VILLAGE OF Lake Villa

AGENDA

VILLAGE OF LAKE VILLA

BOARD OF TRUSTEES – SPECIAL MEETING

Monday, September 15, 2025

6:30 p.m.

1. Call to Order and Roll Call
2. Pledge of Allegiance
3. Public Comment
4. Approval of the Minutes
    a. Village Board Meeting – September 2, 2025
    b. Committee of the Whole Meeting – September 8, 2025
5. Accounts Payable – September 15, 2025
6. Mayor
7. Staff Reports
8. New Business
    a. Ordinance 2025-09-01: An Ordinance Granting a Conditional Use and Variations for a Mini-Warehouse Facility for Personal Storage on the Property at 406 Monaville Road, Lake Villa, IL
    b. Ordinance 2025-09-02: An Ordinance Implementing a Non-Home Rule Municipal Retailers' Occupation Tax and a Non-Home Rule Municipal Service Occupation Tax for the Village of Lake Villa
    c. Resolution 2025-09-01: A Resolution Approving and Authorizing the Submittal of an Application for an Open Space Land Acquisition and Development (OSLAD) Grant
    d. Discussion: Review and Discussion on Comprehensive Amendments to the Village of Lake Villa's Zoning Code
9. Old Business
10. Executive Session
11. Adjournment

DATE: September 15, 2025

TO: Village Board of Trustees

FROM: Michael Strong
Village Administrator

RE: Agenda Transmittal

New Business

a. **Ordinance 2025-09-01: An Ordinance Granting a Conditional Use and Variations for a Mini-Warehouse Facility for Personal Storage on the Property at 406 Monaville Road, Lake Villa, IL**

Staff Contact: Michael Strong, Village Administrator

The petitioner, Easy Space Storage II, LLC, as contract purchaser of the property at 406 Monaville Road, has requested approval of a Conditional Use Permit to allow the construction, establishment, and operation of a mini-warehouse personal storage facility within the SB (Suburban Business) Zoning District. The proposal includes associated site improvements such as parking, lighting, landscaping, and stormwater management.

As part of the request, the petitioner is also seeking variations from the Village's Zoning Regulations to allow:

A reduced front yard setback of 30 feet where 50 feet is required; and
A "Type C" landscaping buffer with a six-foot (6') modular block retaining wall along the southern buffer yard, in place of the "Type D" buffer otherwise required.

The Plan Commission/Zoning Board of Appeals held a public hearing on the petition on August 7, 2025, which was continued to August 28, 2025. At the continued hearing, the petitioner submitted revised plans addressing Commission concerns. After review, the PC/ZBA unanimously recommended approval of the requested Conditional Use and associated variations, subject to conditions including compliance with Village engineering standards, submittal of a maintenance plan for the detention basin and retaining walls, and compliance with the Lake County Natural Resources Opinion letter dated May 28, 2025.

The Village Board is asked to consider approval of Ordinance No. 2025-09-01, granting a Conditional Use Permit and variations for the development of a mini-warehouse personal storage facility on the property at 406 Monaville Road, subject to the findings of fact and conditions outlined in the ordinance.

Suggested Motion: *Motion to Approve Ordinance 2025-09-01 An Ordinance Granting a Conditional Use and Variations for a Mini-Warehouse Facility for Personal Storage on the Property at 406 Monaville Road, Lake Villa, IL.*

b. Ordinance 2025-09-02: An Ordinance Implementing a Non-Home Rule Municipal Retailers' Occupation Tax and a Non-Home Rule Municipal Service Occupation Tax for the Village of Lake Villa

Staff Contact: Michael Strong, Village Administrator

Effective January 1, 2026, the State of Illinois will eliminate its 1% sales tax on groceries (Public Act 103-0781). This change will result in an estimated $40,000 annual revenue loss for the Village of Lake Villa. In response, the State has authorized municipalities to adopt a local grocery tax and/or a broader non-home rule sales tax of up to 1% on general merchandise (excluding groceries, prescription drugs, and titled vehicles), per 65 ILCS 5/8-11-1.3 and 1.6.

The Village Board has held two prior public discussions on this matter:

- **June 2025**: Staff presented the projected revenue loss from the State's grocery tax suspension and introduced the option of reinstating a local grocery tax to maintain current revenue levels.
- **July 2025**: The Village Board further evaluated the merits of a broader non-home rule sales tax, which would generate significantly more revenue that could offset rising costs associated with health insurance, police dispatch, and deferred infrastructure needs in roads, parks, and Village facilities.

Following these discussions, during a Committee of the Whole discussion on September 8, 2025, the Village Board expressed interest in pursuing a non-home rule sales tax to establish a long-term, sustainable revenue strategy that would support infrastructure reinvestment and reduce reliance on property taxes.

The Ordinance under consideration would establish a 1% non-home rule sales tax within the Village of Lake Villa. This tax would apply to general merchandise sold at retail establishments within the Village and would be administered and collected by the Illinois Department of Revenue.

Suggested Motion: *Motion to Approve Ordinance 2025-09-02 an Ordinance Implementing a Non-Home Rule Sales Municipal Retailers' Occupation Tax and a Non-Home Rule Municipal Service Occupation Tax for the Village of Lake Villa*

c. Resolution 2025-09-01: A Resolution Approving and Authorizing the Submittal of an Application for an Open Space Land Acquisition and Development (OSLAD) Grant

Staff Contact: Michael Strong, Village Administrator

The Open Space Land Acquisition and Development grant, administered in Illinois by the Illinois Department of Natural Resources (IDNR), provides funding assistance of up to 50% of the total project costs to local government agencies for acquisition and/or development of land for public parks and open spaces.

The submittals for FY 2026 are due on September 30, 2025, by 5PM. An approved resolution of authorization for the OSLAD grant program is one of the submittal requirements. The attached resolution of authorization template and resolution authorization form was provided to the Village as part of the OSLAD FY 2026 application materials and requires Village Board consideration for approval.

Staff recommends approving a Resolution authorizing the submittal of an application for the FY2026 OSLAD grant program, commensurate with the concept plan and details provided to the Village Board during the meeting on September 15, 2025.

Suggested Motion: *Motion to Approve Resolution 2025-09-01 Approving and Authorizing the Submittal of an Application for an FY2026 OSLAD Grant*

d. Discussion: Review and Discussion on Comprehensive Amendments to the Village of Lake Villa's Zoning Code

Staff Contact: Michael Strong, Village Administrator, Scott Goldstein, Teska Associates and Michael Blue, Teska Associates

Village Staff and Village Planning Consultants at Teska Associates have begun the technical tasks of updating the Village's Zoning Ordinance and preparing for a discussion with the Village Board during its regular meeting on September 15, 2025.

To guide this discussion, staff will be focusing on key items to review with the Village Board and members of the Plan Commission/Zoning Board of Appeals. A summary of these key points is included below:

Main Issues with the Current Code

Note that much of the need for a comprehensive Zoning Code update is to create a more useable zoning ordinance that effectively presents and applies development regulations. Main issues with the current ordinance are:

- The ordinance is unnecessarily complex in how it establishes, calculates and presents zoning standards. For example, the ordinance includes tables, but they include so much information as to be hard to use.
- The text of the ordinance is long and confusing. It is not in “everyday language”, as one stakeholder noted.
- The ordinance lacks adequate graphics to help define standards or convey intent.
- The application of legacy districts is confusing and needs to be clarified.

Main Policy Clarifications

The intent of a comprehensive update is not to change Village development policy, but to *clarify* and *convey* it clearly through the Code. To help code users (applicants, staff, and Boards and Commissions) and better attract desired development and economic development to the community, these policy considerations are central to the update:

1. What level of development review process is right for the Village to create a balance between attracting new development and ensuring it is right for Lake Villa?
2. How will design standards and guidelines be applied to development?
3. How will public benefits be incorporated into the review of planned developments?
4. Which zoning standards are fundamental to maintaining the desired character of development for the Village?

Staff and consultants will be present to facilitate a discussion with the Village Board on these policy clarifications and issues. To provide greater context into these initial findings, a copy of the audit report is enclosed and attached to the agenda packet.

VILLAGE OF LAKE VILLA
VILLAGE BOARD
REGULAR MEETING
SEPTEMBER 2ND, 2025

Call to Order: Mayor McDonald called the meeting to order at 7:00pm.

Present: Mayor McDonald, Trustees: Nielsen, Barbato, Bartlett, Cramond, Savell and McCollum, Village Administrator, Mike Strong, Assistant to the Village Administrator Jake Litz, Finance Director, Christine McKinley, Chief of Police Decaro, Public Works Supervisor Jim Bowles, Village Attorney Rebecca Alexopoulos and Superintendent of Streets Ryan Horton.

Roll Call: Mayor McDonald initiated the roll call.

ROLL CALL VOTE WAS:

AYES: 4 (Nielsen, Barlett, Cramond, McCollum)
NAYS: 0
ABSENT: 0 (Barbato, Savell)
ABSTAIN: 0

MOTION CARRIED

Public Comment: None.

Minutes: Trustee Cramond motioned and Trustee McCullom seconded the motion to approve the Committee of the Village Board Meeting Minutes – August 18th, 2025.

ROLL CALL VOTE WAS:

AYES: 4 (Nielsen, Barlett, Cramond, McCollum)
NAYS: 0
ABSENT: 0 (Barbato, Savell)
ABSTAIN: 0

MOTION CARRIED

Finance: Trustee Nielsen motioned and Trustee Bartlett seconded the motion to approve the accounts payable report for September 2nd, 2025, in the amount of $279,429.06.

ROLL CALL VOTE WAS:

AYES: 4 (Nielsen, Barlett, Cramond, McCollum)
NAYS: 0
ABSENT: 0 (Barbato, Savell)
ABSTAIN: 0

MOTION CARRIED

Mayor: Celebration of Fall update

Staff Reports: Discussion: Jim Bowles provided and update on the water main project & manhole rehab project
Discussion: Chief of Police Decaro informed the Board of 2 grants received
Discussion: Mike Strong provided a recap on the Lehmann Park "Open House" & shared the Community Survey Results

New Business: **Motion to approve Amendment No. 5 to the Commuter Station Development Agreement between the Village of Lake Villa and Metra, and Authorization for the Mayor and Village Clerk to Execute the Amendment on behalf of the Village.**

Trustee Savell motioned and Trustee Nielsen seconded the motion to approve Amendment No. 5 to the Commuter Station Development Agreement between the Village of Lake Villa and Metra, and Authorization for the Mayor and Village Clerk to Execute the Amendment on behalf of the Village.

ROLL CALL VOTE WAS:
AYES: 4 (Nielsen, Barlett, Cramond, McCollum)
NAYS: 0
ABSENT: 0 (Barbato, Savell)
ABSTAIN: 0
AYE: 1 Mayor McDonald **MOTION CARRIED**

Motion to Approve a Letter of Agreement by and Between the Village of Lake Villa and Handcrafted Healing by Jeannie, LLC.

Trustee Bartlett motioned and Trustee Cramond seconded the motion to approve a Letter of Agreement by and Between the Village of Lake Villa and Handcrafted Healing by Jeannie, LLC.

ROLL CALL VOTE WAS:
AYES: 4 (Nielsen, Barlett, Cramond, McCollum)
NAYS: 0
ABSENT: 0 (Barbato, Savell)
ABSTAIN: 0

MOTION CARRIED

Motion to Approve a Locating Addendum between the Village of Lake Villa and iTV-3 dba.

Trustee Bartlett motioned and Trustee Nielsen seconded the motion to approve a Locating Addendum between the Village of Lake Villa and iTV-3 dba.

ROLL CALL VOTE WAS:
AYES: 4 (Nielsen, Barlett, Cramond, McCollum)
NAYS: 0
ABSENT: 0 (Barbato, Savell)
ABSTAIN: 0

MOTION CARRIED

Old Business: None

Executive Session: None

Adjournment: Trustee Bartlett motioned and Trustee McCullom seconded the motion to adjourn at 8:10pm.

ROLL CALL VOTE WAS:
AYES: 4 (Nielsen, Barlett, Cramond, McCollum)
NAYS: 0
ABSENT: 0 (Barbato, Savell)
ABSTAIN: 0

MOTION CARRIED

APPROVED BY ME THIS _____ DAY OF SEPTEMBER 2025

_____

JAMES MCDONALD, MAYOR

_____

CONNIE OLKER , CLERK

VILLAGE OF LAKE VILLA
COMMITTEE OF THE WHOLE MEETING
September 8th, 2025

Call to Order: Mayor McDonald called the meeting to order at 6:00 pm.

Present: Mayor McDonald, Village Clerk Olker, Trustees: Barbato, Bartlett, Cramond, Savell and McCollum, Village Attorney Rebecca Alexopoulos, Village Administrator Mike Strong, Assistant to the Village Administrator Jake Litz, Finance Director Christine McKinley, Chief of Police Rochelle Tisinai, Public Works Supervisors Ryan Horton and Jim Bowles. Trustee Nielsen was absent.

ROLL CALL VOTE WAS:
AYES: **5 (Barbato, Bartlett, Cramond, Savell, McCollum)**
NAYS: 0
ABSENT: 1 (Nielsen)
ABSTAIN: 0 **MOTION CARRIED**

Public Comment: None

New Business: Grocery Tax Discussion

Village Administrator Michael Strong provided a brief staff presentation on grocery/sales tax options. Following the staff presentation, discussion occurred. The Village Board came to a consensus to move forward with 0% grocery tax and a 1% non-home rule sales tax. Mr. Strong stated that staff would prepare an Ordinance to reflect this direction for the next Board meeting.

Village Clerk Olker joined the meeting at 6:35pm

Kratom/Delta-8 THC Discussion

Mr. Strong provided a staff presentation of Kratom and Delta-8 THC. Discussion occurred regarding implementing possible restrictions on the sale of Kratom and Delta-8 THC. The Village Board provided direction to staff to look into some type of regulatory process. The Village Attorney was directed to draft various options for the Board's consideration.

Downtown Residential Development Discussion

Mr. Strong overviewed a conceptual plan for a proposed residential development in the downtown. He introduced the land planner for the site, Helmut Peter. Mr. Peter overviewed the proposal. The Village Board provided direction to move forward with the proposed plan.

Review of Solicitor Regulations

Mr. Strong provided an overview of the Village's current policy on solicitor regulations. He overviewed the concerns from the past summer. He stated that a public education campaign paired with providing residents with "no solicitation" stickers at Village Hall may be the most effective way of combating the issue. The Village Board was in consensus that a public education campaign would be the best way of combating solicitors.

Adjournment: It was moved by Trustee Barbato and seconded by Trustee Savell to adjourn at 7:49 pm.

ROLL CALL VOTE WAS:

AYES: **5 (Barbato, Bartlett, Cramond, Savell, McCollum)**
NAYS: 0
ABSENT: 1 (Nielsen)
ABSTAIN: 0 **MOTION CARRIED**

Minutes drafted by Recording Secretery Jake Litz and reviewed by Village Clerk Olker.

APPROVED BY ME THIS _____, OF SEPTEMBER, 2025

_____
JAMES MCDONALD, MAYOR

_____
CONNIE OLKER, CLERK

VILLAGE OF LAKE VILLA Treasurer's Report
EXP CHECK RUN DATES 09/03/2025 - 09/15/2025
BOTH JOURNALIZED AND UNJOURNALIZED
BOTH OPEN AND PAID

Fund	Department	Line Item	Item Description	Amount	Account Number	Budget	Total YTD	Over Budget
A TO Z RENTAL CENTER								
SPECIAL EVENTS FUND		EVENT EXPENSES - CELEB	CELEBRATION OF FALL -P	41.67	81-00-00-4366-0	20,000.00	10,691.06	
			Vendor Total:	**41.67**				
ACCURATE BIOMETRICS								
GENERAL FUND	STREETS	PHYSICALS/TESTING	FINGERPRINTING	30.00	01-41-60-4570	2,800.00	1,008.00	
			Vendor Total:	**30.00**				
ACE HARDWARE LIBERTYVILLE								
GENERAL FUND	PARKS MAINTENANCE	SUPPLIES-PARKS	PARK SUPPLIES	469.00	01-48-40-4911	20,000.00	7,660.67	
			Vendor Total:	**469.00**				
ANTIOCH AUTO PARTS								
WATER & SEWER	WATER	GENERATOR LOAD BANK TE	MULTIPLE GENERATORS	44.02	60-42-60-4961	10,000.00	229.94	
WATER & SEWER	SEWER	GENERATOR LOAD BANK TE	MULTIPLE GENERATORS	44.01	60-43-60-4961	10,000.00	229.96	
WATER & SEWER	WATER	GENERATOR LOAD BANK TE	MULTIPLE GENERATORS	33.15	60-42-60-4961	10,000.00	229.94	
WATER & SEWER	SEWER	GENERATOR LOAD BANK TE	MULTIPLE GENERATORS	33.15	60-43-60-4961	10,000.00	229.96	
GENERAL FUND	FLEET	VEHICLE SUPPLIES	TOOLCAT	1.72	01-30-60-4930	53,000.00	25,188.85	
GENERAL FUND	FLEET	VEHICLE SUPPLIES	SKID STEER	127.36	01-30-60-4930	53,000.00	25,188.85	
WATER & SEWER	WATER	VEHICLE SUPPLIES	SKID STEER	21.23	60-42-60-4930	9,000.00	1,380.69	
WATER & SEWER	SEWER	VEHICLE SUPPLIES	SKID STEER	21.22	60-43-60-4930	9,000.00	1,380.78	
WATER & SEWER	WATER	GENERATOR LOAD BANK TE	BOOSTER STATION GENERA	59.51	60-42-60-4961	10,000.00	229.94	
WATER & SEWER	SEWER	GENERATOR LOAD BANK TE	BOOSTER STATION GENERA	59.52	60-43-60-4961	10,000.00	229.96	
WATER & SEWER	WATER	SUPPLIES - WATER	WELLS 8 AND 9	58.47	60-42-40-4950	35,000.00	2,662.42	
WATER & SEWER	WATER	GENERATOR LOAD BANK TE	OAKLAND RIDGE GENERATO	8.31	60-42-60-4961	10,000.00	229.94	
WATER & SEWER	SEWER	GENERATOR LOAD BANK TE	OAKLAND RIDGE GENERATO	8.30	60-43-60-4961	10,000.00	229.96	
			Vendor Total:	**519.97**				
ATLAS BOBCAT, LLC								
GENERAL FUND	STREETS	MAINTENANCE - STREETS	PAVEMENT PATCHING	600.00	01-41-40-4240	95,000.00	12,124.48	
			Vendor Total:	**600.00**				
BETTER CITY, LLC								
GARBAGE FUND		REFUSE PICKUP	REFUSE PICKUP- AUGUST	75,321.26	68-00-20-4470	823,512.00	235,833.98	
BUSINESS DISTRICT #1 FU		BUSINESS DISTRICT PROJ	IMPLEMENTATION SERVICE	1,869.00	99-00-00-4801	160,750.00	9,565.00	
			Vendor Total:	**77,190.26**				
BREE NIES PHOTOGRAPPHY								
DEVELOPER ESCROWS		MISS LAKE VILLA	2025 MISS LAKE VILLA P	75.00	03-00-30-2347	0.00	3,812.22	OVER
DEVELOPER ESCROWS		MISS LAKE VILLA	2025 MISS LAKE VILLA P	600.00	03-00-30-2347	0.00	3,812.22	OVER
			Vendor Total:	**675.00**				
CARDMEMBER SERVICE								
GENERAL FUND	POLICE	MISCELLANEOUS	AMAZON	98.94	01-20-60-5190	8,000.00	1,526.12	
GENERAL FUND	POLICE	MISCELLANEOUS	AMAZON	119.57	01-20-60-5190	8,000.00	1,526.12	
GENERAL FUND	POLICE	MISCELLANEOUS	AMAZON	109.17	01-20-60-5190	8,000.00	1,526.12	
GENERAL FUND	POLICE	MISCELLANEOUS	CAUTION K-9 RED DECALS	20.98	01-20-60-5190	8,000.00	1,526.12	
GENERAL FUND	POLICE	MISCELLANEOUS	K9 STAY BACK STICKERS-	26.97	01-20-60-5190	8,000.00	1,526.12	
GENERAL FUND	POLICE	UNIFORM ALLOWANCE	KARLA TAPIA ACADEMY IT	30.88	01-20-60-4170	40,250.00	10,179.47	
GENERAL FUND	POLICE	UNIFORM ALLOWANCE	KARLA TAPIA HOLSTER IT	83.19	01-20-60-4170	40,250.00	10,179.47	
GENERAL FUND	MANAGEMENT SERVICES	MEMBERSHIPS	IL MUNICIPAL LEAGUE	325.00	01-10-60-4531	3,660.00	1,227.00	
GENERAL FUND	MANAGEMENT SERVICES	SOFTWARE LICENSES	DROPBOX	19.99	01-10-60-5213	38,727.15	10,998.89	
GENERAL FUND	LEGISLATIVE	MISCELLANEOUS EXPENSES	WALMART- COOKIES	36.45	01-11-60-5190	3,000.00	10,706.63	OVER
GENERAL FUND	MANAGEMENT SERVICES	MEMBERSHIPS	ILLINOIS TAX INCREMENT	550.00	01-10-60-4531	3,660.00	1,227.00	
GENERAL FUND	MANAGEMENT SERVICES	MEMBERSHIPS	ILLINOIS TAX INCREMENT	285.00	01-10-60-4531	3,660.00	1,227.00	
SPECIAL EVENTS FUND		EVENT EXPENSES - CELEB	COF SUPPLIES/ WAMART-	34.61	81-00-00-4366-0	20,000.00	10,691.06	
SPECIAL EVENTS FUND		EVENT EXPENSES - CELEB	CELEBRATION OF FALL SU	143.64	81-00-00-4366-0	20,000.00	10,691.06	
SPECIAL EVENTS FUND		EVENT EXPENSES - CELEB	HOBBY LOBBY- COF PAINT	32.27	81-00-00-4366-0	20,000.00	10,691.06	
SPECIAL EVENTS FUND		EVENT EXPENSES - CELEB	WALMART- COF SUPPLIES	45.67	81-00-00-4366-0	20,000.00	10,691.06	
GENERAL FUND	LEGISLATIVE	MISCELLANEOUS EXPENSES	LOVIN OVEN - ROSY GOIN	29.19	01-11-60-5190	3,000.00	10,706.63	OVER
SPECIAL EVENTS FUND		EVENT EXPENSES - CELEB	WALMART- COF - GAMES	100.58	81-00-00-4366-0	20,000.00	10,691.06	
SPECIAL EVENTS FUND		EVENT EXPENSES - CELEB	HOBBY LOBBY- COF - PAI	22.48	81-00-00-4366-0	20,000.00	10,691.06	
SPECIAL EVENTS FUND		EVENT EXPENSES - CELEB	JIMMY JOHNS- COF - FOO	93.04	81-00-00-4366-0	20,000.00	10,691.06	
SPECIAL EVENTS FUND		EVENT EXPENSES - CELEB	JIMMY JOHNS- COF - FOO	189.18	81-00-00-4366-0	20,000.00	10,691.06	
GENERAL FUND	STREETS	TRAINING/TRAVEL	IPRA/ TRAINING	714.00	01-41-60-4530	8,350.00	3,483.65	

Fund	Department	Line Item	Item Description	Amount	Account Number	Budget	Total YTD	Over Budget
GENERAL FUND	STREETS	TRAINING/TRAVEL	APWA- PWX REGISTRATION	134.00	01-41-60-4530	8,350.00	3,483.65	
WATER & SEWER	WATER	TRAINING/TRAVEL	ILLINOIS AWWA	48.00	60-42-60-4530	5,000.00	621.10	
WATER & SEWER	SEWER	TRAINING/TRAVEL	ILLINOIS AWWA	48.00	60-43-60-4530	5,000.00	327.10	
GENERAL FUND	STREETS	TRAINING/TRAVEL	APWA- PWX REGISTRATION	134.00	01-41-60-4530	8,350.00	3,483.65	
GENERAL FUND	STREETS	TRAINING/TRAVEL	APWA- PWX REGISTRATION	134.00	01-41-60-4530	8,350.00	3,483.65	
GENERAL FUND	STREETS	TRAINING/TRAVEL	METRA TICKET TO APWA-	33.75	01-41-60-4530	8,350.00	3,483.65	
GENERAL FUND	STREETS	TRAINING/TRAVEL	APWA-PWX PARKING PASS-	40.00	01-41-60-4530	8,350.00	3,483.65	
GENERAL FUND	STREETS	TRAINING/TRAVEL	APWA- PWX PARKING PASS	40.00	01-41-60-4530	8,350.00	3,483.65	
GENERAL FUND	STREETS	MAINTENANCE - STREETS	PAVE PRO	268.63	01-41-40-4240	95,000.00	12,124.48	
GENERAL FUND	FLEET	VEHICLE SUPPLIES	FRIDAY PARTS- GENERATO	63.13	01-30-60-4930	53,000.00	25,188.85	
GENERAL FUND	FLEET	MECHANIC TOOLS	AUTOAUTH SERVICE- DIAG	30.00	01-30-60-4931	14,800.00	11,397.57	
WATER & SEWER	WATER	MECHANIC TOOLS	AUTOAUTH SERVICE- DIAG	15.00	60-42-60-4931	6,000.00	0.00	
WATER & SEWER	SEWER	MECHANIC TOOLS	AUTOAUTH SERVICE- DIAG	15.00	60-43-60-4931	6,000.00	0.00	
GENERAL FUND	STREETS	UNIFORM ALLOWANCE	CARHARTT RETAIL- UNIFO	110.13	01-41-60-4170	3,200.00	1,058.73	
GENERAL FUND	STREETS	UNIFORM ALLOWANCE	CARHARTT - UNIFORM ALL	112.34	01-41-60-4170	3,200.00	1,058.73	
WATER & SEWER	SEWER	SUPPLIES - SEWER	TESCO- BIOXIDE PUMP PA	112.27	60-43-40-4950	25,000.00	715.11	
			Vendor Total:	**4,449.05**				
CENTRAL LAKE COUNTY JAWA								
WATER & SEWER	WATER	CLC-JAWA/ LAKE VILLA	AUGUST 2025	41,479.56	60-42-20-4351	397,762.00	148,980.47	
WATER & SEWER	WATER	CLC JAWA CONNECTION FE	AUGUST 2025	19,575.00	60-42-20-4352	234,900.00	78,300.00	
			Vendor Total:	**61,054.56**				
CINTAS CORP								
GENERAL FUND	FACILITIES	SUPPLIES-BUILDING	BUILDING SUPPLIES	120.54	01-46-40-4910	15,000.00	8,560.77	
GENERAL FUND	FACILITIES	SUPPLIES-BUILDING	BUILDING SUPPLIES	544.20	01-46-40-4910	15,000.00	8,560.77	
GENERAL FUND	FACILITIES	SUPPLIES-BUILDING	BUILDING SUPPLIES	7.53	01-46-40-4910	15,000.00	8,560.77	
			Vendor Total:	**672.27**				
CIVICPLUS LLC								
GENERAL FUND	MANAGEMENT SERVICES	SOFTWARE LICENSES	MUNICIPAL WEBSITE STAR	4,865.25	01-10-60-5213	38,727.15	10,998.89	
WATER & SEWER	WATER	SOFTWARE LICENSES	MUNICIPAL WEBSITE STAR	810.88	60-42-60-5213	9,903.18	2,603.18	
WATER & SEWER	SEWER	SOFTWARE LICENSES	MUNICIPAL WEBSITE STAR	810.87	60-43-60-5213	9,741.13	2,603.18	
			Vendor Total:	**6,487.00**				
COMCAST BUSINESS								
GENERAL FUND	FACILITIES	TELEPHONE	65 CEDAR AVE OFC	320.87	01-46-60-4420	34,700.00	18,341.09	
WATER & SEWER	WATER	TELEPHONE	65 CEDAR AVE OFC	53.48	60-42-60-4420	5,000.00	3,056.84	
WATER & SEWER	SEWER	TELEPHONE	65 CEDAR AVE OFC	53.48	60-43-60-4420	5,000.00	3,056.90	
			Vendor Total:	**427.83**				
COMED								
GENERAL FUND	STREETS	ELECTRICITY	0 S RAILROAD AVE W/S C	47.52	01-41-40-4660	135,000.00	48,868.66	
WATER & SEWER	WATER	ELECTRICITY	222 OAK KNOLL DR UNIT	2,247.84	60-42-40-4660	60,000.00	21,775.74	
GENERAL FUND	STREETS	ELECTRICITY	129 CENTRAL AVE LITE	42.06	01-41-40-4660	135,000.00	48,868.66	
WATER & SEWER	SEWER	ELECTRICITY	550 E GRAND AVE	130.00	60-43-40-4660	45,000.00	13,861.80	
WATER & SEWER	SEWER	ELECTRICITY	607 N MILWAUKEE AVE	152.72	60-43-40-4660	45,000.00	13,861.80	
GENERAL FUND	STREETS	ELECTRICITY	129 CENTRAL AVE	157.08	01-41-40-4660	135,000.00	48,868.66	
WATER & SEWER	WATER	ELECTRICITY	141 BELMONT AVE WELLHO	641.84	60-42-40-4660	60,000.00	21,775.74	
WATER & SEWER	SEWER	ELECTRICITY	0 N PETITE LAKE RD W/S	264.19	60-43-40-4660	45,000.00	13,861.80	
WATER & SEWER	WATER	ELECTRICITY	533 AMHERST RD	523.78	60-42-40-4660	60,000.00	21,775.74	
GENERAL FUND	STREETS	ELECTRICITY	0 S CEDAR 1W WISCONSIN	380.50	01-41-40-4660	135,000.00	48,868.66	
GENERAL FUND	STREETS	ELECTRICITY	0 S CEDAR 1W WISCONSIN	72.84	01-41-40-4660	135,000.00	48,868.66	
WATER & SEWER	SEWER	ELECTRICITY	801 E GRAND AVE PUMP	100.74	60-43-40-4660	45,000.00	13,861.80	
WATER & SEWER	SEWER	ELECTRICITY	910 PARK AVE- LIFT STA	98.81	60-43-40-4660	45,000.00	13,861.80	
WATER & SEWER	WATER	ELECTRICITY	108 S MILWAUKEE AVE	372.58	60-42-40-4660	60,000.00	21,775.74	
GENERAL FUND	STREETS	ELECTRICITY	119 CEDAR AVE LITE	93.20	01-41-40-4660	135,000.00	48,868.66	
WATER & SEWER	SEWER	ELECTRICITY	735 N MILWAUKEE AVE -P	90.67	60-43-40-4660	45,000.00	13,861.80	
			Vendor Total:	**5,416.37**				
CONSERV FS, INC.								
GENERAL FUND	FLEET	AUTOMOTIVE FUEL/OIL	76.400 GAL UNL GAS	1,772.00	01-30-60-4820	83,500.00	26,724.37	
WATER & SEWER	WATER	AUTOMOTIVE FUEL/OIL	76.400 GAL UNL GAS	295.33	60-42-60-4820	14,500.00	4,451.33	
WATER & SEWER	SEWER	AUTOMOTIVE FUEL/OIL	76.400 GAL UNL GAS	295.34	60-43-60-4820	14,500.00	4,451.32	

Fund	Department	Line Item	Item Description	Amount	Account Number	Budget	Total YTD	Over Budget
GENERAL FUND	FLEET	AUTOMOTIVE FUEL/OIL	555.700 GAL UNL GAS	1,317.18	01-30-60-4820	83,500.00	26,724.37	
WATER & SEWER	WATER	AUTOMOTIVE FUEL/OIL	555.700 GAL UNL GAS	219.53	60-42-60-4820	14,500.00	4,451.33	
WATER & SEWER	SEWER	AUTOMOTIVE FUEL/OIL	555.700 GAL UNL GAS	219.53	60-43-60-4820	14,500.00	4,451.32	
GENERAL FUND	FLEET	AUTOMOTIVE FUEL/OIL	608.300 GAL DIESEL	1,613.48	01-30-60-4820	83,500.00	26,724.37	
WATER & SEWER	WATER	AUTOMOTIVE FUEL/OIL	608.300 GAL DIESEL	268.91	60-42-60-4820	14,500.00	4,451.33	
WATER & SEWER	SEWER	AUTOMOTIVE FUEL/OIL	608.300 GAL DIESEL	268.92	60-43-60-4820	14,500.00	4,451.32	
			Vendor Total:	**6,270.22**				
CONSTELLATION NEW ENERGY, INC.								
GENERAL FUND	STREETS	ELECTRICITY	AUGUST 2025	11,508.70	01-41-40-4660	135,000.00	48,868.66	
			Vendor Total:	**11,508.70**				
CORPORATE WELLNESS PARTNERS								
GENERAL FUND	POLICE	PHYSICALS/TESTING	PHYSICALS/ TESTING	65.00	01-20-60-4570	2,200.00	2,549.04	OVER
			Vendor Total:	**65.00**				
CREATIVE FINANCIAL STAFFING LLC								
GENERAL FUND	LEGISLATIVE	MISCELLANEOUS EXPENSES	TEMP FOR FRONT OFFICE (	1,050.00	01-11-60-5190	3,000.00	10,706.63	OVER
			Vendor Total:	**1,050.00**				
DEKIND COMPUTER CONSULTANTS								
GENERAL FUND	MANAGEMENT SERVICES	IT SUPPORT -75% (MONTH	OCTOBER 2025	600.00	01-10-20-5215	12,000.00	5,138.07	
WATER & SEWER	WATER	IT SUPPORT -12.5%	OCTOBER 2025	100.00	60-42-20-5215	2,500.00	856.46	
WATER & SEWER	SEWER	IT SUPPORT -12.5%	OCTOBER 2025	100.00	60-43-20-5215	2,500.00	856.47	
GENERAL FUND	MANAGEMENT SERVICES	SOFTWARE LICENSES -75	OCTOBER 2025	1,089.75	01-10-60-5213	38,727.15	10,998.89	
WATER & SEWER	WATER	SOFTWARE LICENSES -12.5	OCTOBER 2025	181.63	60-42-60-5213	9,903.18	2,603.18	
WATER & SEWER	SEWER	SOFTWARE LICENSES- 12.5	OCTOBER 2025	181.62	60-43-60-5213	9,741.13	2,603.18	
GENERAL FUND	MANAGEMENT SERVICES	IT SUPPORT -75% (MONTH	OT HRS FOR AUGUST 2025	1,259.06	01-10-20-5215	12,000.00	5,138.07	
WATER & SEWER	WATER	IT SUPPORT -12.5%	OT HRS FOR AUGUST 2025	209.84	60-42-20-5215	2,500.00	856.46	
WATER & SEWER	SEWER	IT SUPPORT -12.5%	OT HRS FOR AUGUST 2025	209.85	60-43-20-5215	2,500.00	856.47	
			Vendor Total:	**3,931.75**				
ECCEZION								
GENERAL FUND	MANAGEMENT SERVICES	AUDIT- ADMINISTRATION	AUDIT ENGAGEMENT/ POLI(	7,140.00	01-10-20-4310	26,000.00	18,900.00	OVER
WATER & SEWER	WATER	AUDIT- WATER -15%	AUDIT ENGAGEMENT/ POLI(	1,530.00	60-42-20-4310	4,942.50	4,050.00	OVER
WATER & SEWER	SEWER	AUDIT- SEWER -15%	AUDIT ENGAGEMENT/ POLI(	1,530.00	60-43-20-4310	4,942.50	4,050.00	OVER
			Vendor Total:	**10,200.00**				
EGOV STRATEGIES								
GENERAL FUND	MANAGEMENT SERVICES	SOFTWARE LICENSES- 75%	QUARTERLY LICENSE FEE	637.50	01-10-60-5213	38,727.15	10,998.89	
WATER & SEWER	WATER	SOFTWARE LICENSES- 12.5	QUARTERLY LICENSE FEE	106.25	60-42-60-5213	9,903.18	2,603.18	
WATER & SEWER	SEWER	SOFTWARE LICENSES- 12.5	QUARTERLY LICENSE FEE	106.25	60-43-60-5213	9,741.13	2,603.18	
			Vendor Total:	**850.00**				
ENTERPRISE FM TRUST								
GENERAL CAPITAL FUND	POLICE	VEHICLE LEASES - POLIC	VEHICLE LEASES- POLICE	4,039.77	90-20-60-4932	48,378.00	18,689.16	
W&S CAPTIAL FUND	WATER	VEHICLE LEASES - WATER	VEHICLE LEASES- PUBLIC	1,258.44	91-42-60-4932	15,101.00	4,515.83	
W&S CAPTIAL FUND	SEWER	VEHICLE LEASES - SEWER	VEHICLE LEASES- PUBLIC	1,258.45	91-43-60-4932	15,101.00	4,515.85	
			Vendor Total:	**6,556.66**				
GALL'S, LLC								
GENERAL FUND	POLICE	UNIFORM ALLOWANCE	UNIFORM ALLOWANCE- GRE(	203.43	01-20-60-4170	40,250.00	10,179.47	
GENERAL FUND	POLICE	UNIFORM ALLOWANCE	UNIFORM ALLOWANCE- JOH	122.99	01-20-60-4170	40,250.00	10,179.47	
GENERAL FUND	POLICE	UNIFORM ALLOWANCE	UNIFORM ALLOWANCE- ERI	62.43	01-20-60-4170	40,250.00	10,179.47	
			Vendor Total:	**388.85**				
GILLESPIE FORD								
GENERAL FUND	FLEET	VEHICLE SUPPLIES	UNIT 295	153.07	01-30-60-4930	53,000.00	25,188.85	
			Vendor Total:	**153.07**				
GRAINGER								
GENERAL FUND	FLEET	VEHICLE SUPPLIES	VEHICLE SUPPLIES	305.91	01-30-60-4930	53,000.00	25,188.85	
			Vendor Total:	**305.91**				
GREATAMERICA FINANCIAL SERVICES COR								
GENERAL FUND	MANAGEMENT SERVICES	EQUIPMENT MAINTENANCE	KYOCERA COPIER RENTAL-	241.63	01-10-20-4813	6,000.00	2,957.69	
			Vendor Total:	**241.63**				
HOME DEPOT CREDIT SERVICES								
GENERAL FUND	FLEET	MECHANIC TOOLS	MECHANIC TOOLS	7.98	01-30-60-4931	14,800.00	11,397.57	

Fund	Department	Line Item	Item Description	Amount	Account Number	Budget	Total YTD	Over Budget
GENERAL FUND	FLEET	MECHANIC TOOLS	MECHANIC TOOLS	22.97	01-30-60-4931	14,800.00	11,397.57	
WATER & SEWER	WATER	GENERATOR LOAD BANK TE:	GENERATOR	5.96	60-42-60-4961	10,000.00	229.94	
WATER & SEWER	SEWER	GENERATOR LOAD BANK TE:	GENERATOR	5.96	60-43-60-4961	10,000.00	229.96	
GENERAL FUND	FLEET	MECHANIC TOOLS	MECHANIC TOOLS	26.00	01-30-60-4931	14,800.00	11,397.57	
GENERAL FUND	POLICE	MISCELLANEOUS	CONCRETE MIX	26.88	01-20-60-5190	8,000.00	1,526.12	
GENERAL FUND	PARKS MAINTENANCE	SUPPLIES-PARKS	PARK SUPPLIES	13.06	01-48-40-4911	20,000.00	7,660.67	
GENERAL FUND	FACILITIES	MAINTENANCE-BUILDING	BUILDING MAINT	597.00	01-46-40-4210	13,000.00	3,461.51	
GENERAL FUND	FLEET	VEHICLE SUPPLIES	VEHICLE SUPPLIES	21.79	01-30-60-4930	53,000.00	25,188.85	
			Vendor Total:	**727.60**				
IMPERIAL SUPPLIES LLC								
GENERAL FUND	FACILITIES	SUPPLIES-BUILDING	SHOP SUPPLIES	109.12	01-46-40-4910	15,000.00	8,560.77	
			Vendor Total:	**109.12**				
IMPRESSIONS COUNT								
SPECIAL EVENTS FUND		EVENT EXPENSES - CELEB	COF- CORN SIGN	15.00	81-00-00-4366-0	20,000.00	10,691.06	
SPECIAL EVENTS FUND		EVENT EXPENSES - CELEB	COF- SIGNS/ BANNERS/ S	1,324.00	81-00-00-4366-0	20,000.00	10,691.06	
			Vendor Total:	**1,339.00**				
INTEGRITY SALES INC.								
GENERAL FUND	POLICE	MISCELLANEOUS	GUARDIAN ANGEL SAFETY	124.48	01-20-60-5190	8,000.00	1,526.12	
			Vendor Total:	**124.48**				
JAMES P. BATEMAN, LTD.								
GENERAL FUND	LEGISLATIVE	LEGAL FEES	GENERAL MATTERS/ I3 BR	4,563.00	01-11-20-4330	140,000.00	37,546.92	
DEVELOPER ESCROWS		I3 BROADBAND	GENERAL MATTERS/ I3 BR	546.25	03-00-30-2366	0.00	(4,308.00)	
DOWNTOWN TIF FUND		LEGAL FEES	PLEVIAK SCHOOL IGA	1,408.50	98-00-20-4330	20,000.00	1,802.15	
WATER & SEWER	WATER	LEGAL FEES	SEWER AND WATER MATTER:	261.25	60-42-20-4330	10,000.00	452.50	
WATER & SEWER	SEWER	LEGAL FEES	SEWER AND WATER MATTER:	261.25	60-43-20-4330	10,000.00	452.50	
DEVELOPER ESCROWS		406 MONAVILLE - STORAG	406 MONAVILLE ROAD MAT	1,530.25	03-00-30-2367	0.00	69.95	OVER
GENERAL FUND	LEGISLATIVE	LEGAL FEES	MARTINO ZONING VARIATI	866.00	01-11-20-4330	140,000.00	37,546.92	
			Vendor Total:	**9,436.50**				
JOHN BAGHDASARIAN								
GENERAL FUND	POLICE	MISCELLANEOUS	REIMBURSEMENT- FED EX	87.35	01-20-60-5190	8,000.00	1,526.12	
			Vendor Total:	**87.35**				
KIMBALL MIDWEST								
GENERAL FUND	FLEET	MECHANIC TOOLS	MECHANIC TOOLS	455.58	01-30-60-4931	14,800.00	11,397.57	
			Vendor Total:	**455.58**				
LAKE COUNTY TREASURER								
GENERAL FUND	COMMUNITY DEVELOPMENT	BUILDING INSPECTORS	AUGUST 2025 BUILDING S	4,628.03	01-12-20-4392	65,000.00	27,185.69	
			Vendor Total:	**4,628.03**				
LAKELAND SEPTIC SERVICE								
GENERAL FUND	PARKS MAINTENANCE	MAINTENANCE-PARKS	PUMP OUT 2 HOLDING TAN	280.00	01-48-40-4211	17,000.00	5,782.07	
			Vendor Total:	**280.00**				
LAKELAND/LARSEN								
MANSION FUND		PREVENTATIVE MAINTENAN	MONTHY ELEVATOR MAINT	223.00	08-00-00-4212	16,000.00	7,213.96	
			Vendor Total:	**223.00**				
LAUTERBACH & AMEN, LLP								
GENERAL FUND	MANAGEMENT SERVICES	FINANCIAL MANAGEMENT C	AUGUST 2025	2,722.00	01-10-20-4311	32,664.00	13,376.00	
WATER & SEWER	WATER	FINANCIAL MANAGEMENT C	AUGUST 2025	1,361.00	60-42-20-4311	16,332.00	6,688.00	
WATER & SEWER	SEWER	FINANCIAL MANAGEMENT C	AUGUST 2025	1,361.00	60-43-20-4311	16,332.00	6,688.00	
			Vendor Total:	**5,444.00**				
LF GEORGE INC.								
GENERAL FUND	FLEET	VEHICLE SUPPLIES	CONVERSION KIT	707.92	01-30-60-4930	53,000.00	25,188.85	
			Vendor Total:	**707.92**				
LINDE GAS & EQUIPTMENT INC.								
GENERAL FUND	FACILITIES	SUPPLIES-BUILDING	ACETYLENE/ OXYGEN	42.41	01-46-40-4910	15,000.00	8,560.77	
			Vendor Total:	**42.41**				
MACON COUNTY LAW ENFORCEMENT TRAINI								
GENERAL FUND	POLICE	POLICE ACADEMY	BLEA TUITION- RC25-26	8,715.00	01-20-50-4330	16,000.00	0.00	
			Vendor Total:	**8,715.00**				
MAGEE HARTMAN, P.C.								

Fund	Department	Line Item	Item Description	Amount	Account Number	Budget	Total YTD	Over Budget
GENERAL FUND	POLICE	LEGAL FEES/COURT	AUGUST 2025	4,635.00	01-20-20-4330	40,000.00	14,900.00	
			Vendor Total:	**4,635.00**				
MARTIN METREGER								
DEVELOPER ESCROWS		MISS LAKE VILLA	MISS LAKE VILLA PAGEAN'	750.00	03-00-30-2347	0.00	3,812.22	OVER
			Vendor Total:	**750.00**				
MENARDS - ANTIOCH								
SPECIAL EVENTS FUND		EVENT EXPENSES - CELEBI	CELEBRATION OF FALL- S(	119.80	81-00-00-4366-0	20,000.00	10,691.06	
GENERAL FUND	FACILITIES	SUPPLIES-BUILDING	BUILDING SUPPLIES	50.28	01-46-40-4910	15,000.00	8,560.77	
SPECIAL EVENTS FUND		EVENT EXPENSES - CELEBI	CELEBRATION OF FALL- G/	71.28	81-00-00-4366-0	20,000.00	10,691.06	
GENERAL FUND	FACILITIES	SUPPLIES-BUILDING	BUILDING SUPPLIES	12.99	01-46-40-4910	15,000.00	8,560.77	
SPECIAL EVENTS FUND		EVENT EXPENSES - CELEBI	COF SUPPLIES	54.09	81-00-00-4366-0	20,000.00	10,691.06	
GENERAL FUND	PARKS MAINTENANCE	MAINTENANCE-PARKS	LEHMANN PARK BUILDING I	345.64	01-48-40-4211	17,000.00	5,782.07	
SPECIAL EVENTS FUND		EVENT EXPENSES - CELEBI	COF- SUPPLIES	18.76	81-00-00-4366-0	20,000.00	10,691.06	
			Vendor Total:	**672.84**				
MEYER FAMILY FARM								
SPECIAL EVENTS FUND		EVENT EXPENSES - CELEBI	CELEBRATION OF FALL- PI	275.00	81-00-00-4366-0	20,000.00	10,691.06	
			Vendor Total:	**275.00**				
MIDWEST POWER INDUSTRY, INC.								
WATER & SEWER	WATER	GENERATOR LOAD BANK TE:	BELT AND FILTERS FOR GI	425.53	60-42-60-4961	10,000.00	229.94	
WATER & SEWER	SEWER	GENERATOR LOAD BANK TE:	BELT AND FILTERS FOR GI	425.53	60-43-60-4961	10,000.00	229.96	
			Vendor Total:	**851.06**				
MILIEU DESIGN LLC								
WATER & SEWER	WATER	MOWING	WELL MOWING	140.00	60-42-20-4213	8,900.00	4,082.40	
GENERAL FUND	FACILITIES	MOWING	PARKS MOWING	495.00	01-46-20-4213	27,000.00	11,503.20	
WATER & SEWER	WATER	MOWING	222 OAK KNOLL RD/ METRA	120.50	60-42-20-4213	8,900.00	4,082.40	
WATER & SEWER	SEWER	MOWING	222 OAK KNOLL RD/ METRA	96.40	60-43-20-4213	5,500.00	2,690.40	
GENERAL FUND	FACILITIES	MOWING	222 OAK KNOLL RD/ METRA	24.10	01-46-20-4213	27,000.00	11,503.20	
METRA FUND		MOWING	222 OAK KNOLL RD/ METRA	35.00	02-00-20-4213	1,250.00	490.00	
GENERAL FUND	FACILITIES	MOWING	222 OAK KNOLL RD/ METRA	33.25	01-46-20-4213	27,000.00	11,503.20	
WATER & SEWER	SEWER	MOWING	222 OAK KNOLL RD/ METRA	1.75	60-43-20-4213	5,500.00	2,690.40	
GENERAL FUND	FACILITIES	MOWING	222 OAK KNOLL RD/ METRA	166.60	01-46-20-4213	27,000.00	11,503.20	
WATER & SEWER	WATER	MOWING	222 OAK KNOLL RD/ METRA	3.40	60-42-20-4213	8,900.00	4,082.40	
WATER & SEWER	SEWER	MOWING	LIFT STATION MOWING	70.00	60-43-20-4213	5,500.00	2,690.40	
GENERAL FUND	COMMUNITY DEVELOPMENT	VACANT LOT MOWING	PLEVIAK- 108 N MILWAUK	60.00	01-12-20-4214	5,500.00	4,752.00	
			Vendor Total:	**1,246.00**				
MORRISON ASSOCIATES LTD								
GENERAL FUND	MANAGEMENT SERVICES	TRAINING/TRAVEL	WEST SUBURBAN CITY MAN/	1,500.00	01-10-60-4530	10,700.00	627.54	
			Vendor Total:	**1,500.00**				
MOTOROLA SOLUTIONS, INC.								
GENERAL CAPITAL FUND	POLICE	CAPITAL IMPROVEMENTS -	QE-M500-CAR-2Y/ SERVICI	115.00	90-20-60-5100	42,853.00	17,585.94	
			Vendor Total:	**115.00**				
NICOR GAS								
WATER & SEWER	SEWER	NATURAL GAS	725 E GRAND AVE #4	151.90	60-43-40-4610	15,000.00	2,909.04	
			Vendor Total:	**151.90**				
NORTHWEST POLICE ACADEMY								
GENERAL FUND	POLICE	TRAINING/TRAVEL	MEMBER ADMISSION	50.00	01-20-60-4530	19,550.00	7,210.44	
			Vendor Total:	**50.00**				
PACE ANALYTICAL SERVICES, LLC								
WATER & SEWER	WATER	MAINTENANCE-WATER SYST	DISINFECTION	1,005.00	60-42-40-4250	60,000.00	13,793.49	
			Vendor Total:	**1,005.00**				
PAYNE & DOLAN, INC								
GENERAL FUND	STREETS	MAINTENANCE - STREETS	PAVEMENT PATCHING	251.77	01-41-40-4240	95,000.00	12,124.48	
			Vendor Total:	**251.77**				
PITNEY BOWES BANK IN PURCHASE POWER								
GENERAL FUND	MANAGEMENT SERVICES	OFFICE SUPPLIES	POSTAGE	388.11	01-10-60-4810	7,000.00	2,012.08	
GENERAL FUND	POLICE	OFFICE SUPPLIES	POSTAGE	388.11	01-20-60-4810	7,000.00	3,130.06	
WATER & SEWER	WATER	OFFICE SUPPLIES	POSTAGE	166.33	60-42-60-4810	5,800.00	1,685.18	
WATER & SEWER	SEWER	OFFICE SUPPLIES	POSTAGE	166.33	60-43-60-4810	5,800.00	1,685.22	

Fund	Department	Line Item	Item Description	Amount	Account Number	Budget	Total YTD	Over Budget
			Vendor Total:	**1,108.88**				
TESKA ASSOCIATES, INC.								
GENERAL CAPITAL FUND	MANAGEMENT SERVICES	CAPITAL IMPROVEMENTS -	LAK25-93- LAKE VILLA-Z(	748.00	90-10-60-5100	151,706.00	9,103.73	
			Vendor Total:	**748.00**				
THE MULCH CENTER								
GENERAL FUND	PARKS MAINTENANCE	SUPPLIES-PARKS	PLANTING BED MIX	145.00	01-48-40-4911	20,000.00	7,660.67	
			Vendor Total:	**145.00**				
TRANSUNION								
GENERAL FUND	POLICE	MEMBERSHIPS	AUGUST 2025	103.60	01-20-60-4531	25,285.00	17,948.60	
			Vendor Total:	**103.60**				
VILLAGE OF FOX LAKE								
GENERAL FUND	POLICE	DISPATCHING	DISPATCH SERVICE 4 OF -	20,000.00	01-20-20-4460	108,000.00	21,655.40	
GENERAL FUND	POLICE	ADMIINISTRATIVE ADJUDI(	HEARING OFFICER- SEPTEI	255.00	01-20-20-4331	3,060.00	1,275.00	
			Vendor Total:	**20,255.00**				
WAREHOUSE DIRECT								
WATER & SEWER	SEWER	OFFICE SUPPLIES	OFFICE SUPPLIES- NAMEP:	14.37	60-43-60-4810	5,800.00	1,685.22	
WATER & SEWER	WATER	OFFICE SUPPLIES	OFFICE SUPPLIES- NAMEP:	14.37	60-42-60-4810	5,800.00	1,685.18	
GENERAL FUND	MANAGEMENT SERVICES	OFFICE SUPPLIES	OFFICE SUPPLIES- NAMEP:	33.53	01-10-60-4810	7,000.00	2,012.08	
GENERAL FUND	POLICE	OFFICE SUPPLIES	OFFICE SUPPLIES- NAMEP:	33.53	01-20-60-4810	7,000.00	3,130.06	
GENERAL FUND	POLICE	OFFICE SUPPLIES	OFFICE SUPPLIES- LABEL,	83.60	01-20-60-4810	7,000.00	3,130.06	
			Vendor Total:	**179.40**				
			Grand Total:	**265,918.21**				

LAKE VILLA VILLAGE BOARD REPORT FOR VILLAGE OF LAKE VILLA
EXP CHECK RUN DATES 09/03/2025 - 09/15/2025
BOTH JOURNALIZED AND UNJOURNALIZED
BOTH OPEN AND PAID

INVOICE NUMBER	DESCRIPTION	AMOUNT
VENDOR CODE: ACCBIO ACCURATE BIOMETRICS		
449192508	FINGERPRINTING	30.00
TOTAL VENDOR ACCBIO ACCURATE BIOMETRICS		30.00
VENDOR CODE: ACELIB ACE HARDWARE LIBERTYVILLE		
000387/D	PARK SUPPLIES	469.00
TOTAL VENDOR ACELIB ACE HARDWARE LIBERTYVILLE		469.00
VENDOR CODE: ANTAUT ANTIOCH AUTO PARTS		
603856	MULTIPLE GENERATORS	88.03
603999	MULTIPLE GENERATORS	66.30
604695	TOOLCAT	1.72
604265	SKID STEER	169.81
602443	BOOSTER STATION GENERATOR	119.03
602420	WELLS 8 AND 9	58.47
601889	OAKLAND RIDGE GENERATOR	16.61
TOTAL VENDOR ANTAUT ANTIOCH AUTO PARTS		519.97
VENDOR CODE: ATLBOB ATLAS BOBCAT, LLC		
N44416	PAVEMENT PATCHING	600.00
TOTAL VENDOR ATLBOB ATLAS BOBCAT, LLC		600.00
VENDOR CODE: ATOZ A TO Z RENTAL CENTER		
255199	CELEBRATION OF FALL -PROPANE TANK FOR CO	41.67
TOTAL VENDOR ATOZ A TO Z RENTAL CENTER		41.67
VENDOR CODE: BETCIT BETTER CITY, LLC		
NI11083626	REFUSE PICKUP- AUGUST 2025	75,321.26
2145	IMPLEMENTATION SERVICES	1,869.00
TOTAL VENDOR BETCIT BETTER CITY, LLC		77,190.26
VENDOR CODE: BRENIE BREE NIES PHOTOGRAPPHY		
000026	2025 MISS LAKE VILLA PHOTO PACKAGE	75.00
000027	2025 MISS LAKE VILLA PORTRAITS	600.00
TOTAL VENDOR BRENIE BREE NIES PHOTOGRAPPHY		675.00
VENDOR CODE: CARSER CARDMEMBER SERVICE		
8972	AMAZON	98.94
9536	AMAZON	119.57
8948	AMAZON	109.17
0995	CAUTION K-9 RED DECALS	20.98
4656	K9 STAY BACK STICKERS- CAR	26.97
2939	KARLA TAPIA ACADEMY ITEMS	30.88
7555	KARLA TAPIA HOLSTER ITEMS	83.19
4026	IL MUNICIPAL LEAGUE	325.00
1059	DROPBOX	19.99
0876	WALMART- COOKIES	36.45
2471	ILLINOIS TAX INCREMENT ASSOCIATION- MEMB	550.00
0966	ILLINOIS TAX INCREMENT ASSOCIATION	285.00
1321	COF SUPPLIES/ WAMART- LUNCH SUPPLIES FOR	34.61
6933	CELEBRATION OF FALL SUPPLIES- SAM'S CLUB	143.64
4572	HOBBY LOBBY- COF PAINT FOR PUMPKINS	32.27

INVOICE NUMBER	DESCRIPTION	AMOUNT
VENDOR CODE: CARSER CARDMEMBER SERVICE		
8129	WALMART- COF SUPPLIES	45.67
0148	LOVIN OVEN - ROSY GOING AWAY	29.19
9137	WALMART- COF - GAMES	100.58
6016	HOBBY LOBBY- COF - PAINT	22.48
8805	JIMMY JOHNS- COF - FOOD	93.04
8722	JIMMY JOHNS- COF - FOOD	189.18
4464	IPRA/ TRAINING	714.00
3031	APWA- PWX REGISTRATION	134.00
9351	ILLINOIS AWWA	96.00
4296	APWA- PWX REGISTRATION	134.00
4304	APWA- PWX REGISTRATION	134.00
8443	METRA TICKET TO APWA- PWX	33.75
5513	APWA-PWX PARKING PASS- CODY RANKIN 8/18/	40.00
9297	APWA- PWX PARKING PASS- CODY RANNKIN 8/1	40.00
0968	PAVE PRO	268.63
0043	FRIDAY PARTS- GENERATOR LT	63.13
9429	AUTOAUTH SERVICE- DIAGNOSTICS EQUIPTMENT	60.00
2480	CARHARTT RETAIL- UNIFORM ALLOWANCE -RYAN	110.13
7925	CARHARTT - UNIFORM ALLOWANCE- RYAN HORTO	112.34
6690	TESCO- BIOXIDE PUMP PARTS FOR SANITARY S	112.27
TOTAL VENDOR CARSER CARDMEMBER SERVICE		4,449.05
VENDOR CODE: CENLCJAWA CENTRAL LAKE COUNTY JAWA		
0801-0831	AUGUST 2025	61,054.56
TOTAL VENDOR CENLCJAWA CENTRAL LAKE COUNTY JAWA		61,054.56
VENDOR CODE: CIN CINTAS CORP		
4241738644	BUILDING SUPPLIES	120.54
4235115378	BUILDING SUPPLIES	544.20
5289919001	BUILDING SUPPLIES	7.53
TOTAL VENDOR CIN CINTAS CORP		672.27
VENDOR CODE: CIVICPLUS CIVICPLUS LLC		
348394	MUNICIPAL WEBSITE STARTER	6,487.00
TOTAL VENDOR CIVICPLUS CIVICPLUS LLC		6,487.00
VENDOR CODE: COMBUS COMCAST BUSINESS		
09092025-2880	65 CEDAR AVE OFC	427.83
TOTAL VENDOR COMBUS COMCAST BUSINESS		427.83
VENDOR CODE: COMED COMED		
09052025-8000	0 S RAILROAD AVE W/S CEDAR AVE	47.52
09052025-2111	222 OAK KNOLL DR UNIT A	2,247.84
09052025-2222	129 CENTRAL AVE LITE	42.06
09052025-7000	550 E GRAND AVE	130.00
09052025-3000	607 N MILWAUKEE AVE	152.72
09052025	129 CENTRAL AVE	157.08
09052025-2000	141 BELMONT AVE WELLHOUSE	641.84
09052025-2222	0 N PETITE LAKE RD W/S RTE 83	264.19
09052025-2000	533 AMHERST RD	523.78
09052025-1222	0 S CEDAR 1W WISCONSINCNTRA	380.50
09152025-1222	0 S CEDAR 1W WISCONSINCNTRA	72.84
09052025-8000	801 E GRAND AVE PUMP	100.74

INVOICE NUMBER	DESCRIPTION	AMOUNT
VENDOR CODE: COMED COMED		
09052025-1222	910 PARK AVE- LIFT STATION	98.81
09152025-9000	108 S MILWAUKEE AVE	372.58
09052025-2222	119 CEDAR AVE LITE	93.20
09052025-8000	735 N MILWAUKEE AVE -PUMPING STATION	90.67
TOTAL VENDOR COMED COMED		5,416.37
VENDOR CODE: CONFS CONSERV FS, INC.		
102033707	76.400 GAL UNL GAS	2,362.67
102033811	555.700 GAL UNL GAS	1,756.24
102033810	608.300 GAL DIESEL	2,151.31
TOTAL VENDOR CONFS CONSERV FS, INC.		6,270.22
VENDOR CODE: CONNEW CONSTELLATION NEW ENERGY, INC.		
71294288201	AUGUST 2025	11,508.70
TOTAL VENDOR CONNEW CONSTELLATION NEW ENERGY, INC.		11,508.70
VENDOR CODE: CORWEL CORPORATE WELLNESS PARTNERS		
EM002397	PHYSICALS/ TESTING	65.00
TOTAL VENDOR CORWEL CORPORATE WELLNESS PARTNERS		65.00
VENDOR CODE: CREFIN CREATIVE FINANCIAL STAFFING LLC		
125350695	TEMP FOR FRONT OFFICE 08/31/2025	1,050.00
TOTAL VENDOR CREFIN CREATIVE FINANCIAL STAFFING LLC		1,050.00
VENDOR CODE: DEKCOM DEKIND COMPUTER CONSULTANTS		
42895	OCTOBER 2025	2,253.00
42994	OT HRS FOR AUGUST 2025	1,678.75
TOTAL VENDOR DEKCOM DEKIND COMPUTER CONSULTANTS		3,931.75
VENDOR CODE: ECC ECCEZION		
481414	AUDIT ENGAGEMENT/ POLICE PENSION AUDIT E	10,200.00
TOTAL VENDOR ECC ECCEZION		10,200.00
VENDOR CODE: EGOV EGOV STRATEGIES		
INV-32919	QUARTERLY LICENSE FEE	850.00
TOTAL VENDOR EGOV EGOV STRATEGIES		850.00
VENDOR CODE: ENT ENTERPRISE FM TRUST		
FBN5435385	VEHICLE LEASES- POLICE- SEPTEMBER 2025	4,039.77
FBN5435432	VEHICLE LEASES- PUBLIC WORKS- SEPTEMBER	2,516.89
TOTAL VENDOR ENT ENTERPRISE FM TRUST		6,556.66
VENDOR CODE: GALL'S GALL'S, LLC		
032150093	UNIFORM ALLOWANCE- GREG REGNIER	203.43
032150095	UNIFORM ALLOWANCE- JOHN BAGHDASARIAN	122.99
032222200	UNIFORM ALLOWANCE- ERIK LINDBERG	62.43
TOTAL VENDOR GALL'S GALL'S, LLC		388.85
VENDOR CODE: GILFOR GILLESPIE FORD		

INVOICE NUMBER	DESCRIPTION	AMOUNT
VENDOR CODE: GILFOR GILLESPIE FORD		
52680	UNIT 295	153.07
TOTAL VENDOR GILFOR GILLESPIE FORD		153.07
VENDOR CODE: GRAINGER GRAINGER		
9621676767	VEHICLE SUPPLIES	305.91
TOTAL VENDOR GRAINGER GRAINGER		305.91
VENDOR CODE: GREAME GREATAMERICA FINANCIAL SERVICES COR		
40003373	KYOCERA COPIER RENTAL- 09/12/2025- 10/11	241.63
TOTAL VENDOR GREAME GREATAMERICA FINANCIAL SERVICES		241.63
VENDOR CODE: HOMDEP HOME DEPOT CREDIT SERVICES		
3613990	MECHANIC TOOLS	7.98
1622173	MECHANIC TOOLS	22.97
9623648	GENERATOR	11.92
8623744	MECHANIC TOOLS	26.00
7016240	CONCRETE MIX	26.88
5016381	PARK SUPPLIES	13.06
4512182	BUILDING MAINT	597.00
4615385	VEHICLE SUPPLIES	21.79
TOTAL VENDOR HOMDEP HOME DEPOT CREDIT SERVICES		727.60
VENDOR CODE: IMPCOU IMPRESSIONS COUNT		
236113	COF- CORN SIGN	15.00
PC-236092	COF- SIGNS/ BANNERS/ STICKERS	1,324.00
TOTAL VENDOR IMPCOU IMPRESSIONS COUNT		1,339.00
VENDOR CODE: IMPSUP IMPERIAL SUPPLIES LLC		
I001EH6329	SHOP SUPPLIES	109.12
TOTAL VENDOR IMPSUP IMPERIAL SUPPLIES LLC		109.12
VENDOR CODE: INTSALINC INTEGRITY SALES INC.		
2282	GUARDIAN ANGEL SAFETY LIGHT LAW ENFORCEM	124.48
TOTAL VENDOR INTSALINC INTEGRITY SALES INC.		124.48
VENDOR CODE: JAMBAT JAMES P. BATEMAN, LTD.		
09052025-GENERAL	GENERAL MATTERS/ I3 BROADBAND	5,109.25
09052025-PLEVIAK	PLEVIAK SCHOOL IGA	1,408.50
09052025-SEWER	SEWER AND WATER MATTERS	522.50
09052025-406 MONAV	406 MONAVILLE ROAD MATTERS (EASY STORAGE	1,530.25
09052025- 42 WOODH	MARTINO ZONING VARIATION (42 WOODHEAD)	866.00
TOTAL VENDOR JAMBAT JAMES P. BATEMAN, LTD.		9,436.50
VENDOR CODE: JOHBAG JOHN BAGHDASARIAN		
09092025	REIMBURSEMENT- FED EX	87.35
TOTAL VENDOR JOHBAG JOHN BAGHDASARIAN		87.35
VENDOR CODE: KIMMID KIMBALL MIDWEST		
103695344	MECHANIC TOOLS	455.58

INVOICE NUMBER	DESCRIPTION	AMOUNT
VENDOR CODE: KIMMID KIMBALL MIDWEST		
	TOTAL VENDOR KIMMID KIMBALL MIDWEST	455.58
VENDOR CODE: LAKLAR LAKELAND/LARSEN		
203994	MONTHY ELEVATOR MAINT	223.00
	TOTAL VENDOR LAKLAR LAKELAND/LARSEN	223.00
VENDOR CODE: LAKSEP LAKELAND SEPTIC SERVICE		
93239	PUMP OUT 2 HOLDING TANKS	280.00
	TOTAL VENDOR LAKSEP LAKELAND SEPTIC SERVICE	280.00
VENDOR CODE: LAUAME LAUTERBACH & AMEN, LLP		
107993	AUGUST 2025	5,444.00
	TOTAL VENDOR LAUAME LAUTERBACH & AMEN, LLP	5,444.00
VENDOR CODE: LCTREAS LAKE COUNTY TREASURER		
280209434	AUGUST 2025 BUILDING SERVICES	4,628.03
	TOTAL VENDOR LCTREAS LAKE COUNTY TREASURER	4,628.03
VENDOR CODE: LFGEORGE LF GEORGE INC.		
IC99635	CONVERSION KIT	707.92
	TOTAL VENDOR LFGEORGE LF GEORGE INC.	707.92
VENDOR CODE: LINGAS LINDE GAS & EQUIPTMENT INC.		
51640672	ACETYLENE/ OXYGEN	42.41
	TOTAL VENDOR LINGAS LINDE GAS & EQUIPTMENT INC.	42.41
VENDOR CODE: MACCOU MACON COUNTY LAW ENFORCEMENT TRAINI		
24-1593	BLEA TUITION- RC25-26 DOS SANTOS CRUZ	8,715.00
	TOTAL VENDOR MACCOU MACON COUNTY LAW ENFORCEMENT TI	8,715.00
VENDOR CODE: MAGHAR MAGEE HARTMAN, P.C.		
09042025	AUGUST 2025	4,635.00
	TOTAL VENDOR MAGHAR MAGEE HARTMAN, P.C.	4,635.00
VENDOR CODE: MARMET MARTIN METREGER		
09052025	MISS LAKE VILLA PAGEANT/ JUNE 12, 2025	750.00
	TOTAL VENDOR MARMET MARTIN METREGER	750.00
VENDOR CODE: MENANT MENARDS - ANTIOCH		
68942	CELEBRATION OF FALL- SCARECROW	119.80
68664	BUILDING SUPPLIES	50.28
69408	CELEBRATION OF FALL- GARDEN MOM	71.28
69104	BUILDING SUPPLIES	12.99
69112	COF SUPPLIES	54.09
68672	LEHMANN PARK BUILDING MAINT	345.64
68557	COF- SUPPLIES	18.76
	TOTAL VENDOR MENANT MENARDS - ANTIOCH	672.84
VENDOR CODE: MEYFAM MEYER FAMILY FARM		

INVOICE NUMBER	DESCRIPTION	AMOUNT
VENDOR CODE: MEYFAM MEYER FAMILY FARM		
3084	CELEBRATION OF FALL- PUMPKINS/ CORN	275.00
TOTAL VENDOR MEYFAM MEYER FAMILY FARM		275.00
VENDOR CODE: MIDPOWIND MIDWEST POWER INDUSTRY, INC.		
2353	BELT AND FILTERS FOR GENERATORS	851.06
TOTAL VENDOR MIDPOWIND MIDWEST POWER INDUSTRY, INC.		851.06
VENDOR CODE: MILDES MILIEU DESIGN LLC		
188497	WELL MOWING	140.00
188496	PARKS MOWING	495.00
188498	222 OAK KNOLL RD/ METRA/ CEDAR CROSSING/	481.00
188501	LIFT STATION MOWING	70.00
188499	PLEVIAK- 108 N MILWAUKEE ACE	60.00
TOTAL VENDOR MILDES MILIEU DESIGN LLC		1,246.00
VENDOR CODE: MORASS MORRISON ASSOCIATES LTD		
2025-915	WEST SUBURBAN CITY MANAGERS	1,500.00
TOTAL VENDOR MORASS MORRISON ASSOCIATES LTD		1,500.00
VENDOR CODE: MOTSOL MOTOROLA SOLUTIONS, INC.		
8230520181	QE-M500-CAR-2Y/ SERVICE FROM MAY 25 2025	115.00
TOTAL VENDOR MOTSOL MOTOROLA SOLUTIONS, INC.		115.00
VENDOR CODE: MULCEN THE MULCH CENTER		
INV82646	PLANTING BED MIX	145.00
TOTAL VENDOR MULCEN THE MULCH CENTER		145.00
VENDOR CODE: NICOR NICOR GAS		
09042025-1087	725 E GRAND AVE #4	151.90
TOTAL VENDOR NICOR NICOR GAS		151.90
VENDOR CODE: NWPA NORTHWEST POLICE ACADEMY		
NWPA-1082	MEMBER ADMISSION	50.00
TOTAL VENDOR NWPA NORTHWEST POLICE ACADEMY		50.00
VENDOR CODE: PACANASER PACE ANALYTICAL SERVICES, LLC		
257225174	DISINFECTION	1,005.00
TOTAL VENDOR PACANASER PACE ANALYTICAL SERVICES, LI		1,005.00
VENDOR CODE: PAYDOL PAYNE & DOLAN, INC		
10-00044282	PAVEMENT PATCHING	251.77
TOTAL VENDOR PAYDOL PAYNE & DOLAN, INC		251.77
VENDOR CODE: PITBOWES PITNEY BOWES BANK IN PURCHASE POWER		
09052025-4297	POSTAGE	1,108.88
TOTAL VENDOR PITBOWES PITNEY BOWES BANK IN PURCHASE		1,108.88
VENDOR CODE: TESASS TESKA ASSOCIATES, INC.		

