWEVER, LACKING EXCAVATION, THE EXACT LOCATION OF UNDERGROUND FEATURES CANNOT BE ACCURATELY, COMPLETELY, AND RELIABLY DEPICTED. IN ADDITION, IN SOME JURISDICTIONS, 811 OR OTHER SIMILAR UTILITY LOCATE REQUESTS FROM SURVEYORS MAY BE IGNORED OR RESULT IN AN INCOMPLETE RESPONSE, IN WHICH CASE THE SURVEYOR SHALL NOTE ON THE PLAT OR MAP HOW THIS AFFECTED THE SURVEYOR'S ASSESSMENT OF THE LOCATION OF THE UTILITIES. WHERE ADDITIONAL OR MORE DETAILED INFORMATION IS REQUIRED, THE CLIENT IS ADVISED THAT EXCAVATION MAY BE NECESSARY.

12. _____ AS SPECIFIED BY THE CLIENT, GOVERNMENTAL AGENCY SURVEY-RELATED REQUIREMENTS (E.G., HUD SURVEYS, SURVEYS FOR LEASES ON BUREAU OF LAND MANAGEMENT MANAGED LANDS). THE RELEVANT SURVEY REQUIREMENTS ARE TO BE PROVIDED BY THE CLIENT OR CLIENT'S DESIGNATED REPRESENTATIVE.
13. __X__ NAMES OF ADJOINING OWNERS ACCORDING TO CURRENT TAX RECORDS. IF MORE THAN ONE OWNER, IDENTIFY THE FIRST OWNER'S NAME LISTED IN THE TAX RECORDS FOLLOWED BY ET AL."
14. _____ AS SPECIFIED BY THE CLIENT, DISTANCE TO THE NEAREST INTERSECTING STREET.
15. _____ RECTIFIED ORTHOPHOTOGRAPHY, PHOTOGRAMMETRIC MAPPING, REMOTE SENSING, AIRBORNE/MOBILE LASER SCANNING AND OTHER SIMILAR PRODUCTS, TOOLS OR TECHNOLOGIES AS THE BASIS FOR SHOWING THE LOCATION OF CERTAIN FEATURES (EXCLUDING BOUNDARIES) WHERE GROUND MEASUREMENTS ARE NOT OTHERWISE NECESSARY TO LOCATE THOSE FEATURES TO AN APPROPRIATE AND ACCEPTABLE ACCURACY RELATIVE TO A NEARBY BOUNDARY. THE SURVEYOR MUST (A) DISCUSS THE RAMIFICATIONS OF SUCH METHODOLOGIES (E.G., THE POTENTIAL PRECISION AND COMPLETENESS OF THE DATA GATHERED THEREBY) WITH THE INSURER, LENDER, AND CLIENT PRIOR TO THE PERFORMANCE OF THE SURVEY, AND (B) PLACE A NOTE ON THE FACE OF THE SURVEY EXPLAINING THE SOURCE, DATE, PRECISION, AND OTHER RELEVANT QUALIFICATIONS OF ANY SUCH DATA.
16. __X__ EVIDENCE OF RECENT EARTH MOVING WORK, BUILDING CONSTRUCTION, OR BUILDING ADDITIONS OBSERVED IN THE PROCESS OF CONDUCTING THE FIELDWORK.
17. _____ PROPOSED CHANGES IN STREET RIGHT OF WAY LINES, IF SUCH INFORMATION IS MADE AVAILABLE TO THE SURVEYOR BY THE CONTROLLING JURISDICTION. EVIDENCE OF RECENT STREET OR SIDEWALK CONSTRUCTION OR REPAIRS OBSERVED IN THE PROCESS OF CONDUCTING THE FIELDWORK.
18. _____ PURSUANT TO SECTIONS 5 AND 6 (AND APPLICABLE SELECTED TABLE A ITEMS, EXCLUDING TABLE A ITEM 1. INCLUDE AS A PART OF THE SURVEY ANY PLOTTABLE OFFSITE (I.E., APPURTENANT) EASEMENTS OR SERVITUDES DISCLOSED IN DOCUMENTS PROVIDED TO OR OBTAINED BY THE SURVEYOR.
19. __X__ PROFESSIONAL LIABILITY INSURANCE POLICY OBTAINED BY THE SURVEYOR IN THE MINIMUM AMOUNT OF $________ TO BE IN EFFECT THROUGHOUT THE CONTRACT TERM. CERTIFICATE OF INSURANCE TO BE FURNISHED UPON REQUEST, BUT THIS ITEM SHALL NOT BE ADDRESSED ON THE FACE OF THE PLAT OR MAP.
20. __X__ REFLECT CURRENT TITLE. PLOT EASEMENTS FROM CURRENT TITLE POLICY PROVIDED BY OTHERS.

ADOPTED BY THE BOARD OF GOVERNORS, AMERICAN LAND TITLE ASSOCIATION, ON OCTOBER 1, 2020. AMERICAN LAND TITLE ASSOCIATION, 1800 M ST., N. W., SUITE 300S, WASHINGTON, D. C. 20036-5828. WWW.ALTA.ORG
ADOPTED BY THE BOARD OF DIRECTORS, NATIONAL SOCIETY OF PROFESSIONAL SURVEYORS, ON OCTOBER 9, 2020. NATIONAL SOCIETY OF PROFESSIONAL SURVEYORS, INC., 5119 PEGASUS COURT, SUITE Q, FREDERICK, MD 21704 HTTP.//WWW. NSPS.US.COM/

ALTA/NSPS LAND TITLE SURVEY

9021 SAPPINGTON ROAD
ST. LOUIS COUNTY, MISSOURI

TO : LINDBERGH SCHOOLS

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2021 MINIMUM STANDARDS DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1, 2, 3, 4, 5, 7(A), 7(C), 8, 9, 11, 11(B), 13, 16, 19 AND 20 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON 8/27/2024. DATE OF MAP OR PLAT 10/23/2024.

PROJECT NAME: LONG ELEMENTARY
SHEET 1 OF 5
ADDRESS: 9021 SAPPINGTON ROAD ST. LOUIS, MO 63126

DATE: 10/23/2024	REVISION DATES	
SCALE: 1" = 20'		
DEPUTY: L.Q./S.M.		
DRAWN BY: S.M.		
CHECKED BY: M.L.M.		
DWG. No.: 2407-012		

MARLER
SURVEYING COMPANY, INC.
11402 GRAVOIS RD., STE. 200 ST. LOUIS, MO 63126 (314) 729-1001 PH. (314) 729-1044 FAX
402 EAST SPRINGFIELD ROAD, SULLIVAN, MO (573) 468-4684 PH. (573) 860-8606 FAX
email: marler@marlersurveying.net

By: ____________________
MARTY L. MARLER
MISSOURI P.L.S. 2501
MARLER SURVEYING COMPANY INC.
MISSOURI CORP. NO. L.S. 347-D

PROJECT NAME: LONG ELEMENTARY	SHEET 2 OF 5
ADDRESS: 9021 SAPPINGTON ROAD ST. LOUIS, MO 63126	

	REVISION DATES	
DATE: 10/23/2024		
SCALE: 1" = 20'		
DEPUTY: L.Q./S.M.		
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email: marler@marlersurveying.net

By:
MARTY L. MARLER
MISSOURI P.L.S. 2501
MARLER SURVEYING COMPANY INC.
MISSOURI CORP. NO. L.S. 347-D

RICHTER LANE (25' WIDE)
(25' WIDE ROAD PB.8 PG. 100 & 1210/124)
S 89°14'26" E 300.81' (R)
S 89° 17' 31" E 300.67' (S)
NORTH LINE OF LOT 3
S 89° 17' 31" E 208.71' (R & S)
48" CHAIN-LINK FENCE
PARCEL 3 TRACT 2
3,135 SQ. FT.
N 89° 16' 48" W 208.71' (S)
10' ESMT. (4865/517)
20'x20' ESMT. (4865/574)
15.00' (R & S)
60" CHAIN-LINK FENCE
SCALE: 1 inch = 20 ft.
10' ESMT. (4550/572) SHOWN TO BE VACATED AS PER (18972/2541)
10' ESMT. (18972/2541)
ITEM 17
ITEM 8
PARCEL 3
TRACT 1
N/F
LINDBERGH SCHOOLS
PARCEL NO.26L420861
DEED BOOK 23442 PAGE 3413
LAND AREA
43,524 SQ. FT.
0.99± ACRES
N 00° 26' 44" E 223.62' (S)
208.62' (S)
S 00° 26' 44" W 208.58' (S)
S 00° 26' 44" W 179.66' (S)
STONE WALL
N/F
BOULEVARD CUSTOM HOMES INC
PARCEL NO.26L420641
ADJOINER'S RESIDENCE FRAME
20'W ST. LOUIS COUNTY DB.6558 PG.1390
PERPETUAL EASEMENT AGREEMENT FOR DRIVEWAY 11049/72 (ACCESS EASEMENT)
FOUND 1/2" IRON PIPE
S 88° 57' E 229.26' (R)
S 89° 17' 31" E 209.31' (S)
POINT OF BEGINNING PARCEL 1
43.96' (S)
208.71' (R & S)
FOUND 3/4" IRON PIPE
S 89°14'26" E 159.09' (R)
N 89° 19' 56" W 159.02' (S)
N 89° 09' 47" W 49.69' (S)
S 88° 57' E 49.70' (R)
PARCEL 1
N/F
LINDBERGH SCHOOLS
PARCEL NO.26L420621
DEED BOOK 25062 PAGE 1771
LAND AREA
27,893 SQ. FT.
0.64± ACRES
S 00° 28' 36" W 72.29' (S)
116.14' (S)
ASPHALT CURB
POLY-SHED
POLY-WALL
PLAYGROUND EQUIPMENT
CONCRETE WALK
BENCH
BOULDER
PAVILION
ASPHALT
N 88° 57' W 278.96' (R)
S 89° 17' 31" E 258.92' (S)
FOUND CROSS 0.14' N.
10' ESMT. (4192/573)
10' ESMT. (4192/575)
ITEM 3
PARCEL 2
N/F
LINDBERGH SCHOOLS
PARCEL NO.26L420841
DEED BOOK 25062 PAGE 1774
LAND AREA
34,716 SQ. FT.
0.80± ACRES
N 00° 28' 36" E 134.10' (S)
134.10' (S)
20'W ST. LOUIS COUNTY DB.6550, PG.884
20'W ST. LOUIS COUNTY DB.6550, PG.880
CURB CUT PUBLIC ACCESS
FOUND CROSS 0.52' W. ON-LINE
48" CHAIN-LINK FENCE
S 89° 17' 31" E 258.86' (S)
S 89° 14' 26" E 258.27' (R)
FOUND 3/4" IRON PIPE
VEGETATION/TREE DRIP LINE (TYP.)
SITE B.M. ELV 611.59 FT(US)
SIGN (TYP.)
BASKETBALL GOAL (TYP.)
CONCRETE
WATER COLLECTION TANK
PLANTER BOXES
FF: 608.43'
FF: 610.63'
FF: 608.42'
FF: 599.29'
FF: 599.20'
FF: 590.56'
FF: 610.62'
SHEET 3
MATCH LINE - SHEET 2
MATCH LINE - SHEET 4
MATCH LINE - SHEET 5
LOT A
(PARCEL 4)
LAND AREA
524,036 SQ. FT.
12.03 ± ACRES
N/F
LINDBERGH SCHOOLS
PARCEL NO.26L420982

