

AGENDA FOR THE BOARD OF TRUSTEES
Monday, April 18, 2016, 7:30 P.M.

Call to Order
Roll Call
Pledge of Allegiance
Manpower Appointments
Proclamation – Arbor Day
Proclamation – Earth Day
Recognition – Lori Zwart Human/Community Relations Commission 1999-2016
Finance Departmental Objectives Report
Minutes of Previous Meeting
Bills and Payroll
Public Comment

REPORTS

16-38 Report and Recommendation of the Plan Commission for Approval of a Final Development Plan for 8 Parkway North in the Parkway North Center – Quadrangle Development Company

CONSENT AGENDA

OLD BUSINESS

NEW BUSINESS

16-39 Authorization to Purchase Data Storage Equipment

16-40 Authorization to Award Contract for Development of the Sanitary Sewer System Capital Improvement Program

Items for discussion by Mayor and Board of Trustees
Reports of the Village Manager
Adjournment

PROCLAMATION

Arbor Day 2016

WHEREAS, in 1872, J. Sterling Morton proposed to the Nebraska Board of Agriculture that a special day be set aside for the planting of trees; and

WHEREAS, the holiday, called Arbor Day, was first observed with the planting of more than a million trees in Nebraska; and

WHEREAS, Arbor Day is now observed throughout the nation and the world; and

WHEREAS, trees can reduce the erosion of our precious topsoil by wind and water, lower our heating and cooling costs, moderate the temperature, clean the air, produce oxygen and provide habitat for wildlife; and

WHEREAS, trees are a renewable resource giving us paper, wood for our homes, fuel for our fires and countless other wood products; and

WHEREAS, trees in our Village increase property values, enhance the economic vitality of business areas, and beautify our community; and

WHEREAS, trees, wherever they are planted, are a source of joy and spiritual renewal.

NOW, THEREFORE, I, Mayor Harriet Rosenthal, on behalf of the Village of Deerfield, do hereby proclaim Friday, April 29, 2016 as Arbor Day in the Village of Deerfield and I urge all citizens to celebrate Arbor Day and to support efforts to protect our trees and woodlands; and

FURTHER, I urge all citizens to plant and care for trees to gladden the heart and promote the well-being of this and future generations.

PROCLAIMED this 18th day of April, 2016.

Harriet E. Rosenthal, Mayor

PROCLAMATION

Earth Day 2016

WHEREAS, the first Earth Day was celebrated on April 22, 1970, and 2015 marks the 45th anniversary of the first Earth Day celebrations; and

WHEREAS, the growing awareness of humanity's responsibility for safeguarding our environment, symbolized by the first Earth Day, brought about landmark environmental protection measures; and

WHEREAS, for 46 years Earth Day has provided a special time to draw people together in appreciation of their mutual home – Planet Earth – and to participate in a global sense of community through realization of our mutual dependence upon each other; and

WHEREAS, the Village Board and the citizens of the Village of Deerfield have embraced the goal to be a sustainable, vibrant community; and

WHEREAS, the Village Board has asked the Sustainability Commission to focus on issues of sustainability; and

NOW, THEREFORE, I, Mayor Harriet Rosenthal, on behalf of the Village of Deerfield, do hereby proclaim April 22, 2016 as EARTH DAY in the Village of Deerfield.

PROCLAIMED this 18th day of April, 2016.

Harriet E. Rosenthal, Mayor



Memorandum

DATE: April 18, 2016
TO: Mayor and Board of Trustees
FROM: Eric Burk, Director of Finance
SUBJECT: Finance Department 6-Month Report

Over the past six months, the Finance Department has completed required filings, pursued new service providers, researched upcoming issues, and maintained our current level of service to residents as well as other departments. The following bullet points outline the more significant accomplishments of the Finance Department.

- Financial Reporting
 - Interviewed multiple banking institutions, selected Deerfield Bank & Trust as new banking institution and completed transition from Illinois Funds.
 - Completed fieldwork for 2015 Comprehensive Annual Financial Report (CAFR). The final report should be available in June.
 - Completed the annual budget document and revenue projections for 2016.
 - Submitted the budget document for the GFOA's Distinguished Budget Presentation award. In order to receive this award, a governmental unit must publish a budget document that meets program criteria as a policy document, as an operations guide, as a financial plan and as a communications device.
 - Prepared the 2015 annual levy ordinance and abated a portion of the levy. The 2015 levy funds and is collected in 2016. Filed approved levy documents with the County Clerks.
 - Began working on the Village's actuarial analysis of the Police Pension fund as of January 1, 2016 which includes the determination of the Village's annual police pension contribution. The contribution made during 2016 will be approximately \$940,000. The Pension Fund is 75.32% funded on a Market Value basis and 78.31% on an Actuarial Value basis.
 - Began implementing Governmental Accounting Standards Board (GASB) statement number 68 which will require an additional actuarial analysis (IMRF and Police Pension), additional disclosures and recording of the Net Pension Liability on the Government-Wide Financial Statements. These changes will be reflected in CAFR for the year ending December 31, 2015.
 - Attended the IMET annual participants meeting as well as several conference calls with the working group. Recovery is now estimated at 47.6%. The Village has received approximately 5% to date.

- Debt Management
 - Issued RFP for Financial Advisor services as previous Financial Advisor decided to leave the market.
 - Complied with IRS examination of QECBs, which allowed continued receipt of approximately \$380,000 refund of interest per year.
 - Made required debt service payments.
 - Filed required paperwork to received rebates on our Build America Bonds and Qualified Energy Conservation Bonds. These rebates will be approximately 7% lower than originally planned due to sequestration cuts, but overall still a very good rate.
 - No new debt was issued.

- Risk Management/Human Resources
 - Implemented health insurance changes that were negotiated to reduce cost and mitigate Cadillac Tax. The Cadillac Tax was delayed from 2018 to 2020.
 - Implemented a nurse triage call center for employee injury. The service is offered through the Village's insurance cooperative and intended to help supervisors complete injury reports properly and determine severity of injuries.
 - Provided departmental training on injury reporting.
 - Researched, implemented and distributed health insurance forms in accordance with new IRS regulations.
 - Distributed Village & Library W-2s and Police Pension 1099s.

- Staff Training
 - Attended various seminars. Topics included: Pension reform, ACA reporting, GASB 68, Other Post-Employment Benefits (OPEB).

- Ongoing tasks
 - Processed approximately 2,900 invoices, approximately 115 wire transfers and approximately 1,600 accounts payable checks from October 2015 through March 2016.
 - Regularly generated over 2,300 monthly utility bills resulting in averages of 272 late notices, 33 shut off notices, and 5 shut offs from October 2015 to March 2016.
 - Processed approximately 120 Village employees and approximately 45 Library employees per biweekly payroll. Processed approximately 25 Police Pensioners per monthly payroll. Submitted withholdings to applicable institution. Prepared and filed quarterly 941s.
 - Processed an average of 115 receipts per day from October 2015 through March 2016.

April 4, 2016

The regular meeting of the Board of Trustees of the Village of Deerfield was called to order by Village Manager Kent Street in the Council Chambers of the Village Hall on April 4, 2016 at 7:30 p.m. The clerk called the roll and announced that the following were:

Present: Alan Farkas
Thomas Jester
Robert Nadler
William Seiden
Dan Shapiro
Barbara Struthers

Absent was: Harriet Rosenthal, Mayor

and that a quorum was present and in attendance. Also present was Village Attorney Peter Coblantz.

In the absence of Mayor Rosenthal, Trustee Struthers moved to appoint Trustee Seiden as Mayor Pro Tem. Trustee Farkas seconded the motion. The motion passed by the following vote:

AYES: Farkas, Jester, Nadler, Seiden, Shapiro, Struthers (6)

NAYS: None

PLEDGE OF ALLEGIANCE

Dominic and Frankie Kuceba led those in attendance in reciting the Pledge of Allegiance.

PROCLAMATION

Mayor Pro Tem Seiden proclaimed the week of April 10, 2016, through April 16, 2016, as National Telecommunicator Week in the Village of Deerfield.

Trustee Farkas moved to accept the Proclamation. Trustee Struthers seconded the motion. The motion passed by the following vote:

AYES: Farkas, Jester, Nadler Seiden, Shapiro, Struthers (6)

NAYS: None (0)

PRESENTATION

Chief Sliozis presented the Donald E. Gehrig Award to Desirae Kuceba. Chief Sliozis reported the award is presented by the Board of Police Commissioners on an annual basis. This year, the recognition has been awarded to telecommunicator Desirae Kuceba. Chief Sliozis stated she has taken a lead role in a number of police and charity initiatives. She also updated the police dispatch training manual.

ROTARY CLUB

Trustee Struthers reported the Rotary Club of

Deerfield is sponsoring a Walk with Mitchell on April 30, 2016. Senator Julie Morrison stated Mitchell is a yellow lab service dog that works at a facility in Gurnee that helps children who have been sexually abused. The Deerfield Rotary Club is leading a walk with Mitchell and his handlers. They hope to raise significant funds for the care of Mitchell and video equipment so the information shared holds up in court. Natalie Kirsch invited everyone to attend the walk with or without their dogs.

PROCLMATION

Mayor Pro Tem Seiden proclaimed the month of April as Fair Housing Month in the Village of Deerfield. Trustee Farkas moved to accept the Proclamation. Trustee Struthers seconded the motion. The motion passed by the following vote:

AYES: Farkas, Jester, Nadler Seiden, Shapiro, Struthers (6)

NAYS: None (0)

MINUTES OF PREVIOUS MEETING

Trustee Nadler moved to approve the minutes of the May 21, 2016, Board of Trustees meeting. Trustee Shapiro seconded the motion. The motion passed unanimously on a voice vote.

TREASURER'S REPORT

Finance Director Eric Burk presented highlights from the Treasurer's Report for the month of February 2016, representing 17 percent of the year. There are some fluctuations due to seasonal expenses. The home rule sales tax increased over the same period last year.

BILLS AND PAYROLL

Trustee Farkas moved to approve the Bills and Payroll dated April 4, 2016. Trustee Struthers seconded the motion. The motion passed by the following vote:

AYES: Farkas, Jester, Nadler Seiden, Shapiro, Struthers (6)

NAYS: None (0)

PUBLIC COMMENT

There was no Public Comment.

REPORTS

There were no Reports.

CONSENT AGENDA

There were no items on the Consent Agenda.

OLD BUSINESS

PROJECT _____ Portillo's locating near these streets, the traffic on both is expected to rise considerably and requires the Village to reevaluate the timing of rehabilitation. Staff feels it would be difficult perform the rehabilitation work once the restaurant is open and propose a full road reconstruction with sanitary sewer work slated for this year.

Mr. Phillips stated the goal is to have the design and construction complete before Portillo's opens in November. Christopher Burke Engineering Ltd. has capacity to expedite design and help with construction and have an enormous amount of expertise in this area.

Mr. Street noted the construction contract would not be completed until the land use is approved. Trustee Farkas inquired when the road would be reconstructed if Portillo's were not coming to this location. Mr. Phillips stated the project is on the five-year capital improvement plan.

Trustee Nadler moved to award the Phase II Engineering Services Contract for the Deer Lake Road and Estate Drive Infrastructure Improvement Project to Christopher Burke Engineering in an amount not to exceed \$116,218.20. Trustee Farkas seconded the motion. The motion passed by the following vote:

AYES: Farkas, Jester, Nadler Seiden, Shapiro, Struthers (6)

NAYS: None (0)

DISCUSSION

ADJOURNMENT

There being no further business or discussion, Trustee Struthers made a motion to adjourn the meeting. Trustee Farkas seconded the motion. The motion passed unanimously. The meeting was adjourned at 8:07 pm.

APPROVED:

Mayor

ATTEST:

Village Clerk

**BILLS FOR THE
APRIL 18, 2016
VILLAGE BOARD MEETING**

Vendor	Invoice #	Description	Org	Obj	Total Invoice
1ST AYD CORPORATION	PSI31766	BROOM/CLEANING SUPPLIES	502050	5421	292.67
1ST AYD CORPORATION	PSI32700	HYDRANT GREASE	502050	5421	<u>259.90</u>
					552.57
4IMPRINT	4551365	A/C 3417525 / WATER BOTTLES / SUSTAINABILITY COMM	101210	5387	882.58
ADVANCED TREECARE	1031-9518i	PARKWAY TREE & STUMP REMOVAL	102037	5365	1,928.00
AFFILIATED CUSTOMER SERVICE, INC.	R49507	ANNUAL FIRE ALARM TESTING - WRF	542052	5320	1,040.00
ANDERSEN, ROBERT R.	3931030216	IAWPCO CONF - ANDERSEN/SLOAN	542052	5210	460.00
ARAMARK REFRESHMENT SERVICES	489548	COFFEE PW/ENG	102010	5450	60.49
ARAMARK REFRESHMENT SERVICES	489548	COFFEE PW/ENG	102110	5450	60.49
ARAMARK REFRESHMENT SERVICES	489548	COFFEE PW/ENG	502010	5450	60.49
ARAMARK REFRESHMENT SERVICES	489548	COFFEE PW/ENG	542010	5450	<u>60.49</u>
					241.96
BERLAND'S INC	656222	TOOL REPAIR & MAINTENANCE	502050	5322	226.95
BERLAND'S INC	86256	SMALL TOOLS	502050	5421	83.98
BERLAND'S INC	86265	CONCRETE TOOLS	102050	5440	<u>149.94</u>
					460.87
CENTRISYS CORPORATION	PSI-15866	CENTRIFUGE PARTS	542052	5470	268.12
CINTAS	022284761	MATS - WRF	542052	5320	83.80
CINTAS	022290938	MATS - PW/ENG/TRN STN	102010	5320	64.30
CINTAS	022290938	MATS - PW/ENG/TRN STN	102038	5320	64.30
CINTAS	022290938	MATS - PW/ENG/TRN STN	502010	5320	64.30
CINTAS	022290938	MATS - PW/ENG/TRN STN	542010	5320	64.30
CINTAS	022290939	BOOTS - MURPHY	542010	5320	525.00
CINTAS	022290940	CLOTHING - SLOAN	542052	5320	51.28
CINTAS	022290941	WRF - MATS	542052	5320	83.80
CINTAS	022294056	MATS - VH	101111	5320	59.98
CINTAS	022297143	MATS - VH	101111	5320	<u>59.98</u>
					1,121.04
CITY OF HIGHLAND PARK	009155-033116	WATER PURCHASES - MAR 16	502031	5423	113,697.12
CITY OF HIGHLAND PARK	009530-033116	WATER PURCHASES - MAR 16	502031	5423	8,838.14
CITY OF HIGHLAND PARK	020587-033116	WATER PURCHASES - MAR 16	502031	5423	<u>42,556.58</u>
					165,091.84
CITY TECH USA, INC.	2717	PUBLIC SALARY ANNUAL MEMBERSHIP - 2016	101210	5330	390.00
CLEAN ART WORKS	17	WINDOW WASHING - POLICE	106010	5320	375.00
CLEAN ART WORKS	18	WINDOW WASHING - COMMUNITY DEVELOPMENT	101330	5212	195.00
CLEAN ART WORKS	19	WINDOW WASHING - ADMINISTRATION	101210	5320	<u>395.00</u>
					965.00
COMCAST CABLE	0010692-040516	CABLE TV SERVICE: 04/16/2016 - 05/15/2016	101210	5540	6.35
COMCAST CABLE	0010692-040516	CABLE TV SERVICE: 04/16/2016 - 05/15/2016	106010	5550	6.36
COMCAST CABLE	42019364	VOICE TRUNKS SERVICES: APR 16	101111	5540	172.29
COMCAST CABLE	42019364	VOICE TRUNKS SERVICES: APR 16	101210	5540	172.29
COMCAST CABLE	42019364	VOICE TRUNKS SERVICES: APR 16	101330	5540	172.29
COMCAST CABLE	42019364	VOICE TRUNKS SERVICES: APR 16	102010	5540	34.46
COMCAST CABLE	42019364	VOICE TRUNKS SERVICES: APR 16	102110	5540	86.14
COMCAST CABLE	42019364	VOICE TRUNKS SERVICES: APR 16	106010	5550	172.29
COMCAST CABLE	42019364	VOICE TRUNKS SERVICES: APR 16	502010	5540	25.84
COMCAST CABLE	42019364	VOICE TRUNKS SERVICES: APR 16	542052	5540	25.84
COMCAST CABLE	42034892	FIBER INTERNET SERVICES - APR 16	101111	5540	446.04
COMCAST CABLE	42034892	FIBER INTERNET SERVICES - APR 16	101210	5540	446.04
COMCAST CABLE	42034892	FIBER INTERNET SERVICES - APR 16	101330	5540	446.04
COMCAST CABLE	42034892	FIBER INTERNET SERVICES - APR 16	102010	5540	111.51
COMCAST CABLE	42034892	FIBER INTERNET SERVICES - APR 16	102110	5540	111.51
COMCAST CABLE	42034892	FIBER INTERNET SERVICES - APR 16	106010	5550	446.04
COMCAST CABLE	42034892	FIBER INTERNET SERVICES - APR 16	502010	5540	111.51
COMCAST CABLE	42034892	FIBER INTERNET SERVICES - APR 16	542052	5540	<u>111.51</u>
					3,104.35
COMED	0039019040-022916	A/C 0039019040 01/29/2016 TO 02/26/2016	102050	5510	199.71
COMED	0210000007-022616	A/C 0210000007 01/27/2016 TO 02/26/2016	542052	5510	30.94
COMED	0263148072-022516	A/C 0263148072 01/27/2016 TO 02/25/2016	502031	5510	1,690.78
COMED	0297076067-030116	A/C 0297076067 01/26/2016 TO 02/29/2016	542052	5510	134.92
COMED	0441157035-022516	A/C 0441157035 01/26/2016 TO 02/25/2016	102050	5510	48.42
COMED	0507100076-022916	A/C 0507100076 01/29/2016 TO 02/29/2016	542052	5510	328.32
COMED	0744127017-022516	A/C 0744127017 01/28/2016 TO 02/25/2016	542052	5510	38.17
COMED	1093039047-022516	A/C 1093039047 01/27/2016 TO 02/25/2016	602038	5510	24.53
COMED	1695047067-021916	A/C 1695047067 01/21/2016 TO 02/19/2016	102050	5510	2,516.31
COMED	2055118031-022516	A/C 2055118031 01/27/2016 TO 02/25/2016	102050	5510	52.37
COMED	2763162001-022616	A/C 2763162001 01/28/2016 TO 02/26/2016	502031	5510	<u>202.61</u>
					5,267.08
CONTINENTAL WEATHER SERVICE	15227	WEATHER FORECASTING - APR 16	102010	5365	37.50
CONTINENTAL WEATHER SERVICE	15227	WEATHER FORECASTING - APR 16	502010	5365	37.50
CONTINENTAL WEATHER SERVICE	15227	WEATHER FORECASTING - APR 16	542010	5365	37.50
CONTINENTAL WEATHER SERVICE	15227	WEATHER FORECASTING - APR 16	542052	5365	<u>37.50</u>
					150.00
CRAFTWOOD LUMBER CO.	214017	REPAIR ACCESS GATES	102050	5430	104.61
CRAIN'S CHICAGO BUSINESS	000039268440-2016	SUBSCRIPTION - STREET	101210	5213	64.00
CREATIVE PRODUCT SOURCING, INC - DARE	92838	DARE SUPPLIES	106033	5415	558.08

Vendor	Invoice #	Description	Org	Obj	Total Invoice
CRYSTAL CAR WASH SERVICES LTD	8245	WASHBAY REPAIR PARTS	102010	5320	43.93
CRYSTAL CAR WASH SERVICES LTD	8245	WASHBAY REPAIR PARTS	502010	5320	43.93
CRYSTAL CAR WASH SERVICES LTD	8245	WASHBAY REPAIR PARTS	542010	5320	43.93
					<u>131.79</u>
CRYSTAL MNGMNT & MAINT SERVICES CORP	23603	CLEANING SERVICES - APR 16	101210	5320	967.83
CRYSTAL MNGMNT & MAINT SERVICES CORP	23603	CLEANING SERVICES - APR 16	102010	5320	351.84
CRYSTAL MNGMNT & MAINT SERVICES CORP	23603	CLEANING SERVICES - APR 16	106010	5320	891.67
CRYSTAL MNGMNT & MAINT SERVICES CORP	23603	CLEANING SERVICES - APR 16	542052	5320	28.66
					<u>2,240.00</u>
CUMMINS NPOWER LLC	711-94520	GENERATOR MAINTENANCE	101210	5320	476.20
DANIEL CREANEY COMPANY	39601	WOODLAND & OAKWOOD DRAINAGE STUDY - MAR 16	102110	5362	1,957.50
DATAPROSE LLC	DP1600723	UTILTIY BILLING STMTS & LATE NOTICES: MAR 16	101210	5386	276.00
DATAPROSE LLC	DP1600723	UTILTIY BILLING STMTS & LATE NOTICES: MAR 16	101210	5387	92.00
DATAPROSE LLC	DP1600723	UTILTIY BILLING STMTS & LATE NOTICES: MAR 16	101210	5387	92.00
DATAPROSE LLC	DP1600723	UTILTIY BILLING STMTS & LATE NOTICES: MAR 16	502010	5335	281.75
DATAPROSE LLC	DP1600723	UTILTIY BILLING STMTS & LATE NOTICES: MAR 16	502010	5337	657.44
DATAPROSE LLC	DP1600723	UTILTIY BILLING STMTS & LATE NOTICES: MAR 16	542010	5335	127.24
DATAPROSE LLC	DP1600723	UTILTIY BILLING STMTS & LATE NOTICES: MAR 16	542010	5337	296.91
DATAPROSE LLC	DP1600723	UTILTIY BILLING STMTS & LATE NOTICES: MAR 16	582030	5337	106.04
DATAPROSE LLC	DP1600723	UTILTIY BILLING STMTS & LATE NOTICES: MAR 16	582030	5390	45.44
					<u>1,974.82</u>
DAVE'S NORTH SHORE TOWING INC	2261	SQUAD TOW	106034	5326	95.00
DAVIE, QUENTIN	032216	TRAINING TRAVEL EXP REIMB	106034	5211	319.09
DEPENDABLE FIRE EQUIPMENT INC	177123	FIRE EXTINGUISHER INSPECTIONS	102010	5320	65.34
DEPENDABLE FIRE EQUIPMENT INC	177123	FIRE EXTINGUISHER INSPECTIONS	502010	5320	65.32
DEPENDABLE FIRE EQUIPMENT INC	177123	FIRE EXTINGUISHER INSPECTIONS	542010	5320	65.34
					<u>196.00</u>
DICKINSON, TYLER	104974032916	OPERATING SUPPLIES - ENG	102110	5460	206.83
DISCOVERY BENEFITS	0000634945-IN	FLEX BENEFITS ADMIN - MAR 16	101111	5365	259.70
DR HORTON INC	462959/52920/FINAL	1111 DAVIS - DEPOSIT REFUND	910000	2423	12,000.00
DYNEGY ENERGY SERVICES	147136816021	A/C 0195097137 01/27/2016 TO 02/28/2016	502031	5510	2,956.15
DYNEGY ENERGY SERVICES	147136916021	A/C 0411051084 01/27/2016 TO 02/25/2016	542052	5510	2,268.92
DYNEGY ENERGY SERVICES	147137016021	A/C 0465035072 01/28/2016 TO 02/25/2016	502031	5510	595.02
DYNEGY ENERGY SERVICES	147137116021	A/C 0606055010 01/27/2016 TO 02/25/2016	502031	5510	2,395.71
DYNEGY ENERGY SERVICES	147137216021	A/C 0822171022 01/28/2016 TO 02/25/2016	542052	5510	1,925.26
DYNEGY ENERGY SERVICES	147137316021	A/C 0927104050 01/25/2016 TO 02/22/2016	542052	5510	2,046.00
DYNEGY ENERGY SERVICES	147137416021	A/C 3547124017 01/26/2016 TO 02/25/2016	542052	5510	19,275.74
					<u>31,462.80</u>
ELEVATOR INSPECTION SERVICES COMPANY INC	59105	ELEVATOR INSPECTION	101330	5365	80.00
ELEVATOR INSPECTION SERVICES COMPANY INC	59106	ELEVATOR INSPECTION	101330	5365	80.00
ELEVATOR INSPECTION SERVICES COMPANY INC	59120	ELEVATOR INSPECTION	101330	5365	60.00
					<u>220.00</u>
ENVIRONMENTAL RESOURCE ASSOCIATES	785664	ANNUAL QUALITY ASSURANCE - WRF	542052	5365	561.46
FEDERAL EXPRESS CORP	5-360-46979	MAILING - ENG	102110	5337	33.42
FGK SERVICES INC	0416-10	TRAIN STATION CLEANING - APR 16	102038	5320	505.04
FIORE NURSERY AND LANDSCAPE SUPPLY	188486	TREE REPLACEMENT - HAZEL & JOURNAL	102037	5365	750.00
FRY, CHRISTOPHER	040516	TRAVEL EXP REIMB - CALEA CONFERENCE	106010	5211	971.92
GALLS LLC	005079452	APPAREL - MCCOWAN	106034	5130	62.82
GALLS LLC	005080986	APPAREL - OBRZUT	106034	5130	324.06
GALLS LLC	005097028	APPAREL - CETNAROWICZ	106034	5130	251.25
					<u>638.13</u>
GEWALT-HAMILTON ASSOCIATES INC	4382.410-15	BRIARWOOD VISTA/PH III/022216-032716	222082	5362	612.15
GRAINGER INC	9059463365	FLOOR MAT	106010	5460	102.84
GRAINGER INC	9064755623	CHAIR CASTERS	502050	5421	38.08
					<u>140.92</u>
GRAND PRIX CAR WASH	033116/CD	CAR WASHES - CD	101330	5322	8.50
HALL, RHEANNA	032416	TRAINING TRAVEL EXP REIMB	106034	5211	114.11
HARD ROCK CONCRETE CUTTERS INC	155210	SAWCUT CONCRETE - LAKE COOK & PFINGSTEN	502050	5365	395.00
HARD ROCK CONCRETE CUTTERS INC	155489	SAWCUT MULTIPLE LOCATIONS	102050	5365	1,267.00
HARD ROCK CONCRETE CUTTERS INC	155490	SAWCUT MULTIPLE LOCATIONS	542051	5365	695.00
					<u>2,357.00</u>
HD SUPPLY WATERWORKS	F297644	CLAMPS & FLANGES	502050	5421	699.12
HD SUPPLY WATERWORKS	F312337	COUPLINGS	542031	5421	1,620.00
					<u>2,319.12</u>
HEWLETT PACKARD ENTERPRISE COMPANY	60052080	EQUIPMENT & SOFTWARE / MAINT & SUPPORT	101111	5322	2,758.99
HEWLETT PACKARD ENTERPRISE COMPANY	60052080	EQUIPMENT & SOFTWARE / MAINT & SUPPORT	101210	5322	2,758.99
HEWLETT PACKARD ENTERPRISE COMPANY	60052080	EQUIPMENT & SOFTWARE / MAINT & SUPPORT	101330	5322	2,758.99
HEWLETT PACKARD ENTERPRISE COMPANY	60052080	EQUIPMENT & SOFTWARE / MAINT & SUPPORT	102010	5322	551.80
HEWLETT PACKARD ENTERPRISE COMPANY	60052080	EQUIPMENT & SOFTWARE / MAINT & SUPPORT	102110	5322	1,379.50
HEWLETT PACKARD ENTERPRISE COMPANY	60052080	EQUIPMENT & SOFTWARE / MAINT & SUPPORT	106010	5322	2,758.99
HEWLETT PACKARD ENTERPRISE COMPANY	60052080	EQUIPMENT & SOFTWARE / MAINT & SUPPORT	502010	5322	413.85
HEWLETT PACKARD ENTERPRISE COMPANY	60052080	EQUIPMENT & SOFTWARE / MAINT & SUPPORT	542052	5322	413.85
					<u>13,794.96</u>

Vendor	Invoice #	Description	Org	Obj	Total Invoice
HOLLAND, MERLE AND PETER	444553/52901/FINAL	1340 MEADOW - DEPOSIT REFUND	910000	2423	5,000.00
HOME DEPOT CREDIT SERVICES	0023422	GATE REFLECTORS	102050	5421	28.85
HOME DEPOT CREDIT SERVICES	0023438	REPLENISH SHORING TRAILER SUPPLIES	502050	5421	167.29
HOME DEPOT CREDIT SERVICES	0100049	LOCK NUTS - WRF	542052	5470	39.94
HOME DEPOT CREDIT SERVICES	0592140	HOSE/SUPPLIES - WRF	542052	5470	46.09
HOME DEPOT CREDIT SERVICES	5022026	WINDOW WELL COVERS - CARLISLE HOUSE	542052	5320	77.92
HOME DEPOT CREDIT SERVICES	8223629	TREE REPLACEMENT - 1755 OVERLAND	102037	5365	59.96
HOME DEPOT CREDIT SERVICES	9023545	OPERATING SUPPLIES	106034	5460	149.00
					569.05
HORWITZ, LARRY OR BARBARA	533444	TREE APPLICATION REFUND	100001	4232	75.00
ICON ENTERPRISES INC	158582	WEBSITE REDESIGN - PAYMENT 1 OF 2	101210	5365	9,701.49
INTUITIVE CONTROL SYSTEMS LLC	Q-19625	SOFTWARE - TRAFFIC EQUIP MGMT	106010	5370	1,500.00
JACOBS, BRIAN AND BROOKE	489428/54110/1ST	705 INDIAN HILL - DEPOSIT REFUND	910000	2423	7,000.00
JANES, BRANDON	104392032416	TRAVEL EXPENSE REIMB - WATERCON	542052	5211	233.28
JG UNIFORMS, INC	42185	APPAREL - CHERESTAL	106034	5130	387.60
JG UNIFORMS, INC	42186	APPAREL - LORENZ	106034	5130	128.00
JG UNIFORMS, INC	42187	APPAREL - HALL	106034	5130	125.90
JG UNIFORMS, INC	42189	APPAREL - FOSTER	106034	5130	151.98
					793.48
KHOTIMSKIY, IGOR	464075/53065/1ST	920 APPLETREE - DEPOSIT REFUND	910000	2423	5,000.00
KONICA MINOLTA BUSINESS SOLUTIONS	9002276276	COPIER MAINT/VH/PD/122715-032616	101111	5460	443.07
KONICA MINOLTA BUSINESS SOLUTIONS	9002276276	COPIER MAINT/VH/PD/122715-032616	101330	5460	97.50
KONICA MINOLTA BUSINESS SOLUTIONS	9002276276	COPIER MAINT/VH/PD/122715-032616	106010	5322	29.18
KONICA MINOLTA BUSINESS SOLUTIONS	9002276276	COPIER MAINT/VH/PD/122715-032616	106010	5322	345.41
					915.16
KONKE ELECTRIC INC	2069	LIGHT BULBS FOR STREET LIGHTS	102050	5421	8,725.00
KONKE ELECTRIC INC	2076	LIGHT REPAIR - VILLAGE HALL	102050	5365	210.00
KONKE ELECTRIC INC	2077	LIGHT REPAIR DUE TO WATER MAIN BREAK	502050	5365	230.00
					9,165.00
KRIHAK, DANIEL	533528	TREE APPLICATION REFUND	100001	4232	75.00
KUPSAK, ANDREW	031516	TRAINING TRAVEL EXP REIMB	106034	5130	214.00
LAKE COUNTY RECORDER	2016-00017491	COPY VIA EMAIL / DOC #1152153	101330	5365	2.00
LAWSON PRODUCTS INC	9303994505	SMALL TOOLS	702050	5440	117.45
LIONHEART CRITICAL POWER SPECIALISTS INC	2071351	GENERATOR MAINTENANCE	502031	5322	1,945.00
LITTLE, BARBARA K	52781032916	TRAVEL EXP REIMB - WASTEWATER CONFERENCE	102110	5211	98.91
LITTLE, BARBARA K	52781032916	TRAVEL EXP REIMB - WASTEWATER CONFERENCE	502010	5210	100.00
LITTLE, BARBARA K	52781032916	TRAVEL EXP REIMB - WASTEWATER CONFERENCE	542052	5210	200.00
					398.91
M & A PARTS INC	031616	OPERATING SUPPLIES	106034	5460	130.00
MAYER, GARY	533944	TREE APPLICATION REFUND	100001	4232	75.00
MAZARIEGOS, JUAN	031416	TRAINING TRAVEL EXP REIMB	106033	5211	58.00
MAZARIEGOS, JUAN	031416-B	TRAINING TRAVEL EXP REIMB	106033	5211	62.55
					120.55
MCESSY INVESTMENT COMPANY	040116	PRISONER MEAL - MAR 16	106010	5460	5.06
MCHENRY ANALYTICAL WATER LABORATORY, INC	390332	INDEPENDENT LAB TESTING	542052	5365	516.90
MENACKER, NADINE	MAR16	HOME GREETER - MAR 16	101210	5387	200.00
MENONI & MOCOJNI, INC.	1174448	BLACK DIRT	502050	5421	155.81
MENONI & MOCOJNI, INC.	1174594	BLACK DIRT	502050	5421	184.11
MENONI & MOCOJNI, INC.	23224	CEMENT BRICKS & BLOCKS	502050	5421	514.02
MENONI & MOCOJNI, INC.	23253	CONCRETE - 465 ELM	502050	5421	750.00
MENONI & MOCOJNI, INC.	886581869	CONCRETE - LAKE COOK & PFINGSTEN	502050	5421	904.50
MENONI & MOCOJNI, INC.	886596060	CONCRETE - BIRCHWOOD & CENTRAL	502050	5421	769.96
MENONI & MOCOJNI, INC.	886618700	CONCRETE - ROSEWOOD & KENMORE	502050	5421	1,191.04
MENONI & MOCOJNI, INC.	886618707	CONCRETE - 35 BURNING TREE	102050	5421	1,176.00
MENONI & MOCOJNI, INC.	886622583	CONCRETE - ROSEWOOD & KENMORE	502050	5421	1,191.04
					6,836.48
METRA	PO9387	ANNUAL RENTAL - COMMUTER PARKING LOT	602019	5311	7,440.00
MGP, INC	2952	CSR STUDY GROUP - MAR 16	101210	5365	275.00
MGP, INC	2953	GIS STAFFING SERVICES - MAR 16	102110	5375	6,334.17
					6,609.17
MIDWEST TIME RECORDER INC	148206	TIME & ATTENDANCE SERVICE - MAR 16	102010	5370	43.73
MIDWEST TIME RECORDER INC	148206	TIME & ATTENDANCE SERVICE - MAR 16	502010	5370	43.73
MIDWEST TIME RECORDER INC	148206	TIME & ATTENDANCE SERVICE - MAR 16	542010	5370	43.72
MIDWEST TIME RECORDER INC	148206	TIME & ATTENDANCE SERVICE - MAR 16	542052	5370	43.72
					174.90

Vendor	Invoice #	Description	Org	Obj	Total Invoice
MOORE LANDSCAPES INC.	26482	TURF MAINT/APR 16/#4 OF 12	101111	5324	675.73
MOORE LANDSCAPES INC.	26482	TURF MAINT/APR 16/#4 OF 12	101210	5914	168.93
MOORE LANDSCAPES INC.	26482	TURF MAINT/APR 16/#4 OF 12	102038	5320	675.73
MOORE LANDSCAPES INC.	26482	TURF MAINT/APR 16/#4 OF 12	102050	5365	675.73
MOORE LANDSCAPES INC.	26482	TURF MAINT/APR 16/#4 OF 12	602019	5320	675.73
MOORE LANDSCAPES INC.	26482	TURF MAINT/APR 16/#4 OF 12	602038	5390	506.82
MOORE LANDSCAPES INC.	26483	PLANTING & MAINT/APR 16/#4 OF 12	101111	5324	1,073.74
MOORE LANDSCAPES INC.	26483	PLANTING & MAINT/APR 16/#4 OF 12	101210	5914	2,863.33
MOORE LANDSCAPES INC.	26483	PLANTING & MAINT/APR 16/#4 OF 12	102037	5914	2,147.50
MOORE LANDSCAPES INC.	26483	PLANTING & MAINT/APR 16/#4 OF 12	102038	5320	357.92
MOORE LANDSCAPES INC.	26483	PLANTING & MAINT/APR 16/#4 OF 12	602019	5320	357.92
MOORE LANDSCAPES INC.	26483	PLANTING & MAINT/APR 16/#4 OF 12	602038	5390	357.92
					<u>10,537.00</u>
MOSCONI - ENRICO LANDSCAPE CONTRACTORS INC	T33055	BURLAP REMOVAL - DOWNTOWN TREES	102037	5914	420.00
MOSCONI - ENRICO LANDSCAPE CONTRACTORS INC	T33056	BRICK SIDEWALK REPAIRS - DOWNTOWN	102037	5914	3,120.00
MOSCONI - ENRICO LANDSCAPE CONTRACTORS INC	T33060	DEERFIELD/WAUKEGAN RD PARK CLEAN UP	102037	5365	800.00
MOSCONI - ENRICO LANDSCAPE CONTRACTORS INC	T33061	BRICK SIDEWALK REPAIRS - DOWNTOWN	102037	5365	2,040.00
MOSCONI - ENRICO LANDSCAPE CONTRACTORS INC	T33064	BRICK SIDEWALK REPAIRS - DOWNTOWN	102037	5914	4,100.00
MOSCONI - ENRICO LANDSCAPE CONTRACTORS INC	T33065	BRICK SIDEWALK REPAIRS - TRAIN STATION & DOWNTOWN	102037	5914	2,480.00
					<u>12,960.00</u>
MURRIN, MICHAEL	MAR16	PLUMBING INSPECTIONS (42) - MAR16	101330	5365	2,730.00
NAKAHARA, DANIEL	04052016	TRAVEL EXP REIMB - APA CONFERENCE	101330	5211	420.00
NAPA AUTO PARTS - WHEELING	385105	STOCK FILTERS	702050	5470	10.20
NAPA AUTO PARTS - WHEELING	385178	FUEL HOSE - #705/#706	702050	5470	42.00
NAPA AUTO PARTS - WHEELING	385418	HOSE - #706	702050	5470	30.00
NAPA AUTO PARTS - WHEELING	385482	VARIOUS FILTERS - WRF	542052	5470	141.31
NAPA AUTO PARTS - WHEELING	385575	WINDSHIELD WIPER STOCK	702050	5470	50.78
NAPA AUTO PARTS - WHEELING	385827	BULBS - #704	702050	5470	9.44
NAPA AUTO PARTS - WHEELING	385831	BULBS - #704	702050	5470	9.44
					<u>293.17</u>
NOBLE INDUSTRIAL SUPPLY CO	SI-113224	GRAFFITI REMOVER	102050	5421	435.22
NOBLE INDUSTRIAL SUPPLY CO	SI-113225	GRAFFITI REMOVER	102050	5421	475.10
					<u>910.32</u>
NORTHERN IL POLICE ALARM SYST	10894	LANGUAGE LINE - FEB 16	106010	5550	18.60
NORTHWEST POLICE ACADEMY	031416	TRAINING REGISTRATION (5)	106010	5212	25.00
NORTHWEST POLICE ACADEMY	031416	TRAINING REGISTRATION (5)	106034	5212	100.00
					<u>125.00</u>
OFFICE DEPOT	828808539001	PRINTING SERVICES	106010	5335	147.04
OFFICE DEPOT	831814477001	OFFICE SUPPLIES	101111	5450	50.02
					<u>197.06</u>
OSTMAN, JASON	03172016	TUITION REIMBURSEMENT	542051	5122	900.00
PASSPORT PARKING INC	3215	MOBLE PAY SERVICES - MAR 16	101210	5370	971.25
PROSAFETY INC	2/818890	MARKING PAINT	502050	5421	183.60
RADAR MAN INC	2943	RADAR CERTIFICATIONS	106010	5322	525.00
RED'S GARDEN CENTER INC	172388	TOPSOIL	102037	5421	66.00
RELADYNE	0951501-IN	OIL - WRF	542052	5420	407.75
RONDOUT SERVICE CENTER LLC	8436	SAFETY LANE TEST - #601	702050	5470	23.00
RONDOUT SERVICE CENTER LLC	8442	SAFETY LANE TEST - #704	702050	5470	23.50
RONDOUT SERVICE CENTER LLC	8445	SAFETY LANE TEST - #804	702050	5470	23.50
RONDOUT SERVICE CENTER LLC	8454	SAFETY LANE TEST - #803	702050	5470	23.50
					<u>93.50</u>
ROSENTHAL, MURPHEY, COBLENTZ & DONAHUE	142M04112016	VILLAGE ATTORNEY SERVICES - MARCH 16	101210	5360	9,054.38
RUNCO OFFICE SUPPLY	644495-0	SUPPLIES - TELECOMMUNICATOR WEEK	106010	5460	66.04
RYCKAERT, JEFFERY S	04052016	TRAVEL EXP REIMB - APA CONFERENCE	101330	5211	400.82
SAMPSON, VAL F.	16116	PRINTING - OVERSIZE ENVELOPES	101210	5335	255.00
SAM'S CLUB DIRECT	7667	OPERATING SUPPLIES	101210	5460	48.82
SAM'S CLUB DIRECT	7667	OPERATING SUPPLIES	101210	5460	48.82
SAM'S CLUB DIRECT	7667	OPERATING SUPPLIES	101330	5460	32.55
SAM'S CLUB DIRECT	7667	OPERATING SUPPLIES	102038	5460	113.90
SAM'S CLUB DIRECT	7667	OPERATING SUPPLIES	106010	5460	48.82
SAM'S CLUB DIRECT	7667	OPERATING SUPPLIES	542052	5460	32.55
					<u>325.46</u>
SCHINDLER ELEVATOR CORP	8104238015	QTRLY MAINT/VH ELEV/APR 16 - JUN 16	101111	5320	862.53
SCIARRETTA ENTERPRISES, INC	16-184861	NUISANCE ABATEMENT - 700 LAKE COOK ROAD	101210	5365	150.00
SIGN-A RAMA	2390	PUBLIC HEARING SIGNS & STAKES / FINAL	101330	5335	339.50
STANDARD EQUIPMENT CO	C10134	HOSE GUIDE	542031	5421	151.44
SWAGIT PRODUCTIONS LLC	7122	VIDEO STREAMING SERVICES/BOARD MEETING - MAR 16	101210	5364	645.00
TERMINAL SUPPLY CO.	97137-00	SHOP SUPPLIES	702050	5470	228.38
THELEN MATERIALS LLC	331867	STONE/DIRT REMOVAL	502050	5421	1,583.00
THELEN MATERIALS LLC	332248	STONE/CLEAN FILL REMOVAL	502050	5421	1,417.86
					<u>3,000.86</u>
TRAFFIC AND PARKING CONTROL	1520276	SIGN POST LIGHTS	102050	5430	302.97
TRAFFIC AND PARKING CONTROL	1520376	SIGN POSTS	102050	5430	1,972.41
					<u>2,275.38</u>