INVOICE NUMBER	DESCRIPTION	AMOUNT
VENDOR CODE: TESASS TESKA ASSOCIATES, INC.		
15542	LAK25-93- LAKE VILLA-ZONING ORDINANCE UP	748.00
TOTAL VENDOR TESASS TESKA ASSOCIATES, INC.		748.00
VENDOR CODE: TRANSUNION TRANSUNION		
484442-202508-1	AUGUST 2025	103.60
TOTAL VENDOR TRANSUNION TRANSUNION		103.60
VENDOR CODE: VILFOX VILLAGE OF FOX LAKE		
1487	DISPATCH SERVICE 4 OF 4	20,000.00
259	HEARING OFFICER- SEPTEMBER 2025	255.00
TOTAL VENDOR VILFOX VILLAGE OF FOX LAKE		20,255.00
VENDOR CODE: WARDIR WAREHOUSE DIRECT		
5990656-0	OFFICE SUPPLIES- NAMEPLATE- COREY WESTM	95.80
5987895-0	OFFICE SUPPLIES- LABEL/ TAPE/ NOTEBOOKS	83.60
TOTAL VENDOR WARDIR WAREHOUSE DIRECT		179.40
GRAND TOTAL:		265,918.21

VILLAGE OF LAKE VILLA

ORDINANCE NO. 2025-09-01

AN ORDINANCE GRANTING A CONDITIONAL USE AND VARIATIONS
FOR A MINI-WAREHOUSE FACILITY FOR PERSONAL STORAGE
ON THE PROPERTY AT 406 MONAVILLE ROAD, LAKE VILLA, IL

(RE: Petitioner: Easy Space Storage II, LLC)

ADOPTED BY THE

CORPORATE AUTHORITIES

OF THE

VILLAGE OF LAKE VILLA, ILLINOIS

THIS 15TH DAY OF SEPTEMBER, 2025.

Published in pamphlet form by authority of the Corporate Authorities of the Village of Lake Villa, Lake County, Illinois, this 15th day of September, 2025.

AN ORDINANCE GRANTING A CONDITIONAL USE AND VARIATIONS FOR A MINI-WAREHOUSE FACILITY FOR PERSONAL STORAGE ON THE PROPERTY AT 406 MONAVILLE ROAD, LAKE VILLA, IL

(RE: Petitioner: Easy Space Storage II, LLC)

WHEREAS, Easy Space Storage II, LLC is the contract purchaser, and the Estate of Robert Grenus c/o Sandra Johnson is the present owner, of the property commonly known as 406 Monaville Road, Lake Villa, IL, which property is a vacant parcel of land approximately 3.067 acres in area located on the South side of Monaville Road at the Southwest corner of the intersection of Cedar Lake Road and Monaville Road, within the SB (Suburban Business) Zoning District of the Village of Lake Villa (the "Village"), and which property is legally described as follows:

THAT PART OF THE EAST HALF OF THE NORTHWEST QUARTER OF SECTION 8, TOWNSHIP 45 NORTH, RANGE 10 EAST OF THE THIRD PRINCIPAL MERIDIAN, DESCRIBED AS FOLLOWS: BEGINNING AT THE NORTHEAST CORNER OF LOT 4 IN FRAN-RO RANCH ACRES 4TH ADDITION PER DOC. NO. 2262519; THENCE SOUTH 88 DEGREES 43 MINUTES 43 SECONDS EAST ALONG THE SOUTH LINE OF MONAVILLE ROAD PER DOC. NO. 129136, A DISTANCE OF 444.80 FEET; THENCE SOUTH 51 DEGREES 39 MINUTES 20 SECONDS EAST ALONG THE SOUTHWESTERLY ROW PER DOC. NO. 6848393, A DISTANCE OF 82.94 FEET; THENCE SOUTH 00 DEGREES 03 MINUTES 16 SECONDS EAST ALONG THE WEST LINE OF CEDAR LAKE ROAD PER DOC. NO. 2262519, A DISTANCE OF 188.18 FEET TO THE NORTH LINE OF OUTLOT F IN CEDAR RIDGE PHASE II UNIT I SUBDIVISION PER DOC. NO. 5553250; THENCE SOUTH 85 DEGREES 01 MINUTES 22 SECONDS WEST ALONG SAID NORTH LINE 509.13 FEET TO THE EAST LINE OF SAID LOT 4; THENCE ALONG SAID EAST LINE, NORTH 00 DEGREES 31 MINUTES 45 SECONDS WEST A DISTANCE OF 293.69 FEET TO THE POINT OF BEGINNING, ALL IN LAKE COUNTY, ILLINOIS.

ALSO DESCRIBED AS:

THE EAST HALF OF THE NORTH WEST QUARTER OF SECTION 8 AND THE EAST HALF OF THE SOUTH WEST QUARTER OF SECTION 8, TOWNSHIP 45 NORTH, RANGE 10, EAST OF THE 3RD P.M., EXCEPT THE EAST 265 FEET OF THE NORTH 1700 FEET OF THE SOUTH 2166 FEET OF SAID EAST HALF OF THE SOUTH WEST QUARTER OF SAID SECTION, AND ALSO EXCEPT THE SOUTH 400 FEET OF THE EAST 930.6 FEET OF THE EAST HALF OF THE SOUTH WEST QUARTER OF SAID SECTION IN LAKE COUNTY,

ILLINOIS, EXCEPTING LOTS 1, 2, 3 AND 4 OF FRAN-RO RANCH ACRES FOURTH ADDITION BEING A SUBDIVISION OF PART OF THE EAST HALF OF THE NORTH WEST QUARTER OF SECTION 8, TOWNSHIP 45 NORTH, RANGE 10, EAST OF THE THIRD PRINCIPAL MERIDIAN, IN THE VILLAGE OF LAKE VILLA, COUNTY OF LAKE, STATE OF ILLINOIS; AND EXCEPTING LOTS 1 AND 2 IN FRAN-RO RANCH ACRES THIRD ADDITION, BEING A SUBDIVISION OF PART OF THE EAST HALF OF THE NORTHWEST QUARTER OF SECTION 8, TOWNSHIP 45 NORTH, RANGE 10, EAST OF THE THIRD PRINCIPAL MERIDIAN IN THE VILLAGE OF LAKE VILLA, COUNTY OF LAKE, STATE OF ILLINOIS; EXCEPT THAT PART CONVEYED TO THE LAKE COUNTY DEPARTMENT OF TRANSPORTATION BY DEED RECORDED AUGUST 26, 1986 AS DOCUMENT 2475785 AND BY DEED RECORDED MAY 3, 2012 AS DOCUMENT 6848393.

P.I.N. 06-08-100-050
(the "Subject Property"); and

WHEREAS, the Village of Lake Villa, pursuant to the applicable Illinois statutes, has adopted Zoning Regulations as set forth in Title 10 of the Lake Villa Village Code, as amended from time to time (the "Zoning Regulations") to regulate, among other things, land use and development within the Village and to provide regulations for the planning, review, and approval of matters such as conditional use permits within the Village; and

WHEREAS, the Village has received an application from the contract purchaser, Easy Space Storage II, LLC (the "Petitioner"), requesting the Village's approval of a Conditional Use Permit to permit the Petitioner's development of the Subject Property by the construction, establishment, and operation of a mini-warehouse personal storage facility, with associated parking, lighting, landscaping, and stormwater management facilities, as well as approval of certain variations from the Village's Zoning Regulations relative to the minimum required front yard setback, the type of landscaping which is proposed to be provided, as well as the construction of a modular block retaining wall six-feet (6') in height along a portion of the Southern buffer yard of the Subject Property as provided for herein (collectively, the "Conditional Use Permit"); and

WHEREAS, on August 7, 2025, the Village's Plan Commission/Zoning Board of Appeals ("PC/ZBA"), pursuant to proper notice, held an initial public hearing on the Petitioner's Application, at which time the PC/ZBA requested certain modifications to the plans and further

information from the Petitioner and continued the public hearing to August 28, 2025, at which time the Petitioner provided to the PC/ZBA the requested modified plans and further information, and, after review of the modified plans, the PC/ZBA then recommended approval of the Petitioner's Application based upon the PC/ZBA's findings of fact and subject to certain conditions as set forth herein; and

WHEREAS, as part of its Recommendation, the Village of Lake Villa PC/ZBA made the following findings of fact which are hereby adopted by the Corporate Authorities of the Village:

I. FINDINGS OF FACT:

A. The Subject Property is located on the Southwest corner of Monaville Road and Cedar Lake Road within the corporate limits of the Village of Lake Villa in the Village's SB (Suburban Business) Zoning District, is approximately 3.067 acres in area, is identified as P.I.N. 06-08-100-050, and is legally described as follows:

THAT PART OF THE EAST HALF OF THE NORTHWEST QUARTER OF SECTION 8, TOWNSHIP 45 NORTH, RANGE 10 EAST OF THE THIRD PRINCIPAL MERIDIAN, DESCRIBED AS FOLLOWS: BEGINNING AT THE NORTHEAST CORNER OF LOT 4 IN FRAN-RO RANCH ACRES 4TH ADDITION PER DOC. NO. 2262519; THENCE SOUTH 88 DEGREES 43 MINUTES 43 SECONDS EAST ALONG THE SOUTH LINE OF MONAVILLE ROAD PER DOC. NO. 129136, A DISTANCE OF 444.80 FEET; THENCE SOUTH 51 DEGREES 39 MINUTES 20 SECONDS EAST ALONG THE SOUTHWESTERLY ROW PER DOC. NO. 6848393, A DISTANCE OF 82.94 FEET; THENCE SOUTH 00 DEGREES 03 MINUTES 16 SECONDS EAST ALONG THE WEST LINE OF CEDAR LAKE ROAD PER DOC. NO. 2262519, A DISTANCE OF 188.18 FEET TO THE NORTH LINE OF OUTLOT F IN CEDAR RIDGE PHASE II UNIT I SUBDIVISION PER DOC. NO. 5553250; THENCE SOUTH 85 DEGREES 01 MINUTES 22 SECONDS WEST ALONG SAID NORTH LINE 509.13 FEET TO THE EAST LINE OF SAID LOT 4; THENCE ALONG SAID EAST LINE, NORTH 00 DEGREES 31 MINUTES 45 SECONDS WEST A DISTANCE OF 293.69 FEET TO THE POINT OF BEGINNING, ALL IN LAKE COUNTY, ILLINOIS.

ALSO DESCRIBED AS:

THE EAST HALF OF THE NORTH WEST QUARTER OF SECTION 8 AND THE EAST HALF OF THE SOUTH WEST QUARTER OF SECTION 8, TOWNSHIP 45 NORTH, RANGE 10, EAST OF THE 3RD P.M., EXCEPT THE EAST 265 FEET OF THE NORTH 1700 FEET OF THE SOUTH 2166 FEET OF SAID EAST HALF OF THE SOUTH WEST QUARTER OF SAID SECTION, AND ALSO EXCEPT THE SOUTH 400 FEET OF THE EAST 930.6 FEET OF THE EAST HALF OF THE SOUTH WEST QUARTER OF SAID SECTION IN LAKE COUNTY, ILLINOIS, EXCEPTING LOTS 1, 2, 3 AND 4 OF FRAN-RO RANCH ACRES FOURTH ADDITION BEING A SUBDIVISION OF PART OF THE EAST HALF OF THE NORTH WEST QUARTER OF SECTION 8, TOWNSHIP 45

NORTH, RANGE 10, EAST OF THE THIRD PRINCIPAL MERIDIAN, IN THE VILLAGE OF LAKE VILLA, COUNTY OF LAKE, STATE OF ILLINOIS; AND EXCEPTING LOTS 1 AND 2 IN FRAN-RO RANCH ACRES THIRD ADDITION, BEING A SUBDIVISION OF PART OF THE EAST HALF OF THE NORTHWEST QUARTER OF SECTION 8, TOWNSHIP 45 NORTH, RANGE 10, EAST OF THE THIRD PRINCIPAL MERIDIAN IN THE VILLAGE OF LAKE VILLA, COUNTY OF LAKE, STATE OF ILLINOIS; EXCEPT THAT PART CONVEYED TO THE LAKE COUNTY DEPARTMENT OF TRANSPORTATION BY DEED RECORDED AUGUST 26, 1986 AS DOCUMENT 2475785 AND BY DEED RECORDED MAY 3, 2012 AS DOCUMENT 684839.

B. Relative to the mini-warehouse proposed for the Subject Property, the Petitioner is requesting the Village's approval of variations from the following provisions of the Village's Zoning Regulations:

(1) A variation from Section 10-3C-1 thereof relative to the minimum required front yard setback, to permit the proposed storage facility to have a thirty foot (30') front yard setback, notwithstanding the fact that a fifty foot (50') front yard setback is otherwise required by the Village's Zoning Regulations; and

(2) A variation from Section 10-4-6(G)(2)(5) and Section 10-4-4-(B)(13)(A) thereof to permit the proposed storage facility to provide a minimum "Type C" landscaping buffer along the perimeter of the Subject Property in addition to a proposed six foot (6') high modular block retaining wall along a portion of the Southern buffer yard, notwithstanding that a "Type D" landscaping buffer is otherwise required by the Village's Zoning Regulations.

C. The Conditional Use requested by the Petitioner for the Subject Property:

(1) is consistent with the particular physical surroundings of the Subject Property, the mixed uses on properties in the general vicinity thereof, and the present zoning of the Subject Property, and the granting of certain relief from the Village's Zoning Regulations, if any, will not be detrimental to the public welfare or injurious to other property owners in the vicinity of the Subject Property;

(2) is consistent with the general purpose and intent of the Lake Villa Zoning Regulations;

(3) is consistent with the objectives of the Village's Comprehensive Plan;

(4) is designed, constructed, and will be operated and maintained in good condition so as to be harmonious and appropriate in appearance with the existing or intended character of the general vicinity;

(5) will not significantly diminish the safety, use and enjoyment of surrounding property;

(6) will be adequately served by essential public facilities and services such as streets, police and fire service, drainage, refuse disposal, and schools, or such services will be provided by the Petitioner at the Petitioner's sole expense;

(7) does not create excessive additional requirements at public expense for public facilities and service and will not be detrimental to the economic welfare of the community;

(8) does not involve uses, activities, processes, materials, equipment and conditions of operation that will be detrimental to any persons, property, or the general welfare by reason of excessive production of traffic, noise, smoke, fumes, glare or odors;

(9) will provide vehicular access to the Subject Property designed so that such use does not create any interference with traffic on surrounding public thoroughfares;

(10) will not result in the destruction, loss, or damage of a natural, scenic, or historic feature of major importance;

(11) will comply with all additional regulations specific to the requested Conditional Use Permit, except as provided herein;

(12) will be consistent with the existing zoning of and with the existing uses of nearby properties;

(13) will not diminish property values by any zoning restrictions which may otherwise be applicable or by granting of the proposed Conditional Use;

(14) will not diminish property values and will promote the general health, safety, and welfare;

(15) will provide a gain to the public by offering the public additional storage space as a result of the proposed use of the Subject Property as a mini-warehouse facility;

(16) will satisfy a community need for the uses which would be authorized by the Conditional Use Permit requested by the Petitioner;

(17) will be generally compatible with the character of the Suburban Business (SB) Zoning District and the neighborhood in which the Subject Property is located;

(18) will preserve the value of the residential properties in the vicinity and will be compatible with surrounding commercial land uses as well;

(19) The Subject Property is suitable for the establishment of the proposed Conditional Use Permit;

(20) The Village has undertaken its planning and land use regulations with great care;

(21) The Subject Property contains no topographical, environmentally sensitive, or historical features which require preservation;

D. The requested variations from the Lake Villa Zoning Regulations are appropriate for the proposed Conditional Use based upon the following facts:

(1) The requested variations will enhance the quality of the proposed Conditional Use and are compatible with the primary use of the Subject Property;

(2) The proposed variations will not be of a nature, nor located so as to create a detrimental influence on the surrounding properties;

(3) The proposed project has unique physical conditions in relation to floodplain conditions and distance to abutting residential use.

(4) Special circumstances or conditions of the Subject Property, such as exceptional narrowness, topography and siting, fully described in the report of the Zoning Board, apply to the land for which the variation is sought and that those conditions do not apply generally in the applicable zoning district.

(5) The requested variations are the minimum measure of relief necessary to alleviate the alleged hardship or practical difficulty presented by the strict application of Title 10 of the Lake Villa Village Code.

(6) It is in the best interests of the Village, as a part of its grant of the Conditional Use for the proposed mini-warehouse facility, that certain variations from the following provisions of the Lake Villa Zoning Regulations be approved:

(a) A variation from Section 10-3C-1 thereof relative to the minimum required front yard setback, to permit the proposed storage facility on the Subject Property to have a thirty foot (30') front yard setback, notwithstanding the fact that a fifty foot (50') front yard setback is otherwise required by the Village's Zoning Regulations for the Subject Property; and

(b) A variation from Section 10-4-6(G)(2)(5) and Section 10-4-4(B)(13)(A) thereof to permit the proposed storage facility to provide a minimum "Type C" landscaping buffer along the perimeter of the Subject Property in addition to a proposed six foot (6') high modular block retaining wall along a portion of the Southern buffer yard, notwithstanding that a "Type D" landscaping buffer would otherwise be required by the Village's Zoning Regulations for the Subject Property.

E. The proposed Conditional Use Permit would authorize the establishment, operation and maintenance of a Conditional Use in the nature of a mini-warehouse facility pursuant to the Village's Zoning Regulations in the SB Zoning District in which the Subject Property is located, and the proposed Conditional Use Permit is compatible with other uses permitted in the SB Zoning District.

F. The proposed Conditional Use Permit is consistent with the Village's Zoning Regulations and the proposed Conditional Use Permit meets the applicable requirements and standards of the Village's Zoning Regulations, except as specified herein.

G. The proposed Conditional Use Permit indicates that it will produce a public benefit meeting the planning objectives and standards of the Village.

H. The application for the proposed Conditional Use Permit submitted to the Village by the Petitioner reflects a design which provides for adequate public services and adequate control over vehicular traffic.

I. The proposed Conditional Use Permit will be compatible with and beneficial to the adjacent properties and to the neighborhood and is a desirable addition to the Village's recreational options.

J. The Petitioner exhibited extra care and attention to details in excess of Village requirements which enhance the character of the proposed development of the Subject Property.

K. The proposed Conditional Use will provide a service which is often used by the public.

M. The proposed Conditional Use is located along an easily accessible arterial; and

WHEREAS, the PC/ZBA of the Village recommended that the Petitioner be granted approval for the proposed Conditional Use, subject to the conditions as set forth herein, including but not limited to the following:

A. The proposed Conditional Use shall be constructed on the Subject Property in substantial compliance with the plans therefor which have been approved by Ordinance of the Mayor and Board of Trustees of the Village.

B. Prior to the issuance of any temporary or final Certificate of Occupancy for the Conditional Use, the Petitioner shall provide to the Village "as built" final plans showing the precise location of all improvements to the Subject Property, including all structures and on-site improvements and parking.

C. Any signage to be installed on the Subject Property as part of the Conditional Use herein granted shall be in compliance with the sign regulations of the Village.

D. Refuse Containers: Adequate refuse containers, together with screening for such refuse containers as approved by the Village Administrator, or his designee, shall be provided by the Petitioner on the Subject Property and thereafter maintained in good condition.

E. No Authorization for Development Activity: The approvals granted by this Ordinance are not and shall not be interpreted in any manner as an authorization for the Petitioner and/or its respective assigns, employee(s), contractor(s), and/or agent(s) to commence any development activity on the Subject Property until the required building and other permits are obtained from the Village.

F. All stormwater, wetland, and utility permits must be received prior to site development permit issuance.

G. A maintenance plan for the detention basin and retaining walls shall be submitted and recorded.

H. The Petitioner shall be required to comply with the recommendations noted in the Lake County Natural Resources Opinion letter dated May 28, 2025.

I. Final engineering, which must be received by the Village prior to any site development permit issuance, shall demonstrate compliance with Village Code Title 5 and Title 11 of the Lake Villa Village Code and all Village engineering consultant comments.

WHEREAS, subject to the terms and conditions hereinafter set forth, the Mayor and Board of Trustees of the Village have determined that it is in the best interests of the Village and its residents to grant approval of the Petitioner's Application for a Conditional Use Permit for the Subject Property in accordance with the Zoning Ordinance of the Village and the other applicable ordinances of the Village:

NOW, THEREFORE, BE IT ORDAINED by the Mayor and Board of Trustees of the Village of Lake Villa, Lake County, Illinois, as follows:

SECTION 1: The Corporate Authorities of the Village find that the facts stated in the preamble of this Ordinance are true and correct and the same are incorporated into the text of this Ordinance as findings of fact to the same extent as if each had been set forth in its entirety herein.

SECTION 2: The Mayor and Board of Trustees of the Village of Lake Villa hereby accept and approve the Recommendation and Findings of Fact of the Lake Villa Plan Commission/Zoning Board of Appeals relative to the Subject Property, which Findings of Fact are hereby incorporated herein by reference.

SECTION 3: APPROVAL OF PETITIONER'S APPLICATION FOR CONDITIONAL USE PERMIT: Subject to the terms and conditions of this Ordinance, as well as the conditions and limitations in the Zoning Regulations of the Village, the Mayor and Board of Trustees hereby approve the Petitioner's Application for a Conditional Use Permit for the Petitioner's development of the Subject Property by the construction, establishment, operation, and maintenance in good condition of a mini-warehouse personal storage facility, with associated parking, lighting, landscaping, and stormwater management facilities, as well as approval of certain variations from the Village's Zoning Regulations relative to the minimum required front yard setback, the type of landscaping which is proposed to be provided, as well as the construction of a modular block

retaining wall six-feet (6') in height along a portion of the Southern buffer yard of the Subject Property as provided for herein (collectively, the "Conditional Use"), which Conditional Use shall be constructed, installed, operated, and maintained in good condition by the Petitioner in substantial compliance with the Exhibits attached hereto as Group Exhibit A and thereby made a part hereof, and the approvals herein granted are subject to the timely and continued compliance by the Petitioner with the terms, conditions, and restrictions of this Ordinance, and the specific additional conditions set forth below.

SECTION 5: EXCEPTIONS GRANTED:

A. An exception from the provisions of Section 10-3C-1, "Lot Area, Yard and Bulk Requirements in All Zones", of the Village's Zoning Regulations is hereby granted to the Petitioner to permit the subject mini-warehouse personal storage facility to have a thirty foot (30') front yard setback, notwithstanding the fact that a fifty foot (50') front yard setback is otherwise required by the Village's Zoning Regulations.

B. An exception from the provisions of Section 10-4-6(G)(2)(5) and Section 10-4-4-(B)(13)(A) of the Village's Zoning Regulations is hereby granted to the Petitioner to permit the subject mini-warehouse personal storage facility to have a minimum "Type C" landscaping buffer along the perimeter of the Subject Property in addition to a modular block retaining wall six feet (6') in height along a portion of the Southern buffer yard, notwithstanding the fact that a "Type D" landscaping buffer is otherwise required by the Village's Zoning Regulations.

C. Notwithstanding anything contained in this Ordinance and/or shown on or implied by the exhibits attached hereto, no further variation, exception or waiver shall be approved or implied by this Ordinance, other than the exceptions specified in Paragraphs 5(A) and 5(B) above or unless such variation(s), exception(s), or waiver(s) are each specifically and expressly stated in writing in an ordinance approved by the Corporate Authorities of the Village, and no other grant of any variation(s), waiver(s) or exception(s) from any ordinances of the Village are intended or provided unless same are specifically and expressly stated in this Ordinance or in any Ordinance amending the Conditional Use herein approved.

SECTION 6: EXPRESS CONDITIONS OF APPROVAL: The approvals for the Conditional Use as herein granted shall be subject to the Petitioner's continued compliance with all of the conditions, restrictions, and limitations as set forth in this Ordinance, including but not limited to the following, and the Petitioner's failure to comply with any of the provisions of this Ordinance may be the basis for the Corporate Authorities to suspend or revoke the approvals as herein granted:

A. 1. The Conditional Use Permit herein granted shall be issued to the Petitioner and become effective only upon the Petitioner becoming the owner of the Subject Property. The Petitioner is and shall be required to promptly provide to the Village Administrator a copy of the recorded deed conveying title to the Subject Property to the Petitioner. No construction shall be commenced on the Subject Property until and unless the Petitioner has complied with this condition.

2. The subject Conditional Use shall be constructed on the Subject Property in substantial compliance with the plans therefor which have been approved by Ordinance of the Mayor and Board of Trustees of the Village.

3. The Conditional Use herein granted shall be specific only to the Petitioner and shall not thereafter be transferred to any other person or entity without the prior written approval of the Village Board, which approval shall not be unreasonably withheld.

B. Prior to the issuance of any temporary or final Certificate of Occupancy for the Conditional Use herein granted, the Petitioner shall provide to the Village "as built" final plans showing the precise location of all improvements to the Subject Property, including all structures and on-site improvements and parking. Notwithstanding anything in this Ordinance to the contrary, the Village Administrator shall be authorized to approve minor modifications to the 2025 Approved Final Plans (Group Exhibit A) if he finds such minor modifications are consistent with the intent of this Ordinance, and the Mayor and Board of Trustees shall be authorized to approve major modifications to such 2025 Approved Final Plans (Group Exhibit A) without a further public hearing before the Lake Villa Plan Commission/Zoning Board of Appeals if they find that such major modifications are consistent with the intent of this Ordinance.

SECTION 7. MISCELLANEOUS PROVISIONS.

A. Binding Effect: Except as otherwise specifically provided in Section 6(A) of this Ordinance, the provisions of this Ordinance, including, without limitation, the grant of the Conditional Use Permit as herein authorized and all obligations, conditions, restrictions, limitations and rights related thereto, shall be binding upon and specific to the Petitioner and/or its successor(s) and/or assign(s) and binding upon any and all portions of the Subject Property. All obligations, requirements and rights of the Petitioners under this Ordinance, and all such obligations, conditions, restrictions, limitations, and rights as contained therein shall not be assigned voluntarily or involuntarily without the prior written consent of the Board of Trustees of the Village. All obligations, conditions, restrictions, and limitations of the Conditional Use Permit herein granted shall be binding upon, and inure to the benefit of only the Petitioner and its successor(s) and/or assign(s), and shall specifically be enforceable by the Village of Lake Villa, and said Conditional Use Permit shall authorize only the Petitioner and no other person and/or entity to operate the Conditional Use Permit as herein granted.

B. Reimbursement to the Village for Out-of-Pocket Expenses: Prior to the issuance of the Conditional Use Permit herein authorized, the Petitioner shall reimburse the Village for any out-of-pocket expenses incurred to date relative to the Village's review of any submittals provided by the Petitioner with regard to said permit and/or for the preparation of this Ordinance (and the Conditional Use Permit herein granted), including but not limited to any engineering and/or legal fees, and the Petitioner shall also reimburse the Village for any out-

of-pocket expenses hereafter incurred by the Village relative to such Permit and/or the uses herein authorized within thirty (30) days after being invoiced for same, including but not limited to any out-of-pocket expenses incurred by the Village for investigation and/or enforcement of allegations of violation(s) of this Ordinance, but the Petitioner shall be liable for expenses of investigation and enforcement only if the Village Board or Village Administrator makes a finding that, based upon the results of such Village investigation, the alleged violation(s) were well-founded.

C. Amendment by Mutual Consent: The Village, by ordinance of its Corporate Authorities, and the Petitioner may by mutual consent agree in writing to amend the terms and conditions set forth in this Ordinance, but only after public hearing(s) before the Village's Plan Commission and/or Zoning Board of Appeals, and no purported oral amendment to this Ordinance shall be binding or enforceable.

D. Indemnity: The Village agrees to cooperate with the Petitioner in defending any action which contests any aspect of this Ordinance, and the Petitioner agrees to hold harmless and indemnify the Village, its elected and appointed officials, officers, employees, and agents relative to any such actions and/or costs, claims, or expenses relative thereto, and all costs, including attorneys' fees, incurred by the Village in connection therewith shall be paid for by the Petitioner or reimbursed to the Village by the Petitioner. The Village may require a reasonable deposit by the Petitioner to cover any anticipated cost thereof.

E. Remedies:

(1) Any violation of this Ordinance shall also be deemed a violation of the Village of Lake Villa Village Code, including but not limited to the Village's Zoning Regulations, and each day such a violation exists or continues shall constitute a separate offense. As provided in the Village of Lake Villa Zoning Regulations, each such offense shall be punishable by a mandatory minimum daily fine of not less than $100.00 per day and not more than $750.00 per day, and each day a violation exists or continues constitutes a separate offense.

(2) In the event the Petitioner and/or its successor(s) and/or assign(s) fails to pay or reimburse the Village for any fees and/or expenses due pursuant to this Ordinance or pursuant to the other applicable ordinances of the Village, or if the Petitioner otherwise violates this Ordinance, or is otherwise in default in its obligations under this Ordinance, and has been notified of and failed to cure such default, the Village shall be entitled to all remedies available at law and/or in equity and, in addition to all other remedies available including those otherwise set forth in this Ordinance, the Village may suspend, revoke, or decline to issue any building, occupancy and/or other permit, license(s), or approvals required by the ordinances of the Village and/or the Village may suspend or revoke the Conditional Use Permit and variations herein granted. Any amount not paid within 30 days after delivery of a demand in writing for such payment, along with interest and the costs of collection, may be recorded as a lien upon the Subject Property, and the Village shall have the right to foreclose such lien in the name of the Village as in the case of foreclosure of liens against real estate, provided, however, that such lien shall be subordinate to any mortgage or regulatory agreement recorded against the Subject Property.

F. Severability Clause: It is the intention of the Corporate Authorities of the Village that this Ordinance and every provision thereof shall be considered separable and the invalidity of any section, clause, provision, part, or portion of any section, clause, or provision of this Ordinance shall not affect the validity of any other portion of this Ordinance. If any section, subsection, subdivision, paragraph, sentence, clause or phrase of this Ordinance or any part thereof is for any reason held to be unconstitutional or invalid or ineffective by any court of competent jurisdiction, such decision shall not affect the validity or effectiveness of the remaining portions of this Ordinance, or any part thereof. The Corporate Authorities hereby declare that it would have approved each section, subsection, subdivision, paragraph, sentence, clause or phrase thereof irrespective of the fact that any one or more sections, subsections, subdivision, paragraphs, sentences, clauses or phrases be declared unconstitutional, invalid or ineffective.

G. Exhibits: Attached hereto as Group Exhibit A and thereby incorporated herein by reference, are all the submittals which were reviewed and considered by the Lake Villa Plan Commission/Zoning Board of Appeals and by the Village's Board of Trustees. All such exhibits attached to this Ordinance as Group Exhibit A, are deemed to be and are expressly made a part of and incorporated into this Ordinance to the same extent as if each such exhibit had been set forth in its entirety in the body of this Ordinance.

H. Approval Authority: If any provisions of this Ordinance delegate approval authority to any Village officer, employee, or agent for any aspect of this Ordinance, then the Petitioner or its officer(s), employee(s), or agent(s), as the case may be, or their designee, shall have the right to have any such decision of such Village officer, employee or agent, or his or her designee, reviewed, reconsidered, and a final decision thereon made by the Board of Trustees. Any reference in this Ordinance to the authority of the Mayor to grant or deny an approval shall, whether or not so specified, include the authority for such decision to be made by a designee of the Mayor.

SECTION 8: This Ordinance shall be in full force and effect from and after its passage, approval and publication in pamphlet form, provided however, that the approval(s) granted by this Ordinance shall have no force or effect unless and until Petitioner has caused a duly authorized person to execute and thereafter file with the Village the unconditional agreement and consent in the form entitled "Acceptance" attached hereto and by this reference incorporated herein and made a part hereof (the "Acceptance"); provided further that, if the Petitioner does not so file the Acceptance within sixty (60) days following the passage of this Ordinance, the Village Board may, in its discretion and without public notice or hearing, repeal this Ordinance and thereby revoke all approvals granted in this Ordinance.

SECTION 9: The Village Clerk is hereby directed to publish this Ordinance in pamphlet form and this Ordinance shall be in full force and effect from and after its passage, approval and publication in pamphlet form as provided by law but only upon written acceptance thereof by the Petitioner. The Village Clerk is also hereby directed to record a certified copy of this Ordinance, with all attachments, with the Lake County Clerk Recording Division.

Passed by the Corporate Authorities on _____, 2025, on a roll call vote as follows:

AYES: Trustees

NAYS:

ABSENT:

ABSTAIN:

Approved by the Mayor on _____, 2025.

_____
James McDonald, Mayor,
Village of Lake Villa

ATTEST:

_____
Connie Olker, Village Clerk

Published in pamphlet form this _____ day of _____, 2025.

ACCEPTANCE

The undersigned, on behalf of the Petitioner and its successors and assigns, hereby states that the undersigned is the duly authorized agent(s) of the Petitioner and on behalf of such Petitioner hereby accepts, consents to and agrees to the terms, conditions, and restrictions of the foregoing Ordinance this ____ day of _____, 2025.

PETITIONER:

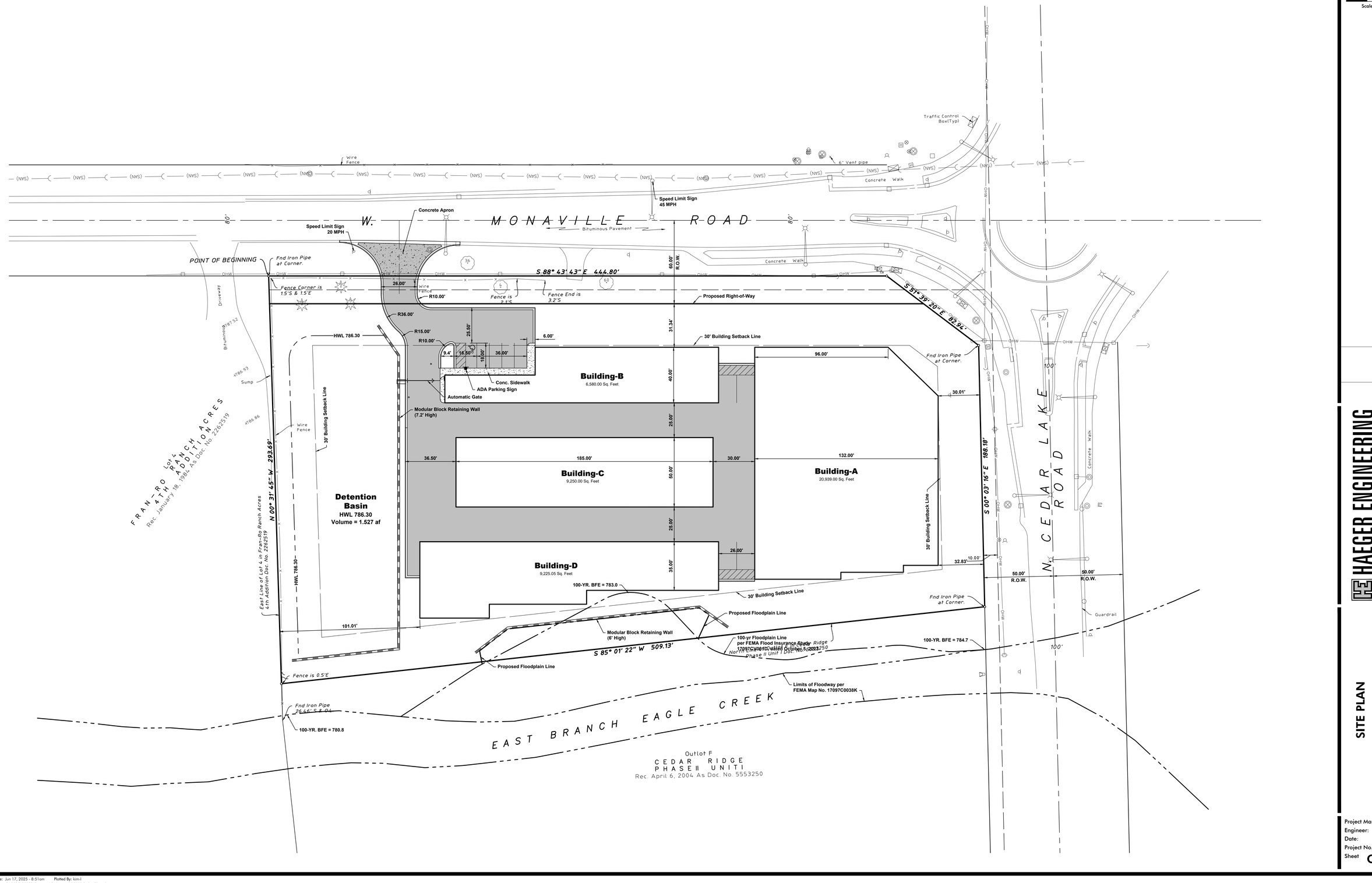
EASY SPACE STORAGE II, LLC

By: _____
_____, its _____
and authorized agent

GROUP EXHIBIT A

2025 APPROVED PLANS

Exhibit A-1: Site Plan prepared by Haeger Engineering and last revised June 17, 2025
Exhibit A-2: Preliminary Engineering prepared by Haeger Engineering and last revised July 21, 2025
Exhibit A-3: Site Lighting and Photometric Plan prepared by Haeger Engineering and last revised June 17, 2025
Exhibit A-4: Landscape Plan prepared by Dickson Design Studio and last revised June 17, 2025
Exhibit A-5: Proposed Drainage Exhibit prepared by Haeger Engineering and last revised July 21, 2025
Exhibit A-6: Boundary and Topographic Survey prepared by Haeger Engineer and last revised May 7, 2025
Exhibit A-7: Narrative to Petition for Conditional Use Permit and Zoning Variation from the Petitioner
Exhibit A-8: Renderings/sketches of the proposed buildings prepared by Groundwork, Ltd. and last revised on August 25, 2025
Exhibit A-9 Building elevations prepared by Groundwork, Ltd., and last revised June 16, 2025
Exhibit A-10: Preliminary Stormwater Report prepared by Haeger Engineering and last revised July 21, 2025
Exhibit A-11: Traffic Impact Study prepared by Haeger Engineering and last dated June 17, 2025
Exhibit A-12: Roundabout Sight Distance Analysis prepared by Haeger Engineering and last revised August 21, 2025
Exhibit A-13: EcoCAT - Lake County Natural Resources Opinion letter dated May 28, 2025
Exhibit A-14: Haeger Engineering Letter dated July 22, 2025
Exhibit A-15: Applied Technologies Memorandum dated July 11, 2025



NORTH

15 0 30

Scale: 1" = 30'

No.	Revision	Date

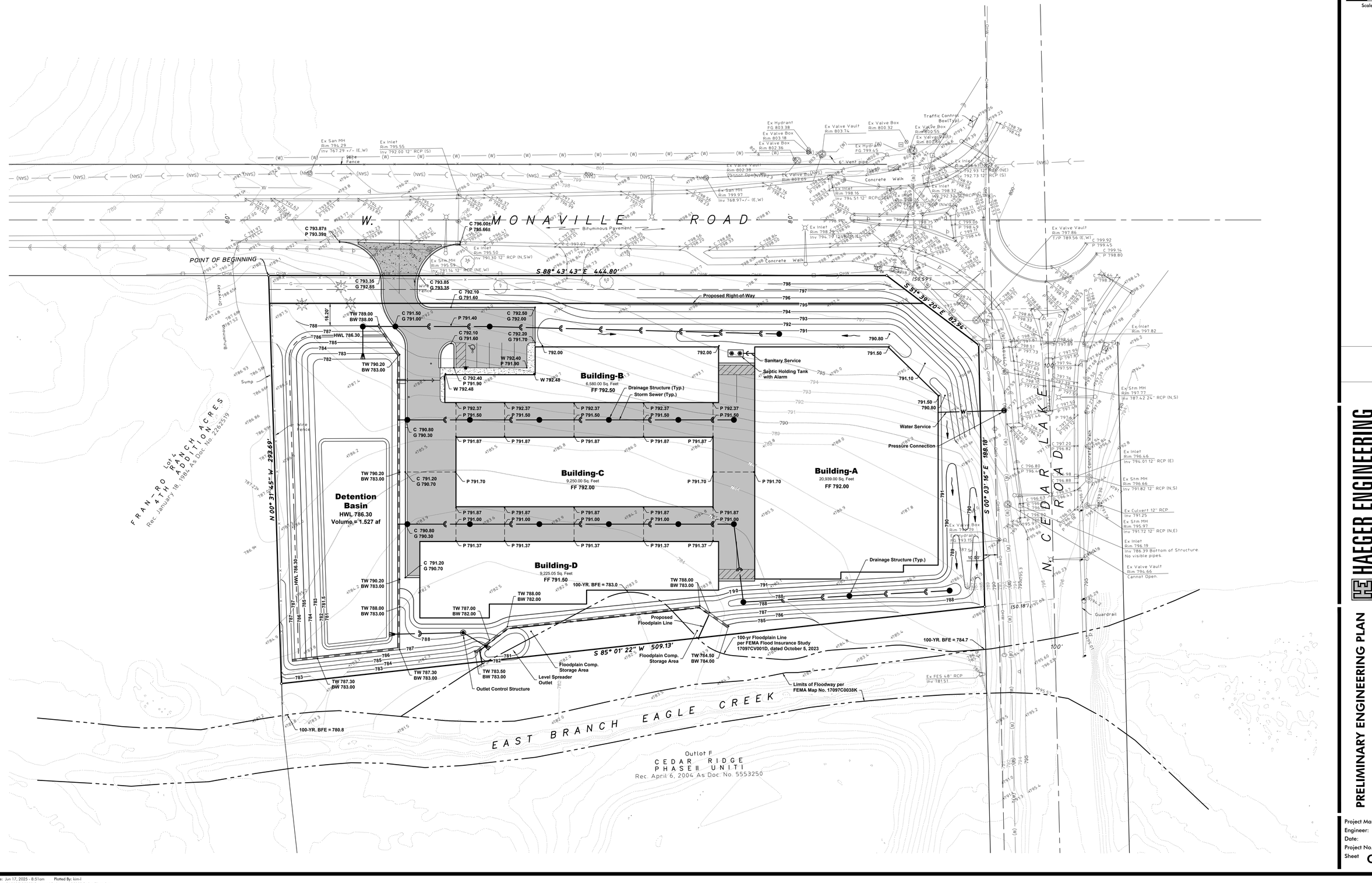
HAEGER ENGINEERING
consulting engineers • • land surveyors
100 East State Parkway, Schaumburg, IL 60173 • Tel: 847.394.6600 Fax: 847.394.6608
Illinois Professional Design Firm License No.: 184-005152
www.haegerengineering.com

SITE PLAN

SELF-STORAGE FACILITY
406 MONAVILLE ROAD
LAKE VILLA, ILLINOIS

Project Manager:	K M L
Engineer:	V D R
Date:	06-17-2025
Project No.	25058
Sheet	C1.0 / 1

Plot Date: Jun 17, 2025 - 8:51am Plotted By: kim-l
File Name: P:\2025\25058\Drawings\Preliminary\25058 Prelim Plans.dwg



NORTH

15 0 30

Scale: 1" = 30'

No.	Revision	Date

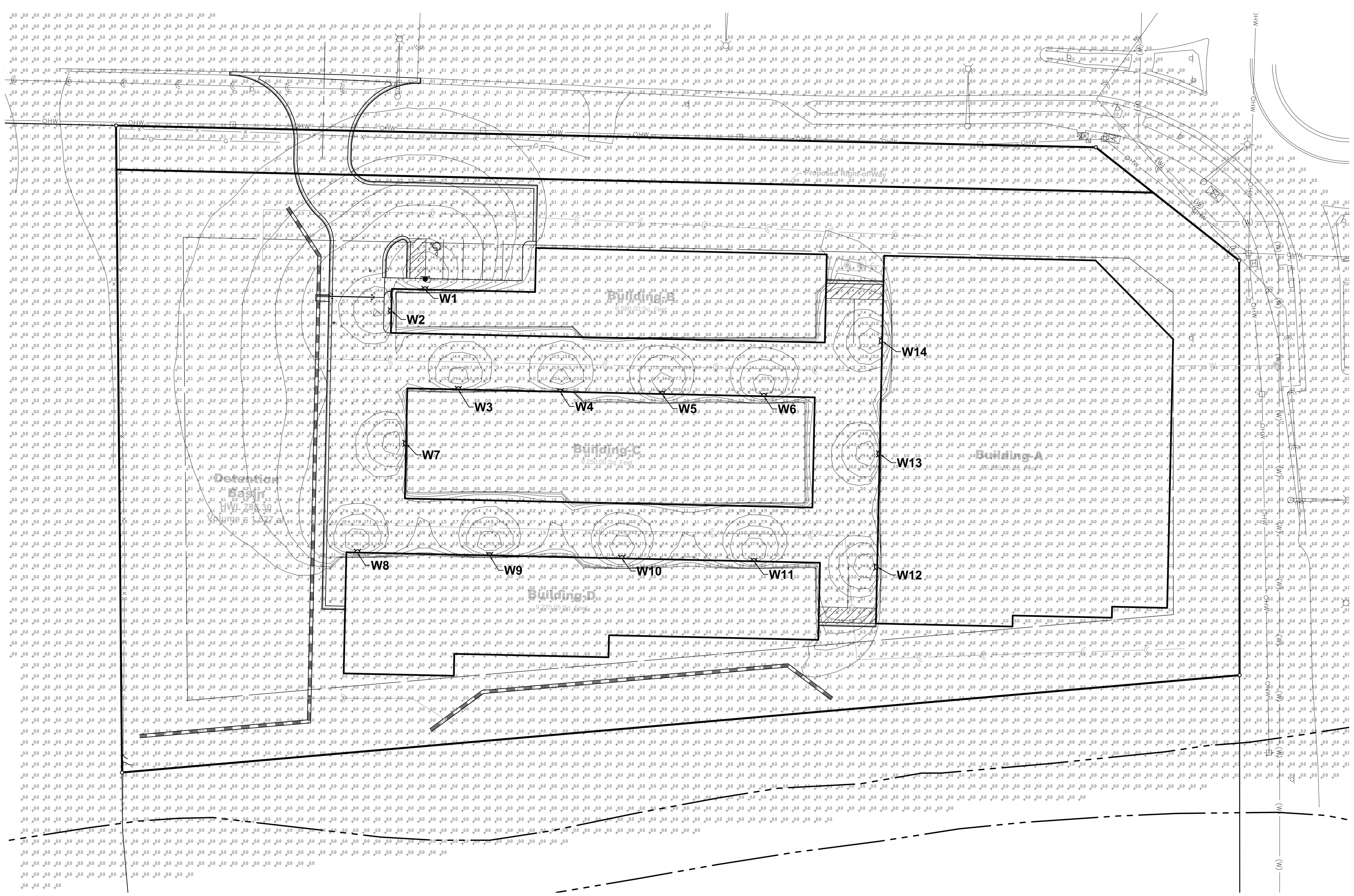
HAEGER ENGINEERING
consulting engineers • land surveyors
105 East State Parkway, Schaumburg, IL 60173 • Tel 847.394.6600 Fax 847.394.6608
Illinois Professional Design Firm License No. 184.003152
www.haegerengineering.com

PRELIMINARY ENGINEERING PLAN

SELF-STORAGE FACILITY
406 MONAVILLE ROAD
LAKE VILLA, ILLINOIS

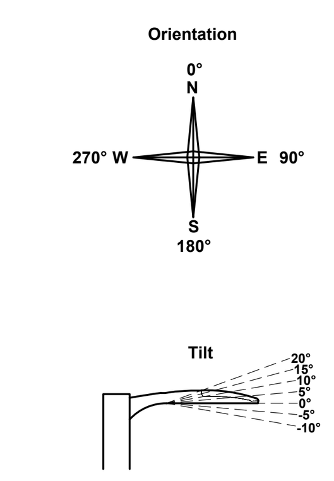
Project Manager: K M L
Engineer: V D R
Date: 06-17-2025
Project No. 25058
Sheet C2.0 / 1

Plot Date: Jun 17, 2025 - 8:51am Plotted By: kmi
File Name: P:\2025\25058\Drawings\Preliminary\25058 Prelim Plans.dwg



Schedule								
Symbol	Label	Qty.	Manufacturer	Description	Lamp	Lumens	LLF	Wattage
¤	W	14	US LED	QubePAK4 Outdoor LED Wall Pack ULWL1-Standard-UNVL-5000K-96W ULWL1-1-UNVL-50-96-XX.ies	LED	16,117	1.0	96

Statistics (Calculation Height: At Finished Grade)					
Description	Avg (fc)	Max (fc)	Min (fc)	Max/Min	Avg/Min
Calculation Zone - 50 ft Beyond Property Line	0.7	41.9	0.0	N/A	N/A
Statistic Zone - On Site Pavement	6.3	41.9	0.0	N/A	N/A



Luminaires			
Label	Mounting Height	Orientation	Tilt
W1	12.0'	1°	0°
W2	12.0'	271°	0°
W3	10.5'	1°	0°
W4	10.5'	1°	0°
W5	10.5'	1°	0°
W6	10.5'	1°	0°
W7	10.0'	271°	0°
W8	9.5'	1°	0°
W9	9.5'	1°	0°
W10	9.5'	1°	0°
W11	9.5'	1°	0°
W12	9.5'	271°	0°
W13	9.5'	271°	0°
W14	9.5'	271°	0°

NORTH

15 0 30

Scale: 1" = 30'

US LED
Always the Right Choice!

QubePAK®4
Outdoor LED Wall Pack

Project	Date
Catalog Number	Type

Product Performance Summary

Lumen Output	Up to 19,664 lumens
Efficacy	Up to 173 LPW
CRI	≥ 70 CRI
Available CCT	5000K
Warranty	Ten-Year Warranty

Product Overview
Introducing the QubePAK®4, US LED's latest advancement in wall pack lighting. Engineered to outperform and outlast traditional HID wall packs, the QubePAK®4 is the epitome of energy efficiency and durability. Built with a robust housing and traditional aesthetics, it stands resilient against the elements, ensuring exceptional performance for 167,000 hours (L70). The QubePAK®4 is perfect for new construction and retrofit projects, offering outstanding illumination in a popular classic design.

Key Features
- Low-wattage, highly-efficient patented LED replacement for legacy HID wall packs.
- Traditional aesthetics offer a familiar commercial look for any outdoor application.
- Robust die-cast housing is IP65-rated to protect integral components.

Construction
- Two-piece die-cast aluminum housing optimizes thermal management (IP65 Rated).
- Housing is protected by a RoHS compliant, corrosion resistant powder coat finish.
- Standard architectural bronze finish.
- High-impact, heat-resistant borosilicate glass lens is hinged and won't degrade.

Electrical
- 120-277V 50/60Hz driver.
- 0-10V dimming standard.
- System power factor >90% and THD <20%.
- Operating temperature: -40°C to 45°C (-40°F to 113°F).

Optics
- Industry-leading LEDs with 5000K CCT (minimum 70 CRI).
- IES Type IV distribution.
- Lumen Maintenance: ≥167,000 hours (L70). [1]

Mounting
- Designed for wall mounting above four feet from the ground.
- Housing is configured for mounting directly over a standard 4" outlet box (by others) or surface wiring via any of the convenient 1/2" threaded conduit entries.

Warranty
- Backed by US LED's industry-leading Ten-Year Warranty.

Product Applications
- Self-Storage Facilities
- Educational Facilities
- Business Campuses
- Industrial Facilities
- Mall/Retail Areas
- Recreational Areas
- Building Exteriors
- Security Lighting
- Wall Washing
- Parking Lots

Product Certifications
- UL Listed
- DL Premium Listed
- Complies with UL1598 and CSA C22.2
- Suitable for Wet Locations
- IP65 Rated Enclosure
- RoHS Compliant

c UL us LISTED   DLC LISTED PREMIUM   RoHS   IP65

Ordering Information

Example: ULWL1-1-UNVL-50-40-BZ

ULWL1

Series	Variant	Input Voltage	CCT	Wattage	Finish
	1 Standard	UNVL 120-277V	50 5000K	24 24W	BZ Bronze
				32 32W	W White [2]
				40 40W	C Custom [2]
				72 72W	
				96 96W	
				120 120W	

Accessories
BB Remote Battery Back-Up
C Casambi Enabled
IB Integrated Battery Back-Up
PC Photocell
WG Wire Guard

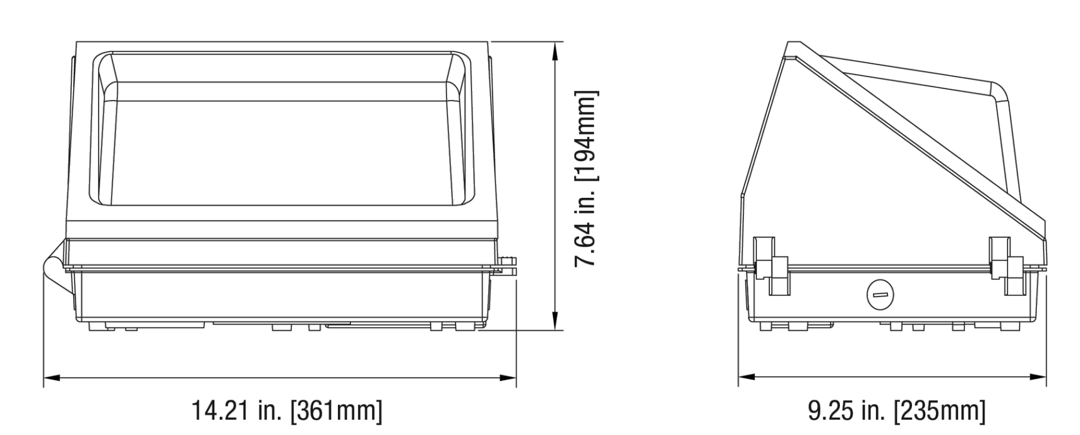
1. US LED product 'Lifetimes' refer only to the LED light engine, not the power source, and are based on the Illuminating Engineering Society's TM21 Projected Lumen Maintenance methodology at a 25° C / 77° F ambient temperature. The lifetimes are solely meant to be a guide for expected LED degradation and not a warranty or predictive of their actual life, which can be affected by ambient temperatures and other factors.
2. Custom colors available upon request. Pleas consult and specify color with the factory.

QubePAK®4
Outdoor LED Wall Pack

US LED
Always the Right Choice!

Dimensions

Product Net Weight
8.00 lbs. [3.60kg]



Performance Data

All photometric testing performed to IESNA LM-79 standards by an accredited testing facility.
For photometric data details, please visit www.usled.com or consult the factory directly.

Model	CCT	System Level Power	Delivered Lumens	Efficacy	BUG Rating	L70 Calculated Life
ULWL1-1-UNVL-50-24-XX	5000K	23W	3,994	173 LPW	B1-U3-G3	≥167,000 Hours
ULWL1-1-UNVL-50-32-XX	5000K	32W	5,447	170 LPW	B1-U3-G3	≥167,000 Hours
ULWL1-1-UNVL-50-40-XX	5000K	38W	6,545	168 LPW	B1-U3-G4	≥167,000 Hours
ULWL1-1-UNVL-50-72-XX	5000K	74W	12,528	169 LPW	B2-U4-G5	≥167,000 Hours
ULWL1-1-UNVL-50-96-XX	5000K	97W	16,099	165 LPW	B3-U5-G5	≥167,000 Hours
ULWL1-1-UNVL-50-120-XX	5000K	119W	19,664	164 LPW	B3-U5-G5	≥167,000 Hours

QubePAK®4
Outdoor LED Wall Pack

US LED
Always the Right Choice!

Accessories

[Option BB] Remote Emergency Battery Back-Up

Product Overview
UL Listed LED emergency driver that allows the same luminaire to be used for both normal and emergency operation. In the event of a power failure, the battery back-up switches to the emergency mode and operates the luminaire for 90 minutes.

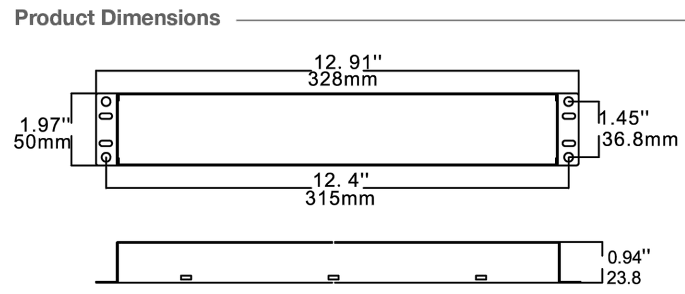
Key Features
- Meets all NEC, IBC, and Life Safety Code Emergency Lighting Requirements
- Suitable for use in plenum or damp locations.
- Constant wattage delivery maintains illumination for the full emergency runtime with no degradation.
- Self-testing feature.
- Five-Year warranty.

c UL us LISTED   CE

Specifications

Rated Input Voltage	100-347VAC, 50/60Hz
Input Current	≤100mA Max
Input Power	12W Max
Output Voltage Range	170V DC
Output Power	6-25W
Recharge Time	24 Hours
Discharge Time	90 Minutes
Ambient Temperature Rating	0°C to 50°C (32°F to 122°F)

Product Dimensions



QubePAK®4
Outdoor LED Wall Pack

US LED
Always the Right Choice!

Accessories

[Option PC] Electronic Photocell 120-277VAC

Product Overview
The electronic photocontrol accessory is perfect for simplified outdoor lighting control, providing easy ON/OFF function in accordance with the ambient lighting level.

Key Features
- Installed internally within the fixture (no external mounting required).
- Non-drift silicon light sensor with IR filter.
- DC relay with zero-crossing circuitry for extended life.

c UL us LISTED   RoHS

Specifications

Sensor Time Delay	Instant ON; 3 sec to 10 sec OFF
Photocell Type	Silicon Diode
Photo Control Switch Type	Relay
Power Consumption	0.4W Max
Activation On	10~20Lx
Activation Off	30~80Lx
Dimensions	2.25" (H) x 1.14" (W) X 1.73" (D)
Operation Temperature	-40°C to 70°C (-40°F to 158°F)

No.	Date	Revision

HAEGER ENGINEERING
consulting engineers • land surveyors
100 East State Parkway, Schaumburg, IL 60173 •Tel: 847.394.6600 Fax: 847.394.6608
Illinois Professional Design Firm License No. 184-003152
www.haegerengineering.com

SITE LIGHTING AND PHOTOMETRIC PLAN

SELF-STORAGE FACILITY
406 MONAVILLE ROAD
LAKE VILLA, ILLINOIS

Project Manager:	K M L
Engineer:	J D L
Date:	06-17-2025
Project No.	25058
Sheet	1/1

Plot Date: Jun 17, 2025 - 5:20pm Plotted By: josh-l
File Name: P:\2025\25058\Drawings\Exhibits\Photometric\25058-Photometric Plan_2025-06-17.dwg

EASY SPACE
SELF-STORAGE FACILITY
406 W. MONAVILLE ROAD | LAKE VILLA, ILLINOIS

PROJECT TEAM

OWNER / DEVELOPER:
SAFE & SECURE SELF STORAGE, INC.
23366 W. WALL STREET
LAKE VILLA, IL 60046
CONTACT: MARK HAUFE

SURVEYOR/CIVIL ENGINEER:
HAEGER ENGINEERING
100 EAST STATE PARKWAY
SCHAUMBURG, IL 60173
TEL (847) 394-6600
CONTACT: LEN KLEINJAN / KIM LASK

ARCHITECT:
GROUNDWORK, LTD. & EDIFICIO ARCHITECTS
351 W. DUNDEE ROAD, SUITE A
BUFFALO GROVE, IL 60089
TEL (847) 541-4151
CONTACT: RUSSELL THIELE

LANDSCAPE ARCHITECT:
DICKSON DESIGN STUDIO, INC.
9 CRYSTAL LAKE ROAD, SUITE 110
LAKE IN THE HILLS, IL 60156
TEL (224) 241-8181
CONTACT: SHARON DICKSON / JEFF TORRENS

ARBORIST:
DAVEY RESOURCE GROUP, INC.
NATURAL RESOURCE CONSULTING
TEL (414) 517-1695
CONTACT: PETE SORENSEN

ECOLOGIST:
INDIGO ECOLOGICAL DESIGN
P.O. BOX 26
ALGONQUIN, IL 60102
TEL (810) 923-6582
CONTACT: STACEY LIBRA

SHEET INDEX

dickson design
STUDIO
9 CRYSTAL LAKE ROAD
SUITE 110
LAKE IN THE HILLS, IL 60156
(224) 241-8181

CLIENT NAME AND ADDRESS

SAFE & SECURE SELF-STORAGE, INC.
LAKE VILLA, ILLINOIS

PLAN DATE

JUNE 17, 2025

REVISIONS

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PROJECT NAME AND SHEET TITLE

EASY SPACE SELF-STORAGE
LAKE VILLA, IL

PRELIMINARY LANDSCAPE & TREE PRESERVATION PLAN - COVER

SHEET NUMBER

L0.1

NOTES: TREE PRESERVATION

1. TREE PRESERVATION:

   A. **ALL WORK MUST BE PERFORMED ACCORDING TO THE APPROVED TREE PRESERVATION PLAN. IT IS STRONGLY RECOMMENDED TO DOCUMENT GOOD STEWARDSHIP PRACTICES DURING CONSTRUCTION. IF REQUIRED, PRIOR TO COMMENCING ANY DEMOLITION / CONSTRUCTION ACTIVITY, NOTIFY MUNICIPAL FORESTRY DEPARTMENT (NOTIFY AT LEAST 48 HOURS IN ADVANCE OF WORK).**

   B. AN APPROVED TREE PRESERVATION PLAN MUST BE AVAILABLE AT THE BUILDING SITE.

   C. PRIOR TO ANY DEMOLITION / CONSTRUCTION ACTIVITY, INSTALL TREE PRESERVATION FENCE AND PERFORM ROOT PRUNING FOR ALL PROTECTED TREES.