PROJECT NAME: LONG ELEMENTARY

SHEET 3 OF 5

ADDRESS: 9021 SAPPINGTON ROAD ST. LOUIS, MO 63126

DATE: 10/23/2024	REVISION DATES
SCALE: 1" = 20'	
DEPUTY: L.Q./S.M.	
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DWG. No.: 2407-012	

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email: marler@marlersurveying.net

By:
MARTY L. MARLER
MISSOURI P.L.S. 2501
MARLER SURVEYING COMPANY INC.
MISSOURI CORP. NO. L.S. 347-D

SCALE:
1 inch = 20 ft.
RICHTER LANE (25' WIDE)
(25' WIDE ROAD PB.8 PG. 100 & 1210/124)
S 89°14'26" E 300.81' (R)
S 89° 17' 31" E 300.67' (S)
NORTH LINE OF LOT 3
S 89° 17' 31" E 208.71' (R & S)
PARCEL 3 TRACT 2
N 89° 16' 48" W 208.71' (S)
FOUND 1/2" IRON PIPE
60" CHAIN-LINK FENCE
NO UPSTREAM STRUCTURE WAS FOUND
APPROXIMATE LOCATION OF STORM MH. NO STRUCTURE FOUND PER. MSD. BASE MAP
APPROXIMATE LOCATION OF STORM INLET NO STRUCTURE FOUND PER. MSD. BASE MAP
PARCEL 3 TRACT 1
N/F LINDBERGH SCHOOLS
LAND AREA
208.71' (R & S)
FOUND 3/4" IRON PIPE
N 89° 19' 56" W 159.02' (S)
N/F CITY OF CRESTWOOD
BASKETBALL GOAL
ASPHALT
BENCH
POLY-WALL
PLAYGROUND EQUIPMENT
CONCRETE WALK
PAVILION
CONCRETE
BRIDGE
N 00° 34' 04" E 651.06' (S)
MATCH LINE - SHEET 4
MATCH LINE - SHEET 3
MATCH LINE - SHEET 2
WATER COLLECTION TANK
PLANTER BOXES
FF: 610.63'
FF: 608.43'
FF: 608.42'
FF: 599.20'
FF: 590.56'
FF: 590.60'

PROJECT NAME: LONG ELEMENTARY	SHEET 4 OF 5
ADDRESS: 9021 SAPPINGTON ROAD ST. LOUIS, MO 63126	

DATE: 10/23/2024	REVISION DATES
SCALE: 1" = 20'	
DEPUTY: L.Q./S.M.	
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11402 GRAVOIS RD., STE. 200 ST. LOUIS, MO 63126 (314) 729-1001 PH. (314) 729-1044 FAX
402 EAST SPRINGFIELD ROAD, SULLIVAN, MO (573) 468-4684 PH. (573) 860-8606 FAX
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By: ____________
MARTY L. MARLER
MISSOURI P.L.S. 2501
MARLER SURVEYING COMPANY INC.
MISSOURI CORP. NO. L.S. 347-D

0 20 40

SCALE:
1 inch = 20 ft.

SHEET 3
MATCH LINE – SHEET 2

MATCH LINE – SHEET 5
SHEET 2

LOT A
(PARCEL 4)
LAND AREA
524,036 SQ. FT.
12.03 ± ACRES

N/F
LINDBERGH SCHOOLS
PARCEL NO.26L420982
DEED BOOK 3783 PAGE 419

N/F
CITY OF CRESTWOOD
PARCEL NO.26L410642

LOT 17

LOT 18

LOT 19

LOT 23

DOERCREST MANOR ESMT.
PB.108 PG.79 (5253/343)

PARKSHIRE COURT (50' WIDE)

N 00° 40' 30" E 62.76' (R)
N 00° 35' 52" E 62.76' (S)

N 60° 13' 23" W 68.76' (S)
N 60° 08' 45" W 68.76' (R)

N 00° 29' 00" E 199.08' (R)
N 00° 25' 22" E 199.08' (S)

N 89° 35' 13" W 175.02' (S)
N 89° 31' 00" W 175.08' (R)

N 00° 24' 23" E 8.79' (S)
N 00°29'00" E 8.79' (R)

S 89° 31' 00" E
N 89° 35' 11" W

ITEM 5
ITEM 18
ITEM 19
ITEM 21
ITEM 23

PROJECT NAME: LONG ELEMENTARY	SHEET 5 OF 5
ADDRESS: 9021 SAPPINGTON ROAD ST. LOUIS, MO 63126	

DATE: 10/23/2024	REVISION DATES
SCALE: 1" = 20'	
DEPUTY: L.Q./S.M.	
DRAWN BY: S.M.	
CHECKED BY: M.L.M.	
DWG. No.: 2407-012	

MARLER SURVEYING COMPANY, INC.
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By:
MARTY L. MARLER
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MARLER SURVEYING COMPANY INC.
MISSOURI CORP. NO. L.S. 347-D

Traffic Access Study

Proposed Circulation Improvements
Long Elementary School
Crestwood, Missouri

Prepared for:
Mr. Scott Barbagallo
Director of Facilities
Lindbergh School District

CBB Job Number:
090-24

Date:
March 4, 2025

Submitted by:

CBB TRANSPORTATION ENGINEERS+PLANNERS

EXPERT | TRUSTED ADVISOR | FRIEND

CBB is a Midwest firm where free-thinking, innovation, and collaboration merge with international best practices to provide traffic engineering and transportation planning solutions for safer, more sustainable, and economically vibrant communities.

EXPERT | TRUSTED ADVISOR | FRIEND

TABLE OF CONTENTS

March 4, 2025

Mr. Scott Barbagallo
Director of Facilities
Lindbergh School District
9350 Sappington Road
St. Louis, Missouri 63126

RE: Traffic Access Study
Proposed Circulation Improvements – Long Elementary School
Crestwood, Missouri
CBB Job No. 090-24

Dear Mr. Barbagallo:

As requested, CBB has completed a traffic access study pertaining to the proposed traffic circulation improvements for Long Elementary School in Crestwood, Missouri. This study evaluated the on-site drop-off and pick-up operations, the school driveway locations on Sappington Road and other nearby intersections within the study area. The primary emphasis of this study was the AM school arrival peak hour and the PM school dismissal peak hour on a typical school day. The location of the study is depicted in **Figure 1**.

Figure 1: Long Elementary School Site Location

It is our understanding that Long Elementary School plans to construct a new parking lot to provide additional parking spaces and reconfigure the parent drop-off/pick-up area. A schematic of the most current concept plan provided by you is shown in **Exhibit 1**.

CBB met with representatives of the School District, St. Louis County Department of Transportation (SLCDOT), City of Crestwood, and the civil site designers to discuss the proposed site plan, current operations, and identify known issues of concern at the beginning of the study. A field visit was made to inventory the existing road conditions and observe arrival and dismissal traffic patterns and flow levels. CBB used this information to identify concerns and provide recommendations to improve safety and traffic flow during arrival and dismissal peak hours. This study was prepared in order to address known issues of concern and provide recommendations for safe and efficient traffic flow for all users – parent vehicles, school buses, the general motoring public and children walking and biking to/from school.

It should be noted that the current site plan was developed with input from CBB. CBB's suggestions included shifting the existing inbound only access opposite Garber Road to create a four-legged, signalized intersection with two-way flow for school traffic.

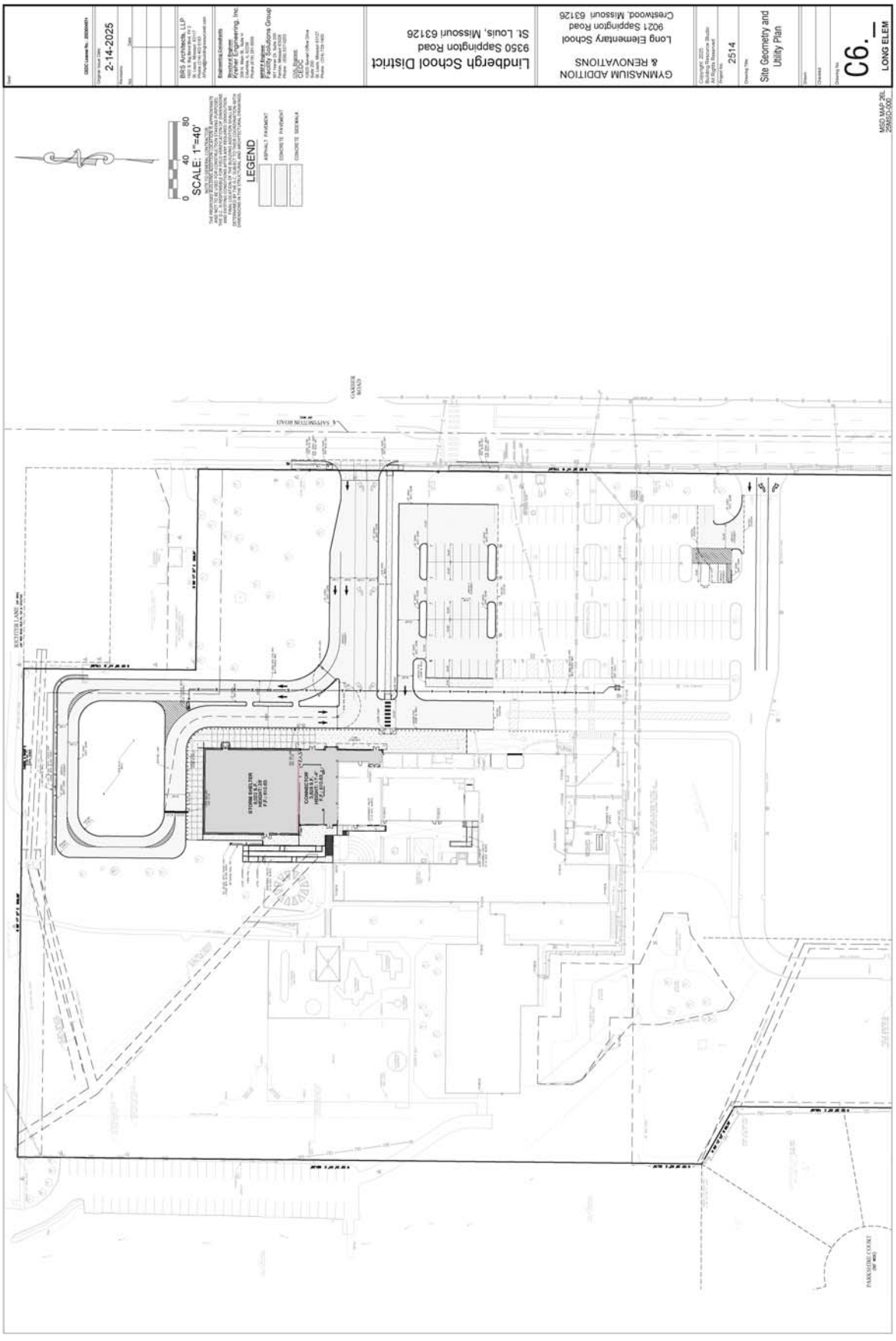


Exhibit 1: Preliminary Site Plan (provided by others)

EXISTING ROADWAY CONDITIONS

Sappington Road is a north-south minor arterial maintained by SLCDOT. The five-lane road provides two lanes in each direction and a center two-way left-turn lane (TWLTL). The posted speed limit is 35 mph; however, there is a posted speed limit of 25 mph near the school when lights are flashing during school arrival and dismissal. Sidewalks are provided along both sides of the roadway. This road provides access to residential areas, Long Elementary School, and Southview School to the south.