Vendor	Invoice #	Description	Org	Obj	Total Invoice
TRAFFIC CONTROL & PROTECTION INC	86091	BARRICADES	102050	5421	495.00
TRAFFIC CONTROL & PROTECTION INC	86091	BARRICADES	502050	5421	495.00
TRAFFIC CONTROL & PROTECTION INC	86091	BARRICADES	542051	5421	495.00
					<u>1,485.00</u>
TROJAN TECHNOLOGIES	SLS/10248787	UV SUPPLIES - WRF	542052	5470	244.60
UNITED RADIO COMMUNICATIONS INC	109007191-1	RADIO REPAIR	176020	5323	69.55
UNITED STATES POSTAL SERVICE	04182016	MAILING: D-TALES / MAY/JUN 2016	101210	5337	1,500.00
URS CORPORATION	37722123	KATES RD BRIDGE/PH I/121915-031816	222082	5362	17,317.11
USABLUEBOOK	901786	VALVE ASSEMBLY	502050	5440	69.20
USABLUEBOOK	903014	PUNCH & CHISEL SET/SOCKET	502050	5421	160.23
					<u>229.43</u>
WALGREEN NATIONAL CORP	JAN16	SALES TAX REBATE - JAN 16 SALES	101111	5395	812,764.40
WASTE MANAGEMENT	5699786-2008-0	REFUSE SERVICE - MAR 16	582030	5391	297.20
WASTE MANAGEMENT	5699787-2008-8	REFUSE SERVICE - MAR 16	582030	5391	2,433.20
WASTE MANAGEMENT	5699793-2008-6	REFUSE SERVICE - MAR 16	582030	5391	485.10
WASTE MANAGEMENT	5699794-2008-4	REFUSE SERVICE - MAR 16	582030	5391	616.00
WASTE MANAGEMENT	5703165-2008-1	REFUSE SERVICE - MAR 16	582030	5391	97,632.00
WASTE MANAGEMENT	5703166-2008-9	REFUSE SERVICE - MAR 16	582030	5391	271.04
WASTE MANAGEMENT	5703167-2008-7	REFUSE SERVICE - MAR 16	582030	5391	1,151.92
WASTE MANAGEMENT	5703168-2008-5	REFUSE SERVICE - MAR 16	582030	5391	414.72
					<u>103,301.18</u>
WEST SIDE EXCHANGE	W43946	STEERING VALVE - #544H	702050	5470	2,073.01
WHISLER, CHARLES OR KAREN	533571	TREE APPLICATION REFUND	100001	4232	75.00
WHOLESALE DIRECT INC	000219698	SQUAD SPOT LIGHT STOCK	702050	5470	179.81
WINER & WINER	MAR16	PROSECUTION SERVICES - MAR 16	106010	5361	4,655.00
WISMER, BRIAN	07042016-1	FAMILY DAYS PARADE - DEPOSIT	101210	5386	250.00
					<u>250.00</u>
					Total Invoices \$ 1,315,046.57
Pre-Paid Wire Transactions					
AUTHORIZE.NET	PSPRTAUTHNETT/FEB16	PASSPORT AUTHNET FEES - FEB 16	602019	5390	15.00
AUTHORIZE.NET	PSPRTAUTHNETT/FEB16	PASSPORT AUTHNET FEES - FEB 16	602038	5390	15.00
					<u>30.00</u>
DEERFIELD POLICE PENSION	POLPEN03042016	POLPEN CONTRIBS 03/04/2016 PR	730000	2066	14,785.76
DEERFIELD POLICE PENSION	POLPEN03182016	POLPEN CONTRIBS 03/18/2016 PR	730000	2066	14,814.66
DEERFIELD POLICE PENSION	POLPEN04012016	POLPEN CONTRIBS 04/01/2016 PR	730000	2066	14,808.21
					<u>44,408.63</u>
FEDERAL TAXES	PR03042016	FICA/MC/FIT 03/04/2016 PR	730000	2011	52,659.92
FEDERAL TAXES	PR03042016	FICA/MC/FIT 03/04/2016 PR	730000	2031	31,366.94
FEDERAL TAXES	PR03042016	FICA/MC/FIT 03/04/2016 PR	730000	2032	7,335.76
FEDERAL TAXES	PR03042016	FICA/MC/FIT 03/04/2016 PR	730000	2033	3,966.40
FEDERAL TAXES	PR03182016	FICA/MC/FIT 03/18/2016 PR	730000	2011	49,925.33
FEDERAL TAXES	PR03182016	FICA/MC/FIT 03/18/2016 PR	730000	2031	30,179.22
FEDERAL TAXES	PR03182016	FICA/MC/FIT 03/18/2016 PR	730000	2032	7,058.04
FEDERAL TAXES	PR03182016	FICA/MC/FIT 03/18/2016 PR	730000	2033	3,896.66
					<u>186,388.27</u>
ICMA	ICMAREG03042016	ICMA REG 03/04/2016 PR	730000	2042	17,840.80
ICMA	ICMAREG03182016	ICMA REG 03/18/2016 PR	730000	2042	17,684.44
ICMA	ICMAROTH03042016	ICMA ROTH 03/04/2016 PR	730000	2042	6,457.68
ICMA	ICMAROTH03182016	ICMA ROTH 03/18/2016 PR	730000	2042	6,457.68
					<u>48,440.60</u>
ILLINOIS DEPT OF REVENUE	PR03042016	SIT 03/04/2016 PR	730000	2051	12,787.76
ILLINOIS DEPT OF REVENUE	PR03182016	SIT 03/18/2016 PR	730000	2051	12,347.38
					<u>25,135.14</u>
IMRF	IMRFFEB16	IMRF FEB 2016	101111	5140	(0.03)
IMRF	IMRFFEB16	IMRF FEB 2016	730000	2030	88,044.43
IMRF	IMRFFEB16	IMRF FEB 2016	730000	2092	22,302.67
					<u>110,347.07</u>

Vendor	Invoice #	Description	Org	Obj	Total Invoice
IPBC	MAR16	MEDICAL/LIFE INSURANCE: MAR 16	100000	1613	7,324.96
IPBC	MAR16	MEDICAL/LIFE INSURANCE: MAR 16	100000	2437	500.00
IPBC	MAR16	MEDICAL/LIFE INSURANCE: MAR 16	100000	2437	1,997.88
IPBC	MAR16	MEDICAL/LIFE INSURANCE: MAR 16	100000	2437	2,136.77
IPBC	MAR16	MEDICAL/LIFE INSURANCE: MAR 16	100000	2437	23,210.42
IPBC	MAR16	MEDICAL/LIFE INSURANCE: MAR 16	100000	2438	59.93
IPBC	MAR16	MEDICAL/LIFE INSURANCE: MAR 16	100000	2438	124.19
IPBC	MAR16	MEDICAL/LIFE INSURANCE: MAR 16	100000	2438	23,633.09
IPBC	MAR16	MEDICAL/LIFE INSURANCE: MAR 16	100000	2439	360.66
IPBC	MAR16	MEDICAL/LIFE INSURANCE: MAR 16	100000	2439	63,815.22
IPBC	MAR16	MEDICAL/LIFE INSURANCE: MAR 16	101111	5120	650.00
IPBC	MAR16	MEDICAL/LIFE INSURANCE: MAR 16	730000	2054	925.84
IPBC	MAR16	MEDICAL/LIFE INSURANCE: MAR 16	730000	2054	1,002.28
IPBC	MAR16	MEDICAL/LIFE INSURANCE: MAR 16	730000	2060	<u>171,736.06</u>
					297,477.30
NORTHBROOK BANK & TRUST	PSPRTCC/FEB16	PASSPORT CC FEES - FEB 16	602019	5390	126.02
NORTHBROOK BANK & TRUST	PSPRTCC/FEB16	PASSPORT CC FEES - FEB 16	602038	5390	<u>126.02</u>
					252.04
US BANK	BAF1010MAR16	BANK ANALYSIS FEE/1010/MAR 16	730000	2801	77.10
US BANK	SNKTRSTMAR16	TRUST FEES/SINK ACCT/MAR 16	367072	5369	49.09
US BANK	TRUSTMAR16	TRUST FEES/VILL ACCT/MAR 16	730000	2801	<u>121.60</u>
					247.79
		Total Pre-Paid Wire Transactions			\$ 712,726.84
		Grand Total			\$ 2,027,773.41

To the Finance Director:

The payment of the above listed accounts has been approved by the Board of Trustees at their meeting held on April 18, 2016 and you are hereby authorized to pay them from the appropriate funds.

(Treasurer)

REQUEST FOR BOARD ACTION

Agenda Item: 13-87

Subject: Report and Recommendation of the Plan Commission for Approval of the Final Development Plan for 8 Parkway North in the Parkway North Center – Quadrangle Development Company

Action Requested: Approval of Recommendation

Originated by: Plan Commission

Referred to: Mayor and Board of Trustees

Summary of Background and Reason for Request:

The petitioners are requesting approval of the Final Development Plan for 8 Parkway North in the Parkway North Center Planned Unit Development. In 1997, the Parkway North Center Development received approval of a Preliminary Development Plan. According to the Parkway North Center annexation agreement, the Preliminary Development Plan (which approved for the northwest corner of the Parkway North Center in 1997) is good for the life of the annexation agreement which is in effect until 2023. Because the Preliminary Development Plan has been previously approved, the petitioner is now seeking approval of the Final Development Plan. The Plan Commission is recommending approval of the plan.

Reports and Documents Attached:

Report and Recommendation
Plan Commission Minutes – 3/24/16, 2/25/16
Airphoto
Zoning Map
1997 Previously Approved Preliminary Site Plan
Petitioner's Material
CBRE Brochure

Date Referred to Board: April 18, 2016

Action Taken: _____

RECOMMENDATION

To: Mayor and Board of Trustees

From: Plan Commission

Date: March 24, 2016

RE: Request for Approval of a Final Development Plan for 8 Parkway North in the Parkway North Center.

We transmit for your consideration a recommendation adopted by the Plan Commission of the Village of Deerfield on the request of the petitioners for a Final Development Plan for 8 Parkway North. The Plan Commission held a meeting on March 24, 2016. At that meeting, the petitioners presented testimony and documentary evidence in support of the request. A copy of the workshop minutes are attached.

In support of its request, the Plan Commission makes the following findings of fact and conclusions:

FINDINGS OF FACT

Subject Property

The Subject property consists of the Parkway North Center. The property is approximately 86 acres and is located at the southeast corner of Deerfield Road and Saunders Road. The subject property is zoned I-1 Office, Research, and Restricted Industrial District. The site is currently developed with six office buildings (building's 1, 3, 4, 6, 9 and 10) a Marriott Suites Hotel (2 Parkway North), and a child care facility and health club in a one story building (5 Parkway North). The annexation agreement sets out the development requirements for the Parkway North Center Planned Unit Development. These development requirements for the proposed office building will be analyzed in a section below.

The specific property to be developed lies in the northwest corner of the Parkway North Center. It is the vacant parcel on the west side of the retention pond, and also the existing one story building that contains the day care and the health club (known as Parkway North 5 building) adjacent to the signalized entrance at Saunders Road and Parkway North Boulevard. This existing building is proposed to be razed as part of the plans for the new office building parking lot in this area. The total acreage involved for the proposed 8 Parkway North office building development is 10.01 acres.

Proposed Plan

The petitioners are proposing to construct a five-story office building (known as Eight Parkway North) on the west side of the existing retention pond. The proposed office building will be 186,258 square feet in gross leasable area, and 200,970 square feet in gross buildable area. A total of 1,138 parking spaces will be provided for the office building in a landscaped parking lot (1,038 spaces), and in an underground parking garage below the building (100 spaces). The entrance to the underground parking garage will be via a ramp located on the north side of the building. A vehicle drop-off area will be provided at the west side of the building where the main entrance to the building is located. A patio will be provided on the east side of the building facing the existing pond. The refuse area and loading docks will be shared with the existing office building 9 in a depressed service area at the northeast corner of the proposed office

building. The building will be architecturally similar to the existing buildings in the Parkway north Center but at the same time will have its own unique characteristics. A further explanation of the proposed building is contained in the petitioner's project description. The petitioners have indicated that the development will conform to the LEED Silver Certification.

Final Development Plan

The petitioners are seeking approval of a Final Development Plan for the Eight Parkway North development. In 1997, the Parkway North Center development received approval of a Preliminary Development Plan for the buildings shown on the attached Preliminary Development along with final Development Plan approval for office building 6 (which has been constructed in 1998). Office building 9 has also been granted Final Development Plan approval in 1999 and is constructed. At the time of Preliminary Development Plan approval in 1997, the approved plans contemplated that the office buildings on the west side of the pond (buildings 7A and 7B on the attached Preliminary Development Plan) could be developed as two buildings, or become a larger combined building.

According to the Parkway North Center annexation agreement, the Preliminary Development Plan (which approved for the northwest corner of the Parkway North Center in 1997) is good for the life of the annexation agreement which is in effect until 2023. Because the Preliminary Development Plan has been previously approved, the petitioner is only seeking approval of the Final Development Plan. A Final Development Plan doesn't require a public hearing with certified mailings, but a public meeting with the Plan Commission is required for the Final Development Plan. According to the Parkway North Center annexation agreement, a Final Development Plan remains in effect for a period of two years before it expires.

In 2001, a Final Development Plan for a five story office building was previously approved on this site, but it was never constructed and the Final Development Plan for the office building expired.

Parkway North Center Annexation Agreement Compliance

The Parkway North Center annexation agreement, which controls the development of this property, sets out the parameters with which the proposed development must comply.

Building Height: The annexation agreement permits building heights up to 75 feet plus elevator equipment override not to exceed 4 feet and skylighting not to exceed 6 feet. The height of the building is 75 feet to the top of the parapet and 87 feet to the top of the screen wall. The Zoning Ordinance allows a mechanical appurtenances and parapet walls to be 12 foot above the maximum building height of 75 feet, therefore 87 feet to the top of the screen wall is allowed (75' + 12' = 87').

Setbacks: The Annexation Agreement calls for the setbacks to be 300 feet along Saunders Road and 250 feet along Deerfield Road, measured from the centerline of each road. The petitioner's plans show that the proposed office building far exceeds these requirements. The building will be approximately 420 feet from Saunders Road and far exceed the setback requirement from Deerfield Road (the adjacent existing office building 9 is closer to Deerfield Road).

Parking Setbacks: The annexation agreement allows parking within the setbacks along the northern, southern and western frontages of the property, except that at no time will parking be permitted with 100 feet of Deerfield Road and Saunders Road as measured from the centerline of these roads. The petitioner's plan meets this requirement.

Parking: The annexation agreement requires the petitioners to provide parking at 3.3 spaces per 1,000 square feet of gross leasable area (gla) with a condition that an additional .7 spaces per 1,000 square feet of gross building area (gba) will be landbanked. The landbanked spaces would need to be put in if required to meet future parking demands as reasonably determined by the Village. Until such as the additional parking is needed, the landbanked area is to remain landscaped. The proposed office building would require a total of 756 spaces based on the following:

186,258 gla x 3.3 / 1,000 = 614.65 spaces for the building
200,970 gba x .7 / 1,000 = 140.67 spaces to be landbanked
Total = 756 spaces required (614.65+ 140.67 = 755.32 = 756 spaces)

Gross leasable area (gla), as defined by the annexation agreement, is measured from the interior faces of the interior walls, excluding any area utilized for elevator shafts and stairwells; floor spaces and shafts used for mechanical, telephone and electrical equipment; space devoted to off street parking or loading facilities; entrance lobbies and atrium type areas; public washrooms; mechanical penthouses; interior balconies and mezzanines; and enclosed porches.

Gross buildable area (gba), as defined by the annexation agreement is measured from outside glass line to outside glass line, excluding atrium areas above grade or first floor and excluding the areas defined in Article 8, Section 8.02-D, 1a through c of the Village Zoning Ordinance.

The petitioner's will be providing a total of 1,138 parking spaces for the new office building (1038 spaces at grade and 100 spaces in the garage underneath the building) for the office building, which exceeds the requirements of the annexation agreement. Since the petitioners are parking at a ratio of 6 spaces per 1,000 square feet, landbanking will not be required.

A total of 23 handicapped parking spaces are required by code. The petitioners are providing 25 handicapped parking spaces.

Parking Stall Size and Aisle Width:

Under the annexation agreement, the size of the parking stalls was allowed to be reduced to 8 ½ feet in width by 18 feet in length. The petitioner's plans indicate that a 8 ½ foot wide by 18 foot long parking stall is provided.

Density: The total gross leasable area (as defined above) allowed by the sixth amendment to Annexation Agreement is 1,585,583 square feet. The data below details the square footage constructed at the Parkway North Center:

Constructed to Date:

Office Building 1 (5 stories)	226,996 gla
Marriott Suites Hotel (6 stories)	171,090 gla
Office Building 3 (5 stories)	216,973 gla
Office Building 4 (5 stories)	152,434 gla
Office Building 6 (4 stories)	92,439 gla
Office Building 9 (5 stories)	115,785 gla
Office Building 10 (3 stories)	93,027 gla
Day care and health club building	18,290 gla
Total Constructed GLA to Date	1,087,034 gla

The total with proposed gla for Parkway 8 is 186,258 gla, and the 18,290 gla day care and health club building will be razed, bringing the total square gla in the Parkway North Development to 1,255,002 gla.

Access

Access to the Parkway North Development is from an access point on Saunders Road, and an access point on Deerfield Road. On Saunders Road, there is an existing signalized access point at Saunders Road and Parkway North Boulevard, and a new unsignalized access point on Saunders Road that will be provided when the new office building is constructed. This new full access unsignalized access point has approved by Lake County Highway Department (who has jurisdiction over Saunders Road). On Deerfield Road and Parkway North Boulevard, a signalized access point currently exists which became operational about two months ago.

The petitioners conducted a parking study for the proposed development. Table 1 in the petitioner's traffic study indicates the projected daily trip generation for the new office building including the am and pm peak traffic hours. The petitioner's traffic report also provides data on the existing traffic volumes in figure 5, the new office traffic volumes in figure 7, the background traffic in figure 8, and the future traffic volumes including the new office building in figure 9. Figure 6 indicates the future lane configuration on the new drive coming off of Saunders Road as well as the existing access points. Table 3 provides the level of service (definitions provided in table 2) for the signalized intersections as a result of the office building and table 4 provides the level of service at the new unsignalized intersection off of Saunders Road. A new northbound right turn lane is not required on Saunders Road for the office building. The petitioner's traffic study also provided left turn queue analysis as shown in table 5. The traffic study recommends that the westbound left turn lane on Deerfield Road be restriped to its maximum storage length of approximately 325 feet and the taper mirror the eastbound left turn lane at Deerfield Road and the 1-94 Southbound on ramp signalized intersection. The traffic study indicates there are no queuing issues at the new unsignalized driveway on Saunders Road.

Signage

The signage follows the previously approved signage plan for the Parkway North Center. When a future tenant(s) is known for the building, the petitioners will come back for any additional signage that was not part of the previously approved sign plan for Parkway North Center (eg. tenant wall sign).

Landscape Plan

The petitioner's landscape plan shows the proposed landscaping in the new parking lot and around the building. The plan shows the type, location, and quantities of the proposed landscaping for the new five story office building. Pedestrian paths will be provided as shown on the plans. The existing screening on the Saunders Road will remain in place as shown on the plans.

Trash Area Screening

The Zoning Ordinance requires that all refuse areas be fully screened by a fence or landscaped screening of a height sufficient to screen the containers from view. The trash area will be shared with building 9 in the depressed service area on the west side of building 9.

Utilities

As part of the approval of the Parkway North Development, the Village approved an overall plan for the various utilities required for the development. These utilities included water and storm water detention. Water service will be provided by the Deerfield /Riverwoods water system. Sanitary sewer facilities are not provided by the Village, but will be provided by Lake County's Special Service Area #5. Storm water will be conveyed to the existing storm water detention pond which is also an amenity to the site.

Lighting/Photometrics Plan

The petitioners have submitted a lighting plan for the subject property. The proposed light fixtures are described in the petitioner's lighting fixture schedule and the locations of the light poles and lit bollards are shown on the photometric plan. The light poles will be 25 feet in height in the main parking lot, and 14 feet high along the new driveway to Saunders Road. Bollards will also be utilized at the front of the building and they will be 3'6" in height. The photometric plan shows that lighting will approach zero at the property lines and not spill onto adjacent properties.

Screening of HVAC Rooftop Equipment

The petitioner's plan indicates that the rooftop HVAC equipment /mechanicals will be screened with screened walls as shown on the petitioner's drawings.

Bike Facilities

The Zoning Ordinance requires that, where appropriate, all developments in the I-1 Office and Research District have to provide for bicycle storage, safe and smooth internal circulation, and connections to adjacent developments and bike paths. The petitioner's plans indicate they will provide bike racks at the front of the building as shown on the site plan for any employees that may wish to bike to work. A few years ago, Deerfield Road was designated a regional bike corridor by the Northwest Municipal Conference. In the last few years, an underpass was created for bikes and pedestrians to cross under the Tollway ramp on the north side of Deerfield Road in Riverwoods, and further west on Deerfield Road a new bike path and bridge over the Des Plaines River was created by Lake County. The north side of

Deerfield Road is part of Deerfield's bike route in the Village's Comprehensive Plan, and bikes (and pedestrians) can now easily cross Deerfield Road with the new traffic signal that became operational a couple of months ago at the intersection of Deerfield Road and Parkway North Boulevard.

Fire Department Approval

The Deerfield Bannockburn Fire Protection District has approved the site plan for emergency vehicle accessibility. The fire department letter indicates a 19'5" wide fire lane is provided, but the site plan shows that a 20 foot wide fire lane is provided.

CONCLUSIONS

The preliminary development plan for an office building on this site was approved many years ago and the Parkway North Center annexation agreement allows the preliminary development plan to be good for the life of the annexation agreement. The applicant is now coming back to the Village for approval of the final development plan for the proposed office building.

The Plan Commission has reviewed the final development plan for the property and they believe it is in keeping with the high quality development that the Village desires. The Plan Commission believes the proposed development is well planned and will be an asset to the Parkway North Center and to the Village as a whole. The Plan Commission believes the proposed office building is aesthetically pleasing, well landscaped, and is consistent with the high quality development in the Parkway North Center. The Plan Commission also likes the LEED features of the proposed office building. The proposed development meets all of the requirements of the Parkway North Center annexation agreement.

In order to help in attracting a build to suit tenant for the office building, the developer wants to keep the approval process as short as possible for the future tenant by obtaining much of the approval at this time. If changes are needed to the final development plan at a later date for the tenant signage or the site plan, etc., the petitioner will come back to the Village for these changes.

RECOMMENDATION

Accordingly, it is the recommendation of the Plan Commission that Quadrangle Development Company's request for approval of a Final Development Plan for approval of an office building, known as Eight Parkway North, be approved.

Ayes: (6) Benton, Berg, Bromberg, Jacoby, Shayman, Oppenheim

Nays: (0) None

Respectfully submitted,
Mary Oppenheim, Chairperson
Deerfield Plan Commission

PLAN COMMISSION
VILLAGE OF DEERFIELD

The Plan Commission of the Village of Deerfield held a Workshop Meeting at 7:30 P.M. on March 24, 2016 at the Village Hall, 850 Waukegan Road, Deerfield, Illinois.

Present were: Mary Oppenheim, Chairperson
Bob Benton
Larry Berg
Al Bromberg
Elaine Jacoby
Stuart Shayman

Absent: Jim Moyer

Also present: Jeff Ryckaert, Principal Planner
Dan Nakahara, Associate Planner

Public Comment on a Non-Agenda Item

~~Andrew Marwick, 442 Kelburn Road, voiced his concern about the former Wonder store space parking garage being filled in the Deerbrook Shopping Center. Mr. Marwick commented that the former Wonder space would be a very good resource for a potential grocery store; and that a Fry's Signature Marketplace Grocery Store (a popular grocery store chain of the Kroger Company in Arizona) would be a good fit for the location. He also pointed out that there is a huge advantage in being able to walk from a heated garage right into the store to shop for your groceries especially in the cold weather. Mr. Marwick stated that the Kroger Company is a much larger grocery competitor than grocery stores currently in the area (such as Jewel); and expressed his support for a Kroger Grocery Store coming into that location in the Deerbrook Shopping Center. Mr. Marwick commented that a Costco or Sam's Club in that location may bring in a lot more sales tax revenue, but he is not convinced that a warehouse club store would be very beneficial to the Deerfield area.~~

- (1) Request for Approval of a Final Development Plan for 8 Parkway North in the Parkway North Center on Site 5 & Site 8 (Parkway North Center and Quadrangle)

Mr. Tim Sweeney, Principal, Quadrangle Development Company, introduced the members of the development team for the 8 and 5 Parkway North sites: Christopher Noon, President of Quadrangle; Stephen Wright, Principal with Wright Heerema

Architects; Patrick Kennedy, Executive Vice President with V3 Companies; and Kevin Clark, Associate Principal with The Lakota Group.

Mr. Sweeney explained that the size and overall design of the Final Development Plan for 8 Parkway North had not changed since the petitioners last meeting with the Plan Commission on February 25th, 2016 and they felt that they succeeded in addressing the comments from the Commission, staff, Engineering Department and the Fire Protection District. Mr. Sweeney pointed out that their submission materials included a letter from the Fire Protection District with two recommendations in regards to the design of the development site. He confirmed that the design on the Final Development Plan incorporated the Fire Protection Districts' design recommendations. Mr. Sweeney reiterated that they are in conformance with all the necessary requirements; and that they are not requesting any variances.

Commissioner Bromberg asked for confirmation that the petitioners are not planning on starting construction until they secure a tenant. Mr. Sweeney confirmed that was correct. He explained that the reason they are going through the approval process for the Final Development Plan for 8 Parkway North now, even though a tenant for the property is not secured, and a construction schedule is not planned, was to truncate the development schedule. Chairperson Oppenheim pointed out that Quadrangle's development schedule for the 8 Parkway North site was in their submission packet. Mr. Sweeney confirmed, and stated that the development schedule was around 18 months, and explained that if they hadn't taken preliminary steps and gone through the approval process now, then the development schedule could take up to 24 months. The petitioners are confident that by going through the approval process now and therefore expediting the development schedule from 24 to 18 months, the shortened development schedule would be more appealing to potential tenants.

Chairperson Oppenheim asked for confirmation that there have been no other changes in terms of the traffic or any other information from Lake County in regards to the road ways. Mr. Sweeney confirmed that there were no changes in regards to the traffic and road ways. He also commented that the Plan Commission had requested that the petitioners bring to the meeting some building materials representative of the façade, and introduced Steven Wright, to present the material samples. Mr. Wright commented that the petitioner's goal was to match the precast on the adjacent buildings. The glass for the proposed 8 Parkway North building is a light grey (slightly lighter than the other buildings in the Parkway North Center). He noted that the performance of the new generation glass is a great deal better than materials previously used in the past. Mr. Wright commented that the indoor lighting actually gives the glass a darker appearance, but in the natural light it's actually a little more transparent. The new generation glass gives the building a little crisper and lighter look, so there is a slight difference in comparison to the other Parkway North Center buildings. Chairperson Oppenheim commented that the petitioner's intent all along has been to coordinate the 8 Parkway North building with the other buildings in the Parkway North Center.

Chairperson Oppenheim commended the petitioners for their very detailed and very thorough submittal. Chairperson Oppenheim reiterated that the Preliminary Development Plan was previously approved many years ago, and they are seeking approval of their Final Development Plan.

Commissioner Benton motioned to approve the request for approval of a Final Development Plan for 8 Parkway North in the Parkway North Center on Site 5 & Site 8. Commissioner Berg seconded the motion. The vote was as follows:

Ayes: (6) Benton, Berg, Bromberg, Jacoby, Shayman, Oppenheim

Nays: (0) None

The motion passed and will be on the April 18th Village Board of Trustees Meeting agenda.

~~(2) Prefiling Conference: Request for a Special Use for a Portillo's Restaurant with Drive Thru at 700 Lake Cook Road (former On the Border Restaurant)~~

~~Dan Uebelhor, Project Manager, InSite Real Estate, identified InSite Real Estate as the acting petitioners on behalf of the Portillo Restaurant Group. Mr. Uebelhor introduced the members of the development team for the Portillo's Restaurant at 700 Lake Cook Road: Eric Pedersen, Project Management Director with InSite Real Estate; Michael Weber, Site Planner with InSite Real Estate; Shawn Benson, Civil Engineer with Wight & Co.; Jarrett Jensen, President of Jensen & Jensen Architects & Engineers; Sherri Abruscato, Chief Operating Officer with the Portillo Restaurant Group; Eric Russell, Principal with KLOA, Inc.; and, Rob Whitehead, Co-owner of Olympic Signs.~~

~~Mr. Uebelhor gave a general project overview: the lot size is approximately 2.3 acres; the zoning is the C-2 Outlying Commercial District; the formal request is for a Special Use approval for a Portillo's Restaurant, and to allow for a drive thru. The proposed building footprint is about 9,258 square feet on the ground level with a 1,500 square foot mezzanine level for an extended kitchen, storage and mechanical area, for a total area of 10,772 square feet with a total of 124 parking spaces exceeding the 117 required parking spaces. The proposed site plan has the following boundaries: Estate Drive to the north; Lake Cook Road to the south; and direct access to Deer Lake Road to the east. The proposed restaurant is consistent with the commercial and restaurant context within which it's located in the C-2 Outlying Commercial District. The building currently residing on the 700 Lake Cook Road property (the former On the Border Restaurant) will be demolished, and the new Portillo's Restaurant building will be built over that area.~~

~~Mr. Uebelhor explained that traffic patterns within the existing site have not drastically changed. The site will maintain the existing ingress and egress. Internal pedestrian circulation is being supplemented with crosswalks and sidewalks which lead to adjacent parking lots and businesses. And careful consideration has been given to the drive thru~~

out that there is no wording on the awning and different colored awnings are allowed in the Village.

Chairperson Oppenheim expressed her support of sending a recommendation to the Board of Trustees where both the Plan Commission, as well as the Appearance Review Commission's recommendations would be considered in the Board's final decision.

Commissioner Jacoby moved to approve the request for a Class B Special Use for ROTI Modern Mediterranean restaurant located in the 720 Waukegan Road, Unit C at the Shops at Deerfield Square. Commissioner Bromberg seconded the motion. The vote was as follows:

Ayes: (6) Benton, Berg, Bromberg, Jacoby, Moyer, Oppenheim
Nays: (0) None

The motions passed and will be on the March 7th Village Board of Trustees Meeting agenda.

(2) Prefiling Conference: Request for Approval of a Final Development Plan for 8 Parkway North in the Parkway North Center on Site 5 & Site 8 (Parkway North Center and Quadrangle)

Mr. Tim Sweeney, Principal, Quadrangle Development Company, stated that Quadrangle is the developer for sites 8 and 5 Parkway North in the Parkway North Office Center and introduced the members of their development team: Christopher Noon, President of Quadrangle, Stephen Wright, Principal with Wright Heerema Architects, Patrick Kennedy, Executive Vice President with V3 Companies, Peter Reinhofer, Transportation Engineering with V3 Companies and Kevin Clark, Associate Principal with The Lakota Group.

Mr. Sweeney stated that Quadrangle purchased site 5 and 8 in 2015 from the John Buck Company and the combined parcels make up the development site for 8 Parkway North. He commented that their site is one of the two last development sites for the Parkway North Center (the other development site being Site 7). Quadrangle purchased the 8 Parkway North property with a plan to develop the site into a build-to-suit office building for a single tenant. Mr. Sweeney noted that they are not seeking any variances and to the best of their knowledge the plans are in conformance with all regulating documents, including the Annexation Agreement, the Approved Park Preliminary Development Plans, the Declaration of Protective Covenants, and the Village Code when applicable.

To make the project more attractive to a build-to suit tenant, the development team has taken many steps to make the site less daunting and more attractive to potential tenants. He noted that all necessary agreements for access, utilities and shared improvements were fully executed and recorded with the adjacent property owners, and

the Park Associations Architectural Review Committee has reviewed their Development Plan for 8 Parkway North. Mr. Sweeney noted that the Lake County Department of Transportation has approved a full access driveway on Saunders Road subject to the Village's approval of their Final Development Plan.

Stephen Wright, Principal, Wright Heerema Architects, stated that they have been working in the Parkway North Center for many years; developing the architecture and building site plans for the 4, 9 and 10 Parkway North buildings. He noted that the goal of the Final Development Plan for 8 Parkway North was to create a structure and site plan that fit into the Parkway North Center, and keep consistent with the look of the surrounding Parkway North buildings and properties. He commented that while the Parkway North buildings differ slightly, there is a certain continuity to the Parkway North Center. The 8 Parkway North building was designed to keep with the overall look of the Parkway North Center, while recognizing and embracing subtle modern stylistic changes, as the building is slightly lighter in its rendition, but still keeps the same coloration, same feel, and same kind of geometry that characterizes and unifies the Parkway North Center. The 8 Parkway North site fits into the west side of the pond where, like the rest of the buildings around the pond, it is oriented to take advantage of the ambiance of the area.

The 8 Parkway North site is adjacent to 9 Parkway North with a connected parking area, which is to remain the same, as the depressed service court is shared between Site 8 and Site 9. The parking area allows the ring road to continue along the west side of the property. The ring road comes from 9 Parkway North and goes across in front of the proposed 8 Parkway North office building, and continues out to Parkway North Boulevard.

The petitioner noted that the 5 Parkway North building, currently a fitness and day care center, is included in the Final Development Plan for 8 Parkway North. The Final Development Plan includes the demolition of the 5 Parkway North building and replaced with a surface parking lot. They feel that modern corporations have a greater demand for parking. They are also proposing to have an underground parking garage. The parking study for the 8 Parkway North Final Development Plans indicates that parking for the building will exceed the parking requirements for the site.

Mr. Wright reiterated that the Lake County Department of Transportation approved a full access driveway on Saunders Road subject to the Village's approval of their Final Development Plan, adding the new access drive will provide relief to the traffic flow on the ring road. Chairperson Mary Oppenheim inquired if the Saunders Road Access would be an un-signalized driveway. Mr. Wright confirmed the access drive will not be signalized.

Mr. Wright pointed out the 7 Parkway North site (the other remaining development site for the Parkway North Center) is directly adjacent to the south of their proposed development site and indicated that their development team is working directly with the

developers for the 7 Parkway North site throughout the development process as necessary.

Mr. Wright reiterated that their proposed Final Development Plan would be keeping with the feel of the Parkway North Center, but expressing it in a more contemporary way. The 8 Parkway North building would resemble the color scheme of the other Parkway North buildings with the lighter colored precast and glass. However, the building would have a more modern tone with an open look and feel, in order to give a sense of transparency. The west elevation entry will have a little more glass, and a vertical pylon to give character to the front entrance.

The proposed 8 Parkway North building will take advantage of the pond side with a patio that extends from the building and approaches the pond coordinating with the path that goes around the pond. On the north side of the building is a depressed loading area where the transformers and other mechanical equipment are hidden out of sight. The underground parking garage with 100 parking spaces will be accessed by a ramp that comes off of the north side of the building down to the lower level. The lobby at the front entrance on the west flows through to the patio towards the pond. The floors are designed to be open and flexible for prospective tenants. The building's precast material and the glass will be similar to the other Parkway North buildings; however, the colors are going to be a little lighter, and the glass is of a more sophisticated, higher performance material. Overall these changes would be subtle. The petitioner is excited to be taking actions to complete one of the two final development sites for the Parkway North Center.

Chairperson Oppenheim asked if the development team would divide the building to accommodate multiple tenants if a single tenant was not interested in occupying the entire building. Mr. Sweeney indicated they are open to dividing the space, but are confident that in a year's time they would be able to find a single user considering all of the large corporations that reside in the area.

Patrick Kennedy, Executive Vice President of V3 Companies, explained that V3 Companies have served as the civil engineers on various project in the Parkway North Center since it was annexed in the 80's. He also noted that V3 Companies have been a part of the planning process in the 90s at which time the current look of the Parkway North Center property was developed. Mr. Kennedy noted that the grading plan for the subject site will flow to the pond, and the over flow route will go around the south end of the building and into the pond; following the original development plan. The 8 Parkway North building would be connecting to the water main as well as the sanitary sewer that serves the Parkway North Center. Mr. Kennedy commented that 5 Parkway North was not originally included in the calculations for the detention facility during the original plan for the Parkway North Center. There may be a need for additional detention after the 5 Parkway North building is replaced by a parking lot (creating impervious surface). Chairperson Oppenheim asked if the existing detention was sufficient to accept the amount of paving and building that is being proposed in their Final Development Plan.

Mr. Kennedy confirmed, and added that the Final Development Plan is following the original engineering plan.

Kevin Clark, Associate Principal and landscape architect, Lakota Group, stated that the Lakota Group has been involved in creating the landscape architecture in the Parkway North Center since the beginning of the project. Mr. Clark identified that the Lakota Group's goal is to maintain a high quality appearance that is associated with the park, as well as create circulation with the 8 Parkway North site and the entirety of the Parkway North Center. The landscape architecture plan for the 8 Parkway North site, includes: reinforcing the main entrance with shade trees, placing a number of trees in the islands and drive aisles throughout the parking lot, in order to ensure that it's not one giant mass of asphalt, modifying the landscape at the new curb cut at Saunders Road, incorporating a landscape base that softens and compliments the building architecture, providing a base of evergreens and shrubs to liven the property with the green color year round, and providing year round interest with perennials.

Mr. Clark mentioned that the Lakota Group has had some discussions and shared plans with the development team for the 7 Parkway North site. The development teams want to create a transition and flow among the properties. Mr. Clark stated that the landscape plan emphasizes creating an aesthetically pleasing environment around the common areas, the patio and the walkways. The landscape plan itself is an evolving process, and the petitioner's objective is to enrich the property with species that are durable and longer lasting. Mr. Clark acknowledged that a number of trees are going to be removed during the demolition and construction of the parking lot on the 5 Parkway North site, and pointed out that the landscape plan will add more trees to the property.