   D. FENCE THE CRITICAL ROOT ZONE (CRZ) / CANOPY DRIP-LINE, OF THE ENTIRE EXISTING TREE TO BE PRESERVED, WITH TREE PROTECTION FENCE. FENCE TO PREVENT WOUNDS TO THE TREE & SOIL COMPACTION. POST THE FENCE WITH A SIGN STATING, "TREE PROTECTION ZONE - KEEP OUT".

   E. ALL REQUIRED TREE PROTECTION FENCING SHALL REMAIN IN PLACE UNTIL THE TIME OF FINISH GRADING AND LANDSCAPING.

   F. NO TRENCHING SHOULD BE DONE WITHIN THE TREE PROTECTION ZONES FOR ANY CONSTRUCTION ACTIVITY, UNLESS PRE-APPROVED BY PROJECT ARBORIST &/OR PROJECT LANDSCAPE ARCHITECT.

   G. NO GRADE CHANGES SHOULD BE DONE WITHIN THE TREE PROTECTION ZONES OF TREES FOR ANY CONSTRUCTION ACTIVITY.

   H. SHOULD IT BE NECESSARY TO TRENCH WITHIN THE CRZ FOR UTILITIES, INCLUDING DISCONNECTION OR CAPPING OF EXISTING UTILITIES, ALL TRENCHES SHALL BE HAND DUG. NO ROOTS LARGER THAN TWO INCHES (2") SHALL BE CUT, UNLESS NO OTHER ALTERNATIVE IS FEASIBLE. ALL SMALLER ROOTS THAT REQUIRE CUTTING, SHALL BE CUT WITH A SHARP PRUNING SAW. CUTS SHALL BE MADE FLUSH WITH THE SIDE OF THE TRENCH. IF AT ANY TIME, TWENTY-FIVE PERCENT (25%) OF THE AREA WITHIN THE CRZ IS BEING SEPARATED FROM THE TREE BY A TRENCH, THEN THE LINE SHALL BE EITHER RELOCATED OR INSTALLED USING TRENCH-LESS METHODS.

   I. LOCATE THE PROPOSED WATER AND SEWER LINES OUTSIDE OF THE TREE PROTECTION ZONE OR INSTALL THE SEWER AND WATER UTILITIES USING TRENCH-LESS METHODS. AUGER THROUGH THE ENTIRE TREE PROTECTION ZONE, LOCATE PITS OUTSIDE OF THE TREE PROTECTION ZONE.

   J. THE PROPOSED WATER SERVICE LINE VALVES (B-BOXES), ARE TO BE TEN FEET (10') FROM PRESERVED TREES. IF FUTURE UTILITY EXCAVATIONS NEED TO OCCUR, THIS REDUCES THE CHANCES OF EXTENSIVE STEM OR ROOT DAMAGE, WHICH COULD LEAD TO TREE DECLINE.

   K. AT NO TIME SHALL ANY EQUIPMENT, MATERIALS, SUPPLIES OR FILL SOIL BE ALLOWED IN THE TREE PROTECTION ZONE(S). DO NOT STORE EXCAVATED SOIL OR THE DUMPSTER WITHIN THE DRIP-LINE (CRZ) OF THE PRESERVED TREE(S).

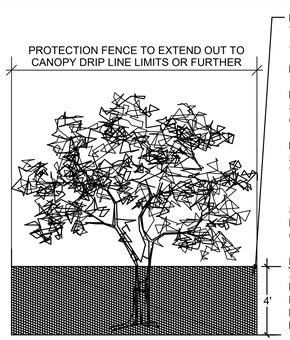
   L. **REMOVAL OF ANY HARDSCAPE WITHIN THE TREE PROTECTION ZONES WILL BE DONE BY HAND.** NO ROOTS LARGER THAN TWO INCHES (2") SHALL BE CUT, UNLESS THERE IS NO ALTERNATIVE FEASIBLE. CUTS WILL BE MADE WITH A SHARP PRUNING SAW TO AVOID TEARING AND WILL BE FLUSH WITH THE TREE SIDE OF THE TRENCH.

   M. THE TREE PROTECTION ZONE MAY BE MULCHED TO IMPROVE THE GROWING CONDITIONS FOR TREE ROOTS AND TO MINIMIZE MAINTENANCE OF THE LAWN.

   N. ALL OFF-SITE TREES SHALL BE PRESERVED.

   O. EXISTING TREES SHOWN TO REMAIN SHALL BE PRESERVED TO THE BEST EXTENT POSSIBLE, PENDING FINAL SITE PLAN, FINAL CIVIL ENGINEERING, AND/OR ANY UNFORESEEN ISSUES.

DETAIL: TREE PROTECTION FENCE



FENCE TO BE PROVIDED AROUND ALL OFF-SITE TREES WHOSE CANOPY DRIP-LINE EXTENDS ACROSS BOUNDARIES OF PROJECT SITE.

FENCE IS FOR PROTECTION OF ZOOT ZONES.

FENCE SHALL REMAIN IN PLACE ON PROJECT SITE UNTIL ADJACENT CONSTRUCTION IS COMPLETE.

FENCE SHALL BE 4' TALL, ORANGE, SNOW-FENCE (OR APPROVED EQUAL), POSTED WITH A SIGN THAT READS:
"TREE PROTECTION ZONE - KEEP OUT"

SECURE FENCE TO WOODEN STAKES OR METAL POLES, SPACED NO GREATER THAN 8' ON CENTER

NOTE!
AFTER EXISTING TREES ARE FENCED, NOTHING IS TO BE DISTURBED, STORED, PARKED, ETC., INSIDE CONSTRUCTION FENCE. REMOVE FENCE ONLY AFTER ALL CONSTRUCTION WORK HAS BEEN COMPLETED.

PLANT SYMBOLS KEY

NOTE!
NOT ALL PLANT SYMBOLS MAY BE DEPICTED ON PLANS.

EXISTING DECIDUOUS TREE

EXISTING EVERGREEN TREE

EXISTING SHRUBS & PERENNIALS

SHADE / CANOPY TREES, 2.5"+ CALIPER

ORNAMENTAL (UNDERSTORY) TREES 6'-8'+ TALL

EVERGREEN (UNDERSTORY) TREES, 5'-8"+ TALL

LARGE, EVERGREEN SHRUBS, 36"-48" TALL

LARGE, DECIDUOUS SHRUBS, 36"-48" TALL

SMALL, DECIDUOUS SHRUBS, 18"-24" TALL

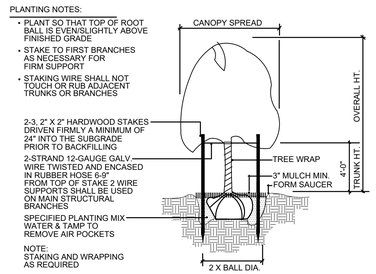
SMALL, EVERGREEN SHRUBS, 24" TALL/WIDE

LARGE, ORNAMENTAL GRASS, 3 GALLON

SMALL ORNAMENTAL GRASS, 1 GALLON

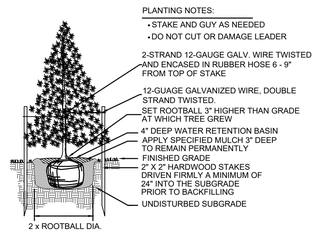
PERENNIAL FLOWERS & GROUNDCOVER, 1 GALLON

DETAILS: PLANTING



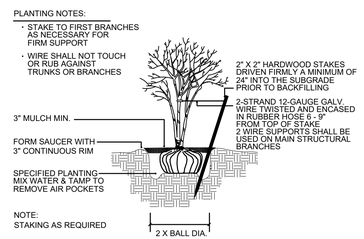
TREE PLANTING & STAKING

NOT TO SCALE



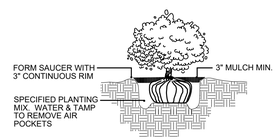
EVERGREEN TREE PLANTING

NOT TO SCALE



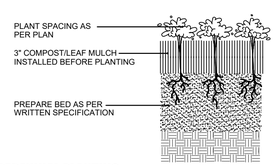
MULTI-TRUNK TREE STAKING

NOT TO SCALE



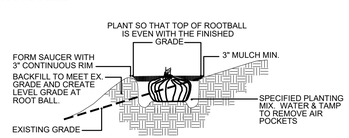
SHRUB PLANTING

NOT TO SCALE



PERENNIAL PLANTING

NOT TO SCALE



HILLSIDE PLANTING

NOT TO SCALE

NOTES: GENERAL LANDSCAPE

1. CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS REQUIRED. ALL CONSTRUCTION SHALL CONFORM TO APPLICABLE STANDARDS AND CODES.
2. CALL J.U.L.I.E. UTILITY LOCATING SERVICE (TEL 800.892.0123), 48 HOURS PRIOR TO THE START OF ANY DIGGING.
3. GENERAL PLANT NOTES:
   A. ALL PLANT MATERIAL SHALL CONFORM IN SIZE AND GRADE IN ACCORDANCE WITH AMERICAN STANDARD FOR NURSERY STOCK.
   B. ALL PLANT MATERIAL SHALL BE MAINTAINED ALIVE, HEALTHY, AND FREE FROM DISEASE AND PESTS.
   C. ALL NEW PLANT MATERIAL SHALL BE FROM A LOCAL SOURCE WHENEVER POSSIBLE (LESS THAN 50 MILES).
   D. PLANTS SHALL BE ALLOWED TO GROW IN THEIR NATURAL FORM / HABIT. PLANTS SHALL NOT BE PRUNED/HEDGED UNLESS ABSOLUTELY NECESSARY (DUE TO VISIBILITY OR HAZARD OBSTRUCTION).
   E. ALL LANDSCAPED AREAS SHALL BE FREE OF WEEDS, LITTER, AND SIMILAR SIGNS OF DEFERRED MAINTENANCE.
4. LOCATIONS OF PROPOSED PLANT MATERIAL MAY BE ADJUSTED AT TIME OF INSTALLATION DUE TO FINAL ENGINEERING AND FINAL LOCATION OF SITE UTILITIES.
5. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND SPREADING TOPSOIL (6"-12" DEEP), FINE GRADING, AND PREPARATION OF ALL LAWN AND LANDSCAPE AREAS. ALL SOILS SHALL BE FREE OF CONSTRUCTION DEBRIS, PRIOR TO INSTALLING ANY PLANT MATERIAL.
6. PRIOR TO SPREADING TOPSOIL, THE LANDSCAPE CONTRACTOR SHALL INSPECT AND ACCEPT ALL BASE GRADES. ANY DEVIATION FROM GRADES INDICATED ON THE GRADING PLAN SHALL BE CORRECTED BEFORE PLACING ANY TOPSOIL.
7. ALL SHRUB, GROUNDCOVER, PERENNIAL, AND ANNUAL PLANTING BEDS SHALL BE PREPARED WITH A SOIL AMENDMENT MIX - 1/3 TOPSOIL, 1/3 MUSHROOM COMPOST, AND 1/3 TORPEDO SAND. MATERIAL SHALL BE ROTO-TILLED JUST PRIOR TO THE INSTALLATION OF PLANT MATERIAL.
8. ALL PLANTING ISLANDS SHALL BE MOUNDED TO PROVIDE POSITIVE DRAINAGE.
9. ALL PLANTING BEDS ADJACENT TO LAWN AREAS SHALL HAVE A SPADED EDGE BORDER, UNLESS METAL OR OTHER BORDER IS SPECIFIED.
10. ALL PLANTING BED AREAS SHALL MAINTAIN A MAX. 3" DEEP LAYER OF SHREDDED HARDWOOD MULCH (COLOR: NON-DYED, BROWN).
11. LANDSCAPE CONTRACTOR SHALL COORDINATE PLANTING SCHEDULE WITH LANDSCAPE MAINTENANCE CONTRACTOR, TO ENSURE PROPER WATERING OF PLANTED AND SODDED AREAS AFTER INITIAL INSTALLATION.
12. LANDSCAPE CONTRACTOR SHALL COORDINATE WORK WITH OTHER CONTRACTORS ON SITE TO MINIMIZE ANY REDO OF COMPLETED LANDSCAPE WORK AND DAMAGE TO PLANT MATERIAL.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR HIS/HER OWN LAYOUT WORK. UPON REQUEST, LANDSCAPE ARCHITECT SHALL BE AVAILABLE TO ASSIST/APPROVE CONTRACTOR LAYOUT.
14. EVERY ATTEMPT HAS BEEN MADE TO DEPICT ALL EXISTING UTILITY LINES. CONTRACTOR SHALL USE PRECAUTION WHEN DIGGING. CONTRACTOR SHALL MAKE THEMSELVES THOROUGHLY FAMILIAR WITH ALL UNDERGROUND UTILITY LOCATIONS PRIOR TO ANY DIGGING, VERIFYING LOCATIONS AND DEPTHS OF ALL UTILITIES.
15. IT IS THE LANDSCAPE CONTRACTOR'S RESPONSIBILITY TO VISIT THE SITE PRIOR TO BID SUBMITTAL, TO BECOME FAMILIAR WITH EXISTING CONDITIONS AT THE SITE.
16. PLANT LIST QUANTITIES PROVIDED AT TIME OF FINAL PLANS ARE APPROXIMATIONS. CONTRACTORS ARE RESPONSIBLE FOR COMPLETING THEIR OWN QUANTITY TAKE-OFFS. IF A DISCREPANCY IS FOUND BETWEEN THE PLAN AND THE PLANT LIST, THEN THE PLAN SHALL PREVAIL.
17. PLANT SUBSTITUTIONS ARE ALLOWED DUE TO PLANT AVAILABILITY OR PLANTING TIME OF YEAR, ONLY WITH THE PRIOR CONSENT OF THE LANDSCAPE ARCHITECT. IF SUBSTITUTIONS ARE MADE WITHOUT PRIOR CONSENT, THE LANDSCAPE ARCHITECT MAINTAINS THE RIGHT TO REJECT MATERIAL IN THE FIELD, AT THE COST TO THE CONTRACTOR.
18. CONTRACTOR TO PROVIDE TEST OF EXISTING AND IMPORTED SOILS PER SPECIFICATIONS. PLANTING SOIL SHALL BE AMENDED PER SPECIFICATIONS.
19. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT IF AREAS OF POOR DRAINAGE OR OTHER UNUSUAL SUBSURFACE CONDITIONS ARE ENCOUNTERED DURING EXCAVATION FOR PLANTING PITS.
20. ALL TURF SHALL SHALL BE KENTUCKY BLUEGRASS BLEND SOD (MINERAL, NOT PEAT), PER VILLAGE, SEED IS NOT ALLOWED.
21. CONTRACTOR SHALL RESTORE LAWN AREAS THAT HAVE REMAINED PARTIALLY INTACT, TOP DRESSING WITH SOIL, SCARIFYING, AND SEEDING TO FORM A SMOOTH, FULL, EVEN LAWN, FREE OF BARE SPOTS, INDENTATIONS, AND WEEDS.
22. LANDSCAPE DETAILS SHOWN ARE FOR DESIGN INTENT ONLY. LANDSCAPE ARCHITECT ASSUMES NO LIABILITY. CONTRACTOR IS RESPONSIBLE FOR ERECTING AND INSTALLING PROPERLY BUILT AMENITIES PER CODE, PER SITE CONDITIONS (FINAL GRADING & UTILITY LOCATIONS), AND PER AREA CLIMATE CONDITIONS. ALL LANDSCAPE SITE DETAILS FOR STRUCTURES AND FOOTINGS SHALL BE REVIEWED & APPROVED BY A STRUCTURAL ENGINEER.
23. CONTRACTOR INSTALLATION BIDS SHALL INCLUDE A ONE-YEAR WARRANTY ON ALL PLANT MATERIAL.
24. (IF APPLICABLE) CONTRACTOR INSTALLATION BIDS SHALL INCLUDE A THREE-YEAR MONITORING AND MAINTENANCE PROGRAM ON ALL NATURALIZED DETENTION AREAS.

dickson design
STUDIO
9 CRYSTAL LAKE ROAD
SUITE 110
LAKE IN THE HILLS, IL 60156
(224) 241-8181

CLIENT NAME AND ADDRESS

SAFE & SECURE SELF-STORAGE, INC.
LAKE VILLA, ILLINOIS

PLAN DATE

JUNE 17, 2025

REVISIONS

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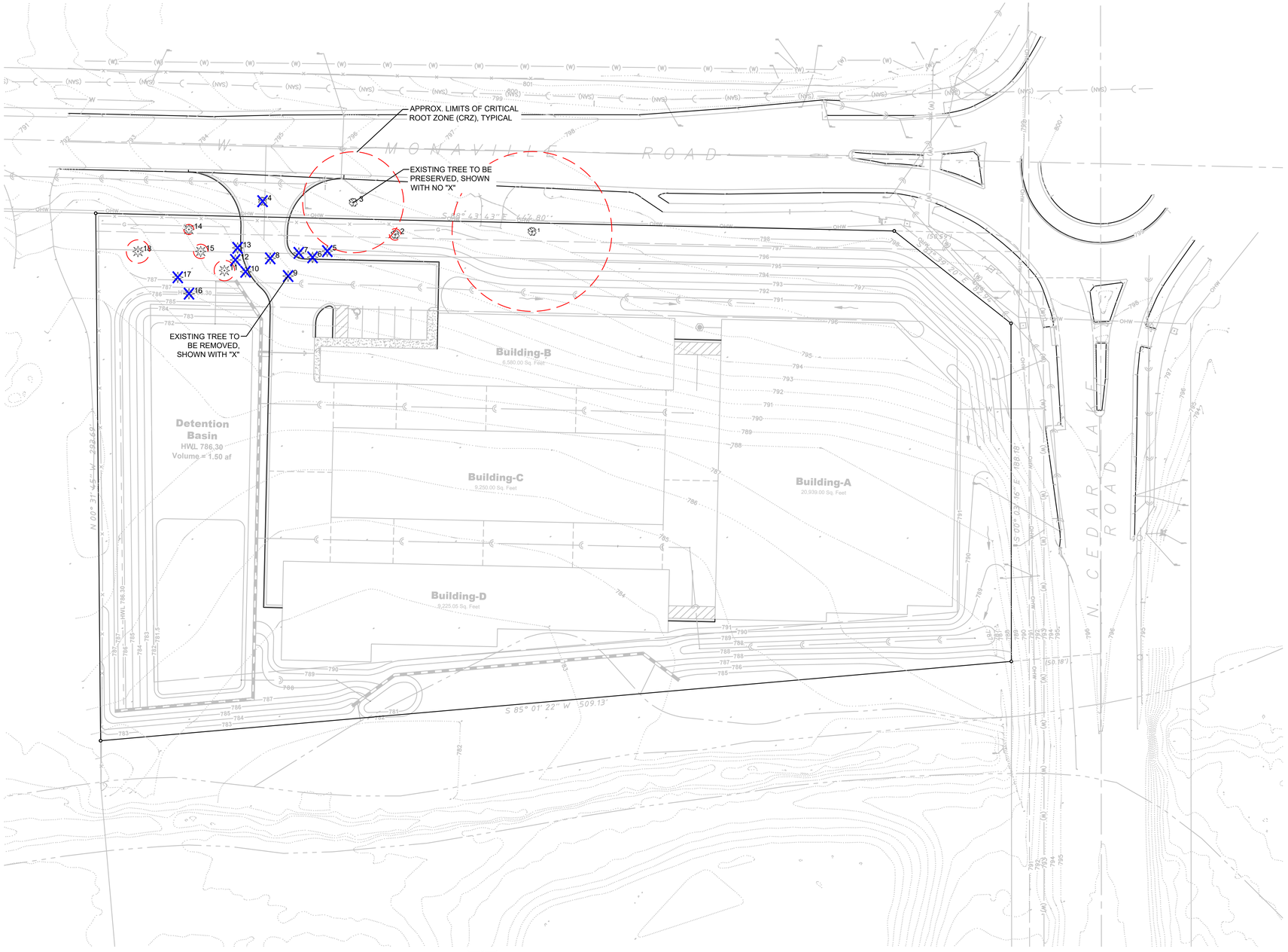
PROJECT NAME AND SHEET TITLE

EASY SPACE SELF-STORAGE
LAKE VILLA, IL

LANDSCAPE & TREE PRESERVATION PLAN - NOTES & PLANTING DETAILS

SHEET NUMBER

L0.2



NORTH

TREE PRESERVATION & REMOVAL PLAN

SCALE: 1" = 30'-0"

0 15' 30' 60'

dickson design STUDIO
9 CRYSTAL LAKE ROAD
SUITE 110
LAKE IN THE HILLS, IL 60156
(224) 241-8181

CLIENT NAME AND ADDRESS

SAFE & SECURE SELF-STORAGE, INC.
LAKE VILLA, ILLINOIS

PLAN DATE

JUNE 17, 2025

REVISIONS

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PROJECT NAME AND SHEET TITLE

EASY SPACE SELF-STORAGE
LAKE VILLA, IL

TREE PRESERVATION AND REMOVAL PLAN

SHEET NUMBER

L1.0

RATING SCALE: TREE CONDITION / FORM

Excellent / "1"
The tree is typical of the species, has less than 10% deadwood in the crown that is attributable to normal clauses, has no other observed problems, and required no remedial action.

Good / "2"
The tree is typical of the species and/or has less than 20% deadwood in the crown, only one or two minor problems that are easily corrected with normal care.

Fair / "3"
The tree is typical of the species and/or has less than 30% deadwood in the crown, one or two minor problems that are not eminently lethal to the tree, and no significant decay or structural problems, but the tree must have remedial care above normal care in order to minimize the impact of future stress and to insure continued health.

Poor / "4"
The tree is not typical of the species and/or has significant problems such as 30-50% deadwood in the crown, serious decay or structural defect, insects, disease or other problems that can be eminently lethal to the tree or create a hazardous tree if not corrected in a short period of time or if the tree is subjected to additional stress.

Critical / "5"
The tree is not typical of the species and/or has over 50% deadwood in the crown, major decay or structural problems, is hazardous or is severely infested with insects, disease, or other problems that even if aggressively corrected would not result in the long term survival of the tree.

Dead / "6"
Less than 10% of the tree shows signs of life.

TREE INVENTORY - ONSITE

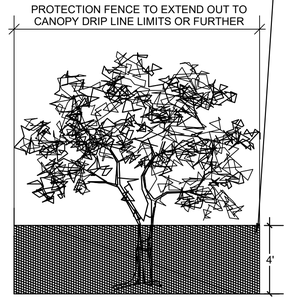
TAG #	COMMON NAME	SCIENTIFIC NAME	DBH	CONDITION	OUTCOME	REPLACEMENT
1	Bur oak	*Quercus macrocarpa*	44.5	Good	PRESERVE	NA
2	Bur oak	*Quercus macrocarpa*	3.2	Good	PRESERVE	NA
3	Bur oak	*Quercus macrocarpa*	28.1	Fair	PRESERVE	NA
4	Bur oak	*Quercus macrocarpa*	44.2	Fair	REMOVE	5, 4" CAL.
5	Juniper	*juniper spp*	2.7	Good	REMOVE	-
6	Juniper	*juniper spp*	2.5	Good	REMOVE	-
7	Juniper	*juniper spp*	4.2	Good	REMOVE	-
8	Juniper	*juniper spp*	3.8	Good	REMOVE	-
9	Juniper	*juniper spp*	3.5	Good	REMOVE	-
10	Juniper	*juniper spp*	4.7	Good	REMOVE	-
11	Juniper	*juniper spp*	5.7	Good	PRESERVE	NA
12	Juniper	*juniper spp*	4.9	Good	REMOVE	-
13	Juniper	*juniper spp*	3.8	Good	REMOVE	-
14	Juniper	*juniper spp*	2.8	Fair	PRESERVE	NA
15	Juniper	*juniper spp*	4	Fair	PRESERVE	NA
16	Juniper	*juniper spp*	2.5	Good	REMOVE	-
17	Scots pine	*Pinus sylvestris*	12.4	Fair	REMOVE	2, 3" CAL.
18	Scots pine	*Pinus sylvestris*	6.5	Good	PRESERVE	NA

TOTAL REPLACEMENT TREES REQUIRED = 7 TREES

NOTES: TREE PRESERVATION

1. TREE PRESERVATION:
   - A. **ALL WORK MUST BE PERFORMED ACCORDING TO THE APPROVED TREE PRESERVATION PLAN. IT IS STRONGLY RECOMMENDED TO DOCUMENT GOOD STEWARDSHIP PRACTICES DURING CONSTRUCTION. IF REQUIRED, PRIOR TO COMMENCING ANY DEMOLITION / CONSTRUCTION ACTIVITY, NOTIFY MUNICIPAL FORESTRY DEPARTMENT (NOTIFY AT LEAST 48 HOURS IN ADVANCE OF WORK).**
   - B. AN APPROVED TREE PRESERVATION PLAN MUST BE AVAILABLE AT THE BUILDING SITE.
   - C. PRIOR TO ANY DEMOLITION / CONSTRUCTION ACTIVITY, INSTALL TREE PRESERVATION FENCE AND PERFORM ROOT PRUNING FOR ALL PROTECTED TREES.
   - D. FENCE THE CRITICAL ROOT ZONE (CRZ) / CANOPY DRIP-LINE, OF THE ENTIRE EXISTING TREE TO BE PRESERVED, WITH TREE PROTECTION FENCE. FENCE TO PREVENT WOUNDS TO THE TREE & SOIL COMPACTION. POST THE FENCE WITH A SIGN STATING, "TREE PROTECTION ZONE - KEEP OUT".
   - E. ALL REQUIRED TREE PROTECTION FENCING SHALL REMAIN IN PLACE UNTIL THE TIME OF FINISH GRADING AND LANDSCAPING.
   - F. NO TRENCHING SHOULD BE DONE WITHIN THE TREE PROTECTION ZONES FOR ANY CONSTRUCTION ACTIVITY, UNLESS PRE-APPROVED BY PROJECT ARBORIST &/OR PROJECT LANDSCAPE ARCHITECT.
   - G. NO GRADE CHANGES SHOULD BE DONE WITHIN THE TREE PROTECTION ZONES OF TREES FOR ANY CONSTRUCTION ACTIVITY.
   - H. SHOULD IT BE NECESSARY TO TRENCH WITHIN THE CRZ FOR UTILITIES, INCLUDING DISCONNECTION OR CAPPING OF EXISTING UTILITIES, ALL TRENCHES SHALL BE HAND DUG. NO ROOTS LARGER THAN TWO INCHES (2") SHALL BE CUT, UNLESS NO OTHER ALTERNATIVE IS FEASIBLE. ALL SMALLER ROOTS THAT REQUIRE CUTTING, SHALL BE CUT WITH A SHARP PRUNING SAW. CUTS SHALL BE MADE FLUSH WITH THE SIDE OF THE TRENCH. IF AT ANY TIME, TWENTY-FIVE PERCENT (25%) OF THE AREA WITHIN THE CRZ IS BEING SEPARATED FROM THE TREE BY A TRENCH, THEN THE LINE SHALL BE EITHER RELOCATED OR INSTALLED USING TRENCH-LESS METHODS.
   - I. LOCATE THE PROPOSED WATER AND SEWER LINES OUTSIDE OF THE TREE PROTECTION ZONE OR INSTALL THE SEWER AND WATER UTILITIES USING TRENCH-LESS METHODS. AUGER THROUGH THE ENTIRE TREE PROTECTION ZONE, LOCATE PITS OUTSIDE OF THE TREE PROTECTION ZONE.
   - J. THE PROPOSED WATER SERVICE LINE VALVES (B-BOXES), ARE TO BE TEN FEET (10') FROM PRESERVED TREES. IF FUTURE UTILITY EXCAVATIONS NEED TO OCCUR, THIS REDUCES THE CHANCES OF EXTENSIVE STEM OR ROOT DAMAGE, WHICH COULD LEAD TO TREE DECLINE.
   - K. AT NO TIME SHALL ANY EQUIPMENT, MATERIALS, SUPPLIES OR FILL SOIL BE ALLOWED IN THE TREE PROTECTION ZONE(S). DO NOT STORE EXCAVATED SOIL OR THE DUMPSTER WITHIN THE DRIP-LINE (CRZ) OF THE PRESERVED TREE(S).
   - L. **REMOVAL OF ANY HARDSCAPE WITHIN THE TREE PROTECTION ZONES WILL BE DONE BY HAND.** NO ROOTS LARGER THAN TWO INCHES (2") SHALL BE CUT, UNLESS THERE IS NO ALTERNATIVE FEASIBLE. CUTS WILL BE MADE WITH A SHARP PRUNING SAW TO AVOID TEARING AND WILL BE FLUSH WITH THE TREE SIDE OF THE TRENCH.
   - M. THE TREE PROTECTION ZONE MAY BE MULCHED TO IMPROVE THE GROWING CONDITIONS FOR TREE ROOTS AND TO MINIMIZE MAINTENANCE OF THE LAWN.
   - N. ALL OFF-SITE TREES SHALL BE PRESERVED.
   - O. EXISTING TREES SHOWN TO REMAIN SHALL BE PRESERVED TO THE BEST EXTENT POSSIBLE, PENDING FINAL SITE PLAN, FINAL CIVIL ENGINEERING, AND/OR ANY UNFORESEEN ISSUES.

DETAIL: TREE PROTECTION FENCE



FENCE TO BE PROVIDED AROUND ALL OFF-SITE TREES WHOSE CANOPY DRIP-LINE EXTENDS ACROSS BOUNDARIES OF PROJECT SITE.

FENCE IS FOR PROTECTION OF ZOOT ZONES.

FENCE SHALL REMAIN IN PLACE ON PROJECT SITE UNTIL ADJACENT CONSTRUCTION IS COMPLETE.

FENCE SHALL BE 4' TALL, ORANGE, SNOW-FENCE (OR APPROVED EQUAL), POSTED WITH A SIGN THAT READS:
"TREE PROTECTION ZONE - KEEP OUT"

SECURE FENCE TO WOODEN STAKES OR METAL POLES, SPACED NO GREATER THAN 8' ON CENTER

NOTE!
AFTER EXISTING TREES ARE FENCED, NOTHING IS TO BE DISTURBED, STORED, PARKED, ETC., INSIDE CONSTRUCTION FENCE. REMOVE FENCE ONLY AFTER ALL CONSTRUCTION WORK HAS BEEN COMPLETED.

dickson design STUDIO
9 CRYSTAL LAKE ROAD
SUITE 110
LAKE IN THE HILLS, IL 60156
(224) 241-8181

CLIENT NAME AND ADDRESS

SAFE & SECURE SELF-STORAGE, INC.
LAKE VILLA, ILLINOIS

PLAN DATE

JUNE 17, 2025

REVISIONS

1.	
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PROJECT NAME AND SHEET TITLE

EASY SPACE SELF-STORAGE
LAKE VILLA, IL

TREE PRESERVATION PLAN - NOTES, INVENTORY, DETAILS

SHEET NUMBER

L1.1

PERIMETER LANDSCAPE FOR PARKING LOTS AND VEHICULAR USE AREAS, ±75 LF

REQUIRED:
- 1 CANOPY TREE OR UNDERSTORY TREES / 25 LF;

TOTAL REQUIRED: (3) CANOPY OR UNDERSTORY TREES + OPTION B (SOLID EVERGREEN HEDGE 36" HIGH, WITHIN 10' WIDE PERIMETER BUFFER)

PROVIDED:
- 10 FT. WIDE PERIMETER BUFFER
- 36" HIGH CONTINUOUS EVERGREEN HEDGE
- 3" CANOPY OR UNDERSTORY TREES

*INCLUDES 1 EXISTING AND 1 PROPOSED STREET TREE.

ARTERIAL ROAD STREET TREES, ±445 LF

REQUIRED:
- 1 CANOPY TREE AND 2 UNDERSTORY TREES / 50 LF;

TOTAL REQUIRED: (9) CANOPY TREES AND (18) UNDERSTORY TREES

PROVIDED:
- 2.5" CALIPER CANOPY TREES = 9
- UNDERSTORY TREES = 18

ARTERIAL ROAD STREET TREES, ±83 LF

REQUIRED:
- 1 CANOPY TREE AND 2 UNDERSTORY TREES / 50 LF;

TOTAL REQUIRED: (2) CANOPY TREES AND (4) UNDERSTORY TREES

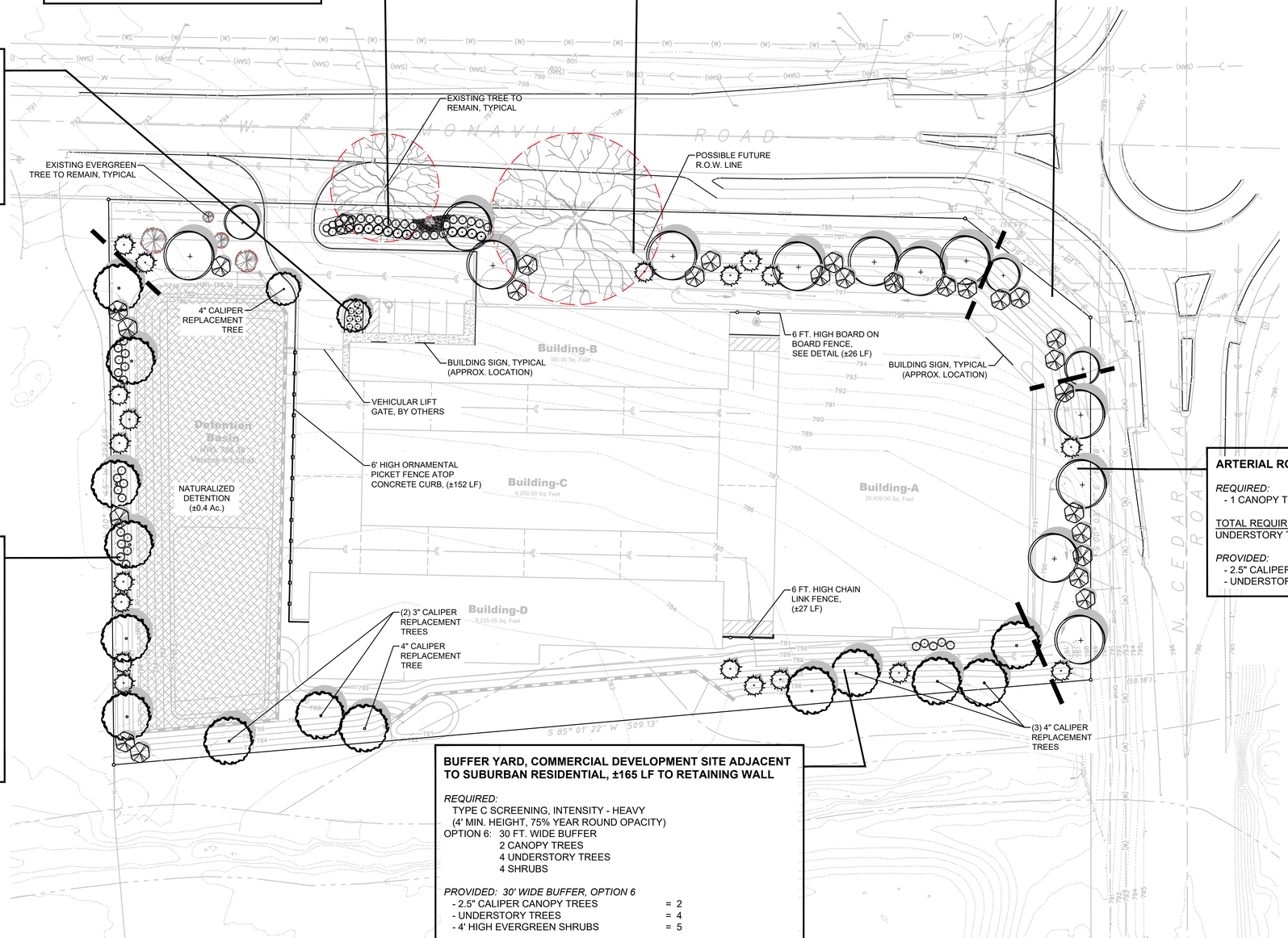
PROVIDED:
- 2.5" CALIPER CANOPY TREES = 2
- UNDERSTORY TREES = 4

INTERIOR LANDSCAPING FOR PARKING LOTS *(WITH 5 OR MORE SPACES);* **±75 LF**

REQUIRED:
- 1 CANOPY TREE AND 3 SHRUBS / 160 SQ. FT.;

TOTAL REQUIRED: (1) CANOPY TREES AND (3) SHRUBS

PROVIDED:
- 2.5" CALIPER CANOPY TREES = 1
- SHRUBS = 7



BUFFER YARD, COMMERCIAL DEVELOPMENT SITE ADJACENT TO SUBURBAN RESIDENTIAL, ±293 LF

REQUIRED:
TYPE C SCREENING, INTENSITY - HEAVY
(4' MIN. HEIGHT, 75% YEAR ROUND OPACITY)
OPTION 2: 10' WIDE BUFFER
6 CANOPY TREES
12 UNDERSTORY TREES
18 SHRUBS

PROVIDED:
TYPE C SCREENING, OPTION 2
- 10' WIDE BUFFER
- 2.5" CALIPER CANOPY TREES = 6
- UNDERSTORY TREES = 12
- 4' HIGH EVERGREEN SHRUBS = 18

ARTERIAL ROAD STREET TREES, ±188 LF

REQUIRED:
- 1 CANOPY TREE AND 2 UNDERSTORY TREES / 50 LF;

TOTAL REQUIRED: (4) CANOPY TREES AND (8) UNDERSTORY TREES

PROVIDED:
- 2.5" CALIPER CANOPY TREES = 4
- UNDERSTORY TREES = 8

BUFFER YARD, COMMERCIAL DEVELOPMENT SITE ADJACENT TO SUBURBAN RESIDENTIAL, ±165 LF TO RETAINING WALL

REQUIRED:
TYPE C SCREENING, INTENSITY - HEAVY
(4' MIN. HEIGHT, 75% YEAR ROUND OPACITY)
OPTION 6: 30 FT. WIDE BUFFER
2 CANOPY TREES
4 UNDERSTORY TREES
4 SHRUBS

PROVIDED: 30' WIDE BUFFER, OPTION 6
- 2.5" CALIPER CANOPY TREES = 2
- UNDERSTORY TREES = 4
- 4' HIGH EVERGREEN SHRUBS = 5

NOTE! ***VARIATION REQUESTED***: ADJACENT ZONING IS SR, BUT THE PROPERTY ABUTS OPEN SPACE / DETENTION AND NO HOMES ARE PRESENT WITHIN ±500 FEET. PLANTINGS LIMITED TO BUILDING A ONLY.

NORTH

LANDSCAPE PLAN

SCALE: 1" = 30'-0"

0 15' 30' 60'

dickson design STUDIO
9 CRYSTAL LAKE ROAD
SUITE 110
LAKE IN THE HILLS, IL 60156
(224) 241-8181

CLIENT NAME AND ADDRESS

SAFE & SECURE SELF-STORAGE, INC.
LAKE VILLA, ILLINOIS

PLAN DATE

JUNE 17, 2025

REVISIONS

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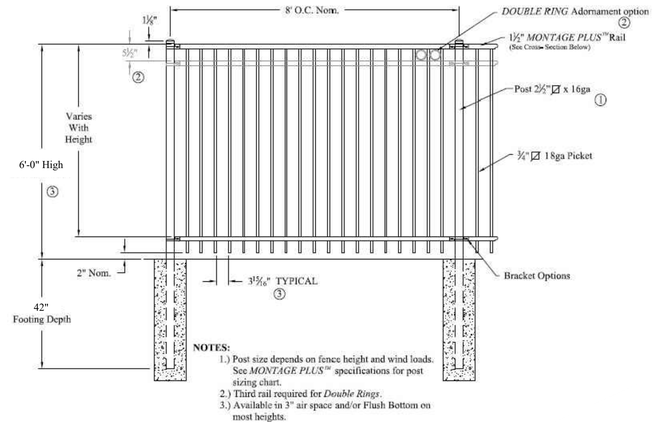
PROJECT NAME AND SHEET TITLE

EASY SPACE SELF-STORAGE
LAKE VILLA, IL
LANDSCAPE PLAN - OVERALL

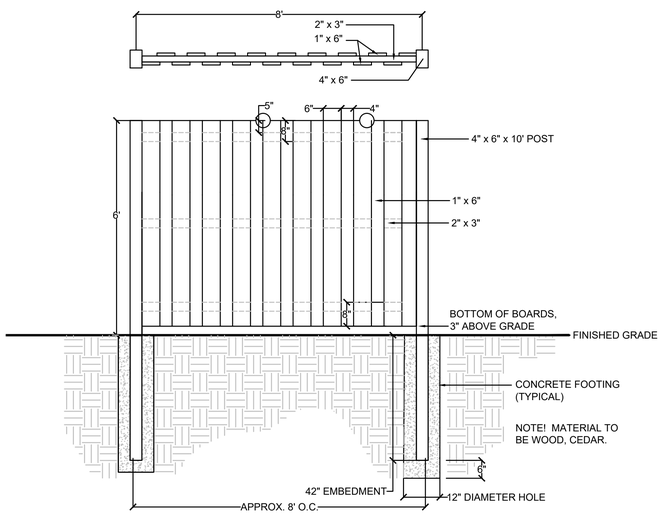
SHEET NUMBER

L2.0



FENCE DETAIL

SCALE: 1/2" = 1'-0"



FENCE DETAIL - 6 FT. BOARD ON BOARD

SCALE: 1/2" = 1'-0"

dickson design
STUDIO
9 CRYSTAL LAKE ROAD
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PROJECT NAME AND SHEET TITLE

EASY SPACE SELF-STORAGE

LAKE VILLA, IL

LANDSCAPE PLAN - FENCE DETAILS

SHEET NUMBER

L3.0

Legend

- Impervious Area
- Pervious Area
- Unrestricted Area
- Offsite Area
- Drainage Boundary

NORTH

0 50

Scale: 1" = 50'

Detention Basin
HWL = 786.3
T/Berm = 787.3
Req'd. Storage = 1.522 Ac-ft
Prop. Storage = 1.527 Ac-ft

Time of Concentration Flow Path (Typ.)

Off-Site Area
Area = 0.539 Ac
Detained = 0.276 Ac (Swap for Unrestricted)
CN = 83
Bypass = 0.263 Ac
CN = 84
Tc = 0.20 hr

W. MONAVILLE ROAD

Proposed Right-of-Way

Building-B
6,580.00 Sq. Feet
FF 792.50

Drainage Structure (Typ.)
Storm Sewer (Typ.)

Building-C
9,250.00 Sq. Feet
FF 792.00

Building-A
20,939.00 Sq. Feet
FF 792.00

Development Area to Detention
Area = 2.606 Ac
CN = 91
Tc = 0.13 hr

Detention Basin
HWL 786.30
Volume = 1.527 af

Building-D
9,225.05 Sq. Feet
FF 791.50

100-YR. BFE = 783.0

Drainage Structure (Typ.)

Wetland Buffer (Typ.)
100-YR. BFE = 784.7

20' Wide Overflow Weir

Outlet Control Structure

Wetland Boundary

Wetland Buffer (Typ.)

100-YR. BFE = 786.8

EAST BRANCH EAGLE CREEK

Limits of Floodway per FEMA Map No. 17097C0038K

Unrestricted Area
Area = 0.276 Ac
CN = 81
Tc = 0.12 hr

100-yr Floodplain Line per FEMA Flood Insurance Study 17097CV001D, dated October 5, 2023

Outlot F
CEDAR RIDGE

N. CEDAR LAKE ROAD

HAEGER ENGINEERING
consulting engineers • land surveyors
100 East State Parkway, Schaumburg, IL 60173 • Tel: 847.394.6600 Fax: 847.394.6608
Illinois Professional Design Firm License No. 184-003152
www.haegerengineering.com

PROPOSED DRAINAGE EXHIBIT

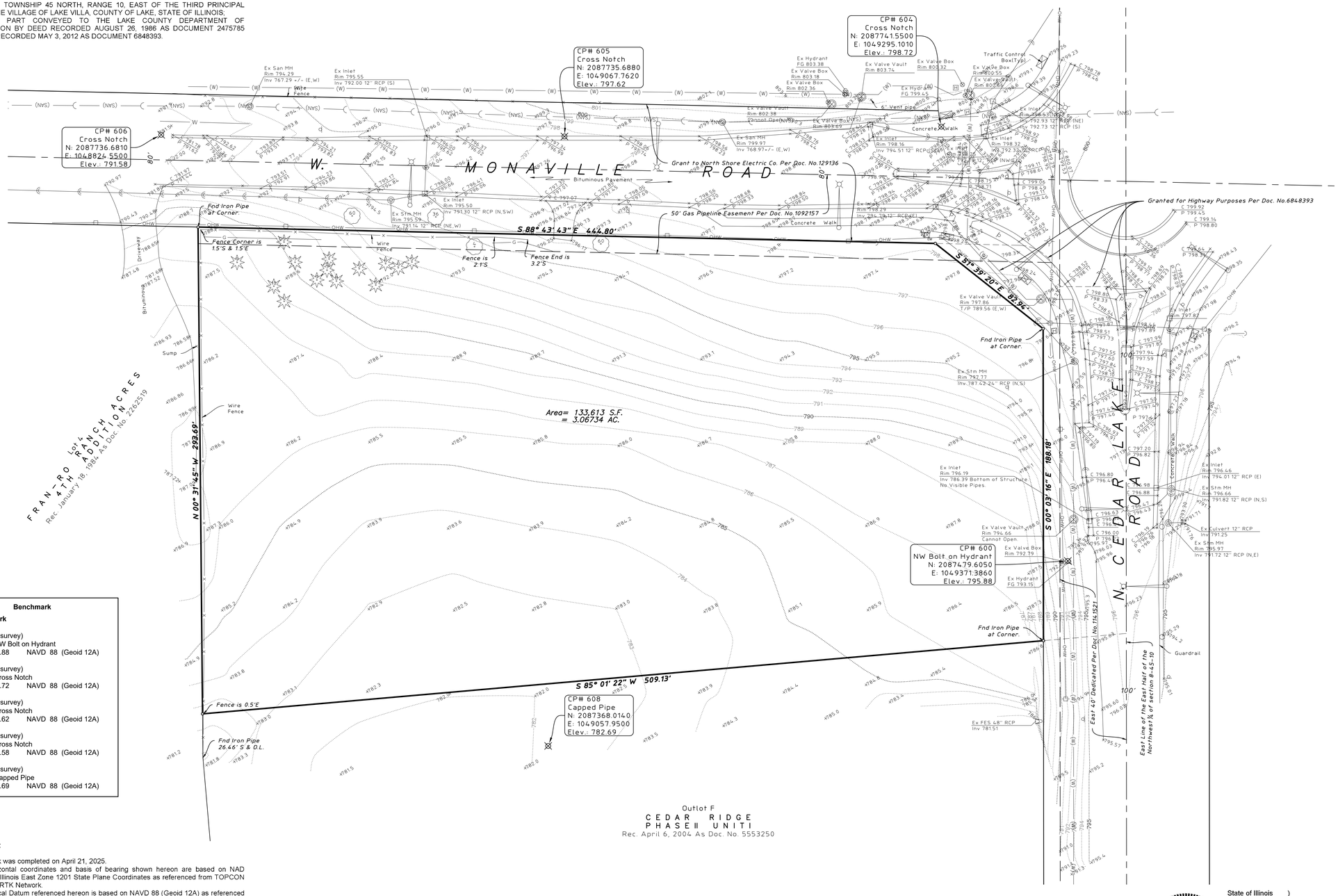
SELF-STORAGE FACILITY
406 W. MONAVILLE ROAD
LAKE VILLA, ILLINOIS

Project Manager:	K M L
Engineer:	K M L
Date:	07-21-2025
Project No.	25058
Sheet	1 / 1

Plot Date: Jul 22, 2025 - 12:22pm Plotted By: kim-l Layout: 11x17 LS
File Name: P:\2025\25058\Drawings\Exhibits\25058 - Drainage Exhibits.dwg

LEGAL DESCRIPTION

THE EAST HALF OF THE NORTH WEST QUARTER OF SECTION 8 AND THE EAST HALF OF THE SOUTH WEST QUARTER OF SECTION 8, TOWNSHIP 45 NORTH, RANGE 10, EAST OF THE 3RD P.M., EXCEPT THE EAST 265 FEET OF THE NORTH 1700 FEET OF THE SOUTH 2166 FEET OF SAID EAST HALF OF THE SOUTH WEST QUARTER OF SAID SECTION, AND ALSO EXCEPT THE SOUTH 400 FEET OF THE EAST 930.6 FEET OF THE EAST HALF OF THE SOUTH WEST QUARTER OF SAID SECTION IN LAKE COUNTY, ILLINOIS, EXCEPTING LOTS 1, 2, 3 AND 4 OF FRAN-RO RANCH ACRES FOURTH ADDITION BEING A SUBDIVISION OF PART OF THE EAST HALF OF THE NORTH WEST QUARTER OF SECTION 8, TOWNSHIP 45 NORTH, RANGE 10, EAST OF THE THIRD PRINCIPAL MERIDIAN, IN THE VILLAGE OF LAKE VILLA, COUNTY OF LAKE, STATE OF ILLINOIS; AND EXCEPTING LOTS 1 AND 2 IN FRAN-RO RANCH ACRES THIRD ADDITION, BEING A SUBDIVISION OF PART OF THE EAST HALF OF THE NORTHWEST QUARTER OF SECTION 8, TOWNSHIP 45 NORTH, RANGE 10, EAST OF THE THIRD PRINCIPAL MERIDIAN IN THE VILLAGE OF LAKE VILLA, COUNTY OF LAKE, STATE OF ILLINOIS; EXCEPT THAT PART CONVEYED TO THE LAKE COUNTY DEPARTMENT OF TRANSPORTATION BY DEED RECORDED AUGUST 26, 1986 AS DOCUMENT 2475785 AND BY DEED RECORDED MAY 3, 2012 AS DOCUMENT 6848393.



Benchmark

Site Benchmark

CP # 600 (see survey)
Description: NW Bolt on Hydrant
Elevation: 795.88 NAVD 88 (Geoid 12A)

CP # 604 (see survey)
Description: Cross Notch
Elevation: 798.72 NAVD 88 (Geoid 12A)

CP # 605 (see survey)
Description: Cross Notch
Elevation: 797.62 NAVD 88 (Geoid 12A)

CP # 606 (see survey)
Description: Cross Notch
Elevation: 791.58 NAVD 88 (Geoid 12A)

CP # 608 (see survey)
Description: Capped Pipe
Elevation: 782.69 NAVD 88 (Geoid 12A)

Surveyor's Notes:

1. Field work was completed on April 21, 2025.
2. The Horizontal coordinates and basis of bearing shown hereon are based on NAD 83(2011) Illinois East Zone 1201 State Plane Coordinates as referenced from TOPCON TOPNET RTK Network.
3. The Vertical Datum referenced hereon is based on NAVD 88 (Geoid 12A) as referenced from TOPCON TOPNET RTK Network.
4. In the preparation of this survey, reference was made to Chicago Title Insurance Company Commitment for Title Insurance Order No. 25ST00205VH with a Commitment Date of February 26, 2025.
5. Utility information shown hereon is based upon field measurements, available records. Information from field data is limited to that which is visible and can be measured. This survey does not exclude the possibility of the existence of other underground utilities and or structures. Record information is based upon data collected from both public and private sources. The completeness and/or accuracy of these records cannot be guaranteed, except for those items that can be verified by field measurement. Prior to any excavation contact J.U.L.I.E (1-800-892-0123).

LEGEND

- Manhole
- Catch Basin
- Inlet
- Flared End Section
- Storm Sewer
- Sanitary Sewer
- Water Main
- Fire Hydrant
- Valve Vault
- Valve Box
- B-Box
- Light Pole
- Light Pole With Mast Arm
- Hand Hole
- Fence
- Sign
- Gas Line
- Overhead Utility Line
- Electric Meter
- Electric Box
- Guy Wire
- Utility Pole
- Curb & Gutter
- Depressed Curb
- Retaining Wall
- Curb Elevation and Gutter/Pavement Elevation
- Pavement Elevation
- Sidewalk Elevation
- Ground Elevation
- Contour Line
- Deciduous Tree
- Coniferous Tree
- On Line

NORTH
15 0 30
Scale: 1" = 30'

No.	Revision	Date

HAEGER ENGINEERING
consulting engineers • land surveyors
100 East State Parkway, Schaumburg, IL 60173 Tel. 847.394.6600 Fax 847.394.6608
Illinois Professional Design Firm License No.: 184.003132
www.haegerengineering.com

BOUNDARY & TOPOGRAPHIC SURVEY

406 MONAVILLE ROAD
LAKE VILLA, ILLINOIS
COOK COUNTY

State of Illinois)
) SS:
County of Cook)

This professional service conforms to the current Illinois minimum standards for a boundary and topographic survey.

Schaumburg, Illinois May 7, 2025

By: _____
Illinois Professional Land Surveyor No. 3695

STATE OF ILLINOIS
JEFFREY W. GLUNT
035-3695
SCHAUMBURG, ILLINOIS
PROFESSIONAL LAND SURVEYOR

EXPIRES 11-30-26

Project Manager:	K M L
Drafter:	J C H
Date:	2025-05-07
Project No.	25-058
Sheet	1/1

Plot Date: May 07, 2025 - 9:28am Plotted By: joe-h
File Name: P:\2025\25058\Drawings\Final Survey\25058 Boundary & Topographic Survey.dwg

Narrative to Petition For Conditional Use Permit and Zoning Variation and

Description of How the Project Conforms to the General Requirements in 10-4-4:

Property: 406 Monaville Road, Lake Villa IL ("the Property")

Applicant: Easy Space Storage II, LLC, c/o Mark Haufe

Owner: Estate of Roberta Grenus c/o Sandra Johnson, Executor

The Applicant is the contract purchaser of the Property commonly known as 406 Monaville Road, Lake Villa located at the southwest corner of Monaville and North Ceder Lake Road. The Property is zoned "SB" for Suburban Business District. The Property is currently vacant, has not been improved and has been used for agriculture purposes from time to time.

The Petitioner is requesting a variation to reduce the front yard setbacks to 30' and a Conditional Use Permit ("CUP"). The Variance is requested because several conditions, unique to this site, reduce the amount of developable land. First, the right-of-way along Monaville Road is in the process of being expanded, and the right-of-way along North Cedar Lake Road has been previously expanded, both by the Lake County Department of Transportation. Additionally, there is a creek and wetlands adjacent to the subject Property along the southern property line that require buffers. Also, due to this particular watershed, the required storm water detention area for the proposed Use at the west of the Property is larger than what would be required for other watersheds. These elements all reduce the buildable area of the Property, making it less viable for development. The proposed configuration of the buildings on site, and the low intensity of the use make this application uniquely suited for this Property. Please note that the site conditions referenced above were not caused or create by the Petitioner and, other than the more recent Monaville Road Right of Way expansion, have historically existed on this Site, impeding prior development of this Property.

This proposed self-storage use would be categorized as a "Miniwarehouse; Personal Storage Facility" under Section 13 in 10-4-4 which is a conditional use listed and authorized in the zoning district as a conditional use. The perimeter of the property adjacent to land zoned Suburban Residential (SR), which is the west and south sides of the property, requires a "Type C" buffer. (See Table 3 below). The proposed Landscape Plan meets this requirement along the west property line, and along the south property directly south of Building A. However, relief from this requirement is requested along the portion of the property directly south of Building D, where floodplain, and buffers to existing conditions warrant a retaining wall, which inhibits our ability to provide the required plant material. Providing the required screening in this area is unnecessary, due to the fact that the property immediately to the south contains a vast open space for existing floodplain, wetlands, and detention. No homes are within approximately 500 feet of the subject site's south property line.

The layout of the storage buildings is designed so that no doors for storage units face a public way or street. Rather, all storage unit doors will be interior facing and the exterior perimeter of the facility has been designed with elements that evoke a farmhouse style, and are complementary to the surrounding residential developments. Because there are no other commercial uses in the immediate area, typical commercial design elements, such as storefront glazing, large signage elements and other commercial features have been minimized.

Self-storage is a use that generates little on-site activity. Hours of office operations would be limited, and the configuration of the site and building elements screen self-storage loading activities from the public right-of-way. Lighting is minimal around the perimeter of the facility, and the lighting that is used to illuminate drive lanes and storage units are dark-sky fixtures that are additionally shielded from the public right-of-way by the buildings themselves. Because of the low level of activity, necessary parking spaces are minimal.

The proposed conditional use permit is consistent with the objective of the Village's comprehensive plan of business development in the SB Zoned District. As referenced above, the proposed development is designed and will be constructed, operated and maintained to be harmonious and appropriate in appearance with the existing and intended character of the general vicinity and will not significantly diminish the safety, use and enjoyment of the surrounding properties. A recent Traffic Study prepared by Haeger Engineering does not show the proposed use will result in any significant impact to area traffic patterns or interfere with traffic on surrounding public thoroughfares. Further, the farmhouse style design elements and inward facing storage doors are intended to harmonize and be appropriate with the existing character of the area.

The proposed Developer will enhance area property values by turning vacant and undeveloped land into viable commercial property, offering affordable storage to local residents for their personal property and will significantly increase the tax base for the subject Property which is historically very minimal. Accordingly, the Petition respectfully requests the Village grants their Conditional Use Petition and request for variance, and relief from landscape buffer yard requirements for the west portion of the south buffer yard.

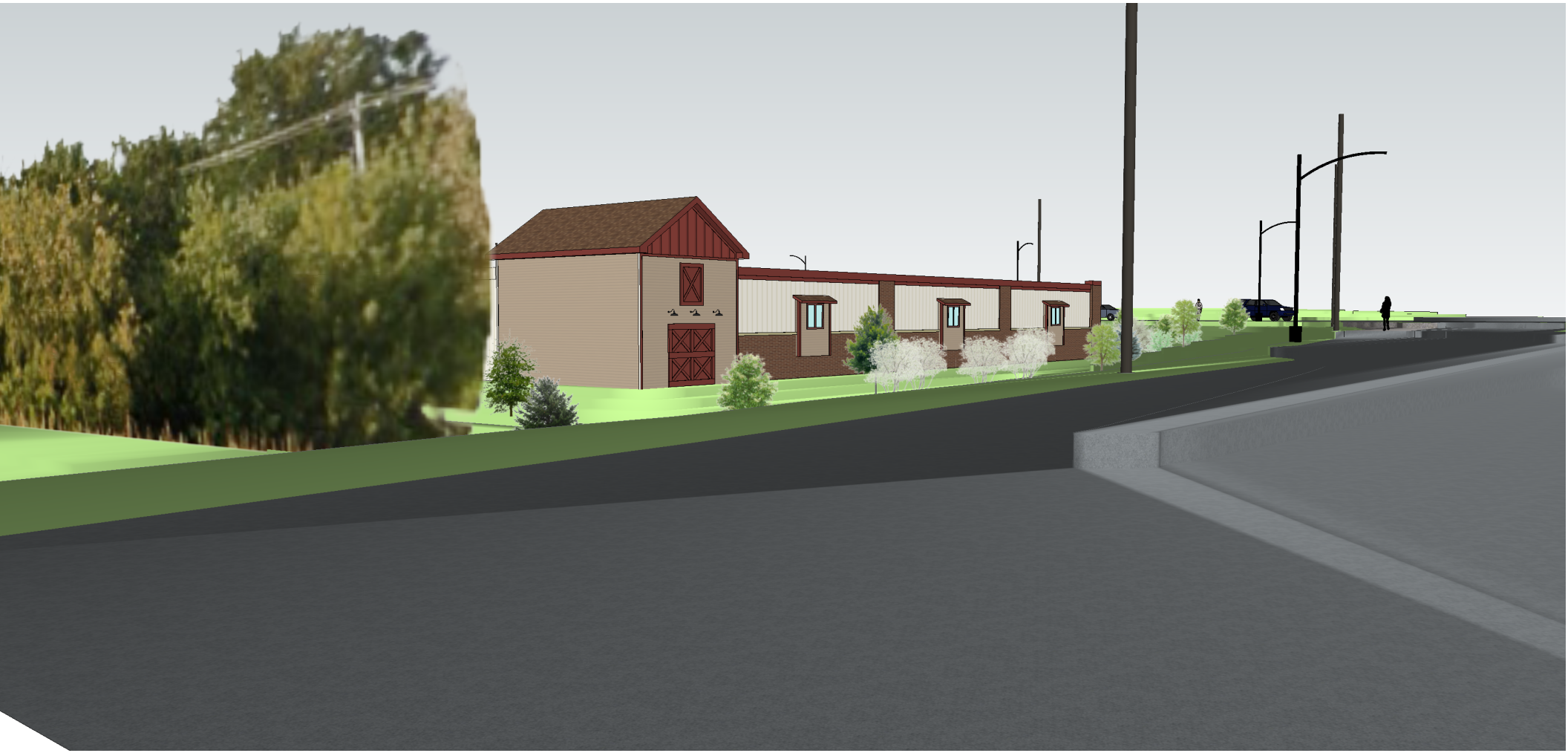
Table 3 - Supplementary Zoning Regulation.

Section 10-4-6.G.2-5.

"Buffer Yard – SB zoning (subject site) adjacent to SR zoning.

Current requirement – Type C bufferyard, Heavy Intensity.

Provided – West buffer yard meets code, South buffer yard meets code south of building A, *relief requested for west half of south buffer yard (south of building D)*.




EASY SPACE
Self Storage


EASY SPACE
Self Storage


EASY SPACE
Self Storage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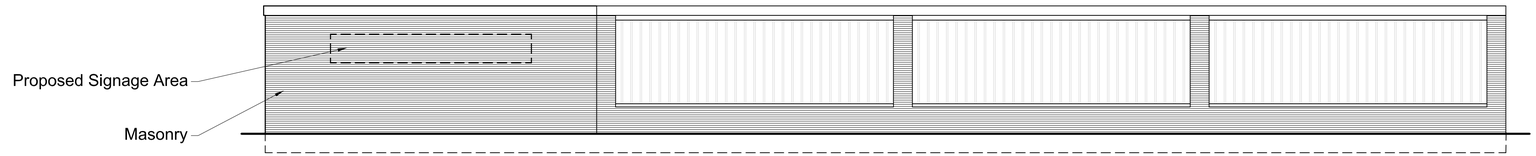
OFFICE
EASY SPACE
Self Storage


OFFICE
EASY SPACE
Self Storage

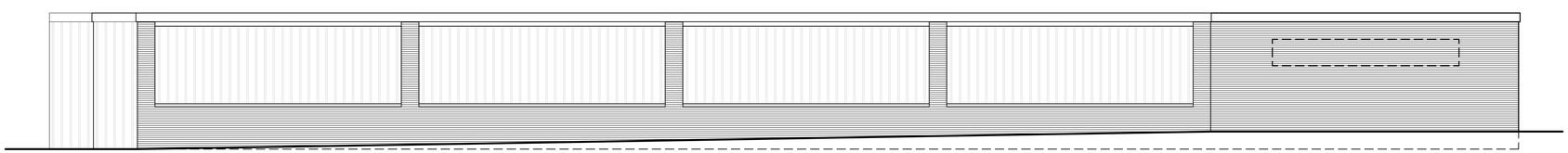
BUILDING ELEVATIONS

SELF-STORAGE FACILITY
406 W. MONAVILLE ROAD
LAKE VILLA, IL
JUNE 16, 2025



BUILDING A (NORTH ELEVATION)

BUILDING A (WEST ELEVATION)



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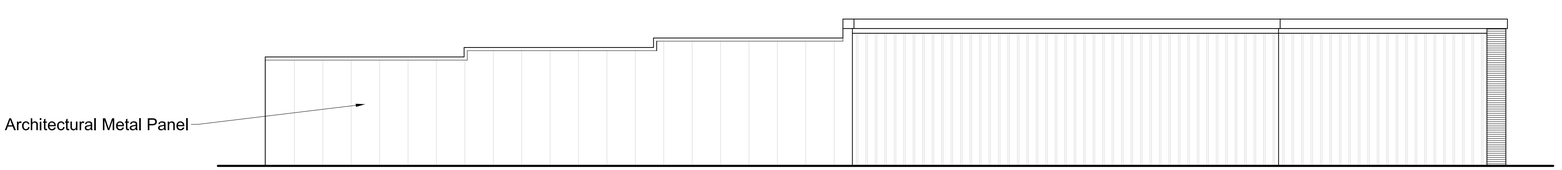

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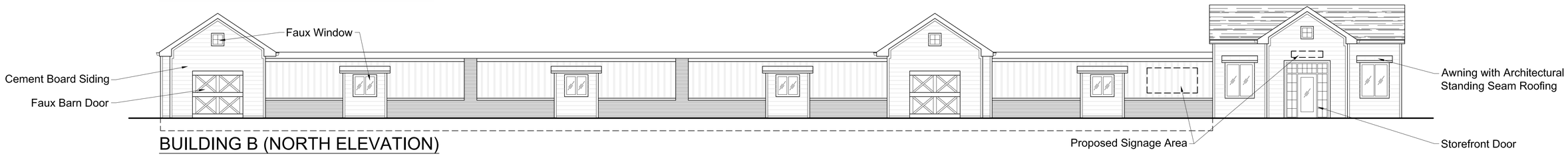

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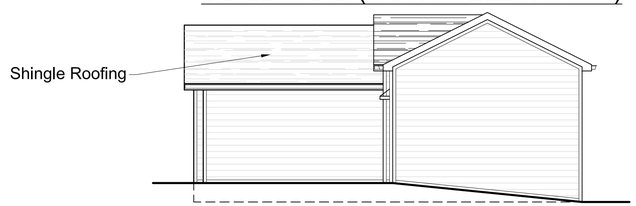

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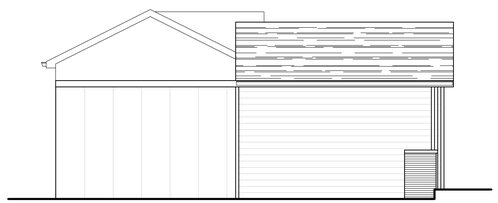

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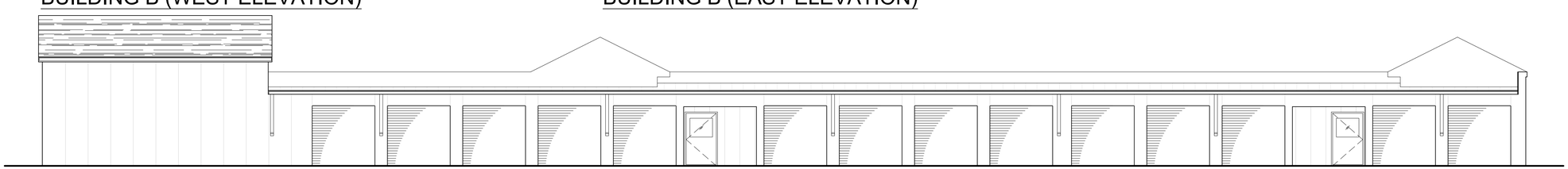


BUILDING B (SOUTH ELEVATION)

0 4' 8' 16'
(1/8)

Groundwork, Ltd.
Architects / Planners
Ph. (847) 541-4151

www.groundworkltd.com

JJ23 0625

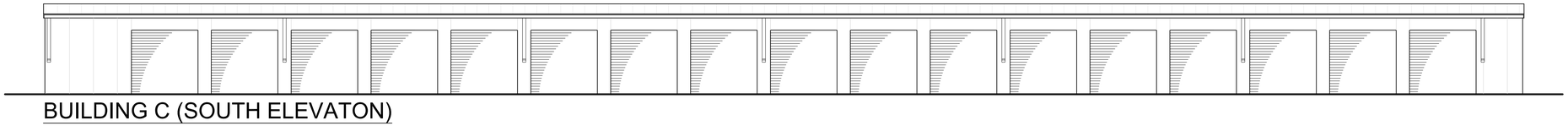
BUILDING ELEVATIONS

SELF-STORAGE FACILITY
406 W. MONAVILLE ROAD
LAKE VILLA, IL
JUNE 16, 2025

BUILDING C (NORTH ELEVATION)

BUILDING C (WEST ELEVATION)

BUILDING C (EAST ELEVATION)



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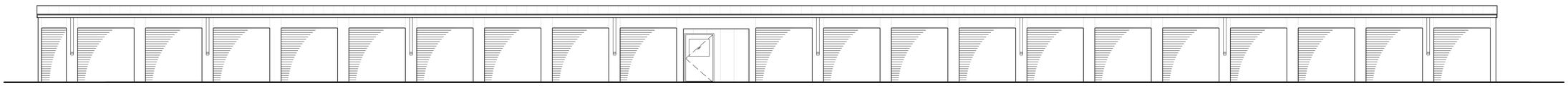

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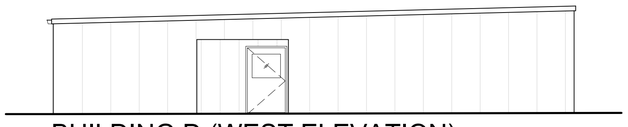

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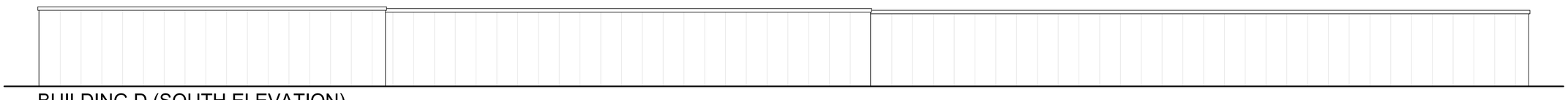
BUILDING D (EAST ELEVATION)



BUILDING D (SOUTH ELEVATION)

0 4' 8' 16'
(1/8)

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Ph. (847) 541-4151

www.groundworkltd.com
JJ23 0625

PRELIMINARY STORMWATER REPORT

ENGINEERING | SURVEYING | CONSTRUCTION

Project:
Self-Storage Development

Location:
406 W. Monaville Road
Lake Villa, Illinois

Prepared For:
Easy Space Storage II, LLC
Lake Villa, IL 60046

Date:
June 17, 2025
Revised July 21, 2025

Contents:

Prepared By:
Kim Lask, P.E., PTOE, CFM
Haeger Project No.: 25-058

HAEGER ENGINEERING
consulting engineers • land surveyors
100 East State Parkway, Schaumburg, IL 60173 · tel 847.394.6600 fax 847.394.6608
haegerengineering.com

1 PROJECT OVERVIEW

The property is located at 406 W. Monaville Road in Lake Villa, Illinois, within Section 45, Township 10 North, Range 8 East. The parcel area is 3.08 acres, and the P.I.N. is 06-08-100-050. The property is bounded by W. Monaville Road to the north, N. Cedar Lake Road to the east, single-family to the west, and East Branch Eagle Creek and Cedar Ridge single-family subdivision to the south.