Garber Road is an east-west local road maintained by the City of Crestwood. The road provides two lanes, one in each direction. The posted speed limit is 20 mph, and sidewalks are provided along both sides of the roadway. This road provides access to residential areas.

Doercrest Drive is a local road maintained by the City of Crestwood to the south (paved with concrete) and privately owned and maintained by Lindbergh School District to the north (paved with asphalt). A physical gate marks the transition between City and School ownership. The gate is kept closed at most times of the day. This gate is opened by school staff to allow school buses to enter at school arrival and dismissal periods.

Eddie & Park Road is an east-west major collector to the south which is maintained by the City of Crestwood to the west of Sappington Road and by SLCDOT to the east of Sappington Road. The road provides two lanes, one in each direction. The posted speed limit is 30 mph, and sidewalks are provided along both sides of the roadway. This road provides access to residential areas and Southview School.

Banyon Tree Court is an east-west local road maintained by the City of Crestwood. The road provides two lanes, one in each direction. The posted speed limit is 20 mph, and sidewalks are provided along both sides of the roadway. This road provides access to residential areas.

The intersection of Sappington Road and Garber Road operates under side-street stop control, requiring westbound Garber Road to stop. The northbound approach provides a through lane and one through/right-turn lane. The southbound approach provides one left-turn lane and two through lanes. The westbound approach provides a single shared left-turn/right-turn lane. **Figure 2** provides an aerial view of the Sappington Road and Garber Road intersection.

The intersection of Sappington Road and Long Elementary School North Driveway operates under signalized control. The northbound approach provides a left-turn lane and two through lanes. The southbound approach provides one through lane and one through/right-turn lane. There is a marked crosswalk on the north leg. **Figure 2** also shows the Sappington Road and Long Elementary School North Driveway intersection.

Figure 2: Aerial View of Sappington Road and North Driveway/Garber Road

The intersection of Sappington Road and the Long Elementary School South Driveway/Banyon Tree Court operates under side-street stop control, requiring the eastbound Long Elementary School South Driveway and westbound Banyon Tree Court to stop. The northbound approach provides a through lane and a through/right-turn lane. The southbound approach provides a left-turn via a TWLTL and two through lanes. The eastbound approach provides a left-turn lane and a right-turn lane (exit only). The westbound approach provides a shared left-turn/right-turn lane. **Figure 3** provides an aerial view of the Sappington Road and Long Elementary School South Driveway/Banyon Tree Court intersection.

Figure 3: Aerial View of Sappington Road and South Driveway/Banyon Tree Court Intersection

The intersection of Sappington Road and Eddie & Park Road operates under signalized control. The northbound and southbound approaches each provide a left turn lane, a through lane, and a shared through/right-turn lane. **Figure 4** provides an aerial view of the Sappington Road and Eddie & Park Road intersection.

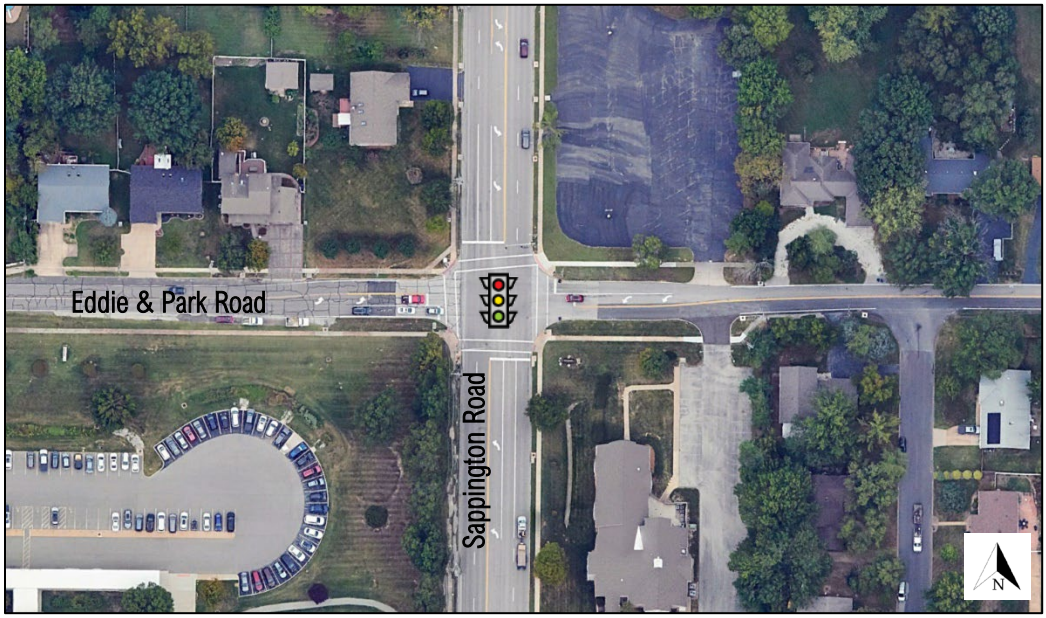


Figure 4: Aerial View of Sappington Road and Eddie & Park Road Intersection

The intersection of Doercrest Drive and Eddie & Park Road operates under side-street stop control, requiring southbound Doercrest Drive to stop. All approaches consist of a single shared lane. **Figure 5** provides an aerial view of the Doercrest Drive and Eddie & Park Road intersection.

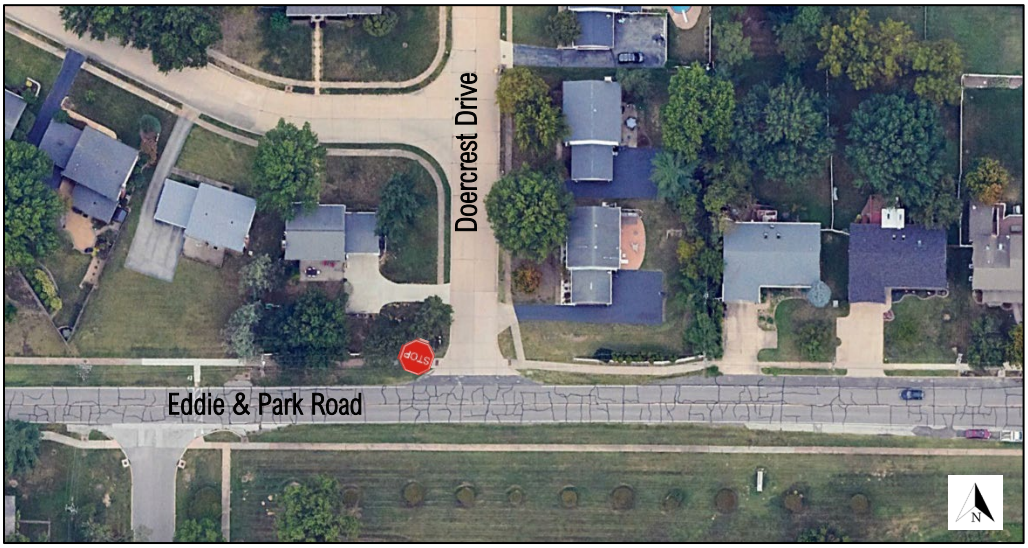


Figure 5: Aerial View of Doercrest Drive and Eddie & Park Road Intersection

EXISTING SITE CONDITIONS AND CONCERNS

School Information: Long Elementary School is located on the west side of Sappington Road in Crestwood, Missouri. This school serves students in grades Kindergarten through fifth grade. At the time of this study, Long Elementary School had a current enrollment of 535 students and approximately 90 staff members, while the building capacity could serve a maximum enrollment of 600 students.

Existing Facilities: Under existing conditions, the two-lane drop-off/pick-up circle is clearly marked for one-way operations (counterclockwise). The school has two existing driveways located on Sappington Road. The existing north driveway intersection is signalized and intended for ingress only to enter the drop-off/pick-up lanes or the parking lot. The existing south driveway is intended for egress only with separate eastbound exit lanes marked as one left-turn lane and one right-turn lane.

The parking lot in front of the building provides over 150 marked parking spaces for staff members, parents, and visitors. Six parking spaces are reserved for accessible parking, while one space is reserved for a "VIP." Most parking spaces are oriented at a ninety-degree angle throughout the parking lot. At the north end of the parking lot, one row of angled parking spaces is provided along the main entrance. South of the building, a small area of asphalt is not specifically marked or designated for parked vehicles but accommodates an occasional vehicle. To the west of the building, there is a parking lot adjacent to Crestwood Park. Although not on school property, this parking lot is used by some parents to drop-off and pick-up students to avoid the on-site queues. Some parents also opt for on-street parking on nearby public roads, like Garber Road, and walk their students across Sappington Road during arrival and dismissal periods.

Existing sidewalks are provided on both sides of Sappington Road, Garber Road, Banyon Tree Court, Doercrest Drive, and Eddie & Park Road within the study area. At the signalized intersection of Sappington Road and the Long Elementary School North Driveway, a marked crosswalk is provided across the north leg. On the school site, east-west sidewalks are provided at the north edge of the parking lot, through the center of the parking lot, and near the bus loading zone on Doercrest Drive. Sidewalks oriented north-south are provided along both sides of the drop-off/pick-up circle, along the frontage of the building to the bus loading zone and along the west edge of the parking lot.

Existing AM Arrival Operations: Classes begin at 8:45 a.m. Faculty and staff members begin to arrive at the school starting at 7:30 a.m and enter the parking lot throughout the next hour. Although doors officially open at 8:35 a.m., some parents begin to arrive on-site as early as 8:15 a.m. A crossing guard helps students cross Sappington Road at the marked crosswalk, typically on station from 8:20 a.m. to 8:45 a.m. School buses typically arrive around 8:35 a.m. to 8:40 a.m. and unload students promptly.