Peter Reinhofer, transportation engineering, V3 Companies, conducted a traffic study with an assumed opening year of 2018. Mr. Reinhofer reiterated that the Final Development Plan is proposing a new full access un-signalized driveway on Saunders Road just north of the Parkway North intersection. The driveway was planned during the preliminary process at the time that the Parkway North Center was first conceived; Lake County Department of Transportation is in agreement with this access driveway, following a final review of the traffic study, and the Village's approval of the Final Development Plan. The County required the traffic study to include a right turn lane warranted analysis for the proposed new un-signalized driveway on Saunders Road. Based on the projections of Saunders Road traffic, as well as the 8 Parkway North site traffic, the study concluded that a right turn lane is not warranted for the proposed Saunders Road drive.

The traffic study projected the 2023 future traffic flow at the two signalized intersections for the Parkway North Center and no major traffic issues are projected. Mr. Reinhofer noted one concern that materialized through the study was the storage for the westbound left turn lane on Deerfield Road. Currently, there is a lot of traffic that enters the Parkway North Center in the morning, with a fair amount of vehicles that make a left turn into the Park from Deerfield Road. The traffic study added in the traffic from the 8

Parkway North site, as well as the other remaining development site (7 Parkway North), and determined that the queue line for the left turn lane is projected to be long.

Mr. Reinhofer commented that the County required the traffic study to use a very high growth rate with the Deerfield Road traffic, which was not the case for the traffic study performed for the apartment complex to the west of the 8 Parkway North site (Woodview Apartments). Mr. Reinhofer emphasized that the projection for a long queue line in the westbound left turn lane on Deerfield Road is based on a very high growth rate, and that the development team was in negotiations with the County on the best solution. They suggested solution to the County was to restripe the westbound left turn lane in order to accommodate the longer queue lines in the future.

Commissioner Benton asked how the current Pace bus routes would accommodate the new 8 Parkway North building. Mr. Reinhofer commented that there are currently two bus routes that travel through the Parkway North Center: One route travels up through the Marriott site, and continues onto Parkway North, and exits onto Deerfield Road and the other route travels along Deerfield Road. There is also a current bus station at the driveway of the 5 Parkway North site. He noted that the standard for the Pace bus routes in the Parkway North Center is to stop wherever a passenger needs to get off. Mr. Reinhofer added that current Parkway North bus stations are a short walk to all of the Parkway North buildings, and that the Pace bus service is a great asset for potential business professionals working in the new 8 Parkway North building. Commissioner Benton commented that the bus station(s) should be within a reasonable proximity to the buildings to make work commutes easier (especially during the winter). Mr. Reinhofer assured the Plan Commission that they would be coordinated with Pace on determining the best bus route for the new 8 Parkway North building.

Commissioner Bromberg asked if there is a need for a traffic officer or if one is anticipated at the un-signalized intersection. Mr. Reinhofer commented that although there's a decent amount of volume in that area, Saunders Road is not heavily trafficked, and therefore, a traffic officer would not be needed to direct traffic.

Chairperson Oppenheim commented that the traffic study would need to make a projection based on the Woodview Apartments full occupancy. During the traffic study for the Woodview Apartments there was some anticipation that residents would not only exit onto Deerfield Road, but would also take the southern route and exit onto Saunders Road. Mr. Reinhofer commented that he had counted the intersections during the 2013 Woodview Apartments traffic study, and recently recounted the same intersections in January 2016 to capture the traffic that was being generated by those same intersections. Chairperson Oppenheim pointed out that some of the pressure from the westbound left turn lane on Deerfield Road comes from the Woodview Apartments, which was not initially anticipated during the preliminary development plan of the Parkway North Center.

Mr. Sweeney stated that the parking study was conservative in that the counts for the 5 Parkway North building remained in the study despite the fact that the building would be removed per the Final Development Plan of the 8 Parkway North site.

Chairperson Oppenheim thanked the Petitioners for giving the Plan Commission a very complete packet with their proposed Final Development Plan. Chairperson Oppenheim clarified for the record that the Preliminary Development Plan was previously approved during the initial development of the Parkway North Center, and that the proposed Final Development Plan was primarily staying within the parameters of the previously approved Preliminary Plans. The next step in the process is for the Petitioners to return to the Plan Commission for a final workshop meeting to ask for the Commission's favorable recommendation for the Final Development Plan for the 8 Parkway North site.

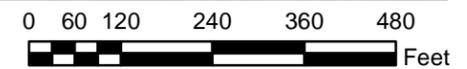
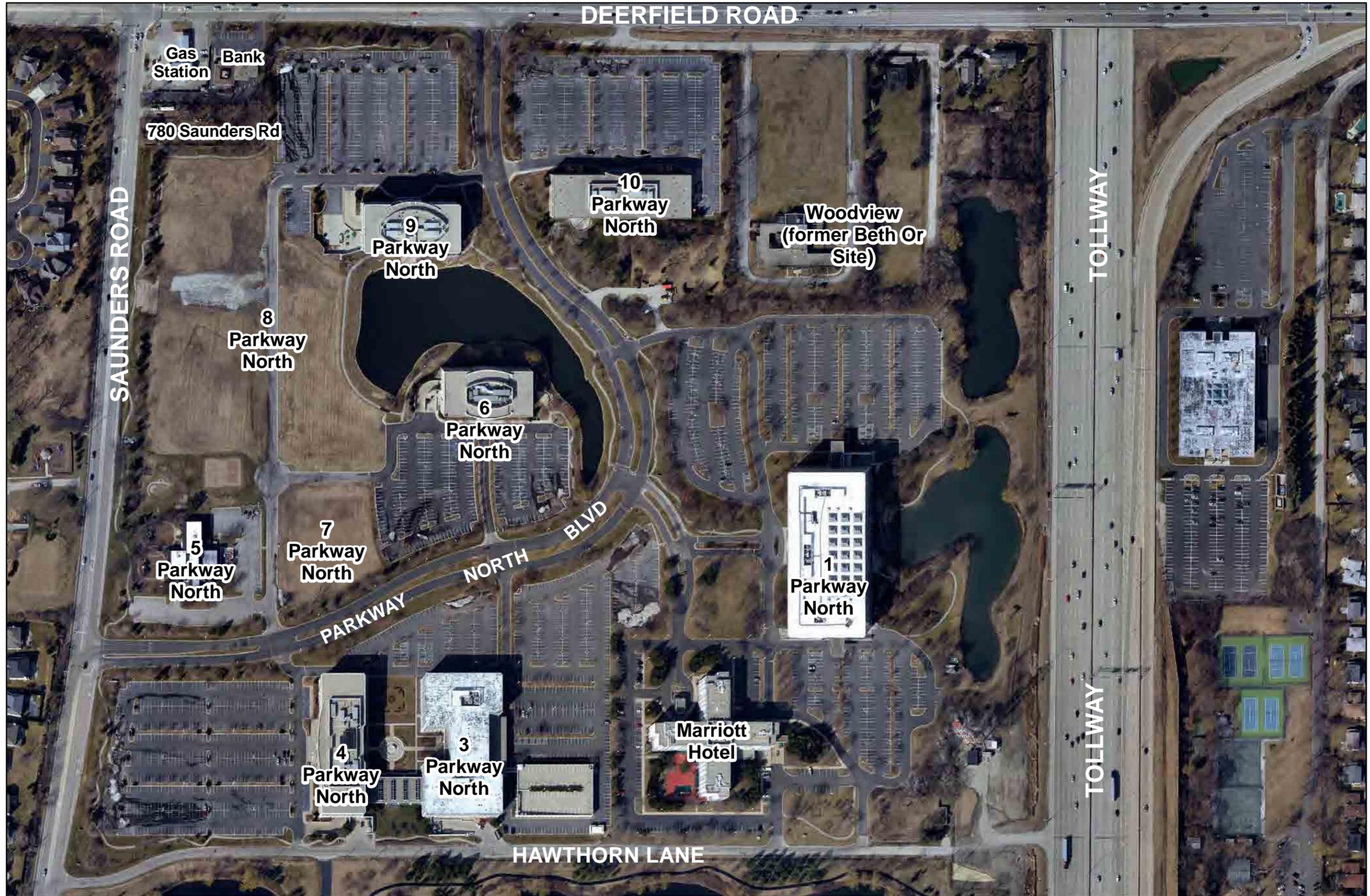
~~(3) Prefiling Conference: Request for Approval of a Final Development Plan for 7 Parkway North in the Parkway North Center on Site 7 (Parkway North Center and American Board of Psychiatry and Neurology)~~

~~Donna Pugh, Attorney, Foley & Lardner LLP, identified the American Board of Psychiatry and Neurology (ABPN) as the owner of the 7 Parkway North site; and introduced: Dr. Larry Faulkner, President and CEO of ABPN; Julia Randles, Preconstruction Manager at Berglund Construction; Jerry Walleck, Principal at Perkins Eastman; Nate Koschmann, Senior Associate at Perkins Eastman; Ted Wolff, Landscape Architect at Wolff Landscape Architecture; Steve Corcoran, Director of Traffic Engineering at Eriksson Engineering Associates LTD; and, Mike Renner, Principal and Vice President of Eriksson Engineering Associates LTD.~~

~~ABPN has been the owner of the 7 Parkway North site for over 2 years, and has looked forward to the development of the property for a long time. ABPN was founded in 1934, and serves the public interest by promoting excellence in the professions of psychiatry and neurology through certification and maintenance of the certification process. The Final Development Plan for the 7 Parkway North site includes a 41,000 square foot office building with 58 parking spaces (40 of which are underground parking spaces). The petitioners worked very closely with the neighboring properties on the relocation of easements, as well as accesses to and from the property. Ms. Pugh stated that they have received a tentative approval of the design for the Final Development Plan for the 7 Parkway North site from the Parkway North Center Association with two conditions: 1.) Must ultimately reach an agreement with the other Parkway North property owners on the relocations of easements; and, 2.) Reach an agreement, and provide proper documentation of the relocation of the utilities. She presented the tentative approval letter to the Plan Commission.~~

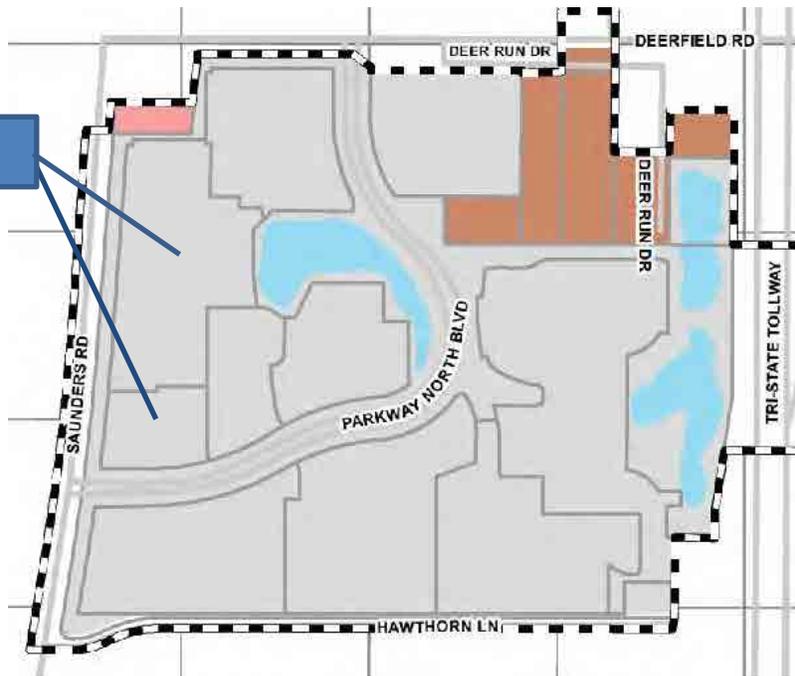
The petitioners are seeking: 1.) Approval of the Final Development Plan for the 7 Parkway North site; and, 2.) Approval to landbank much of the required parking for their proposed office building. Ms. Pugh explained that the ABPN's use of the building would

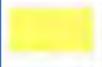
Parkway North Center



Village of Deerfield 2016 Zoning Ordinance Map

Subject Property



	R-1	SINGLE FAMILY DISTRICT ONE FAMILY DWELLINGS AND ACCESSORY USES
	R-2	SINGLE FAMILY DISTRICT SAME AS R1
	R-3	SINGLE FAMILY DISTRICT SAME AS R1
	R-4	SINGLE & TWO FAMILY ONE FAMILY & TWO FAMILY DWELLINGS & ACCESSORY USES
	R-5	GENERAL RESIDENCE ONE FAMILY & TWO FAMILY DWELLINGS & ACCESSORY USES
	C-1	VILLAGE CENTER
	C-2	OUTLYING COMMERICAL
	C-3	LIMITED COMMERICAL OFFICE
	I-1	OFFICE, RESEARCH, RESTRICTED INDUSTRY
	I-2	LIMITED INDUSTRIAL
	P-1	PUBLIC LANDS SCHOOLS, PARKS, PUBLIC BUILDINGS & CEMETERIES

Eight & Five Parkway North
Parkway North Office Center
Village of Deerfield, Illinois
March 24, 2016

Eight and Five Parkway North are the last two speculative development sites in the Parkway North Office Center. They were acquired from an entity of the John Buck Company in October of 2015. The property is being designed for a build-to-suit tenant of approximately 190,700 RSF (per Annexation Agreement, GBA of 200,970 SF and GLA of 186,258 SF) with up to 6.0 / 1,000 SF parking. This design is detailed in this submittal. (Physically, the property can accommodate up to approximately 250,000 GSF with the required parking.) In order to aid in attracting a build-to-suit tenant, our goal is to shorten the development / construction schedule by addressing as many up front development tasks as possible, thereby making it less daunting and more acceptable to a potential tenant. To that end, we are now seeking Plan Approval from the Village.

Similarly, prior to this submittal, all agreements regarding access, utilities and shared improvements for this development have been fully executed with the necessary adjoining property owners and recorded. The plans submitted with this package have been reviewed and approved by the Park Association's Architectural Review Committee. The Lake County Department of Transportation has approved a new, full curb cut on Saunders Road, subject to the review and approval of construction drawings.

Since the submitted plans are in conformance with all regulating documents, including the Annexation Agreement and related approved Park Preliminary Development Plans, the Declaration of Protective Covenants, and the Village code (when applicable), no variances are being sought.

Project Description:

While comprising both Five Parkway and Eight Parkway sites, the building will be addressed as Eight Parkway North. The building is located along the east side of Saunders Road and overlooks the primary Park detention pond. The building will be five (5) stories plus a lower level parking garage. To address the needs of the current office tenant, the design includes modern office attributes: ceiling heights will be 12' on the first floor and 10' on all upper floors (the overall building to top of parapet wall is 75' or less in height); the facade will comprise ribbon windows that are 10' in height with precast spandrels; and the parking will allow for a ratio of up to six (6) parking spaces per 1,000 RSF. Project landscaping will be consistent with the initial scope of other developments in the park and the loading and trash/recycling areas will be located in an existing, shielded service court, shared with the Nine Parkway Building. Project signage will be addressed under a separate submittal, when a build-to-suit tenant is determined.

Sustainability Measures:

Quadrangle Development Company is committed to utilizing sustainability measures in the realization of this project. The design of the building will conform to a LEED Silver certification standard. A number of building design and operation features arise out of the sustainability program. HVAC, lighting and other building systems will meet energy efficiency standards. The building envelope will support energy efficiency and tenant comfort levels, as well. Water use will be reduced by using more efficient fixtures and controls. Roof materials will be Energy Star compliant and highly emissive. Low VOC (Volatile Organic Compound) emitting materials (adhesives, sealants, paints, carpets, composite products, etc.) will be specified for construction. Some of the most externally visible aspects of the sustainability program are the development of site lighting sensitively designed to limit light trespass and the inclusion of open space with water efficient landscaping, utilizing native plants and others. Use of alternative transportation is encouraged by the provision of bike racks and preferred parking for car pool users. Parkway North Center also has on campus PACE bus stops which are used by many park tenants currently, and will be utilized by the tenants of the new Eight Parkway North facilities.

Development Team:

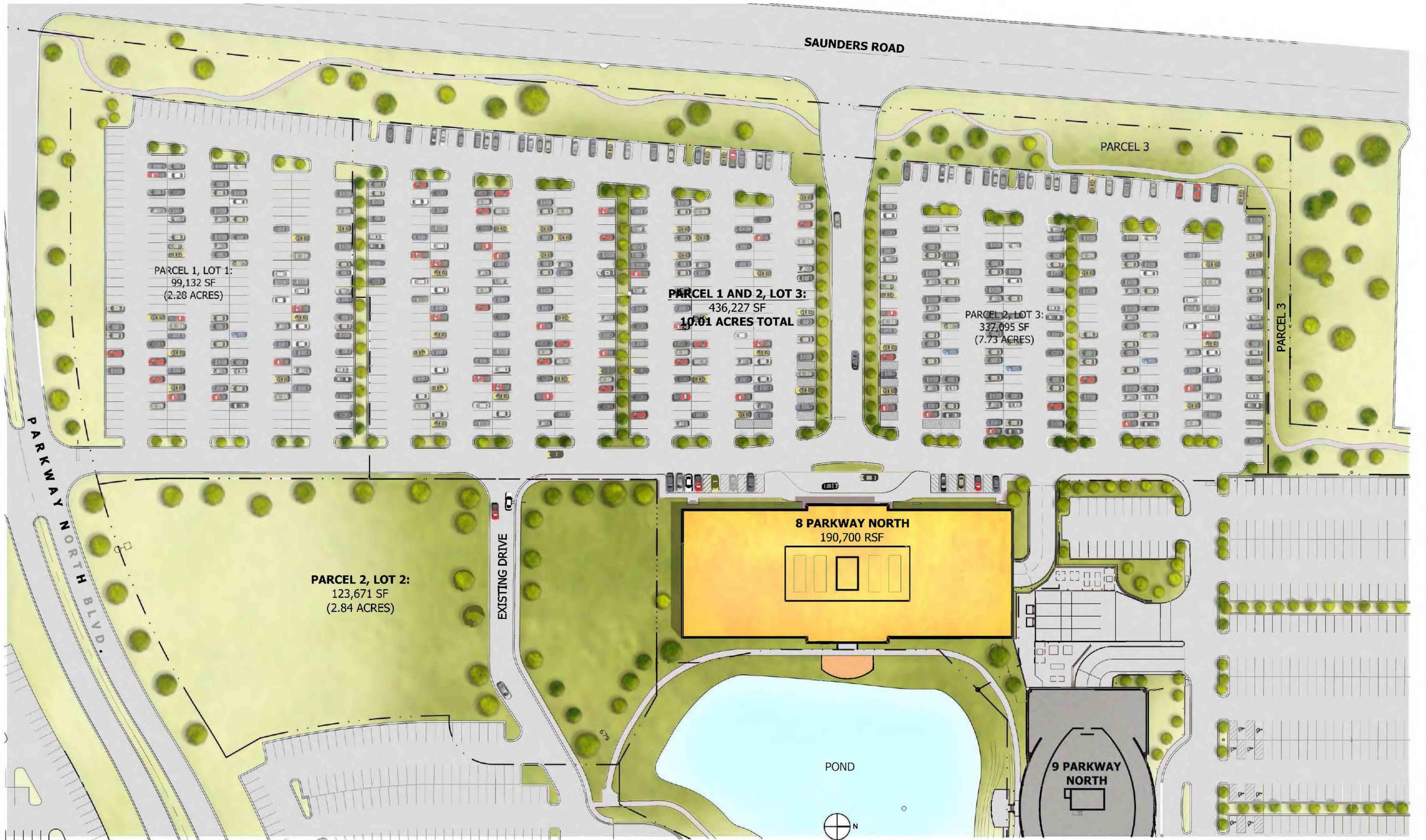
The development team is headed by Quadrangle Development Company, a Deerfield-based company and the original developer of the 1650 Lake Cook Road building in the Village. To insure the quality of the development and its conformance with the Village's and Park's requirements / standards, Quadrangle has assembled a team of designers and engineers who are all responsible for many of the buildings in Parkway North Office Center. The architect is Wright Heerema Architects; the civil engineer is the V3 Companies; and the landscape architect is The Lakota Group.

Provided Materials List:

The following materials have been included with this submittal:

- Building Elevations (West, East, South, North)
- Floor Plans (Lower Level Garage, First Floor, Typical)
- Site Plan (colored, full size plan included)
- Site Plan (black & white, with Information Summary)
- Detailed Elevations (North and East, South and West)
- Building Wall Sections
- Roof Screen Detail
- Bike Rack Specification
- Civil (C1.0) – Schematic Layout and Dimension Plan (full size plan included)
- Civil (C2.0) – Schematic Grading Plan (full size plan included)
- Civil (C3.0) – Schematic Utility Plan (full size plan included)

- Site Lighting Plan (E1) - Electrical Site Plan
- Site Lighting Plan (E2) - Photometric Site Plan
- Site Lighting Plan (E3) - Construction Details
- Open Space Calculations and Summary
- Landscape Plan 2 pages
- Plant Palette
- Tree Preservation Plan
- Construction Schedule
- Fire District Site Plan Review Letter
- Traffic Impact Study



SITE PLAN - 8 PARKWAY NORTH

Scale: 1"=40'-0"

MARCH 10, 2016



SOUTH EAST VIEW

FEBRUARY 12, 2016



NORTH WEST VIEW

FEBRUARY 12, 2016



SOUTH ELEVATION

Scale: 1/16"=1'-0"



WEST ELEVATION

Scale: 1/16"=1'-0"

FEBRUARY 12, 2016



NORTH ELEVATION

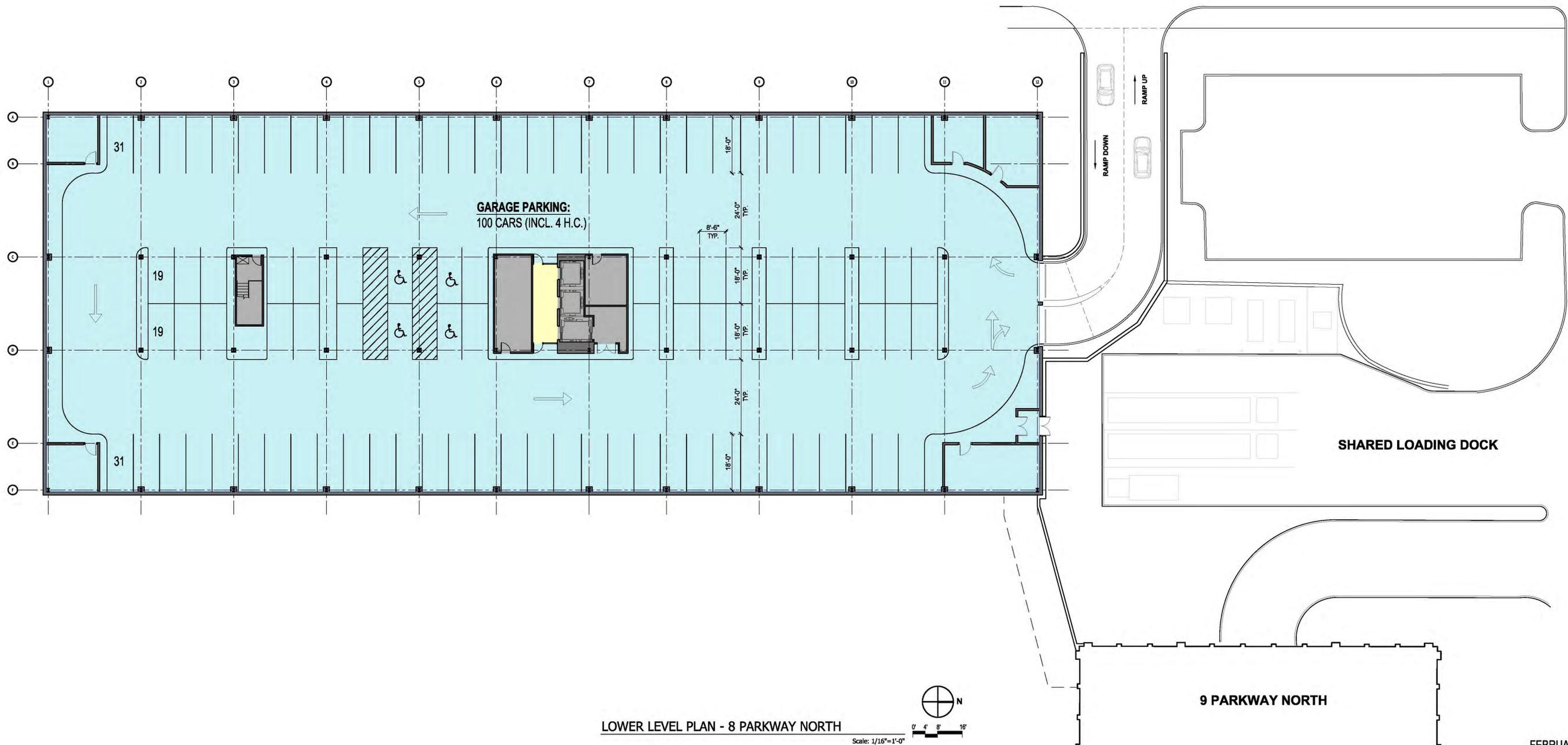
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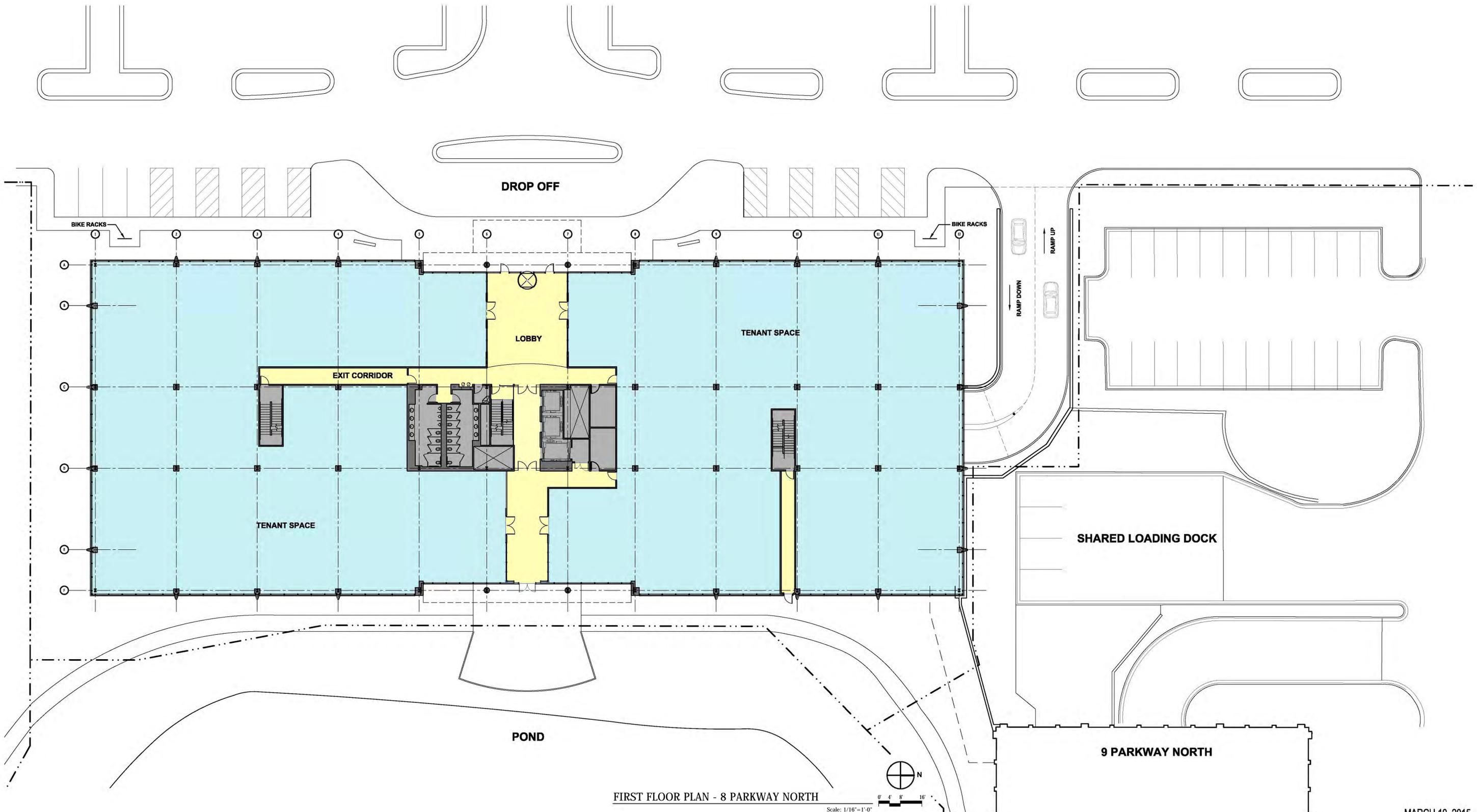
EAST ELEVATION

Scale: 1/16"=1'-0"

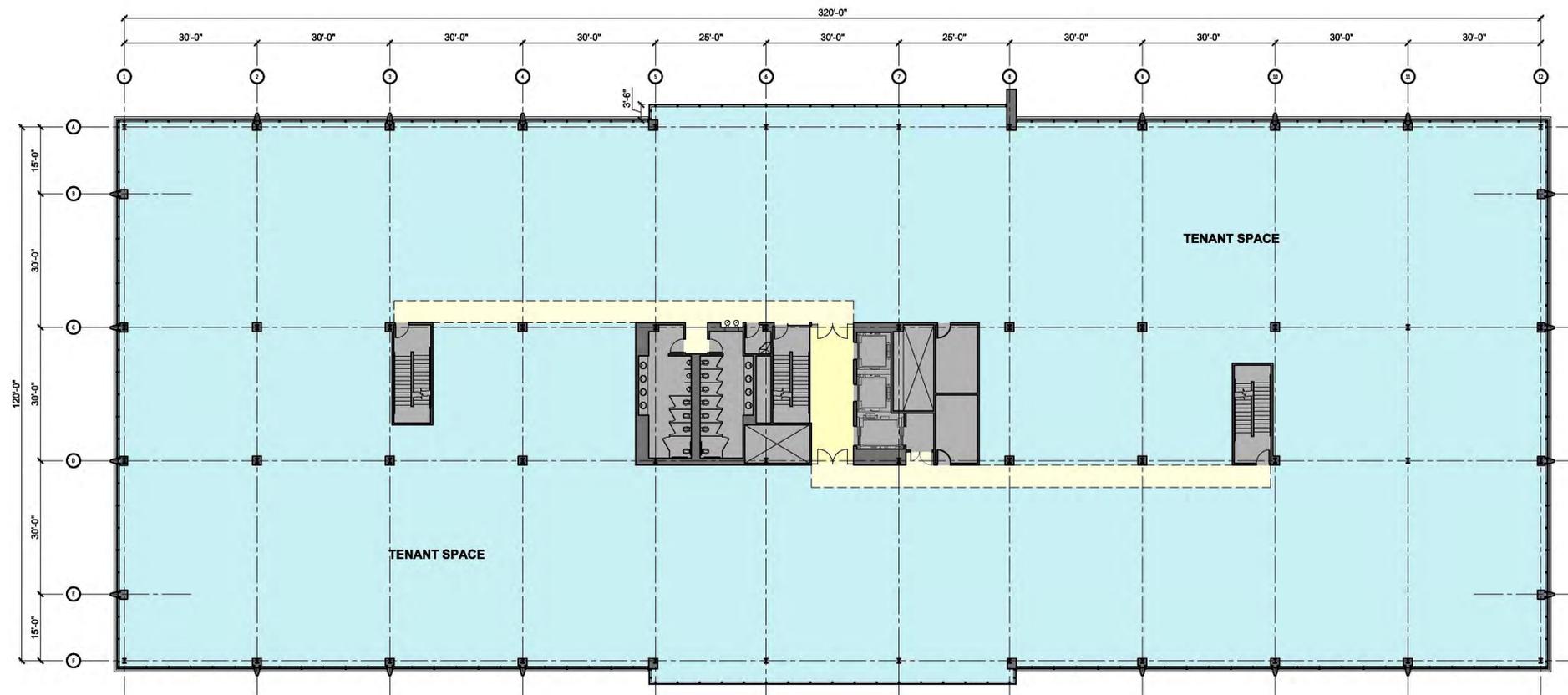
FEBRUARY 12, 2016



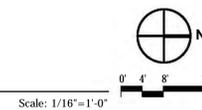
FEBRUARY 12, 2015



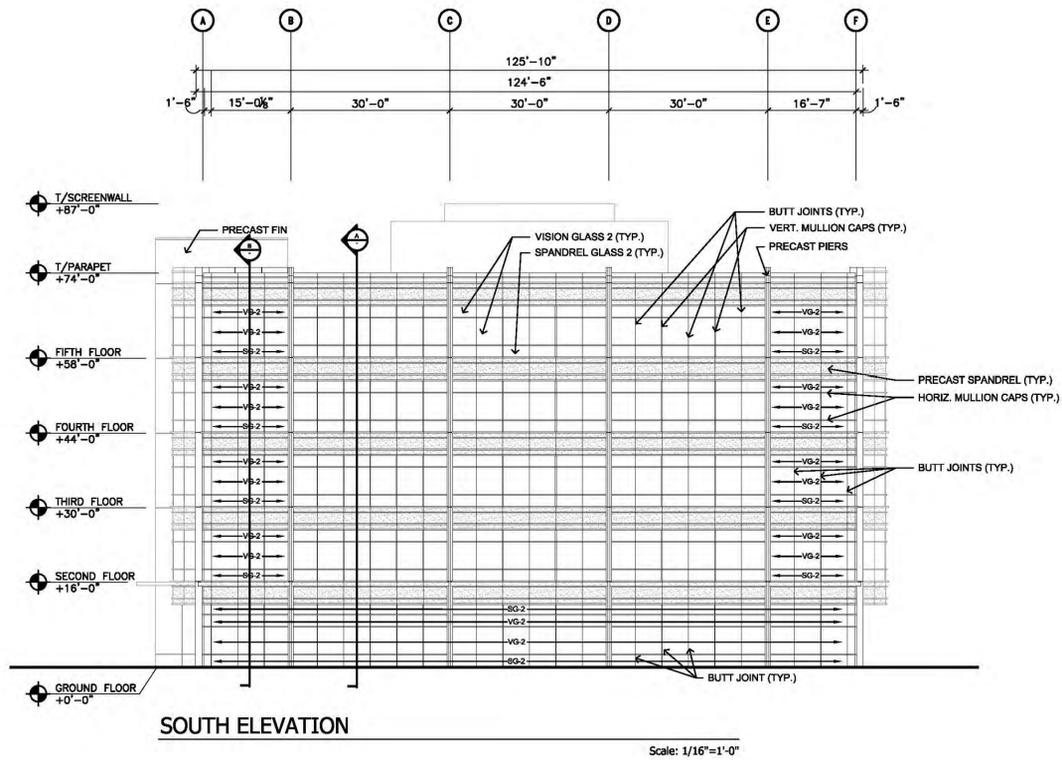
MARCH 10, 2015



TYPICAL FLOOR PLAN - 8 PARKWAY NORTH

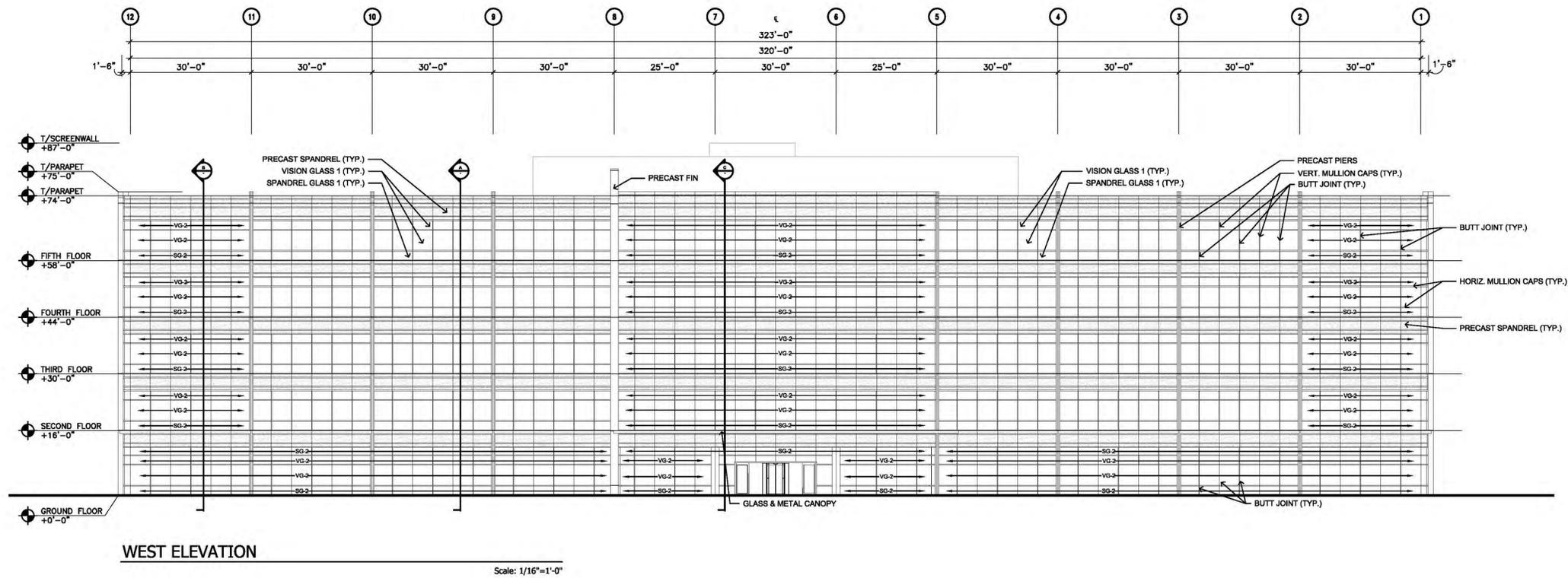


FEBRUARY 12, 2015



SOUTH ELEVATION

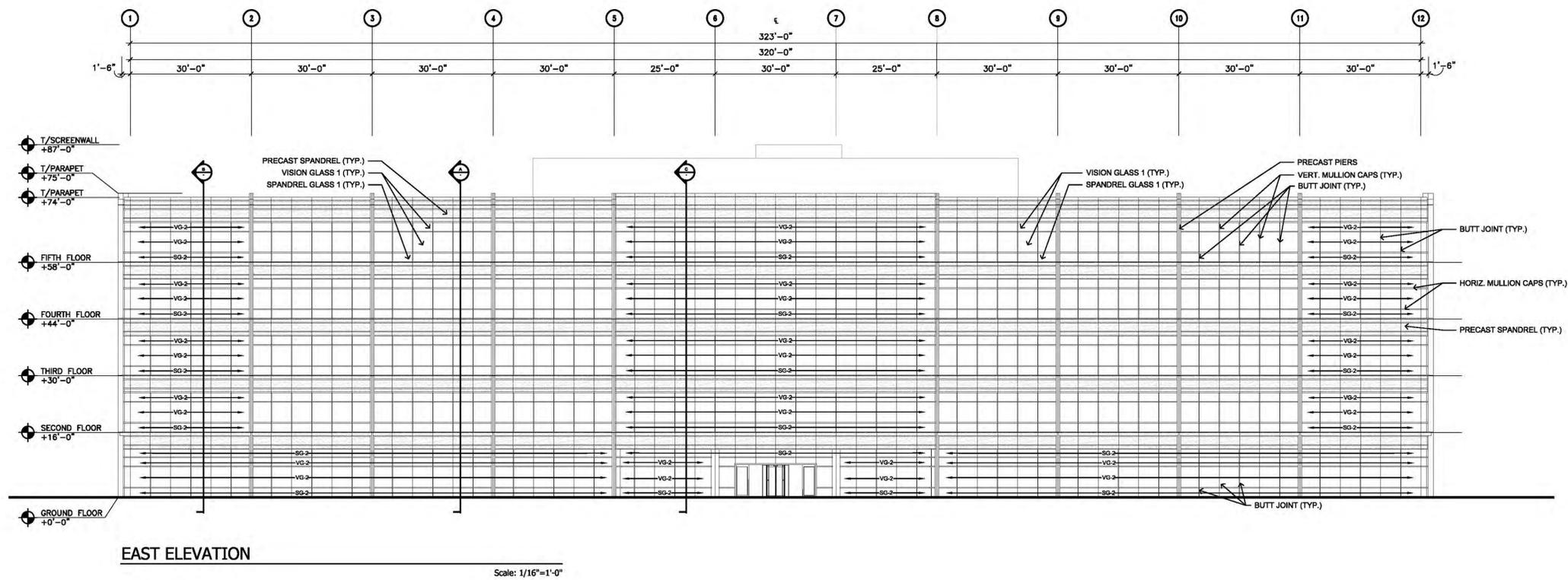
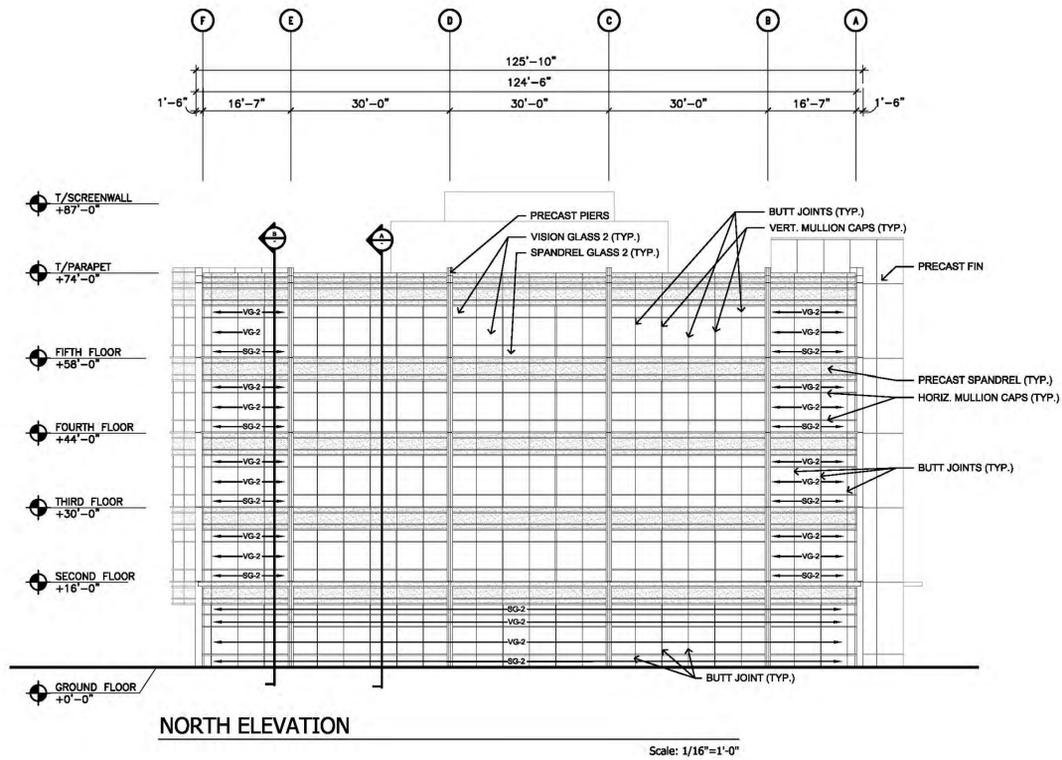
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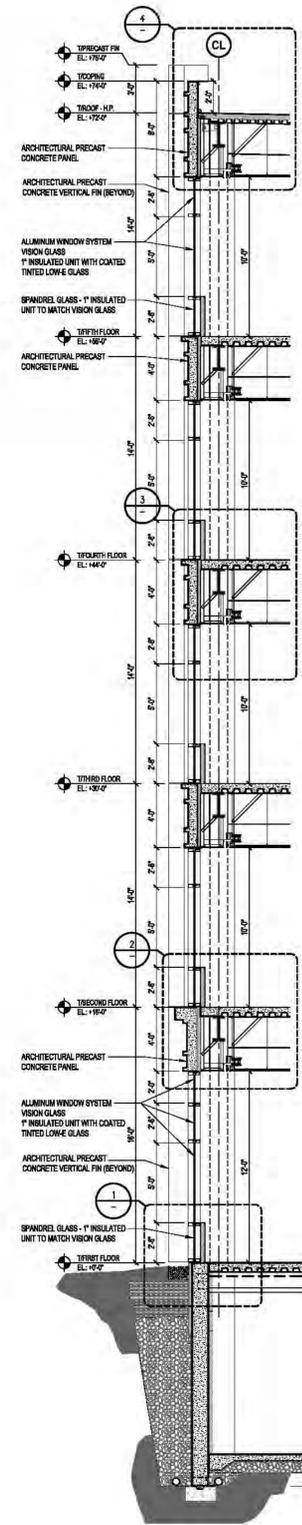
WEST ELEVATION