The site is currently vacant with one driveway to W. Monaville Road at the midpoint of the property. A 20 ft strip of property will be dedicated as public right-of-way along W. Monaville Road. The net property area after dedication will be 2.857 ac.

2 PROPOSED CONDITIONS

The proposed development includes one climate-controlled self-storage building and three non-climate-controlled storage buildings. There will be a parking lot on the north side of the site and stormwater management basin on the west side of the site. Access to the site includes one full access driveway connecting to W. Monaville Road.

A summary of the existing and proposed land coverage breakdown for the development area is in *Table 1* below.

Table 1 – Land Coverage

Development Area	Area	Impervious Area		Pervious Area		VC Basin Area	
	(ac)	(ac)	(%)	(ac)	(%)	(ac)	(%)
Existing Conditions	2.857	0	0	2.857	100	0.000	0.0
Proposed Development	2.857	1.581	55.3	1.058	37.0	0.218	7.6

3 STORMWATER DESIGN

The property currently drains from the north to the East Branch of Eagle Creek to the south. The proposed development will maintain the same drainage pattern as existing, and stormwater management will be provided in accordance with Lake County Watershed Development Ordinance (WDO). Stormwater detention is proposed for the development area. Offsite areas from W. Monaville Road and N. Cedar Lake Road rights-of-way will be detained onsite as a swap for unrestricted areas at the south side of the property. Remaining offsite areas from the rights-of-way will bypass through the detention basin. The Proposed Drainage Exhibit in *Appendix B* illustrates the proposed drainage areas.

The site is located in the Manitou Creek sub-watershed, which is subject to stricter release rate requirements. In accordance with WDO regulations, the maximum allowable release rates are 0.02 cfs/acre for the 2-year, 24-hour storm event and 0.09 cfs/acre for the 100-year, 24-hour storm event. The release rate is controlled by

a two-stage outlet control structure. The 2-year orifice, 1.15 inches in diameter with an invert of 781.00, provides a discharge of 0.055 cfs. The 100-year orifice, 2 inches in diameter with an invert of 783.50, provides a total discharge of 0.257 cfs. As previously mentioned, offsite area will bypass through the detention basin. The restrictors will be adjusted to include the bypass flow from the 2-year and 100-year 24-hour storm events. The 2-year restrictor is 1.6-inches and the 100-year restrictor is 2.5-inches.

Stormwater detention requirements were determined using PondPack stormwater modeling software and Bulletin 75 rainfall data. It was determined that 0.486 acre-ft of detention volume is required for the 2-year storm event and 1.52 acre-ft is required for the 100-year storm event. See *Appendix C* for the calculations and *Appendix D* for the PondPack modeling results. *Appendix E* contains the PondPack modeling results for the entire site with the bypass area.

The proposed detention basin is designed to provide the required storage of 1.52 acre-ft at a high-water level of 786.3. The berm around the basin will have a crest elevation of 787.3. Stormwater runoff from the development will enter the basin via a storm sewer system. Outflow will be conveyed through the outlet control structure into an energy dissipator that overflows to the East Branch of Eagle Creek.

Critical duration analyses were performed for the 2-year and 100-year storm events. Based on the results of the critical duration analyses, the detention basin will not overtop during all 100-year storm events evaluated. Refer to *Appendix F* for the critical duration PondPack reports.

4 WATER QUALITY

According to the WDO, the water quality treatment standard requires that at least the first 0.01 inch of runoff for every 1% of new impervious surface be diverted and detained. The required water quality volume for the development is 0.077 acre-ft.

Runoff Volume Reduction (RVR) storage is located below the basin outlet. A total of 0.78 acre-ft of storage is proposed. The RVR storage will capture initial first flush discharges and encourage infiltration and evapotranspiration. The basin will be planted with native plantings that will aid in filtering potential pollutants such as metals, oils, nutrients, and organics prior to leaving the site. Runoff from the new impervious areas will flow into and be filtered in the system.

These measures will meet the County's stormwater quality RVR requirements. By implementing RVR storage and native plantings, the overall runoff volume will be reduced and treated as required.

5 FLOODPLAIN

The FEMA flood map for the area indicates a portion of the site's southern boundary lies within "Zone AE" Special Flood Hazard Area (SFHA). Grading within this floodplain is proposed to facilitate grading transitions between the building and the southern area. In compliance with WDO requirements, any fill placed within the floodplain must be compensated for with 1.2 times the volume of storage displaced. The necessary compensatory storage will be provided, and supporting calculations will be included in the final stormwater management report.

6 WETLANDS

Lake County GIS application identifies wetlands along the East Branch of Eagle Creek. A wetland delineation was performed by Hey and Associates to evaluate and map the wetland boundary. It was determined that no wetlands exist on the property, and the wetland boundary for the East Branch of Eagle Creek is entirely offsite. No impacts are proposed to the wetland, and as such, a Letter of No Objection will be requested from Lake County Stormwater Management Commission.

In compliance with Section 505.01.B of the WDO, a 50-ft buffer will be maintained around any wetlands with a watershed greater than 20 acres but less than 1 square mile. Additionally, an energy dissipation level spreader is proposed at the basin outlet to manage stormwater flow.

APPENDIX A – Exhibits

Aerial Exhibit

USGS Contour Exhibit

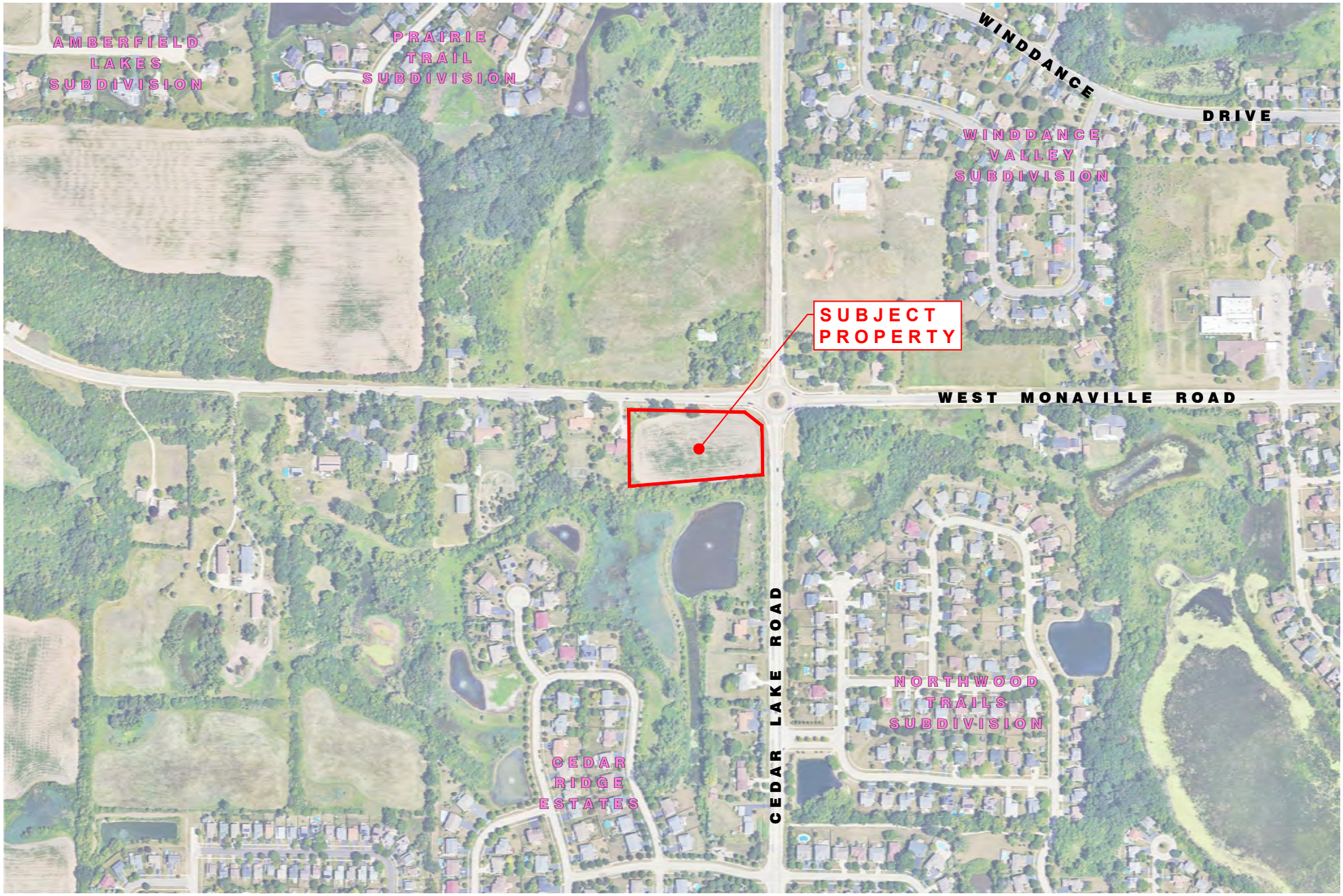
FEMA Exhibit

Wetland Exhibit

NRCS Soils Exhibit

HARGIS Exhibit

Hydrologic Atlas Exhibit



NORTH

0 500

Scale: 1" = 500'

AERIAL EXHIBIT

406 WEST MONAVILLE ROAD SELF-STORAGE

VILLAGE OF LAKE VILLA, LAKE COUNTY, ILLINOIS

HAEGER ENGINEERING
consulting engineers • land surveyors
100 East State Parkway, Schaumburg, IL 60173 Tel: 847.394.6600 Fax: 847.394.6608
Illinois Professional Design Firm License No. 184-003152 www.HaegerEngineering.com

Project Manager:	L A K
Engineer:	F R M
Date:	2025-04-16
Project No.	25-058
Sheet	1 / 1

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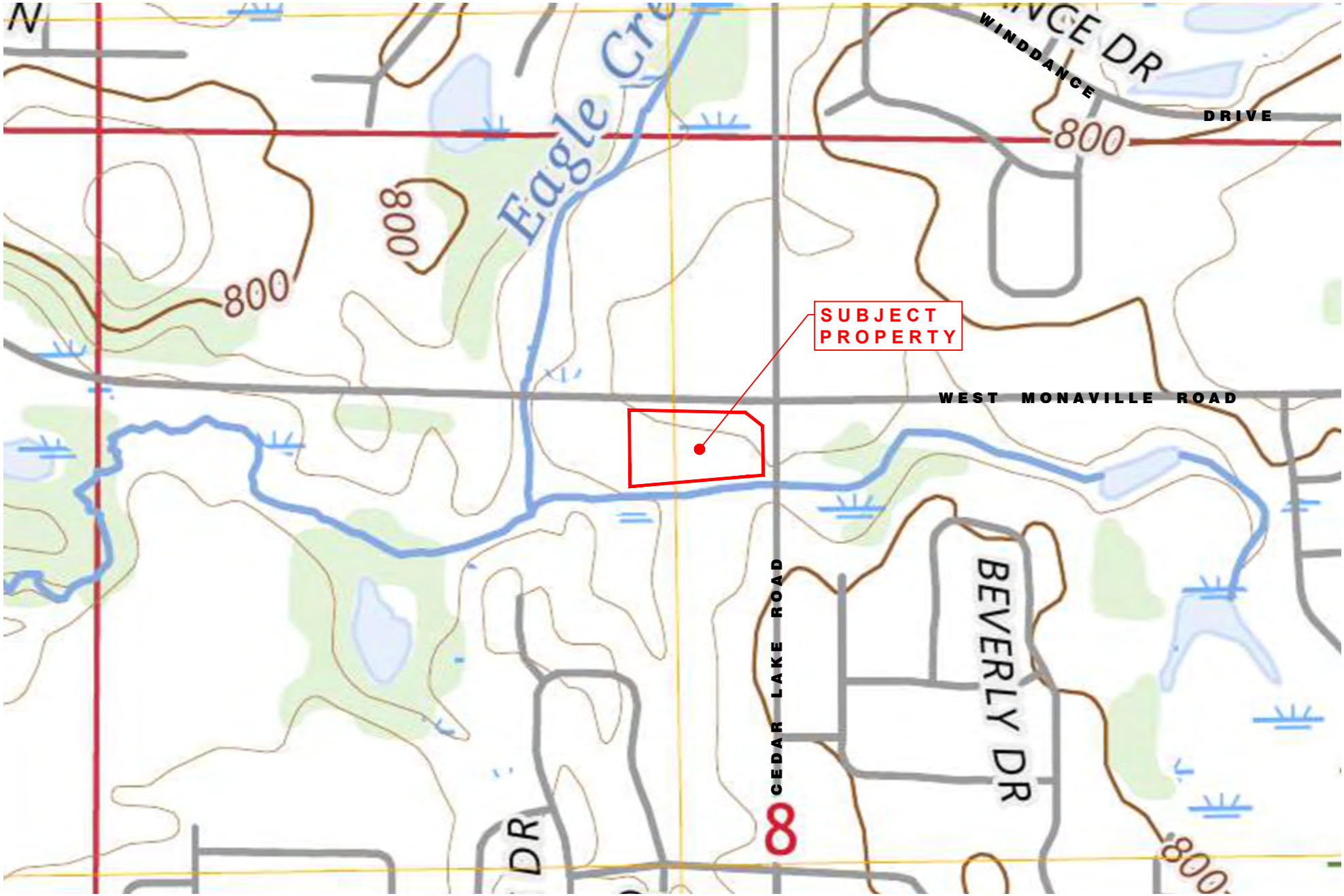

NORTH

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Scale: 1" = 500'

USGS CONTOUR EXHIBIT

406 WEST MONAVILLE ROAD SELF-STORAGE

VILLAGE OF LAKE VILLA, LAKE COUNTY, ILLINOIS

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Project Manager:	L A K
Engineer:	F R M
Date:	2025-04-16
Project No.	25-058
Sheet	1 / 1

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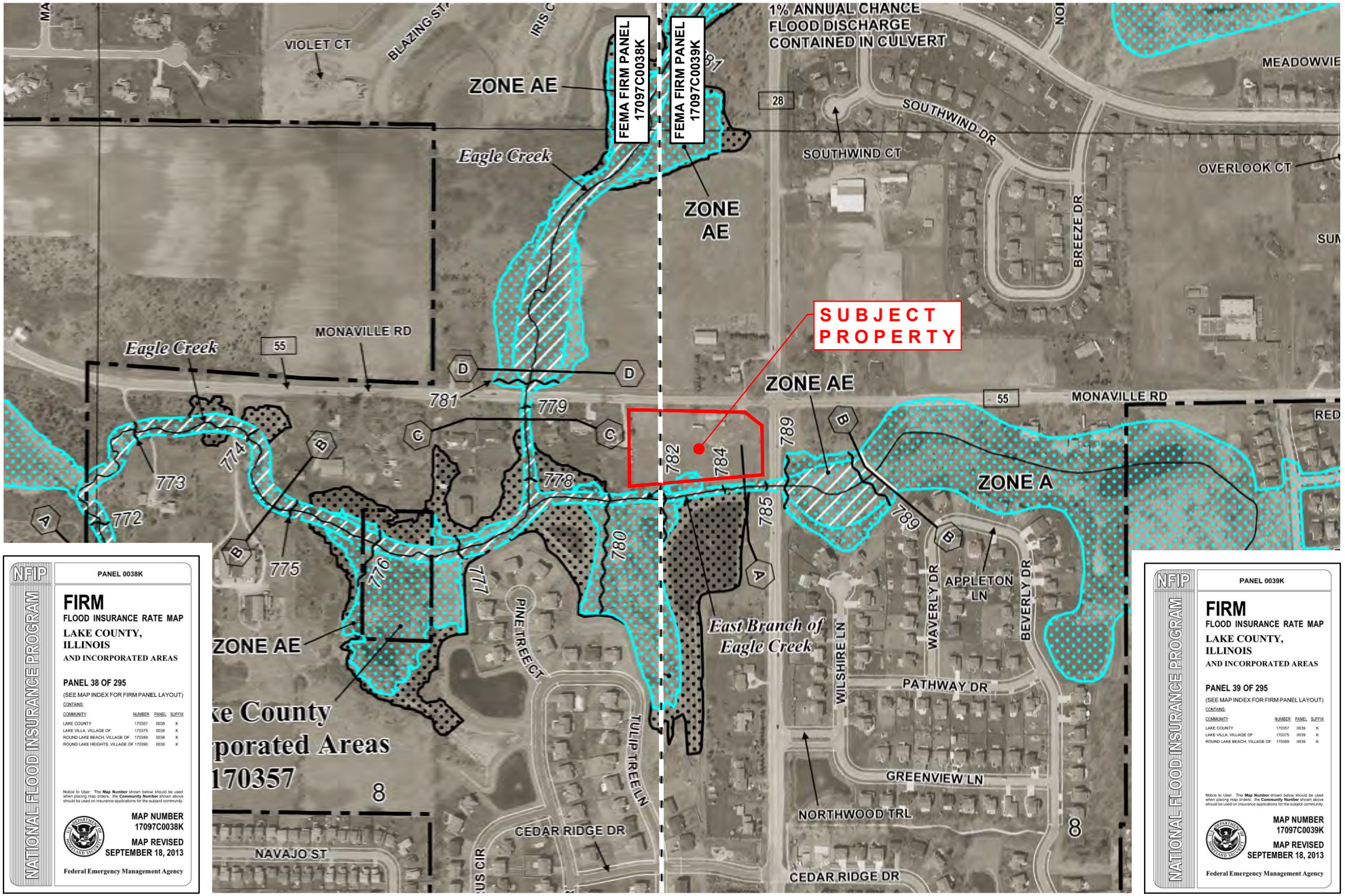

NORTH

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Scale: 1" = 500'

FEMA FLOODPLAIN EXHIBIT

406 WEST MONAVILLE ROAD SELF-STORAGE

VILLAGE OF LAKE VILLA, LAKE COUNTY, ILLINOIS

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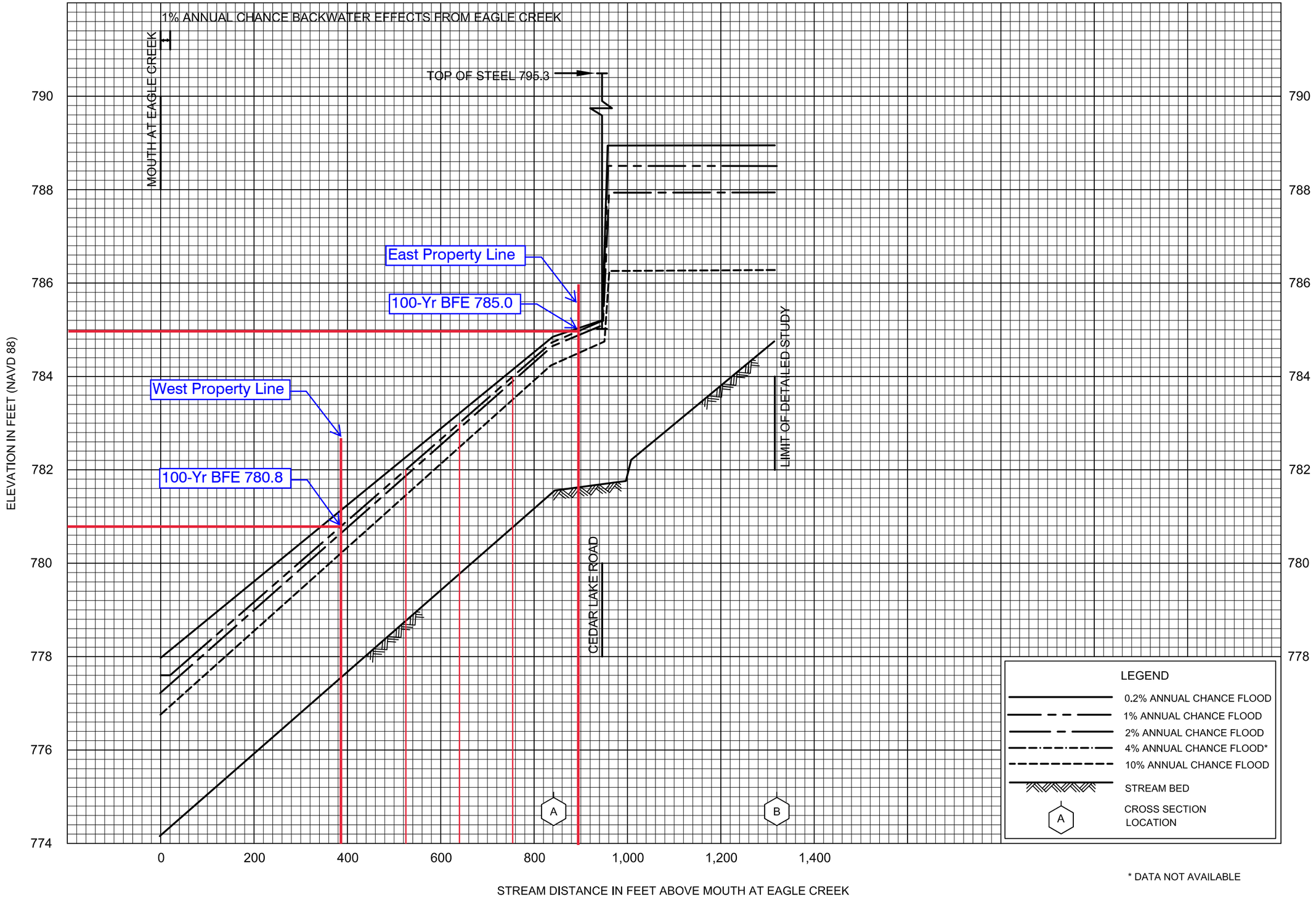
Project Manager:	LAK
Engineer:	FRM
Date:	2025-04-16
Project No.	25-058
Sheet	1 / 1



FLOOD PROFILES

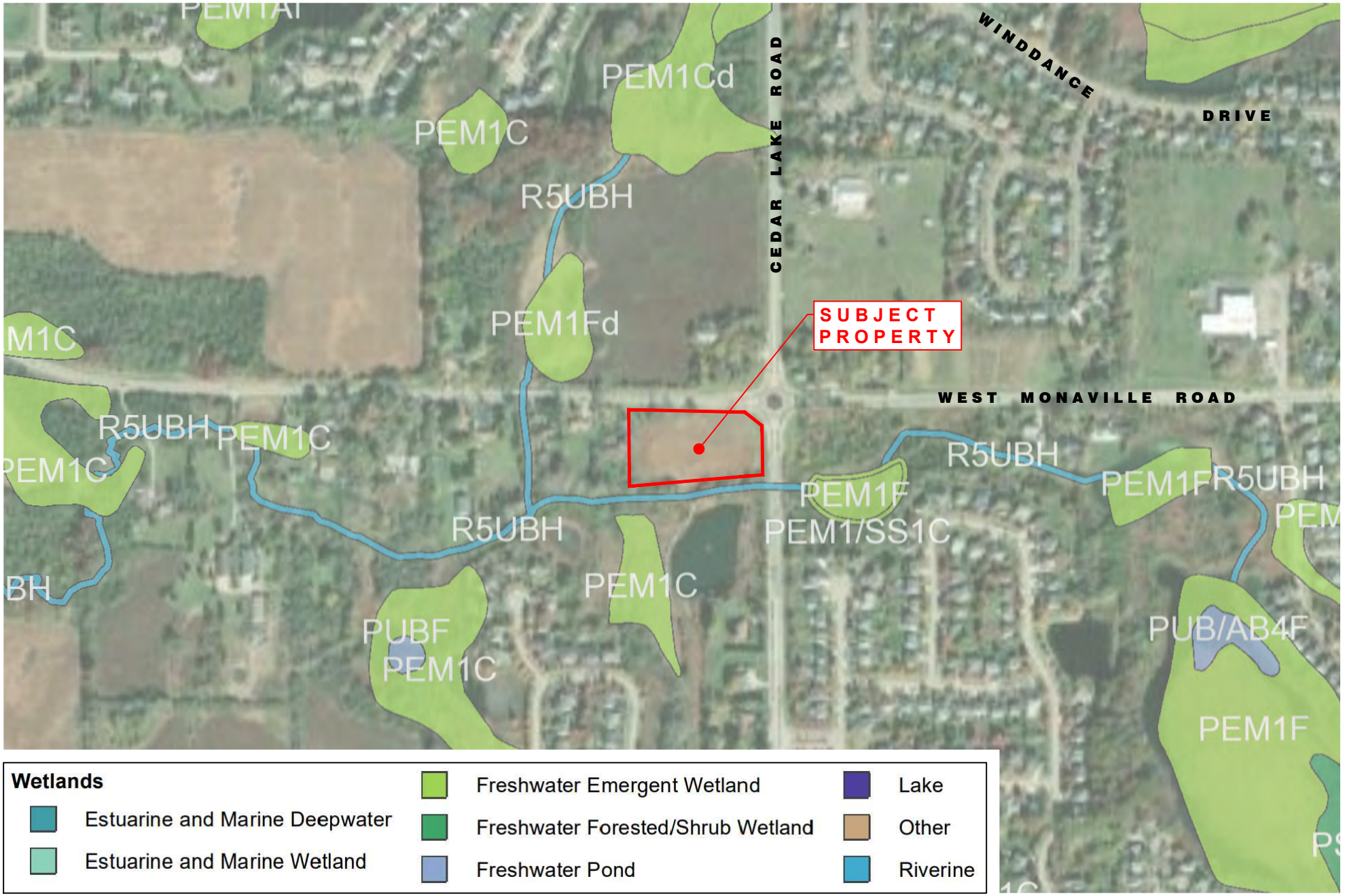
EAST BRANCH OF EAGLE CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

LAKE COUNTY, IL

AND INCORPORATED AREAS

064P



NORTH

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Scale: 1" = 500'

USFW WETLAND EXHIBIT

406 WEST MONAVILLE ROAD SELF-STORAGE

VILLAGE OF LAKE VILLA, LAKE COUNTY, ILLINOIS

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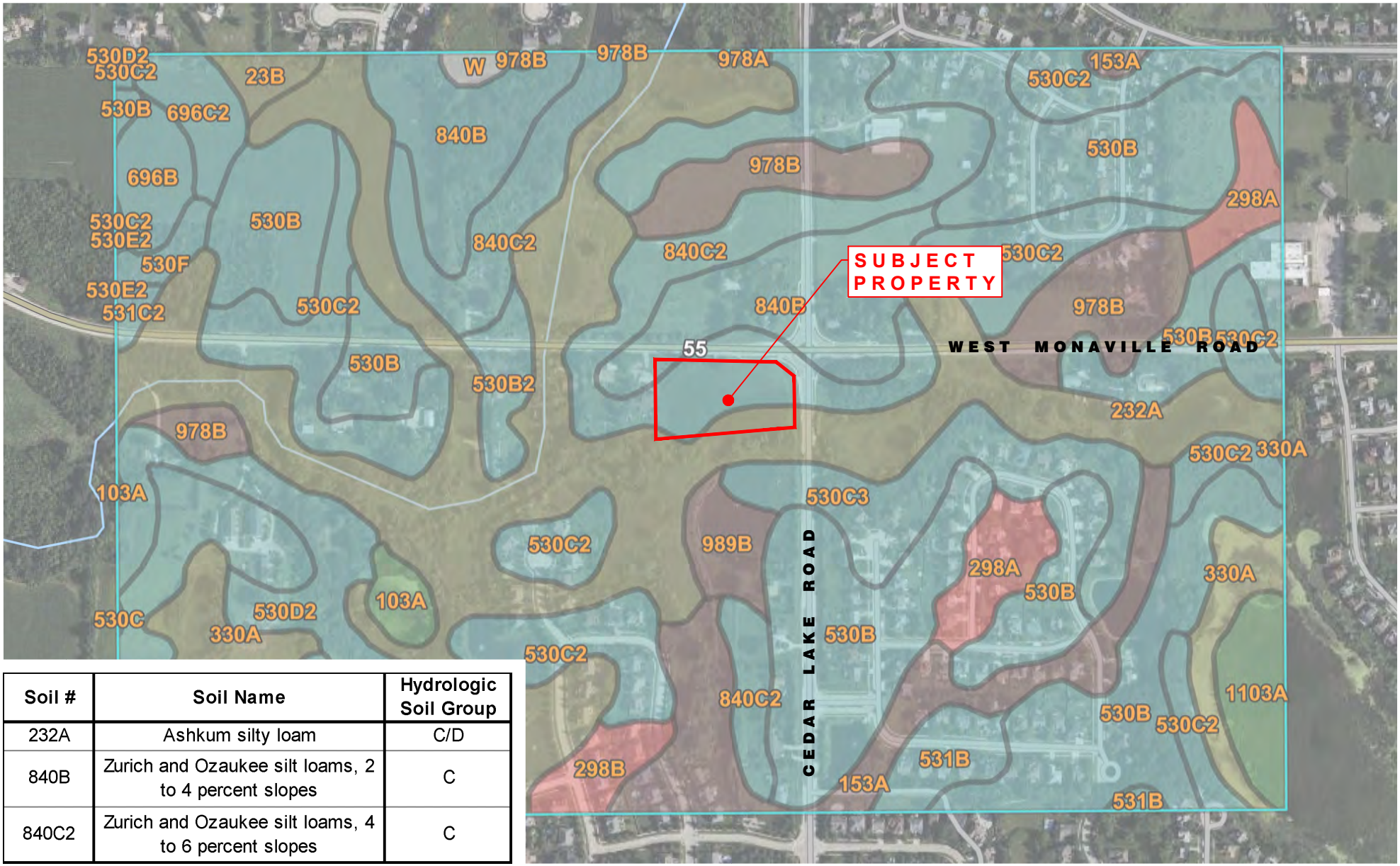
Project Manager:	L A K
Engineer:	F R M
Date:	2025-04-16
Project No.	25-058
Sheet	1 / 1



Soil #	Soil Name	Hydrologic Soil Group
232A	Ashkum silty loam	C/D
840B	Zurich and Ozaukee silt loams, 2 to 4 percent slopes	C
840C2	Zurich and Ozaukee silt loams, 4 to 6 percent slopes	C

NORTH

0 500

Scale: 1" = 500'

NRCS SOIL EXHIBIT

406 WEST MONAVILLE ROAD SELF-STORAGE

VILLAGE OF LAKE VILLA, LAKE COUNTY, ILLINOIS

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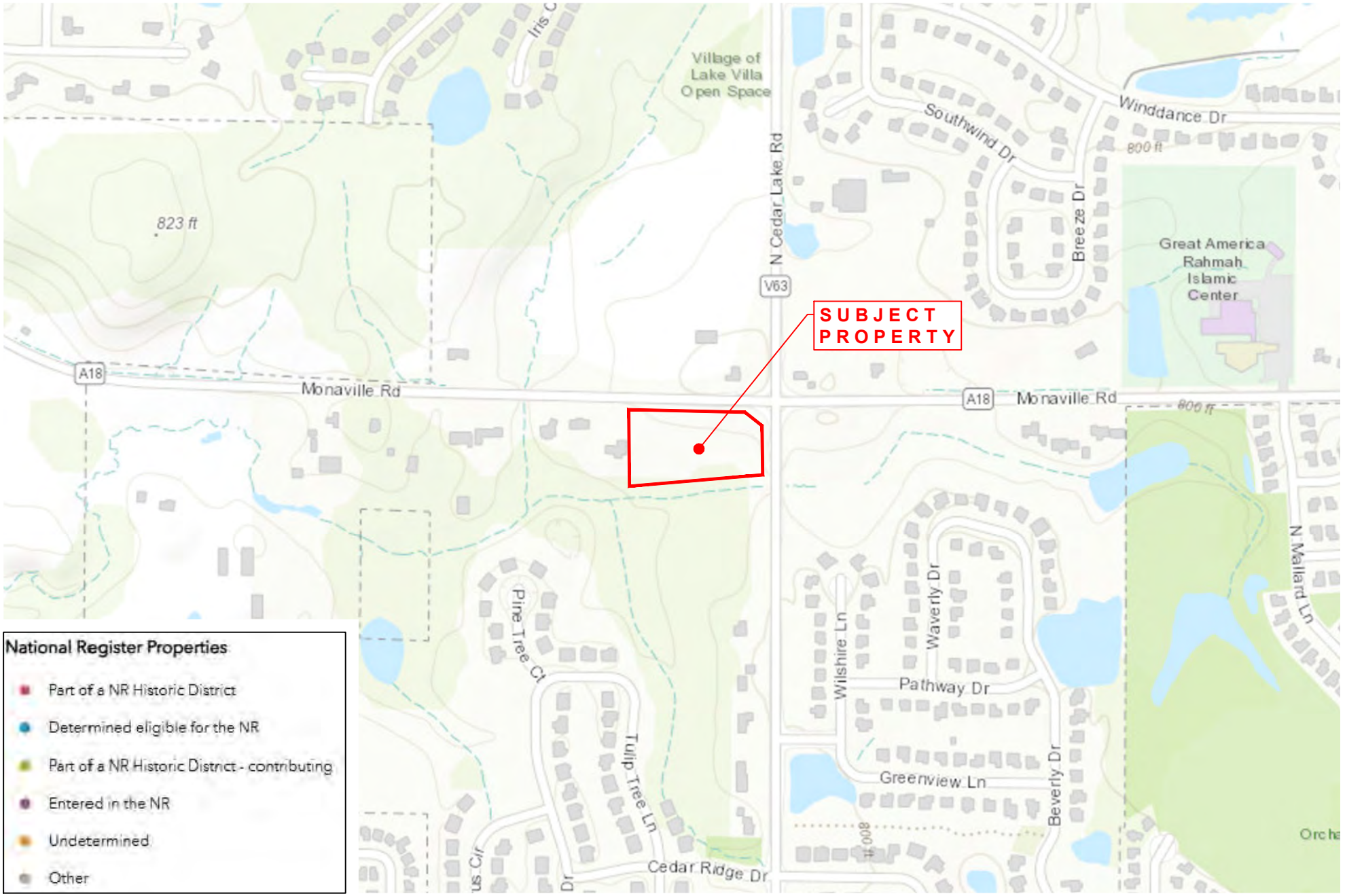
Sheet	1 / 1



NORTH

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Scale: 1" = 500'

IHPA HARGIS EXHIBIT

406 WEST MONAVILLE ROAD SELF-STORAGE

VILLAGE OF LAKE VILLA, LAKE COUNTY, ILLINOIS

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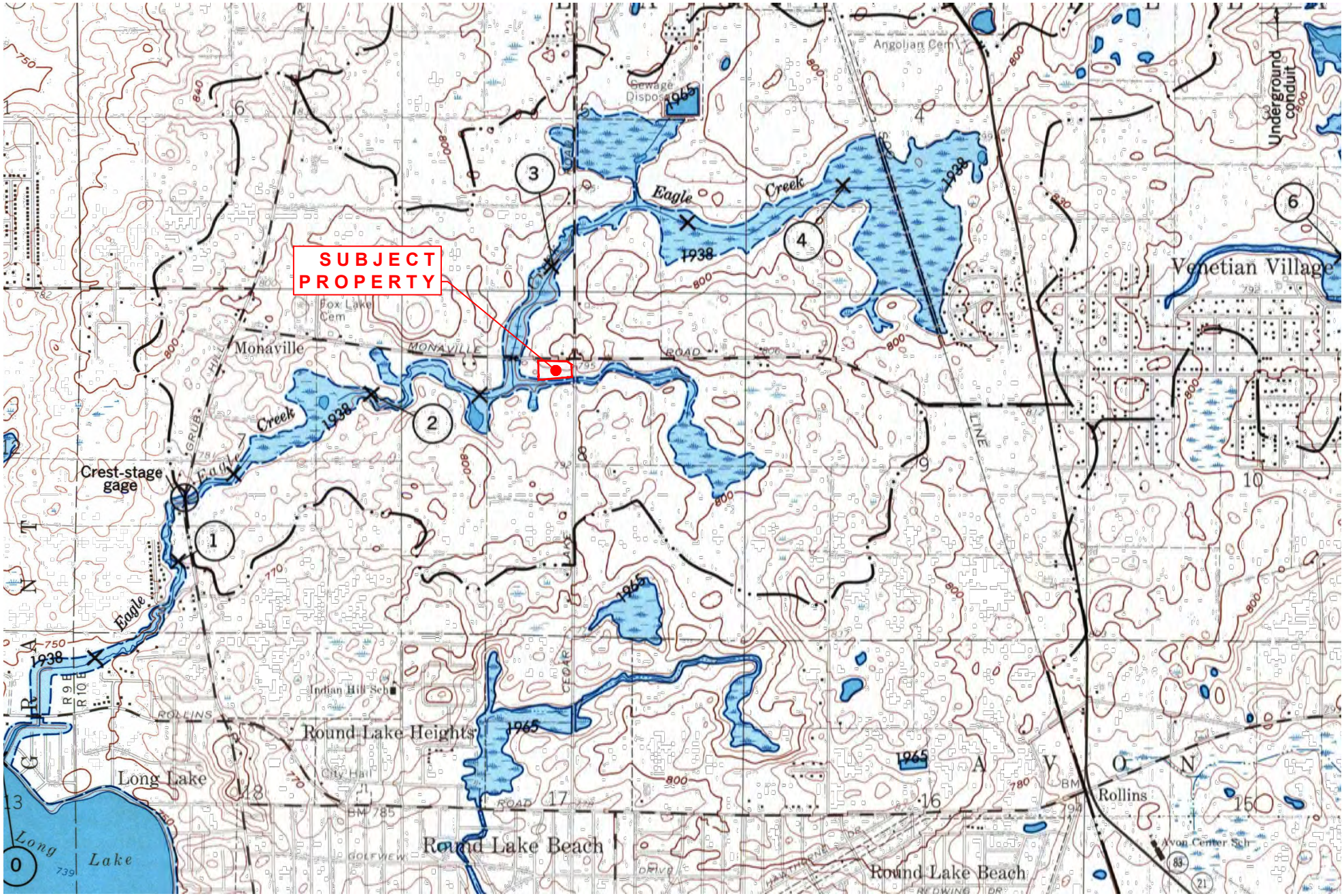
Project Manager:	L A K
Engineer:	F R M
Date:	2025-04-16
Project No.	25-058
Sheet	1 / 1



NORTH

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Scale: 1" = 2,000'

HYDROLOGIC ATLAS EXHIBIT

406 WEST MONAVILLE ROAD SELF-STORAGE

VILLAGE OF LAKE VILLA, LAKE COUNTY, ILLINOIS

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Project Manager:	L A K
Engineer:	F R M
Date:	2025-04-16
Project No.	25-058
Sheet	1 / 1

APPENDIX B – Proposed Drainage Exhibit

Legend

- Impervious Area
- Pervious Area
- Unrestricted Area
- Offsite Area
- Drainage Boundary

NORTH

0 50

Scale: 1" = 50'

Detention Basin
HWL = 786.3
T/Berm = 787.3
Req'd. Storage = 1.522 Ac-ft
Prop. Storage = 1.527 Ac-ft

Off-Site Area
Area = 0.539 Ac
Detained = 0.276 Ac (Swap for Unrestricted)
CN = 83
Bypass = 0.263 Ac
CN = 84
Tc = 0.20 hr

Time of Concentration Flow Path (Typ.)

W. MONAVILLE ROAD

Proposed Right-of-Way

Building-B
6,580.00 Sq. Feet
FF 792.50

Drainage Structure (Typ.)

Storm Sewer (Typ.)

Building-C
9,250.00 Sq. Feet
FF 792.00

Building-A
20,939.00 Sq. Feet
FF 792.00

Development Area to Detention
Area = 2.606 Ac
CN = 91
Tc = 0.13 hr

Detention Basin
HWL 786.30
Volume = 1.527 af

Building-D
9,225.05 Sq. Feet
FF 791.50

100-YR. BFE = 783.0

Drainage Structure (Typ.)

Wetland Buffer (Typ.)

100-YR. BFE = 784.7

N. CEDAR LAKE ROAD

20' Wide Overflow Weir

Outlet Control Structure

Wetland Boundary

Limits of Floodway per FEMA Map No. 17097C0038K

Unrestricted Area
Area = 0.276 Ac
CN = 81
Tc = 0.12 hr

100-YR. BFE = 786.8

EAST BRANCH EAGLE CREEK

100-yr Floodplain Line per FEMA Flood Insurance Study 17097CV001D, dated October 5, 2023

Outlot F
CEDAR RIDGE

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Illinois Professional Design Firm License No. 184-003152
www.haegerengineering.com

PROPOSED DRAINAGE EXHIBIT

SELF-STORAGE FACILITY
406 W. MONAVILLE ROAD
LAKE VILLA, ILLINOIS

Project Manager:	K M L
Engineer:	K M L
Date:	07-21-2025
Project No.	25058
Sheet	1 / 1

Plot Date: Jul 22, 2025 - 12:46pm Plotted By: kim-l Layout: 11x17 LS
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APPENDIX C – Stormwater Management Calculations

HAEGER ENGINEERING
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100 East State Parkway
Schaumburg, Illinois 60173-5300
Tel: 847.394.6600
Fax: 847.394.6608

Drainage Calculations

Project: 406 Monaville Road
Location: Lake Villa, IL
Project #: 25-058

Prepared: KL

Date: 7/21/2025

A. Land Coverage

Entire Site Area

Existing Conditions	Sq. Ft	Acre	Percentage	CN	C-Value
Impervious Area =	0	0.000	0.00%	98.0	0.95
Pervious Area =	124,464	2.857	100.00%	74.0	0.35
Total Area =	**124,464**	**2.857**	**100.00%**	**74.0**	**0.35**

Proposed Conditions	Sq. Ft	Acre	Percentage	CN	C-Value
Impervious Area =	68,866	1.581	55.33%	98.0	0.95
Pervious Area =	46,087	1.058	37.03%	81.0	0.35
VC Area =	9,511	0.218	7.64%	63.0	0.70
Total Area =	**124,464**	**2.857**	**100.00%**	**89.0**	**0.71**

Existing Drainage Areas

Onsite to Creek	Sq. Ft	Acre	Percentage	CN	C-Value
Impervious Area =	0	0.000	0.00%	98.0	0.95
Pervious Area =	124,464	2.857	100.00%	74.0	0.35
Total Area =	**124,464**	**2.857**	**100.00%**	**74.0**	**0.35**

Proposed Drainage Areas

Development Area to Detention	Sq. Ft	Acre	Percentage	CN	C-Value
Impervious Area =	69,065	1.586	61.42%	98.0	0.95
Pervious Area =	38,276	0.879	34.04%	81.0	0.35
Volume Control Area =	5,110	0.117	4.54%	81.0	0.70
Total Area =	**112,451**	**2.582**	**100.00%**	**91.4**	**0.73**

Unrestricted Area	Sq. Ft	Acre	Percentage	CN	C-Value
Impervious Area =	0	0.000	0.00%	98.0	0.95
Pervious Area =	12,013	0.276	100.00%	81.0	0.35
Total Area =	**12,013**	**0.276**	**100.00%**	**81.0**	**0.35**

Offsite Area

Offsite Detained (Swap for Unrestricted)	Sq. Ft	Acre	Percentage	CN	C-Value
Impervious Area =	1,530	0.035	12.74%	98.0	0.95
Pervious Area =	10,483	0.241	87.26%	81.0	0.35
Total Area =	**12,013**	**0.276**	**100.00%**	**83.2**	**0.43**

Offsite Bypass	Sq. Ft	Acre	Percentage	CN	C-Value
Impervious Area =	2,264	0.052	19.75%	98.0	0.95
Pervious Area =	9,199	0.211	80.25%	81.0	0.35
Total Area =	**11,463**	**0.263**	**100.00%**	**84.4**	**0.47**

B. Release Rate for Detention Basin Sizing

Detained Area (Development Area + Offsite Swap) 2.857 ac.

Release Rate

2-Year Release Rate =	0.02	cfs/ac	0.057 cfs
100-Year Release Rate =	0.09	cfs/ac	0.257 cfs

C. Total Proposed Site Runoff

Offsite Bypass Area Runoff

2-Year Flow =	0.059 cfs (see PondPack report)
100-Year Flow =	0.188 cfs (see PondPack report)

Total Allowable Release Rate from Detention Basin

2-Year Flow =	0.116 cfs
100-Year Flow =	0.445 cfs

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100 East State Parkway
Schaumburg, Illinois 60173-5300
Tel: 847.394.6600
Fax: 847.394.6608

Detention Basin Volume (Stage - Storage - Discharge)

Project: 406 Monaville Road
Location: Lake Villa, IL
Project #: 25-058

Prepared: KL
Date: 6/17/2025

Detention Basin - with walls at east and south sides

Elevation (ft)	Area (sq.ft.)	Volume (cu.ft.)	Cummulative Volume (cu.ft.)	Cummulative Volume (ac.ft.)	Discharge (cfs)	
781.50	7,170.00	0	0	0	0	
782.00	11,053.00	4,555.75	4,555.75	0.105	0.034	
783.00	13,219.00	12,136.00	16,691.75	0.383	0.049	
783.50					0.055	2-Yr HWL
784.00	14,348.00	13,783.50	30,475.25	0.700	0.130	
785.00	15,493.00	14,920.50	45,395.75	1.042	0.197	
786.00	16,654.00	16,073.50	61,469.25	1.411	0.244	
786.30	17,026.00	5,052.00	66,521.25	1.527	0.257	100-Yr HWL
787.00	17,731.00	12,164.95	78,686.20	1.806	0.283	

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100 East State Parkway
Schaumburg, Illinois 60173-5300
Tel: 847.394.6600
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RVR WATER QUALITY CALCULATIONS

Project: 406 Monaville Road
Location: Lake Villa, IL
Project #: 25-058

Prepared: KML

Date: 6/17/2025

Total Detained Area =	2.857 Acres
Impervious Area =	1.621 Acres
% Impervious =	57%
Required Water Quality Storage Rate =	**0.57 in/Acre**
Required Water Quality Storage Volume =	0.077 Ac-ft

Retention Volume Below Basin NWL (Based on Contour Slice Method)					
Contour	Area (SF)	Incremental Volume (CF)	Incremental Volume (Ac-ft)	Accumulated Volume (Ac-ft)	
781.00	6,410			0.000	(Pond Bottom)
		3,395	0.078		
781.50	**7,170**			**0.078**	(Pond NWL)

Provided Retention Storage Volume =	0.078 Ac-ft
RVR Credit (Water Quality Treatment) =	100%
RVR Quantity =	0.078 Ac-ft
RVR Quantity per Acre of Impervious Area =	2094.854 cu-ft/ac
Percent of Annual Rainfall Events =	84%

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Outlet Control Structure - For Detention Sizing

Project: 406 Monaville Road
Location: Lake Villa, IL
Project #: 25-058

Prepared: KML
Reviewed:
Date: 6/17/2025

Orifice Sizing - 2 Stage

A. Formula

$$Q = CA\sqrt{2gh}$$

Where:
Q = Allowable Discharge (cfs)
C = Orifice Discharge Coefficient
A = Area of Orifice (sq.ft.)
g = 32.17ft./sec^2
h = Head (ft.)

B. Values

	2-Year		100-Year	
Allowable Release Rate =	0.02	cfs/ac.	0.09	cfs/ac.
Q =	0.057	cfs	0.257	cfs
C =	0.61		0.61	
Invert of Orifice =	781.00	ft.	783.50	ft.
HWL =	783.50	ft.	786.30	ft.
h =	2.45	ft.	2.72	ft.
Max. Orifice Dia. =	1.17	in.	2.00	in.
Actual Orifice Dia. =	**1.15**	**in.**	**2.00**	**in.**
2-Year Discharge =	0.055	cfs	0.000	cfs
100-Year Discharge =	**0.081**	**cfs**	**0.176**	**cfs**
Total 100-Year Discharge =	**0.257**	**cfs**		

C. Rating Table

WATER ELEVATION (ft.)	HEAD (ft.)	Q (cfs)
781.50	0.45	0.024
782.00	0.95	0.034
783.00	1.95	0.049
783.50	2.45	0.055
784.00	2.95	0.130
785.00	3.95	0.197
786.00	4.95	0.244
786.30	5.25	0.257
787.00	5.95	0.283

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Outlet Control Structure - with Offsite Bypass

Project: 406 Monaville Road
Location: Lake Villa, IL
Project #: 25-058

Prepared: KML
Reviewed:
Date: 7/21/2025

Orifice Sizing - 2 Stage

A. Formula

$$Q = CA\sqrt{2gh}$$

Where:
Q = Allowable Discharge (cfs)
C = Orifice Discharge Coefficient
A = Area of Orifice (sq.ft.)
g = 32.17ft./sec^2
h = Head (ft.)

B. Values

	2-Year		100-Year	
Allowable Release Rate =		cfs/ac.		cfs/ac.
Q =	0.116	cfs	0.445	cfs
C =	0.61		0.61	
Invert of Orifice =	781.00	ft.	783.50	ft.
HWL =	783.50	ft.	786.30	ft.
h =	2.43	ft.	2.69	ft.
Max. Orifice Dia. =	1.67	in.	2.57	in.
Actual Orifice Dia. =	**1.60**	**in.**	**2.50**	**in.**
2-Year Discharge =	0.107	cfs	0.000	cfs
100-Year Discharge =	**0.156**	**cfs**	**0.274**	**cfs**
Total 100-Year Discharge =	**0.430**	**cfs**		

C. Rating Table

WATER ELEVATION (ft.)	HEAD (ft.)	Q (cfs)
781.50	0.43	0.045
782.00	0.93	0.066
783.00	1.93	0.095
783.50	2.43	0.107
784.00	2.93	0.222
785.00	3.93	0.333
786.00	4.93	0.410
786.30	5.23	0.430
787.00	5.93	0.474

Overflow Weir Sizing

A. Formula

$$Q = CL\sqrt{h^3}$$

Where:
Q = Overflow (cfs)
C = Weir Coefficient
L = Weir Length (ft.)
h = Head (ft.)

B. Values

Overflow Rate =		cfs/ac.	
Min. Q =	22.883	cfs	Critical 100-Year Peak
C =	3.30		
Weir Length =	20.00	ft.	
Weir Elevation =	786.30	ft.	
Water Level Above Weir =	**786.79**	**ft.**	

C. Rating Table

WATER ELEVATION (ft.)	HEAD (ft.)	Q (cfs)
786.50	0.20	5.90
786.70	0.40	16.70
787.00	0.70	38.65

APPENDIX D – Proposed PondPack Report (Detention Sizing)

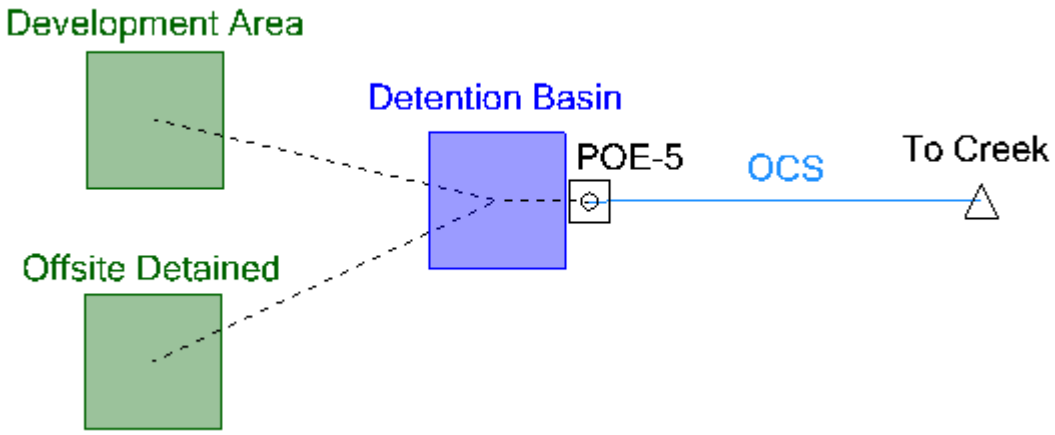

Table of Contents

Project Summary	
Title	25-058 Proposed Conditions PondPack Model
Engineer	KML
Company	Haeger Engineering LLC
Date	7/21/2025

Notes	Proposed Conditions Model for Detention Sizing

Subsection: User Notifications

User Notifications?	No user notifications generated.

Subsection: Master Network Summary

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft³/s)
Development Area	2 yr 24 hr	2.00	0.513	15.80	0.689
Development Area	100 yr 24 hr	100.00	1.610	15.80	1.934
Offsite Detained	2 yr 24 hr	2.00	0.040	15.90	0.060
Offsite Detained	100 yr 24 hr	100.00	0.150	15.80	0.195

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft³/s)
To Creek	2 yr 24 hr	2.00	0.359	24.10	0.053
To Creek	100 yr 24 hr	100.00	1.236	24.10	0.256

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft³/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ac-ft)
Detention Basin (IN)	2 yr 24 hr	2.00	0.553	15.80	0.748	(N/A)	(N/A)
Detention Basin (OUT)	2 yr 24 hr	2.00	0.359	24.10	0.053	783.33	0.487
Detention Basin (IN)	100 yr 24 hr	100.00	1.760	15.80	2.129	(N/A)	(N/A)

Subsection: Master Network Summary

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ac-ft)
Detention Basin (OUT)	100 yr 24 hr	100.00	1.236	24.10	0.256	786.29	1.522

Subsection: Time-Depth Curve
Label: B75 - 100 Year Critical Storm
Scenario: 100 yr 24 hr

Return Event: 100.00 years
Storm Event: 24 hr 100 yr

Time-Depth Curve: 24 hr 100 yr	
Label	24 hr 100 yr
Start Time	0.00 hours
Increment	0.24 hours
End Time	24.00 hours
Return Event	100.00 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.24 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.00	0.00	0.04	0.08	0.13	0.17
1.20	0.21	0.26	0.31	0.35	0.40
2.40	0.45	0.50	0.55	0.60	0.65
3.60	0.70	0.75	0.80	0.85	0.91
4.80	0.96	1.01	1.07	1.12	1.18
6.00	1.23	1.28	1.34	1.39	1.44
7.20	1.50	1.55	1.61	1.66	1.73
8.40	1.79	1.86	1.92	1.99	2.06
9.60	2.13	2.21	2.29	2.38	2.48
10.80	2.57	2.67	2.78	2.89	3.00
12.00	3.12	3.27	3.43	3.58	3.74
13.20	3.90	4.07	4.24	4.41	4.59
14.40	4.77	4.95	5.14	5.32	5.50
15.60	5.69	5.87	6.05	6.22	6.39
16.80	6.56	6.72	6.86	7.00	7.14
18.00	7.28	7.38	7.48	7.58	7.67
19.20	7.75	7.82	7.89	7.96	8.01
20.40	8.06	8.10	8.15	8.19	8.22
21.60	8.26	8.29	8.33	8.36	8.39
22.80	8.42	8.45	8.48	8.51	8.54
24.00	8.57	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time-Depth Curve
Label: B75 - 2 Year Critical Storm
Scenario: 2 yr 24 hr

Return Event: 2.00 years
Storm Event: 24 hr 2 yr

Time-Depth Curve: 24 hr 2 yr	
Label	24 hr 2 yr
Start Time	0.00 hours
Increment	0.24 hours
End Time	24.00 hours
Return Event	2.00 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.24 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.00	0.00	0.02	0.03	0.05	0.07
1.20	0.08	0.10	0.12	0.14	0.16
2.40	0.18	0.19	0.21	0.23	0.25
3.60	0.27	0.29	0.31	0.33	0.35
4.80	0.37	0.39	0.42	0.44	0.46
6.00	0.48	0.50	0.52	0.54	0.56
7.20	0.58	0.60	0.63	0.65	0.67
8.40	0.70	0.72	0.75	0.78	0.80
9.60	0.83	0.86	0.89	0.93	0.97
10.80	1.00	1.04	1.08	1.13	1.17
12.00	1.21	1.27	1.34	1.40	1.46
13.20	1.52	1.59	1.65	1.72	1.79
14.40	1.86	1.93	2.00	2.07	2.14
15.60	2.22	2.29	2.36	2.42	2.49
16.80	2.56	2.62	2.67	2.73	2.78
18.00	2.84	2.87	2.91	2.95	2.99
19.20	3.02	3.05	3.07	3.10	3.12
20.40	3.14	3.16	3.18	3.19	3.21
21.60	3.22	3.23	3.25	3.26	3.27
22.80	3.28	3.29	3.31	3.32	3.33
24.00	3.34	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time of Concentration Calculations
Label: Development Area
Scenario: 2 yr 24 hr

Return Event: 2.00 years
Storm Event: 24 hr 2 yr

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	40.00 ft
Manning's n	0.240
Slope	0.160 ft/ft
2 Year 24 Hour Depth	3.34 in
Average Velocity	0.23 ft/s

Segment #1: TR-55 Sheet Flow	
Segment Time of Concentration	0.05 hours

Segment #2: TR-55 Channel Flow	
Flow Area	6.0 ft²
Hydraulic Length	110.00 ft
Manning's n	0.240
Slope	0.010 ft/ft
Wetted Perimeter	9.32 ft
Average Velocity	0.46 ft/s
Segment Time of Concentration	0.07 hours

Segment #3: TR-55 Channel Flow	
Flow Area	1.2 ft²
Hydraulic Length	320.00 ft
Manning's n	0.013
Slope	0.007 ft/ft
Wetted Perimeter	3.93 ft
Average Velocity	4.42 ft/s
Segment Time of Concentration	0.02 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.13 hours

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Sheet Flow

Tc = (0.007 * ((n * Lf)**0.8)) / ((P**0.5) * (Sf**0.4))

Subsection: Time of Concentration Calculations
Label: Development Area
Scenario: 2 yr 24 hr

Return Event: 2.00 years
Storm Event: 24 hr 2 yr

==== SCS TR-55 Sheet Flow

Where:
Tc= Time of concentration, hours
n= Manning's n
Lf= Flow length, feet
P= 2yr, 24hr Rain depth, inches
Sf= Slope, %

Subsection: Time of Concentration Calculations
Label: Offsite Detained
Scenario: 2 yr 24 hr

Return Event: 2.00 years
Storm Event: 24 hr 2 yr

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	63.00 ft
Manning's n	0.240
Slope	0.098 ft/ft
2 Year 24 Hour Depth	3.34 in
Average Velocity	0.21 ft/s
Segment Time of Concentration	0.09 hours

Segment #2: TR-55 Channel Flow	
Flow Area	6.0 ft²
Hydraulic Length	150.00 ft
Manning's n	0.240
Slope	0.010 ft/ft
Wetted Perimeter	9.32 ft
Average Velocity	0.46 ft/s
Segment Time of Concentration	0.09 hours

Segment #3: TR-55 Channel Flow	
Flow Area	1.2 ft²
Hydraulic Length	320.00 ft
Manning's n	0.013
Slope	0.007 ft/ft
Wetted Perimeter	3.93 ft
Average Velocity	4.42 ft/s
Segment Time of Concentration	0.02 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.20 hours

Subsection: Time of Concentration Calculations
Label: Offsite Detained
Scenario: 2 yr 24 hr

Return Event: 2.00 years
Storm Event: 24 hr 2 yr

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Sheet Flow

Tc = (0.007 * ((n * Lf)**0.8)) / ((P**0.5) * (Sf**0.4))

Where:
Tc= Time of concentration, hours
n= Manning's n
Lf= Flow length, feet
P= 2yr, 24hr Rain depth, inches
Sf= Slope, %

Subsection: Elevation vs. Volume Curve
Label: Detention Basin
Scenario: 2 yr 24 hr

Return Event: 2.00 years
Storm Event: 24 hr 2 yr

Elevation-Volume

Pond Elevation (ft)	Pond Volume (ac-ft)
781.00	0.000
781.50	0.001
782.00	0.105
783.00	0.383
784.00	0.700
785.00	1.042
786.00	1.411
786.30	1.527
787.00	1.806
788.00	2.000

Subsection: Outlet Input Data
Label: OCS
Scenario: 2 yr 24 hr

Return Event: 2.00 years
Storm Event: 24 hr 2 yr

Requested Pond Water Surface Elevations	
Minimum (Headwater)	781.00 ft
Increment (Headwater)	0.10 ft

Requested Pond Water Surface Elevations	
Maximum (Headwater)	788.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Orifice-Circular	2-Year Restrictor	Forward	TW	781.00	788.00
Orifice-Circular	100-Year Restrictor	Forward	TW	783.50	788.00
Rectangular Weir	Overflow Weir	Forward	TW	786.30	788.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

Structure ID: 2-Year Restrictor Structure Type: Orifice-Circular	
Number of Openings	1
Elevation	781.00 ft
Orifice Diameter	1.15 in
Orifice Coefficient	0.610

Structure ID: 100-Year Restrictor Structure Type: Orifice-Circular	
Number of Openings	1
Elevation	783.50 ft
Orifice Diameter	2.00 in
Orifice Coefficient	0.610

Structure ID: Overflow Weir Structure Type: Rectangular Weir	
Number of Openings	1
Elevation	786.30 ft
Weir Length	5.00 ft
Weir Coefficient	3.00 (ft^0.5)/s

Structure ID: TW Structure Type: TW Setup, DS Channel	
Tailwater Type	Free Outfall

Convergence Tolerances	
Maximum Iterations	50
Tailwater Tolerance (Minimum)	0.01 ft

Subsection: Outlet Input Data
Label: OCS
Scenario: 2 yr 24 hr

Return Event: 2.00 years
Storm Event: 24 hr 2 yr

Convergence Tolerances	
Tailwater Tolerance (Maximum)	0.50 ft
Headwater Tolerance (Minimum)	0.01 ft
Headwater Tolerance (Maximum)	0.50 ft
Flow Tolerance (Minimum)	0.001 ft³/s
Flow Tolerance (Maximum)	10.000 ft³/s

Subsection: Elevation-Volume-Flow Table (Pond)
Label: Detention Basin
Scenario: 2 yr 24 hr

Return Event: 2.00 years
Storm Event: 24 hr 2 yr

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	781.00 ft
Volume (Initial)	0.000 ac-ft
Flow (Initial Outlet)	0.000 ft³/s
Flow (Initial Infiltration)	0.000 ft³/s
Flow (Initial, Total)	0.000 ft³/s
Time Increment	0.10 hours