Parent vehicles enter the site via the Long Elementary School North Driveway at the signalized intersection on Sappington Road. Parents use the drop-off circle to line up in two lanes in front of the school building. Some parents enter the parking lot to help students exit the vehicle and walk them up to the school doors.

School buses enter the site through Doercrest Drive from Eddie & Park Road. A staff member opens the gate during the arrival period to allow school buses to enter from this direction. Buses line up in two lanes and unload students near the sidewalk and field south of the school building. School buses exit via the Long Elementary School South Driveway and Sappington Road intersection.

Existing PM Dismissal Operations: School dismissal begins at 3:30 p.m. with students released in separate groups for walkers, bus riders, and parent pick-up.

During the PM dismissal period, parents line up in dual lanes in the same drop-off/pick-up circle as the arrival period. Some parents choose to park in the school's parking lot if they arrive prior to the pick-up lane queues spilling out onto Sappington Road. Similar to the AM peak hour, some parents choose to park in alternate locations; such as, the parking lot adjacent to Crestwood Park or on-street parking along Garber Road.

Similar to the AM arrival period, school buses enter Doercrest Drive from Eddie & Park Road. A staff member opens the gate prior to the dismissal period to allow school buses to enter from this direction. Buses line up in two lanes south of the school building near the sidewalk adjacent to Doercrest Drive. Buses begin loading at 3:30 p.m. and quickly leave within ten to fifteen minutes. School buses exit via the Long Elementary School South Driveway and Sappington Road intersection.

Existing Concerns: Representatives from the School District, SLCDOT, and City of Crestwood were in attendance for a virtual scoping meeting on Thursday, October 3, 2024 with CBB and the civil site designers. In this meeting, school representatives voiced concerns regarding the existing facilities and explained the inadequacies of current operations. While on site for a field visit to observe the AM arrival and PM dismissal operations, staff members and parents provided additional details of frequent concerns experienced at these peak times. These concerns were considered in designing the layout of the proposed site improvements and the evaluations contained in this report. The following concerns for existing conditions and future circulation improvements were discussed:

- **Mixing of Buses and Parent Vehicles:** Mixing of buses and parent vehicles is a safety concern.
- **Bus Orientation Preferences:** With the potential to reroute how buses enter and exit the site, the school district has indicated a preference for buses to face south, so bus doors can face the school building when students load and unload.

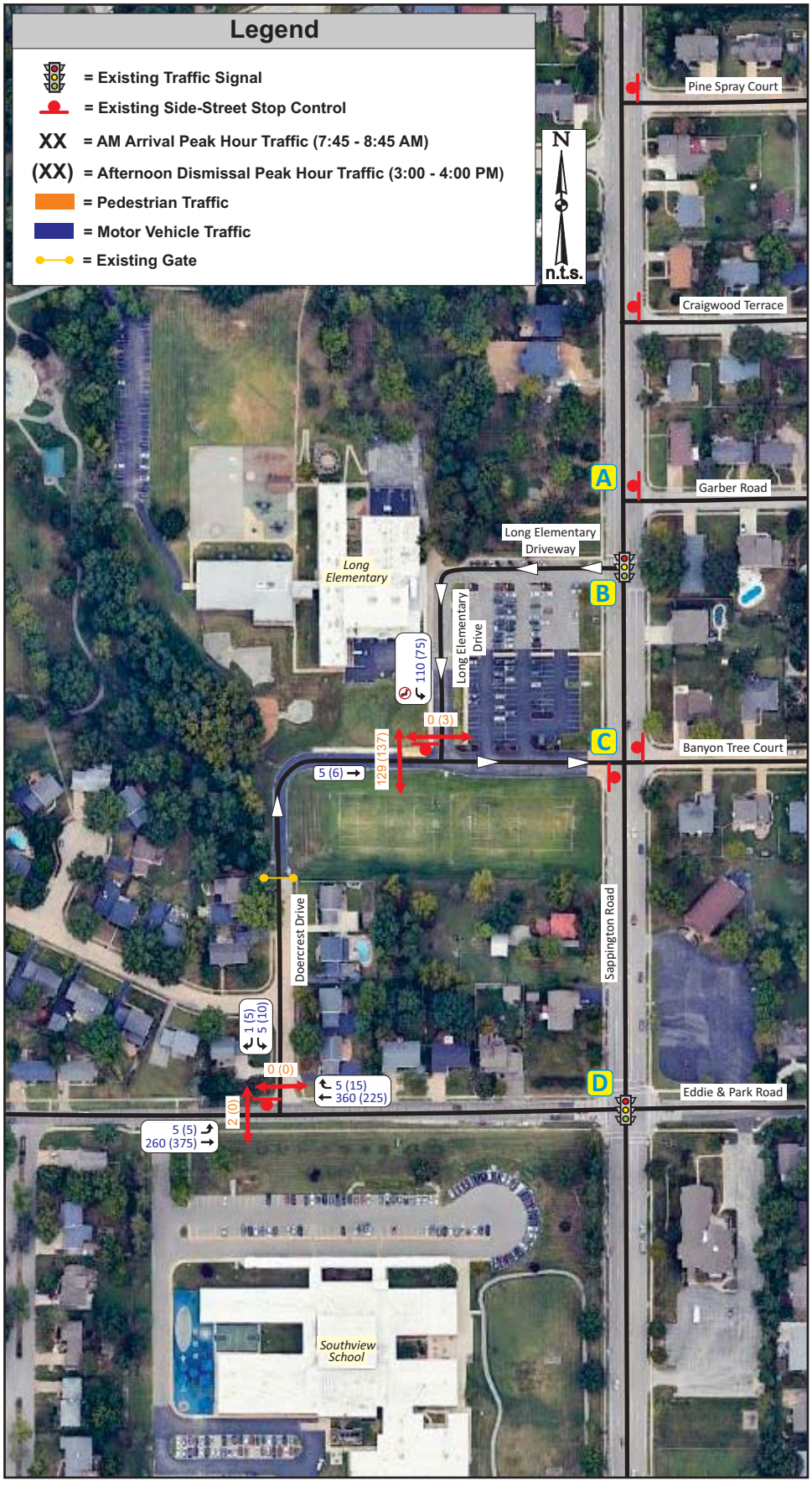
- **Queues on Sappington Road:** Due to the overflow of parent drop-off or pick-up, queues can spill out onto Sappington Road daily and block traffic from traveling southbound. Queues spilling out onto Sappington Road prevent all other vehicles from entering the school's parking lot as an alternative waiting location, while also creating safety concerns with vehicles traveling on Sappington Road.
- **Offset between Garber Road and Long Elementary School North Driveway:** With the acquisition of property to the north, the offset between Garber Road and the Long Elementary School North Driveway could be removed to combine the two Sappington Road intersections into one four-legged intersection.
- **Reduce Conflicts between Pedestrians and Vehicles:** With new on-site operations and circulation, avoiding conflicts between vehicles and vulnerable roadway users is imperative.

Existing Traffic Volumes: To establish base traffic volumes, CBB conducted video traffic counts during the school weekday AM arrival (6:00 - 9:00 a.m.) and PM dismissal/PM commuter (3:00 - 6:00 p.m.) peak periods on Wednesday, November 13, 2024. Counts were collected at the following intersections:

- Sappington Road and Garber Road (side-street stop);
- Sappington Road and Long Elementary School North Driveway (signalized ingress only);
- Sappington Road and Long Elementary School South Driveway /Banyon Tree Court (side-street stop);
- Sappington Road and Eddie & Park Road (signalized);
- Eddie & Park Road and Doercrest Drive (side-street stop); and
- Doercrest Drive and Long Elementary School Internal Site Driveway (side-street stop).

The 2024 Baseline Traffic Volumes from the CBB counts on November 13, 2024 are summarized in **Exhibit 2**. Based on the traffic data collected and the focus of the driveways during the school AM arrival and PM dismissal periods, the AM arrival peak hour occurred between 7:45 and 8:45 a.m., and the PM dismissal peak hour occurred between 3:00 and 4:00 p.m. Traffic counts collected through the PM commuter peak hours (from 3:00 and 6:00 p.m). indicate the PM dismissal peak hour was the overall peak hour of the PM timeframe.

Given the traffic characteristics in the area, the two peak hours would be expected to represent a "worst-case scenario" of a typical weekday with regards to the traffic conditions. If traffic operations are acceptable during these peak hours, it can be reasoned that conditions would be acceptable throughout the remainder of the day.



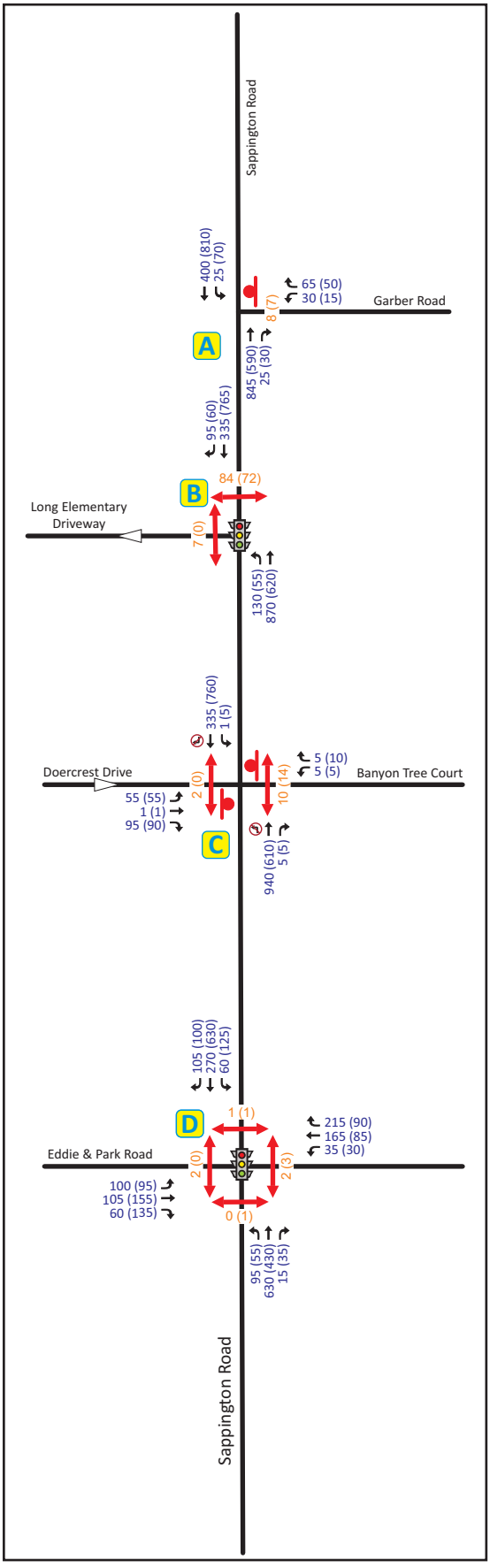


Exhibit 2: 2024 Baseline Traffic Volumes (November 2024 Counts by CBB)

Job# 090-24
02/25/2025

CBB TRANSPORTATION ENGINEERS+PLANNERS

OBSERVATIONS

CBB also conducted a field study during the weekday AM arrival and PM dismissal periods on Wednesday November 13, 2024. CBB staff verified information discussed in the scoping meeting and took inventory of the existing facilities, documenting operations discussed earlier in the "Existing Site Conditions and Concerns" section of this report.