Scale: 1/16"=1'-0"

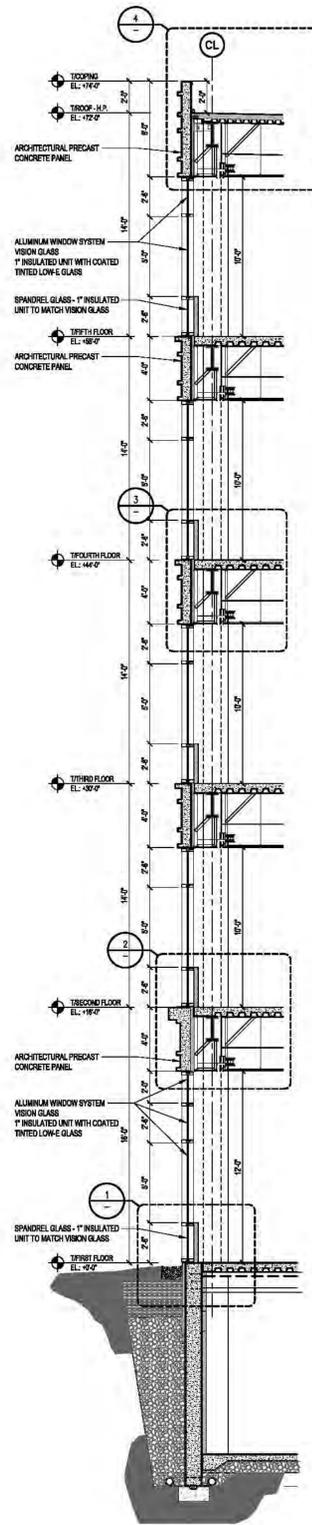
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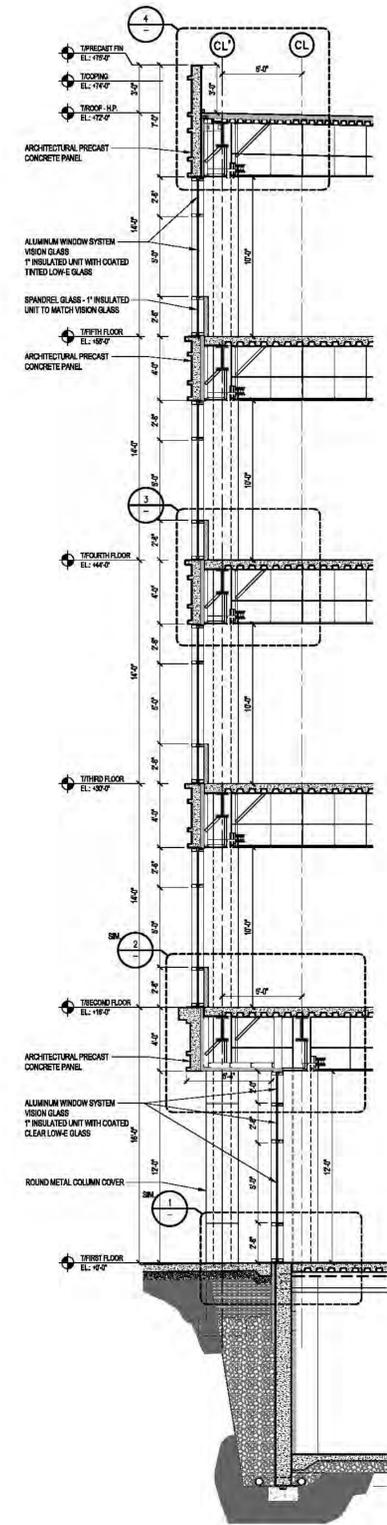
FEBRUARY 12, 2016



WALL SECTION "A"
Scale: 3/16"=1'-0"



WALL SECTION "B"
Scale: 3/16"=1'-0"



WALL SECTION "C"
Scale: 3/16"=1'-0"

BUILDING WALL SECTIONS

FEBRUARY 12, 2016



PARKING SUMMARY

REGULAR STALLS (SURFACE)	= 1,017
REGULAR STALLS (GARAGE)	= 96
ACCESSIBLE STALLS (SURFACE)	= 21
ACCESSIBLE STALLS (GARAGE)	= 4
TOTAL STALLS	= 1,138

NOTES:

1. ALL DIMENSIONS SHOWN ARE TO BACK OF CURB UNLESS OTHERWISE NOTED.
2. ALL PROPOSED ON-SITE STRIPING SHALL BE PAINTED WHITE UNLESS OTHERWISE NOTED.
3. BUILDING DIMENSIONS ARE TO OUTSIDE FACE OF BUILDING UNLESS OTHERWISE NOTED.
4. ALL CURB AND GUTTER SHALL BE B6.12 UNLESS OTHERWISE NOTED.

LEGEND

EXISTING	PROPOSED	DESCRIPTION
		RIGHT-OF-WAY LINE
		PROPERTY LINE (EXTERIOR)
		LOT LINE (INTERIOR)
		EASEMENT LINE
		FENCE LINE
		CENTERLINE
		CURB & GUTTER
		DEPRESSED CURB & GUTTER

SAUNDERS ROAD (LCDOT)

100' PARKING SETBACK LINE

PARCEL 1, LOT 1:
99,132 SF
(2.28 ACRES)

PARCEL 1 AND 2, LOT 3:
436,227 SF
(10.01 ACRES)

PARCEL 2, LOT 3:
337,095 SF
(7.73 ACRES)

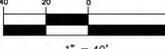
8 PARKWAY NORTH
190,700 RSF

PAVING LEGEND

	HEAVY DUTY BITUMINOUS PAVEMENT
	1.5" BITUMINOUS SURFACE COURSE
	2.5" BITUMINOUS BINDER COURSE
	10" AGGREGATE BASE COURSE - CA6
	REGULAR DUTY BITUMINOUS PAVEMENT
	1.5" BITUMINOUS SURFACE COURSE
	2" BITUMINOUS BINDER COURSE
	9" AGGREGATE BASE COURSE - CA6
	CONCRETE PAVEMENT
	8" P.C. CONCRETE PAVEMENT
	4" AGGREGATE BASE COURSE - CA6
	CONCRETE SIDEWALK
	4" P.C. CONCRETE PAVEMENT
	4" AGGREGATE BASE COURSE - CA6
	ASPHALT PATH
	3" BITUMINOUS SURFACE COURSE
	6" AGGREGATE BASE COURSE - CA6

NOTE:
THESE PLANS REFLECT THE SCOPE OF SITEWORK NECESSARY FOR DEVELOPMENT. HOWEVER, FINAL CONSTRUCTION DOCUMENTS WILL BE COMPLETED WHEN A TENANT AND FINAL DESIGN IS DETERMINED.

GRAPHIC SCALE



1" = 40'

REVISIONS

NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
1	2/15/16	REVISIONS PER VILLAGE COMMENTS			
2	3/8/16	REVISIONS PER VILLAGE COMMENTS			

PROJECT NO.:	09031.0508	DESIGNED BY:	LC
FILE NAME:	C1.0 LAY09031.0508.DWG	DRAWN BY:	DB
ORIGINAL ISSUE DATE:	11/17/15	CHECKED BY:	LC
SCALE:	1"=40'	PROJECT MANAGER:	LJS

PARKWAY NORTH CENTER
LOTS 5 & 8

LAYOUT AND DIMENSION PLAN

C1.0



V3 Companies
7325 Janes Avenue
Woodridge, IL 60517
630.724.9200 phone
630.724.9202 fax
www.v3co.com

Visio, Vertere, Virtute... "The Vision to Transform with Excellence"

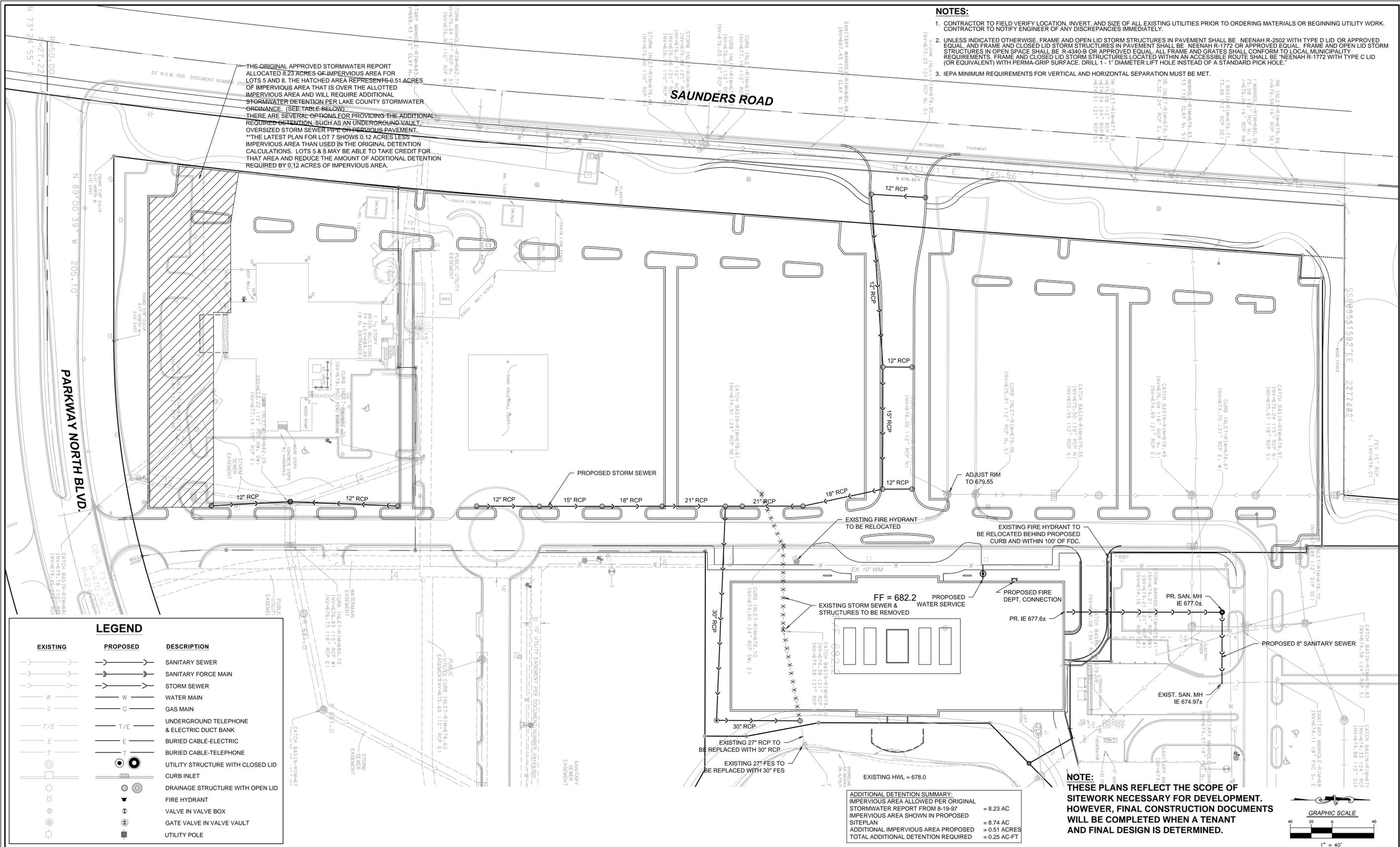
09031.0508 - SCHEMATIC LAYOUT AND DIMENSION PLAN

NOTES:

- CONTRACTOR TO FIELD VERIFY LOCATION, INVERT, AND SIZE OF ALL EXISTING UTILITIES PRIOR TO ORDERING MATERIALS OR BEGINNING UTILITY WORK. CONTRACTOR TO NOTIFY ENGINEER OF ANY DISCREPANCIES IMMEDIATELY.
- UNLESS INDICATED OTHERWISE, FRAME AND OPEN LID STORM STRUCTURES IN PAVEMENT SHALL BE NEENAH R-2502 WITH TYPE D LID OR APPROVED EQUAL, AND FRAME AND CLOSED LID STORM STRUCTURES IN PAVEMENT SHALL BE NEENAH R-1772 OR APPROVED EQUAL. FRAME AND OPEN LID STORM STRUCTURES IN OPEN SPACE SHALL BE R-430-B OR APPROVED EQUAL. ALL FRAME AND GRATES SHALL CONFORM TO LOCAL MUNICIPALITY REQUIREMENTS. FRAME AND CLOSED LID STORM STRUCTURES LOCATED WITHIN AN ACCESSIBLE ROUTE SHALL BE NEENAH R-1772 WITH TYPE C LID (OR EQUIVALENT) WITH PERMA-GRIP SURFACE. DRILL 1 - 1" DIAMETER LIFT HOLE INSTEAD OF A STANDARD PICK HOLE.
- IEPA MINIMUM REQUIREMENTS FOR VERTICAL AND HORIZONTAL SEPARATION MUST BE MET.

THE ORIGINAL APPROVED STORMWATER REPORT ALLOCATED 8.23 ACRES OF IMPERVIOUS AREA FOR LOTS 5 AND 8. THE HATCHED AREA REPRESENTS 0.51 ACRES OF IMPERVIOUS AREA THAT IS OVER THE ALLOTTED IMPERVIOUS AREA AND WILL REQUIRE ADDITIONAL STORMWATER DETENTION PER LAKE COUNTY STORMWATER ORDINANCE. (SEE TABLE BELOW). THERE ARE SEVERAL OPTIONS FOR PROVIDING THE ADDITIONAL REQUIRED DETENTION, SUCH AS AN UNDERGROUND VAULT, OVERSIZED STORM SEWER PIPE OR PERVIOUS PAVEMENT. **THE LATEST PLAN FOR LOT 7 SHOWS 0.12 ACRES LESS IMPERVIOUS AREA THAN USED IN THE ORIGINAL DETENTION CALCULATIONS. LOTS 5 & 8 MAY BE ABLE TO TAKE CREDIT FOR THAT AREA AND REDUCE THE AMOUNT OF ADDITIONAL DETENTION REQUIRED BY 0.12 ACRES OF IMPERVIOUS AREA.

SAUNDERS ROAD



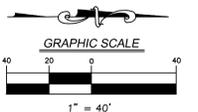
LEGEND

EXISTING	PROPOSED	DESCRIPTION
		SANITARY SEWER
		SANITARY FORCE MAIN
		STORM SEWER
		WATER MAIN
		GAS MAIN
		UNDERGROUND TELEPHONE & ELECTRIC DUCT BANK
		BURIED CABLE-ELECTRIC
		BURIED CABLE-TELEPHONE
		UTILITY STRUCTURE WITH CLOSED LID
		CURB INLET
		DRAINAGE STRUCTURE WITH OPEN LID
		FIRE HYDRANT
		VALVE IN VALVE BOX
		GATE VALVE IN VALVE VAULT
		UTILITY POLE

ADDITIONAL DETENTION SUMMARY:

IMPERVIOUS AREA ALLOWED PER ORIGINAL STORMWATER REPORT FROM 8-19-97	= 8.23 AC
IMPERVIOUS AREA SHOWN IN PROPOSED SITEPLAN	= 8.74 AC
ADDITIONAL IMPERVIOUS AREA PROPOSED	= 0.51 ACRES
TOTAL ADDITIONAL DETENTION REQUIRED	= 0.25 AC-FT

NOTE: THESE PLANS REFLECT THE SCOPE OF SITEWORK NECESSARY FOR DEVELOPMENT. HOWEVER, FINAL CONSTRUCTION DOCUMENTS WILL BE COMPLETED WHEN A TENANT AND FINAL DESIGN IS DETERMINED.



REVISIONS

NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
1	2/15/16	REVISIONS PER VILLAGE COMMENTS			
2	3/8/16	REVISIONS PER VILLAGE COMMENTS			

PROJECT NO.:	09031.0508	DESIGNED BY:	LC
FILE NAME:	C3.0 UTIL09036.0508.DWG	DRAWN BY:	DB
ORIGINAL ISSUE DATE:	11/17/15	CHECKED BY:	LC
SCALE:	1"=40'	PROJECT MANAGER:	LJS



UTILITY PLAN

C3.0

V3 Companies
7325 Janes Avenue
Woodridge, IL 60517
630.724.9200 phone
630.724.9202 fax
www.v3co.com

09031.0508 - SCHEMATIC UTILITY PLAN

EXISTING PLANTING ON BERM TO REMAIN, TYP.

SAUNDERS ROAD

EXISTING EVERGREEN TREE TO BE REMOVED, TYP.

EXISTING PLANTING ON BERM TO REMAIN, TYP.

PARKWAY NORTH BOULEVARD

EXISTING EVERGREEN TREE, TYP.

EXISTING SHADE TREE, TYP.

EXISTING PATH, TYP.

DEMO AREA

EXISTING BUILDING

EXISTING SHADE TREE TO BE REMOVED, TYP.

EXISTING ORNAMENTAL TREE, TYP.

EXISTING DRIVE

EXISTING POND

EXISTING BUILDING

NOTE:

1. A TREE SURVEY VERIFYING SPECIES AND CONDITIONS WILL BE CONDUCTED AS REQUIRED AND A MORE DETAILED LANDSCAPE PLAN IS DEVELOPED.
2. ALL INFORMATION ON THIS SHEET DEPICTS EXISTING CONDITIONS.

Landscape Key

-  Existing Shade Tree
-  Existing Evergreen Tree
-  Existing Ornamental Tree
-  Tree to be Removed

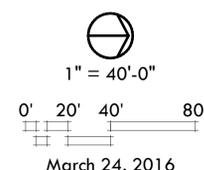
Quadrangle Development Company

8 PARKWAY NORTH

Deerfield, Illinois

Tree Preservation Plan

THE LAKOTA GROUP.





NOTE: SEE PLANT PALETTE FOR EXPANDED LIST AND GENERAL SIZES



Landscape Key

-  Shade Tree
-  Evergreen Tree
-  Ornamental Tree
-  Evergreen Shrub
-  Deciduous Shrub
-  Perennials / Groundcover

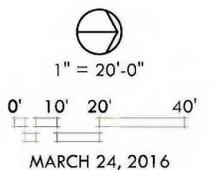
Quadrangle Development Company

8 PARKWAY NORTH

Deerfield, Illinois

Landscape Plan

THE LAKOTA GROUP.

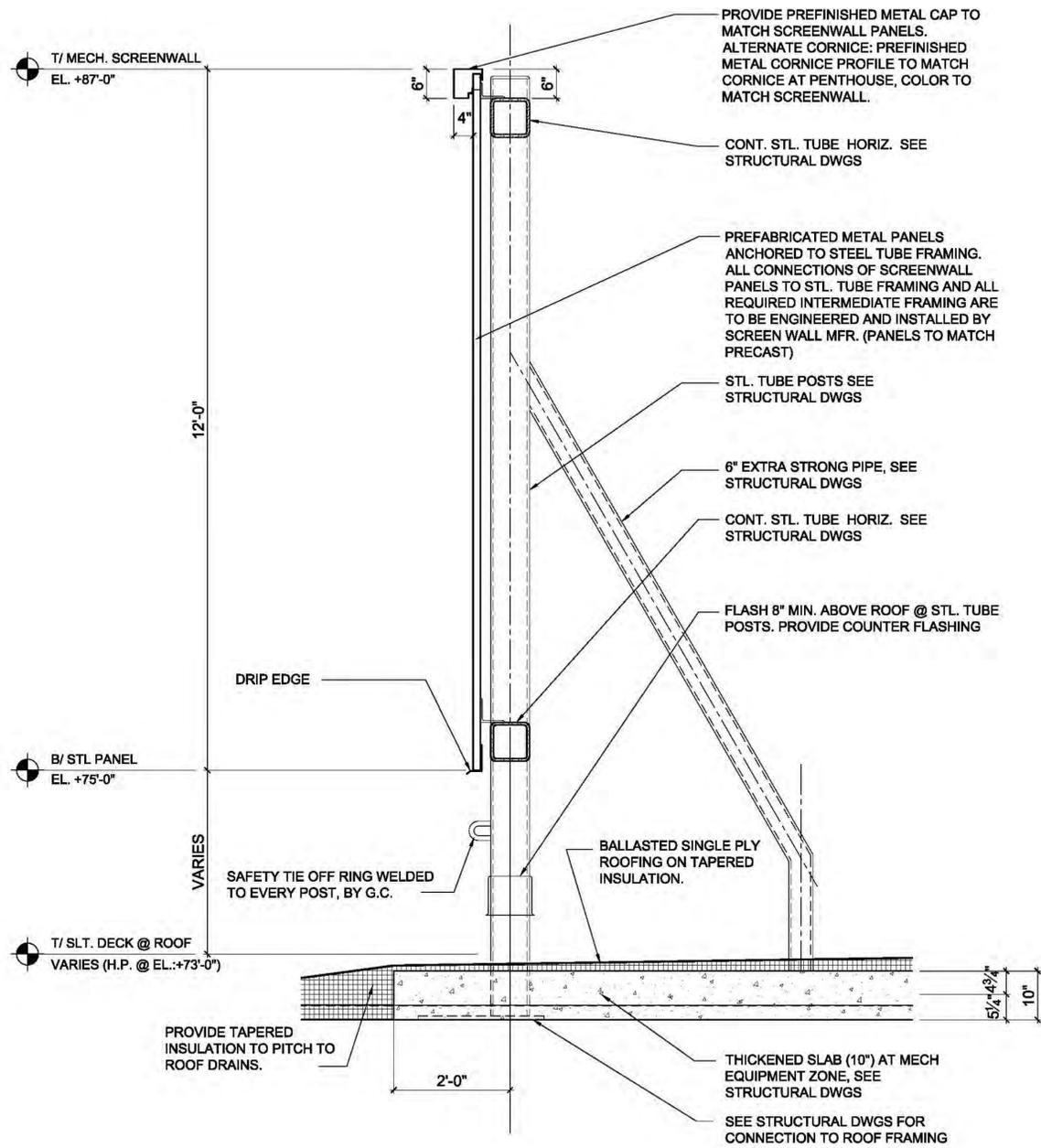


SYMBOL	BOTANIC NAME	COMMON NAME	SIZE
DECIDUOUS TREES			
AR	Acer rubrum 'Red Sunset'	Red Sunset Red Maple	3" caliper
AF	Acer x freemanii 'Autumn Blaze'	Autumn Blaze Maple	3" caliper
AS	Acer saccharum	Sugar Maple	3" caliper
CO	Celtis occidentalis	Common Hackberry	3" caliper
GT	Gleditsia triacanthos inermis 'Skyline'	Skyline Thornless Honeylocust	3" caliper
PCA	Pyrus calleryana 'Aristocrat'	Aristocrat Pear	3" caliper
QC	Quercus coccinea	Scarlet Oak	3" caliper
QM	Quercus macrocarpa	Bur Oak	3" caliper
TA	Tilia americana	American Linden	3" caliper
TC	Tilia cordata 'Greenspire'	Littleleaf Linden	3" caliper
UAA	Ulmus 'Accolade'	Accolade Elm	3" caliper
UH	Ulmus 'Homestead'	Homestead Elm	3" caliper
ORNAMENTAL TREES			
AC	Amelanchier canadensis	Shadblow Serviceberry	6'-10' ht.
AG	Alnus glutinosa	Black Alder	6'-10' ht.
BN	Betula nigra 'Heritage'	Heritage River Birch	6'-10' ht.
CC	Cercis canadensis	Red bud	6'-10' ht.
CCI	Crataegus crusgalli 'Inermis'	Thornless Cockspur Hawthorn	6'-10' ht.
MSO	Magnolia soulangiana 'Saucer'	Saucer Magnolia	6'-10' ht.
MP	Malus x 'Prairiefire'	Prairie Fire Crabapple	6'-10' ht.
EVERGREEN TREES			
PGD	Picea glauca 'Densata'	Black Hills Spruce	6'-12' ht.
PPG	Picea pungens 'Glauca'	Colorado Blue Spruce	6'-12' ht.
PM	Pseudotsuga menziesii	Douglas Fir	6'-12' ht.

SYMBOL	BOTANIC NAME	COMMON NAME	SIZE
DECIDUOUS SHRUBS			
AM	Aronia melanocarpa	Glossy Black Chokeberry	18-30" ht.
HA	Hydrangea arborescens 'Annabelle'	Annabelle Smooth Hydrangea	24-36" ht.
HP	Hydrangea paniculata 'Tardiva'	Tardiva Hydrangea	24-36" ht.
RA	Rhus aromatica 'Gro-Low'	Fragrant Sumac	5 gal.
RC	Rosa 'Flower Carpet Pink'	Flower Carpet Pink Shrub Rose	5 gal.
RK	Rosa 'Knockout'	Knockout Rose	5 gal.
SM	Syringa meyeri	Dwarf Korean Lilac	5 gal.
VD	Viburnum dentatum	Arrowwood Viburnum	24-36" ht.
VP	Viburnum prunifolium	Blackhaw Viburnum	3' ht.
VTW	Viburnum trilobum 'Wentworth'	Wentworth American Cranberrybush	18-30" ht.
EVERGREEN SHRUBS			
BM	Buxus microphylla 'Wintergreen'	Wintergreen Boxwood	18"-36" ht.
TM	Taxus media 'Densiflora'	Dense Yew	18"-30" spr.
TMH	Taxus media "Hicksii"	Hicks Yew	18"-30" spr.
TOE	Thuja occidentalis 'Emerald Green'	Emerald Green Arborvitae	6' -8' ht.
JCK	Juniperus chinensis 'Kallays Compacta'	Kallays Compact Juniper	5 gal.
PERENNIALS/GRASSES			
apb	Astilbe 'Peach Blossom'	Peach Blossom Astilbe	1 gal.
cas	Calamagrostis x acutiflora 'Karl Foerster'	Feather Reed Grass	1 gal.
ep	Echinacea purpurea 'Magnus Pink'	Purple Coneflower	1 gal.
hh	Hemerocallis 'Happy Returns'	Happy Returns Daylily	1 gal.
hp	Heuchera micrantha 'Purple Palace'	Purple Palace Coral Bells	1 gal.
hgc	Hosta 'Guacamole'	Guacamole Hosta	1 gal.
hss	Hosta Sum and Substance	Sum and Substance Hosta	1 gal.
isc	Iris siberica 'Caesar's Brother'	Caesar's Brother Iris	1 gal.
nm	Nepeta x faassenii 'Walkers Low'	Walkers Low Catmint	1 gal.
pah	Pennisetum apolocuroides 'Hameln'	Dwarf Fountain Grass	1 gal.
pat	Perovskia atriplicifolia	Russian Sage	1 gal.
rf	Rudbeckia fulgida 'Goldstrum'	Black-eyed Susan	1 gal.
sa	Sedum 'Autumn Joy'	Autumn Joy Sedum	1 gal.
sh	Sporobolus heterolepis	Prairie Dropseed	1 gal.
GROUNDCOVERS			
lsp	Liriope spicata	Lilyturf	3" pot/quart
pt	Pachysandra terminalis	Japanese Flowering Spurge	3" pot/quart
vm	Vinca minor 'Bowles'	Bowles Periwinkle	3" pot/quart
wt	Waldsteinia ternata	Barren Strawberry	3" pot/quart

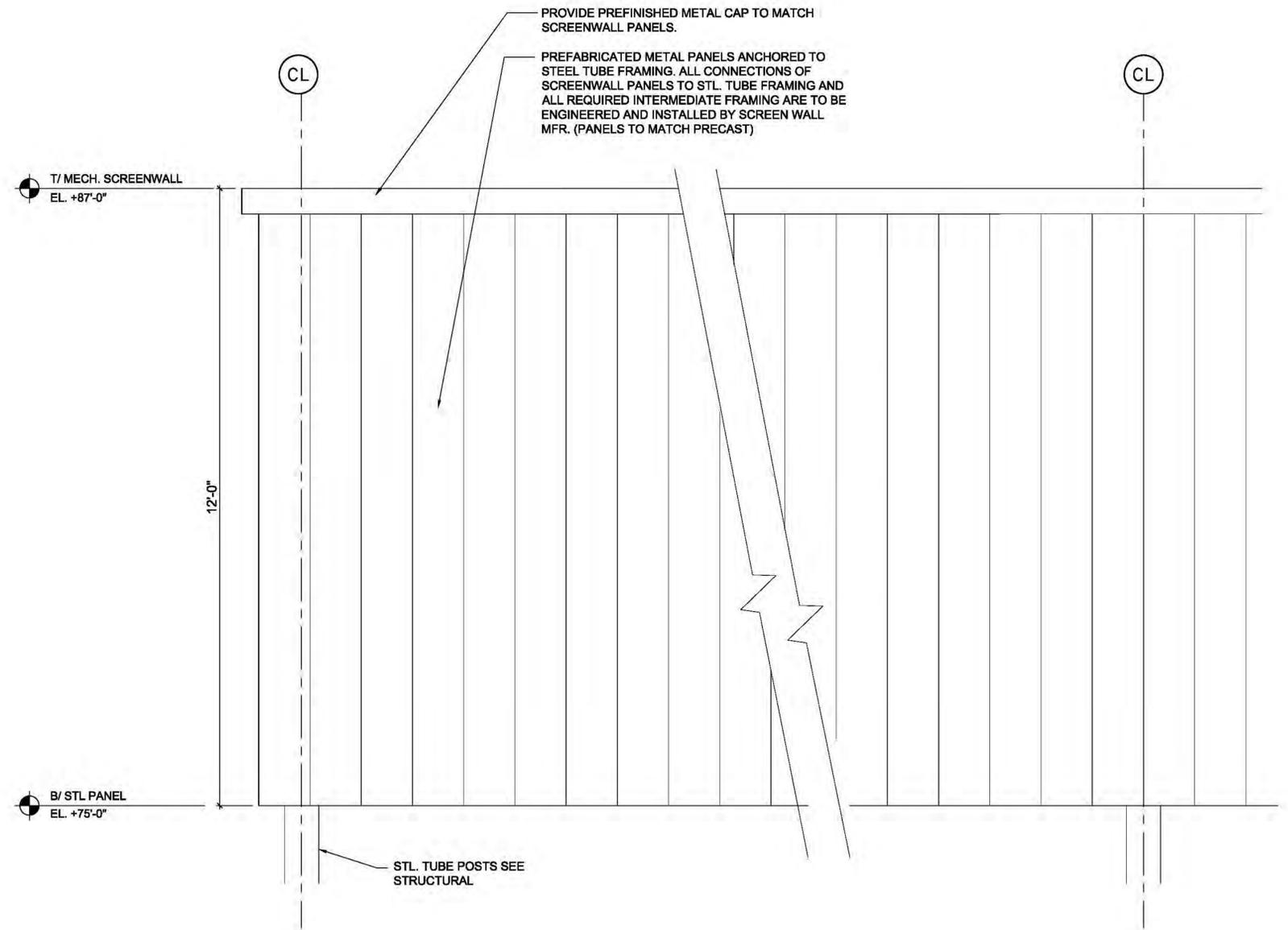
NOTE:

THE LANDSCAPE PLAN WILL CONSIST OF, BUT IS NOT LIMITED TO, THE PLANT MATERIAL LIST AS SHOWN. PLANT SIZES SPECIFIED IN FINAL LANDSCAPE PLAN WILL DEPEND ON AVAILABILITY IN NURSERIES AT PLANTING TIME.



