VILLAGE OF LAKE ZURICH
Planning & Zoning Commission
70 East Main Street

Wednesday, June 19, 2024, 7:00 p.m.

AGENDA

1. CALL TO ORDER AND ROLL CALL: Chairperson Orlando Stratman, Vice-Chair Antonio Castillo, Joe Giannini, Sean Glowacz, Jake Marx, Scott Morrison, Mike Muir and Ildiko Schultz.

2. CONSIDERATION OF MINUTES AND FINDINGS OF THE COMMISSION

   A. Minutes of the Planning and Zoning Commission Meeting, on May 15, 2024.
   Motion to approve the minutes.

3. PUBLIC MEETING
   (This agenda item includes items that do not require public testimony)

   No items received for consideration.

4. PUBLIC HEARING
   (This agenda item includes proposals presented to the Planning & Zoning Commission requiring public testimony, discussion and recommendation to the Village Board for final action.)

   A. 80 East Main Street & 116 Lions Drive – Text Amendment and Special Use Permit (2024-04):
   Application for a Text Amendment and Special Use Permit to establish a new Montessori school at the property located within the B-2 Central Business District, and the DR Downtown Redevelopment Overlay District.
   Applicant: Mallory Miller, d/b/a Grow Montessori School
   Owner: 80 Main Lions LLC
   Note: The Application has been formally withdrawn by the Applicant. No further action will be taken by the Planning and Zoning Commission.

   B. 290 Telser Road –Special Use Permit (2024-05):
   Application for a Special Use Permit to establish a physical fitness facility at the property located within the I Industrial District.
   Applicant: Nicholas Nastruz, d/b/a Lake County Barbell
   Owner: Cool Dude Enterprises, LLC

C. 670 South Old Rand Road – Special Use Permit for a Planned Unit Development (PUD) (2024-08):
Application for a Special Use Permit for a Planned Unit Development (PUD) for the development of the property with a mix of single-family homes and townhomes, located within the R-1/2 Single-family Residential District.
Applicant: Lawrence M. Freedman, Agent for OSK Capitol Partners, LLC
Owner: Henry Joern

5. OTHER BUSINESS

6. STAFF REPORTS
This is an opportunity for staff of the Community Development Department to report on matters of interest to the Planning & Zoning Commission

7. PUBLIC COMMENT
This is an opportunity for residents to comment briefly on matters included on the agenda and otherwise of interest to the Commission. Public Comment is limited to 30 minutes total and up to 5 minutes per speaker.

8. ADJOURNMENT

The Village of Lake Zurich is subject to the requirements of the Americans with Disabilities Act of 1990. Individuals with disabilities who plan to attend this meeting and who require certain accommodations so that they can observe or participate in this meeting, or who have questions regarding the accessibility of the meeting or the Village's facilities, should contact the Village's ADA coordinator at (847) 438-5141 (TDB #438-2349) promptly to allow the Village to make reasonable accommodation.

VILLAGE OF LAKE ZURICH
Planning & Zoning Commission
70 East Main Street

Wednesday, May 15, 2024, 7:00 p.m.

1. **CALL TO ORDER** at 7.00pm by Chairperson Orlando Stratman
   ROLL CALL: Chairperson Orlando Stratman, Commissioners Sean Glowacz, Jake Marx, Scott Morrison, Mike Muir and Ildiko Schultz. Vice-Chair Antonio Castillo and Commissioner Joe Giannini were absent and excused. Also present: Community Development Dir. Sarosh Saher, Village Planner Colleen McCauley.

   Chairperson Stratman welcomed Planner Ms. McCauley and Dir. Saher introduced her to the Commission.

2. **CONSIDERATION OF MINUTES AND FINDINGS OF THE COMMISSION**

   A. Minutes of the Planning and Zoning Commission Meeting, on March 20, 2024.
   Motion to approve the minutes was made by Commissioner Schultz, seconded by Commissioner Muir.
   AYES: 6 Commissioners Glowacz, Marx, Morrison, Muir, Schultz, Chairperson Stratman.
   NAYS: 0
   ABSENT: 2 Commissioners Castillo, Giannini.
   MOTION CARRIED.

3. **PUBLIC MEETING**
   No items received for consideration.

4. **PUBLIC HEARING**

   Motion to open the public hearing for the following applications:
   Application PZC 2024-03 for a Special Use Permit at 60 South Old Rand Road
   Application PZC 2024-02 for a Planned Unit Development at 880 South Rand Road, was made by Commissioner Schultz, seconded by Commissioner Marx.
   AYES: 6 Commissioners Glowacz, Marx, Morrison, Muir, Schultz, Chairperson Stratman.
   NAYS: 0
   ABSENT: 2 Commissioners Castillo, Giannini.
   MOTION CARRIED.

   Public Hearing started at 7.03pm

   Chairperson Stratman gave the Oath to those who were giving testimony.

A. 60 South Old Rand Road – Special Use Permit (2024-03):

Application for a Special Use Permit to allow for massage therapy services at the property located within the B-2 Central Business District, and the DR Downtown Redevelopment Overlay District.

Applicant: Dorothy Deemer, d/b/a Kneading Works Massage Therapy LLC

Owner: Dr. Steven A. Landman

Chairperson Stratman asked the Staff to confirm that proper notice was provided of this item and Dir. affirmed that it was.

Ms. Deemer gave a PowerPoint presentation on her proposal for the property at 60 S. Old Rand Road. Chair Stratman asked for comments from the commissioners and there were none.

Motion to close the public hearing on Application PZC 2024-03 and move to deliberation was made by Commissioner Schultz, seconded by Commissioner Marx.

AYES: 6 Commissioners Glowacz, Marx, Morrison, Muir, Schultz, Chairperson Stratman.
NAYS: 0
ABSENT: 2 Commissioners Castillo, Giannini.
MOTION CARRIED.

During deliberations Commissioner Marx questioned this proposal fitting in with the proposed comprehensive plan and Dir. Saher answered.

On Application PZC 2024-03: A motion was made by Commissioner Schultz, seconded by Commissioner Morrison, to receive into the public record the staff review of compliance of this Application with the zoning standards as presented by staff; and to receive the testimony presented by the Applicants, by members of the public, by the PZC Members, and by Village Staff at tonight's Public Hearing; and make these standards and testimony a part of the official record for the Application and Findings of the PZC; and to recommend that the Village Board approve the application for a Special Use Permit to allow for massage therapy services at the property located at 60 South Old Rand Road.

AYES: 6 Commissioners Glowacz, Marx, Morrison, Muir, Schultz, Chairperson Stratman.
NAYS: 0
ABSENT: 2 Commissioners Castillo, Giannini.
MOTION CARRIED.

B. 880 South Rand Road – Special Use Permit for a Planned Unit Development (PUD) (2024-02):

Application for a Special Use Permit for a Planned Unit Development (PUD) to allow for the development of a drive-through coffee shop at the property located within the B-3 Regional Shopping District.

Applicant: Who Brew IL 1, LLC

Owner: MJR Lake Zurich Real Estate Holding Company, LLC

Dir. Saher confirmed that proper notice was provided of this item and then he introduced Chris George and Ricky Silverman. Mr. George gave a PowerPoint presentation of their proposal as he described the background of the company. Chair Stratman requested information on the monument sign from staff and Dir. Saher explained the Village code and the petitioners will work with staff to conform to regulations.

Discussion followed on traffic on the frontage road and traffic patterns and complying with the staff's concerns.

PUBLIC TESTIMONY.

Resident Kathy Lohrstorfer, 415 Pheasant Ridge Road, was sworn in by Chairperson Stratman. Ms. Lohrstorfer had concerns about noise and possible tree removal.

Commissioner Marx expressed his concerns about this proposal conforming to the future comprehensive plan. Dir. Saher gave an explanation.

Discussion followed on traffic patterns around Pheasant Ridge Road and the frontage roads to Walmart and to this property

Motion to close the public hearing on Application PZC 2024-02 and move to deliberation was made by Commissioner Schultz, seconded by Commissioner Morrison.
AYES: 6 Commissioners Glowacz, Marx, Morrison, Muir, Schultz, Chairperson Stratman.
NAYS: 0
ABSENT: 2 Commissioners Castillo, Giannini.
MOTION CARRIED.

Deliberations followed with discussion on seasonal wear for the staff of the drive through.

On Application PZC 2024-02: A Motion was made by Commissioner Schultz, seconded by Commissioner Glowacz, to receive into the public record the staff review of compliance of this Application with the zoning standards as presented by staff; and to receive the testimony presented by the Applicants, by members of the public, by the PZC Members, and by Village Staff at tonight's Public Hearing; and make these standards and testimony a part of the official record for the Application and Findings of the PZC; and to recommend that the Village Board approve the application for a Planned Unit Development to allow for the development of a drive-through coffee shop at the property located at 880 South Rand Road.

AYES: 6 Commissioners Glowacz, Marx, Morrison, Muir, Schultz, Chairperson Stratman.
NAYS: 0
ABSENT: 2 Commissioners Castillo, Giannini.
MOTION CARRIED.

5. OTHER BUSINESS

There was none

6. STAFF REPORTS

Dir. Saher reported that there were two applications for the June meeting including a Montessori school at 80 E. Main Street and Lake Zurich Barbell relocation to the Industrial Park. An update on the comprehensive plan was given.

7. PUBLIC COMMENT

There were none.

8. ADJOURNMENT

Motion to adjourn the meeting made by Commissioner Schultz., seconded by Commissioner Muir.
AYES: 6 Commissioners Glowacz, Marx, Morrison, Muir, Schultz, Chairperson Stratman.
NAYS: 0
ABSENT: 2 Commissioners Castillo, Giannini.
MOTION CARRIED.

Meeting adjourned at 8.05pm

Respectfully submitted:

Kathleen Johnson, Village Clerk.

Approved by:

_____ _____

Chairperson Orlando Stratman. Date

COMMUNITY DEVELOPMENT DEPARTMENT

505 Telser Road
Lake Zurich, Illinois 60047

(847) 540-1696
Fax (847) 726-2182
LakeZurich.org

APPLICATION PZC 2024-04 **AGENDA ITEM 4.A**
PZC Hearing Date: June 19, 2024

MEMORANDUM

To: Chairperson Stratman and Members of the Planning & Zoning Commission

From: Sarosh Saher, Community Development Director

CC: Mary Meyer, Building Services Supervisor
Colleen McCauley, Village Planner

Date: June 19, 2024

Re: PZC 2024-04: 80 E Main Street & 116 Lions Drive
Special Use Permit and Text Amendment for a Montessori School
APPLICATION WITHDRAWN

SUBJECT

Ms. Mallory Miller, of Grow Montessori Academy (the "Applicant") had submitted an application for a Text Amendment and Special Use Permit to establish a Montessori School at the property commonly known as 80 E Main Street and 116 Lions Drive. She intended to acquire the property and had entered into a Commercial Real Estate Purchase and Sale Agreement with the property owner, 80 Main Lions, LLC represented by Mr. Krzysztof Jamrozik.

However, the agreement between the Applicant and Owner was terminated and both parties failed to agree on certain modifications to the agreement. The Application was thereafter withdrawn.

RECOMMENDATION

Staff therefore recommends that no further action on the Application be taken by the Planning and Zoning Commission, and the Application be considered withdrawn and closed.

Mallory Miller
717 Middleton Ct.
Palatine, IL 60067

June 13th, 2024

Orlando Stratman, Chairperson
Planning & Zoning Commission
70 East Main Street
Lake Zurich, Illinois 60047

Dear Mr. Stratman,

With great disappointment, I am writing this letter to let you know that Grow Montessori Academy is not able to move forward with our special use application. Unfortunately, the sellers of 80 E Main St and 116 Lions Dr were not forthcoming about the tenant's eviction status and we would not be able to occupy the building as intended. We will continue our search for property and still maintain hope that it will become an important institution in the Lake Zurich vicinity.

Thank you for your time and attention,

Mallory Miller

Joseph M. Menges

26460 N. Main St.
Wauconda, IL 60084

Tel: 847-865-5879
Fax: 847-886-4164

jmenges@mengesattorney.com
www.mengesattorney.com

To: ***John Sloan***

From: ***Joseph M. Menges***

Re: ***80 E. Main St.; Lake Zurich, IL 60047***
80 Main Lions LLC to Mallory Miller Grow Music LLC

Date: ***June 12, 2024***

Dear *John Sloan*:

I represent *80 Main Lions LLC* in connection with his proposed purchase of the aforementioned property pursuant to real estate contract dated 04/20/2024 (the "Contract"). Please be advised that the undersigned disapproves of the contract and and hereby terminates the Contract as the parties have failed to reach an agreement on attorney review modifications. This letter shall serve as formal notice of the disapproval of the Contract on the part of the Seller's attorney. Accordingly, this Contract is hereby declared null and void and all earnest money shall be refunded to the Purchaser.

Should you have any questions, please feel free to call.

Sincerely,

JOSEPH M. MENGES

At the Heart of Community

COMMUNITY DEVELOPMENT
DEPARTMENT

505 Telser Road
Lake Zurich, Illinois 60047

(847) 540-1696
Fax (847) 726-2182
LakeZurich.org

APPLICATION PZC 2024-05 **AGENDA ITEM 4.B**
PZC Hearing Date: June 19, 2024

STAFF REPORT

To: Chairperson Stratman and Members of the Planning & Zoning Commission

From: Sarosh Saher, Community Development Director

CC: Mary Meyer, Building Services Supervisor

Date: June 19, 2024

Re: PZC 2024-05: 290 Telser Road– Special Use Permit for a Physical Fitness Facility Lake County Barbell

SUBJECT

Mr. Nicholas Nastruz, d/b/a Lake County Barbell (the "Applicant"), with the consent of Cool Dude Enterprises, LLC, represented by Mr. Greg Hatz (the "Owner"), requests a Special Use Permit to allow for a physical fitness facility operating as a private gymnasium at the property commonly known as 290 Telser Road, and legally described in Exhibit A attached hereto (the "Subject Property").

GENERAL INFORMATION

Requested Action: Special Use Permit

Current Zoning: I Industrial District

Existing Use: Logistic Services

Proposed Uses: Physical Fitness Facility (SIC #7991)

Property Location: 290 Telser Road

Applicant: Mr. Nicholas Nastruz, Lake County Barbell

Owner: Mr. Greg Hatz (Cool Dude Enterprises, LLC)

Staff Coordinator: Colleen McCauley, Village Planner

LIST OF EXHIBITS

A. Legal Description
B. Public Hearing Sign
C. Site Photos
D. Aerial Map
E. Zoning Map
F. Parcel Map
G. Development Application and Attachments
H. Development Review Comments

BACKGROUND

Mr. Nicholas Nastruz of Lake County Barbell (the "Applicant"), is proposing an establishment offering a private physical fitness facility at the Subject Property, legally described in Exhibit A attached hereto (the "Subject Property"). The Applicant filed an application with the Village of Lake Zurich dated April 8, 2024 (the "Application") seeking:

- Special Use Permit approval for Physical Fitness Facility (SIC #7991)

The Applicant is the owner and operator of Lake County Barbell currently located at 890 South Rand Road. The business has been in operation since 2022 and the Applicant's lease is ending on July 1, 2024. The Applicant has the opportunity to lease the Subject Property at 290 Telser Road which is currently used for logistics services, operated by ATTS Logistics.

The Applicant desires to establish a private membership gym within the existing industrial building, with a main focus on scheduled training sessions which will avoid overcrowding. Lake County Barbell is a private, community-based gym that emphasizes powerlifting and bodybuilding for advanced lifters. Any type of physical fitness facilities requires a special use permit in the Lake Zurich Industrial district.

The building on the Subject Property is currently set up with 5 offices and a warehouse area and will not require much in the way of alterations to accommodate the fitness facility. Lake County Barbell will operate within the 5,290 square foot building.

The business will be open 24 hours a day, 7 days a week, but the primary business hours will be 7:00 a.m. – 12:00 p.m. The business will offer late open hours by appointment. There will be 4 coaches who will coach clients and run the gym. Additional employees will be hired to monitor the gym. At least one employee will be at the gym whenever clients are present.

On-premise parking to the east of the building consists of 10 parking spaces and 1 handicap space, accessible from Telser Road. An additional 4 spaces could be added in front of the loading bay doors, but an expansion to the parking lot is not needed at this time. The business does not require more than 8 spaces. One space will be reserved for the working employee and the other 9 spaces will be available for customers.

Pursuant to public notice published on June 1, 2024, in the Daily Herald, a public hearing has been scheduled with the Lake Zurich Planning & Zoning Commission for June 19, 2024, to consider the Application. On June 1, 2024, the Village posted a public hearing sign on the Subject Property (Exhibit B).

Staff offers the following additional information:

A. **Courtesy Review.** Due to the low impact, courtesy review was not recommended.

B. **Zoning History.** The subject property is located in Unit II Lot 20 of the Lake Zurich's Industrial Center Subdivision which was recorded in 1983 in Lake County. The property is zoned within the I-Industrial District. The building was constructed in 1988 and is 5,290 square feet.

C. **Surrounding Land Use and Zoning.** The subject property is located in the industrial park near the intersection of Telser Road and Rose Road. All directly surrounding land is zoned within the I Industrial District with single user industrial buildings.

D. **Trend of Development.** The subject property is located within Lake Zurich's Industrial Park. Currently, there are a number of other physical fitness or sports and training facilities that have established on properties zoned within the I Industrial zoning district. These facilities are Main Street Sports at 143 East Main Street, MVP Sports Academy at 143 E Main Street, US Gymnastics Training Center at 405 Enterprise Parkway, Max Fitness at 1148 Rose Road, Formula 1 Cheer at 65 Oakwood Road Unit 3 and most recently, Tactic Sports Fitness at 353 Enterprise Parkway, Lake County Stars Baseball within the adjacent tenant space at 363 Enterprise Parkway and Chicago Badminton Academy at 570A Telser Road. Lake County Barbell is keeping with the trend of development of these facilities

E. **Zoning District**. The Industrial District is intended to provide for a range of nuisance free manufacturing, warehousing, transportation, wholesaling, and industrial uses that are

compatible with the suburban residential character of the village. The industrial district is also meant to accommodate certain professional offices and similar uses that may provide services to the industrial users and are compatible with the industrial character of the district. It is the goal of these regulations to provide and preserve an area within the village for industrial uses that create employment and economic benefits for the village and the industrial district.

Physical fitness facilities are classified as a special use requiring a careful review of their location, design, configuration, and special impact to determine, against fixed standards, the desirability of permitting their establishment on any given site. Special uses are uses that may or may not be appropriate in a particular location depending on a weighing, in each case, of the public need and benefit against the local impact and effect.

GENERAL FINDINGS

Staff of the Village's Development Review Team (DRT) has evaluated the development against the various standards and provisions of the Lake Zurich Municipal Code and offers findings on specific sections of the Code.

9-19-3: STANDARDS FOR SPECIAL USE PERMITS.

Staff has reviewed the application and found that the proposal will continue to remain in substantial conformance with the standards for Special Use Permits as outlined below.

A. General Standards: No special use permit shall be recommended or granted unless the applicant shall establish substantial conformance with the following:

1. Zoning Code and Plan Purposes: The proposed use and development will be in harmony with the general and specific purposes for which this zoning code was enacted and for which the regulations of the district in question were established and with the general purpose and intent of the official comprehensive plan.

   Staff Response: Standard met. The development will continue to remain in substantial conformance with the purpose and intent of the I Industrial District and the land use designation of the adopted Comprehensive Plan.

2. No Undue Adverse Impact. The proposed use and development will not have a substantial or undue adverse effect upon adjacent property, the character of the area, or the public health, safety, and general welfare.

Staff Response: Standard met. The proposed land use is consistent with other similar uses within the Industrial Park area.

3. No Interference with Surrounding Development. The proposed use and development will be constructed, arranged, and operated so as not to dominate the immediate vicinity or to interfere with the use and development of neighboring property in accordance with the applicable district regulations.

Staff Response: Standard met. The land use will be operated entirely within the enclosed building on the property. All parking will be accommodated on the property. Based on the frequency of customers to the proposed business, (less than 8 clients at a time), there is sufficient parking to accommodate the clients and employees on the property without interfering with the use, development, and operations of adjacent properties.

4. Adequate Public Facilities. The proposed use and development will be served adequately by essential public facilities and services such as streets, public utilities, drainage structures, police and fire protection, refuse disposal, parks, libraries, and schools, or the applicant will provide adequately for such services.

Staff Response: Standard met. The Subject Property is currently served by and will continue to be served adequately by essential public facilities and services such as streets, utilities, drainage, and other municipal services. No changes to these are contemplated at this time.

5. No Traffic Congestion. The proposed use and development will not cause undue traffic congestion nor draw significant amounts of traffic through the surrounding streets.

Staff Response: Standard Met. The property is served by Telser Road, a major collector road connecting Route 22 to the Industrial Park.

On-premise parking to the east of the property consists of 10 parking spaces accessible from Telser Road. 1 of the 10 spaces is an ADA accessible space located to the north of the building.

6. No Destruction of Significant Features. The proposed use and development will not result in the destruction, loss, or damage of any natural, scenic, or historic feature of significant importance.

Staff Response: Standard met. The proposed use will not result in the destruction or removal of any natural features. The proposed use would be conducted entirely within the enclosed building on the Subject Property.

7. Compliance with Standards. The proposed use and development complies with all additional standards imposed on it by the particular provision of this Code authorizing such use.

Staff Response: Standard met. The proposed use will comply with all other additional standards imposed through the building codes as they relate to facilities offering physical fitness.

8. Positive Effect. The proposed special use creating a positive effect for the zoning district, its purpose, and adjacent properties shall be placed before the benefits of the petitioner.

Staff Response: Standard met. The proposed development will continue to uphold the established character of the industrial park, and will provide a healthy and convenient lifestyle option for the Village's residents.

B. Special Standards for Specified Special Uses. When the district regulations authorizing any special use in a particular district impose special standards to be met by such use in such district, a permit for such use in such district shall not be recommended or granted unless the applicant shall establish compliance with such special standards.

Staff Response: Standard met. There are no additional standards for the proposed special use. Staff will ensure that compliance is established before any additional permits are issued.

C. Considerations. In determining whether the applicant's evidence establishes that the foregoing standards have been met, the Plan Commission and the Board of Trustees shall consider:

1. Benefit. Whether and to what extent the proposed use and development at the particular location requested is necessary or desirable to provide a service or a facility that is in the interest of the public convenience or that will contribute to the general welfare of the neighborhood or community.

Staff Response: Standard met. The proposed development will continue to allow a physical fitness facility to remain within the Village.

2. Alternative Locations. Whether the purposes of the zoning code can be met by the location of the proposed use and development in some other area or zoning district that may be more appropriate than the proposed site.

   Staff Response: Physical fitness facilities (SIC #7991) are a permitted use within the Village's Business districts and a special use within industrial districts.

   Mr. Nastruz has not indicated an intention of looking for an alternative location in a business district. Any alternative location in the industrial district would involve additional costs and would be subject to requirements that are no different from the current location.

3. Mitigation of Adverse Impacts. Whether all steps possible have been taken to minimize any substantial or undue adverse effects of the proposed use and development on the immediate vicinity through building design, site design, landscaping, and screening.

   Staff Response: Standard met. The physical fitness facility will be developed to prevent any undue adverse effect on itself or on surrounding property in relation to its location, design and operation. All primary activities of the proposed use are located within the enclosed tenant space.

RECOMMENDATION

The recommendation of the Planning and Zoning Commission should be based on the standards included in the following Sections of the Lake Zurich Municipal Code:

- Section 9-19-3: Standards for Special Use Permits

Based on the review of staff, the standards for approval have been met and therefore staff recommends that the Planning and Zoning Commission make these standards a part of the official record of the Application.

Staff of the Community Development Department therefore recommends the approval of Application PZC 2024-05, subject to the following conditions:

1. Substantial conformance with the following documentation submitted as part of the application subject to revisions required by Village Staff and applicable governmental agencies:
   a. Zoning Application, Cover Letter, and background information dated April 8, 2024, and prepared by Mr. Nick Nastruz.
   b. Exhibit A: Legal Description of the Subject Property

2. The special use constituting this physical fitness business shall be located within the building on the property addressed at 290 Telser Road, and such special use shall expire if this physical fitness business ceases operating at the subject property. However, such use may continue without further consideration with a change in ownership as long as the location, design and operation of the land use remains substantially unchanged.

3. All necessary parking will be provided for on the Subject Property. No on street parking will be permitted.

4. If additional parking is required due to increased clientele on the property, and in addition to the ten available parking spaces on the lot, four additionally spaces shall be added in front of the loading bay doors at the rear of the building.

5. The proposed land use and development shall be in compliance with all other applicable codes and ordinances of the Village of Lake Zurich.

Respectfully Submitted,

Colleen McCauley, Planner

LAKE ZURICH PLANNING & ZONING COMMISSION
FINAL FINDINGS & RECOMMENDATIONS

290 Telser Road
June 19, 2024

The Planning & Zoning Commission recommends approval of Application PZC 2024-05, subject to any changes or approval conditions as listed below:

1. Substantial conformance with the following documentation submitted as part of the application subject to revisions required by Village Staff and applicable governmental agencies:
    a. Zoning Application, Cover Letter, and background information dated April 8, 2024, and prepared by Mr. Nick Nastruz.
    b. Exhibit A: Legal Description of the Subject Property

2. The special use constituting this physical fitness business shall be located within the building on the property addressed at 290 Telser Road, and such special use shall expire if this physical fitness business ceases operating at the subject property. However, such use may continue without further consideration with a change in ownership as long as the location, design and operation of the land use remains substantially unchanged.

3. All necessary parking will be provided for on the Subject Property. No on street parking will be permitted.

4. If additional parking is required due to increased clientele on the property, and in addition to the ten available parking spaces on the lot, four additionally spaces shall be added in front of the loading bay doors at the rear of the building.

5. The proposed land use and development shall be in compliance with all other applicable codes and ordinances of the Village of Lake Zurich.

☐ Without any further additions, changes, modifications and/or approval conditions.

☐ With the following additions, changes, modifications and/or approval conditions:

_____

Planning & Zoning Commission Chairman

EXHIBIT A

LEGAL DESCRIPTION OF SUBJECT PROPERTY

LOT 20 IN LAKE ZURICH INDUSTRIAL CENTER UNIT TWO, BEING A SUBDIVISION OF PART OF SECTION 16, TOWNSHIP 43 NORTH, RANGE 10 EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED OCTOBER 24, 1983 AS DOCUMENT 2246623, AND CORRECTED BY CERTIFICATES OF CORRECTION RECORDED NOVEMBER 23, 1983, AS DOCUMENT 2252643 AND RECORDED JANUARY 12, 1984 AS DOCUMENT 2261471, IN LAKE COUNTY, ILLINOIS.

Common Street Address: 290 Telser Road
Property Index Number (PIN): 14-16-404-008

EXHIBIT B

PUBLIC HEARING SIGNS PRESENT AT SUBJECT PROPERTY



EXHIBIT C
SITE PHOTOS



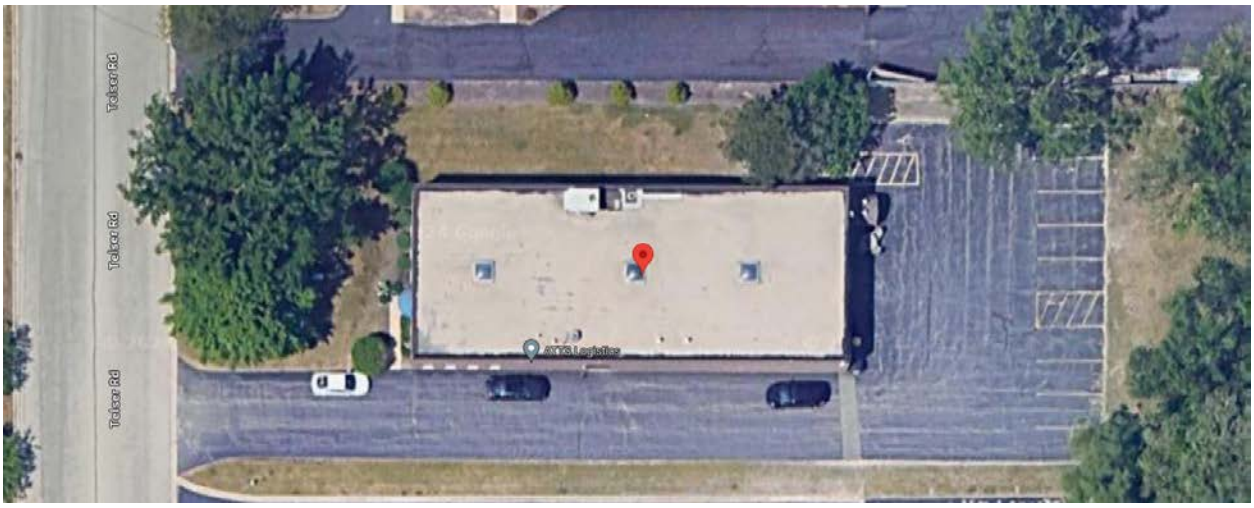


EXHIBIT D
AERIAL MAP



EXHIBIT E
ZONING MAP

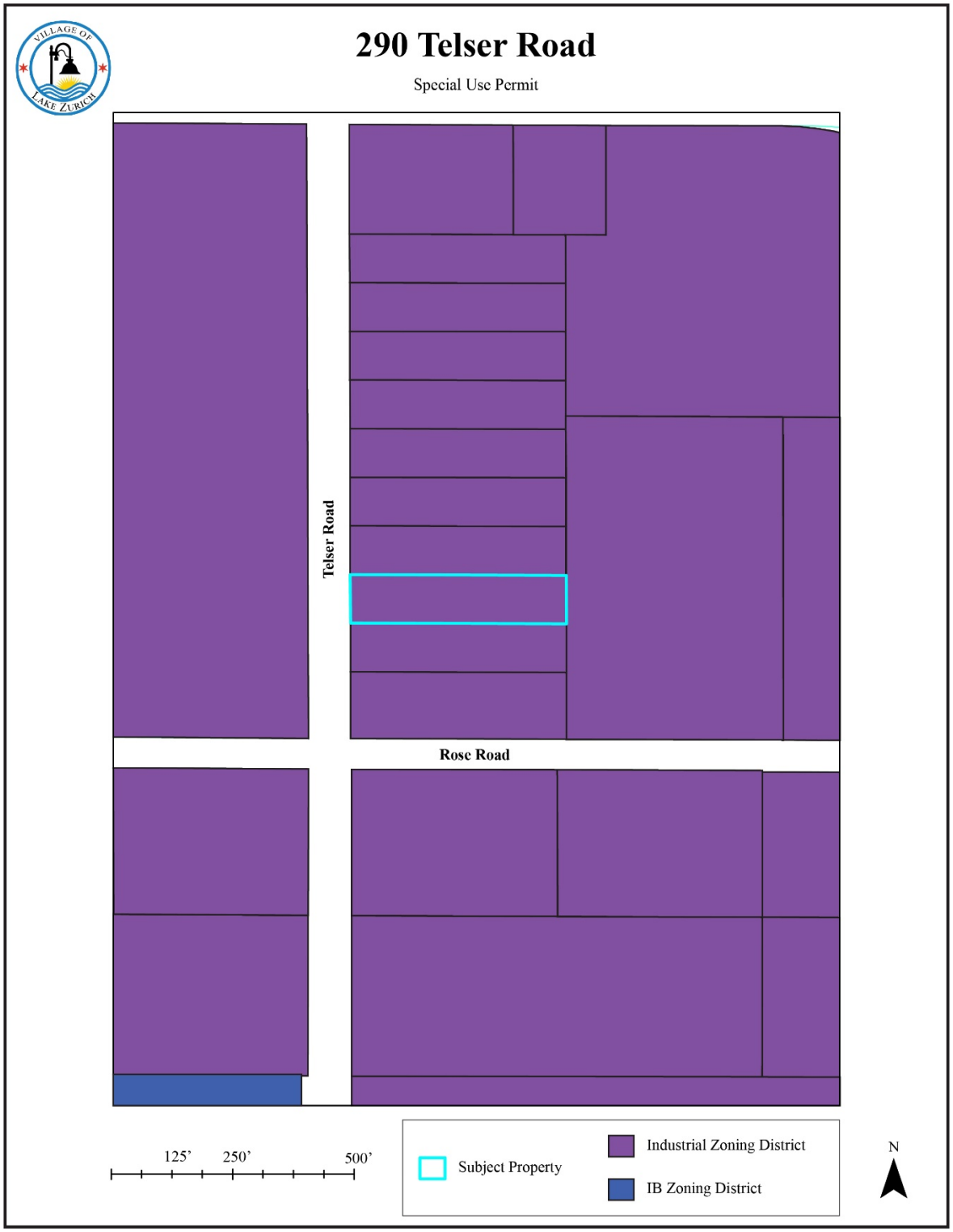
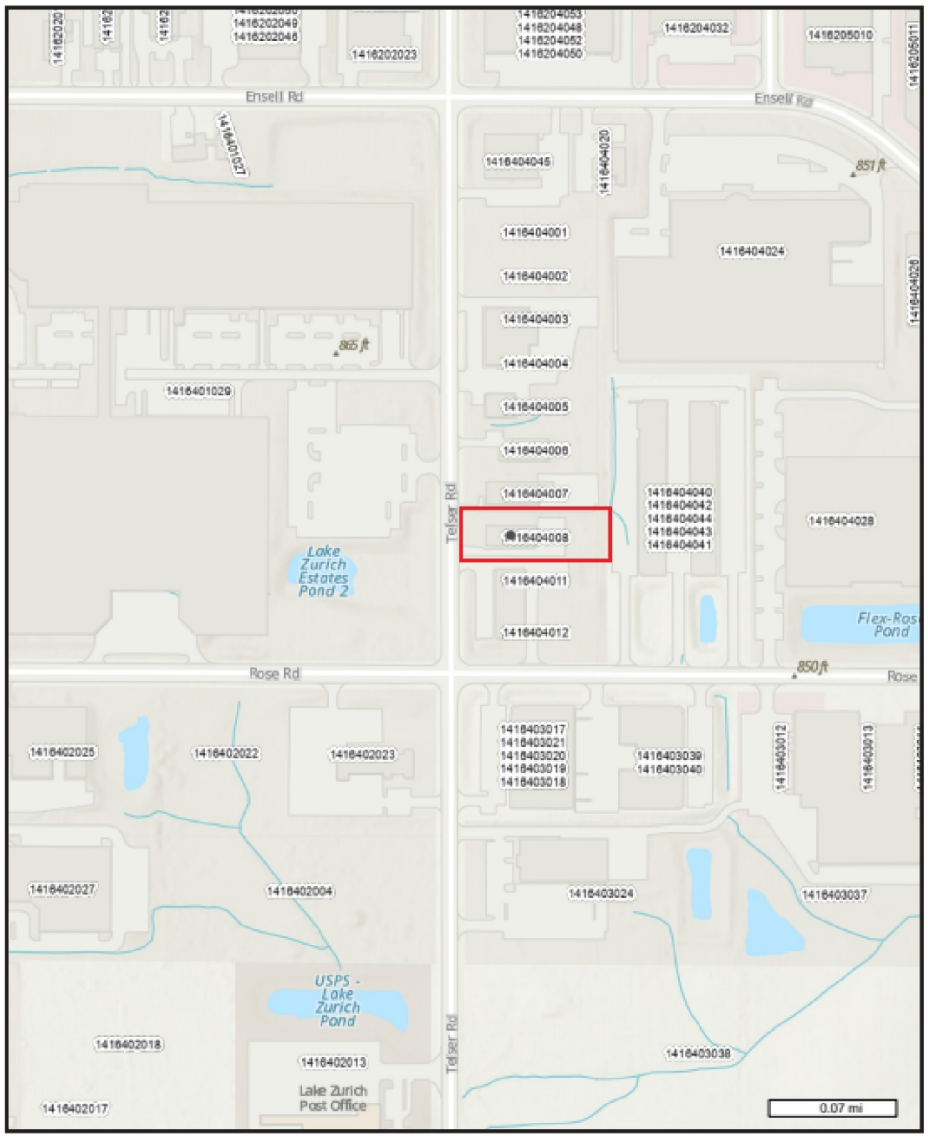


EXHIBIT F
PARCEL MAP

290 Telser Road

Special Use Permit



Subject Property

N

ZONING APPLICATION

Community Development Department
505 Telser Rd.
Lake Zurich, IL 60047
Phone: (847) 540-1696
Fax: (847) 540-1769

(Please Type or Print)

1. Address of Subject Property: 290 Telser Road, Lake Zurich, Illinois 60047
2. **Please attach complete legal description**
3. Property Identification number(s): 14-16-404-008
4. Owner of record is: Cool dude Enterprises, LLC Phone: 847-609-0721
   E-Mail 2greg422@gmail.com Address: 290 Telser Road, Lake Zurich, IL, 60047
5. Applicant is (**if different from owner**): Nicholas Nastruz Phone: 847-849-9206
   E-Mail nastruz12@hotmail.com Address: 165 clover hill lane, Barrington, IL
6. Applicant's interest in the property (owner, agent, realtor, etc.): Business Owner
7. All existing uses and improvements on the property are: None, the building is free standing
8. The proposed uses on the property are: Private Gym
9. List any covenants, conditions, or restrictions concerning the use, type of improvements, setbacks, area, or height requirements placed on the Subject Property and now of record and the date of expiration of said restrictions: Physical fitness is listed as a special use
10. Describe any contract or agreement of any nature relevant to the sale or disposal of the Subject Property:
11. For applications requiring a public hearing, please attach a list which contains the PIN, owner, and owner's mailing address of all properties located within 250 feet (excluding all Public Right-of-Ways) of the Subject Property.

THE APPLICANT'S SIGNATURE BELOW INDICATES THE INFORMATION CONTAINED IN THIS APPLICATION AND ON ANY ACCOMPANYING DOCUMENTS IS TRUE AND CORRECT.
THE APPLICANT ALSO ACKNOWLEDGES IF THE CONSULTANT EXPENSES EXCEED THE INITIAL ESCROW DEPOSIT, THE APPLICANT WILL REIMBURSE THE ACCOUNT IMMEDIATELY.

Nicholas Nastruz
(Name of applicant)

(Signature of applicant)

Subscribed and sworn to before me this 8th day of April, 2024.

(Notary Public)

My Commission Expires

"OFFICIAL SEAL"
NADINE J. GERLING
NOTARY PUBLIC, STATE OF ILLINOIS
My Commission Expires 06/30/2024

Greg Hatz
(**Name of Owner, if different**)

(Signature of Owner, if different)

Subscribed and sworn to before me this 8th day of April 2024.

(Notary Public)

My Commission Expires

"OFFICIAL SEAL"
NADINE J. GERLING
NOTARY PUBLIC, STATE OF ILLINOIS
My Commission Expires 06/30/2024

Please indicate what zoning relief your application requires. For assistance, please contact Staff.

☐ Zoning Code **Map** Amendment to change zoning of Subject Property from _____ to _____

☐ Zoning Code **Text** Amendment to amend the following section(s) of the Zoning Code _____

(See Section 18-103 of the Lake Zurich Zoning Code for specific standards. If a specific parcel is the subject of this amendment, then provide the additional information listed in Section 18-103C.)

☑ Special Use Permit/Amendment for See attatched

(See Section 19-103 of the Lake Zurich Zoning Code for specific standards.)

☐ Planned Unit Development/Major Adjustment/Amendment

(Planned Unit Developments are a distinct category of special use and are intended to create a more desirable environment than through strict application of the zoning and subdivision regulations. See Section 22-105 of the Lake Zurich Zoning Code for specific standards. Please list all the 'modifications' requested in the cover letter.)

☐ Variation for _____

(See Section 17-104 of the Lake Zurich Zoning Code for specific standards. Please indicate what your specific hardships are in the cover letter.)

☐ Modification to the Land Development Code (includes retaining walls more than 2 feet in height)
(See Section 10-6-18 of the Land Development Code for specific standards.)

☐ Preliminary Plat of Subdivision

☐ Final Plat of Subdivision or Amendment to Plat of Subdivision
(See Sections 10-5-2 and 10-5-9 of the Land Development Code for specific standards.)

☐ Site Plan Approval/Major Adjustment/Amendment
(See Section 20-103 of the Lake Zurich Zoning Code for specific standards.)

☐ Exterior Appearance Approval or Amendment
(See Section 21-103 of the Lake Zurich Zoning Code for specific standards.)

APPLICATION TO ANNEX CERTAIN TERRITORY

All land annexed to the Village is classified automatically after such annexation in the R-1\2 Single Family Residential District. The owner must file an application for a Zoning Map amendment if he or she desires a different zoning classification for the Subject Property.

☐ Petition to Annex Certain Territory (Please complete attached petition)

☐ Application to Annex Certain Territory

COMPREHENSIVE PLAN APPLICATION

☐ Comprehensive Plan **Map** Amendment for _____

_____

☐ Comprehensive Plan **Text** Amendment for _____

_____

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COMPREHENSIVE PLAN APPLICATION

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_____

☐ Comprehensive Plan **Text** Amendment for _____

_____

Legal description of 290 Telser Road, Lake Zurich

LOT 20 IN LAKE ZURICH INDUSTRIAL CENTER UNIT TWO, BEING A SUBDIVISION OF PART OF SECTION 16, TOWNSHIP 43 NORTH, RANGE 10 EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED OCTOBER 24, 1983 AS DOCUMENT 2246623, AND CORRECTED BY CERTIFICATES OF CORRECTION RECORDED NOVEMBER 23, 1983, AS DOCUMENT 2252643 AND RECORDED JANUARY 12, 1984 AS DOCUMENT 2261471, IN LAKE COUNTY, ILLINOIS.

PIN NUMBER 14-16-404-008

Commonly Known as 290 Telser Rd., Lake Zurich, IL

QUIT CLAIM DEED

Image# 040153000002 Type: LAN
Recorded: 08/29/2008 at 12:01:39 PM
Total Amt: $39.00 Page 1 of 2
IL Rental Housing Fund: $10.00
Lake County IL Recorder
Mary Ellen Vanderventer Recorder
File 6049901

THE GRANTOR:

Golden Management, Inc., an Illinois Corporation, of the County of Lake, State of Illinois, for and in consideration of Ten Dollars and No/100 ($10.00) and other good and valuable consideration in hand paid,

CONVEYS, GRANTS and QUIT CLAIMS to

The GRANTEE:

Cool Dude Enterprises, L.L.C., an Illinois Limited Liability Corporation, of the County of Lake, State of Illinois,

the following described real estate, to wit:

LOT 20 IN LAKE ZURICH INDUSTRIAL CENTER UNIT TWO, BEING A SUBDIVISION OF PART OF SECTION 16, TOWNSHIP 43 NORTH, RANGE 10 EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED OCTOBER 24, 1983 AS DOCUMENT 2246623, AND CORRECTED BY CERTIFICATES OF CORRECTION RECORDED NOVEMBER 23, 1983, AS DOCUMENT 2252643 AND RECORDED JANUARY 12, 1984 AS DOCUMENT 2261471, IN LAKE COUNTY, ILLINOIS.

PIN NUMBER 14-16-404-008

Commonly Known as 290 Telser Rd., Lake Zurich, IL

(2) LH

Subject to: General real estate taxes for 2006 and subsequent years, special assessments; Building, building line and use or occupancy restrictions, Easements, conditions and covenants of record; Zoning laws and ordinances; Easements for public utilities; Drainage ditches, feeders, laterals and drain tile, pipe or other conduit; All other matters of public record. Hereby releasing and waiving all rights under and by virtue of the Homestead Exemption Laws of the State of Illinois as may exist.

Dated: August 15, 2006

Sharon Hatz, President
Golden Management, Inc., an Illinois Corporation

State of Illinois)
) **ss**
County of Cook)

I, the undersigned, a notary residing in the said County, in the State of Illinois, DO HEREBY CERTIFY, that **Sharon Hatz,** president of Golden Management, Inc., an Illinois Corporation, personally known to me to be the same person whose name is subscribed to the foregoing instrument appeared before me this day in person, and acknowledged that she signed, sealed and delivered the said Instrument as a free and voluntary act, for the uses and purposes therein set forth.

GIVEN under my hand and notarial seal on August 15, 2006.

Notary Public

This Instrument Prepared By:
Law Offices of John S. Saletta, P.C.
800 E. Northwest Hwy, Suite 809
Palatine, IL 60074
(847) 233-0020

OFFICIAL SEAL
JOHN S SALETTA
NOTARY PUBLIC - STATE OF ILLINOIS
MY COMMISSION EXPIRES:11/17/09

Send Future Tax Bills To:

Cool Dude Enterprises, LLC
23792 N. Lakeside Dr.
Lake Zurich, IL 60047

After Recording Mail Deed To:

Law Offices of John S. Saletta, P.C.
800 E. Northwest Hwy, Suite 809
Palatine, IL 60074

Nicholas Nastruz

North Barrington, IL | (847) 849-9206 | lakecountybarbell1@gmail.com

Mr. Orlando Stratman
Chairperson of the Planning & Zoning Commission
Village of Lake Zurich
505 Telser Rd.
Lake Zurich, IL 60047

Dear Mr. Stratman,

Introduction

My name is Nicholas Nastruz, and I am the owner of Lake County Barbell. I am a Lake Zurich High School alumni and a proud member of the Lake Zurich community. In the past, I have been involved in the community in the Lake Zurich Area Chamber of Commerce, the Rotary Club, and the Lion's club. I plan to stay in the Lake Zurich community permanently. I am a graduate of the University of Arizona where I studied accounting. I am also a graduate of UIC's business school where I received an MBA.

Lake County Barbell is my first priority and my passion. I do not have any debt on the business, and I do not rely on the business to make a living. The reason I mention this is because I will not act out of desperation in the management of my business. I am always willing to accommodate and change my business practices in order to keep things running smoothly. If there is an issue, I will fix it.

What We Are About

Lake County Barbell opened in July of 2022 and is currently located at 890 S Rand Road, Lake Zurich. I worked previously with the owner of Iron Fanatics Gym in Mundelein, which opened in 2019 and closed in 2022. When Iron Fanatics Gym closed, I decided to open up shop in Lake Zurich. I took some equipment and most of the members and opened up in Lake Zurich. **Our lease is set to expire at the current location on July 1, 2024.**

We are a private, community based, gym. We are not a commercial gym (LA Fitness/Lifetime Fitness), we are a niche powerlifting and bodybuilding gym meant for advanced lifters. As mentioned above, I do not primarily make a living off of this business and we mostly run the gym for enjoyment and business experience. Since I am not personally relying on this business, we do not put up with anything. If a member is causing us problems, they get kicked out with no questions asked.

We have been open for around 2 years at our Lake Zurich location and things have run smoothly. We have kept constant surveillance on the gym and have not had any major issues. After a successful two years, we are ready to take things to the next step and move to a different location. We have signed a lease at the 290 Telser location. We have a new business plan for the new location that will allow members to "schedule" when they will come in to lift in order to avoid overcrowding. This new plan will allow members to have the gym to themselves with little interference and will justify a higher price.

Proposed Buildouts (None)

We are not proposing any buildouts for this property, we are planning to move into the property as is. We will not have any outdoor uses or storage at the new location at 290 Telser.

Business Plan

Our business is owner operated and monitored 24/7/365. We also have 4 coaches which coach clients of the gym and also help monitor and run the gym. We will also bring on employees in order to monitor the gym at all times. Our revenue is membership based and we also sell some energy drinks and merchandise.

Hours of Operation

We will advertise as 24/7/365. Our primary business hours will be 7am-12pm. We will offer late open hours by "appointment" as mentioned above. The facility will be staffed at every hour with a single employee.

Numbers of employees on site at any given time

There will be one employee in the facility during scheduled hours at all times. The facility will also be monitored via the extensive security camera system at all times remotely.

Parking

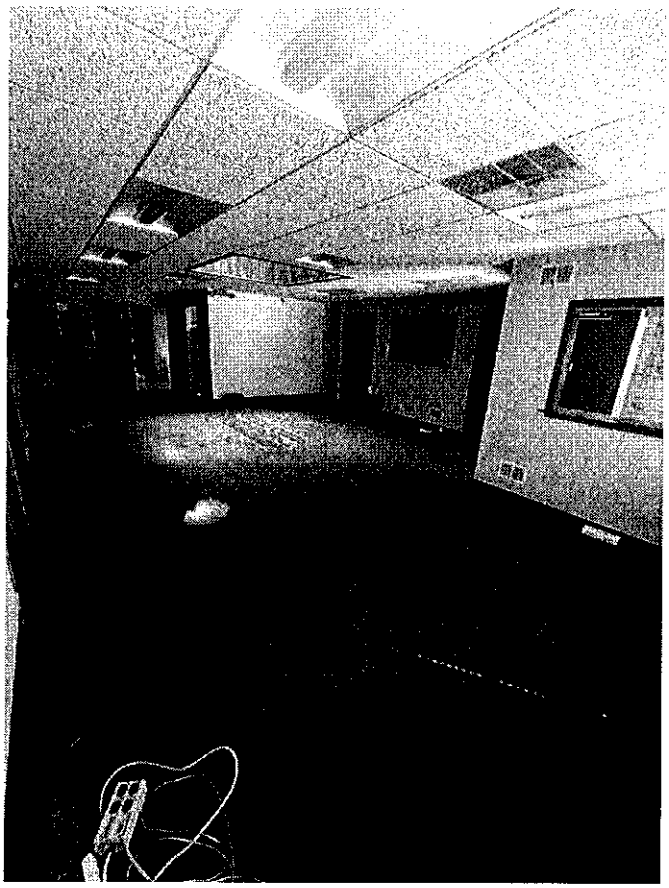
There are 10 parking spaces available (One handicap). I also spoke with Mr. Sarosh about adding additional parking in front of the bay door, since it will be locked shut and not in use. After proposed to the village, we could add an additional 4 parking spaces in front of the bay door. Additionally, the building next door has 9 parking spaces available, and it is a possibility we could use them, if needed. There could be a total of 23 parking spaces if needed.

It is not necessary that we have any sort of expansion in parking, we can make due with the 10 spaces currently. At the current location, we have 8 parking spaces for use, and we do not have issues with overflow. In this new location, we are planning to implement a "schedule" in order to create a "private gym" environment. This will be a change in pace from the previous location, allowing an entire facility to be available with no "rush time" will justify the higher fee for membership.

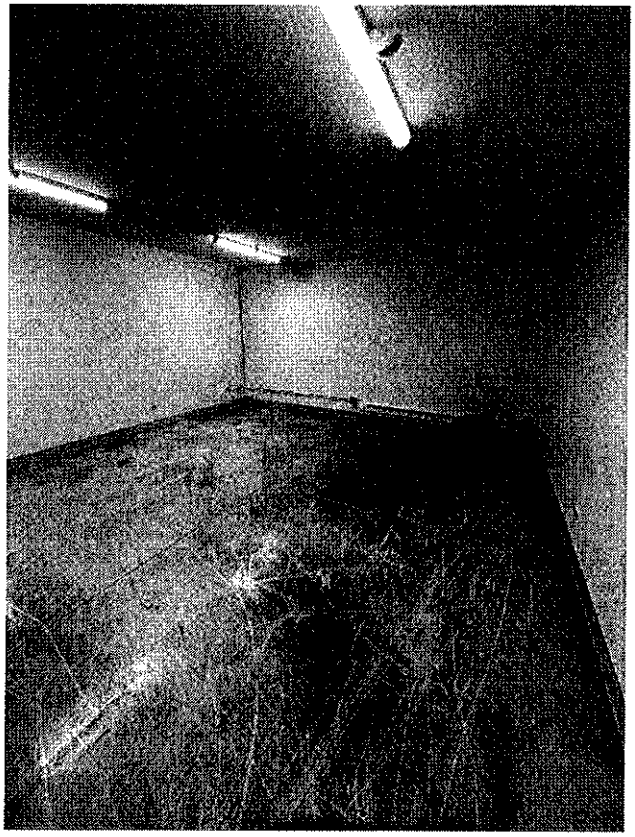
We will designate one space in the corner for an employee, and then 8 other spaces for customers.

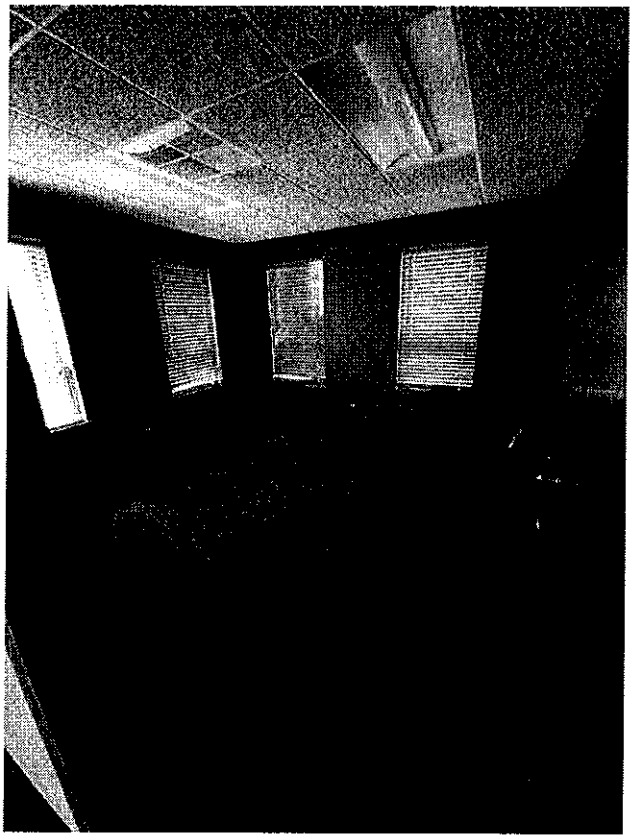
Photos











Disclaimer, the property is still in the process of being cleaned. All items within the photos will be removed from the facility

The facility is around 5,500 square feet.

Thank you for the consideration,

Nicholas Nastruz
Manager
Lakecountybarbell1@gmail.com
890 S Rand Rd., Lake Zurich
(847) 849-9206
www.lakecountybarbell.net
Enclosures

COMMUNITY DEVELOPMENT DEPARTMENT

505 Telser Road
Lake Zurich, Illinois 60047

(847) 540-1696
Fax (847) 726-2182
LakeZurich.org

At the Heart of Community

APPLICATION PZC 2024-08 **AGENDA ITEM 4.C**
PZC Hearing Date: June 19, 2024

STAFF REPORT

To: Chairperson Stratman and Members of the Planning & Zoning Commission

From: Sarosh Saher, Community Development Director

CC: Mary Meyer, Building Services Supervisor
Colleen McCauley, Village Planner

Date: June 19, 2024

Re: PZC 2024-08: 670 South Old Rand Road
Residential Development by OSK Capital LLC

SUBJECT

Mr. Lawrence M. Freedman, of Ash, Anos, Freedman & Logan, LLC, the agent and attorney for OSK Capital Partners, LLC, a Real Estate Developer of Highland Park, (the "Applicant"), is proposing the development of the property at 670 South Old Rand Road with a new residential subdivision. The property is an assemblage of two parcels containing 9-acres located between North Old Rand Road and Buesching Road, and legally described in Exhibit A attached hereto (the "Subject Property"). OSK Capital Partners, LLC is the contract purchaser of the property. The owner of the property is Mr. Henry C. Joern of Ingleside, IL.

GENERAL INFORMATION

Requested Action:	Special Use Permit for a Planned Unit Development (PUD) Zoning Map Amendment and Subdivision
Current Zoning:	R-1/2 Single Family Residential District
Proposed Zoning:	R-5 Single-family Residential District R-6 Multiple Family Residential District
Current Use:	Unimproved land & Single-Family Residence
Proposed Use:	Single-Family Homes and Residential Townhomes

Property Location: 670 South Old Rand Road

Applicant: Lawrence M. Freedman, representing OSK Capital Partners, LLC

Owner: Henry C. Joern

Staff Coordinator: Colleen McCauley, Village Planner

LIST OF EXHIBITS

A. Legal Description
B. Public Hearing Sign
C. Site Photos
D. Aerial Map
E. Zoning Map
F. Parcel Map
G. Development Application and Attachments
H. Development Review Comments

BACKGROUND

The subject property is located on the east side of Old Rand Road near the intersection with Buesching Road, and is legally described in Exhibit A attached hereto (the "Subject Property"). Historical maps dating back to 1946 depict a single residential structure on the property. The building and associated accessory buildings are some of the oldest structures in the area and located on one of the main thoroughfares through the Village. The front of the property (Old Rand Road frontage) was maintained though the 1980s, while the rear was allowed to grow out to its current wooded state that exists today.

The Applicant has filed an application with the Village of Lake Zurich dated May 17, 2024 (the "Application") seeking:

- A Special Use Permit for a Planned Unit Development (PUD) and approval of a Development Concept Plan to develop the property with multiple-family residences and single-family homes
- Rezoning the property within the R-5 Single-family Residential District and R-6 Multiple-Family Residential District
- Exterior Appearance and Site Plan Approval consistent with a Development Concept Plan
- The grant of modifications to the Zoning Code under the PUD:
    - Bulk requirements for single-family residential development
    - Parking requirements for single-family residential development

Existing Conditions

The subject property is a 9-acre zoning lot, zoned R-1/2 Single-Family Residential and contains a single residential structure of approximately 2,060 square feet, with related improvements. Current frontage access is via South Old Rand Road. The subject property also contains a 2.16-acre wetland area along the north, which includes a pond and drainage creek. The wetlands are part of the Lake County Wetland Inventory, and the creek is under jurisdiction of the US Army Corps of Engineers. The drainage system connects Heatherleigh Pond to the west to detention areas within the Red Bridge Farm subdivision to the east, via culverts across South Old Rand Road and Buesching Road.

Proposal

The submitted plans include a complete redevelopment of the existing site, featuring a mix of detached single-family homes and attached single-family townhouses. Also included in the proposed plans is the development of a private road system with access from South Old Rand and South Buesching Road, improvements along the wetland/creek area respecting the 50-foot buffer, water/sewer improvements, streetlighting on-site, and creation of common open space areas with gazebos or similar structures.

The architect has submitted plans proposing three types of units:

- Single-family detached residences: 12 units proposed along the North side of the developed area, approximately 2,790 square feet of living space containing 3 bedrooms, featuring a 2-story layout with an attached 2-car garage facing the internal street.
- Single-family detached residences: 6 units proposed along the East with frontage along South Buesching Road, approximately 2,100 square feet of living space containing 3 bedrooms, featuring a 2-story layout. These units feature a 400 square-foot detached garage located at the rear of the lot and accessible from the internal roadway.
- Single-family attached townhomes (multiple-family residential buildings): 20 townhomes within 5 buildings, two of which have frontage on South Old Rand Road. Each townhome is configured with a 3-story layout with 3-bedrooms, a 2-garage attached garage, and approximately 2,640 square feet of living space.

The proposed buildings will be finished with fiber cement siding and shakes as the predominant material, with modular masonry brick, cast stone and wood used as accents along foundations, facades, railings and sills. The north single-family units also have a fiber cement shake detail on the porch roofs. Select east single-family units (along Buesching Road) have a cast stone element at the base of the structure. Only front elevations for the townhome and single-family units were provided in the architectural plans, and no elevations were provided for the proposed detached garages on site, although a three-dimensional rendering is included in the submission packet.

The southerly two-thirds of the property will be cleared of existing vegetation to make way for the development and new landscape material. The northerly one-third of the property will be reconfigured with a detention basin while maintaining the existing wetland and the vegetation that surrounds it.

Pursuant to public notice published on June 1, 2024, in the Daily Herald, a public hearing has been scheduled with the Lake Zurich Planning & Zoning Commission for June 19, 2024, to consider the Application. On June 4, 2024, the Village posted a public hearing sign on the Subject Property (Exhibit B)

Staff offers the following additional information:

A. **Previous Proposal.** In July 2022, the Applicant submitted an application requesting approval of a Planned Unit Development (PUD) to develop the property with 50 Townhomes within 12 buildings. That application was considered by the Village Board on January 3, 2023 but denied due to concerns related to density, parking, wetlands, and structures within the creek area. Following numerous discussions with village staff, the applicant presented a concept on July 17, 2023 at a Courtesy review of the Board.

B. **Courtesy Review**. Following the denial of the application on January 3, and to allow the applicant remain engaged with the project, but substantially revise it to be able to resubmit it for reconsideration, village staff recommended that the Applicant address the following:

- No structures should encroach into the flood plain
- The floodway (path of the stream) should not be impeded or altered by structures or features such as the retaining wall and/or the detention pond
- To meet the requirement for density, consider removing three buildings on the northwest side of the development, and remove a unit from the building nearest to the south lot line on the southeast side of the development. This would accomplish a reduction of 14 units from the recently proposed 50 units.
- Maintain the architectural character and materials as recently proposed. Staff also shared numerous examples of suggested architectural design and materials with the architect.
- Update the site grading and topo exhibits to reflect the mid-level entryways to the building
- Maintain all the proposed landscape features as submitted.
- Consider a mix of single-family residences and multiple-family townhouses to further reduce the density of the project.

The purpose of the Courtesy Review was to provide feedback, not a finding on whether the proposed concept would be acceptable. If intending to proceed, the Applicant was subsequently advised to return with a new proposal directly to the Planning and Zoning Commission.

C. **Zoning History.** The subject property was developed a single-family residential lot. Records indicate that the existing home on the property was constructed prior to 1947.

D. **Surrounding Land Use and Zoning.** The subject property is located on the eastern side of South Old Rand Road in a residential district, near the intersection of South Old Rand Road and Buesching Road. The properties to the east and west are located within the R-5 single-family residential district and developed within the Heatherleigh Subdivision to the west and Red Bridge Farm Subdivision to the east. The five properties to the south are of

similar vintage to the subject property and zoned within the R-1/2 single-family residential district. The properties to the north are zoned within the B-1 Local Community Business district and the O-2 Limited Office District and improved with larger commercial buildings containing Ela Soccer and the Barrington Christopher Club Banquet facility, both of which are developed with the Zurich Town Mall Subdivision with access from Surryse Road.

E. **Trend of Development.** The property is located within a mature residential neighborhood containing single-family homes and to the south of an established commercial area containing larger office and service use buildings. While the neighborhood is largely built out, many homes in the immediate vicinity including the Subject Property are of an older vintage and likely to be replaced with newer homes, such as the recently approved 2-lot residential subdivision at 545 Buesching Road. The proposed subdivision serves as a transition between the commercial zoning district to the north and the single-family detached houses to the south and will be in keeping with the trend of residential development of lots in the neighborhood.

F. **Zoning Districts**. The zoning code provides for five (5) zoning districts providing for all types of residential development. Taken as a whole, the residential district regulations are intended to preserve established neighborhoods and encourage new residential development, but only in a manner consistent with the overall character of the village.

Four (4) zoning districts are provided for single-family residential development. The single-family districts provide for a limited range of single-family detached housing densities consistent with the village's established single-family residential neighborhoods. The R-1/2 and R-3 districts allow for lower density residential use and larger lot sizes. The R-4 and R-5 districts allow for somewhat higher density residential use and smaller lot sizes.

The R-6 district is intended to function principally as a transition between single-family detached houses and other zoning districts and to provide for lower density townhouse and two-family building types, which may result in higher densities than in single-family developments.

G. **Density Discussion.** The proposed development area excluding wetlands is 7.14 acres. With a total of 38 units, the density of the proposed development is 5.32 units per acre. This density is in-line with other townhome and higher density developments in the Village.

GENERAL FINDINGS

The Application requires approval through a Planned Unit Development (PUD), which is classified as a Special Use Permit. As such the Application is reviewed against the standards for Special Use Permits and PUDs.

Staff of the Community Development Department's development review team has evaluated the development against the various standards and provisions of the Lake Zurich Municipal Code and offers findings on specific sections of the Code.

9-22-5: STANDARDS FOR PLANNED UNIT DEVELOPMENTS (PUDs).

Planned unit developments are included in the zoning code as a distinct category of special use. As such, they are authorized for the same general purposes as all other special uses and in recognition of the fact that traditional bulk, space, and yard regulations that may be useful in protecting the character of substantially developed and stable areas may impose rigidities on the development or redevelopment of parcels or areas that lend themselves to an individual, planned approach.

A. Special Use Permit Standards: No special use permit for a planned unit development shall be recommended or granted pursuant to this chapter unless the applicant shall establish that the proposed development will meet each of the standards made applicable to special use permits pursuant to chapter 19 of this title.

Staff Response: Standard met. The Planned Unit Development is being requested as a Special Use Permit. Please refer to the "Standards for Special Use Permits" contained within this report.

B. Additional Standards for All Planned Unit Developments: No special use permit for a planned unit development shall be recommended or granted unless the applicant shall establish that the proposed development will meet each of the following additional standards:

1. Unified Ownership Required: The entire property proposed for planned unit development treatment shall be in single ownership or under such unified control as to ensure that the entire property will be developed as a unified whole. All owners of the property shall be included as joint applicants on all applications and all approvals shall bind all owners. The violation of any owner as to any tract shall be deemed a violation as to all owners and all tracts.

Staff Response: Standard met. The entire property that is subject to the PUD is under contract to be purchased by the Applicant, OSK Capital Partners, LLC.

2. Minimum Area: The applicant shall have the burden of establishing that the subject property is of sufficient size and shape to be planned and developed as a unified whole capable of meeting the objectives for which planned unit developments may be established pursuant to this section.

Staff Response: Standard met. 2 parcels with total area of 384,250 sq. ft. (8.82 acres), of which approximately 94,089 sq. ft. (2.16 acres) will be dedicated wetland/green space. The total remaining buildable area is 290,109 sq. ft. (6.7

acres). The buildable area is an irregularly shaped assemblage of two parcels, whose shape is defined by the two relatively straight roadways along the east and west. The property possesses sufficient size and shape to be developed as a single planned unit development containing the mix of multiple-family and single-family lots as proposed.

3. Covenants and Restrictions to Be Enforceable by Village: All covenants, deed restrictions, easements, and similar restrictions to be recorded in connection with the planned unit development shall provide that they may not be modified, removed, or released without the express consent of the board of trustees and that they may be enforced by the village as well as by future landowners within the proposed development.

   Staff Response: Standard met. Easements for onsite improvements will be provided at the time of Final Plan consideration. The residential development will need to be managed by a Homeowners Association that will be required to adopt its declarations of covenants, rights, and restrictions. The declarations will need to be reviewed and approved by the village prior to Final Plan approval.

4. Public Open Space and Contributions: Whenever the official comprehensive plan, zoning map, or official map indicates that development of a planned unit development will create a need for land for public purposes of the village within the proposed planned unit development, the board of trustees may require that such area be designated and to the extent such need is specifically and uniquely attributable to the proposed development, dedicated to the village for such use. In addition, the board of trustees may require evidence that all requirements of village ordinances pertaining to the dedication of land or the contribution of cash in connection with subdivisions or developments of land have been met as respects the proposed planned unit development.

   Staff Response: Standard met. The developer has proposed multiple areas of open space within the developable portion of the property. However, the approximately 19,300 square feet of the central oval open space or the northern wetland greenspace portions of the property does not constitute acceptable open space by the Village as dedicated public land.

   Fees will therefore be assessed by the village in lieu of or in combination with the dedication of land to the village for park purposes (public parks), per Section 10-4-5 of the municipal code. The developer will be provided with the estimates for contribution of funds (park impact fees) to be paid in lieu of land dedication

   Storm water detention areas, areas subject to natural resource protections, areas in the floodway or floodplain, and wetland are additionally not accepted as dedication for park purposes. The developer is additionally required to

stabilize the natural creek that flows along the northerly portion of the development. Such stabilization measures will have a regional effect on the flow of stormwater downstream from the development.

5. Common Open Space:

   a. Amount, Location, And Use: The failure of a planned unit development to provide common open space shall be considered to be an indication that it has not satisfied the objectives for which such developments may be approved pursuant to this zoning code. When common open space is provided in a planned unit development, the amount and location of such open space shall be consistent with its intended function as set forth in the application and planned unit development plans. No such open space shall be used for the construction of any structure or improvement except such structures and improvements as may be approved in the final plan as appropriate to the intended leisure and recreational uses for which such open space is intended.

   b. Preservation: Adequate safeguards, including recorded covenants or dedication of development rights, shall be provided to prevent the subsequent use of common open space for any use, structure, improvement, or development other than that shown on the approved final plan. The restrictions must be permanent and not for a given period of years and must run with the land. Such covenants and dedications may provide that they may be released, but only with the express written consent of the board of Trustees.

   c. Ownership And Maintenance: The final plan shall include such provisions for the ownership and maintenance of such open space and improvements as are reasonably necessary to ensure their continuity, care, conservation, maintenance, and operation in accordance with predetermined standards and to ensure that remedial measures will be available to the village if such open space or improvements are permitted to deteriorate or are not maintained in a condition consistent with the best interests of the planned unit development or the village.

   d. Property Owners' Association: When the requirements of subsection B5c of this section are to be satisfied by the ownership or maintenance of such open space or improvements by a property owners' association, such association shall meet each of the following standards:

      i. The bylaws and rules of the association and all declarations, covenants, and restrictions to be recorded must be approved as part of the final plan prior to becoming effective. Each such document shall provide that it shall not be amended in any manner that would result in it being in violation of the requirements of this subsection B5d(1); and

ii. The association must be established and all covenants and restrictions must be recorded prior to the sale of any property within the area of the planned unit development designated to have the exclusive use of the proposed open space or improvements; and

iii. The association must be responsible for casualty and liability insurance, taxes, and the maintenance of the open space and improvements to be deeded to it; and

iv. Membership in the association must be mandatory for each property owner and any successive owner having a right to the use or enjoyment of such open space or improvements; and

v. Every property owner having a right to the use or enjoyment of such open space or improvements must pay its pro rata share of the cost of the association by means of an assessment to be levied by the association that meets the requirements for becoming a lien on the property in accordance with state statutes; and

vi. The association must have the right to adjust the assessment to meet changed needs. The membership vote required to authorize such adjustment shall not be fixed at more than two-thirds (2/3) of the members voting on the issue; and

vii. The village must be given the right to enforce the covenants; and

viii. The village must be given the right, after ten (10) days' written notice to the association, to perform any maintenance or repair work that the association has neglected to perform, to assess the membership for such work and to have a lien against the property of any member failing to pay such assessment. For this purpose alone, the village shall have all the rights and powers of the association and its governing body under the agreements and declarations creating the association.

Staff Response: Standard Met. The development contains common open space that includes private streets, land between the buildings, pedestrian pathways, the buffer open space between the wetland and the buildings, and stormwater management facilities. These areas are proposed to be owned and maintained by a Homeowner's Association (HOA). The specific responsibilities of the HOA will be provided for through declarations of covenants, rights and restrictions that will be required to be submitted for review and approval at the time of final plan consideration.

6. Landscaping and Perimeter Treatment: Any area of a planned unit development not used for structures or circulation elements shall be landscaped or otherwise

improved. The perimeter of the planned unit development shall be treated so as to ensure compatibility with surrounding uses by means such as provision of compatible uses and structures, setbacks, screening, or natural or manmade buffers.

Staff Response: Standard partially met. The development will be effectively separated from the property to the north by the larger approximately 2-acre green space. The screening along the southern lot line adjacent to the neighboring residential properties will be accomplished by means of a solid 6-foot high fence and additional landscape material. The subdivision boundaries with frontage along Old Rand and Buesching Roads will also be landscaped in the areas between the buildings and the street.

While the applicant has provided a color rendering for a subdivision wide landscape plan, a detailed count of the proposed plantings and a residential lot specific landscape plan will need to be submitted to calculate opacity values and replacement values. Staff has additionally requested that "trees classified as "heritage trees" in the tree survey shall be incorporated into the landscape plans to the greatest extent possible. A tree survey map would need to be provided to denote existing trees and trees to be removed.

7. Private Streets: Private streets are prohibited unless expressly approved by the board of trustees. If so approved, they shall meet all construction standards applicable to public streets. No such streets shall be approved except upon the condition that they shall be owned and maintained by a property owners' association meeting the requirements set forth in subsection B5d of this section

Staff Response: Standard met. This standard is written within the framework of single-family detached homes, whose subdivisions are developed with public streets. However, due to the nature of the subdivision and at the recommendation of the Village's Development Review Team (DRT), all streets within the development are proposed to be maintained as private streets. Such streets will be constructed to village construction standards applicable to public streets, and shall be owned and maintained by the HOA

8. Sidewalks: A sidewalk meeting the standards of the Lake Zurich subdivision ordinance shall be provided along at least one side of every street in or abutting a planned unit development; provided, however, that such sidewalk may be constructed in a street right of way or as a specific element of the design of the planned unit development.

Staff Response. Standard met. The plans include interior sidewalks throughout the subdivision, leading to all front door entrances and the common open space area. The sidewalks are also designed to provide a pedestrian connection between Old Rand and Buesching Roads.

Staff is also recommending that a 5-foot wide sidewalk be constructed along the frontage of the property along Old Rand Road. In lieu of the absence of such sidewalk, a fee shall be paid by the developer to be used by the village for sidewalk construction, replacement or repair within the village corporate boundaries. Such fee will be calculated at the rate of $20.00 per square-foot for a 5-foot wide sidewalk meeting village standards for the length of frontage of the property where no sidewalk is proposed.

Further, a crosswalk is proposed at the development entrance, which would allow pedestrians to continue traveling north/south along South Old Rand Road via the existing sidewalk network on the west side of the street. No public sidewalk exists on the east side of Old Rand Road, although townhomes with frontage along this roadway will have sidewalks connecting to the remainder of the walkway system. The development also includes connections to the existing sidewalk on the west side of Buesching Road.

The Traffic Study completed by Eriksson Engineering Associates also details sidewalk construction; their recommendation notes that pedestrian crosswalk signage should be provided (as well as advance warning signage).

9. Utilities: All utility lines shall be installed underground.

Staff Response: Currently, all private and public utilities proposed to serve the development itself are proposed to be installed underground.