Elevation (ft)	Outflow (ft³/s)	Storage (ac-ft)	Area (acres)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
781.00	0.000	0.000	0.000	0.000	0.000	0.000
781.10	0.008	0.000	0.000	0.000	0.008	0.056
781.20	0.014	0.000	0.000	0.000	0.014	0.111
781.30	0.018	0.001	0.000	0.000	0.018	0.163
781.40	0.021	0.001	0.000	0.000	0.021	0.215
781.50	0.024	0.001	0.000	0.000	0.024	0.266
781.60	0.026	0.022	0.000	0.000	0.026	5.302
781.70	0.029	0.043	0.000	0.000	0.029	10.338
781.80	0.031	0.063	0.000	0.000	0.031	15.373
781.90	0.033	0.084	0.000	0.000	0.033	20.409
782.00	0.034	0.105	0.000	0.000	0.034	25.444
782.10	0.036	0.133	0.000	0.000	0.036	32.174
782.20	0.038	0.161	0.000	0.000	0.038	38.903
782.30	0.039	0.188	0.000	0.000	0.039	45.632
782.40	0.041	0.216	0.000	0.000	0.041	52.361
782.50	0.043	0.244	0.000	0.000	0.043	59.091

Subsection: Elevation-Volume-Flow Table (Pond)
Label: Detention Basin
Scenario: 2 yr 24 hr

Return Event: 2.00 years
Storm Event: 24 hr 2 yr

Elevation (ft)	Outflow (ft^3/s)	Storage (ac-ft)	Area (acres)	Infiltration (ft^3/s)	Flow (Total) (ft^3/s)	2S/t + O (ft^3/s)
782.60	0.044	0.272	0.000	0.000	0.044	65.820
782.70	0.045	0.300	0.000	0.000	0.045	72.549
782.80	0.047	0.327	0.000	0.000	0.047	79.278
782.90	0.048	0.355	0.000	0.000	0.048	86.006
783.00	0.049	0.383	0.000	0.000	0.049	92.735
783.10	0.051	0.415	0.000	0.000	0.051	100.408
783.20	0.052	0.446	0.000	0.000	0.052	108.081
783.30	0.053	0.478	0.000	0.000	0.053	115.753
783.40	0.054	0.510	0.000	0.000	0.054	123.426
783.50	0.055	0.542	0.000	0.000	0.055	131.098
783.60	0.068	0.573	0.000	0.000	0.068	138.783
783.70	0.094	0.605	0.000	0.000	0.094	146.480
783.80	0.108	0.637	0.000	0.000	0.108	154.165
783.90	0.120	0.668	0.000	0.000	0.120	161.848
784.00	0.130	0.700	0.000	0.000	0.130	169.530
784.10	0.138	0.734	0.000	0.000	0.138	177.815
784.20	0.146	0.768	0.000	0.000	0.146	186.099
784.30	0.154	0.803	0.000	0.000	0.154	194.383
784.40	0.161	0.837	0.000	0.000	0.161	202.667
784.50	0.168	0.871	0.000	0.000	0.168	210.950
784.60	0.174	0.905	0.000	0.000	0.174	219.233
784.70	0.180	0.939	0.000	0.000	0.180	227.515
784.80	0.186	0.974	0.000	0.000	0.186	235.797
784.90	0.192	1.008	0.000	0.000	0.192	244.079
785.00	0.197	1.042	0.000	0.000	0.197	252.361
785.10	0.203	1.079	0.000	0.000	0.203	261.296
785.20	0.208	1.116	0.000	0.000	0.208	270.231
785.30	0.213	1.153	0.000	0.000	0.213	279.166
785.40	0.218	1.190	0.000	0.000	0.218	288.101
785.50	0.222	1.226	0.000	0.000	0.222	297.035
785.60	0.227	1.263	0.000	0.000	0.227	305.970
785.70	0.231	1.300	0.000	0.000	0.231	314.904
785.80	0.236	1.337	0.000	0.000	0.236	323.838
785.90	0.240	1.374	0.000	0.000	0.240	332.772
786.00	0.245	1.411	0.000	0.000	0.245	341.707
786.10	0.249	1.450	0.000	0.000	0.249	351.068
786.20	0.253	1.488	0.000	0.000	0.253	360.429
786.30	0.257	1.527	0.000	0.000	0.257	369.791
786.40	0.735	1.567	0.000	0.000	0.735	379.915
786.50	1.606	1.607	0.000	0.000	1.606	390.431
786.60	2.733	1.647	0.000	0.000	2.733	401.204
786.70	4.067	1.686	0.000	0.000	4.067	412.183
786.80	5.579	1.726	0.000	0.000	5.579	423.341
786.90	7.251	1.766	0.000	0.000	7.251	434.658
787.00	9.068	1.806	0.000	0.000	9.068	446.120

Subsection: Elevation-Volume-Flow Table (Pond) Return Event: 2.00 years
Label: Detention Basin Storm Event: 24 hr 2 yr
Scenario: 2 yr 24 hr

Elevation (ft)	Outflow (ft³/s)	Storage (ac-ft)	Area (acres)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
787.10	11.020	1.825	0.000	0.000	11.020	452.767
787.20	13.098	1.845	0.000	0.000	13.098	459.539
787.30	15.294	1.864	0.000	0.000	15.294	466.430
787.40	17.603	1.884	0.000	0.000	17.603	473.434
787.50	20.019	1.903	0.000	0.000	20.019	480.545
787.60	22.538	1.922	0.000	0.000	22.538	487.759
787.70	25.155	1.942	0.000	0.000	25.155	495.071
787.80	27.868	1.961	0.000	0.000	27.868	502.478
787.90	30.672	1.981	0.000	0.000	30.672	509.977
788.00	33.565	2.000	0.000	0.000	33.565	517.565

Subsection: Elevation-Volume-Flow Table (Pond) Return Event: 100.00 years
Label: Detention Basin Storm Event: 24 hr 100 yr
Scenario: 100 yr 24 hr

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	781.00 ft
Volume (Initial)	0.000 ac-ft
Flow (Initial Outlet)	0.000 ft³/s
Flow (Initial Infiltration)	0.000 ft³/s
Flow (Initial, Total)	0.000 ft³/s
Time Increment	0.10 hours

Elevation (ft)	Outflow (ft³/s)	Storage (ac-ft)	Area (acres)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
781.00	0.000	0.000	0.000	0.000	0.000	0.000
781.10	0.008	0.000	0.000	0.000	0.008	0.056
781.20	0.014	0.000	0.000	0.000	0.014	0.111
781.30	0.018	0.001	0.000	0.000	0.018	0.163
781.40	0.021	0.001	0.000	0.000	0.021	0.215
781.50	0.024	0.001	0.000	0.000	0.024	0.266
781.60	0.026	0.022	0.000	0.000	0.026	5.302
781.70	0.029	0.043	0.000	0.000	0.029	10.338
781.80	0.031	0.063	0.000	0.000	0.031	15.373
781.90	0.033	0.084	0.000	0.000	0.033	20.409
782.00	0.034	0.105	0.000	0.000	0.034	25.444
782.10	0.036	0.133	0.000	0.000	0.036	32.174

Subsection: Elevation-Volume-Flow Table (Pond)
Label: Detention Basin
Scenario: 100 yr 24 hr

Return Event: 100.00 years
Storm Event: 24 hr 100 yr

Elevation (ft)	Outflow (ft^3/s)	Storage (ac-ft)	Area (acres)	Infiltration (ft^3/s)	Flow (Total) (ft^3/s)	2S/t + O (ft^3/s)
782.20	0.038	0.161	0.000	0.000	0.038	38.903
782.30	0.039	0.188	0.000	0.000	0.039	45.632
782.40	0.041	0.216	0.000	0.000	0.041	52.361
782.50	0.043	0.244	0.000	0.000	0.043	59.091
782.60	0.044	0.272	0.000	0.000	0.044	65.820
782.70	0.045	0.300	0.000	0.000	0.045	72.549
782.80	0.047	0.327	0.000	0.000	0.047	79.278
782.90	0.048	0.355	0.000	0.000	0.048	86.006
783.00	0.049	0.383	0.000	0.000	0.049	92.735
783.10	0.051	0.415	0.000	0.000	0.051	100.408
783.20	0.052	0.446	0.000	0.000	0.052	108.081
783.30	0.053	0.478	0.000	0.000	0.053	115.753
783.40	0.054	0.510	0.000	0.000	0.054	123.426
783.50	0.055	0.542	0.000	0.000	0.055	131.098
783.60	0.068	0.573	0.000	0.000	0.068	138.783
783.70	0.094	0.605	0.000	0.000	0.094	146.480
783.80	0.108	0.637	0.000	0.000	0.108	154.165
783.90	0.120	0.668	0.000	0.000	0.120	161.848
784.00	0.130	0.700	0.000	0.000	0.130	169.530
784.10	0.138	0.734	0.000	0.000	0.138	177.815
784.20	0.146	0.768	0.000	0.000	0.146	186.099
784.30	0.154	0.803	0.000	0.000	0.154	194.383
784.40	0.161	0.837	0.000	0.000	0.161	202.667
784.50	0.168	0.871	0.000	0.000	0.168	210.950
784.60	0.174	0.905	0.000	0.000	0.174	219.233
784.70	0.180	0.939	0.000	0.000	0.180	227.515
784.80	0.186	0.974	0.000	0.000	0.186	235.797
784.90	0.192	1.008	0.000	0.000	0.192	244.079
785.00	0.197	1.042	0.000	0.000	0.197	252.361
785.10	0.203	1.079	0.000	0.000	0.203	261.296
785.20	0.208	1.116	0.000	0.000	0.208	270.231
785.30	0.213	1.153	0.000	0.000	0.213	279.166
785.40	0.218	1.190	0.000	0.000	0.218	288.101
785.50	0.222	1.226	0.000	0.000	0.222	297.035
785.60	0.227	1.263	0.000	0.000	0.227	305.970
785.70	0.231	1.300	0.000	0.000	0.231	314.904
785.80	0.236	1.337	0.000	0.000	0.236	323.838
785.90	0.240	1.374	0.000	0.000	0.240	332.772
786.00	0.245	1.411	0.000	0.000	0.245	341.707
786.10	0.249	1.450	0.000	0.000	0.249	351.068
786.20	0.253	1.488	0.000	0.000	0.253	360.429
786.30	0.257	1.527	0.000	0.000	0.257	369.791
786.40	0.735	1.567	0.000	0.000	0.735	379.915
786.50	1.606	1.607	0.000	0.000	1.606	390.431
786.60	2.733	1.647	0.000	0.000	2.733	401.204

Subsection: Elevation-Volume-Flow Table (Pond) Return Event: 100.00 years
Label: Detention Basin Storm Event: 24 hr 100 yr
Scenario: 100 yr 24 hr

Elevation (ft)	Outflow (ft³/s)	Storage (ac-ft)	Area (acres)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
786.70	4.067	1.686	0.000	0.000	4.067	412.183
786.80	5.579	1.726	0.000	0.000	5.579	423.341
786.90	7.251	1.766	0.000	0.000	7.251	434.658
787.00	9.068	1.806	0.000	0.000	9.068	446.120
787.10	11.020	1.825	0.000	0.000	11.020	452.767
787.20	13.098	1.845	0.000	0.000	13.098	459.539
787.30	15.294	1.864	0.000	0.000	15.294	466.430
787.40	17.603	1.884	0.000	0.000	17.603	473.434
787.50	20.019	1.903	0.000	0.000	20.019	480.545
787.60	22.538	1.922	0.000	0.000	22.538	487.759
787.70	25.155	1.942	0.000	0.000	25.155	495.071
787.80	27.868	1.961	0.000	0.000	27.868	502.478
787.90	30.672	1.981	0.000	0.000	30.672	509.977
788.00	33.565	2.000	0.000	0.000	33.565	517.565

Subsection: Level Pool Pond Routing Summary Return Event: 2.00 years
Label: Detention Basin (IN) Storm Event: 24 hr 2 yr
Scenario: 2 yr 24 hr

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	781.00 ft
Volume (Initial)	0.000 ac-ft
Flow (Initial Outlet)	0.000 ft³/s
Flow (Initial Infiltration)	0.000 ft³/s
Flow (Initial, Total)	0.000 ft³/s
Time Increment	0.10 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	0.748 ft³/s	Time to Peak (Flow, In)	15.80 hours
Flow (Peak Outlet)	0.053 ft³/s	Time to Peak (Flow, Outlet)	24.10 hours

Elevation (Water Surface, Peak)	783.33 ft
Volume (Peak)	0.487 ac-ft

Mass Balance (ac-ft)	
Volume (Initial)	0.000 ac-ft

Subsection: Level Pool Pond Routing Summary
Label: Detention Basin (IN)
Scenario: 2 yr 24 hr

Return Event: 2.00 years
Storm Event: 24 hr 2 yr

Mass Balance (ac-ft)	
Volume (Total Inflow)	0.553 ac-ft
Volume (Total Infiltration)	0.000 ac-ft
Volume (Total Outlet Outflow)	0.359 ac-ft
Volume (Retained)	0.194 ac-ft
Volume (Unrouted)	0.000 ac-ft
Error (Mass Balance)	0.1 %

Subsection: Level Pool Pond Routing Summary
Label: Detention Basin (IN)
Scenario: 100 yr 24 hr

Return Event: 100.00 years
Storm Event: 24 hr 100 yr

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	781.00 ft
Volume (Initial)	0.000 ac-ft
Flow (Initial Outlet)	0.000 ft³/s
Flow (Initial Infiltration)	0.000 ft³/s
Flow (Initial, Total)	0.000 ft³/s
Time Increment	0.10 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	2.129 ft³/s	Time to Peak (Flow, In)	15.80 hours
Flow (Peak Outlet)	0.256 ft³/s	Time to Peak (Flow, Outlet)	24.10 hours

Elevation (Water Surface, Peak)	786.29 ft
Volume (Peak)	1.522 ac-ft

Mass Balance (ac-ft)	
Volume (Initial)	0.000 ac-ft
Volume (Total Inflow)	1.760 ac-ft
Volume (Total Infiltration)	0.000 ac-ft
Volume (Total Outlet Outflow)	1.236 ac-ft
Volume (Retained)	0.524 ac-ft
Volume (Unrouted)	0.000 ac-ft
Error (Mass Balance)	0.0 %

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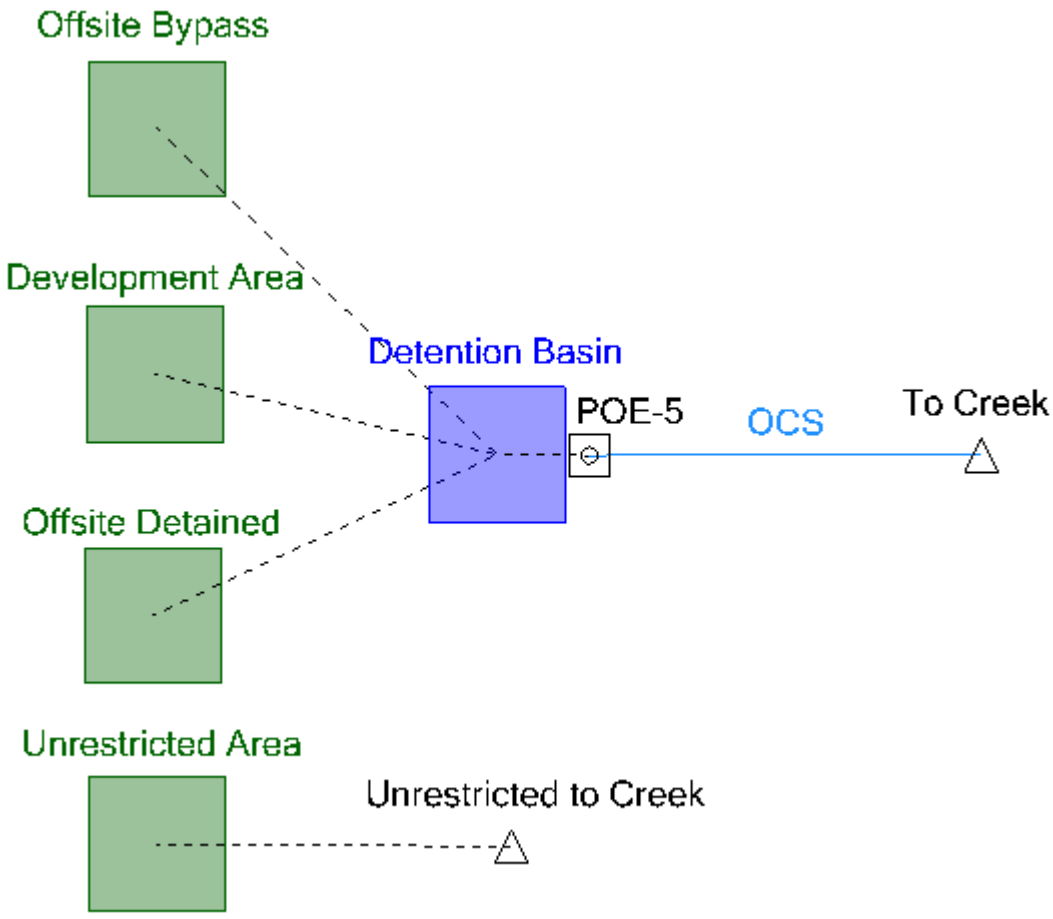
APPENDIX E – Proposed PondPack Report (with Offsite Bypass Area)



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Project Summary	
Title	25-058 Proposed Conditions PondPack Model
Engineer	KML
Company	Haeger Engineering LLC
Date	7/21/2025

Notes	Proposed Conditions Model - with Offsite Bypass

Subsection: User Notifications

User Notifications?	No user notifications generated.

Subsection: Master Network Summary

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)
Development Area	2 yr 24 hr	2.00	0.513	15.80	0.689
Development Area	100 yr 24 hr	100.00	1.610	15.80	1.934
Unrestricted Area	2 yr 24 hr	2.00	0.026	16.80	0.044
Unrestricted Area	100 yr 24 hr	100.00	0.125	15.80	0.176
Offsite Detained	2 yr 24 hr	2.00	0.040	15.90	0.060
Offsite Detained	100 yr 24 hr	100.00	0.150	15.80	0.195
Offsite Bypass	2 yr 24 hr	2.00	0.040	15.90	0.059
Offsite Bypass	100 yr 24 hr	100.00	0.147	15.80	0.188

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)
To Creek	2 yr 24 hr	2.00	0.593	24.10	0.101
To Creek	100 yr 24 hr	100.00	1.638	22.10	0.426
Unrestricted to Creek	2 yr 24 hr	2.00	0.026	16.80	0.044
Unrestricted to Creek	100 yr 24 hr	100.00	0.125	15.80	0.176

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ac-ft)

Subsection: Master Network Summary

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ac-ft)
Detention Basin (IN)	2 yr 24 hr	2.00	0.593	15.80	0.807	(N/A)	(N/A)
Detention Basin (OUT)	2 yr 24 hr	2.00	0.593	24.10	0.101	783.27	0.469
Detention Basin (IN)	100 yr 24 hr	100.00	1.907	15.80	2.317	(N/A)	(N/A)
Detention Basin (OUT)	100 yr 24 hr	100.00	1.638	22.10	0.426	786.23	1.501

Subsection: Time-Depth Curve
Label: B75 - 100 Year Critical Storm
Scenario: 100 yr 24 hr

Return Event: 100.00 years
Storm Event: 24 hr 100 yr

Time-Depth Curve: 24 hr 100 yr	
Label	24 hr 100 yr
Start Time	0.00 hours
Increment	0.24 hours
End Time	24.00 hours
Return Event	100.00 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.24 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.00	0.00	0.04	0.08	0.13	0.17
1.20	0.21	0.26	0.31	0.35	0.40
2.40	0.45	0.50	0.55	0.60	0.65
3.60	0.70	0.75	0.80	0.85	0.91
4.80	0.96	1.01	1.07	1.12	1.18
6.00	1.23	1.28	1.34	1.39	1.44
7.20	1.50	1.55	1.61	1.66	1.73
8.40	1.79	1.86	1.92	1.99	2.06
9.60	2.13	2.21	2.29	2.38	2.48
10.80	2.57	2.67	2.78	2.89	3.00
12.00	3.12	3.27	3.43	3.58	3.74
13.20	3.90	4.07	4.24	4.41	4.59
14.40	4.77	4.95	5.14	5.32	5.50
15.60	5.69	5.87	6.05	6.22	6.39
16.80	6.56	6.72	6.86	7.00	7.14
18.00	7.28	7.38	7.48	7.58	7.67
19.20	7.75	7.82	7.89	7.96	8.01

Subsection: Time-Depth Curve
Label: B75 - 100 Year Critical Storm
Scenario: 100 yr 24 hr

Return Event: 100.00 years
Storm Event: 24 hr 100 yr

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.24 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
20.40	8.06	8.10	8.15	8.19	8.22
21.60	8.26	8.29	8.33	8.36	8.39
22.80	8.42	8.45	8.48	8.51	8.54
24.00	8.57	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time-Depth Curve
Label: B75 - 2 Year Critical Storm
Scenario: 2 yr 24 hr

Return Event: 2.00 years
Storm Event: 24 hr 2 yr

Time-Depth Curve: 24 hr 2 yr	
Label	24 hr 2 yr
Start Time	0.00 hours
Increment	0.24 hours
End Time	24.00 hours
Return Event	2.00 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.24 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.00	0.00	0.02	0.03	0.05	0.07
1.20	0.08	0.10	0.12	0.14	0.16
2.40	0.18	0.19	0.21	0.23	0.25
3.60	0.27	0.29	0.31	0.33	0.35
4.80	0.37	0.39	0.42	0.44	0.46
6.00	0.48	0.50	0.52	0.54	0.56
7.20	0.58	0.60	0.63	0.65	0.67
8.40	0.70	0.72	0.75	0.78	0.80
9.60	0.83	0.86	0.89	0.93	0.97
10.80	1.00	1.04	1.08	1.13	1.17
12.00	1.21	1.27	1.34	1.40	1.46
13.20	1.52	1.59	1.65	1.72	1.79
14.40	1.86	1.93	2.00	2.07	2.14
15.60	2.22	2.29	2.36	2.42	2.49
16.80	2.56	2.62	2.67	2.73	2.78
18.00	2.84	2.87	2.91	2.95	2.99
19.20	3.02	3.05	3.07	3.10	3.12
20.40	3.14	3.16	3.18	3.19	3.21
21.60	3.22	3.23	3.25	3.26	3.27
22.80	3.28	3.29	3.31	3.32	3.33
24.00	3.34	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time of Concentration Calculations
Label: Development Area
Scenario: 2 yr 24 hr

Return Event: 2.00 years
Storm Event: 24 hr 2 yr

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	40.00 ft
Manning's n	0.240
Slope	0.160 ft/ft
2 Year 24 Hour Depth	3.34 in
Average Velocity	0.23 ft/s
Segment Time of Concentration	0.05 hours

Segment #2: TR-55 Channel Flow	
Flow Area	6.0 ft²
Hydraulic Length	110.00 ft
Manning's n	0.240
Slope	0.010 ft/ft
Wetted Perimeter	9.32 ft
Average Velocity	0.46 ft/s
Segment Time of Concentration	0.07 hours

Segment #3: TR-55 Channel Flow	
Flow Area	1.2 ft²
Hydraulic Length	320.00 ft
Manning's n	0.013
Slope	0.007 ft/ft
Wetted Perimeter	3.93 ft
Average Velocity	4.42 ft/s
Segment Time of Concentration	0.02 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.13 hours

==== SCS Channel Flow

Tc =

R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Subsection: Time of Concentration Calculations
Label: Development Area
Scenario: 2 yr 24 hr

Return Event: 2.00 years
Storm Event: 24 hr 2 yr

==== SCS Channel Flow

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Sheet Flow

Tc = (0.007 * ((n * Lf)**0.8)) / ((P**0.5) * (Sf**0.4))
Where:
Tc= Time of concentration, hours
n= Manning's n
Lf= Flow length, feet
P= 2yr, 24hr Rain depth, inches
Sf= Slope, %

Subsection: Time of Concentration Calculations
Label: Offsite Bypass
Scenario: 2 yr 24 hr

Return Event: 2.00 years
Storm Event: 24 hr 2 yr

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	63.00 ft
Manning's n	0.240
Slope	0.098 ft/ft
2 Year 24 Hour Depth	3.34 in
Average Velocity	0.21 ft/s
Segment Time of Concentration	0.09 hours

Segment #2: TR-55 Channel Flow	
Flow Area	6.0 ft²
Hydraulic Length	150.00 ft
Manning's n	0.240
Slope	0.010 ft/ft
Wetted Perimeter	9.32 ft
Average Velocity	0.46 ft/s
Segment Time of Concentration	0.09 hours

Segment #3: TR-55 Channel Flow	
Flow Area	1.2 ft²
Hydraulic Length	320.00 ft

Subsection: Time of Concentration Calculations
Label: Offsite Bypass
Scenario: 2 yr 24 hr

Return Event: 2.00 years
Storm Event: 24 hr 2 yr

Segment #3: TR-55 Channel Flow	
Manning's n	0.013
Slope	0.007 ft/ft
Wetted Perimeter	3.93 ft
Average Velocity	4.35 ft/s
Segment Time of Concentration	0.02 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.20 hours

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Sheet Flow

Tc = (0.007 * ((n * Lf)**0.8)) / ((P**0.5) * (Sf**0.4))

Where:
Tc= Time of concentration, hours
n= Manning's n
Lf= Flow length, feet
P= 2yr, 24hr Rain depth, inches
Sf= Slope, %

Subsection: Time of Concentration Calculations
Label: Offsite Detained
Scenario: 2 yr 24 hr

Return Event: 2.00 years
Storm Event: 24 hr 2 yr

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	63.00 ft
Manning's n	0.240
Slope	0.098 ft/ft
2 Year 24 Hour Depth	3.34 in
Average Velocity	0.21 ft/s

Subsection: Time of Concentration Calculations
Label: Offsite Detained
Scenario: 2 yr 24 hr

Return Event: 2.00 years
Storm Event: 24 hr 2 yr

Segment #1: TR-55 Sheet Flow	
Segment Time of Concentration	0.09 hours

Segment #2: TR-55 Channel Flow	
Flow Area	6.0 ft²
Hydraulic Length	150.00 ft
Manning's n	0.240
Slope	0.010 ft/ft
Wetted Perimeter	9.32 ft
Average Velocity	0.46 ft/s
Segment Time of Concentration	0.09 hours

Segment #3: TR-55 Channel Flow	
Flow Area	1.2 ft²
Hydraulic Length	320.00 ft
Manning's n	0.013
Slope	0.007 ft/ft
Wetted Perimeter	3.93 ft
Average Velocity	4.42 ft/s
Segment Time of Concentration	0.02 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.20 hours

==== SCS Channel Flow

Tc = R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

==== SCS TR-55 Sheet Flow

Tc = (0.007 * ((n * Lf)**0.8)) / ((P**0.5) * (Sf**0.4))

Subsection: Time of Concentration Calculations
Label: Offsite Detained
Scenario: 2 yr 24 hr

Return Event: 2.00 years
Storm Event: 24 hr 2 yr

==== SCS TR-55 Sheet Flow

Where:
Tc= Time of concentration, hours
n= Manning's n
Lf= Flow length, feet
P= 2yr, 24hr Rain depth, inches
Sf= Slope, %

Subsection: Time of Concentration Calculations
Label: Unrestricted Area
Scenario: 2 yr 24 hr

Return Event: 2.00 years
Storm Event: 24 hr 2 yr

Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	30.00 ft
Manning's n	0.240
Slope	0.010 ft/ft
2 Year 24 Hour Depth	3.34 in
Average Velocity	0.07 ft/s
Segment Time of Concentration	0.12 hours

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.12 hours

==== SCS Channel Flow

Tc =
R = Qa / Wp
V = (1.49 * (R**(2/3)) * (Sf**-0.5)) / n

(Lf / V) / 3600

Where:
R= Hydraulic radius
Aq= Flow area, square feet
Wp= Wetted perimeter, feet
V= Velocity, ft/sec
Sf= Slope, ft/ft
n= Manning's n
Tc= Time of concentration, hours
Lf= Flow length, feet

Subsection: Elevation vs. Volume Curve
Label: Detention Basin
Scenario: 2 yr 24 hr

Return Event: 2.00 years
Storm Event: 24 hr 2 yr

Elevation-Volume

Pond Elevation (ft)	Pond Volume (ac-ft)

Subsection: Elevation vs. Volume Curve
Label: Detention Basin
Scenario: 2 yr 24 hr

Return Event: 2.00 years
Storm Event: 24 hr 2 yr

Elevation-Volume

Pond Elevation (ft)	Pond Volume (ac-ft)
781.00	0.000
781.50	0.001
782.00	0.105
783.00	0.383
784.00	0.700
785.00	1.042
786.00	1.411
786.30	1.527
787.00	1.806
788.00	2.000

Subsection: Outlet Input Data
Label: OCS
Scenario: 2 yr 24 hr

Return Event: 2.00 years
Storm Event: 24 hr 2 yr

Requested Pond Water Surface Elevations	
Minimum (Headwater)	781.00 ft
Increment (Headwater)	0.10 ft
Maximum (Headwater)	788.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Orifice-Circular	2-Year Restrictor	Forward	TW	781.00	788.00
Orifice-Circular	100-Year Restrictor	Forward	TW	783.50	788.00
Rectangular Weir	Overflow Weir	Forward	TW	786.30	788.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

Structure ID: 2-Year Restrictor Structure Type: Orifice-Circular	
Number of Openings	1
Elevation	781.00 ft
Orifice Diameter	1.60 in
Orifice Coefficient	0.610

Structure ID: 100-Year Restrictor Structure Type: Orifice-Circular	
Number of Openings	1
Elevation	783.50 ft

Subsection: Outlet Input Data
Label: OCS
Scenario: 2 yr 24 hr

Return Event: 2.00 years
Storm Event: 24 hr 2 yr

Structure ID: 100-Year Restrictor Structure Type: Orifice-Circular	
Orifice Diameter	2.50 in
Orifice Coefficient	0.610

Structure ID: Overflow Weir Structure Type: Rectangular Weir	
Number of Openings	1
Elevation	786.30 ft
Weir Length	5.00 ft
Weir Coefficient	3.00 (ft^0.5)/s

Structure ID: TW Structure Type: TW Setup, DS Channel	
Tailwater Type	Free Outfall

Convergence Tolerances	
Maximum Iterations	50
Tailwater Tolerance (Minimum)	0.01 ft
Tailwater Tolerance (Maximum)	0.50 ft
Headwater Tolerance (Minimum)	0.01 ft
Headwater Tolerance (Maximum)	0.50 ft
Flow Tolerance (Minimum)	0.001 ft³/s
Flow Tolerance (Maximum)	10.000 ft³/s

Subsection: Elevation-Volume-Flow Table (Pond)
Label: Detention Basin
Scenario: 2 yr 24 hr

Return Event: 2.00 years
Storm Event: 24 hr 2 yr

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	781.00 ft
Volume (Initial)	0.000 ac-ft
Flow (Initial Outlet)	0.000 ft³/s
Flow (Initial Infiltration)	0.000 ft³/s
Flow (Initial, Total)	0.000 ft³/s
Time Increment	0.10 hours

Subsection: Elevation-Volume-Flow Table (Pond)
Label: Detention Basin
Scenario: 2 yr 24 hr

Return Event: 2.00 years
Storm Event: 24 hr 2 yr

Elevation (ft)	Outflow (ft^3/s)	Storage (ac-ft)	Area (acres)	Infiltration (ft^3/s)	Flow (Total) (ft^3/s)	2S/t + O (ft^3/s)
781.00	0.000	0.000	0.000	0.000	0.000	0.000
781.10	0.010	0.000	0.000	0.000	0.010	0.059
781.20	0.025	0.000	0.000	0.000	0.025	0.122
781.30	0.033	0.001	0.000	0.000	0.033	0.178
781.40	0.039	0.001	0.000	0.000	0.039	0.233
781.50	0.045	0.001	0.000	0.000	0.045	0.287
781.60	0.050	0.022	0.000	0.000	0.050	5.325
781.70	0.054	0.043	0.000	0.000	0.054	10.364
781.80	0.059	0.063	0.000	0.000	0.059	15.401
781.90	0.062	0.084	0.000	0.000	0.062	20.439
782.00	0.066	0.105	0.000	0.000	0.066	25.476
782.10	0.069	0.133	0.000	0.000	0.069	32.207
782.20	0.073	0.161	0.000	0.000	0.073	38.938
782.30	0.076	0.188	0.000	0.000	0.076	45.669
782.40	0.079	0.216	0.000	0.000	0.079	52.399
782.50	0.082	0.244	0.000	0.000	0.082	59.130
782.60	0.085	0.272	0.000	0.000	0.085	65.860
782.70	0.087	0.300	0.000	0.000	0.087	72.591
782.80	0.090	0.327	0.000	0.000	0.090	79.321
782.90	0.093	0.355	0.000	0.000	0.093	86.051
783.00	0.095	0.383	0.000	0.000	0.095	92.781
783.10	0.097	0.415	0.000	0.000	0.097	100.455
783.20	0.100	0.446	0.000	0.000	0.100	108.129
783.30	0.102	0.478	0.000	0.000	0.102	115.802
783.40	0.104	0.510	0.000	0.000	0.104	123.476
783.50	0.107	0.542	0.000	0.000	0.107	131.150
783.60	0.123	0.573	0.000	0.000	0.123	138.837
783.70	0.159	0.605	0.000	0.000	0.159	146.545
783.80	0.187	0.637	0.000	0.000	0.187	154.244
783.90	0.206	0.668	0.000	0.000	0.206	161.934
784.00	0.222	0.700	0.000	0.000	0.222	169.622
784.10	0.236	0.734	0.000	0.000	0.236	177.913
784.20	0.250	0.768	0.000	0.000	0.250	186.202
784.30	0.262	0.803	0.000	0.000	0.262	194.491
784.40	0.274	0.837	0.000	0.000	0.274	202.779
784.50	0.284	0.871	0.000	0.000	0.284	211.066
784.60	0.295	0.905	0.000	0.000	0.295	219.353
784.70	0.305	0.939	0.000	0.000	0.305	227.640
784.80	0.314	0.974	0.000	0.000	0.314	235.926
784.90	0.324	1.008	0.000	0.000	0.324	244.211
785.00	0.333	1.042	0.000	0.000	0.333	252.497
785.10	0.341	1.079	0.000	0.000	0.341	261.435
785.20	0.350	1.116	0.000	0.000	0.350	270.373
785.30	0.358	1.153	0.000	0.000	0.358	279.311
785.40	0.366	1.190	0.000	0.000	0.366	288.249

Subsection: Elevation-Volume-Flow Table (Pond) Return Event: 2.00 years
Label: Detention Basin Storm Event: 24 hr 2 yr
Scenario: 2 yr 24 hr

Elevation (ft)	Outflow (ft^3/s)	Storage (ac-ft)	Area (acres)	Infiltration (ft^3/s)	Flow (Total) (ft^3/s)	2S/t + O (ft^3/s)
785.50	0.374	1.226	0.000	0.000	0.374	297.187
785.60	0.381	1.263	0.000	0.000	0.381	306.124
785.70	0.389	1.300	0.000	0.000	0.389	315.061
785.80	0.396	1.337	0.000	0.000	0.396	323.998
785.90	0.403	1.374	0.000	0.000	0.403	332.935
786.00	0.410	1.411	0.000	0.000	0.410	341.872
786.10	0.417	1.450	0.000	0.000	0.417	351.236
786.20	0.424	1.488	0.000	0.000	0.424	360.600
786.30	0.430	1.527	0.000	0.000	0.430	369.964
786.40	0.911	1.567	0.000	0.000	0.911	380.090
786.50	1.785	1.607	0.000	0.000	1.785	390.610
786.60	2.914	1.647	0.000	0.000	2.914	401.384
786.70	4.250	1.686	0.000	0.000	4.250	412.366
786.80	5.765	1.726	0.000	0.000	5.765	423.526
786.90	7.439	1.766	0.000	0.000	7.439	434.846
787.00	9.259	1.806	0.000	0.000	9.259	446.311
787.10	11.213	1.825	0.000	0.000	11.213	452.960
787.20	13.293	1.845	0.000	0.000	13.293	459.734
787.30	15.491	1.864	0.000	0.000	15.491	466.628
787.40	17.802	1.884	0.000	0.000	17.802	473.633
787.50	20.221	1.903	0.000	0.000	20.221	480.747
787.60	22.741	1.922	0.000	0.000	22.741	487.962
787.70	25.361	1.942	0.000	0.000	25.361	495.277
787.80	28.076	1.961	0.000	0.000	28.076	502.686
787.90	30.882	1.981	0.000	0.000	30.882	510.187
788.00	33.778	2.000	0.000	0.000	33.778	517.778

Subsection: Elevation-Volume-Flow Table (Pond) Return Event: 100.00 years
Label: Detention Basin Storm Event: 24 hr 100 yr
Scenario: 100 yr 24 hr

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	781.00 ft
Volume (Initial)	0.000 ac-ft
Flow (Initial Outlet)	0.000 ft^3/s
Flow (Initial Infiltration)	0.000 ft^3/s
Flow (Initial, Total)	0.000 ft^3/s
Time Increment	0.10 hours

Subsection: Elevation-Volume-Flow Table (Pond)
Label: Detention Basin
Scenario: 100 yr 24 hr

Return Event: 100.00 years
Storm Event: 24 hr 100 yr

Elevation (ft)	Outflow (ft^3/s)	Storage (ac-ft)	Area (acres)	Infiltration (ft^3/s)	Flow (Total) (ft^3/s)	2S/t + O (ft^3/s)
781.00	0.000	0.000	0.000	0.000	0.000	0.000
781.10	0.010	0.000	0.000	0.000	0.010	0.059
781.20	0.025	0.000	0.000	0.000	0.025	0.122
781.30	0.033	0.001	0.000	0.000	0.033	0.178
781.40	0.039	0.001	0.000	0.000	0.039	0.233
781.50	0.045	0.001	0.000	0.000	0.045	0.287
781.60	0.050	0.022	0.000	0.000	0.050	5.325
781.70	0.054	0.043	0.000	0.000	0.054	10.364
781.80	0.059	0.063	0.000	0.000	0.059	15.401
781.90	0.062	0.084	0.000	0.000	0.062	20.439
782.00	0.066	0.105	0.000	0.000	0.066	25.476
782.10	0.069	0.133	0.000	0.000	0.069	32.207
782.20	0.073	0.161	0.000	0.000	0.073	38.938
782.30	0.076	0.188	0.000	0.000	0.076	45.669
782.40	0.079	0.216	0.000	0.000	0.079	52.399
782.50	0.082	0.244	0.000	0.000	0.082	59.130
782.60	0.085	0.272	0.000	0.000	0.085	65.860
782.70	0.087	0.300	0.000	0.000	0.087	72.591
782.80	0.090	0.327	0.000	0.000	0.090	79.321
782.90	0.093	0.355	0.000	0.000	0.093	86.051
783.00	0.095	0.383	0.000	0.000	0.095	92.781
783.10	0.097	0.415	0.000	0.000	0.097	100.455
783.20	0.100	0.446	0.000	0.000	0.100	108.129
783.30	0.102	0.478	0.000	0.000	0.102	115.802
783.40	0.104	0.510	0.000	0.000	0.104	123.476
783.50	0.107	0.542	0.000	0.000	0.107	131.150
783.60	0.123	0.573	0.000	0.000	0.123	138.837
783.70	0.159	0.605	0.000	0.000	0.159	146.545
783.80	0.187	0.637	0.000	0.000	0.187	154.244
783.90	0.206	0.668	0.000	0.000	0.206	161.934
784.00	0.222	0.700	0.000	0.000	0.222	169.622
784.10	0.236	0.734	0.000	0.000	0.236	177.913
784.20	0.250	0.768	0.000	0.000	0.250	186.202
784.30	0.262	0.803	0.000	0.000	0.262	194.491
784.40	0.274	0.837	0.000	0.000	0.274	202.779
784.50	0.284	0.871	0.000	0.000	0.284	211.066
784.60	0.295	0.905	0.000	0.000	0.295	219.353
784.70	0.305	0.939	0.000	0.000	0.305	227.640
784.80	0.314	0.974	0.000	0.000	0.314	235.926
784.90	0.324	1.008	0.000	0.000	0.324	244.211
785.00	0.333	1.042	0.000	0.000	0.333	252.497
785.10	0.341	1.079	0.000	0.000	0.341	261.435
785.20	0.350	1.116	0.000	0.000	0.350	270.373
785.30	0.358	1.153	0.000	0.000	0.358	279.311
785.40	0.366	1.190	0.000	0.000	0.366	288.249

Subsection: Elevation-Volume-Flow Table (Pond)
Label: Detention Basin
Scenario: 100 yr 24 hr

Return Event: 100.00 years
Storm Event: 24 hr 100 yr

Elevation (ft)	Outflow (ft^3/s)	Storage (ac-ft)	Area (acres)	Infiltration (ft^3/s)	Flow (Total) (ft^3/s)	2S/t + O (ft^3/s)
785.50	0.374	1.226	0.000	0.000	0.374	297.187
785.60	0.381	1.263	0.000	0.000	0.381	306.124
785.70	0.389	1.300	0.000	0.000	0.389	315.061
785.80	0.396	1.337	0.000	0.000	0.396	323.998
785.90	0.403	1.374	0.000	0.000	0.403	332.935
786.00	0.410	1.411	0.000	0.000	0.410	341.872
786.10	0.417	1.450	0.000	0.000	0.417	351.236
786.20	0.424	1.488	0.000	0.000	0.424	360.600
786.30	0.430	1.527	0.000	0.000	0.430	369.964
786.40	0.911	1.567	0.000	0.000	0.911	380.090
786.50	1.785	1.607	0.000	0.000	1.785	390.610
786.60	2.914	1.647	0.000	0.000	2.914	401.384
786.70	4.250	1.686	0.000	0.000	4.250	412.366
786.80	5.765	1.726	0.000	0.000	5.765	423.526
786.90	7.439	1.766	0.000	0.000	7.439	434.846
787.00	9.259	1.806	0.000	0.000	9.259	446.311
787.10	11.213	1.825	0.000	0.000	11.213	452.960
787.20	13.293	1.845	0.000	0.000	13.293	459.734
787.30	15.491	1.864	0.000	0.000	15.491	466.628
787.40	17.802	1.884	0.000	0.000	17.802	473.633
787.50	20.221	1.903	0.000	0.000	20.221	480.747
787.60	22.741	1.922	0.000	0.000	22.741	487.962
787.70	25.361	1.942	0.000	0.000	25.361	495.277
787.80	28.076	1.961	0.000	0.000	28.076	502.686
787.90	30.882	1.981	0.000	0.000	30.882	510.187
788.00	33.778	2.000	0.000	0.000	33.778	517.778

Subsection: Level Pool Pond Routing Summary
Label: Detention Basin (IN)
Scenario: 2 yr 24 hr

Return Event: 2.00 years
Storm Event: 24 hr 2 yr

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	781.00 ft
Volume (Initial)	0.000 ac-ft
Flow (Initial Outlet)	0.000 ft^3/s
Flow (Initial Infiltration)	0.000 ft^3/s
Flow (Initial, Total)	0.000 ft^3/s
Time Increment	0.10 hours

Subsection: Level Pool Pond Routing Summary
Label: Detention Basin (IN)
Scenario: 2 yr 24 hr

Return Event: 2.00 years
Storm Event: 24 hr 2 yr

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	0.807 ft³/s	Time to Peak (Flow, In)	15.80 hours
Flow (Peak Outlet)	0.101 ft³/s	Time to Peak (Flow, Outlet)	24.10 hours

Elevation (Water Surface, Peak)	783.27 ft
Volume (Peak)	0.469 ac-ft

Mass Balance (ac-ft)	
Volume (Initial)	0.000 ac-ft
Volume (Total Inflow)	0.593 ac-ft
Volume (Total Infiltration)	0.000 ac-ft
Volume (Total Outlet Outflow)	0.593 ac-ft
Volume (Retained)	0.000 ac-ft
Volume (Unrouted)	0.000 ac-ft
Error (Mass Balance)	0.0 %

Subsection: Level Pool Pond Routing Summary
Label: Detention Basin (IN)
Scenario: 100 yr 24 hr

Return Event: 100.00 years
Storm Event: 24 hr 100 yr

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	781.00 ft
Volume (Initial)	0.000 ac-ft
Flow (Initial Outlet)	0.000 ft³/s
Flow (Initial Infiltration)	0.000 ft³/s
Flow (Initial, Total)	0.000 ft³/s
Time Increment	0.10 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	2.317 ft³/s	Time to Peak (Flow, In)	15.80 hours
Flow (Peak Outlet)	0.426 ft³/s	Time to Peak (Flow, Outlet)	22.10 hours

Elevation (Water Surface, Peak)	786.23 ft
Volume (Peak)	1.501 ac-ft

Mass Balance (ac-ft)

Mass Balance (ac-ft)	
Volume (Initial)	0.000 ac-ft
Volume (Total Inflow)	1.907 ac-ft
Volume (Total Infiltration)	0.000 ac-ft
Volume (Total Outlet Outflow)	1.638 ac-ft
Volume (Retained)	0.268 ac-ft
Volume (Unrouted)	-0.001 ac-ft
Error (Mass Balance)	0.0 %

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APPENDIX E – Proposed Critical Duration PondPack Report (with Offsite Bypass Area)

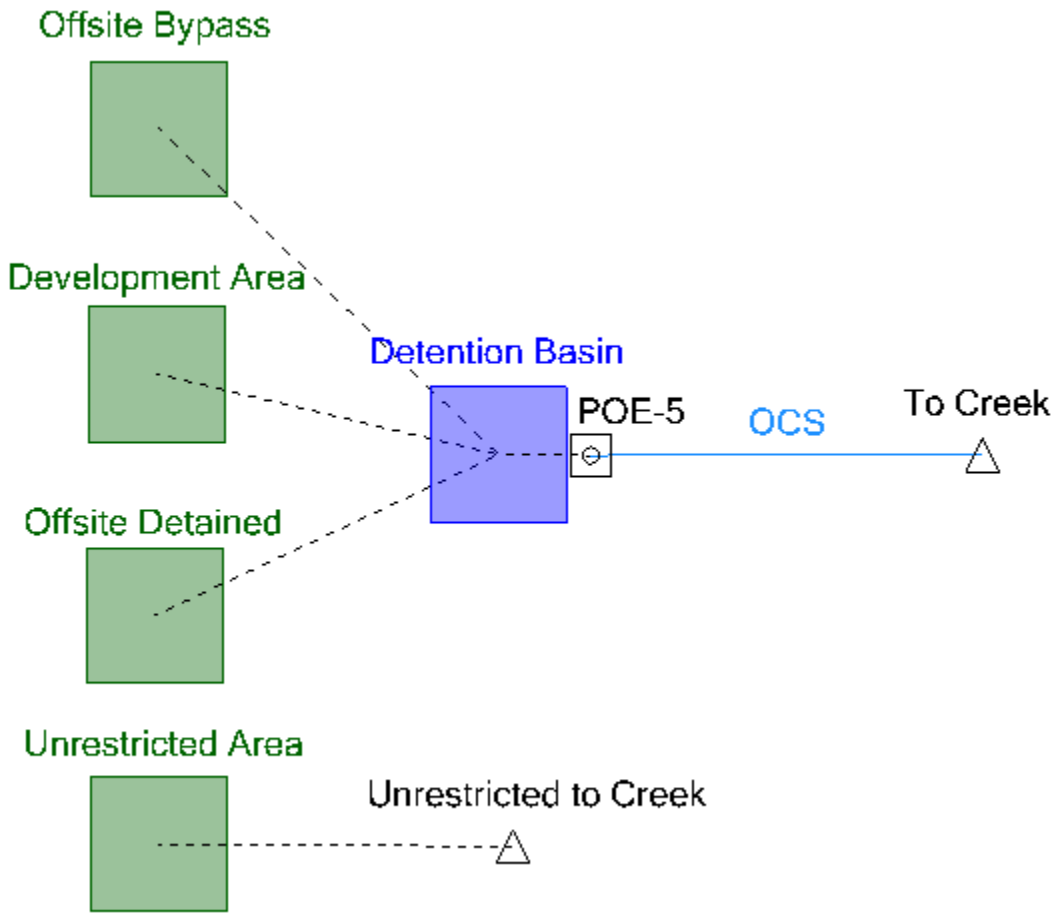

Table of Contents

Project Summary	
Title	25-058 Proposed Conditions PondPack Model
Engineer	KML
Company	Haeger Engineering LLC
Date	7/21/2025

Notes	Proposed Conditions Model - with Offsite Bypass Critical Duration Analysis

Subsection: User Notifications

User Notifications?	No user notifications generated.

Subsection: Master Network Summary

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)
Development Area	2 yr 18 hr	2.00	0.473	11.90	0.854
Development Area	2 yr 10 min	2.00	0.036	0.16	2.613
Development Area	2 yr 15 min	2.00	0.062	0.18	3.620
Development Area	2 yr 30 min	2.00	0.114	0.22	4.544
Development Area	2 yr 1 hr	2.00	0.171	0.32	4.363
Development Area	2 yr 2 hr	2.00	0.238	0.52	3.372
Development Area	2 yr 3 hr	2.00	0.276	0.67	2.676
Development Area	2 yr 6 hr	2.00	0.276	0.67	2.676
Development Area	2 yr 12 hr	2.00	0.427	4.95	1.112
Development Area	2 yr 24 hr	2.00	0.513	15.85	0.689
Development Area	2 yr 48 hr	2.00	0.578	41.70	0.479
Development Area	2 yr 72 hr	2.00	0.642	62.60	0.350
Development Area	2 yr 120 hr	2.00	0.735	104.40	0.236
Development Area	2 yr 240 hr	2.00	0.981	208.70	0.153
Unrestricted Area	2 yr 18 hr	2.00	0.023	12.60	0.052
Unrestricted Area	2 yr 10 min	2.00	0.000	0.00	0.000
Unrestricted Area	2 yr 15 min	2.00	0.000	0.28	0.020
Unrestricted Area	2 yr 30 min	2.00	0.002	0.36	0.064
Unrestricted Area	2 yr 1 hr	2.00	0.004	0.61	0.074
Unrestricted Area	2 yr 2 hr	2.00	0.007	0.63	0.087
Unrestricted Area	2 yr 3 hr	2.00	0.010	0.90	0.081
Unrestricted Area	2 yr 6 hr	2.00	0.010	0.90	0.081
Unrestricted Area	2 yr 12 hr	2.00	0.020	6.00	0.055
Unrestricted Area	2 yr 24 hr	2.00	0.026	16.80	0.044
Unrestricted Area	2 yr 48 hr	2.00	0.031	41.70	0.034
Unrestricted Area	2 yr 72 hr	2.00	0.036	62.60	0.026

Subsection: Master Network Summary

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)
Unrestricted Area	2 yr 120 hr	2.00	0.044	104.40	0.018
Unrestricted Area	2 yr 240 hr	2.00	0.066	208.80	0.013
Offsite Detained	2 yr 18 hr	2.00	0.036	11.95	0.073
Offsite Detained	2 yr 10 min	2.00	0.001	0.23	0.053
Offsite Detained	2 yr 15 min	2.00	0.002	0.26	0.114
Offsite Detained	2 yr 30 min	2.00	0.006	0.34	0.178
Offsite Detained	2 yr 1 hr	2.00	0.010	0.41	0.201
Offsite Detained	2 yr 2 hr	2.00	0.015	0.63	0.194
Offsite Detained	2 yr 3 hr	2.00	0.018	0.86	0.165
Offsite Detained	2 yr 6 hr	2.00	0.018	0.86	0.165
Offsite Detained	2 yr 12 hr	2.00	0.032	5.05	0.084
Offsite Detained	2 yr 24 hr	2.00	0.040	15.90	0.060
Offsite Detained	2 yr 48 hr	2.00	0.046	41.70	0.044
Offsite Detained	2 yr 72 hr	2.00	0.052	62.60	0.033
Offsite Detained	2 yr 120 hr	2.00	0.061	104.40	0.022
Offsite Detained	2 yr 240 hr	2.00	0.086	208.80	0.015
Offsite Bypass	2 yr 18 hr	2.00	0.036	11.95	0.072
Offsite Bypass	2 yr 10 min	2.00	0.001	0.23	0.065
Offsite Bypass	2 yr 15 min	2.00	0.003	0.26	0.130
Offsite Bypass	2 yr 30 min	2.00	0.006	0.32	0.193
Offsite Bypass	2 yr 1 hr	2.00	0.010	0.39	0.216
Offsite Bypass	2 yr 2 hr	2.00	0.016	0.62	0.204
Offsite Bypass	2 yr 3 hr	2.00	0.019	0.83	0.172
Offsite Bypass	2 yr 6 hr	2.00	0.019	0.83	0.172
Offsite Bypass	2 yr 12 hr	2.00	0.032	5.05	0.085
Offsite Bypass	2 yr 24 hr	2.00	0.040	15.90	0.059
Offsite Bypass	2 yr 48 hr	2.00	0.046	41.70	0.043
Offsite Bypass	2 yr 72 hr	2.00	0.052	62.60	0.032
Offsite Bypass	2 yr 120 hr	2.00	0.061	104.40	0.022
Offsite Bypass	2 yr 240 hr	2.00	0.085	208.80	0.015

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)
To Creek	2 yr 18 hr	2.00	0.545	18.10	0.100
To Creek	2 yr 10 min	2.00	0.038	0.45	0.053
To Creek	2 yr 15 min	2.00	0.067	0.53	0.059
To Creek	2 yr 30 min	2.00	0.126	0.75	0.068
To Creek	2 yr 1 hr	2.00	0.191	1.22	0.075
To Creek	2 yr 2 hr	2.00	0.269	2.19	0.083
To Creek	2 yr 3 hr	2.00	0.289	3.17	0.087
To Creek	2 yr 6 hr	2.00	0.289	3.17	0.087
To Creek	2 yr 12 hr	2.00	0.491	12.10	0.098

Subsection: Master Network Summary

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft³/s)
To Creek	2 yr 24 hr	2.00	0.593	24.05	0.101
To Creek	2 yr 48 hr	2.00	0.671	48.10	0.101
To Creek	2 yr 72 hr	2.00	0.746	72.10	0.099
To Creek	2 yr 120 hr	2.00	0.857	120.00	0.095
To Creek	2 yr 240 hr	2.00	1.152	230.50	0.091
Unrestricted to Creek	2 yr 18 hr	2.00	0.023	12.60	0.052
Unrestricted to Creek	2 yr 10 min	2.00	0.000	0.00	0.000
Unrestricted to Creek	2 yr 15 min	2.00	0.000	0.28	0.020
Unrestricted to Creek	2 yr 30 min	2.00	0.002	0.36	0.064
Unrestricted to Creek	2 yr 1 hr	2.00	0.004	0.61	0.074
Unrestricted to Creek	2 yr 2 hr	2.00	0.007	0.63	0.087
Unrestricted to Creek	2 yr 3 hr	2.00	0.010	0.90	0.081
Unrestricted to Creek	2 yr 6 hr	2.00	0.010	0.90	0.081
Unrestricted to Creek	2 yr 12 hr	2.00	0.020	6.00	0.055
Unrestricted to Creek	2 yr 24 hr	2.00	0.026	16.80	0.044
Unrestricted to Creek	2 yr 48 hr	2.00	0.031	41.70	0.034
Unrestricted to Creek	2 yr 72 hr	2.00	0.036	62.60	0.026
Unrestricted to Creek	2 yr 120 hr	2.00	0.044	104.40	0.018
Unrestricted to Creek	2 yr 240 hr	2.00	0.066	208.80	0.013

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft³/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ac-ft)
Detention Basin (IN)	2 yr 18 hr	2.00	0.545	11.90	0.998	(N/A)	(N/A)
Detention Basin (OUT)	2 yr 18 hr	2.00	0.545	18.10	0.100	783.22	0.453
Detention Basin (IN)	2 yr 10 min	2.00	0.038	0.16	2.687	(N/A)	(N/A)
Detention Basin (OUT)	2 yr 10 min	2.00	0.038	0.45	0.053	781.67	0.036
Detention Basin (IN)	2 yr 15 min	2.00	0.067	0.18	3.776	(N/A)	(N/A)
Detention Basin (OUT)	2 yr 15 min	2.00	0.067	0.53	0.059	781.81	0.065
Detention Basin (IN)	2 yr 30 min	2.00	0.126	0.22	4.794	(N/A)	(N/A)
Detention Basin (OUT)	2 yr 30 min	2.00	0.126	0.75	0.068	782.06	0.122
Detention Basin (IN)	2 yr 1 hr	2.00	0.191	0.32	4.694	(N/A)	(N/A)

Subsection: Master Network Summary

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ac-ft)
Detention Basin (OUT)	2 yr 1 hr	2.00	0.191	1.22	0.075	782.29	0.185
Detention Basin (IN)	2 yr 2 hr	2.00	0.269	0.53	3.723	(N/A)	(N/A)
Detention Basin (OUT)	2 yr 2 hr	2.00	0.269	2.19	0.083	782.55	0.257
Detention Basin (IN)	2 yr 3 hr	2.00	0.313	0.68	2.971	(N/A)	(N/A)
Detention Basin (OUT)	2 yr 3 hr	2.00	0.289	3.17	0.087	782.68	0.295
Detention Basin (IN)	2 yr 6 hr	2.00	0.313	0.68	2.971	(N/A)	(N/A)
Detention Basin (OUT)	2 yr 6 hr	2.00	0.289	3.17	0.087	782.68	0.295
Detention Basin (IN)	2 yr 12 hr	2.00	0.491	4.95	1.280	(N/A)	(N/A)
Detention Basin (OUT)	2 yr 12 hr	2.00	0.491	12.10	0.098	783.12	0.421
Detention Basin (IN)	2 yr 24 hr	2.00	0.593	15.85	0.808	(N/A)	(N/A)
Detention Basin (OUT)	2 yr 24 hr	2.00	0.593	24.05	0.101	783.27	0.469
Detention Basin (IN)	2 yr 48 hr	2.00	0.671	41.70	0.566	(N/A)	(N/A)
Detention Basin (OUT)	2 yr 48 hr	2.00	0.671	48.10	0.101	783.23	0.457
Detention Basin (IN)	2 yr 72 hr	2.00	0.746	62.60	0.414	(N/A)	(N/A)
Detention Basin (OUT)	2 yr 72 hr	2.00	0.746	72.10	0.099	783.17	0.437
Detention Basin (IN)	2 yr 120 hr	2.00	0.857	104.40	0.281	(N/A)	(N/A)
Detention Basin (OUT)	2 yr 120 hr	2.00	0.857	120.00	0.095	783.01	0.385
Detention Basin (IN)	2 yr 240 hr	2.00	1.152	208.70	0.182	(N/A)	(N/A)
Detention Basin (OUT)	2 yr 240 hr	2.00	1.152	230.50	0.091	782.85	0.341

Subsection: Time-Depth Curve
Label: B75 - 2 Year Critical Storm
Scenario: 2 yr 1 hr

Return Event: 2.00 years
Storm Event: 1 hr 2 yr

Time-Depth Curve: 1 hr 2 yr	
Label	1 hr 2 yr

Subsection: Time-Depth Curve
Label: B75 - 2 Year Critical Storm
Scenario: 2 yr 1 hr

Return Event: 2.00 years
Storm Event: 1 hr 2 yr

Time-Depth Curve: 1 hr 2 yr	
Start Time	0.00 hours
Increment	0.01 hours
End Time	1.00 hours
Return Event	2.00 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.01 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.00	0.00	0.03	0.06	0.09	0.13
0.05	0.16	0.20	0.23	0.27	0.30
0.10	0.34	0.38	0.42	0.46	0.50
0.15	0.54	0.58	0.61	0.65	0.68
0.20	0.72	0.75	0.78	0.81	0.84
0.25	0.87	0.90	0.92	0.95	0.97
0.30	0.99	1.01	1.03	1.05	1.06
0.35	1.08	1.09	1.11	1.12	1.13
0.40	1.14	1.16	1.17	1.18	1.19
0.45	1.20	1.21	1.22	1.23	1.24
0.50	1.25	1.26	1.27	1.28	1.29
0.55	1.30	1.31	1.32	1.33	1.34
0.60	1.35	1.36	1.37	1.38	1.38
0.65	1.39	1.40	1.41	1.41	1.42
0.70	1.43	1.43	1.44	1.44	1.45
0.75	1.46	1.46	1.47	1.47	1.48
0.80	1.48	1.49	1.49	1.50	1.50
0.85	1.50	1.51	1.51	1.52	1.52
0.90	1.53	1.53	1.54	1.54	1.54
0.95	1.55	1.55	1.56	1.56	1.57
1.00	1.57	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time-Depth Curve
Label: B75 - 2 Year Critical Storm
Scenario: 2 yr 10 min

Return Event: 2.00 years
Storm Event: 10 min 2 yr

Time-Depth Curve: 10 min 2 yr	
Label	10 min 2 yr
Start Time	0.00 hours
Increment	0.00 hours
End Time	0.17 hours
Return Event	2.00 years

Subsection: Time-Depth Curve
Label: B75 - 2 Year Critical Storm
Scenario: 2 yr 10 min

Return Event: 2.00 years
Storm Event: 10 min 2 yr

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.00 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.00	0.00	0.01	0.03	0.04	0.06
0.01	0.07	0.09	0.10	0.12	0.14
0.02	0.15	0.17	0.19	0.21	0.22
0.03	0.24	0.26	0.27	0.29	0.30
0.03	0.32	0.33	0.35	0.36	0.37
0.04	0.39	0.40	0.41	0.42	0.43
0.05	0.44	0.45	0.46	0.47	0.47
0.06	0.48	0.49	0.49	0.50	0.50
0.07	0.51	0.52	0.52	0.53	0.53
0.08	0.53	0.54	0.54	0.55	0.55
0.08	0.56	0.56	0.57	0.57	0.58
0.09	0.58	0.59	0.59	0.59	0.60
0.10	0.60	0.61	0.61	0.61	0.62
0.11	0.62	0.62	0.63	0.63	0.63
0.12	0.64	0.64	0.64	0.64	0.65
0.13	0.65	0.65	0.65	0.66	0.66
0.13	0.66	0.66	0.66	0.67	0.67
0.14	0.67	0.67	0.67	0.68	0.68
0.15	0.68	0.68	0.68	0.69	0.69
0.16	0.69	0.69	0.69	0.70	0.70
0.17	0.70	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time-Depth Curve
Label: B75 - 2 Year Critical Storm
Scenario: 2 yr 12 hr

Return Event: 2.00 years
Storm Event: 12 hr 2 yr

Time-Depth Curve: 12 hr 2 yr	
Label	12 hr 2 yr
Start Time	0.00 hours
Increment	0.12 hours
End Time	12.00 hours
Return Event	2.00 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.12 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.00	0.00	0.02	0.03	0.05	0.06
0.60	0.08	0.10	0.12	0.13	0.15
1.20	0.17	0.20	0.22	0.24	0.26
1.80	0.29	0.31	0.34	0.37	0.40

Subsection: Time-Depth Curve
Label: B75 - 2 Year Critical Storm
Scenario: 2 yr 12 hr

Return Event: 2.00 years
Storm Event: 12 hr 2 yr

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.12 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
2.40	0.43	0.47	0.51	0.54	0.58
3.00	0.62	0.67	0.72	0.77	0.82
3.60	0.87	0.93	0.99	1.04	1.10
4.20	1.16	1.23	1.29	1.35	1.41
4.80	1.48	1.54	1.60	1.66	1.71
5.40	1.77	1.82	1.88	1.93	1.98
6.00	2.03	2.07	2.11	2.15	2.19
6.60	2.22	2.26	2.29	2.33	2.36
7.20	2.39	2.42	2.45	2.48	2.50
7.80	2.52	2.54	2.56	2.58	2.59
8.40	2.61	2.63	2.64	2.65	2.67
9.00	2.68	2.69	2.71	2.72	2.73
9.60	2.74	2.75	2.76	2.77	2.78
10.20	2.79	2.80	2.81	2.81	2.82
10.80	2.83	2.84	2.85	2.85	2.86
11.40	2.87	2.88	2.89	2.89	2.90
12.00	2.91	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time-Depth Curve
Label: B75 - 2 Year Critical Storm
Scenario: 2 yr 120 hr

Return Event: 2.00 years
Storm Event: 120 hr 2 yr

Time-Depth Curve: 120 hr 2 yr	
Label	120 hr 2 yr
Start Time	0.00 hours
Increment	1.20 hours
End Time	120.00 hours
Return Event	2.00 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 1.20 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.00	0.00	0.02	0.05	0.07	0.10
6.00	0.12	0.15	0.18	0.20	0.23
12.00	0.25	0.28	0.30	0.33	0.36
18.00	0.39	0.41	0.44	0.47	0.50
24.00	0.53	0.56	0.59	0.62	0.64
30.00	0.67	0.70	0.73	0.76	0.79
36.00	0.81	0.84	0.86	0.89	0.92
42.00	0.94	0.97	1.00	1.02	1.05

Subsection: Time-Depth Curve
Label: B75 - 2 Year Critical Storm
Scenario: 2 yr 120 hr

Return Event: 2.00 years
Storm Event: 120 hr 2 yr

CUMULATIVE RAINFALL (in)
Output Time Increment = 1.20 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
48.00	1.08	1.10	1.13	1.16	1.20
54.00	1.23	1.26	1.29	1.32	1.35
60.00	1.38	1.41	1.44	1.47	1.49
66.00	1.52	1.55	1.57	1.60	1.62
72.00	1.65	1.67	1.69	1.72	1.75
78.00	1.78	1.80	1.84	1.88	1.92
84.00	1.96	2.00	2.07	2.14	2.20
90.00	2.27	2.35	2.44	2.52	2.61
96.00	2.71	2.81	2.92	3.02	3.14
102.00	3.25	3.37	3.48	3.59	3.69
108.00	3.79	3.90	3.99	4.05	4.12
114.00	4.19	4.25	4.29	4.34	4.38
120.00	4.42	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time-Depth Curve
Label: B75 - 2 Year Critical Storm
Scenario: 2 yr 15 min