2 SECTION - DETAIL - ROOF SCREEN

Scale: 3/4" = 1'-0"

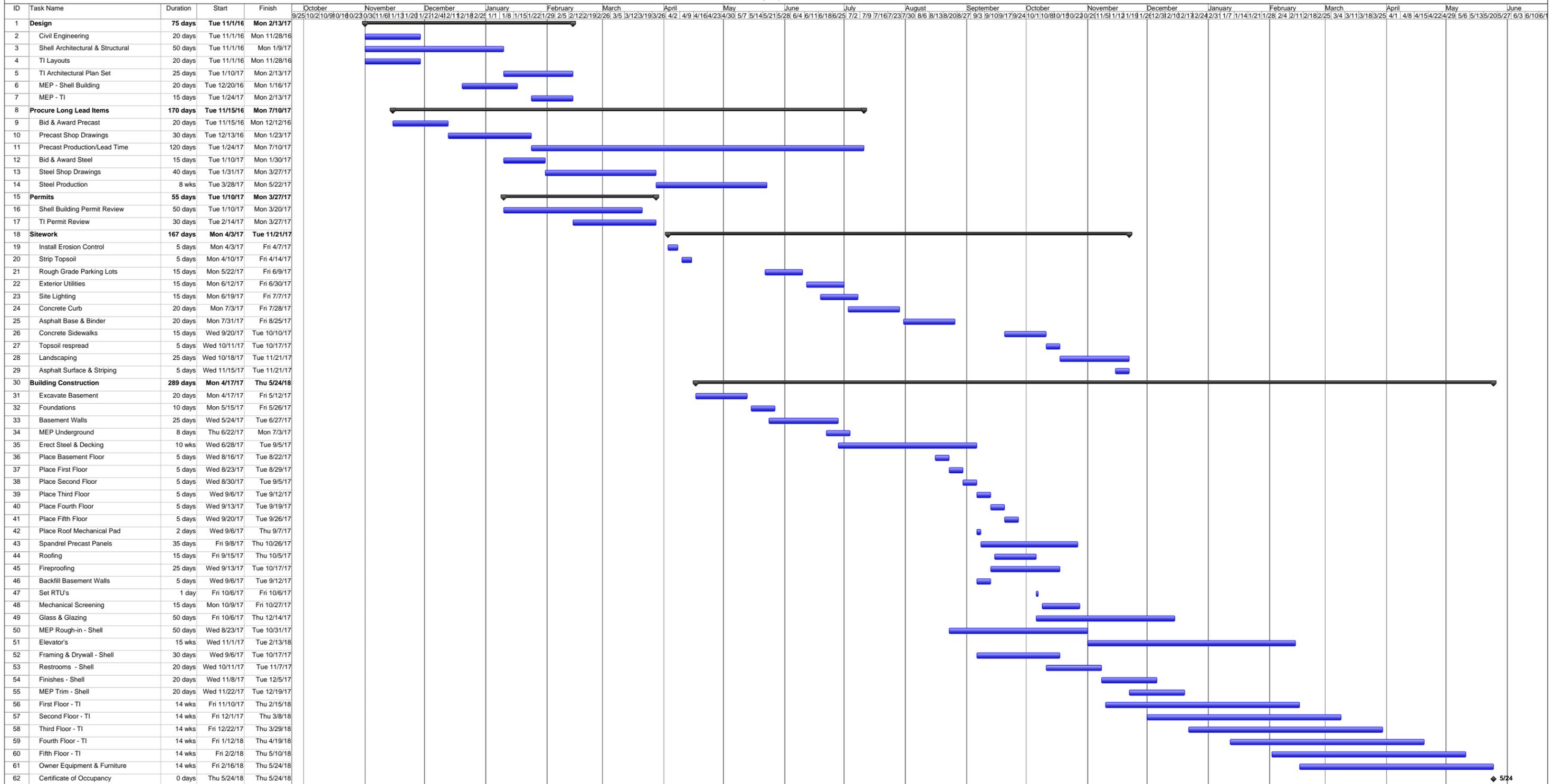


1 PARTIAL ELEVATION - ROOF SCREEN

Scale: 3/4" = 1'-0"

ROOF SCREEN SECTION:

MARCH 10, 2016



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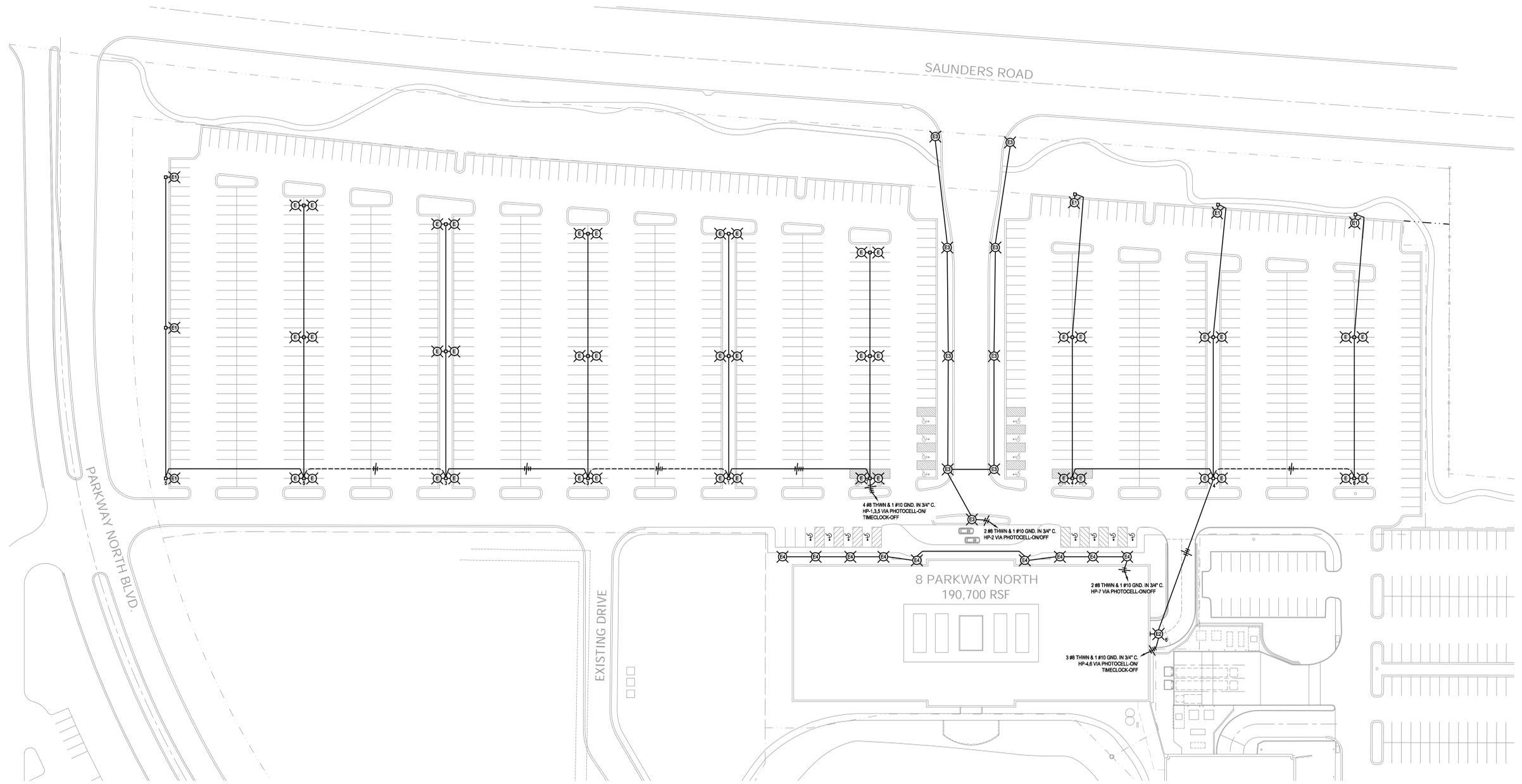
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8 Parkway North
Parkway North Center
Deerfield, IL 60015
New Construction - Site Plan



ELECTRICAL SITE PLAN
 SCALE: 1"=40'-0"



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Sheet Title:
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Sheet Number:
E1

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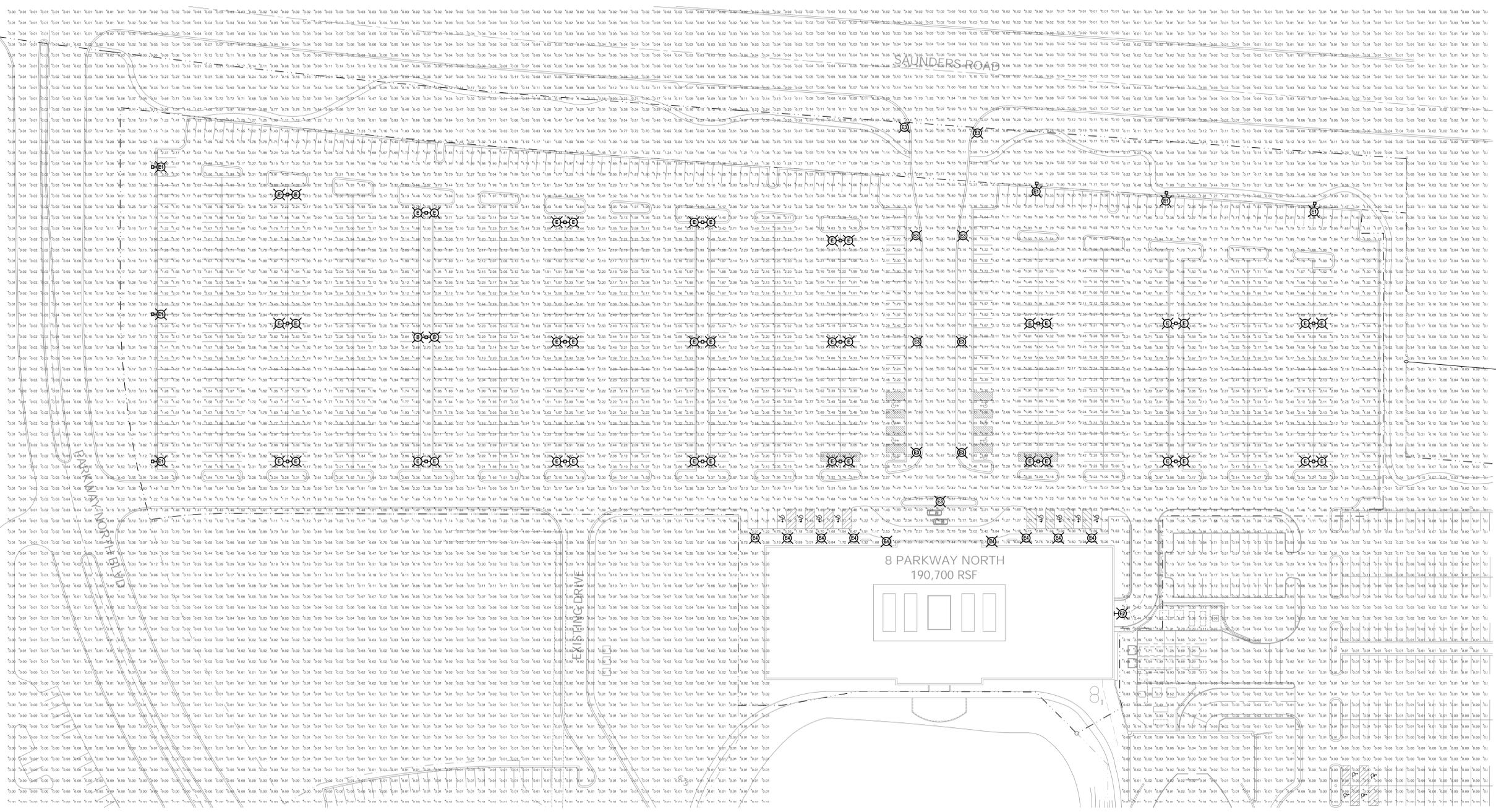
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8 Parkway North
Parkway North Center
Deerfield, IL 60015
New Construction - Site Plan



PHOTOMETRIC SITE PLAN
SCALE: 1"=40'-0"

- LIGHTING ANALYSIS NOTES:
(PAVED AREAS ONLY)
1. AVERAGE FOOTCANDLES: 2.30
 2. MINIMUM FOOTCANDLES: 1.02
 3. MAXIMUM FOOTCANDLES: 6.47
 4. AVERAGE/MINIMUM RATIO: 2.31
 5. MAXIMUM/MINIMUM RATIO: 6.31
 6. LIGHTING AT PROPERTY LINE IS LESS THAN 0.5 FOOTCANDLES EXCEPT AT DRIVE ENTRANCES.

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K&A Project Number: 16032
Issue Date:

Issue For Permit & Bid 03/09/2016

Sheet Title:
PHOTOMETRIC SITE PLAN

Sheet Number:
E2



TRAFFIC IMPACT STUDY

REPORT FOR:

QUADRANGLE DEVELOPMENT COMPANY



***PARKWAY NORTH LOTS 5 AND 8
DEERFIELD, ILLINOIS***

PREPARED BY:



V3 Companies
7325 Janes Avenue
Woodridge, Illinois 60517

V3 Project No. 96031.0508

February 15, 2016



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Appendix B	Right Turn Lane Warrant Analysis
Appendix B	Capacity Analysis Worksheets – Existing
Appendix C	Capacity Analysis Worksheets – Background
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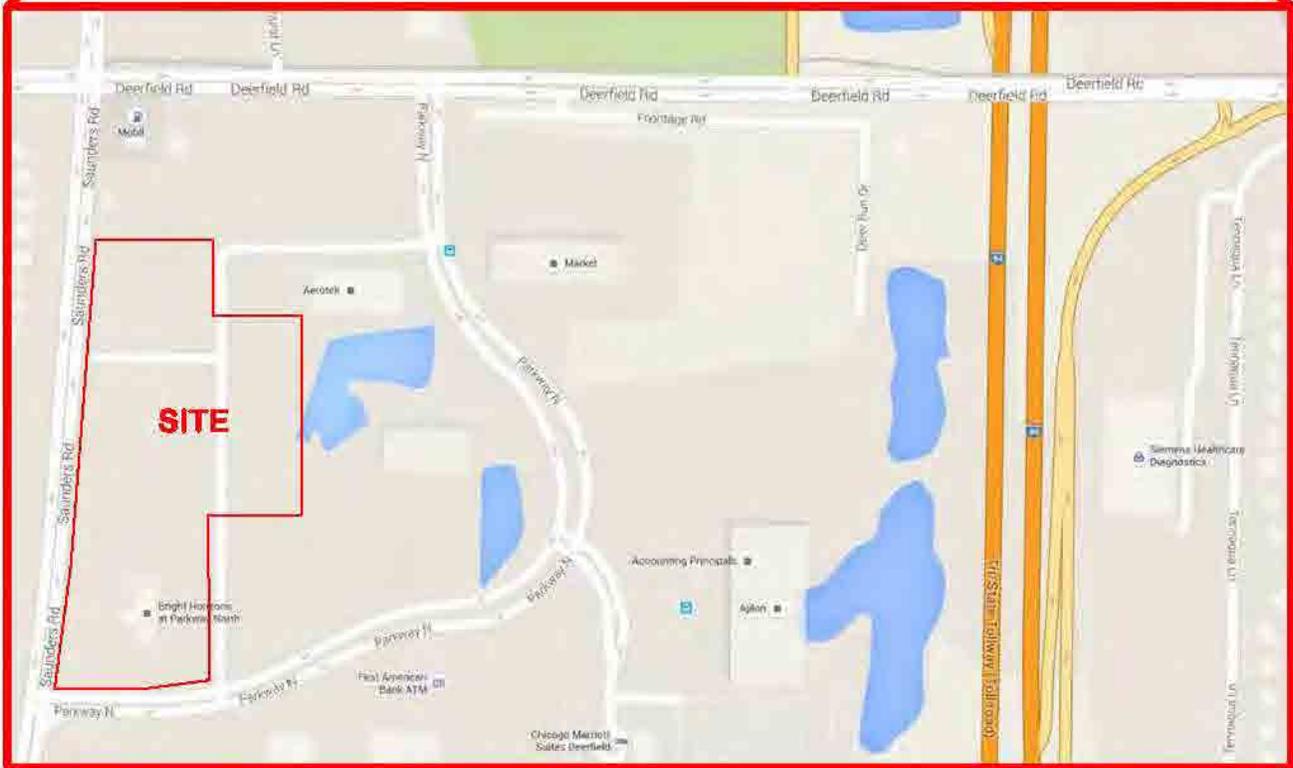
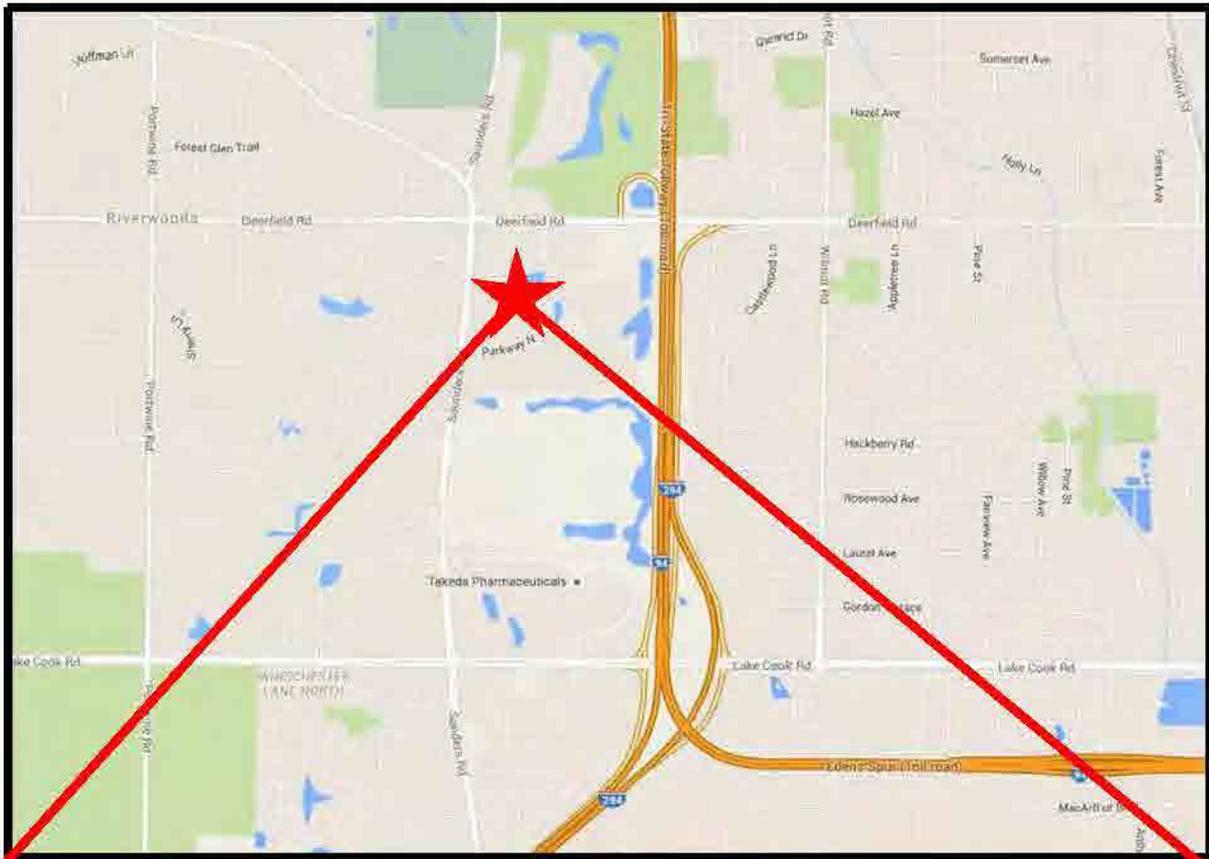
I. INTRODUCTION

V3 Companies has been retained by Quadrangle Development Company to conduct a traffic impact study for a proposed office building located near the intersections of Saunders Road and Parkway North in Deerfield, Illinois. The site is located on Lots 5 and 8 in the Parkway North Center business park. A site location map is included in Figure 1.

The planned development consists of a multi-story office building with a gross floor area of 198,645 square feet. Access to the site will be provided by a proposed full access driveway on Saunders Road north of Parkway North in addition to the two main access points for the business park at Saunders Road/Parkway North and Deerfield Road/Parkway North. A conceptual site plan is included as Figure 2.

The purpose of this report is to evaluate the potential traffic impacts of the proposed development which is expected to be built out in 2018. Traffic estimates are projected for 2023, which is five years beyond the opening date. The study area consists of the proposed unsignalized driveway on Saunders Road and the signalized intersections of Saunders Road/Parkway North and Deerfield Road/Parkway North.

This report includes a description of existing conditions, data collection, capacity analysis, evaluation of data, and conclusions.



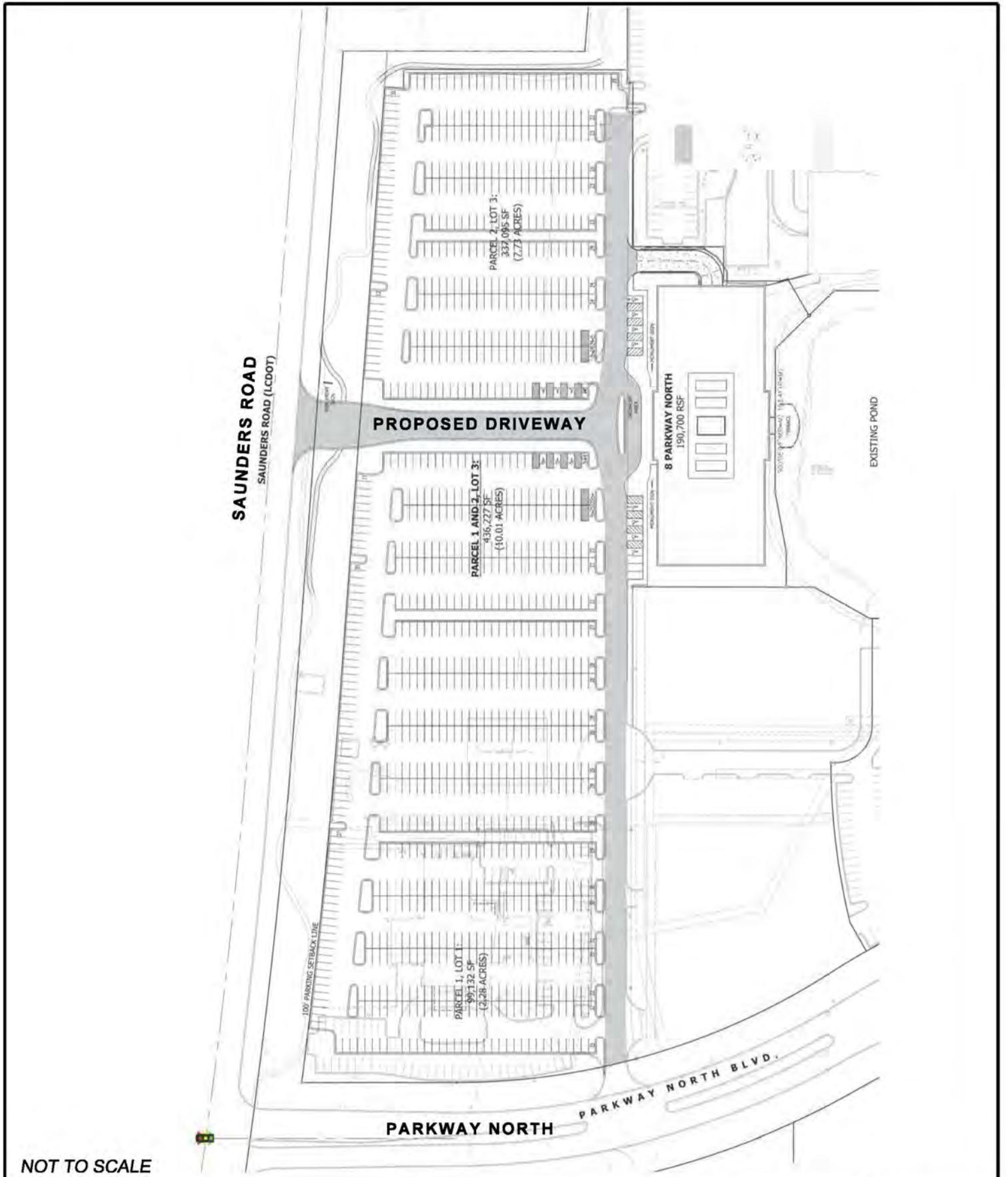
**QUADRANGLE
DEVELOPMENT
COMPANY**

**FIGURE 1
LOCATION MAP**

DEERFIELD

ILLINOIS





NOT TO SCALE

**QUADRANGLE
DEVELOPMENT
COMPANY**

DEERFIELD ILLINOIS

**FIGURE 2
CONCEPTUAL SITE PLAN**

ILLINOIS





II. PROJECT CONDITIONS

Land Uses

A variety of land uses exist near the project site, primarily consisting of office, hotel, and residential uses. The adjacent land uses and locations are presented in Figure 3.

Roadway System

The characteristics of the roadways in the vicinity of the site are presented below. The existing lane configurations at the study area intersections are illustrated in Figure 4.

Saunders Road (Lake County W24) is four-lane north-south arterial with a striped median and a posted speed limit of 45 mph. Sidewalks are provided on both sides of Saunders Road. There is also a private multi-use path on the east side that travels through the Parkway North business park. A right-turn lane is provided for northbound traffic and a left-turn lane for southbound traffic at the Parkway North signalized intersection. Saunders Road is under the jurisdiction of Lake County.

Parkway North is a private internal roadway through the Parkway North Center business park. Parkway North runs east-west beginning at the signalized intersection with Saunders Road and curves to the north where it intersects Deerfield Road. Although there are no lane markings present through most of the site, Parkway North was observed to operate as though there are two travel lanes in each direction. A raised landscaped median is provided along the entire length of Parkway North with access drives for the various office and service buildings. Two of the internal roadway intersections are all-way stop controlled. The westbound approach to Saunders Road consists of two left turn lanes and one right turn lane, while the northbound approach to Deerfield Road consists of one left turn lane and one right turn lane. The posted speed limit is 25 mph.

Deerfield Road (Lake County A47) is four-lane east-west arterial with a striped median and a posted speed limit of 40 mph. A multi-use path is provided along the north side of Deerfield Road. A partial access interchange is located at I-94 east of the project site that provides a southbound on-ramp and northbound off-ramp. A right turn lane is provided for eastbound traffic and a left-turn lane is added for westbound traffic at the Parkway North signalized intersection. Deerfield Road is under the jurisdiction of Lake County.



LEGEND

- - PACE BUS ROUTE (SHUTTLE BUG 2 AND 8)
- - DESIGNATED BUS STOP

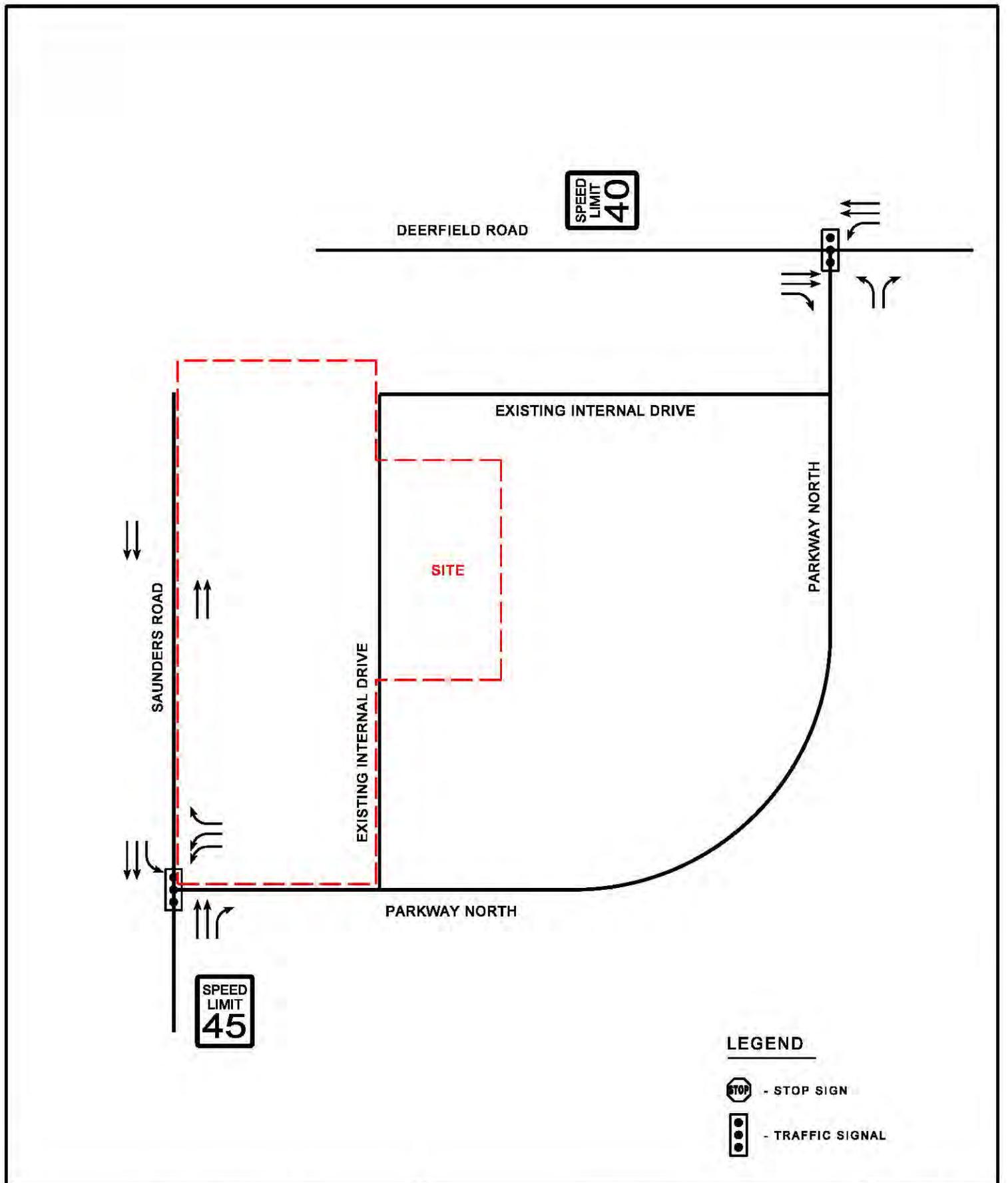
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**FIGURE 3
LAND USE MAP**

DEERFIELD

ILLINOIS





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DEVELOPMENT
COMPANY

FIGURE 4
EXISTING LANE CONFIGURATION

DEERFIELD

ILLINOIS





Traffic Volumes

To assist in the evaluation of the traffic impact on the roadway system resulting from the proposed development, existing vehicular volumes were collected at the signalized intersections of Deerfield Road/Parkway North and Saunders Road/Parkway North on Tuesday, January 26th, 2016. The morning peak period counts occurred from 7:00 am to 9:00 am and the evening peak period counts occurred from 4:00 pm to 6:00 pm. The count periods were selected to be consistent with traditional peak hours for arterial roadways and office oriented land uses.

The weekday peak hours for the collected data occur from 7:30 am to 8:30 am and 4:30 pm to 5:30 pm. The existing peak hour vehicular volumes at the study area intersections are illustrated in Figure 5. A summary of the traffic volumes collected in fifteen minute increments is provided in Appendix A.

Public Transportation System

Two key transit agencies provide public transportation options in the vicinity of the study area – Pace operates fixed bus routes through the Parkway North Center and Metra provides commuter heavy rail east of the proposed development. Two Pace routes travel through Parkway North Center, with bus stops provided near One, Four, and Ten Parkway North. Pace routes that travel through Parkway North Center as well as locations of bus stops are illustrated in Figure 3. The available bus routes are described below:

Pace Route 628 provides AM and PM weekday rush hour service between the Braeside Metra Station to Parkway North Center. This route operates three morning runs and three evening runs.

Pace Route 632 provides AM weekday rush hour service from the Milwaukee District North Line, Lake Cook Metra Station to Parkway North Center. The evening service returns passengers to the Milwaukee District North Line, Deerfield Metra Station. This route operates four morning runs and five evening runs.

Proposed Development

Land Use Development

A new office building is proposed in Lot 7 of the Parkway North Center immediately south of this development. It is our understanding that the new office building will be 41,139 gross square feet. To account for the traffic from this proposed development, the background scenario will include the traffic generated by this development in Lot 7. Using the ITE Trip Generation Manual, an office building of this size will generate 94 am peak hour trips (83 inbound, 11 outbound) and 125 pm peak hour trips (21 inbound, 104 outbound). These trips will be



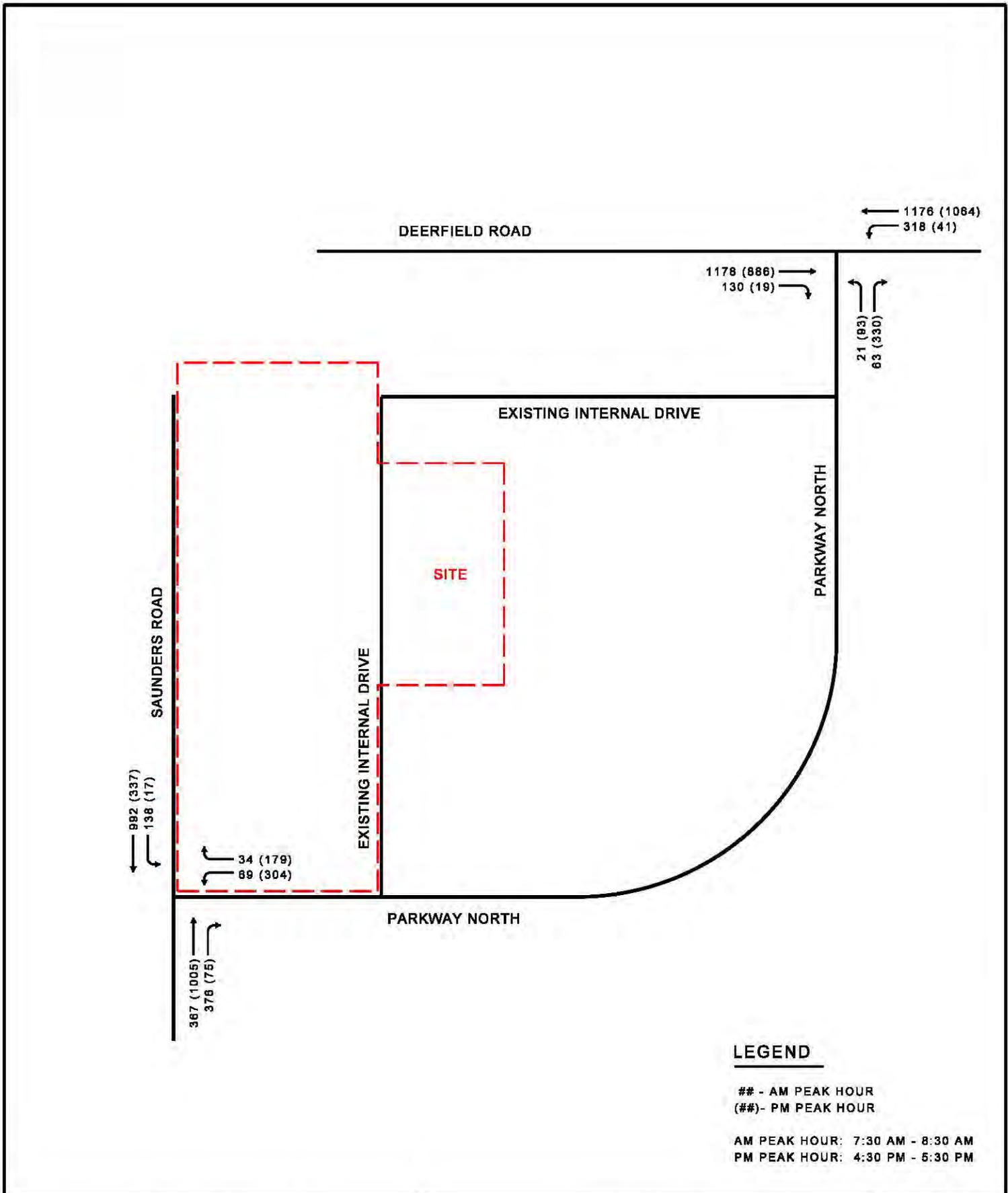
assigned to the local roadway network using a similar directional distribution as the existing traffic.

There are no other known proposed land development projects in the vicinity of the site that will impact the study area intersections.

Roadway Development

A new unsignalized driveway on Saunders Road is proposed in the site plan for this development which is located at the approximate midpoint between Parkway North and Deerfield Road on Saunders Road. Lake County DOT has preliminarily approved the driveway as full access and requested a right turn lane warrant analysis. The driveway is expected to consist of one outbound left turn lane, one outbound right turn lane, and one inbound receiving lane. A southbound left turn lane is recommended to be striped within the existing median on Saunders Road.

There are no other known external roadway improvements in the vicinity of the site that will impact the study area intersections. The conceptual future lane configurations at the study area intersections are illustrated in Figure 6.



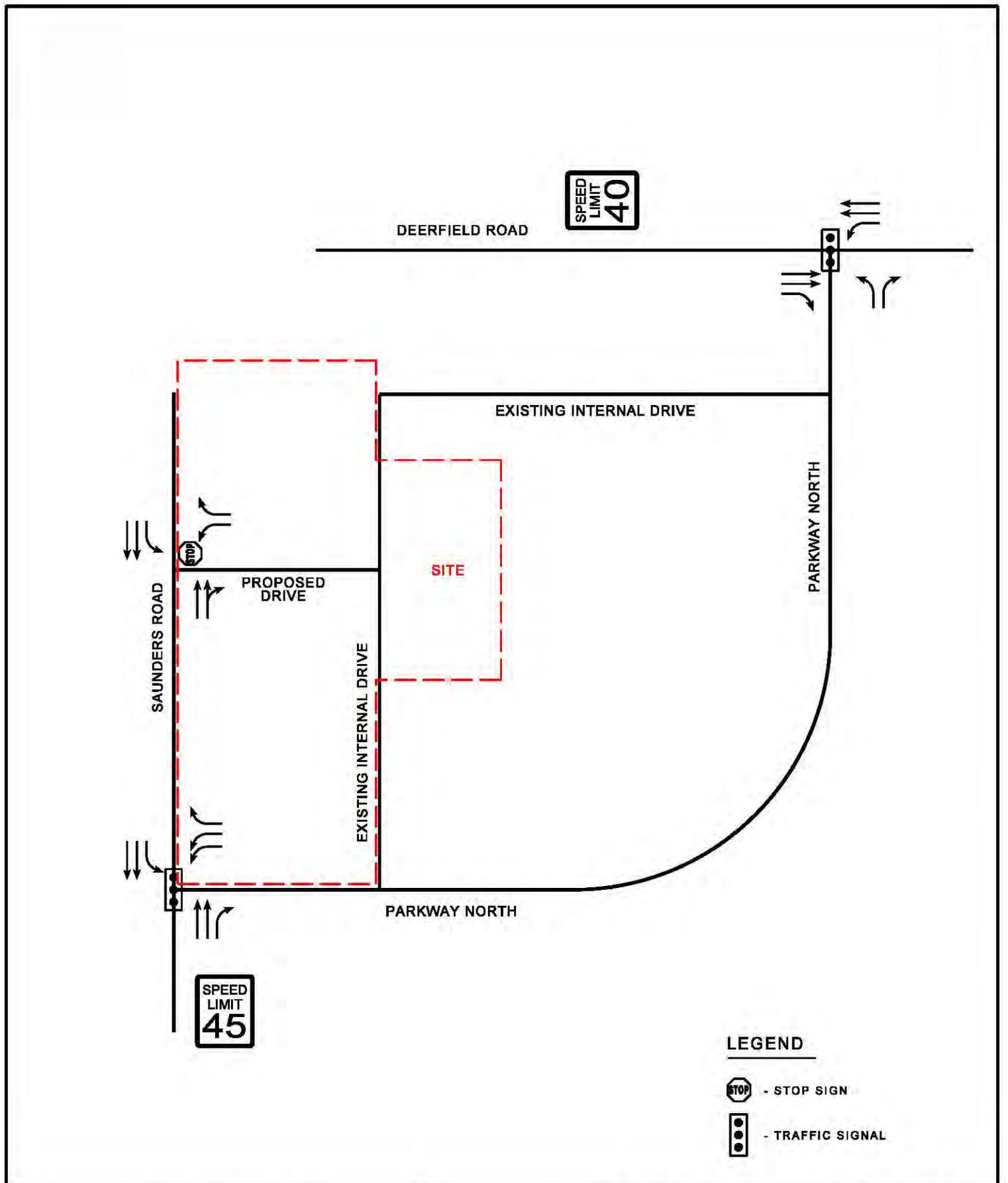
**QUADRANGLE
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COMPANY**

**FIGURE 5
EXISTING TRAFFIC VOLUME**

DEERFIELD

ILLINOIS





QUADRANGLE
DEVELOPMENT
COMPANY

FIGURE 6
CONCEPTUAL FUTURE
LANE CONFIGURATRION
DEERFIELD ILLINOIS





III. TRAFFIC FORECASTS

Project Traffic Volumes

Trip Generation

The conceptual site plan consists of an office building totaling 198,645 square feet. Project traffic is estimated using the Institute of Transportation Engineers (ITE) Trip Generation Manual, 9th Edition. The following land use categories are used to determine project traffic:

General Office Building (Land Use Code 710) – A general office building houses multiple tenants; it is a location where affairs of businesses, commercial or industrial organizations, or professional persons or firms are conducted. An office building or buildings may contain a mixture of tenants including professional services, insurance companies, investment brokers and tenant services, such as a bank or saving and loan institution, a restaurant or cafeteria and service retail facilities.

The Trip Generation Manual assigns trip generation rates based on a peak period and an independent variable. In this case, gross floor area is the controlling variable. The am and pm trip generation are determined using the fitted curve equation for weekday, peak hour of adjacent street traffic for one hour from 7 am to 9 am and 4 pm to 6 pm.

Since a Pace bus route serves the area, a transit reduction could be applied to the trip generation numbers. However, since transit usage projections are not available, and to maintain conservative estimates, no transit reduction has been used in this analysis.

Similarly, land uses are present within the Parkway North Center that could compliment the proposed office land use, specifically the hotel and apartments within Parkway North. It is possible that trip interaction could occur between these uses that would result in a reduction of external trips. However, given the context of the proposed site within the Parkway North Center, any interaction is likely small. Therefore, no internal capture reduction has been used in this analysis.

In addition, the proposed plan includes the closure of the Five Parkway North building at the northeast corner of Saunders Road/Parkway North. This would result in a decrease in trips into and out of the Parkway North Center. However, for the purposes of this analysis, this reduction in trips has not been included in the traffic analysis.

A summary of trip generation is provided in Table 1.



Table 1: Trip Generation

Land Use	Size		Daily Trips	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
General Office Building	198,645	SF	2,212	292	39	331	51	250	301

Trip Distribution and Assignment

The direction from which traffic approaches and departs a site is a function of numerous variables, including location of residences, location of employment centers, location of commercial/retail centers, available roadway systems, location and number of access points, and level of congestion on adjacent road systems.

The directional distribution of project traffic is based on existing traffic patterns in the area. A significant portion of project generated peak hour traffic is expected to be commuters bound to and from major arterials and the regional freeway network. The two closest interchanges are located on Deerfield Road to the east of the site and on Lake Cook Road to the south of the site. Therefore, the largest proportions of new trips are assigned to Deerfield Road to the east and Saunders Road to the south.