The existing carriage walk along Buesching Road may be pulled off the back of curb and incorporated into the walk for the single-family homes. The sidewalk proposed along Old Rand Road shall similarly be located closer to the building. Utility pole conflicts to accommodate the sidewalk shall require the removal of such poles and burying existing utility lines within those areas.

10. Additional Standards for Specific Planned Unit Developments: When the district regulations authorizing any planned unit development use in a particular district impose standards to be met by such planned unit development in such district, a special use permit for such development shall not be recommended or granted unless the applicant shall establish compliance with such standards. (Ord., 10-2004)

Staff Response: Standard Met. There are no additional standards imposed through the establishment of a townhome multiple-family subdivision that are proposed within the R-5 or the R-6 district. Any conditions governing the development of the subdivision by the developer and home builder along with the future maintenance of common areas will be memorialized within a binding agreement between the village and developer.

9-19-3: STANDARDS FOR SPECIAL USE PERMITS.

Staff has reviewed the application and found that the proposal will continue to remain in substantial conformance with the standards for Special Use Permits as outlined below.

A. General Standards: No special use permit shall be recommended or granted unless the applicant shall establish substantial conformance with the following:

1. Zoning Code and Plan Purposes: The proposed use and development will be in harmony with the general and specific purposes for which this zoning code was enacted and for which the regulations of the district in question were established and with the general purpose and intent of the official Comprehensive plan.

Staff Response: Standard met. The development will continue to remain in substantial conformance with the purpose and intent of the R-5 single-family residential district and the R-6 Multiple-Family Residential District. The currently adopted 2003 Comprehensive Plan land use map designates the subject property as Open Space.

However, during the process of updating the plan, Village staff are recommending designating the subject property as low to medium density multi-family as a future land use. The development proposes a net density of 5.32 units per acre which is in keeping with similar medium density developments in the community.

The proposed development occupying the southernly buildable area meets the intent of these recommendations as it proposes to allow the remaining 14% of the property to remain as open space with the preservation of the wetlands and other open space features.

2. No Undue Adverse Impact. The proposed use and development will not have a substantial or undue adverse effect upon adjacent property, the character of the area, or the public health, safety, and general welfare.

Staff Response: Standard met. The developer has taken measures to reduce any impacts of flooding on the subject property and surrounding property through the installation of on-site stormwater management facilities.

The subdivision will not have any substantial or undue adverse effect upon any adjacent properties. The proposed development is consistent with the surrounding development in land use. The design of the single-family homes is unique in that it proposes a new trend of closer-spaced detached homes on smaller lots thereby providing for a higher density. This configuration requires modifications to the bulk requirements of the code to be accomplished.

Additionally, the submitted traffic study indicates that both Buesching Road and Old Rand Road have adequate capacity to handle the proposed vehicular load caused by the development.

3. No Interference with Surrounding Development. The proposed use and development will be constructed, arranged, and operated so as not to dominate the immediate vicinity or to interfere with the use and development of neighboring property in accordance with the applicable district regulations.

Staff Response: Standard met. The proposed structures within the development will be constructed and arranged so as not to dominate the immediate vicinity, but instead strive for compatibility with surrounding residential uses.

4. Adequate Public Facilities. The proposed use and development will be served adequately by essential public facilities and services such as streets, public utilities, drainage structures, police and fire protection, refuse disposal, parks, libraries, and schools, or the applicant will provide adequately for such services.

Staff Response: Standard Met. Existing utilities currently run in the vicinity of the Subject Property. the Applicant is required to connect to such utilities – water and sanitary sewer. The Applicant is proposing the most efficient layout for underground utilities.

5. No Traffic Congestion. The proposed use and development will not cause undue traffic congestion nor draw significant amounts of traffic through the surrounding streets.

Staff Response: Standard met. The development is located between Buesching Road and South Old Rand Road, both of which are collector roadways, which serve the residential areas to the north/south and experience relatively low volumes of traffic. The developer has proposed two private roadways within the subdivision, to act as local roads, feeding into the above-mentioned collector roadways, similar to road network in the surrounding subdivisions.

The Petitioner utilized Eriksson Engineering Associates to conduct a traffic study to evaluate the impact the proposed development would have on existing nearby roadways. The following conclusions and recommendations were included in the report:

i. **The existing street network can accommodate the additional traffic from the proposed project, as projected to the year 2030.**
ii. **Development of the site as proposed, with 38 residential units, will generate 26 additional A.M. peak hour trips. Note data was collected at Old Rand Rd at Grand/Buesching Roads from the 7:00 a.m. to 8:45 a.m. time period, with a "peak hour" established at 7:45 a.m. – 8:45 a.m.**

iii. **The report projects 31 additional peak hour trips during the evening commuter period of 4:45 p.m. and 5:45 p.m.; data was collected from 4:00 p.m. to 5:45 p.m. at the same aforementioned intersection.**
iv. **All intersections within the study area work at acceptable levels of service and delay, with Levels of Service (LOS) at C grade or better during peak hours. No turning movement at the Old Rand/Grand/Buesching intersection has a projected delay of greater than one (1) second for the year 2030.**

These recommendations are incorporated into the proposed site and engineering plans.

6. No Destruction of Significant Features. The proposed use and development will not result in the destruction, loss, or damage of any natural, scenic, or historic feature of significant importance.

Staff Response: Standard met. While the proposed development will result in the demolition of the existing residential home on the property, the building has not been identified as a designated historic property.

There are currently no wetland or natural resource protection areas within the buildable portion of the property.

The developer has proposed preserving existing "heritage" trees on the site where possible. Additionally, sustainable and environmentally sensitive measures are being proposed to ensure the control of stormwater quality being released into the creek onsite, including stabilization of the streambanks. The development will be required to conform to the Lake County Watershed Development Ordinance

7. Compliance with Standards. The proposed use and development complies with all additional standards imposed on it by the particular provision of this Code authorizing such use.

Staff Response: Standard met. The proposed development will comply with all other additional standards imposed through the building codes for Single-Family and Multiple-Family Residences, with the exception of the bulk requirement modifications to the code that are being requested by the developer.

8. Positive Effect. The proposed special use creating a positive effect for the zoning district, its purpose, and adjacent properties shall be placed before the benefits of the petitioner.

Staff Response: Standard met. The proposed development will assist in redeveloping and revitalizing an under-utilized parcel within a well-

established area of the Village. The development will provide additional housing options for the community.

B. Special Standards for Specified Special Uses. When the district regulations authorizing any special use in a particular district impose special standards to be met by such use in such district, a permit for such use in such district shall not be recommended or granted unless the applicant shall establish compliance with such special standards.

Staff Response: Not Applicable. The development does not require the imposing of any special standards in addition to those that are currently in place as the proposed use of the property is for the establishment of single-family residential uses.

C. Considerations. In determining whether the applicant's evidence establishes that the foregoing standards have been met, the Plan Commission and the Board of Trustees shall consider:

1. Benefit. Whether and to what extent the proposed use and development at the particular location requested is necessary or desirable to provide a service or a facility that is in the interest of the public convenience or that will contribute to the general welfare of the neighborhood or community.

Staff Response: Standard met. The piece of land between Buesching Road and Old Rand Road is developed with similar types of medium- to higher-density residential housing along with a variety of commercial and industrial uses. This development provides a transition from the higher intensity commercial and industrial uses to the north to the lower density residential uses along both Buesching and Old Rand Road. This development will provide new housing options for empty nesters, and first-time home buyers alike, who want to locate within the community.

2. Alternative Locations. Whether the purposes of the zoning code can be met by the location of the proposed use and development in some other area or zoning district that may be more appropriate than the proposed site.

Staff Response: Standard met. The proposed location is suitable for this type of residential use, and is based on its consistency with the land uses, comprehensive plan, architecture, and design surrounding the proposed development. No alternate locations are currently proposed.

3. Mitigation of Adverse Impacts. Whether all steps possible have been taken to minimize any substantial or undue adverse effects of the proposed use and development on the immediate vicinity through building design, site design, landscaping, and screening.

Staff Response: Standard met. All steps necessary will be taken to minimize any substantial adverse effects of the proposed development.

IDENTIFICATION AND ANALYSIS OF ZONING RELIEF FOR THE PLANNED UNIT DEVELOPMENT (PUD)

On analysis of the proposed development against the various standards contained within the municipal code, staff has identified the following modifications to the zoning code.

1. **Bulk Regulations.**
   The Village Code includes several Planned Unit Development (PUD) objectives, which discuss desirability, creative approaches, architectural coordination, preservation of characteristics such as natural topography, use of and creation of open space.

   The proposed development includes a mix of multiple-family and single-family residential lots. The single-family lots are proposed as a higher density residential component whose bulk requirements resemble the density of a townhouse development, but project the character of a single-family home community – with homes on individual lots containing attached or detached garages.

   As such the uniqueness of such a proposal is not generally reflected in the current zoning code which looks at single-family development in a standard conventional way. As a result, the proposal will require modifications to the bulk requirements of the code for all aspects of the single-family development, and they are listed below:

Section 9-3-11. Bulk, Space and Yard Requirements.

Standard	Required	Proposed: 12 lots along North	Proposed: 6 lots East along Buesching
Minimum Lot Area Per Unit	5,000	4,680 (NW units) and 4,455 (NE units)	3,680
Minimum Lot Width (Feet)	75	45	32
Min. Interior Side Yard	7	4' between garages 7' between homes	4' for one side of the structure and 7' for the other
Front and Corner Side Yard Adjustment	51' for S. Old Rand Road 24' for S. Buesching Rd	27	25
Min. Rear Yard	30	20	40

Section 9-10-1: OFF STREET PARKING:

Paragraph 2.a.(2) requires that single-family dwellings be provided with 3 parking spaces for each dwelling unit. The Applicant is proposing 2 spaces within a garage only for the single-family residential units facing Buesching Road.

Additional modifications to the Zoning and Land development Code may be identified upon submission of the documents requested by staff.

RECOMMENDATION

The recommendation of the Planning and Zoning Commission should be based on the standards included in the following Sections of the Lake Zurich Municipal Code:

- Section 9-22-5: Standards for Planned Unit Developments (PUD)
- Section 9-19-3: Standards for Special Use Permits

Staff has determined that all standards for approval have been met or will be met through approval of the identified modifications to the code and recommends that the Planning and Zoning Commission makes these standards a part of the official record of the Application.

Staff of the Community Development Department therefore recommends the approval of Application PZC 2024-08, subject to the following conditions:

1. Substantial conformance with the following documentation submitted as part of the application subject to revisions required by Village Staff, Village Engineer, Village Landscape Consultants and applicable governmental agencies:
   a. Zoning Application, Cover Letter and attachments dated May 17, 2024, prepared by Mr. Lawrence M. Freedman, of Ash, Anos, Freedman & Logan, LLC, the agent and attorney for OSK Capital Partners, LLC.
   b. Legal Description of the Subject Property.
   c. ALTA/NSPS Land Title Survey prepared by Regional Land Services, dated June 21, 2022.
   d. ALTA Commitment for Title Insurance Issued by Chicago Title Insurance Company dated April 20, 2022.
   e. Planning and Zoning Commission Submittal prepared by Pappageorge Haymes Partners dated May 15, 2024 and last updated on May 17, 2024 consisting of the following exhibits:

      Architectural Exhibits:
      i. Cover and Index – Sheet A00
      ii. Architectural Renderings – Sheets A01-A04
      iii. Current Site Plan – Sheet A05
      iv. Plat of Subdivision – Sheet A06
      v. Single-family Home Plans and Elevations – Sheets A07-A08
      vi. Row Home (multiple-family) Plans and Elevations – Sheets A09-A10

      Civil Exhibits
      vii. Site Demolition Plan – Sheet C100
      viii. Site Geometry Plan – Sheet C200
      ix. Site Utility Plan – Sheet C300
      x. Grading and Paving Plan – Sheet C400
      xi. Site work details – Sheets C500-C503

      Landscape Exhibits
      xii. Rendered Landscape Plan – Sheet L100 (color)

xiii. Landscape Plan – Sheet L100
xiv. Landscape Details (Sheet L200

f. Site Development Budget prepared by McShane Construction Company, dated May 9, 2024.
g. Site Lighting exhibits including the following:
   i. Photometric Plan prepared by LSI, dated May 17, 2024, models 1 and 2.
   ii. Light Fixture Specification prepared by LSI for Standard Lexington (LXM4).
h. Tree Inventory and Report prepared by Urban Forest Management, Inc. dated June 24, 2022.
i. Stormwater Management Report Prepared By: Melanie Carollo & Laura Rosenbauer, dated May 17, 2024.
j. Preliminary Jurisdictional Field Report prepared by Lake County dated August 25, 2022.
k. Preliminary Hydraulic Analysis Existing Conditions Report dated April 26, 2024 prepared by Eriksson Engineering Associates, Ltd.
l. Traffic and Parking Study prepared by Eriksson Engineering Associates, Ltd., dated May 14, 2024.

2. All signage shall conform to the requirements of the sign regulations at Title 12 of the Municipal Code. Free standing ground mounted signs shall be designed as monument style signs with the appropriate amount of landscape material maintained in good condition.

3. All trees, hedges, signs or other obstructions which could prevent persons driving vehicles on Buesching Road and Old Rand Road from obtaining a clear view of traffic when approaching the intersection or a pedestrian crosswalk shall be maintained at a low height and signs shall be adequately set back from the corner.

4. The Developer shall submit a Final Plan to the Village to particularize the details of the on-site and off-site improvements related to the development of the site including private and public roadway construction, stormwater management and flood mitigation, and pedestrian sidewalk and crosswalk construction. Such Final Plan shall also include a Final Plat of Subdivision delineating the final configuration of lots within the subdivision.

5. Prior to Final Plan approval, detailed landscape plans shall be submitted indicating compliance with the perimeter landscape requirements for the subdivisions, in this case as a PUD for development of the Property prescribed by Section 9-8A-5 of the Lake Zurich Municipal Code, with particular reference to the boundaries of the property along the east, south and west lot lines. The trees classified as “heritage trees” in the tree survey will be incorporated into the plans to the greatest extent possible. A tree survey map shall be provided to denote existing trees and trees to be removed. The developer shall utilize the “Village of Lake Zurich Tree Replacement Worksheet” to determine the replacement value in the form of either replacement trees within the development or fee in lieu of replacement trees at the “average market value” for a >2.5-inch Replacement Tree as denoted in the worksheet as updated from time to time.

6. The property line along the south of the project will be landscaped and screened from adjacent properties to the south with a combination of a 6-foot high solid privacy fence and landscape plant material consisting of canopy trees, evergreen trees, deciduous trees and shrubs. In order to accommodate the additional landscape material, the width of the landscape area along the south lot line of the project should be designed with adequate width.

7. The drainageway (creek) that runs along the northerly portion of the property that is associated with the wetland and pond shall have its banks stabilized and restored in accordance with a plan prepared by the Applicant that is approved by the Village. Such stabilization and restoration plan shall be submitted for review and approval prior to Final Plan Approval and shall be conducted in conjunction with the earthwork related to the project and completed prior to the construction of the first residential building on the property.

8. The Developer shall establish a Home Owners Association (HOA), prior to the issuance of any certificate of occupancy or sale of a unit or interest in the Subject Property, which will be responsible for upkeep of the private common areas including the private streets and driveways, the on-site detention facilities and landscape material within common open space. The provisions for such HOA shall be established prior to approval of the Final Plan as defined in Section 9-22-4.C of the Lake Zurich Zoning Code (the "Final Plan"), and shall be subject to the review and approval of the Village.

9. All streets within the subdivision shall be maintained as private streets. Such streets shall be constructed according to Village construction standards applicable to public streets, and shall be owned and maintained by the HOA.

10. Off street parking spaces shall be designed with a minimum nine feet (9') wide by twenty feet (20') long and not less than one hundred eighty (180) square feet; provided, however, that the minimum length of a perimeter space or space perpendicular to a landscape area shall be no less than eighteen feet (18').

11. A 5-foot wide sidewalk shall be constructed along the frontage of the property along Old Rand Road. In lieu of the absence of such sidewalk, a fee shall be paid by the developer to be used by the village for sidewalk construction, replacement or repair within the village corporate boundaries. Such fee will be calculated at the rate of $20.00 per square-foot for a 5-foot wide sidewalk meeting village standards for the length of frontage of the property where no sidewalk is proposed.

12. The existing carriage walk along Buesching Road may be pulled off the back of curb and incorporated into the walk for the houses. The sidewalk proposed along Old Rand Road shall similarly be located closer to the building. Utility pole conflicts to accommodate the sidewalk shall require the removal of such poles and burying existing utility lines within those areas.

13. A pedestrian crosswalk shall additionally be provided across Old Rand Road to connect the subject PUD to the existing sidewalk on the west side of Old Rand Road at a location immediately north of the main entrance and shall be constructed per village standards and accompanied by flashing beacons to warn of pedestrians within the crosswalk.

14. As part of Final Plan approval, the Developer shall enter into a binding development agreement with the Village agreeing to install all the required improvements and providing surety for such improvements by means of a Letter of Credit and in a format as approved by the Village. In addition to the requirements outlined in Chapter 5 of the Land Development Code entitled "Procedure for Subdivision Approval," which are applicable to a PUD, specifically Section 10-5-7 entitled "Agreements and Guarantee of Improvements," such agreement shall additionally contain the following additional provisions:
    a. Establishment of a "backup" open space, stormwater management, snow removal, and private roadway repair and replacement Special Service Area (SSA) to ensure that these areas and features are cared for and maintained in the event of a future HOA dissolution or its lack of required maintenance of these areas.

15. The Developer shall be responsible for payment of all Development Impact Fees as a condition of the approval of the PUD and Final Plat. The school impact fees, park impact fees, and library impact fees are paid pro-rata and due at the time a building permit is issued for the applicable building and shall include the fees for all units contained within each residential building.

16. The development as a PUD shall be in compliance with all other applicable codes and ordinances of the Village of Lake Zurich, including general and continuing compliance with Title 10 of the Village Code, the Land Development Code, and all of the engineering and land improvement requirements, standards and specifications including those set forth in Chapter 6 of said Land Development Code, unless otherwise approved or provided for in the final engineering plans for the Subject Property.

Respectfully Submitted,

Sarosh Saher, Community Development Director
Colleen McCauley, Planner

LAKE ZURICH PLANNING & ZONING COMMISSION
FINAL FINDINGS & RECOMMENDATIONS

670 South Old Rand Road
June 19, 2024

The Planning & Zoning Commission recommends approval of Application PZC 2024-08, and the Planning & Zoning Commission adopts the findings as contained within the Staff Report dated June 19, 2024 for this Application and subject to any changes or approval conditions as listed below:

1. Substantial conformance with the following documentation submitted as part of the application subject to revisions required by Village Staff, Village Engineer, Village Landscape Consultants and applicable governmental agencies:
   a. Zoning Application, Cover Letter and attachments dated May 17, 2024, prepared by Mr. Lawrence M. Freedman, of Ash, Anos, Freedman & Logan, LLC, the agent and attorney for OSK Capital Partners, LLC.
   b. Legal Description of the Subject Property.
   c. ALTA/NSPS Land Title Survey prepared by Regional Land Services, dated June 21, 2022.
   d. ALTA Commitment for Title Insurance Issued by Chicago Title Insurance Company dated April 20, 2022.
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k. Preliminary Hydraulic Analysis Existing Conditions Report dated April 26, 2024 prepared by Eriksson Engineering Associates, Ltd.

l. Traffic and Parking Study prepared by Eriksson Engineering Associates, Ltd., dated May 14, 2024.

2. All signage shall conform to the requirements of the sign regulations at Title 12 of the Municipal Code. Free standing ground mounted signs shall be designed as monument style signs with the appropriate amount of landscape material maintained in good condition.

3. All trees, hedges, signs or other obstructions which could prevent persons driving vehicles on Buesching Road and Old Rand Road from obtaining a clear view of traffic when approaching the intersection or a pedestrian crosswalk shall be maintained at a low height and signs shall be adequately set back from the corner.

4. The Developer shall submit a Final Plan to the Village to particularize the details of the on-site and off-site improvements related to the development of the site including private and public roadway construction, stormwater management and flood mitigation, and pedestrian sidewalk and crosswalk construction. Such Final Plan shall also include a Final Plat of Subdivision delineating the final configuration of lots within the subdivision.

5. Prior to Final Plan approval, detailed landscape plans shall be submitted indicating compliance with the perimeter landscape requirements for the subdivisions, in this case as a PUD for development of the Property prescribed by Section 9-8A-5 of the Lake Zurich Municipal Code, with particular reference to the boundaries of the property along the east, south and west lot lines. The trees classified as "heritage trees" in the tree survey will be incorporated into the plans to the greatest extent possible. A tree survey map shall be provided to denote existing trees and trees to be removed. The developer shall utilize the "Village of Lake Zurich Tree Replacement Worksheet" to determine the replacement value in the form of either replacement trees within the development or fee in lieu of replacement trees at the "average market value" for a >2.5-inch Replacement Tree as denoted in the worksheet as updated from time to time.

6. The property line along the south of the project will be landscaped and screened from adjacent properties to the south with a combination of a 6-foot high solid privacy fence and landscape plant material consisting of canopy trees, evergreen trees, deciduous trees and shrubs. In order to accommodate the additional landscape material, the width of the

landscape area along the south lot line of the project should be designed with adequate width.

7. The drainageway (creek) that runs along the northerly portion of the property that is associated with the wetland and pond shall have its banks stabilized and restored in accordance with a plan prepared by the Applicant that is approved by the Village. Such stabilization and restoration plan shall be submitted for review and approval prior to Final Plan Approval and shall be conducted in conjunction with the earthwork related to the project and completed prior to the construction of the first residential building on the property.

8. The Developer shall establish a Home Owners Association (HOA), prior to the issuance of any certificate of occupancy or sale of a unit or interest in the Subject Property, which will be responsible for upkeep of the private common areas including the private streets and driveways, the on-site detention facilities and landscape material within common open space. The provisions for such HOA shall be established prior to approval of the Final Plan as defined in Section 9-22-4.C of the Lake Zurich Zoning Code (the "Final Plan"), and shall be subject to the review and approval of the Village.

9. All streets within the subdivision shall be maintained as private streets. Such streets shall be constructed according to Village construction standards applicable to public streets, and shall be owned and maintained by the HOA.

10. Off street parking spaces shall be designed with a minimum nine feet (9') wide by twenty feet (20') long and not less than one hundred eighty (180) square feet; provided, however, that the minimum length of a perimeter space or space perpendicular to a landscape area shall be no less than eighteen feet (18').

11. A 5-foot wide sidewalk shall be constructed along the frontage of the property along Old Rand Road. In lieu of the absence of such sidewalk, a fee shall be paid by the developer to be used by the village for sidewalk construction, replacement or repair within the village corporate boundaries. Such fee will be calculated at the rate of $20.00 per square-foot for a 5-foot wide sidewalk meeting village standards for the length of frontage of the property where no sidewalk is proposed.

12. The existing carriage walk along Buesching Road may be pulled off the back of curb and incorporated into the walk for the houses. The sidewalk proposed along Old Rand Road shall similarly be located closer to the building. Utility pole conflicts to accommodate the sidewalk shall require the removal of such poles and burying existing utility lines within those areas.

13. A pedestrian crosswalk shall additionally be provided across Old Rand Road to connect the subject PUD to the existing sidewalk on the west side of Old Rand Road at a location immediately north of the main entrance and shall be constructed per village standards and accompanied by flashing beacons to warn of pedestrians within the crosswalk.

14. As part of Final Plan approval, the Developer shall enter into a binding development agreement with the Village agreeing to install all the required improvements and providing surety for such improvements by means of a Letter of Credit and in a format as approved by the Village. In addition to the requirements outlined in Chapter 5 of the Land Development Code entitled "Procedure for Subdivision Approval," which are applicable to a PUD, specifically Section 10-5-7 entitled "Agreements and Guarantee of Improvements," such agreement shall additionally contain the following additional provisions:
    a. Establishment of a "backup" open space, stormwater management, snow removal, and private roadway repair and replacement Special Service Area (SSA) to ensure that these areas and features are cared for and maintained in the event of a future HOA dissolution or its lack of required maintenance of these areas.

15. The Developer shall be responsible for payment of all Development Impact Fees as a condition of the approval of the PUD and Final Plat. The school impact fees, park impact fees, and library impact fees are paid pro-rata and due at the time a building permit is issued for the applicable building and shall include the fees for all units contained within each residential building.

16. The development as a PUD shall be in compliance with all other applicable codes and ordinances of the Village of Lake Zurich, including general and continuing compliance with Title 10 of the Village Code, the Land Development Code, and all of the engineering and land improvement requirements, standards and specifications including those set forth in Chapter 6 of said Land Development Code, unless otherwise approved or provided for in the final engineering plans for the Subject Property.

☐ Without any further additions, changes, modifications and/or approval conditions.

☐ With the following additions, changes, modifications and/or approval conditions:

_____

Planning & Zoning Commission Chairman

EXHIBIT A
LEGAL DESCRIPTION OF SUBJECT PROPERTY

PARCEL 1:

THAT PART OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 20, TOWNSHIP 43 NORTH, RANGE 10, EAST OF THE THIRD PRINCIPAL MERIDIAN, DESCRIBED AS FOLLOWS: BEGINNING AT THE NORTHEAST CORNER OF SAID NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 20; THENCE SOUTH ALONG THE EAST LINE THEREOF 461.9 FEET; THENCE SOUTH 75 DEGREES 30 MINUTES WEST 347.9 FEET TO THE EASTERLY LINE OF PREMISES CONVEYED TO WAUKEGAN, ROCKFORD AND ELGIN TRACTION COMPANY BY DEED RECORDED OCTOBER 22, 1910, AS DOCUMENT 131910, IN BOOK 182 OF DEEDS, PAGE 4; THENCE NORTHWESTERLY ALONG THE EASTERLY LINE OF SAID PREMISES CONVEYED BY SAID DEED RECORDED AS DOCUMENT 131910, 695.5 FEET TO THE NORTH LINE OF SAID NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 20; THENCE EAST ALONG SAID NORTH LINE 760 FEET TO THE PLACE OF BEGINNING, IN LAKE COUNTY, ILLINOIS

PARCEL 2:

THAT PART OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 20, TOWNSHIP 43 NORTH, RANGE 10, EAST OF THE THIRD PRINCIPAL MERIDIAN, FALLING WITHIN A STRIP OF LAND 133 FEET WIDE LYING EASTERLY AND NORTHERLY OF THE CENTER LINE OF LAKE ZURICH-PALATINE ROAD (NOW KNOWN AS RAND ROAD); SAID PREMISES BEING THE SAME AS CONVEYED BY JOHN ROBERTSON AND JULIA ROBERTSON, HIS WIFE, TO WAUKEGAN, ROCKFORD AND ELGIN TRACTION COMPANY BY DEED DATED OCTOBER 20, 1910 AND RECORDED OCTOBER 22, 1910, AS DOCUMENT 131910 IN BOOK 182 OF DEEDS, PAGE 4, AND SHOWN ON PLAT ATTACHED TO SAID DEED, (EXCEPT THAT PART OF THE NORTHEAST QUARTER, SOUTHEAST QUARTER, OF SECTION 20, TOWNSHIP 43 NORTH, RANGE 10, EAST OF THE THIRD PRINCIPAL MERIDIAN, DESCRIBED AS BEGINNING AT THE NORTHEAST CORNER OF SAID NORTHEAST QUARTER, SOUTHEAST QUARTER, SECTION 20, THENCE SOUTH ALONG THE EAST LINE THEREOF 461.9 FEET; THENCE SOUTH 75 DEGREES 30 MINUTES WEST 347.9 FEET TO THE EASTERLY RIGHT OF WAY LINE OF FORMER PALATINE, LAKE ZURICH AND WAUCONDA RAILROAD AND THE NORTHERNMOST CORNER AND POINT OF BEGINNING OF THIS DESCRIPTION; THENCE SOUTH 52 DEGREES 27 MINUTES WEST, 133 FEET TO CENTER OF RAND ROAD; THENCE SOUTH 37 DEGREES 33 MINUTES EAST, ALONG CENTER OF RAND ROAD 528 .7 FEET; THENCE NORTH 52 DEGREES 27 MINUTES EAST, 133 FEET TO EASTERLY RIGHT OF WAY LINE OF SAID FORMER PALATINE, LAKE ZURICH AND WAUCONDA RAILROAD; THENCE NORTH 37 DEGREES 33 MINUTES WEST, ALONG SAID RIGHT OF WAY LINE 528.7 FEET TO THE PLACE OF BEGINNING), IN LAKE COUNTY, ILLINOIS.

PARCELS INVOLVED: 14-20-400-002, 14-20-400-003

EXHIBIT B

PUBLIC HEARING SIGNS PRESENT AT SUBJECT PROPERTY



EXHIBIT D
AERIAL MAP



EXHIBIT E
ZONING MAP

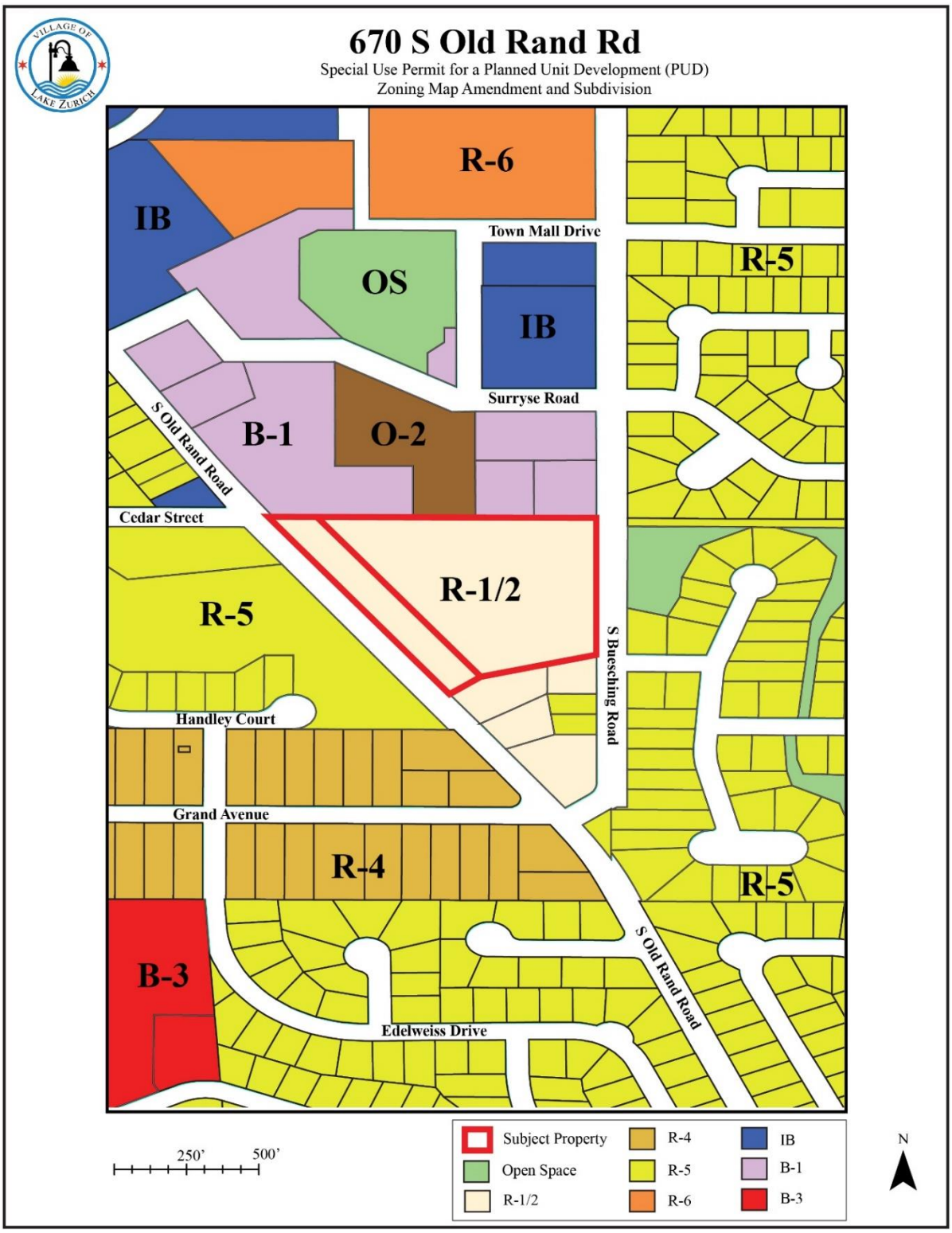
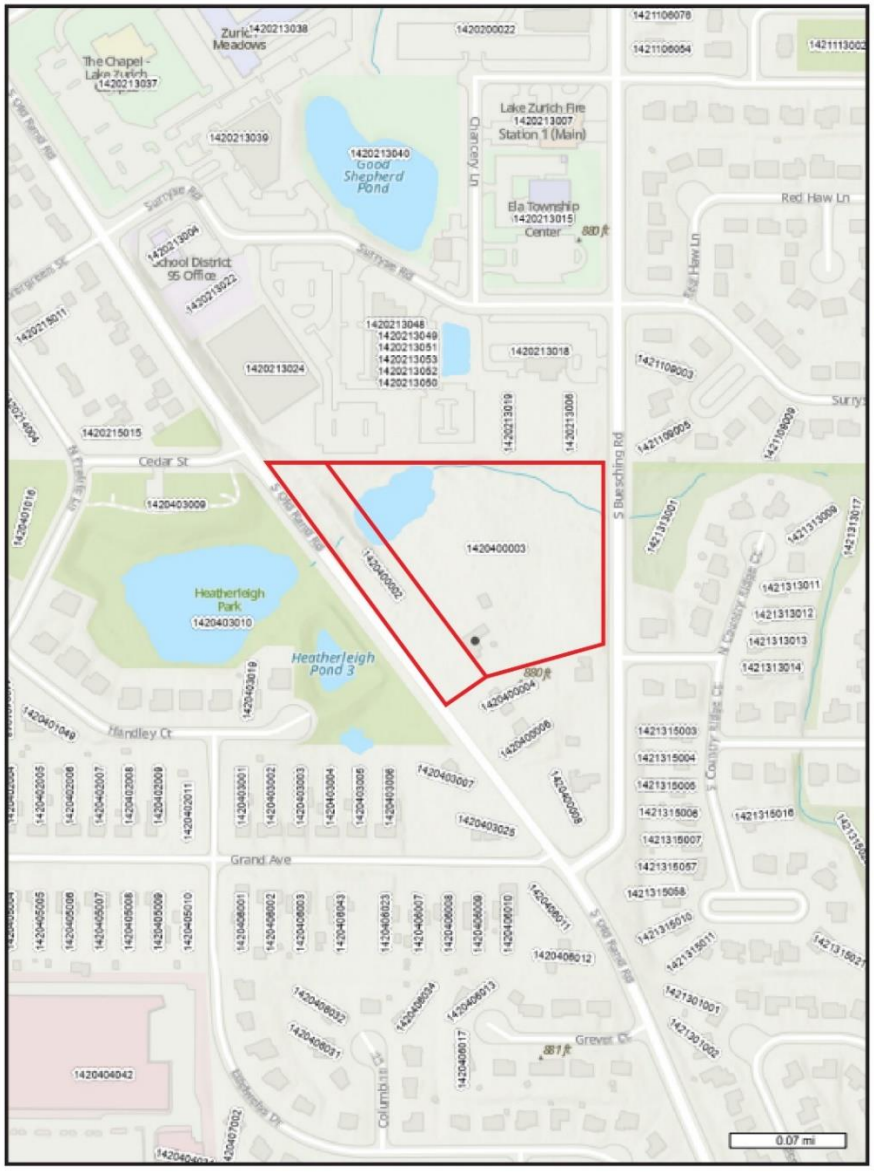


EXHIBIT F
PARCEL MAP

670 S Old Rand Rd

Special Use Permit for a Planned Unit Development (PUD)
Zoning Map Amendment and Subdivision



LAW OFFICES

ASH, ANOS, FREEDMAN & LOGAN, L.L.C.
95 REVERE DRIVE, SUITE G
NORTHBROOK, IL 60062

LAWRENCE M. FREEDMAN

BARRY ASH
BRUCE T. LOGAN, OF COUNSEL

TELEPHONE: 312-346-1390
FAX: 312-346-7847
LMFREEDMAN@AFLAW.COM

May 17, 2024

Mr. Orlando Stratman
Chairperson
Planning and Zoning Commission
Village of Lake Zurich
505 Telser Road
Lake Zurich, IL 60047

Re: 670 S. Old Rand Road, Lake Zurich, IL

Dear Chairperson Stratman:
:

We represent OSK Capital Partners, LLC ("OSK"), the contract purchaser of the subject property, which comprises approximately 8.8 acres with .92 acres of wetlands, and is currently under the R-1/2 zoning classification.

OSK is seeking to develop the subject property with 20 attached single family homes and 18 unattached single family homes. In conjunction therewith, OSK will be requesting Development Concept Plan Approval, which will include rezoning the property to the R-6 Multiple Family Residential District.

It is contemplated that Old Rand Road will provide primary access for the proposed development with secondary access on Buesching Road. All required utilities are available to the site.

The proposed development contains a number of features which will not only benefit the development but will enhance the surrounding neighborhood. Such features will include:

- a variety of detached and attached single homes with both attached and detached garages.
- a pedestrian path which will connect Old Rand Road to Buesching Road.
- Improvements to the wetlands' appearance and health of vegetation.
- A design which orients the front doors of the homes to face the development's main road with the detached single family homes backing up to the wetlands
- Providing easy fire truck access with no dead end streets
- Locating the 2.5 story detached single family homes along Buesching Road. across from existing detached single family homes, with the 3 story attached single family homes being located on the interior of the development or along Rand Road across from dense vegetation where there are no neighboring residences.

- Providing a landscaping buffer as well as fencing between our development and the property to the south

In support of our request we are providing the following:

1. Application
2. Architectural Drawings
    1. 4 renderings
    2. Current site plan
    3. Preliminary plat of subdivision
    4. Proposed house plans
    5. Proposed house elevations
3. Civil Drawings
    1. Site Demolition Plan
    2. Site Geometry Plan
    3. Site Utility Plan
    4. Grading and Paving Plan
    5. Site Work Details
4. Landscape Drawings
    1. Rendered Landscape Plan
    2. Landscape Plan
    3. Landscape Details
    4. Landscape Narrative
5. Estimated Cost/Budget
6. Site Lighting Drawings
    1. Photometric Site Plan
    2. Site Lighting Plan
    3. Light Fixture cut sheets
7. Stormwater Report

8. Survey and Legal Description
9. Traffic Study
10. Tree Inventory
11. Evidence of Title

We would appreciate being scheduled for a public hearing. Thank you.

Very truly yours,

ASH, ANOS, FREEDMAN & LOGAN, L.L.C.



BY: Lawrence M. Freedman

LMF:eas
Enclosure

ZONING APPLICATION

Community Development Department
505 Telser Rd.
Lake Zurich, IL 60047
Phone: (847) 540-1696
Fax: (847) 540-1769

(Please Type or Print)

1. Address of Subject Property: 670 Old Rand Road
2. Please attach complete legal description
3. Property Identification number(s): 14-20-400-002 and 1420-400-003
4. Owner of record is: Henry Joern Phone: 814-417-8732
   E-Mail _____ Address: 670 Old Rand Road, Lake Zurich, IL 60047
5. Applicant is (if different from owner): Lawrence M. Freedman Phone: 312-346-1390
   E-Mail lmfreedman@aflaw.com Address: 95 Revere Drive, Ste G, Northbrook, IL 60062
6. Applicant's interest in the property (owner, agent, realtor, etc.): Agent for OSK Capitol, LLC
7. All existing uses and improvements on the property are: R-1/2 Single Family
8. The proposed uses on the property are: R-6 Attached and Detached Single Family Rowhomes
9. List any covenants, conditions, or restrictions concerning the use, type of improvements, setbacks, area, or height requirements placed on the Subject Property and now of record and the date of expiration of said restrictions:
   None
10. Describe any contract or agreement of any nature relevant to the sale or disposal of the Subject Property:
    Sales contract pending zoning approval
11. For applications requiring a public hearing, please attach a list which contains the PIN, owner, and owner's mailing address of all properties located within 250 feet (excluding all Public Right-of-Ways) of the Subject Property.

THE APPLICANT'S SIGNATURE BELOW INDICATES THE INFORMATION CONTAINED IN THIS APPLICATION AND ON ANY ACCOMPANYING DOCUMENTS IS TRUE AND CORRECT.
THE APPLICANT ALSO ACKNOWLEDGES IF THE CONSULTANT EXPENSES EXCEED THE INITIAL ESCROW DEPOSIT, THE APPLICANT WILL REIMBURSE THE ACCOUNT IMMEDIATELY.

Lawrence M. Freedman _____
(Name of applicant) (Signature of applicant)

Subscribed and sworn to before me this ____ day of May, 2021

Leslie M. Mercado My Commission Expires _____
(Notary Public)

Notary Public State of Illinois
Official Seal
Leslie M Mercado
Comm. # 980507
My Commission Expires 10/31/2027

Henry Joern _____
(Name of Owner, if different) (Signature of Owner, if different)

Subscribed and sworn to before me this 17th day of May, 2021

Leslie M. Mercado My Commission Expires _____
(Notary Public)

Notary Public State of Illinois
Official Seal
Leslie M Mercado
Comm. # 980507
My Commission Expires 10/31/2027

Please indicate what form of zoning relief your application requires. For assistance, please contact Staff:

☑ Zoning Code **Map** Amendment to change zoning of Subject Property from R-1/2 to R-6

☐ Zoning Code **Text** Amendment to amend the following section(s) of the Zoning Code _____

(See Section 18-103 of the Lake Zurich Zoning Code for specific standards. If a specific parcel is the subject of this amendment, then provide the additional information listed in Section 18-103C.)

☐ Special Use Permit/Amendment for _____

(See Section 19-103 of the Lake Zurich Zoning Code for specific standards.)

☑ Planned Unit Development/Major Adjustment/Amendment

(Planned Unit Developments are a distinct category of special use and are intended to create a more desirable environment than through strict application of the zoning and subdivision regulations. See Section 22-105 of the Lake Zurich Zoning Code for specific standards. Please list all the 'modifications' requested in the cover letter.)

☐ Variation for _____

(See Section 17-104 of the Lake Zurich Zoning Code for specific standards. Please indicate what your specific hardships are in the cover letter.)

☐ Modification to the Land Development Code (includes retaining walls more than 2 feet in height)
(See Section 10-6-18 of the Land Development Code for specific standards.)

☐ Preliminary Plat of Subdivision

☐ Final Plat of Subdivision or Amendment to Plat of Subdivision
(See Sections 10-5-2 and 10-5-9 of the Land Development Code for specific standards.)

☐ Site Plan Approval/Major Adjustment/Amendment
(See Section 20-103 of the Lake Zurich Zoning Code for specific standards.)

☐ Exterior Appearance Approval or Amendment
(See Section 21-103 of the Lake Zurich Zoning Code for specific standards.)

APPLICATION TO ANNEX CERTAIN TERRITORY

All land annexed to the Village is classified automatically after such annexation in the R-1\2 Single Family Residential District. The owner must file an application for a Zoning Map amendment if he or she desires a different zoning classification for the Subject Property.

☐ Petition to Annex Certain Territory (Please complete attached petition)

☐ Application to Annex Certain Territory

COMPREHENSIVE PLAN APPLICATION

☐ Comprehensive Plan **Map** Amendment for _____

_____

☐ Comprehensive Plan **Text** Amendment for _____

_____

ALTA/NSPS LAND TITLE SURVEY



LOCATION MAP
NOT TO SCALE

LEGAL DESCRIPTION

PARCEL 1:
THAT PART OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 20, TOWNSHIP 43 NORTH, RANGE 10, EAST OF THE THIRD PRINCIPAL MERIDIAN, DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHEAST CORNER OF SAID NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 20; THENCE SOUTH ALONG THE EAST LINE THEREOF 461.9 FEET; THENCE SOUTH 75 DEGREES 30 MINUTES WEST 347.9 FEET TO THE EASTERLY LINE OF PREMISES CONVEYED TO WAUKEGAN, ROCKFORD AND ELGIN TRACTION COMPANY BY DEED RECORDED OCTOBER 22, 1910, AS DOCUMENT 131910, IN BOOK 182 OF DEEDS, PAGE 4; THENCE NORTHWESTERLY ALONG THE EASTERLY LINE OF SAID PREMISES CONVEYED BY SAID DEED RECORDED AS DOCUMENT 131910, 695.5 FEET TO THE NORTH LINE OF SAID NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 20; THENCE EAST ALONG SAID NORTH LINE 760 FEET TO THE PLACE OF BEGINNING, IN LAKE COUNTY, ILLINOIS

PARCEL 2:
THAT PART OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 20, TOWNSHIP 43 NORTH, RANGE 10, EAST OF THE THIRD PRINCIPAL MERIDIAN, FALLING WITHIN A STRIP OF LAND 133 FEET WIDE LYING EASTERLY AND NORTHERLY OF THE CENTER LINE OF LAKE ZURICH-PALATINE ROAD (NOW KNOWN AS RAND ROAD); SAID PREMISES BEING THE SAME AS CONVEYED BY JOHN ROBERTSON AND JULIA ROBERTSON, HIS WIFE, TO WAUKEGAN, ROCKFORD AND ELGIN TRACTION COMPANY BY DEED DATED OCTOBER 20, 1910 AND RECORDED OCTOBER 22, 1910, AS DOCUMENT 131910 IN BOOK 182 OF DEEDS, PAGE 4, AND SHOWN ON PLAT ATTACHED TO SAID DEED,

(EXCEPT THAT PART OF THE NORTHEAST QUARTER, SOUTHEAST QUARTER, OF SECTION 20, TOWNSHIP 43 NORTH, RANGE 10, EAST OF THE THIRD PRINCIPAL MERIDIAN, DESCRIBED AS BEGINNING AT THE NORTHEAST CORNER OF SAID NORTHEAST QUARTER, SOUTHEAST QUARTER, SECTION 20, THENCE SOUTH ALONG THE EAST LINE THEREOF 461.9 FEET; THENCE SOUTH 75 DEGREES 30 MINUTES WEST 347.9 FEET TO THE EASTERLY RIGHT OF WAY LINE OF FORMER PALATINE, LAKE ZURICH AND WAUCONDA RAILROAD AND THE NORTHERNMOST CORNER AND POINT OF BEGINNING OF THIS DESCRIPTION; THENCE SOUTH 52 DEGREES 27 MINUTES WEST, 133 FEET TO CENTER OF RAND ROAD; THENCE SOUTH 37 DEGREES 33 MINUTES EAST, ALONG CENTER OF RAND ROAD 528 .7 FEET; THENCE NORTH 52 DEGREES 27 MINUTES EAST, 133 FEET TO EASTERLY RIGHT OF WAY LINE OF SAID FORMER PALATINE, LAKE ZURICH AND WAUCONDA RAILROAD; THENCE NORTH 37 DEGREES 33 MINUTES WEST, ALONG SAID RIGHT OF WAY LINE 528.7 FEET TO THE PLACE OF BEGINNING), IN LAKE COUNTY, ILLINOIS.

SURVEYORS NOTES:

TABLE A NOTES:

1. TABLE A ITEMS 1, 2, 3, 4, 8, 9, 13, 16 AND 17 ARE SHOWN HEREON THIS SURVEY.

2. FIELD WORK WAS COMPLETED ON JUNE 1, 2022.

3. TABLE A ITEM 1, ALL MONUMENTS WERE EITHER FOUND OR SET ON THE SUBJECT PROPERTY.

4. TABLE A ITEM 2, ADDRESS OF THE SURVEYED PROPERTY WAS OBTAINED BY THE SURVEYOR, OR OBSERVED WHILE CONDUCTING THE FIELD WORK.
670 S OLD RAND ROAD, LAKE ZURICH, IL 60047

5. TABLE A ITEM 3, UPON INSPECTION OF THE FLOOD INSURANCE RATE MAP FOR THE SUBJECT AREA, PANEL NUMBER 17097C0229K WITH AN EFFECTIVE DATE OF SEPTEMBER 18, 2013, IT APPEARS THAT THE PROPERTY SHOWN HEREON WOULD LIE IN "ZONE X", AREA OF MINIMAL FLOODING.

6. TABLE A ITEM 4, GROSS LAND AREA = 384,250 SQUARE FEET OR 8.821 ACRES MORE OR LESS. (TO HEAVY LINES)

7. TABLE A ITEM 8, ALL SUBSTANTIAL FEATURES OF THE SUBJECT PROPERTY ARE SHOWN ON THE SURVEY.

8. TABLE A ITEM 9, PARKING STALL COUNT IS AS FOLLOWS: 0 REGULAR PARKING STALLS, 0 ACCESSIBLE STALLS.

9. SCHEDULE A ITEM 13, NAMES OF ADJOINING OWNERS ACCORDING TO CURRENT TAX RECORDS ARE SHOWN ON THE SURVEY.

10. SCHEDULE A ITEM 16, NO EVIDENCE OF EARTH MOVING WORK, BUILDING CONSTRUCTION, OR BUILDING ADDITIONS WERE OBSERVED IN THE PROCESS OF CONDUCTING THE FIELDWORK.

11. TABLE A ITEM 17, NO PROPOSED CHANGES IN STREET RIGHT OF WAY LINES HAVE BEEN DISCOVERED. NO EVIDENCE OF RECENT STREET OR SIDEWALK CONSTRUCTION OR REPAIRS WAS OBSERVED.

STATE OF ILLINOIS)
) SS
COUNTY OF OGLE)

TO: OSK CAPITAL PARTNERS, LLC
CHICAGO TITLE INSURANCE COMPANY

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1, 2, 3, 4, 8, 9, 13, 16 AND 17 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON APRIL 12, 2022.

REGIONAL LAND SERVICES, LLC
PROFESSIONAL DESIGN FIRM NUMBER 007858-0010

Rudy P. Dixon — 6/21/2022
RUDY P. DIXON — DATE
ILLINOIS PROFESSIONAL LAND SURVEYOR NO. 035-003832
LICENSE EXPIRES NOVEMBER 30, 2022

THIS PROFESSIONAL SERVICE CONFORMS TO THE CURRENT ILLINOIS MINIMUM STANDARDS FOR A BOUNDARY SURVEY.

THIS PROFESSIONAL SERVICE CONFORMS TO THE CURRENT ILLINOIS MINIMUM STANDARDS FOR A TOPOGRAPHIC SURVEY.

PROFESSIONAL LAND SURVEYOR — RUDY P. DIXON — 035-003832 — ROCHELLE — ILLINOIS — STATE OF ILLINOIS

LEGEND

- EXISTING LIGHT POLE
- EXISTING SIGN
- EXISTING POWER POLE
- EXISTING GUY WIRE
- EXISTING CABLE TV PEDESTAL
- EXISTING ELECTRIC PEDESTAL
- EXISTING TELEPHONE PEDESTAL
- EXISTING ELECTRIC METER
- EXISTING GAS METER
- EXISTING STORM CATCH BASIN
- EXISTING STORM INLET
- EXISTING STORM MANHOLE
- EXISTING SANITARY MANHOLE
- EXISTING FIRE HYDRANT
- EXISTING WATER VALVE
- EXISTING WATER VALVE & VAULT
- EXISTING MAILBOX
- EXISTING DECIDUOUS TREE (LEAF TREE)
- EXISTING COMIFEROUS TREE (NON LEAF TREE)
- PARCEL LINES
- RIGHT OF WAY LINE
- CENTER LINE OF RIGHT OF WAY
- EXISTING SANITARY LINE
- EXISTING STORM LINE
- EXISTING WATERMAIN LINE
- EXISTING OVERHEAD WIRES
- EXISTING STEEL GUARDRAIL
- EXISTING WOOD FENCE
- EXISTING CHAIN LINK FENCE
- EXISTING EDGE OF TREES
- EXISTING CONTOUR MAJOR 5 FOOT
- EXISTING CONTOUR MINOR 1 FOOT
- EXISTING WETLANDS
- EXISTING BUILDING
- EXISTING CONCRETE PAVEMENT
- EXISTING ASPHALT PAVEMENT

NOTES CORRESPONDING TO SCHEDULE B, PART TWO

1. THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY THE SURVEYOR. ALL INFORMATION REGARDING DEEDS, EASEMENTS, RIGHTS, COVENANTS, CONDITIONS, RESTRICTIONS, ADJOINERS AND/OR OTHER DOCUMENTS THAT MIGHT EFFECT TITLE TO THE PROPERTY DEPICTED HEREON WAS APPLIED FROM CHICAGO TITLE INSURANCE COMPANY, COMMITMENT NO. CCHI2202757LD, DATED APRIL 20, 2022 AS PROVIDED TO THE SURVEYOR BY THE CLIENT, TITLE COMPANY AND/OR THEIR REPRESENTATIVES.

2. SCHEDULE B ITEM 8 [E]: PERMANENT TAX NUMBERS 14-20-400-002, 14-20-400-003 AND 14-220-400-003 AS LISTED IN TITLE COMMITMENT.

3. SCHEDULE B ITEM 20 [K]: RIGHTS OF THE PUBLIC AND QUASI-PUBLIC UTILITIES, IF ANY, FOR MAINTENANCE THEREIN OF POLES, CONDUITS, SEWERS AND OTHER FACILITIES. AFFECTS SUBJECT PARCELS 1 AND 2. SHOWN ON SAID SURVEY.

4. SCHEDULE B ITEM 21 [L]: RIGHTS OF THE PUBLIC, THE STATE OF ILLINOIS IN AND TO THAT PART OF THE LAND IN QUESTION AS DEDICATED FOR ROAD PURPOSES BY AN INSTRUMENT DATED SEPTEMBER 21, 1921 AND RECORDED OCTOBER 5, 1921 AS DOCUMENT 205904. AFFECTS PARCEL 2. SHOWN ON SAID SURVEY.

UTILITY STATEMENT
THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES DECLARE THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

BASIS OF BEARINGS:
BEARINGS SHOWN HEREON BASED ON ILLINOIS STATE PLANE COORDINATES, ZONE EAST, N.A.D. 1983

811 Know what's below. Call before you dig. (OUTSIDE CHICAGO AREA) CALL 48 HOURS (2 WORKING DAYS) BEFORE YOU DIG 811 or 1-800-892-0123 JULIE

SURVEYORS NOTES:
1. ALL DIMENSIONS ARE GIVEN IN FEET AND DECIMAL THEREOF.
2. BEFORE STARTING ANY CONSTRUCTION OR PURCHASE OF PROPERTY, CONSULT ALL DEEDS OF RECORD AND ALL ORDINANCES AND REGULATIONS (BUILDING LINES, EASEMENTS, ETC.) AFFECTING THE PROPERTY AND ESTABLISH ALL PROPERTY LINES. CONSULT LOCAL ORDINANCES FOR RESTRICTIONS (BUILDING LINES, ZONING, ETC.).
3. PARCEL DIMENSIONS AND/OR BEARINGS WITHIN PARENTHESES ARE RECORD DIMENSIONS AND/OR BEARINGS IF DIFFERENT FROM MEASURED DIMENSIONS AND/OR BEARINGS.
4. PARCEL DIMENSIONS AND/OR BEARINGS WITHIN PARENTHESES ARE RECORD DIMENSIONS AND/OR BEARINGS IF DIFFERENT FROM MEASURED DIMENSIONS AND/OR BEARINGS.

REV	DESCRIPTION	BY	DATE

PROJECT NUMBER: 220115
DATE: 6/21/2022
SHEET: 1 OF 1
DRAWING NUMBER: ALTA

CLIENT:
ADVANTAGE CONSULTING ENGINEERS
80 MAIN STREET - SUITE 17, LEMONT, IL 60439
PHONE: T (847) 280-4758

REGIONAL LAND SERVICES
9512 FOWLER ROAD
ROCKTON, IL 61072
PHONE: (618) 559-2260

ALTA COMMITMENT FOR TITLE INSURANCE

Issued By:

CHICAGO TITLE INSURANCE COMPANY

Commitment Number:

CCHI2202757LD

NOTICE

IMPORTANT - READ CAREFULLY: THIS COMMITMENT IS AN OFFER TO ISSUE ONE OR MORE TITLE INSURANCE POLICIES. ALL CLAIMS OR REMEDIES SOUGHT AGAINST THE COMPANY INVOLVING THE CONTENT OF THIS COMMITMENT OR THE POLICY MUST BE BASED SOLELY IN CONTRACT.

THIS COMMITMENT IS NOT AN ABSTRACT OF TITLE, REPORT OF THE CONDITION OF TITLE, LEGAL OPINION, OPINION OF TITLE, OR OTHER REPRESENTATION OF THE STATUS OF TITLE. THE PROCEDURES USED BY THE COMPANY TO DETERMINE INSURABILITY OF THE TITLE, INCLUDING ANY SEARCH AND EXAMINATION, ARE PROPRIETARY TO THE COMPANY, WERE PERFORMED SOLELY FOR THE BENEFIT OF THE COMPANY, AND CREATE NO EXTRACONTRACTUAL LIABILITY TO ANY PERSON, INCLUDING A PROPOSED INSURED.

THE COMPANY'S OBLIGATION UNDER THIS COMMITMENT IS TO ISSUE A POLICY TO A PROPOSED INSURED IDENTIFIED IN SCHEDULE A IN ACCORDANCE WITH THE TERMS AND PROVISIONS OF THIS COMMITMENT. THE COMPANY HAS NO LIABILITY OR OBLIGATION INVOLVING THE CONTENT OF THIS COMMITMENT TO ANY OTHER PERSON.

COMMITMENT TO ISSUE POLICY

Subject to the Notice; Schedule B, Part I-Requirements; Schedule B, Part II-Exceptions; and the Commitment Conditions, Chicago Title Insurance Company, a Florida corporation (the "Company"), commits to issue the Policy according to the terms and provisions of this Commitment. This Commitment is effective as of the Commitment Date shown in Schedule A for each Policy described in Schedule A, only when the Company has entered in Schedule A both the specified dollar amount as the Proposed Policy Amount and the name of the Proposed Insured.

If all of the Schedule B, Part I-Requirements have not been met within one hundred eighty (180) days after the Commitment Date, this Commitment terminates and the Company's liability and obligation end.

Chicago Title Insurance Company

By:

Michael J. Nolan, President

Countersigned By:

Michael J. Nolan
Authorized Officer or Agent

Attest:

Marjorie Nemzura, Secretary

This page is only a part of a 2016 ALTA® Commitment for Title Insurance issued by Chicago Title Insurance Company. This Commitment is not valid without the Notice; the Commitment to Issue Policy; the Commitment Conditions; Schedule A; Schedule B, Part I-Requirements; Schedule B, Part II-Exceptions; and a counter-signature by the Company or its issuing agent that may be in electronic form.

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Transaction Identification Data for reference only:

ORIGINATING OFFICE:	FOR SETTLEMENT INQUIRIES, CONTACT:
Chicago Title Insurance Company 10 South LaSalle Street, Suite 3100 Chicago, IL 60603 Main Phone: (312)223-4627 Email: chicagocommercial@ctt.com	Chicago Title and Trust Company 10 South LaSalle Street, Suite 3100 Chicago, IL 60603 Main Phone: (312)223-4627 Main Fax: (312)223-3018

Order Number: CCHI2202757LD
Property Ref.: 670 S. Old Rand Road, Lake Zurich, IL 60047

SCHEDULE A

1. Commitment Date: April 20, 2022
2. Policy to be issued:

   (a) ALTA Owner's Policy 2006
   Proposed Insured: Osk Capital Partners, LLC
   Proposed Policy Amount: $2,950,000.00

3. The estate or interest in the Land described or referred to in this Commitment is:

   Fee Simple

4. The Title is, at the Commitment Date, vested in:

   Henry C. Joern and Rita Joern

5. The Land is described as follows:

   SEE EXHIBIT "A" ATTACHED HERETO AND MADE A PART HEREOF

END OF SCHEDULE A

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EXHIBIT "A"

Legal Description

PARCEL 1:

THAT PART OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 20, TOWNSHIP 43 NORTH, RANGE 10, EAST OF THE THIRD PRINCIPAL MERIDIAN, DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHEAST CORNER OF SAID NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 20; THENCE SOUTH ALONG THE EAST LINE THEREOF 461.9 FEET; THENCE SOUTH 75 DEGREES 30 MINUTES WEST 347.9 FEET TO THE EASTERLY LINE OF PREMISES CONVEYED TO WAUKEGAN, ROCKFORD AND ELGIN TRACTION COMPANY BY DEED RECORDED OCTOBER 22, 1910, AS DOCUMENT 131910, IN BOOK 182 OF DEEDS, PAGE 4; THENCE NORTHWESTERLY ALONG THE EASTERLY LINE OF SAID PREMISES CONVEYED BY SAID DEED RECORDED AS DOCUMENT 131910, 695.5 FEET TO THE NORTH LINE OF SAID NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 20; THENCE EAST ALONG SAID NORTH LINE 760 FEET TO THE PLACE OF BEGINNING, IN LAKE COUNTY, ILLINOIS

PARCEL 2:

THAT PART OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 20, TOWNSHIP 43 NORTH, RANGE 10, EAST OF THE THIRD PRINCIPAL MERIDIAN, FALLING WITHIN A STRIP OF LAND 133 FEET WIDE LYING EASTERLY AND NORTHERLY OF THE CENTER LINE OF LAKE ZURICH-PALATINE ROAD (NOW KNOWN AS RAND ROAD); SAID PREMISES BEING THE SAME AS CONVEYED BY JOHN ROBERTSON AND JULIA ROBERTSON, HIS WIFE, TO WAUKEGAN, ROCKFORD AND ELGIN TRACTION COMPANY BY DEED DATED OCTOBER 20, 1910 AND RECORDED OCTOBER 22, 1910, AS DOCUMENT 131910 IN BOOK 182 OF DEEDS, PAGE 4, AND SHOWN ON PLAT ATTACHED TO SAID DEED,

(EXCEPT THAT PART OF THE NORTHEAST QUARTER, SOUTHEAST QUARTER, OF SECTION 20, TOWNSHIP 43 NORTH, RANGE 10, EAST OF THE THIRD PRINCIPAL MERIDIAN, DESCRIBED AS BEGINNING AT THE NORTHEAST CORNER OF SAID NORTHEAST QUARTER, SOUTHEAST QUARTER, SECTION 20, THENCE SOUTH ALONG THE EAST LINE THEREOF 461.9 FEET; THENCE SOUTH 75 DEGREES 30 MINUTES WEST 347.9 FEET TO THE EASTERLY RIGHT OF WAY LINE OF FORMER PALATINE, LAKE ZURICH AND WAUCONDA RAILROAD AND THE NORTHERNMOST CORNER AND POINT OF BEGINNING OF THIS DESCRIPTION; THENCE SOUTH 52 DEGREES 27 MINUTES WEST, 133 FEET TO CENTER OF RAND ROAD; THENCE SOUTH 37 DEGREES 33 MINUTES EAST, ALONG CENTER OF RAND ROAD 528 .7 FEET; THENCE NORTH 52 DEGREES 27 MINUTES EAST, 133 FEET TO EASTERLY RIGHT OF WAY LINE OF SAID FORMER PALATINE, LAKE ZURICH AND WAUCONDA RAILROAD; THENCE NORTH 37 DEGREES 33 MINUTES WEST, ALONG SAID RIGHT OF WAY LINE 528.7 FEET TO THE PLACE OF BEGINNING), IN LAKE COUNTY, ILLINOIS.

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SCHEDULE B, PART I
REQUIREMENTS

All of the following Requirements must be met:

1. The Proposed Insured must notify the Company in writing of the name of any party not referred to in this Commitment who will obtain an interest in the Land or who will make a loan on the Land. The Company may then make additional Requirements or Exceptions.

2. Pay the agreed amount for the estate or interest to be insured.

3. Pay the premiums, fees, and charges for the Policy to the Company.

4. Documents satisfactory to the Company that convey the Title or create the Mortgage to be insured, or both, must be properly authorized, executed, delivered, and recorded in the Public Records.

5. Notice: Please be aware that due to the conflict between federal and state laws concerning the cultivation, distribution, manufacture or sale of marijuana, the Company is not able to close or insure any transaction involving Land that is associated with these activities.

6. Be advised that the "good funds" of the title insurance act (215 ILCS 155/26) became effective 1-1-2010. This act places limitations upon the settlement agent's ability to accept certain types of deposits into escrow. Please contact your local Chicago Title office regarding the application of this new law to your transaction.

7. Effective June 1, 2009, pursuant to Public Act 95-988, satisfactory evidence of identification must be presented for the notarization of any and all documents notarized by an Illinois notary public. Satisfactory identification documents are documents that are valid at the time of the notarial act; are issued by a state or federal government agency; bear the photographic image of the individual's face; and bear the individual's signature.

8. **The Proposed Policy Amount(s) must be increased to the full value of the estate or interest being insured, and any additional premium must be paid at that time. An Owner's Policy should reflect the purchase price or full value of the Land. A Loan Policy should reflect the loan amount or value of the property as collateral. Proposed Policy Amount(s) will be revised and premiums charged consistent therewith when the final amounts are approved.**

END OF SCHEDULE B, PART I

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SCHEDULE B, PART II
EXCEPTIONS

THIS COMMITMENT DOES NOT REPUBLISH ANY COVENANT, CONDITION, RESTRICTION, OR LIMITATION CONTAINED IN ANY DOCUMENT REFERRED TO IN THIS COMMITMENT TO THE EXTENT THAT THE SPECIFIC COVENANT, CONDITION, RESTRICTION, OR LIMITATION VIOLATES STATE OR FEDERAL LAW BASED ON RACE, COLOR, RELIGION, SEX, SEXUAL ORIENTATION, GENDER IDENTITY, HANDICAP, FAMILIAL STATUS, OR NATIONAL ORIGIN.

The Policy will not insure against loss or damage resulting from the terms and provisions of any lease or easement identified in Schedule A, and will include the following Exceptions unless cleared to the satisfaction of the Company:

General Exceptions

1. **Rights or claims of parties in possession not shown by Public Records.**

2. **Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the title that would be disclosed by an accurate and complete land survey of the Land.**

3. **Easements, or claims of easements, not shown by the Public Records.**

4. **Any lien, or right to a lien, for services, labor or material heretofore or hereafter furnished, imposed by law and not shown by the Public Records.**

5. **Taxes or special assessments which are not shown as existing liens by the Public Records.**

6. **We should be furnished a properly executed ALTA statement and, unless the land insured is a condominium unit, a survey if available. Matters disclosed by the above documentation will be shown specifically**

7. Any defect, lien, encumbrance, adverse claim, or other matter that appears for the first time in the Public Records or is created, attaches, or is disclosed between the Commitment Date and the date on which all of the Schedule B, Part I—Requirements are met.

E 8. Taxes for the year 2021 and 2022.

Taxes for the year 2021 and 2022 are not yet due or payable.

Taxes for the year 2020, amounting to $2,835.36 are marked paid of record.
Permanent Index Number: 14-20-400-002.
(Affects part of the Land)

Taxes for the year 2020, amounting to $11,303.46 are marked paid of record.
Permanent Index Number: 14-20-400-003.
(Affects part of the Land)

M 9. The following described portion of the Land apparently is not assessed for general real estate taxes for the

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SCHEDULE B, PART II
EXCEPTIONS
(continued)

year(s) 2020 and prior. This commitment/policy is subject to said taxes.

That part of Parcel 1 falling under S. Bueshing Road.
The West 33 feet of Parcel 2 falling under Rand Road.

G 10. Please be advised that our search did not disclose any open mortgages of record. If you should have knowledge of any outstanding obligation, please contact the Title Department immediately for further review prior to closing.

B 11. Existing unrecorded leases and all rights thereunder of the lessees and of any person or party claiming by, through or under the lessees.

A 12. The Company should be furnished a statement that there is no property manager employed to manage the Land, or, in the alternative, a final lien waiver from any such property manager.

F 13. Due to office closures in place or that might occur, we should be provided with our standard form of indemnity (GAP Indemnity) for defects, liens, encumbrances, adverse claims or other matters, if any, created, first appearing in the Public Records or attaching subsequent to the Commitment Date but prior to the date of recording of the instruments under which the Proposed Insured acquires the estate or interest or mortgage covered by this commitment. Note: Due to office closures related to covid-19 we may be temporarily unable to record documents in the normal course of business.

H 14. If applicable, the spouse or civil union partner of the party in title should join in the conveyance or mortgage for the purpose of releasing homestead.

D 15. The Company will require the following documents for review prior to the issuance of any title insurance predicated upon a conveyance or encumbrance from the entity named below.

Limited Liability Company: Osk Capital Partners, LLC

a. A copy of its operating agreement, if any, and any and all amendments, supplements and/or modifications thereto, certified by the appropriate manager or member.

b. If a domestic Limited Liability Company, a copy of its Articles of Organization and all amendment thereto with the appropriate filing stamps.

c. If the Limited Liability Company is member-managed a full and complete current list of members certified by the appropriate manager or member.

d. A current dated certificate of good standing from the proper governmental authority of the state in which the entity was created

e. If less than all members, or managers, as appropriate, will be executing the closing documents, furnish evidence of the authority of those signing.

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SCHEDULE B, PART II
EXCEPTIONS
(continued)

The Company reserves the right to add additional items or make further requirements after review of the requested documentation.

C 16. The legal description provided in Schedule A is for convenience only. An ALTA survey that more particularly describes the property in question should be provided and this commitment is subject to further exceptions, if any, as may be deemed necessary.

P 17. Due to the COVID-19 pandemic, some or all of the recorded document necessary for our review were not available from the Lake County Recorder's office. As such, the title finding is for convenience only. Please consult with your local underwriter to discuss.

I 18. Rights of the public, the State of Illinois, the municipality and the adjoining owners in and to that part of the Land, if any, taken or used for road purposes.

J 19. Rights of Way for drainage tiles, ditches, feeders, laterals and underground pipes, if any.

K 20. Rights of the public and quasi-public utilities, if any, for maintenance therein of poles, conduits, sewers and other facilities.

L 21. Rights of the public, the State of Illinois in and to that part of the Land in question as dedicated for road purposes by an instrument dated September 21, 1921 and recorded October 5, 1921 as Document 205904.

(Affects Parcel 2)

N 22. Note for information (Endorsement Requests):

All endorsement requests should be made prior to closing to allow ample time for the company to examine required Documentation.

Note: before any endorsements can be approved, we should be informed as to the land use and as to what type of structure is on the land.

(This note will be waived for the policy,)

O 23. Informational Note:

To schedule any closings in the Chicago Commercial Center, please call (312)223-2707.

END OF SCHEDULE B, PART II

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COMMITMENT CONDITIONS

1. DEFINITIONS

(a) "Knowledge" or "Known": Actual or imputed knowledge, but not constructive notice imparted by the Public Records.

(b) "Land": The land described in Schedule A and affixed improvements that by law constitute real property. The term "Land" does not include any property beyond the lines of the area described in Schedule A, nor any right, title, interest, estate, or easement in abutting streets, roads, avenues, alleys, lanes, ways, or waterways, but this does not modify or limit the extent that a right of access to and from the Land is to be insured by the Policy.

(c) "Mortgage": A mortgage, deed of trust, or other security instrument, including one evidenced by electronic means authorized by law.

(d) "Policy": Each contract of title insurance, in a form adopted by the American Land Title Association, issued or to be issued by the Company pursuant to this Commitment.

(e) "Proposed Insured": Each person identified in Schedule A as the Proposed Insured of each Policy to be issued pursuant to this Commitment.

(f) "Proposed Policy Amount": Each dollar amount specified in Schedule A as the Proposed Policy Amount of each Policy to be issued pursuant to this Commitment.

(g) "Public Records": Records established under state statutes at the Commitment Date for the purpose of imparting constructive notice of matters relating to real property to purchasers for value and without Knowledge.

(h) "Title": The estate or interest described in Schedule A.

2. If all of the Schedule B, Part I-Requirements have not been met within the time period specified in the Commitment to Issue Policy, this Commitment terminates and the Company's liability and obligation end.

3. The Company's liability and obligation is limited by and this Commitment is not valid without:

(a) the Notice;

(b) the Commitment to Issue Policy;

(c) the Commitment Conditions;

(d) Schedule A;

(e) Schedule B, Part I-Requirements;

(f) Schedule B, Part II-Exceptions; and

(g) a counter-signature by the Company or its issuing agent that may be in electronic form.

4. COMPANY'S RIGHT TO AMEND

The Company may amend this Commitment at any time. If the Company amends this Commitment to add a defect, lien, encumbrance, adverse claim, or other matter recorded in the Public Records prior to the Commitment Date, any liability of the Company is limited by Commitment Condition 5. The Company shall not be liable for any other amendment to this Commitment.

5. LIMITATIONS OF LIABILITY

(a) The Company's liability under Commitment Condition 4 is limited to the Proposed Insured's actual expense incurred in the interval between the Company's delivery to the Proposed Insured of the Commitment and the delivery of the amended Commitment, resulting from the Proposed Insured's good faith reliance to:

(i) comply with the Schedule B, Part I-Requirements;

(ii) eliminate, with the Company's written consent, any Schedule B, Part II-Exceptions; or

(iii) acquire the Title or create the Mortgage covered by this Commitment.

(b) The Company shall not be liable under Commitment Condition 5(a) if the Proposed Insured requested the amendment or had Knowledge of the matter and did not notify the Company about it in writing.

(c) The Company will only have liability under Commitment Condition 4 if the Proposed Insured would not have incurred the expense had the Commitment included the added matter when the Commitment was first delivered to the Proposed Insured.

(d) The Company's liability shall not exceed the lesser of the Proposed Insured's actual expense incurred in good faith and described in Commitment Conditions 5(a)(i) through 5(a)(iii) or the Proposed Policy Amount.

(e) The Company shall not be liable for the content of the Transaction Identification Data, if any.

(f) In no event shall the Company be obligated to issue the Policy referred to in this Commitment unless all of the Schedule B, Part I-Requirements have been met to the satisfaction of the Company.

(g) In any event, the Company's liability is limited by the terms and provisions of the Policy.