Return Event: 2.00 years
Storm Event: 15 min 2 yr

Time-Depth Curve: 15 min 2 yr	
Label	15 min 2 yr
Start Time	0.00 hours
Increment	0.00 hours
End Time	0.25 hours
Return Event	2.00 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.00 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.00	0.00	0.02	0.04	0.05	0.07
0.01	0.09	0.11	0.13	0.15	0.17
0.03	0.20	0.22	0.24	0.26	0.29
0.04	0.31	0.33	0.35	0.37	0.39
0.05	0.41	0.43	0.45	0.46	0.48
0.06	0.50	0.51	0.53	0.54	0.56
0.08	0.57	0.58	0.59	0.60	0.61
0.09	0.62	0.63	0.63	0.64	0.65
0.10	0.66	0.66	0.67	0.68	0.68
0.11	0.69	0.69	0.70	0.71	0.71
0.13	0.72	0.72	0.73	0.74	0.74
0.14	0.75	0.75	0.76	0.76	0.77

Subsection: Time-Depth Curve
Label: B75 - 2 Year Critical Storm
Scenario: 2 yr 15 min

Return Event: 2.00 years
Storm Event: 15 min 2 yr

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.00 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.15	0.77	0.78	0.78	0.79	0.79
0.16	0.80	0.80	0.81	0.81	0.81
0.18	0.82	0.82	0.82	0.83	0.83
0.19	0.83	0.84	0.84	0.84	0.85
0.20	0.85	0.85	0.85	0.86	0.86
0.21	0.86	0.87	0.87	0.87	0.87
0.23	0.88	0.88	0.88	0.88	0.89
0.24	0.89	0.89	0.89	0.90	0.90
0.25	0.90	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time-Depth Curve
Label: B75 - 2 Year Critical Storm
Scenario: 2 yr 18 hr

Return Event: 2.00 years
Storm Event: 18 hr 2 yr

Time-Depth Curve: 18 hr 2 yr	
Label	18 hr 2 yr
Start Time	0.00 hours
Increment	0.18 hours
End Time	18.00 hours
Return Event	2.00 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.18 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.00	0.00	0.02	0.03	0.05	0.06
0.90	0.08	0.10	0.11	0.13	0.15
1.80	0.16	0.18	0.20	0.22	0.24
2.70	0.26	0.27	0.29	0.31	0.33
3.60	0.35	0.37	0.39	0.41	0.43
4.50	0.45	0.47	0.49	0.51	0.53
5.40	0.55	0.57	0.59	0.61	0.63
6.30	0.66	0.68	0.70	0.73	0.76
7.20	0.78	0.81	0.84	0.87	0.91
8.10	0.94	0.98	1.02	1.06	1.10
9.00	1.14	1.20	1.26	1.31	1.37
9.90	1.43	1.49	1.55	1.62	1.68
10.80	1.75	1.82	1.88	1.95	2.02
11.70	2.08	2.15	2.22	2.28	2.34
12.60	2.40	2.46	2.51	2.57	2.62
13.50	2.67	2.70	2.74	2.78	2.81

Subsection: Time-Depth Curve
Label: B75 - 2 Year Critical Storm
Scenario: 2 yr 18 hr

Return Event: 2.00 years
Storm Event: 18 hr 2 yr

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.18 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
14.40	2.84	2.86	2.89	2.92	2.93
15.30	2.95	2.97	2.99	3.00	3.01
16.20	3.03	3.04	3.05	3.06	3.07
17.10	3.09	3.10	3.11	3.12	3.13
18.00	3.14	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time-Depth Curve
Label: B75 - 2 Year Critical Storm
Scenario: 2 yr 2 hr

Return Event: 2.00 years
Storm Event: 2 hr 2 yr

Time-Depth Curve: 2 hr 2 yr	
Label	2 hr 2 yr
Start Time	0.00 hours
Increment	0.02 hours
End Time	2.00 hours
Return Event	2.00 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.02 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.00	0.00	0.04	0.08	0.12	0.16
0.10	0.20	0.24	0.29	0.33	0.38
0.20	0.42	0.47	0.52	0.57	0.62
0.30	0.66	0.71	0.76	0.80	0.84
0.40	0.89	0.93	0.96	1.00	1.04
0.50	1.08	1.11	1.14	1.17	1.20
0.60	1.23	1.25	1.27	1.30	1.32
0.70	1.33	1.35	1.37	1.38	1.40
0.80	1.41	1.43	1.44	1.46	1.47
0.90	1.48	1.50	1.51	1.52	1.54
1.00	1.55	1.56	1.57	1.59	1.60
1.10	1.61	1.62	1.64	1.65	1.66
1.20	1.67	1.68	1.69	1.70	1.71
1.30	1.72	1.73	1.74	1.75	1.75
1.40	1.76	1.77	1.78	1.78	1.79
1.50	1.80	1.80	1.81	1.82	1.82
1.60	1.83	1.84	1.84	1.85	1.85
1.70	1.86	1.86	1.87	1.88	1.88
1.80	1.89	1.89	1.90	1.90	1.91
1.90	1.91	1.92	1.92	1.93	1.93

Subsection: Time-Depth Curve
Label: B75 - 2 Year Critical Storm
Scenario: 2 yr 2 hr

Return Event: 2.00 years
Storm Event: 2 hr 2 yr

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.02 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
2.00	1.94	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time-Depth Curve
Label: B75 - 2 Year Critical Storm
Scenario: 2 yr 24 hr

Return Event: 2.00 years
Storm Event: 24 hr 2 yr

Time-Depth Curve: 24 hr 2 yr	
Label	24 hr 2 yr
Start Time	0.00 hours
Increment	0.24 hours
End Time	24.00 hours
Return Event	2.00 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.24 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.00	0.00	0.02	0.03	0.05	0.07
1.20	0.08	0.10	0.12	0.14	0.16
2.40	0.18	0.19	0.21	0.23	0.25
3.60	0.27	0.29	0.31	0.33	0.35
4.80	0.37	0.39	0.42	0.44	0.46
6.00	0.48	0.50	0.52	0.54	0.56
7.20	0.58	0.60	0.63	0.65	0.67
8.40	0.70	0.72	0.75	0.78	0.80
9.60	0.83	0.86	0.89	0.93	0.97
10.80	1.00	1.04	1.08	1.13	1.17
12.00	1.21	1.27	1.34	1.40	1.46
13.20	1.52	1.59	1.65	1.72	1.79
14.40	1.86	1.93	2.00	2.07	2.14
15.60	2.22	2.29	2.36	2.42	2.49
16.80	2.56	2.62	2.67	2.73	2.78
18.00	2.84	2.87	2.91	2.95	2.99
19.20	3.02	3.05	3.07	3.10	3.12
20.40	3.14	3.16	3.18	3.19	3.21
21.60	3.22	3.23	3.25	3.26	3.27
22.80	3.28	3.29	3.31	3.32	3.33
24.00	3.34	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time-Depth Curve
Label: B75 - 2 Year Critical Storm
Scenario: 2 yr 240 hr

Return Event: 2.00 years
Storm Event: 240 hr 2 yr

Time-Depth Curve: 240 hr 2 yr	
Label	240 hr 2 yr
Start Time	0.00 hours
Increment	2.40 hours
End Time	240.00 hours
Return Event	2.00 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 2.40 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.00	0.00	0.03	0.06	0.09	0.12
12.00	0.16	0.19	0.22	0.26	0.29
24.00	0.32	0.35	0.38	0.42	0.45
36.00	0.49	0.52	0.56	0.60	0.63
48.00	0.67	0.71	0.74	0.78	0.82
60.00	0.85	0.89	0.92	0.96	1.00
72.00	1.03	1.06	1.10	1.13	1.16
84.00	1.19	1.23	1.26	1.30	1.33
96.00	1.37	1.40	1.44	1.48	1.52
108.00	1.55	1.59	1.63	1.67	1.71
120.00	1.75	1.79	1.82	1.86	1.89
132.00	1.93	1.96	1.99	2.02	2.05
144.00	2.09	2.12	2.15	2.18	2.22
156.00	2.25	2.29	2.33	2.38	2.43
168.00	2.48	2.54	2.62	2.71	2.79
180.00	2.87	2.98	3.09	3.20	3.30
192.00	3.43	3.56	3.70	3.83	3.97
204.00	4.12	4.26	4.41	4.55	4.68
216.00	4.81	4.94	5.05	5.14	5.22
228.00	5.31	5.39	5.44	5.49	5.55
240.00	5.60	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time-Depth Curve
Label: B75 - 2 Year Critical Storm
Scenario: 2 yr 3 hr

Return Event: 2.00 years
Storm Event: 3 hr 2 yr

Time-Depth Curve: 3 hr 2 yr	
Label	3 hr 2 yr
Start Time	0.00 hours
Increment	0.03 hours
End Time	3.00 hours
Return Event	2.00 years

Subsection: Time-Depth Curve
Label: B75 - 2 Year Critical Storm
Scenario: 2 yr 3 hr

Return Event: 2.00 years
Storm Event: 3 hr 2 yr

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.03 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.00	0.00	0.04	0.09	0.13	0.17
0.15	0.22	0.27	0.32	0.36	0.41
0.30	0.47	0.52	0.57	0.63	0.68
0.45	0.73	0.79	0.84	0.88	0.93
0.60	0.98	1.02	1.06	1.11	1.15
0.75	1.19	1.22	1.26	1.29	1.33
0.90	1.35	1.38	1.40	1.43	1.45
1.05	1.47	1.49	1.51	1.52	1.54
1.20	1.56	1.58	1.59	1.61	1.62
1.35	1.64	1.65	1.66	1.68	1.69
1.50	1.71	1.72	1.74	1.75	1.76
1.65	1.78	1.79	1.80	1.82	1.83
1.80	1.84	1.85	1.86	1.88	1.89
1.95	1.90	1.91	1.92	1.93	1.94
2.10	1.94	1.95	1.96	1.97	1.98
2.25	1.98	1.99	2.00	2.00	2.01
2.40	2.02	2.02	2.03	2.04	2.04
2.55	2.05	2.06	2.06	2.07	2.08
2.70	2.08	2.09	2.09	2.10	2.10
2.85	2.11	2.12	2.12	2.13	2.13
3.00	2.14	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time-Depth Curve
Label: B75 - 2 Year Critical Storm
Scenario: 2 yr 6 hr

Return Event: 2.00 years
Storm Event: 3 hr 2 yr

Time-Depth Curve: 3 hr 2 yr	
Label	3 hr 2 yr
Start Time	0.00 hours
Increment	0.03 hours
End Time	3.00 hours
Return Event	2.00 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.03 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.00	0.00	0.04	0.09	0.13	0.17
0.15	0.22	0.27	0.32	0.36	0.41
0.30	0.47	0.52	0.57	0.63	0.68
0.45	0.73	0.79	0.84	0.88	0.93

Subsection: Time-Depth Curve
Label: B75 - 2 Year Critical Storm
Scenario: 2 yr 6 hr

Return Event: 2.00 years
Storm Event: 3 hr 2 yr

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.03 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.60	0.98	1.02	1.06	1.11	1.15
0.75	1.19	1.22	1.26	1.29	1.33
0.90	1.35	1.38	1.40	1.43	1.45
1.05	1.47	1.49	1.51	1.52	1.54
1.20	1.56	1.58	1.59	1.61	1.62
1.35	1.64	1.65	1.66	1.68	1.69
1.50	1.71	1.72	1.74	1.75	1.76
1.65	1.78	1.79	1.80	1.82	1.83
1.80	1.84	1.85	1.86	1.88	1.89
1.95	1.90	1.91	1.92	1.93	1.94
2.10	1.94	1.95	1.96	1.97	1.98
2.25	1.98	1.99	2.00	2.00	2.01
2.40	2.02	2.02	2.03	2.04	2.04
2.55	2.05	2.06	2.06	2.07	2.08
2.70	2.08	2.09	2.09	2.10	2.10
2.85	2.11	2.12	2.12	2.13	2.13
3.00	2.14	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time-Depth Curve
Label: B75 - 2 Year Critical Storm
Scenario: 2 yr 30 min

Return Event: 2.00 years
Storm Event: 30 min 2 yr

Time-Depth Curve: 30 min 2 yr	
Label	30 min 2 yr
Start Time	0.00 hours
Increment	0.01 hours
End Time	0.50 hours
Return Event	2.00 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.01 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.00	0.00	0.02	0.05	0.07	0.10
0.03	0.13	0.15	0.18	0.21	0.24
0.05	0.27	0.30	0.33	0.36	0.39
0.08	0.42	0.46	0.48	0.51	0.54
0.10	0.57	0.59	0.62	0.64	0.66
0.13	0.69	0.71	0.73	0.75	0.77
0.15	0.78	0.80	0.81	0.83	0.84
0.18	0.85	0.86	0.87	0.88	0.89

Subsection: Time-Depth Curve
Label: B75 - 2 Year Critical Storm
Scenario: 2 yr 30 min

Return Event: 2.00 years
Storm Event: 30 min 2 yr

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.01 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.20	0.90	0.91	0.92	0.93	0.94
0.23	0.95	0.96	0.96	0.97	0.98
0.25	0.99	1.00	1.01	1.01	1.02
0.28	1.03	1.04	1.05	1.05	1.06
0.30	1.07	1.07	1.08	1.09	1.09
0.33	1.10	1.11	1.11	1.12	1.12
0.35	1.13	1.13	1.14	1.14	1.14
0.38	1.15	1.15	1.16	1.16	1.17
0.40	1.17	1.17	1.18	1.18	1.18
0.43	1.19	1.19	1.20	1.20	1.20
0.45	1.21	1.21	1.21	1.22	1.22
0.48	1.22	1.23	1.23	1.23	1.24
0.50	1.24	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time-Depth Curve
Label: B75 - 2 Year Critical Storm
Scenario: 2 yr 48 hr

Return Event: 2.00 years
Storm Event: 48 hr 2 yr

Time-Depth Curve: 48 hr 2 yr	
Label	48 hr 2 yr
Start Time	0.00 hours
Increment	0.48 hours
End Time	48.00 hours
Return Event	2.00 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.48 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.00	0.00	0.02	0.04	0.06	0.08
2.40	0.10	0.12	0.15	0.17	0.19
4.80	0.21	0.23	0.25	0.27	0.30
7.20	0.32	0.34	0.37	0.39	0.41
9.60	0.44	0.46	0.49	0.51	0.53
12.00	0.56	0.58	0.60	0.63	0.65
14.40	0.67	0.69	0.72	0.74	0.76
16.80	0.78	0.80	0.82	0.85	0.87
19.20	0.89	0.91	0.94	0.96	0.99
21.60	1.02	1.04	1.07	1.09	1.12
24.00	1.14	1.17	1.19	1.21	1.24
26.40	1.26	1.28	1.30	1.32	1.34

Subsection: Time-Depth Curve
Label: B75 - 2 Year Critical Storm
Scenario: 2 yr 48 hr

Return Event: 2.00 years
Storm Event: 48 hr 2 yr

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.48 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
28.80	1.36	1.38	1.40	1.42	1.45
31.20	1.47	1.49	1.52	1.55	1.59
33.60	1.62	1.66	1.71	1.77	1.82
36.00	1.88	1.95	2.02	2.09	2.16
38.40	2.24	2.33	2.42	2.50	2.60
40.80	2.69	2.79	2.88	2.97	3.06
43.20	3.14	3.23	3.30	3.36	3.41
45.60	3.47	3.52	3.56	3.59	3.63
48.00	3.66	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time-Depth Curve
Label: B75 - 2 Year Critical Storm
Scenario: 2 yr 72 hr

Return Event: 2.00 years
Storm Event: 72 hr 2 yr

Time-Depth Curve: 72 hr 2 yr	
Label	72 hr 2 yr
Start Time	0.00 hours
Increment	0.72 hours
End Time	72.00 hours
Return Event	2.00 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.72 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.00	0.00	0.02	0.04	0.07	0.09
3.60	0.11	0.14	0.16	0.18	0.20
7.20	0.23	0.25	0.27	0.30	0.32
10.80	0.35	0.37	0.40	0.42	0.45
14.40	0.48	0.50	0.53	0.55	0.58
18.00	0.60	0.63	0.66	0.68	0.71
21.60	0.73	0.75	0.78	0.80	0.82
25.20	0.85	0.87	0.89	0.92	0.94
28.80	0.97	0.99	1.02	1.05	1.07
32.40	1.10	1.13	1.16	1.19	1.21
36.00	1.24	1.27	1.29	1.32	1.34
39.60	1.37	1.39	1.41	1.43	1.46
43.20	1.48	1.50	1.52	1.55	1.57
46.80	1.60	1.62	1.65	1.69	1.72
50.40	1.76	1.80	1.86	1.92	1.98
54.00	2.04	2.11	2.19	2.27	2.34

Subsection: Time-Depth Curve
Label: B75 - 2 Year Critical Storm
Scenario: 2 yr 72 hr

Return Event: 2.00 years
Storm Event: 72 hr 2 yr

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.72 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
57.60	2.43	2.53	2.62	2.72	2.82
61.20	2.92	3.02	3.13	3.22	3.32
64.80	3.41	3.50	3.58	3.64	3.70
68.40	3.76	3.82	3.86	3.89	3.93
72.00	3.97	(N/A)	(N/A)	(N/A)	(N/A)

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Project Summary	
Title	25-058 Proposed Conditions PondPack Model
Engineer	KML
Company	Haeger Engineering LLC
Date	7/21/2025

Notes	Proposed Conditions Model - with Offsite Bypass Critical Duration Analysis

Subsection: User Notifications

User Notifications?	No user notifications generated.

Subsection: Master Network Summary

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)
Development Area	100 yr 10 min	100.00	0.212	0.14	15.401
Development Area	100 yr 15 min	100.00	0.311	0.16	18.848
Development Area	100 yr 30 min	100.00	0.479	0.20	20.764
Development Area	100 yr 1 hr	100.00	0.654	0.28	17.682
Development Area	100 yr 2 hr	100.00	0.849	0.42	12.626
Development Area	100 yr 3 hr	100.00	0.958	0.54	9.797
Development Area	100 yr 6 hr	100.00	1.156	1.01	6.057
Development Area	100 yr 12 hr	100.00	1.374	4.90	3.351
Development Area	100 yr 18 hr	100.00	1.501	11.85	2.418
Development Area	100 yr 24 hr	100.00	1.610	15.85	1.934
Development Area	100 yr 48 hr	100.00	1.761	41.70	1.292
Development Area	100 yr 120 hr	100.00	2.055	104.30	0.596
Development Area	100 yr 72 hr	100.00	1.882	62.60	0.916
Development Area	100 yr 240 hr	100.00	2.481	208.70	0.355
Unrestricted Area	100 yr 10 min	100.00	0.006	0.16	0.472
Unrestricted Area	100 yr 15 min	100.00	0.012	0.18	0.705
Unrestricted Area	100 yr 30 min	100.00	0.023	0.21	0.930
Unrestricted Area	100 yr 1 hr	100.00	0.037	0.32	0.942
Unrestricted Area	100 yr 2 hr	100.00	0.054	0.53	0.753
Unrestricted Area	100 yr 3 hr	100.00	0.063	0.77	0.603
Unrestricted Area	100 yr 6 hr	100.00	0.082	1.28	0.401
Unrestricted Area	100 yr 12 hr	100.00	0.102	4.95	0.271
Unrestricted Area	100 yr 18 hr	100.00	0.115	11.90	0.217
Unrestricted Area	100 yr 24 hr	100.00	0.125	15.85	0.176
Unrestricted Area	100 yr 48 hr	100.00	0.140	41.70	0.123
Unrestricted Area	100 yr 120 hr	100.00	0.169	104.40	0.058

Subsection: Master Network Summary

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)
Unrestricted Area	100 yr 72 hr	100.00	0.152	62.60	0.088
Unrestricted Area	100 yr 240 hr	100.00	0.212	208.80	0.035
Offsite Detained	100 yr 10 min	100.00	0.013	0.20	0.754
Offsite Detained	100 yr 15 min	100.00	0.021	0.21	1.048
Offsite Detained	100 yr 30 min	100.00	0.037	0.26	1.278
Offsite Detained	100 yr 1 hr	100.00	0.053	0.36	1.262
Offsite Detained	100 yr 2 hr	100.00	0.073	0.54	1.010
Offsite Detained	100 yr 3 hr	100.00	0.084	0.70	0.807
Offsite Detained	100 yr 6 hr	100.00	0.104	1.09	0.519
Offsite Detained	100 yr 12 hr	100.00	0.126	4.95	0.323
Offsite Detained	100 yr 18 hr	100.00	0.139	11.90	0.243
Offsite Detained	100 yr 24 hr	100.00	0.150	15.85	0.196
Offsite Detained	100 yr 48 hr	100.00	0.166	41.70	0.133
Offsite Detained	100 yr 120 hr	100.00	0.197	104.40	0.062
Offsite Detained	100 yr 72 hr	100.00	0.179	62.60	0.095
Offsite Detained	100 yr 240 hr	100.00	0.242	208.80	0.037
Offsite Bypass	100 yr 10 min	100.00	0.014	0.20	0.783
Offsite Bypass	100 yr 15 min	100.00	0.022	0.21	1.076
Offsite Bypass	100 yr 30 min	100.00	0.037	0.26	1.292
Offsite Bypass	100 yr 1 hr	100.00	0.053	0.34	1.267
Offsite Bypass	100 yr 2 hr	100.00	0.072	0.53	1.002
Offsite Bypass	100 yr 3 hr	100.00	0.082	0.68	0.799
Offsite Bypass	100 yr 6 hr	100.00	0.102	1.07	0.514
Offsite Bypass	100 yr 12 hr	100.00	0.123	4.95	0.313
Offsite Bypass	100 yr 18 hr	100.00	0.136	11.90	0.234
Offsite Bypass	100 yr 24 hr	100.00	0.147	15.85	0.188
Offsite Bypass	100 yr 48 hr	100.00	0.162	41.70	0.128
Offsite Bypass	100 yr 120 hr	100.00	0.191	104.40	0.059
Offsite Bypass	100 yr 72 hr	100.00	0.174	62.60	0.091
Offsite Bypass	100 yr 240 hr	100.00	0.234	208.70	0.035

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)
To Creek	100 yr 10 min	100.00	0.239	0.52	0.081
To Creek	100 yr 15 min	100.00	0.308	0.59	0.092
To Creek	100 yr 30 min	100.00	0.377	0.80	0.109
To Creek	100 yr 1 hr	100.00	0.491	1.22	0.241
To Creek	100 yr 2 hr	100.00	0.649	2.18	0.310
To Creek	100 yr 3 hr	100.00	0.741	3.15	0.338
To Creek	100 yr 6 hr	100.00	0.910	6.11	0.374
To Creek	100 yr 12 hr	100.00	1.455	12.05	0.404
To Creek	100 yr 18 hr	100.00	1.552	18.05	0.421

Subsection: Master Network Summary

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)
To Creek	100 yr 24 hr	100.00	1.638	22.15	0.426
To Creek	100 yr 48 hr	100.00	2.089	48.10	0.425
To Creek	100 yr 120 hr	100.00	2.443	115.20	0.366
To Creek	100 yr 72 hr	100.00	2.235	69.60	0.404
To Creek	100 yr 240 hr	100.00	2.956	220.90	0.306
Unrestricted to Creek	100 yr 10 min	100.00	0.006	0.16	0.472
Unrestricted to Creek	100 yr 15 min	100.00	0.012	0.18	0.705
Unrestricted to Creek	100 yr 30 min	100.00	0.023	0.21	0.930
Unrestricted to Creek	100 yr 1 hr	100.00	0.037	0.32	0.942
Unrestricted to Creek	100 yr 2 hr	100.00	0.054	0.53	0.753
Unrestricted to Creek	100 yr 3 hr	100.00	0.063	0.77	0.603
Unrestricted to Creek	100 yr 6 hr	100.00	0.082	1.28	0.401
Unrestricted to Creek	100 yr 12 hr	100.00	0.102	4.95	0.271
Unrestricted to Creek	100 yr 18 hr	100.00	0.115	11.90	0.217
Unrestricted to Creek	100 yr 24 hr	100.00	0.125	15.85	0.176
Unrestricted to Creek	100 yr 48 hr	100.00	0.140	41.70	0.123
Unrestricted to Creek	100 yr 120 hr	100.00	0.169	104.40	0.058
Unrestricted to Creek	100 yr 72 hr	100.00	0.152	62.60	0.088
Unrestricted to Creek	100 yr 240 hr	100.00	0.212	208.80	0.035

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ac-ft)
Detention Basin (IN)	100 yr 10 min	100.00	0.239	0.15	16.571	(N/A)	(N/A)
Detention Basin (OUT)	100 yr 10 min	100.00	0.239	0.52	0.081	782.47	0.236
Detention Basin (IN)	100 yr 15 min	100.00	0.354	0.16	20.533	(N/A)	(N/A)
Detention Basin (OUT)	100 yr 15 min	100.00	0.308	0.59	0.092	782.88	0.350
Detention Basin (IN)	100 yr 30 min	100.00	0.552	0.20	22.883	(N/A)	(N/A)
Detention Basin (OUT)	100 yr 30 min	100.00	0.377	0.80	0.109	783.51	0.546
Detention Basin (IN)	100 yr 1 hr	100.00	0.761	0.29	19.935	(N/A)	(N/A)
Detention Basin (OUT)	100 yr 1 hr	100.00	0.491	1.22	0.241	784.13	0.746
Detention Basin (IN)	100 yr 2 hr	100.00	0.994	0.44	14.459	(N/A)	(N/A)

Subsection: Master Network Summary

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ac-ft)
Detention Basin (OUT)	100 yr 2 hr	100.00	0.649	2.18	0.310	784.75	0.957
Detention Basin (IN)	100 yr 3 hr	100.00	1.124	0.56	11.277	(N/A)	(N/A)
Detention Basin (OUT)	100 yr 3 hr	100.00	0.741	3.15	0.338	785.06	1.065
Detention Basin (IN)	100 yr 6 hr	100.00	1.361	1.02	7.072	(N/A)	(N/A)
Detention Basin (OUT)	100 yr 6 hr	100.00	0.910	6.11	0.374	785.50	1.227
Detention Basin (IN)	100 yr 12 hr	100.00	1.623	4.95	3.986	(N/A)	(N/A)
Detention Basin (OUT)	100 yr 12 hr	100.00	1.455	12.05	0.404	785.91	1.378
Detention Basin (IN)	100 yr 18 hr	100.00	1.776	11.90	2.895	(N/A)	(N/A)
Detention Basin (OUT)	100 yr 18 hr	100.00	1.552	18.05	0.421	786.17	1.476
Detention Basin (IN)	100 yr 24 hr	100.00	1.907	15.85	2.318	(N/A)	(N/A)
Detention Basin (OUT)	100 yr 24 hr	100.00	1.638	22.15	0.426	786.23	1.501
Detention Basin (IN)	100 yr 48 hr	100.00	2.089	41.70	1.552	(N/A)	(N/A)
Detention Basin (OUT)	100 yr 48 hr	100.00	2.089	48.10	0.425	786.22	1.495
Detention Basin (IN)	100 yr 120 hr	100.00	2.443	104.30	0.717	(N/A)	(N/A)
Detention Basin (OUT)	100 yr 120 hr	100.00	2.443	115.20	0.366	785.40	1.190
Detention Basin (IN)	100 yr 72 hr	100.00	2.235	62.60	1.101	(N/A)	(N/A)
Detention Basin (OUT)	100 yr 72 hr	100.00	2.235	69.60	0.404	785.92	1.381
Detention Basin (IN)	100 yr 240 hr	100.00	2.956	208.70	0.427	(N/A)	(N/A)
Detention Basin (OUT)	100 yr 240 hr	100.00	2.956	220.90	0.306	784.71	0.942

Subsection: Time-Depth Curve
Label: B75 - 100 Year Critical Storm
Scenario: 100 yr 1 hr

Return Event: 100.00 years
Storm Event: 1 hr 100 yr

Time-Depth Curve: 1 hr 100 yr	
Label	1 hr 100 yr

Subsection: Time-Depth Curve
Label: B75 - 100 Year Critical Storm
Scenario: 100 yr 1 hr

Return Event: 100.00 years
Storm Event: 1 hr 100 yr

Time-Depth Curve: 1 hr 100 yr	
Start Time	0.00 hours
Increment	0.01 hours
End Time	1.00 hours
Return Event	100.00 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.01 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.00	0.00	0.08	0.16	0.24	0.32
0.05	0.41	0.50	0.59	0.68	0.78
0.10	0.88	0.98	1.08	1.18	1.28
0.15	1.38	1.48	1.57	1.66	1.75
0.20	1.84	1.93	2.00	2.08	2.16
0.25	2.24	2.30	2.37	2.43	2.50
0.30	2.55	2.60	2.64	2.69	2.73
0.35	2.77	2.80	2.84	2.87	2.90
0.40	2.94	2.97	3.00	3.03	3.05
0.45	3.08	3.11	3.13	3.16	3.19
0.50	3.22	3.24	3.27	3.30	3.32
0.55	3.35	3.37	3.40	3.42	3.45
0.60	3.47	3.49	3.51	3.53	3.55
0.65	3.57	3.59	3.61	3.63	3.64
0.70	3.66	3.68	3.69	3.71	3.72
0.75	3.74	3.75	3.76	3.77	3.79
0.80	3.80	3.81	3.83	3.84	3.85
0.85	3.86	3.87	3.89	3.90	3.91
0.90	3.92	3.93	3.94	3.95	3.96
0.95	3.97	3.99	4.00	4.01	4.02
1.00	4.03	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time-Depth Curve
Label: B75 - 100 Year Critical Storm
Scenario: 100 yr 10 min

Return Event: 100.00 years
Storm Event: 10 min 100 yr

Time-Depth Curve: 10 min 100 yr	
Label	10 min 100 yr
Start Time	0.00 hours
Increment	0.00 hours
End Time	0.17 hours
Return Event	100.00 years

Subsection: Time-Depth Curve
Label: B75 - 100 Year Critical Storm
Scenario: 100 yr 10 min

Return Event: 100.00 years
Storm Event: 10 min 100 yr

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.00 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.00	0.00	0.04	0.07	0.11	0.14
0.01	0.18	0.22	0.27	0.31	0.35
0.02	0.39	0.44	0.48	0.53	0.57
0.03	0.62	0.66	0.70	0.74	0.78
0.03	0.82	0.86	0.89	0.93	0.96
0.04	1.00	1.03	1.06	1.09	1.12
0.05	1.14	1.16	1.18	1.20	1.22
0.06	1.24	1.25	1.27	1.28	1.30
0.07	1.31	1.33	1.34	1.35	1.36
0.08	1.38	1.39	1.40	1.41	1.42
0.08	1.44	1.45	1.46	1.47	1.48
0.09	1.50	1.51	1.52	1.53	1.54
0.10	1.55	1.56	1.57	1.58	1.59
0.11	1.60	1.60	1.61	1.62	1.63
0.12	1.63	1.64	1.65	1.66	1.66
0.13	1.67	1.67	1.68	1.69	1.69
0.13	1.70	1.70	1.71	1.71	1.72
0.14	1.73	1.73	1.74	1.74	1.75
0.15	1.75	1.76	1.76	1.77	1.77
0.16	1.78	1.78	1.79	1.79	1.80
0.17	1.80	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time-Depth Curve
Label: B75 - 100 Year Critical Storm
Scenario: 100 yr 12 hr

Return Event: 100.00 years
Storm Event: 12 hr 100 yr

Time-Depth Curve: 12 hr 100 yr	
Label	12 hr 100 yr
Start Time	0.00 hours
Increment	0.12 hours
End Time	12.00 hours
Return Event	100.00 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.12 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.00	0.00	0.04	0.08	0.12	0.16
0.60	0.21	0.25	0.30	0.34	0.39
1.20	0.45	0.50	0.55	0.61	0.68
1.80	0.74	0.80	0.87	0.95	1.03

Subsection: Time-Depth Curve
Label: B75 - 100 Year Critical Storm
Scenario: 100 yr 12 hr

Return Event: 100.00 years
Storm Event: 12 hr 100 yr

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.12 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
2.40	1.11	1.19	1.29	1.40	1.50
3.00	1.60	1.72	1.85	1.97	2.10
3.60	2.24	2.38	2.53	2.67	2.82
4.20	2.98	3.14	3.30	3.46	3.62
4.80	3.78	3.95	4.10	4.25	4.39
5.40	4.53	4.68	4.81	4.94	5.07
6.00	5.20	5.31	5.41	5.51	5.61
6.60	5.70	5.79	5.88	5.97	6.05
7.20	6.13	6.20	6.28	6.35	6.40
7.80	6.46	6.51	6.57	6.61	6.65
8.40	6.69	6.74	6.77	6.81	6.84
9.00	6.88	6.91	6.93	6.96	6.99
9.60	7.02	7.05	7.07	7.10	7.12
10.20	7.15	7.17	7.19	7.21	7.24
10.80	7.26	7.28	7.30	7.32	7.34
11.40	7.36	7.38	7.40	7.42	7.44
12.00	7.46	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time-Depth Curve
Label: B75 - 100 Year Critical Storm
Scenario: 100 yr 120 hr

Return Event: 100.00 years
Storm Event: 120 hr 100 yr

Time-Depth Curve: 120 hr 100 yr	
Label	120 hr 100 yr
Start Time	0.00 hours
Increment	1.20 hours
End Time	120.00 hours
Return Event	100.00 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 1.20 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.00	0.00	0.06	0.12	0.18	0.24
6.00	0.30	0.36	0.43	0.49	0.55
12.00	0.61	0.67	0.73	0.79	0.86
18.00	0.93	1.00	1.07	1.14	1.21
24.00	1.28	1.35	1.42	1.49	1.55
30.00	1.62	1.69	1.76	1.83	1.90
36.00	1.96	2.02	2.08	2.15	2.21
42.00	2.27	2.34	2.40	2.47	2.53

Subsection: Time-Depth Curve
Label: B75 - 100 Year Critical Storm
Scenario: 100 yr 120 hr

Return Event: 100.00 years
Storm Event: 120 hr 100 yr

CUMULATIVE RAINFALL (in)
Output Time Increment = 1.20 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
48.00	2.60	2.66	2.73	2.81	2.88
54.00	2.96	3.03	3.11	3.18	3.26
60.00	3.33	3.40	3.47	3.53	3.60
66.00	3.67	3.73	3.79	3.85	3.91
72.00	3.97	4.03	4.09	4.15	4.22
78.00	4.28	4.35	4.43	4.53	4.63
84.00	4.72	4.83	4.99	5.15	5.31
90.00	5.47	5.67	5.88	6.08	6.29
96.00	6.53	6.79	7.04	7.29	7.56
102.00	7.84	8.12	8.39	8.66	8.90
108.00	9.15	9.40	9.62	9.78	9.94
114.00	10.10	10.25	10.36	10.46	10.56
120.00	10.66	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time-Depth Curve
Label: B75 - 100 Year Critical Storm
Scenario: 100 yr 15 min

Return Event: 100.00 years
Storm Event: 15 min 100 yr

Time-Depth Curve: 15 min 100 yr	
Label	15 min 100 yr
Start Time	0.00 hours
Increment	0.00 hours
End Time	0.25 hours
Return Event	100.00 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.00 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.00	0.00	0.05	0.09	0.14	0.19
0.01	0.24	0.29	0.34	0.39	0.45
0.03	0.51	0.57	0.62	0.68	0.74
0.04	0.79	0.85	0.91	0.96	1.01
0.05	1.06	1.11	1.15	1.20	1.24
0.06	1.29	1.33	1.36	1.40	1.44
0.08	1.47	1.49	1.52	1.55	1.57
0.09	1.59	1.61	1.63	1.65	1.67
0.10	1.69	1.71	1.73	1.74	1.76
0.11	1.77	1.79	1.80	1.82	1.84
0.13	1.85	1.87	1.88	1.90	1.91
0.14	1.93	1.94	1.96	1.97	1.98

Subsection: Time-Depth Curve
Label: B75 - 100 Year Critical Storm
Scenario: 100 yr 15 min

Return Event: 100.00 years
Storm Event: 15 min 100 yr

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.00 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.15	2.00	2.01	2.02	2.03	2.04
0.16	2.06	2.07	2.08	2.09	2.10
0.18	2.11	2.12	2.13	2.13	2.14
0.19	2.15	2.16	2.17	2.17	2.18
0.20	2.19	2.20	2.20	2.21	2.22
0.21	2.22	2.23	2.24	2.24	2.25
0.23	2.26	2.26	2.27	2.28	2.28
0.24	2.29	2.29	2.30	2.31	2.31
0.25	2.32	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time-Depth Curve
Label: B75 - 100 Year Critical Storm
Scenario: 100 yr 18 hr

Return Event: 100.00 years
Storm Event: 18 hr 100 yr

Time-Depth Curve: 18 hr 100 yr	
Label	18 hr 100 yr
Start Time	0.00 hours
Increment	0.18 hours
End Time	18.00 hours
Return Event	100.00 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.18 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.00	0.00	0.04	0.08	0.12	0.16
0.90	0.20	0.25	0.29	0.33	0.38
1.80	0.42	0.47	0.51	0.56	0.61
2.70	0.66	0.70	0.75	0.80	0.85
3.60	0.90	0.95	1.00	1.05	1.11
4.50	1.16	1.21	1.26	1.31	1.35
5.40	1.41	1.46	1.51	1.57	1.62
6.30	1.68	1.74	1.81	1.87	1.94
7.20	2.01	2.08	2.15	2.24	2.33
8.10	2.42	2.51	2.62	2.72	2.82
9.00	2.93	3.08	3.22	3.37	3.52
9.90	3.67	3.83	3.99	4.15	4.32
10.80	4.49	4.66	4.83	5.00	5.18
11.70	5.35	5.52	5.69	5.85	6.01
12.60	6.17	6.32	6.45	6.58	6.71
13.50	6.84	6.94	7.03	7.12	7.22

Subsection: Time-Depth Curve
Label: B75 - 100 Year Critical Storm
Scenario: 100 yr 18 hr

Return Event: 100.00 years
Storm Event: 18 hr 100 yr

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.18 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
14.40	7.29	7.35	7.42	7.48	7.53
15.30	7.58	7.62	7.66	7.70	7.73
16.20	7.77	7.80	7.83	7.86	7.89
17.10	7.92	7.95	7.98	8.00	8.03
18.00	8.06	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time-Depth Curve
Label: B75 - 100 Year Critical Storm
Scenario: 100 yr 2 hr

Return Event: 100.00 years
Storm Event: 2 hr 100 yr

Time-Depth Curve: 2 hr 100 yr	
Label	2 hr 100 yr
Start Time	0.00 hours
Increment	0.02 hours
End Time	2.00 hours
Return Event	100.00 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.02 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.00	0.00	0.10	0.20	0.30	0.40
0.10	0.51	0.62	0.73	0.84	0.96
0.20	1.09	1.21	1.34	1.46	1.58
0.30	1.70	1.82	1.94	2.05	2.16
0.40	2.27	2.37	2.47	2.57	2.66
0.50	2.76	2.84	2.92	3.00	3.08
0.60	3.14	3.20	3.26	3.32	3.37
0.70	3.41	3.46	3.50	3.54	3.58
0.80	3.62	3.66	3.70	3.73	3.76
0.90	3.80	3.83	3.86	3.90	3.93
1.00	3.97	4.00	4.03	4.06	4.10
1.10	4.13	4.16	4.19	4.22	4.25
1.20	4.28	4.30	4.33	4.36	4.38
1.30	4.41	4.43	4.45	4.47	4.49
1.40	4.51	4.53	4.55	4.57	4.59
1.50	4.61	4.62	4.64	4.65	4.67
1.60	4.69	4.70	4.72	4.73	4.75
1.70	4.76	4.78	4.79	4.81	4.82
1.80	4.83	4.85	4.86	4.88	4.89
1.90	4.90	4.92	4.93	4.94	4.96

Subsection: Time-Depth Curve
Label: B75 - 100 Year Critical Storm
Scenario: 100 yr 2 hr

Return Event: 100.00 years
Storm Event: 2 hr 100 yr

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.02 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
2.00	4.97	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time-Depth Curve
Label: B75 - 100 Year Critical Storm
Scenario: 100 yr 24 hr

Return Event: 100.00 years
Storm Event: 24 hr 100 yr

Time-Depth Curve: 24 hr 100 yr	
Label	24 hr 100 yr
Start Time	0.00 hours
Increment	0.24 hours
End Time	24.00 hours
Return Event	100.00 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.24 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.00	0.00	0.04	0.08	0.13	0.17
1.20	0.21	0.26	0.31	0.35	0.40
2.40	0.45	0.50	0.55	0.60	0.65
3.60	0.70	0.75	0.80	0.85	0.91
4.80	0.96	1.01	1.07	1.12	1.18
6.00	1.23	1.28	1.34	1.39	1.44
7.20	1.50	1.55	1.61	1.66	1.73
8.40	1.79	1.86	1.92	1.99	2.06
9.60	2.13	2.21	2.29	2.38	2.48
10.80	2.57	2.67	2.78	2.89	3.00
12.00	3.12	3.27	3.43	3.58	3.74
13.20	3.90	4.07	4.24	4.41	4.59
14.40	4.77	4.95	5.14	5.32	5.50
15.60	5.69	5.87	6.05	6.22	6.39
16.80	6.56	6.72	6.86	7.00	7.14
18.00	7.28	7.38	7.48	7.58	7.67
19.20	7.75	7.82	7.89	7.96	8.01
20.40	8.06	8.10	8.15	8.19	8.22
21.60	8.26	8.29	8.33	8.36	8.39
22.80	8.42	8.45	8.48	8.51	8.54
24.00	8.57	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time-Depth Curve
Label: B75 - 100 Year Critical Storm
Scenario: 100 yr 240 hr

Return Event: 100.00 years
Storm Event: 240 hr 100 yr

Time-Depth Curve: 240 hr 100 yr	
Label	240 hr 100 yr
Start Time	0.00 hours
Increment	2.40 hours
End Time	240.00 hours
Return Event	100.00 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 2.40 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.00	0.00	0.07	0.14	0.21	0.28
12.00	0.35	0.43	0.51	0.58	0.65
24.00	0.72	0.79	0.87	0.94	1.02
36.00	1.10	1.18	1.27	1.35	1.43
48.00	1.52	1.60	1.68	1.76	1.84
60.00	1.93	2.01	2.09	2.17	2.25
72.00	2.33	2.40	2.47	2.55	2.62
84.00	2.70	2.77	2.85	2.93	3.01
96.00	3.08	3.16	3.24	3.33	3.42
108.00	3.51	3.60	3.69	3.78	3.87
120.00	3.95	4.03	4.11	4.19	4.27
132.00	4.35	4.42	4.50	4.57	4.64
144.00	4.71	4.78	4.85	4.92	5.00
156.00	5.08	5.16	5.26	5.37	5.49
168.00	5.61	5.73	5.92	6.11	6.30
180.00	6.49	6.73	6.98	7.22	7.46
192.00	7.75	8.05	8.35	8.65	8.97
204.00	9.30	9.63	9.96	10.27	10.57
216.00	10.86	11.15	11.41	11.60	11.80
228.00	11.99	12.17	12.29	12.41	12.53
240.00	12.65	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time-Depth Curve
Label: B75 - 100 Year Critical Storm
Scenario: 100 yr 3 hr

Return Event: 100.00 years
Storm Event: 3 hr 100 yr

Time-Depth Curve: 3 hr 100 yr	
Label	3 hr 100 yr
Start Time	0.00 hours
Increment	0.03 hours
End Time	3.00 hours
Return Event	100.00 years

Subsection: Time-Depth Curve
Label: B75 - 100 Year Critical Storm
Scenario: 100 yr 3 hr

Return Event: 100.00 years
Storm Event: 3 hr 100 yr

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.03 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.00	0.00	0.11	0.22	0.33	0.44
0.15	0.56	0.69	0.81	0.93	1.06
0.30	1.20	1.34	1.47	1.61	1.75
0.45	1.88	2.01	2.14	2.26	2.38
0.60	2.50	2.62	2.73	2.83	2.94
0.75	3.05	3.14	3.22	3.31	3.40
0.90	3.47	3.54	3.60	3.67	3.72
1.05	3.77	3.82	3.86	3.91	3.95
1.20	4.00	4.04	4.08	4.12	4.16
1.35	4.19	4.23	4.27	4.31	4.34
1.50	4.38	4.42	4.45	4.49	4.53
1.65	4.56	4.60	4.63	4.66	4.70
1.80	4.73	4.75	4.78	4.81	4.84
1.95	4.87	4.89	4.92	4.94	4.96
2.10	4.99	5.01	5.03	5.05	5.07
2.25	5.09	5.11	5.12	5.14	5.16
2.40	5.18	5.19	5.21	5.23	5.25
2.55	5.26	5.28	5.29	5.31	5.32
2.70	5.34	5.36	5.37	5.39	5.40
2.85	5.41	5.43	5.44	5.46	5.47
3.00	5.49	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time-Depth Curve
Label: B75 - 100 Year Critical Storm
Scenario: 100 yr 30 min

Return Event: 100.00 years
Storm Event: 30 min 100 yr

Time-Depth Curve: 30 min 100 yr	
Label	30 min 100 yr
Start Time	0.00 hours
Increment	0.01 hours
End Time	0.50 hours
Return Event	100.00 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.01 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.00	0.00	0.06	0.13	0.19	0.25
0.03	0.32	0.40	0.47	0.54	0.61
0.05	0.69	0.77	0.85	0.93	1.01
0.08	1.09	1.16	1.24	1.31	1.38

Subsection: Time-Depth Curve
Label: B75 - 100 Year Critical Storm
Scenario: 100 yr 30 min

Return Event: 100.00 years
Storm Event: 30 min 100 yr

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.01 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.10	1.45	1.51	1.58	1.64	1.70
0.13	1.76	1.81	1.86	1.91	1.96
0.15	2.00	2.04	2.08	2.12	2.15
0.18	2.18	2.20	2.23	2.26	2.28
0.20	2.31	2.33	2.36	2.38	2.40
0.23	2.42	2.44	2.47	2.49	2.51
0.25	2.53	2.55	2.57	2.59	2.61
0.28	2.63	2.65	2.67	2.69	2.71
0.30	2.73	2.75	2.76	2.78	2.79
0.33	2.81	2.83	2.84	2.85	2.87
0.35	2.88	2.89	2.90	2.92	2.93
0.38	2.94	2.95	2.96	2.97	2.98
0.40	2.99	3.00	3.01	3.02	3.03
0.43	3.04	3.05	3.06	3.07	3.07
0.45	3.08	3.09	3.10	3.11	3.12
0.48	3.13	3.14	3.14	3.15	3.16
0.50	3.17	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time-Depth Curve
Label: B75 - 100 Year Critical Storm
Scenario: 100 yr 48 hr

Return Event: 100.00 years
Storm Event: 48 hr 100 yr

Time-Depth Curve: 48 hr 100 yr	
Label	48 hr 100 yr
Start Time	0.00 hours
Increment	0.48 hours
End Time	48.00 hours
Return Event	100.00 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.48 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.00	0.00	0.05	0.10	0.15	0.21
2.40	0.26	0.32	0.37	0.43	0.48
4.80	0.53	0.58	0.63	0.69	0.75
7.20	0.81	0.87	0.93	0.99	1.05
9.60	1.11	1.17	1.23	1.29	1.35
12.00	1.41	1.47	1.53	1.59	1.65
14.40	1.71	1.76	1.81	1.87	1.92
16.80	1.98	2.04	2.09	2.15	2.20

Subsection: Time-Depth Curve
Label: B75 - 100 Year Critical Storm
Scenario: 100 yr 48 hr

Return Event: 100.00 years
Storm Event: 48 hr 100 yr

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.48 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
19.20	2.26	2.32	2.38	2.45	2.51
21.60	2.58	2.64	2.71	2.77	2.84
24.00	2.90	2.96	3.02	3.08	3.14
26.40	3.19	3.25	3.30	3.35	3.41
28.80	3.46	3.51	3.56	3.61	3.67
31.20	3.73	3.79	3.86	3.94	4.03
33.60	4.11	4.21	4.34	4.48	4.62
36.00	4.76	4.94	5.12	5.30	5.47
38.40	5.69	5.91	6.13	6.35	6.58
40.80	6.82	7.07	7.31	7.54	7.75
43.20	7.97	8.18	8.37	8.51	8.65
45.60	8.80	8.93	9.02	9.10	9.19
48.00	9.28	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time-Depth Curve
Label: B75 - 100 Year Critical Storm
Scenario: 100 yr 6 hr

Return Event: 100.00 years
Storm Event: 6 hr 100 yr

Time-Depth Curve: 6 hr 100 yr	
Label	6 hr 100 yr
Start Time	0.00 hours
Increment	0.06 hours
End Time	6.00 hours
Return Event	100.00 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.06 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.00	0.00	0.13	0.26	0.39	0.52
0.30	0.66	0.80	0.95	1.09	1.25
0.60	1.41	1.57	1.73	1.89	2.04
0.90	2.20	2.36	2.51	2.65	2.79
1.20	2.93	3.07	3.20	3.32	3.44
1.50	3.57	3.67	3.78	3.88	3.99
1.80	4.07	4.14	4.22	4.30	4.36
2.10	4.41	4.47	4.53	4.58	4.63
2.40	4.68	4.73	4.78	4.83	4.87
2.70	4.91	4.96	5.00	5.04	5.09
3.00	5.13	5.17	5.22	5.26	5.30
3.30	5.34	5.38	5.42	5.46	5.50

Subsection: Time-Depth Curve
Label: B75 - 100 Year Critical Storm
Scenario: 100 yr 6 hr

Return Event: 100.00 years
Storm Event: 6 hr 100 yr

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.06 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
3.60	5.53	5.57	5.60	5.64	5.67
3.90	5.70	5.73	5.76	5.79	5.81
4.20	5.84	5.87	5.89	5.91	5.94
4.50	5.96	5.98	6.00	6.02	6.04
4.80	6.06	6.08	6.10	6.12	6.14
5.10	6.16	6.18	6.20	6.22	6.24
5.40	6.25	6.27	6.29	6.31	6.32
5.70	6.34	6.36	6.38	6.39	6.41
6.00	6.43	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time-Depth Curve
Label: B75 - 100 Year Critical Storm
Scenario: 100 yr 72 hr

Return Event: 100.00 years
Storm Event: 72 hr 100 yr

Time-Depth Curve: 72 hr 100 yr	
Label	72 hr 100 yr
Start Time	0.00 hours
Increment	0.72 hours
End Time	72.00 hours
Return Event	100.00 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.72 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.00	0.00	0.05	0.11	0.16	0.22
3.60	0.28	0.33	0.39	0.45	0.51
7.20	0.56	0.62	0.67	0.73	0.80
10.80	0.86	0.92	0.99	1.05	1.12
14.40	1.18	1.24	1.31	1.37	1.44
18.00	1.50	1.56	1.63	1.69	1.75
21.60	1.81	1.87	1.93	1.98	2.04
25.20	2.10	2.16	2.22	2.28	2.34
28.80	2.40	2.46	2.53	2.60	2.67
32.40	2.73	2.80	2.87	2.94	3.01
36.00	3.08	3.14	3.20	3.27	3.33
39.60	3.39	3.44	3.50	3.56	3.61
43.20	3.67	3.72	3.78	3.83	3.90
46.80	3.96	4.02	4.09	4.18	4.27
50.40	4.36	4.46	4.61	4.76	4.91
54.00	5.05	5.24	5.43	5.62	5.81

Subsection: Time-Depth Curve
Label: B75 - 100 Year Critical Storm
Scenario: 100 yr 72 hr

Return Event: 100.00 years
Storm Event: 72 hr 100 yr

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.72 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
57.60	6.04	6.27	6.50	6.74	6.99
61.20	7.24	7.50	7.76	8.00	8.23
64.80	8.46	8.68	8.89	9.04	9.19
68.40	9.34	9.48	9.57	9.66	9.76
72.00	9.85	(N/A)	(N/A)	(N/A)	(N/A)

Index

TRAFFIC IMPACT STUDY

ENGINEERING | SURVEYING | CONSTRUCTION

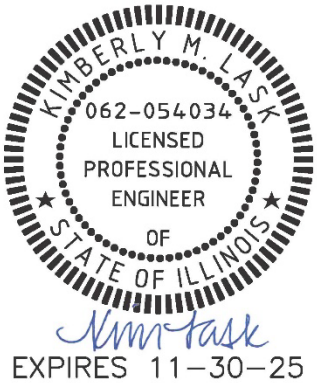
Project:
Self-Storage Development

Location:
406 W. Monaville Road
Lake Villa, Illinois

Prepared For:
Easy Space Storage II, LLC
Lake Villa, IL 60046

Date:
June 17, 2025

Prepared By:
Kimberly Lask, P.E., PTOE, CFM
Haeger Project No.: 25-058



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1 – INTRODUCTION

Haeger Engineering LLC has conducted a Traffic Impact Study for a self-storage development located at 406 W. Monaville Road in Lake Villa, Illinois. The subject property is in Section 45 Township 10N, Range 8E. The parcel area is 3.08 acres, and the P.I.N. is 06-08-100-050. The property is currently zoned SB – Suburban Business. The location map and aerial photograph of the site vicinity are illustrated on *Figure 1* in *Appendix A*.

The project consists of the construction of one climate-controlled self-storage building and three non-climate-controlled storage buildings. There will be a parking lot at the north side of the site and stormwater management basin on the west side of the site. Access to the site includes one full access driveway connecting to W. Monaville Road.

The Traffic Impact Study was conducted to assess the impact the proposed development would have on traffic conditions in the area and improvements necessary to accommodate site generated traffic safely and efficiently. The proposed site plan is included in *Appendix B.*

STUDY PARAMETERS

The scope of this analysis includes the following:

- *Data Collection*: This preliminary phase of the analysis included a reconnaissance survey of the site and its environs to determine the physical and operational characteristics of the existing street network that would serve the proposed development. Traffic counts conducted at the roundabout intersection of W. Monaville Road and N. Cedar Lake Road were used to determine existing weekday AM peak, weekday PM peak, and Saturday midday peak street traffic flow volumes within the vicinity of the site.

- *Land Uses*: Existing and proposed land uses near the development were evaluated.

- *Existing Roadway Network*: Traffic volumes (weekday AM/PM peak and Saturday midday peak), road geometrics, intersection geometrics, and traffic control devices were evaluated in the vicinity of the site. The influence area has been determined by the traffic generated from the site, the trip distribution of traffic, and the trip assignment of the traffic generated by the development over the surrounding area road network.

- *Peak-Hour Trip Generation Rates and Volumes*: A summary table was prepared listing each type of land use for the proposed development, the size or area for each type of land use, the average trip generation rates (weekday AM/PM peak and Saturday midday peak on adjacent street traffic) for each type of land use, and total number of trips generated.

- *Trip Distribution*: Both a figure and table are presented to show the directional distribution of site-generated traffic approaching and departing the site on the area road network.

- *Trip Assignment*: The technical analysis, methods, and assumptions used in the assignment are indicated. The trip distribution and subsequent assignment represent the most logically traveled routes.

- *Total Peak Hour Traffic Volumes*: The traffic volumes for access facilities, intersections, and the area road network within the area of influence area provided in a graphical format.

- *Capacity Analyses*: Capacity analyses were conducted at proposed access points. Consideration was given to the existing and projected levels of service and the adequacy of storage for projected queue lengths.

- *Traffic Control Measures*: The type and extent of traffic control measures were examined.

- *Conclusions and Recommendations*: These findings include all improvements for access facilities, intersections, and the area road network.

2 – LAND USE

The subject property is 3.08 acres of undeveloped land located at the southwest corner of W. Monaville Road and N. Cedar Lake Road in the Village of Lake Villa. There is an existing driveway along W. Monaville Road at the center of the property. Major land uses in the vicinity of the development include Cedar Ridge single-family residential to the south, Northwood Trails single-family residential to the southeast, single-family to the west, and future multi-family residential to the north. There is a small parcel of undeveloped land to the east that is zone R2 Residential.

3 – EXISTING ROADWAY NETWORK

A field investigation was conducted along the adjacent segments of W. Monaville Road and N. Cedar Lake Road. The following information was obtained about the existing roadway network. See *Figure 2* for an exhibit illustrating the existing street characteristics.

W. MONAVILLE ROAD (LAKE COUNTY HIGHWAY A18)

- An east-west, medium mobility, minor arterial roadway providing one lane in each direction that is under the jurisdiction of Lake County Division of Transportation (LCDOT).
- At its roundabout intersection with N. Cedar Lake Road, W. Monaville Road provides one lane at both east and west approaches.
- The posted speed limit is 45 mph and the roundabout speed limit is 20 mph.
- The average daily traffic volume on W. Monaville Road, published by IDOT, was 6,700 vpd west of N. Cedar Lake Road and 8,350 vpd east of N. Cedar Lake Road in 2023.

N. CEDAR LAKE ROAD (LAKE COUNTY HIGHWAY V63)

- A north-south low mobility, minor arterial roadway providing one lane in each direction that is under the jurisdiction of Lake County Division of Transportation (LCDOT).
- At its roundabout intersection with W. Monaville Road, N. Cedar Lake Road provides one lane at both north and south approaches.
- The posted speed limit is 40 mph and the roundabout speed limit is 20 mph.
- The average daily traffic volume on N. Cedar Lake Road, published by IDOT, was 4,850 vpd north of W. Monaville Road and 7,600 vpd south of W. Monaville Road in 2023.

EXISTING TRAFFIC

Figure 3 summarizes the existing weekday AM peak hour, weekday PM peak hour, and Saturday midday peak hour traffic volumes. Traffic counts were conducted at the roundabout intersection of W. Monaville Road and N. Cedar Lake Road. Hourly counts were conducted on Saturday April 12, 2025 from 11:00 AM – 2:00 PM, and on Tuesday, April 15, 2025 from 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM.

The results indicate that the weekday AM peak hour street traffic occurred from 7:15 AM to 8:15 AM, the weekday PM peak hour occurred from 4:00 PM to 5:00 PM, and the Saturday midday peak hour occurred from 12:45 PM – 1:45 PM. The existing traffic count data can be found in *Appendix C*. *Figure 3* also provides the ADT 24-hour volume along W. Monaville Road and N. Cedar Lake Road as published by IDOT.

4 – PEAK HOUR TRIP GENERATION AND DIRECTIONAL DISTRIBUTION

In order to accurately estimate the traffic that will be generated by the proposed development, data compiled by the Institute of Transportation Engineers (ITE) in the 11th Edition of the *Trip Generation Manual* was utilized. Trip generation for a proposed development depends on the size and characteristics of the anticipated land uses. The volume of traffic generated by the square footage of the proposed facility was used to determine anticipated traffic volume. The ITE land use code that was consulted for this analysis is indicated in *Table 1* along with the estimated weekday AM, weekday PM, and Saturday midday peak hour traffic volumes.

Table 1 – ITE Land Use Codes and Peak Hour Trip Generation

Land Use	ITE Code	Weekday Traffic Volumes						Saturday Traffic Volumes			
		AM Peak		PM Peak		Daily		Midday Peak		Daily	
		In	Out	In	Out	In	Out	In	Out	In	Out
Mini-Warehouse (46,000 sf)	151	4	4	4	4	33	34	5	3	41	40
Total Traffic		**4**	**4**	**4**	**4**	**33**	**34**	**5**	**3**	**41**	**40**

Note: * Data for ITE Code 151 indicates a small sample size for Saturday peak hour volumes.

DIRECTIONAL DISTRIBUTION

The directional distribution of site-generated trips on the external street system is a function of several variables, including the operational characteristics of the adjacent roadways and the ease that drivers can travel over various sections of the street system without encountering major levels of congestion. The directions from which employees and patrons approach and depart the site were estimated based on the existing travel patterns as determined from the traffic count data. The estimated directional distribution of patron arrival and departure patterns are listed in *Table 2* and illustrated in *Figure 4*.

Table 2 – Trip Distribution

Route and Direction	To / From Percent
W. Monaville Road	
- East of N. Cedar Lake Road	30%
- West of N. Cedar Lake Road	25%
N. Cedar Lake Road	
- North of W. Monaville Road	20%
- South of W. Monaville Road	25%

5 – TRIP ASSIGNMENT & PROPOSED ACCESS DRIVEWAYS

The estimated weekday AM, weekday PM, and Saturday midday peak hour traffic volumes that will be generated from the proposed development were assigned to the street and access driveway serving the site as illustrated in *Figure 5*. The volumes assigned to the proposed access driveway are in accordance with the previously described directional trip distribution patterns. As mentioned previously, one full access driveway on W. Monaville Road is proposed.

- Access 1: This driveway is a full access driveway that will provide one inbound land and one outbound lane. The centerline of Access 1 is located 465 ft west of the intersection of W. Monaville Road and N. Cedar Lake Road. Exiting movements will be under stop sign control.

6 – TOTAL PEAK HOUR TRAFFIC VOLUMES

To evaluate the impact that site-generated traffic will have on area roadways, the total weekday AM, weekday PM, and Saturday midday peak hour traffic volumes at the study intersections were estimated for the year 2030. To develop future volumes on the existing roadway system, a growth rate of 3.0 percent per year was used to estimate the 2030 peak hour traffic volumes according to the requirements in the Lake County Highway Access and Use Ordinance.

The future no-build traffic volumes are shown on *Figure 6* in *Appendix A. Figure 7* illustrates the site-generated traffic with 2030 traffic volumes to obtain the total peak hour traffic assignments

7 – CAPACITY ANALYSIS

The traffic impact that the development will have on the adjacent external road system is dependent on its vehicular access and internal circulation plan. Analysis of intersection and access drive operations were conducted for the AM peak, PM peak, and Saturday midday peak hours using the methodology in the Transportation Research Board's *Highway Capacity Manual, 7th Edition*. Transportation analysis software, Synchro Studio 12, was used to calculate the levels of service (LOS) for individual movements, approaches, and for the intersection as a whole.

LOS is a qualitative measure of the traffic operations at an intersection or on a roadway segment. It is ranked from LOS A, which signifies little or no congestion and is the highest rank, to LOS F, which signifies congestion and jam conditions. LOS D is typically considered adequate for peak hour operations at intersections. The LOS for an intersection is based on the control delay per vehicle which is the portion of the total delay attributed to traffic control measures such as stop signs and traffic signals. For signalized intersections, the control delay is calculated for each lane group and then compiled for each approach and for the entire intersection. For an unsignalized intersection, LOS is calculated for those movement that must each stop or yield to oncoming traffic and is based on average control delay for the particular movement. The criteria for LOS are shown in *Table 3* and *Table 4*.

Table 3 – Level of Service Criteria – Signalized and Unsignalized Intersections

Level of Service	Signalized Intersection Delay (sec/veh)	Unsignalized Intersection Delay (sec/veh)	Description
A	≤10	≤10	Little to no delay to motorists
B	>10 and ≤20	>10 and ≤15	Relatively low delay to motorists
C	>20 and ≤35	>15 and ≤25	Average delays to motorists
D	>35 and ≤55	>25 and ≤35	Congestion becomes more noticeable. Delays are within an acceptable range.
E	>55 and ≤80	>35 and ≤50	High delays to motorists.
F	>80	>50	High delays to motorists. Arrival flow rates exceed the capacity of the intersection.

Table 4 – Level of Service Criteria – Roundabouts

Control Delay (s/veh)	LOS by Volume to Capacity Ratio	
	≤1.0	>1.0
≤10	A	F
>10 and ≤15	B	F
>15 and ≤25	C	F
>25 and ≤35	D	F
>35 and ≤50	E	F
>50	F	F

Levels of service were calculated at W. Monaville Road and N. Cedar Lake Road and the proposed access drive for the following scenarios.

- Existing Conditions – Year 2025
- Future No Build – Year 2030
- Future with Project Traffic – Year 2030

A summary of the results for the W. Monaville Road and N. Cedar Lake Road intersection are included in *Table 5*, and the results for the unsignalized access driveway are in *Table 6*. The Synchro Studio capacity analyses are included in *Appendix E*.

Table 5 – Level of Service Summary – W. Monaville Road and N. Cedar Lake Road (Roundabout)

Year	Peak Hour	Eastbound	Westbound	Northbound	Southbound	Overall Intersection
		LTR	LTR	LTR	LTR	
2025 Existing Conditions	Weekday AM	A 7.5	A 7.3	A 7.6	A 6.8	**A 7.3**
	Weekday PM	A 7.8	A 7.9	A 7.0	A 7.9	**A 7.7**
	Saturday Midday	A 6.6	A 7.2	A 6.6	A 6.1	**A 6.8**
2030 No-Build	Weekday AM	A 9.0	A 8.6	A 9.1	A 7.9	**A 8.7**
	Weekday PM	A 9.4	A 9.6	A 8.3	A 9.6	**A 9.3**
	Saturday Midday	A 7.7	A 8.6	A 7.7	A 7.1	**A 7.9**
2030 Total with Project	Weekday AM	A 9.1	A 8.6	A 9.2	A 7.9	**A 8.7**
	Weekday PM	B 10.0	B 11.2	A 9.1	B 11.2	**B 10.4**
	Saturday Midday	A 9.2	A 10.0	A 8.7	A 8.2	**A 9.2**

Table 6 – Level of Service Summary – W. Monaville Road and Access Driveway (Unsignalized)

Year	Peak Hour	Westbound	Northbound
		L	LR
2030 Total with Project	Weekday AM	A 8.1	B 11.5
	Weekday PM	A 8.1	B 11.8
	Saturday Midday	A 8.1	B 12.0

W. Monaville Road and N. Cedar Lake Road

Based on the results of the capacity analyses, the intersection currently operates at LOS A during the AM peak, PM Peak, and Saturday midday peak hours. The intersection is projected to continue operating at the same LOS in 2030. The 2030 with project PM peak hour is projected to operate at LOS B with only a 1.1 second increase in delay compared to 2030 without project conditions. The total intersection delay remains consistent with existing conditions, and the proposed development will have minimal impact on the intersection operations.

W. Monaville Road and Access 1 (Full Access Driveway)

The WB shared right-turn and left-turn lane is expected to operate at LOS A for the AM peak, PM peak, and Saturday midday peak hours. The NB shared left and right-turn lane will operate at LOS B during all evaluated peak hours.

To determine whether auxiliary turn lanes are required at Access 1, the total projected 2030 traffic volumes were compared with the right-turn lane warrant criteria (Table 5.3) and left-turn lane warrant criteria (Table 5.5) in the *Lake County Highway Access and Use Technical Reference Manual*. Based on the criteria, an exclusive right-turn lane and an exclusive left-turn lane are not warranted at Access 1. The turn-lane warrant figures are included in ***Appendix H***.

8 – RECOMMENDATIONS AND CONCLUSION

Several components were considered to facilitate traffic on and off the site.

- Provide a full access drive to W. Monaville Road.
- Provide sufficient storage distance to allow appropriate decisions when entering the site.
- Provide sufficient storage to allow queuing of vehicles exiting the site.