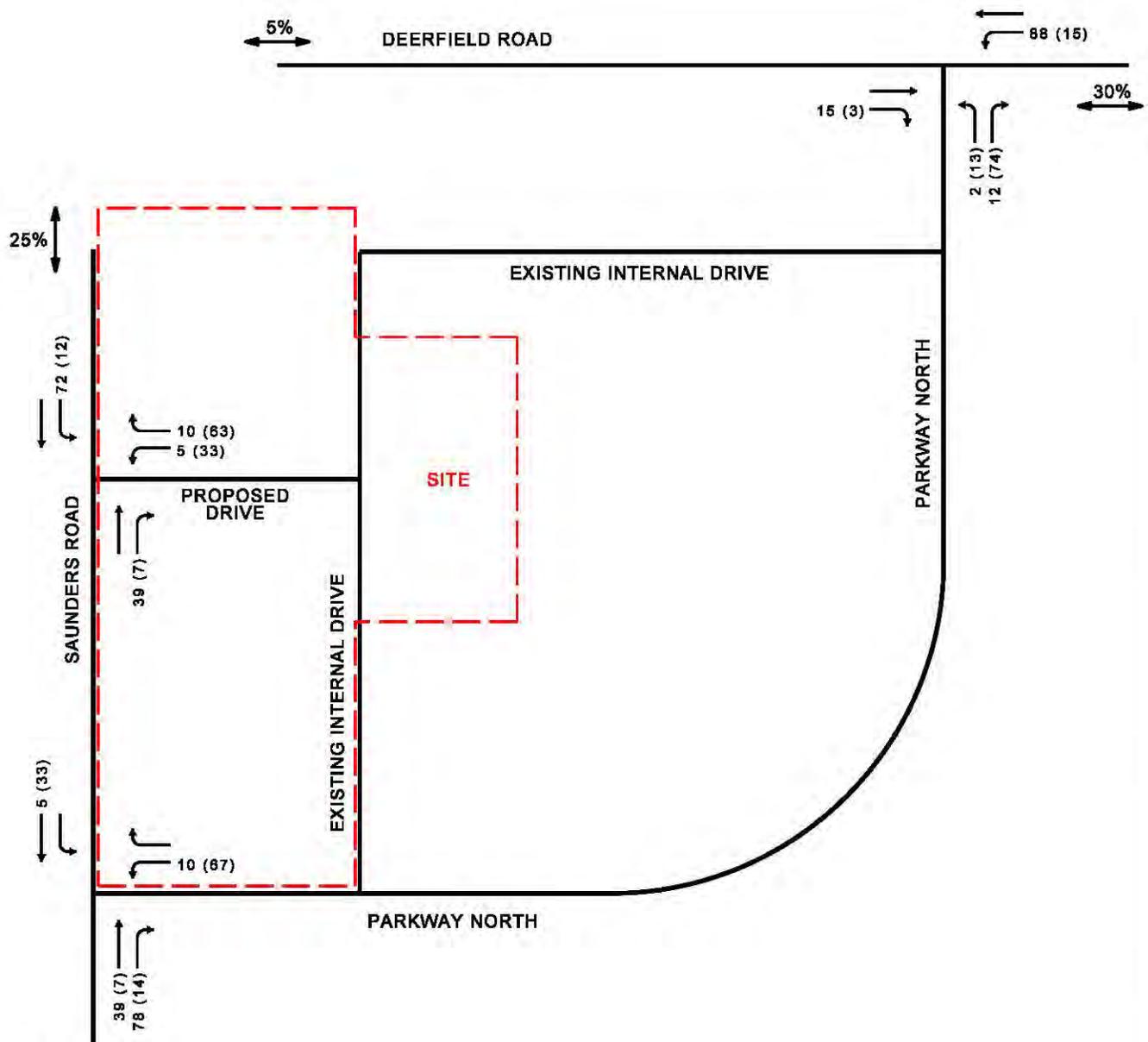
The directional distribution and assignment of project traffic volume is illustrated in Figure 7.

Background Traffic Volumes

Background traffic volumes were estimated for the year 2023, which is five years beyond the anticipated build-out in 2018. These volumes account for future (non-project related) growth in the area. A growth rate of 3.0 percent per year has been applied to the existing through volumes on Saunders Road and Deerfield Road to estimate 2023 peak hour traffic per Lake County DOT requirements. The traffic generated by the proposed office building in Lot 7 south of this site has also been added to the background volumes. The background traffic volumes are illustrated in Figure 8.

Future Traffic Volumes

The project traffic volume is added to the background volume to obtain the future traffic volumes for the study intersections. Future with project traffic volumes are depicted in Figure 9.



LEGEND

- AM PEAK HOUR
 (##) - PM PEAK HOUR

AM PEAK HOUR: 7:30 AM - 8:30 AM
 PM PEAK HOUR: 4:30 PM - 5:30 PM

QUADRANGLE
 DEVELOPMENT
 COMPANY

FIGURE 7
 PROJECT TRAFFIC VOLUME

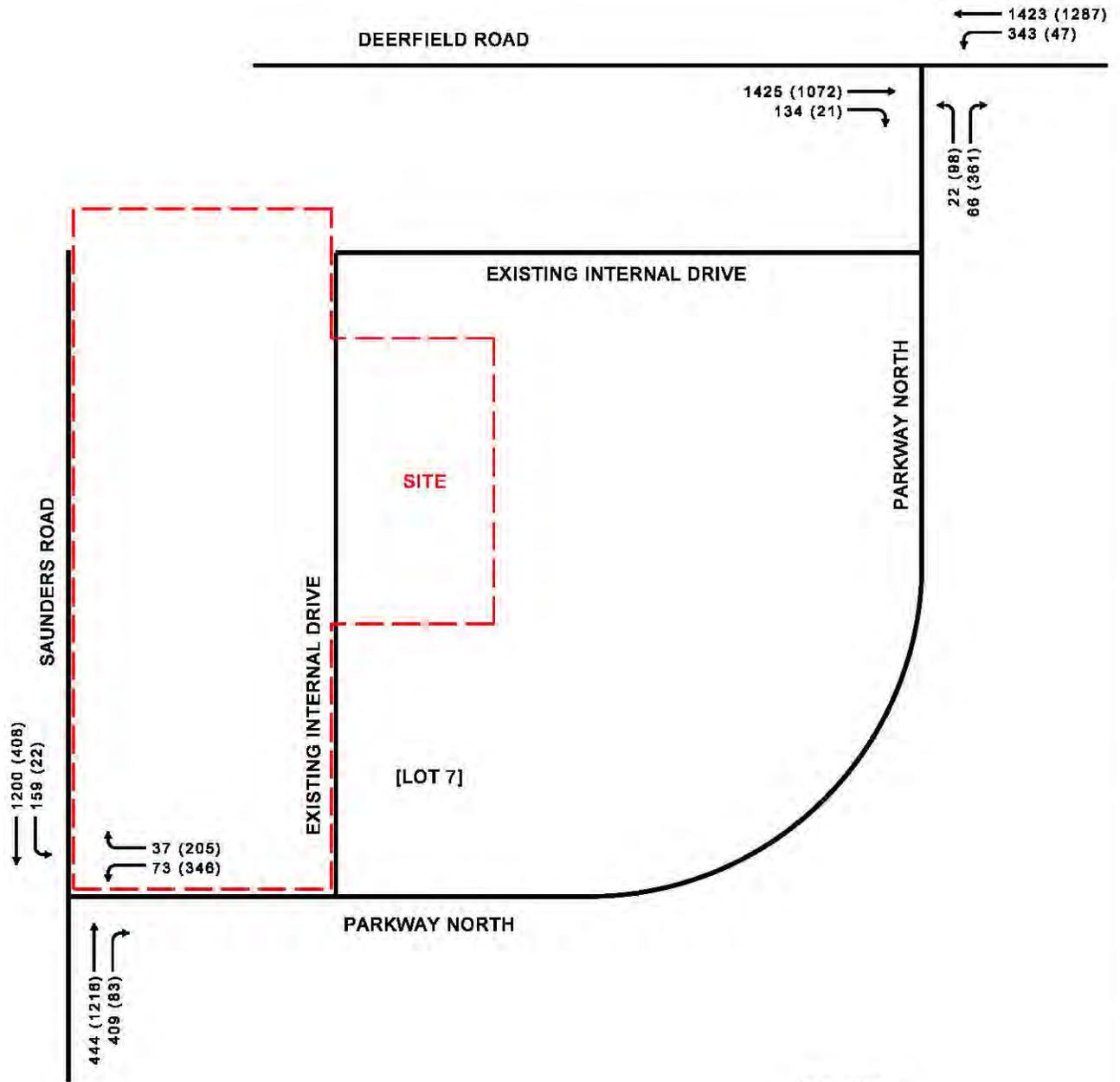
DEERFIELD

ILLINOIS



NOTE:

**BACKGROUND TRAFFIC VOLUME = EXISTING TRAFFIC VOLUME + 3% GROWTH/YEAR TO 2023 + TRAFFIC FROM NEW OFFICE BUILDING ON LOT 7
(FIGURE 5)**



LEGEND

- AM PEAK HOUR
(##) - PM PEAK HOUR

AM PEAK HOUR: 7:30 AM - 8:30 AM
PM PEAK HOUR: 4:30 PM - 5:30 PM

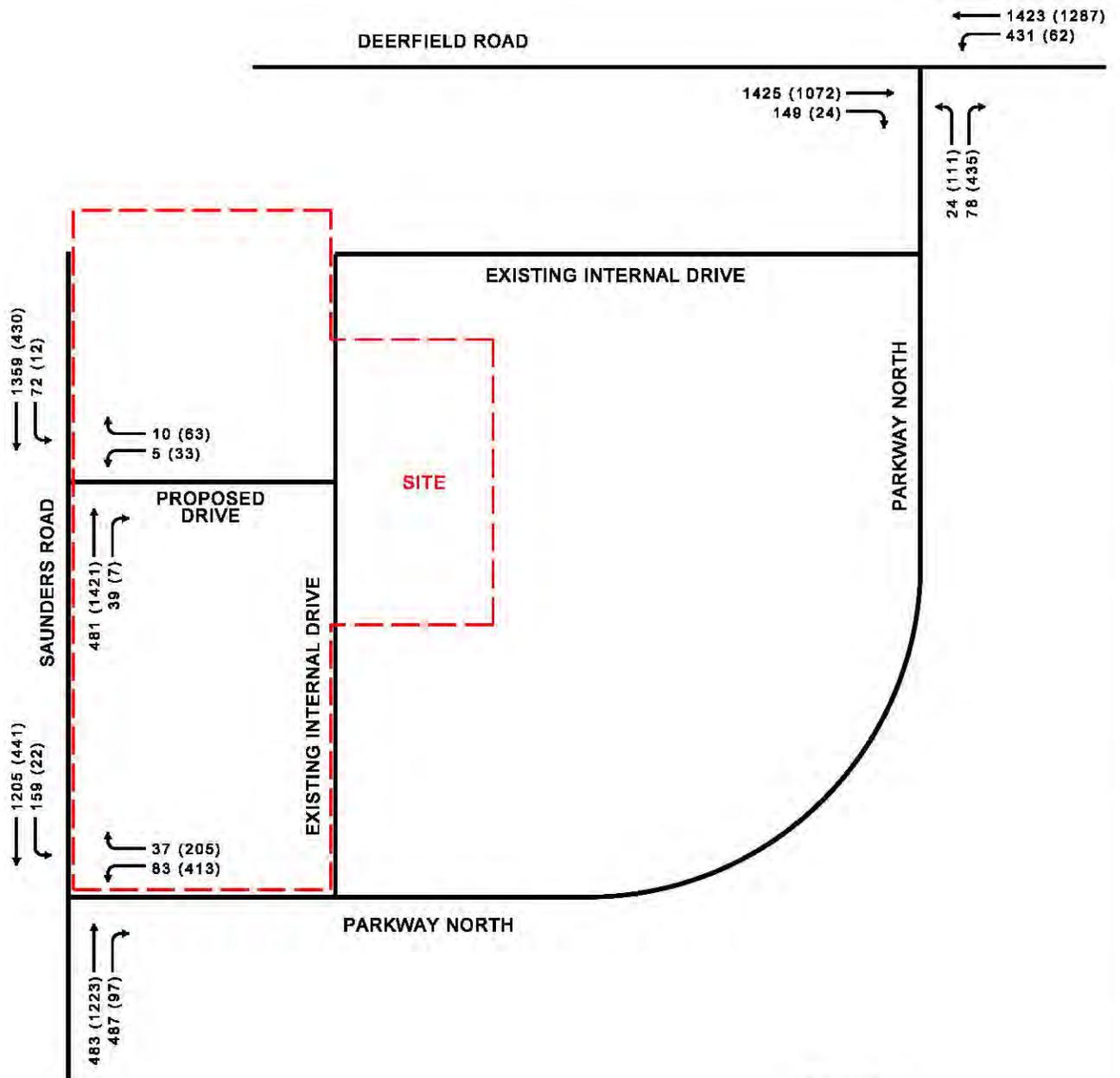
**QUADRANGLE
DEVELOPMENT
COMPANY**

**FIGURE 8
BACKGROUND TRAFFIC VOLUME
DEERFIELD ILLINOIS**



NOTE:

FUTURE WITH PROJECT TRAFFIC VOLUME = PROJECT TRAFFIC VOLUME + BACKGROUND TRAFFIC VOLUME
 (FIGURE 7) (FIGURE 8)



LEGEND

- AM PEAK HOUR
 (##) - PM PEAK HOUR

AM PEAK HOUR: 7:30 AM - 8:30 AM
 PM PEAK HOUR: 4:30 PM - 5:30 PM

**QUADRANGLE
 DEVELOPMENT
 COMPANY**

**FIGURE 9
 FUTURE WITH PROJECT
 TRAFFIC VOLUME**

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IV. TRAFFIC ANALYSIS

Right Turn Lane Warrant Analysis

A right turn lane warrant analysis is conducted for the northbound approach to the proposed full access driveway on Saunders Road. The Lake County Highway Access Regulation Ordinance provides guidelines for when right turn lanes should be considered. Figure 11.2 from the Ordinance provides the recommended right turn treatments for two-lane highways which uses the approach volumes and the right turn volumes. Section 11.4.3.c of the Ordinance provides guidance for four-lane highways, reducing the approach volume by half. With the addition of the site trips to Saunders Road, there are 520 approach trips and 39 right turns during the am peak hour and 1,428 approach trips and 7 right turns during the pm peak hour. In both cases, the approach and right turn volumes fall below the threshold for a required right turn lane established in the Ordinance. Therefore, it is concluded that a northbound right turn lane is not warranted at the proposed full access driveway on Saunders Road. Appendix B illustrates the right turn warrants using the Ordinance figure.

Capacity Analysis

The operation of a facility is evaluated based on level of service (LOS) calculations obtained by analytical methods defined in the Transportation Research Board's Highway Capacity Manual (HCM), 2010 Edition. The concept of LOS is defined as a quality measure describing operational conditions within a traffic stream, generally in terms of such service measures as speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience.

There are six LOS letter designations, from A to F, with LOS A representing the best operating conditions and LOS F the worst.

The LOS of an intersection is based on the average control delay per vehicle. For a signalized intersection, the delay is calculated for each lane group and then aggregated for each approach and for the intersection as a whole. Generally, the LOS is reported for the intersection as a whole. For an unsignalized intersection, the delay is only calculated and reported for each minor movement. An overall intersection LOS is not calculated.

There are different LOS criteria for signalized and unsignalized intersections primarily due to driver perceptions of transportation facilities. The perception is that a signalized intersection is expected to carry higher traffic volumes and experience a greater average delay than an unsignalized intersection. The LOS criteria for signalized and unsignalized intersections are provided in Table 2.



Table 2: Level of Service Definitions for Signalized and Unsignalized Intersections

Level of Service	Signalized Intersection Control Delay (seconds/vehicle)	Unsignalized Intersection Control Delay (seconds/vehicle)
A	≤ 10	≤ 10.0
B	> 10.0 and ≤ 20.0	> 10.0 and ≤ 15.0
C	> 20.0 and ≤ 35.0	> 15.0 and ≤ 25.0
D	> 35.0 and ≤ 55.0	> 25.0 and ≤ 35.0
E	> 55.0 and ≤ 80.0	> 35.0 and ≤ 50.0
F	> 80.0	> 50.0

Source: Transportation Research Board, *Highway Capacity Manual 2010*, National Research Council, 2010.

Typically, various state and local governments adopt operating standards varying between LOS C and LOS E, depending on the area’s size and roadway characteristics. Based on our past experience with the Village of Deerfield and Lake County, LOS D or better has been the accepted operating standard.

The study area consists of the signalized intersections of Saunders Road/Parkway North and Deerfield Road/Parkway North and the unsignalized proposed driveway on Saunders Road. Capacity analysis is performed with Synchro 9 (build 902, revision 140), a macrosimulation tool based on methodologies found in the Highway Capacity Manual. Models were created for the weekday am and weekday pm peak hours for the existing, background, and future with project conditions. Results for the signalized intersections are summarized in Table 3 and for the proposed unsignalized full access driveway on Saunders Road are summarized in Table 4. Supporting Synchro analysis worksheets for the existing, background and future with project traffic conditions are provided in Appendices C, D, and E, respectively.

Table 3: Signalized Intersection Level of Service

Intersection	Peak Hour	Scenario	Eastbound		Westbound		Northbound		Southbound		Intersection	
			Delay (sec)	LOS	Delay (sec)	LOS						
Saunders Road and Parkway North	AM	Existing	-	-	44.4	D	2.7	A	2.7	A	4.9	A
		Background	-	-	44.2	D	3.0	A	3.0	A	5.0	A
		Future	-	-	44.8	D	3.1	A	3.2	A	5.2	A
	PM	Existing	-	-	41.2	D	6.6	A	3.8	A	14.8	B
		Background	-	-	42.4	D	8.4	A	4.1	A	15.8	B
		Future	-	-	49.1	D	8.6	A	4.3	A	18.2	B
Deerfield Road and Parkway North	AM	Existing	11.4	B	5.1	A	27.7	C	-	-	8.6	A
		Background	17.4	B	9.1	A	30.3	C	-	-	13.5	B
		Future	23.2	C	12.6	B	27.5	C	-	-	17.7	B
	PM	Existing	14.4	B	5.8	A	47.3	D	-	-	16.1	B
		Background	17.2	B	6.5	A	47.2	D	-	-	16.9	B
		Future	18.7	B	6.5	A	45.0	D	-	-	18.0	B



Under existing conditions all approaches at the two signalized intersections operate at LOS D or better. Delay increases slightly in the background condition, but there are no notable changes in levels of service. Likewise, delay increases slightly with the addition of project related traffic. Again, there are no notable changes in levels of service and all approaches are maintained at LOS D or better. Both intersections are projected to operate at LOS B during the am and pm peak hours. Therefore, it is concluded that no mitigation is warranted at the signalized intersections.

Table 4: Unsignalized Intersection Level of Service

Peak Hour	Scenario	WB Left Turn		WB Right Turn		SB Left	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
AM	Existing	-	-	-	-	-	-
	Background	-	-	-	-	-	-
	Future	20.0	C	10.0	A	8.8	A
PM	Existing	-	-	-	-	-	-
	Background	-	-	-	-	-	-
	Future	37.5	E	17.5	C	13.4	B

The movements at the proposed unsignalized driveway are projected to operate at LOS D or better during the am and pm peak hours in the future with project scenario with the exception of the westbound left turn during the pm peak hour. Saunders Road is a commuter route with significant peak hour volumes so delays at unsignalized driveways are to be expected. In addition, a protected left turn at the intersection of Saunders Road/Parkway North is an option for left turning vehicles if delays are too great at the unsignalized driveway. It is anticipated that the westbound left turn movement will operate adequately during most of the day. A right turn lane is not required per the Lake County Ordinance.

Queue Length Analysis

The 95th percentile queue lengths have also been analyzed with Synchro 9. Queue length analysis typically focuses on the left turn queue lengths. The 95th percentile queue lengths for the am and pm peak hours for the study area intersections are illustrated in Table 5.



Table 5: 95th Percentile Left-Turn Queue Lengths

Intersection	Scenario	Left Turn Queue by Approach, in Feet							
		AM Peak hour				PM Peak hour			
		EB	WB	NB	SB	EB	WB	NB	SB
Saunders Road and Parkway North	Existing	-	52	-	26	-	170	-	8
	Background	-	53	-	30	-	192	-	9
	Future	-	59	-	31	-	252	-	9
	Existing Storage	-	260 ¹	-	200	-	260 ¹	-	200
	Existing Taper	-	- ²	-	185	-	- ²	-	185
Deerfield Road and Parkway North	Existing	-	148	43	-	-	15	124	-
	Background	-	255	44	-	-	16	130	-
	Future	-	388	46	-	-	20	144	-
	Existing Storage	-	200	200	-	-	200	200	-
	Existing Taper	-	200	- ²	-	-	200	- ²	-
Saunders Road and Proposed Drive	Existing	-	-	-	-	-	-	-	-
	Background	-	-	-	-	-	-	-	-
	Future	-	3	-	5	-	23	-	3
	Proposed Storage	-	115	-	180 ³	-	115	-	180 ³
	Proposed Taper	-	135	-	180 ³	-	135	-	180 ³

1. Average storage length for two left turn lanes
2. No taper, through lane converts to left turn lane
3. Proposed based on location of driveway and northbound left turn at Deerfield Road/Saunders Road

During both the am and pm peak hours in the existing condition, the storage capacity is sufficient for all left turn movements at both signalized intersections. The westbound queue length at Saunders Road/Parkway North exceeds the length of the added left turn pocket, but the second left turn lane continues through the site as a general through lane.

Queue lengths tend to increase slightly in the background condition, but all storage capacity remains adequate with the exception of the westbound left turn at Deerfield Road/Parkway North. In the background condition during the am peak hour, the projected queue length is 255 feet which exceeds the existing storage length of 200 feet.

The addition of project related traffic increase queue lengths on multiple approaches, primarily on movements into the site during the am peak hour and out of the site during the pm peak hour. All queue demands are met within the existing storage, with the exception of the westbound left turn at Deerfield Road/Parkway North. The queue length in the future with project scenario is 388 feet, approximately five vehicles longer than the background condition. It is recommended that the westbound left turn lane be restriped to its maximum storage length of approximately 325 feet and that the taper mirror the eastbound left turn lane at the Deerfield Road/I-94 Southbound On Ramp signalized intersection. It should be noted that both this office development and the proposed office development in Lot 7 are contributing to the need to extend the left turn lane striping.



There are no queueing issues at the proposed unsignalized driveway on Saunders Road, with the longest queue less than one vehicle. The southbound left turn lane storage and taper length should be sized such that the proposed southbound taper length mirrors the existing taper for the northbound left turn lane approaching Deerfield Road to maximize the storage length.



V. CONCLUSIONS

The purpose of this study is to evaluate the potential traffic impacts of a proposed 198,645 square foot office building located in the Parkway North Center business park in Deerfield, Illinois. The site will be accessible by a proposed full access driveway on Saunders Road north of Parkway North in addition to the two main access points for the business park at Saunders Road/Parkway North and Deerfield Road/Parkway North.

The capacity analysis was conducted for existing, background, and future with project conditions during the am and pm peak hours. Traffic was estimated to the year 2023, which is five years beyond the anticipated opening date.

The signalized intersections and approaches of Saunders Road/Parkway North and Deerfield Road/Parkway North both operate at LOS D or better in the existing, background, and future with project scenarios. Therefore, no mitigation is warranted at the signalized intersections.

Likewise, the movements at the proposed unsignalized driveway on Saunders Road are projected to operate at LOS D or better during the am and pm peak hours in the future with project scenario with the exception of the westbound left turn during the pm peak hour. Saunders Road is a commuter route with significant peak hour volumes so delays at unsignalized driveways are to be expected. In addition, a protected left turn at the intersection of Saunders Road/Parkway North is an option for left turning vehicles if delays are too great at the unsignalized driveway. It is anticipated that the westbound left turn movement will operate adequately during most of the day.

A right turn lane warrant analysis has been conducted for the northbound approach to the proposed full access driveway on Saunders Road. Using the methodology from the Lake County Highway Access Regulation Ordinance, the projected northbound approach and right turning volumes fall below the threshold for a required right turn lane established in the Ordinance. Therefore, it is concluded that a northbound right turn lane is not warranted at the proposed full access driveway on Saunders Road.

During both the am and pm peak hours in the existing condition, the storage capacity is sufficient for all left turn movements at both signalized intersections. Queue lengths increase in the background condition with the westbound left turn at Deerfield Road/Parkway North exceeding the existing storage length. The addition of project related traffic increases this queue length to 388 feet. It is recommended that the westbound left turn lane be restriped to its maximum storage length of approximately 325 feet and that the taper mirror the eastbound left turn lane at the Deerfield Road/I-94 Southbound On Ramp signalized intersection. It should be noted that both this office development and the proposed office development in Lot 7 are contributing to the need to extend the left turn lane striping. All other future with project queue lengths can be accommodated within the existing storage lengths.



There are no queueing issues at the proposed unsignalized driveway on Saunders Road. The southbound left turn lane storage and taper length should be sized such that the proposed southbound taper length mirrors the existing taper for the northbound left turn lane approaching Deerfield Road to maximize the storage length.



APPENDIX A

EXISTING TRAFFIC COUNT

V3 Companies
 7325 Janes Avenue
 Woodridge, IL 60517

Project: Quadrangle
 Location: Deerfield, Illinois
 Weather: Dry
 Counted by: V3

File Name : Saunders and Parkway North
 Site Code : 96031
 Start Date : 1/26/2016
 Page No : 1

Groups Printed- PC

Start Time	Saunders Road Northbound					Saunders Road Southbound					Parkway North Eastbound					Parkway North Westbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	0	74	59	0	133	24	151	0	0	175	0	0	0	0	0	10	0	2	0	12	320
07:15 AM	0	91	86	0	177	26	202	0	0	228	0	0	0	0	0	15	0	8	0	23	428
07:30 AM	0	94	97	0	191	15	202	0	0	217	0	0	0	0	0	13	0	6	0	19	427
07:45 AM	0	101	87	0	188	40	252	0	0	292	0	0	0	0	0	19	0	8	0	27	507
Total	0	360	329	0	689	105	807	0	0	912	0	0	0	0	0	57	0	24	0	81	1682
08:00 AM	0	71	105	0	176	37	273	0	0	310	0	0	0	0	0	19	0	11	0	30	516
08:15 AM	0	101	87	0	188	46	265	0	0	311	0	0	0	0	0	18	0	9	0	27	526
08:30 AM	0	87	83	0	170	23	212	0	0	235	0	0	0	0	0	13	0	7	0	20	425
08:45 AM	0	95	58	0	153	20	291	0	0	311	0	0	0	0	0	13	0	6	0	19	483
Total	0	354	333	0	687	126	1041	0	0	1167	0	0	0	0	0	63	0	33	0	96	1950
*** BREAK ***																					
04:00 PM	0	236	8	0	244	1	81	0	0	82	0	0	0	0	0	70	0	19	0	89	415
04:15 PM	0	206	12	0	218	7	87	0	0	94	0	0	0	0	0	50	0	41	0	91	403
04:30 PM	0	237	10	0	247	3	83	0	0	86	0	0	0	0	0	76	0	50	0	126	459
04:45 PM	0	242	25	0	267	5	93	0	0	98	0	0	0	0	0	57	0	37	0	94	459
Total	0	921	55	0	976	16	344	0	0	360	0	0	0	0	0	253	0	147	0	400	1736
05:00 PM	0	269	18	0	287	3	77	0	0	80	0	0	0	0	0	106	0	55	0	161	528
05:15 PM	0	257	22	0	279	6	84	0	0	90	0	0	0	0	0	65	0	37	0	102	471
05:30 PM	0	238	23	0	261	3	111	0	0	114	0	0	0	0	0	54	0	31	0	85	460
05:45 PM	0	214	20	0	234	0	98	0	0	98	0	0	0	0	0	49	0	29	0	78	410
Total	0	978	83	0	1061	12	370	0	0	382	0	0	0	0	0	274	0	152	0	426	1869
Grand Total	0	2613	800	0	3413	259	2562	0	0	2821	0	0	0	0	0	647	0	356	0	1003	7237
Apprch %	0	76.6	23.4	0		9.2	90.8	0	0		0	0	0	0	0	64.5	0	35.5	0		
Total %	0	36.1	11.1	0	47.2	3.6	35.4	0	0	39	0	0	0	0	0	8.9	0	4.9	0	13.9	

Start Time	Saunders Road Northbound					Saunders Road Southbound					Parkway North Eastbound					Parkway North Westbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	94	97	0	191	15	202	0	0	217	0	0	0	0	0	13	0	6	0	19	427
07:45 AM	0	101	87	0	188	40	252	0	0	292	0	0	0	0	0	19	0	8	0	27	507
08:00 AM	0	71	105	0	176	37	273	0	0	310	0	0	0	0	0	19	0	11	0	30	516
08:15 AM	0	101	87	0	188	46	265	0	0	311	0	0	0	0	0	18	0	9	0	27	526
Total Volume	0	367	376	0	743	138	992	0	0	1130	0	0	0	0	0	69	0	34	0	103	1976
% App. Total	0	49.4	50.6	0		12.2	87.8	0	0		0	0	0	0	0	67	0	33	0		
PHF	.000	.908	.895	.000	.973	.750	.908	.000	.000	.908	.000	.000	.000	.000	.000	.908	.000	.773	.000	.858	.939

Start Time	Saunders Road Northbound					Saunders Road Southbound					Parkway North Eastbound					Parkway North Westbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	0	237	10	0	247	3	83	0	0	86	0	0	0	0	0	76	0	50	0	126	459
04:45 PM	0	242	25	0	267	5	93	0	0	98	0	0	0	0	0	57	0	37	0	94	459
05:00 PM	0	269	18	0	287	3	77	0	0	80	0	0	0	0	0	106	0	55	0	161	528
05:15 PM	0	257	22	0	279	6	84	0	0	90	0	0	0	0	0	65	0	37	0	102	471
Total Volume	0	1005	75	0	1080	17	337	0	0	354	0	0	0	0	0	304	0	179	0	483	1917
% App. Total	0	93.1	6.9	0		4.8	95.2	0	0		0	0	0	0	0	62.9	0	37.1	0		
PHF	.000	.934	.750	.000	.941	.708	.906	.000	.000	.903	.000	.000	.000	.000	.000	.717	.000	.814	.000	.750	.908

V3 Companies
7325 Janes Avenue
Woodridge, IL 60517

Project: Quadrangle
Location: Deerfield, Illinois
Weather: Dry
Counted by: V3

File Name : Deerfield and Parkway North
Site Code : 96031
Start Date : 1/26/2016
Page No : 1

Groups Printed- PC

Start Time	Parkway North Northbound					Parkway North Southbound					Deerfield Road Eastbound					Deerfield Road Westbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	1	0	8	0	9	0	0	0	0	0	0	238	15	0	253	33	208	0	0	241	503
07:15 AM	3	0	9	0	12	0	0	0	0	0	0	269	17	0	286	81	246	0	0	327	625
07:30 AM	4	0	16	0	20	0	0	0	0	0	0	340	35	0	375	57	274	0	0	331	726
07:45 AM	7	0	20	0	27	0	0	0	0	0	0	299	35	0	334	79	324	0	0	403	764
Total	15	0	53	0	68	0	0	0	0	0	0	1146	102	0	1248	250	1052	0	0	1302	2618
08:00 AM	5	0	13	0	18	0	0	0	0	0	0	296	30	0	326	90	315	0	0	405	749
08:15 AM	5	0	14	0	19	0	0	0	0	0	0	243	30	0	273	92	263	0	0	355	647
08:30 AM	5	0	17	0	22	0	0	0	0	0	0	249	25	0	274	90	280	0	0	370	666
08:45 AM	4	0	8	0	12	0	0	0	0	0	0	215	28	0	243	68	273	0	0	341	596
Total	19	0	52	0	71	0	0	0	0	0	0	1003	113	0	1116	340	1131	0	0	1471	2658
*** BREAK ***																					
04:00 PM	22	0	58	0	80	0	0	0	0	0	0	234	3	0	237	11	255	0	0	266	583
04:15 PM	17	0	67	0	84	0	0	0	0	0	0	233	7	0	240	16	271	0	0	287	611
04:30 PM	19	0	83	0	102	0	0	0	0	0	0	201	4	0	205	9	288	0	0	297	604
04:45 PM	24	0	78	0	102	0	0	0	0	0	0	226	3	0	229	16	257	0	0	273	604
Total	82	0	286	0	368	0	0	0	0	0	0	894	17	0	911	52	1071	0	0	1123	2402
05:00 PM	28	0	93	0	121	0	0	0	0	0	0	226	4	0	230	10	249	0	0	259	610
05:15 PM	22	0	76	0	98	0	0	0	0	0	0	233	8	0	241	6	270	0	0	276	615
05:30 PM	14	0	62	0	76	0	0	0	0	0	0	233	4	0	237	7	261	0	0	268	581
05:45 PM	13	0	62	0	75	0	0	0	0	0	0	214	6	0	220	10	253	0	0	263	558
Total	77	0	293	0	370	0	0	0	0	0	0	906	22	0	928	33	1033	0	0	1066	2364
Grand Total	193	0	684	0	877	0	0	0	0	0	0	3949	254	0	4203	675	4287	0	0	4962	10042
Apprch %	22	0	78	0		0	0	0	0	0	0	94	6	0		13.6	86.4	0	0		
Total %	1.9	0	6.8	0	8.7	0	0	0	0	0	0	39.3	2.5	0	41.9	6.7	42.7	0	0	49.4	

Start Time	Parkway North Northbound					Parkway North Southbound					Deerfield Road Eastbound					Deerfield Road Westbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	4	0	16	0	20	0	0	0	0	0	0	340	35	0	375	57	274	0	0	331	726
07:45 AM	7	0	20	0	27	0	0	0	0	0	0	299	35	0	334	79	324	0	0	403	764
08:00 AM	5	0	13	0	18	0	0	0	0	0	0	296	30	0	326	90	315	0	0	405	749
08:15 AM	5	0	14	0	19	0	0	0	0	0	0	243	30	0	273	92	263	0	0	355	647
Total Volume	21	0	63	0	84	0	0	0	0	0	0	1178	130	0	1308	318	1176	0	0	1494	2886
% App. Total	25	0	75	0		0	0	0	0	0	0	90.1	9.9	0		21.3	78.7	0	0		
PHF	.750	.000	.788	.000	.778	.000	.000	.000	.000	.000	.000	.866	.929	.000	.872	.864	.907	.000	.000	.922	.944

Start Time	Parkway North Northbound					Parkway North Southbound					Deerfield Road Eastbound					Deerfield Road Westbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	19	0	83	0	102	0	0	0	0	0	0	201	4	0	205	9	288	0	0	297	604
04:45 PM	24	0	78	0	102	0	0	0	0	0	0	226	3	0	229	16	257	0	0	273	604
05:00 PM	28	0	93	0	121	0	0	0	0	0	0	226	4	0	230	10	249	0	0	259	610
05:15 PM	22	0	76	0	98	0	0	0	0	0	0	233	8	0	241	6	270	0	0	276	615
Total Volume	93	0	330	0	423	0	0	0	0	0	0	886	19	0	905	41	1064	0	0	1105	2433
% App. Total	22	0	78	0		0	0	0	0	0	0	97.9	2.1	0		3.7	96.3	0	0		
PHF	.830	.000	.887	.000	.874	.000	.000	.000	.000	.000	.000	.951	.594	.000	.939	.641	.924	.000	.000	.930	.989

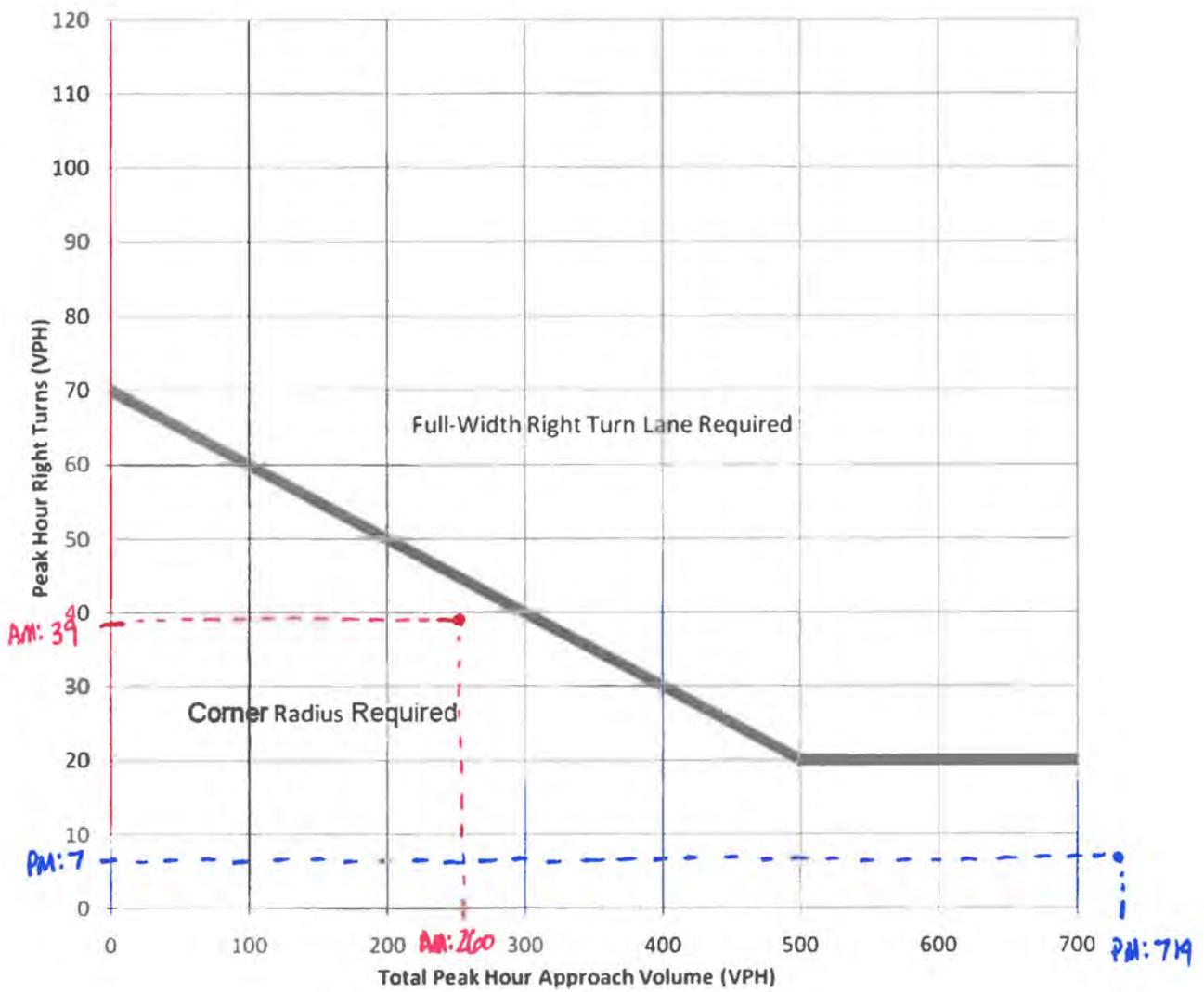


APPENDIX B

RIGHT TURN LANE WARRANT ANALYSIS

Figure 11.2

Right Turn Treatments For Various Volumes: Two-Lane Highway



11.4.3 Right-Turn Lane Requirements

11.4.3.a Standards

The type of right turn lane improvement is determined using Figure 11.2. For specific standards regarding radii, storage, and taper lengths, refer to current LCDOT policies.

11.4.3.b Instructions for Use of Figure 11.2

Enter into the graph the total peak-hour approach through volumes plus the right-turn volumes and corresponding peak-hour right-turn volumes. The point of intersection will fall into one of the two treatment types. This is the treatment that shall be required. If the point of intersection falls on the dividing line, the higher treatment shall be used. The lower level of treatment involves increasing curb radii to facilitate the right-turn movement. The higher treatment level involves a full-width right-turn lane, including tapers. The storage length shall be determined by a capacity analysis, subject to a 125 foot minimum at an unsignalized intersection and 150 feet at a signalized intersection. The total peak-hour volumes to be used shall be projected to the date of the ultimate buildout of the development.

11.4.3.c Right-Turn Requirements for a Four-Lane Highway

For determining the right-turn requirements for a four-lane highway, Figure 11.2 shall be used. The approach volume considered should be half the approach volume using the highway.