6. LIABILITY OF THE COMPANY MUST BE BASED ON THIS COMMITMENT

(a) Only a Proposed Insured identified in Schedule A, and no other person, may make a claim under this Commitment.

(b) Any claim must be based in contract and must be restricted solely to the terms and provisions of this Commitment.

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AMERICAN LAND TITLE ASSOCIATION

(continued)

(c) Until the Policy is issued, this Commitment, as last revised, is the exclusive and entire agreement between the parties with respect to the subject matter of this Commitment and supersedes all prior commitment negotiations, representations, and proposals of any kind, whether written or oral, express or implied, relating to the subject matter of this Commitment.

(d) The deletion or modification of any Schedule B, Part II-Exception does not constitute an agreement or obligation to provide coverage beyond the terms and provisions of this Commitment or the Policy.

(e) Any amendment or endorsement to this Commitment must be in writing and authenticated by a person authorized by the Company.

(f) When the Policy is issued, all liability and obligation under this Commitment will end and the Company's only liability will be under the Policy.

7. IF THIS COMMITMENT HAS BEEN ISSUED BY AN ISSUING AGENT

The issuing agent is the Company's agent only for the limited purpose of issuing title insurance commitments and policies. The issuing agent is not the Company's agent for the purpose of providing closing or settlement services.

8. PRO-FORMA POLICY

The Company may provide, at the request of a Proposed Insured, a pro-forma policy illustrating the coverage that the Company may provide. A pro-forma policy neither reflects the status of Title at the time that the pro-forma policy is delivered to a Proposed Insured, nor is it a commitment to insure.

9. ARBITRATION

The Policy contains an arbitration clause. All arbitrable matters when the Proposed Policy Amount is Two Million And No/100 Dollars ($2,000,000.00) or less shall be arbitrated at the option of either the Company or the Proposed Insured as the exclusive remedy of the parties. A Proposed Insured may review a copy of the arbitration rules at http://www.alta.org/arbitration.

END OF CONDITIONS

1031 EXCHANGE SERVICES

If your transaction involves a tax deferred exchange, we offer this service through our 1031 division, IPX1031. As the nation's largest 1031 company, IPX1031 offers guidance and expertise. Security for Exchange funds includes segregated bank accounts and a 100 million dollar Fidelity Bond. Fidelity National Title Group also provides a 50 million dollar Performance Guaranty for each Exchange. For additional information, or to set-up an Exchange, please call Scott Nathanson at (312)223-2178 or Anna Barsky at (312)223-2169.

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670 South Old Rand Road

Lake Zurich

Planning and Zoning Commission Submittal

May 17, 2024

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Suite 400
Chicago Illinois 60654

312 337 3344

Architecture
Urban Planning

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670 Old Rand Rd LLC
670 South Old Rand Road
Lake Zurich,IL 60047
OSK Capital Partners
owner

	date	description
	05.17.2024	Issue for PZC

orientation

project number 232885

scale As Noted

date 5/15/24

sheet title Cover and Index

sheet number

A00



1 Aerial Rendering
SCALE: 1:2.35

640 N Lasalle
Suite 400
Chicago Illinois 60654

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670 South Old Rand Road
Lake Zurich,IL 60047
OSK Capital Partners
owner

	date	description
	05.17.2024	Issue for PZC

orientation

project number 232885

scale As Noted

date 5/15/24

sheet title Aerial Rendering

sheet number

A01

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1 Rendering from Old Rand Rd Entry
SCALE: 1:2.35

670 Old Rand Rd LLC
670 South Old Rand Road
Lake Zurich,IL 60047
OSK Capital Partners
owner

	date	description
	05.17.2024	Issue for PZC

orientation

project number 232885

scale As Noted

date 5/15/24

sheet title Rendering from Old Rand Rd Entry

sheet number

A02

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1 **Rendering at Central Green Space**
SCALE: 1:2.35

670 Old Rand Rd LLC
670 South Old Rand Road
Lake Zurich,IL 60047
OSK Capital Partners
owner

	date	description
	05.17.2024	Issue for PZC

orientation

project number 232885

scale As Noted

date 5/15/24

sheet title Rendering at Central Green Space

sheet number

A03

640 N Lasalle
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1 Rendering from Buesching Rd Entry
SCALE: 1:2.35

670 Old Rand Rd LLC
670 South Old Rand Road
Lake Zurich,IL 60047
OSK Capital Partners
owner

	date	description
	05.17.2024	Issue for PZC

orientation

project number 232885

scale As Noted

date 5/15/24

sheet title Rendering from Buesching Rd Entry

sheet number
A04



1 Current Site Plan
SCALE: 1" = 30'

640 N Lasalle
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Chicago Illinois 60654

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Architecture
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670 Old Rand Rd LLC
670 South Old Rand Road
Lake Zurich,IL 60047
OSK Capital Partners
owner

	date	description
	05.17.2024	Issue for PZC

orientation

project number 232885

scale As Noted

date 5/15/24

sheet title Current Site Pln

sheet number A05



1 Preliminary Plat of Subdivision
SCALE: 1" = 30'

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670 Old Rand Rd LLC
670 South Old Rand Road
Lake Zurich,IL 60047
OSK Capital Partners
owner

	date	description
	05.17.2024	Issue for PZC

orientation

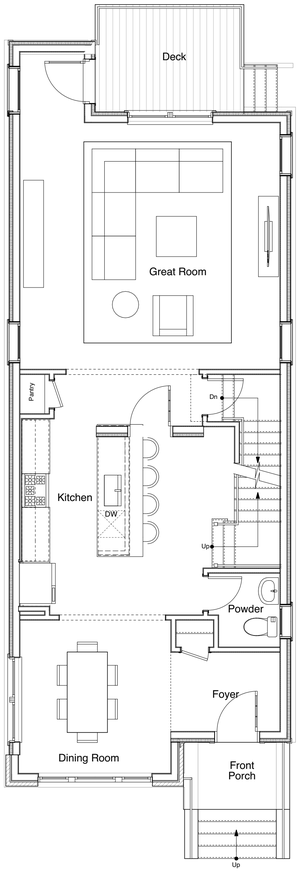
project number 232885

scale As Noted

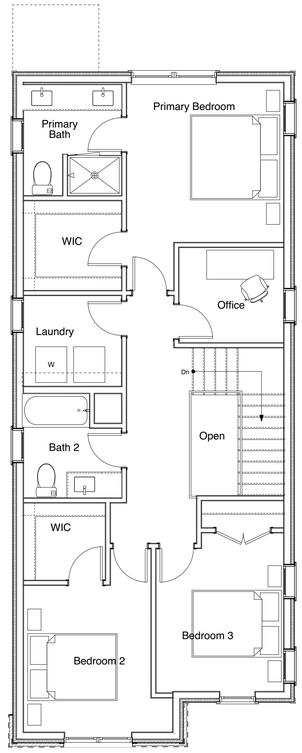
date 5/15/24

sheet title Plat of Subdivision

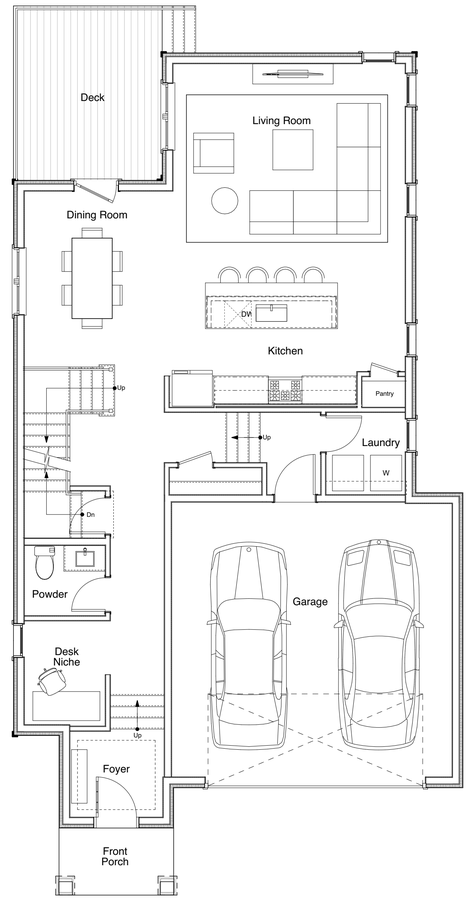
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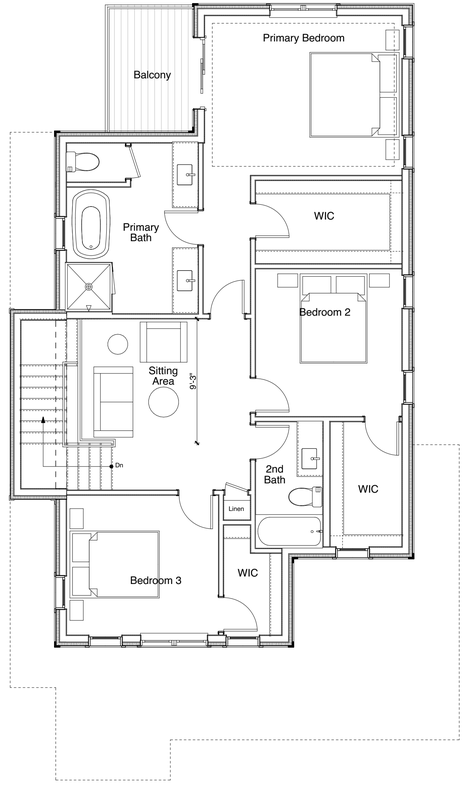
1 1st Floor Plan
SCALE: 3/16" = 1'-0"



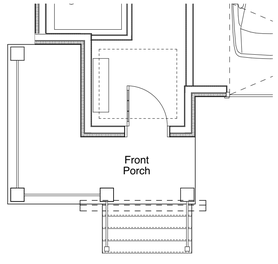
2 2nd Floor Plan
SCALE: 3/16" = 1'-0"



3 1st Floor Plan
SCALE: 3/16" = 1'-0"



4 2nd Floor Plan
SCALE: 3/16" = 1'-0"



5 Alt Entry
SCALE: 3/16" = 1'-0"

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Chicago Illinois 60654

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670 South Old Rand Road
Lake Zurich,IL 60047
OSK Capital Partners
owner

	date	description
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orientation

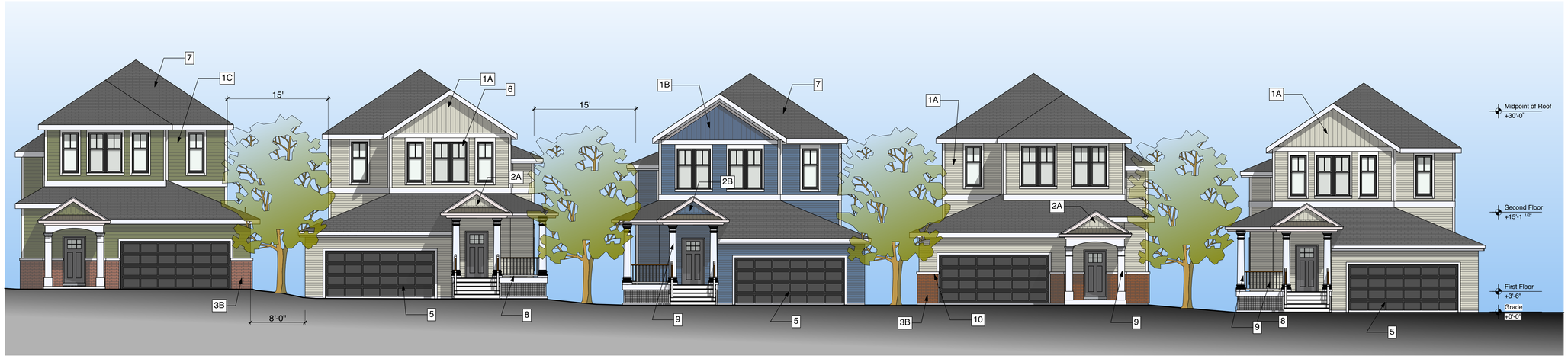
project number 232885

scale As Noted

date 5/15/24

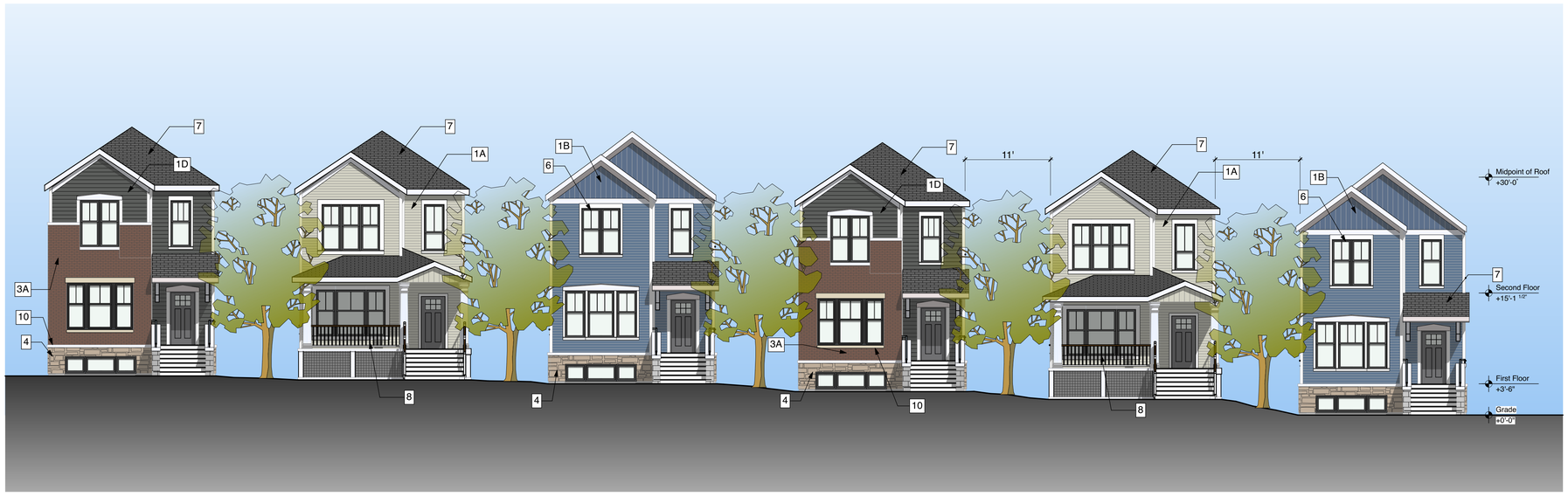
sheet title Single Family Home Plans

sheet number
A07



1 Single Family Home Elevations along Interior Road

SCALE: 1/8" = 1'-0"



2 Single Family Home Elevations along Buesching Road

SCALE: 1/8" = 1'-0"

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OSK Capital Partners
owner

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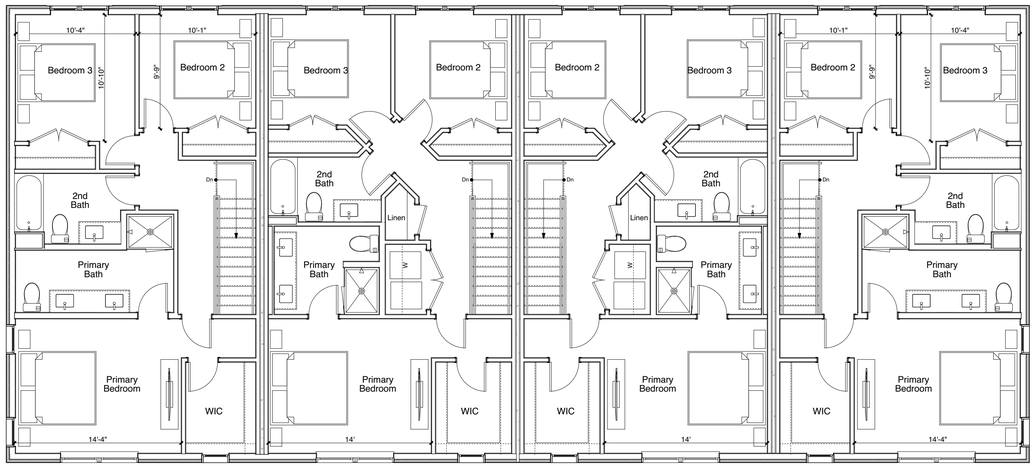
project number 232885

scale As Noted

date 5/15/24

sheet title Single Family Home Elevations

sheet number A08



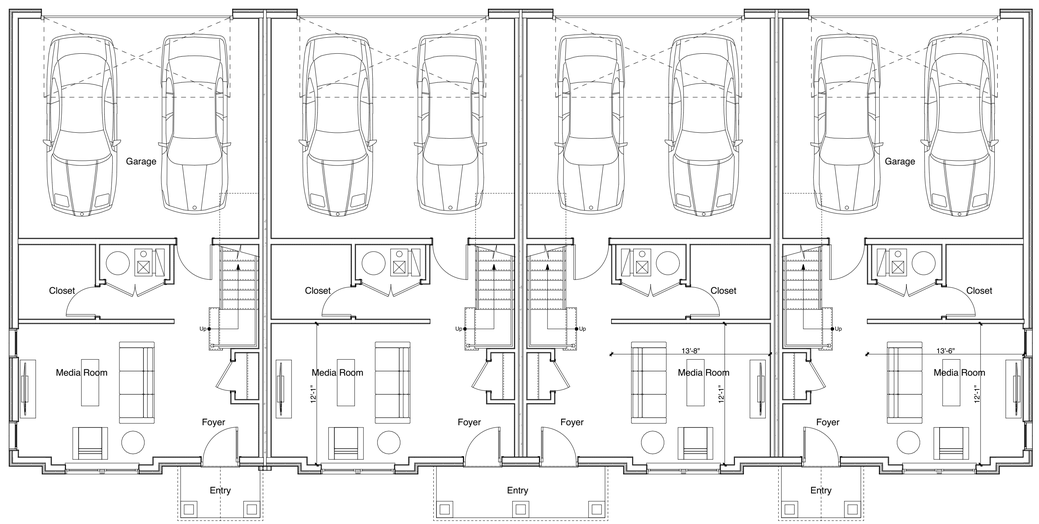
3 3rd Floor Plan

NOT TO SCALE



2 2nd Floor Plan

NOT TO SCALE



1 1st Floor Plan

NOT TO SCALE

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OSK Capital Partners
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orientation

project number 232885

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date 5/15/24

sheet title Row Home Plans

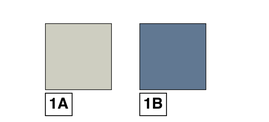
sheet number A09



1 Row Home Building - Front Elevation

SCALE: 1/4" = 1'-0"

Material Legend	
1	Prefinished Fiber Cement Siding
1A	Color A
1B	Color B
1C	Color C
2	Prefinished Fiber Cement Shakes
2A	Color A
2B	Color B
3	Modular Masonry Brick
3A	Color A
3B	Color B
3C	Color C
4	Cast Stone Base
5	Overhead Hollow Metal Door
6	Premium Vinyl Windows
7	Asphalt Shingles
8	Painted Wood Railing
9	Painted PVC Manufactured Column
10	Cast Stone Sill







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owner

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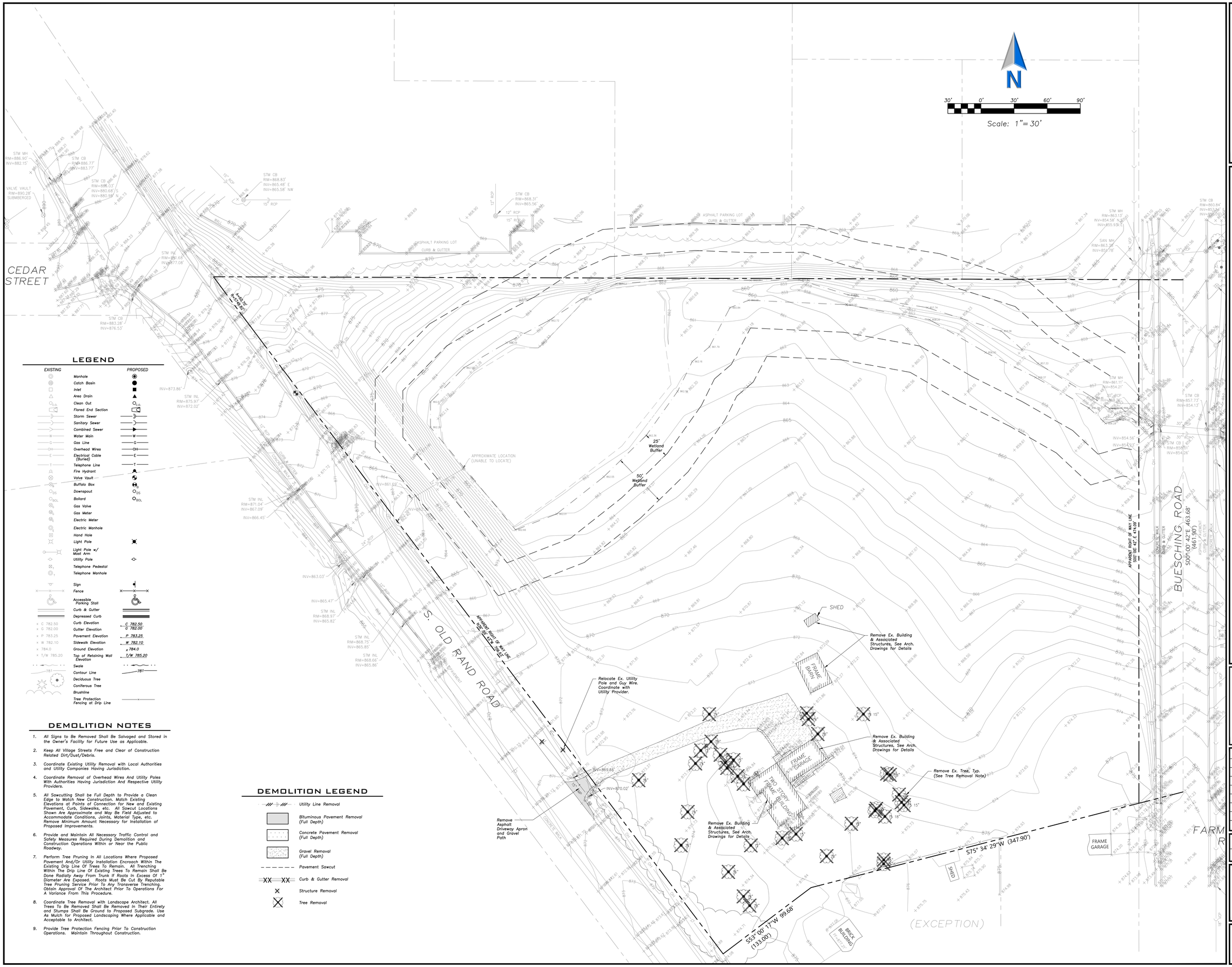
project number 232885

scale As Noted

date 5/15/24

sheet title Row Home Plans and Elevations

sheet number A10



LEGEND

EXISTING		PROPOSED
	Manhole	
	Catch Basin	
	Inlet	
	Area Drain	
O_{CO}	Clean Out	O_{CO}
	Flared End Section	
	Storm Sewer	
	Sanitary Sewer	
	Combined Sewer	
W	Water Main	W
G	Gas Line	G
OH	Overhead Wires	OH
E	Electrical Cable (Buried)	E
T	Telephone Line	T
	Fire Hydrant	
	Valve Vault	
	Buffalo Box	
O_{DS}	Downspout	O_{DS}
O_{BOL}	Bollard	O_{BOL}
	Gas Valve	
	Gas Meter	
	Electric Meter	
	Electric Manhole	
	Hand Hole	
	Light Pole	
	Light Pole w/ Mast Arm	
	Utility Pole	
	Telephone Pedestal	
	Telephone Manhole	
	Sign	
	Fence	
	Accessible Parking Stall	
	Curb & Gutter	
	Depressed Curb	
× C 782.50	Curb Elevation	C 782.50
× G 782.00	Gutter Elevation	G 782.00
× P 783.25	Pavement Elevation	P 783.25
× W 782.10	Sidewalk Elevation	W 782.10
× 784.0	Ground Elevation	x 784.0
× T/W 785.20	Top of Retaining Wall Elevation	T/W 785.20
	Swale	
781	Contour Line	781
	Deciduous Tree	
	Coniferous Tree	
	Brushline	
	Tree Protection Fencing at Drip Line	

DEMOLITION NOTES

1. *All Signs to Be Removed Shall Be Salvaged and Stored in the Owner's Facility for Future Use as Applicable.*
2. *Keep All Village Streets Free and Clear of Construction Related Dirt/Dust/Debris.*
3. *Coordinate Existing Utility Removal with Local Authorities and Utility Companies Having Jurisdiction.*
4. *Coordinate Removal of Overhead Wires And Utility Poles With Authorities Having Jurisdiction And Respective Utility Providers.*
5. *All Sawcutting Shall be Full Depth to Provide a Clean Edge to Match New Construction. Match Existing Elevations at Points of Connection for New and Existing Pavement, Curb, Sidewalks, etc. All Sawcut Locations Shown Are Approximate and May Be Field Adjusted to Accommodate Conditions, Joints, Material Type, etc. Remove Minimum Amount Necessary for Installation of Proposed Improvements.*
6. *Provide and Maintain All Necessary Traffic Control and Safety Measures Required During Demolition and Construction Operations Within or Near the Public Roadway.*
7. *Perform Tree Pruning In All Locations Where Proposed Pavement And/Or Utility Installation Encroach Within The Existing Drip Line Of Trees To Remain. All Trenching Within The Drip Line Of Existing Trees To Remain Shall Be Done Radially Away From Trunk If Roots In Excess Of 1" Diameter Are Exposed. Roots Must Be Cut By Reputable Tree Pruning Service Prior To Any Transverse Trenching. Obtain Approval Of The Architect Prior To Operations For A Variance From This Procedure.*
8. *Coordinate Tree Removal with Landscape Architect. All Trees To Be Removed Shall Be Removed In Their Entirety and Stumps Shall Be Ground to Proposed Subgrade. Use As Mulch for Proposed Landscaping Where Applicable and Acceptable to Architect.*
9. *Provide Tree Protection Fencing Prior To Construction Operations. Maintain Throughout Construction.*

DEMOLITION LEGEND

- *Utility Line Removal*
- *Bituminous Pavement Removal (Full Depth)*
- *Concrete Pavement Removal (Full Depth)*
- *Gravel Removal (Full Depth)*
- *Pavement Sawcut*
- XX XX *Curb & Gutter Removal*
- *Structure Removal*
- *Tree Removal*

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RESIDENTIAL DEVELOPMENT
670 S. OLD RAND ROAD
LAKE ZURICH, ILLINOIS

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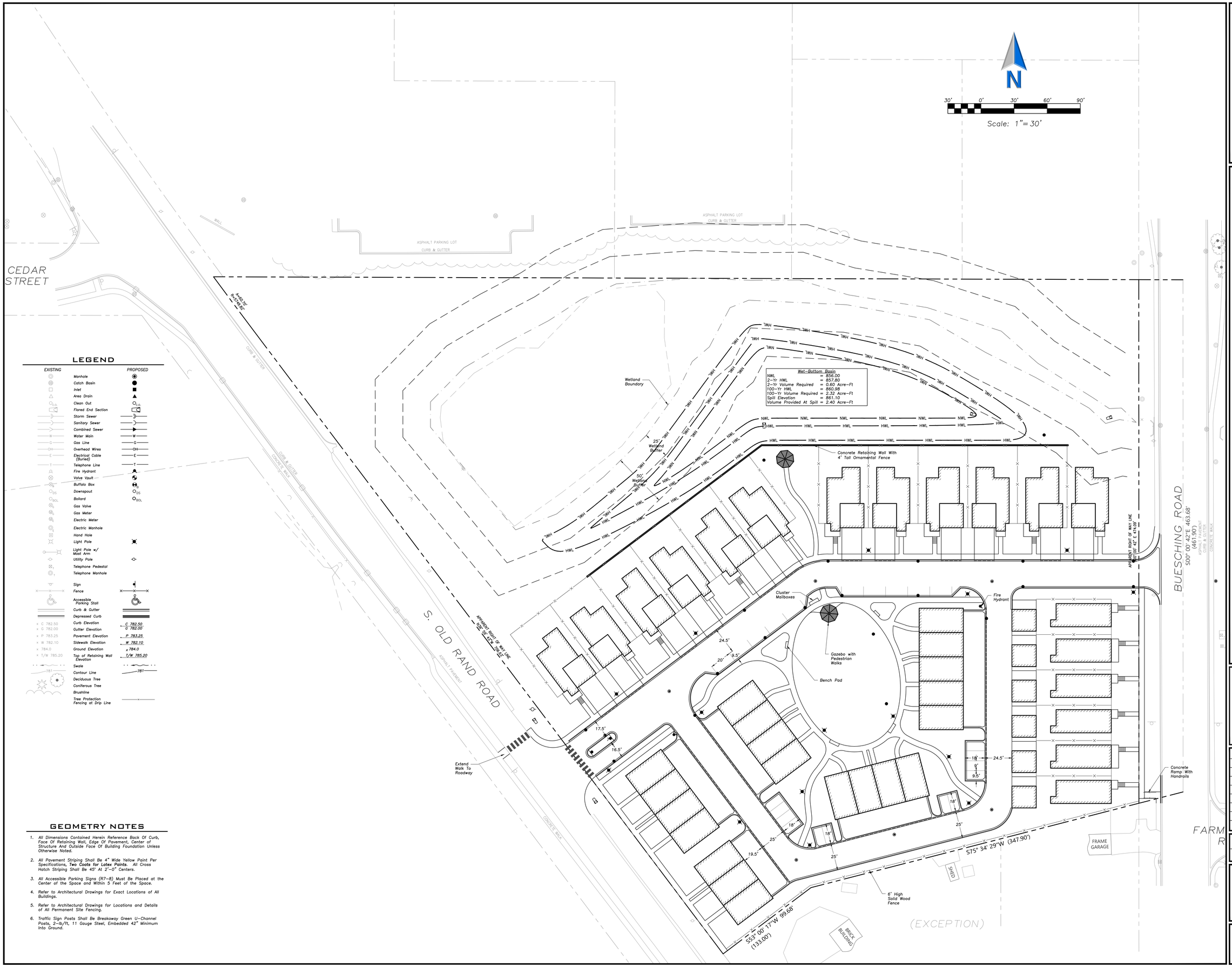
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SITE DEMOLITION PLAN

Sheet No:

C100

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Plotted: 5/13/24 @ 3:30pm By: mcarollo



LEGEND

EXISTING		PROPOSED
	Manhole	
	Catch Basin	
	Inlet	
	Area Drain	
O_{CO}	Clean Out	O_{CO}
	Flared End Section	
ST	Storm Sewer	ST
S	Sanitary Sewer	S
	Combined Sewer	
W	Water Main	W
G	Gas Line	G
OH	Overhead Wires	OH
E	Electrical Cable (Buried)	E
T	Telephone Line	T
	Fire Hydrant	
	Valve Vault	
	Buffalo Box	
O_{DS}	Downspout	O_{DS}
O_{BOL}	Bollard	O_{BOL}
	Gas Valve	
	Gas Meter	
	Electric Meter	
	Electric Manhole	
	Hand Hole	
	Light Pole	
	Light Pole w/ Mast Arm	
	Utility Pole	
	Telephone Pedestal	
	Telephone Manhole	
	Sign	
	Fence	
	Accessible Parking Stall	
	Curb & Gutter	
	Depressed Curb	
x C 782.50	Curb Elevation	C 782.50 G 782.00
x G 782.00	Gutter Elevation	
x P 783.25	Pavement Elevation	P 783.25
x W 782.10	Sidewalk Elevation	W 782.10
x 784.0	Ground Elevation	x 784.0
x T/W 785.20	Top of Retaining Wall Elevation	T/W 785.20
	Swale	
781	Contour Line	781
	Deciduous Tree	
	Coniferous Tree	
	Brushline	
	Tree Protection Fencing at Drip Line	

GEOMETRY NOTES

1. *All Dimensions Contained Herein Reference Back Of Curb, Face Of Retaining Wall, Edge Of Pavement, Center of Structure And Outside Face Of Building Foundation Unless Otherwise Noted.*
2. *All Pavement Striping Shall Be 4" Wide Yellow Paint Per Specifications, **Two Coats for Latex Paints**. All Cross Hatch Striping Shall Be 45° At 2'-0" Centers.*
3. *All Accessible Parking Signs (R7-8) Must Be Placed at the Center of the Space and Within 5 Feet of the Space.*
4. *Refer to Architectural Drawings for Exact Locations of All Buildings.*
5. *Refer to Architectural Drawings for Locations and Details of All Permanent Site Fencing.*
6. *Traffic Sign Posts Shall Be Breakaway Green U-Channel Posts, 2-lb/ft, 11 Gauge Steel, Embedded 42" Minimum Into Ground.*

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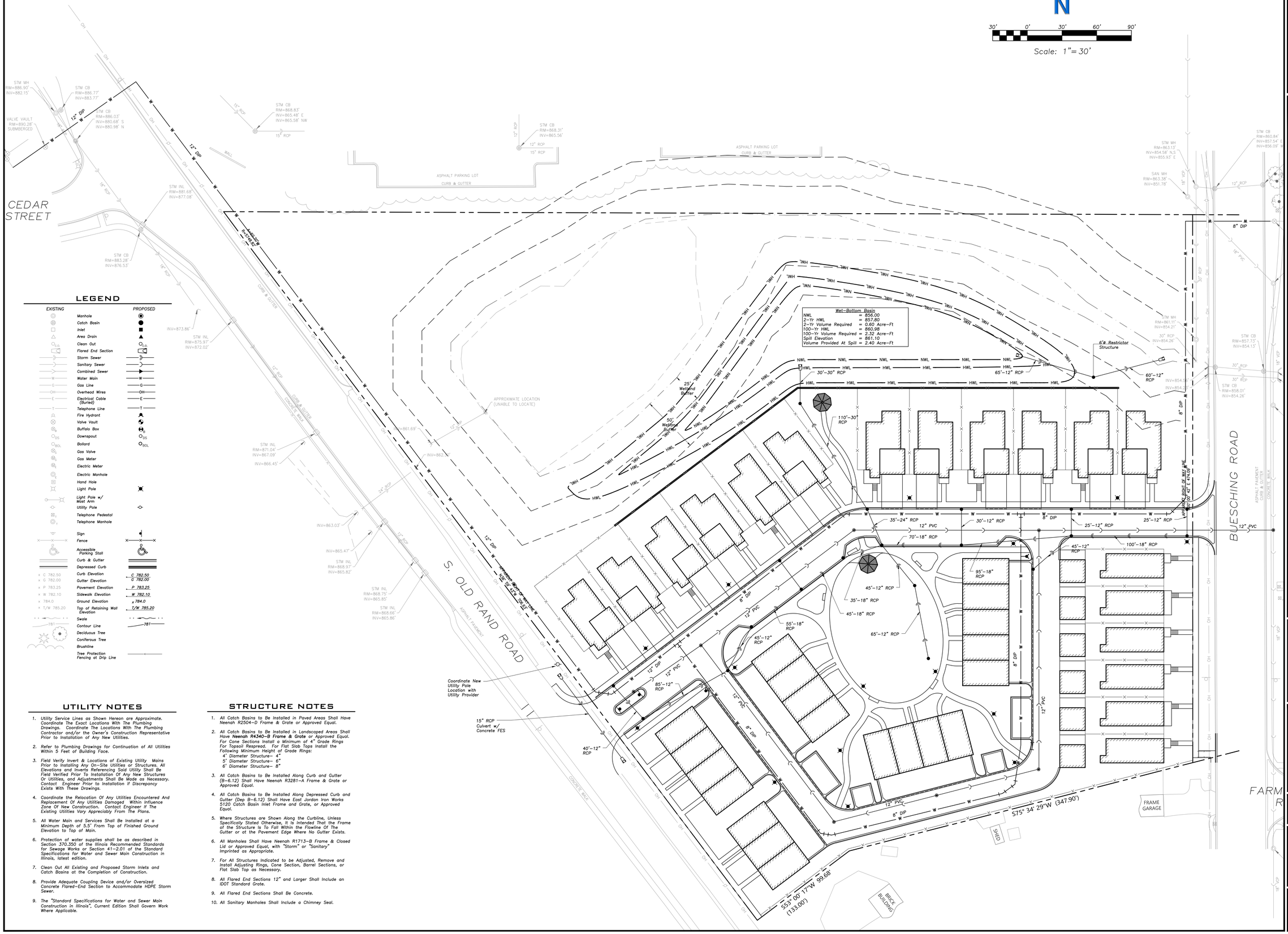
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Sheet Title:
SITE GEOMETRY PLAN

Sheet No:
C200

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LEGEND

EXISTING		PROPOSED
	Manhole	
	Catch Basin	
	Inlet	
	Area Drain	
O_{CA}	Clean Out	O_{CA}
	Flared End Section	
	Storm Sewer	
	Sanitary Sewer	
	Combined Sewer	
W	Water Main	W
G	Gas Line	G
OH	Overhead Wires	OH
E	Electrical Cable (Buried)	E
T	Telephone Line	T
	Fire Hydrant	
	Valve Vault	
	Buffalo Box	
O_{DS}	Downspout	O_{DS}
O_{BOL}	Bollard	O_{BOL}
	Gas Valve	
	Gas Meter	
	Electric Meter	
	Electric Manhole	
	Hand Hole	
	Light Pole	
	Light Pole w/ Mast Arm	
	Utility Pole	
	Telephone Pedestal	
	Telephone Manhole	
	Sign	
	Fence	
	Accessible Parking Stall	
	Curb & Gutter	
	Depressed Curb	
× C 782.50	Curb Elevation	C 782.50 / G 782.00
× G 782.00	Gutter Elevation	
× P 783.25	Pavement Elevation	P 783.25
× W 782.10	Sidewalk Elevation	W 782.10
× 784.0	Ground Elevation	x 784.0
× T/W 785.20	Top of Retaining Wall Elevation	T/W 785.20
	Swale	
781	Contour Line	781
	Deciduous Tree	
	Coniferous Tree	
	Brushline	
	Tree Protection Fencing at Drip Line	

UTILITY NOTES

1. *Utility Service Lines as Shown Hereon are Approximate. Coordinate The Exact Locations With The Plumbing Drawings. Coordinate The Locations With The Plumbing Contractor and/or the Owner's Construction Representative Prior to Installation of Any New Utilities.*
2. *Refer to Plumbing Drawings for Continuation of All Utilities Within 5 Feet of Building Face.*
3. *Field Verify Invert & Locations of Existing Utility Mains Prior to Installing Any On-Site Utilities or Structures. All Elevations and Inverts Referencing Said Utility Shall Be Field Verified Prior To Installation Of Any New Structures Or Utilities, and Adjustments Shall Be Made as Necessary. Contact Engineer Prior to Installation If Discrepancy Exists With These Drawings.*
4. *Coordinate the Relocation Of Any Utilities Encountered And Replacement Of Any Utilities Damaged Within Influence Zone Of New Construction. Contact Engineer If The Existing Utilities Vary Appreciably From The Plans.*
5. *All Water Main and Services Shall Be Installed at a Minimum Depth of 5.5' From Top of Finished Ground Elevation to Top of Main.*
6. *Protection of water supplies shall be as described in Section 370.350 of the Illinois Recommended Standards for Sewage Works or Section 41-2.01 of the Standard Specifications for Water and Sewer Main Construction in Illinois, latest edition.*
7. *Clean Out All Existing and Proposed Storm Inlets and Catch Basins at the Completion of Construction.*
8. *Provide Adequate Coupling Device and/or Oversized Concrete Flared-End Section to Accommodate HDPE Storm Sewer.*
9. *The "Standard Specifications for Water and Sewer Main Construction in Illinois", Current Edition Shall Govern Work Where Applicable.*

STRUCTURE NOTES

1. *All Catch Basins to Be Installed in Paved Areas Shall Have Neenah R2504-D Frame & Grate or Approved Equal.*
2. *All Catch Basins to Be Installed in Landscaped Areas Shall Have Neenah R4340-B Frame & Grate or Approved Equal. For Cone Sections Install a Minimum of 4" Grade Rings For Topsoil Respread. For Flat Slab Tops Install the Following Minimum Height of Grade Rings:*
   - *4' Diameter Structure- 4"*
   - *5' Diameter Structure- 6"*
   - *6' Diameter Structure- 8"*
3. *All Catch Basins to Be Installed Along Curb and Gutter (B-6.12) Shall Have Neenah R3281-A Frame & Grate or Approved Equal.*
4. *All Catch Basins to Be Installed Along Depressed Curb and Gutter (Dep B-6.12) Shall Have East Jordan Iron Works 5120 Catch Basin Inlet Frame and Grate, or Approved Equal.*
5. *Where Structures are Shown Along the Curbline, Unless Specifically Stated Otherwise, It Is Intended That the Frame of the Structure Is To Fall Within the Flowline Of The Gutter or at the Pavement Edge Where No Gutter Exists.*
6. *All Manholes Shall Have Neenah R1713-B Frame & Closed Lid or Approved Equal, with "Storm" or "Sanitary" Imprinted as Appropriate.*
7. *For All Structures Indicated to be Adjusted, Remove and Install Adjusting Rings, Cone Section, Barrel Sections, or Flat Slab Top as Necessary.*
8. *All Flared End Sections 12" and Larger Shall Include an IDOT Standard Grate.*
9. *All Flared End Sections Shall Be Concrete.*
10. *All Sanitary Manholes Shall Include a Chimney Seal.*

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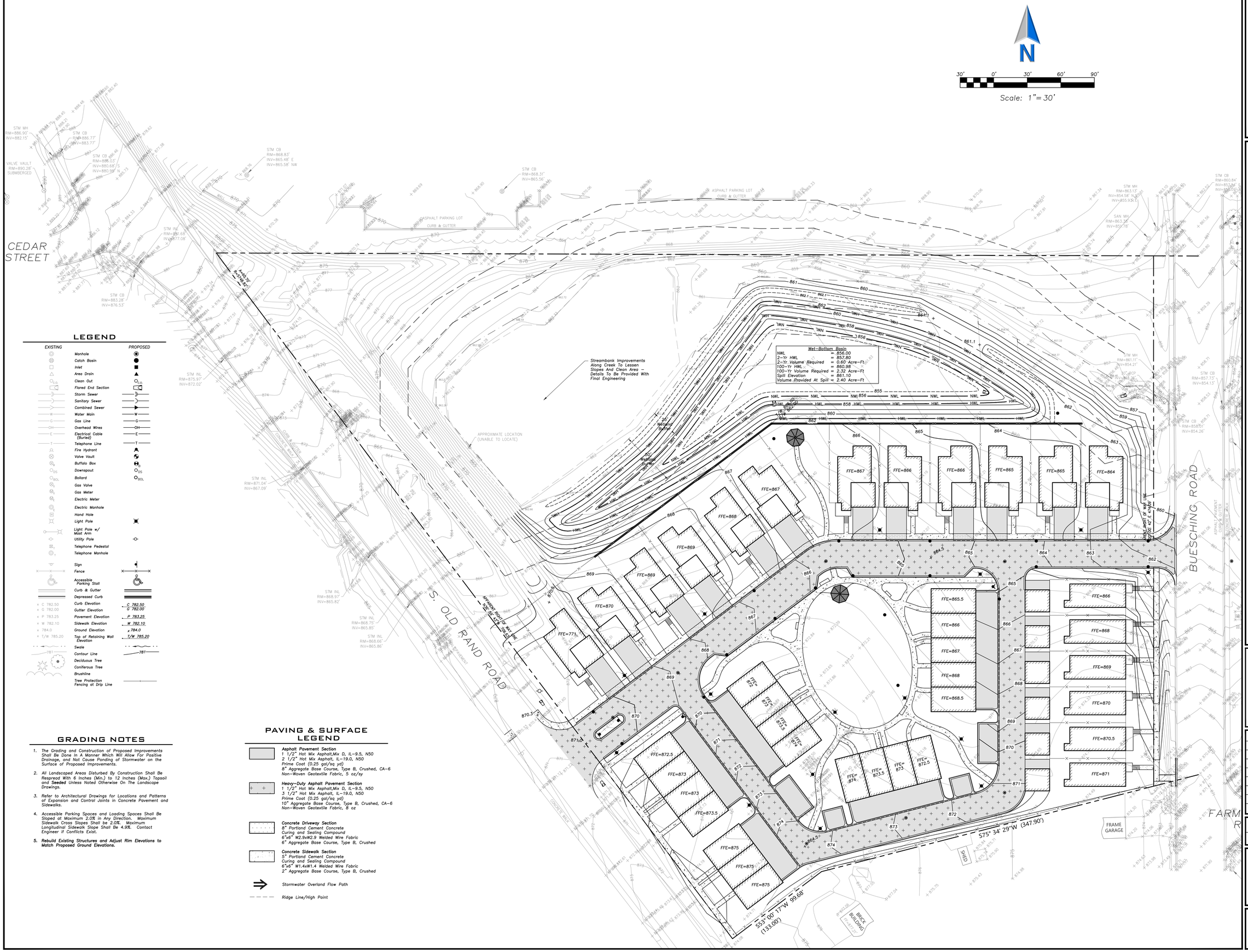
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Sheet Title:
SITE UTILITY PLAN

Sheet No:
C300

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LEGEND

EXISTING		PROPOSED
	Manhole	
	Catch Basin	
	Inlet	
	Area Drain	
O_{CO}	Clean Out	O_{CO}
	Flared End Section	
	Storm Sewer	
	Sanitary Sewer	
	Combined Sewer	
W	Water Main	W
G	Gas Line	G
OH	Overhead Wires	OH
E	Electrical Cable (Buried)	E
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	Fire Hydrant	
	Valve Vault	
	Buffalo Box	
O_{DS}	Downspout	O_{DS}
O_{BOL}	Bollard	O_{BOL}
	Gas Valve	
	Gas Meter	
	Electric Meter	
	Electric Manhole	
	Hand Hole	
	Light Pole	
	Light Pole w/ Mast Arm	
	Utility Pole	
	Telephone Pedestal	
	Telephone Manhole	
	Sign	
	Fence	
	Accessible Parking Stall	
	Curb & Gutter	
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C 782.50	Curb Elevation	C 782.50
G 782.00	Gutter Elevation	G 782.00
P 783.25	Pavement Elevation	P 783.25
W 782.10	Sidewalk Elevation	W 782.10
784.0	Ground Elevation	x 784.0
T/W 785.20	Top of Retaining Wall Elevation	T/W 785.20
	Swale	
781	Contour Line	781
	Deciduous Tree	
	Coniferous Tree	
	Brushline	
	Tree Protection Fencing at Drip Line	

GRADING NOTES

1. *The Grading and Construction of Proposed Improvements Shall Be Done In A Manner Which Will Allow For Positive Drainage, and Not Cause Ponding of Stormwater on the Surface of Proposed Improvements.*
2. *All Landscaped Areas Disturbed By Construction Shall Be Respread With 6 Inches (Min.) to 12 Inches (Max.) Topsoil and* **Seeded** *Unless Noted Otherwise On The Landscape Drawings.*
3. *Refer to Architectural Drawings for Locations and Patterns of Expansion and Control Joints in Concrete Pavement and Sidewalks.*
4. *Accessible Parking Spaces and Loading Spaces Shall Be Sloped at Maximum 2.0% in Any Direction. Maximum Sidewalk Cross Slopes Shall be 2.0%. Maximum Longitudinal Sidewalk Slope Shall Be 4.9%. Contact Engineer if Conflicts Exist.*
5. ***Rebuild Existing Structures and Adjust Rim Elevations to Match Proposed Ground Elevations.***

PAVING & SURFACE LEGEND

Asphalt Pavement Section
1 1/2" Hot Mix Asphalt,Mix D, IL-9.5, N50
2 1/2" Hot Mix Asphalt, IL-19.0, N50
Prime Coat (0.25 gal/sq yd)
8" Aggregate Base Course, Type B, Crushed, CA-6
Non-Woven Geotextile Fabric, 5 oz/sy

Heavy-Duty Asphalt Pavement Section
1 1/2" Hot Mix Asphalt,Mix D, IL-9.5, N50
3 1/2" Hot Mix Asphalt, IL-19.0, N50
Prime Coat (0.25 gal/sq yd)
10" Aggregate Base Course, Type B, Crushed, CA-6
Non-Woven Geotextile Fabric, 8 oz

Concrete Driveway Section
8" Portland Cement Concrete
Curing and Sealing Compound
6"x6" W2.9xW2.9 Welded Wire Fabric
6" Aggregate Base Course, Type B, Crushed

Concrete Sidewalk Section
5" Portland Cement Concrete
Curing and Sealing Compound
6"x6" W1.4xW1.4 Welded Wire Fabric
2" Aggregate Base Course, Type B, Crushed

Stormwater Overland Flow Path

Ridge Line/High Point

ERIKSSON ENGINEERING ASSOCIATES, LTD.
145 COMMERCE DRIVE, SUITE A
GRAYSLAKE, ILLINOIS 60030
PHONE (847) 223-4804
FAX (847) 223-4864
EMAIL INFO@EEA-LTD.COM
PROFESSIONAL DESIGN FIRM
LICENSE NO. 184-003220
EXPIRES: 04/30/2025

RESIDENTIAL DEVELOPMENT
670 S. OLD RAND ROAD
LAKE ZURICH, ILLINOIS

Reserved for Seal:

No.	Date	Description
	05/17/24	ISSUE FOR PZC

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MC/LR	MR	05/17/24

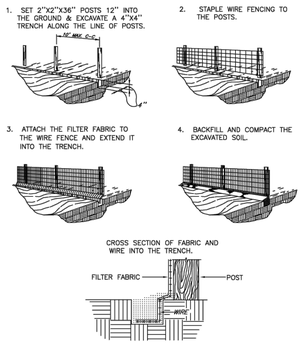
Sheet Title:
GRADING AND PAVING PLAN

Sheet No:
C400

EEA — P:\22138 — KLLM — 670 Old Rand Road\Drawings\670 Old Rand Rd_Site Plan.dwg
Plotted: 5/13/24 @ 3:56pm By: mcarollo

SILT FENCE DETAILS

1. SET 2"X2"X36" POSTS 12" INTO THE GROUND & EXCAVATE A 4"X4" TRENCH ALONG THE LINE OF POSTS.
2. STAPLE WIRE FENCING TO THE POSTS.
3. ATTACH THE FILTER FABRIC TO THE WIRE FENCE AND EXTEND IT INTO THE TRENCH.
4. BACKFILL AND COMPACT THE EXCAVATED SOIL.

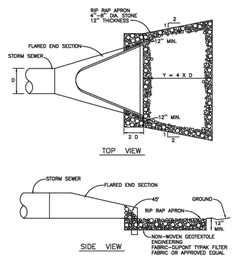


CROSS SECTION OF FABRIC AND WIRE INTO THE TRENCH.

NOTES:

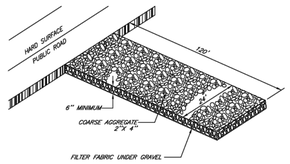
1.SILT FENCE TO MEET THE APPLICABLE SECTIONS OF THE ASSHTO STANDARD SPECIFICATION 288-00, OR EQUIVALENT CONTROL MEASURES.

FLARED END SECTION DETAILS

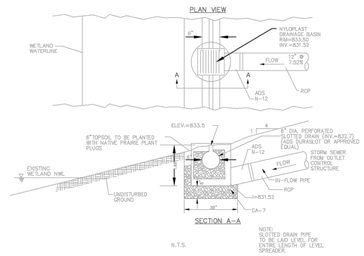


NOTE: D = PIPE I.D.
SEE EXHIBIT NO. 9 FOR FLARED END SECTION FOUNDATION

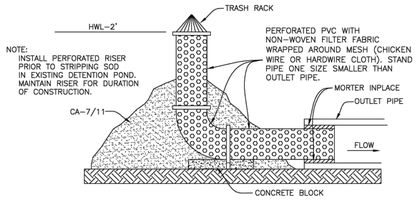
CONSTRUCTION ENTRANCE



LEVEL SPREADER

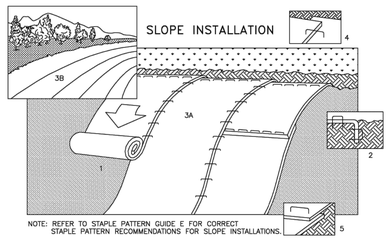


TEMPORARY PERFORATED RISER DETAIL



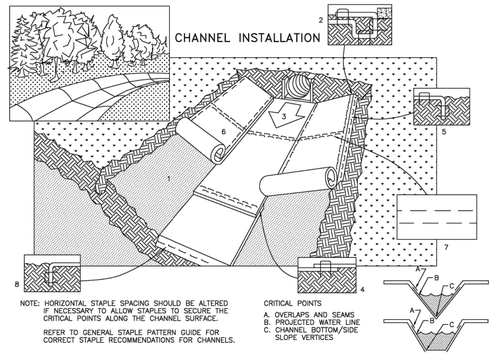
NOTE:
INSTALL PERFORATED RISER PRIOR TO STRIPPING SOD IN EXISTING DETENTION POND. MAINTAIN RISER FOR DURATION OF CONSTRUCTION.

EROSION CONTROL BLANKET



NOTE: REFER TO STAPLE PATTERN GUIDE E FOR CORRECT STAPLE PATTERN RECOMMENDATIONS FOR SLOPE INSTALLATIONS.

1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
3. ROLL THE BLANKETS (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2" OVERLAP.
5. WHEN BLANKETS MUST BE SPLICED DOWN THE SLOPE, PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH APPROXIMATELY 4" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART.

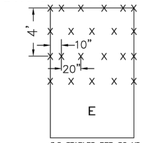


NOTE: HORIZONTAL STAPLE SPACING SHOULD BE ALTERED IF NECESSARY TO ALLOW STAPLES TO SECURE THE CRITICAL POINTS ALONG THE CHANNEL SURFACE.

REFER TO GENERAL STAPLE PATTERN GUIDE FOR CORRECT STAPLE RECOMMENDATIONS FOR CHANNELS.

CRITICAL POINTS
A. OVERLAPS AND SEAMS
B. PROJECTED WATER LINE
C. CHANNEL BOTTOM/SIDE SLOPE VERTICES

STAPLE PATTERN GUIDE



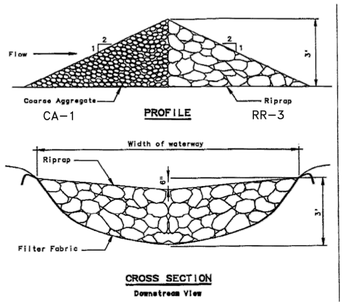
NORTH AMERICAN GREEN
OR APPROVED EQUIVALENT

3.8 STAPLES PER SQ YD
14649 HIGHWAY 41 NORTH, EVANSVILLE, INDIANA 47711
USA 1-800-772-2040 CANADA 1-800-448-2040
QUESTIONS REGUARDING INSTALLATION MAY BE DIRECTED TO:
DAN SALSINGER @ GEO-SYNTHETICS, INC. (708) 399-9781.

BLANKET TYPE: SC150 STRAW/COCONUT MIX
STAPLE PATTERN: E

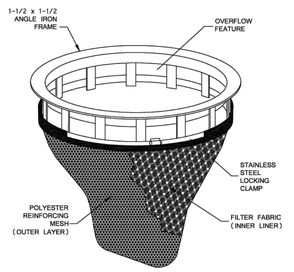
1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING APPLICATION OF LIME, FERTILIZER, AND SEED.
2. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE BLANKET IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
3. ROLL CENTER BLANKET IN DIRECTION OF WATER FLOW ON BOTTOM OF CHANNEL.
4. PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH A 6" OVERLAP. USE A DOUBLE ROW OF STAGGERED STAPLES 4" APART TO SECURE BLANKETS.
5. FULL LENGTH EDGE OF BLANKETS AT TOP OF SIDE SLOPES MUST BE ANCHORED IN 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
6. BLANKETS ON SIDE SLOPES MUST BE OVERLAPPED 4" OVER THE CENTER BLANKET AND STAPLED (2' FOR C350 MATTING).
7. IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT INTERVALS. USE A ROW OF STAPLES 4" APART OVER ENTIRE WIDTH OF THE CHANNEL. PLACE A SECOND ROW 4" BELOW THE FIRST ROW IN A STAGGERED PATTERN.
8. THE TERMINAL END OF THE BLANKETS MUST BE ANCHORED IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.

ROCK CHECK DAM



INLET FILTER BASKET

"CATCH-ALL" OR APPROVED EQUIVALENT



PRAIRIE BUFFER

Andropogon scoparius	**Lespedeza capita**
Allium cernuum	**Liatris aspera**
Amorpha candescens	**Parthenium integrifolium**
Asclepias sullivantii	**Penstemon digitalis**
Asclepias verticillata	**Petalostemum candidum**
Aster laevis	**Petalostemum purpureum**
Aster ericoides	**Rosa carolina**
Aster oblongifolius	**Rudbeckia hirta**
Boutelous curtipendula	**Solidago junces**
Cassia fasciculata	**Solidago nemoralis**
Coreopsis palmata	**Sorghastrum nutans**
Echnicaea purpurea	**Tradescantia ohiensis**
Elymus virginicus	**Verbena stricta**
Eryngium yuccifolium	**Zizia aptera**

WET PRAIRIE

Andropogon gerardii	**Leersia oryzoides**	
Asclepias incarnata	**Lycopous americanus**	
Aster novae angliae	**Lythrum alatum**	
Aster puniceus	**Panicum virgatum**	
Carex bebbii	**Penthorum sedoides**	
Carex hystericina	**Polygonium pensylvanicum**	
Carex lupulina	**Pycnanthemum virginianum**	
Carex vulpinoidea	**Rudbeckia laciniata**	
Elymus riparius	**Solidago patula**	
Glyceria striata	**Solidago riddelii**	
Helenium autumnale	**Tradescantia ohiensis**	
Juncus torreyi	**Verbena hastata**	
	Vernonia fasciculata	
	Zizia aurea	

EMERGENT PLANTING

Alisma plantago aquatica	**Scirpus acutus**	
Carex lacustris	**Scirpus americanus**	
Carex bebbii	**Scirpus atrovirens**	
Juncus balticus	**Scirpus cyperinus**	
Juncus effusus	**Scirpus lineatus**	
Pontaderia cordata	**Scirpus validus**	
Sagittaria latifolia	**Sparganium euryearpum**	

AQUATIC PLANTING FOR OPEN WATER

Nymphae tuberosa	**Pontederia cordata**
Nelumbo lutea	**Sagittaria lactifolia**

NOTES

CONTRACTORS

The Storm Water Pollution Prevention Plan must clearly identify for each measure identified in the plan, the contractor(s) or subcontractor(s) that will implement the measure. All contractors and subcontractors identified in the plan must sign a copy of the certification statement in paragraph B of the plan. All certifications must be included in the Storm Water Pollution Prevention Plan except for Owners that are acting as contractor.

Certification Statement. All contractors and subcontractors identified in a Storm Water Pollution Prevention Plan shall sign a copy of the following Certification Statement before conducting any service at the site identified in the Storm Water Pollution Prevention Plan. I certify under penalty of law that I understand the terms and conditions of the general National Pollutant Discharge Elimination System (NPDES) permit (ILR100000) that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification.
The certification must include the name and title of the person providing the signature; the name, address, and telephone number of the contracting firm; the address (or other identifying description) of the site; and the date the certification is made.

Certification Statement. All contractors and subcontractors identified in a Storm Water Pollution Prevention Plan shall sign a copy of the following Certification Statement before conducting any service at the site identified in the Storm Water Pollution Prevention Plan: I, certify under penalty of law that I understand the terms and conditions of the general National Pollutant Discharge Elimination System (NPDES) permit (ILR100000) that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification.

Name _____ Signature _____

Title _____ Date _____

Telephone _____

Address _____

SOIL EROSION AND SEDIMENTATION CONTROL SPECIFICATIONS:

1. GENERAL
A. THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF ALL APPLICABLE PROVISIONS OF THE MUNICIPAL CODE, THE ILLINOIS PROCEDURES AND STANDARDS FOR URBAN SOIL EROSION AND SEDIMENTATION CONTROL, THESE STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENTATION CONTROL. THESE SPECIFICATIONS SHALL BE FOLLOWED AT THE DISCRETION OF THE MUNICIPALITY.
B. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER INSTALLATION AND MAINTENANCE OF ALL TEMPORARY AND PERMANENT EROSION CONTROL MEASURES. ALL EROSION CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL A SUITABLE GROWTH OF GRASS, ACCEPTABLE TO THE ENGINEER, HAS DEVELOPED.
C. SEDIMENT AND EROSION CONTROL DEVICES SHALL BE FUNCTIONAL BEFORE LAND IS OTHERWISE DISTURBED ON THE SITE.

2. IMPLEMENTATION
A. BEFORE STARTING CLEARING AND SITE GRADING WORK, A CONSTRUCTION ENTRANCE AND SILT FENCES SHALL BE INSTALLED AS SHOWN ON THE PLANS. IF DIRECTED BY THE MUNICIPAL ENGINEER, THE CONTRACTOR SHALL INSTALL ADDITIONAL SILT FENCES WHERE NEEDED.
B. THE CONSTRUCTION ENTRANCE TO THE SITE SHALL BE STABILIZED WITH GRAVEL PRIOR TO ANY WORK ON THE SITE. THE ENTRANCE SHALL BE MONITORED PERIODICALLY FOR ITS EFFECTIVENESS TO COLLECT DIRT WHICH COULD LEAVE THE SITE VIA CONSTRUCTION VEHICLES. ANY DEFICIENCIES SHALL BE CORRECTED IMMEDIATELY.
C. GRAVELED ROADS, ACCESS DRIVES, PARKING AREAS OF SUFFICIENT WIDTH AND LENGTH, AND VEHICLE WASHDOWN FACILITIES, IF NECESSARY, SHALL BE PROVIDED TO PREVENT SOIL FROM BEING TRACKED ONTO PUBLIC OR PRIVATE ROADWAYS. ANY SOIL REACHING A PUBLIC OR PRIVATE ROADWAY SHALL BE REMOVED BEFORE THE END OF EACH WORKDAY, AT THE OWNERS EXPENSE.
D. ANY PUBLIC AND/OR PRIVATE ROADWAYS THAT ARE ADJACENT TO THE SITE AND USED FOR INGRESS AND EGRESS, SHALL BE MONITORED AND CLEANED AT THE DIRECTION OF THE MUNICIPAL ENGINEER.
E. TEMPORARY SEEDING SHALL ALSO BE INSTALLED AND MAINTAINED AROUND INTAKE STRUCTURES (I.E., INLETS, CATCH BASINS) AS REQUIRED BY THE ABOVE SPECIFICATIONS.
F. IF A STOCKPILE IS TO REMAIN IN PLACE FOR MORE THAN 10 DAYS, SEDIMENT AND EROSION CONTROL SHALL BE PROVIDED AROUND SUCH STOCKPILE. IF MORE THAN 2 MONTHS, THEN IT IS REQUIRED THAT THE STOCKPILE BE SEEDED SO AS TO MINIMIZE SOIL EROSION BY BOTH WIND AND WATER.
G. THE SURFACE OF STRIPPED AREAS SHALL BE PERMANENTLY OR TEMPORARILY PROTECTED FROM SOIL EROSION WITHIN 15 DAYS AFTER FINAL GRADE IS REACHED. STRIPPED AREAS NOT AT FINAL GRADE THAT WILL REMAIN UNDISTURBED FOR MORE THAN 14 DAYS AFTER INITIAL DISTURBANCE SHALL BE PROTECTED FROM EROSION. TEMPORARY COVER SHALL BE MAINTAINED CONTINUOUSLY UNTIL PERMANENT COVER IS ESTABLISHED.
H. WATER PUMPED OR OTHERWISE DISCHARGED FROM THE SITE DURING CONSTRUCTION DEWATERING, INCLUDING STORM WATER RUNOFF, SHALL BE FILTERED TO THE SATISFACTION OF THE MUNICIPALITY, AT THE CONTRACTOR'S EXPENSE.

3. INSPECTION AND MAINTENANCE
A. THE TEMPORARY EROSION CONTROL MEASURES SHALL BE IN PLACE AND WORK EFFECTIVELY UNTIL ALL THE PERMANENT EROSION CONTROL ITEMS ARE FULLY FUNCTIONAL.
B. THE CONTRACTOR SHALL INSPECT EROSION CONTROL MEASURES WEEKLY AND AFTER ANY STORM EVENT IN EXCESS OF 1/2 " RAINFALL. ANY DEFICIENCIES SHALL BE CORRECTED IMMEDIATELY.
C. AT THE COMPLETION OF THE PROJECT, ALL STORM SEWER PIPES AND STRUCTURES SHALL BE CLEANED AND FREE OF DIRT AND DEBRIS PRIOR TO FINAL ACCEPTANCE. THE SEDIMENT SHALL BE REMOVED FROM THE STORM SEWER SYSTEM AND PROPERLY DISPOSED OF OFFSITE BY THE CONTRACTOR, AT HIS EXPENSE. DIRT AND DEBRIS SHALL NOT BE WASHED OUT INTO THE MUNICIPAL STORM SEWER SYSTEM.

MAINTENANCE

The excavating and underground contractor shall be responsible for the initial construction of the erosion control measures shown in the plan, and shall be responsible for the maintenance of said facilities until the completion of his final grading operations after construction of those improvements in his contract. The contractor shall request in writing a release from the Owner for maintenance of the site upon completion of this work. The Owner shall issue said release within 15 days of the contractor's request, providing the contractor has completed all work required under the contract. The contractor's erosion control maintenance responsibilities shall be exclusive of the construction warranty and/or guarantee period.

Qualified personnel shall inspect disturbed areas of the construction site that have not been finally stabilized, structural control measures, and locations where vehicles enter or exit the site at least once every seven (7) calendar days and within 24 hours of the end of a storm that is 0.5 inch or greater or equivalent snowfall.

Disturbed areas and areas used for storage of materials that are exposed to precipitation shall be inspected for evidence of, or the potential for, pollutants entering the drainage system. Erosion and sediment control measures identified in the plan shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters. Locations where vehicles enter or exit the site shall be inspected for evidence of offsite sediment tracking.
Based on the results of the inspection, the description of potential pollutant sources identified in the plan and pollution prevention measures identified in the plan shall be revised as appropriate as soon as practicable after such inspection. Such modifications shall provide for timely implementation of any changes to the plan with seven (7) calendar days following the inspection.
A report summarizing the scope of the inspection, name(s) and qualifications of personnel making the inspection, the date(s) of the inspection, major observations relating to the implementation of the Storm Water Pollution Prevention Plan, and actions taken shall be made and retained as part of the Storm Water Pollution Prevention Plan for at least three (3) years after the date of inspection.
The permittee shall complete and submit within five days an Incidence of Non-Compliance (ION) report for any violation of the Storm Water Pollution Prevention Plan observed during an inspection conducted, including those not required by the plan. Submission shall be on forms provided by the Agency and shall include specific information on the cause of non-compliance, actions which were taken to prevent any further causes of non-compliance, and a statement detailing any environmental impact which may have resulted from the non-compliance.

CONSTRUCTION SEQUENCING

1. INSTALL SEDIMENT CONTROL DEVICES
A. STABILIZED CONSTRUCTION ENTRANCES
B. PERIMETER SILT FENCE
C. BEGIN EROSION CONTROL MAINTENANCE AND INSPECTIONS
2. CLEARING (TREE REMOVAL) AND GRUBBING
3. CONSTRUCT AND STABILIZE DETENTION BASIN AND INSTALL TEMPORARY PERFORATED RISER
4. MASS EARTHWORK ENTIRE SITE/STOCKPILE TOPSOIL
A. DIVERT STORMWATER RUNOFF
B. CONSTRUCT VEGETATED SWALES (INCLUDING SEEDING AND EROSION BLANKET)
C. INSTALL AGGREGATE DITCH CHECKS
D. TOPSOIL PLACEMENT AND PERMANENT SEEDING ON OPEN SPACE SLOPES WHEN FINAL GRADING IS COMPLETE
E. DUST CONTROL (WATERING)
F. INSTALL EROSION CONTROL BLANKETS
G. TEMPORARY SEEDING ON AREAS TO BE EXPOSED LONGER THAN 60 DAYS
5. INSTALL STORMWATER MANAGEMENT MEASURES
A. CONSTRUCT STORM SEWERS AND OTHER UNDERGROUND UTILITIES
B. RIPRAP
C. INLET PROTECTION
D. OUTLET PROTECTION
E. STORM SEWER RESTRICTORS AND OUTLETS
6. TEMPORARY VEGETATIVE STABILIZATION
A. TEMPORARY SEEDING
B. MULCHING/EROSION BLANKETS
7. SITE CONSTRUCTION WORK
A. INSTALL REMAINING UTILITIES (I.E., GAS, TELEPHONE, ELECTRIC)
B. AGGREGATE SUBGRADE
C. CONSTRUCT BUILDINGS
D. REMOVE ACCUMULATED SEDIMENT FROM STRUCTURES
8. COMPLETE FINAL PAVING
9. PERMANENT VEGETATIVE STABILIZATION OF ALL EXPOSED AREAS
A. PERMANENT SEEDING
B. SODDING
10. PERFORM CONTINUING POST-CONSTRUCTION MAINTENANCE OF TEMPORARY AND PERMANENT EROSION CONTROL DEVICES UNTIL ALL UPSTREAM AREAS ARE COMPLETELY VEGETATED

EVN	DATE	INT

Village of Lake Zurich
Est 1896

THE VILLAGE OF LAKE ZURICH
ENGINEERING DIVISION

Project: EROSION CONTROL DETAILS
Drawn: RSK
Date: 05/06
Scale: 1:40
Drawing Title: STANDARD DETAILS
Drawing No: 2 OF 2

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ERIKSSON ENGINEERING ASSOCIATES, LTD.
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EMAIL INFO@EEA-LTD.COM
PROFESSIONAL DESIGN FIRM
LICENSE NO. 184-003220
EXPIRES: 04/30/2025

RESIDENTIAL DEVELOPMENT

670 S. OLD RAND ROAD
LAKE ZURICH, ILLINOIS

Reserved for Seal:

No.	Date	Description
	05/17/24	ISSUE FOR PZC

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MC/LR	MR	05/17/24

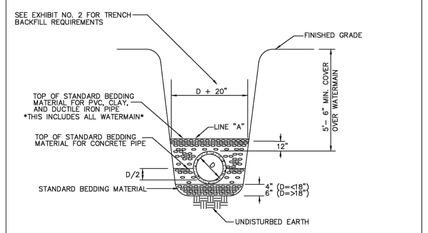
Sheet Title:
SITE WORK DETAILS

Sheet No:
C500

EEA – P:\22138 – KLLM – 670 Old Rand Road\Drawings\670 Old Rand Rd_Site Plan.dwg
Plotted: 5/13/24 @ 3:56pm By: mcarollo

NOTE: DETAILS ARE NOT TO BE CHANGED IN any WAY. LEAVE ALL DETAILS ON SHEET EVEN IF THEY DO NOT APPLY TO CURRENT IMPROVEMENTS. CHANGING OF DETAILS DOES NOT CHANGE REQUIREMENTS.

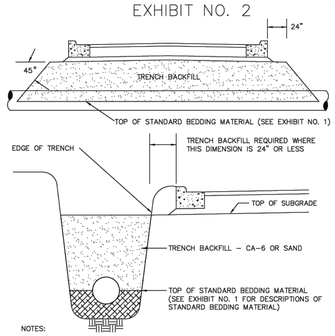
EXHIBIT NO. 1



NOTES:
1. STANDARD BEDDING MATERIAL FOR NON-PLASTIC PIPE INCLUDING ALL WATERMAIN SHALL BE 1/4" TO 3/4" CRUSHED STONE, ASTM 448, SIZE CA-7 TO CA-11.
2. STANDARD BEDDING MATERIAL FOR PLASTIC PIPE SHALL CONFORM TO ASTM D2321, CLASS II NON-ANGULAR AGGREGATE.
3. SELECT, WELL COMPACTED EXCAVATED MATERIAL SHALL BE PLACED TO LINE "A" IF STANDARD BEDDING MATERIAL IS NOT REQUIRED TO LINE "A."
4. VOIDS LEFT BY SHEETING SHALL BE FILLED WITH STANDARD BEDDING MATERIAL AS THE SHEETING IS REMOVED.

TYPICAL TRENCH AND STANDARD BEDDING

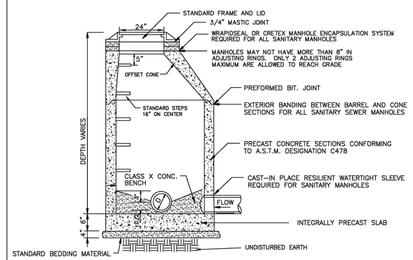
EXHIBIT NO. 2



NOTES:
1. TRENCH BACKFILL SHALL CONFORM TO THE PROVISIONS OF ARTICLE 208 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
2. TRENCH DIMENSIONS AS DETAILED ELSEWHERE SHALL BE USED TO CALCULATE PAYMENT LIMITS. ADDITIONAL TRENCH BACKFILL NECESSARY TO FILL A TRENCH WIDER THAN THAT DETAILED SHALL BE PROVIDED AND PLACED AT NO ADDITIONAL COST TO THE DEVELOPER, OWNER, OR VILLAGE.

TRENCH BACKFILL

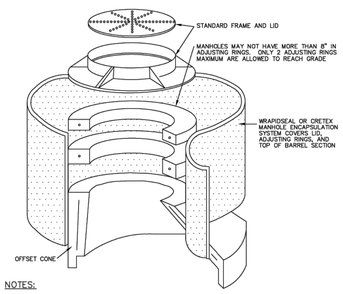
EXHIBIT NO. 3



NOTES:
1. FOR SEWERS 24 INCHES OR LESS IN DIAMETER, USE 48 INCH MANHOLES. FOR SEWERS MORE THAN 24" INCHES IN DIAMETER, USE 60" INCH MANHOLES.
2. FOR VITRIFIED CLAY PIPE SEWERS, LOCATE A BELL OR SPIGOT AS APPROPRIATE JUST OUTSIDE THE MANHOLE WALL TO PROVIDE A PIVOT POINT FOR ANY DIFFERENT MOVEMENT.
3. WRAPIDSEAL MANHOLE ENCAPSULATION SYSTEM REQUIRED FOR ALL SANITARY SEWER MANHOLES. (SEE EXHIBIT NO. 4)
4. WATER TIGHT SEALENT REQUIRED FOR ALL SANITARY SEWER MANHOLES.