APPENDIX A - Figures

FIGURE 1 – Site Location and Area Roadway Network

FIGURE 2 – Existing Street Characteristics

FIGURE 3 – Existing Traffic Volumes - 2025

FIGURE 4 – Estimated Directional Distribution

FIGURE 5 – Site Generated Traffic Volumes

FIGURE 6 – Future No-Build Traffic Volumes – 2030

FIGURE 7 – Future Total Traffic Volumes – 2030

Scale: 1" = 300'

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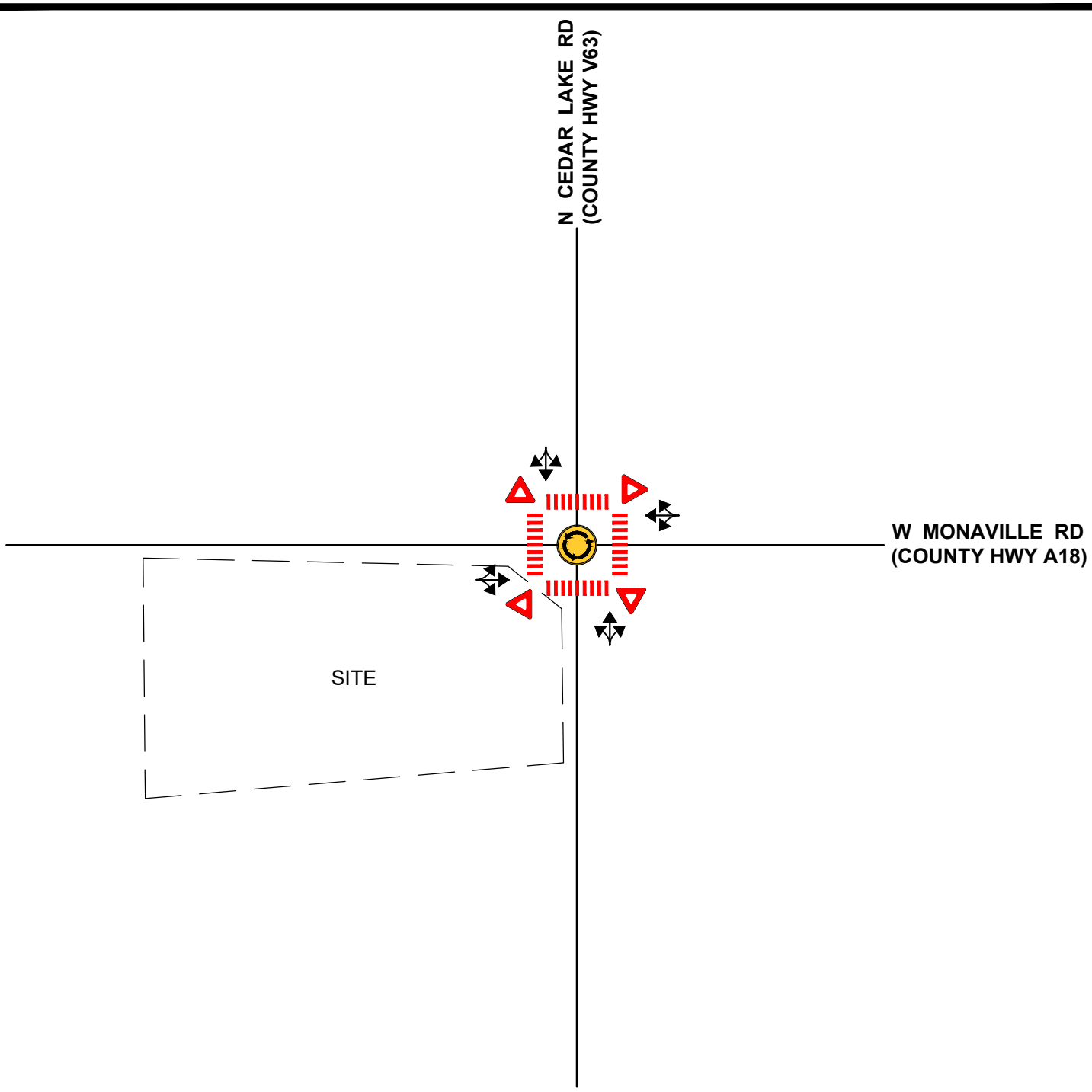
www.haegerengineering.com

FIGURE 1 - SITE LOCATION & AREA ROADWAY NETWORK

SELF-STORAGE DEVELOPMENT

LAKE VILLA, ILLINOIS

Project Manager:	KML
Engineer:	KML
Date:	06-17-2025
Project No.	25-058
Sheet	1 / ----



LEGEND

- Travel Lane
- Roundabout
- No Parking
- Yield Sign
- Crosswalk

N

Scale: N.T.S.

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Illinois Professional Design Firm License No. 184-003152
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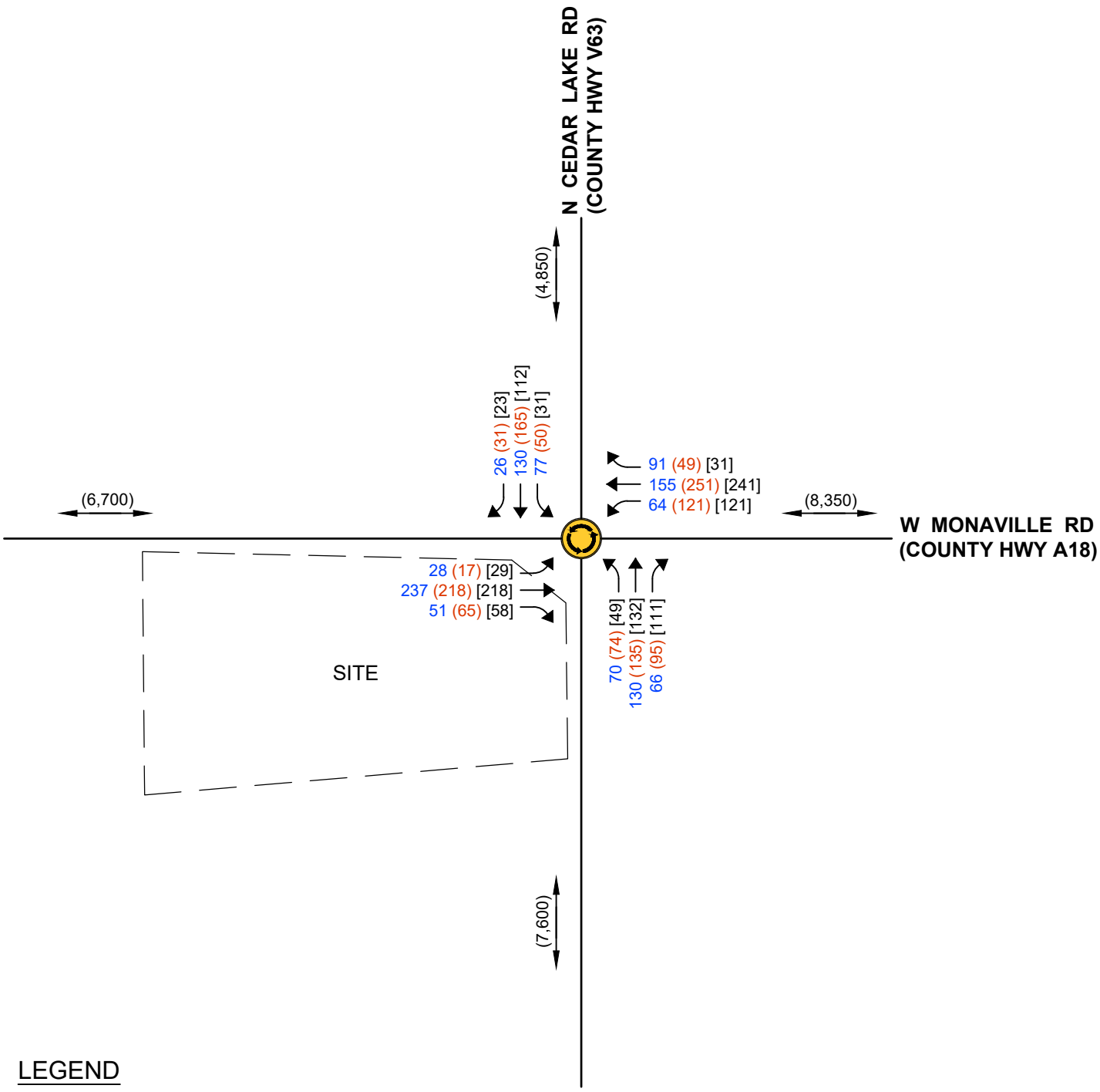
FIGURE 2 - EXISTING STREET CHARACTERISTICS

SELF-STORAGE DEVELOPMENT

LAKE VILLA, ILLINOIS

Project Manager:	KML
Engineer:	KML
Date:	06-17-2025
Project No.	25-058
Sheet	2 / ----



LEGEND

XX	Weekday AM Peak Hour 7:15 - 8:15 AM
(XX)	Weekday PM Peak Hour 4:00 - 5:00 PM
[XX]	Saturday PM Peak Hour 12:45 - 1:45 PM
(XXX)	IDOT Average Daily Traffic
	Existing Roundabout

Source:
Quality Counts April 2025
IDOT Daily Traffic Map

N

Scale: N.T.S.

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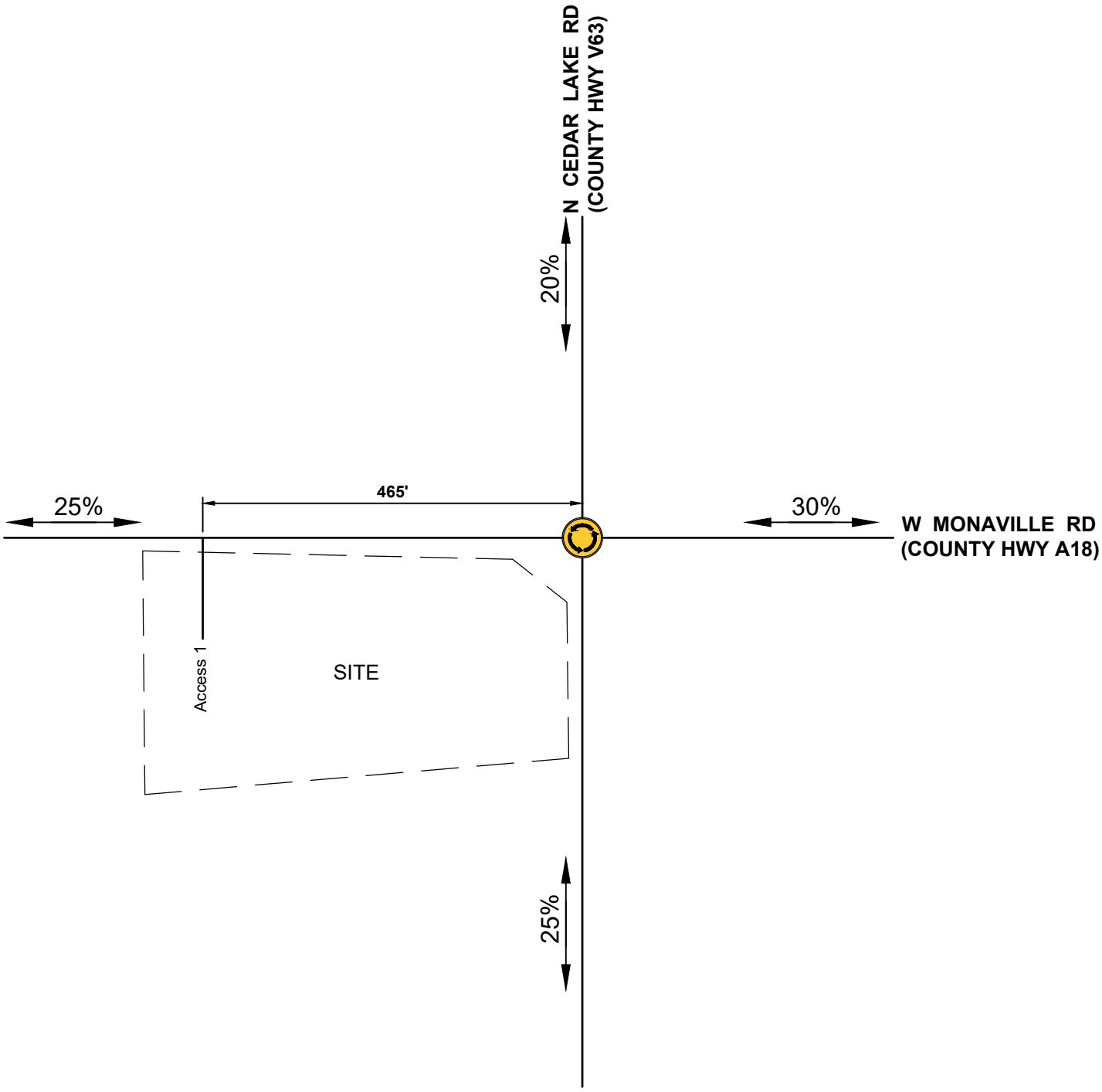
FIGURE 3 - EXISTING TRAFFIC VOLUMES - 2025

SELF-STORAGE DEVELOPMENT

LAKE VILLA, ILLINOIS

Project Manager: KML
Engineer: KML
Date: 06-17-2025
Project No. 25-058
Sheet 3 / ---



LEGEND

XXX Percent Distribution

Existing Roundabout

N

Scale: N.T.S.

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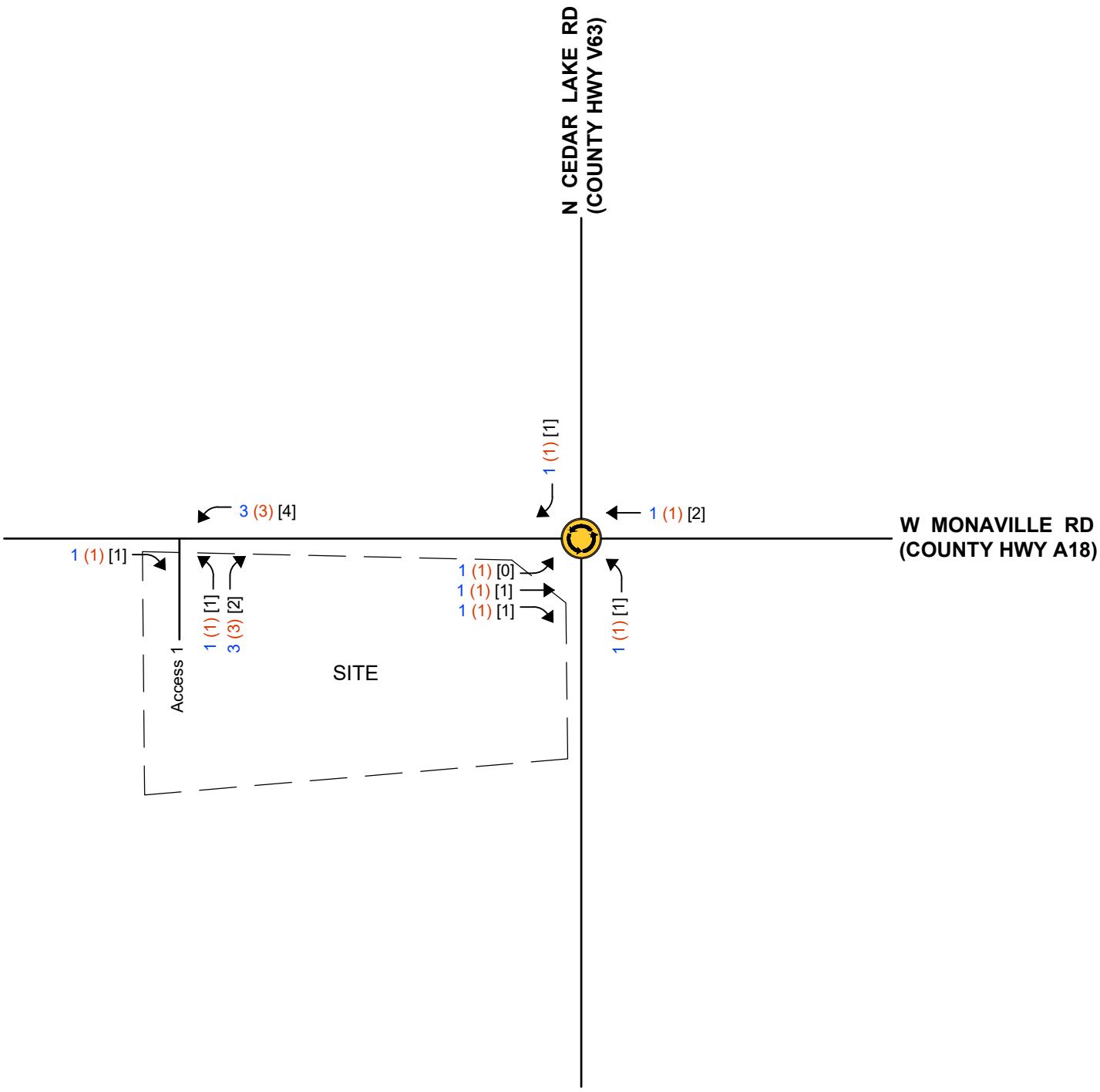
FIGURE 4 - ESTIMATED DIRECTIONAL DISTRIBUTION

SELF-STORAGE DEVELOPMENT

LAKE VILLA, ILLINOIS

Project Manager:	KML
Engineer:	KML
Date:	06-17-2025
Project No.	25-058
Sheet	4 / ----



LEGEND

XX	Weekday AM Peak Hour 7:15 - 8:15 AM
(XX)	Weekday PM Peak Hour 4:00 - 5:00 PM
[XX]	Saturday PM Peak Hour 12:45 - 1:45 PM
	Existing Roundabout

N

Scale: N.T.S.

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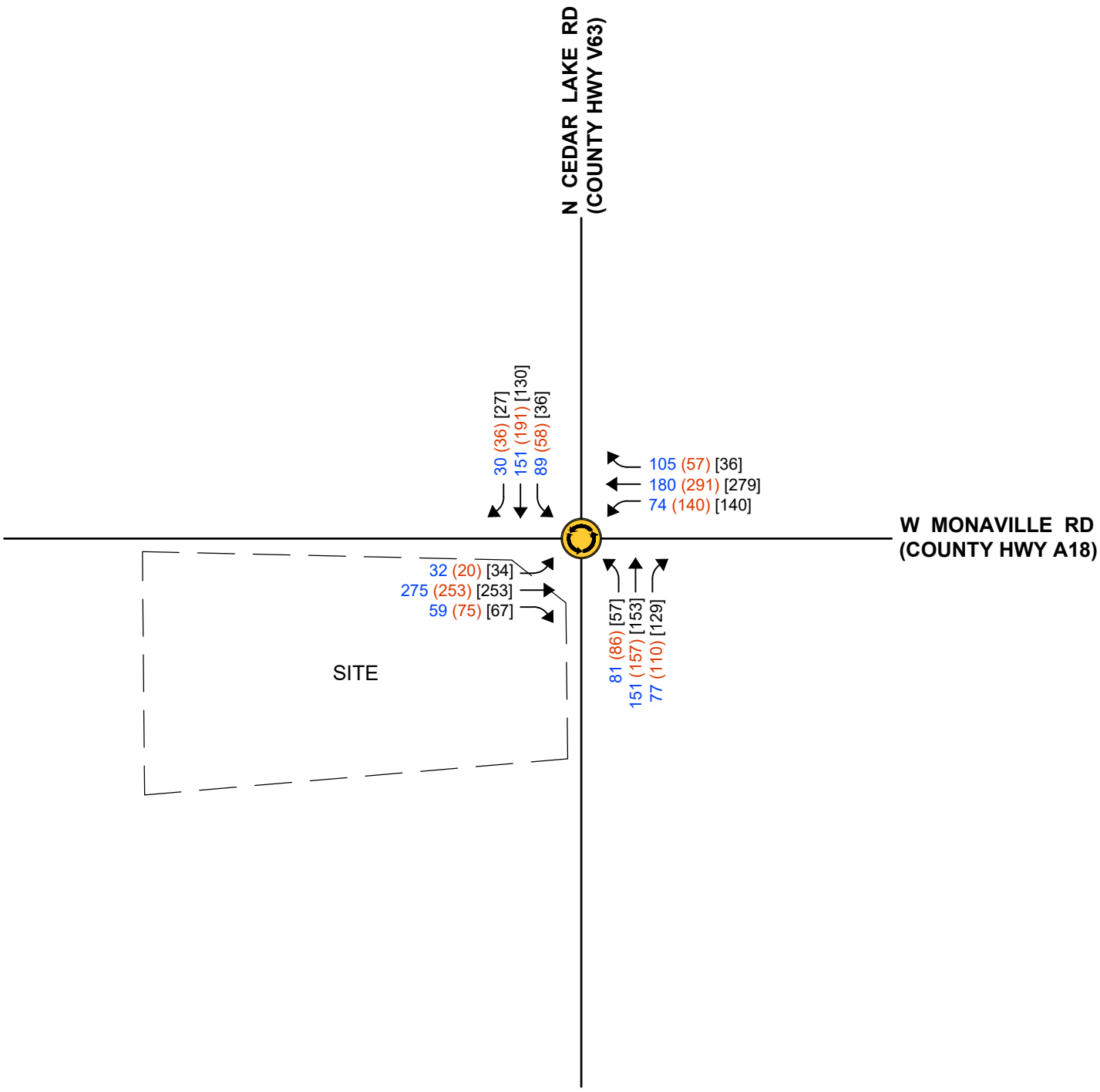
FIGURE 5 - SITE GENERATED TRAFFIC VOLUMES

SELF-STORAGE DEVELOPMENT

LAKE VILLA, ILLINOIS

Project Manager:	KML
Engineer:	KML
Date:	06-17-2025
Project No.	25-058
Sheet	5 / ---



LEGEND

XX	Weekday AM Peak Hour 7:15 - 8:15 AM
(XX)	Weekday PM Peak Hour 4:00 - 5:00 PM
[XX]	Saturday PM Peak Hour 12:45 - 1:45 PM
	Existing Roundabout

N

Scale: N.T.S.

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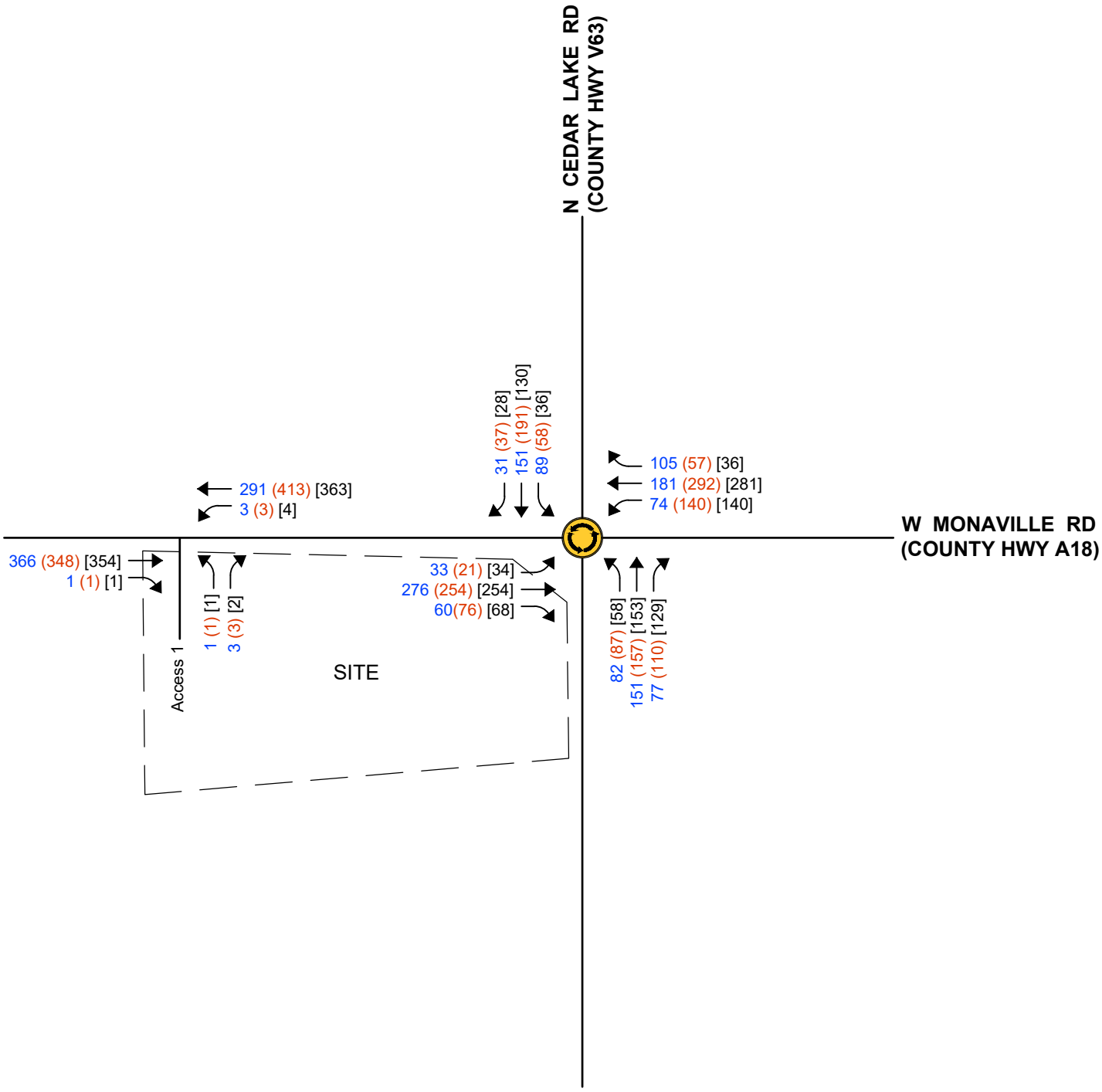
FIGURE 6 - FUTURE NO-BUILD TRAFFIC VOLUMES - 2030

SELF-STORAGE DEVELOPMENT

LAKE VILLA, ILLINOIS

Project Manager:	KML
Engineer:	KML
Date:	06-17-2025
Project No.	25-058
Sheet	6 / ----



LEGEND

XX	Weekday AM Peak Hour 7:15 - 8:15 AM
(XX)	Weekday PM Peak Hour 4:00 - 5:00 PM
[XX]	Saturday PM Peak Hour 12:45 - 1:45 PM
	Existing Roundabout

N

Scale: N.T.S.

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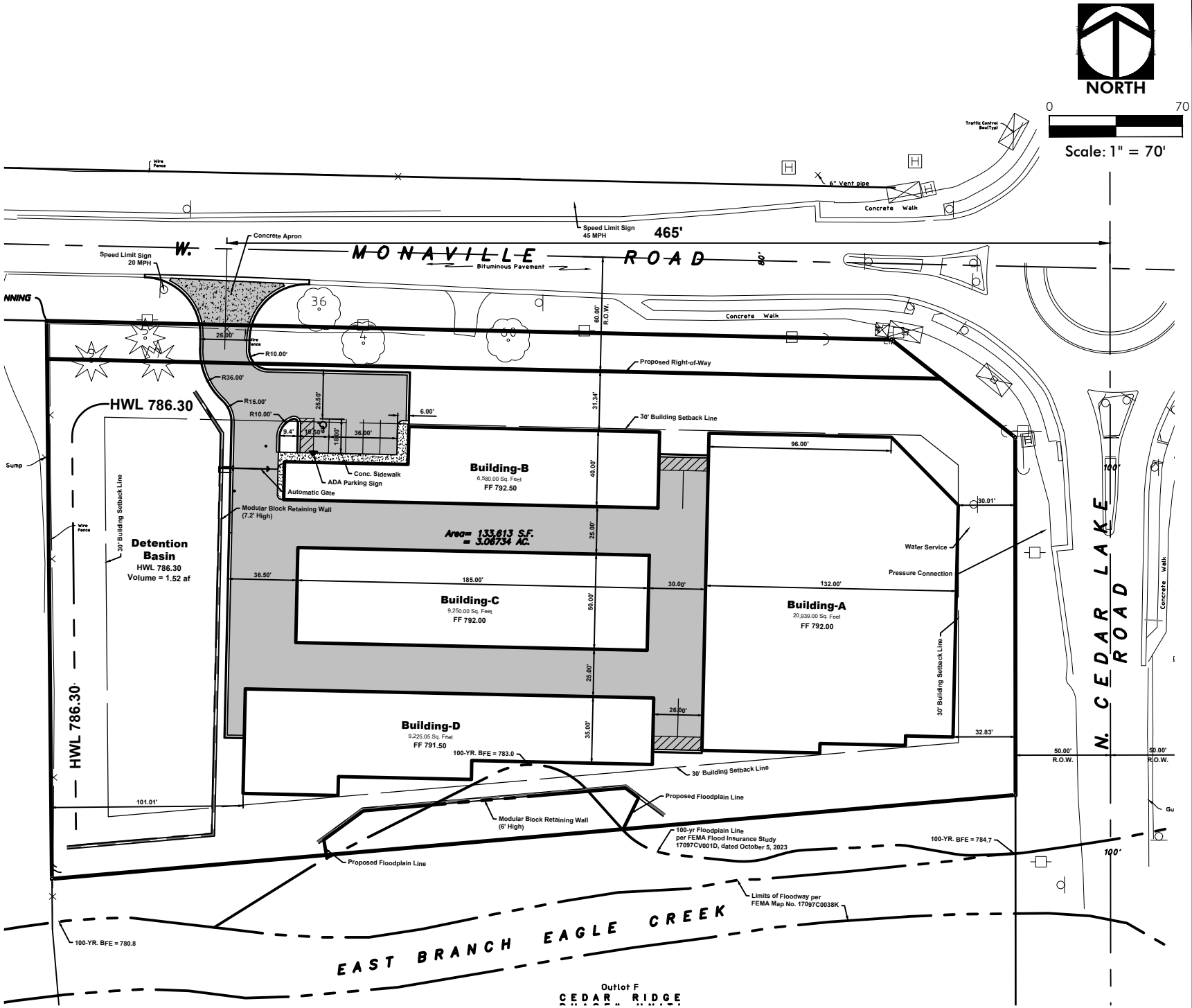
FIGURE 7 - TOTAL TRAFFIC VOLUMES - 2030

SELF-STORAGE DEVELOPMENT

LAKE VILLA, ILLINOIS

Project Manager:	KML
Engineer:	KML
Date:	06-17-2025
Project No.	25-058
Sheet	7 / ----

APPENDIX B – Proposed Site Plan



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SITE PLAN

SELF-STORAGE DEVELOPMENT

LAKE VILLA, ILLINOIS

Project Manager:	KML
Engineer:	KML
Date:	6-17-2025
Project No.	25-058
Sheet	1 / 1

Plot Date: Jun 16, 2025 - 3:07pm Plotted By: kim-l Layout: SITE PLAN FOR TIS
File Name: P:\2025\25058\Drawings\Preliminary\25058 Prelim Plans.dwg

APPENDIX C – Traffic Counts

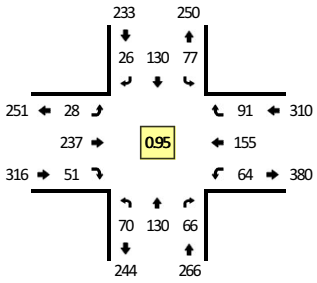
Type of peak hour being reported: Intersection Peak

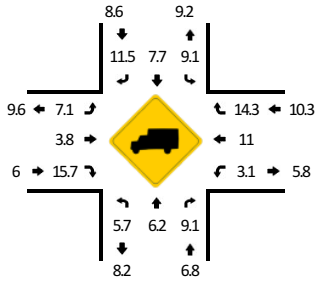
Method for determining peak hour: Total Entering Volume

LOCATION: N Cedar Lake Rd -- Monaville Rd
CITY/STATE: Lake Villa, IL

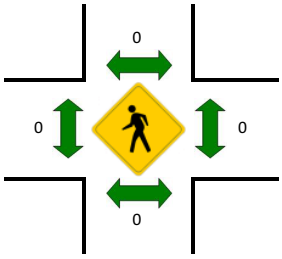
QC JOB #: 16963601
DATE: Tue, Apr 15 2025

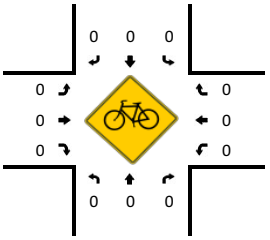
Peak-Hour: 7:15 AM -- 8:15 AM
Peak 15-Min: 7:30 AM -- 7:45 AM

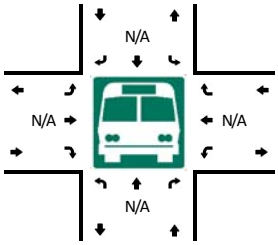


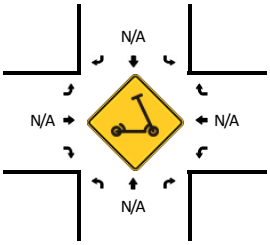


TRUE DATA TO IMPROVE MOBILITY









15-Min Count Period Beginning At	N Cedar Lake Rd (Northbound)				N Cedar Lake Rd (Southbound)				Monaville Rd (Eastbound)				Monaville Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	9	26	28	0	8	18	5	0	1	54	10	0	8	32	9	0	208	
7:15 AM	30	31	19	0	14	29	6	0	4	73	15	0	16	43	15	0	295	
7:30 AM	17	31	22	0	20	39	4	0	10	65	13	0	19	41	14	1	296	
7:45 AM	10	39	12	0	12	31	6	0	3	53	17	0	13	36	17	0	249	1048
8:00 AM	13	29	13	0	30	31	10	1	11	46	6	0	15	35	45	0	285	1125
8:15 AM	15	24	15	0	51	34	7	0	4	48	13	0	8	22	12	0	253	1083
8:30 AM	3	20	17	0	9	11	3	0	9	42	14	0	10	23	3	0	164	951
8:45 AM	3	22	14	0	9	26	2	0	5	47	5	0	8	29	10	1	181	883

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	68	124	88	0	80	156	16	0	40	260	52	0	76	164	56	4	1184
Heavy Trucks	4	4	8		8	16	0		4	8	16		4	36	0		108
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

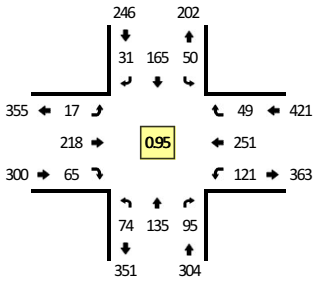
Report generated on 4/21/2025 9:06 AM

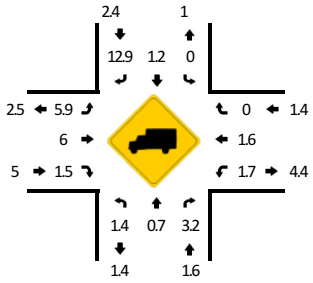
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

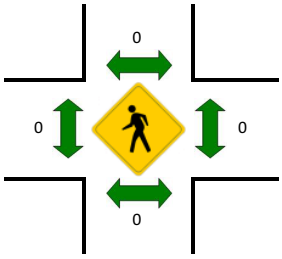
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

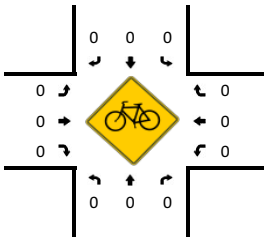
LOCATION: N Cedar Lake Rd -- Monaville Rd | **QC JOB #:** 16963602
CITY/STATE: Lake Villa, IL | **DATE:** Tue, Apr 15 2025

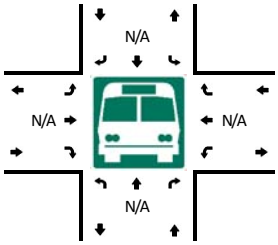
Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:15 PM -- 4:30 PM

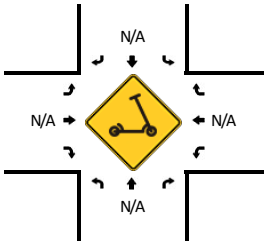












15-Min Count Period Beginning At	N Cedar Lake Rd (Northbound)				N Cedar Lake Rd (Southbound)				Monaville Rd (Eastbound)				Monaville Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	13	39	29	0	10	39	11	1	9	48	9	0	28	54	8	1	299	
4:15 PM	20	31	21	0	10	39	5	0	3	59	21	0	28	80	18	0	335	
4:30 PM	20	37	21	0	16	44	6	0	1	58	15	0	34	46	16	0	314	
4:45 PM	20	28	24	1	13	43	9	0	4	53	20	0	30	71	7	0	323	1271
5:00 PM	19	39	27	0	10	31	3	0	8	56	14	0	29	55	3	0	294	1266
5:15 PM	14	26	33	0	5	43	4	0	3	66	15	0	34	60	14	1	318	1249
5:30 PM	14	23	30	0	10	29	3	0	8	49	12	0	27	51	11	0	267	1202
5:45 PM	16	26	27	0	7	21	4	0	3	56	8	0	28	69	15	1	281	1160

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	80	124	84	0	40	156	20	0	12	236	84	0	112	320	72	0	1340
Heavy Trucks	0	4	8		0	0	0		0	8	0		4	8	0		32
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 4/21/2025 9:06 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

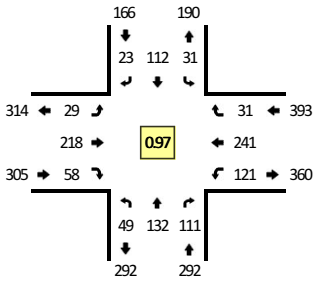
Type of peak hour being reported: Intersection Peak

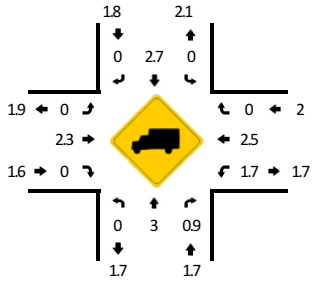
Method for determining peak hour: Total Entering Volume

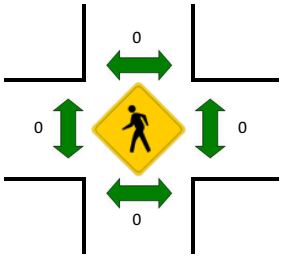
LOCATION: N Cedar Lake Rd -- Monaville Rd
CITY/STATE: Lake Villa, IL

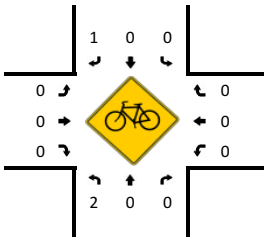
QC JOB #: 16963603
DATE: Sat, Apr 12 2025

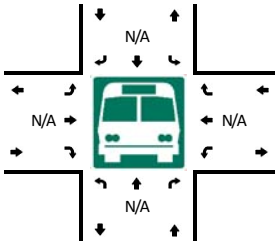
Peak-Hour: 12:45 PM -- 1:45 PM
Peak 15-Min: 1:15 PM -- 1:30 PM

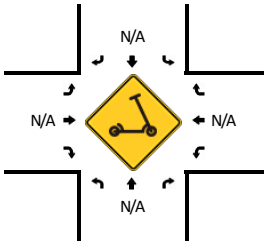












15-Min Count Period Beginning At	N Cedar Lake Rd (Northbound)				N Cedar Lake Rd (Southbound)				Monaville Rd (Eastbound)				Monaville Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
11:00 AM	14	26	25	1	11	22	5	0	1	55	9	1	19	49	7	1	246	
11:15 AM	10	20	25	0	13	29	0	0	1	50	11	1	20	62	11	1	254	
11:30 AM	9	33	28	0	7	31	1	0	2	43	14	0	22	59	6	0	255	
11:45 AM	4	21	24	0	11	24	5	0	3	60	10	0	19	47	12	0	240	995
12:00 PM	19	23	24	1	8	34	3	0	4	53	12	1	23	48	4	0	257	1006
12:15 PM	13	37	38	0	14	23	3	0	5	55	9	0	35	52	10	0	294	1046
12:30 PM	23	23	24	0	10	23	4	0	1	61	10	0	22	45	6	0	252	1043
12:45 PM	12	31	32	1	6	23	7	0	8	55	16	0	24	62	9	0	286	1089
1:00 PM	12	38	30	0	6	23	7	0	6	56	16	0	31	48	10	0	283	1115
1:15 PM	12	32	23	0	11	31	3	0	8	51	15	1	31	74	7	0	299	1120
1:30 PM	12	31	26	0	8	35	6	0	5	56	11	1	35	57	5	0	288	1156
1:45 PM	18	30	24	1	3	36	5	0	2	60	11	0	25	58	10	0	283	1153

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	48	128	92	0	44	124	12	0	32	204	60	4	124	296	28	0	1196
Heavy Trucks	0	4	0		0	4	0		0	12	0		0	4	0		24
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	4		0	0	0		0	0	0		4
Scooters																	

Comments:

Report generated on 4/21/2025 9:06 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

APPENDIX D – Trip Generation Spreadsheet

HAEGER ENGINEERING

100 East State Parkway
Schaumburg, Illinois 60173-5300
Tel: 847.394.6600
Fax: 847.394.6608

Trip Generation

Project: Self-Storage
Location: Lake Villa, IL
Project #: 25-058

Prepared: KML
Date: 6/13/2025

Year Start 2025
Year End 2030
Growth Rate % 3.000 (Per Lake County Highway Access and Use Ordinance Page 36)

			2025			2030 No Build			Site Generated			2030 with Project		
			AM	PM	SAT Mid	AM	PM	SAT Mid	AM	PM	SAT Mid	AM	PM	SAT Mid
Monaville and Cedar Lake	EB	LT	28	17	29	32	20	34	1	1	0	33	21	34
		TH	237	218	218	275	253	253	1	1	1	276	254	254
		RT	51	65	58	59	75	67	1	1	1	60	76	68
	WB	LT	64	121	121	74	140	140				74	140	140
		TH	155	251	241	180	291	279	1	1	2	181	292	281
		RT	91	49	31	105	57	36				105	57	36
	NB	LT	70	74	49	81	86	57	1	1	1	82	87	58
		TH	130	135	132	151	157	153				151	157	153
		RT	66	95	111	77	110	129				77	110	129
	SB	LT	77	50	31	89	58	36				89	58	36
		TH	130	165	112	151	191	130				151	191	130
		RT	26	31	23	30	36	27	1	1	1	31	37	28
Access 1	EB	TH				366	348	354				366	348	354
		RT							1	1	1	1	1	1
	WB	LT							3	3	4	3	3	4
		TH				291	413	363				291	413	363
	NB	LT							1	1	1	1	1	1
		RT							3	3	2	3	3	2

APPENDIX E – Synchro Studio Capacity Analyses

Capacity Analyses

Existing AM Peak, PM Peak, Saturday Midday Peak – 2025

Intersection	
Intersection Delay, s/veh	7.3
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	332	326	280	245
Demand Flow Rate, veh/h	353	359	298	266
Vehicles Circulating, veh/h	305	254	378	328
Vehicles Exiting, veh/h	289	422	280	285
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	7.5	7.3	7.6	6.8
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
A (Intercept)	1380	1380	1380	1380
B (Slope)	1.02e-3	1.02e-3	1.02e-3	1.02e-3
Entry Flow, veh/h	353	359	298	266
Cap Entry Lane, veh/h	1011	1065	938	988
Entry HV Adj Factor	0.941	0.908	0.939	0.921
Flow Entry, veh/h	332	326	280	245
Cap Entry, veh/h	951	967	881	910
V/C Ratio	0.349	0.337	0.318	0.269
Control Delay, s/veh	7.5	7.3	7.6	6.8
LOS	A	A	A	A
95th %tile Queue, veh	2	1	1	1

Intersection	
Intersection Delay, s/veh	7.7
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	315	443	320	260
Demand Flow Rate, veh/h	331	451	325	266
Vehicles Circulating, veh/h	359	241	315	478
Vehicles Exiting, veh/h	385	399	375	214
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	7.8	7.9	7.0	7.9
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
A (Intercept)	1380	1380	1380	1380
B (Slope)	1.02e-3	1.02e-3	1.02e-3	1.02e-3
Entry Flow, veh/h	331	451	325	266
Cap Entry Lane, veh/h	957	1079	1001	847
Entry HV Adj Factor	0.952	0.982	0.983	0.978
Flow Entry, veh/h	315	443	320	260
Cap Entry, veh/h	911	1059	984	829
V/C Ratio	0.346	0.418	0.325	0.314
Control Delay, s/veh	7.8	7.9	7.0	7.9
LOS	A	A	A	A
95th %tile Queue, veh	2	2	1	1

Intersection	
Intersection Delay, s/veh	6.8
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	315	405	301	171
Demand Flow Rate, veh/h	320	415	306	174
Vehicles Circulating, veh/h	278	221	292	434
Vehicles Exiting, veh/h	330	377	306	202
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.6	7.2	6.6	6.1
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
A (Intercept)	1380	1380	1380	1380
B (Slope)	1.02e-3	1.02e-3	1.02e-3	1.02e-3
Entry Flow, veh/h	320	415	306	174
Cap Entry Lane, veh/h	1039	1101	1024	886
Entry HV Adj Factor	0.986	0.975	0.983	0.980
Flow Entry, veh/h	315	405	301	171
Cap Entry, veh/h	1025	1074	1007	869
V/C Ratio	0.308	0.377	0.299	0.196
Control Delay, s/veh	6.6	7.2	6.6	6.1
LOS	A	A	A	A
95th %tile Queue, veh	1	2	1	1

Capacity Analyses

Future No Build AM Peak, PM Peak, Saturday Midday Peak – 2030

Intersection	
Intersection Delay, s/veh	8.7
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	385	378	325	285
Demand Flow Rate, veh/h	409	417	347	310
Vehicles Circulating, veh/h	354	295	439	380
Vehicles Exiting, veh/h	336	491	324	332
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	9.0	8.6	9.1	7.9
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
A (Intercept)	1380	1380	1380	1380
B (Slope)	1.02e-3	1.02e-3	1.02e-3	1.02e-3
Entry Flow, veh/h	409	417	347	310
Cap Entry Lane, veh/h	962	1021	882	937
Entry HV Adj Factor	0.942	0.907	0.938	0.920
Flow Entry, veh/h	385	378	325	285
Cap Entry, veh/h	906	926	827	862
V/C Ratio	0.425	0.408	0.393	0.331
Control Delay, s/veh	9.0	8.6	9.1	7.9
LOS	A	A	A	A
95th %tile Queue, veh	2	2	2	1

Intersection	
Intersection Delay, s/veh	9.3
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	366	513	372	300
Demand Flow Rate, veh/h	385	522	378	307
Vehicles Circulating, veh/h	414	281	365	554
Vehicles Exiting, veh/h	447	462	434	249
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	9.4	9.6	8.3	9.6
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
A (Intercept)	1380	1380	1380	1380
B (Slope)	1.02e-3	1.02e-3	1.02e-3	1.02e-3
Entry Flow, veh/h	385	522	378	307
Cap Entry Lane, veh/h	905	1036	951	784
Entry HV Adj Factor	0.951	0.983	0.985	0.977
Flow Entry, veh/h	366	513	372	300
Cap Entry, veh/h	860	1018	937	766
V/C Ratio	0.426	0.504	0.397	0.391
Control Delay, s/veh	9.4	9.6	8.3	9.6
LOS	A	A	A	A
95th %tile Queue, veh	2	3	2	2

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	365	469	350	199
Demand Flow Rate, veh/h	370	481	356	203
Vehicles Circulating, veh/h	322	257	338	503
Vehicles Exiting, veh/h	384	437	354	235
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	7.7	8.6	7.7	7.1
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
A (Intercept)	1380	1380	1380	1380
B (Slope)	1.02e-3	1.02e-3	1.02e-3	1.02e-3
Entry Flow, veh/h	370	481	356	203
Cap Entry Lane, veh/h	994	1062	978	826
Entry HV Adj Factor	0.986	0.976	0.984	0.980
Flow Entry, veh/h	365	469	350	199
Cap Entry, veh/h	980	1036	962	810
V/C Ratio	0.372	0.453	0.364	0.246
Control Delay, s/veh	7.7	8.6	7.7	7.1
LOS	A	A	A	A
95th %tile Queue, veh	2	2	2	1

Capacity Analyses

Future with Project AM Peak, PM Peak, Saturday Midday Peak – 2030

Intersection	
Intersection Delay, s/veh	8.7
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	389	380	326	286
Demand Flow Rate, veh/h	413	419	348	311
Vehicles Circulating, veh/h	354	297	442	383
Vehicles Exiting, veh/h	340	493	325	333
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	9.1	8.6	9.2	7.9
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
A (Intercept)	1380	1380	1380	1380
B (Slope)	1.02e-3	1.02e-3	1.02e-3	1.02e-3
Entry Flow, veh/h	413	419	348	311
Cap Entry Lane, veh/h	962	1019	879	934
Entry HV Adj Factor	0.943	0.907	0.938	0.920
Flow Entry, veh/h	389	380	326	286
Cap Entry, veh/h	907	924	825	859
V/C Ratio	0.429	0.411	0.396	0.333
Control Delay, s/veh	9.1	8.6	9.2	7.9
LOS	A	A	A	A
95th %tile Queue, veh	2	2	2	1

Intersection	
Intersection Delay, s/veh	10.4
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	369	514	373	301
Demand Flow Rate, veh/h	395	560	399	327
Vehicles Circulating, veh/h	434	297	368	590
Vehicles Exiting, veh/h	483	470	461	267
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	10.0	11.2	9.1	11.2
Approach LOS	B	B	A	B

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
A (Intercept)	1380	1380	1380	1380
B (Slope)	1.02e-3	1.02e-3	1.02e-3	1.02e-3
Entry Flow, veh/h	395	560	399	327
Cap Entry Lane, veh/h	886	1019	948	756
Entry HV Adj Factor	0.935	0.918	0.935	0.920
Flow Entry, veh/h	369	514	373	301
Cap Entry, veh/h	829	936	887	696
V/C Ratio	0.446	0.549	0.421	0.433
Control Delay, s/veh	10.0	11.2	9.1	11.2
LOS	B	B	A	B
95th %tile Queue, veh	2	3	2	2

Intersection	
Intersection Delay, s/veh	9.2
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	396	481	358	204
Demand Flow Rate, veh/h	425	523	384	221
Vehicles Circulating, veh/h	340	275	358	545
Vehicles Exiting, veh/h	426	467	407	253
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	9.2	10.0	8.7	8.2
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
A (Intercept)	1380	1380	1380	1380
B (Slope)	1.02e-3	1.02e-3	1.02e-3	1.02e-3
Entry Flow, veh/h	425	523	384	221
Cap Entry Lane, veh/h	976	1042	958	791
Entry HV Adj Factor	0.932	0.920	0.933	0.923
Flow Entry, veh/h	396	481	358	204
Cap Entry, veh/h	910	959	894	731
V/C Ratio	0.436	0.502	0.401	0.279
Control Delay, s/veh	9.2	10.0	8.7	8.2
LOS	A	A	A	A
95th %tile Queue, veh	2	3	2	1

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	366	1	3	291	1	3
Future Vol, veh/h	366	1	3	291	1	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	398	1	3	316	1	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	399	0	721	398
Stage 1	-	-	-	-	398	-
Stage 2	-	-	-	-	323	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1160	-	394	651
Stage 1	-	-	-	-	678	-
Stage 2	-	-	-	-	734	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1160	-	393	651
Mov Cap-2 Maneuver	-	-	-	-	393	-
Stage 1	-	-	-	-	678	-
Stage 2	-	-	-	-	731	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.08	11.49
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	559	-	-	18	-
HCM Lane V/C Ratio	0.008	-	-	0.003	-
HCM Ctrl Dly (s/v)	11.5	-	-	8.1	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	348	1	3	413	1	3
Future Vol, veh/h	348	1	3	413	1	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	378	1	3	449	1	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	379	0	834	379
Stage 1	-	-	-	-	379	-
Stage 2	-	-	-	-	455	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1179	-	338	668
Stage 1	-	-	-	-	692	-
Stage 2	-	-	-	-	639	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1179	-	337	668
Mov Cap-2 Maneuver	-	-	-	-	337	-
Stage 1	-	-	-	-	692	-
Stage 2	-	-	-	-	636	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.06	11.77
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	536	-	-	13	-
HCM Lane V/C Ratio	0.008	-	-	0.003	-
HCM Ctrl Dly (s/v)	11.8	-	-	8.1	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	354	1	4	363	1	2
Future Vol, veh/h	354	1	4	363	1	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	385	1	4	395	1	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	386	0	789	385
Stage 1	-	-	-	-	385	-
Stage 2	-	-	-	-	403	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1173	-	360	662
Stage 1	-	-	-	-	687	-
Stage 2	-	-	-	-	675	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1173	-	358	662
Mov Cap-2 Maneuver	-	-	-	-	358	-
Stage 1	-	-	-	-	687	-
Stage 2	-	-	-	-	671	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.09	12.02
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	516	-	-	20	-
HCM Lane V/C Ratio	0.006	-	-	0.004	-
HCM Ctrl Dly (s/v)	12	-	-	8.1	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

APPENDIX F – ITE Trip Generation Worksheets

Mini-Warehouse
(151)

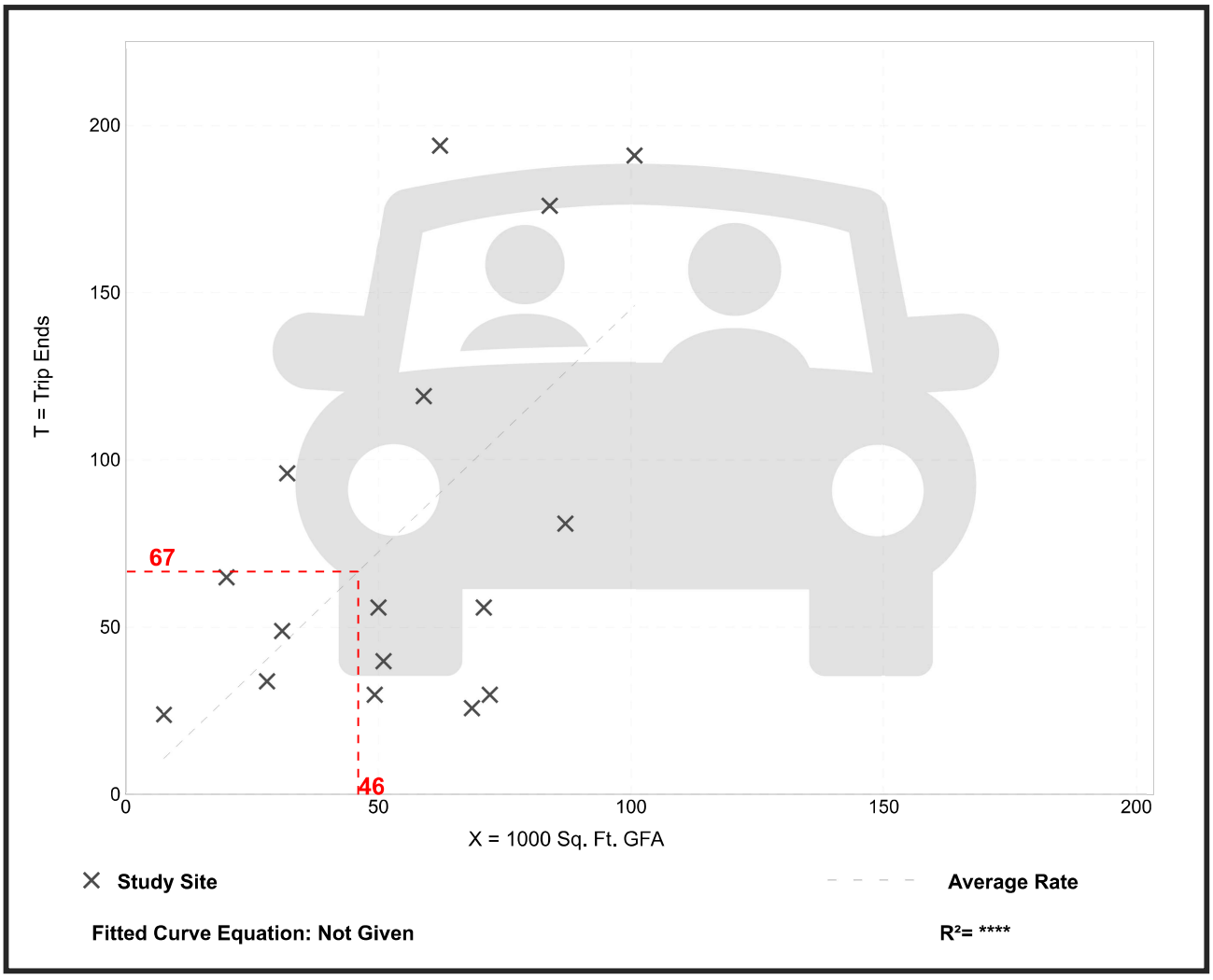
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 16
Avg. 1000 Sq. Ft. GFA: 55
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.45	0.38 - 3.25	0.92

Data Plot and Equation



Mini-Warehouse
(151)

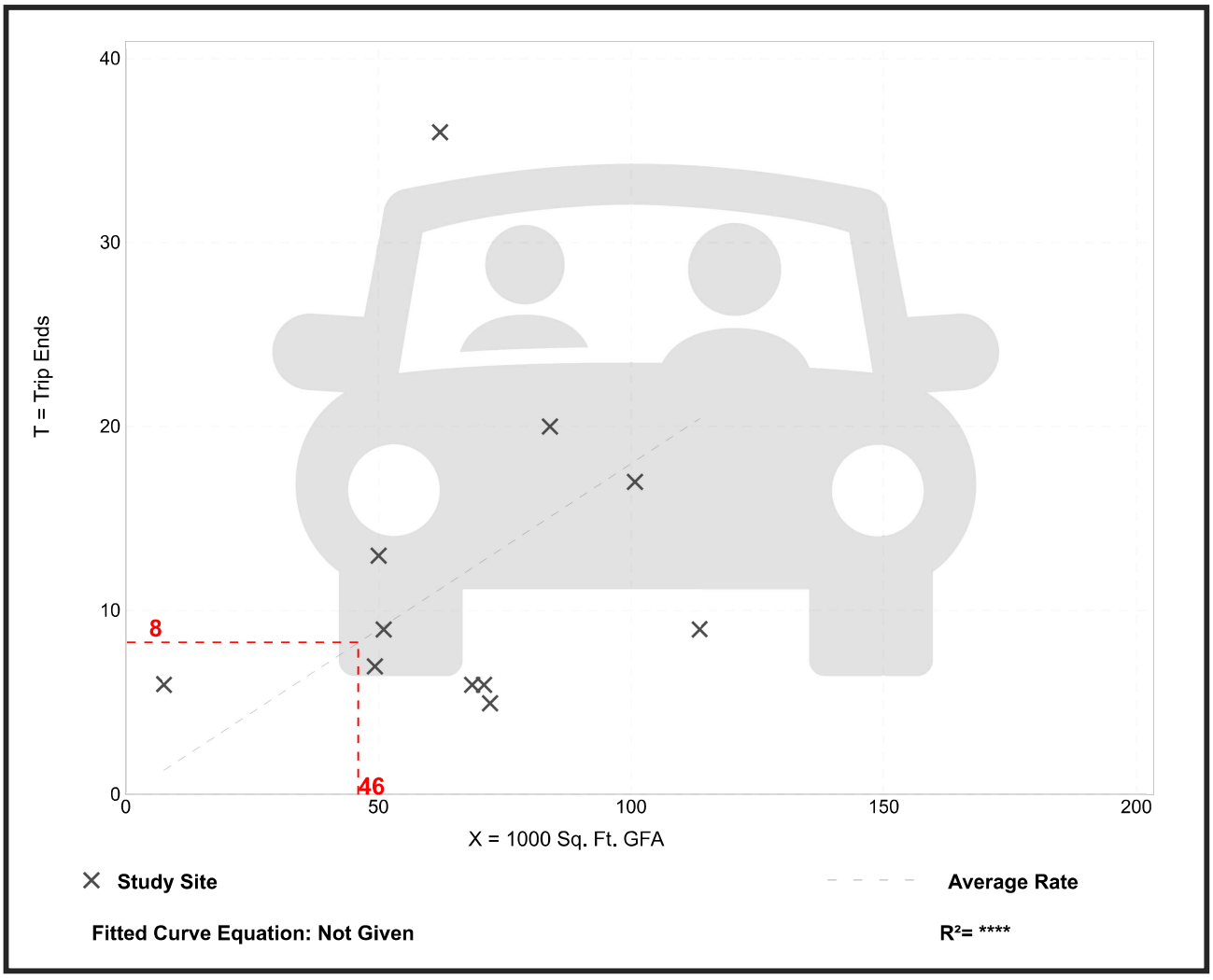
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
AM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 11
Avg. 1000 Sq. Ft. GFA: 66
Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.18	0.07 - 0.79	0.16

Data Plot and Equation



Mini-Warehouse
(151)

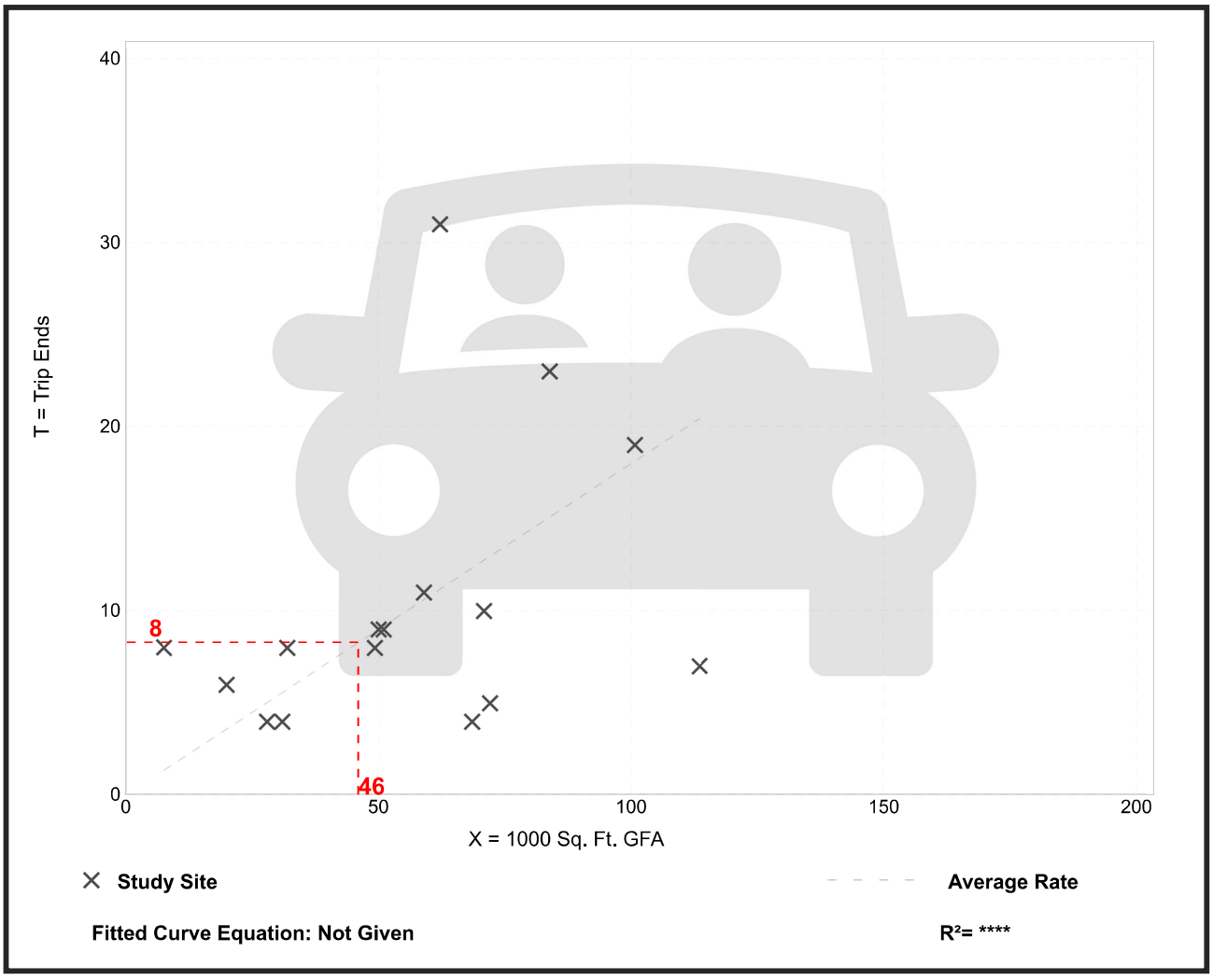
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
PM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 16
Avg. 1000 Sq. Ft. GFA: 56
Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.18	0.06 - 1.05	0.14

Data Plot and Equation



Mini-Warehouse
(151)

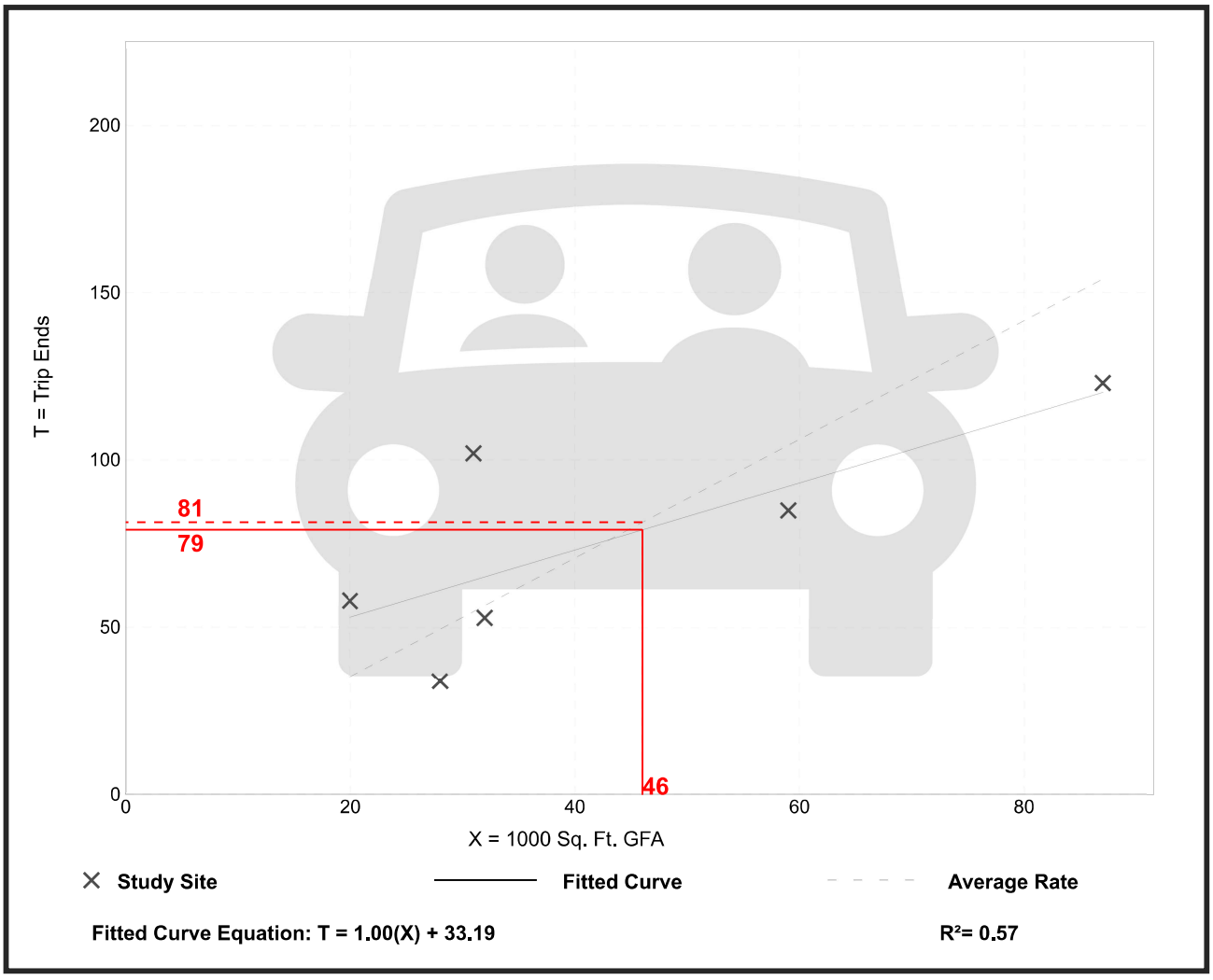
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Saturday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 6
Avg. 1000 Sq. Ft. GFA: 43
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.77	1.21 - 3.29	0.76

Data Plot and Equation



Fitted Curve Equation: T = 1.00(X) + 33.19

R^2= 0.57

Mini-Warehouse
(151)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Saturday, Peak Hour of Generator**

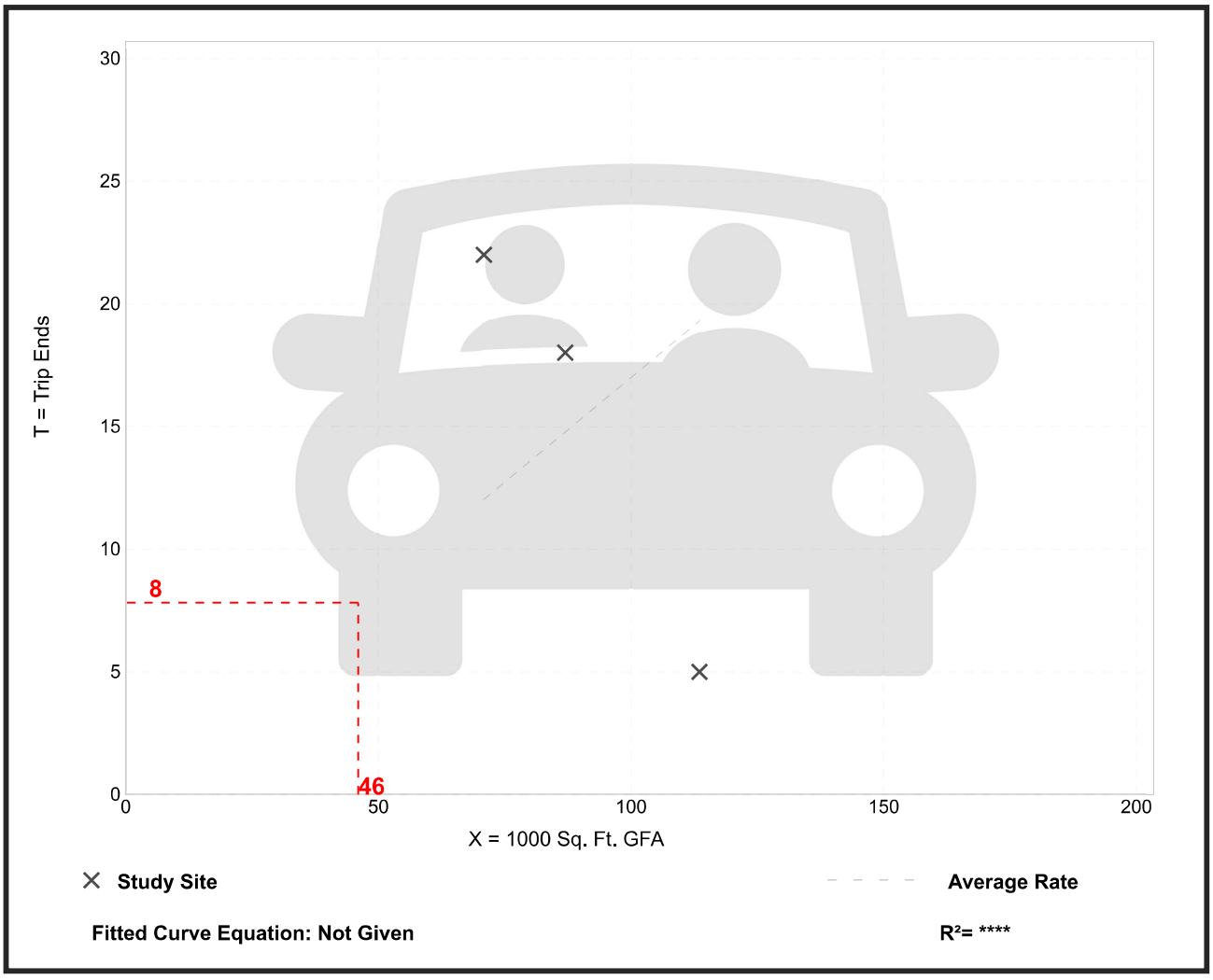
Setting/Location: **General Urban/Suburban**
Number of Studies: 3
Avg. 1000 Sq. Ft. GFA: 90
Directional Distribution: 62% entering, 38% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.17	0.04 - 0.31	0.14

Data Plot and Equation

Caution – Small Sample Size



Fitted Curve Equation: Not Given

R^2= **

APPENDIX G – CMAP ADT Projections

Chicago Metropolitan Agency for Planning

433 West Van Buren Street, Suite 450
Chicago, IL 60607
cmap.illinois.gov | 312-454-0400

June 16, 2025

Kimberly Lask
Project Manager
Haeger Engineering
100 East State Parkway
Schaumburg, IL 60173

Subject: W. Monaville Road and N. Cedar Lake Road
IDOT

Dear Ms. Lask:

In response to a request made on your behalf and dated June 12, 2025, we have developed year 2050 average daily traffic (ADT) projections for the subject location.