AM Arrival Observations

A variety of observations were made during the AM arrival peak hour. Faculty and staff arrived prior to and during the beginning of the observation period, starting as early as 7:30 a.m. Students arrived at the school by a variety of methods: bus, vehicle drop off, walking, and biking beginning at 8:15 a.m.

Vehicle drop-off occurred in two locations: vehicles circulated through the two-lane parent drop-off area, and other vehicles parked in the parking lot to drop-off their students. Multiple vehicles using the parking lot to drop off their students were observed parking in the six accessible parking stalls and the striped areas between these spaces in addition to regular parking stalls.

As shown in **Table 1**, a total of ninety-nine vehicles circulated through the two-lane parent drop-off area during AM observations, within approximately thirty-five minutes. Vehicles began dropping off their students at 8:15 a.m. At 8:35 a.m. when students could begin entering the building, the queue length reached twenty-two vehicles. The maximum queue length in the parent drop-off area was observed at 8:45 a.m. with a total of thirty vehicles. No queues spilled onto Sappington Road during the AM observations.

Table 1: AM Vehicle Drop-Off in Five-Minute Intervals

Five Minute Interval	Number of Vehicles Through Drop-Off	Number of Vehicles Through Parking Lot	Number of Bus Arrivals
8:15 – 8:20 a.m.	1	0	
8:20 – 8:25 a.m.	1	2	
8:25 – 8:30 a.m.	5	2	
8:30 – 8:35 a.m.	15	16	4
8:35 – 8:40 a.m.	22	13	
8:40 – 8:45 a.m.	30	8	2
8:45 – 8:50 a.m.	14	3	
After 8:50 a.m.	11	1	
Total	**99**	**45**	**6**

When school doors open at 8:35 a.m., staff members and student volunteers entered the drop-off lanes to motion traffic through the arrival period. The presence of staff members helping students out of vehicles and releasing vehicles in waves helped expedite the drop-off operations during the busiest time period. Once buses are unloaded, staff members stopped the lanes of parent vehicles to motion and allow the school buses to exit via the Long Elementary School South Driveway and Sappington Road intersection without interference.

There were a number of pedestrians walking to school. Some students walked alone from nearby neighborhoods, while others were escorted by a parent across the street. Students also came from behind the school, through the playground area to the west. A crossing guard arrived at 8:30 a.m. and was available at the crosswalk on Sappington Road to assist students. The crossing guard was equipped with a handheld STOP sign and a yellow safety vest.

Fewer than five bicyclists were counted during AM observations. The bicyclists utilized the sidewalk adjacent to the north end of the parking lot or the sidewalk adjacent to the east side of the school and locked bikes up at the bike rack in the northwest corner of the parking lot.

A total of five buses bypassed the drop-off queue by entering the site using Doercrest Drive. This roadway is marked with “Do Not Enter” signage and is controlled by a gate which is only open during the arrival and dismissal periods. Buses pulled up to the sidewalk pavement adjacent to the south end of a grass lot south of the school to unload. The first four buses arrived between 8:30 – 8:35 a.m. Students were allowed to exit the buses at 8:35 a.m. The fifth bus arrived at approximately 8:41 a.m., and all buses left the campus by 8:45 a.m. At 8:42 a.m., the final bus used the North Driveway at Sappington Road and parked near the handicap spaces to unload students closer to the front door.

PM Dismissal Observations

The PM dismissal operations are similar to those of the AM arrival period. Vehicles began lining up in the two-lane parent pick-up area as early as 3:05 p.m. The right lane, closest to the school building, consistently had more vehicles during the observation period. Some vehicles chose to park in the lot; however, most queued in the pick-up lanes.

At approximately 3:30 p.m. the right lane queue reached Sappington Road with a length of twenty-two vehicles. The left lane queue was sixteen cars, which allowed space for cars entering the driveway to turn into the parking lot. For the next five minutes, vehicles filled both lanes and began to spill out onto Sappington Road reaching a queue of seven vehicles in the southbound right-turn lane and seven vehicles in the northbound left-turn lane on Sappington Road. Students were dismissed to vehicles at 3:35 p.m. which caused the spillback on Sappington Road to dissipate by approximately 3:40 p.m. **Table 2** demonstrates the length of the parent pick-up queues in five-minute intervals during the PM dismissal.

Table 2: Vehicle Pick-Up Queue in Five-Minute Intervals Before PM Dismissal

Five Minute Interval	Number of Vehicles Queued in Pick-Up Line (Total)
3:00 – 3:05 p.m.	2
3:05 – 3:10 p.m.	3
3:10 – 3:15 p.m.	18
3:15 – 3:20 p.m.	25
3:20 – 3:25 p.m.	33
3:25 – 3:30 p.m.	38
3:30 – 3:35 p.m.	*Queue spills onto Sappington Road 7 vehicles waiting in SB RT lane and 7 vehicles waiting in NB LT lane*

A crossing guard arrived at 3:30 p.m. and was available at the crosswalk on Sappington Road to assist students. The crossing guard was equipped with a handheld STOP sign and a bright, yellow rain jacket. All students crossed the street with the crossing guard by 3:45 p.m. The crossing guard left his station at 3:45 p.m.

Similar to the AM arrival period, buses were stationed at the same location on Doercrest Drive for dismissal. The first two buses arrived by 3:30 p.m. followed by three more which arrived by approximately 3:36 p.m. Students riding the buses were the first group to be dismissed from the school building, which occurred at 3:30 p.m. The first five buses departed at 3:39 p.m. One additional bus arrived at 3:44 p.m. and left at 3:46 p.m. **Table 3** shows the timeframe each bus arrived and departed the school in five-minute intervals. The buses departed using the same south driveway exit as the parent pick-up line at Sappington Road.

Table 3: PM Bus Arrival and Departure Counts in Five-Minute Intervals

Five Minute Interval	Number of Bus Arrivals	Number of Bus Departures
3:20 – 3:25 p.m.	1	
3:25 – 3:30 p.m.	1	
3:30 – 3:35 p.m.	1	
3:35 – 3:40 p.m.	2	5
3:40 – 3:45 p.m	1	
After 3:45 p.m.		1

General Observations

Although the arrival and dismissal observations represent different operations and quantities, there were several general observations during both time periods. The following observations were identified during CBB's field visits:

- Vehicles frequently parked instead of using the drop-off/pick-up area, including approximately 30% of the vehicles during the arrival period. Vehicles were also observed using the handicap parking as a drop-off/pick-up zone.
- Many parents opted to use the Crestwood Park parking lot behind the school to pick-up students or chose on-street parking at nearby streets like Garber Road. Some parents walked up to the school building or waited near the Sappington Road crosswalk to walk students back to their vehicles nearby.
- There was a great presence of staff and faculty members helping students unload out of and load into vehicles. Aside from the crossing guard and student volunteers, other staff members were not dressed in safety vests including those that were guiding vehicles while standing/walking in the traffic lanes on site.
- During the AM observations, many students who walked or were dropped off by parents waited outside the school doors prior to doors opening at 8:35 a.m. Some parents chose to wait with their students, while other students were unsupervised. The pavement in front of the school doors and near the drop-off circle started to get crowded until doors were opened.

PROPOSED PLAN BY SCHOOL DISTRICT

Lindbergh School District has worked with their civil engineer and CBB to develop a design that addresses some of the existing concerns previously mentioned. CBB reviewed previous site plans for the client and provided feedback to improve on-site circulation, drop-off/pick-up storage for queueing needs, driveway access, and other recommendations to promote separation of vehicles and pedestrians.

Under the proposed plan, the existing parking lot will be expanded with additional pavement for a new parent drop-off/pick-up circle. Parents intending to drop-off or pick-up their children are expected to enter and exit the new parent drop-off/pick-up circle through the new north driveway proposed to be aligned opposite Garber Road. This intersection will be signalized and serve as a full access driveway for the school.

Various alternatives were considered to maximize on-site queue storage, reduce conflicts, and create separation between modes of travel. Vehicles entering and exiting the drop-off/pick-up circle will utilize the signalized intersection of the Long Elementary School North Driveway at Sappington Road, which is proposed to be aligned opposite Garber Road. As shown in **Figure 6**, most of the storage is proposed to be two lanes wide and will taper to one lane near the loading zone. Although pavement for the second lane is still available, the second lane after this transition will serve as an escape lane to allow vehicles to bypass others still waiting to load students.