STANDARD MANHOLE

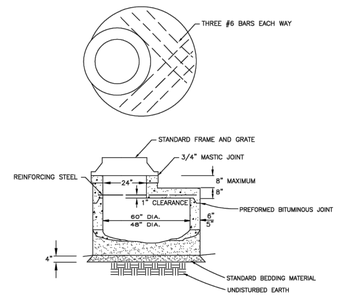
EXHIBIT NO. 4



NOTES:
1. WRAPIDSEAL OR CRETEX SHALL BE INSTALLED ON ALL SANITARY SEWER MANHOLES.
2. WRAPIDSEAL OR CRETEX MANHOLE ENCAPSULATION SYSTEMS ARE REQUIRED. ANY OTHER PRODUCTS OR OTHER DESIGN SOLUTIONS SHALL REQUIRE THE APPROVAL OF THE VILLAGE ENGINEER OR DIRECTOR OF PUBLIC WORKS.
3. WRAPIDSEAL OR CRETEX SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S GUIDELINES AND INSTRUCTIONS.

WRAPIDSEAL MANHOLE ENCAPSULATION SYSTEM

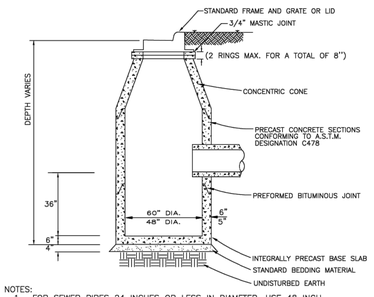
EXHIBIT NO. 5



NOTES:
1. A 6" THICK SLAB TOP MAY BE ALLOWED FOR 48" DIAMETER RESTRICTED DEPTH CATCH BASINS NOT IN PAVEMENT.
2. A WRAPIDSEAL MANHOLE ENCAPSULATION SYSTEM SHALL BE REQUIRED IN LOCATIONS WHERE WRAPIDSEAL IS CALLED FOR.
3. NO STEPS ARE REQUIRED IN RESTRICTED DEPTH CATCH MANHOLES.

FLAT TOP FOR RESTRICTED DEPTH MANHOLE

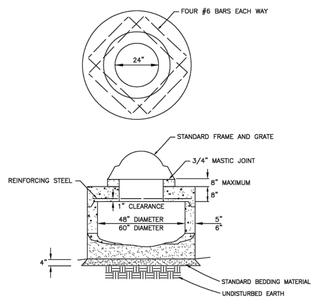
EXHIBIT NO. 7



NOTES:
1. FOR SEWER PIPES 24 INCHES OR LESS IN DIAMETER, USE 48 INCH DIAMETER CATCH BASIN: FOR SEWER PIPES MORE THAN 24 INCHES IN DIAMETER, USE 60 INCH DIAMETER CATCH BASIN.
2. OUTLET PIPE SHALL BE NO LESS THAN 12 INCHES IN DIAMETER.
3. STEPS ARE REQUIRED IF THE CATCH BASIN IS OVER 7' IN DEPTH.
4. STEPS ARE TO BE 16" ON CENTER, ON THE OPPOSITE SIDE FROM THE OUTLET PIPE.

CATCH BASIN

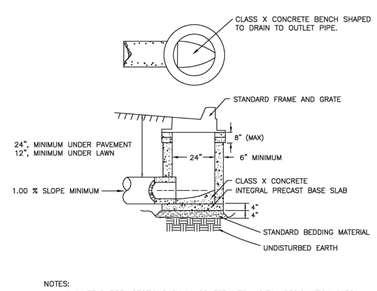
EXHIBIT NO. 8



NOTES:
1. A 6" THICK SLAB TOP MAY BE ALLOWED FOR 48" DIAMETER RESTRICTED DEPTH CATCH BASINS NOT IN PAVEMENT.
2. NO STEPS ARE REQUIRED IN RESTRICTED DEPTH CATCH BASINS.

FLAT SLAB TOP FOR RESTRICTED DEPTH C.B.

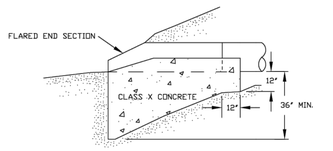
EXHIBIT NO. 9



NOTES:
1. INLET BARREL SECTIONS SHALL CONFORM TO A.S.T.M. DESIGNATION C478.
2. MINIMUM PIPE SIZE FOR INLETS IN PUBLIC STREETS IS 10" DIAMETER.
3. DUCTILE IRON PIPE SHALL BE USED IN PAVED AREAS OF PUBLIC STREETS FOR INLET PROTECTION IF LESS THAN 3 FEET OF COVER IS PROVIDED.

INLET

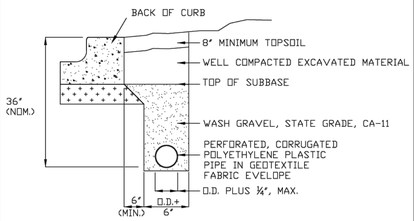
EXHIBIT NO. 10



NOTES:
1. WIDTH OF THE FOUNDATION SHALL BE THE SAME AS THE WIDTH OF THE FLARED END SECTION. THE TOP OF FOUNDATION SHALL EXTEND HALF-WAY UP THE SIDE OF THE FLARED END SECTION.
2. THE BOTTOM OF THE FOUNDATION SHALL REST ON UNDISTURBED EARTH. THE BOTTOM OF THE FOUNDATION SHALL BE NO LESS THAN THREE (3') DEEP AT THE OPEN END OF THE FLARED END SECTION.
3. A FOUNDATION SIMILAR TO THIS FOUNDATION SHALL BE CONSTRUCTED UNDER ALL PRECAST HEADWALLS.

FOUNDATION FOR FLARED END SECTION

EXHIBIT NO. 11



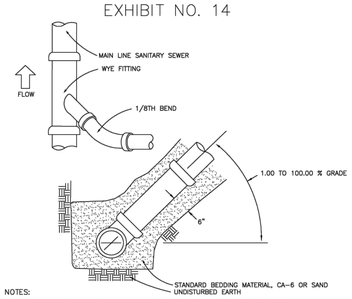
UNDERDRAIN

EXHIBIT NO. 12

STREET	PAVEMENT DESIGN
MAJOR	4" GRANULAR SUB-BASE 9" BITUMINOUS AGGREGATE MIXTURE 2" BITUMINOUS BINDER COURSE 2" BITUMINOUS SURFACE COURSE
COLLECTOR	3" GRANULAR SUB-BASE 6" BITUMINOUS AGGREGATE MIXTURE 2" BITUMINOUS BINDER COURSE 1 1/2" BITUMINOUS SURFACE COURSE
MINOR	3" AGGREGATE BASE COURSE 5" BITUMINOUS AGGREGATE MIXTURE 2" BITUMINOUS BINDER COURSE 1 1/2" BITUMINOUS SURFACE COURSE
CUL-DE-SAC	SAME AS MINOR
MARGINAL ACCESS	SAME AS MINOR
IN BUSINESS AND INDUSTRIAL DISTRICTS	3" GRANULAR SUB-BASE 8" BITUMINOUS AGGREGATE MIXTURE 3" BITUMINOUS CONCRETE

MINIMUM STANDARDS FOR STREET DESIGN

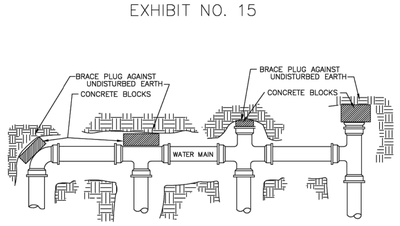
EXHIBIT NO. 14



NOTES:
1. THIS EXHIBIT IS APPLICABLE TO FOUR (4) OR (6) INCH SANITARY SERVICE CONNECTIONS ONLY. LARGER DIAMETER SANITARY SEWER CONNECTIONS SHALL BE MADE AT MANHOLES ONLY.
2. THE BEDDING UNDER THE WYE FITTING AND STUB SHALL BE CAREFULLY COMPACTED TO PREVENT THE WYE FITTING FROM ROTATING.
3. THE SANITARY SERVICE CONNECTION PIPE SHALL BE LAID IN A STRAIGHT LINE AND AT A UNIFORM GRADIENT FROM THE TOP OF THE RISE FROM THE MAIN LINE TO THREE (3) FEET BEYOND THE RIGHT-OF-WAY LINE.
4. SECURELY PLUG THE END OF THE SERVICE CONNECTION.

SANITARY SERVICE CONNECTION

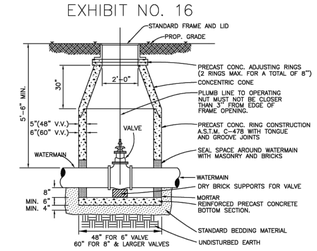
EXHIBIT NO. 15



NOTES:
1. PROVIDE THRUST BLOCKING TO PREVENT MOVEMENT OF LINES UNDER PRESSURE AT ALL BENDS, TEES, CAPS, VALVES, HYDRANTS, AND AT POINTS SPECIFIED BY THE ENGINEER.
2. ALL BLOCKING SHALL BE MADE WITH CONCRETE BLOCKS AGAINST UNDISTURBED VERTICAL EARTH SURFACE.
3. ALTERNATE METHODS OF RESTRAINING WATER MAIN COMPONENTS SHALL REQUIRE THE APPROVAL OF THE VILLAGE ENGINEER.
4. NO WOOD IS ALLOWED IN THE THRUST BLOCKS.
5. MEGALUGS SERIES 1100 OR APPROVED EQUAL ARE REQUIRED AT ALL JOINTS.

THRUST BLOCK

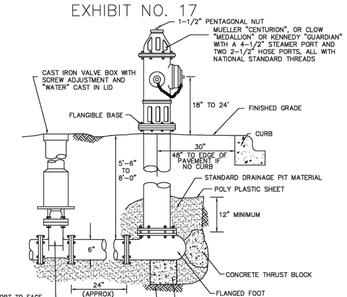
EXHIBIT NO. 16



NOTES:
1. WATER MAIN 8 INCHES OR MORE IN DIAMETE SHALL REQUIRE A 60-INCH DIAMETER VALVE VAULT: WATER MAIN LESS THAN 8 INCHES IN DIAMETER SHALL REQUIRE A 48 INCH VALVE VAULT
2. INSTALL MINIMUM 4" OF SELECTED GRANULAR BACKFILL UNDER STRUCTURE BOTTOM SECTION AND FILL ENTIRE EXCAVATION ALL AROUND STRUCTURE UP TO C.L. OF PIPE WITH BEDDING MATERIAL.
3. PIPE OPENINGS SHALL BE CAST INTO WALL.
4. STRUCTURE FRAME, ADJUSTING RINGS, AND ALL CONCRETE SECTIONS SHALL BE SET ON AND SEALED WITH BITUMINOUS MASTIC JOINT MATERIAL.
5. FILL LUG HOLES WITH BITUMINOUS JOINING COMPOUND.
6. VALVE VAULT BARREL SECTIONS SHALL CONFORM TO A.S.T.M. 478 AS DESCRIBED IN THE STANDARD SPECIFICATIONS FOR SEWER AND WATER MAIN CONSTRUCTION IN ILLINOIS, 5TH EDITION MAY 1996.

VALVE VAULT

EXHIBIT NO. 17



NOTES:
1. STEAMER PORT TO FACE PAVEMENT
2. PROVIDE 2 FOOT DIAMETER BY 2 FEET DEEP DRAINAGE PIT FILLED WITH 1 INCH WASHED STONE BELOW AND ADJACENT TO HYDRANT
3. HYDRANT TO BE PAINTED ALKYD ENAMEL SAFETY RED

FIRE HYDRANT

VILLAGE OF LAKE ZURICH
70 EAST MAIN STREET
LAKE ZURICH, IL 60047
(847) 540-1694

REVISIONS

VILLAGE OF LAKE ZURICH DETAILS

SHEET 1

PROJECT NO. DETAILS
DATE 1/10/03
SCALE NTS
DESIGNED BY DESIGN
DRAWN BY DTM
CHECKED BY EL

SHEET 1 3

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ERIKSSON ENGINEERING ASSOCIATES, LTD.
145 COMMERCE DRIVE, SUITE A
GRAYSLAKE, ILLINOIS 60030
PHONE (847) 223-4804
FAX (847) 223-4864
EMAIL INFO@EEA-LTD.COM
PROFESSIONAL DESIGN FIRM
LICENSE NO. 184-003220
EXPIRES: 04/30/2025

RESIDENTIAL DEVELOPMENT
670 S. OLD RAND ROAD
LAKE ZURICH, ILLINOIS

Reserved for Seal:

No.	Date	Description
	05/17/24	ISSUE FOR PZC

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Design By:	Approved By:	Date:
MC/LR	MR	05/17/24

Sheet Title:
SITE WORK DETAILS

Sheet No:
C501

EEA - P:\22138 - KLLM - 670 Old Rand Road\Drawings\670 Old Rand Rd_Site Plan.dwg
Plotted: 5/13/24 @ 3:57pm By: mcandia

NOTE: DETAILS ARE NOT TO BE CHANGED IN ANY WAY. LEAVE ALL DETAILS ON SHEET EVEN IF THEY DO NOT APPLY TO CURRENT IMPROVEMENTS. CHANGING OF DETAILS DOES NOT CHANGE REQUIREMENTS.

EXHIBIT NO. 13

THESE STANDARDS SUPERCEDE ALL OTHER STANDARDS

LAKE ZURICH UTILITY MATERIAL STANDARDS

SANITARY SEWER

Pipe	PVC, SDR – 26, meeting requirements of ASTM – 3034 Gasketed Joint / Cell Classification 12454 – B Depth over 15 feet – SDR 12 or 18 Service Laterals: PVC SCH 40 or better, SDR 35 or 26
Bedding Materials	1/4" to 3/4" crushed stone, size CA–7 to CA–11, 12" over the top of pipe
Manholes	Pre–Cast Concrete with Bench and Rubber Boots Cast Iron Frames and Lids: Neenah Type 1 self–sealing Marked "Sanitary Sewer" WrapidSeal Manhole Encapsulation System is required on all sanitary manholes Contractor shall be qualified by manufacturer's rep. to install WrapidSeal Exterior banding between barrel and cone sections is required Manhole must be water tight and sealed from the outside Fiberglass steps
Casing	The casing must be ductile iron or steel Manufactured pipe chocks must be used between the pipe and casing Pea gravel must be jetted through the casing, with concrete mortar on the ends Casing to be installed as required by the "Standard Specifications for Water and Sewer Construction in Illinois" 5th Edition, 1996, with all services considered as mains
Forcemain	If PVC pipe (C900) is used, #6 solid copper tracing wire is required for locating purposes

WATERMAIN

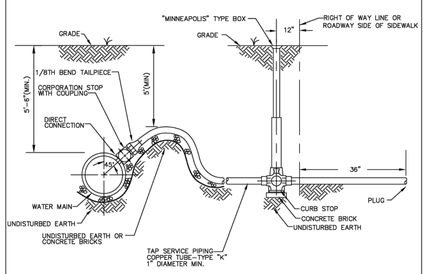
Fire Hydrants	Clow Medallion, 5 1/4 " with Auxiliary Valve Kennedy Guardian, 5 1/4 " with Auxiliary Valve Mueller Centurion A – 423 with Auxiliary Valve 5 1/4 " three–way (2 hose nozzles and 1 pumper nozzle) Painted Safety Red
Pipe	Class 52 Ductile iron, cement lined, Megalugs Series 1100 required at all fittings Wrapping the watermain with polyethylene film is not permitted
Bedding Materials	1/4" to 3/4" crushed stone, size CA–7 to CA–11, 12" over the top of pipe
Valves	Clow, American Flow Control Kennedy Resilient Wedge American Flow Control AFC series 500 NRS Resilient Wedge Valve UL/FM General Mueller Resilient Wedge Valve Non–Rising Stem, Mechanical Joint
Manholes	Cast Iron Frames and Lids: Neenah Type 1 self–sealing Marked "Water"
Casing	The casing must be ductile iron or steel Manufactured pipe chocks must be used between the pipe and casing Pea gravel must be jetted through the casing, with concrete mortar on the ends Casing to be installed as required by the "Standard Specifications for Water and Sewer Construction in Illinois" 5th Edition, 1996, with all services considered as mains
Corporation Stop	Mueller H – 15000 – 1" Size AY McDonald 4701
Roundway	Mueller H–15154 – 1" Stop, Minneapolis Pattern AY McDonald 6104
B–Box	Mueller H – 10300 Upper section inside diameter 1 1/4" Mueller H – 10302 Upper section inside diameter 1 1/2"
Service Line	1" Type K Copper, or as required by plumbing code
Tapping Saddle	Double Banded Stainless Steel Tapping Sleeve with 1" corporation stop
Hardware	All nuts and bolts below grade shall be stainless steel

WATERMAIN INSTALLATION SPECIFICATIONS

1. Watermains shall not be exposed for any reason without the approval of the Superintendent – Utilities.
2. Filling mains, pressure connections, pressure tests, tie–ins, and chlorinations require 48–hour notification to the Superintendent – Utilities.
3. Pressure connections and tie–ins to the Village systems will be scheduled and witnessed by the Utilities Division personnel.
4. Once mains are tied to the Village system, no valves or hydrants shall be operated by anyone other than Utility Division personnel.
5. Filling and flushing will be done by the Utilities Division only.
6. Water for pressure tests will be supplied by the Utilities Division, but it is the responsibility of the contractor to provide a backflow preventer or an approved anti–siphon method before the pump.
7. Corporation cocks and 1" copper lines for the chlorination and sampling shall be installed at locations determined by the Utilities Division.
8. Chlorination will not be performed on service lines until all first permanent water valves are installed.
9. Water vaults for 8" valves and larger must have an inside diameter of 60".

UTILITY MATERIAL STANDARDS

EXHIBIT NO. 18



NOTES:
1. USE AN EXTRA TWO FEET OF COPPER WATER SERVICE CONNECTION BETWEEN THE CORPORATION STOP AND THE CURB STOP TO SERVE AS STRAIN RELIEF.
2. CURB BOX SHALL HAVE A PLUG TYPE LID.
3. SEE EXHIBIT NO. 13 FOR APPROVED FITTING DESCRIPTIONS.

WATER SERVICE CONNECTION

EXHIBIT NO. 19

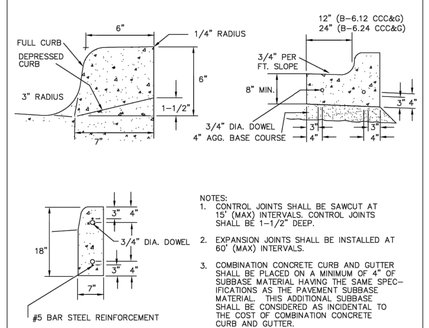
STREET	RIGHT–OF WAY WIDTH	PAVEMENT WIDTH*	RADIUS OF HORIZ. CURVES	LENGTH OF VERT. CURVES	TANGENT BETWEEN HORIZ. REVERSE CURVES	MAXIMUM GRADIENT	MINIMUM GRADIENT	CLEAR SIGHT DISTANCE
MAJOR	100 FT.	54 FT.	500 FT.	200 FT.(a)	200 FT.	5%	0.5%	500 FT.
COLLECTOR	80 FT.	44 FT.	400 FT.	200 FT.(a)	200 FT.	5%	0.5%	400 FT.
MINOR	60 FT.	30 FT.	150 FT.	100 FT.(b)	–	6%	0.5%	200 FT.
CUL–DE–SAC	120 FT.	88 FT.	150 FT.	100 FT.(b)	–	6%	0.5%	200 FT.
MARGINAL ACCESS	60 FT.	30 FT.	400 FT.	200 FT.(a)	100 FT.	6%	0.5%	200 FT.
IN BUSINESS AND INDUSTRIAL DIST.	80–100 FT.	54 FT.	500 FT.	200 FT.(a)	200 FT.	2%	0.5%	500 FT.

*PAVEMENT WIDTHS ARE MEASURED BACK OF CURB TO BACK OF CURB AND INCLUDE ADDITIONAL WIDTH FOR ON–STREET PARKING.

(a) FIFTY (50) FEET FOR EACH ONE (1) PERCENT ALGEBRAIC DIFFERENCE OF GRADE BUT IN NO CASE LESS THAN TWO HUNDRED (200) FEET.
(b) FORTY (40) FEET FOR EACH ONE (1) PERCENT ALGEBRAIC DIFFERENCE OF GRADE BUT IN NO CASE LESS THAN ONE HUNDRED (100) FEET.

MINIMUM STANDARDS FOR STREET DESIGN

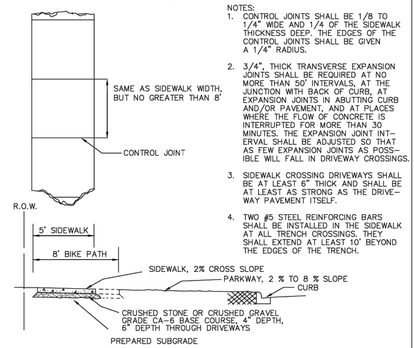
EXHIBIT NO. 24



NOTES:
1. CONTROL JOINTS SHALL BE SAWCUT AT 15' (MAX) INTERVALS. CONTROL JOINTS SHALL BE 1–1/2" DEEP.
2. EXPANSION JOINTS SHALL BE INSTALLED AT 60' (MAX) INTERVALS.
3. COMBINATION CONCRETE CURB AND GUTTER SHALL BE PLACED ON A MINIMUM OF 4" OF SUBBASE MATERIAL HAVING THE SAME SPECIFICATIONS AS THE PAVEMENT SUBBASE MATERIAL. THIS ADDITIONAL SUBBASE SHALL BE CONSIDERED AS INCIDENTAL TO THE COST OF COMBINATION CONCRETE CURB AND GUTTER.
4. SUBBASE IS TO BE CA–6 OR GRADE 9.

BARRIER CURB

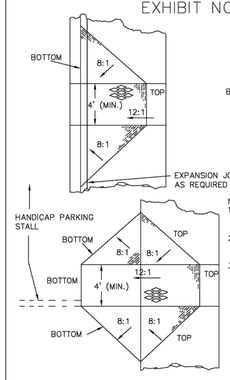
EXHIBIT NO. 25



NOTES:
1. CONTROL JOINTS SHALL BE 1/8 TO 1/4" WIDE AND 1/4 OF THE SIDEWALK THICKNESS DEEP. THE EDGES OF THE CONTROL JOINTS SHALL BE GIVEN A 1/4" RADIUS.
2. 3/4", THICK TRANSVERSE EXPANSION JOINTS SHALL BE REQUIRED AT NO MORE THAN 50' INTERVALS, AT THE JUNCTION WITH BACK OF CURB, AT EXPANSION JOINTS IN ABUTTING CURB AND/OR PAVEMENT, AND AT PLACES WHERE THE FLOW OF CONCRETE IS INTERRUPTED FOR MORE THAN 30 MINUTES. THE EXPANSION JOINT INTERVAL SHALL BE ADJUSTED SO THAT AS FEW EXPANSION JOINTS AS POSSIBLE WILL FALL IN DRIVEWAY CROSSINGS.
3. SIDEWALK CROSSING DRIVEWAYS SHALL BE AT LEAST 6" THICK AND SHALL BE AT LEAST AS STRONG AS THE DRIVE–WAY PAVEMENT ITSELF.
4. TWO #5 STEEL REINFORCING BARS SHALL BE INSTALLED IN THE SIDEWALK AT ALL TRENCH CROSSINGS. THEY SHALL EXTEND AT LEAST 10' BEYOND THE EDGES OF THE TRENCH.

SIDEWALK

EXHIBIT NO. 26

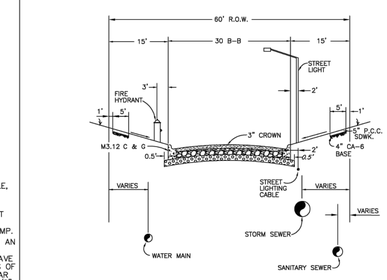


NOTES:
1. WHERE 12:1 SLOPES ARE NOT POSSIBLE, SLOPES NO STEEPER THAN 8:1 MAY BE USED.
2. EXPANSION JOINT MATERIAL SHALL NOT PROTRUDE ABOVE THE LEVEL OF THE ADJACENT SIDEWALK OR HANDICAP RAMP.
3. RAMP TEXTURING IS TO BE DONE WITH AN EXPANDED METAL GRATE PLACED AND REMOVED FROM WET CONCRETE TO LEAVE A DIAMOND PATTERN. THE LONG AXIS OF THE PATTERN SHALL BE PERPENDICULAR TO THE CURB. GROOVES SHALL BE 1/8" DEEP AND 1/4" WIDE. ALL SLOPES ARE TO HAVE DIAMOND TEXTURE.

RAMP TEXTURE DETAIL

DIAMONDS ARE TO BE 1/2" WIDE, 1 1/4" LONG, WITH 1/4" BETWEEN THEM, OR AS APPROVED.

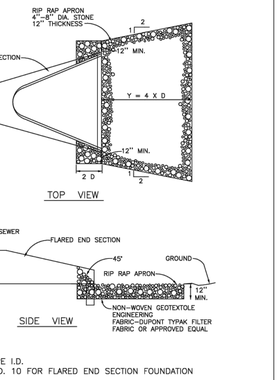
HANDICAP RAMP



3" AGGREGATE BASE COURSE
5" BITUMINOUS AGGREGATE MIXTURE
2" BITUMINOUS BINDER COURSE
1 1/2" BITUMINOUS SURFACE COURSE

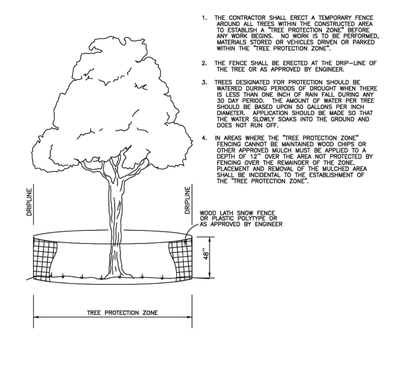
SEE EXHIBIT 12 AND EXHIBIT 19 FOR OTHER STREET DIMENSIONS

TYPICAL MINOR STREET DESIGN DETAIL



NOTE: D = PIPE I.D.
SEE EXHIBIT NO. 10 FOR FLARED END SECTION FOUNDATION

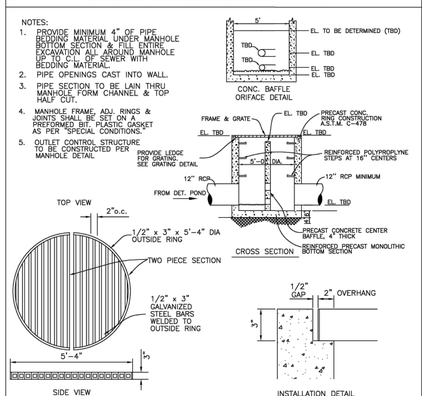
FLARED END SECTION RIP RAP



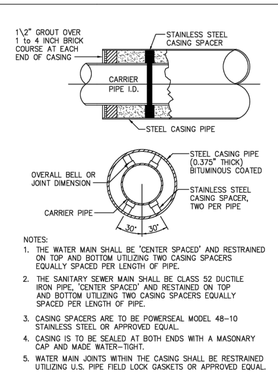
1. THE CONTRACTOR SHALL ERECT A TEMPORARY FENCE AROUND ALL TREES WITHIN THE CONSTRUCTED AREA TO ESTABLISH A "TREE PROTECTION ZONE" BEFORE ANY WORK BEGINS. NO WORK IS TO BE PERFORMED, MATERIALS STORED OR VEHICLES DRIVEN OR PARKED WITHIN THE "TREE PROTECTION ZONE".
2. THE FENCE SHALL BE ERECTED AT THE DRIP–LINE OF THE TREE OR AS APPROVED BY ENGINEER.
3. TREES DESIGNATED FOR PROTECTION SHOULD BE WATERED DURING PERIODS OF DROUGHT WHEN THERE IS LESS THAN 1" OF RAINFALL IN ANY CONSECUTIVE 30 DAY PERIOD. THE AMOUNT OF WATER PER TREE SHOULD BE BASED UPON 50 GALLONS PER INCH DIAMETER. APPLICATION SHOULD BE MADE SO THAT THE WATER SLOWLY SOAKS INTO THE GROUND AND DOES NOT RUN OFF.
4. IN AREAS WHERE THE "TREE PROTECTION ZONE" CANNOT BE FENCED, MULCHING MAY BE APPLIED TO A DEPTH OF 12" OVER THE AREA NOT PROTECTED BY FENCING OVER THE REMAINDER OF THE ZONE. PLACEMENT AND REMOVAL OF THE MULCHED AREA SHALL BE INCIDENTAL TO THE ESTABLISHMENT OF THE "TREE PROTECTION ZONE".

SIDEWALK

NOTES:
1. PROVIDE MINIMUM 4" OF PIPE BEDDING MATERIAL UNDER MANHOLE BOTTOM SECTION & FILL ENTIRE EXCAVATION ALL AROUND MANHOLE UP TO I.C. OF SEWER WITH BEDDING MATERIAL.
2. PIPE OPENINGS CAST INTO WALL.
3. PIPE SECTION TO BE LAID THRU MANHOLE, FORM CHANNEL & TOP HALF CUT.
4. MANHOLE FRAME, ADJ. RINGS & JOINTS SHALL BE SET ON A PREFORMED BIT. PLASTIC GASKET AS PER "SPECIAL CONDITIONS."
5. OUTLET CONTROL STRUCTURE TO BE CONSTRUCTED PER MANHOLE DETAIL

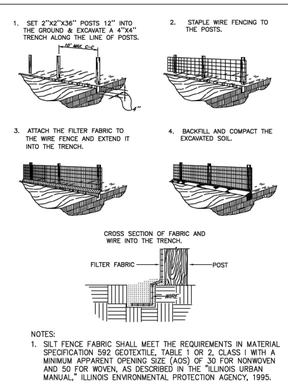


OUTLET CONTROL STRUCTURE



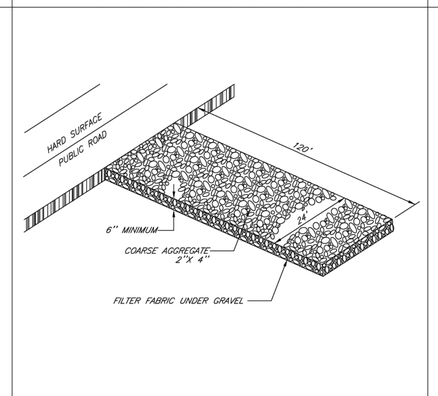
NOTES:
1. THE WATER MAIN SHALL BE 'CENTER SPACED' AND RESTRAINED ON TOP AND BOTTOM UTILIZING TWO CASING SPACERS EQUALLY SPACED PER LENGTH OF PIPE.
2. THE SANITARY SEWER MAIN SHALL BE CLASS 52 DUCTILE IRON PIPE, 'CENTER SPACED' AND RESTAINED ON TOP AND BOTTOM UTILIZING TWO CASING SPACERS EQUALLY SPACED PER LENGTH OF PIPE.
3. CASING SPACERS ARE TO BE POWERSEAL MODEL 48–10 STAINLESS STEEL OR APPROVED EQUAL.
4. CASING IS TO BE SEALED AT BOTH ENDS WITH A MASONARY CAP AND MADE WATER–TIGHT.
5. WATER MAIN JOINTS WITHIN THE CASING SHALL BE RESTRAINED UTILIZING U.S. PIPE FIELD LOCK GASKETS OR APPROVED EQUAL.

PIPE CASING DETAIL

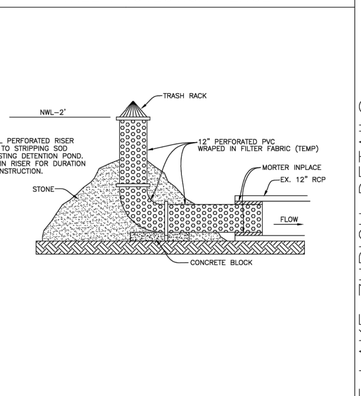


NOTES:
1. SILT FENCE FABRIC SHALL MEET THE REQUIREMENTS IN MATERIAL SPECIFICATION 592 GEOTEXTILE, TABLE 1 OR 2, CLASS I WITH A MINIMUM APPARENT OPENING SIZE (AOS) OF 30 FOR NONWOVEN AND 50 FOR WOVEN, AS DESCRIBED IN THE "ILLINOIS URBAN MANUAL," ILLINOIS ENVIRONMENTAL PROTECTION AGENCY, 1995.

SILT FENCE DETAIL



GRAVEL CONSTRUCTION ENTRANCE



TEMPORARY PERFORATED RISER DETAIL

VILLAGE OF LAKE ZURICH
70 EAST MAIN STREET
LAKE ZURICH, IL 60047
(847) 540–1694

REVISIONS

VILLAGE OF LAKE ZURICH DETAILS

SHEET 2

PROJECT NO.	DETAILS
DATE	1/10/03
SCALE	NTS
DESIGNED BY	DESIGN
DRAWN BY	DTM
CHECKED BY	EL

SHEET 2 / 3

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PROFESSIONAL DESIGN FIRM
LICENSE NO. 184-003220
EXPIRES: 04/30/2025

RESIDENTIAL DEVELOPMENT
670 S. OLD RAND ROAD
LAKE ZURICH, ILLINOIS

Reserved for Seal:

No.	Date	Description
	05/17/24	ISSUE FOR PZC

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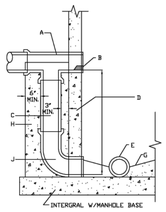
Design By:	Approved By:	Date:
MC/LR	MR	05/17/24

Sheet Title:
SITE WORK DETAILS

Sheet No:
C502

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Plotted: 5/13/24 @ 3:58pm By: mcarollo

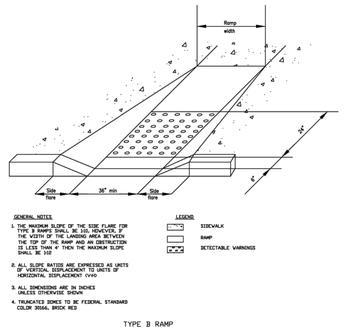
NOTE: DETAILS ARE NOT TO BE CHANGED IN ANY WAY. LEAVE ALL DETAILS ON SHEET EVEN IF THEY DO NOT APPLY TO CURRENT IMPROVEMENTS. CHANGING OF DETAILS DOES NOT CHANGE REQUIREMENTS.



LEGEND:
A. DUCTILE IRON PIPE
B. BRICK AND MORTAR DAM: HEIGHT EQUALS 1/3 DIAMETER OF SEWER.
C. OUTSIDE DROP PIPE: 6" DIA. UNLESS OTHERWISE NOTED ON THE PLANS.
D. MANHOLE SIDEWALLS: PRECAST REINFORCED CONCRETE MINIMUM WALL THICKNESS AS SPECIFIED.
E. MAINLINE SEWER (LARGEST DIAMETER)
F. RISER PIPE: PVC SDR 35, 8" DIAMETER UNLESS OTHERWISE NOTED ON THE PLANS.
G. MANHOLE BENCH FILLET: POURED IN PLACE CONCRETE UNLESS POURED WITH PRECAST REINFORCED CONCRETE BASE AND BOTTOM WALL.
H. CLASS X CONCRETE IN ACCORDANCE WITH THE STATE OF ILLINOIS STANDARDS SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
J. 90 DEGREE BEND DUCTILE IRON PIPE.

NOTES:
1. ALL JOINTS SHALL CONFORM TO A.S.T.M. C-425 SPECIFICATIONS EXCEPT "D" BELOW.
2. JUTE AND MORTAR OR BITMINOUS MASTIC JOINT ALLOWED ONLY AS SHOWN
3. RISERS SHALL BE CONSTRUCTED WHERE MAIN LINE SEWER EXCEEDS 12" UNLESS OTHERWISE NOTED.
4. RISERS SHALL BE CONSTRUCTED IN UNDISTURBED SIDEBANK EARTH.

OUTSIDE DROP PIPE DETAIL


Ramp width
4
4
4

670 Old Rand Road – Single Family Residential P.U.D. Landscape Narrative

The subject site is an approximately 9 acre parcel of land bordered on the west by Old Rand Road, to the south by single family homes, on the east by Buesching Road, and commercial uses to the north.

The proposed landscape for this parcel started with an analysis of the existing vegetation on the parcel. The site is heavily wooded with predominately low-quality volunteer trees and understory brush that has largely been left in an unkept state. Additionally, there is a wetland area and creek that run generally in an east west direction across the north end of the site. The plan is to leave all the wetland and vegetation associated with the wetland and the portions north of the wetland unchanged.

As proposed the area south of the wetland and north of the new home sites will be developed into a stormwater management area for the proposed project. This area will be landscaped with some native woody plants and low-profile prairie plantings, around the basin with native wet mesic vegetation in the bottom of the basin. This will create a nice transition from the wooded natural wetland area to the north to the proposed neighborhood to the south.

Given the condition, species of plants, and the grading that will be needed to realize this plan, the balance of the existing vegetation is proposed to be removed. This site will then be improved with a mix of high-quality landscape materials that will be predominantly native species. The landscape will utilize a mix of trees, shrubs, and groundcovers to enhance the proposed home sites and fit them into a familiar residential neighborhood that will blend into the surrounding community.



TYPICAL TOWNHOUSE LANDSCAPE PLAN DETAIL

Scale: 1" = 20'

PLANT SCHEDULE TYPICAL TOWNHOUSE BUILDING (4 Unit)

CODE	BOTANICAL / COMMON NAME	COND	SIZE	QTY
CANOPY TREES				
ACE XFM	ACER X FREEMANII / FREEMAN MAPLE	B & B	2.5" CAL.	1
GYM DIO	GYMNOCLADUS DIOICA 'ESPRESSO' / KENTUCKY COFFEETREE	B & B	2.5" CAL.	2
TIL RED	TILIA AMERICANA 'REDMOND' / REDMOND AMERICAN LINDEN	B & B	2.5" CAL.	1
EVERGREEN TREES				
THU TEC	THUJA OCCIDENTALIS 'TECHNY' / TECHNY ARBORVITAE	B & B	6' HT.	1
UNDERSTORY TREES				
BET RIV	BETULA NIGRA / RIVER BIRCH	B & B	8' CLUMP	2
CODE	BOTANICAL / COMMON NAME	COND.	SIZE	QTY
DECIDUOUS SHRUBS				
COR AME	CORYLUS AMERICANA / AMERICAN HAZELNUT	B & B	36" HT.	6
COT ACU	COTONEASTER ACUTIFOLIUS / PEKING COTONEASTER	B & B	36" HT.	2
FOT AIR	FOTHERGILLA GARDENII 'MT. AIRY' / MOUNT AIRY FOTHERGILLIA	CONT.	24" HT.	5
KER GOL	KERRIA JAPONICA 'GOLDEN GUINEA' / GOLDEN JAPANESE KERRIA	B & B	24" HT.	8
PHY NI2	PHYSOCARPUS OPULIFOLIUS / NINEBARK	B & B	36" HT.	2
PHY NIN	PHYSOCARPUS OPULIFOLIUS 'SUMMER WINE' / SUMMER WINE NINEBARK	B & B	36" HT.	2
RHU GRO	RHUS AROMATICA 'GRO-LOW' / GRO-LOW FRAGRANT SUMAC	CONT.	24" HT.	6
ROS FL3	ROSA X 'FLOWER CARPET CORAL' / ROSE	CONT.	24" SPREAD	5
SPI SPI	SPIRAEA JAPONICA 'LITTLE PRINCESS' / LITTLE PRINCESS JAPANESE SPIREA	CONT.	24" HT.	13
SYR MEY	SYRINGA MEYERI 'PALIBIN' / DWARF KOREAN LILAC	B & B	24" HT.	4
EVERGREEN SHRUBS				
JUN PFI	JUNIPERUS CHINENSIS 'KALLAYS COMPACT' / KALLAY COMPACT PFITZER JUNIPER	B & B	24" SPREAD.	9
TAX DEN	TAXUS X MEDIA 'DENSIFORMIS' / DENSE YEW	B & B	36" HT.	6
GRASSES				
CAL KAR	CALAMAGROSTIS X ACUTIFLORA 'KARL FOERSTER' / FEATHER REED GRASS	CONT.	#1	5
PAN NOR	PANICUM VIRGATUM 'NORTH WIND' / NORTHWIND SWITCH GRASS	CONT.	#1	7
SPO HET	SPOROBOLUS HETEROLEPIS / PRAIRIE DROPSEED	CONT.	#1	25
CODE	BOTANICAL / COMMON NAME	COND	SIZE	QTY
PERENNIALS				
HEM ORO	HEMEROCALLIS X 'STELLA DE ORO' / STELLA DE ORO DAYLILY	CONT.	#1	9
RUD GL2	RUDBECKIA FULGIDA 'GLODSTRUM' / BLACK-EYED SUSAN	CONT.	#1	5
TURF GRASS				
TUR SOD	TURF SOD / DROUGHT TOLERANT FESCUE BLEND	SOD	S.F.	4,919 SF

SUGGESTED - WET MESIC PLANT LIST

Botanical Name	Common Name
FORBS 60%	
Asclepias incarnata	Marsh Milkweed
Aster novae-angliae	New England Aster
Aster puniceus	Swamp Aster
Echinacea pallida	Pale Purple Coneflower
Echinacea purpurea	Purple Coneflower
Eurybia macrophylla	Big-Leafed Aster
Liatris pycnostachya	Prairie Blazing Star
Monarda fistulosa	Wild Bergamot
Pycnanthemum virginianum	Mountain Mint
Rudbeckia fulgida	Orange Coneflower
Rudbeckia speciosa var 'sullivantii'	Black-Eyed Susan
Tradescantia ohiensis	Spiderwort
Verbena hastata	Blue Vervain
Zizea aurea	Golden Alexanders
GRASSES or GRASS-LIKE PERENNIALS 40%	
Carex bicknellii	Copper Shouldered Oval Sedge
Carex brevior	Plains Oval Sedge
Carex frankii	Bristly Cattail Sedge
Eleocharis smallii	Creeping Spike Rush
Elymus canadensis	Canada Wildrye
Glyceria striata	Fowl Manna Grass
Panicum virgatum	Switchgrass

SUGGESTED - LOW-PROFILE PRAIRIE SEED MIX

Botanical Name	Common Name
Permanent Grasses:	
Bouteloua curtipendula	Side Oats Grama
Carex spp.	Prairie Sedge Mix
Elymus canadensis	Canada Wild Rye
Koeleria pyramidata	June Grass
Panicum virgatum	Switch Grass
Schizachyrium scoparium	Little Bluestem
Sporobolus heterolepis	Prairie Dropseed
	Total
Temporary Cover:	
Avena sativa	Common Oat
Lolium multiflorum	Annual Rye
	Total
Forbs:	
Amorpha canescens	Lead Plant
Anemone cylindrica	Thimbleweed
Aquilegia canadensis	Wild Columbine
Asclepias tuberosa	Butterfly Milkweed
Aster ericoides	Heath Aster
Aster laevis	Smooth Blue Aster
Aster novae-angliae	New England Aster
Baptisia lactea	White Wild Indigo
Chamaecrista fasciculata	Partridge Pea
Coreopsis lanceolata	Sand Coreopsis
Coreopsis palmata	Prairie Coreopsis
Dalea candidum	White Prairie Clover
Dalea purpurea	Purple Prairie Clover
Echinacea purpurea	Broad-Leaved Purple Coneflower
Eryngium yuccifolium	Rattlesnake Master
Kuhunia eupatorioides	False Bone-Set
Lespedeza capitata	Round-Head Bush Clover
Liatris aspera	Rough Blazing Star
Monarda fistulosa	Wild Bergamot
Parthenium integrifolium	Wild Quinine
Penstemon digitalis	Foxglove Beard Tongue
Physostegia virginiana	False Dragonhead
Pycnanthemum virginianum	Common Mountain Mint
Ratibida pinnata	Yellow Coneflower
Rudbeckia hirta	Black-Eyed Susan
Rudbeckia subtomentosa	Sweet Black-Eyed Susan
Silphium integrifolium	Rosin Weed
Solidago nemoralis	Old-Field Goldenrod
Solidago rigida	Stiff Goldenrod
Tradescantia ohiensis	Common Spiderwort
Vernonia spp.	Ironweed (Various Mix)
Veronicastrum virginianum	Culver's Root

N

30' 0' 30' 60' 90'

Scale: 1"= 30'

PLANT SCHEDULE

CANOPY TREES

- ACER X FREEMANII / FREEMAN MAPLE
- CELTIS OCCIDENTALIS / COMMON HACKBERRY
- GLEDITSIA TRIACANTHOS INERMIS 'SKYLINE' / THORNLESS SKYLINE HONEYLOCUST
- GYMNOCLADUS DIOICA 'ESPRESSO' / KENTUCKY COFFEETREE
- QUERCUS BICOLOR / SWAMP WHITE OAK
- TAXODIUM DISTICHUM 'MICKELSON' TM / MICKELSON BALD CYPRESS
- TILIA AMERICANA 'REDMOND' / REDMOND AMERICAN LINDEN

EVERGREEN TREES

- PICEA ABIES / NORWAY SPRUCE
- PICEA GLAUCA 'DENSATA' / BLACK HILLS SPRUCE
- PINUS STROBUS / WHITE PINE
- THUJA OCCIDENTALIS 'TECHNY' / TECHNY ARBORVITAE

UNDERSTORY TREES

- AMELANCHIER CANADENSIS / CANADIAN SERVICEBERRY
- BETULA NIGRA / RIVER BIRCH
- CERCIS CANADENSIS / EASTERN REDBUD
- SYRINGA RETICULATA / JAPANESE TREE LILAC

DECIDUOUS SHRUBS

- ARONIA MELANOCARPA 'MORTON' TM / IROQUIS BEAUTY BLACK CHOKEBERRY
- CORYLUS AMERICANA / AMERICAN HAZELNUT
- COTONEASTER ACUTIFOLIUS / PEKING COTONEASTER
- DIERVILLA X 'G2X88544' / KODIAK® ORANGE DIERVILLA
- FOTHERGILLA GARDENII 'MT. AIRY' / MOUNT AIRY FOTHERGILLIA
- HYDRANGEA ARBORESCENS 'ANNABELLE' / ANNABELLE SMOOTH HYDRANGEA
- KERRIA JAPONICA 'GOLDEN GUINEA' / GOLDEN JAPANESE KERRIA
- PHYSOCARPUS OPULIFOLIUS / NINEBARK
- PHYSOCARPUS OPULIFOLIUS 'SUMMER WINE' / SUMMER WINE NINEBARK
- RHUS AROMATICA 'GRO-LOW' / GRO-LOW FRAGRANT SUMAC
- RIBES ALPINUM 'GREEN MOUND' / GREEN MOUND ALPINE CURRANT
- ROSA X 'FLOWER CARPET CORAL' / ROSE
- SPIRAEA JAPONICA 'LITTLE PRINCESS' / LITTLE PRINCESS JAPANESE SPIREA
- SYRINGA MEYERI 'PALIBIN' / DWARF KOREAN LILAC
- SYRINGA X 'BLOOMERANG' / LILAC
- VIBURNUM DENTATUM 'BLUE MUFFIN' / SOUTHERN ARROWWOOD
- VIBURNUM PRUNIFOLIUM / BLACKHAW VIBURNUM

EVERGREEN SHRUBS

- JUNIPERUS CHINENSIS 'KALLAYS COMPACT' / KALLAY COMPACT PFITZER JUNIPER
- JUNIPERUS CHINENSIS 'SEA GREEN' / SEA GREEN JUNIPER
- TAXUS X MEDIA 'DENSIFORMIS' / DENSE YEW

GRASSES

- CALAMAGROSTIS X ACUTIFLORA 'KARL FOERSTER' / FEATHER REED GRASS
- PANICUM VIRGATUM 'NORTH WIND' / NORTHWIND SWITCH GRASS
- SPOROBOLUS HETEROLEPIS / PRAIRIE DROPSEED

PERENNIALS

- ALLIUM TANGUTICUM 'SUMMER BEAUTY' / SUMMER BEAUTY GLOBE LILY
- GAILLARDIA X GRANDIFLORA 'ARIZONA RED SHADES' / ARIZONA RED BLANKETFLOWER
- HEMEROCALLIS X 'STELLA DE ORO' / STELLA DE ORO DAYLILY
- HOSTA X 'LIBERTY' / PLANTAIN LILY
- LEUCANTHEMUM X SUPERBUM 'DAISY MAY' / SHASTA DAISY
- NEPETA X FAASSENII 'WALKERS LOW' / WALKERS LOW CATMINT
- RUDBECKIA FULGIDA 'GLOSSTRUM' / BLACK-EYED SUSAN
- SYMPHYOTRICHUM NOVAE-ANGLIAE 'PURPLE DOME' / NEW ENGLAND ASTER

TURF GRASS

- TURF SOD / DROUGHT TOLERANT FESCUE BLEND

SITE MATERIALS SCHEDULE

WET MESIC PLANTINGS	14,463	SF
LOW-PROFILE PRAIRIE	41,335	SF
EXISTING WETLAND	40,079	SF
ASPHALT	41,313	SF

ERIKSSON ENGINEERING ASSOCIATES, LTD.
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LICENSE NO. 184-003220
EXPIRES: 04/30/2023

RESIDENTIAL DEVELOPMENT

670 OLD RAND ROAD
LAKE ZURICH, ILLINOIS

Reserved for Seal:

No.	Date	Description
	06/17/2024	ISSUE FOR PZC

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SSG	XXX	02/28/2024

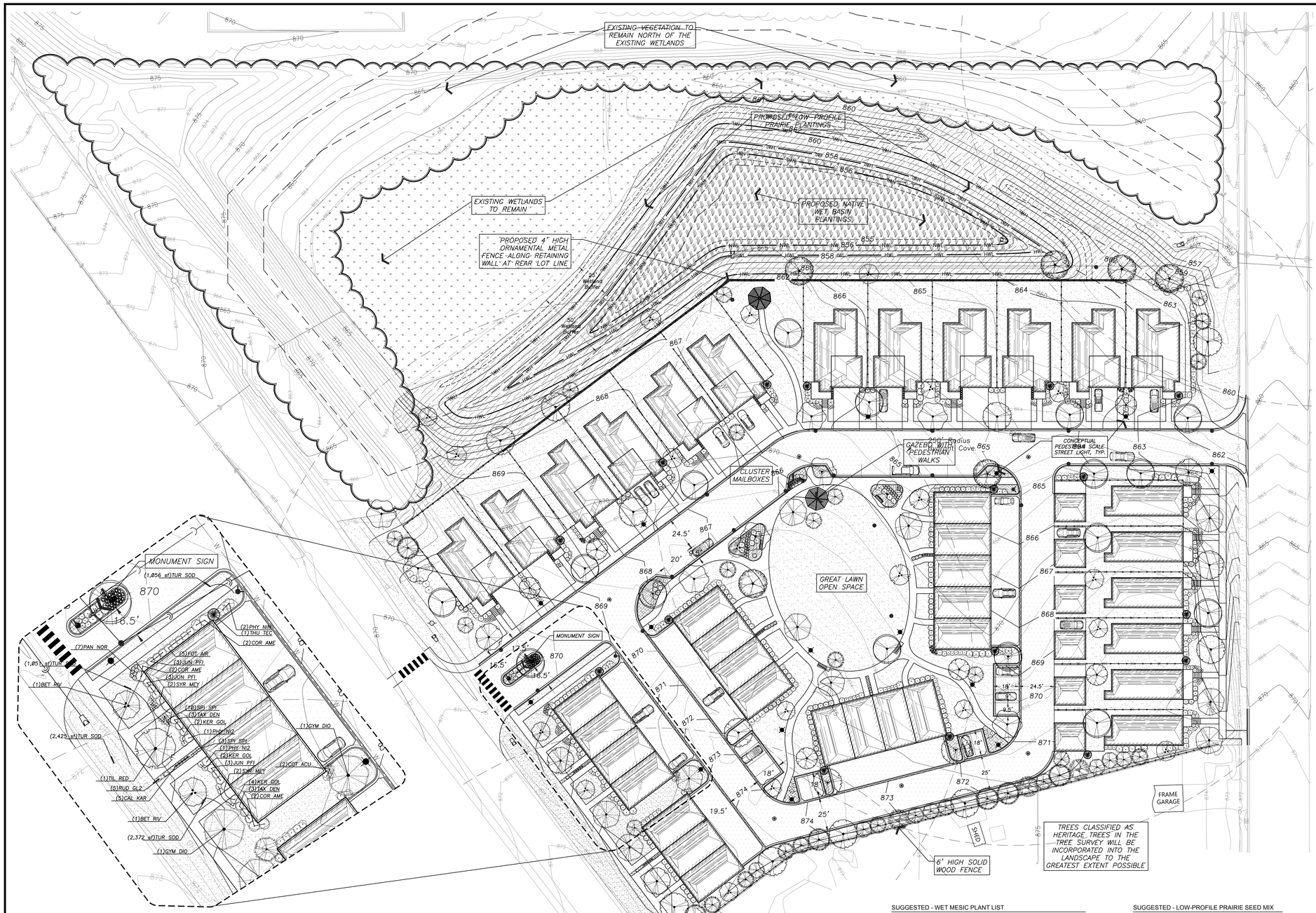
Sheet Title:

LANDSCAPE PLAN

Sheet No:

L100

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Plotted: 5/10/24 @ 3:45pm By: sgregory



TYPICAL TOWNHOUSE LANDSCAPE PLAN DETAIL

Scale: 1" = 20'

PLANT SCHEDULE TYPICAL TOWNHOUSE BUILDING (4 Unit)

CODE	BOTANICAL / COMMON NAME	COND	SIZE	QTY
CANOPY TREES				
ACE XFM	ACER X FREEMANII / FREEMAN MAPLE	B & B	2.5" CAL.	1
GYM DIO	GYMNOCLADUS DIOICA 'ESPRESSO' / KENTUCKY COFFEETREE	B & B	2.5" CAL.	2
TIL RED	TILIA AMERICANA 'REDMOND' / REDMOND AMERICAN LINDEN	B & B	2.5" CAL.	1
EVERGREEN TREES				
THU TEC	THUJA OCCIDENTALIS 'TECHNY' / TECHNY ARBORVITAE	B & B	6' HT.	1
UNDERSTORY TREES				
BET RIV	BETULA NIGRA / RIVER BIRCH	B & B	8' CLUMP	2
CODE	**BOTANICAL / COMMON NAME**	**COND.**	**SIZE**	**QTY**
DECIDUOUS SHRUBS				
COR AME	CORYLUS AMERICANA / AMERICAN HAZELNUT	B & B	36" HT.	6
COT ACU	COTONEASTER ACUTIFOLIUS / PEKING COTONEASTER	B & B	36" HT.	2
FOT AR	FOTHERGILLA GARDENII 'MT. AIRY' / MOUNT AIRY FOTHERGILLIA	CONT.	24" HT.	5
KER GOL	KERRIA JAPONICA 'GOLDEN GUINEA' / GOLDEN JAPANESE KERRIA	B & B	24" HT.	8
PHY NI2	PHYSOCARPUS OPULIFOLIUS / NINEBARK	B & B	38" HT.	2
PHY NIN	PHYSOCARPUS OPULIFOLIUS 'SUMMER WINE' / SUMMER WINE NINEBARK	B & B	38" HT.	2
RHU GRO	RHUS AROMATICA 'GRO-LOW' / GRO-LOW FRAGRANT SUMAC	CONT.	24" HT.	6
ROS FL3	ROSA X 'FLOWER CARPET CORAL' / ROSE	CONT.	24" SPREAD	5
SPI SPI	SPIRAEA JAPONICA 'LITTLE PRINCESS' / LITTLE PRINCESS JAPANESE SPIREA	CONT.	24" HT.	13
SYR MEY	SYRINGA MEYERI 'PALIBIN' / DWARF KOREAN LILAC	B & B	24" HT.	4
EVERGREEN SHRUBS				
JUN PFI	JUNIPERUS CHINENSIS 'KALLAYS COMPACT' / KALLAY COMPACT PFITZER JUNIPER	B & B	24" SPREAD.	9
TAX DEN	TAXUS X MEDIA 'DENSIFORMIS' / DENSE YEW	B & B	38" HT.	6
GRASSES				
CAL KAR	CALAMAGROSTIS X ACUTIFLORA 'KARL FOERSTER' / FEATHER REED GRASS	CONT.	#1	5
PAN NOR	PANICUM VIRGATUM 'NORTH WIND' / NORTHWIND SWITCH GRASS	CONT.	#1	7
SPO HET	SPOROBOLUS HETEROLEPIS / PRAIRIE DROPSEED	CONT.	#1	25
CODE	**BOTANICAL / COMMON NAME**	**COND**	**SIZE**	**QTY**
PERENNIALS				
HEM ORO	HEMEROCALLIS X 'STELLA DE ORO' / STELLA DE ORO DAYLILY	CONT.	#1	9
RUD GL2	RUDBECKIA FULGIDA 'GLODSTRUM' / BLACK-EYED SUSAN	CONT.	#1	5
TURF GRASS				
TUR SOD	TURF SOD / DROUGHT TOLERANT FESCUE BLEND	SOD	S.F.	4,919 SF

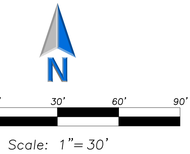
SUGGESTED - WET MESIC PLANT LIST

Botanical Name	Common Name
FORBS 60%	
Asclepias incarnata	Marsh Milkweed
Aster novae-angliae	New England Aster
Aster punicicus	Swamp Aster
Echinacea pallida	Pale Purple Coneflower
Echinacea purpurea	Purple Coneflower
Eurybia macrophylla	Big Leafed Aster
Liatris pycnostachya	Prairie Blazing Star
Monarda fistulosa	Wild Bergamot
Pycnanthemum virginianum	Mountain Mint
Rudbeckia fulgida	Orange Coneflower
Rudbeckia speciosa var 'sullivantii'	Black-Eyed Susan
Tradescantia ohiensis	Spiderwort
Verbena hastata	Blue Vervain
Zizea aurea	Golden Alexanders

GRASSES or GRASS-LIKE PERENNIALS 40%	
Carex bicknellii	Copper Shouldered Oval Sedge
Carex brevior	Plains Oval Sedge
Carex frankii	Bristly Cattail Sedge
Eleocharis smallii	Creeping Spike Rush
Elymus canadensis	Canada Wildrye
Glyceria striata	Fowl Manna Grass
Panicum virgatum	Switchgrass

SUGGESTED - LOW-PROFILE PRAIRIE SEED MIX

Botanical Name	Common Name
Permanent Grasses:	
Boutelous curtipendula	Side Oats Grama
Carex spp.	Prairie Sedge Mix
Elymus canadensis	Canada Wild Rye
Koeleria pyramidata	June Grass
Panicum virgatum	Switch Grass
Schizachyrium scoparium	Little Bluestem
Sporobolus heterolepis	Prairie Dropseed
	Total
Temporary Cover:	
Avena sativa	Common Oat
Lolium multiflorum	Annual Rye
	Total
Forbs:	
Amorpha canescens	Lead Plant
Anemone cylindrica	Thimbleweed
Aquilegia canadensis	Wild Columbine
Asclepias tuberosa	Butterfly Milkweed
Aster ericoides	Heath Aster
Aster laevis	Smooth Blue Aster
Aster novae-angliae	New England Aster
Baptisia lactea	White Wild Indigo
Chamaecrista fasciculata	Partridge Pea
Coreopsis lanceolata	Sand Coreopsis
Coreopsis palmata	Prairie Coreopsis
Dalea candidum	White Prairie Clover
Dalea purpurea	Purple Prairie Clover
Echinacea purpurea	Broad-Leaved Purple Coneflower
Eryngium yuccifolium	Rattlesnake Master
Kuhunia eupatoides	False Bone-Set
Lespedeza capitata	Round-Head Bush Clover
Liatris aspera	Rough Blazing Star
Monarda fistulosa	Wild Bergamot
Parthenium integrifolium	Wild Quinine
Penstemon digitalis	Foxglove Beard Tongue
Physostegia virginiana	False Dragonhead
Pycnanthemum virginianum	Common Mountain Mint
Ratibida pinnata	Yellow Coneflower
Rudbeckia hirta	Black-Eyed Susan
Rudbeckia subtomentosa	Sweet Black-Eyed Susan
Silphium integrifolium	Rosin Weed
Solidago nemoralis	Old-Field Goldenrod
Solidago rigida	Stiff Goldenrod
Tradescantia ohiensis	Common Spiderwort
Vernonia spp.	Ironweed (Various Mix)
Veronicastrum virginianum	Culver's Root



Scale: 1"= 30'

PLANT SCHEDULE

SYMBOL	BOTANICAL / COMMON NAME
CANOPY TREES	
	ACER X FREEMANII / FREEMAN MAPLE
	CELTIS OCCIDENTALIS / COMMON HACKBERRY
	GLEDITSIA TRIACANTHOS INERMIS 'SKYLINE' / THORNLESS SKYLINE HONEYLOCUST
	GYMNOCLADUS DIOICA 'ESPRESSO' / KENTUCKY COFFEETREE
	QUERCUS BICOLOR / SWAMP WHITE OAK
	TAXODIUM DISTICHUM 'MICKELSON' TM / MICKELSON BALD CYPRESS
	TILIA AMERICANA 'REDMOND' / REDMOND AMERICAN LINDEN
EVERGREEN TREES	
	PICEA ABIES / NORWAY SPRUCE
	PICEA GLAUCA 'DENSATA' / BLACK HILLS SPRUCE
	PINUS STROBUS / WHITE PINE
	THUJA OCCIDENTALIS 'TECHNY' / TECHNY ARBORVITAE
UNDERSTORY TREES	
	AMELANCHIER CANADENSIS / CANADIAN SERVICEBERRY
	BETULA NIGRA / RIVER BIRCH
	CERCIS CANADENSIS / EASTERN REDBUD
	SYRINGA RETICULATA / JAPANESE TREE LILAC
DECIDUOUS SHRUBS	
	ARONIA MELANOCARPA 'MORTON' TM / IROQUIS BEAUTY BLACK CHOKEBERRY
	CORYLUS AMERICANA / AMERICAN HAZELNUT
	COTONEASTER ACUTIFOLIUS / PEKING COTONEASTER
	DIERVILLA X 'G2X88544' / KODIAK® ORANGE DIERVILLA
	FOTHERGILLA GARDENII 'MT. AIRY' / MOUNT AIRY FOTHERGILLIA
	HYDRANGEA ARBORESCENS 'ANNABELLE' / ANNABELLE SMOOTH HYDRANGEA
	KERRIA JAPONICA 'GOLDEN GUINEA' / GOLDEN JAPANESE KERRIA
	PHYSOCARPUS OPULIFOLIUS / NINEBARK
	PHYSOCARPUS OPULIFOLIUS 'SUMMER WINE' / SUMMER WINE NINEBARK
	RHUS AROMATICA 'GRO-LOW' / GRO-LOW FRAGRANT SUMAC
	RIBES ALPINUM 'GREEN MOUND' / GREEN MOUND ALPINE CURRANT
	ROSA X 'FLOWER CARPET CORAL' / ROSE
	SPIRAEA JAPONICA 'LITTLE PRINCESS' / LITTLE PRINCESS JAPANESE SPIREA
	SYRINGA MEYERI 'PALIBIN' / DWARF KOREAN LILAC
	SYRINGA X 'BLOOMERANG' / LILAC
	VIBURNUM DENTATUM 'BLUE MUFFIN' / SOUTHERN ARROWWOOD
	VIBURNUM PRUNIFOLIUM / BLACKHAW VIBURNUM
EVERGREEN SHRUBS	
	JUNIPERUS CHINENSIS 'KALLAYS COMPACT' / KALLAY COMPACT PFITZER JUNIPER
	JUNIPERUS CHINENSIS 'SEA GREEN' / SEA GREEN JUNIPER
	TAXUS X MEDIA 'DENSIFORMIS' / DENSE YEW
GRASSES	
	CALAMAGROSTIS X ACUTIFLORA 'KARL FOERSTER' / FEATHER REED GRASS
	PANICUM VIRGATUM 'NORTH WIND' / NORTHWIND SWITCH GRASS
	SPOROBOLUS HETEROLEPIS / PRAIRIE DROPSEED
PERENNIALS	
	ALLIUM TANGUTICUM 'SUMMER BEAUTY' / SUMMER BEAUTY GLOBE LILY
	GAILLARDIA X GRANDIFLORA 'ARIZONA RED SHADES' / ARIZONA RED BLANKETFLOWER
	HEMEROCALLIS X 'STELLA DE ORO' / STELLA DE ORO DAYLILY
	HOSTA X 'LIBERTY' / PLANTAIN LILY
	LEUCANTHEMUM X SUPERBUM 'DAISY MAY' / SHASTA DAISY
	NEPETA X FAASSENII 'WALKERS LOW' / WALKERS LOW CATMINT
	RUDBECKIA FULGIDA 'GLODSTRUM' / BLACK-EYED SUSAN
	SYMPHYOTRICHUM NOVAE-ANGLIAE 'PURPLE DOME' / NEW ENGLAND ASTER
TURF GRASS	
	TURF SOD / DROUGHT TOLERANT FESCUE BLEND

SITE MATERIALS SCHEDULE

	WET MESIC PLANTINGS	14,463 SF
	LOW-PROFILE PRAIRIE	41,335 SF
	EXISTING WETLAND	40,079 SF
	ASPHALT	41,313 SF

ERIKSSON ENGINEERING ASSOCIATES, LTD.
145 COMMERCE DRIVE, SUITE A
GRAYSLAKE, ILLINOIS 60030
PHONE (847) 223-4804
FAX (847) 223-4864
EMAIL INFO@EEA-LTD.COM
PROFESSIONAL DESIGN FIRM
LICENSE NO. 184-003220
EXPIRES: 04/30/2023

RESIDENTIAL DEVELOPMENT

670 OLD RAND ROAD
LAKE ZURICH, ILLINOIS

Reserved for Seal:

No.	Date	Description
	05/17/2024	ISSUE FOR PZC

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SSG	XXX	02/28/2024

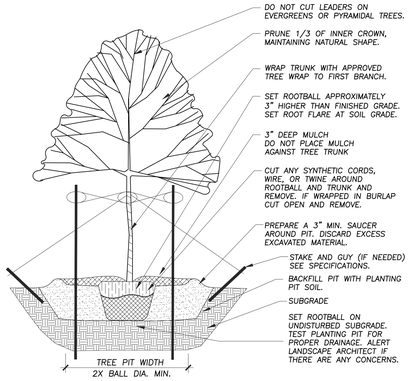
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LANDSCAPE PLAN

Sheet No:

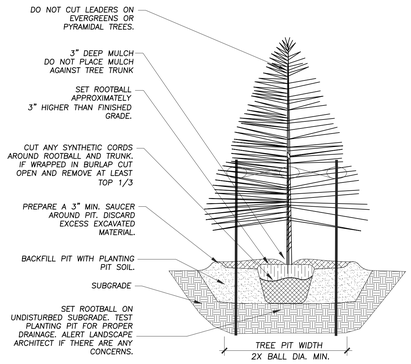
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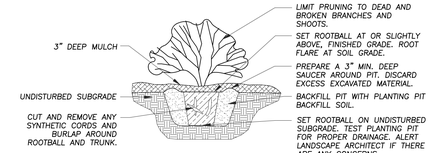
1 TREE PLANTING DETAIL

Not To Scale 329343-01



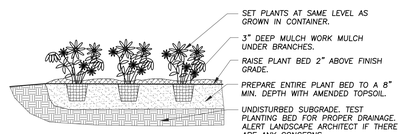
2 EVERGREEN TREE PLANTING DETAIL

NOT TO SCALE 329343-02



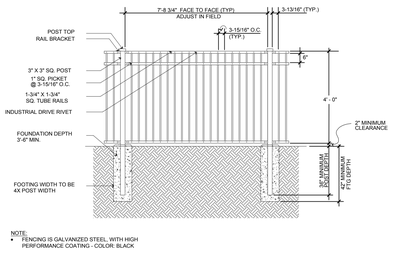
3 SHRUB PLANTING DETAIL

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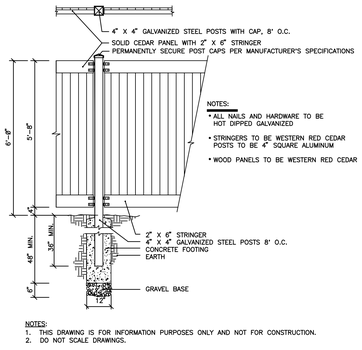
4 ANNUAL, PERENNIAL, & GROUNDCOVER DETAIL

Not To Scale 329301-03



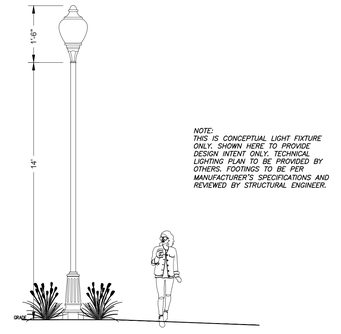
5 4` ORNAMENTAL METAL FENCE

Not To Scale 323119-83



6 6' SOLID WOOD PANEL FENCE WITH STEEL POSTS

NOT TO SCALE 323129.23-33



7 14' LIGHT POLE & ACORN STYLE LUMINARE

Not To Scale 265623-07

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Design By:	Approved By:	Date:
SSG	XXX	02/28/2024

Sheet Title:

LANDSCAPE PLAN

Sheet No:

L100

EEA – P:\22138 – KLLM – 670 Old Rand Road\Drawings\Landscape Plan.dwg
Plotted: 5/10/24 @ 3:09pm By: sgregory

McSHANE CONSTRUCTION COMPANY

9500 W. Bryn Mawr Avenue, Suite 200
Rosemont, IL 60018
www.mcshaneconstruction.com

May 9, 2024

David Haymes, On Behalf of OSK Capital Partners
670 S Old Rand Rd LLC
c/o Ash, Anos, Freedman & Logan
95 Revere Drive, Suite G
Northbrook, IL 60062

RE: Site Development Budget | 670 Old Rand

Dear Mr. Haymes:

We have reviewed the Preliminary Pricing Set civil drawings dated 4/12/24 by Eriksson Engineering Associates along with the Preliminary for Review landscape drawings dated 3/20/24 by Eriksson Engineering Associates and have developed a budget of $2,632,427 for the site development work. The scope is further clarified below.

- Demo existing pavement and structures
- Strip existing topsoil and stock pile sufficient quantities for respread
- Cut site to fill. Export excess clay. *(Let's review as this is estimated at 22,500 CY of export)*
- Build pads for new single family and townhome units
- Landscaping only for detention area
- Curbs and roads including asphalt base course and asphalt surface course. Standard duty.
- Public walks along edges of roads
- Concrete aprons for driveways
- Storm as shown. No storm shown at ring road.
- Watermain as shown plus (18) stubs of 1" copper for single family homes and (5) stubs of 2" copper for townhome buildings to within 5' of building
- Sanitary as shown plus a 6" stub to each single family home and townhome building to within 5' of building
- Watermain and sanitary main bored under roads
- Supervision, management, insurance, and profit

We appreciate the opportunity to assist you and would be happy to meet with you to answer any questions on our budget. Please feel free to contact me at (847) 421-9178 or via email at drintz@mcshane.com.

Sincerely,

McSHANE CONSTRUCTION COMPANY

David J. Rintz
Regional Vice President – Multi-Family

Cc: N. Ornhoff



Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
ALL CALCS AT GRADE-10'X10'	Illuminance	Fc	0.32	5.4	0.0	N.A.	N.A.
PROPERTY LINE	Illuminance	Fc	0.00	0.1	0.0	N.A.	N.A.
MAIN DRIVE AND PARKING SPACES	Illuminance	Fc	1.09	5.2	0.0	N.A.	N.A.

PHOTOMETRIC EVALUATION
NOT FOR CONSTRUCTION

Based on the information provided, all dimensions and luminaire locations shown represent recommended positions. The engineer and/or architect must determine the applicability of the layout to existing or future field conditions.

This lighting plan represents illumination levels calculated from laboratory data taken under controlled conditions in accordance with The Illuminating Engineering Society (IES) approved methods. Actual performance of any manufacturer's luminaires may vary due to changes in electrical voltage, tolerance in lamps/LED's and other variable field conditions. Calculations do not include obstructions such as buildings, curbs, landscaping, or any other architectural elements unless noted. Fixture nomenclature noted does not include mounting hardware or poles. This drawing is for photometric evaluation purposes only and should not be used as a construction document or as a final document for ordering product.