APPENDIX C

CAPACITY ANALYSIS WORKSHEETS

EXISTING

Existing (2016)
1: Saunders Road & Parkway North

Timing Plan: AM
2/2/2016

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 		 			 
Traffic Volume (vph)	69	34	367	376	138	992
Future Volume (vph)	69	34	367	376	138	992
Ideal Flow (vphpl)	1900	1900	2000	1900	1900	2000
Storage Length (ft)	120	0		280	200	
Storage Lanes	1	1		1	1	
Taper Length (ft)	140				190	
Lane Util. Factor	0.97	1.00	0.95	1.00	1.00	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	1583	3725	1583	1770	3725
Flt Permitted	0.950				0.504	
Satd. Flow (perm)	3433	1583	3725	1583	939	3725
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		36		396		
Link Speed (mph)	25		45			45
Link Distance (ft)	791		505			1359
Travel Time (s)	21.6		7.7			20.6
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	73	36	386	396	145	1044
Shared Lane Traffic (%)						
Lane Group Flow (vph)	73	36	386	396	145	1044
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	0.94	1.00	1.00	0.94
Turning Speed (mph)	15	9		9	15	
Turn Type	Prot	Perm	NA	pm+ov	pm+pt	NA
Protected Phases	8		2	8	1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	8	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	24.0	24.0	11.0	24.0
Total Split (s)	24.0	24.0	64.0	24.0	32.0	96.0
Total Split (%)	20.0%	20.0%	53.3%	20.0%	26.7%	80.0%
Maximum Green (s)	18.0	18.0	58.0	18.0	28.5	90.0
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	0.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	3.5	6.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Max	None	None	C-Max
Act Effect Green (s)	8.1	8.1	89.2	103.4	102.4	99.9

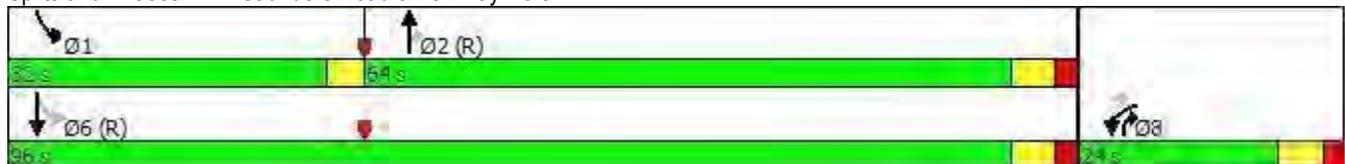


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Actuated g/C Ratio	0.07	0.07	0.74	0.86	0.85	0.83
v/c Ratio	0.31	0.26	0.14	0.28	0.17	0.34
Control Delay	56.2	20.6	4.8	0.6	2.0	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.2	20.6	4.8	0.6	2.0	2.8
LOS	E	C	A	A	A	A
Approach Delay	44.4		2.7			2.7
Approach LOS	D		A			A
90th %ile Green (s)	11.0	11.0	85.0	11.0	8.5	97.0
90th %ile Term Code	Gap	Gap	Coord	Gap	Gap	Coord
70th %ile Green (s)	8.8	8.8	88.2	8.8	7.5	99.2
70th %ile Term Code	Gap	Gap	Coord	Gap	Gap	Coord
50th %ile Green (s)	7.9	7.9	89.6	7.9	7.0	100.1
50th %ile Term Code	Gap	Gap	Coord	Gap	Gap	Coord
30th %ile Green (s)	7.1	7.1	90.8	7.1	6.6	100.9
30th %ile Term Code	Gap	Gap	Coord	Gap	Gap	Coord
10th %ile Green (s)	5.9	5.9	92.6	5.9	6.0	102.1
10th %ile Term Code	Gap	Gap	Coord	Gap	Gap	Coord
Queue Length 50th (ft)	28	0	38	0	13	73
Queue Length 95th (ft)	52	33	62	11	26	110
Internal Link Dist (ft)	711		425			1279
Turn Bay Length (ft)	120			280	200	
Base Capacity (vph)	514	268	2770	1516	998	3100
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.13	0.14	0.26	0.15	0.34

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.34
 Intersection Signal Delay: 4.9
 Intersection LOS: A
 Intersection Capacity Utilization 40.2%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 1: Saunders Road & Parkway North



Existing (2016)
2: Parkway North & Deerfield Road

Timing Plan: AM
2/2/2016



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↓
Traffic Volume (vph)	1178	130	318	1176	21	63
Future Volume (vph)	1178	130	318	1176	21	63
Ideal Flow (vphpl)	2000	1900	1900	2000	1900	1900
Storage Length (ft)		185	200		0	0
Storage Lanes		1	1		1	1
Taper Length (ft)			200		100	
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3725	1583	1770	3725	1770	1583
Flt Permitted			0.170		0.950	
Satd. Flow (perm)	3725	1583	317	3725	1770	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		102				34
Link Speed (mph)	40			40	25	
Link Distance (ft)	636			708	693	
Travel Time (s)	10.8			12.1	18.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1240	137	335	1238	22	66
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1240	137	335	1238	22	66
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	0.94	1.00	1.00	0.94	1.00	1.00
Turning Speed (mph)		9	15		15	9
Turn Type	NA	Perm	pm+pt	NA	Prot	pt+ov
Protected Phases	4		3	8	2	2 3
Permitted Phases		4	8			
Detector Phase	4	4	3	8	2	2 3
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	24.0	24.0	11.0	24.0	24.0	
Total Split (s)	64.0	64.0	32.0	96.0	24.0	
Total Split (%)	53.3%	53.3%	26.7%	80.0%	20.0%	
Maximum Green (s)	58.0	58.0	28.5	90.0	18.0	
Yellow Time (s)	4.0	4.0	3.5	4.0	4.0	
All-Red Time (s)	2.0	2.0	0.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	3.5	6.0	6.0	
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Max	C-Max	None	C-Max	None	
Walk Time (s)	7.0	7.0		7.0	7.0	

Existing (2016)
2: Parkway North & Deerfield Road

Timing Plan: AM
2/2/2016

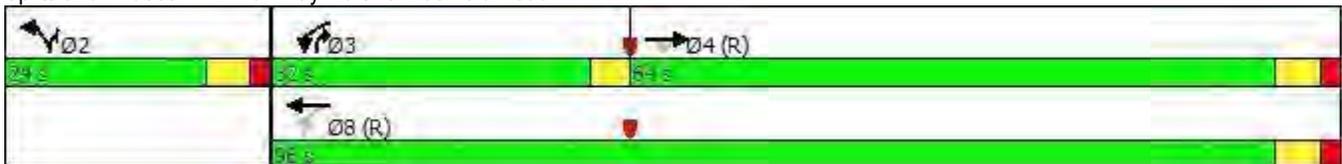


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	
Act Effct Green (s)	81.0	81.0	105.2	103.9	7.6	27.0
Actuated g/C Ratio	0.68	0.68	0.88	0.87	0.06	0.22
v/c Ratio	0.49	0.12	0.67	0.38	0.20	0.17
Control Delay	12.3	3.8	14.5	2.6	56.4	18.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.3	3.8	14.5	2.6	56.4	18.1
LOS	B	A	B	A	E	B
Approach Delay	11.4			5.1	27.7	
Approach LOS	B			A	C	
90th %ile Green (s)	66.3	66.3	27.9	97.7	10.3	
90th %ile Term Code	Coord	Coord	Gap	Coord	Gap	
70th %ile Green (s)	73.7	73.7	22.1	99.3	8.7	
70th %ile Term Code	Coord	Coord	Gap	Coord	Gap	
50th %ile Green (s)	79.1	79.1	18.0	100.6	7.4	
50th %ile Term Code	Coord	Coord	Gap	Coord	Gap	
30th %ile Green (s)	84.5	84.5	14.0	102.0	6.0	
30th %ile Term Code	Coord	Coord	Gap	Coord	Gap	
10th %ile Green (s)	101.4	101.4	9.1	114.0	0.0	
10th %ile Term Code	Coord	Coord	Gap	Coord	Skip	
Queue Length 50th (ft)	237	9	44	91	17	19
Queue Length 95th (ft)	391	41	148	133	43	48
Internal Link Dist (ft)	556			628	613	
Turn Bay Length (ft)		185	200			
Base Capacity (vph)	2514	1101	623	3225	265	515
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.12	0.54	0.38	0.08	0.13

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBTL, Start of Green
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.67
 Intersection Signal Delay: 8.6
 Intersection Capacity Utilization 66.1%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service C

Splits and Phases: 2: Parkway North & Deerfield Road



Existing (2016)
1: Saunders Road & Parkway North

Timing Plan: PM
2/2/2016



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↙↙	↘	↕↕	↘	↙	↕↕
Traffic Volume (vph)	304	179	1005	75	17	337
Future Volume (vph)	304	179	1005	75	17	337
Ideal Flow (vphpl)	1900	1900	2000	1900	1900	2000
Storage Length (ft)	120	0		280	200	
Storage Lanes	1	1		1	1	
Taper Length (ft)	140				190	
Lane Util. Factor	0.97	1.00	0.95	1.00	1.00	0.95
Fr _t		0.850		0.850		
Fl _t Protected	0.950				0.950	
Satd. Flow (prot)	3433	1583	3725	1583	1770	3725
Fl _t Permitted	0.950				0.233	
Satd. Flow (perm)	3433	1583	3725	1583	434	3725
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		188		79		
Link Speed (mph)	25		45			45
Link Distance (ft)	791		505			1359
Travel Time (s)	21.6		7.7			20.6
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	320	188	1058	79	18	355
Shared Lane Traffic (%)						
Lane Group Flow (vph)	320	188	1058	79	18	355
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	0.94	1.00	1.00	0.94
Turning Speed (mph)	15	9		9	15	
Turn Type	Prot	Perm	NA	pm+ov	pm+pt	NA
Protected Phases	8		2	8	1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	8	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	24.0	24.0	11.0	24.0
Total Split (s)	24.0	24.0	64.0	24.0	32.0	96.0
Total Split (%)	20.0%	20.0%	53.3%	20.0%	26.7%	80.0%
Maximum Green (s)	18.0	18.0	58.0	18.0	28.5	90.0
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	0.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	3.5	6.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Max	None	None	C-Max
Act Effect Green (s)	15.8	15.8	88.4	113.8	94.7	92.2

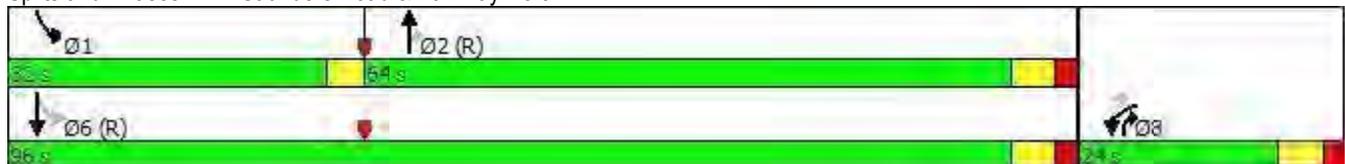


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Actuated g/C Ratio	0.13	0.13	0.74	0.95	0.79	0.77
v/c Ratio	0.71	0.51	0.39	0.05	0.04	0.12
Control Delay	58.7	11.5	7.0	0.3	3.3	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.7	11.5	7.0	0.3	3.3	3.8
LOS	E	B	A	A	A	A
Approach Delay	41.2		6.6			3.8
Approach LOS	D		A			A
90th %ile Green (s)	18.0	18.0	80.3	18.0	6.2	90.0
90th %ile Term Code	Max	Max	Coord	Max	Gap	Coord
70th %ile Green (s)	18.0	18.0	80.6	18.0	5.9	90.0
70th %ile Term Code	Max	Max	Coord	Max	Gap	Coord
50th %ile Green (s)	16.4	16.4	91.6	16.4	0.0	91.6
50th %ile Term Code	Gap	Gap	Coord	Gap	Skip	Coord
30th %ile Green (s)	14.6	14.6	93.4	14.6	0.0	93.4
30th %ile Term Code	Gap	Gap	Coord	Gap	Skip	Coord
10th %ile Green (s)	12.1	12.1	95.9	12.1	0.0	95.9
10th %ile Term Code	Gap	Gap	Coord	Gap	Skip	Coord
Queue Length 50th (ft)	123	0	121	0	3	32
Queue Length 95th (ft)	170	66	222	5	8	47
Internal Link Dist (ft)	711		425			1279
Turn Bay Length (ft)	120			280	200	
Base Capacity (vph)	514	397	2742	1487	659	2861
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.62	0.47	0.39	0.05	0.03	0.12

Intersection Summary

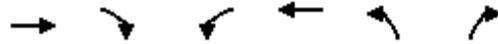
Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.71
 Intersection Signal Delay: 14.8
 Intersection LOS: B
 Intersection Capacity Utilization 47.5%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 1: Saunders Road & Parkway North



Existing (2016)
2: Parkway North & Deerfield Road

Timing Plan: PM
2/2/2016



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↓
Traffic Volume (vph)	886	19	41	1064	93	330
Future Volume (vph)	886	19	41	1064	93	330
Ideal Flow (vphpl)	2000	1900	1900	2000	1900	1900
Storage Length (ft)		185	200		0	0
Storage Lanes		1	1		1	1
Taper Length (ft)			200		100	
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3725	1583	1770	3725	1770	1583
Flt Permitted			0.243		0.950	
Satd. Flow (perm)	3725	1583	453	3725	1770	1583
Right Turn on Red		Yes				No
Satd. Flow (RTOR)		20				
Link Speed (mph)	40			40	25	
Link Distance (ft)	636			708	693	
Travel Time (s)	10.8			12.1	18.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	933	20	43	1120	98	347
Shared Lane Traffic (%)						
Lane Group Flow (vph)	933	20	43	1120	98	347
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	0.94	1.00	1.00	0.94	1.00	1.00
Turning Speed (mph)		9	15		15	9
Turn Type	NA	Perm	pm+pt	NA	Prot	pt+ov
Protected Phases	4		3	8	2	2 3
Permitted Phases		4	8			
Detector Phase	4	4	3	8	2	2 3
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	24.0	24.0	11.0	24.0	24.0	
Total Split (s)	64.0	64.0	32.0	96.0	24.0	
Total Split (%)	53.3%	53.3%	26.7%	80.0%	20.0%	
Maximum Green (s)	58.0	58.0	28.5	90.0	18.0	
Yellow Time (s)	4.0	4.0	3.5	4.0	4.0	
All-Red Time (s)	2.0	2.0	0.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	3.5	6.0	6.0	
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Max	C-Max	None	C-Max	None	
Walk Time (s)	7.0	7.0		7.0	7.0	

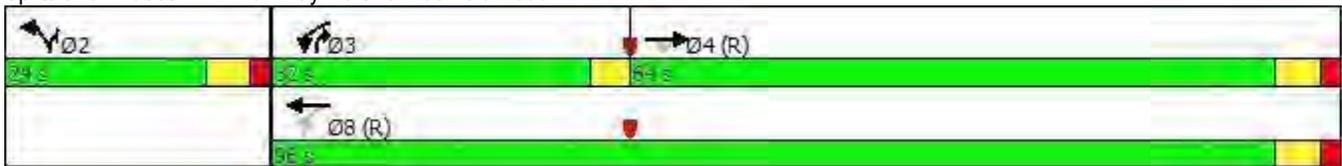


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	
Act Effct Green (s)	72.0	72.0	92.5	90.0	18.0	36.0
Actuated g/C Ratio	0.60	0.60	0.77	0.75	0.15	0.30
v/c Ratio	0.42	0.02	0.08	0.40	0.37	0.73
Control Delay	14.4	5.3	3.6	5.9	50.5	46.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.4	5.3	3.6	5.9	50.5	46.4
LOS	B	A	A	A	D	D
Approach Delay	14.3			5.8	47.3	
Approach LOS	B			A	D	
90th %ile Green (s)	62.6	62.6	23.9	90.0	18.0	
90th %ile Term Code	Coord	Coord	Gap	Coord	Max	
70th %ile Green (s)	68.1	68.1	18.4	90.0	18.0	
70th %ile Term Code	Coord	Coord	Gap	Coord	Max	
50th %ile Green (s)	72.2	72.2	14.3	90.0	18.0	
50th %ile Term Code	Coord	Coord	Gap	Coord	Max	
30th %ile Green (s)	76.9	76.9	9.6	90.0	18.0	
30th %ile Term Code	Coord	Coord	Gap	Coord	Max	
10th %ile Green (s)	80.1	80.1	6.4	90.0	18.0	
10th %ile Term Code	Coord	Coord	Gap	Coord	Max	
Queue Length 50th (ft)	190	0	7	140	69	241
Queue Length 95th (ft)	288	12	15	171	124	313
Internal Link Dist (ft)	556			628	613	
Turn Bay Length (ft)		185	200			
Base Capacity (vph)	2234	957	661	2793	265	659
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.02	0.07	0.40	0.37	0.53

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBTL, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.73
 Intersection Signal Delay: 16.1
 Intersection Capacity Utilization 53.7%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service A

Splits and Phases: 2: Parkway North & Deerfield Road





APPENDIX D

CAPACITY ANALYSIS WORKSHEETS
BACKGROUND

Background (2023)
1: Saunders Road & Parkway North

Timing Plan: AM
2/12/2016



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↙↘	↙	↕↕	↘	↘	↕↕
Traffic Volume (vph)	73	37	444	409	159	1200
Future Volume (vph)	73	37	444	409	159	1200
Ideal Flow (vphpl)	1900	1900	2000	1900	1900	2000
Storage Length (ft)	120	0		280	200	
Storage Lanes	1	1		1	1	
Taper Length (ft)	140				190	
Lane Util. Factor	0.97	1.00	0.95	1.00	1.00	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	1583	3725	1583	1770	3725
Flt Permitted	0.950				0.466	
Satd. Flow (perm)	3433	1583	3725	1583	868	3725
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		39		431		
Link Speed (mph)	25		45			45
Link Distance (ft)	791		505			1359
Travel Time (s)	21.6		7.7			20.6
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	77	39	467	431	167	1263
Shared Lane Traffic (%)						
Lane Group Flow (vph)	77	39	467	431	167	1263
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	0.94	1.00	1.00	0.94
Turning Speed (mph)	15	9		9	15	
Turn Type	Prot	Perm	NA	pm+ov	pm+pt	NA
Protected Phases	8		2	8	1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	8	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	24.0	24.0	11.0	24.0
Total Split (s)	24.0	24.0	64.0	24.0	32.0	96.0
Total Split (%)	20.0%	20.0%	53.3%	20.0%	26.7%	80.0%
Maximum Green (s)	18.0	18.0	58.0	18.0	28.5	90.0
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	0.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	3.5	6.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Max	None	None	C-Max
Act Effect Green (s)	8.3	8.3	88.8	103.1	102.2	99.7

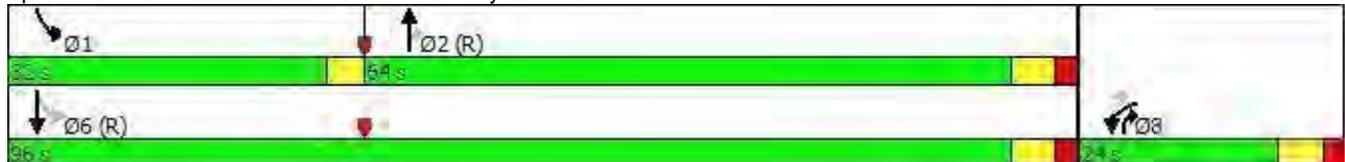


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Actuated g/C Ratio	0.07	0.07	0.74	0.86	0.85	0.83
v/c Ratio	0.33	0.27	0.17	0.30	0.21	0.41
Control Delay	56.3	20.3	5.0	0.7	2.2	3.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.3	20.3	5.0	0.7	2.2	3.1
LOS	E	C	A	A	A	A
Approach Delay	44.2		3.0			3.0
Approach LOS	D		A			A
90th %ile Green (s)	11.2	11.2	84.3	11.2	9.0	96.8
90th %ile Term Code	Gap	Gap	Coord	Gap	Gap	Coord
70th %ile Green (s)	8.9	8.9	87.8	8.9	7.8	99.1
70th %ile Term Code	Gap	Gap	Coord	Gap	Gap	Coord
50th %ile Green (s)	8.1	8.1	89.1	8.1	7.3	99.9
50th %ile Term Code	Gap	Gap	Coord	Gap	Gap	Coord
30th %ile Green (s)	7.2	7.2	90.5	7.2	6.8	100.8
30th %ile Term Code	Gap	Gap	Coord	Gap	Gap	Coord
10th %ile Green (s)	6.0	6.0	92.4	6.0	6.1	102.0
10th %ile Term Code	Gap	Gap	Coord	Gap	Gap	Coord
Queue Length 50th (ft)	29	0	48	0	15	98
Queue Length 95th (ft)	53	35	76	12	30	145
Internal Link Dist (ft)	711		425			1279
Turn Bay Length (ft)	120			280	200	
Base Capacity (vph)	514	270	2757	1514	953	3095
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.14	0.17	0.28	0.18	0.41

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.41
 Intersection Signal Delay: 5.0
 Intersection LOS: A
 Intersection Capacity Utilization 45.7%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 1: Saunders Road & Parkway North





Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↓
Traffic Volume (vph)	1425	134	343	1423	22	66
Future Volume (vph)	1425	134	343	1423	22	66
Ideal Flow (vphpl)	2000	1900	1900	2000	1900	1900
Storage Length (ft)		185	200		0	0
Storage Lanes		1	1		1	1
Taper Length (ft)			200		100	
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Fr _t		0.850				0.850
Fl _t Protected			0.950		0.950	
Satd. Flow (prot)	3725	1583	1770	3725	1770	1583
Fl _t Permitted			0.097		0.950	
Satd. Flow (perm)	3725	1583	181	3725	1770	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		87				16
Link Speed (mph)	40			40	25	
Link Distance (ft)	636			708	693	
Travel Time (s)	10.8			12.1	18.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1500	141	361	1498	23	69
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1500	141	361	1498	23	69
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	0.94	1.00	1.00	0.94	1.00	1.00
Turning Speed (mph)		9	15		15	9
Turn Type	NA	Perm	pm+pt	NA	Prot	pt+ov
Protected Phases	4		3	8	2	2 3
Permitted Phases		4	8			
Detector Phase	4	4	3	8	2	2 3
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	24.0	24.0	11.0	24.0	24.0	
Total Split (s)	64.0	64.0	32.0	96.0	24.0	
Total Split (%)	53.3%	53.3%	26.7%	80.0%	20.0%	
Maximum Green (s)	58.0	58.0	28.5	90.0	18.0	
Yellow Time (s)	4.0	4.0	3.5	4.0	4.0	
All-Red Time (s)	2.0	2.0	0.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	3.5	6.0	6.0	
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Max	C-Max	None	C-Max	None	
Walk Time (s)	7.0	7.0		7.0	7.0	

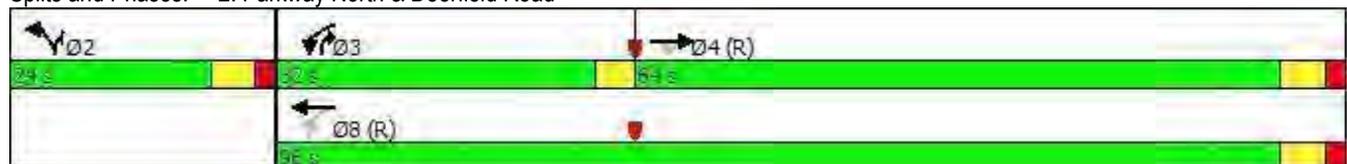


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	
Act Effct Green (s)	74.5	74.5	104.5	103.2	8.3	33.5
Actuated g/C Ratio	0.62	0.62	0.87	0.86	0.07	0.28
v/c Ratio	0.65	0.14	0.76	0.47	0.19	0.15
Control Delay	18.5	6.0	33.4	3.2	55.2	21.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.5	6.0	33.4	3.2	55.2	21.9
LOS	B	A	C	A	E	C
Approach Delay	17.4			9.1	30.3	
Approach LOS	B			A	C	
90th %ile Green (s)	60.7	60.7	33.0	97.2	10.8	
90th %ile Term Code	Coord	Coord	Gap	Coord	Gap	
70th %ile Green (s)	66.9	66.9	28.0	98.4	9.6	
70th %ile Term Code	Coord	Coord	Gap	Coord	Gap	
50th %ile Green (s)	72.0	72.0	24.1	99.6	8.4	
50th %ile Term Code	Coord	Coord	Gap	Coord	Gap	
30th %ile Green (s)	77.2	77.2	20.1	100.8	7.2	
30th %ile Term Code	Coord	Coord	Gap	Coord	Gap	
10th %ile Green (s)	95.8	95.8	14.7	114.0	0.0	
10th %ile Term Code	Coord	Coord	Gap	Coord	Skip	
Queue Length 50th (ft)	385	16	160	132	17	30
Queue Length 95th (ft)	585	55	255	184	44	57
Internal Link Dist (ft)	556			628	613	
Turn Bay Length (ft)		185	200			
Base Capacity (vph)	2313	1016	547	3203	265	523
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.65	0.14	0.66	0.47	0.09	0.13

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBTL, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.76
 Intersection Signal Delay: 13.5
 Intersection LOS: B
 Intersection Capacity Utilization 73.9%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 2: Parkway North & Deerfield Road



Background (2023)
1: Saunders Road & Parkway North

Timing Plan: PM
2/12/2016

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖↗	↖	↕↕	↖	↗	↕↕
Traffic Volume (vph)	346	205	1216	83	22	408
Future Volume (vph)	346	205	1216	83	22	408
Ideal Flow (vphpl)	1900	1900	2000	1900	1900	2000
Storage Length (ft)	120	0		280	200	
Storage Lanes	1	1		1	1	
Taper Length (ft)	140				190	
Lane Util. Factor	0.97	1.00	0.95	1.00	1.00	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	1583	3725	1583	1770	3725
Flt Permitted	0.950				0.170	
Satd. Flow (perm)	3433	1583	3725	1583	317	3725
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		216		87		
Link Speed (mph)	25		45			45
Link Distance (ft)	791		505			1359
Travel Time (s)	21.6		7.7			20.6
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	364	216	1280	87	23	429
Shared Lane Traffic (%)						
Lane Group Flow (vph)	364	216	1280	87	23	429
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	0.94	1.00	1.00	0.94
Turning Speed (mph)	15	9		9	15	
Turn Type	Prot	Perm	NA	pm+ov	pm+pt	NA
Protected Phases	8		2	8	1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	8	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	24.0	24.0	11.0	24.0
Total Split (s)	24.0	24.0	64.0	24.0	32.0	96.0
Total Split (%)	20.0%	20.0%	53.3%	20.0%	26.7%	80.0%
Maximum Green (s)	18.0	18.0	58.0	18.0	28.5	90.0
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	0.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	3.5	6.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Max	None	None	C-Max
Act Effect Green (s)	16.6	16.6	85.6	110.7	93.9	91.4

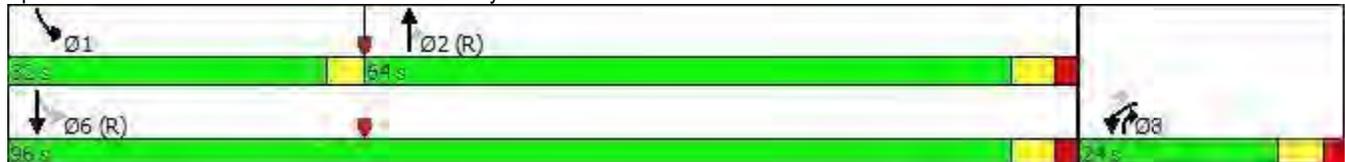


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Actuated g/C Ratio	0.14	0.14	0.71	0.92	0.78	0.76
v/c Ratio	0.77	0.53	0.48	0.06	0.07	0.15
Control Delay	61.0	11.2	9.0	0.3	3.6	4.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.0	11.2	9.0	0.3	3.6	4.1
LOS	E	B	A	A	A	A
Approach Delay	42.4		8.4			4.1
Approach LOS	D		A			A
90th %ile Green (s)	18.0	18.0	80.1	18.0	6.4	90.0
90th %ile Term Code	Max	Max	Coord	Max	Gap	Coord
70th %ile Green (s)	18.0	18.0	80.5	18.0	6.0	90.0
70th %ile Term Code	Max	Max	Coord	Max	Gap	Coord
50th %ile Green (s)	17.9	17.9	80.8	17.9	5.8	90.1
50th %ile Term Code	Gap	Gap	Coord	Gap	Gap	Coord
30th %ile Green (s)	16.0	16.0	92.0	16.0	0.0	92.0
30th %ile Term Code	Gap	Gap	Coord	Gap	Skip	Coord
10th %ile Green (s)	13.3	13.3	94.7	13.3	0.0	94.7
10th %ile Term Code	Gap	Gap	Coord	Gap	Skip	Coord
Queue Length 50th (ft)	140	0	236	0	4	42
Queue Length 95th (ft)	192	69	291	5	9	57
Internal Link Dist (ft)	711		425			1279
Turn Bay Length (ft)	120			280	200	
Base Capacity (vph)	514	421	2657	1453	592	2835
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.51	0.48	0.06	0.04	0.15

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Natural Cycle: 65
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.77
 Intersection Signal Delay: 15.8
 Intersection LOS: B
 Intersection Capacity Utilization 54.6%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 1: Saunders Road & Parkway North





Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↓
Traffic Volume (vph)	1072	21	47	1287	98	361
Future Volume (vph)	1072	21	47	1287	98	361
Ideal Flow (vphpl)	2000	1900	1900	2000	1900	1900
Storage Length (ft)		185	200		0	0
Storage Lanes		1	1		1	1
Taper Length (ft)			200		100	
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3725	1583	1770	3725	1770	1583
Flt Permitted			0.176		0.950	
Satd. Flow (perm)	3725	1583	328	3725	1770	1583
Right Turn on Red		Yes				No
Satd. Flow (RTOR)		18				
Link Speed (mph)	40			40	25	
Link Distance (ft)	636			708	693	
Travel Time (s)	10.8			12.1	18.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1128	22	49	1355	103	380
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1128	22	49	1355	103	380
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	0.94	1.00	1.00	0.94	1.00	1.00
Turning Speed (mph)		9	15		15	9
Turn Type	NA	Perm	pm+pt	NA	Prot	pt+ov
Protected Phases	4		3	8	2	2 3
Permitted Phases		4	8			
Detector Phase	4	4	3	8	2	2 3
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	24.0	24.0	11.0	24.0	24.0	
Total Split (s)	64.0	64.0	32.0	96.0	24.0	
Total Split (%)	53.3%	53.3%	26.7%	80.0%	20.0%	
Maximum Green (s)	58.0	58.0	28.5	90.0	18.0	
Yellow Time (s)	4.0	4.0	3.5	4.0	4.0	
All-Red Time (s)	2.0	2.0	0.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	3.5	6.0	6.0	
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Max	C-Max	None	C-Max	None	
Walk Time (s)	7.0	7.0		7.0	7.0	

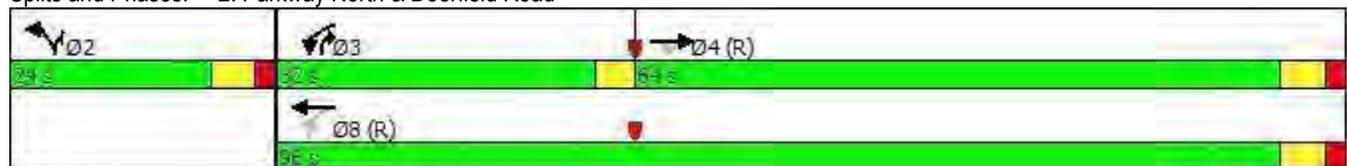


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	
Act Effct Green (s)	69.9	69.9	92.5	90.0	18.0	38.1
Actuated g/C Ratio	0.58	0.58	0.77	0.75	0.15	0.32
v/c Ratio	0.52	0.02	0.11	0.49	0.39	0.76
Control Delay	17.2	6.8	3.8	6.6	50.9	46.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.2	6.8	3.8	6.6	50.9	46.1
LOS	B	A	A	A	D	D
Approach Delay	17.0			6.5	47.2	
Approach LOS	B			A	D	
90th %ile Green (s)	60.2	60.2	26.3	90.0	18.0	
90th %ile Term Code	Coord	Coord	Gap	Coord	Max	
70th %ile Green (s)	65.5	65.5	21.0	90.0	18.0	
70th %ile Term Code	Coord	Coord	Gap	Coord	Max	
50th %ile Green (s)	69.7	69.7	16.8	90.0	18.0	
50th %ile Term Code	Coord	Coord	Gap	Coord	Max	
30th %ile Green (s)	74.0	74.0	12.5	90.0	18.0	
30th %ile Term Code	Coord	Coord	Gap	Coord	Max	
10th %ile Green (s)	80.0	80.0	6.5	90.0	18.0	
10th %ile Term Code	Coord	Coord	Gap	Coord	Max	
Queue Length 50th (ft)	262	1	8	186	73	263
Queue Length 95th (ft)	387	15	16	225	130	336
Internal Link Dist (ft)	556			628	613	
Turn Bay Length (ft)		185	200			
Base Capacity (vph)	2169	929	595	2793	265	659
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.02	0.08	0.49	0.39	0.58

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBTL, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.76
 Intersection Signal Delay: 16.9
 Intersection Capacity Utilization 60.5%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service B

Splits and Phases: 2: Parkway North & Deerfield Road





APPENDIX E

CAPACITY ANALYSIS WORKSHEETS
FUTURE WITH PROJECT

Future with Project (2023)
1: Saunders Road & Parkway North

Timing Plan: AM
2/12/2016



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↙↘	↗	↕↕	↗	↙	↕↕
Traffic Volume (vph)	83	37	483	487	159	1205
Future Volume (vph)	83	37	483	487	159	1205
Ideal Flow (vphpl)	1900	1900	2000	1900	1900	2000
Storage Length (ft)	120	0		280	200	
Storage Lanes	1	1		1	1	
Taper Length (ft)	140				190	
Lane Util. Factor	0.97	1.00	0.95	1.00	1.00	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	1583	3725	1583	1770	3725
Flt Permitted	0.950				0.447	
Satd. Flow (perm)	3433	1583	3725	1583	833	3725
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		39		513		
Link Speed (mph)	25		45			45
Link Distance (ft)	791		505			804
Travel Time (s)	21.6		7.7			12.2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	87	39	508	513	167	1268
Shared Lane Traffic (%)						
Lane Group Flow (vph)	87	39	508	513	167	1268
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						Yes
Headway Factor	1.00	1.00	0.94	1.00	1.00	0.94
Turning Speed (mph)	15	9		9	15	
Turn Type	Prot	Perm	NA	pm+ov	pm+pt	NA
Protected Phases	8		2	8	1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	8	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	18.0	18.0	24.0	18.0	11.0	24.0
Total Split (s)	24.0	24.0	64.0	24.0	32.0	96.0
Total Split (%)	20.0%	20.0%	53.3%	20.0%	26.7%	80.0%
Maximum Green (s)	18.0	18.0	58.0	18.0	28.5	90.0
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	0.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	3.5	6.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Max	None	None	C-Max
Act Effect Green (s)	8.8	8.8	88.2	103.0	101.7	99.2

Future with Project (2023)
 1: Saunders Road & Parkway North

Timing Plan: AM
 2/12/2016

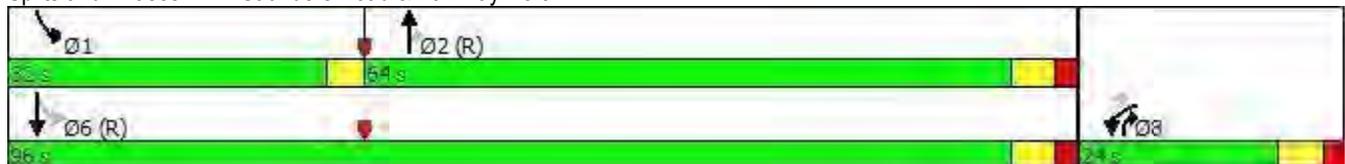


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Actuated g/C Ratio	0.07	0.07	0.74	0.86	0.85	0.83
v/c Ratio	0.35	0.26	0.19	0.36	0.22	0.41
Control Delay	56.0	19.7	5.3	0.8	2.4	3.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.0	19.7	5.3	0.8	2.4	3.3
LOS	E	B	A	A	A	A
Approach Delay	44.8		3.1			3.2
Approach LOS	D		A			A
90th %ile Green (s)	11.6	11.6	83.8	11.6	9.1	96.4
90th %ile Term Code	Gap	Gap	Coord	Gap	Gap	Coord
70th %ile Green (s)	10.3	10.3	86.2	10.3	8.0	97.7
70th %ile Term Code	Gap	Gap	Coord	Gap	Gap	Coord
50th %ile Green (s)	8.4	8.4	88.8	8.4	7.3	99.6
50th %ile Term Code	Gap	Gap	Coord	Gap	Gap	Coord
30th %ile Green (s)	7.5	7.5	90.2	7.5	6.8	100.5
30th %ile Term Code	Gap	Gap	Coord	Gap	Gap	Coord
10th %ile Green (s)	6.2	6.2	92.1	6.2	6.2	101.8
10th %ile Term Code	Gap	Gap	Coord	Gap	Gap	Coord
Queue Length 50th (ft)	33	0	54	0	15	101
Queue Length 95th (ft)	59	34	85	13	31	150
Internal Link Dist (ft)	711		425			724
Turn Bay Length (ft)	120			280	200	
Base Capacity (vph)	514	270	2738	1513	928	3079
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.14	0.19	0.34	0.18	0.41

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Natural Cycle: 55
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.41
 Intersection Signal Delay: 5.2
 Intersection LOS: A
 Intersection Capacity Utilization 47.3%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 1: Saunders Road & Parkway North



Future with Project (2023)
2: Parkway North & Deerfield Road

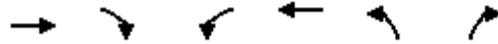
Timing Plan: AM
2/12/2016



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↓
Traffic Volume (vph)	1425	149	431	1423	24	78
Future Volume (vph)	1425	149	431	1423	24	78
Ideal Flow (vphpl)	2000	1900	1900	2000	1900	1900
Storage Length (ft)		185	200		0	0
Storage Lanes		1	1		1	1
Taper Length (ft)			200		100	
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3725	1583	1770	3725	1770	1583
Flt Permitted			0.072		0.950	
Satd. Flow (perm)	3725	1583	134	3725	1770	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		97				16
Link Speed (mph)	40			40	25	
Link Distance (ft)	636			708	693	
Travel Time (s)	10.8			12.1	18.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1500	157	454	1498	25	82
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1500	157	454	1498	25	82
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	0.94	1.00	1.00	0.94	1.00	1.00
Turning Speed (mph)		9	15		15	9
Turn Type	NA	Perm	pm+pt	NA	Prot	pt+ov
Protected Phases	4		3	8	2	2 3
Permitted Phases		4	8			
Detector Phase	4	4	3	8	2	2 3
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	24.0	24.0	11.0	24.0	24.0	
Total Split (s)	64.0	64.0	32.0	96.0	24.0	
Total Split (%)	53.3%	53.3%	26.7%	80.0%	20.0%	
Maximum Green (s)	58.0	58.0	28.5	90.0	18.0	
Yellow Time (s)	4.0	4.0	3.5	4.0	4.0	
All-Red Time (s)	2.0	2.0	0.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	3.5	6.0	6.0	
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Max	C-Max	None	C-Max	None	
Walk Time (s)	7.0	7.0		7.0	7.0	

Future with Project (2023)
 2: Parkway North & Deerfield Road

Timing Plan: AM
 2/12/2016

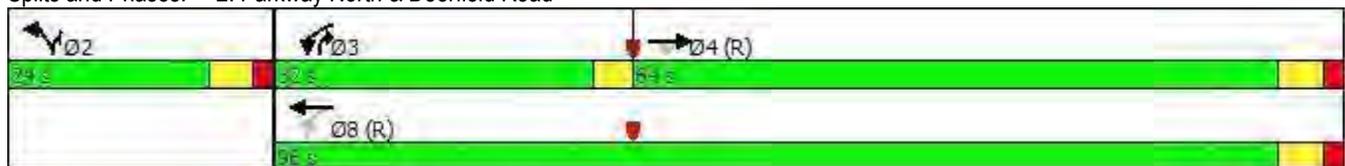


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	
Act Effct Green (s)	66.4	66.4	104.2	102.9	8.7	41.6
Actuated g/C Ratio	0.55	0.55	0.87	0.86	0.07	0.35
v/c Ratio	0.73	0.17	0.83	0.47	0.20	0.15
Control Delay	24.8	7.3	43.0	3.4	54.8	19.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.8	7.3	43.0	3.4	54.8	19.1
LOS	C	A	D	A	D	B
Approach Delay	23.2			12.6	27.5	
Approach LOS	C			B	C	
90th %ile Green (s)	58.0	58.0	34.7	96.2	11.8	
90th %ile Term Code	Coord	Coord	Max	Coord	Gap	
70th %ile Green (s)	58.0	58.0	36.7	98.2	9.8	
70th %ile Term Code	Coord	Coord	Max	Coord	Gap	
50th %ile Green (s)	62.2	62.2	33.7	99.4	8.6	
50th %ile Term Code	Coord	Coord	Gap	Coord	Gap	
30th %ile Green (s)	66.7	66.7	30.3	100.5	7.5	
30th %ile Term Code	Coord	Coord	Gap	Coord	Gap	
10th %ile Green (s)	87.0	87.0	23.5	114.0	0.0	
10th %ile Term Code	Coord	Coord	Gap	Coord	Skip	
Queue Length 50th (ft)	475	22	255	133	19	33
Queue Length 95th (ft)	615	63	388	195	46	64
Internal Link Dist (ft)	556			628	613	
Turn Bay Length (ft)		185	200			
Base Capacity (vph)	2060	919	563	3193	265	572
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.73	0.17	0.81	0.47	0.09	0.14