ROAD SEGMENT	Current ADT	Year 2050 ADT
Monaville Rd west of Cedar Lake Rd	6,700	7,900
Cedar Lake Rd south of Monaville Rd	7,600	8,200

Traffic projections are developed using existing ADT data provided in the request letter and the results from the December 2024 CMAP Travel Demand Analysis. The regional travel model uses CMAP 2050 socioeconomic projections and assumes the implementation of the ON TO 2050 Comprehensive Regional Plan for the Northeastern Illinois area. The provision of this data in support of your request does not constitute a CMAP endorsement of the proposed development or any subsequent developments.

If you have any questions, please call me at (312) 386-8806 or email me at jrodriguez@cmap.illinois.gov

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

cc: Rios (IDOT)
S:\AdminGroups\ResearchAnalysis\2025_trafficForecasts\LakeVilla\la-26-25\la-26-25.docx

APPENDIX H – Lake County Turn Lane Warrants

1 Right-turn Max.

Table 5.3 Right-Turn Lane Guidelines for Two-Lane Highways

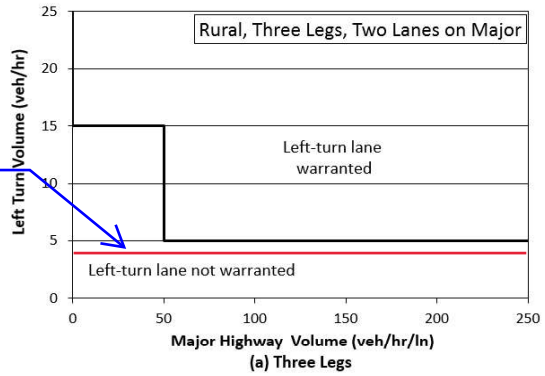
Approach Lane Volume (vph)	Minimum Right-turn Volume Warranting Exclusive Lane (vph) By Posted Speed Limit				
	35 mph	40 mph	45 mph	50 mph	55 mph
200	--	--	75	35	20
300	--	120	40	25	15
400	200	50	30	20	10
500	50	25	20	15	10
600	25	15	15	10	10
800	15	10	10	10	10
1200	10	10	10	10	10

Table 5.4 Right-Turn Lane Guidelines for Four-Lane Highways

Approach Lane Volume (vph)	Minimum Right-turn Volume Warranting Exclusive Lane (vph) By Posted Speed Limit				
	35 mph	40 mph	45 mph	50 mph	55 mph
300	--	--	--	75	20
400	--	40	40	40	15
500	--	40	40	30	15
600	40	40	40	25	10
800	40	35	30	20	10
1200	25	30	20	15	10
1600	15	15	15	10	5
2000	10	10	10	10	5

Table 5.5 Left Turn Lane Guidelines for Rural Two-Lane Highways

4 Left-turns Max.



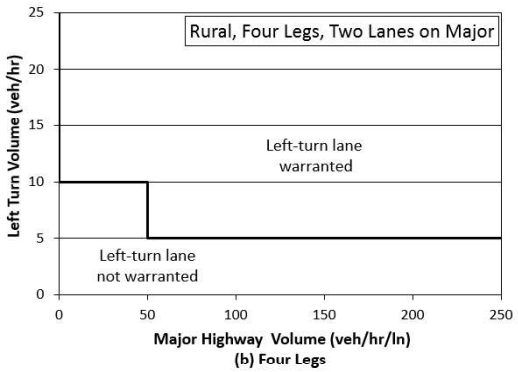
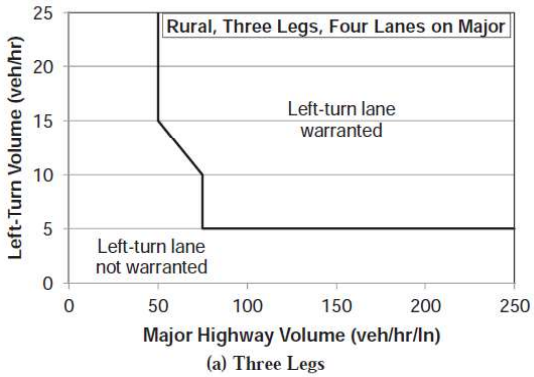


Table 5.6 Left Turn Lane Guidelines for Rural Four-Lane Highways



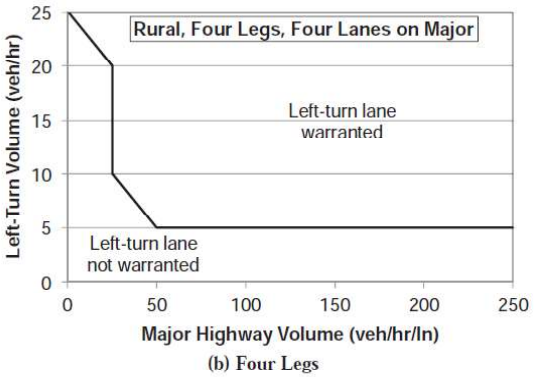
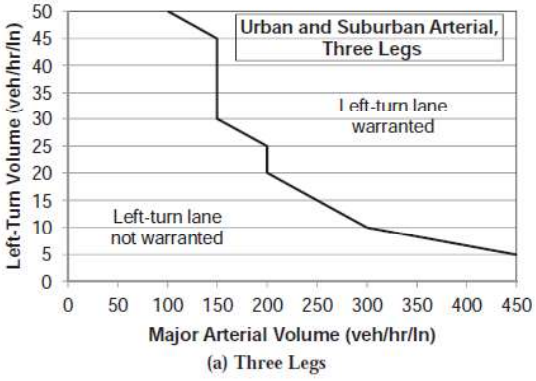
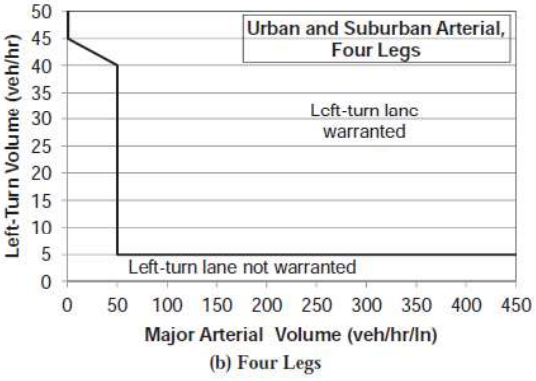
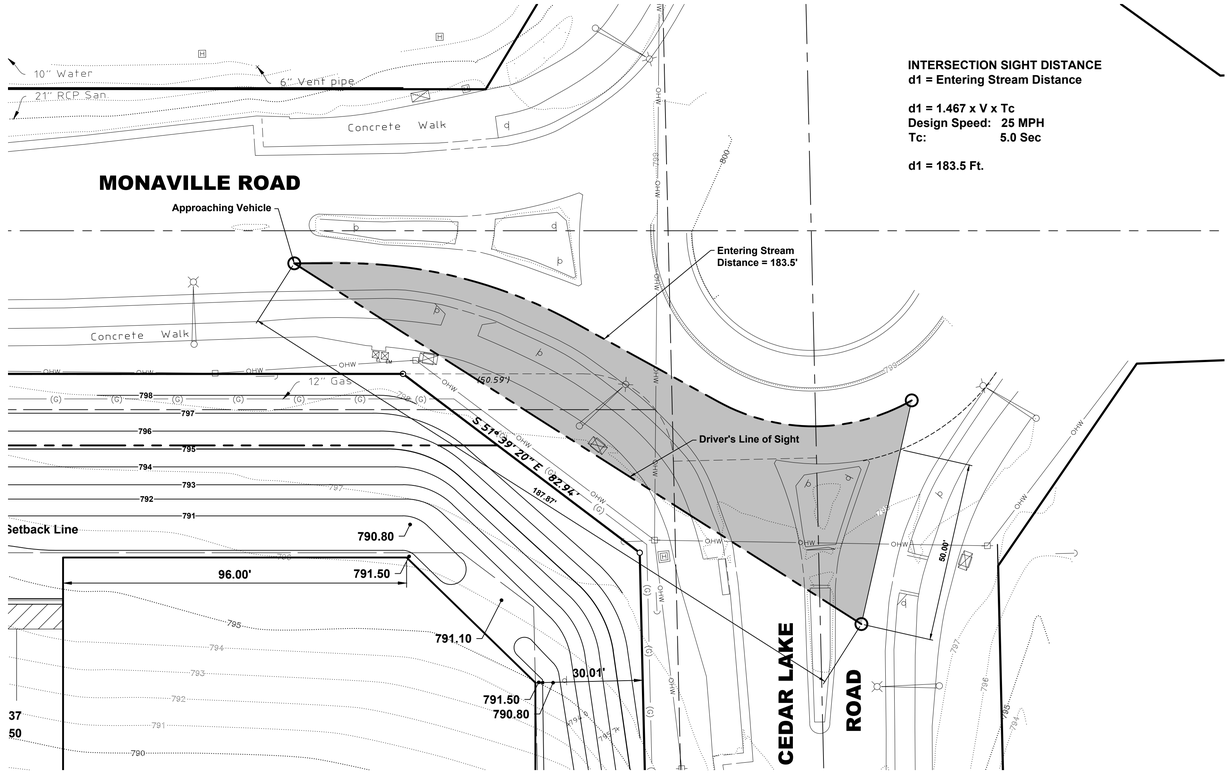


Table 5.7 Left Turn Lane Guidelines for Urban and Suburban Arterials



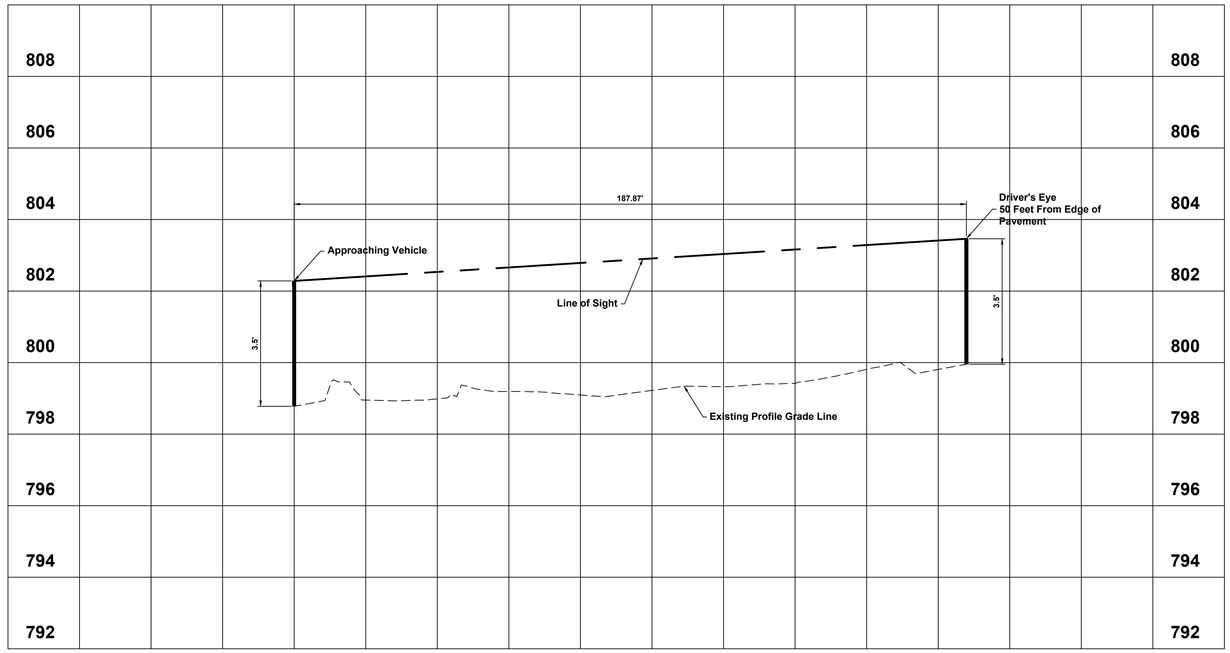


Source: NCHRP Report 745: Left Turn Accommodations at Unsignalized Intersections, TRB 2013



PLAN VIEW

Scale: 1"=20'



PROFILE VIEW

Scale: 1"=20', 1"=2'

NORTH

10 0 20

Scale: 1" = 20'

No.	Revision	Date

HAEGER ENGINEERING
consulting engineers • land surveyors
100 East State Parkway, Schaumburg, IL 60173 • Tel: 847.394.6600 Fax: 847.394.6608
Illinois Professional Design Firm License No.: 184-003152
www.haegerengineering.com

ROUNDABOUT SIGHT DISTANCE ANALYSIS

SELF-STORAGE FACILITY
406 W. MONAVILLE ROAD
LAKE VILLA, ILLINOIS

Project Manager:	K M L
Engineer:	K M L
Date:	08-21-2025
Project No.	25-058
Sheet	1/1

Plot Date: Aug 25, 2025 - 10:16am Plotted By: kim-l Layout: PP 20&2
File Name: P:\2025\25058\Drawings\Exhibits\25058 Sight Distance Exhibit-2.dwg

Illinois Department of Natural Resources
JB Pritzker, Governor • Natalie Phelps Finnie, Director
One Natural Resources Way • Springfield, Illinois 62702-1271
www.dnr.illinois.gov

May 28, 2025

Filip Majewski
100 E. State Parkway
Schaumburg, IL 60173

RE: Safe and Secure Self Storage
Consultation Program
EcoCAT Review #2513358
Lake County

Dear Mr. Majewskir:

The Department has received your submission for this project for the purposes of consultation pursuant to the *Illinois Endangered Species Protection Act* [520 ILCS 10/11], the *Illinois Natural Areas Preservation Act* [525 ILCS 30/17], and Title 17 *Illinois Administrative Code* Part 1075.

The proposed action consists of the construction of self-storage development in Lake County.

The Illinois Natural Heritage Database shows the following protected resources may be in the vicinity of the project location:

Illinois Natural Areas Inventory
Windance Acres Marsh

State Threatened or Endangered Species
Blanding's Turtle (*Emydoidea blandingii)*
Common Moorhen (*Gallinula galeata*)
Least Bittern (*Ixobrychus exilis*)
Osprey (*Pandion haliaetus*)
Yellow-headed Blackbird (*Xanthocephalus xanthocephalus*)

Due to the project scope and proximity to protected resources, the Department offers the following comments and recommends the following actions be taken to avoid adversely impacting listed species in the vicinity of the project:

Windance Acres Marsh
The Department has determined adverse impacts to this site are unlikely.

Blanding's Turtle
EcoCAT has indicated records for the state-listed Blanding's Turtle in vicinity of the project area. The Department recommends:

- Install exclusionary silt fence by the end of March and maintain it through October (if needed) to prevent turtles from entering the construction area. Conduct daily inspections during construction to ensure that exclusionary fencing is properly installed (dug into the ground) and to check if turtles are present.
- Cover trenches at the end of each workday. Before starting each workday, trenches and excavations should be routinely inspected to ensure no turtles (or other amphibians and reptiles) have become trapped within them.
- A permanent exclusionary barrier between any wetlands and the project site should be incorporated into project plans to prevent turtles from entering areas where they may be adversely impacted by daily activity. The barrier should include turnarounds where needed and be trenched into the soil a minimum of 4 inches.
- If Blanding's turtles are encountered, crews should stop work immediately, allow the turtle to move out of the way and contact IDNR at (217) 785-5500.

Common Moorhen, Least Bittern, Osprey, and Yellow-headed Blackbird
The Department has determined adverse impacts to these species are unlikely.

Given the above recommendations are adopted, the Department has determined that impacts to these protected resources are unlikely. The Department has determined impacts to other protected resources in the vicinity of the project location are also unlikely.

In accordance with 17 Ill. Adm. Code 1075.40(h), please notify the Department of your decision regarding these recommendations.

Consultation on the part of the Department is closed, unless the applicant desires additional information or advice related to this proposal. Consultation for Part 1075 is valid for two years unless new information becomes available which was not previously considered; the proposed action is modified; or additional species, essential habitat, or Natural Areas are identified in the vicinity. If the action has not been implemented within two years of the date of this letter, or any of the above listed conditions develop, a new consultation is necessary.

The natural resource review reflects the information existing in the Illinois Natural Heritage Database at the time of the project submittal and should not be regarded as a final statement on the project being considered, nor should it be a substitute for detailed site surveys or field surveys required for environmental assessments. If additional protected resources are unexpectedly encountered during the project's implementation, the applicant must comply with the applicable statutes and regulations.

This letter does not serve as permission to take any listed or endangered species. As a reminder, no take of an endangered species is permitted without an Incidental Take Authorization or the required permits. Anyone who takes a listed or endangered species without an Incidental Take

Authorization or required permit may be subject to criminal and/or civil penalties pursuant to the *Illinois Endangered Species Act*, the *Fish and Aquatic Life Act*, the *Wildlife Code* and other applicable authority.

The Department also offers the following conservation measures be considered to help protect native wildlife and enhance natural areas in the project area:

- Woven wire or a suitable habitat wildlife friendly fence should be used. Barbed wire should be avoided.
- If tree clearing is necessary, the Department recommends removing trees between November 1st and March 31st to avoid impacts to the state-listed bats and birds.
- Any required night lighting should follow International Dark-Sky Association's (IDA) Five Principles for Responsible Outdoor Lighting to minimize the effect of light pollution on wildlife: Five Principles for Responsible Outdoor Lighting | DarkSky International

Please contact Isabella Newingham (Isabella.newingham@illinois.gov) with any questions about this review.
Sincerely,

Bradley Hayes
Manager, Impact Assessment Section
Division of Real Estate Services and Consultation
Office of Realty & Capital Planning
Illinois Department of Natural Resources
One Natural Resources Way
Springfield, IL 62702
Bradley.Hayes@Illinois.gov
Phone: (217) 782-0031

HAEGER ENGINEERING
consulting engineers • land surveyors

100 East State Parkway
Schaumburg, Illinois 60173-5300
tel: 847.394.6600
fax: 847.394.6608

July 22, 2025

Mike Strong
Village Administrator
Village of Lake Villa
65 Cedar Avenue
P.O. Box 519
Lake Villa, IL 60046

RE: Self-Storage Facility – 406 Monaville Road
Response to the Village of Lake Villa Comments
Haeger Project No.: 25-058

Dear Mr. Strong,

Haeger Engineering is in receipt of review comments for the proposed development, dated July 11, 2025. We have revised the submittal materials per the comments. The original review comments are included below, shown in *italics*, with our responses to each comment followed in **bold**.

Engineering Review (by Robert Doeringsfeld, P.E., Applied Technologies)

1. *Pre Village Ordinance 5-4-2 use of the public Village Sewer System is required. The development cannot use a septic system/holding tank. Connection can be made to the north of Monaville Road or to the east of Cedar Lake Road.*
   A sanitary connection at the north side of Monaville is shown.

2. *Development shall provide approval from Lake County Division of Transportation for the driveway entrance on Monaville Road.*
   A submittal was made to LCDOT on 7-1-2025.

3. *Development shall follow the design requirements from Title 5 and Title 11 of the Village Ordinances.*
   Understood.

4. *Connection Fee Estimate*
   a. *This estimate is provided based on the submitted Preliminary Engineering Plans. All Connection Fees will be based on Final Approved Plans. Fees associated with Lake County Sewer are estimates only. The Development must submit the required information to pwengineeringgroup@lakecountyil.gov for Final Connection Fee.*
   b. *406 Monaville Road – 46,000 sf of warehouse = 4.6 Residential Equivalents (RE)*
   c. *Village Water: $4,300/RE (5-4-3.F.1)*
      i. *$4,300/RE x 130 RE = $19,780*
   d. *Village Sewer: $2,200/RE (5-4-3.F.7)*
      i. *$2,200/RE x 130 RE = $10,120*
   e. *Lake County Sewer (Intermediate Sewer and Treatment): $3,540/RE (5-4-3.2) {LC 51.23.A}*
      i. *$3,540/RE x 130 RE = $16,284*
   f. *Total Water/Sewer Connection Fee: $46,184*
      Noted.

Engineering Review (by Jon M. Tack, P.E.)

General Comments

1. *Prior to Final Approval of the stormwater improvements as-built/record drawings shall be provided for all stormwater facilities improvements per the WDO.*

   Noted.

2. *The detention basin, storm sewers and overland flow routes shall be placed in a plat restricted area per WDO requirements. Provide a plat of survey for recording that includes all stormwater facilities (basin, storm sewer, bio-swales, overland routes, etc.).*

   This will be provided during final engineering.

3. *Final engineering shall provide contact information for the required designated erosion control inspector (DECI). Weekly reports from the DECI will need to be emailed to the Village.*

   Noted.

4. *All applicable permits shall be received by the Village prior to the issuing of the site development permit. Such as a copy of the NPDES NOI approval letter.*

   Permits will be applied for during final engineering.

5. *A maintenance plan for the stormwater facilities needs to be provided for review, approval, and then recorded with the plat for the stormwater facilities. Due to the large retaining walls immediately adjacent to the detention facility the maintenance plan needs to include specific wall inspections by a qualified inspector.*

   The maintenance plan will be provided during final engineering.

6. *Provide wetland; boundary approval, jurisdictional determination(JD) and/or letter of no impact as applicable for the development. All wetland impacts will need mitigation.*

   The wetland boundary was confirmed by Hey and Associates and is reflected on the Preliminary Engineering Plan. A LONI will be obtained.

7. *Wetland type basins require detailed list of the plant material used. The basins will also require a 3-year maintenance and monitoring program with biannual reports to the Village on the quality and establishment of the wetland. A maintenance surety shall be on deposit during the monitoring program.*

   This will be provided during final engineering.

8. *All submittals of plans and calculations shall be signed and sealed by an Illinois Registered Professional Engineer.*

   All final engineering documents will be signed and sealed by a P.E.

9. *If additional plans were provided to LCDOT please provide the Village a copy. Also, the Village would like to be copied on the review comments from LCDOT.*

   Additional plans were not prepared.

10. *Provide a copy of the IDNR Eco CAT.*

    A copy of the EcoCAT is included with the submittal.

11. *The development appears to be proposing a holding tank for on-site waste disposal. Approval from the Lake County Health Department will be required.*

    A sanitary connection will be made to the sanitary sewer at the north side of Monaville.

Stormwater Report Comments

12. *Provide the profile for East Branch of Eagle Creek in the report.*

    The profile is included in the report.

13. *Include the existing conditions TC supporting calculations for all subareas.*
    TC calculations are included in the PondPack analysis in the report.

14. *Provide a detailed discussion of the impacts of the bypass area flowing thru the detention basin and explain bypass flow effects on the overtopping frequency.*
    Additional information is included in the stormwater report narrative.

15. *Final engineering requires that a sub-area drainage map be included in the report depicting the tributary area to; culverts, catch basins, inlets, area not restricted/detained, etc.*
    A sub-area drainage map will be provided in the final stormwater management report.

16. *Final Engineering to provide storm sewer calculations for all pipes and overland routes.*
    This will be provided in the final stormwater management report.

17. *The freeboard for the detention basin is 1' above the depth of the runoff over the spillway.*
    Noted.

18. *The floodplain fill area will require specific calculations for fill volume and compensatory storage.*
    Floodplain compensatory storage calculations will be provided in the final stormwater management report.

Preliminary Engineering

19. *Review the grading along the west property line to assure no impacts to adjoining property owner.*
    The grading will have no impacts to the adjoining property.

20. *Spillway location.*
    The detention basin spillway is located at the south side of the detention basin. It is noted on the preliminary engineering plan.

21. *The sheet should identify the overland and emergency overland routes.*
    Emergency overland flow routes are indicated on the preliminary engineering plan.

22. *The wall is more than 7' high in some locations and will require a structural engineer's design.*
    Noted.

23. *Provide all details and calculations with final engineering.*
    Noted.

If you have any questions or if additional information is required to facilitate the approval, please contact me at kim-l@haegerengineering.com or 847-230-3176.

Sincerely,

HAEGER ENGINEERING LLC

Kim Lask

Kim Lask, P.E., PTOE, CFM
Project Manager

Cc: Mark Haufe, Easy Space Storage, II, LLC
Michael Durlacher, Grogan Hesse & Uditsky, P.C.

Applied Technologies
Engineers - Architects

MEMORANDUM

Clear Thinking

Date: July 11, 2025 **Project #:** 6623 – 406 Monaville Road

To: Mike Strong, Village Administrator
Jake Litz, Assistant to the Village Administrator

Organization: Village of Lake Villa

From: Robert Doeringsfeld, P.E.

Regarding: Cedar Lake Estates – Engineering Review

Cc:

We have received and reviewed the following documents related to the Easy Space Storage II, LLC at 406 Monaville Road

- Application for Conditional Use and Variance
- Boundary and Topographic Survey – May 7, 2025
- Photometric Plan – June 17, 2025
- Site Photos
- Site Plan and Preliminary Engineering – June 17, 2025

We have reviewed the preliminary submittal for conformance with water, sanitary sewer, pavement, and site considerations and have the following comments. Final submittal shall include the required elements called out in Title 11 of the Village Ordinances.

1. Pre Village Ordinance 5-4-2 use of the public Village Sewer System is required. The development can not use a septic system/holding tank. Connection can be made to the north of Monaville Road or to the east of Cedar Lake Road.
2. Development shall provide approval from Lake County Division of Transportation for the driveway entrance on Monaville Road.
3. Development shall follow the design requirements from Title 5 and Title 11 of the Village Ordinances.
4. Connection Fee Estimate
    a. This estimate is provided based on the submitted Preliminary Engineering Plans. All Connection Fees will be based on Final Approved Plans. Fees associated with Lake County Sewer are estimates only. The Development must submit the required information to pwengineeringgroup@lakecountyil.gov for Final Connection Fee.
    b. 406 Monaville Road – 46,000 sf of warehouse = 4.6 Residential Equivalents (RE)
    c. Village Water: $4,300/RE (5-4-3.F.1)
        i. $4,300/RE x 130 RE = **$19,780**
    d. Village Sewer: $2,200/RE (5-4-3.F.7)
        i. $2,200/RE x 130 RE = **$10,120**
    e. Lake County Sewer (Intermediate Sewer and Treatment): $3,540/RE (5-4-3.2) {LC 51.23.A}
        i. $3,540/RE x 130 RE = **$16,284**
    f. Total Water/Sewer Connection Fee: **$46,184**

ORDINANCE NO. 2025-09-02

AN ORDINANCE AMENDING THE VILLAGE OF LAKE VILLA VILLAGE CODE AND IMPLEMENTING A NON-HOME RULE MUNICIPAL RETAILERS' OCCUPATION TAX AND A NON-HOME RULE MUNICIPAL SERVICE OCCUPATION TAX FOR THE VILLAGE OF LAKE VILLA

WHEREAS, the Illinois Municipal Code, 65 ILCS 5/1-2-1, provides that the Corporate Authorities of each municipality may pass all ordinances and make all rules and regulations proper or necessary, to carry into effect the powers granted to municipalities, with such fines or penalties as may be deemed proper; and

WHEREAS, Section 8-11-1.1 of the Illinois Municipal Code (65 ILCS 5/8-11-1.1) provides that non-Home Rule Illinois municipalities may impose a tax "upon all persons engaged in the business of selling tangible personal property, other than on an item of tangible personal property which is titled and registered by an agency of this State's Government, at retail in the municipality" based upon the "gross receipts from such sales made in the course of such business" for "expenditure on public infrastructure or for property tax relief or both" (the "Non-Home Rule Municipal Retailers' Occupation Tax") (65 ILCS 5/8-11-1.3); and

WHEREAS, Section 8-11-1.1 of the Illinois Municipal Code (65 ILCS 5/8-11-1.1) provides that non-Home Rule Illinois municipalities may impose a tax "upon all persons engaged, in such municipality, in the business of making sales of service . . . of the selling price of all tangible personal property transferred by such servicemen either in the form of tangible personal property or in the form of real estate as an incident to a sale of service" (the "Non-Home Rule Municipal Service Occupation Tax") (65 ILCS 5/8-11-1.4); and

WHEREAS, Section 8-11-1.3 of the Illinois Municipal Code (65 ILCS 5/8-11-1.3) requires that any municipality imposing a Non-Home Rule Municipal Service Occupation Tax and a Non-Home Rule Municipal Retailers' Occupation Tax impose such tax at the same rate imposed for the Non-Home Rule Municipal Retailers' Occupation Tax being imposed; and

WHEREAS, both the Non-Home Rule Municipal Retailers' Occupation Tax and the Non-Home Rule Municipal Service Occupation Tax may each be imposed in one-quarter percent (1/4%) increments up to 1% (65 ILCS 5/8-11-24); and

WHEREAS, the Non-Home Rule Municipal Retailers' Occupation Tax and the Non-Home Rule Municipal Service Occupation Tax shall each be administered, collected and enforced by the Illinois Department of Revenue; and

WHEREAS, the Mayor and Board of Trustees of the Village of Lake Villa, Lake County, Illinois (the "Village") have determined that it is appropriate, necessary and in the best interests of the Village and its residents that the Village levy both a Non-Home Rule Municipal Retailers' Occupation Tax pursuant to Section 8-11-1.3 of the Illinois Municipal Code (65 ILCS 5/8-11-1.3)

and a Non-Home Rule Municipal Service Occupation Tax pursuant to Section 8-11-1.4 of the Illinois Municipal Code (65 ILCS 5/8-11-1.4):

NOW, THEREFORE, BE IT ORDAINED, by the Mayor and Board of Trustees of the Village of Lake Villa, Lake County, Illinois, as follows:

SECTION 1. Incorporation of Recitals. The Corporate Authorities of the Village hereby find that the foregoing recitals are true and correct and shall be and are hereby incorporated into the text of this Ordinance as its findings of fact to the same extent as if said recitals were fully set forth herein.

SECTION 2. Chapter 2, "Business and Occupation Taxes", of Title 3, "Business Regulations", is hereby amended by the addition of a new Section 3-2-6, "Non-Home Rule Municipal Retailers' Occupation Tax Imposed", and a new Section 3-2-7, "Non-Home Rule Municipal Service Occupation Tax Imposed ", which shall respectively read as follows:

> "SECTION 3-2-6. Non-Home Rule Municipal Retailers' Occupation Tax Imposed. A tax is hereby imposed upon all persons engaged in the business of selling tangible personal property, other than on an item of tangible personal property which is titled and registered by an agency of this State's government, at retail in the municipality at the rate of one percent (1%) of the gross receipts from such sales made in the course of such business for expenditure on public infrastructure or for property tax relief or both. The imposition of this tax is in accordance with and subject to the provisions of Section 8-11-1.3 of the Illinois Municipal Code (65 ILCS 5/8-11-1.3)."
>
> SECTION 3-2-7. Non-Home Rule Municipal Service Occupation Tax Imposed. A tax is hereby imposed upon all persons engaged in the business of making sales of service, of the selling price of all tangible personal property transferred by such servicemen as an incident to a sale of service. The rate of this tax shall be the same rate identified in Section 3-2-6 above. The imposition of this tax is in accordance with and subject to the provisions of Section 8-11-1.4 of the Illinois Municipal Code (65 ILCS 5/8-11-1.4)."

SECTION 3. Illinois Department of Revenue to Administer Both Taxes. The taxes hereby imposed, and all civil penalties that may be assessed as an incident thereto, shall be collected and enforced by the Department of Revenue of the State of Illinois. The Illinois Department of Revenue shall have full power to administer and enforce the provisions of this Ordinance.

SECTION 4: Limitation on Use of Proceeds. The Village shall only expend the proceeds generated from any tax imposed by virtue of this Ordinance on: (a) expenditures related to municipal roads and streets, access roads, bridges, and sidewalks; waste disposal systems; and water and sewer line extensions, water distribution and purification facilities, storm water drainage and retention facilities, and sewage treatment facilities; (b) efforts to reduce the levy for real estate taxes or avoid an increase in the levy for real estate taxes that would otherwise have been required by the Village; or (c) any other or further permitted uses under Section 8-11-1 of the Illinois Municipal Code (65 ILCS 5/8-11-1) as may now or hereafter be authorized therein.

SECTION 5: Qualified Exemption of Aviation Fuel from Both Taxes. No provision of this Ordinance shall be interpreted to impose any tax on aviation fuel, as defined in Section 3 of the Retailers' Occupation Tax Act (35 ILCS 120/3), unless the proceeds of said tax are expended for airport-related purposes, as that term is defined in Section 6z-20.2 of the State Finance Act (30 ILCS 105/6Z-20.2), and said expenditures are made in compliance with the certification requirements for airport-related purposes under Section 2-22 of the Retailers' Occupation Tax Act (35 ILCS 120/2-22).

SECTION 6. Village Clerk to file Ordinance with Illinois Department of Revenue. As required under Section 8-11-24 of the Illinois Municipal Code (65 ILCS 5/8-11-24), the Village Clerk is hereby directed to file a certified copy of this Ordinance with the Illinois Department of Revenue on or before October 1, 2025.

SECTION 7. Effective Date. The taxes imposed by this Ordinance shall take effect on January 1, 2026.

SECTION 8. Repeal of Conflicting Provisions. All ordinances, resolutions and policies of the Village, or parts thereof, in conflict with the provisions of this Ordinance are, to the extent of the conflict, expressly repealed on the effective date of this Ordinance.

SECTION 9. Severability. If any provision of this Ordinance or application thereof to any person or circumstances is ruled unconstitutional or otherwise invalid, such invalidity shall not affect other provisions or applications of this Ordinance that can be given effect without the invalid application or provision, and each invalid provision or invalid application of this Ordinance is severable.

SECTION 10. Headings/Captions. The headings/captions identifying the various sections and subsections of this Ordinance are for reference only and do not define, modify, expand or limit any of the terms or provisions of the Ordinance.

SECTION 11. Publication. The Village Clerk is hereby directed by the Corporate Authorities of this Village to publish this Ordinance in pamphlet form. This Ordinance shall be in full force and effect after its passage and publication in accordance with 65 ILCS 5/1-2-4.

Passed by the Corporate Authorities of the Village on September 15, 2025, on a roll call vote as follows:

AYES: Trustees

NAYS:

ABSENT:

ABSTAIN:

Approved by the Mayor on September 15, 2025

_____

James McDonald, Mayor
Village of Lake Villa

ATTEST:

_____

Connie Olker, Village Clerk

Published in pamphlet form this 15th day of September, 2025.

RESOLUTION NO. 2025-09-01

A RESOLUTION AUTHORIZING THE SUBMITTAL OF AN APPLICATION FOR AN OPEN SPACE LAND ACQUISITION AND DEVELOPMENT (OSLAD) GRANT

WHEREAS, the Village of Lake Villa is actively working on the design, funding, and construction of renovations to Lehmann Park (the "Project"); and

WHEREAS, the Village has been working to expand recreational opportunities to Lehmann Park part of its efforts to improve the quality of life for all Lake Villa residents and visitors,

WHEREAS: the Village is implementing recommendations from the Lake Villa Comprehensive Plan and Downtown Plan to expand recreational opportunities in Lehmann Park; and

WHEREAS, the Village Board has recommended the Village of Lake Villa apply for an Illinois Department of Natural Resources Open Space Lands Acquisition and Development (OSLAD) Grant to provide additional funding for the Project; and

WHEREAS, on September 15, 2025, the Corporate Authorities recommended Village staff be authorized to coordinate the preparation and submittal of an OSLAD grant application for the Project; and

NOW, THEREFORE, BE IT RESOLVED, the Corporate Authorities has considered, hereby adopts, and authorizes the Mayor to execute the OSLAD Grant Program Resolution so it can be included in the OSLAD grant application.

SECTION 1: The Corporate Authorities of the Village hereby find that the recitals hereinabove set forth are true and correct and the same are hereby incorporated into this Resolution as its findings of fact to the same extent as if such recitals had been set forth herein in its entirety.

SECTION 2: The Corporate Authorities of the Village hereby approve the Application for OSLAD Grant Funding for the 2025 grant year as prepared by the Village Administrator and Village Consultants.

SECTION 3: The Village Administrator and Village Treasurer are hereby authorized and directed to execute the application on behalf of the Village and is further authorized and directed to take all such actions as mya be necessary and proper for the submittal of the application to IDNR Authorities.

SECTION 4: This Resolution shall take effect from and after its passage and approval, as provided by law.

Passed by the Corporate Authorities this 15th of September, 2025 on a roll call vote as follows:

AYES:

NAY:

ABSENT:

ABSTAIN:

Approved by the Mayor on September 15th, 2025.

_____
James McDonald
Mayor, Village of Lake Villa

ATTEST:

_____
Connie Olker, Village Clerk,
Village of Lake Villa

Published in pamphlet form this 15th day of September, 2025.

Memorandum

To: Michael Strong, Village Administrator, Village of Lake Villa
Jacob Litz, Assistant to the Village Administrator, Village of Lake Vill
From: Michael Blue, FAICP, Principal, Teska Associates, Inc.
Scott Goldstein, FAICP, President, Teska Associates, Inc.
Date: October 18, 2024
RE: **Lake Village Zoning Audit - Findings Report**

A review and evaluation of the Village of Lake Villa Zoning Ordinance is provided in this report. It outlines the ordinance's various strengths and weaknesses, and provides suggestions on whether some or all of the Ordinance may be updated to better meet the Village's goals for development and the future of the community. The evaluation process included discussions with Ordinance users (property owners) Village staff, Village Attorney and Village officials. It also involved a complete review of the Ordinance document to consider it against best practices in zoning regulation and enforcement.

Primary Findings

The most notable characteristic of the Lake Villa Zoning Ordinance is its complexity. This is problematic as it makes the code difficult to read, apply and interpret for Villager officials and applicants alike. As one stakeholder noted, "the code should help make crystal clear to developers what the village wants". The complexity of the code keeps that from being the case.

The ordinance is built on a concept known as "performance zoning", intended to regulate and separate uses and structures based on their potential impact on adjacent properties. This concept is sound, and effectively the basis for most zoning regulations. However, the challenge of this technique is that it seeks to anticipate all (or most) zoning situations within the regulations. Ultimately, the ordinance is too rigid to help Lake Villa address its development and community planning goals.

Principal findings of the ordinance audit are:

- The ordinance is overly complex in how it sets standards, in part because many of them have multiple controlling factors. For example:
  - Multiple bulk standards and lot sizes are different for different land uses in the same zoning district, yet it is unclear if or why the additional uses would be in that district (such as medial uses in residential districts).
  - For PUDs, the bulk standards, minimum site area, FAR, and differing use types are specified. However, the purpose of PUD is to support flexibility for superior design.
  - In the SR4, there are performance standards for specific types of dwelling unit styles that are not common and not defined in the code?

  - Landscape standards for buffering of dissimilar uses are detailed in a table, but lack clarity or adequate definition to make them a useful tool for zoning enforcement.
- The text of the ordinance is long and confusing. It is "not in everyday language", as one stakeholder noted.
- The ordinance lacks adequate graphics to help define standards or convey intent.
- The ordinance includes tables, an sound practices, but they include so much information as to be confusing.
- The application of legacy districts in confusing in that it is interspersed with information for districts that will apply to new development. There may not be a better way to address these older districts, but they should be separated from other regulations to increase clarity of the code.

Lake Villa Development and Planning Goals

In reviewing and potentially updating a zoning ordinance, it is important to keep in mind the community objectives for the ordinance. Regulations are not put in place just to have rules, they should add value to the regulated development and the community as a whole. If the standards within a zoning ordinance cannot be explained or applied in that context, consideration should be given as to whether they are necessary or how they might be changed.

Lake Villa Comprehensive Plan Goals

The Village's 2022 Comprehensive Plan includes a range of goals and related actions. A number of them relate to land use and, therefore, to zoning. The overall goals expressed in the plan for land use and economic development are:

A. Land Use

1. Preserve the Village's history and character while also responding to the current economic conditions.
2. Enhance the tax base and reduce the tax burden on residents by supporting fiscally sound growth and development.
3. Add appropriately to the housing stock and provide housing options to attract families, professionals and allow seniors to stay in the community.
4. Pursue development and redevelopment projects that in the aggregate will support vital services including quality public schools.

B. Economic Development

1. Pursue development and redevelopment projects that support vital services.
2. Preserve and enhance the character, aesthetics, and business development in the downtown area.
3. To create new opportunities and capitalize on Lake Villa's Downtown and nearby areas with a mixed-use, pedestrian friendly environment that markets the Village as a distinct and cultural attraction.
4. Support high quality economic development in other key nodes in the Village.

Lake Villa Goals for Development and Regulations

In conducting this audit, several goals related to future development were raised in conversations with Village officials and stakeholders. These were noted in context of the zoning code and bring added perspective to the code and applying it to development in the Village. These included:

- Flexibility to encourage creative, market supported, attractive development.
- Preserving residential character by prohibiting monotony in new development.
- Preserve and enhance nature, open space, natural resources, trails, and walkability.
- Density is appropriate for the community in the downtown and near the train station.
- Quality development is expected (but not fully defined).

Policy Considerations

At its most basic, the purpose of zoning is to regulate the uses of land allowed on a property, as well as the size, bulk, and location of structures on that property. How this is done and how it advances related community goals is, of course, the crux of the matter. As part of evaluating the zoning ordinance, the Village can consider several policy questions to help define objectives for ordinance standards and approval processes. These policy questions include:

- What zoning standards most create a desired character and development for the Village, and how can these become the focus of the zoning ordinance promoting economic development and quality design?
- How much development review process is right for Lake Villa? Are there types of approvals where administrative relief is appropriate?
- How should design guidelines be applied to development and redevelopment? Is the current scoring system the best practice for Lake Villa?
- In considering planned developments, how should public benefits be incorporated into the review process?

Technical Findings

Assessing the Village Zoning Ordinance against current zoning best practices sheds light on its merits and opportunities for refinement. It should be noted that implementing a code update should always build from the current set of regulations. The intent of standards in the current Lake Villa code is desirable, but not clearly conveyed in the document. Further, completely replacing a code is not a sound approach as it creates new confusion for users, nonconforming situations on existing properties, and overwhelming administrative needs to learn, manage and apply the new regulations. Therefore, any changes to the code standards should make them clear and straightforward to apply, and not set brand new standards for bulk and use unless specifically found to be necessary and useful.

The sections that follow identify issues and opportunities related to the current Lake Villa Zoning Ordinance. These observations are general in some cases, and others are more specific. They are raised here to paint a picture of opportunities for the code to better convey Village goals and regulate development more effectively and efficiently for property owners and Village officials.

General Observations

Building on the primary findings, key take aways from a read of the Village's Zoning Ordinance include:

1. Nomenclature and abbreviations for zoning districts is not common to other codes – this is confusing to users from outside the Village. For example, use of "urban residential" in the district names of comfortable suburban community is unusual and conveys a desire for more intensive development. Likewise, application of terms "special" and "conditional" use are reversed from how they are commonly found in zoning ordinances.
2. The permitted use list is overly lengthy, detailed and confusing. For example, there is a strong yet unclear focus on educational and medical uses in zoning districts. An update should consider application of use categories (like "retail sales" or "personal services").
3. District purpose statements mostly consider relative density and whether sewer is prescribed. This gives little indication as to the intent of development in the areas or amendments to the regulations and map.
4. The ordinance contains an excessive level of architectural design standards. To be useful, these would need to be trimmed to the things that are important.
5. The parking section lacks design and landscaping standards that could provide an enhanced aesthetic.
6. Use and intent of PUDs is unclear. Further, and based on stakeholder feedback, the PUD is often used as a work around to vary standards that don't work because they are so complex or specific.

Chapter 1: Purposes And Authority

1. This is a brief administrative code section that should be reviewed to confirm with best practices and legal requirements.

Chapter 2: Definitions

1. Not all the definitions are used in the document (and should be removed if they are not necessary).
2. Conversely, not all the terms used in the Ordinance that may require clarification or specificity are defined. This is particularly important for permitted, special, and conditional uses, as well as the various types of accessory structures.
3. Definitions should be reviewed, modernized and clarified. For example, there are several versions of camps and clubs defined that are very specific. These should be considered for whether they still apply, or can be removed or simplified.
4. Some definitions include regulations (but only a few). That aspect of the definition should be removed or relocated to the appropriate section of the code so they are not missed by code users.

Chapter 3: Zones and Zone regulations

1. The purpose / intent statements are too focused on the technical nature of the district (need for sewer and water) and a broad definition of density for residential districts. A more qualitative description for districts can help to convey to applicants the Village's expectation for construction there and support understanding of intent when considering amendments or zoning relief in a district. (Section 10-3A-3)
2. The district nomenclature is unconventional. This can be a concern in that it makes the ordinance more challenging for designers or developers accustomed to working in other

communities that follow common naming. In addition, the use of "urban residential" is confusion for a suburban community. (Section 10-3A-3)

3. Legacy districts for existing areas are not common, but understandable to regulate already developed areas where nonconformities may be created by applying revised bulk and use standards. In other parts of the ordinance, particularly bulk tables, these districts might be better separated from others to minimize confusion. (Section 10-3A-3)
4. Application of permitted, special, conditional, and temporary uses in the use table is clear. However, the use of special and conditional is reversed from how it is applied in other codes and may create confusion for users who work with other communities (typically a special use requires a public hearing and Village Board approval). It is not essential that this be changed, but the use of the terms should be clearly applied. (Section 10-3B-2.H)
5. The permitted use list is long and detailed. This is common in older codes, but use categories are becoming more common, making the list shorter and more flexible. Use categories group specific land uses with essentially the same zoning impact. For example, from a zoning perspective, there is little to no difference between a barber shop and beauty salon (both are listed in the Lake Villa table and permitted in the same zoning districts). These and other like businesses can be presented as "personal services", which would allow broader and newer types of businesses to be encouraged to located in the Village. A clear and community specific definition of the use category would be important to ensure it is in keeping with Village expectations. (Section 10-3B-2.H)
6. The use and format of the bulk and performance tables should be revised. They contain an excessive amount of information, including different bulk standards for different types of uses within a district, without it being clear that such uses should be or are allowed in the districts. The intent seems to be setting different bulk standards for uses like schools or medical facilities, which may be correct, but the amount of information makes the tables unwieldy and confusing. The standards included should be reviewed and prioritized so that the tables contain only necessary information that adds value to the proposed use. Likewise, the utility of and need for the subsequent footnotes should be reviewed. (Section 10-3C-2 thru 5)
7. The number of bulk and performance tables is also a bit overwhelming and should be trimmed as possible – some of this is created by interspersing the legacy districts, which would be better summarized in their own section. This amount and type of information creates confusion and encourages users to call staff, rather than being able to apply the standards without assistance (Section 10-3C-2 thru 5). On their face, the difference between the tables (or whether there is one) can be hard to discern for occasional users. Tables in this chapter include:
    - Table 2 – Lots Areas, Yard and Bulk Regulations
    - Table 5.1.B – Residential District Performance Standards
    - Table 5.2 – Lot Area, Yard and Bulk Requirements
    - Table 5.3.B – Lot Area, Yard, Lot Mix and Bulk Requirements for Planned Developments and SR4 Single- Family
8. Architectural review standards run for over 40 pages when the code is in printable form. They are included for 1) Commercial, Retail, and Office Buildings and Structures 2) Single-Family Residential Buildings And Structures, 3) The Village Center, and 4) Multi-Family Buildings and Structures. While the Village has established a checklist and review process for the standards, the length, breadth, and level of detail make them impossible for an applicant to understand and apply. The intent and practical application of these standards can be revisited to provide a more understandable and usable approach. (Section 10-3E-4 thru 7)

Design standards for single family structures is not commonly applied in communities, as it is considered overly regulatory for an individual's home. This practice should be reviewed and confirmed moving forward.

As with other aspects of the code – this section would be greatly enhanced by graphics, photos and definitions of the design and architecture terms not commonly understood by residents.

Chapter 4: Supplementary Zoning Regulations

1. Industrial performance standards follow a common convention. They are based on detailed and quantitative standards over a range of potential impacts (sound, smoke, vibration). These are useful for initial review, but can be difficult to enforce as they may require detailed expertise and equipment few municipalities maintain. An option to consider is setting existing standards (and adding others related to potential adverse impacts) to be consistent with state or federal regulations. This establishes consistency for those who must meet the standards. The ordinance currently applies the standards to the industrial districts, as is common with such regulations, but they may also be worthwhile to apply to commercial districts. (Section 10-4-1)
2. Specific standards for seven special uses are provided. These uses are otherwise permitted, and must meet the specific standards in this section. This is an effective zoning approach as it allows land uses that may have limited impacts to be consistently addressed, without requiring a hearing process. The Village may wish to expand use of this tool. (Section 10-4-3)
3. Standards for conditional uses are provided for all such uses. In some cases, these are submission requirements, so the structure of this section requires refinement to distinguish between what is to be submitted for approval, and what regulates operation of the use.

   In addition, the section provides specific requirements for some 20 conditional uses. These are baseline regulations that apply the use, in addition to any specific considerations identified through staff review and public hearing steps. This is also a sound zoning practice, creating clarity and conformity of regulations. However, one of the use specific regulations are very detailed and seem almost site specific. Therefore, the regulations should be reviewed to ensure they are still relevant and can be applied broadly to these types of conditional uses throughout the Village. (Section 10-4-4)

4. The list of standards for accessory uses is limited, and most are unnecessarily repetitive of their definition in Chapter 2. In addition, the section includes standards for "accessory structures" under the heading of "accessory uses", making the regulations potentially hard to find or missed by the casual user. Compounding this concern is that additional standards for some accessory structures in specific districts are found later in this Chapter. These are examples of how the ordinance is longer and more complex than needed, can be confusing, and can potentially create conflicts in standards. (Section 10-4-5-1)
5. Home occupations are regulated by potential impacts (number of employees, hours of operation, no signage, etc.), which is a best practice for such activities. The section also lists permitted and prohibited home occupations. This approach is discouraged as listed permitted home occupations can be overly limiting, especially in this time of working from home and start up businesses. Similarly, and particularly if the list of permitted home occupations is removed, the list of prohibited uses is not recommended as this allows for the argument that if a home occupation isn't prohibited and the Village must allow the business. (Section 10-4-5-3)
6. Fence regulations are included in this section, as well as in the design standards for single family structures. As noted in other instances, having regulations for a type of use or structure in

multiple parts of the code creates confusion and the possibility of requirements being missed. Fence regulations also merit a more prominent location in the code, as they are relevant to many property owners and likely to be referenced often. In addition, these regulations would be enhanced by graphics to help users understand the intent and letter of the regulation. (Section 10-4-5-4.C)

7. Exceptions to yard and building requirements for accessory structures and building elements can be enhanced by further detailing the types of yards into which they are permitted to encroach – rather than into "any required yard" as stated. For example, clothesline posts and recreational equipment may be appropriate for rear yards, but not front or side yards. (Section 10-4-5-5.B)
8. Landscaping requirements include (Section 10-4-6):
    - A focus on buffering and screening, which is an important use of landscaping. However, standards here are primarily quantitative (for buffer yards) and should be reconsidered as to whether their previous application is considered effective.
    - Limited graphics, beyond those related to buffer yard. Addition graphics are needed in this section (especially as relates to parking lots) to better convey intent to users.
    - Street trees on private property, which is not a best practice given that it limits property owners' use of their front yard and reduces the aesthetic impact of trees to create a tree canopy. This approach based on a past practice of limiting impact on Village public work services, but should be revisited to consider allowing street trees in the right of way.

Chapter 5: Nonconformities

1. The three key areas where nonconformities become a concern are addressed: lots, structures and uses.
2. Standards by which non-conforming lots may be built on, structures may be replaced or added to and uses may be continued are clearly conveyed. These are useful approaches and can reviewed to ensure they meet current Village needs and objectives.
3. Amortization of nonconforming uses is outlined. These standards should be reviewed for consistency with current Village policy and conformance with legal requirements and best practices. This is an aggressive form of eliminating nonconformities, which not all communities apply.

Chapter 6: Zoning Requirements

1. The regulations in this chapter apply generally to districts throughout the Village, as do those in Chapter 4. To make such broadly used regulations easier to find, these chapters can be merged into a single chapter of general provisions.
2. Parking and Loading Requirements (Section 10-6A-1) focus on the required number of parking spaces. Several options for update and modernization can be considered:
    - Standards for shared parking, parking lot design and circulation, parking lot landscaping and screening are found throughout the design guidelines – and can be easily missed given the length of that section. Other parking lot design standards are found in the Landscaping Section. For ease of use, these standards should be compiled into this chapter.
    - A number of parking best practices are available to add to this section and may be considered by the Village. These include: land banking parking, bicycle parking, visitor parking and allowances for minor administrative variations.
    - While a state requirement, handicapped accessible standards should be specified in the ordinance for clarity and to be sure code users can find them.

- The table of Required Number of Parking Spaces to be Provided (Section 10-6A-2) can be enhanced by ensuring that the list of uses matches the permitted use list (Chapter 3). This will make finding and applying the standards easier.
- Parking standards for the number of spaces required are generally consistent with those found in other suburban codes.
- Standards for parking space and drive aisle size, and parking lot design generally, should be considered against modern design and expanded to reflect best practices.

3. Lighting standards are detailed and should be reviewed further to ensure they meet Village needs. Alternatively, if the amount of information required of applicants is not used or needed, it can be reduced and clarified. The section's allowances for full cut of light fixtures is clear and in keeping with typical codes, however, the allowance of "no cutoff luminaire" is not considered a best practice in many communities given emphasis on light pollution and dark sky goals. (Section 10-6B: Article B)
4. Communication Tower regulations are newer, but legal requirements for such structures and how they can be regulated do change. A legal review of this section is warranted. (Section 10-6B: Article C)
5. Sign Regulations are also newly updated (2019) and avoid being content based (a common issue for many communities and an approach found unconstitutional by the Supreme Court.) This section can be enhanced with graphics that convey sign types, sizes, and locations permitted by the ordinance. (Section 10-6B: Article D)
    - The schedule of fees is included in this section of the ordinance. However, having specific fees in the code is discouraged as any change in fees requires a formal code amendment. A recommended practice is to establish a fee schedule for all fees specified in the Village Code and incorporating it by reference in the zoning ordinance. This way the fees can be updated regularly, without the need to amend the zoning ordinance or other parts of the Village Code.
6. Having renewable energy systems in the code (newly added) is a desirable best practice. (Section 10-6B: Article E)

Chapter 7: Administration and Review Process

1. The ordinance specifies responsibilities of the Zoning Board of Appeals and Plan Commission, but does not reflect the joint nature of the Planning and Zoning Commission. The ordinance should be revised to reflect current practice.
2. The processes for approval are logical, but described in lengthy text that can be hard for occasional users to understand. Conveying these procedures through bullet pointed text or flow charts is suggested.
3. Standards for conditional uses cover typical aspects of development, and should be reviewed to confirm they reflect Village expectations. Standards also include additional "standards given consideration". It is not clear if these are equal in weight to the base standards. These additional standards are reasonable items for consideration and are logical to incorporate into the review process. However, the current language and how standards are presented is confusing. (Section 10-7-2).
4. Standards for variation also cover typical aspects of development. As with conditional use standards, there are "other findings required". In this case, the text is specific that these additional findings are necessary. Together, this creates 15 standards to consider and make findings on, which is more than typical. Consideration may be given to consolidating these standards.

5. Process and standards for approval of map and text amendments are consistent with common practice, although some communities do not include standards for consideration, as this action is taken by the Village Board in their legislative role. That said, making the standards clear is a transparent approach to zoning and should be considered. The Village also may consider clarifying standards by separating the items for consideration (subsection D) from the specific standards (subsection D.9). Separate standards for map and text amendments is a good approach, as those have different implications.
6. The Village Board having final approval of variations (rather than relief from the ZBA going to the Circuit Court) is a sound approach. The Village may consider also doing this for appeals.
7. Public hearing notice requires a newspaper notice, mailing, and sign on the site – the latter of which is generally considered to be the most effective form of notice. Process responsibilities for each step are noted in the code. There are alternatives for whether each of these responsibilities is placed on the applicant or Village, which the Village may want to review to balance efficiency and customer service. Another consideration is the 500' mailing notice, which is greater than commonly found in codes (250' or up to 350' is seen more often).

Chapter 8: Residential Property Standards

1. This is an unusual section for zoning ordinance. The requirements apply as part of subdivision (which is effectively the first design of a development), rezoning (so that that could apply to a very small property and burden small commercial or residential changes) or site plan approval (which is mentioned several times in the code, but there is no description of what that entails or when it is required). This section should be reviewed to confirm its application and clarified for users of the ordinance.

Chapter 9: Planned Development and Other Development Regulations

1. The indication of parties that can seek a PD or when a PD is required (Sections 10-9-1.3 and 10-9-1.4) are vague. Being more specific about these situations will add predictability to the development process consistency in its use.
2. Stakeholder interviews indicate that PDs are often applied in conditions when the base standards are out of step with current development trends, Village goals, or are overlay complex. This is a common use of PDs in some communities, but it is not making the best use of the tool.
3. The code specifies that lot width, area and setbacks can be varied thought a PD, and that it must do so without exceeding the underlying gross density of a property. This is a common application of PD standards. (Section 10-9-1.6:3)
4. The code notes that a PD may be used to impose standards that are more restrictive than the underlying zoning as related to density, bulk and other standards. This is an unusual approach as the PD process is typically applied to give relief to such standards in exchange for a higher level of design.
5. As is typical with PDs, the code spells out a preliminary and final process, specifies the information to be provided for each, denotes acceptable changes after these steps, and additional standards (beyond the conditions use standards) that are to be met for approval.
6. The Village may consider an addition, preapplication step where the applicant comes before the Village (either the Planning and Zoning Commission or the Village Board) to share a concept and get feedback as to information the Village desires to see as part of the application and other background that may be relevant to the pending proposal. This preapplication step makes the public hearing process smoother and helps the applicant be better in tune with community expectations.

7. This Section includes regulations that are not common in most PD sections. These add additional standards and regulations on certain developments. The Village may wish to consider if these are still relevant given recent development trends and proposals, and are applicable to all PDs:
    - Standards for commercial centers (Section 10-9-2). These amount to additional standards for these types of developments.
    - Additional standards are set for subdivisions that accompany a PD.

Chapter 10: Administration, Enforcement, Zoning Map, Interpretation

1. Responsibilities and authorities of the zoning administrator, Zoning Board of Appeals, and Plan Commission are set out. This is an administrative aspect of the ordinance, but should be trued up to current practices, updated as may be needed to reflect best practices and legal requirements, revised to be consistent with desired changes for those parties and consolidated with the responsibilities specified in Chapter 7. (Sections 10-10-1 and 10-10-2)
2. Standards for interpreting the Village's zoning ordinance and map are defined. As with the responsibilities sections, these sections should be updated to reflect current practice and standards. (Sections 10-10-3 and 10-10-5)

Chapter 11: Separability and Penalty

1. As with Chapter 10, this is a brief administrative code section that should be reviewed to confirm with best practices and legal requirements.

Title 11: Subdivision Regulations

Subdivision regulations were not specifically incorporated stakeholder discussions or intended to be a focus of this audit, but a scan of this section raised a couple questions.

1. The requirement to prohibit monotony is a vague reference to the zoning code, which should be more specific.
2. The prohibition against "prefabricated housing" is an old school standard. Off site built modular housing is an option now, and an affordable one. In fact, there is a line of thought that modular built housing has the benefit of being constructed indoors, and not having its structural elements exposed for a year as stick built construction progresses.
3. School or park donation requirements, that are commonly in this Title in other codes, were not noted.

Next Steps

The next step for the audit process is to review the findings with Village staff and attorney to ensure they accurately reflect current Village zoning practices and policies. After that, another joint workshop with the Village Board and Planning and Zoning Commission will be held to review findings and discuss the policy questions raised in this memo (and others that may arise as part of staff, attorney, and Village officials review). That discussion will also be useful in defining a direction to be taken regarding the need for and process of updating the zoning ordinance.