Luminaire Schedule									
Symbol	Qty	Label	Arrangement	Description	Mounting Height	LLD	LLF	Arr. Lum. Lumens	Arr. Watts
+	7	B	Single	LXM4-PT-3-LED-05L-30-IL-SINGLE	14'	1.000	0.970	3870	39
+	5	C	Single	LXM4-PT-FT-LED-05L-30-IL-SINGLE	14'	1.000	0.970	3440	39
+	1	D	Single	LXM4-PT-5W-LED-05L-30-SINGLE	14'	1.000	0.970	4603	39.2
-	54	W	Single	XWS-LED-01L-SIL-3-30-70CRI	6'	1.000	0.950	1491	10





Total Project Watts_1
Total Watts = 1047.2

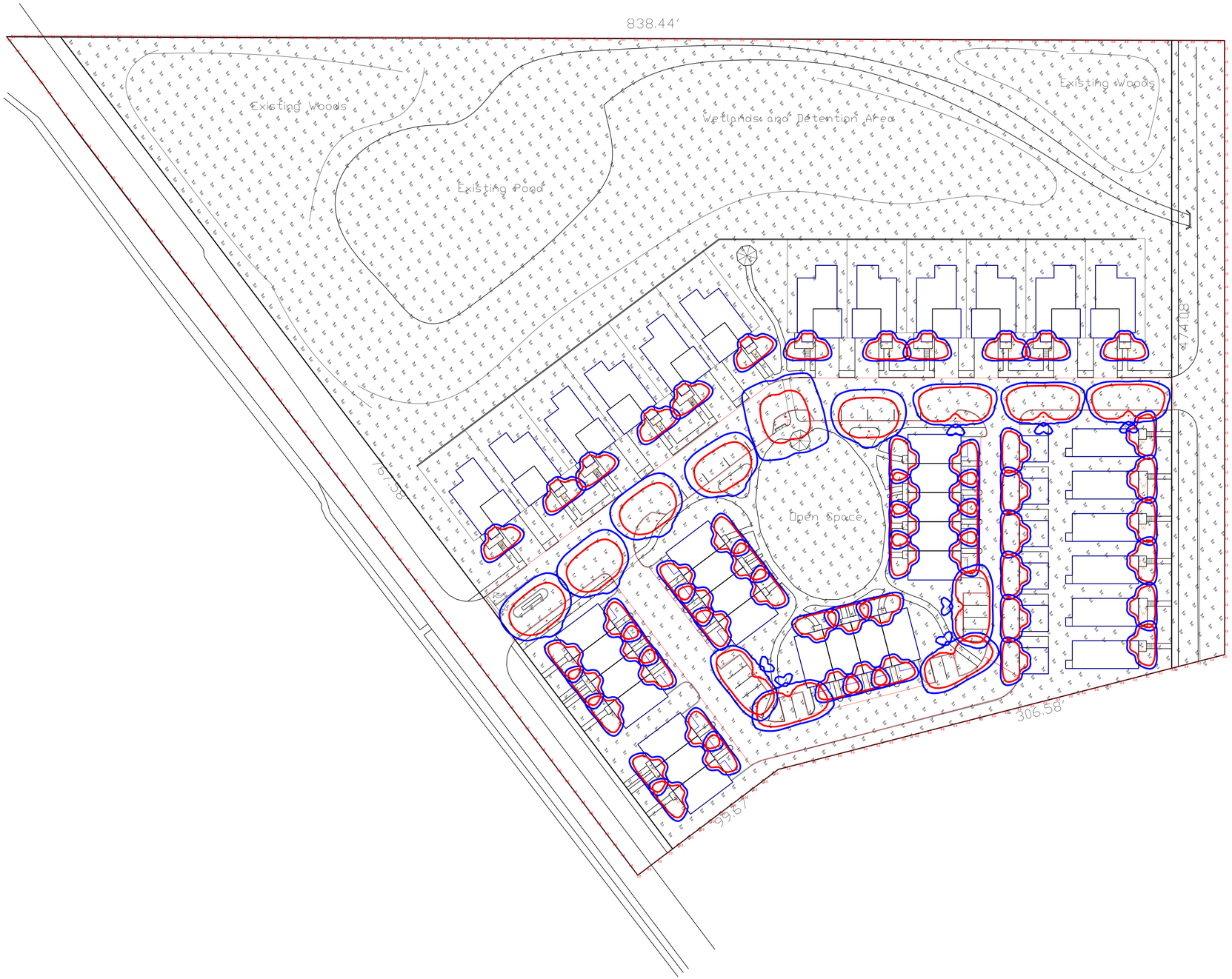
10000 ALLIANCE RD. CINCINNATI, OHIO 45242 USA
(513) 793-3200 • FAX (513) 793-6023

LIGHTING PROPOSAL LD-160222

670 OLD RAND ROAD
LAKE ZURICH, IL

BY:RNK | DATE:05/17/24 | REV: | SHEET 1 OF 1

SCALE:1"=40' 0 40





Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
ALL CALCS AT GRADE-10'X10'	Illuminance	Fc	0.32	5.4	0.0	N.A.	N.A.
PROPERTY LINE	Illuminance	Fc	0.00	0.1	0.0	N.A.	N.A.
MAIN DRIVE AND PARKING SPACES	Illuminance	Fc	1.09	5.2	0.0	N.A.	N.A.

Luminaire Schedule									
Symbol	Qty	Label	Arrangement	Description	Mounting Height	LLD	LLF	Arr. Lum. Lumens	Arr. Watts
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PHOTOMETRIC EVALUATION
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Total Project Watts_1
Total Watts = 1047.2

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LIGHTING PROPOSAL LD-160222

670 OLD RAND ROAD
LAKE ZURICH, IL

BY:RNK	DATE:05/17/24	REV:	SHEET 1 OF 1

SCALE:1"=40' 0 40

Catalog # : _____ Project : _____ Type : _____

Prepared By : _____ Date : _____

Lexington (LXM4)

LED Decorative Post Top & Area Light



OVERVIEW	
Lumen Package (lm)	4,000 - 27,000
Wattage Range (W)	39 - 228
Efficacy Range (LPW)	100 - 140
Weight lbs (kg)	64 (29)

QUICK LINKS

Ordering Guide | Performance | Photometrics | Dimensions

FEATURES & SPECIFICATIONS

Construction

- Rugged die-cast aluminum housing.
- Cast aluminum wiring access door located in lower hub/fitter.
- Rigid die-cast aluminum arms for consistency and strength.
- Precision die cast aluminum heatsink and optical frame.
- Removable spun aluminum cap/driver enclosure is retained by captive stainless steel fasteners and safety cables. Housing and top cap interface is sealed with a one-piece extruded silicone gasket. Tool-less entry option is available.
- All exposed fasteners are black oxide coated stainless steel. Internal fasteners are stainless steel or zinc electroplated steel.
- IP65 rated luminaire protects integral components from harsh environments.
- 1.5G rated for ANSI C136.31 high vibration applications
- Fixtures are finished with LSI's DuraGrip® polyester powder coat finishing process. The DuraGrip finish withstands extreme weather changes without cracking or peeling. Other standard LSI finishes available. Consult factory.

Optical System

- State-of-the-Art one piece silicone optic sheet delivers industry leading optical control with an integrated gasket to provide IP66 rated sealed optical chamber in 1 component.
- Proprietary silicone refractor optics provide exceptional coverage and uniformity in IES Types 2, 3, 5W and FT.
- Silicone optical material does not yellow or crack with age and provides a minimum light transmittance of 93%.
- Optical distributions are field rotatable (in 90° increments).
- Available in 5000K, 4000K, and 3000K (+/- 275K) color temperatures.
- Minimum CRI of 70. Consult Factory for Higher CRI requirements.
- Integral Louver (IL) option available for improved back-light control without sacrificing street side performance.

Electrical

- High-performance driver features over-voltage, under-voltage, short-circuit and over temperature protection.
- 0-10V dimming (10% - 100%) standard.
- Standard Universal Voltage (120-277 Vac) Input 50/60 Hz or optional High Voltage (347-480 Vac).
- L70 Calculated Life: >100k Hours (See Lumen Maintenance on Page 2)
- Total harmonic distortion: <20%
- Operating temperature: - -40°C to +50°C (-40°F to +122°F)
- Power factor: >.90
- Input power stays constant over life.
- Field replaceable surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).
- High-efficacy LEDs mounted to metal-core circuit board to maximize heat dissipation
- Terminal block provided accepts up to 10ga wire, however the luminaire is supplied with a 32' 3 conductor wire harness.
- Components are fully encased in potting material for moisture resistance. Driver complies with FCC standards. Driver and key electronic components can easily be accessed.

Controls

- Optional integral passive infrared Bluetooth™ motion and photocell sensor. Fixtures operate independently and can be commissioned via iOS or Android configuration app (See controls page for more detail).

Installation

- Mounts to 4" O.D. pole or tenon.
- Secures to pole with 6 stainless steel set screws.
- 32' wire leads are provided bundled in the slip fitter hub for ease of wiring.

Warranty

- LSI luminaires carry a 5-year limited warranty. Refer to https://www.lsicorp.com/resources/terms-conditions-warranty/ for more information.

Listings

- Listed to UL 1598 and UL 8750
- State of California Title 24
- IDA compliant; with 3000K color temperature selection.
- Meets Buy American Act requirements
- Suitable For wet Locations
- IP65 rated Luminaire. IP66 rated optical chamber.
- 1.5G rated for ANSI C136.31 high vibration applications

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Lexington (LXM4)

Type : _____

Have questions? Call us at (800) 436-7800

ORDERING GUIDE

Back to Quick Links

TYPICAL ORDER EXAMPLE: LXM4 PT LED 3 18L 50 UNV BLK IMSBT1L

Prefix	Mounting	Distribution	Light Source	Lumen Package	Color Temperature	Voltage	Finish	Option Controls	Options
LXM4 - Lexington	**PT** - Post Top	**2** - Type II **3** - Type III **5W** - Type 5 Wide **FT** - Forward Throw (Type IV)	**LED**	**5L** - 5,000 Lumens **10L** - 10,000 Lumens **18L** - 18,000 Lumens **25L** - 25,000 Lumens	**30** - 3000K **40** - 4000K **50** - 5000K	**UNV** - Universal Voltage (120-277V) **HV** - High Voltage (347-480V)	**BRZ** - Bronze **BLK** - Black **GPT** - Graphite **MSV** - Metallic Silver **WHT** - White **PLP** - Platinum Plus **SVG** - Satin Verde Green	**Stand-Alone Control** (Blank) - None **IMSBT1L** - Integral Bluetooth™ Motion and Photocell Sensor (8 - 24' mounting height)[3] **IMSBT2L** - Integral Bluetooth™ Motion and Photocell Sensor (25 - 40' mounting height)[3] **ALBCS1** - AirLink Blue Wireless Motion & Photo Sensor Controller (8-24' MH) **ALBCS2** - AirLink Blue Wireless Motion & Photo Sensor Controller (25-40' MH)	**IL** - Integral Louver Shield[4]

Need more information?
Click here for our glossary

Have additional questions?
Call us at (800) 436-7800

ACCESSORY ORDERING INFORMATION

Part Number	Description
490025CLR[2]	BK MPT B04 - Bolt on Bracket (for PT 180) For 4" O.D. Round Poles
490035CLR[2]	BK MPT B05 - Bolt on Bracket (for PT 180) For 5" O.D. Round Poles
654939	IL - Integral Louver Shield (Black only)
356044	WM - Post top wall mount bracket (bronze) C/F for additional finish options

Part Number	Description
FK120 [1]	FK120 Single Fusing (120V)
FK277 [1]	FK277 Single Fusing (277V)
DFK208, 240 [1]	DFK208,240 Double Fusing (208V, 240V)
DFK480 [1]	DFK480 Double Fusing (480V)
FK347 [1]	FK347 Single Fusing (347V)
661409	ALSC UNV TL5 - AirLink 5 Pin Twist Lock Controller
661410	ALSC UNV TL7 - AirLink 7 Pin Twist Lock Controller

1. Fusing must be located in hand hole of pole.
2. Order poles with 3" reduced drilling pattern. For PT mounting configurations other than D180,consult factory. Order one bracket per fixture
3. Consists of a daylight & motion dual sensor. Field configurable via the LSI app that can be downloaded from your smartphone's native app store.
4. Not available with type 5W distribution.

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PERFORMANCE

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Delivered Lumens*

Lumen Package	Distribution	3000K CCT			4000K CCT			5000K CCT			Wattage
		Delivered Lumens	Efficacy	BUG Rating	Delivered Lumens	Efficacy	BUG Rating	Delivered Lumens	Efficacy	BUG Rating	
5L	2	4568	117	B2-U1-G1	5047	129	B2-U1-G1	5297	136	B2-U1-G1	39
	3	4697	120	B1-U1-G2	5189	132	B1-U1-G2	5447	140	B1-U1-G2	
	FT	4575	117	B1-U1-G2	5054	129	B1-U1-G2	5305	136	B1-U1-G2	
	5W	4602	118	B3-U1-G1	5084	130	B3-U1-G1	5336	137	B3-U1-G1	
10L	2	9100	117	B2-U2-G2	10054	130	B2-U2-G2	10553	135	B2-U2-G2	78
	3	9360	120	B2-U2-G2	10341	134	B2-U2-G2	10854	139	B2-U2-G2	
	FT	9107	117	B2-U2-G2	10061	130	B2-U2-G2	10560	135	B2-U2-G2	
	5W	9152	120	B4-U2-G2	10020	130	B4-U2-G2	10517	135	B4-U2-G2	
18L	2	16650	112	B3-U2-G3	18113	122	B3-U2-G3	19012	128	B3-U2-G3	149
	3	17108	115	B3-U2-G3	18756	126	B3-U2-G3	19687	132	B3-U2-G3	
	FT	16725	112	B3-U2-G3	18336	123	B3-U2-G3	19246	129	B3-U2-G3	
	5W	16810	113	B4-U2-G2	18429	124	B4-U2-G2	19344	130	B4-U2-G2	
25L	2	22952	102	B4-U2-G3	25057	110	B4-U2-G3	26301	115	B4-U2-G3	228
	3	23544	103	B3-U2-G3	25921	114	B3-U2-G3	27208	119	B3-U2-G3	
	FT	22902	100	B3-U2-G4	25215	111	B3-U2-G4	26466	116	B3-U2-G4	
	5W	23612	104	B5-U2-G3	25996	114	B5-U2-G3	27286	120	B5-U2-G3	

*LEDs are frequently updated therefore values are nominal.

Electrical Data (Amps)*

Lumen Package	Wattage	120V	208V	240V	277V	347V	480V
5L	39	0.33	0.19	0.16	0.14	0.11	0.08
10L	78	0.65	0.38	0.33	0.28	0.22	0.16
18L	149	1.24	0.72	0.62	0.54	0.43	0.31
25L	228	1.90	1.10	0.95	0.82	0.66	0.48

*Electrical data at 25C (77F). Actual wattage may differ by +/-10%.

Recommended Lumen Maintenance[1]

Ambient Temp C	Initial [2]	25k hr [2]	50k hr [2]	75k hr [3]	100k hr [3]
0 C	99%	97%	96%	95%	94%
10 C	99%	97%	96%	95%	93%
20 C	99%	97%	95%	94%	92%
25 C	98%	97%	95%	93%	92%
30 C	98%	97%	95%	93%	92%
40 C	98%	97%	95%	93%	91%

1 Lumen maintenance values at 40C are calculated per TM-21 based on LM-80 data and in-situ testing.
2 In accordance with IESNA TM-21-11, Projected Values represent interpolated value based on time durations that are within six times the IESNA LM-80-08 total test duration for the device under testing.
3 In accordance with IESNA TM-21-11, Calculated Values represent time durations that exceed six times the IESNA LM-80-08 total test duration for the device under testing

1 Lumen maintenance values at 40C are calculated per TM-21 based on LM-80 data and in-situ testing.
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3 In accordance with IESNA TM-21-11, Calculated Values represent time durations that exceed six times the IESNA LM-80-08 total test duration for the device under testing.

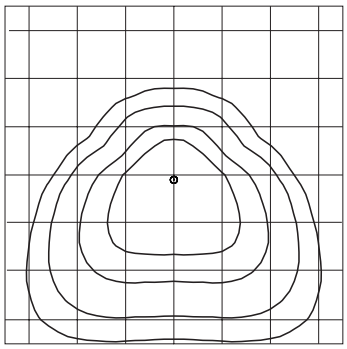
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PHOTOMETRICS

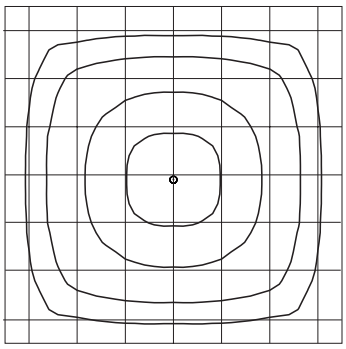
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Luminaire photometry has been conducted by a NVLAP accredited testing laboratory in accordance with IESNA LM-79-08. As specified by IESNA LM-79-08 the entire luminaire is tested as the source resulting in a luminaire efficiency of 100%.

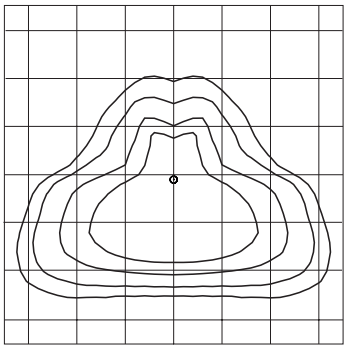
See the individual product page on https://www.lsicorp.com/ for detailed photometric data.



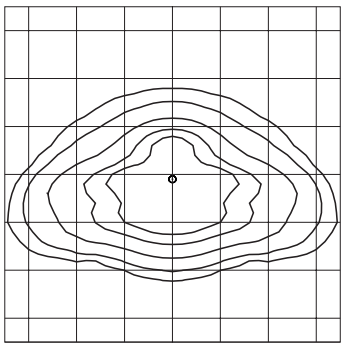
FT



5W



Type 3



Type 2

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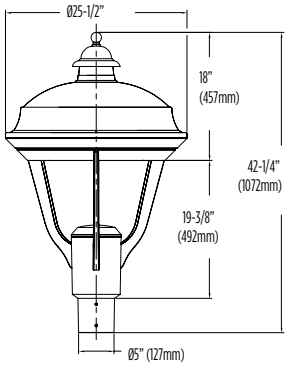
Lexington (LXM4)

Type : _____

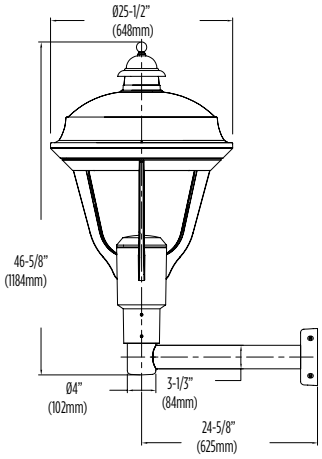
Have questions? Call us at (800) 436-7800

PRODUCT DIMENSIONS

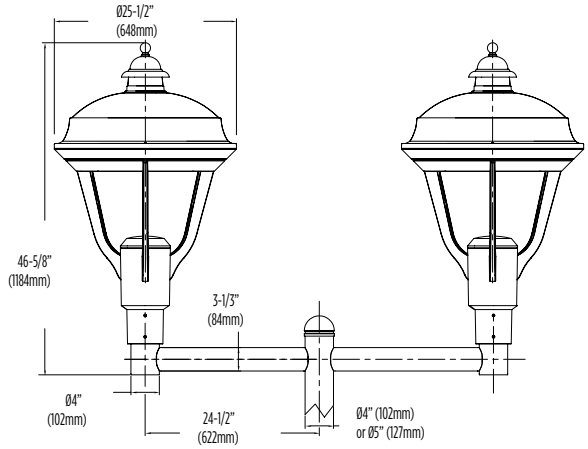
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Post Top Single
Slipfits 4" Dia. Tenon (4N) or Pole



Post Top with WM Accessory



Luminaire EPA Chart

	Mounting Style	
PT Single	PT	1.4
PT D180° with BK MPT BO (2)	PT	2.7

Shipping Weights

Catalog Number	Est. Weight (kg/lbs.)
LXM4 (PT)	29/64

POLES & BRACKETS

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LSI offers a full line of poles and mounting accessories to complete your lighting assembly. Aluminum and steel in both square and round shafts. In addition, LSI offers round tapered, fluted and hinge based poles. Designed and engineered for durability and protected with our oven baked DuraGrip Protection System. Also available with our DuraGrip+ Protection system for unmatched corrosion resistance and an extended warranty. American made in our Ohio facility with industry leading lead times.

Click here to learn more details about poles & brackets



BKA UMB CLR

The 3G rated UMB allows for seamless integration of LSI luminaires onto existing/ retrofit or new construction poles. The UMB was designed for square or round (tapered or straight) poles with two mounting hole spacings between 3.5" – 5".



BKA ASF CLR

The adjustable Slip Fitter is a 3G rated rugged die cast aluminum adapter to mount LSI luminaires onto a onto a 2" iron pipe , 2 3/8 OD tenon. The Adjustable Slip Fitter can be rotated 180° allowing for tilting LSI luminaires up to 45° and 90° when using a vertical tenon.



BKS PQM15 CLR

The Pole Quick Mount Bracket allows for preset 15° uptilt of LSI luminaires for greater throw of light and increased vertical illumination as well as fast installation onto poles with LSI's 3" or 5" bolt pattern.



BKS PQMH CLR

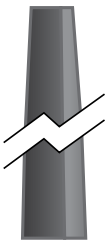
The Pole Quick Mount Bracket allows for lightning fast installation of LSI luminaires onto existing and new construction poles with LSI's B3 or B5 standard pole bolt patterns.



Square Pole
14'-39'



Round Pole
10'-30'



Tapered Pole
20'-39'

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CONTROLS

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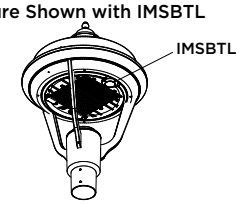
Integral Bluetooth™ Motion and Photocell Sensor (IMSBTxL)

Slim low profile sensor provides multi-level control based on motion and/or daylight. Sensor controls 0-10 VDC LED drivers and is IP66 rated for cold and wet locations (-40°F to 167°F). Two unique PIR lenses are available and used based on fixture mounting height. All control parameters are adjustable via an iOS or Android App capable of storing and transmitting sensor profiles.

Click here to learn more details about IMSBT

LEVITON App | Apple | Android

Fixture Shown with IMSBTL



AirLink Blue (ALBCSx)

Wireless Bluetooth Mesh Outdoor Lighting Control System that provides energy savings, code compliance and enhanced safety/security for parking lots and parking garages. Three key components; Bluetooth wireless radio/sensor controller, Time Keeper and an iOS App. Capable of grouping multiple fixtures and sensors as well as scheduling time-based events by zone. Radio/Sensor Controller is factory integrated into Area/Site, Wall Mounted, Parking Garage and Canopy luminaires.

Click here to learn more details about AirLink Blue

AirLink Blue App | Apple

Sensor Sequence of Operations

Standard Programming	On Event	Off Event	On Light Level	Dim Light Level	Daylight Harvesting	Delay To Off	Sensitivity
OMSBTxL/IMSBTxL	Motion	No Motion	100%	N/A	On; Auto Calibration	20 minutes	High
OMS	Motion	No Motion	N/A	N/A	N/A	30 seconds	Auto

Operation	Description
On Event	Trigger that activates lights to turn on; either automatic via motion detected or manually activated via push of button.
Off Event	Trigger that activates lights to turn off; either automatic via no motion detected or manually activated via push of button.
On Light Level	The light level that the fixtures will turn on to when ON EVENT occurs.
Dim Light Level	The light level that the fixtures will dim down to when no motion is detected.
Delay to Dim	The amount of time after which no motion is detected that the fixtures will be triggered to dim down. This sequence is optional, and sensor can be programmed to only trigger the fixture to turn off by entering 100% in this field.
Delay to Off	The amount of time after which no motion is detected that the fixtures will be triggered to turn off. If delay to dim is part of the programmed functionality, this is the amount of time after which no motion is detected after the fixture have already dimmed down.
Sensitivity	The sensitivity can be set to high, medium, low, or auto where applicable. High will detect smaller, simple motions. Low will only detect larger more complex motions. Auto temperature calibration adjusts the PIR sensitivity as ambient temperature rises to increase detection of heat movement through the field of view.

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Urban Forest Management, Inc.

June 24, 2022

Mr. Dennis Kulak, NCARB
KLLM, Inc.
2357 N. Damen Ave.
Chicago, IL 60647

RE: Tree Inventory and Report
670 Old Rand Road
Lake Zurich, IL

Dear Mr. Kulak,

The following is the tree inventory listing and report for the property located at 670 Old Rand Road in Lake Zurich, IL.

All trees measuring 4" d.b.h. (diameter at breast height) and larger were tagged and included in the inventory.

A total of eight hundred and seventy eight (878) trees were included within this inventory, using tag #'s 2001 – 2500 and 4001 - 4378. There were seven (7) trees considered Heritage trees by Lake Zurich ordinance, fifty three (53) trees considered Landmark trees, four hundred thirty nine, (439) trees considered Desireable species, three hundred twenty one (321) trees considered Undesireable species and fifty eight eight (58) trees that were not classified within the Lake Zurich ordinance. The Species Quality Rating is found in the far right column of the tree inventory listing.

The following inventory listing and report will describe each tree in detail by tag number and the site in general.

Sincerely,
URBAN FOREST MANAGEMENT, INC.

Todd R. Sinn
Senior Forester

TREE INVENTORY & REPORT
670 OLD RAND ROAD
LAKE ZURICH, IL

June 24, 2022

Prepared by:

URBAN FOREST MANAGEMENT, INC.
960 Route 22, Suite 207
Fox River Grove, IL 60021
(847) 516-9708

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Item		Page No.
I.	Background and Methodology	1
II.	General Comments	2
III.	Tree Inventory	

I. Background and Methodology

A tree inventory was conducted on the property located at 670 Old Rand Road in Lake Zurich, IL. All trees measuring 4" d.b.h. (diameter at breast height—4.5' above the ground) and larger were tagged and included in this inventory. Buckthorn was not tagged or included in the inventory, nor were dead trees measuring less than 10" in diameter. Tags were nailed on the north face of the tree at eye level.

Trees were evaluated for species, size, condition, form and any observed problems were also noted. The following is a key for interpreting the condition and form data found on the tree inventory listing:

Condition Rating - The condition of the trees shall be based on a six (6) point scale with one (1) being the best and six (6) being the worst.

Rating	Description	General Criteria
1	Excellent	The tree is typical of the species, has less than 10% deadwood in the crown that is attributable to normal causes, has no other observed problems, and required no remedial action.
2	Good to Fair	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.
3	Fair (average)	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.
4	Fair to Poor	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 of if the tree is subjected to additional stress.
5	Poor	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 involved with insects, disease, or other problems that even if aggressively corrected would not result in the long term survival of the tree.
6	Dead	Less than 10% of the tree shows signs of life.

Form Rating – Subjective evaluation comparing tree with specimen tree of the same species. Form classes are the same as those listed above under condition, with the exception of number 6, which translates to 'very poor form'. Typical form defects might include multiple leaders, no leader, lean, one sided crown, trunk crook, etc.

II. General Comments

A total of eight hundred and seventy eight (878) trees were inventoried using tree numbers 2001 – 2500 and 4001 - 4378.

Species inventoried included boxelder maple, Norway maple, silver maple, green ash, black walnut, crabapple, white mulberry, black cherry, black locust, American elm and other species in smaller quantities.

The most common species inventoried was silver maple with 44% of all species inventoried, followed by boxelder maple with 16% and black cherry with 11%. Buckthorn is the primary understory species with honeysuckle, ash, Virginia creeper, Chinese privet, viburnum, silver maple and black cherry found as additional understory species.

There are seven (7) trees (.7%) considered Heritage trees by Lake Zurich ordinance, fifty three (53) trees (6%) considered Landmark trees, four hundred thirty nine (439) trees (50%) considered Desirable, three hundred twenty one (321) trees (36%) are Undesirable trees and fifty eight (58) trees (6%) not included in the Lake Zurich categories.

The property is primarily wooded with lower quality species of trees throughout the site. There are some planted trees as well as some maintained turf adjacent to the residence. A single family residence, barn and livestock corrals are located in the southcentral part of the site. A pond and creek are located in the north quarter of the site. Piles of fallen trees and brush are located within the fenced livestock corrals.

Most of the inventoried trees have not been maintained in the past and they contain varying degrees of deadwood, decay or structural issues. Approximately 33% of the inventoried trees were in fair/poor or worse condition at the time of the inventory. Thirty one (31) of the trees were dead at the time of the inventory.

The boxelder maple, black locust, silver maple, and mulberry are fast growing, weak wooded and relatively short lived species.

Most of the ash trees on this site are dead as a result of emerald ash borer.

Many of the trees within the horse corrals have bark damage from the horses gnawing on the bark and the brush/trees being pushed into piles.

Tree Inventory Listing
670 Old Rand Road
Lake Zurich, Illinois
Prepared by Urban Forest Management, Inc. 6/24/2022

Tag No.	Location	Botanical Name	Common Name	Size	Cond.	Form	Problems	Insect/Disease	Comments	Co-Leaders at DBH	Species Quality Rating
2001	Southwest property corner	Juniperus virginiana	Eastern Red-cedar	10	4	5	damaged leader, one-sided, pruned for overhead wires		Overhead wires.		DESIRABLE
2002	Southwest property corner	Juniperus virginiana	Eastern Red-cedar	8	3	4	one-sided, damaged leader, pruned for overhead wires, multiple leaders		Overhead wires.		DESIRABLE
2003	Southwest property corner	Juniperus virginiana	Eastern Red-cedar	11	3	4	weak crotch, trunk scar, multiple leaders				DESIRABLE
2004	Southwest property corner	Cornus florida	Flowering Dogwood	3	3	4	sweep, minor deadwood, suckering, metal in trunk			Forked at base with 3", 3", 3", 2", 1", 1" co-leaders.	LANDMARK
2005	South property line	Acer negundo	Boxelder Maple	8	4	4	over-topped, slight sweep, excessive lean, minor deadwood				UNDESIRABLE
2006	South property line	Acer platanoides	Norway Maple	25	3	4	one-sided, multiple leaders, minor deadwood				DESIRABLE
2007	South property line	Acer platanoides	Norway Maple	21	4	5	one-sided, weak crotch, decay, broken limbs, over-topped		2 main co-leaders broken off at 13'.		DESIRABLE
2008	South property line	Acer platanoides	Norway Maple	11	3	4	minor deadwood, twist in trunk				DESIRABLE
2009	Southwest house corner	Picea glauca	White Spruce	16	6	5			Dead.		LANDMARK
2010	Southwest house corner	Juniperus virginiana	Eastern Red-cedar	11	3	4	damaged leader, twist in trunk, minor deadwood				DESIRABLE
2011	South property line	Morus alba	White Mulberry (Common Mulberry)	29	4	3	basal decay, weak crotch, multiple leaders, minor deadwood, suckering, hollow		Main crotch splitting		UNDESIRABLE
2012	Southeast of house	Malus spp.	Crabapple	10	5	4	top broken out, damaged leader, suckering, decay, hollow, basal decay				DESIRABLE
2013	Southeast of house	Picea abies	Norway Spruce	18	3	4	over-topped, one-sided				LANDMARK
2014	Southeast of house	Acer platanoides	Norway Maple	14	3	3	weak crotch, double leader, minor deadwood			Forked at 4' with a 13" co-leader.	DESIRABLE
2015	South property line	Acer saccharinum	Silver Maple	15	3	4	one-sided, double leader, damaged leader				DESIRABLE
2016	South property line	Morus alba	White Mulberry (Common Mulberry)	15	4	4	slight sweep, suckering, sweep, sparse foliage				UNDESIRABLE
2017	South property line	Acer negundo	Boxelder Maple	11	4	4	slight lean, one-sided, suckering, minor deadwood				UNDESIRABLE
2018	South property line	Acer negundo	Boxelder Maple	14	3	4	one-sided, multiple leaders, slight lean				UNDESIRABLE
2019	South property line	Ulmus americana	American Elm	8	3	4	basal scar, dead tree caught in crown, suckering, double leader		Uprooted 12" green ash caught in crown.		N/A
2020	South property line	Acer negundo	Boxelder Maple	4	4	4	minor deadwood, over-topped, suckering				UNDESIRABLE
2021	South property line	Acer negundo	Boxelder Maple	5	4	4	minor deadwood, suckering, over-topped				UNDESIRABLE
2022	South property line	Acer negundo	Boxelder Maple	8	3	4	slight lean, twist in trunk, thin crown, suckering				UNDESIRABLE
2023	South property line	Acer negundo	Boxelder Maple	8	3	4	over-topped, double leader, slight sweep, twist in trunk				UNDESIRABLE
2024	South property line	Acer negundo	Boxelder Maple	10	3	4	slight sweep, multiple leaders, suckering				UNDESIRABLE
2025	South property line	Acer negundo	Boxelder Maple	9	3	4	one-sided, suckering, minor deadwood, over-topped				UNDESIRABLE
2026	South property line	Acer negundo	Boxelder Maple	6	4	4	excessive lean, one-sided, suckering				UNDESIRABLE
2027	South property line	Acer negundo	Boxelder Maple	19	5	4	heavy deadwood, one-sided, multiple leaders, basal decay, basal scar				UNDESIRABLE
2028	South property line	Acer negundo	Boxelder Maple	14	5	5	slight sweep, damaged leader, suckering				UNDESIRABLE
2029	South property line	Acer negundo	Boxelder Maple	8	3	4	slight lean, suckering				UNDESIRABLE
2030	South property line	Acer negundo	Boxelder Maple	12	4	5	excessive lean, sweep, trunk scar, decay				UNDESIRABLE
2031	South property line	Ulmus americana	American Elm	11	3	4	minor deadwood				N/A
2032	South property line	Acer negundo	Boxelder Maple	7	4	5	damaged leader, slight sweep, suckering				UNDESIRABLE
2033	South property line	Acer negundo	Boxelder Maple	9	5	5	damaged leader, slight lean, sparse foliage, over-topped				UNDESIRABLE
2034	South property line	Juglans nigra	Black Walnut	16	2	3	twist in trunk				LANDMARK
2035	South property line	Juglans nigra	Black Walnut	17	2	3	slight lean, minor deadwood, multiple leaders, minor deadwood				LANDMARK
2036	South property line	Maclura pomifera	Osage-orange (Hedge-apple)	4	3	4	sweep, minor deadwood, weak crotch, suckering			Forked at base with a 2" co-leader.	UNDESIRABLE
2037	South property line	Juglans nigra	Black Walnut	7	3	4	basal scar, over-topped, suckering, double leader				LANDMARK
2038	South property line	Juglans nigra	Black Walnut	14	3	3	one-sided, double leader, vine infested				LANDMARK
2039	Southeast property corner	Acer saccharinum	Silver Maple	9	5	4	thin crown, minor deadwood, sparse foliage, suckering, overhead wires			Forked at base with 9"(dead), 9"(dead), 10"(dead), 4" co-leaders	DESIRABLE
2040	East property line	Malus spp.	Crabapple	4	4	3	minor deadwood, damaged leader, suckering, overhead wires				DESIRABLE

Tree Inventory Listing
670 Old Rand Road
Lake Zurich, Illinois
Prepared by Urban Forest Management, Inc. 6/24/2022

Tag No.	Location	Botanical Name	Common Name	Size	Cond.	Form	Problems	Insect/Disease	Comments	Co-Leaders at DBH	Species Quality Rating
2041	East property line	Malus spp.	Crabapple	4	3	3	over-topped, suckering, overhead wires				DESIRABLE
2042	East of homestead	Prunus serotina	Black Cherry	9	4	3	dieback, thin crown, double leader, minor deadwood				UNDESIRABLE
2043	East of homestead	Ulmus americana	American Elm	11	4	3	dieback, minor deadwood, multiple leaders				N/A
2044	East of homestead	Juglans nigra	Black Walnut	5	2	4	over-topped, twist in trunk, minor deadwood				LANDMARK
2045	East of homestead	Prunus serotina	Black Cherry	11	3	4	one-sided, thin crown, slight sweep, minor deadwood				UNDESIRABLE
2046	East of homestead	Catalpa speciosa	Northern Catalpa	7	3	4	twist in trunk, thin crown, minor deadwood				LANDMARK
2047	East of homestead	Malus spp.	Crabapple	5	4	4	over-topped, damaged leader			Forked at base with a 5" co-leader.	DESIRABLE
2048	East of homestead	Acer saccharinum	Silver Maple	9	5	4	one-sided, double leader, sparse foliage, dieback, minor deadwood			Forked at 2' with a 5" (dead) co-leader.	DESIRABLE
2049	East of homestead	Ulmus americana	American Elm	5	3	4	over-topped, minor deadwood, double leader				N/A
2050	East of homestead	Acer saccharinum	Silver Maple	15	4	3	weak crotch, multiple leaders, thin crown			Forked at 3' with an 11" co-leader.	DESIRABLE
2051	East of homestead	Acer saccharinum	Silver Maple	7	2	4	over-topped, one-sided, weak crotch, slight sweep			Forked at 1' with a 6" co-leader.	DESIRABLE
2052	East of homestead	Acer saccharinum	Silver Maple	6	3	4	over-topped, slight sweep, minor deadwood, basal scar				DESIRABLE
2053	East of homestead	Acer saccharinum	Silver Maple	9	2	4	over-topped, slight sweep, one-sided				DESIRABLE
2054	East of homestead	Acer saccharinum	Silver Maple	8	2	4	over-topped, slight sweep, double leader				DESIRABLE
2055	East of homestead	Acer saccharinum	Silver Maple	13	3	4	over-topped, slight sweep, one-sided				DESIRABLE
2056	East of homestead	Acer saccharinum	Silver Maple	5	3	4	over-topped, twist in trunk, trunk scar, suckering, minor deadwood				DESIRABLE
2057	Homestead	Acer saccharinum	Silver Maple	5	3	4	over-topped, twist in trunk, dead tree caught in crown		Dead 10" green ash caught in crown (snapped off at base)		DESIRABLE
2058	Homestead	Ulmus americana	American Elm	8	3	4	twist in trunk, one-sided				N/A
2059	Homestead	Acer saccharinum	Silver Maple	5	3	4	over-topped, multiple leaders, slight sweep				DESIRABLE
2060	Homestead	Acer saccharinum	Silver Maple	24	3	4	over-topped, weak crotch, sweep, multiple leaders		Forked at 5'.		DESIRABLE
2061	Homestead	Acer saccharinum	Silver Maple	16	3	4	slight sweep, one-sided, suckering				DESIRABLE
2062	Homestead	Acer saccharinum	Silver Maple	30	3	4	weak crotch, slight sweep, multiple leaders, metal in trunk		Forked at 5'.		DESIRABLE
2063	Homestead	Acer saccharinum	Silver Maple	32	4	3	trunk scar, decay, multiple leaders, minor deadwood, trunk swell				DESIRABLE
2064	Homestead	Acer saccharinum	Silver Maple	29	3	4	one-sided, multiple leaders, weak crotch, minor deadwood, metal in trunk, sparse foliage		Electric service wire embedded in trunk.		DESIRABLE
2065	Homestead	Acer saccharinum	Silver Maple	32	3	3	weak crotch, multiple leaders				DESIRABLE
2066	Homestead	Acer saccharinum	Silver Maple	23	3	4	over-topped, one-sided, multiple leaders, broken limbs, metal in trunk		Electric service wire embedded in trunk.		DESIRABLE
2067	Homestead	Quercus rubra	Northern Red Oak	28	6	4		hypoxylon canker	Dead.		HERITAGE
2068	Homestead	Picea pungens	Colorado Blue Spruce	13	4	4	lower branches shaded out, minor deadwood, sparse foliage				LANDMARK
2069	Homestead	Picea pungens	Colorado Blue Spruce	15	4	4	lower branches shaded out, minor deadwood, sparse foliage				LANDMARK
2070	Homestead	Picea pungens	Colorado Blue Spruce	11	6	4			Dead.		LANDMARK
2071	Homestead	Carya ovata	Shagbark Hickory	14	3	3	minor deadwood, weak crotch, multiple leaders				HERITAGE
2072	Homestead	Picea pungens	Colorado Blue Spruce	9	6	3			Dead.		LANDMARK
2073	Homestead	Picea pungens	Colorado Blue Spruce	15	6	4			Dead.		LANDMARK
2074	Homestead	Pseudotsuga menziesii	Douglas-fir	17	3	4	one-sided, lower branches shaded out, minor deadwood, vine infested				LANDMARK
2075	Homestead	Malus spp.	Crabapple	10	4	4	decay, minor deadwood, suckering, broken limbs				DESIRABLE
2076	Homestead	Acer platanoides	Norway Maple	34	3	3	weak crotch, multiple leaders, broken limbs, minor deadwood, trunk scar				DESIRABLE
2077	Homestead	Fraxinus pennsylvanica	Green Ash	13	6	5	vine infested		Dead. Overhead wires.		N/A
2078	Homestead	Acer platanoides	Norway Maple	39	3	3	weak crotch, multiple leaders, heavy deadwood, surface roots, lawnmower damage				DESIRABLE
2079	Homestead	Acer platanoides	Norway Maple	26	3	3	weak crotch, multiple leaders, minor deadwood				DESIRABLE

Tree Inventory Listing
670 Old Rand Road
Lake Zurich, Illinois
Prepared by Urban Forest Management, Inc. 6/24/2022

Tag No.	Location	Botanical Name	Common Name	Size	Cond.	Form	Problems	Insect/Disease	Comments	Co-Leaders at DBH	Species Quality Rating
2080	Homestead	Salix nigra	Black Willow	37	5	4	heavy deadwood, suckering, sparse foliage, minor deadwood, surface roots, lawnmower damage				DESIRABLE
2081	Homestead	Acer platanoides	Norway Maple	24	4	3	weak crotch, multiple leaders, trunk scar				DESIRABLE
2082	East of homestead	Acer saccharinum	Silver Maple	12	3	4	one-sided, thin crown, multiple leaders				DESIRABLE
2083	East of homestead	Acer saccharinum	Silver Maple	8	3	4	slight sweep, thin crown, over-topped				DESIRABLE
2084	East of homestead	Acer saccharinum	Silver Maple	16	3	4	double leader, slight sweep, thin crown				DESIRABLE
2085	East of homestead	Fraxinus pennsylvanica	Green Ash	11	6	5	top broken off		Snag.		N/A
2086	East of homestead	Acer saccharinum	Silver Maple	11	3	4	slight sweep, one-sided, thin crown				DESIRABLE
2087	East of homestead	Acer saccharinum	Silver Maple	15	3	4	slight sweep, one-sided				DESIRABLE
2088	East of homestead	Acer saccharinum	Silver Maple	18	3	4	one-sided, multiple leaders				DESIRABLE
2089	East of homestead	Ulmus americana	American Elm	8	3	4	over-topped, one-sided, suckering				N/A
2090	East of homestead	Acer saccharinum	Silver Maple	12	3	4	slight sweep, minor deadwood, basal swell				DESIRABLE
2091	East of homestead	Acer saccharinum	Silver Maple	14	3	4	over-topped, slight sweep, one-sided				DESIRABLE
2092	East of homestead	Acer saccharinum	Silver Maple	7	3	4	over-topped, twist in trunk, thin crown				DESIRABLE
2093	East of homestead	Acer saccharinum	Silver Maple	8	3	4	one-sided, thin crown				DESIRABLE
2094	East of homestead	Acer saccharinum	Silver Maple	8	3	4	over-topped, slight sweep, double leader, dead tree caught in crown				DESIRABLE
2095	East of homestead	Acer saccharinum	Silver Maple	6	3	4	over-topped, slight sweep, thin crown				DESIRABLE
2096	East of homestead	Acer saccharinum	Silver Maple	7	3	4	thin crown, one-sided, slight sweep, weak crotch			Forked at 2' with a 5" co-leader.	DESIRABLE
2097	East of homestead	Acer saccharinum	Silver Maple	8	4	4	minor deadwood, double leader, slight sweep				DESIRABLE
2098	East of homestead	Acer saccharinum	Silver Maple	6	3	4	one-sided, thin crown, minor deadwood			Forked at 1.5' with a 3" co-leader.	DESIRABLE
2099	East of homestead	Acer saccharinum	Silver Maple	8	3	4	over-topped, one-sided, multiple leaders, minor deadwood				DESIRABLE
2100	East of homestead	Juglans nigra	Black Walnut	11	2	3	multiple leaders, minor deadwood				LANDMARK
2101	East of homestead	Prunus serotina	Black Cherry	7	5	4	sparse foliage, minor deadwood, thin crown			Forked at 2.5' with a 5" co-leader.	UNDESIRABLE
2102	East of homestead	Juglans nigra	Black Walnut	8	2	4	over-topped, twist in trunk, one-sided				LANDMARK
2103	East of homestead	Prunus serotina	Black Cherry	9	4	4	trunk scar, decay, thin crown, sparse foliage, vine infested				UNDESIRABLE
2104	East property line	Juglans nigra	Black Walnut	6	3	4	damaged leader, multiple leaders, pruned for overhead wires		Overhead wires.		LANDMARK
2105	East property line	Malus spp.	Crabapple	4	3	4	over-topped, slight sweep, multiple leaders, pruned for overhead wires		Overhead wires.		DESIRABLE
2106	East property line	Malus spp.	Crabapple	5	3	4	over-topped, slight sweep, weak crotch, suckering		Overhead wires.	Forked at 1' with 4", 3", 3" co-leaders.	DESIRABLE
2107	East property line	Ulmus americana	American Elm	6	3	3					N/A
2108	East property line	Malus spp.	Crabapple	4	3	3	weak crotch, minor deadwood, decay			Forked at .5' with 4", 3", 3", 4" co-leaders.	DESIRABLE
2109	East property line	Ulmus pumila	Siberian Elm	4	3	4	over-topped, multiple leaders, weak crotch		Overhead wires.		UNDESIRABLE
2110	East of homestead	Malus spp.	Crabapple	4	4	4	over-topped, slight sweep, minor deadwood			Forked at .5' with a 3" co-leader.	DESIRABLE
2111	East of homestead	Acer saccharinum	Silver Maple	8	3	4	weak crotch, minor deadwood, one-sided, thin crown			Forked at base with 7", 7" co-leaders.	DESIRABLE
2112	East of homestead	Acer saccharinum	Silver Maple	7	3	4	slight sweep, one-sided, thin crown				DESIRABLE
2113	East of homestead	Acer saccharinum	Silver Maple	10	5	4	dieback, heavy deadwood, sparse foliage			Forked at 2' with a 9" co-leader.	DESIRABLE
2114	East of homestead	Acer saccharinum	Silver Maple	12	3	4	weak crotch, one-sided, slight sweep, multiple leaders			Forked at 4' with an 11" co-leader.	DESIRABLE
2115	East of homestead	Acer saccharinum	Silver Maple	9	3	4	slight sweep, one-sided, one-sided			Forked at 2.5' with an 8" co-leader.	DESIRABLE
2116	East of homestead	Prunus serotina	Black Cherry	4	4	4	slight sweep, suckering, minor deadwood, double leader				UNDESIRABLE
2117	East of homestead	Acer saccharinum	Silver Maple	5	3	4	slight sweep, thin crown, over-topped				DESIRABLE
2118	East of homestead	Acer saccharinum	Silver Maple	8	3	4	slight sweep, one-sided, thin crown				DESIRABLE

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2119	East of homestead	Acer saccharinum	Silver Maple	11	3	4	one-sided, thin crown, double leader				DESIRABLE
2120	East of homestead	Prunus serotina	Black Cherry	8	3	4	slight sweep, one-sided, thin crown, minor deadwood				UNDESIRABLE
2121	East of homestead	Acer saccharinum	Silver Maple	10	3	4	twist in trunk, thin crown, trunk scar				DESIRABLE
2122	East of homestead	Acer saccharinum	Silver Maple	12	3	4	slight lean, one-sided, multiple leaders				DESIRABLE
2123	East of homestead	Acer saccharinum	Silver Maple	9	3	4	slight lean, over-topped, one-sided, double leader, basal scar				DESIRABLE
2124	East of homestead	Acer saccharinum	Silver Maple	15	3	4	slight lean, double leader, over-topped, basal scar				DESIRABLE
2125	East of homestead	Acer saccharinum	Silver Maple	9	3	4	weak crotch, one-sided, suckering			Forked at 3.5' with an 8" co-leader.	DESIRABLE
2126	East of homestead	Acer saccharinum	Silver Maple	14	3	3	twist in trunk, thin crown				DESIRABLE
2127	East of homestead	Acer saccharinum	Silver Maple	9	3	5	over-topped, sweep, thin crown				DESIRABLE
2128	East of homestead	Acer saccharinum	Silver Maple	10	3	4	twist in trunk, one-sided, thin crown				DESIRABLE
2129	East of homestead	Acer saccharinum	Silver Maple	5	3	4	twist in trunk, one-sided, thin crown, trunk scar				DESIRABLE
2130	East of homestead	Acer saccharinum	Silver Maple	7	4	4	over-topped, slight sweep, trunk scar, dead tree caught in crown				DESIRABLE
2131	East of homestead	Acer saccharinum	Silver Maple	24	3	3	multiple leaders				DESIRABLE
2132	East of homestead	Acer saccharinum	Silver Maple	8	3	3	metal in trunk, one-sided, thin crown		Barbed wire attached to trunk.		DESIRABLE
2133	East of homestead	Acer saccharinum	Silver Maple	10	3	4	sweep, one-sided				DESIRABLE
2134	East of homestead	Acer saccharinum	Silver Maple	12	3	3	thin crown, one-sided, double leader				DESIRABLE
2135	East of homestead	Acer saccharinum	Silver Maple	8	4	4	basal decay, hollow, one-sided, thin crown				DESIRABLE
2136	East of homestead	Acer saccharinum	Silver Maple	10	3	4	slight sweep, thin crown, trunk scar, over-topped				DESIRABLE
2137	East of homestead	Acer saccharinum	Silver Maple	8	3	4	over-topped, slight sweep, thin crown, trunk scar, decay		Old co-leader rotted off at 3'.		DESIRABLE
2138	East of homestead	Acer saccharinum	Silver Maple	10	3	4	over-topped, slight sweep, multiple leaders				DESIRABLE
2139	East of homestead	Acer saccharinum	Silver Maple	8	3	4	over-topped, slight sweep, thin crown				DESIRABLE
2140	East of homestead	Acer saccharinum	Silver Maple	5	4	4	thin crown, minor deadwood, suckering, slight sweep				DESIRABLE
2141	East of homestead	Acer saccharinum	Silver Maple	9	3	4	one-sided, thin crown, slight sweep			Forked at 1.5' with a 6" co-leader.	DESIRABLE
2142	East of homestead	Acer saccharinum	Silver Maple	7	3	4	slight sweep, thin crown, multiple leaders				DESIRABLE
2143	East of homestead	Prunus serotina	Black Cherry	4	3	4	twist in trunk, minor deadwood, suckering, over-topped				UNDESIRABLE
2144	East of homestead	Acer saccharinum	Silver Maple	8	3	4	slight sweep, thin crown, decay		Old co-leader rotted off at 1'.		DESIRABLE
2145	East of homestead	Acer saccharinum	Silver Maple	8	3	4	one-sided, double leader, thin crown				DESIRABLE
2146	East of homestead	Acer saccharinum	Silver Maple	5	4	3	basal decay, thin crown, over-topped				DESIRABLE
2147	East of homestead	Acer saccharinum	Silver Maple	11	3	4	over-topped, slight sweep, multiple leaders, weak crotch, minor deadwood			Forked at 4' with a 6" co-leader.	DESIRABLE
2148	East of homestead	Acer saccharinum	Silver Maple	5	3	4	over-topped, slight lean, thin crown				DESIRABLE
2149	East of homestead	Acer saccharinum	Silver Maple	9	3	4	slight sweep, thin crown				DESIRABLE
2150	East of homestead	Acer saccharinum	Silver Maple	10	3	4	over-topped, slight sweep, trunk scar, double leader		Old co-leader rotted off at 2'.		DESIRABLE
2151	East of homestead	Acer saccharinum	Silver Maple	7	3	4	over-topped, slight sweep, double leader				DESIRABLE
2152	East of homestead	Acer saccharinum	Silver Maple	5	4	4	damaged leader, one-sided, minor deadwood, sparse foliage				DESIRABLE
2153	East of homestead	Acer saccharinum	Silver Maple	7	3	4	thin crown, slight sweep, minor deadwood		Old co-leader broken off at 2'.		DESIRABLE
2154	East of homestead	Acer saccharinum	Silver Maple	11	3	4	slight sweep, one-sided, multiple leaders				DESIRABLE
2155	East of homestead	Prunus serotina	Black Cherry	7	3	4	slight sweep, one-sided				UNDESIRABLE
2156	East of homestead	Prunus serotina	Black Cherry	7	4	4	slight sweep, over-topped, sparse foliage, minor deadwood, basal decay, girdling root				UNDESIRABLE
2157	East of homestead	Prunus serotina	Black Cherry	6	3	5	over-topped, sweep				UNDESIRABLE
2158	East of homestead	Malus spp.	Crabapple	6	3	4	over-topped, slight lean, suckering, decay, minor deadwood			Forked at base with 5", 4", 3" co-leaders.	DESIRABLE
2159	East property line	Malus spp.	Crabapple	4	4	4	trunk scar, minor deadwood, suckering	scab			DESIRABLE
2160	East property line	Acer saccharinum	Silver Maple	9	5	4	sparse foliage, minor deadwood, pruned for overhead wires		Overhead wires, stunted growth.		DESIRABLE
2161	East property line	Prunus serotina	Black Cherry	6	3	4	sweep, thin crown, sparse foliage				UNDESIRABLE
2162	East property line	Acer saccharinum	Silver Maple	4	3	4	over-topped, slight sweep, thin crown, sparse foliage				DESIRABLE
2163	East property line	Prunus serotina	Black Cherry	6	4	4	over-topped, sweep, vine infested, sparse foliage				UNDESIRABLE

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Tag No.	Location	Botanical Name	Common Name	Size	Cond.	Form	Problems	Insect/Disease	Comments	Co-Leaders at DBH	Species Quality Rating
2164	East property line	Morus alba	White Mulberry (Common Mulberry)	4	4	4	over-topped, minor deadwood, slight lean				UNDESIRABLE
2165	East property line	Prunus serotina	Black Cherry	5	4	4	trunk scar, decay, slight sweep, thin crown				UNDESIRABLE
2166	East of homestead	Prunus serotina	Black Cherry	7	3	4	over-topped, slight sweep, twist in trunk, trunk scar				UNDESIRABLE
2167	East of homestead	Prunus serotina	Black Cherry	6	3	4	vine infested, thin crown, minor deadwood				UNDESIRABLE
2168	East of homestead	Prunus serotina	Black Cherry	10	4	4	excessive lean, trunk scar, broken limbs				UNDESIRABLE
2169	East of homestead	Acer saccharinum	Silver Maple	7	3	3	trunk scar, double leader, thin crown				DESIRABLE
2170	East of homestead	Acer saccharinum	Silver Maple	5	3	3	trunk scar				DESIRABLE
2171	East of homestead	Morus alba	White Mulberry (Common Mulberry)	5	3	4	over-topped, twist in trunk, minor deadwood, slight sweep			Forked at base with a 4" co-leader.	UNDESIRABLE
2172	East of homestead	Acer saccharinum	Silver Maple	13	3	3	twist in trunk, double leader, minor deadwood				DESIRABLE
2173	East of homestead	Ulmus americana	American Elm	6	3	3	over-topped, one-sided				N/A
2174	East of homestead	Acer saccharinum	Silver Maple	5	3	4	over-topped, weak crotch, double leader			Forked at 3' with a 4" co-leader.	DESIRABLE
2175	East of homestead	Morus alba	White Mulberry (Common Mulberry)	4	3	4	over-topped, twist in trunk, minor deadwood				UNDESIRABLE
2176	East of homestead	Acer saccharinum	Silver Maple	10	4	3	multiple leaders, thin crown, one-sided, trunk scar				DESIRABLE
2177	East of homestead	Acer saccharinum	Silver Maple	11	3	4	slight lean, one-sided, thin crown, weak crotch			Forked at 1.5' with an 8" co-leader.	DESIRABLE
2178	East of homestead	Acer saccharinum	Silver Maple	8	2	4	twist in trunk, one-sided, thin crown				DESIRABLE
2179	East of homestead	Acer saccharinum	Silver Maple	8	3	4	over-topped, slight sweep, minor deadwood, suckering, thin crown, weak crotch			Forked at 2' with a 7" co-leader.	DESIRABLE
2180	East of homestead	Acer saccharinum	Silver Maple	9	3	4	twist in trunk, thin crown, double leader				DESIRABLE
2181	East of homestead	Acer saccharinum	Silver Maple	12	3	4	over-topped, slight sweep, one-sided, multiple leaders				DESIRABLE
2182	East of homestead	Acer saccharinum	Silver Maple	13	3	4	slight sweep, thin crown			Forked at 3' with a 12" co-leader.	DESIRABLE
2183	East of homestead	Acer saccharinum	Silver Maple	13	3	4	slight lean, one-sided, multiple leaders, trunk scar				DESIRABLE
2184	East of homestead	Acer saccharinum	Silver Maple	7	3	4	slight lean, thin crown, suckering, trunk scar				DESIRABLE
2185	East of homestead	Acer saccharinum	Silver Maple	12	3	4	one-sided, thin crown, metal in trunk		Barbed wire embedded in trunk.		DESIRABLE
2186	East of homestead	Acer saccharinum	Silver Maple	17	3	4	over-topped, sweep, multiple leaders				DESIRABLE
2187	East of homestead	Acer saccharinum	Silver Maple	16	3	4	over-topped, one-sided, multiple leaders				DESIRABLE
2188	East of homestead	Acer saccharinum	Silver Maple	16	3	3	multiple leaders, suckering, basal scar				DESIRABLE
2189	East of homestead	Acer saccharinum	Silver Maple	12	3	3	twist in trunk, one-sided, thin crown, suckering				DESIRABLE
2190	East of homestead	Acer saccharinum	Silver Maple	9	4	3	one-sided, thin crown, suckering, twist in trunk				DESIRABLE
2191	East of homestead	Acer saccharinum	Silver Maple	13	3	4	one-sided, suckering, twist in trunk				DESIRABLE
2192	East of homestead	Acer saccharinum	Silver Maple	12	3	4	one-sided, thin crown, metal in trunk		Barbed wire embedded in trunk.		DESIRABLE
2193	East of homestead	Acer saccharinum	Silver Maple	9	3	4	twist in trunk, one-sided, thin crown, basal scar				DESIRABLE
2194	East of homestead	Acer saccharinum	Silver Maple	13	3	4	twist in trunk, one-sided, thin crown, minor deadwood				DESIRABLE
2195	East of homestead	Acer saccharinum	Silver Maple	8	3	4	over-topped, slight sweep				DESIRABLE
2196	East of homestead	Acer saccharinum	Silver Maple	14	3	4	one-sided, thin crown			Forked at 2.5' with a 10" co-leader.	DESIRABLE
2197	East of homestead	Acer saccharinum	Silver Maple	12	3	4	weak crotch, one-sided, thin crown			forked at 3.5' with a 9" co-leader.	DESIRABLE
2198	East of homestead	Acer saccharinum	Silver Maple	10	4	4	slight lean, trunk scar, damaged leader, one-sided, over-topped				DESIRABLE
2199	East of homestead	Acer saccharinum	Silver Maple	18	3	4	one-sided, multiple leaders, minor deadwood, basal scar				DESIRABLE
2200	East of homestead	Acer saccharinum	Silver Maple	12	2	4	slight lean, multiple leaders, minor deadwood				DESIRABLE
2201	East of homestead	Acer saccharinum	Silver Maple	8	3	4	over-topped, slight sweep, thin crown				DESIRABLE
2202	East of homestead	Acer saccharinum	Silver Maple	11	3	4	slight sweep, trunk scar, over-topped		Old co-leader rotted off at 2'.		DESIRABLE
2203	East of homestead	Prunus serotina	Black Cherry	4	3	4	over-topped, slight sweep				UNDESIRABLE
2204	East of homestead	Acer saccharinum	Silver Maple	5	3	4	over-topped, minor deadwood, slight sweep				DESIRABLE
2205	East of homestead	Acer saccharinum	Silver Maple	4	3	4	minor deadwood, one-sided, thin crown, sweep, over-topped				DESIRABLE
2206	East of homestead	Fraxinus pennsylvanica	Green Ash	16	6	4			Dead.		N/A
2207	East of homestead	Morus alba	White Mulberry (Common Mulberry)	5	3	3	over-topped, one-sided, minor deadwood				UNDESIRABLE
2208	East of homestead	Acer saccharinum	Silver Maple	5	3	4	twist in trunk, thin crown, slight sweep				DESIRABLE
2209	East property line	Juglans nigra	Black Walnut	20	3	4	multiple leaders, vine infested, broken limbs, suckering, pruned for side wires		Overhead wires.		LANDMARK

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2210	East property line	Acer negundo	Boxelder Maple	7	4	5	damaged leader, vine infested, pruned for overhead wires, sparse foliage		Overhead wires.		UNDESIRABLE
2211	East property line	Acer negundo	Boxelder Maple	9	5	5	dieback, heavy deadwood, girdling root				UNDESIRABLE
2212	East property line	Acer saccharinum	Silver Maple	15	4	4	broken limbs, minor deadwood, one-sided, vine infested, multiple leaders, decay				DESIRABLE
2213	East of homestead	Morus alba	White Mulberry (Common Mulberry)	16	4	4	one-sided, dieback, minor deadwood, multiple leaders				UNDESIRABLE
2214	East of homestead	Acer saccharinum	Silver Maple	13	6	4			Dead.		DESIRABLE
2215	East of homestead	Acer saccharinum	Silver Maple	9	4	4	dieback, heavy deadwood, double leader			Forked at 3.5' with an 8" co-leader.	DESIRABLE
2216	East of homestead	Prunus serotina	Black Cherry	9	4	4	dieback, slight sweep, thin crown, minor deadwood			Forked at 1' with an 8" co-leader.	UNDESIRABLE
2217	East of homestead	Prunus serotina	Black Cherry	13	6	4			Dead.		UNDESIRABLE
2218	East of homestead	Acer saccharinum	Silver Maple	5	3	4	slight sweep, one-sided, thin crown, erosion				DESIRABLE
2219	East of homestead	Acer saccharinum	Silver Maple	9	4	4	slight sweep, thin crown, heavy deadwood			Forked at 1.5' with 7"(dead), 6"(dead) co-leaders.	DESIRABLE
2220	East of homestead	Juglans nigra	Black Walnut	8	2	4	over-topped, twist in trunk, minor deadwood, one-sided				LANDMARK
2221	East of homestead	Acer saccharinum	Silver Maple	14	6	4			Dead.		DESIRABLE
2222	East of homestead	Acer saccharinum	Silver Maple	6	3	4	slight sweep, one-sided, thin crown, over-topped				DESIRABLE
2223	East of homestead	Malus spp.	Crabapple	5	4	4	over-topped, sweep, minor deadwood, suckering			Forked at 3" with a 4" co-leader.	DESIRABLE
2224	East of homestead	Acer saccharinum	Silver Maple	9	3	4	over-topped, weak crotch, slight sweep		In contact with tree #2225.	Forked at 3' with a5" co-leader.	DESIRABLE
2225	East of homestead	Prunus serotina	Black Cherry	8	3	5	over-topped, sweep		In contact with tree #2224.		UNDESIRABLE
2226	East of homestead	Acer saccharinum	Silver Maple	8	3	4	over-topped, slight sweep, one-sided				DESIRABLE
2227	East of homestead	Acer saccharinum	Silver Maple	11	3	4	twist in trunk, multiple leaders, trunk scar			Forked at 2' with an 11" co-leader.	DESIRABLE
2228	East of homestead	Acer saccharinum	Silver Maple	6	3	4	one-sided, trunk scar, thin crown, minor deadwood			Forked at 3.5' with a 6" co-leader.	DESIRABLE
2229	East of homestead	Acer saccharinum	Silver Maple	9	3	4	twist in trunk, thin crown, double leader				DESIRABLE
2230	East of homestead	Acer saccharinum	Silver Maple	11	4	4	heavy deadwood, thin crown, weak crotch, trunk scar			Forked at 3.5' with a 10" (dead) co-leader.	DESIRABLE
2231	East of homestead	Acer saccharinum	Silver Maple	10	3	3	thin crown, trunk scar, minor deadwood			Forked at 2' with a 7"(dead) co-leader.	DESIRABLE
2232	East of homestead	Acer saccharinum	Silver Maple	15	3	4	slight lean, multiple leaders				DESIRABLE
2233	East of homestead	Juglans nigra	Black Walnut	4	2	3	over-topped				LANDMARK
2234	East of homestead	Acer saccharinum	Silver Maple	16	3	4	over-topped, one-sided, multiple leaders, basal decay, trunk scar				DESIRABLE
2235	East of homestead	Acer saccharinum	Silver Maple	13	3	4	trunk scar, over-topped, one-sided, double leader				DESIRABLE
2236	East of homestead	Acer saccharinum	Silver Maple	16	3	4	slight lean, thin crown, minor deadwood				DESIRABLE
2237	East of homestead	Acer saccharinum	Silver Maple	13	3	4	one-sided, multiple leaders, suckering, trunk scar				DESIRABLE
2238	East of homestead	Acer saccharinum	Silver Maple	10	3	4	thin crown, twist in trunk				DESIRABLE
2239	East of homestead	Acer saccharinum	Silver Maple	7	3	4	over-topped, slight lean, suckering				DESIRABLE
2240	East of homestead	Acer saccharinum	Silver Maple	11	3	3	thin crown, twist in trunk, basal scar				DESIRABLE
2241	East of homestead	Acer saccharinum	Silver Maple	12	3	3	weak crotch, suckering, metal in trunk			Forked at 2.5' with an 11" co-leader.	DESIRABLE
2242	East of homestead	Acer saccharinum	Silver Maple	19	3	4	one-sided, suckering, metal in trunk, double leader, basal scar				DESIRABLE
2243	East of homestead	Acer saccharinum	Silver Maple	13	3	4	one-sided, basal scar, slight sweep				DESIRABLE
2244	East of homestead	Acer saccharinum	Silver Maple	10	3	4	sweep, thin crown, basal scar, suckering				DESIRABLE
2245	East of homestead	Acer saccharinum	Silver Maple	9	3	4	over-topped, basal scar, suckering				DESIRABLE
2246	East of homestead	Acer saccharinum	Silver Maple	17	3	3	multiple leaders, suckering				DESIRABLE
2247	East of homestead	Acer saccharinum	Silver Maple	11	4	4	over-topped, slight sweep, trunk scar, basal decay, basal scar		Hollow at base.		DESIRABLE
2248	East of homestead	Acer saccharinum	Silver Maple	10	4	4	trunk scar, over-topped, slight sweep, suckering				DESIRABLE

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Tag No.	Location	Botanical Name	Common Name	Size	Cond.	Form	Problems	Insect/Disease	Comments	Co-Leaders at DBH	Species Quality Rating
2249	East of homestead	Acer saccharinum	Silver Maple	13	3	3	trunk scar, twist in trunk, thin crown, double leader				DESIRABLE
2250	East of homestead	Acer saccharinum	Silver Maple	14	3	4	over-topped, slight sweep, double leader, suckering				DESIRABLE
2251	East of homestead	Acer saccharinum	Silver Maple	13	4	4	trunk scar, over-topped, thin crown, basal scar, suckering, hollow				DESIRABLE
2252	East of homestead	Acer saccharinum	Silver Maple	13	3	4	twist in trunk, one-sided, thin crown, basal scar, trunk scar				DESIRABLE
2253	East of homestead	Acer saccharinum	Silver Maple	13	3	4	twist in trunk, thin crown				DESIRABLE
2254	East of homestead	Acer saccharinum	Silver Maple	28	3	4	slight lean, weak crotch, minor deadwood		Forked at 5'.		DESIRABLE
2255	East of homestead	Acer saccharinum	Silver Maple	9	3	4	slight sweep, thin crown, suckering, trunk scar				DESIRABLE
2256	East of homestead	Acer saccharinum	Silver Maple	13	3	4	slight sweep, multiple leaders, trunk scar				DESIRABLE
2257	East of homestead	Acer saccharinum	Silver Maple	9	3	4	over-topped, one-sided, trunk scar				DESIRABLE
2258	East of homestead	Ulmus americana	American Elm	7	3	4	over-topped, slight sweep, suckering, multiple leaders				N/A
2259	East of homestead	Acer saccharinum	Silver Maple	8	3	4	one-sided, slight sweep			Forked at 2.5' with a 6" co-leader.	DESIRABLE
2260	East of homestead	Acer saccharinum	Silver Maple	10	3	4	weak crotch, damaged leader, thin crown, trunk scar			Forked at 3' with a 6" co-leader.	DESIRABLE
2261	East of homestead	Ulmus americana	American Elm	7	3	4	sweep, over-topped, one-sided, suckering				N/A
2262	East of homestead	Acer saccharinum	Silver Maple	9	3	4	over-topped, slight sweep, thin crown				DESIRABLE
2263	East of homestead	Acer saccharinum	Silver Maple	13	4	4	trunk scar, decay, over-topped, one-sided, multiple leaders			Forked at 3.5' with a 7" co-leader.	DESIRABLE
2264	East of homestead	Acer saccharinum	Silver Maple	10	4	4	over-topped, sweep, weak crotch, basal decay, trunk scar		Old co-leader rotted off at 2'.	Forked at 2.5' with a 9" co-leader.	DESIRABLE
2265	East of homestead	Acer saccharinum	Silver Maple	6	3	4	over-topped, slight sweep, damaged leader, suckering				DESIRABLE
2266	East of homestead	Acer saccharinum	Silver Maple	13	3	4	one-sided, basal scar, double leader, over-topped				DESIRABLE
2267	East of homestead	Acer saccharinum	Silver Maple	8	3	4	over-topped, one-sided, suckering				DESIRABLE
2268	East of homestead	Acer saccharinum	Silver Maple	8	3	3	weak crotch, metal in trunk			Forked at 3' with 7", 3" co-leaders.	DESIRABLE
2269	East of homestead	Acer saccharinum	Silver Maple	7	3	4	slight sweep, thin crown			Forked at 1' with a 4" co-leader.	DESIRABLE
2270	East of homestead	Acer saccharinum	Silver Maple	5	3	4	over-topped, twist in trunk, thin crown				DESIRABLE
2271	East of homestead	Acer saccharinum	Silver Maple	7	3	4	over-topped, slight sweep, one-sided, double leader, basal scar		Old co-leader rotted off at 2'.		DESIRABLE
2272	East of homestead	Prunus serotina	Black Cherry	8	3	4	slight lean, one-sided, thin crown				UNDESIRABLE
2273	East of homestead	Acer negundo	Boxelder Maple	4	4	4	damaged leader, over-topped				UNDESIRABLE
2274	East property line	Acer negundo	Boxelder Maple	8	3	4	over-topped, sweep, minor deadwood, multiple leaders				UNDESIRABLE
2275	East property line	Acer saccharinum	Silver Maple	12	3	4	over-topped, slight sweep, pruned for side wires, suckering		Overhead wires.	Forked at 3' with a 5" co-leader.	DESIRABLE
2276	East property line	Acer saccharinum	Silver Maple	22	3	4	slight sweep, multiple leaders, pruned for side wires, minor deadwood		Overhead wires.		DESIRABLE
2277	East property line	Acer negundo	Boxelder Maple	5	4	4	excessive lean, basal swell, suckering, vine infested		Overhead wires.		UNDESIRABLE
2278	East of homestead	Acer saccharinum	Silver Maple	11	3	4	one-sided, thin crown, over-topped, slight sweep				DESIRABLE
2279	East of homestead	Morus alba	White Mulberry (Common Mulberry)	16	3	4	basal scar, over-topped, slight sweep, minor deadwood, multiple leaders				UNDESIRABLE
2280	East of homestead	Acer saccharinum	Silver Maple	23	3	3	weak crotch, multiple leaders, one-sided				DESIRABLE
2281	East of homestead	Ulmus americana	American Elm	6	3	3	suckering, minor deadwood				N/A
2282	East of homestead	Acer saccharinum	Silver Maple	12	3	3	heavy deadwood, weak crotch, multiple leaders, metal in trunk, basal decay, basal scar			Forked at 3.5' with 10", 6"(dead) co-leaders.	DESIRABLE
2283	East of homestead	Malus spp.	Crabapple	6	3	4	minor deadwood, suckering, over-topped				DESIRABLE
2284	East of homestead	Acer saccharinum	Silver Maple	23	3	3	multiple leaders			Forked at 3.5' with a 12" co-leader.	DESIRABLE
2285	East of homestead	Acer saccharinum	Silver Maple	10	3	3					DESIRABLE
2286	East of homestead	Acer saccharinum	Silver Maple	6	4	4	basal decay, slight sweep, thin crown				DESIRABLE
2287	East of homestead	Acer saccharinum	Silver Maple	10	3	4	slight sweep, thin crown, metal in trunk				DESIRABLE
2288	East of homestead	Acer saccharinum	Silver Maple	10	4	4	weak crotch, trunk scar, one-sided, thin crown			Forked at 3' with an 8"(dead) co-leader.	DESIRABLE