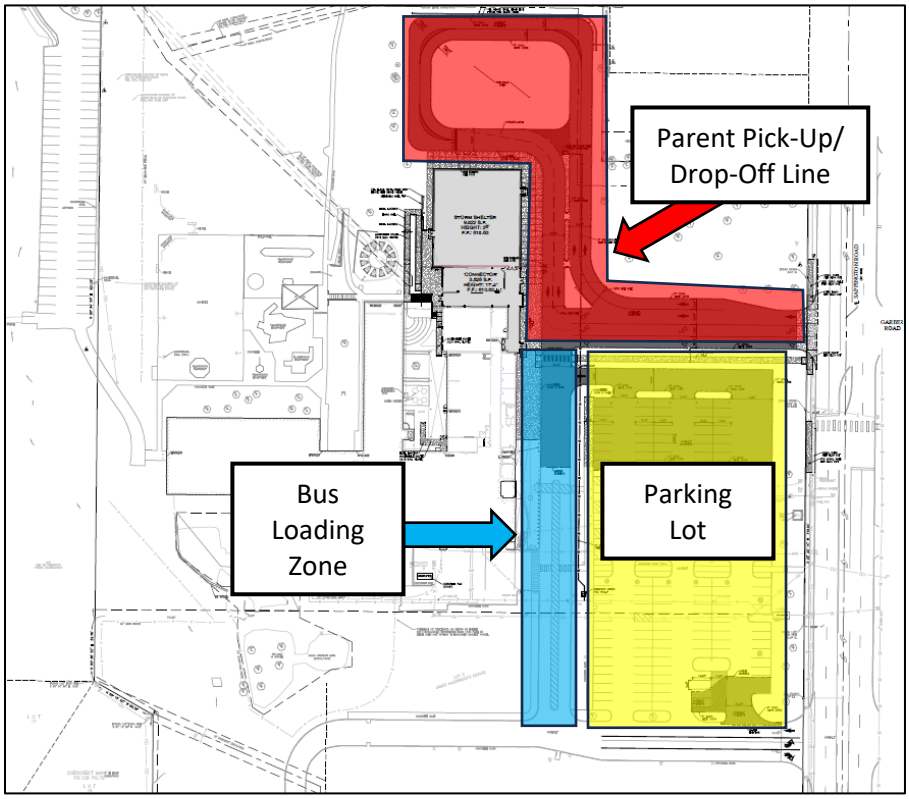
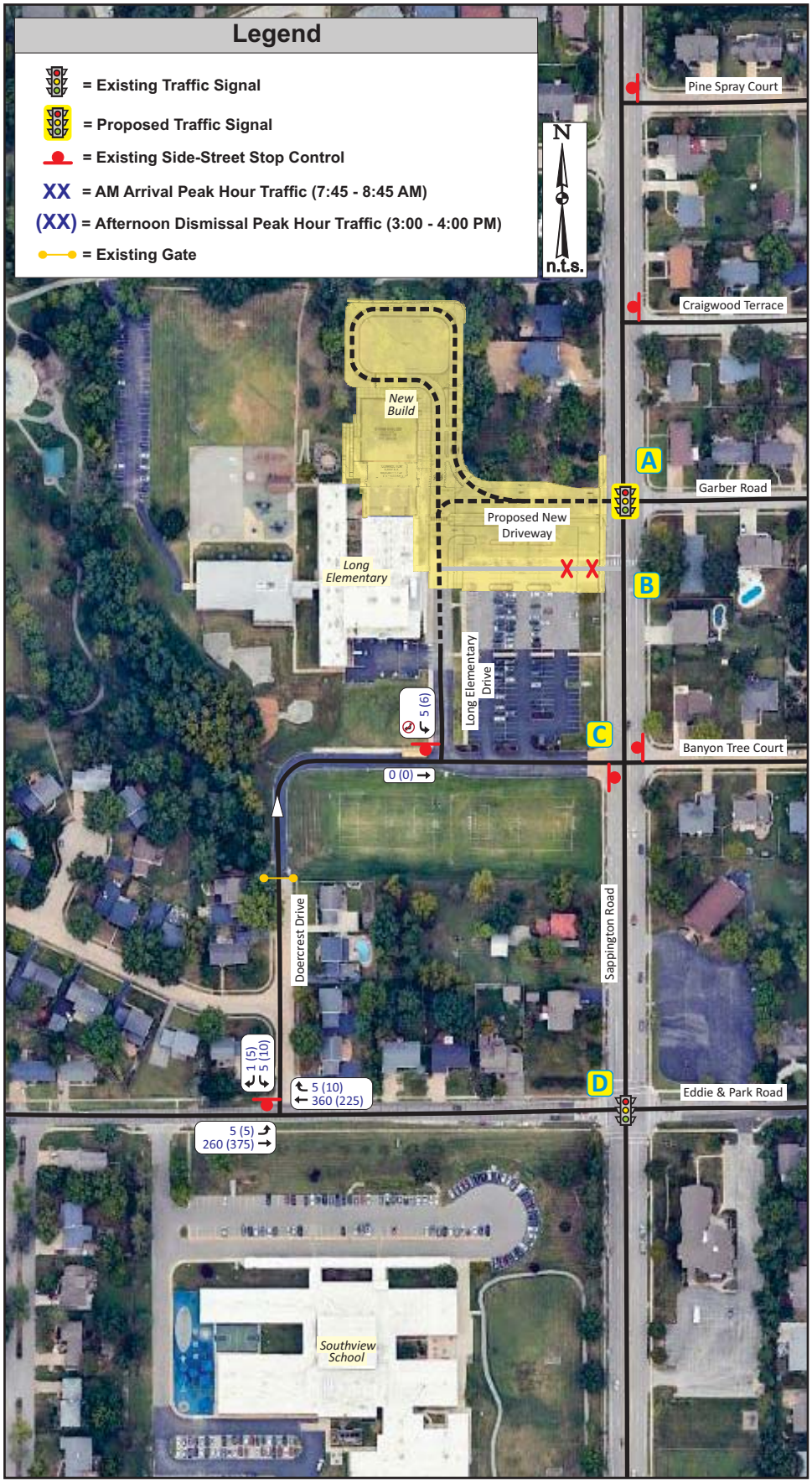


Figure 6: Current Site Plan (Provided by Others)

Buses will be directed to enter the site from Sappington Road at the south driveway and flow through the east side of the parking lot to line up southbound adjacent to the school building where parent drop-off/pick-up operations currently queue up. Buses will be parked with the door facing the school to provide safer loading and unloading operations for the students. When leaving the site, buses will exit to Sappington Road via the south driveway.

During school arrival and dismissal, staff or parent vehicles intending to enter the parking lot will need to enter and exit the site from Sappington Road through the south driveway to avoid mixing with the bus loading zone or the parent drop-off/pick-up circle. Separation between buses and passenger vehicles should be clearly marked during arrival and dismissal periods through signage, traffic cones, or other physical barriers. Temporary measures can be removed outside of arrival or dismissal operations to allow greater flexibility for on-site circulation and the ability to use the signalized intersection at other times of day or during events.

2024 Build Traffic Volumes: The 2024 Baseline Traffic Volumes were redistributed to reflect the proposed circulation changes, see **Exhibit 3**.



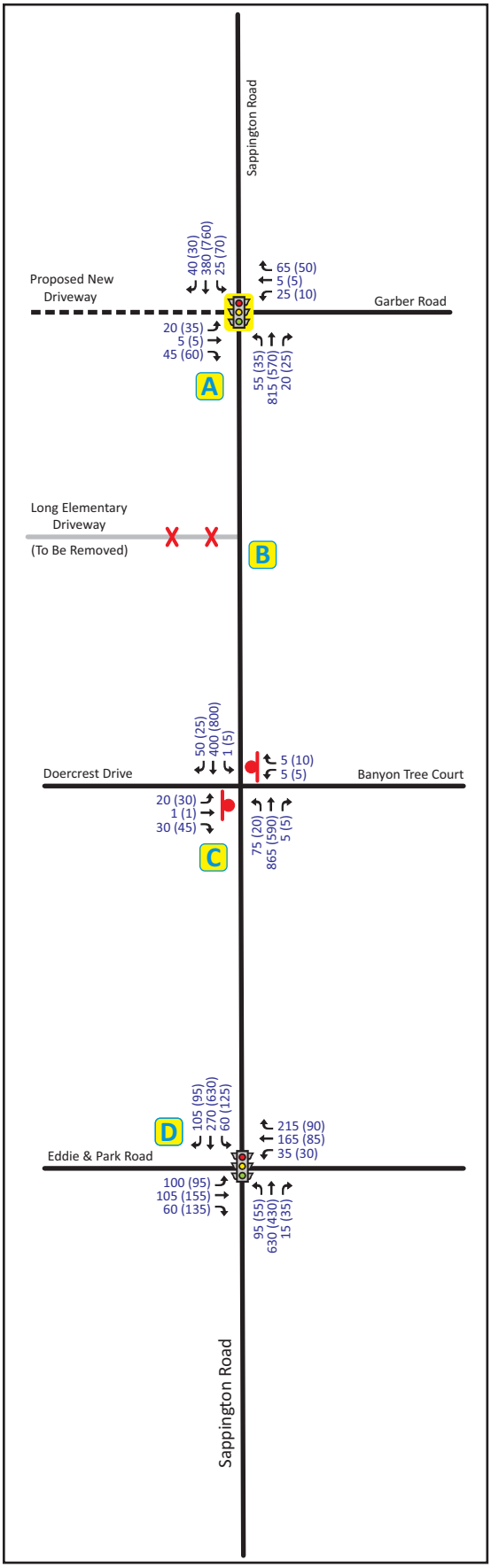


Exhibit 3: 2024 Build Traffic Volumes

Job# 090-24
02/25/2025

CBB TRANSPORTATION ENGINEERS+PLANNERS

TRAFFIC ANALYSIS

Auxiliary Right-Turn Lane Warrants: The need for southbound right-turn lanes on Sappington Road at the Proposed Long Elementary School North Driveway/Garber Road and at the Long Elementary School South Driveway/Banyon Tree Court intersections was evaluated using the *Right-Turn Guidelines for Four-Lane Roadways* nomograph which is based on criteria from MoDOT's *Access Management Guidelines* (AMG). The MoDOT AMG provides guidelines for separate right-turn lanes on the through roadway by comparing the total advancing volume (which includes all turning traffic) to the number of mainline right-turns. The operating speed (posted speed limit plus five miles per hour) of the major roadway is used to determine if a right-turn lane is warranted. If the point lies to the right of the operating speed line, then a right-turn lane should be considered. If the plotted point is to the left of the line, then a left-turn lane is not necessary. Sappington Road has a posted speed of 35-mph and a 25-mph posted speed limit for when school is in session, so the ≤ 40-mph graph line was used as the design speed, as shown in **Figure 7**. It was determined that a separate right-turn lane is not warranted on Sappington Road at either of the site driveways based on traffic volumes.

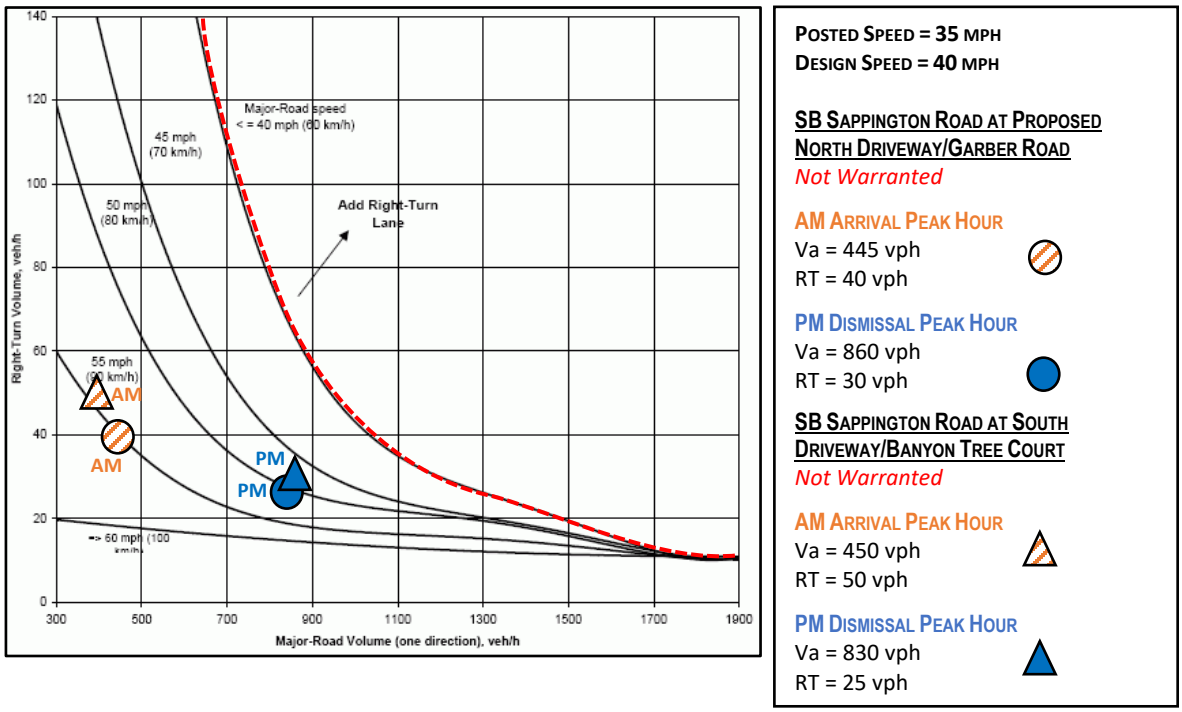


Figure 7: Southbound Sappington Road at Long Elementary School Site Driveways Right-Turn Lane Warrants – 2024 Build Traffic Volumes