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBTL, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.83
 Intersection Signal Delay: 17.7
 Intersection LOS: B
 Intersection Capacity Utilization 78.8%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 2: Parkway North & Deerfield Road



Intersection

Int Delay, s/veh 0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	5	10	481	39	72	1359
Future Vol, veh/h	5	10	481	39	72	1359
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	150	-	-	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	11	506	41	76	1431

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1394	274	0 0 547 0
Stage 1	527	-	- - - -
Stage 2	867	-	- - - -
Critical Hdwy	6.84	6.94	- - 4.14 -
Critical Hdwy Stg 1	5.84	-	- - - -
Critical Hdwy Stg 2	5.84	-	- - - -
Follow-up Hdwy	3.52	3.32	- - 2.22 -
Pot Cap-1 Maneuver	133	724	- - 1018 -
Stage 1	557	-	- - - -
Stage 2	372	-	- - - -
Platoon blocked, %			- - - -
Mov Cap-1 Maneuver	123	724	- - 1018 -
Mov Cap-2 Maneuver	246	-	- - - -
Stage 1	557	-	- - - -
Stage 2	344	-	- - - -

Approach	WB	NB	SB
HCM Control Delay, s	13.3	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	246	724	1018	-
HCM Lane V/C Ratio	-	-	0.021	0.015	0.074	-
HCM Control Delay (s)	-	-	20	10	8.8	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	0.2	-

Future with Project (2023)
 1: Saunders Road & Parkway North

Timing Plan: PM
 2/12/2016



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↙↘	↗	↕↕	↗	↙	↕↕
Traffic Volume (vph)	413	205	1223	97	22	441
Future Volume (vph)	413	205	1223	97	22	441
Ideal Flow (vphpl)	1900	1900	2000	1900	1900	2000
Storage Length (ft)	120	0		280	200	
Storage Lanes	1	1		1	1	
Taper Length (ft)	140				190	
Lane Util. Factor	0.97	1.00	0.95	1.00	1.00	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	1583	3725	1583	1770	3725
Flt Permitted	0.950				0.166	
Satd. Flow (perm)	3433	1583	3725	1583	309	3725
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		216		102		
Link Speed (mph)	25		45			45
Link Distance (ft)	791		505			804
Travel Time (s)	21.6		7.7			12.2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	435	216	1287	102	23	464
Shared Lane Traffic (%)						
Lane Group Flow (vph)	435	216	1287	102	23	464
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						Yes
Headway Factor	1.00	1.00	0.94	1.00	1.00	0.94
Turning Speed (mph)	15	9		9	15	
Turn Type	Prot	Perm	NA	pm+ov	pm+pt	NA
Protected Phases	8		2	8	1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	8	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	18.0	18.0	24.0	18.0	11.0	24.0
Total Split (s)	24.0	24.0	64.0	24.0	32.0	96.0
Total Split (%)	20.0%	20.0%	53.3%	20.0%	26.7%	80.0%
Maximum Green (s)	18.0	18.0	58.0	18.0	28.5	90.0
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	0.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	3.5	6.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Max	None	None	C-Max
Act Effect Green (s)	17.6	17.6	84.7	110.7	92.9	90.4

Future with Project (2023)
 1: Saunders Road & Parkway North

Timing Plan: PM
 2/12/2016

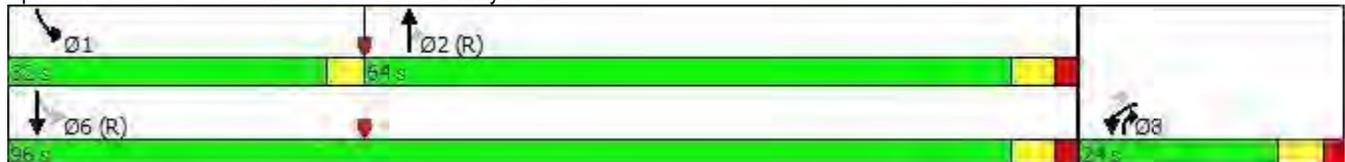


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Actuated g/C Ratio	0.15	0.15	0.71	0.92	0.77	0.75
v/c Ratio	0.87	0.52	0.49	0.07	0.07	0.17
Control Delay	68.2	10.8	9.3	0.3	3.7	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.2	10.8	9.3	0.3	3.7	4.4
LOS	E	B	A	A	A	A
Approach Delay	49.1		8.6			4.3
Approach LOS	D		A			A
90th %ile Green (s)	18.0	18.0	80.1	18.0	6.4	90.0
90th %ile Term Code	Max	Max	Coord	Max	Gap	Coord
70th %ile Green (s)	18.0	18.0	80.5	18.0	6.0	90.0
70th %ile Term Code	Max	Max	Coord	Max	Gap	Coord
50th %ile Green (s)	18.0	18.0	80.7	18.0	5.8	90.0
50th %ile Term Code	Max	Max	Coord	Max	Gap	Coord
30th %ile Green (s)	18.0	18.0	90.0	18.0	0.0	90.0
30th %ile Term Code	Max	Max	Coord	Max	Skip	Coord
10th %ile Green (s)	15.9	15.9	92.1	15.9	0.0	92.1
10th %ile Term Code	Gap	Gap	Coord	Gap	Skip	Coord
Queue Length 50th (ft)	171	0	239	0	4	46
Queue Length 95th (ft)	#252	69	294	5	9	61
Internal Link Dist (ft)	711		425			724
Turn Bay Length (ft)	120			280	200	
Base Capacity (vph)	514	421	2628	1458	586	2806
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.85	0.51	0.49	0.07	0.04	0.17

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.87
 Intersection Signal Delay: 18.2
 Intersection LOS: B
 Intersection Capacity Utilization 54.8%
 ICU Level of Service A
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 1: Saunders Road & Parkway North

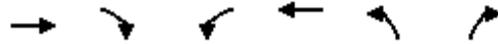


Future with Project (2023)
2: Parkway North & Deerfield Road

Timing Plan: PM
2/12/2016



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↓
Traffic Volume (vph)	1072	24	62	1287	111	435
Future Volume (vph)	1072	24	62	1287	111	435
Ideal Flow (vphpl)	2000	1900	1900	2000	1900	1900
Storage Length (ft)		185	200		0	0
Storage Lanes		1	1		1	1
Taper Length (ft)			200		100	
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3725	1583	1770	3725	1770	1583
Flt Permitted			0.169		0.950	
Satd. Flow (perm)	3725	1583	315	3725	1770	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		21				48
Link Speed (mph)	40			40	25	
Link Distance (ft)	636			708	693	
Travel Time (s)	10.8			12.1	18.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1128	25	65	1355	117	458
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1128	25	65	1355	117	458
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	0.94	1.00	1.00	0.94	1.00	1.00
Turning Speed (mph)		9	15		15	9
Turn Type	NA	Perm	pm+pt	NA	Prot	pt+ov
Protected Phases	4		3	8	2	2 3
Permitted Phases		4	8			
Detector Phase	4	4	3	8	2	2 3
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	24.0	24.0	11.0	24.0	24.0	
Total Split (s)	64.0	64.0	32.0	96.0	24.0	
Total Split (%)	53.3%	53.3%	26.7%	80.0%	20.0%	
Maximum Green (s)	58.0	58.0	28.5	90.0	18.0	
Yellow Time (s)	4.0	4.0	3.5	4.0	4.0	
All-Red Time (s)	2.0	2.0	0.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	3.5	6.0	6.0	
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Max	C-Max	None	C-Max	None	
Walk Time (s)	7.0	7.0		7.0	7.0	

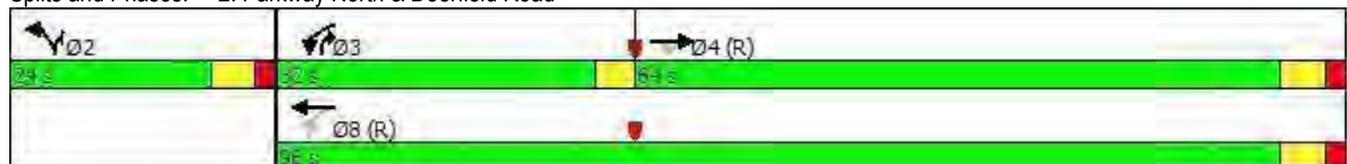


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	
Act Effct Green (s)	67.4	67.4	92.5	90.0	18.0	40.6
Actuated g/C Ratio	0.56	0.56	0.77	0.75	0.15	0.34
v/c Ratio	0.54	0.03	0.14	0.49	0.44	0.81
Control Delay	19.0	7.0	3.9	6.6	52.4	43.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.0	7.0	3.9	6.6	52.4	43.1
LOS	B	A	A	A	D	D
Approach Delay	18.7			6.5	45.0	
Approach LOS	B			A	D	
90th %ile Green (s)	58.0	58.0	28.5	90.0	18.0	
90th %ile Term Code	Coord	Coord	Max	Coord	Max	
70th %ile Green (s)	62.1	62.1	24.4	90.0	18.0	
70th %ile Term Code	Coord	Coord	Gap	Coord	Max	
50th %ile Green (s)	66.5	66.5	20.0	90.0	18.0	
50th %ile Term Code	Coord	Coord	Gap	Coord	Max	
30th %ile Green (s)	71.3	71.3	15.2	90.0	18.0	
30th %ile Term Code	Coord	Coord	Gap	Coord	Max	
10th %ile Green (s)	79.1	79.1	7.4	90.0	18.0	
10th %ile Term Code	Coord	Coord	Gap	Coord	Max	
Queue Length 50th (ft)	281	1	10	186	84	288
Queue Length 95th (ft)	403	17	20	225	144	377
Internal Link Dist (ft)	556			628	613	
Turn Bay Length (ft)		185	200			
Base Capacity (vph)	2092	898	588	2793	265	687
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.03	0.11	0.49	0.44	0.67

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBTL, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 18.0
 Intersection LOS: B
 Intersection Capacity Utilization 65.1%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 2: Parkway North & Deerfield Road



Intersection

Int Delay, s/veh 1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	33	63	1421	7	12	430
Future Vol, veh/h	33	63	1421	7	12	430
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	150	-	-	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	35	66	1496	7	13	453

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1751	752	0
Stage 1	1499	-	-
Stage 2	252	-	-
Critical Hdwy	6.84	6.94	4.14
Critical Hdwy Stg 1	5.84	-	-
Critical Hdwy Stg 2	5.84	-	-
Follow-up Hdwy	3.52	3.32	2.22
Pot Cap-1 Maneuver	77	353	442
Stage 1	171	-	-
Stage 2	767	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	75	353	442
Mov Cap-2 Maneuver	145	-	-
Stage 1	171	-	-
Stage 2	744	-	-

Approach	WB	NB	SB
HCM Control Delay, s	24.4	0	0.4
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	145 353	442	-
HCM Lane V/C Ratio	-	-	0.24 0.188	0.029	-
HCM Control Delay (s)	-	-	37.5 17.5	13.4	-
HCM Lane LOS	-	-	E C	B	-
HCM 95th %tile Q(veh)	-	-	0.9 0.7	0.1	-



August 5, 2015

Ms. Kristine Schaffner
The John Buck Company
One North Wacker Drive, Suite 2400
Chicago, Illinois 60606

Re: Open Space Calculations and Summary
5 & 8 Parkway North Center
Deerfield, IL

Dear Kristine:

At the request of John Buck Management and on behalf of the Parkway North Business Park Owner's Association, V3 has prepared the following summary of open space in accordance with section 5.2 of the Association CCR's.

Determination of Open Space for Parkway North Center

Section I: Determine required Open Space

Total Area of Parkway North Center
w/o Woodview Apartments (per Compass Surveying) = 86.51 Acres

Woodview Apartments site area = 7.68 Acres

Total Parkway North Area = 94.19 Acres

Open Space requirement at 43% of Total Area = 40.50 Acres

Section II: Measurements of Existing Open Space within the park

Outlot A	26.474 Ac. (measured by Compass)
Less pavement	3.961 Ac. (measured by Compass)
Plus Section 5.2 listed additions	2.238 Ac. (Provided in Declaration section 5.2)
Lot for Building 1	3.350 Ac. (measured by Compass)
Lot for Hotel	3.100 Ac. (measured by V3 using aerial photo)
Lot for Building 3	1.740 Ac. (measured by Compass)
Lot for Building 4	0.970 Ac. (measured by V3 from design drawings)
Lot for Building 6	0.600 Ac. (measured by V3 from design drawings)
Lot for Building 9	1.030 Ac. (measured by V3 from design drawings)
Lot for Building 10	1.250 Ac. (measured by V3 from design drawings)
Woodview Apartments	3.650 Ac. (from Ivan Kane per Deerfield records)
Allowed additional Area in Saunders	0.350 Ac. (measured by Compass)
Allowed Thorngate area in Saunders	0.133 Ac. (measured by Compass)

Allowed additional area in Deerfield Rd.	0.630 (measured by compass)
Allowed additional area in Hawthorne Rd.	0.640 (measured by compass)
Allowed additional area in I-294	2.156 (measured by compass)

Total open space within park	44.35 Acres
-------------------------------------	--------------------

Section III: Conclusion

Based on the above data, the existing open space of 44.35 acres exceeds the required open space per the CCR's of 40.50 acres. Therefore, it is our opinion that the open space requirement for the park has been met. In addition, there will be more open space within the park upon the build-out of Lots 5, 7, and 8.

Please contact me with questions.

Sincerely,
V3 COMPANIES, LTD.



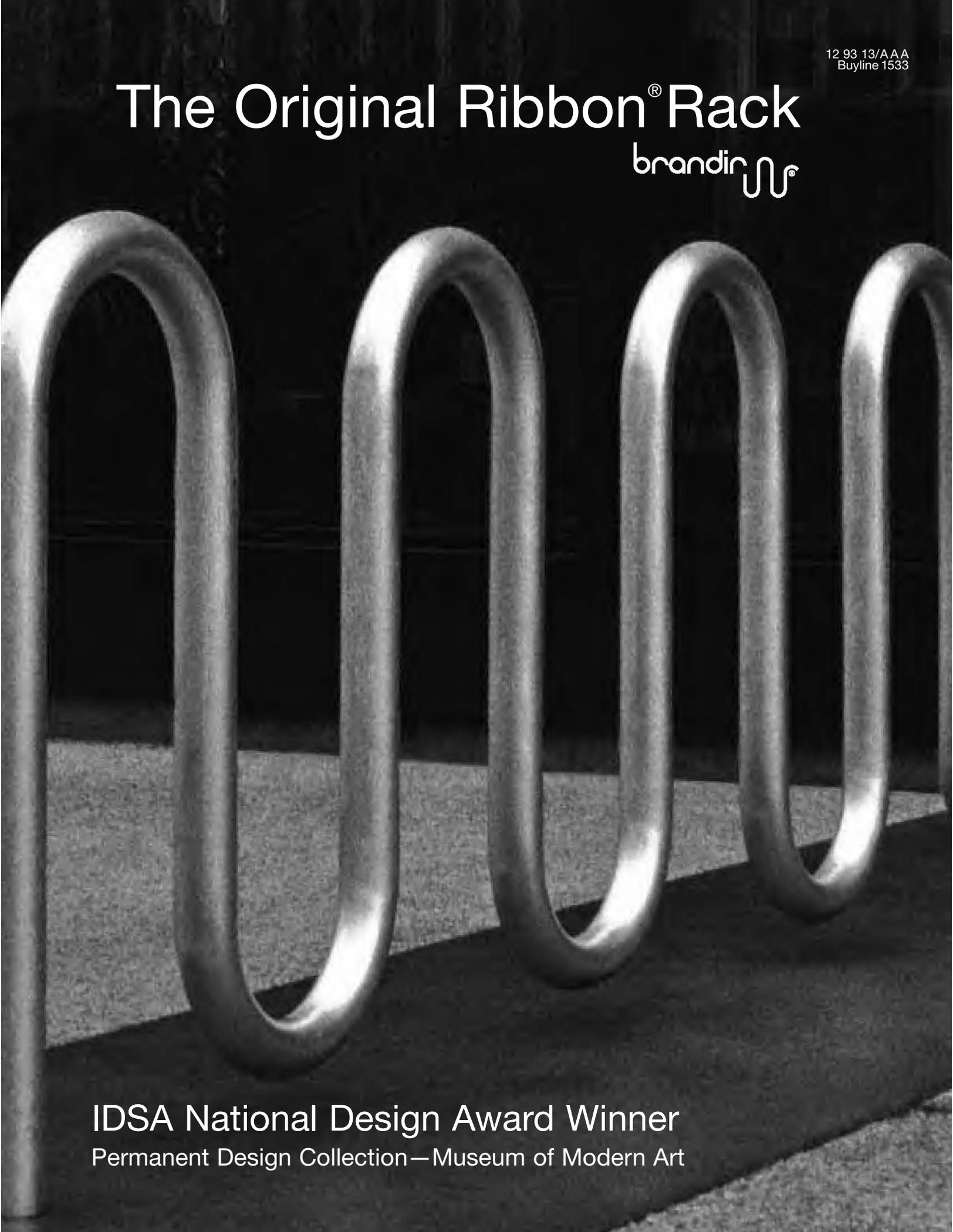
Patrick R. Kennedy, P.E.
Executive Vice President

PRK/sr

12 93 13/AAA
Buyline 1533

The Original Ribbon® Rack

brandir®



IDSA National Design Award Winner
Permanent Design Collection—Museum of Modern Art



Innovation takes shape: The Ribbon Rack.

The most innovative and unique bicycle rack ever. Graceful curves of tubular steel, sculpted to fit and enhance any architectural setting. The Ribbon Rack. Recognized by the IDSA “for its elegance and simplicity while providing maximum functional security.” And recognized by architects everywhere for its striking harmony of form and function.

The Ribbon Rack is compatible with all standard locks and chains, including popular high-security horseshoe-shaped locks.



Saving space.

This five foot Ribbon Rack (Model RB 07) holds seven bicycles. Bicycles are placed alternately through open spaces yielding double the storage of conventional racks.

Model RB 07

“Recognized for its elegance and simplicity while providing maximum functional security.”

—*Industrial Designers Society of America*

Award-winning design.

The Ribbon Rack's unusual design makes other bicycle racks obsolete. Its open configuration saves space and keeps areas orderly. That's because the Ribbon Rack holds twice as many bicycles in the same space as conventional racks. One in each bend, and one on each end. Its free form makes the Ribbon Rack the safest rack you can find, because it has no sharp edges or corners that cause injury. Its rust-proof galvanized steel makes the Ribbon Rack durable, maintenance-free and weather-resistant.

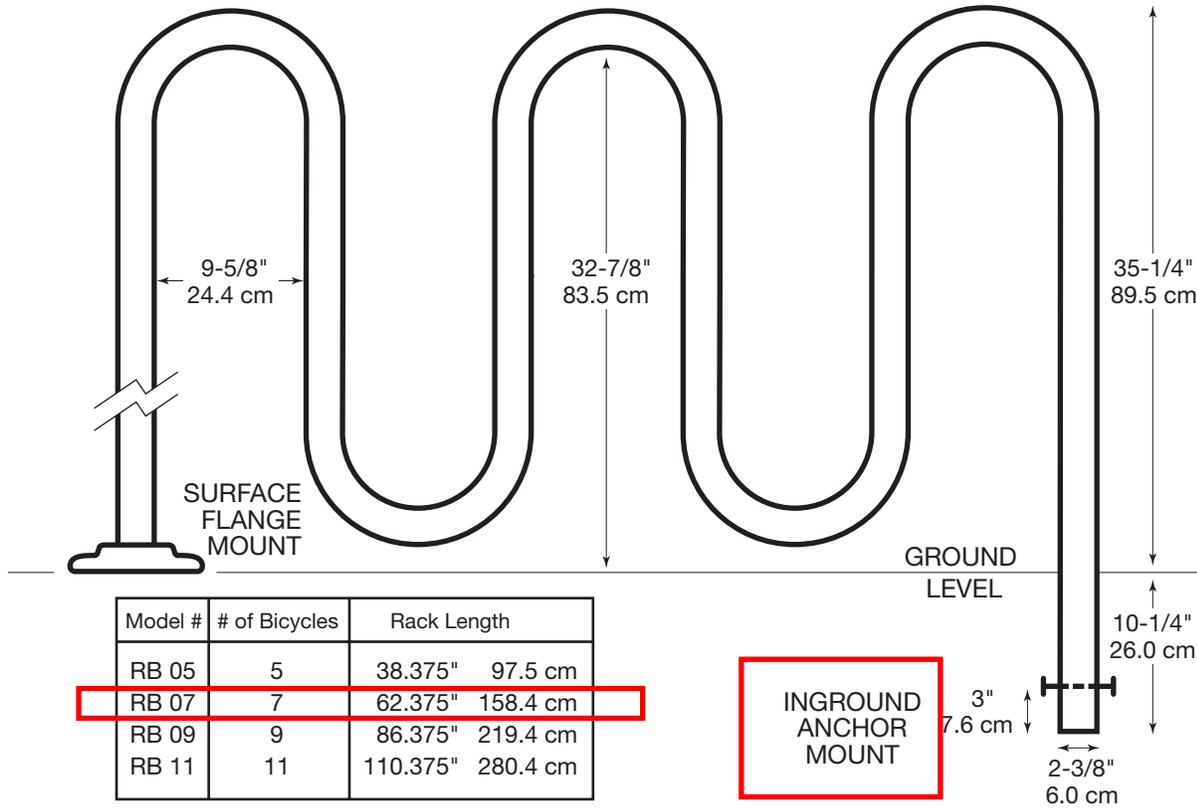


Maximum-security Ribbon Rack.

From its aesthetic form comes the Ribbon Rack's principal function: providing maximum security for bicycles. Its heavy gauge, one-piece tubular construction makes the Ribbon Rack truly theft- and vandal-proof. Its open design allows the bicycle frame and both wheels to be fastened securely and completely upright. The Ribbon Rack accommodates all bicycle sizes. And, all standard locks and chains, including the popular high-security horse-shoe shaped locks, attach easily.

The Original Ribbon® Rack—IDSA National Design Award Winner

PERMANENT DESIGN COLLECTION—MUSEUM OF MODERN ART



Model #	# of Bicycles	Rack Length	
RB 05	5	38.375"	97.5 cm
RB 07	7	62.375"	158.4 cm
RB 09	9	86.375"	219.4 cm
RB 11	11	110.375"	280.4 cm

INGROUND ANCHOR MOUNT

Specifications

All standard units made from ASTM A53/A500 SCHD 40 steel pipe (2.375" OD X .154 wall), hydraulically bent with a mandril, hot-dipped galvanized after fabrication.

The RIBBON® RACK is available in ASTM A312 SCHEDULE 40 TP 304 stainless steel, satin #4 finish—optional and extra.

Installation Methods

- Inground Anchor Mount—standard
- Surface Flange Mount—optional and extra

General Information

RIBBON and the Brandir International Inc. logo are trademarks of Brandir International Inc., used exclusively by AAA RIBBON RACK CO. Delivery time: Six weeks or sooner from receipt of order.

Important Considerations

Colors: (Painting/Coating)—Painting or coating the rack will result in a maintenance problem, as no coating will withstand the abuse of the bicycles. Powder coating cannot be maintained; an enamel finish will chip. AAA RIBBON RACK CO. has the best solution where color is essential. Please contact us to find out how to achieve an appropriate color with a minimum of maintenance.

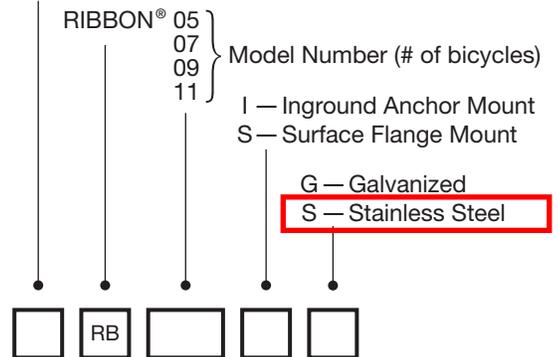
Materials: Steel tubing or aluminum are not suitable materials for a bicycle rack. Pre-galvanized material will flake and crack during manufacture. AAA RIBBON RACK CO. uses heavy-duty steel pipe, hot-dipped galvanized after fabrication to provide security and durability.

Manufacture: Hydraulic bending with a mandril, as used by AAA RIBBON RACK CO., insures smooth and aesthetic curves on the Ribbon® Rack. Press bending leaves an indentation; other methods flatten outer curves and crimp inner curves.

Specifying / Estimating / Ordering

Please use the following notations:

Quantity



AAA RIBBON BIKE RACK CO.
 Division of:
 BRANDIR INTERNATIONAL, INC.
 521 Fifth Avenue, 17th Floor
 New York NY 10175-1799 USA
 Phone: **800-849-3488**
 Email: **info@ribbonrack.com**
 Web: **ribbonrack.com**



Deerfield-Bannockburn Fire Protection District

Bureau of Fire Prevention

500 Waukegan Road • Deerfield, Illinois 60015 • (847) 945-4088 • Fax (847) 945-8951

March 8, 2016

Tim Sweeney
Quadrangle Development Company
1650 Lake Cook Road Suite 450
Deerfield, Illinois 60015

RE: Site Plan Review for 8 Parkway North Boulevard Deerfield

Dear Mr. Sweeney:

The Fire Prevention Bureau has completed the site plan review for the proposed premises using the International Building Code 2012 Edition and adopted local ordinances. The preliminary site plans are approved as submitted as long as the following conditions are met:

1. Per local ordinance, the building shall be equipped with an automatic sprinkler system. The fire department connection for this system shall be located on the street side of the building within 100 feet of a municipal fire hydrant, in a location approved by the authority having jurisdiction.
2. A fire lane, with a minimum 20' width, shall be provided per the International Fire Code 2012 Edition. The proposed site plan shows a 19' 5" wide fire lane.

This letter does not preclude the possibility that corrections or additions may have to be made during the actual construction phase. Any changes in approved plans are subject to as-built plans being submitted to the local Fire Department.

If you have any questions, or would like to set up a meeting, please do not hesitate to contact us.

Have a safe day,

A handwritten signature in blue ink, appearing to read "Brian McCarthy".

Brian McCarthy
Fire Marshal

Cc: Village of Deerfield

BUILD-TO-SUIT

EIGHT PARKWAY NORTH

PARKWAY NORTH CENTER

DEERFIELD, IL 60015



A Quadrangle Development Company Project



190,700 RENTABLE SQUARE FOOT

- + Proposed 5 story office building
- + Last development site within prestigious Parkway North Center
- + Proposed building can be increased in size to 250,000 RSF
- + Modern office attributes such as 10' ceilings
- + Highway monument and Building signage
- + Redundant power
- + 4.5 to 6.00 cars per 1,000 parking ratio
- + Underground executive parking
- + 20 minutes from O'Hare International Airport
- + Park amenities include Marriott Hotel, Fitness Center and Daycare facility
- + Easy access to I-294 via 4-way Lake Cook interchange and 2-way Deerfield Road interchange
- + Accessible via public transportation - 3 Metra Stations serviced by Pace Bus

www.cbre.com

CBRE

EIGHT PARKWAY NORTH

Deerfield, IL 60015



PROPERTY INFORMATION

Eight Parkway North, part of Parkway North Center will be a premier Class A office building. Conveniently located by I-294 in the village of Deerfield, five minutes from the Deerfield metra stop, the building is easily accessible for commuters from all areas of Chicago. On site Marriott makes this location great for out of town business travel. The location is home to nearby corporations such as Discover, Baxter, Mondelez, Takeda Pharmaceuticals, Essendant, CF Industries and Walgreens.



CONTACT US

KEVIN CLIFTON

Executive Vice President
+1847 572 1445
kevin.clifton@cbre.com

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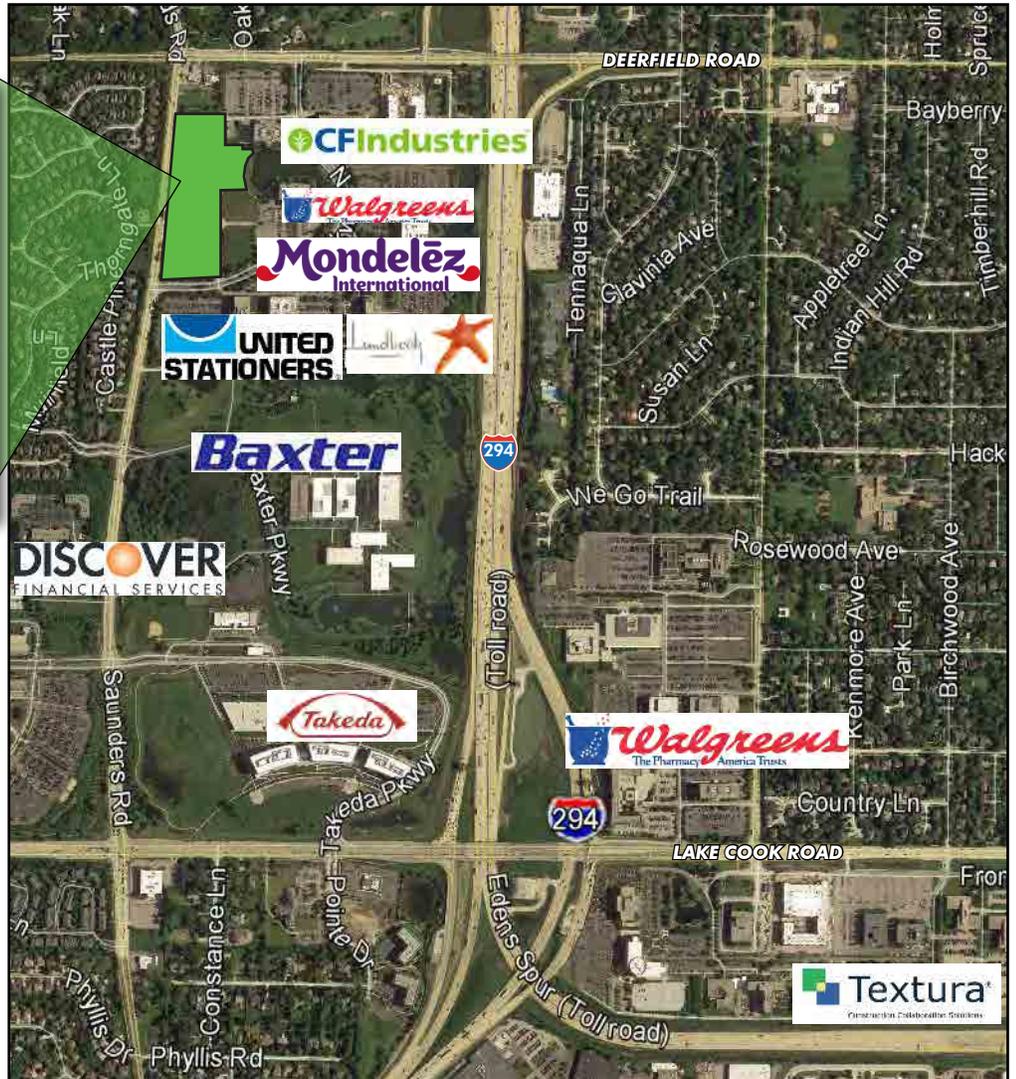
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EIGHT PARKWAY NORTH

Deerfield, IL 60015



AERIAL - LOCAL CORPORATE OFFICES



CONTACT US

KEVIN CLIFTON

Executive Vice President
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kevin.clifton@cbre.com

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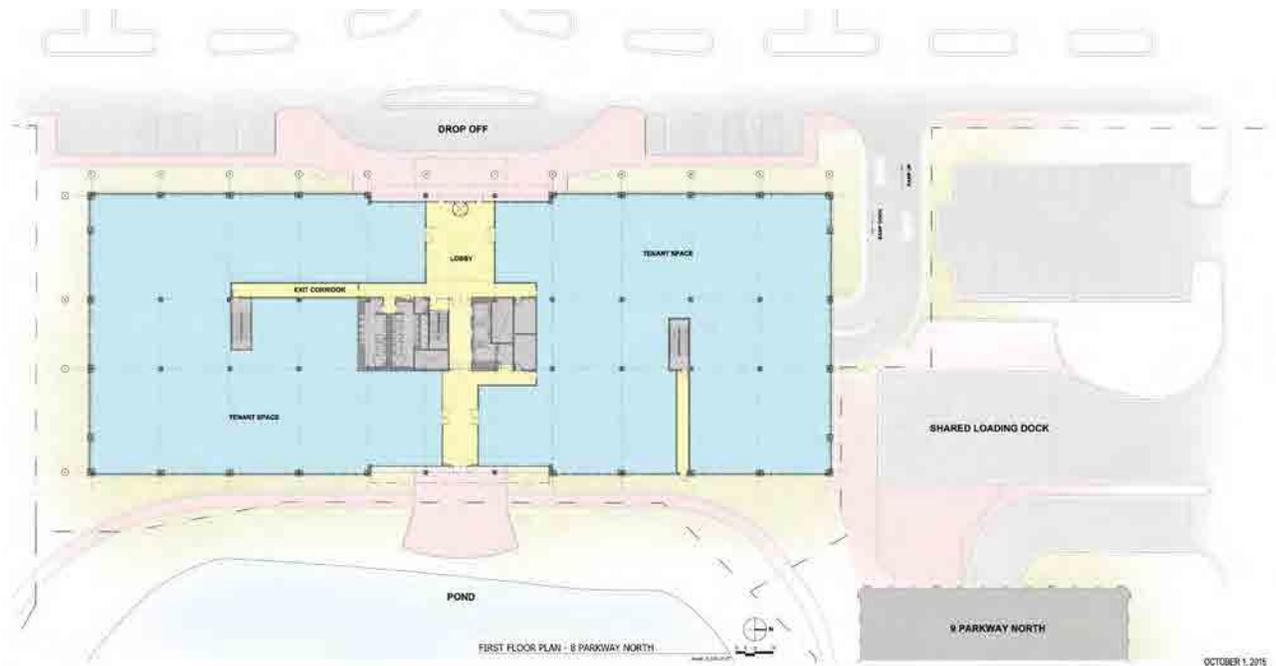
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EIGHT PARKWAY NORTH

Deerfield, IL 60015



FIRST FLOOR



TYPICAL FLOOR



CONTACT US

KEVIN CLIFTON

Executive Vice President

+1847 572 1445

kevin.clifton@cbre.com

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REQUEST FOR BOARD ACTION

Agenda Item: 16-39

Subject: Authorization to Purchase Data Storage Equipment

Action Requested: Authorization to Purchase, Waiving Competitive Bidding

Originated By: Matthew Weiss, Computer Systems Coordinator, Administration Department

Referred To: Mayor and Board of Trustees

Summary of Background and Reason for Request:

The Village currently stores its primary operating data, specifically that for its virtualized server infrastructure, on data storage equipment originally purchased in 2009. The device is nearing the end of its usefulness for the purpose it currently serves. New equipment with increased capacity and performance is required to continue supporting the existing server infrastructure and its expected growth, and to support the desktop virtualization project planned for this year.

Staff recommends purchasing a hybrid data storage array from Tegile, which has been determined to meet the foreseeable capacity and performance needs of the Village for the anticipated lifespan of the equipment. Feedback from other local municipalities using solutions from this manufacturer has been very favorable.

Price for this purchase is \$38,230.40 from Insight Public Sector. This is within the budgeted amount for this project in FY 2016. As three competitive quotes were obtained, as the recommended reseller is the low quote, and as pricing is very favorable and below GSA pricing, waiver of competitive bidding is requested.

Formal Quotes: _____

Insight Public Sector	- \$38,230.40
SHI Public Sector	- \$38,547.00
CDW Government	- \$43,028.22 (with a required component missing)

Authorization to purchase from Insight Public Sector, waiving competitive bidding, is respectfully requested.

Computer Systems Coordinator Matthew Weiss will be in attendance to discuss this item and answer any questions the Board may have.

Reports and Documents Attached:

Memo to Administration re: Data Storage Equipment Purchase.

Date Referred to Board: 18 April 2016

Action Taken: _____



MEMORANDUM

DATE: 13 APRIL 2016
TO: KENT STREET, VILLAGE MANAGER
CC: ANDREW LICHTERMAN, ASSISTANT VILLAGE MANAGER
FROM: MATTHEW WEISS, COMPUTER SYSTEMS COORDINATOR
SUBJECT: DATA STORAGE EQUIPMENT PURCHASE

Background

The Village currently stores its primary operating data, specifically that for its virtualized server infrastructure, on data storage equipment originally purchased in 2009. The device is nearing the end of its usefulness for the purpose it currently serves.

Needs

To continue supporting the current server infrastructure and its expected data growth, additional storage capacity is needed. To support the increasing workload demands on this infrastructure, including the planned addition of desktop virtualization, additional performance is needed. A new generation data storage array would provide both the capacity and performance required to meet these needs.

Recommendation

IT staff reviewed product offerings from four data storage equipment manufacturers. The solution determined to be optimal for the Village is a hybrid storage area network platform produced by Tegile. The proposed equipment should meet the foreseeable capacity and performance needs of the Village for the anticipated lifespan of the equipment. Significant time has been spent with the manufacturer in reviewing the platform's ability to meet the Village's needs, and IT staff has spoken with two other local municipalities using the Tegile product line with great success. It is recommended the Village purchase the proposed Tegile solution. The existing equipment will be repurposed to serve one of several possible secondary roles.

Purchasing Details

Quotes for identical product have been procured from three vendors with which the Village already does business and which are authorized resellers for Tegile equipment. The low quote of the three is from Insight Public Sector at a cost of \$38,230.40. It will be requested of the Board to waive competitive bidding for this purchase as pricing available from the three formal competitive quotes is considered favorable and as the low quote is already far below the GSA price schedule for this equipment. This is a budgeted purchase for 2016 from the VERF.

Summary

To support the Village's existing and anticipated capacity and workload requirements a new data storage array is needed to replace the existing equipment in service since 2009. IT staff recommends equipment proposed by Tegile, to be purchased from Insight Public Sector at a cost of \$38,230.40 with formal bidding waived due to multiple competitive quotes and already favorable pricing below the published GSA schedule price.

REQUEST FOR BOARD ACTION

Agenda Item: 16-40

Subject: Authorization to Award Contract for Development of the Sanitary Sewer System Capital Improvement Program

Action Requested: Award Contract to Strand Associates, Inc. (\$47,000)

Originated By: Department of Public Works and Engineering

Referred To: Mayor and Village Board of Trustees

Summary of Background and Reason for Request

The Village of Deerfield wastewater treatment and sanitary sewer conveyance system services an area approximately seven square miles and provides collection, treatment, and disposal of the Village's sanitary waste. During heavy rain events the Water Reclamation Facility (WRF) experiences significant excess flows through inflow and infiltration (I/I) into the sanitary sewer. Since 2007 the Village has taken the proactive step to investigate and identify the sources of the I/I by flow monitoring, sewer televising, smoke/dye testing, inspecting manholes and voluntary structure inspections.

The investigations over the past nine years have provided the Village with a significant amount of raw data and reports. Staff recommends that the next course of action should be the development of a focused Capital Improvement Program (CIP). The sanitary sewer system CIP would compile and prioritize the structural issues throughout the Village's sanitary sewer system, in an effort to reduce I/I in the most cost effective manner. The program will also take into consideration what projects are already scheduled in the five year CIP and will focus on flow basins that are of the greatest concern.

The Department requested statements of qualifications and interviewed several qualified professional design firms, as part of the Qualifications Based Selection process, in an effort to select the firm that may provide the best service with respect to development of capital plans. Of the firms interviewed, Strand Associates appeared to be the most qualified for this project. Strand Associates specializes in all facets of wastewater engineering. They have and are currently providing this service for other communities. They have provided professional services in the past, including the design of the Village's Water Reclamation Facility, SCADA implementation/assistance, and IEPA permitting assistance. Village of Deerfield continues to be satisfied with their work.

The Department of Public Works and Engineering requests authorization to award the Contract for Development of the Sanitary Sewer Capital Improvement Program to Strand Associates, Inc. in the amount of \$47,000. The Treatment Plant Superintendent, Brandon Janes, will be available at the April 18, 2016 Board meeting to answer questions.

Reports and Documents Attached:

None

Date Referred to Board: 4.18.16

Action Taken: _____