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2289	East of homestead	Acer saccharinum	Silver Maple	13	3	4	one-sided, double leader, over-topped, minor deadwood				DESIRABLE
2290	East of homestead	Acer saccharinum	Silver Maple	11	3	4	over-topped, slight sweep, one-sided, double leader, basal scar				DESIRABLE
2291	East of homestead	Acer saccharinum	Silver Maple	26	4	4	weak crotch, double leader, slight sweep, trunk scar, decay, metal in trunk				DESIRABLE
2292	East of homestead	Acer saccharinum	Silver Maple	8	4	4	over-topped, double leader, trunk scar, basal scar				DESIRABLE
2293	East of homestead	Acer saccharinum	Silver Maple	10	3	3	twist in trunk, thin crown, trunk scar				DESIRABLE
2294	East of homestead	Ulmus americana	American Elm	5	3	4	trunk scar, suckering, over-topped				N/A
2295	East of homestead	Acer negundo	Boxelder Maple	13	4	4	damaged leader, trunk scar, decay, double leader, suckering, minor deadwood		Electric fence attached to trunk.		UNDESIRABLE
2296	East of homestead	Acer saccharinum	Silver Maple	10	3	4	over-topped, damaged leader, basal decay, basal scar		Electric fence attached to trunk.		DESIRABLE
2297	East of homestead	Acer saccharinum	Silver Maple	13	3	4	over-topped, slight sweep, one-sided, over-topped				DESIRABLE
2298	East of homestead	Acer saccharinum	Silver Maple	11	3	4	over-topped, slight sweep, weak crotch, suckering			Forked at 3' with 11" co-leader.	DESIRABLE
2299	East of homestead	Acer saccharinum	Silver Maple	13	3	3	double leader, one-sided, basal scar				DESIRABLE
2300	East of homestead	Acer saccharinum	Silver Maple	16	3	3	multiple leaders, poison ivy				DESIRABLE
2301	East of homestead	Acer saccharinum	Silver Maple	6	3	4	over-topped, slight lean, twist in trunk, suckering				DESIRABLE
2302	East of homestead	Acer saccharinum	Silver Maple	9	3	4	twist in trunk, one-sided, thin crown, basal scar				DESIRABLE
2303	East of homestead	Acer saccharinum	Silver Maple	8	3	4	heavy deadwood, thin crown, twist in trunk, trunk scar		(1) co-leader is dead at 15'.		DESIRABLE
2304	East of homestead	Acer saccharinum	Silver Maple	11	3	4	slight sweep, suckering, thin crown, trunk scar				DESIRABLE
2305	East of homestead	Acer saccharinum	Silver Maple	10	3	4	trunk scar, slight sweep, thin crown, over-topped		Old co-leader rotted off at 1.5'.		DESIRABLE
2306	East of homestead	Acer saccharinum	Silver Maple	9	3	4	trunk scar, twist in trunk, thin crown, double leader				DESIRABLE
2307	East of homestead	Acer saccharinum	Silver Maple	7	3	4	over-topped, thin crown, suckering				DESIRABLE
2308	East of homestead	Acer saccharinum	Silver Maple	16	3	4	slight sweep, one-sided				DESIRABLE
2309	East of homestead	Acer saccharinum	Silver Maple	14	3	4	one-sided, heavy deadwood, twist in trunk				DESIRABLE
2310	East of homestead	Acer saccharinum	Silver Maple	10	4	4	minor deadwood, one-sided, twist in trunk, thin crown, suckering				DESIRABLE
2311	East of homestead	Acer saccharinum	Silver Maple	18	4	4	slight sweep, one-sided, multiple leaders, minor deadwood, trunk scar		Bark eaten off by horses, electric fence attached to trunk.		DESIRABLE
2312	East of homestead	Acer saccharinum	Silver Maple	14	3	3	multiple leaders, twist in trunk				DESIRABLE
2313	East of homestead	Acer negundo	Boxelder Maple	4	3	4	sweep, over-topped, suckering				UNDESIRABLE
2314	East of homestead	Acer saccharinum	Silver Maple	10	3	4	over-topped, slight sweep, one-sided, basal scar				DESIRABLE
2315	East of homestead	Acer saccharinum	Silver Maple	8	4	4	over-topped, slight sweep, trunk scar, suckering				DESIRABLE
2316	East of homestead	Acer negundo	Boxelder Maple	9	4	4	over-topped, slight lean, damaged leader			Forked at 1.5' with a 7" co-leader.	UNDESIRABLE
2317	East of homestead	Acer saccharinum	Silver Maple	10	6	4			Dead. electric fence attached to trunk.		DESIRABLE
2318	East of homestead	Acer negundo	Boxelder Maple	9	4	4	over-topped, slight lean, suckering, broken limbs, minor deadwood				UNDESIRABLE
2319	East of homestead	Acer saccharinum	Silver Maple	17	3	4	double leader, slight sweep, minor deadwood, metal in trunk		Electric fence attached to trunk.		DESIRABLE
2320	East of homestead	Acer saccharinum	Silver Maple	10	4	4	basal decay, slight sweep, thin crown, metal in trunk		Hollow at base. Electric fence attached to trunk.		DESIRABLE
2321	East of homestead	Acer saccharinum	Silver Maple	15	3	4	double leader, slight sweep				DESIRABLE
2322	East of homestead	Acer saccharinum	Silver Maple	11	3	4	slight sweep, thin crown, one-sided, minor deadwood, sparse foliage				DESIRABLE
2323	East of homestead	Acer saccharinum	Silver Maple	17	3	4	weak crotch, slight sweep, one-sided		Electric fence attached to trunk.	Forked at 1.5' with a 12" co-leader.	DESIRABLE
2324	East of homestead	Acer saccharinum	Silver Maple	10	4	4	trunk scar, over-topped, one-sided, thin crown				DESIRABLE
2325	East of homestead	Acer saccharinum	Silver Maple	12	3	4	over-topped, twist in trunk, thin crown, minor deadwood, suckering			Forked at base with a 7" co-leader.	DESIRABLE
2326	East of homestead	Acer saccharinum	Silver Maple	11	3	4	trunk scar, twist in trunk, thin crown, over-topped				DESIRABLE
2327	East of homestead	Acer saccharinum	Silver Maple	6	4	4	over-topped, basal decay, slight lean, suckering				DESIRABLE
2328	East of homestead	Acer saccharinum	Silver Maple	13	3	4	weak crotch, slight sweep, thin crown, minor deadwood			Forked at 3' with a 10" co-leader.	DESIRABLE

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2329	East of homestead	Acer saccharinum	Silver Maple	15	3	4	damaged leader, slight sweep, basal scar, suckering, trunk scar, surface roots, animal damage			Forked at 1.5' and 3' with 12", 11" co-leaders.	DESIRABLE
2330	East of homestead	Acer saccharinum	Silver Maple	13	3	4	minor deadwood, double leader, twist in trunk, thin crown, trunk scar		Old co-leader rotted off at 1'.		DESIRABLE
2331	North of barn	Acer saccharinum	Silver Maple	17	4	4	trunk scar, animal damage, weak crotch, slight sweep, minor deadwood, metal in trunk		Bark chewed off by horses, electric fence attached to trunk.	Forked at 1' and 1.5' with 15", 14", 11", 5" co-leaders.	DESIRABLE
2332	North of barn	Acer saccharinum	Silver Maple	15	4	4	slight lean, weak crotch, trunk scar, animal damage, minor deadwood		Bark chewed off by horses, electric fence attached to trunk.		DESIRABLE
2333	North of barn	Acer saccharinum	Silver Maple	13	3	4	slight sweep, one-sided, thin crown, basal scar, trunk scar				DESIRABLE
2334	North of barn	Acer saccharinum	Silver Maple	11	3	4	over-topped, twist in trunk, basal scar, suckering				DESIRABLE
2335	North of barn	Acer saccharinum	Silver Maple	9	3	4	over-topped, slight sweep, thin crown				DESIRABLE
2336	North of barn	Acer saccharinum	Silver Maple	9	3	4	twist in trunk, one-sided, thin crown, trunk scar				DESIRABLE
2337	North of barn	Acer negundo	Boxelder Maple	11	3	5	excessive lean, sweep, over-topped				UNDESIRABLE
2338	North of barn	Acer saccharinum	Silver Maple	8	3	4	over-topped, twist in trunk, minor deadwood, basal scar				DESIRABLE
2339	North of barn	Acer saccharinum	Silver Maple	4	4	4	over-topped, one-sided, slight lean, basal scar				DESIRABLE
2340	North of barn	Acer saccharinum	Silver Maple	18	3	4	twist in trunk, one-sided, multiple leaders				DESIRABLE
2341	North of barn	Acer saccharinum	Silver Maple	16	3	4	over-topped, slight sweep, basal scar				DESIRABLE
2342	North of barn	Acer negundo	Boxelder Maple	10	4	4	over-topped, slight sweep, suckering, minor deadwood, damaged leader				UNDESIRABLE
2343	North of barn	Acer negundo	Boxelder Maple	10	3	4	over-topped, excessive lean, multiple leaders, minor deadwood				UNDESIRABLE
2344	North of barn	Acer negundo	Boxelder Maple	14	3	4	slight lean, one-sided, multiple leaders, trunk scar				UNDESIRABLE
2345	North of barn	Acer saccharinum	Silver Maple	13	3	4	excessive lean, sweep, multiple leaders, basal scar				DESIRABLE
2346	North of barn	Acer saccharinum	Silver Maple	9	4	4	slight lean, suckering, minor deadwood, over-topped				DESIRABLE
2347	North of barn	Acer negundo	Boxelder Maple	15	4	4	excessive lean, suckering, minor deadwood, twist in trunk, broken limbs				UNDESIRABLE
2348	North of barn	Acer saccharinum	Silver Maple	8	3	4	over-topped, sweep, thin crown		In contact with tree #2349.		DESIRABLE
2349	North of barn	Acer saccharinum	Silver Maple	15	3	4	over-topped, slight sweep, weak crotch		In contact with tree #2348.	Forked at base and 4' with 13", 9" co-leaders.	DESIRABLE
2350	North of barn	Catalpa speciosa	Northern Catalpa	15	4	4	weak crotch, trunk scar, minor deadwood, basal decay, animal damage, suckering				LANDMARK
2351	North of barn	Acer platanoides	Norway Maple	4	2	4	slight lean, twist in trunk, multiple leaders, trunk scar				DESIRABLE
2352	North of barn	Acer saccharinum	Silver Maple	7	4	4	over-topped, sweep, trunk scar, suckering				DESIRABLE
2353	North of barn	Acer saccharinum	Silver Maple	17	3	4	over-topped, one-sided, multiple leaders, minor deadwood, vine infested			Forked at 3.5' with a 4"(dead) co-leader.	DESIRABLE
2354	North of barn	Acer saccharinum	Silver Maple	10	3	4	slight sweep, one-sided, trunk scar				DESIRABLE
2355	Northwest of barn	Acer saccharinum	Silver Maple	10	3	4	slight sweep, one-sided, minor deadwood				DESIRABLE
2356	Northwest of barn	Morus alba	White Mulberry (Common Mulberry)	21	5	3	dieback, decay, heavy deadwood, sparse foliage, metal in trunk, weak crotch				UNDESIRABLE
2357	Northwest of barn	Acer saccharinum	Silver Maple	11	3	3	weak crotch, slight sweep, suckering			Forked at 1' with 10", 10", 3", 3" co-leaders.	DESIRABLE
2358	Northwest of barn	Ulmus americana	American Elm	9	3	4	over-topped, slight sweep, one-sided, suckering				N/A
2359	Northwest of barn	Acer saccharinum	Silver Maple	6	4	4	over-topped, trunk scar, slight sweep, suckering				DESIRABLE
2360	Northwest of barn	Populus tremuloides	Quaking Aspen	10	3	3	slight lean, twist in trunk, thin crown, minor deadwood				DESIRABLE
2361	Northwest of barn	Populus tremuloides	Quaking Aspen	11	4	4	slight lean, twist in trunk, thin crown, heavy deadwood, decay			Forked at base with a 9"(dead) co-leader.	DESIRABLE
2362	North of driveway	Catalpa speciosa	Northern Catalpa	22	4	3	basal swell, dieback, minor deadwood, weak crotch, trunk scar				LANDMARK

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2363	North of driveway	Catalpa speciosa	Northern Catalpa	26	3	4	trunk scar, slight sweep, multiple leaders, minor deadwood				LANDMARK
2364	North of driveway	Morus alba	White Mulberry (Common Mulberry)	12	3	4	slight lean, thin crown, minor deadwood				UNDESIRABLE
2365	North of driveway	Acer saccharinum	Silver Maple	14	3	4	slight sweep, multiple leaders, heavy deadwood, one-sided				DESIRABLE
2366	North of driveway	Acer saccharinum	Silver Maple	29	3	3	minor deadwood			Forked at 4' with a 6" co-leader.	DESIRABLE
2367	North of driveway	Acer negundo	Boxelder Maple	7	3	4	slight lean, over-topped, crossing branches, suckering		In contact with tree #2368.		UNDESIRABLE
2368	North of driveway	Morus alba	White Mulberry (Common Mulberry)	9	3	4	trunk scar, crossing branches, one-sided		In contact with tree #2367.		UNDESIRABLE
2369	North of driveway	Acer negundo	Boxelder Maple	9	4	4	dead tree caught in crown, vine infested, minor deadwood, suckering				UNDESIRABLE
2370	North of driveway	Acer negundo	Boxelder Maple	10	4	4	trunk scar, suckering, over-topped, vine infested				UNDESIRABLE
2371	North of driveway	Acer negundo	Boxelder Maple	6	4	4	slight lean, damaged leader, suckering, vine infested		Overhead wires.	Forked at. 5' with a 6" co-leader.	UNDESIRABLE
2372	North of driveway	Acer negundo	Boxelder Maple	7	4	5	damaged leader, suckering, excessive lean, vine infested		Overhead wires.		UNDESIRABLE
2373	North of driveway	Rhus glabra	Smooth Sumac	7	4	4	damaged leader, decay, multiple leaders, pruned for overhead wires		Overhead wires.		N/A
2374	North of driveway	Ulmus americana	American Elm	4	3	4	damaged leader, pruned for overhead wires, suckering		Overhead wires.		N/A
2375	North of driveway	Juglans nigra	Black Walnut	9	3	5	damaged leader, pruned for overhead wires, suckering		Overhead wires.		LANDMARK
2376	North of driveway	Acer negundo	Boxelder Maple	15	5	4	excessive lean, suckering, decay, damaged leader, basal decay		Overhead wires.	Forked at base with a 7" co-leader.	UNDESIRABLE
2377	North of driveway	Juglans nigra	Black Walnut	9	3	5	damaged leader, pruned for overhead wires, suckering, weak crotch		Overhead wires.	Forked at 2.5' with an 8" co-leader.	LANDMARK
2378	North of driveway	Juglans nigra	Black Walnut	5	3	4	over-topped, slight lean, twist in trunk, double leader, vine infested, weak crotch				LANDMARK
2379	North of driveway	Ulmus americana	American Elm	10	4	3	multiple leaders, suckering, minor deadwood				N/A
2380	North of driveway	Ulmus americana	American Elm	5	3	3	thin crown, suckering				N/A
2381	North of driveway	Acer negundo	Boxelder Maple	4	4	5	excessive lean, over-topped, growing horizontally				UNDESIRABLE
2382	North of driveway	Acer negundo	Boxelder Maple	6	4	4	over-topped, slight lean, suckering, broken limbs				UNDESIRABLE
2383	North of driveway	Ulmus americana	American Elm	12	3	4	one-sided, multiple leaders, suckering, trunk scar				N/A
2384	North of driveway	Ulmus americana	American Elm	4	4	4	over-topped, slight sweep				N/A
2385	North of driveway	Ulmus americana	American Elm	6	3	4	over-topped, slight sweep, multiple leaders				N/A
2386	North of driveway	Acer negundo	Boxelder Maple	5	3	4	over-topped, minor deadwood, twist in trunk, trunk scar				UNDESIRABLE
2387	North of driveway	Acer negundo	Boxelder Maple	7	4	4	over-topped, trunk scar, twist in trunk, suckering				UNDESIRABLE
2388	North of driveway	Acer negundo	Boxelder Maple	4	3	4	over-topped, twist in trunk				UNDESIRABLE
2389	North of driveway	Acer platanoides	Norway Maple	11	3	4	over-topped, twist in trunk, vine infested				DESIRABLE
2390	North of driveway	Populus tremuloides	Quaking Aspen	10	4	3	minor deadwood, trunk scar, thin crown				DESIRABLE
2391	North of driveway	Populus tremuloides	Quaking Aspen	10	6	4			Dead.		DESIRABLE
2392	North of driveway	Populus tremuloides	Quaking Aspen	11	3	3	thin crown, minor deadwood				DESIRABLE
2393	North of driveway	Acer negundo	Boxelder Maple	6	3	4	over-topped, twist in trunk, thin crown, suckering, minor deadwood				UNDESIRABLE
2394	North of driveway	Acer saccharinum	Silver Maple	4	4	4	trunk scar, over-topped, slight sweep, thin crown				DESIRABLE
2395	North of driveway	Acer saccharinum	Silver Maple	5	3	4	over-topped, sweep, basal scar, suckering				DESIRABLE
2396	North of driveway	Acer saccharinum	Silver Maple	11	4	4	damaged leader, double leader, suckering, dieback				DESIRABLE
2397	North of driveway	Acer platanoides	Norway Maple	10	4	4	over-topped, weak crotch, double leader, slight sweep, trunk scar, decay, hollow		Hollow at 4'.		DESIRABLE
2398	North of driveway	Juglans nigra	Black Walnut	8	3	3	trunk scar, twist in trunk, multiple leaders, minor deadwood				LANDMARK
2399	North of driveway	Malus spp.	Crabapple	6	5	3	sparse foliage, decay, vine infested	scab			DESIRABLE
2400	North of driveway	Ulmus americana	American Elm	7	3	4	over-topped, sweep, dead tree caught in crown, trunk scar				N/A
2401	North of driveway	Juglans nigra	Black Walnut	10	3	4	over-topped, slight sweep, trunk scar				LANDMARK
2402	North of driveway	Salix nigra	Black Willow	15	5	5	top broken off, heavy deadwood, decay, metal in trunk, trunk scar				DESIRABLE

Tree Inventory Listing
670 Old Rand Road
Lake Zurich, Illinois
Prepared by Urban Forest Management, Inc. 6/24/2022

Tag No.	Location	Botanical Name	Common Name	Size	Cond.	Form	Problems	Insect/Disease	Comments	Co-Leaders at DBH	Species Quality Rating
2403	North of driveway	Juglans nigra	Black Walnut	20	3	3	weak crotch, multiple leaders, minor deadwood, suckering				LANDMARK
2404	North of driveway	Acer negundo	Boxelder Maple	4	4	5	damaged leader, slight lean, minor deadwood, vine infested				UNDESIRABLE
2405	North of driveway	Ulmus americana	American Elm	6	3	4	over-topped, slight sweep, suckering, minor deadwood				N/A
2406	North of driveway	Acer saccharinum	Silver Maple	9	3	4	over-topped, slight lean, multiple leaders, vine infested				DESIRABLE
2407	North of driveway	Quercus ellipsoidalis	Hill's Oak	8	3	4	over-topped, one-sided, vine infested, minor deadwood				HERITAGE
2408	North of driveway	Juglans nigra	Black Walnut	13	3	5	damaged leader, pruned for overhead wires, suckering, vine infested		Overhead wires.		LANDMARK
2409	North of driveway	Morus alba	White Mulberry (Common Mulberry)	4	3	4	over-topped, multiple leaders, minor deadwood, vine infested		Overhead wires.		UNDESIRABLE
2410	North of driveway	Ulmus americana	American Elm	4	3	4	damaged leader, slight sweep, double leader, vine infested		Overhead wires.		N/A
2411	North of driveway	Acer negundo	Boxelder Maple	10	6	4			Dead.		UNDESIRABLE
2412	North of driveway	Catalpa speciosa	Northern Catalpa	7	3	4	over-topped, slight sweep, multiple leaders, pruned for overhead wires		Overhead wires.		LANDMARK
2413	North of driveway	Malus spp.	Crabapple	5	4	4	suckering, minor deadwood, over-topped, basal scar				DESIRABLE
2414	North of driveway	Ulmus americana	American Elm	5	3	4	over-topped, one-sided				N/A
2415	North of driveway	Ulmus americana	American Elm	11	4	3	over-topped, multiple leaders, suckering, minor deadwood				N/A
2416	North of driveway	Tilia americana	Basswood (American Linden)	11	3	3	over-topped, trunk scar				LANDMARK
2417	North of driveway	Quercus ellipsoidalis	Hill's Oak	23	3	4	slight lean, multiple leaders, minor deadwood, vine infested				HERITAGE
2418	North of driveway	Prunus serotina	Black Cherry	22	5	4	dieback, heavy deadwood, decay, sparse foliage			Forked at base with an 8" co-leader.	UNDESIRABLE
2419	North of driveway	Morus alba	White Mulberry (Common Mulberry)	7	3	4	over-topped, slight sweep, twist in trunk, one-sided				UNDESIRABLE
2420	North of driveway	Ulmus americana	American Elm	5	3	4	over-topped, slight sweep, one-sided			Forked at base with a 5" co-leader.	N/A
2421	North of driveway	Acer saccharinum	Silver Maple	4	3	5	damaged leader, pruned for overhead wires		Overhead wires.	Forked at base with 2", 1" co-leaders.	DESIRABLE
2422	North of driveway	Juglans nigra	Black Walnut	9	3	5	damaged leader, pruned for overhead wires, suckering		Overhead wires.		LANDMARK
2423	North of driveway	Acer negundo	Boxelder Maple	6	4	4	damaged leader, decay, vine infested, minor deadwood				UNDESIRABLE
2424	North of driveway	Ulmus americana	American Elm	10	3	3	multiple leaders, vine infested, minor deadwood				N/A
2425	North of driveway	Prunus serotina	Black Cherry	12	6	4			Dead.	Forked at base with a 9" co-leader.	UNDESIRABLE
2426	North of driveway	Ulmus americana	American Elm	7	3	4	weak crotch, double leader, dead tree caught in crown				N/A
2427	North of driveway	Ulmus americana	American Elm	7	3	4	one-sided, thin crown, minor deadwood				N/A
2428	North of driveway	Acer saccharinum	Silver Maple	8	4	4	trunk scar, dieback, minor deadwood				DESIRABLE
2429	North of driveway	Fraxinus pennsylvanica	Green Ash	12	6	4			Dead	Forked at 2' with 8", 5" co-leaders.	N/A
2430	North of driveway	Acer negundo	Boxelder Maple	7	4	4	over-topped, slight sweep, damaged leader				UNDESIRABLE
2431	North of driveway	Acer negundo	Boxelder Maple	7	4	4	damaged leader, suckering, decay				UNDESIRABLE
2432	North of house	Acer negundo	Boxelder Maple	5	4	4	over-topped, slight sweep, suckering, trunk scar			Forked at 1' with a 5" co-leader.	UNDESIRABLE
2433	North of house	Prunus serotina	Black Cherry	8	4	4	sweep, minor deadwood, thin crown, sparse foliage, trunk scar				UNDESIRABLE
2434	North of house	Acer saccharinum	Silver Maple	8	3	4	over-topped, slight sweep, suckering			Forked at. 5' with an 8" co-leader.	DESIRABLE
2435	North of house	Fraxinus pennsylvanica	Green Ash	17	6	4			Dead.		N/A
2436	North of house	Acer saccharinum	Silver Maple	8	3	4	over-topped, one-sided, double leader, trunk scar				DESIRABLE
2437	North of house	Acer saccharinum	Silver Maple	9	3	4	over-topped, slight sweep, minor deadwood				DESIRABLE
2438	North of house	Acer saccharinum	Silver Maple	15	3	3	over-topped, multiple leaders, basal scar				DESIRABLE
2439	North of house	Acer saccharinum	Silver Maple	6	3	4	over-topped, slight sweep, heavy deadwood			Forked at 2' with a 6" (dead) co-leader.	DESIRABLE
2440	North of barn	Acer saccharinum	Silver Maple	19	3	3	multiple leaders, one-sided, weak crotch				DESIRABLE

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2441	North of barn	Acer saccharinum	Silver Maple	29	4	4	slight sweep, multiple leaders, minor deadwood, trunk scar, broken limbs, upper cavity				DESIRABLE
2442	North of barn	Ulmus americana	American Elm	7	3	4	suckering, double leader, trunk scar				N/A
2443	North of barn	Acer saccharinum	Silver Maple	7	3	4	over-topped, one-sided, thin crown, twist in trunk, trunk scar, suckering				DESIRABLE
2444	North of barn	Acer saccharinum	Silver Maple	9	3	4	twist in trunk, one-sided, thin crown, trunk scar				DESIRABLE
2445	North of barn	Acer saccharinum	Silver Maple	14	3	4	one-sided, multiple leaders				DESIRABLE
2446	North of barn	Acer saccharinum	Silver Maple	10	3	4	twist in trunk, thin crown, suckering, trunk scar, basal scar				DESIRABLE
2447	North of barn	Acer saccharinum	Silver Maple	11	4	3	trunk scar, minor deadwood, thin crown, suckering		Old co-leader rotted off at 14'.		DESIRABLE
2448	North of barn	Acer saccharinum	Silver Maple	7	3	4	over-topped, slight sweep, suckering, trunk scar				DESIRABLE
2449	Northeast of barn	Acer saccharinum	Silver Maple	10	3	4	slight lean, thin crown, suckering, heavy deadwood			Forked at 2' with a 9" (dead) co-leader.	DESIRABLE
2450	Northeast of barn	Acer saccharinum	Silver Maple	13	3	3	one-sided, thin crown				DESIRABLE
2451	Northeast of barn	Acer saccharinum	Silver Maple	27	3	4	slight lean, multiple leaders, minor deadwood, trunk scar				DESIRABLE
2452	Northeast of barn	Acer saccharinum	Silver Maple	6	3	4	twist in trunk, over-topped, suckering, basal scar				DESIRABLE
2453	Northeast of barn	Acer saccharinum	Silver Maple	14	3	4	slight sweep, one-sided, minor deadwood			Forked at 2.5' with a 12" (snapped off at 12').	DESIRABLE
2454	Northeast of barn	Acer saccharinum	Silver Maple	12	3	4	one-sided, heavy deadwood, trunk scar				DESIRABLE
2455	Northeast of barn	Acer saccharinum	Silver Maple	11	4	4	over-topped, slight sweep, trunk scar, suckering, animal damage		Bark chewed off by horse.	Forked at 1.5' with an 11" co-leader.	DESIRABLE
2456	Northeast of barn	Acer saccharinum	Silver Maple	17	3	4	over-topped, slight sweep, trunk scar				DESIRABLE
2457	Northeast of barn	Acer saccharinum	Silver Maple	15	3	4	over-topped, slight sweep, thin crown, basal scar				DESIRABLE
2458	Northeast of barn	Acer saccharinum	Silver Maple	15	3	4	slight sweep, thin crown, slight lean			Forked at 1' with 11", 8" co-leaders.	DESIRABLE
2459	Northeast of barn	Acer saccharinum	Silver Maple	11	3	4	over-topped, minor deadwood, multiple leaders, slight sweep, trunk scar				DESIRABLE
2460	Northeast of barn	Acer saccharinum	Silver Maple	22	3	4	one-sided, minor deadwood, slight lean, basal scar		Tree stand at 10'.	Forked at 2.5' with a 13" co-leader.	DESIRABLE
2461	Northeast of barn	Ulmus americana	American Elm	7	3	4	over-topped, suckering, basal scar				N/A
2462	Between horse corral and Buesching Road	Acer saccharinum	Silver Maple	10	3	3	weak crotch, thin crown, minor deadwood, metal in trunk			Forked at 3' with 9", 9" co-leaders.	DESIRABLE
2463	Between horse corral and Buesching Road	Prunus serotina	Black Cherry	15	3	4	slight sweep, minor deadwood, one-sided				UNDESIRABLE
2464	Between horse corral and Buesching Road	Acer negundo	Boxelder Maple	7	4	4	over-topped, slight sweep, minor deadwood, suckering				UNDESIRABLE
2465	Between horse corral and Buesching Road	Acer negundo	Boxelder Maple	8	4	4	trunk scar, hollow, multiple leaders, slight lean				UNDESIRABLE
2466	Between horse corral and Buesching Road	Acer negundo	Boxelder Maple	5	5	5	basal decay, split trunk, excessive lean				UNDESIRABLE
2467	Between horse corral and Buesching Road	Acer negundo	Boxelder Maple	6	5	5	damaged leader, slight lean, sparse foliage, trunk scar, decay				UNDESIRABLE
2468	Between horse corral and Buesching Road	Prunus serotina	Black Cherry	10	6	4			Dead.		UNDESIRABLE
2469	Between horse corral and Buesching Road	Acer negundo	Boxelder Maple	5	3	4	damaged leader, pruned for overhead wires, thin crown, one-sided		Overhead wires.		UNDESIRABLE
2470	Between horse corral and Buesching Road	Ulmus americana	American Elm	9	3	4	damaged leader, pruned for overhead wires, multiple leaders, suckering, vine infested		Overhead wires.		N/A
2471	Between horse corral and Buesching Road	Acer saccharinum	Silver Maple	17	4	3	heavy deadwood, vine infested, weak crotch, dieback, slight sweep			Forked at 1' and 2' with 12", 10" (dead), 7" co-leaders.	DESIRABLE
2472	Between horse corral and Buesching Road	Acer saccharinum	Silver Maple	13	3	4	one-sided, pruned for side wires, vine infested, twist in trunk		Overhead wires. Old co-leaders rotted off at 2.5'.		DESIRABLE

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2473	Between horse corral and Buesching Road	Juglans nigra	Black Walnut	5	2	4	over-topped, twist in trunk				LANDMARK
2474	Between horse corral and Buesching Road	Acer saccharinum	Silver Maple	9	4	4	thin crown, minor deadwood, weak crotch, twist in trunk			Forked at 2' with a 9" co-leader.	DESIRABLE
2475	Between horse corral and Buesching Road	Acer negundo	Boxelder Maple	10	4	4	slight sweep, dieback, one-sided, multiple leaders, minor deadwood				UNDESIRABLE
2476	Between horse corral and Buesching Road	Acer saccharinum	Silver Maple	15	3	3	double leader, minor deadwood				DESIRABLE
2477	Between horse corral and Buesching Road	Acer negundo	Boxelder Maple	15	4	4	excessive lean, suckering, multiple leaders, minor deadwood				UNDESIRABLE
2478	Between horse corral and Buesching Road	Acer negundo	Boxelder Maple	16	3	4	multiple leaders, minor deadwood, slight lean				UNDESIRABLE
2479	Between horse corral and Buesching Road	Prunus serotina	Black Cherry	14	4	4	slight sweep, suckering, minor deadwood, one-sided				UNDESIRABLE
2480	Between horse corral and Buesching Road	Acer saccharinum	Silver Maple	19	3	3	twist in trunk, thin crown, minor deadwood				DESIRABLE
2481	Between horse corral and Buesching Road	Prunus serotina	Black Cherry	14	4	4	trunk scar, decay, one-sided, thin crown, double leader, minor deadwood, basal decay, basal scar				UNDESIRABLE
2482	Horse corral northeast of barn	Acer saccharinum	Silver Maple	13	3	4	twist in trunk, one-sided, thin crown, metal in trunk		Electric fence attached to trunk.		DESIRABLE
2483	Horse corral northeast of barn	Acer saccharinum	Silver Maple	22	3	4	slight lean, twist in trunk, double leader, trunk scar			Forked at. 5' and 5' with a 14" co-leader.	DESIRABLE
2484	Horse corral northeast of barn	Acer negundo	Boxelder Maple	10	5	5	top broken off, decay, trunk scar, sparse foliage				UNDESIRABLE
2485	Horse corral northeast of barn	Ulmus americana	American Elm	10	3	4	over-topped, twist in trunk, one-sided				N/A
2486	Horse corral northeast of barn	Acer saccharinum	Silver Maple	12	4	4	one-sided, basal scar, slight sweep, thin crown				DESIRABLE
2487	Horse corral northeast of barn	Acer saccharinum	Silver Maple	20	3	4	slight lean, one-sided, multiple leaders, minor deadwood				DESIRABLE
2488	Horse corral northeast of barn	Acer saccharinum	Silver Maple	19	3	4	one-sided, weak crotch, multiple leaders, minor deadwood, trunk scar			Forked at 4' with a 12" co-leader.	DESIRABLE
2489	Horse corral northeast of barn	Prunus serotina	Black Cherry	4	4	4	over-topped, slight sweep, trunk scar, suckering, thin crown				UNDESIRABLE
2490	Horse corral northeast of barn	Acer saccharinum	Silver Maple	9	3	4	slight lean, slight sweep, thin crown, trunk scar				DESIRABLE
2491	Horse corral northeast of barn	Acer saccharinum	Silver Maple	11	4	4	over-topped, twist in trunk, thin crown, suckering, trunk scar				DESIRABLE
2492	Horse corral northeast of barn	Acer saccharinum	Silver Maple	15	3	4	slight lean, weak crotch, double leader, damaged leader, minor deadwood				DESIRABLE
2493	Horse corral northeast of barn	Acer saccharinum	Silver Maple	10	3	4	twist in trunk, thin crown, trunk swell				DESIRABLE
2494	Horse corral northeast of barn	Acer saccharinum	Silver Maple	15	3	5	sweep, one-sided, suckering				DESIRABLE
2495	Horse corral northeast of barn	Acer saccharinum	Silver Maple	7	4	4	over-topped, trunk swell, thin crown, suckering				DESIRABLE
2496	Horse corral northeast of barn	Acer saccharinum	Silver Maple	15	3	4	slight lean, thin crown, twist in trunk, weak crotch, basal scar			Forked at 2' with a 12" co-leader.	DESIRABLE
2497	Horse corral northeast of barn	Acer saccharinum	Silver Maple	7	3	4	over-topped, slight sweep, thin crown				DESIRABLE
2498	Horse corral northeast of barn	Acer saccharinum	Silver Maple	6	3	4	twist in trunk, thin crown, suckering				DESIRABLE
2499	Horse corral northeast of barn	Acer saccharinum	Silver Maple	13	3	4	thin crown, slight sweep, weak crotch, minor deadwood			Forked at 2.5' with an 8", 6" (snapped off) co-leader.	DESIRABLE
2500	Horse corral northeast of barn	Acer saccharinum	Silver Maple	8	3	4	slight lean, thin crown, sparse foliage, trunk scar			Forked at base with a 7" co-leader.	DESIRABLE
4001	Horse corral northeast of barn	Acer saccharinum	Silver Maple	16	3	4	twist in trunk, one-sided, multiple leaders				DESIRABLE
4002	Horse corral northeast of barn	Acer saccharinum	Silver Maple	10	3	4	slight sweep, over-topped				DESIRABLE
4003	Horse corral northeast of barn	Acer saccharinum	Silver Maple	5	3	3	over-topped, trunk scar, thin crown				DESIRABLE
4004	Horse corral northeast of barn	Acer saccharinum	Silver Maple	9	3	4	twist in trunk, thin crown, minor deadwood, trunk scar			Forked at base and 3.5' with 9", 7", 4"(snapped off) co-leaders.	DESIRABLE
4005	Horse corral northeast of barn	Acer saccharinum	Silver Maple	17	3	4	one-sided, broken limbs, heavy deadwood, thin crown				DESIRABLE

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4006	Horse corral northeast of barn	Acer saccharinum	Silver Maple	10	3	4	slight sweep, thin crown, twist in trunk			Forked at 2' with a 10" co-leader.	DESIRABLE
4007	Horse corral north of barn	Acer saccharinum	Silver Maple	11	3	4	over-topped, slight sweep, trunk scar, thin crown			Forked at 3' with an 11" co-leader.	DESIRABLE
4008	Horse corral north of barn	Acer saccharinum	Silver Maple	10	3	4	twist in trunk, thin crown, minor deadwood, trunk scar				DESIRABLE
4009	Horse corral north of barn	Acer saccharinum	Silver Maple	7	3	4	slight sweep, thin crown				DESIRABLE
4010	Horse corral north of barn	Acer saccharinum	Silver Maple	6	3	4	one-sided, thin crown, basal scar				DESIRABLE
4011	Horse corral north of barn	Acer saccharinum	Silver Maple	10	3	4	twist in trunk, one-sided, thin crown, basal scar				DESIRABLE
4012	Horse corral north of barn	Acer saccharinum	Silver Maple	7	3	4	over-topped, slight lean, trunk scar				DESIRABLE
4013	Horse corral north of barn	Acer saccharinum	Silver Maple	12	3	4	slight lean, twist in trunk, thin crown				DESIRABLE
4014	Horse corral north of barn	Acer saccharinum	Silver Maple	6	3	4	slight lean, twist in trunk, one-sided				DESIRABLE
4015	Horse corral north of barn	Acer saccharinum	Silver Maple	7	3	4	over-topped, slight sweep, double leader				DESIRABLE
4016	Horse corral north of barn	Acer saccharinum	Silver Maple	26	3	3	multiple leaders, minor deadwood				DESIRABLE
4017	Horse corral north of barn	Acer saccharinum	Silver Maple	21	3	4	one-sided, broken limbs, slight sweep, heavy deadwood			Forked at 2.5' with 15", 12" co-leaders.	DESIRABLE
4018	Horse corral north of barn	Ulmus americana	American Elm	7	3	4	slight sweep, suckering, multiple leaders				N/A
4019	Horse corral north of barn	Acer negundo	Boxelder Maple	11	4	4	excessive lean, damaged leader, trunk scar, suckering				UNDESIRABLE
4020	Horse corral north of barn	Acer saccharinum	Silver Maple	20	3	3	multiple leaders, one-sided, trunk scar				DESIRABLE
4021	Horse corral north of barn	Acer negundo	Boxelder Maple	7	4	4	basal scar, animal damage, minor deadwood, slight lean, suckering				UNDESIRABLE
4022	Horse corral north of barn	Acer saccharinum	Silver Maple	12	3	4	over-topped, one-sided				DESIRABLE
4023	Horse corral north of barn	Acer negundo	Boxelder Maple	7	4	4	suckering, damaged leader, metal in trunk				UNDESIRABLE
4024	North of driveway, West of house	Acer platanoides	Norway Maple	16	3	4	over-topped, slight sweep, one-sided, trunk scar				DESIRABLE
4025	North of driveway, West of house	Acer negundo	Boxelder Maple	7	5	5	excessive lean, split trunk, damaged leader, sparse foliage, suckering				UNDESIRABLE
4026	North of driveway, West of house	Morus alba	White Mulberry (Common Mulberry)	20	5	4	one-sided, sparse foliage, multiple leaders, dieback, girdling root		Girdled by buckthorn root.		UNDESIRABLE
4027	North of driveway, West of house	Prunus serotina	Black Cherry	18	4	4	basal decay, slight lean, multiple leaders, decay, minor deadwood			Forked at 2' with a 16" co-leader.	UNDESIRABLE
4028	North of driveway, West of house	Acer negundo	Boxelder Maple	14	5	5	top broken off, decay, suckering, sparse foliage				UNDESIRABLE
4029	North of driveway, West of house	Acer negundo	Boxelder Maple	20	4	4	damaged leader, decay, trunk scar, suckering			Forked at 3' with an 18" (top broken off) co-leader.	UNDESIRABLE
4030	North of driveway, West of house	Fraxinus pennsylvanica	Green Ash	11	6	4			Dead.		N/A
4031	North of driveway, West of house	Acer negundo	Boxelder Maple	7	4	4	damaged leader, twist in trunk, thin crown, minor deadwood				UNDESIRABLE
4032	North of driveway, West of house	Acer negundo	Boxelder Maple	7	4	5	split trunk, sweep, growing horizontally				UNDESIRABLE
4033	North of driveway, West of house	Acer saccharinum	Silver Maple	5	3	5	damaged leader, slight sweep, pruned for overhead wires		Overhead wires.		DESIRABLE
4034	North of driveway, West of house	Acer negundo	Boxelder Maple	5	4	5	slight sweep, over-topped, suckering, pruned for overhead wires		Overhead wires.		UNDESIRABLE
4035	North of driveway, West of house	Celtis occidentalis	Common Hackberry	4	3	5	damaged leader, pruned for overhead wires, suckering		Overhead wires.		HERITAGE
4036	North of driveway, West of house	Celtis occidentalis	Common Hackberry	7	3	5	damaged leader, pruned for overhead wires, suckering		Overhead wires.		HERITAGE
4037	North of driveway, West of house	Acer negundo	Boxelder Maple	19	5	5	top broken off, sparse foliage, trunk scar, decay				UNDESIRABLE
4038	B/W pond and Old Rand Rd.	Prunus serotina	Black Cherry	10	3	3	minor deadwood, twist in trunk				UNDESIRABLE
4039	B/W pond and Old Rand Rd.	Prunus serotina	Black Cherry	10	4	3	damaged leader, minor deadwood				UNDESIRABLE
4040	South of pond	Fraxinus pennsylvanica	Green Ash	10	6	4			Dead.		N/A
4041	South of pond	Prunus serotina	Black Cherry	16	4	4	over-topped, sweep, weak crotch, multiple leaders, minor deadwood, trunk scar				UNDESIRABLE
4042	South of pond	Populus deltoides	Eastern Cottonwood	28	3	3	multiple leaders, minor deadwood				DESIRABLE
4043	South of pond	Quercus ellipsoidalis	Hill's Oak	6	3	4	over-topped, slight lean, vine infested, epicormics, minor deadwood				HERITAGE
4044	South of pond	Populus deltoides	Eastern Cottonwood	21	3	4	one-sided, minor deadwood				DESIRABLE
4045	South of pond	Acer saccharinum	Silver Maple	12	2	4	over-topped, slight sweep, one-sided, vine infested				DESIRABLE
4046	Horse corral north of barn	Acer saccharinum	Silver Maple	19	2	4	slight lean, weak crotch, twist in trunk, double leader		Forked at 5'.		DESIRABLE
4047	Horse corral north of barn	Acer saccharinum	Silver Maple	14	3	4	slight sweep, multiple leaders		Old co-leader rotted off at 1'.		DESIRABLE

Tree Inventory Listing
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Lake Zurich, Illinois
Prepared by Urban Forest Management, Inc. 6/24/2022

Tag No.	Location	Botanical Name	Common Name	Size	Cond.	Form	Problems	Insect/Disease	Comments	Co-Leaders at DBH	Species Quality Rating
4048	Horse corral north of barn	Acer negundo	Boxelder Maple	5	4	4	slight lean, one-sided, damaged leader, minor deadwood				UNDESIRABLE
4049	Horse corral north of barn	Acer negundo	Boxelder Maple	7	3	4	over-topped, one-sided, double leader				UNDESIRABLE
4050	Horse corral north of barn	Acer negundo	Boxelder Maple	7	3	4	twist in trunk, suckering, minor deadwood, trunk scar			Forked at 2' with a 5" co-leader.	UNDESIRABLE
4051	Horse corral north of barn	Acer negundo	Boxelder Maple	7	3	4	slight sweep, over-topped, suckering			Forked at 1.5' with 3", 3" co-leaders.	UNDESIRABLE
4052	Horse corral north of barn	Prunus serotina	Black Cherry	9	3	4	slight lean, double leader, minor deadwood				UNDESIRABLE
4053	Horse corral north of barn	Acer saccharinum	Silver Maple	6	4	4	basal decay, over-topped, twist in trunk			Forked at 2' with a 3" co-leader.	DESIRABLE
4054	Horse corral north of barn	Acer negundo	Boxelder Maple	7	5	4	damaged leader, minor deadwood, sparse foliage, suckering, trunk scar				UNDESIRABLE
4055	Horse corral north of barn	Acer negundo	Boxelder Maple	7	4	3	thin crown, minor deadwood, suckering, trunk scar				UNDESIRABLE
4056	Horse corral north of barn	Acer negundo	Boxelder Maple	11	3	4	excessive lean, multiple leaders, minor deadwood, suckering				UNDESIRABLE
4057	Horse corral north of barn	Acer negundo	Boxelder Maple	8	4	4	twist in trunk, suckering, broken limbs				UNDESIRABLE
4058	Horse corral north of barn	Acer negundo	Boxelder Maple	5	3	4	twist in trunk, double leader, trunk scar				UNDESIRABLE
4059	Horse corral north of barn	Juglans nigra	Black Walnut	7	4	4	over-topped, basal scar, one-sided				LANDMARK
4060	Horse corral north of barn	Juglans nigra	Black Walnut	12	3	3	687, exposed roots, root damage				LANDMARK
4061	Horse corral north of barn	Juglans nigra	Black Walnut	12	4	4	one-sided, split trunk, multiple leaders				LANDMARK
4062	Horse corral north of barn	Acer saccharinum	Silver Maple	18	3	4	slight lean, multiple leaders, one-sided			Forked at. 5' with a 7" co-leader.	DESIRABLE
4063	Horse corral north of barn	Acer negundo	Boxelder Maple	16	5	5	sparse foliage, decay, suckering, trunk scar		Dead co-leader, bark separating from trunk.		UNDESIRABLE
4064	Horse corral north of barn	Acer negundo	Boxelder Maple	11	3	4	over-topped, slight sweep, multiple leaders				UNDESIRABLE
4065	Horse corral north of barn	Acer saccharinum	Silver Maple	10	3	4	twist in trunk, thin crown, weak crotch			Forked at 2' with a 6" co-leader.	DESIRABLE
4066	Horse corral north of barn	Acer saccharinum	Silver Maple	9	3	4	slight sweep, thin crown				DESIRABLE
4067	Horse corral north of barn	Acer saccharinum	Silver Maple	5	3	4	slight sweep, one-sided, trunk scar				DESIRABLE
4068	Horse corral north of barn	Acer saccharinum	Silver Maple	8	3	4	one-sided, minor deadwood, trunk scar				DESIRABLE
4069	Horse corral north of barn	Acer saccharinum	Silver Maple	9	3	4	one-sided, thin crown, suckering				DESIRABLE
4070	Horse corral north of barn	Acer saccharinum	Silver Maple	13	3	4	over-topped, slight sweep		Forked at 2' with an 8"(dead) co-leader.		DESIRABLE
4071	Horse corral north of barn	Acer saccharinum	Silver Maple	10	3	4	slight sweep, thin crown, minor deadwood				DESIRABLE
4072	Horse corral north of barn	Acer saccharinum	Silver Maple	12	3	4	one-sided, thin crown, slight sweep, double leader, trunk scar				DESIRABLE
4073	Horse corral north of barn	Acer saccharinum	Silver Maple	6	3	4	slight sweep, thin crown, suckering, trunk scar				DESIRABLE
4074	Horse corral northeast of barn	Acer saccharinum	Silver Maple	8	3	4	sweep, one-sided, thin crown, trunk scar				DESIRABLE
4075	Horse corral northeast of barn	Acer saccharinum	Silver Maple	11	3	4	slight lean, twist in trunk, thin crown, trunk scar				DESIRABLE
4076	Horse corral northeast of barn	Acer saccharinum	Silver Maple	8	3	4	over-topped, thin crown, suckering, trunk scar				DESIRABLE
4077	Horse corral northeast of barn	Acer saccharinum	Silver Maple	11	4	4	basal decay, thin crown, slight sweep, suckering			Forked at 3' with an 8" co-leader.	DESIRABLE
4078	Horse corral northeast of barn	Acer saccharinum	Silver Maple	17	3	4	double leader, slight sweep, thin crown		Forked at 5'.		DESIRABLE
4079	Horse corral northeast of barn	Acer saccharinum	Silver Maple	15	3	4	slight sweep, heavy deadwood, thin crown		Dead co-leader.		DESIRABLE
4080	Horse corral northeast of barn	Acer saccharinum	Silver Maple	13	3	4	twist in trunk, one-sided, double leader, thin crown				DESIRABLE
4081	Horse corral northeast of barn	Acer saccharinum	Silver Maple	11	3	4	twist in trunk, one-sided, minor deadwood				DESIRABLE
4082	Horse corral northeast of barn	Acer negundo	Boxelder Maple	9	3	4	slight sweep, twist in trunk, over-topped, minor deadwood				UNDESIRABLE
4083	Horse corral northeast of barn	Acer negundo	Boxelder Maple	6	4	5	damaged leader, suckering				UNDESIRABLE
4084	Horse corral northeast of barn	Acer saccharinum	Silver Maple	21	3	3	slight lean, multiple leaders, heavy deadwood				DESIRABLE
4085	B/W corral and Buesching Road	Prunus serotina	Black Cherry	12	5	4	dieback, heavy deadwood, vine infested			Forked at 1.5' with an 8" co-leader.	UNDESIRABLE
4086	B/W corral and Buesching Road	Prunus serotina	Black Cherry	14	3	4	629, twist in trunk, minor deadwood, multiple leaders				UNDESIRABLE
4087	B/W corral and Buesching Road	Acer negundo	Boxelder Maple	17	4	4	one-sided, dieback, multiple leaders				UNDESIRABLE
4088	B/W corral and Buesching Road	Acer negundo	Boxelder Maple	9	4	4	over-topped, one-sided, suckering, minor deadwood				UNDESIRABLE
4089	B/W corral and Buesching Road	Acer negundo	Boxelder Maple	7	4	4	twist in trunk, thin crown, minor deadwood, basal decay				UNDESIRABLE

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Tag No.	Location	Botanical Name	Common Name	Size	Cond.	Form	Problems	Insect/Disease	Comments	Co-Leaders at DBH	Species Quality Rating
4090	B/W corral and Buesching Road	Prunus serotina	Black Cherry	8	3	4	one-sided, double leader				UNDESIRABLE
4091	B/W corral and Buesching Road	Acer negundo	Boxelder Maple	9	4	5	excessive lean, damaged leader, heavy deadwood, sparse foliage				UNDESIRABLE
4092	B/W corral and Buesching Road	Acer saccharinum	Silver Maple	13	3	4	twist in trunk, thin crown				DESIRABLE
4093	B/W corral and Buesching Road	Acer saccharinum	Silver Maple	10	3	3	thin crown, double leader				DESIRABLE
4094	B/W corral and Buesching Road	Acer saccharinum	Silver Maple	11	3	4	excessive lean, sweep, double leader. exposed roots		Along creek.		DESIRABLE
4095	B/W corral and Buesching Road	Acer saccharinum	Silver Maple	12	3	4	minor deadwood, slight sweep, one-sided			Forked at 2' with a 7" co-leader.	DESIRABLE
4096	B/W corral and Buesching Road	Acer saccharinum	Silver Maple	9	3	4	over-topped, one-sided			Forked at 1' with a 6" co-leader.	DESIRABLE
4097	B/W corral and Buesching Road	Acer negundo	Boxelder Maple	6	4	4	slight lean, twist in trunk, vine infested				UNDESIRABLE
4098	B/W corral and Buesching Road	Ulmus americana	American Elm	6	3	4	slight lean, vine infested, over-topped				N/A
4099	B/W corral and Buesching Road	Salix nigra	Black Willow	5	4	4	damaged leader, pruned for overhead wires, trunk scar, suckering		Overhead wires, next to sewer inlet.		DESIRABLE
4100	B/W corral and Buesching Road	Morus alba	White Mulberry (Common Mulberry)	6	3	4	over-topped, twist in trunk, double leader				UNDESIRABLE
4101	B/W corral and Buesching Road	Acer saccharinum	Silver Maple	20	3	3	weak crotch, slight sweep, surface roots, erosion		Along creek.	Forked at 1' with a 16" co-leader.	DESIRABLE
4102	B/W corral and Buesching Road	Acer negundo	Boxelder Maple	13	3	4	slight sweep, suckering				UNDESIRABLE
4103	B/W corral and Buesching Road	Acer negundo	Boxelder Maple	15	4	4	basal decay, trunk scar, slight lean, multiple leaders, minor deadwood, suckering				UNDESIRABLE
4104	B/W corral and Buesching Road	Acer negundo	Boxelder Maple	12	4	4	heavy deadwood, excessive lean, suckering, trunk scar				UNDESIRABLE
4105	B/W corral and Buesching Road	Acer negundo	Boxelder Maple	11	4	4	slight lean, multiple leaders, one-sided, trunk scar, decay				UNDESIRABLE
4106	B/W corral and Buesching Road	Acer negundo	Boxelder Maple	7	4	4	slight lean, suckering, damaged leader, broken limbs				UNDESIRABLE
4107	B/W corral and Buesching Road	Acer negundo	Boxelder Maple	7	3	4	over-topped, slight sweep				UNDESIRABLE
4108	B/W corral and Buesching Road	Acer saccharinum	Silver Maple	13	3	3	weak crotch, multiple leaders			Forked at 3' with 13", 10" co-leaders.	DESIRABLE
4109	B/W corral and Buesching Road	Ulmus americana	American Elm	21	3	3	weak crotch, multiple leaders, suckering				N/A
4110	Horse corral northeast of homestead	Ulmus americana	American Elm	8	4	3	trunk scar, minor deadwood, suckering				N/A
4111	Horse corral northeast of homestead	Acer saccharinum	Silver Maple	18	3	4	slight sweep, weak crotch, double leader, minor deadwood				DESIRABLE
4112	Horse corral northeast of homestead	Acer negundo	Boxelder Maple	6	3	4	over-topped, slight sweep, suckering				UNDESIRABLE
4113	Horse corral northeast of homestead	Acer saccharinum	Silver Maple	11	3	4	slight sweep, double leader				DESIRABLE
4114	Horse corral northeast of homestead	Morus alba	White Mulberry (Common Mulberry)	4	3	4	over-topped, twist in trunk, dead tree caught in crown				UNDESIRABLE
4115	Horse corral northeast of homestead	Acer saccharinum	Silver Maple	21	3	3	multiple leaders, minor deadwood				DESIRABLE
4116	Horse corral northeast of homestead	Acer saccharinum	Silver Maple	4	3	4	over-topped, one-sided, twist in trunk, trunk scar				DESIRABLE
4117	Horse corral northeast of homestead	Acer saccharinum	Silver Maple	13	3	3	thin crown, double leader				DESIRABLE
4118	Horse corral northeast of homestead	Prunus serotina	Black Cherry	4	3	4	over-topped, one-sided. trunk scar				UNDESIRABLE
4119	Horse corral northeast of homestead	Acer saccharinum	Silver Maple	17	3	3	weak crotch, multiple leaders				DESIRABLE
4120	Horse corral northeast of homestead	Acer saccharinum	Silver Maple	13	3	4	slight lean, one-sided, trunk scar				DESIRABLE
4121	Horse corral northeast of homestead	Acer saccharinum	Silver Maple	12	3	4	twist in trunk, one-sided, double leader, thin crown				DESIRABLE
4122	Horse corral north of barn	Acer saccharinum	Silver Maple	7	3	3	over-topped, thin crown, minor deadwood				DESIRABLE
4123	Horse corral north of barn	Acer saccharinum	Silver Maple	8	3	4	one-sided, double leader, trunk scar, suckering				DESIRABLE
4124	Horse corral north of barn	Acer saccharinum	Silver Maple	11	3	4	twist in trunk, thin crown, minor deadwood				DESIRABLE
4125	Horse corral north of barn	Acer saccharinum	Silver Maple	9	3	4	twist in trunk, thin crown, multiple leaders, weak crotch			Forked at 3' with a 9" co-leader.	DESIRABLE

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4126	Horse corral north of barn	Acer saccharinum	Silver Maple	6	3	4	slight sweep, thin crown, trunk scar, basal scar				DESIRABLE
4127	Horse corral north of barn	Acer saccharinum	Silver Maple	10	3	4	twist in trunk, thin crown, over-topped, trunk scar				DESIRABLE
4128	Horse corral north of barn	Acer saccharinum	Silver Maple	13	3	3	weak crotch, thin crown			Forked at 3.5' with an 11" co-leader.	DESIRABLE
4129	Horse corral north of barn	Acer saccharinum	Silver Maple	6	4	4	over-topped, crossing branches		In contact with tree #4130.		DESIRABLE
4130	Horse corral north of barn	Acer saccharinum	Silver Maple	21	4	3	dieback, heavy deadwood, multiple leaders, weak crotch, crossing branches		In contact with tree #4129. Half of 21" leader is crown dead.	forked at base and 2.5' with 9", 7" co-leaders.	DESIRABLE
4131	Horse corral north of barn	Juglans nigra	Black Walnut	14	3	4	twist in trunk, one-sided, minor deadwood				LANDMARK
4132	Horse corral north of barn	Acer negundo	Boxelder Maple	12	4	4	slight lean, dieback, heavy deadwood, multiple leaders				UNDESIRABLE
4133	Horse corral north of barn	Fraxinus pennsylvanica	Green Ash	15	6	3			Dead.		N/A
4134	Horse corral north of barn	Acer negundo	Boxelder Maple	11	4	4	dieback, minor deadwood, over-topped, trunk scar				UNDESIRABLE
4135	Horse corral north of barn	Acer negundo	Boxelder Maple	7	4	4	slight lean, one-sided, dieback, minor deadwood, suckering				UNDESIRABLE
4136	Horse corral north of barn	Acer negundo	Boxelder Maple	7	4	4	slight lean, twist in trunk, suckering, minor deadwood			Forked at 2.5' with a 6" co-leader.	UNDESIRABLE
4137	Horse corral north of barn	Acer negundo	Boxelder Maple	5	3	4	over-topped, twist in trunk, one-sided				UNDESIRABLE
4138	Horse corral north of barn	Acer negundo	Boxelder Maple	7	3	4	thin crown, minor deadwood				UNDESIRABLE
4139	Horse corral north of barn	Acer negundo	Boxelder Maple	5	3	4	damaged leader, double leader				UNDESIRABLE
4140	Horse corral north of barn	Acer negundo	Boxelder Maple	9	3	4	slight lean, trunk scar, multiple leaders, suckering				UNDESIRABLE
4141	Horse corral north of barn	Acer saccharinum	Silver Maple	13	3	4	twist in trunk, multiple leaders, basal scar				DESIRABLE
4142	Horse corral north of barn	Acer negundo	Boxelder Maple	6	3	4	twist in trunk, slight lean, thin crown, minor deadwood				UNDESIRABLE
4143	Horse corral north of barn	Salix nigra	Black Willow	50	6	5	sparse foliage, dieback, heavy deadwood, multiple leaders, decay		(1) collapsed 9" co-leader is alive.		DESIRABLE
4144	Horse corral north of barn	Acer negundo	Boxelder Maple	5	4	4	one-sided, twist in trunk, minor deadwood				UNDESIRABLE
4145	Horse corral north of barn - along pond	Populus deltoides	Eastern Cottonwood	19	2	3	one-sided				DESIRABLE
4146	Horse corral north of barn - along pond	Acer saccharinum	Silver Maple	15	3	4	slight lean, multiple leaders, minor deadwood				DESIRABLE
4147	Horse corral north of barn - along pond	Ulmus americana	American Elm	9	3	4	slight lean, over-topped, one-sided				N/A
4148	Horse corral north of barn	Acer negundo	Boxelder Maple	5	4	4	one-sided, damaged leader, over-topped, suckering				UNDESIRABLE
4149	Horse corral north of barn	Acer negundo	Boxelder Maple	6	5	4	damaged leader, minor deadwood				UNDESIRABLE
4150	Horse corral north of barn	Juglans nigra	Black Walnut	11	3	4	one-sided, multiple leaders, minor deadwood				LANDMARK
4151	Horse corral north of barn - along pond	Populus deltoides	Eastern Cottonwood	26	3	3	multiple leaders, metal in trunk		Electric fence attached to trunk.		DESIRABLE
4152	Horse corral north of barn	Ulmus americana	American Elm	20	6	4			Dead.		N/A
4153	Horse corral north of barn	Morus alba	White Mulberry (Common Mulberry)	6	3	4	one-sided, multiple leaders, metal in trunk		Electric fence attached to trunk.		UNDESIRABLE
4154	Horse corral north of barn	Prunus serotina	Black Cherry	8	5	3	sparse foliage, decay, trunk scar				UNDESIRABLE
4155	Horse corral north of barn	Fraxinus pennsylvanica	Green Ash	19	6	4			Dead.		N/A
4156	Horse corral north of barn	Acer saccharinum	Silver Maple	15	3	3	weak crotch, multiple leaders, minor deadwood			Forked at 2' with 12", 11", 10", 6" co-leaders.	DESIRABLE
4157	Horse corral north of barn	Acer negundo	Boxelder Maple	8	5	4	twist in trunk, one-sided, over-topped, minor deadwood, suckering				UNDESIRABLE
4158	Horse corral north of barn	Juglans nigra	Black Walnut	11	3	3	trunk scar, broken limbs				LANDMARK
4159	Horse corral north of barn	Juglans nigra	Black Walnut	4	2	4	over-topped, slight lean, twist in trunk				LANDMARK
4160	Horse corral northeast of barn	Acer negundo	Boxelder Maple	6	5	4	over-topped, damaged leader, suckering, minor deadwood, decay				UNDESIRABLE
4161	Horse corral northeast of barn	Acer saccharinum	Silver Maple	16	3	4	one-sided, weak crotch, slight sweep, heavy deadwood, surface roots, lawnmower damage			Forked at 2' with 15", 11" co-leaders.	DESIRABLE
4162	Horse corral northeast of barn	Acer saccharinum	Silver Maple	9	4	3	thin crown, suckering				DESIRABLE
4163	Horse corral northeast of barn	Acer saccharinum	Silver Maple	14	3	3	weak crotch, multiple leaders, one-sided			Forked at 4' with a 12" co-leader.	DESIRABLE
4164	Horse corral northeast of barn	Acer saccharinum	Silver Maple	9	4	4	basal decay, twist in trunk, thin crown, minor deadwood				DESIRABLE
4165	Horse corral northeast of barn	Acer saccharinum	Silver Maple	13	3	4	over-topped, slight sweep, thin crown				DESIRABLE

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4166	Horse corral northeast of barn	Acer saccharinum	Silver Maple	18	3	3	multiple leaders, minor deadwood, basal scar				DESIRABLE
4167	Horse corral northeast of barn	Acer saccharinum	Silver Maple	7	3	4	over-topped, slight lean, trunk scar				DESIRABLE
4168	Horse corral northeast of barn	Acer saccharinum	Silver Maple	18	3	3	multiple leaders, heavy deadwood				DESIRABLE
4169	Horse corral northeast of barn	Acer saccharinum	Silver Maple	19	3	3	weak crotch, trunk scar, multiple leaders				DESIRABLE
4170	Horse corral northeast of barn	Ulmus americana	American Elm	12	3	3	multiple leaders, suckering, minor deadwood				N/A
4171	Horse corral northeast of barn	Acer saccharinum	Silver Maple	15	3	4	one-sided, multiple leaders, minor deadwood, weak crotch				DESIRABLE
4172	Horse corral northeast of barn	Acer saccharinum	Silver Maple	15	3	4	one-sided, thin crown, weak crotch				DESIRABLE
4173	Horse corral northeast of barn	Acer saccharinum	Silver Maple	22	3	4	weak crotch, minor deadwood, one-sided			Forked at 2' and 4' with 8", 7", 7" co-leaders.	DESIRABLE
4174	Horse corral northeast of barn	Acer saccharinum	Silver Maple	11	3	4	thin crown, slight sweep, minor deadwood, weak crotch			Forked at 1.5' with a 10" co-leader.	DESIRABLE
4175	Horse corral northeast of barn	Ulmus americana	American Elm	11	3	4	suckering, one-sided, thin crown, weak crotch			Forked at 3' with a 7" co-leader.	N/A
4176	Horse corral northeast of barn	Acer saccharinum	Silver Maple	19	3	4	trunk swell, basal scar, weak crotch, multiple leaders				DESIRABLE
4177	B/W corral and Buesching Road	Morus alba	White Mulberry (Common Mulberry)	10	3	4	over-topped, twist in trunk				UNDESIRABLE
4178	B/W corral and Buesching Road	Prunus serotina	Black Cherry	8	4	4	trunk scar, decay, over-topped, slight sweep				UNDESIRABLE
4179	B/W corral and Buesching Road	Morus alba	White Mulberry (Common Mulberry)	5	3	4	over-topped, twist in trunk, minor deadwood				UNDESIRABLE
4180	B/W corral and Buesching Road	Acer saccharinum	Silver Maple	18	3	3	trunk scar, multiple leaders, minor deadwood			Forked at 3' with 14", 13", 9" co-leaders.	DESIRABLE
4181	B/W corral and Buesching Road	Acer saccharinum	Silver Maple	11	3	4	over-topped, one-sided				DESIRABLE
4182	B/W corral and Buesching Road	Morus alba	White Mulberry (Common Mulberry)	8	4	4	slight lean, over-topped, trunk scar, one-sided, basal decay				UNDESIRABLE
4183	B/W corral and Buesching Road	Acer negundo	Boxelder Maple	11	4	4	excessive lean, one-sided, minor deadwood, suckering				UNDESIRABLE
4184	B/W corral and Buesching Road	Acer negundo	Boxelder Maple	10	4	5	sweep, damaged leader, vine infested, basal decay		Along creek.		UNDESIRABLE
4185	B/W corral and Buesching Road	Acer negundo	Boxelder Maple	5	3	4	slight lean, suckering, minor deadwood				UNDESIRABLE
4186	B/W corral and Buesching Road	Acer negundo	Boxelder Maple	9	4	4	excessive lean, sweep, weak crotch, minor deadwood				UNDESIRABLE
4187	B/W corral and Buesching Road	Acer negundo	Boxelder Maple	12	4	3	weak crotch, suckering, minor deadwood				UNDESIRABLE
4188	B/W corral and Buesching Road	Acer negundo	Boxelder Maple	4	4	4	over-topped, twist in trunk, suckering, minor deadwood				UNDESIRABLE
4189	B/W corral and Buesching Road	Acer negundo	Boxelder Maple	11	3	4	sweep, twist in trunk, one-sided				UNDESIRABLE
4190	B/W corral and Buesching Road	Acer negundo	Boxelder Maple	10	5	4	trunk scar, decay, double leader, one-sided, suckering				UNDESIRABLE
4191	Northeast corner	Acer saccharinum	Silver Maple	11	3	4	twist in trunk, thin crown, sparse foliage, vine infested				DESIRABLE
4192	Northeast corner	Juglans nigra	Black Walnut	13	2	3	twist in trunk, minor deadwood				LANDMARK
4193	Northeast corner	Morus alba	White Mulberry (Common Mulberry)	9	3	4	pruned for overhead wires, suckering, damaged leader				UNDESIRABLE
4194	Northeast corner	Prunus serotina	Black Cherry	10	3	4	sweep, pruned for overhead wires, minor deadwood				UNDESIRABLE
4195	Northeast corner	Acer negundo	Boxelder Maple	14	6	4			Dead.		UNDESIRABLE
4196	Northeast corner	Morus alba	White Mulberry (Common Mulberry)	12	3	4	over-topped, one-sided, twist in trunk, top broken off, vine infested				UNDESIRABLE
4197	Northeast corner	Prunus serotina	Black Cherry	10	3	4	one-sided, twist in trunk, minor deadwood				UNDESIRABLE
4198	Northeast corner	Acer negundo	Boxelder Maple	11	5	5	damaged leader, suckering, decay				UNDESIRABLE
4199	Northeast corner	Morus alba	White Mulberry (Common Mulberry)	12	3	3	thin crown, vine infested				UNDESIRABLE
4200	Northeast corner	Prunus serotina	Black Cherry	16	4	4	one-sided, double leader, heavy deadwood, sparse foliage				UNDESIRABLE
4201	Northeast corner	Juglans nigra	Black Walnut	13	2	3	twist in trunk, minor deadwood				LANDMARK
4202	Northeast corner	Prunus serotina	Black Cherry	6	4	4	excessive lean, one-sided, minor deadwood, trunk scar, decay				UNDESIRABLE
4203	Northeast corner	Acer negundo	Boxelder Maple	11	4	4	slight lean, slight sweep, suckering, minor deadwood				UNDESIRABLE
4204	Northeast corner	Morus alba	White Mulberry (Common Mulberry)	11	3	4	double leader, one-sided, twist in trunk, minor deadwood				UNDESIRABLE
4205	Northeast corner	Morus alba	White Mulberry (Common Mulberry)	5	3	4	slight lean, twist in trunk, suckering, minor deadwood				UNDESIRABLE
4206	Northeast corner	Prunus serotina	Black Cherry	7	5	4	thin crown, minor deadwood, sparse foliage		Twin leader dead at 1'.		UNDESIRABLE
4207	Northeast corner	Acer negundo	Boxelder Maple	7	5	5	damaged leader, suckering, minor deadwood				UNDESIRABLE
4208	Northeast corner	Unidentifiable	Unidentifiable	13	6	5			Dead. No bark.		N/A

Tree Inventory Listing
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Lake Zurich, Illinois
Prepared by Urban Forest Management, Inc. 6/24/2022

Tag No.	Location	Botanical Name	Common Name	Size	Cond.	Form	Problems	Insect/Disease	Comments	Co-Leaders at DBH	Species Quality Rating
4209	Northeast corner	Prunus serotina	Black Cherry	8	5	4	excessive lean, damaged leader, sweep, sparse foliage, minor deadwood				UNDESIRABLE
4210	Northeast corner	Prunus serotina	Black Cherry	14	5	3	dieback, heavy deadwood, sparse foliage				UNDESIRABLE
4211	Northeast corner	Acer negundo	Boxelder Maple	6	3	4	one-sided, slight sweep, minor deadwood				UNDESIRABLE
4212	Northeast corner	Morus alba	White Mulberry (Common Mulberry)	9	3	4	over-topped, one-sided, minor deadwood				UNDESIRABLE
4213	Northeast corner	Morus alba	White Mulberry (Common Mulberry)	11	3	4	one-sided, twist in trunk, trunk scar, minor deadwood				UNDESIRABLE
4214	Northeast corner	Juglans nigra	Black Walnut	9	2	3	double leader, erosion, exposed roots		Along creek.		LANDMARK
4215	Northeast corner	Acer negundo	Boxelder Maple	9	5	5	damaged leader, heavy deadwood, suckering				UNDESIRABLE
4216	Northeast corner	Ulmus rubra	Slippery Elm (Red Elm)	15	3	3	multiple leaders, suckering, minor deadwood				N/A
4217	Northeast corner	Prunus serotina	Black Cherry	8	4	4	one-sided, over-topped, vine infested, minor deadwood				UNDESIRABLE
4218	Northeast corner	Prunus serotina	Black Cherry	5	4	4	excessive lean, one-sided, minor deadwood				UNDESIRABLE
4219	Northeast corner	Fraxinus pennsylvanica	Green Ash	13	6	5			Dead.		N/A
4220	Northeast corner	Acer saccharinum	Silver Maple	10	4	4	minor deadwood, slight sweep, one-sided, thin crown				DESIRABLE
4221	Northeast corner	Catalpa speciosa	Northern Catalpa	6	3	4	over-topped, double leader, vine infested, one-sided				LANDMARK
4222	Northeast corner	Prunus serotina	Black Cherry	6	4	4	over-topped, slight sweep, sparse foliage, one-sided				UNDESIRABLE
4223	Northeast corner	Prunus serotina	Black Cherry	8	3	4	excessive lean, thin crown, twist in trunk				UNDESIRABLE
4224	Northeast corner	Prunus serotina	Black Cherry	4	4	4	excessive lean, damaged leader, thin crown, minor deadwood				UNDESIRABLE
4225	Northeast corner	Prunus serotina	Black Cherry	6	4	4	excessive lean, vine infested, one-sided, decay				UNDESIRABLE
4226	Northeast corner	Prunus serotina	Black Cherry	6	3	4	twist in trunk, thin crown, sparse foliage				UNDESIRABLE
4227	Northeast corner	Acer negundo	Boxelder Maple	9	4	4	damaged leader, thin crown, twist in trunk, suckering			Forked at 1.5' with a 6" co-leader.	UNDESIRABLE
4228	Northeast corner	Acer negundo	Boxelder Maple	6	4	4	slight lean, over-topped, twist in trunk, minor deadwood				UNDESIRABLE
4229	Northeast corner	Acer negundo	Boxelder Maple	10	3	4	slight sweep, one-sided, suckering				UNDESIRABLE
4230	Northeast corner	Acer negundo	Boxelder Maple	5	3	4	over-topped, slight sweep, suckering			Forked at base with 14" co-leader (lying on ground).	UNDESIRABLE
4231	Northeast corner	Morus alba	White Mulberry (Common Mulberry)	5	3	4	slight lean, twist in trunk, vine infested, minor deadwood				UNDESIRABLE
4232	Northeast corner	Juglans nigra	Black Walnut	10	3	3	double leader, twist in trunk, suckering, minor deadwood, vine infested				LANDMARK
4233	Northeast corner	Morus alba	White Mulberry (Common Mulberry)	9	3	4	one-sided, suckering, minor deadwood				UNDESIRABLE
4234	Northeast corner	Prunus serotina	Black Cherry	7	5	4	dieback, damaged leader, slight lean, sparse foliage, minor deadwood				UNDESIRABLE
4235	Northeast corner	Juglans nigra	Black Walnut	9	2	4	one-sided, twist in trunk, minor deadwood				LANDMARK
4236	Northeast corner	Morus alba	White Mulberry (Common Mulberry)	5	3	4	over-topped, twist in trunk, suckering, minor deadwood				UNDESIRABLE
4237	Northeast corner	Acer saccharinum	Silver Maple	13	5	4	double leader, sparse foliage				DESIRABLE
4238	Northeast corner	Juglans nigra	Black Walnut	11	2	3	twist in trunk				LANDMARK
4239	Northeast corner	Morus alba	White Mulberry (Common Mulberry)	6	3	4	over-topped, twist in trunk, trunk scar				UNDESIRABLE
4240	Northeast corner	Morus alba	White Mulberry (Common Mulberry)	4	4	4	over-topped, twist in trunk, suckering				UNDESIRABLE
4241	Northeast corner	Prunus serotina	Black Cherry	7	4	4	sweep, sparse foliage, one-sided				UNDESIRABLE
4242	Northeast corner	Fraxinus pennsylvanica	Green Ash	10	6	4			Dead.		N/A
4243	Northeast corner	Acer negundo	Boxelder Maple	4	4	4	damaged leader, pruned for overhead wires, vine infested				UNDESIRABLE
4244	Northeast corner	Juglans nigra	Black Walnut	9	3	5	decay, pruned for overhead wires, suckering, vine infested				LANDMARK
4245	Northeast corner	Acer negundo	Boxelder Maple	7	4	4	damaged leader, multiple leaders, suckering, minor deadwood				UNDESIRABLE
4246	Northeast corner	Acer negundo	Boxelder Maple	4	5	5	damaged leader, vine infested, sparse foliage, suckering				UNDESIRABLE
4247	Northeast corner	Malus spp.	Crabapple	5	3	4	over-topped, slight sweep, double leader			Forked at 1' with a 3" co-leader.	DESIRABLE