Auxiliary Left-Turn Lane Warrants: The need for an auxiliary left-turn lane on northbound Sappington Road at both site driveways was also evaluated. The MoDOT criteria provide guidelines for separate left-turn lanes on four-lane undivided roadways by comparing the total opposing volume (right-turn and through traffic only) to the left-turn volumes. If the point lies to the right of the line, then a left-turn lane should be considered. If the point is to the left of the line, then a left-turn lane is not necessary. The need for a northbound auxiliary left-turn lane on Sappington Road was evaluated using the *Left-Turn Guidelines for Four-lane Undivided Roadways* nomograph in MoDOT's AMG.

Figure 8 graphically illustrates the northbound left-turn evaluations on Sappington Road at the Proposed Long Elementary School North Driveway/Garber Road and at the Long Elementary School South Driveway/Banyon Tree Court intersections, assuming 2024 Build Traffic Volumes during the AM arrival and PM dismissal traffic volumes. It was determined that a separate left-turn lane is warranted at both site driveways based on traffic volumes and can be incorporated using existing center TWLTL pavement.

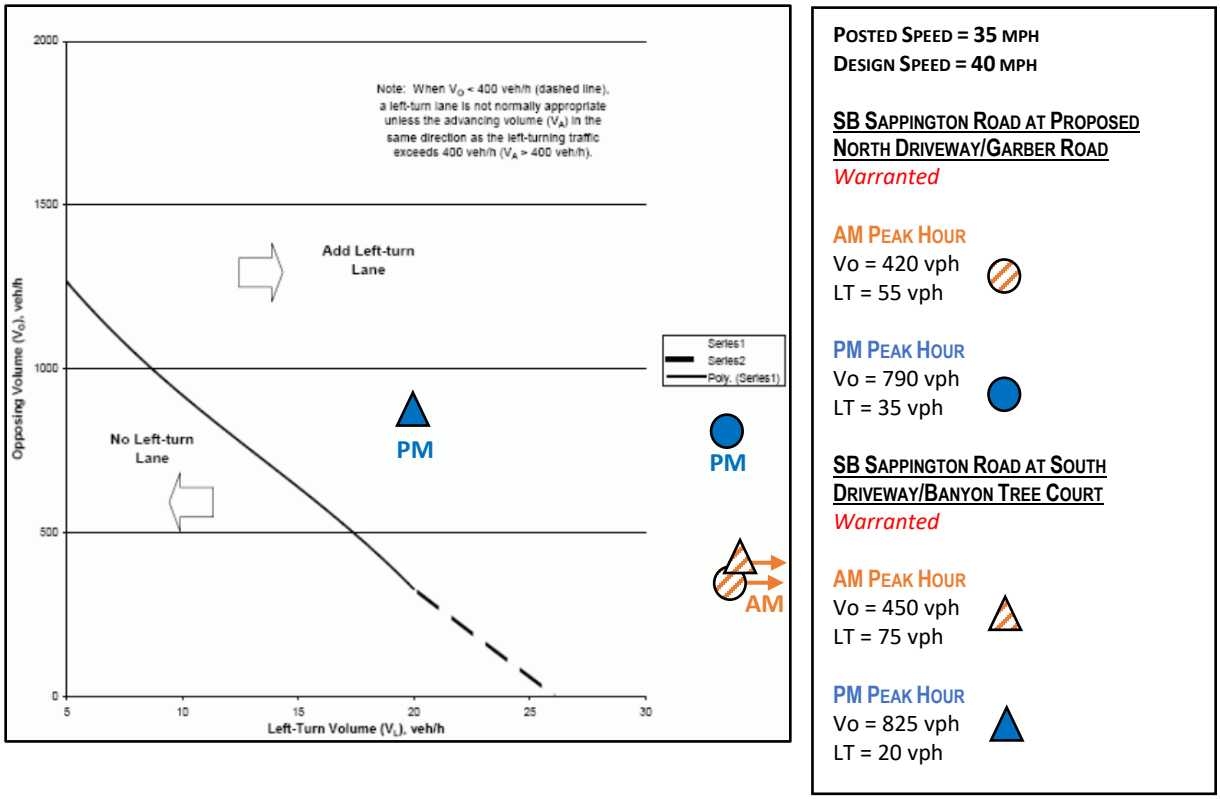


Figure 8: Northbound Sappington Road Left-Turn Lane Warrants for Four-Lane Undivided Roadways – 2024 Build Traffic Volumes

Peak Queue Lengths: With the reconfiguration of the parent drop-off/pick-up operations, ample storage is available to accommodate the queue of vehicles during the peak arrival and dismissal periods. Under existing conditions, the two lanes on site provide approximately 1,030 feet of storage length; however, the queues exceed this available space and spill out onto Sappington Road during the PM dismissal period. During CBB's observations, the maximum queue length reached 58 vehicles, creating a need for approximately 1,450 feet of storage based on a conservative 25-foot headway to accommodate the existing queues. As shown in **Figure 9**, approximately 1,500 feet of storage will be available in the proposed site plan.

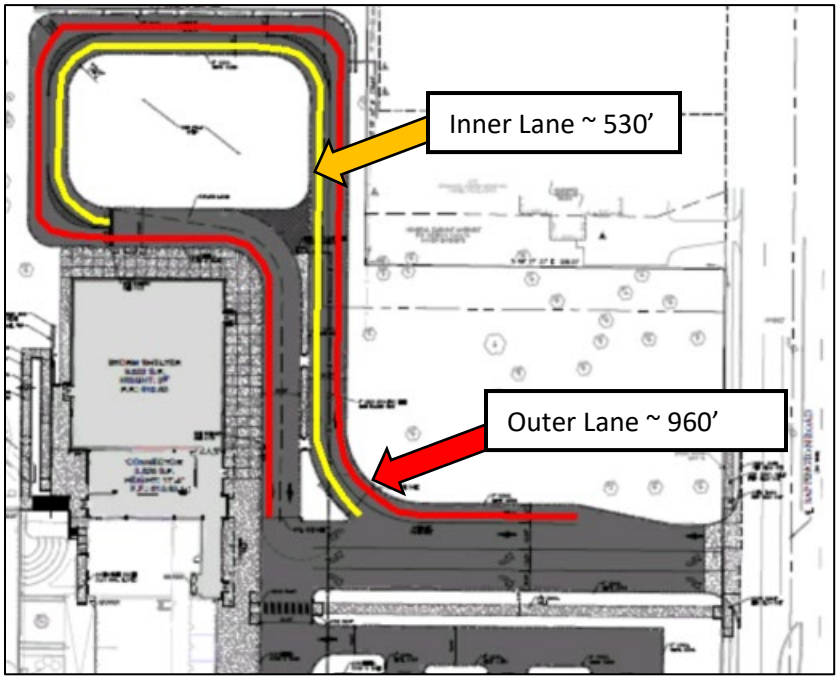


Figure 9: Approximate Site Plan Storage Measurements

Analysis Procedures: The 2024 Baseline and 2024 Build operating conditions for the study area intersections were evaluated using SYNCHRO 11, which is based on procedures outlined in the *Highway Capacity Manual* to determine estimates of capacity and operational performance of signalized and unsignalized intersections. Our traffic operations analysis includes measures of effectiveness generated by the SYNCHRO software for all intersections. The Synchro 11 outputs are reported for signalized intersections, while the HCM 6th Edition outputs from Synchro are shown for the unsignalized intersections. The HCM outputs are considered more realistic for the unsignalized intersections.

The operating conditions were graded in accordance with six levels of traffic service (Level A "Free Flow" to Level F "Fully Saturated") established by the *Highway Capacity Manual*. Levels of service (LOS) are measures of traffic flow which consider such factors as speed, delay, traffic interruptions, safety, driver comfort, and convenience. Level C, which is normally used for

highway design, represents a roadway with volumes ranging from 70% to 80% of its capacity. However, Level D is generally considered acceptable for peak period conditions.

The thresholds that define levels of service at an intersection are based upon the type of control used (i.e., whether it is signalized or unsignalized) and the calculated delay. For signalized and all-way stop intersections, the average control delay per vehicle is estimated for each movement and aggregated for each approach and the intersection as a whole. At intersections with partial (side-street) stop control, delay is calculated for the minor movements only since motorists on the main road are not required to stop. Furthermore, criteria differ for the two, since control types create different driver expectations. **Table 4** summarizes the thresholds used in these analyses for signalized and unsignalized intersections.

Table 4: Level of Service Thresholds

Level of Service (LOS)	***Control Delay per Vehicle (sec/veh)***	
	Signalized Intersections	***Unsignalized Intersections***
A	≤ 10	0-10
B	> 10-20	> 10-15
C	> 20-35	> 15-25
D	> 35-55	> 25-35
E	> 55-80	> 35-50
F	> 80	> 50

2024 Operating Conditions: The study intersections were evaluated using the methodologies described above. **Table 5** summarizes the results of these analyses, which reflect the 2024 Baseline and 2024 Build operating conditions during the weekday AM arrival and PM dismissal peak hours. All approaches and movements operate acceptably at LOS D or better under 2024 Baseline conditions. It should be noted that the queues spilling out onto Sappington Road under existing conditions are a result of inadequate storage available on-site, rather than a capacity issue on Sappington Road. At the intersection of Long Elementary School South Driveway/Banyon Tree Court and Sappington Road, the eastbound left-turn operates at LOS E during the AM arrival peak hour and LOS E during the PM dismissal peak hour.

Most approaches and movements are expected to continue to operate acceptably at LOS D or better under 2024 Build conditions during both peak hours. At the intersection of Long Elementary School South Driveway/Banyon Tree Court and Sappington Road, the eastbound approach is expected to operate at LOS E, and the eastbound left-turn is expected to operate at LOS F during the PM dismissal peak hour. During the AM arrival peak hour, the eastbound left-turn is expected to operate at LOS E.