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Tag No.	Location	Botanical Name	Common Name	Size	Cond.	Form	Problems	Insect/Disease	Comments	Co-Leaders at DBH	Species Quality Rating
4248	North property line	Acer negundo	Boxelder Maple	12	3	4	twist in trunk, suckering, multiple leaders		Broken and hanging limb in crown. Old 12" co-leader rotted off at 2'.		UNDESIRABLE
4249	North property line	Prunus serotina	Black Cherry	6	4	4	slight lean, slight sweep, thin crown, minor deadwood, decay				UNDESIRABLE
4250	North property line	Ulmus rubra	Slippery Elm (Red Elm)	16	3	3	suckering				N/A
4251	North property line	Acer saccharinum	Silver Maple	6	3	4	slight sweep, thin crown			Forked at 2' with a 4" co-leader.	DESIRABLE
4252	North property line	Prunus serotina	Black Cherry	9	3	4	one sided, vine infested, thin crown, trunk scar				UNDESIRABLE
4253	North property line	Fraxinus pennsylvanica	Green Ash	10	6	4			Dead.		N/A
4254	North property line	Prunus serotina	Black Cherry	5	4	4	minor deadwood, vine infested, sparse foliage				UNDESIRABLE
4255	North property line	Morus alba	White Mulberry (Common Mulberry)	7	3	4	over-topped, one sided, multiple leaders				UNDESIRABLE
4256	North property line	Prunus serotina	Black Cherry	9	5	4	damaged leader, basal decay, sparse foliage, thin crown				UNDESIRABLE
4257	North property line	Acer saccharinum	Silver Maple	10	2	3	thin crown, twist in trunk				DESIRABLE
4258	North property line	Acer negundo	Boxelder Maple	8	4	4	over-topped, slight sweep, suckering, minor deadwood				UNDESIRABLE
4259	North property line	Morus alba	White Mulberry (Common Mulberry)	20	3	4	trunk scar, double leader, slight sweep, minor deadwood				UNDESIRABLE
4260	North property line	Acer negundo	Boxelder Maple	4	4	3	basal decay, vine infested, minor deadwood			Forked at base with 3", 3", 3" co-leaders.	UNDESIRABLE
4261	North property line	Acer negundo	Boxelder Maple	7	3	4	over-topped, one sided, twist in trunk				UNDESIRABLE
4262	North property line	Acer negundo	Boxelder Maple	8	4	4	over-topped, excessive lean, suckering, one sided		Uprooting and lying on tree #4264.		UNDESIRABLE
4263	North property line	Prunus serotina	Black Cherry	9	4	4	slight lean, vine infested, sparse foliage, minor deadwood				UNDESIRABLE
4264	North property line	Acer negundo	Boxelder Maple	5	5	5	damaged leader, top broken off, sparse foliage, over-topped		Leader damaged by tree #4264.		UNDESIRABLE
4265	North property line	Acer saccharinum	Silver Maple	14	2	4	slight lean, multiple leaders				DESIRABLE
4266	North property line	Prunus serotina	Black Cherry	7	5	4	slight lean, sparse foliage, suckering				UNDESIRABLE
4267	North property line	Morus alba	White Mulberry (Common Mulberry)	5	5	5	excessive lean, decay, minor deadwood, sparse foliage				UNDESIRABLE
4268	North property line	Acer negundo	Boxelder Maple	6	4	4	slight lean, twist in trunk, thin crown, minor deadwood				UNDESIRABLE
4269	North property line - east of pond	Acer negundo	Boxelder Maple	6	4	4	slight lean, double leader, minor deadwood				UNDESIRABLE
4270	North property line - east of pond	Salix nigra	Black Willow	21	4	4	trunk scar, suckering, decay, slight sweep		Old co-leader rotted off at 5'.		DESIRABLE
4271	North property line - east of pond	Acer saccharinum	Silver Maple	16	3	3	multiple leaders, minor deadwood				DESIRABLE
4272	North property line - east of pond	Morus alba	White Mulberry (Common Mulberry)	7	3	3	slight lean, minor deadwood			Forked at 2' with a 2" co-leader.	UNDESIRABLE
4273	West of pond	Prunus serotina	Black Cherry	15	4	4	double leader, twist in trunk, decay				UNDESIRABLE
4274	West of pond	Fraxinus pennsylvanica	Green Ash	11	6	4			Dead.		N/A
4275	West of pond	Prunus serotina	Black Cherry	12	6	4			Dead.		UNDESIRABLE
4276	West property line	Acer negundo	Boxelder Maple	10	4	3	suckering, decay, minor deadwood				UNDESIRABLE
4277	West property line	Acer negundo	Boxelder Maple	5	4	4	excessive lean, suckering, minor deadwood		Overhead wires.		UNDESIRABLE
4278	West property line	Acer saccharinum	Silver Maple	9	4	4	dieback, damaged leader, pruned for overhead wires, multiple leaders, suckering		Overhead wires.	Forked at base with a 7" co-leader.	DESIRABLE
4279	West of pond	Juglans nigra	Black Walnut	8	2	3	multiple leaders				LANDMARK
4280	West of pond on edge of water	Ulmus americana	American Elm	15	3	4	slight lean, weak crotch, multiple leaders				N/A
4281	West of pond	Morus alba	White Mulberry (Common Mulberry)	10	3	4	over-topped, slight sweep, multiple leaders				UNDESIRABLE
4282	West property line	Robinia pseudoacacia	Black Locust	8	3	3	multiple leaders, minor deadwood				UNDESIRABLE
4283	West property line	Acer saccharinum	Silver Maple	7	3	4	one sided, multiple leaders, suckering, pruned for side wires		Overhead wires.		DESIRABLE
4284	West property line	Morus alba	White Mulberry (Common Mulberry)	7	3	4	over-topped, slight lean, multiple leaders, pruned for overhead wires		Overhead wires.		UNDESIRABLE
4285	West property line	Morus alba	White Mulberry (Common Mulberry)	5	3	5	over-topped, slight sweep, damaged leader, pruned for overhead wires		Overhead wires.		UNDESIRABLE
4286	West property line	Acer saccharinum	Silver Maple	10	3	4	one sided, pruned for side wires, twist in trunk		Overhead wires.		DESIRABLE
4287	West property line	Prunus serotina	Black Cherry	9	3	3	multiple leaders, minor deadwood				UNDESIRABLE
4288	West property line	Prunus serotina	Black Cherry	9	3	4	one sided, minor deadwood				UNDESIRABLE

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Tag No.	Location	Botanical Name	Common Name	Size	Cond.	Form	Problems	Insect/Disease	Comments	Co-Leaders at DBH	Species Quality Rating
4289	West property line	Prunus serotina	Black Cherry	6	3	4	over-topped, twist in trunk, minor deadwood				UNDESIRABLE
4290	West property line	Morus alba	White Mulberry (Common Mulberry)	7	3	4	twist in trunk, multiple leaders, minor deadwood				UNDESIRABLE
4291	West property line	Morus alba	White Mulberry (Common Mulberry)	7	3	4	over-topped, slight lean, one sided				UNDESIRABLE
4292	West property line	Prunus serotina	Black Cherry	11	3	4					UNDESIRABLE
4293	West property line	Prunus serotina	Black Cherry	4	3	4	minor deadwood, sweep				UNDESIRABLE
4294	West property line	Prunus serotina	Black Cherry	7	3	4	over-topped, slight sweep, one sided, vine infested				UNDESIRABLE
4295	West property line	Prunus serotina	Black Cherry	8	3	4	over-topped, slight sweep				UNDESIRABLE
4296	West property line	Robinia pseudoacacia	Black Locust	6	3	4	twist in trunk, minor deadwood, one sided				UNDESIRABLE
4297	West property line	Robinia pseudoacacia	Black Locust	12	3	3	twist in trunk, multiple leaders, minor deadwood			Forked at base with a 6" co-leader.	UNDESIRABLE
4298	West property line	Robinia pseudoacacia	Black Locust	9	3	4	pruned for overhead wires, one sided		Overhead wires.		UNDESIRABLE
4299	West property line	Robinia pseudoacacia	Black Locust	8	3	3	twist in trunk, thin crown				UNDESIRABLE
4300	Northwest of pond	Robinia pseudoacacia	Black Locust	7	3	4	twist in trunk, over-topped, double leader, thin crown				UNDESIRABLE
4301	Northwest property corner	Robinia pseudoacacia	Black Locust	11	4	4	one sided, trunk scar, decay, minor deadwood		Overhead wires.		UNDESIRABLE
4302	Northwest property corner	Robinia pseudoacacia	Black Locust	10	4	4	twist in trunk, trunk scar, minor deadwood, decay				UNDESIRABLE
4303	Northwest property corner	Robinia pseudoacacia	Black Locust	7	4	4	over-topped, basal decay, decay, minor deadwood				UNDESIRABLE
4304	North property line	Prunus serotina	Black Cherry	11	3	4	over-topped, basal scar, slight sweep, metal in trunk			Forked at 1' with a 10" co-leader.	UNDESIRABLE
4305	Northwest of pond	Robinia pseudoacacia	Black Locust	16	3	3	trunk scar, multiple leaders, minor deadwood				UNDESIRABLE
4306	Northwest of pond	Robinia pseudoacacia	Black Locust	5	3	3	thin crown				UNDESIRABLE
4307	Northwest of pond	Robinia pseudoacacia	Black Locust	6	3	3	one sided, double leader				UNDESIRABLE
4308	Northwest of pond	Prunus serotina	Black Cherry	5	3	4	thin crown, minor deadwood, twist in trunk				UNDESIRABLE
4309	Northwest of pond	Prunus serotina	Black Cherry	8	3	4	slight sweep, thin crown				UNDESIRABLE
4310	Northwest of pond	Prunus serotina	Black Cherry	8	4	4	dieback, minor deadwood, one sided, basal decay				UNDESIRABLE
4311	Northwest of pond	Prunus serotina	Black Cherry	10	3	4	one sided, thin crown				UNDESIRABLE
4312	Northwest of pond	Prunus serotina	Black Cherry	8	3	4	over-topped, slight lean, twist in trunk				UNDESIRABLE
4313	Northwest of pond	Prunus serotina	Black Cherry	7	3	4	excessive lean, over-topped, twist in trunk				UNDESIRABLE
4314	Northwest of pond	Morus alba	White Mulberry (Common Mulberry)	5	3	4	over-topped, twist in trunk, multiple leaders				UNDESIRABLE
4315	Northwest of pond	Morus alba	White Mulberry (Common Mulberry)	7	3	4	over-topped, suckering, minor deadwood				UNDESIRABLE
4316	Northwest of pond	Prunus serotina	Black Cherry	8	3	4	twist in trunk, thin crown, slight lean				UNDESIRABLE
4317	Northwest of pond	Prunus serotina	Black Cherry	8	3	4	twist in trunk, thin crown, one sided				UNDESIRABLE
4318	Northwest of pond	Prunus serotina	Black Cherry	11	4	4	over-topped, slight lean, one sided, dieback, minor deadwood			Forked at base with a 7" co-leader.	UNDESIRABLE
4319	Northwest of pond	Prunus serotina	Black Cherry	9	3	3	double leader, vine infested, metal in trunk				UNDESIRABLE
4320	Northwest of pond	Prunus serotina	Black Cherry	7	4	4	slight lean, dieback, minor deadwood, 670, sparse foliage				UNDESIRABLE
4321	Northwest of pond	Prunus serotina	Black Cherry	4	4	4	damaged leader, dead tree caught in crown				UNDESIRABLE
4322	Northwest of pond	Prunus serotina	Black Cherry	9	4	4	vine infested, minor deadwood, decay		Saprophytic fungi present, 1/2 of trunk is decayed.		UNDESIRABLE
4323	Northwest of pond	Prunus serotina	Black Cherry	7	4	3	double leader, one sided, suckering, over-topped				UNDESIRABLE
4324	Northwest of pond	Juglans nigra	Black Walnut	9	3	3	minor deadwood				LANDMARK
4325	Northwest of pond	Robinia pseudoacacia	Black Locust	6	3	4	over-topped, suckering, slight sweep, minor deadwood				UNDESIRABLE
4326	Northwest of pond	Robinia pseudoacacia	Black Locust	12	3	4	one sided, double leader, minor deadwood, suckering				UNDESIRABLE
4327	Northwest of pond	Juglans nigra	Black Walnut	8	2	4	minor deadwood, twist in trunk, multiple leaders				LANDMARK
4328	Northwest of pond	Prunus serotina	Black Cherry	7	3	5	excessive lean, sweep, over-topped, suckering				UNDESIRABLE
4329	Northwest of pond	Prunus serotina	Black Cherry	6	3	4	over-topped, slight lean, minor deadwood				UNDESIRABLE
4330	Northwest of pond	Acer saccharinum	Silver Maple	23	3	3	multiple leaders, one sided, minor deadwood				DESIRABLE
4331	Northwest of pond - along edge of water	Salix nigra	Black Willow	24	4	5	damaged leader, suckering, decay		Twin leader snapped off at 5'.		DESIRABLE
4332	Northwest of pond	Acer saccharinum	Silver Maple	17	3	4	over-topped, multiple leaders, weak crotch, slight sweep		Forked at 5'.		DESIRABLE
4333	Northwest of pond	Populus deltoides	Eastern Cottonwood	14	3	4	one sided, twist in trunk, slight over-topped, double leader				DESIRABLE
4334	Northwest of pond	Populus deltoides	Eastern Cottonwood	16	2	3	twist in trunk, multiple leaders				DESIRABLE
4335	Northwest of pond	Acer saccharinum	Silver Maple	5	3	4	over-topped, twist in trunk, sparse foliage, thin crown				DESIRABLE
4336	Northwest of pond	Acer saccharinum	Silver Maple	4	3	4	over-topped, twist in trunk, one sided				DESIRABLE
4337	Northwest of pond	Robinia pseudoacacia	Black Locust	5	4	4	one sided, thin crown, minor deadwood, over-topped				UNDESIRABLE

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Tag No.	Location	Botanical Name	Common Name	Size	Cond.	Form	Problems	Insect/Disease	Comments	Co-Leaders at DBH	Species Quality Rating
4338	Northwest of pond	Robinia pseudoacacia	Black Locust	7	3	4	thin crown, minor deadwood, suckering, hollow				UNDESIRABLE
4339	Northwest of pond	Robinia pseudoacacia	Black Locust	8	4	3	one sided, thin crown, minor deadwood				UNDESIRABLE
4340	Northwest of pond	Robinia pseudoacacia	Black Locust	9	4	4	one sided, thin crown, minor deadwood, sparse foliage				UNDESIRABLE
4341	Northwest of pond	Robinia pseudoacacia	Black Locust	9	4	3	thin crown, dieback, minor deadwood, suckering				UNDESIRABLE
4342	Northwest of pond	Robinia pseudoacacia	Black Locust	10	4	3	dieback, minor deadwood, thin crown				UNDESIRABLE
4343	Northwest of pond	Robinia pseudoacacia	Black Locust	11	4	3	dieback, minor deadwood, thin crown, vine infested				UNDESIRABLE
4344	Northwest of pond	Prunus serotina	Black Cherry	7	3	4	slight lean, multiple leaders, one sided				UNDESIRABLE
4345	Northwest of pond	Prunus serotina	Black Cherry	10	3	4	one sided, thin crown				UNDESIRABLE
4346	Northwest of pond	Prunus serotina	Black Cherry	8	4	4	over-topped, slight lean, minor deadwood, sparse foliage				UNDESIRABLE
4347	Northwest of pond	Robinia pseudoacacia	Black Locust	11	3	3	thin crown, minor deadwood				UNDESIRABLE
4348	Northwest of pond	Morus alba	White Mulberry (Common Mulberry)	4	3	4	over-topped, twist in trunk				UNDESIRABLE
4349	Northwest of pond	Robinia pseudoacacia	Black Locust	9	3	4	twist in trunk, one sided, thin crown, minor deadwood				UNDESIRABLE
4350	Northwest of pond	Robinia pseudoacacia	Black Locust	8	3	4	one sided, thin crown				UNDESIRABLE
4351	Northwest of pond	Robinia pseudoacacia	Black Locust	7	4	4	one sided, thin crown, minor deadwood, sparse foliage				UNDESIRABLE
4352	Northwest of pond	Robinia pseudoacacia	Black Locust	9	4	4	one sided, thin crown, minor deadwood				UNDESIRABLE
4353	Northwest of pond	Robinia pseudoacacia	Black Locust	9	4	4	one sided, dieback, minor deadwood				UNDESIRABLE
4354	Northwest of pond	Robinia pseudoacacia	Black Locust	10	3	4	over-topped, one sided, thin crown				UNDESIRABLE
4355	Northwest of pond	Acer saccharinum	Silver Maple	9	3	4	over-topped, twist in trunk, multiple leaders				DESIRABLE
4356	Northwest of pond	Acer saccharinum	Silver Maple	10	3	4	slight sweep, one sided, double leader, over-topped				DESIRABLE
4357	North property line	Robinia pseudoacacia	Black Locust	9	3	4	over-topped, one sided, weak crotch			Forked at 3' with an 8" co-leader.	UNDESIRABLE
4358	North property line	Populus deltoides	Eastern Cottonwood	18	3	3	broken limbs, weak crotch, one sided,			Forked at 1.5' with a 16" co-leader.	DESIRABLE
4359	North property line	Robinia pseudoacacia	Black Locust	5	3	4	over-topped, twist in trunk, multiple leaders				UNDESIRABLE
4360	North property line	Populus deltoides	Eastern Cottonwood	5	3	5	sweep, over-topped, damaged leader				DESIRABLE
4361	North property line	Robinia pseudoacacia	Black Locust	14	3	4	one sided, double leader, minor deadwood				UNDESIRABLE
4362	North property line	Prunus serotina	Black Cherry	11	3	4	slight sweep, multiple leaders				UNDESIRABLE
4363	North property line	Prunus serotina	Black Cherry	5	4	4	double leader, one sided, slight sweep				UNDESIRABLE
4364	North property line	Robinia pseudoacacia	Black Locust	5	3	4	over-topped, double leader, slight sweep				UNDESIRABLE
4365	North property line	Robinia pseudoacacia	Black Locust	10	3	3	double leader, minor deadwood				UNDESIRABLE
4366	North property line	Robinia pseudoacacia	Black Locust	8	4	4	trunk scar, one sided, thin crown, minor deadwood, dieback, loose bark				UNDESIRABLE
4367	North property line	Prunus serotina	Black Cherry	6	4	4	over-topped, slight sweep, suckering				UNDESIRABLE
4368	North property line	Prunus serotina	Black Cherry	5	3	4	over-topped, minor deadwood				UNDESIRABLE
4369	North property line	Prunus serotina	Black Cherry	6	4	4	slight lean, dieback, minor deadwood				UNDESIRABLE
4370	North property line	Robinia pseudoacacia	Black Locust	14	3	4	one sided, minor deadwood				UNDESIRABLE
4371	North property line	Robinia pseudoacacia	Black Locust	10	3	3	thin crown, minor deadwood				UNDESIRABLE
4372	North property line	Robinia pseudoacacia	Black Locust	14	3	3	minor deadwood, one sided				UNDESIRABLE
4373	North property line	Robinia pseudoacacia	Black Locust	12	3	4	weak crotch, multiple leaders, minor deadwood				UNDESIRABLE
4374	North property line	Robinia pseudoacacia	Black Locust	17	4	4	one sided, weak crotch, multiple leaders, minor deadwood, 679				UNDESIRABLE
4375	North property line	Prunus serotina	Black Cherry	5	4	4	over-topped, slight sweep, minor deadwood				UNDESIRABLE
4376	North property line	Prunus serotina	Black Cherry	4	3	4	sweep, double leader, over-topped				UNDESIRABLE
4377	North property line	Prunus serotina	Black Cherry	6	3	4	over-topped, twist in trunk, minor deadwood				UNDESIRABLE
4378	North property line	Populus deltoides	Eastern Cottonwood	13	2	3	twist in trunk, minor deadwood				DESIRABLE

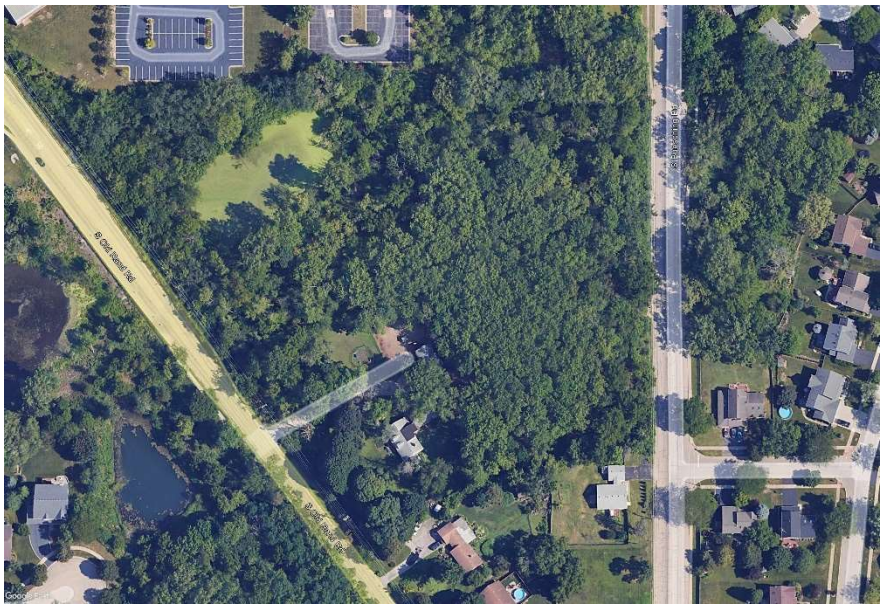
Stormwater Management Report

Residential Development

PZC Submittal

Prepared By: Melanie Carollo & Laura Rosenbauer

670 S Old Rand Road
Lake Zurich, IL



May 17, 2024

REV

Prepared by:

Melanie Carollo

Eriksson Engineering Associates, Ltd.

145 Commerce Drive, Ste A, Grayslake, IL 60030

847.223.4804

www.eea-ltd.com

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APPENDIX II – HYDROLOGIC & HYDRAULIC CALCULATIONS

APPENDIX III – EXHIBITS

INTRODUCTION

The subject property consists of **7.80 acres** in Lake Zurich, in Lake County, Illinois. It is bounded on the east by Buesching Road and S Old Rand Rd on the west. There are commercial parking lots to the north and single family residential properties to the south.

There is a large wetland located in the northwest corner of the site, which drains east to a creek, then off-site via a culvert under Buesching Road. The remainder of the site is densely populated with trees, most of which are in poor/scrub condition. The FEMA Flood Insurance Rate Map (FIRM) does not identify any special flood hazard areas on site.

The purpose of this study is to determine that the creek has the capacity to accommodate incoming tributary flows for the 100-year storm event. Also, to demonstrate that stormwater detention requirements have been met.

EXISTING CONDITIONS

The existing site includes an existing home and a heavily vegetated landscape. The site contains a large number of trees that make the creek located on the north end of the site difficult to maintain with the debris. The wetland located on the north end of the site per a preliminary jurisdictional determination is under USACOE jurisdiction. See Appendix I for the wetland maps showing the location of the wetland and the PJD. The 25’ and 50’ buffers are shown on the civil plans.

Wetland/Creek

The wetland covers an area of approximately **0.92 acres**. The creek is picked up by a culvert that crosses under Buesching Road. From there, flow continues to water bodies downstream. The wetland is bounded on the west by an 11-ft tall berm. A 12” pipe runs west to east under this berm and into the wetland. A preliminary wetland jurisdictional determination performed by Gary Weber Associates indicates the wetland is very likely under the U.S. Army Corps of Engineers’ jurisdiction.

FLOOD PROTECTION AREAS

FEMA FIRM map, panel number 17097C0229K, effective 9/18/2013, has been included in Appendix I to identify any potential flood zones located within the project vicinity. The FIRM Map does not identify any flood zones within the boundaries of the hydrologic disturbance.

PROPOSED CONDITIONS

Proposed site improvements consist of single family homes and townhomes along a proposed access road that connects at S Old Rand Road and Buesching Road. The development is located to the south of the existing wetland area and has been chosen with consideration to control the type of work occurring within the wetland buffer and mitigate impacts. No impervious structures are proposed within the 25’ buffer. All work within the 25’ wetland buffer is for the proposed detention basin. Within the 50’ buffer there are minimal structures encroaching. On the northeast corner, there is approximately 224 SF of building area encroaching on the 50’ buffer. Buffer averaging will be used to increase the buffer in a separate location to accommodate for the encroachment of the building and the minimal encroachment from the retaining wall as well.

STORMWATER RUNOFF

In accordance with Lake County Watershed Development Ordinance, stormwater detention will be provided in a surface detention basin located on the north end of the development. The basin will be planted with native plantings to keep the area within the wetland buffer naturalized and provide an ecological benefit. The basin was sized utilizing the release rate requirements for the 2-year and 100-year events of 0.04 cfs/acre and 0.15 cfs/acre. The restrictors were sized for the release rate requirements multiplied by the disturbance area. Refer to Appendix IV for exhibit showing disturbance area. The basin volumes and releases are shown in a stage storage table that were input into a hydrologic model to determine the 2-year and 100-year high water level elevations. Bulletin 75 rainfall data was utilized. Refer to Appendix III for the model and calculations.

HYDROLOGY AND HYDRAULICS STUDY

Hydrologic Study

The WinTR-20 hydrologic computer model was used to determine the peak runoff rates for the upstream tributary area for the 100-year storm event. Rainfall data was obtained from Bulletin 75, published by the Illinois State Water Survey. Soil types were obtained from the NRCS Soils Survey and used to calculate the Runoff Curve Number for the drainage area. The time of concentration was calculated using the TR-55 method.

A critical duration analysis of the 100-year storm event yielded a peak flow rate of **22.94 cfs**. Comprehensive results from the WinTR-20 model can be found in Appendix II.

Culvert Analysis

HY-8 was used to analyze the culvert running under the berm west of the wetland. In lieu of calculating the actual tributary upstream of the culvert, the model assumed a range of incoming flows up to 50 cfs to determine peak discharge from the culvert in a worst-case scenario. The results show that discharge from the culvert plateaus at **5.83 cfs**.

Hydraulic Study

HEC-RAS Version 6.4.1 was used to perform the hydraulic modeling for the project. A topographic survey of the subject property was used in conjunction with LIDAR topographic data to develop cross-sections along the length of the wetland and creek. N-values for the channel and overbank areas were determined using the National Land Cover Database.

A steady flow analysis was performed assuming a subcritical flow regime. The results of the model show an average water surface elevation of approximately **8”** above the creek bed. The culvert pipes appear to be flowing about ¼ full. Detailed model inputs and results are included in Appendix II.

CONCLUSIONS

Based on the HEC-RAS model results, the creek should be able to accommodate the incoming tributary flows without issue. However, local Village officials and residents have observed flooding issues on site, as well as upstream and downstream of the studied area.

In an effort to better realize the creek's modeled capacity, the project team has agreed to implement shoreline stabilization measures and clear the creek bed of accumulated debris.

APPENDIX I – EXISTING CONDITIONS INFORMATION

NRCS SOILS REPORT

FEMA FIRM

HYDROLOGIC ATLAS

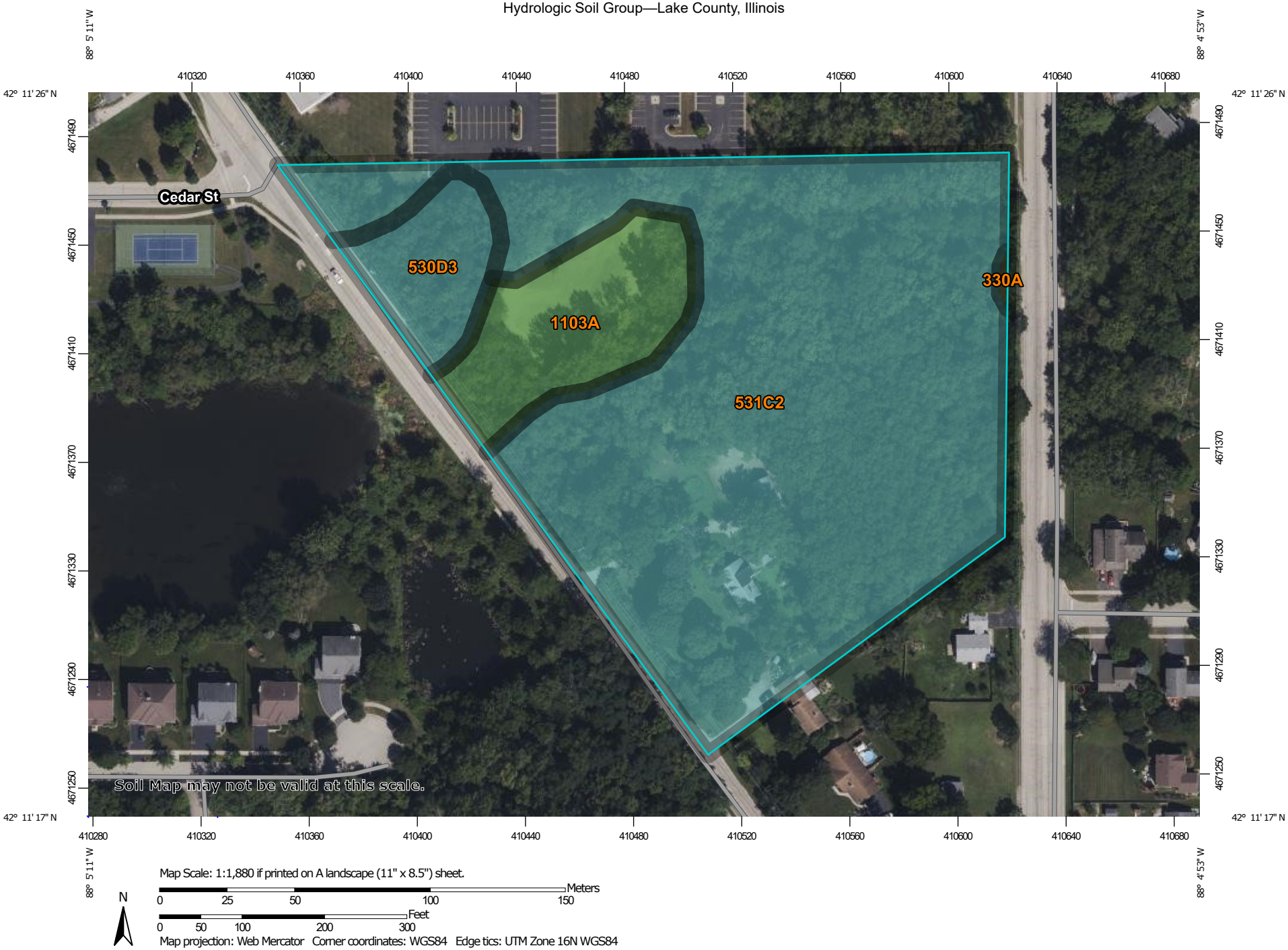
LAKE COUNTY FLOOD OF RECORD MAP

COUNTY FLOOD MAP

USFW WETLANDS MAP

LAKE COUNTY WETLAND MAP

PRELIMINARY WETLAND JURISDICTIONAL DETERMINATION


88° 5' 11" W
88° 4' 53" W
42° 11' 26" N
42° 11' 17" N
410320
410360
410400
410440
410480
410520
410560
410600
410640
410680
410280
4671490
4671450
4671410
4671370
4671330
4671290
4671250
Cedar St
530D3
1103A
531C2
330A
Soil Map may not be valid at this scale.
Map Scale: 1:1,880 if printed on A landscape (11" x 8.5") sheet.
N
0 25 50 100 150 Meters
0 50 100 200 300 Feet
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Lines

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Points

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Lake County, Illinois
Survey Area Data: Version 18, Aug 28, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 19, 2022—Sep 30, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
330A	Peotone silty clay loam, 0 to 2 percent slopes	C/D	0.0	0.1%
530D3	Ozaukee silty clay loam, 6 to 12 percent slopes, severely eroded	C	0.6	6.8%
531C2	Markham silt loam, 4 to 6 percent slopes, eroded	C	7.5	80.8%
1103A	Houghton muck, undrained, 0 to 2 percent slopes	A/D	1.1	12.3%
Totals for Area of Interest			**9.3**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

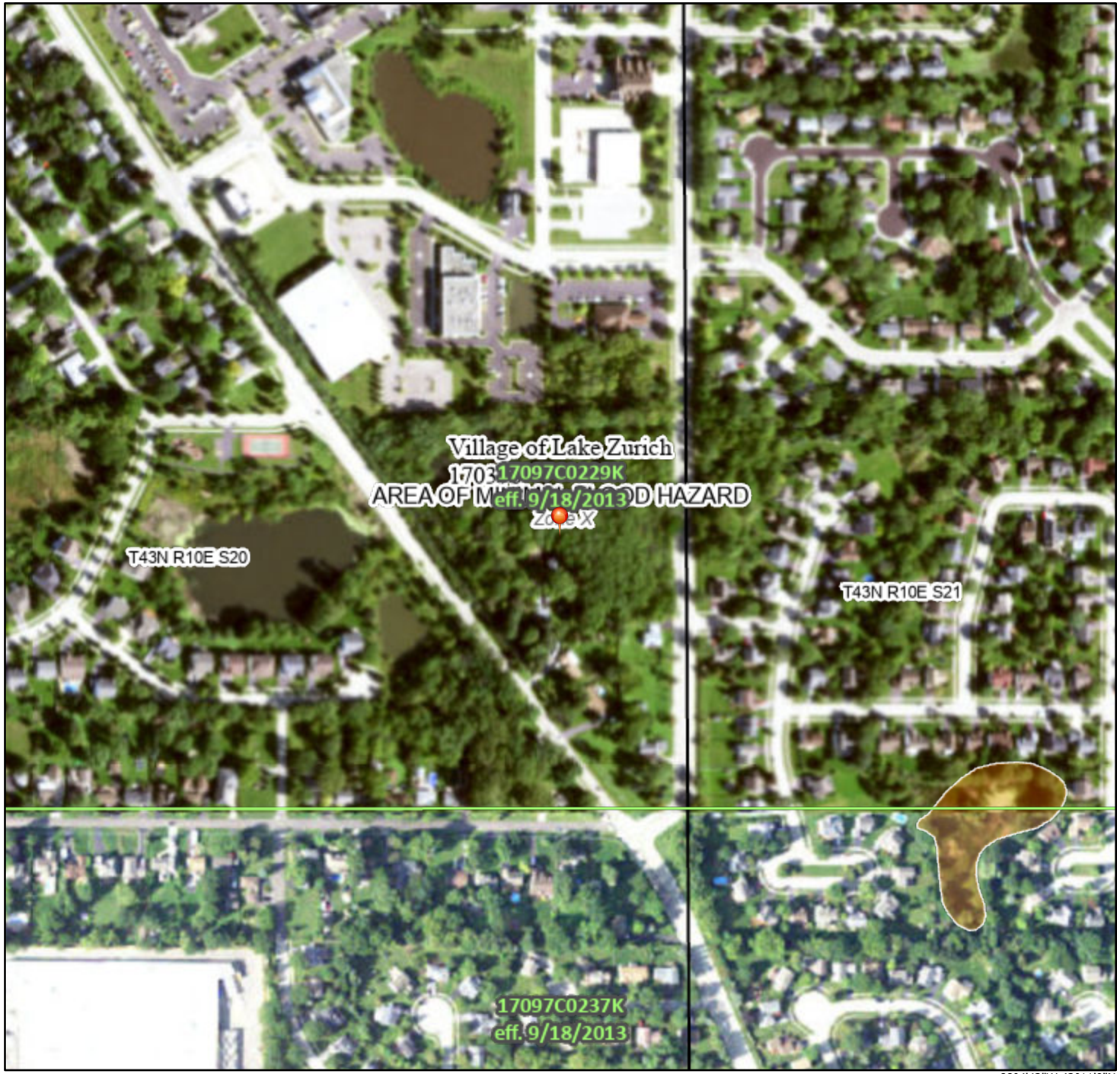
Component Percent Cutoff: None Specified

Tie-break Rule: Higher

National Flood Hazard Layer FIRMette

FEMA

88°5'19"W 42°11'35"N



88°4'42"W 42°11'9"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

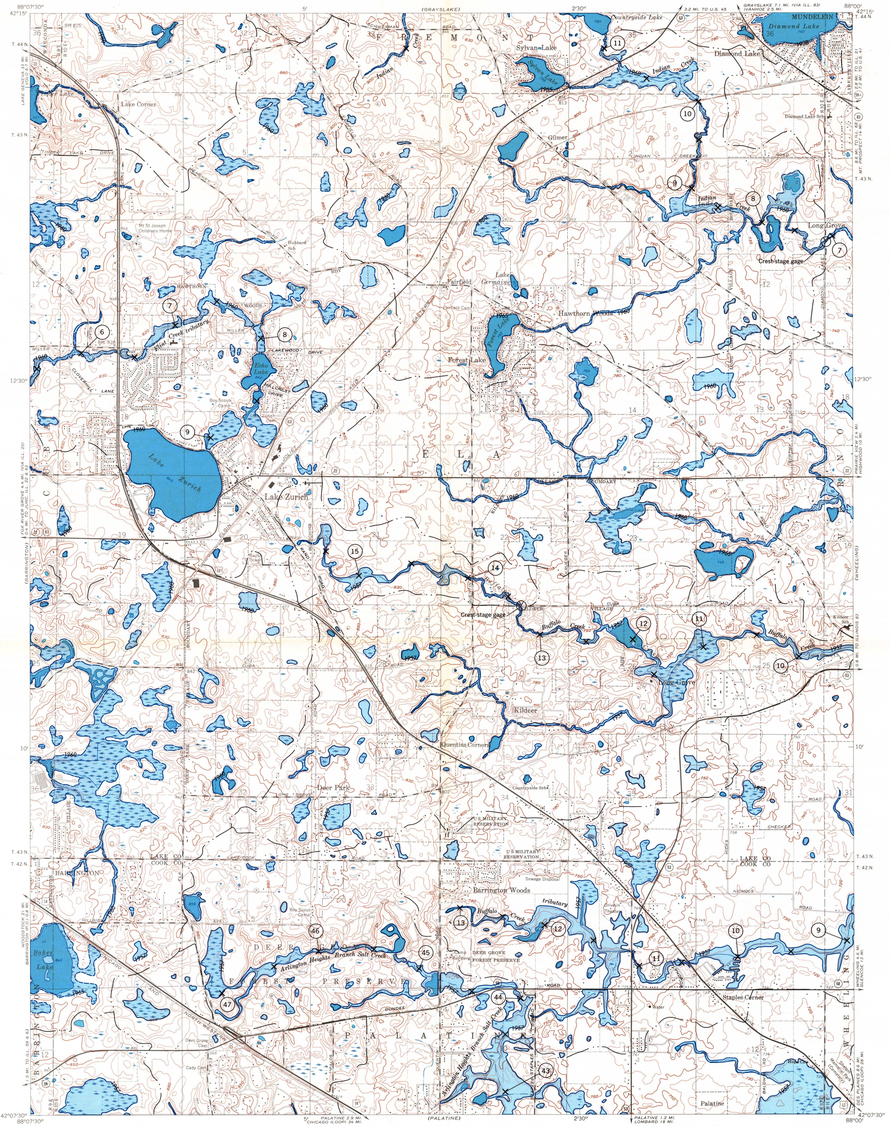
The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 5/8/2024 at 5:48 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

PREPARED IN COOPERATION WITH
THE NORTHEASTERN ILLINOIS METROPOLITAN
AREA PLANNING COMMISSION

HYDROLOGIC INVESTIGATIONS -
ATLAS HA-208


88°07'30"
42°15'
(GRAYSLAKE)
2°30'
3.2 MI. TO U.S. 45
GRAYSLAKE 7.1 MI. (VIA ILL. 83)
(GRANGE 2.5 MI.)
88°00'
T. 44 N.
T. 43 N.
12°30'
MUNDELEIN
Diamond Lake
Countryside Lake
Sylvan Lake
Diamond Lake
Lake Corner
Gilmer
Indian Creek
Indian Creek
Flint Creek
Butler
Long Grove
Crest-stage gage
Gerstacker
Lake Zurich
Hawthorn Woods
Hawthorn Woods Dr.
Forest Preserve Dr.
Rand Creek
Rand Creek Tributary
Lake Zurich
Lake Zurich
Lake Zurich

Lake County, Illinois





Lake County, Illinois

LakeCounty

Map Printed on 5/9/2024

N

Flood Hazard Zones

- USGS Flood of Record
- 1% Annual Chance Flood Hazard
- 0.2% Annual Chance Flood Hazard
- Regulatory Floodway
- Area Of Minimal Flood Hazard
- Open Water

Flood Hazard Boundaries

- Limit Lines
- SFHA / Flood Zone Boundary

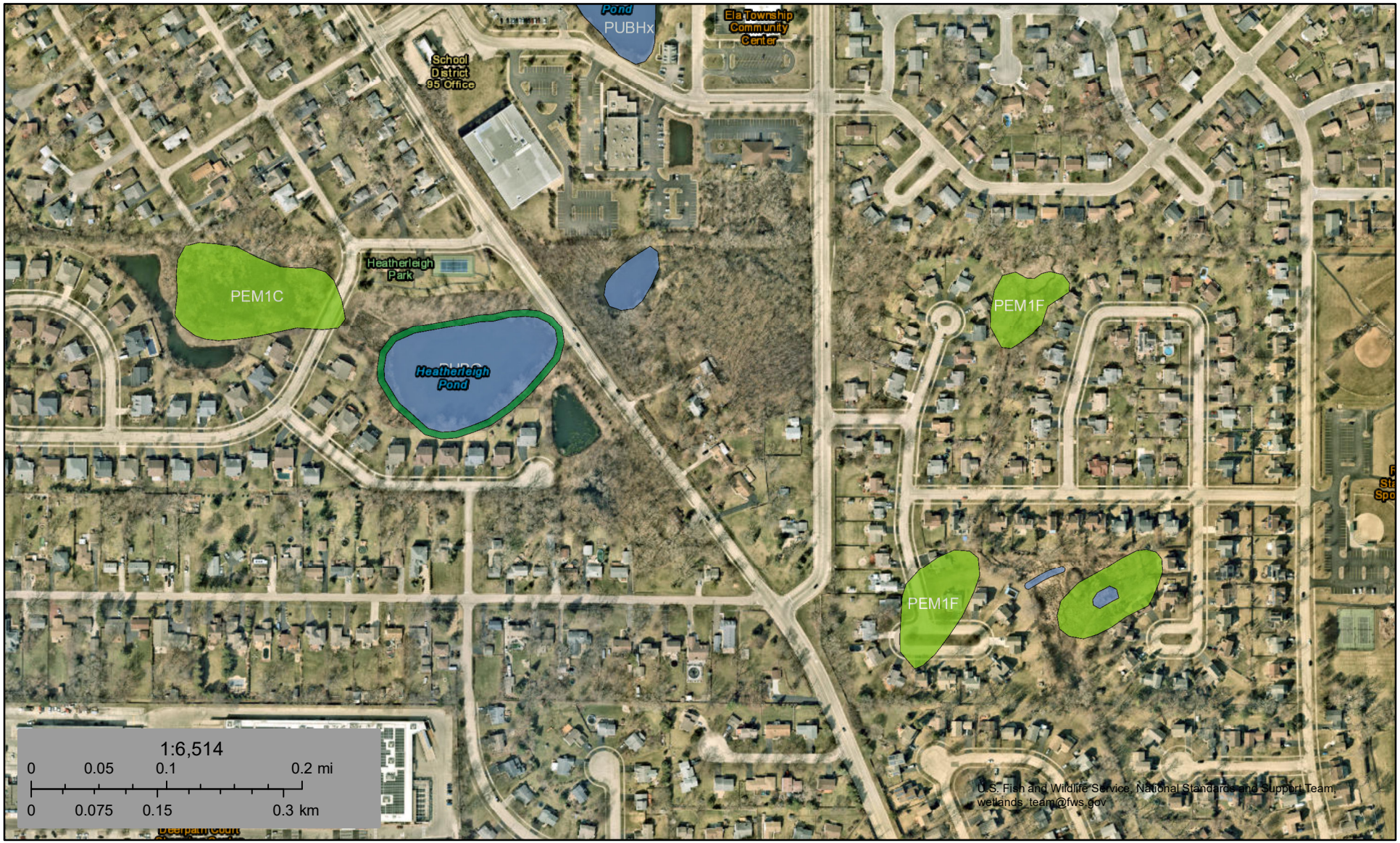
General Structures

- Flood Structure
- Flood Structure
- Bridge
- Flood Structure
- Dam, Weir, Jetty
- Other Structures
- Other Structures
- Other Structures
- Dam, Weir, Jetty
- Levees
- Political Jurisdictions
- Base Flood Elevations
- Cross-Sections
- LOMAs
- Effective
- Tax Parcel Information

Disclaimer: The selected feature may not occur anywhere in the current map extent. A Registered Land Surveyor should be consulted to determine the precise location of property boundaries on the ground. This map does not constitute a regulatory determination and is not a base for engineering design. This map is intended to be viewed and printed in color.

U.S. Fish and Wildlife Service
National Wetlands Inventory

Wetland Map



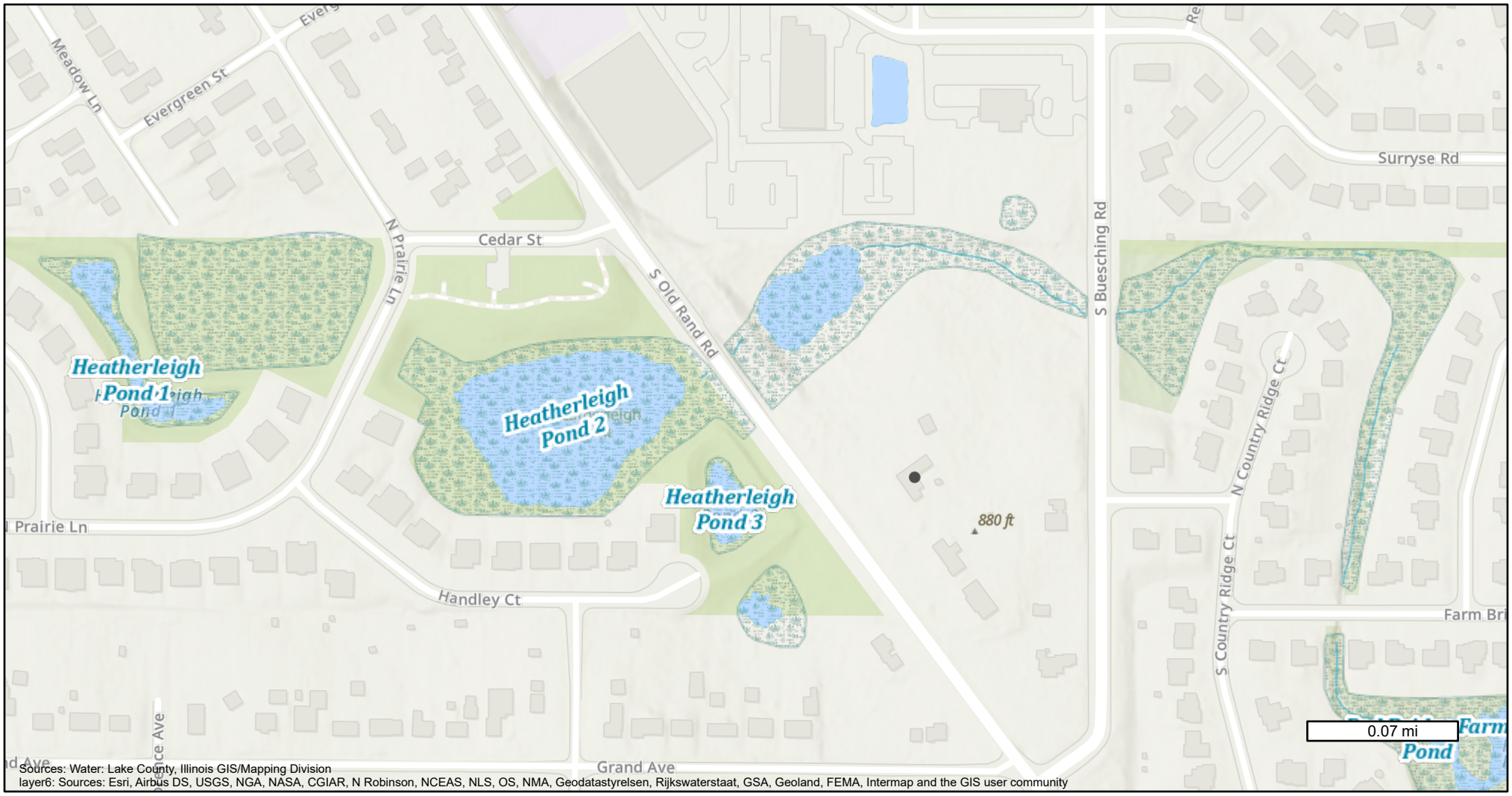
May 9, 2024

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

Lake County, Illinois





Lake County, Illinois

LakeCounty

Map Printed on 5/9/2024

N

Tax Parcel Information

2022 Hydro Areas

TYPE

- Lake
- Pond
- River/Stream/ Creek
- Lake County Wetland Inventory

Disclaimer: The selected feature may not occur anywhere in the current map extent. A Registered Land Surveyor should be consulted to determine the precise location of property boundaries on the ground. This map does not constitute a regulatory determination and is not a base for engineering design. This map is intended to be viewed and printed in color.

STORMWATER MANAGEMENT COMMISSION

September 16, 2022

Mr. Henry Joern
670 S. Old Rand Road
Lake Zurich, IL 60047

Subject: **SMC File #:** IWLC-22-593
USACE Ref. #: LRC-2022-547
670 S. Old Rand Road Property, Lake Zurich, Lake County, IL
PRELIMINARY WETLAND JURISDICTIONAL DETERMINATION

Dear Mr. Joern:

This letter responds to the request for a preliminary wetland jurisdictional determination (PJD) and isolated wetland boundary verification (BV) for the above-referenced property, submitted on your behalf by Ms. Ellen Raimondi with Gary R. Weber Associates, Inc. (GRWA) and received by the Lake County Stormwater Management Commission (SMC) on August 8, 2022, with supplemental information received September 15, 2022. SMC reviewed available reference materials and performed a site reconnaissance in the company of Mr. Michael Machalek the U.S. Army Corps of Engineers (USACE) on August 25, 2022. Wetlands/waters referenced in this letter are shown on the enclosed *Exhibit A: Water Resources Summary,* by GRWA, not dated (digital copy received by SMC on September 15, 2022).

- Based on our findings, **"Tributary 1" and "Wetland 1" appear to be *Waters of the United States* (WOTUS)** subject to regulation by the USACE under Section 404 of the federal Clean Water Act. These feature have a clearly discernible hydrologic connection to the traditionally navigable Des Plaines River (via the Buffalo Creek subwatershed). "Tributary 1" is a relatively permanent waters, and Wetland 1 abuts that feature. The USACE did not verify WOTUIS boundaries during this determination (see enclosed PJD field report). If a WOTUS boundary verification is desired, please coordinate directly with the Corps to schedule a field visit once flagging has been refreshed.

This PJD has been approved by SMC's Chief Engineer and the findings are valid for a period of three (3) years from the date of this letter unless new information warrants a revision before the expiration date. If you disagree with the findings of this PJD, you may request an approved JD (AJD) from the USACE.

For your information, SMC performed this PJD in accordance with the *Interagency Coordination Agreement (ICA) Between the U.S. Army Corps of Engineers, Chicago District, Lake County Stormwater Management Commission, and Lake County Department of Planning, Building and Development*, dated June 4, 2002. We determined the jurisdiction of WOTUS on the subject project area based on the current definition in 33 U.S.C. 1344. Section 328.3(a); guidance provided in the EPA/USACE Memorandum entitled "Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in Rapanos v. United States & Carabell v. United States" dated June 5, 2007 (revised 12-02-08); and the USACE's *Jurisdictional Determination Form Instructional Guidebook* dated May 30, 2007. For areas not considered WOTUS, we determined jurisdiction using the definition of IWLC in Appendix A of the Lake County Watershed Development Ordinance (WDO, 10-13-2020).

Permitting Considerations

1. This letter satisfies the requirement for a written jurisdictional determination under WDO §1001 for the indicated wetlands/waters.

2. The surveyed boundaries of all existing wetlands/waters on the development site, including features constructed in dry land (e.g., stormwater management basins), need to be included on the engineering plans for permitting purposes.

3. **If proposed development will impact WOTUS, a wetland permit from the USACE will be required.** Please refer to the USACE-Chicago District's web site for the permit application submittal requirements: http://www.lrc.usace.army.mil/Missions/Regulatory/Illinois/AppChecklist.aspx. The USACE may require SMC's technical review/approval of the proposed soil erosion and sediment control plan (SE/SC) for the development as a condition of the USACE permit. We will advise you if our SE/SC review/approval is required.

4. **A Watershed Development Permit (WDP) will be required from the Village of Lake Zurich for site development in accordance with the applicable provisions of the WDO.** Please contact Ms. Jodi McCarthy with Manhard Consulting, Ltd., the Village's WDO Enforcement Officer (EO, 847-634-5500 or jmccarthy@manhard.com), for the appropriate permit application form and procedures.

We would like to be of assistance. If you have any questions, or would like to set up a meeting, please contact Juli Crane at jcrane@lakecountyil.gov.

Sincerely,
LAKE COUNTY STORMWATER MANAGEMENT COMMISSION

Brian Frank, P.E., CFM
Chief Engineer

Juli E. Crane, PWS, CWS, CFM
Principal Wetland Specialist

Enclosures: *Exhibit A: Water Resources Summary* (GRWA, not dated)
PJD Field Report

xc: Kathy Chernich/Mike Machalek – U.S. Army Corps of Engineers
Jodi McCarthy, Manhard, EO for Village of Lake Zurich
Michael Brown, Village of Lake Zurich Public Works
Ellen Raimondi, CWS, GRWA

This document was digitally transmitted. Please print out a copy of the document and retain for your records. If you are unable to print the document, or desire a hard copy mailed be to you, please notify SMC at your earliest convenience.



LEGEND

- Study Area
- Flagged Wetland Boundaries
- Off-site Wetland Boundaries (not flagged)
- Estimated Non-wetland Waters (Tributary)
- Sample Points A-E

0 80' 160'

SCALE: 1"=160' **NORTH**

Provided by: Google Earth 2018 Aerial

GARY R. WEBER ASSOCIATES, INC.

670 S. Old Rand Road

Lake Zurich, Lake County, Illinois 60047

AC2289

Advantage Consulting Engineers

WATER RESOURCES SUMMARY

EXHIBIT A

L:\Projects\AC2289\Eco-Con\Full Wetland Report\Maps\Old Rand Rd_WL Exhibits.dwg

STORMWATER MANAGEMENT COMMISSION

Preliminary Jurisdictional Determination Field Report

LakeCounty

Site Name: *670 S. Old Rand Rd Property*

Date: *August 25, 2022 4:00 PM*

SMC/PBD #: *IWLC-22-593*

USACOE #: *LRC-2022-593*

Attendees:

USACOE Representative(s): *Mike Machalek*
List Other Corp Representative(s): *N/A*
SMC/PBD Representative(s): *Juli Crane*
Other SMC/PBD Representative(s): *N/A*
Other attendee(s):

PJD Requestor:

Name/Contact Info: *Henry Joern, 670 S. Old Rand Rd, Lake Zurich, 847-417-8732, henryjoern@gmail.com*

Site Info:

Address/PIN#: *670 S. Old Rand Rd; PINs: 14-20-400-002 and 14-20-400-003*
Lat/Long: *42.189476 / -88.083492*
Description: *Single-family residence and out-buildings on wooded lot with creek bisecting the northern part of site from east to west.*
References: *No wetland report provided; Wetland Delineation Map (Exhibit A, Preliminary Water Resources Summary), FEMA Floodplain Map (2016), Aerial Photos (1939-2020, Lake County Online GIS Maps), Topographic Map - 1' contours (Lake County Online GIS Maps, 2007 & 2017), Lake County Soil Surveys (SCS 1970 & NRCS 2005), USGS Quadrangle Maps (1960, 1972, 1993), USGS Flood of Record Map, Lake County Storm Sewer Network Maps (SMC GIS, 2022); Lake County Wetland Restoration & Preservation Plan - Online Decision Support Tool (SMC, 2020)*

Disposition of Waters of the US:

Site appears to contain Waters of the U.S.: *Yes, site DOES appear to contain Waters of the U.S.*
List wetland/water IDs from delineation map and basis: *Tributary 1 is a relatively permanent water (RPW) and Wetland 1 = wetland abutting an RPW (i.e., Tributary 1)*
WOUS Exclusions: *N/a*
Corps representative concurs with staked/flagged WOUS boundaries: *No*
If Corp representative DOES NOT concur, please explain: *Flagging not present at time of PJD visit.*

Disposition of Isolated Waters of Lake County:

Site appears to contain Isolated Waters of Lake County: *No, site DOES NOT appear to contain Isolated Waters of Lake County.*
List wetland/water IDs from delineation map: *N/A*
Potential IWLC Exclusions: *N/a*
SMC/PBD representative concurs with staked/flagged IWLC boundaries:
If SMC/PBD representative DOES NOT concur, please explain:

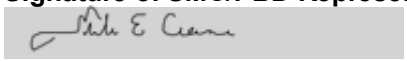
Comments: *The WOTUS boundary will be verified upon reflagging and consultant contacting the Army Corps to reschedule a field visit.*

Attests:

USACOE Representative Attestment: *Corp representative has reviewed the information herein and CONCURS with determination.*
Signature of USACOE Representative:



SMC/PBD Representative Attestment: *SMC/PBD representative has reviewed the information herein and CONCURS with determination.*
Signature of SMC/PBD Representative:



APPENDIX II – HYDROLOGIC & HYDRAULIC CALCULATIONS

TR-20 REPORT

HEC-RAS REPORT

HY-8 REPORT

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WinTR-20 Printed Page File      Beginning of Input Data List
P:\22138 - KLLM - 670 Old Rand Road\Calculations\WinTR20\670.inp

WinTR-20: version 3.30                  0         0         0.01      0         Illinois,Lake
Tributary area east of Old Rand Rd berm

SUB-AREA:
          SubArea1  Reach1              .0006     90.       .25       YY  Y
          SubArea2  Reach1              .0039     90.       .25
          SubArea3  Reach1              .0046     90.       .25
          SubArea4  Reach1              .0037     90.       .25


STREAM REACH:
          Reach1    Outlet              Basin1                         YY  Y


STORM ANALYSIS:
          100YR-1HR           0.        4.03      Huff 1    2         3.34
          100YR-2HR           0.        4.97      Huff 1    2         3.34
          100YR-6HR           0.        6.43      Huff 1    2         3.34
          100YR-12HR          0.        7.46      Huff 2    2         3.34
          100YR-24HR          0.        8.57      Huff 3    2         3.34


STRUCTURE RATING:
          Basin1    100.
                    100.      0.        0.
                    101.      1.        2.
                    102.      2.        4.
                    103.      3.        6.



RAINFALL DISTRIBUTION:
          Huff 3              1.
                    0.        .0205     .0431     .0667     .0912
                    .1171     .1436     .1691     .1964     .2278
                    .2633     .3093     .3635     .4392     .5211
                    .6102     .6989     .7819     .8492     .8974
                    .9311     .9534     .9706     .9856     1.
          Huff 2              0.5
                    0.        .0229     .0482     .0778     .1133
                    .1579     .2139     .2841     .3644     .4529
                    .5435     .6238     .6976     .7548     .8038
                    .8470     .8781     .9022     .9217     .9381
                    .9529     .9657     .9774     .9884     1.
          Huff 1              .2
                    0.        .0836     .1773     .2811     .3833
                    .4745     .5550     .6225     .6722     .7082
                    .7417     .7697     .7981     .8255     .8518
                    .8740     .8947     .9117     .9270     .9403
                    .9536     .9656     .9774     .9885     1.



GLOBAL OUTPUT:
          2         .01       .25       YY  Y     YY  Y



WinTR-20 Printed Page File      End of Input Data List

                    Tributary area east of Old Rand Rd berm
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Name of printed page file:
P:\22138 - KLLM - 670 Old Rand Road\Calculations\WinTR20\670.out

STORM 100YR-1HR

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
SubArea1	0.600E-03		2.945		0.95	0.59	975.86

Line Start Time (hr)	Flow Values @ time increment of 0.250 hr (cfs)						
0.0	0.0	0.01	0.28	0.52	0.58	0.55	0.46
1.750	0.32	0.25	0.21	0.20	0.20	0.17	0.15
3.500	0.13	0.11	0.10	0.09	0.09	0.08	0.03
5.250	0.0						

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
SubArea2	0.004		2.947		0.95	3.81	975.86

Line Start Time (hr)	Flow Values @ time increment of 0.250 hr (cfs)						
0.0	0.0	0.09	1.82	3.39	3.80	3.57	2.99
1.750	2.11	1.63	1.37	1.33	1.28	1.13	1.00
3.500	0.82	0.70	0.64	0.59	0.56	0.54	0.22
5.250	0.02	0.0					

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
SubArea3	0.005		2.947		0.95	4.49	975.86

Line Start Time (hr)	Flow Values @ time increment of 0.250 hr (cfs)						
0.0	0.0	0.11	2.15	4.00	4.48	4.21	3.52
1.750	2.49	1.92	1.62	1.56	1.51	1.34	1.18
3.500	0.97	0.83	0.76	0.70	0.66	0.64	0.26
5.250	0.02	0.0					

Tributary area east of Old Rand Rd berm

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
SubArea4	0.004		2.947		0.95	3.61	975.86

Line Start Time (hr)	Flow Values @ time increment of 0.250 hr (cfs)						
0.0	0.0	0.09	1.73	3.22	3.61	3.38	2.83
1.750	2.00	1.55	1.30	1.26	1.21	1.07	0.95
3.500	0.78	0.67	0.61	0.56	0.53	0.52	0.21
5.250	0.02	0.0					

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
Reach1	0.013	Upstream	2.947		0.95	12.49	975.86

Line Start Time (hr)	Flow Values @ time increment of 0.250 hr (cfs)						
0.0	0.0	0.31	5.97	11.14	12.48	11.71	9.80
1.750	6.92	5.35	4.50	4.35	4.19	3.71	3.29
3.500	2.70	2.31	2.11	1.94	1.85	1.78	0.73
5.250	0.05	0.0					

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
Reach1	0.013	Downstream	2.918	100.88	4.98	0.88	69.05

Line Start Time (hr)	Flow Values @ time increment of 0.250 hr (cfs)						
0.250	0.0	0.03	0.12	0.24	0.37	0.47	0.55
2.000	0.61	0.65	0.69	0.73	0.76	0.79	0.81
3.750	0.83	0.85	0.86	0.87	0.88	0.88	0.88
5.500	0.87	0.86	0.85	0.84	0.83	0.82	0.82
7.250	0.81	0.80	0.79	0.78	0.78	0.77	0.76
9.000	0.75	0.74	0.74	0.73	0.72	0.71	0.71
10.750	0.70	0.69	0.68	0.68	0.67	0.66	0.66
12.500	0.65	0.64	0.64	0.63	0.62	0.62	0.61
14.250	0.60	0.60	0.59	0.59	0.58	0.57	0.57
16.000	0.56	0.56	0.55	0.55	0.54	0.53	0.53
17.750	0.52	0.52	0.51	0.51	0.50	0.50	0.49
19.500	0.49	0.48	0.48	0.47	0.47	0.46	0.46
21.250	0.45	0.45	0.44	0.44	0.43	0.43	0.43

Tributary area east of Old Rand Rd berm

Line Start Time (hr)	Flow Values @ time increment of 0.250 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
23.000	0.42	0.42	0.41	0.41	0.40	0.40	0.40
24.750	0.39	0.39	0.38	0.38	0.38	0.37	0.37
26.500	0.36	0.36	0.36	0.35	0.35	0.35	0.34
28.250	0.34	0.34	0.33	0.33	0.33	0.32	0.32
30.000	0.32	0.31	0.31	0.31	0.30	0.30	0.30
31.750	0.29	0.29	0.29	0.28	0.28	0.28	0.28
33.500	0.27	0.27	0.27	0.26	0.26	0.26	0.26
35.250	0.25	0.25	0.25	0.25	0.24	0.24	0.24
37.000	0.24	0.23	0.23	0.23	0.23	0.22	0.22
38.750	0.22	0.22	0.22	0.21	0.21	0.21	0.21
40.500	0.20	0.20	0.20	0.20	0.20	0.19	0.19
42.250	0.19	0.19	0.19	0.18	0.18	0.18	0.18
44.000	0.18	0.18	0.17	0.17	0.17	0.17	0.17
45.750	0.16	0.16	0.16	0.16	0.16	0.16	0.15
47.500	0.15	0.15	0.15	0.15	0.15	0.15	0.14
49.250	0.14	0.14	0.14	0.14	0.14	0.14	0.13
51.000	0.13	0.13	0.13	0.13	0.13	0.13	0.12
52.750	0.12	0.12	0.12	0.12	0.12	0.12	0.12
54.500	0.11	0.11	0.11	0.11	0.11	0.11	0.11
56.250	0.11	0.11	0.10	0.10	0.10	0.10	0.10
58.000	0.10	0.10	0.10	0.10	0.10	0.09	0.09
59.750	0.09	0.09	0.09	0.09	0.09	0.09	0.09
61.500	0.09	0.08	0.08	0.08	0.08	0.08	0.08
63.250	0.08	0.08	0.08	0.08	0.08	0.08	0.08
65.000	0.07	0.07	0.07	0.07	0.07	0.07	0.07
66.750	0.07	0.07	0.07	0.07	0.07	0.07	0.06
68.500	0.06	0.06	0.06	0.06	0.06	0.06	0.06
70.250	0.06	0.06	0.06	0.06	0.06	0.06	0.06
72.000	0.06	0.06	0.05	0.05	0.05	0.05	0.05
73.750	0.05	0.05	0.05	0.05	0.05	0.05	0.05
75.500	0.05	0.05	0.05	0.05	0.05	0.05	0.05
77.250	0.04	0.04	0.04	0.04	0.04	0.04	0.04
79.000	0.04	0.04	0.04	0.04	0.04	0.04	0.04
80.750	0.04	0.04	0.04	0.04	0.04	0.04	0.04
82.500	0.04	0.04	0.04	0.03	0.03	0.03	0.03
84.250	0.03	0.03	0.03	0.03	0.03	0.03	0.03
86.000	0.03	0.03	0.03	0.03	0.03	0.03	0.03
87.750	0.03	0.03	0.03	0.03	0.03	0.03	0.03
89.500	0.03	0.03	0.03	0.03	0.03	0.03	0.03
91.250	0.03	0.02	0.02	0.02	0.02	0.02	0.02
93.000	0.02	0.02	0.02	0.02	0.02	0.02	0.02
94.750	0.02	0.02	0.02	0.02	0.02	0.02	0.02
96.500	0.02	0.02	0.02	0.02	0.02	0.02	0.02
98.250	0.02	0.02	0.02	0.02	0.02	0.02	0.02
100.000	0.02	0.02	0.02	0.02	0.02	0.02	0.02
101.750	0.02	0.02	0.02	0.02	0.02	0.02	0.02
103.500	0.02	0.01	0.01	0.01	0.01	0.01	0.01
105.250	0.01	0.01	0.01	0.01	0.01	0.01	0.01
107.000	0.01	0.01	0.01	0.01	0.01	0.01	0.01
108.750	0.01	0.01	0.01	0.01	0.01	0.01	0.01
110.500	0.01	0.01	0.01	0.01	0.01	0.01	0.01
112.250	0.01	0.01	0.01	0.01	0.01	0.01	0.0

Tributary area east of Old Rand Rd berm

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
OUTLET	0.013		2.918		4.98	0.88	69.05

Line Start Time (hr)	Flow Values @ time increment of 0.250 hr (cfs)						
0.250	0.0	0.03	0.12	0.24	0.37	0.47	0.55
2.000	0.61	0.65	0.69	0.73	0.76	0.79	0.81
3.750	0.83	0.85	0.86	0.87	0.88	0.88	0.88
5.500	0.87	0.86	0.85	0.84	0.83	0.82	0.82
7.250	0.81	0.80	0.79	0.78	0.78	0.77	0.76
9.000	0.75	0.74	0.74	0.73	0.72	0.71	0.71
10.750	0.70	0.69	0.68	0.68	0.67	0.66	0.66
12.500	0.65	0.64	0.64	0.63	0.62	0.62	0.61
14.250	0.60	0.60	0.59	0.59	0.58	0.57	0.57
16.000	0.56	0.56	0.55	0.55	0.54	0.53	0.53
17.750	0.52	0.52	0.51	0.51	0.50	0.50	0.49
19.500	0.49	0.48	0.48	0.47	0.47	0.46	0.46
21.250	0.45	0.45	0.44	0.44	0.43	0.43	0.43
23.000	0.42	0.42	0.41	0.41	0.40	0.40	0.40
24.750	0.39	0.39	0.38	0.38	0.38	0.37	0.37
26.500	0.36	0.36	0.36	0.35	0.35	0.35	0.34
28.250	0.34	0.34	0.33	0.33	0.33	0.32	0.32
30.000	0.32	0.31	0.31	0.31	0.30	0.30	0.30
31.750	0.29	0.29	0.29	0.28	0.28	0.28	0.28
33.500	0.27	0.27	0.27	0.26	0.26	0.26	0.26
35.250	0.25	0.25	0.25	0.25	0.24	0.24	0.24
37.000	0.24	0.23	0.23	0.23	0.23	0.22	0.22
38.750	0.22	0.22	0.22	0.21	0.21	0.21	0.21
40.500	0.20	0.20	0.20	0.20	0.20	0.19	0.19
42.250	0.19	0.19	0.19	0.18	0.18	0.18	0.18
44.000	0.18	0.18	0.17	0.17	0.17	0.17	0.17
45.750	0.16	0.16	0.16	0.16	0.16	0.16	0.15
47.500	0.15	0.15	0.15	0.15	0.15	0.15	0.14
49.250	0.14	0.14	0.14	0.14	0.14	0.14	0.13
51.000	0.13	0.13	0.13	0.13	0.13	0.13	0.12
52.750	0.12	0.12	0.12	0.12	0.12	0.12	0.12
54.500	0.11	0.11	0.11	0.11	0.11	0.11	0.11
56.250	0.11	0.11	0.10	0.10	0.10	0.10	0.10
58.000	0.10	0.10	0.10	0.10	0.10	0.09	0.09
59.750	0.09	0.09	0.09	0.09	0.09	0.09	0.09
61.500	0.09	0.08	0.08	0.08	0.08	0.08	0.08
63.250	0.08	0.08	0.08	0.08	0.08	0.08	0.08
65.000	0.07	0.07	0.07	0.07	0.07	0.07	0.07
66.750	0.07	0.07	0.07	0.07	0.07	0.07	0.06
68.500	0.06	0.06	0.06	0.06	0.06	0.06	0.06
70.250	0.06	0.06	0.06	0.06	0.06	0.06	0.06
72.000	0.06	0.06	0.05	0.05	0.05	0.05	0.05
73.750	0.05	0.05	0.05	0.05	0.05	0.05	0.05
75.500	0.05	0.05	0.05	0.05	0.05	0.05	0.05
77.250	0.04	0.04	0.04	0.04	0.04	0.04	0.04

Tributary area east of Old Rand Rd berm

Line Start Time (hr)	Flow Values @ time increment of 0.250 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
79.000	0.04	0.04	0.04	0.04	0.04	0.04	0.04
80.750	0.04	0.04	0.04	0.04	0.04	0.04	0.04
82.500	0.04	0.04	0.04	0.03	0.03	0.03	0.03
84.250	0.03	0.03	0.03	0.03	0.03	0.03	0.03
86.000	0.03	0.03	0.03	0.03	0.03	0.03	0.03
87.750	0.03	0.03	0.03	0.03	0.03	0.03	0.03
89.500	0.03	0.03	0.03	0.03	0.03	0.03	0.03
91.250	0.03	0.02	0.02	0.02	0.02	0.02	0.02
93.000	0.02	0.02	0.02	0.02	0.02	0.02	0.02
94.750	0.02	0.02	0.02	0.02	0.02	0.02	0.02
96.500	0.02	0.02	0.02	0.02	0.02	0.02	0.02
98.250	0.02	0.02	0.02	0.02	0.02	0.02	0.02
100.000	0.02	0.02	0.02	0.02	0.02	0.02	0.02
101.750	0.02	0.02	0.02	0.02	0.02	0.02	0.02
103.500	0.02	0.01	0.01	0.01	0.01	0.01	0.01
105.250	0.01	0.01	0.01	0.01	0.01	0.01	0.01
107.000	0.01	0.01	0.01	0.01	0.01	0.01	0.01
108.750	0.01	0.01	0.01	0.01	0.01	0.01	0.01
110.500	0.01	0.01	0.01	0.01	0.01	0.01	0.01
112.250	0.01	0.01	0.01	0.01	0.01	0.01	0.0

STORM 100YR-2HR

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
SubArea1	0.600E-03		3.845		0.91	0.78	1292.88

Line Start Time (hr)	Flow Values @ time increment of 0.250 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
0.0	0.0	0.04	0.42	0.71	0.77	0.71	0.59
1.750	0.41	0.32	0.27	0.26	0.25	0.22	0.19
3.500	0.16	0.14	0.12	0.11	0.11	0.10	0.04
5.250	0.0						

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
SubArea2	0.004		3.847		0.91	5.04	1292.88

Line Start Time (hr)	Flow Values @ time increment of 0.250 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
0.0	0.0	0.25	2.75	4.63	4.99	4.60	3.82
1.750	2.68	2.06	1.73	1.67	1.61	1.42	1.26

Tributary area east of Old Rand Rd berm

Line Start Time (hr)	Flow Values @ time increment of 0.250 hr (cfs)						
3.500	1.04	0.88	0.81	0.74	0.71	0.68	0.28
5.250	0.02	0.0					

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
SubArea3	0.005		3.847		0.91	5.95	1292.88

Line Start Time (hr)	Flow Values @ time increment of 0.250 hr (cfs)						
0.0	0.0	0.30	3.24	5.46	5.89	5.43	4.50
1.750	3.16	2.44	2.04	1.97	1.90	1.68	1.48
3.500	1.22	1.04	0.95	0.87	0.83	0.80	0.33
5.250	0.02	0.0					