Table 5: Traffic Operating Conditions – 2024 Baseline and 2024 Build Traffic Volumes

Intersection/Approach	AM Arrival Peak Hour		PM Dismissal Peak Hour	
	2024 Baseline	2024 Build	2024 Baseline	2024 Build
Sappington Road and Garber Road (Side-Street STOP) *HCM 6th Edition Results*				
Westbound Garber Road Approach	C (23.9)		C (18.6)	
Northbound Sappington Road Approach	Free Flow		Free Flow	
Southbound Sappington Road Approach	B (10.7) LT		A (9.7) LT	
Sappington Road and Long Elementary School North Driveway (Signalized) *HCM 6th Edition Results*				
Northbound Sappington Road Approach	A (4.6)		A (4.1)	
Southbound Sappington Road Approach	A (5.8)		A (6.7)	
Sappington Road and Long Elementary School North Driveway/Garber Road (Signalized)				
Eastbound Long Elementary School North Driveway		B (15.0)		B (16.3)
Westbound Garber Road Approach		C (26.5)		C (23.2)
Northbound Sappington Road Approach		A (8.0)		A (8.3)
Southbound Sappington Road Approach		B (13.0)		B (13.8)
Overall		**B (11.4)**		**B (12.4)**
Sappington Road and Long Elementary School South Driveway/Banyon Tree Court (Side-Street STOP) *HCM 6th Edition Results*				
Eastbound Long Elementary School South Driveway Approach	C (17.5) D (26.1) LT	C (21.2) E (35.8) LT	D (26.2) E (43.0) LT	E (37.8) F (74.4) LT
Westbound Banyon Tree Court Approach	C (20.2)	D (32.0)	C (16.0)	C (22.2)
Northbound Sappington Road Approach	Free Flow	A (8.7) LT	Free Flow	B (10.1) LT
Southbound Sappington Road Approach	B (10.6) LT	B (10.2) LT	A (9.4) LT	A (9.3) LT
Eddie & Park Road and Sappington Road (Signalized)				
Eastbound Eddie & Park Road Approach	C (22.4)	C (22.4)	C (30.4)	C (30.4)
Westbound Eddie & Park Road Approach	D (53.9)	D (53.9)	D (36.8)	D (36.8)
Northbound Sappington Road Approach	C (32.3)	C (32.3)	C (20.6)	C (20.6)
Southbound Sappington Road Approach	B (15.1)	C (26.4)	B (10.2)	B (18.9)
Overall	**C (31.0)**	**C (33.8)**	**B (19.5)**	**C (23.2)**
Eddie & Park Road and Doercrest Drive (Side-Street STOP) *HCM 6th Edition Results*				
Eastbound Eddie & Park Road Approach	A (8.4) LT	A (8.4) LT	A (8.2) LT	A (7.8) LT
Westbound Eddie & Park Road Approach	Free Flow	Free Flow	Free Flow	Free Flow
Southbound Doercrest Drive Approach	C (17.6)	C (17.6)	B (13.3)	B (13.1)

(XX.X) - Level of Service (Vehicular delay in seconds per vehicle)

THE 3-E'S OF TRAFFIC SAFETY

With respect to any roadway safety issue, it is important to address the 3-E's of Traffic Safety: Engineering, Education and Enforcement. All three E's must be engaged for a successful safety program.

Engineering – With a thorough understanding of the issues, traffic engineers attempt to identify problems, needs and opportunities and then use targeted strategies to address them. Detailed studies are used to better define the problem(s) and help point towards a focused, and thus more effective, solution. The physical improvements and changes to traffic controls recommended herein represent the engineering portion of the overall solution.

Education – Once a plan is established, it is critical that the users understand what is expected of them. The school should provide information to parents and students regarding the new way they are expected to drop-off and pick-up their children. There are several steps to this education which the school may already be following:

- At the beginning of each school year, all parents should be informed in writing of the typical procedures to be used for various modes of access to and from the campus; i.e., what is expected of bus riders, parent riders, walkers and bicyclers. A simple drawing can also be helpful as a supplement.
- Parents should be reminded in writing and/or postings at the school at various times throughout the year through various methods.
- During the first few weeks of school, parents should be informed and/or reminded directly by the supervising staff at the loading area(s).
- As needed, certain parents may need to be reminded directly by the supervising staff at the loading area(s). This could be considered "soft" enforcement which will be required on a continuing basis.

Enforcement – Daily "soft" enforcement by the supervising staff at the loading areas is extremely important to the safety and efficiency of the loading area(s). This is where education and enforcement overlap to some degree, as the supervising staff attempt to maintain control of the loading area while focused on the safety of the children at or near the roadway/travel lane(s) in the parking lot.

In some cases, law enforcement may be required to address specific issues. For example, issuing tickets for illegal activities such as parking in a restricted area or during restricted times, unloading in a travel lane and/or excessive speeding along the adjacent roadway.

It should be noted that while increased enforcement often appears to be a simple answer to control speeding, illegal parking and other violations of the law, police department resources are often difficult to allocate to select locations over a long period of time. Furthermore, any benefits realized solely by increased enforcement are generally lost once police enforcement returns to normal levels. For posted regulations to self-regulate, the traveling public must accept them as reasonable.

RECOMMENDATIONS

In order to enhance the proposed circulation improvements proposed for Long Elementary School and address the concerns discussed with the school, CBB provides the following list of recommendations to improve the traffic operations and safety in the vicinity of the school.

- CBB agrees the realignment of the school's north driveway opposite Garber Road will have safety benefits to both intersections and allow for better operational use of the traffic signal on Sappington Road.
- The center two-way left-turn lane (TWLTL) should be remarked to clearly define the northbound left-turn lane at the north school driveway/Garber Road on Sappington Road.
- To avoid having parents interfere with the proposed one-way bus operations adjacent to the school building during arrival or dismissal, the north access to the parking lot should be blocked off with a gate (preferred) or traffic cones to prevent mixing of buses and passenger vehicles. Once arrival and dismissal operations are over, these temporary measures can be opened or removed to allow for more flexibility in site circulation and access to the traffic signal for the parking area.
- While the crossing guard was equipped with a safety vest and stop sign paddle, all other staff members directing traffic within the drop-off/pick-up lanes or helping students cross between sidewalks should have proper attire and equipment for safety. All staff members involved in these functions should also be trained with recurring refresher safety training.
- CBB recommends that the site civil engineer illustrate the necessary intersection sight distance triangles over a copy of the site plan for the Sappington Road intersections. These areas should be kept clear of all obstructions to provide adequate visibility for safe operations.
- Careful consideration should be given to sight distance obstructions when planning future aesthetics enhancements, such as signs, berms, fencing and landscaping, to ensure that these improvements do not obstruct the view of entering and exiting traffic at the proposed site drives on the public roadways. It is generally recommended that all improvements higher than 3 ½ feet above the elevation of the nearest pavement edge be held back at least 20 feet from the traveled roadway.
- The school should continue to educate the parents and students regarding the way they are expected to drop-off and pick-up their children using methods that may already be in place (distribution of printed materials at the beginning of each school year and continued reminders throughout the year via website, social media, etc.). Use of the existing crosswalks should also be promoted for walkers and bikers.

SUMMARY OF FINDINGS AND CONCLUSIONS

CBB completed the preceding study to address the potential traffic impacts pertaining to the proposed Circulation Improvements at Long Elementary School in Crestwood, Missouri. In summary, the following findings and improvements should be considered in conjunction with the proposed design:

- Existing concerns identified during the scoping meeting were: queues spilling onto Sappington Road, the offset between Garber Road and the Long Elementary School North Driveway, conflicts between pedestrians and vehicles, mixing of buses and parent vehicles, and bus orientation preferences.
- Based on the most current site plan provided by you, the proposed on-site improvements include an expanded parking lot, a separate parent drop-off/pick-up circle with additional queueing storage, a separated loading zone for buses directly in front of the school building with bus doors facing the building, and a realigned north driveway opposite Garber Road on Sappington Road, and two-way access for the south driveway.
- The proposed site plan will provide two full-access driveways on Sappington Road. The north driveway will remain signalized with a marked crosswalk, while the south driveway will remain unsignalized.
- Separate southbound right-turn lanes are not warranted on Sappington Road under 2024 Build traffic volumes at either site driveway.
- The approximate 1,500 feet of storage in the proposed site plan should accommodate the existing queues observed.
- Separate northbound left-turn lanes are warranted on Sappington Road under 2024 Build traffic volumes at both site driveways. The center two-way left-turn lane (TWLTL) should be remarked to clearly define a northbound left-turn lane at the proposed signal on Sappington Road.
- Under 2024 Baseline conditions, all approaches and movements operate acceptably at LOS D or better.
- Under 2024 Build conditions, most approaches and movements are expected to continue to operate acceptably at LOS D or better during both peak hours. At the intersection of Long Elementary School South Driveway/Banyon Tree Court and Sappington Road, the eastbound approach is expected to operate at LOS E and the eastbound left-turn is expected to operate at LOS F during the PM dismissal peak hour. During the AM arrival peak hour, the eastbound left-turn is expected to operate at LOS E.
- To avoid having parents interfere with the proposed one-way bus operations adjacent to the school building during arrival or dismissal, the north access to the parking lot should be blocked off with a gate (preferred) or traffic cones to prevent mixing of buses and passenger vehicles. Once arrival and dismissal operations are over, these temporary

measures can be opened or removed to allow for more flexibility in site circulation and access to the traffic signal for the parking area.

- As identified in the recommendations section above, all staff members involved in traffic operations should be equipped with proper attire and equipment. These staff members should also be given recurring safety training.
- CBB recommends that the site civil engineer illustrate the necessary intersection sight distance triangles over a copy of the site plan for the Sappington Road intersections. These areas should be kept clear of all obstructions to provide adequate visibility for safe operations.
- Careful consideration should be given to sight distance obstructions when planning future aesthetics enhancements, such as signs, berms, fencing and landscaping, to ensure that these improvements do not obstruct the view of entering and exiting traffic at the proposed site drives on the public roadways. It is generally recommended that all improvements higher than 3 ½ feet above the elevation of the nearest pavement edge be held back at least 20 feet from the traveled roadway.
- The school should continue to educate the parents and students regarding the way they are expected to drop-off and pick-up their children using methods that may already be in place (distribution of printed materials at the beginning of each school year and continued reminders throughout the year via website, social media, etc.). Use of the existing crosswalks should also be promoted for walkers and bikers.

We trust that this traffic access study adequately describes the forecasted traffic conditions that should be expected in the vicinity of the proposed circulation improvements at Long Elementary School in Crestwood, Missouri. If additional information is desired, please contact me at 314-308-6547 or LCannon@cbbtraffic.com.

Sincerely,

Lee Cannon, P.E., PTOE
Principal – Traffic Engineer

EXPERT | TRUSTED ADVISOR | FRIEND

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