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
SubArea4	0.004		3.847		0.91	4.78	1292.88

Line Start Time (hr)	Flow Values @ time increment of 0.250 hr (cfs)						
0.0	0.0	0.24	2.61	4.39	4.74	4.37	3.62
1.750	2.54	1.96	1.64	1.59	1.53	1.35	1.19
3.500	0.98	0.84	0.76	0.70	0.67	0.65	0.26
5.250	0.02	0.0					

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
Reach1	0.013	Upstream	3.847		0.91	16.55	1292.88

Line Start Time (hr)	Flow Values @ time increment of 0.250 hr (cfs)						
0.0	0.0	0.83	9.03	15.20	16.39	15.11	12.53
1.750	8.79	6.78	5.69	5.49	5.28	4.68	4.13
3.500	3.40	2.90	2.64	2.43	2.32	2.24	0.91
5.250	0.06	0.0					

Tributary area east of Old Rand Rd berm

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
Reach1	0.013	Downstream	3.818	101.15	4.97	1.15	89.98

Line Start Time (hr)	Flow Values @ time increment of 0.250 hr (cfs)						
0.250	0.0	0.05	0.18	0.34	0.50	0.64	0.74
2.000	0.81	0.87	0.92	0.96	1.00	1.04	1.07
3.750	1.09	1.10	1.12	1.13	1.14	1.15	1.14
5.500	1.13	1.12	1.11	1.10	1.09	1.07	1.06
7.250	1.05	1.04	1.03	1.02	1.01	1.00	0.99
9.000	0.98	0.97	0.96	0.95	0.94	0.93	0.92
10.750	0.91	0.90	0.89	0.88	0.87	0.86	0.86
12.500	0.85	0.84	0.83	0.82	0.81	0.80	0.80
14.250	0.79	0.78	0.77	0.76	0.76	0.75	0.74
16.000	0.73	0.73	0.72	0.71	0.70	0.70	0.69
17.750	0.68	0.68	0.67	0.66	0.65	0.65	0.64
19.500	0.63	0.63	0.62	0.62	0.61	0.60	0.60
21.250	0.59	0.58	0.58	0.57	0.57	0.56	0.55
23.000	0.55	0.54	0.54	0.53	0.53	0.52	0.52
24.750	0.51	0.51	0.50	0.50	0.49	0.49	0.48
26.500	0.48	0.47	0.47	0.46	0.46	0.45	0.45
28.250	0.44	0.44	0.43	0.43	0.42	0.42	0.42
30.000	0.41	0.41	0.40	0.40	0.39	0.39	0.39
31.750	0.38	0.38	0.37	0.37	0.37	0.36	0.36
33.500	0.36	0.35	0.35	0.34	0.34	0.34	0.33
35.250	0.33	0.33	0.32	0.32	0.32	0.31	0.31
37.000	0.31	0.30	0.30	0.30	0.30	0.29	0.29
38.750	0.29	0.28	0.28	0.28	0.27	0.27	0.27
40.500	0.27	0.26	0.26	0.26	0.26	0.25	0.25
42.250	0.25	0.25	0.24	0.24	0.24	0.24	0.23
44.000	0.23	0.23	0.23	0.22	0.22	0.22	0.22
45.750	0.21	0.21	0.21	0.21	0.21	0.20	0.20
47.500	0.20	0.20	0.20	0.19	0.19	0.19	0.19
49.250	0.19	0.18	0.18	0.18	0.18	0.18	0.17
51.000	0.17	0.17	0.17	0.17	0.17	0.16	0.16
52.750	0.16	0.16	0.16	0.16	0.15	0.15	0.15
54.500	0.15	0.15	0.15	0.14	0.14	0.14	0.14
56.250	0.14	0.14	0.14	0.13	0.13	0.13	0.13
58.000	0.13	0.13	0.13	0.13	0.12	0.12	0.12
59.750	0.12	0.12	0.12	0.12	0.12	0.11	0.11
61.500	0.11	0.11	0.11	0.11	0.11	0.11	0.11
63.250	0.10	0.10	0.10	0.10	0.10	0.10	0.10
65.000	0.10	0.10	0.09	0.09	0.09	0.09	0.09
66.750	0.09	0.09	0.09	0.09	0.09	0.09	0.08
68.500	0.08	0.08	0.08	0.08	0.08	0.08	0.08
70.250	0.08	0.08	0.08	0.08	0.07	0.07	0.07
72.000	0.07	0.07	0.07	0.07	0.07	0.07	0.07
73.750	0.07	0.07	0.07	0.07	0.06	0.06	0.06
75.500	0.06	0.06	0.06	0.06	0.06	0.06	0.06
77.250	0.06	0.06	0.06	0.06	0.06	0.06	0.05

Tributary area east of Old Rand Rd berm

Line Start Time (hr)	Flow Values @ time increment of 0.250 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
79.000	0.05	0.05	0.05	0.05	0.05	0.05	0.05
80.750	0.05	0.05	0.05	0.05	0.05	0.05	0.05
82.500	0.05	0.05	0.05	0.05	0.05	0.04	0.04
84.250	0.04	0.04	0.04	0.04	0.04	0.04	0.04
86.000	0.04	0.04	0.04	0.04	0.04	0.04	0.04
87.750	0.04	0.04	0.04	0.04	0.04	0.04	0.04
89.500	0.04	0.03	0.03	0.03	0.03	0.03	0.03
91.250	0.03	0.03	0.03	0.03	0.03	0.03	0.03
93.000	0.03	0.03	0.03	0.03	0.03	0.03	0.03
94.750	0.03	0.03	0.03	0.03	0.03	0.03	0.03
96.500	0.03	0.03	0.03	0.03	0.03	0.03	0.02
98.250	0.02	0.02	0.02	0.02	0.02	0.02	0.02
100.000	0.02	0.02	0.02	0.02	0.02	0.02	0.02
101.750	0.02	0.02	0.02	0.02	0.02	0.02	0.02
103.500	0.02	0.02	0.02	0.02	0.02	0.02	0.02
105.250	0.02	0.02	0.02	0.02	0.02	0.02	0.02
107.000	0.02	0.02	0.02	0.02	0.02	0.02	0.02
108.750	0.02	0.02	0.02	0.02	0.02	0.02	0.01
110.500	0.01	0.01	0.01	0.01	0.01	0.01	0.01
112.250	0.01	0.01	0.01	0.01	0.01	0.01	0.01
114.000	0.01	0.01	0.01	0.01	0.01	0.01	0.01
115.750	0.01	0.01	0.01	0.01	0.01	0.01	0.01
117.500	0.01	0.01	0.01	0.01	0.01	0.01	0.01
119.250	0.01	0.01	0.01	0.0			

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
OUTLET	0.013		3.818		4.97	1.15	89.98

Line Start Time (hr)	Flow Values @ time increment of 0.250 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
0.250	0.0	0.05	0.18	0.34	0.50	0.64	0.74
2.000	0.81	0.87	0.92	0.96	1.00	1.04	1.07
3.750	1.09	1.10	1.12	1.13	1.14	1.15	1.14
5.500	1.13	1.12	1.11	1.10	1.09	1.07	1.06
7.250	1.05	1.04	1.03	1.02	1.01	1.00	0.99
9.000	0.98	0.97	0.96	0.95	0.94	0.93	0.92
10.750	0.91	0.90	0.89	0.88	0.87	0.86	0.86
12.500	0.85	0.84	0.83	0.82	0.81	0.80	0.80
14.250	0.79	0.78	0.77	0.76	0.76	0.75	0.74
16.000	0.73	0.73	0.72	0.71	0.70	0.70	0.69
17.750	0.68	0.68	0.67	0.66	0.65	0.65	0.64
19.500	0.63	0.63	0.62	0.62	0.61	0.60	0.60
21.250	0.59	0.58	0.58	0.57	0.57	0.56	0.55
23.000	0.55	0.54	0.54	0.53	0.53	0.52	0.52
24.750	0.51	0.51	0.50	0.50	0.49	0.49	0.48
26.500	0.48	0.47	0.47	0.46	0.46	0.45	0.45

Tributary area east of Old Rand Rd berm

Line Start Time (hr)	Flow Values @ time increment of 0.250 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
28.250	0.44	0.44	0.43	0.43	0.42	0.42	0.42
30.000	0.41	0.41	0.40	0.40	0.39	0.39	0.39
31.750	0.38	0.38	0.37	0.37	0.37	0.36	0.36
33.500	0.36	0.35	0.35	0.34	0.34	0.34	0.33
35.250	0.33	0.33	0.32	0.32	0.32	0.31	0.31
37.000	0.31	0.30	0.30	0.30	0.30	0.29	0.29
38.750	0.29	0.28	0.28	0.28	0.27	0.27	0.27
40.500	0.27	0.26	0.26	0.26	0.26	0.25	0.25
42.250	0.25	0.25	0.24	0.24	0.24	0.24	0.23
44.000	0.23	0.23	0.23	0.22	0.22	0.22	0.22
45.750	0.21	0.21	0.21	0.21	0.21	0.20	0.20
47.500	0.20	0.20	0.20	0.19	0.19	0.19	0.19
49.250	0.19	0.18	0.18	0.18	0.18	0.18	0.17
51.000	0.17	0.17	0.17	0.17	0.17	0.16	0.16
52.750	0.16	0.16	0.16	0.16	0.15	0.15	0.15
54.500	0.15	0.15	0.15	0.14	0.14	0.14	0.14
56.250	0.14	0.14	0.14	0.13	0.13	0.13	0.13
58.000	0.13	0.13	0.13	0.13	0.12	0.12	0.12
59.750	0.12	0.12	0.12	0.12	0.12	0.11	0.11
61.500	0.11	0.11	0.11	0.11	0.11	0.11	0.11
63.250	0.10	0.10	0.10	0.10	0.10	0.10	0.10
65.000	0.10	0.10	0.09	0.09	0.09	0.09	0.09
66.750	0.09	0.09	0.09	0.09	0.09	0.09	0.08
68.500	0.08	0.08	0.08	0.08	0.08	0.08	0.08
70.250	0.08	0.08	0.08	0.08	0.07	0.07	0.07
72.000	0.07	0.07	0.07	0.07	0.07	0.07	0.07
73.750	0.07	0.07	0.07	0.07	0.06	0.06	0.06
75.500	0.06	0.06	0.06	0.06	0.06	0.06	0.06
77.250	0.06	0.06	0.06	0.06	0.06	0.06	0.05
79.000	0.05	0.05	0.05	0.05	0.05	0.05	0.05
80.750	0.05	0.05	0.05	0.05	0.05	0.05	0.05
82.500	0.05	0.05	0.05	0.05	0.05	0.04	0.04
84.250	0.04	0.04	0.04	0.04	0.04	0.04	0.04
86.000	0.04	0.04	0.04	0.04	0.04	0.04	0.04
87.750	0.04	0.04	0.04	0.04	0.04	0.04	0.04
89.500	0.04	0.03	0.03	0.03	0.03	0.03	0.03
91.250	0.03	0.03	0.03	0.03	0.03	0.03	0.03
93.000	0.03	0.03	0.03	0.03	0.03	0.03	0.03
94.750	0.03	0.03	0.03	0.03	0.03	0.03	0.03
96.500	0.03	0.03	0.03	0.03	0.03	0.03	0.02
98.250	0.02	0.02	0.02	0.02	0.02	0.02	0.02
100.000	0.02	0.02	0.02	0.02	0.02	0.02	0.02
101.750	0.02	0.02	0.02	0.02	0.02	0.02	0.02
103.500	0.02	0.02	0.02	0.02	0.02	0.02	0.02
105.250	0.02	0.02	0.02	0.02	0.02	0.02	0.02
107.000	0.02	0.02	0.02	0.02	0.02	0.02	0.02
108.750	0.02	0.02	0.02	0.02	0.02	0.02	0.01
110.500	0.01	0.01	0.01	0.01	0.01	0.01	0.01
112.250	0.01	0.01	0.01	0.01	0.01	0.01	0.01
114.000	0.01	0.01	0.01	0.01	0.01	0.01	0.01
115.750	0.01	0.01	0.01	0.01	0.01	0.01	0.01
117.500	0.01	0.01	0.01	0.01	0.01	0.01	0.01

Tributary area east of Old Rand Rd berm

Line Start Time (hr)	Flow Values @ time increment of 0.250 hr (cfs)						
119.250	0.01	0.01	0.01	0.0			

STORM 100YR-6HR

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
SubArea1	0.600E-03		5.263		0.89	1.08	1791.89

Line Start Time (hr)	Flow Values @ time increment of 0.250 hr (cfs)						
0.0	0.0	0.10	0.66	1.01	1.05	0.95	0.78
1.750	0.55	0.42	0.35	0.34	0.33	0.29	0.25
3.500	0.21	0.18	0.16	0.15	0.14	0.14	0.06
5.250	0.0						

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
SubArea2	0.004		5.265		0.89	6.99	1791.89

Line Start Time (hr)	Flow Values @ time increment of 0.250 hr (cfs)						
0.0	0.0	0.64	4.31	6.59	6.85	6.20	5.09
1.750	3.56	2.73	2.29	2.21	2.12	1.88	1.66
3.500	1.36	1.16	1.06	0.97	0.93	0.89	0.36
5.250	0.03	0.0					

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
SubArea3	0.005		5.265		0.89	8.24	1791.89

Line Start Time (hr)	Flow Values @ time increment of 0.250 hr (cfs)						
0.0	0.0	0.76	5.09	7.77	8.07	7.31	6.01
1.750	4.20	3.22	2.70	2.60	2.50	2.21	1.95
3.500	1.60	1.37	1.25	1.15	1.09	1.05	0.43
5.250	0.03	0.0					

Tributary area east of Old Rand Rd berm

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
SubArea4	0.004		5.265		0.89	6.63	1791.89

Line Start Time (hr)	Flow Values @ time increment of 0.250 hr (cfs)						
0.0	0.0	0.61	4.09	6.25	6.50	5.88	4.83
1.750	3.38	2.59	2.17	2.10	2.01	1.78	1.57
3.500	1.29	1.10	1.00	0.92	0.88	0.85	0.35
5.250	0.02	0.0					

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
Reach1	0.013	Upstream	5.265		0.89	22.94	1791.89

Line Start Time (hr)	Flow Values @ time increment of 0.250 hr (cfs)						
0.0	0.0	2.11	14.16	21.63	22.47	20.34	16.71
1.750	11.68	8.97	7.52	7.25	6.95	6.15	5.43
3.500	4.47	3.81	3.47	3.19	3.04	2.93	1.19
5.250	0.08	0.0					

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
Reach1	0.013	Downstream	5.236	101.57	4.98	1.57	122.94

Line Start Time (hr)	Flow Values @ time increment of 0.250 hr (cfs)						
0.250	0.0	0.09	0.28	0.51	0.72	0.91	1.04
2.000	1.13	1.21	1.27	1.33	1.39	1.43	1.47
3.750	1.49	1.51	1.53	1.55	1.56	1.57	1.56
5.500	1.55	1.53	1.51	1.50	1.48	1.47	1.45
7.250	1.44	1.42	1.41	1.39	1.38	1.37	1.35
9.000	1.34	1.32	1.31	1.30	1.28	1.27	1.26
10.750	1.24	1.23	1.22	1.21	1.19	1.18	1.17
12.500	1.16	1.15	1.13	1.12	1.11	1.10	1.09
14.250	1.08	1.07	1.05	1.04	1.03	1.02	1.01
16.000	1.00	0.99	0.98	0.97	0.96	0.95	0.94
17.750	0.93	0.92	0.91	0.90	0.89	0.88	0.88
19.500	0.87	0.86	0.85	0.84	0.83	0.82	0.81
21.250	0.81	0.80	0.79	0.78	0.77	0.77	0.76

Tributary area east of Old Rand Rd berm

Line Start Time (hr)	Flow Values @ time increment of 0.250 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
23.000	0.75	0.74	0.73	0.73	0.72	0.71	0.70
24.750	0.70	0.69	0.68	0.68	0.67	0.66	0.66
26.500	0.65	0.64	0.64	0.63	0.62	0.62	0.61
28.250	0.60	0.60	0.59	0.59	0.58	0.57	0.57
30.000	0.56	0.56	0.55	0.54	0.54	0.53	0.53
31.750	0.52	0.52	0.51	0.51	0.50	0.50	0.49
33.500	0.49	0.48	0.48	0.47	0.47	0.46	0.46
35.250	0.45	0.45	0.44	0.44	0.43	0.43	0.42
37.000	0.42	0.42	0.41	0.41	0.40	0.40	0.40
38.750	0.39	0.39	0.38	0.38	0.38	0.37	0.37
40.500	0.36	0.36	0.36	0.35	0.35	0.35	0.34
42.250	0.34	0.34	0.33	0.33	0.32	0.32	0.32
44.000	0.31	0.31	0.31	0.31	0.30	0.30	0.30
45.750	0.29	0.29	0.29	0.28	0.28	0.28	0.28
47.500	0.27	0.27	0.27	0.26	0.26	0.26	0.26
49.250	0.25	0.25	0.25	0.25	0.24	0.24	0.24
51.000	0.24	0.23	0.23	0.23	0.23	0.22	0.22
52.750	0.22	0.22	0.21	0.21	0.21	0.21	0.21
54.500	0.20	0.20	0.20	0.20	0.20	0.19	0.19
56.250	0.19	0.19	0.19	0.18	0.18	0.18	0.18
58.000	0.18	0.17	0.17	0.17	0.17	0.17	0.17
59.750	0.16	0.16	0.16	0.16	0.16	0.16	0.15
61.500	0.15	0.15	0.15	0.15	0.15	0.15	0.14
63.250	0.14	0.14	0.14	0.14	0.14	0.13	0.13
65.000	0.13	0.13	0.13	0.13	0.13	0.13	0.12
66.750	0.12	0.12	0.12	0.12	0.12	0.12	0.12
68.500	0.11	0.11	0.11	0.11	0.11	0.11	0.11
70.250	0.11	0.11	0.10	0.10	0.10	0.10	0.10
72.000	0.10	0.10	0.10	0.10	0.10	0.09	0.09
73.750	0.09	0.09	0.09	0.09	0.09	0.09	0.09
75.500	0.09	0.08	0.08	0.08	0.08	0.08	0.08
77.250	0.08	0.08	0.08	0.08	0.08	0.08	0.07
79.000	0.07	0.07	0.07	0.07	0.07	0.07	0.07
80.750	0.07	0.07	0.07	0.07	0.07	0.07	0.06
82.500	0.06	0.06	0.06	0.06	0.06	0.06	0.06
84.250	0.06	0.06	0.06	0.06	0.06	0.06	0.06
86.000	0.06	0.05	0.05	0.05	0.05	0.05	0.05
87.750	0.05	0.05	0.05	0.05	0.05	0.05	0.05
89.500	0.05	0.05	0.05	0.05	0.05	0.05	0.05
91.250	0.04	0.04	0.04	0.04	0.04	0.04	0.04
93.000	0.04	0.04	0.04	0.04	0.04	0.04	0.04
94.750	0.04	0.04	0.04	0.04	0.04	0.04	0.04
96.500	0.04	0.04	0.04	0.03	0.03	0.03	0.03
98.250	0.03	0.03	0.03	0.03	0.03	0.03	0.03
100.000	0.03	0.03	0.03	0.03	0.03	0.03	0.03
101.750	0.03	0.03	0.03	0.03	0.03	0.03	0.03
103.500	0.03	0.03	0.03	0.03	0.03	0.03	0.03
105.250	0.03	0.02	0.02	0.02	0.02	0.02	0.02
107.000	0.02	0.02	0.02	0.02	0.02	0.02	0.02
108.750	0.02	0.02	0.02	0.02	0.02	0.02	0.02
110.500	0.02	0.02	0.02	0.02	0.02	0.02	0.02
112.250	0.02	0.02	0.02	0.02	0.02	0.02	0.02

Tributary area east of Old Rand Rd berm

Line Start Time (hr)	Flow Values @ time increment of 0.250 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
114.000	0.02	0.02	0.02	0.02	0.02	0.02	0.02
115.750	0.02	0.02	0.02	0.02	0.02	0.02	0.02
117.500	0.02	0.01	0.01	0.01	0.01	0.01	0.01
119.250	0.01	0.01	0.01	0.01	0.01	0.01	0.01
121.000	0.01	0.01	0.01	0.01	0.01	0.01	0.01
122.750	0.01	0.01	0.01	0.01	0.01	0.01	0.01
124.500	0.01	0.01	0.01	0.01	0.01	0.01	0.01
126.250	0.01	0.01	0.01	0.01	0.01	0.0	

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
OUTLET	0.013		5.236		4.98	1.57	122.94

Line Start Time (hr)	Flow Values @ time increment of 0.250 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
0.250	0.0	0.09	0.28	0.51	0.72	0.91	1.04
2.000	1.13	1.21	1.27	1.33	1.39	1.43	1.47
3.750	1.49	1.51	1.53	1.55	1.56	1.57	1.56
5.500	1.55	1.53	1.51	1.50	1.48	1.47	1.45
7.250	1.44	1.42	1.41	1.39	1.38	1.37	1.35
9.000	1.34	1.32	1.31	1.30	1.28	1.27	1.26
10.750	1.24	1.23	1.22	1.21	1.19	1.18	1.17
12.500	1.16	1.15	1.13	1.12	1.11	1.10	1.09
14.250	1.08	1.07	1.05	1.04	1.03	1.02	1.01
16.000	1.00	0.99	0.98	0.97	0.96	0.95	0.94
17.750	0.93	0.92	0.91	0.90	0.89	0.88	0.88
19.500	0.87	0.86	0.85	0.84	0.83	0.82	0.81
21.250	0.81	0.80	0.79	0.78	0.77	0.77	0.76
23.000	0.75	0.74	0.73	0.73	0.72	0.71	0.70
24.750	0.70	0.69	0.68	0.68	0.67	0.66	0.66
26.500	0.65	0.64	0.64	0.63	0.62	0.62	0.61
28.250	0.60	0.60	0.59	0.59	0.58	0.57	0.57
30.000	0.56	0.56	0.55	0.54	0.54	0.53	0.53
31.750	0.52	0.52	0.51	0.51	0.50	0.50	0.49
33.500	0.49	0.48	0.48	0.47	0.47	0.46	0.46
35.250	0.45	0.45	0.44	0.44	0.43	0.43	0.42
37.000	0.42	0.42	0.41	0.41	0.40	0.40	0.40
38.750	0.39	0.39	0.38	0.38	0.38	0.37	0.37
40.500	0.36	0.36	0.36	0.35	0.35	0.35	0.34
42.250	0.34	0.34	0.33	0.33	0.32	0.32	0.32
44.000	0.31	0.31	0.31	0.31	0.30	0.30	0.30
45.750	0.29	0.29	0.29	0.28	0.28	0.28	0.28
47.500	0.27	0.27	0.27	0.26	0.26	0.26	0.26
49.250	0.25	0.25	0.25	0.25	0.24	0.24	0.24
51.000	0.24	0.23	0.23	0.23	0.23	0.22	0.22
52.750	0.22	0.22	0.21	0.21	0.21	0.21	0.21
54.500	0.20	0.20	0.20	0.20	0.20	0.19	0.19

Tributary area east of Old Rand Rd berm

Line Start Time (hr)	Flow Values @ time increment of 0.250 hr (cfs)						
56.250	0.19	0.19	0.19	0.18	0.18	0.18	0.18
58.000	0.18	0.17	0.17	0.17	0.17	0.17	0.17
59.750	0.16	0.16	0.16	0.16	0.16	0.16	0.15
61.500	0.15	0.15	0.15	0.15	0.15	0.15	0.14
63.250	0.14	0.14	0.14	0.14	0.14	0.13	0.13
65.000	0.13	0.13	0.13	0.13	0.13	0.13	0.12
66.750	0.12	0.12	0.12	0.12	0.12	0.12	0.12
68.500	0.11	0.11	0.11	0.11	0.11	0.11	0.11
70.250	0.11	0.11	0.10	0.10	0.10	0.10	0.10
72.000	0.10	0.10	0.10	0.10	0.10	0.09	0.09
73.750	0.09	0.09	0.09	0.09	0.09	0.09	0.09
75.500	0.09	0.08	0.08	0.08	0.08	0.08	0.08
77.250	0.08	0.08	0.08	0.08	0.08	0.08	0.07
79.000	0.07	0.07	0.07	0.07	0.07	0.07	0.07
80.750	0.07	0.07	0.07	0.07	0.07	0.07	0.06
82.500	0.06	0.06	0.06	0.06	0.06	0.06	0.06
84.250	0.06	0.06	0.06	0.06	0.06	0.06	0.06
86.000	0.06	0.05	0.05	0.05	0.05	0.05	0.05
87.750	0.05	0.05	0.05	0.05	0.05	0.05	0.05
89.500	0.05	0.05	0.05	0.05	0.05	0.05	0.05
91.250	0.04	0.04	0.04	0.04	0.04	0.04	0.04
93.000	0.04	0.04	0.04	0.04	0.04	0.04	0.04
94.750	0.04	0.04	0.04	0.04	0.04	0.04	0.04
96.500	0.04	0.04	0.04	0.03	0.03	0.03	0.03
98.250	0.03	0.03	0.03	0.03	0.03	0.03	0.03
100.000	0.03	0.03	0.03	0.03	0.03	0.03	0.03
101.750	0.03	0.03	0.03	0.03	0.03	0.03	0.03
103.500	0.03	0.03	0.03	0.03	0.03	0.03	0.03
105.250	0.03	0.02	0.02	0.02	0.02	0.02	0.02
107.000	0.02	0.02	0.02	0.02	0.02	0.02	0.02
108.750	0.02	0.02	0.02	0.02	0.02	0.02	0.02
110.500	0.02	0.02	0.02	0.02	0.02	0.02	0.02
112.250	0.02	0.02	0.02	0.02	0.02	0.02	0.02
114.000	0.02	0.02	0.02	0.02	0.02	0.02	0.02
115.750	0.02	0.02	0.02	0.02	0.02	0.02	0.02
117.500	0.02	0.01	0.01	0.01	0.01	0.01	0.01
119.250	0.01	0.01	0.01	0.01	0.01	0.01	0.01
121.000	0.01	0.01	0.01	0.01	0.01	0.01	0.01
122.750	0.01	0.01	0.01	0.01	0.01	0.01	0.01
124.500	0.01	0.01	0.01	0.01	0.01	0.01	0.01
126.250	0.01	0.01	0.01	0.01	0.01	0.0	

STORM 100YR-12HR

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
SubArea1	0.600E-03		6.270		5.01	0.49	822.85

Tributary area east of Old Rand Rd berm

Line Start Time (hr)	Flow Values @ time increment of 0.250 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
0.750	0.0	0.02	0.04	0.06	0.09	0.11	0.15
2.500	0.17	0.22	0.25	0.31	0.34	0.39	0.41
4.250	0.45	0.47	0.49	0.49	0.45	0.44	0.42
6.000	0.41	0.34	0.32	0.29	0.28	0.25	0.24
7.750	0.19	0.18	0.15	0.14	0.12	0.11	0.10
9.500	0.09	0.09	0.08	0.08	0.07	0.07	0.07
11.250	0.06	0.06	0.07	0.07	0.02	0.0	

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
SubArea2	0.004		6.274		5.01	3.21	822.85

Line Start Time (hr)	Flow Values @ time increment of 0.250 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
0.750	0.0	0.10	0.26	0.39	0.58	0.71	0.97
2.500	1.12	1.45	1.61	2.03	2.21	2.54	2.68
4.250	2.95	3.06	3.16	3.21	2.95	2.89	2.72
6.000	2.68	2.22	2.09	1.86	1.79	1.63	1.59
7.750	1.25	1.15	0.95	0.89	0.76	0.72	0.63
9.500	0.61	0.56	0.55	0.49	0.47	0.44	0.43
11.250	0.41	0.41	0.42	0.43	0.10	0.0	

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
SubArea3	0.005		6.274		5.01	3.79	822.85

Line Start Time (hr)	Flow Values @ time increment of 0.250 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
0.750	0.0	0.12	0.30	0.46	0.68	0.84	1.14
2.500	1.32	1.71	1.90	2.40	2.61	3.00	3.16
4.250	3.48	3.61	3.73	3.78	3.48	3.41	3.20
6.000	3.16	2.62	2.47	2.19	2.12	1.92	1.87
7.750	1.47	1.35	1.12	1.05	0.89	0.85	0.74
9.500	0.71	0.66	0.64	0.58	0.56	0.52	0.51
11.250	0.49	0.48	0.50	0.50	0.12	0.0	

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
SubArea4	0.004		6.274		5.01	3.04	822.85

Tributary area east of Old Rand Rd berm

Line Start Time (hr)	Flow Values @ time increment of 0.250 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
0.750	0.0	0.10	0.24	0.37	0.55	0.67	0.92
2.500	1.06	1.38	1.53	1.93	2.10	2.41	2.54
4.250	2.80	2.91	3.00	3.04	2.80	2.74	2.58
6.000	2.54	2.11	1.98	1.76	1.70	1.55	1.50
7.750	1.18	1.09	0.90	0.84	0.72	0.68	0.60
9.500	0.57	0.53	0.52	0.46	0.45	0.42	0.41
11.250	0.39	0.39	0.40	0.41	0.10	0.0	

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
Reach1	0.013	Upstream	6.274		5.01	10.53	822.85

Line Start Time (hr)	Flow Values @ time increment of 0.250 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
0.750	0.0	0.33	0.84	1.28	1.90	2.33	3.18
2.500	3.67	4.76	5.30	6.67	7.26	8.35	8.80
4.250	9.70	10.05	10.37	10.53	9.69	9.48	8.92
6.000	8.78	7.29	6.87	6.10	5.89	5.35	5.20
7.750	4.09	3.77	3.10	2.92	2.48	2.36	2.07
9.500	1.99	1.83	1.79	1.60	1.55	1.45	1.42
11.250	1.35	1.33	1.39	1.40	0.33	0.0	

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
Reach1	0.013	Downstream	6.244	101.66	10.19	1.66	129.91

Line Start Time (hr)	Flow Values @ time increment of 0.250 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
1.250	0.0	0.02	0.03	0.06	0.08	0.12	0.16
3.000	0.21	0.27	0.34	0.41	0.50	0.59	0.68
4.750	0.78	0.88	0.98	1.06	1.15	1.23	1.30
6.500	1.36	1.41	1.46	1.50	1.54	1.57	1.60
8.250	1.61	1.63	1.64	1.65	1.65	1.66	1.66
10.000	1.66	1.66	1.66	1.66	1.66	1.66	1.65
11.750	1.65	1.65	1.64	1.62	1.61	1.59	1.57
13.500	1.56	1.54	1.53	1.51	1.49	1.48	1.46
15.250	1.45	1.43	1.42	1.40	1.39	1.38	1.36
17.000	1.35	1.33	1.32	1.31	1.29	1.28	1.27
18.750	1.25	1.24	1.23	1.22	1.20	1.19	1.18
20.500	1.17	1.15	1.14	1.13	1.12	1.11	1.10
22.250	1.09	1.07	1.06	1.05	1.04	1.03	1.02
24.000	1.01	1.00	0.99	0.98	0.97	0.96	0.95

Tributary area east of Old Rand Rd berm

Line Start Time (hr)	Flow Values @ time increment of 0.250 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
25.750	0.94	0.93	0.92	0.91	0.90	0.89	0.88
27.500	0.87	0.86	0.86	0.85	0.84	0.83	0.82
29.250	0.81	0.80	0.80	0.79	0.78	0.77	0.76
31.000	0.76	0.75	0.74	0.73	0.73	0.72	0.71
32.750	0.70	0.70	0.69	0.68	0.67	0.67	0.66
34.500	0.65	0.65	0.64	0.63	0.63	0.62	0.61
36.250	0.61	0.60	0.60	0.59	0.58	0.58	0.57
38.000	0.57	0.56	0.55	0.55	0.54	0.54	0.53
39.750	0.53	0.52	0.52	0.51	0.51	0.50	0.49
41.500	0.49	0.48	0.48	0.47	0.47	0.47	0.46
43.250	0.46	0.45	0.45	0.44	0.44	0.43	0.43
45.000	0.42	0.42	0.42	0.41	0.41	0.40	0.40
46.750	0.39	0.39	0.39	0.38	0.38	0.37	0.37
48.500	0.37	0.36	0.36	0.36	0.35	0.35	0.34
50.250	0.34	0.34	0.33	0.33	0.33	0.32	0.32
52.000	0.32	0.31	0.31	0.31	0.30	0.30	0.30
53.750	0.30	0.29	0.29	0.29	0.28	0.28	0.28
55.500	0.27	0.27	0.27	0.27	0.26	0.26	0.26
57.250	0.26	0.25	0.25	0.25	0.25	0.24	0.24
59.000	0.24	0.24	0.23	0.23	0.23	0.23	0.22
60.750	0.22	0.22	0.22	0.21	0.21	0.21	0.21
62.500	0.21	0.20	0.20	0.20	0.20	0.20	0.19
64.250	0.19	0.19	0.19	0.19	0.18	0.18	0.18
66.000	0.18	0.18	0.17	0.17	0.17	0.17	0.17
67.750	0.17	0.16	0.16	0.16	0.16	0.16	0.16
69.500	0.15	0.15	0.15	0.15	0.15	0.15	0.14
71.250	0.14	0.14	0.14	0.14	0.14	0.14	0.13
73.000	0.13	0.13	0.13	0.13	0.13	0.13	0.13
74.750	0.12	0.12	0.12	0.12	0.12	0.12	0.12
76.500	0.12	0.11	0.11	0.11	0.11	0.11	0.11
78.250	0.11	0.11	0.11	0.10	0.10	0.10	0.10
80.000	0.10	0.10	0.10	0.10	0.10	0.09	0.09
81.750	0.09	0.09	0.09	0.09	0.09	0.09	0.09
83.500	0.09	0.09	0.08	0.08	0.08	0.08	0.08
85.250	0.08	0.08	0.08	0.08	0.08	0.08	0.08
87.000	0.07	0.07	0.07	0.07	0.07	0.07	0.07
88.750	0.07	0.07	0.07	0.07	0.07	0.07	0.07
90.500	0.06	0.06	0.06	0.06	0.06	0.06	0.06
92.250	0.06	0.06	0.06	0.06	0.06	0.06	0.06
94.000	0.06	0.06	0.05	0.05	0.05	0.05	0.05
95.750	0.05	0.05	0.05	0.05	0.05	0.05	0.05
97.500	0.05	0.05	0.05	0.05	0.05	0.05	0.05
99.250	0.05	0.04	0.04	0.04	0.04	0.04	0.04
101.000	0.04	0.04	0.04	0.04	0.04	0.04	0.04
102.750	0.04	0.04	0.04	0.04	0.04	0.04	0.04
104.500	0.04	0.04	0.04	0.04	0.03	0.03	0.03
106.250	0.03	0.03	0.03	0.03	0.03	0.03	0.03
108.000	0.03	0.03	0.03	0.03	0.03	0.03	0.03
109.750	0.03	0.03	0.03	0.03	0.03	0.03	0.03
111.500	0.03	0.03	0.03	0.03	0.03	0.03	0.03
113.250	0.03	0.02	0.02	0.02	0.02	0.02	0.02
115.000	0.02	0.02	0.02	0.02	0.02	0.02	0.02

Tributary area east of Old Rand Rd berm

Line Start Time (hr)	Flow Values @ time increment of 0.250 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
116.750	0.02	0.02	0.02	0.02	0.02	0.02	0.02
118.500	0.02	0.02	0.02	0.02	0.02	0.02	0.02
120.250	0.02	0.02	0.02	0.02	0.02	0.02	0.02
122.000	0.02	0.02	0.02	0.02	0.02	0.02	0.02
123.750	0.02	0.02	0.02	0.02	0.02	0.02	0.02
125.500	0.02	0.02	0.01	0.01	0.01	0.01	0.01
127.250	0.01	0.01	0.01	0.01	0.01	0.01	0.01
129.000	0.01	0.01	0.01	0.01	0.01	0.01	0.01
130.750	0.01	0.01	0.01	0.01	0.01	0.01	0.01
132.500	0.01	0.01	0.01	0.01	0.01	0.01	0.01
134.250	0.01	0.01	0.01	0.01	0.01	0.01	0.0

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
OUTLET	0.013		6.244		10.19	1.66	129.91

Line Start Time (hr)	Flow Values @ time increment of 0.250 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
1.250	0.0	0.02	0.03	0.06	0.08	0.12	0.16
3.000	0.21	0.27	0.34	0.41	0.50	0.59	0.68
4.750	0.78	0.88	0.98	1.06	1.15	1.23	1.30
6.500	1.36	1.41	1.46	1.50	1.54	1.57	1.60
8.250	1.61	1.63	1.64	1.65	1.65	1.66	1.66
10.000	1.66	1.66	1.66	1.66	1.66	1.66	1.65
11.750	1.65	1.65	1.64	1.62	1.61	1.59	1.57
13.500	1.56	1.54	1.53	1.51	1.49	1.48	1.46
15.250	1.45	1.43	1.42	1.40	1.39	1.38	1.36
17.000	1.35	1.33	1.32	1.31	1.29	1.28	1.27
18.750	1.25	1.24	1.23	1.22	1.20	1.19	1.18
20.500	1.17	1.15	1.14	1.13	1.12	1.11	1.10
22.250	1.09	1.07	1.06	1.05	1.04	1.03	1.02
24.000	1.01	1.00	0.99	0.98	0.97	0.96	0.95
25.750	0.94	0.93	0.92	0.91	0.90	0.89	0.88
27.500	0.87	0.86	0.86	0.85	0.84	0.83	0.82
29.250	0.81	0.80	0.80	0.79	0.78	0.77	0.76
31.000	0.76	0.75	0.74	0.73	0.73	0.72	0.71
32.750	0.70	0.70	0.69	0.68	0.67	0.67	0.66
34.500	0.65	0.65	0.64	0.63	0.63	0.62	0.61
36.250	0.61	0.60	0.60	0.59	0.58	0.58	0.57
38.000	0.57	0.56	0.55	0.55	0.54	0.54	0.53
39.750	0.53	0.52	0.52	0.51	0.51	0.50	0.49
41.500	0.49	0.48	0.48	0.47	0.47	0.47	0.46
43.250	0.46	0.45	0.45	0.44	0.44	0.43	0.43
45.000	0.42	0.42	0.42	0.41	0.41	0.40	0.40
46.750	0.39	0.39	0.39	0.38	0.38	0.37	0.37
48.500	0.37	0.36	0.36	0.36	0.35	0.35	0.34
50.250	0.34	0.34	0.33	0.33	0.33	0.32	0.32

Tributary area east of Old Rand Rd berm

Line Start Time (hr)	Flow Values @ time increment of 0.250 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
52.000	0.32	0.31	0.31	0.31	0.30	0.30	0.30
53.750	0.30	0.29	0.29	0.29	0.28	0.28	0.28
55.500	0.27	0.27	0.27	0.27	0.26	0.26	0.26
57.250	0.26	0.25	0.25	0.25	0.25	0.24	0.24
59.000	0.24	0.24	0.23	0.23	0.23	0.23	0.22
60.750	0.22	0.22	0.22	0.21	0.21	0.21	0.21
62.500	0.21	0.20	0.20	0.20	0.20	0.20	0.19
64.250	0.19	0.19	0.19	0.19	0.18	0.18	0.18
66.000	0.18	0.18	0.17	0.17	0.17	0.17	0.17
67.750	0.17	0.16	0.16	0.16	0.16	0.16	0.16
69.500	0.15	0.15	0.15	0.15	0.15	0.15	0.14
71.250	0.14	0.14	0.14	0.14	0.14	0.14	0.13
73.000	0.13	0.13	0.13	0.13	0.13	0.13	0.13
74.750	0.12	0.12	0.12	0.12	0.12	0.12	0.12
76.500	0.12	0.11	0.11	0.11	0.11	0.11	0.11
78.250	0.11	0.11	0.11	0.10	0.10	0.10	0.10
80.000	0.10	0.10	0.10	0.10	0.10	0.09	0.09
81.750	0.09	0.09	0.09	0.09	0.09	0.09	0.09
83.500	0.09	0.09	0.08	0.08	0.08	0.08	0.08
85.250	0.08	0.08	0.08	0.08	0.08	0.08	0.08
87.000	0.07	0.07	0.07	0.07	0.07	0.07	0.07
88.750	0.07	0.07	0.07	0.07	0.07	0.07	0.07
90.500	0.06	0.06	0.06	0.06	0.06	0.06	0.06
92.250	0.06	0.06	0.06	0.06	0.06	0.06	0.06
94.000	0.06	0.06	0.05	0.05	0.05	0.05	0.05
95.750	0.05	0.05	0.05	0.05	0.05	0.05	0.05
97.500	0.05	0.05	0.05	0.05	0.05	0.05	0.05
99.250	0.05	0.04	0.04	0.04	0.04	0.04	0.04
101.000	0.04	0.04	0.04	0.04	0.04	0.04	0.04
102.750	0.04	0.04	0.04	0.04	0.04	0.04	0.04
104.500	0.04	0.04	0.04	0.04	0.03	0.03	0.03
106.250	0.03	0.03	0.03	0.03	0.03	0.03	0.03
108.000	0.03	0.03	0.03	0.03	0.03	0.03	0.03
109.750	0.03	0.03	0.03	0.03	0.03	0.03	0.03
111.500	0.03	0.03	0.03	0.03	0.03	0.03	0.03
113.250	0.03	0.02	0.02	0.02	0.02	0.02	0.02
115.000	0.02	0.02	0.02	0.02	0.02	0.02	0.02
116.750	0.02	0.02	0.02	0.02	0.02	0.02	0.02
118.500	0.02	0.02	0.02	0.02	0.02	0.02	0.02
120.250	0.02	0.02	0.02	0.02	0.02	0.02	0.02
122.000	0.02	0.02	0.02	0.02	0.02	0.02	0.02
123.750	0.02	0.02	0.02	0.02	0.02	0.02	0.02
125.500	0.02	0.02	0.01	0.01	0.01	0.01	0.01
127.250	0.01	0.01	0.01	0.01	0.01	0.01	0.01
129.000	0.01	0.01	0.01	0.01	0.01	0.01	0.01
130.750	0.01	0.01	0.01	0.01	0.01	0.01	0.01
132.500	0.01	0.01	0.01	0.01	0.01	0.01	0.01
134.250	0.01	0.01	0.01	0.01	0.01	0.01	0.0

STORM 100YR-24HR

Tributary area east of Old Rand Rd berm

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
SubArea1	0.600E-03		7.359		16.00	0.29	477.16

Line Start Time (hr)	Flow Values @ time increment of 0.250 hr (cfs)						
1.750	0.0	0.01	0.02	0.02	0.03	0.03	0.03
3.500	0.04	0.04	0.04	0.05	0.05	0.05	0.05
5.250	0.06	0.06	0.06	0.06	0.06	0.06	0.06
7.000	0.06	0.07	0.07	0.07	0.07	0.08	0.09
8.750	0.09	0.09	0.10	0.10	0.10	0.10	0.13
10.500	0.13	0.14	0.14	0.16	0.16	0.16	0.17
12.250	0.22	0.23	0.23	0.24	0.25	0.26	0.26
14.000	0.26	0.28	0.28	0.28	0.29	0.29	0.29
15.750	0.29	0.29	0.27	0.27	0.27	0.27	0.23
17.500	0.22	0.22	0.22	0.17	0.16	0.16	0.16
19.250	0.12	0.11	0.11	0.11	0.08	0.07	0.07
21.000	0.07	0.06	0.06	0.06	0.06	0.05	0.05
22.750	0.05	0.05	0.05	0.05	0.05	0.05	0.01
24.500	0.0						

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
SubArea2	0.004		7.367		16.00	1.86	477.16

Line Start Time (hr)	Flow Values @ time increment of 0.250 hr (cfs)						
1.250	0.0	0.01	0.05	0.08	0.12	0.15	0.17
3.000	0.20	0.23	0.25	0.27	0.28	0.31	0.33
4.750	0.34	0.36	0.38	0.39	0.40	0.41	0.40
6.500	0.41	0.41	0.42	0.45	0.46	0.47	0.47
8.250	0.54	0.56	0.56	0.57	0.63	0.65	0.66
10.000	0.67	0.82	0.87	0.88	0.89	1.02	1.06
11.750	1.07	1.07	1.41	1.51	1.53	1.53	1.64
13.500	1.67	1.68	1.69	1.81	1.84	1.85	1.86
15.250	1.85	1.85	1.86	1.86	1.77	1.75	1.75
17.000	1.75	1.50	1.43	1.42	1.42	1.12	1.03
18.750	1.02	1.02	0.79	0.72	0.72	0.72	0.53
20.500	0.48	0.47	0.47	0.39	0.37	0.37	0.37
22.250	0.33	0.32	0.32	0.32	0.31	0.31	0.31
24.000	0.31	0.07	0.0				

Tributary area east of Old Rand Rd berm

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
SubArea3	0.005		7.367		16.00	2.19	477.16

Line Start Time (hr)	Flow Values @ time increment of 0.250 hr (cfs)						
1.250	0.0	0.02	0.06	0.10	0.14	0.17	0.21
3.000	0.23	0.27	0.29	0.31	0.33	0.37	0.39
4.750	0.41	0.42	0.44	0.46	0.47	0.48	0.48
6.500	0.48	0.49	0.50	0.53	0.55	0.55	0.56
8.250	0.63	0.66	0.67	0.67	0.75	0.77	0.78
10.000	0.79	0.97	1.03	1.04	1.05	1.20	1.25
11.750	1.26	1.27	1.66	1.78	1.80	1.81	1.93
13.500	1.97	1.98	1.99	2.13	2.17	2.18	2.19
15.250	2.19	2.19	2.19	2.19	2.09	2.06	2.06
17.000	2.06	1.77	1.68	1.68	1.68	1.32	1.21
18.750	1.20	1.21	0.93	0.85	0.84	0.84	0.63
20.500	0.56	0.56	0.56	0.46	0.43	0.43	0.43
22.250	0.39	0.38	0.38	0.38	0.36	0.36	0.36
24.000	0.36	0.09	0.0				

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
SubArea4	0.004		7.367		16.00	1.77	477.16

Line Start Time (hr)	Flow Values @ time increment of 0.250 hr (cfs)						
1.250	0.0	0.01	0.05	0.08	0.11	0.14	0.17
3.000	0.19	0.21	0.23	0.25	0.27	0.30	0.31
4.750	0.33	0.34	0.36	0.37	0.38	0.39	0.38
6.500	0.39	0.39	0.40	0.43	0.44	0.45	0.45
8.250	0.51	0.53	0.54	0.54	0.60	0.62	0.63
10.000	0.63	0.78	0.83	0.84	0.84	0.97	1.01
11.750	1.01	1.02	1.34	1.43	1.45	1.46	1.55
13.500	1.59	1.59	1.60	1.71	1.75	1.76	1.76
15.250	1.76	1.76	1.76	1.77	1.68	1.66	1.66
17.000	1.66	1.42	1.35	1.35	1.35	1.06	0.98
18.750	0.97	0.97	0.75	0.68	0.68	0.68	0.50
20.500	0.45	0.45	0.45	0.37	0.35	0.35	0.35
22.250	0.31	0.30	0.30	0.30	0.29	0.29	0.29
24.000	0.29	0.07	0.0				

Tributary area east of Old Rand Rd berm

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
Reach1	0.013	Upstream	7.366		16.00	6.11	477.16

Line Start Time (hr)	Flow Values @ time increment of 0.250 hr (cfs)						
1.250	0.0	0.04	0.15	0.27	0.39	0.49	0.57
3.000	0.65	0.74	0.81	0.87	0.93	1.02	1.08
4.750	1.13	1.17	1.23	1.27	1.31	1.34	1.33
6.500	1.34	1.36	1.38	1.48	1.52	1.54	1.56
8.250	1.76	1.83	1.85	1.87	2.08	2.15	2.17
10.000	2.19	2.70	2.87	2.90	2.92	3.34	3.48
11.750	3.51	3.53	4.62	4.96	5.01	5.04	5.37
13.500	5.49	5.52	5.53	5.92	6.05	6.07	6.09
15.250	6.08	6.09	6.10	6.11	5.82	5.74	5.74
17.000	5.74	4.92	4.68	4.67	4.67	3.66	3.37
18.750	3.35	3.35	2.59	2.36	2.35	2.35	1.74
20.500	1.57	1.55	1.55	1.28	1.21	1.20	1.20
22.250	1.08	1.05	1.05	1.05	1.01	1.01	1.01
24.000	1.00	0.24	0.0				

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
Reach1	0.013	Downstream	7.337	101.78	20.24	1.78	139.18

Line Start Time (hr)	Flow Values @ time increment of 0.250 hr (cfs)						
2.250	0.0	0.01	0.02	0.02	0.03	0.04	0.05
4.000	0.05	0.06	0.07	0.08	0.10	0.11	0.12
5.750	0.13	0.14	0.15	0.17	0.18	0.19	0.20
7.500	0.22	0.23	0.24	0.26	0.27	0.29	0.31
9.250	0.32	0.34	0.36	0.38	0.40	0.43	0.45
11.000	0.48	0.50	0.53	0.56	0.59	0.63	0.67
12.750	0.72	0.76	0.81	0.85	0.90	0.95	1.00
14.500	1.05	1.10	1.15	1.20	1.25	1.30	1.35
16.250	1.40	1.44	1.49	1.53	1.57	1.60	1.64
18.000	1.67	1.69	1.71	1.73	1.75	1.76	1.77
19.750	1.77	1.78	1.78	1.78	1.78	1.78	1.77
21.500	1.77	1.76	1.75	1.75	1.74	1.73	1.73
23.250	1.72	1.71	1.71	1.70	1.69	1.67	1.65
25.000	1.64	1.62	1.60	1.59	1.57	1.55	1.54
26.750	1.52	1.51	1.49	1.48	1.46	1.45	1.43
28.500	1.42	1.40	1.39	1.37	1.36	1.35	1.33
30.250	1.32	1.30	1.29	1.28	1.26	1.25	1.24
32.000	1.23	1.21	1.20	1.19	1.18	1.16	1.15
33.750	1.14	1.13	1.12	1.11	1.09	1.08	1.07

Tributary area east of Old Rand Rd berm

Line Start Time (hr)	Flow Values @ time increment of 0.250 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
35.500	1.06	1.05	1.04	1.03	1.02	1.01	1.00
37.250	0.99	0.98	0.97	0.96	0.95	0.94	0.93
39.000	0.92	0.91	0.90	0.89	0.88	0.87	0.86
40.750	0.85	0.85	0.84	0.83	0.82	0.81	0.80
42.500	0.79	0.79	0.78	0.77	0.76	0.75	0.75
44.250	0.74	0.73	0.72	0.72	0.71	0.70	0.69
46.000	0.69	0.68	0.67	0.67	0.66	0.65	0.65
47.750	0.64	0.63	0.63	0.62	0.61	0.61	0.60
49.500	0.59	0.59	0.58	0.58	0.57	0.56	0.56
51.250	0.55	0.55	0.54	0.54	0.53	0.53	0.52
53.000	0.51	0.51	0.50	0.50	0.49	0.49	0.48
54.750	0.48	0.47	0.47	0.46	0.46	0.45	0.45
56.500	0.45	0.44	0.44	0.43	0.43	0.42	0.42
58.250	0.41	0.41	0.41	0.40	0.40	0.39	0.39
60.000	0.39	0.38	0.38	0.37	0.37	0.37	0.36
61.750	0.36	0.35	0.35	0.35	0.34	0.34	0.34
63.500	0.33	0.33	0.33	0.32	0.32	0.32	0.31
65.250	0.31	0.31	0.30	0.30	0.30	0.29	0.29
67.000	0.29	0.29	0.28	0.28	0.28	0.27	0.27
68.750	0.27	0.27	0.26	0.26	0.26	0.26	0.25
70.500	0.25	0.25	0.24	0.24	0.24	0.24	0.23
72.250	0.23	0.23	0.23	0.23	0.22	0.22	0.22
74.000	0.22	0.21	0.21	0.21	0.21	0.21	0.20
75.750	0.20	0.20	0.20	0.19	0.19	0.19	0.19
77.500	0.19	0.19	0.18	0.18	0.18	0.18	0.18
79.250	0.17	0.17	0.17	0.17	0.17	0.17	0.16
81.000	0.16	0.16	0.16	0.16	0.16	0.15	0.15
82.750	0.15	0.15	0.15	0.15	0.14	0.14	0.14
84.500	0.14	0.14	0.14	0.14	0.13	0.13	0.13
86.250	0.13	0.13	0.13	0.13	0.13	0.12	0.12
88.000	0.12	0.12	0.12	0.12	0.12	0.12	0.11
89.750	0.11	0.11	0.11	0.11	0.11	0.11	0.11
91.500	0.10	0.10	0.10	0.10	0.10	0.10	0.10
93.250	0.10	0.10	0.10	0.09	0.09	0.09	0.09
95.000	0.09	0.09	0.09	0.09	0.09	0.09	0.09
96.750	0.08	0.08	0.08	0.08	0.08	0.08	0.08
98.500	0.08	0.08	0.08	0.08	0.08	0.07	0.07
100.250	0.07	0.07	0.07	0.07	0.07	0.07	0.07
102.000	0.07	0.07	0.07	0.07	0.07	0.06	0.06
103.750	0.06	0.06	0.06	0.06	0.06	0.06	0.06
105.500	0.06	0.06	0.06	0.06	0.06	0.06	0.06
107.250	0.05	0.05	0.05	0.05	0.05	0.05	0.05
109.000	0.05	0.05	0.05	0.05	0.05	0.05	0.05
110.750	0.05	0.05	0.05	0.05	0.05	0.04	0.04
112.500	0.04	0.04	0.04	0.04	0.04	0.04	0.04
114.250	0.04	0.04	0.04	0.04	0.04	0.04	0.04
116.000	0.04	0.04	0.04	0.04	0.04	0.04	0.04
117.750	0.04	0.04	0.03	0.03	0.03	0.03	0.03
119.500	0.03	0.03	0.03	0.03	0.03	0.03	0.03
121.250	0.03	0.03	0.03	0.03	0.03	0.03	0.03
123.000	0.03	0.03	0.03	0.03	0.03	0.03	0.03
124.750	0.03	0.03	0.03	0.03	0.03	0.03	0.02

Tributary area east of Old Rand Rd berm

Line Start Time (hr)	Flow Values @ time increment of 0.250 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
126.500	0.02	0.02	0.02	0.02	0.02	0.02	0.02
128.250	0.02	0.02	0.02	0.02	0.02	0.02	0.02
130.000	0.02	0.02	0.02	0.02	0.02	0.02	0.02
131.750	0.02	0.02	0.02	0.02	0.02	0.02	0.02
133.500	0.02	0.02	0.02	0.02	0.02	0.02	0.02
135.250	0.02	0.02	0.02	0.02	0.02	0.02	0.02
137.000	0.02	0.02	0.02	0.02	0.02	0.02	0.02
138.750	0.01	0.01	0.01	0.01	0.01	0.01	0.01
140.500	0.01	0.01	0.01	0.01	0.01	0.01	0.01
142.250	0.01	0.01	0.01	0.01	0.01	0.01	0.01
144.000	0.01	0.01	0.01	0.01	0.01	0.01	0.01
145.750	0.01	0.01	0.01	0.01	0.01	0.01	0.01
147.500	0.01	0.01	0.01	0.01	0.0		

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
OUTLET	0.013		7.337		20.24	1.78	139.18

Line Start Time (hr)	Flow Values @ time increment of 0.250 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
2.250	0.0	0.01	0.02	0.02	0.03	0.04	0.05
4.000	0.05	0.06	0.07	0.08	0.10	0.11	0.12
5.750	0.13	0.14	0.15	0.17	0.18	0.19	0.20
7.500	0.22	0.23	0.24	0.26	0.27	0.29	0.31
9.250	0.32	0.34	0.36	0.38	0.40	0.43	0.45
11.000	0.48	0.50	0.53	0.56	0.59	0.63	0.67
12.750	0.72	0.76	0.81	0.85	0.90	0.95	1.00
14.500	1.05	1.10	1.15	1.20	1.25	1.30	1.35
16.250	1.40	1.44	1.49	1.53	1.57	1.60	1.64
18.000	1.67	1.69	1.71	1.73	1.75	1.76	1.77
19.750	1.77	1.78	1.78	1.78	1.78	1.78	1.77
21.500	1.77	1.76	1.75	1.75	1.74	1.73	1.73
23.250	1.72	1.71	1.71	1.70	1.69	1.67	1.65
25.000	1.64	1.62	1.60	1.59	1.57	1.55	1.54
26.750	1.52	1.51	1.49	1.48	1.46	1.45	1.43
28.500	1.42	1.40	1.39	1.37	1.36	1.35	1.33
30.250	1.32	1.30	1.29	1.28	1.26	1.25	1.24
32.000	1.23	1.21	1.20	1.19	1.18	1.16	1.15
33.750	1.14	1.13	1.12	1.11	1.09	1.08	1.07
35.500	1.06	1.05	1.04	1.03	1.02	1.01	1.00
37.250	0.99	0.98	0.97	0.96	0.95	0.94	0.93
39.000	0.92	0.91	0.90	0.89	0.88	0.87	0.86
40.750	0.85	0.85	0.84	0.83	0.82	0.81	0.80
42.500	0.79	0.79	0.78	0.77	0.76	0.75	0.75
44.250	0.74	0.73	0.72	0.72	0.71	0.70	0.69
46.000	0.69	0.68	0.67	0.67	0.66	0.65	0.65
47.750	0.64	0.63	0.63	0.62	0.61	0.61	0.60

Tributary area east of Old Rand Rd berm

Line Start Time (hr)	Flow Values @ time increment of 0.250 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
49.500	0.59	0.59	0.58	0.58	0.57	0.56	0.56
51.250	0.55	0.55	0.54	0.54	0.53	0.53	0.52
53.000	0.51	0.51	0.50	0.50	0.49	0.49	0.48
54.750	0.48	0.47	0.47	0.46	0.46	0.45	0.45
56.500	0.45	0.44	0.44	0.43	0.43	0.42	0.42
58.250	0.41	0.41	0.41	0.40	0.40	0.39	0.39
60.000	0.39	0.38	0.38	0.37	0.37	0.37	0.36
61.750	0.36	0.35	0.35	0.35	0.34	0.34	0.34
63.500	0.33	0.33	0.33	0.32	0.32	0.32	0.31
65.250	0.31	0.31	0.30	0.30	0.30	0.29	0.29
67.000	0.29	0.29	0.28	0.28	0.28	0.27	0.27
68.750	0.27	0.27	0.26	0.26	0.26	0.26	0.25
70.500	0.25	0.25	0.24	0.24	0.24	0.24	0.23
72.250	0.23	0.23	0.23	0.23	0.22	0.22	0.22
74.000	0.22	0.21	0.21	0.21	0.21	0.21	0.20
75.750	0.20	0.20	0.20	0.19	0.19	0.19	0.19
77.500	0.19	0.19	0.18	0.18	0.18	0.18	0.18
79.250	0.17	0.17	0.17	0.17	0.17	0.17	0.16
81.000	0.16	0.16	0.16	0.16	0.16	0.15	0.15
82.750	0.15	0.15	0.15	0.15	0.14	0.14	0.14
84.500	0.14	0.14	0.14	0.14	0.13	0.13	0.13
86.250	0.13	0.13	0.13	0.13	0.13	0.12	0.12
88.000	0.12	0.12	0.12	0.12	0.12	0.12	0.11
89.750	0.11	0.11	0.11	0.11	0.11	0.11	0.11
91.500	0.10	0.10	0.10	0.10	0.10	0.10	0.10
93.250	0.10	0.10	0.10	0.09	0.09	0.09	0.09
95.000	0.09	0.09	0.09	0.09	0.09	0.09	0.09
96.750	0.08	0.08	0.08	0.08	0.08	0.08	0.08
98.500	0.08	0.08	0.08	0.08	0.08	0.07	0.07
100.250	0.07	0.07	0.07	0.07	0.07	0.07	0.07
102.000	0.07	0.07	0.07	0.07	0.07	0.06	0.06
103.750	0.06	0.06	0.06	0.06	0.06	0.06	0.06
105.500	0.06	0.06	0.06	0.06	0.06	0.06	0.06
107.250	0.05	0.05	0.05	0.05	0.05	0.05	0.05
109.000	0.05	0.05	0.05	0.05	0.05	0.05	0.05
110.750	0.05	0.05	0.05	0.05	0.05	0.04	0.04
112.500	0.04	0.04	0.04	0.04	0.04	0.04	0.04
114.250	0.04	0.04	0.04	0.04	0.04	0.04	0.04
116.000	0.04	0.04	0.04	0.04	0.04	0.04	0.04
117.750	0.04	0.04	0.03	0.03	0.03	0.03	0.03
119.500	0.03	0.03	0.03	0.03	0.03	0.03	0.03
121.250	0.03	0.03	0.03	0.03	0.03	0.03	0.03
123.000	0.03	0.03	0.03	0.03	0.03	0.03	0.03
124.750	0.03	0.03	0.03	0.03	0.03	0.03	0.02
126.500	0.02	0.02	0.02	0.02	0.02	0.02	0.02
128.250	0.02	0.02	0.02	0.02	0.02	0.02	0.02
130.000	0.02	0.02	0.02	0.02	0.02	0.02	0.02
131.750	0.02	0.02	0.02	0.02	0.02	0.02	0.02
133.500	0.02	0.02	0.02	0.02	0.02	0.02	0.02
135.250	0.02	0.02	0.02	0.02	0.02	0.02	0.02
137.000	0.02	0.02	0.02	0.02	0.02	0.02	0.02
138.750	0.01	0.01	0.01	0.01	0.01	0.01	0.01

Tributary area east of Old Rand Rd berm

Line Start Time (hr)	Flow Values @ time increment of 0.250 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
140.500	0.01	0.01	0.01	0.01	0.01	0.01	0.01
142.250	0.01	0.01	0.01	0.01	0.01	0.01	0.01
144.000	0.01	0.01	0.01	0.01	0.01	0.01	0.01
145.750	0.01	0.01	0.01	0.01	0.01	0.01	0.01
147.500	0.01	0.01	0.01	0.01	0.0		

Tributary area east of Old Rand Rd berm

Area or Reach Identifier	Drainage Area (sq mi)	Peak Flow by Storm 100YR-1HR (cfs)	100YR-2HR (cfs)	100YR-6HR (cfs)	100YR-12HR (cfs)	100YR-24HR (cfs)
SubArea1	0.600E-03	0.59	0.78	1.08	0.49	0.29
SubArea2	0.004	3.81	5.04	6.99	3.21	1.86
SubArea3	0.005	4.49	5.95	8.24	3.79	2.19
SubArea4	0.004	3.61	4.78	6.63	3.04	1.77
Reach1	0.013	12.49	16.55	22.94	10.53	6.11
DOWNSTREAM		0.88	1.15	1.57	1.66	1.78
OUTLET	0.013	0.88	1.15	1.57	1.66	1.78

HEC-RAS HEC-RAS 6.4.1 June 2023
U.S. Army Corps of Engineers
Hydrologic Engineering Center
609 Second Street
Davis, California

```
X     X  XXXXXX    XXXX        XXXX       XX      XXXX
X     X  X        X    X       X   X     X  X    X
X     X  X        X            X   X    X    X   X
XXXXXXX  XXXX     X       XXX  XXXX     XXXXXX    XXXX
X     X  X        X            X  X     X    X        X
X     X  X        X    X       X   X    X    X        X
X     X  XXXXXX    XXXX        X    X   X    X   XXXXX
```

PROJECT DATA
Project Title: 670 S Old Rand
Project File : 670SOldRand.prj
Run Date and Time: 4/26/2024 12:59:40 PM

Project in English units

PLAN DATA

Plan Title: Plan 01
Plan File : p:\22138 - KLLM - 670 Old Rand Road\Calculations\HEC-RAS\670SOldRand.p01

Geometry Title: Geometry Data
Geometry File : p:\22138 - KLLM - 670 Old Rand Road\Calculations\HEC-RAS\670SOldRand.g01

Flow Title : Flow Data
Flow File : p:\22138 - KLLM - 670 Old Rand Road\Calculations\HEC-RAS\670SOldRand.f01

Plan Summary Information:

```
Number of:  Cross Sections =    9    Multiple Openings  =    0
            Culverts       =    1    Inline Structures  =    0
            Bridges        =    0    Lateral Structures =    0

Computational Information
    Water surface calculation tolerance  =  0.01
    Critical depth calculation tolerance =  0.01
    Maximum number of iterations         =  20
    Maximum difference tolerance         =  0.3
    Flow tolerance factor                =  0.001

Computation Options
    Critical depth computed only where necessary
    Conveyance Calculation Method: At breaks in n values only
    Friction Slope Method:         Average Conveyance
    Computational Flow Regime:     Subcritical Flow
```

FLOW DATA

Flow Title: Flow Data
Flow File : p:\22138 - KLLM - 670 Old Rand Road\Calculations\HEC-RAS\670SOldRand.f01

Flow Data (cfs)

River	Reach	RS	PF 1
Creek	Stream Alignment	850.07	6.88
Creek	Stream Alignment	600	8.07
Creek	Stream Alignment	200	16.31
Creek	Stream Alignment	0	22.94

Boundary Conditions

River	Reach	Profile	Upstream	Downstream
Creek	Stream Alignment	PF 1	Normal S = 0.25	Normal S = 0.02

GEOMETRY DATA

Geometry Title: Geometry Data
Geometry File : p:\22138 - KLLM - 670 Old Rand Road\Calculations\HEC-RAS\670SOldRand.g01

CROSS SECTION

RIVER: Creek
REACH: Stream Alignment RS: 850.07

INPUT
Description:
Station Elevation Data num= 157

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	874.41	2.53	874.69	2.89	874.68	4.1	874.7	5.47	874.76
6.93	874.9	8.12	874.99	10.86	875.18	14.34	875.25	16.08	875.4
20.46	875.36	26.7	875.14	33.35	874.55	38.81	874.02	39.12	874
44.89	873.32	47.37	873	48.12	872.9	55.37	872	57.23	871.76
58.02	871.63	62.43	871	70.51	869.52	71.67	869.32	73.69	869
78.99	868.09	79.72	868	86.8	867.22	88.89	867	88.99	867
92.29	866.71	100	866.057	100.67	866	100.85	866	102.4	865.99
108.57	865.98	109.76	865.98	113.05	865.82	113.33	865.78	114.48	865.74
121.98	865.59	124.36	865.3	130.03	864.95	135.07	864.22	136.31	864.17
140.52	864.26	142.51	864	145.53	863.8	146.27	863.81	147.06	863.78
148.07	863.75	151.63	863.92	151.76	863.92	152	863.95	156.44	863.82
158.09	863.85	158.53	863.87	159.85	864	164.12	864.54	168.51	864.96
171.47	865.16	172.73	865.26	173.8	865.29	175.38	865.25	180.2	865.54
181	865.58	181.76	865.57	183.21	865.48	188.74	865.01	188.96	864.99
191.68	864.79	191.77	864.78	194.2	864.55	196.75	864.42	200	864.2
203	864	203.02	864	213.65	864.14	214.4	864.25	217.22	864.03
217.3	864.03	218	864	224.06	863.86	225.65	863.79	226.44	863.8
227.43	863.77	228.31	863.8	236.65	863.96	236.81	863.96	237.21	863.99
237.25	863.99	237.61	863.97	238.23	864	242.28	864.22	242.89	864.19
242.91	864.19	244.8	864	247.15	863.76	248.92	863.7	252.82	863.66
258.21	863.63	259.45	863.71	260.01	863.79	260.7	863.81	261.86	863.8
265.22	864	266.81	864.14	266.84	864.14	269.07	864.49	270.23	864.63

271.23	864.7	275.19	864.71	277.23	864.83	278.88	864.78	279.66	864.81
281.85	865.1	292.11	865.55	292.84	865.64	293.51	865.75	294.21	865.82
294.45	865.84	294.66	865.84	297.15	865.83	300	865.865	303.72	865.91
303.93	865.92	307.59	865.97	308.36	865.99	309.69	866	311.25	866.11
311.37	866.11	313.12	866	314.37	865.99	315.12	865.99	317.19	866
319.3	866	320.63	866.18	321.5	866.16	322	866.2	324.83	866.54
327.75	866.78	328.42	866.86	330.5	866.95	330.75	866.97	331.93	867
332.7	867.13	333	867.13	333.47	867.16	338.86	867.74	340.77	867.93
341.39	868	341.5	868.01	344.58	868.28	346.67	868.41	347.87	868.43
349.3	868.49	350	868.55						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	181.76	.035	265.22	.04

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
181.76	265.22	50.07	50.07	50.07	.1	.3

Profile #PF 1

	Pos	Left Sta (ft)	Right Sta (ft)	Flow (cfs)	Area (sq ft)	W.P. (ft)	Percent Conv	Hydr Depth(ft)	Velocity (ft/s)	Shear (lb/sq ft)	Power (lb/ft s)
1	LOB	130.80	174.40	0.57	0.56	10.35	8.24	0.05	1.01	0.11	0.11
2	LOB	174.40	218.00						0.00	0.00	
3	Chan	218.00	227.44	0.25	0.24	4.05	3.58	0.06	1.03	0.12	0.12
4	Chan	227.44	236.89	0.20	0.23	4.80	2.90	0.05	0.88	0.09	0.08
5	Chan	236.89	246.33	0.00	0.00	0.31	0.03	0.02	0.43	0.03	0.01
6	Chan	246.33	255.78	3.81	1.74	9.45	55.40	0.18	2.19	0.37	0.80
7	Chan	255.78	265.22	2.05	1.09	7.36	29.86	0.15	1.89	0.29	0.55

Warning: The energy equation could not be balanced within the specified number of iterations. The program used critical
depth for the water surface and continued on with the calculations.
Warning: Divided flow computed for this cross-section.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.
Warning: During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated
water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The
program defaulted to critical depth.

CROSS SECTION

RIVER: Creek
REACH: Stream Alignment RS: 800

INPUT
Description:
Station Elevation Data num= 57

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	870.92	1.89999	4	870.94	2.89001	5	870.941	1.35001	870.991
3.95999	870.99	14.70999		871	16.57001		871.35	19.60999	871.79
19.92999	871.84	20.87		872	23.04001		872.27	28.89999	
87330.57999		873.03	33.35999	873.05	34.47	873.07	35.39001		873.07
36.89001	873.05	38.62		873.02	40.06		873	47.22	
872	47.23999		87252.79999		871	60.91		869.79	65.97
869	72.47	868.14		73.44		868	80.47		867.27
80.88		867.24	82.97		867	92.51999		866	92.57999
	86692.70001		865.99	118.82		864.01	119.39		864
123.71		863.63	131.12		863	137.77		862.37	142.45
	862	264.9		862	276.42		862.51	278.73	
862.61	280.26		862.68	288.74		863	289.34		863.01
289.78		863.03	294.8		863.22	296.75		863.3	301.02
	863.48	303.84		863.6	311.7		863.94	312.85	
864	312.9		864	337.96		865.95	338.6		866
338.69		866	348.28		866.38	350		866.44	

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	123.71	.035	294.8	.04

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
123.71	294.8	200	200	.1	.3

Profile #PF 1

	Pos	Left Sta (ft)	Right Sta (ft)	Flow (cfs)	Area (sq ft)	W.P. (ft)	Percent Conv	Hydr Depth(ft)	Velocity (ft/s)	Shear (lb/sq ft)	Power (lb/ft s)
1	Chan	123.71	157.93	0.97	27.55	29.44	14.14	0.94	0.04	0.00	0.00
2	Chan	157.93	192.15	1.76	41.72	34.22	25.54	1.22	0.04	0.00	0.00
3	Chan	192.15	226.36	1.76	41.72	34.22	25.54	1.22	0.04	0.00	0.00
4	Chan	226.36	260.58	1.76	41.72	34.22	25.54	1.22	0.04	0.00	0.00
5	Chan	260.58	294.80	0.64	22.68	34.23	9.25	0.66	0.03	0.00	0.00

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Creek
REACH: Stream Alignment RS: 600

INPUT
Description:
Station Elevation Data num= 47

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	869	42.39999	869	45.75999	868.55	46.48	868.47	50.72	868
51.23	867.93	52.23	867.76	55.39	867	57.46001	866.48	59.41	866
62.52	865.43	64.22	865.16	69.45	864	71.98	863.67	76.64999	863.54
81.64	863.71	85.50999	864	119.97	864	120.23	863.99	137.01	863.1
141.88	863	143.99	862.99	150.27	862.95	155.35	862.98	158.36	863

158.58	863	159.15	863.01	162.13	863.04	170.57	863.35	173.03	863.43
181.5	863.75	187.36	864	188.89	864	192.18	864.22	194.65	864.38
220.02	865.99	220.37	866	234.2	866.59	236.89	866.7	238.43	866.77
241.56	866.88	242.69	866.92	244.83	867	245.15	867	249.64	867.16
249.74	867.16	250	867.17						

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.048	5.50999	.035	170.57	.04

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
85.50999	170.57	200	200	.1	.3

Profile #PF 1

	Pos	Left Sta (ft)	Right Sta (ft)	Flow (cfs)	Area (sq ft)	W.P. (ft)	Percent Conv	Hydr Depth(ft)	Velocity (ft/s)	Shear (lb/sq ft)	Power (lb/ft s)
1	Chan	130.30	140.37	0.34	0.27	4.16	4.27	0.07	1.25	0.15	0.19
2	Chan	140.37	150.43	3.66	1.62	10.07	45.40	0.16	2.27	0.37	0.83
3	Chan	150.43	160.50	3.63	1.61	10.07	44.97	0.16	2.26	0.36	0.82
4	Chan	160.50	170.57	0.43	0.32	4.42	5.36	0.07	1.34	0.17	0.22

Warning: The energy equation could not be balanced within the specified number of iterations. The program used critical
depth for the water surface and continued on with the calculations.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate
the need for additional cross sections.
Warning: During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated

water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The
program defaulted to critical depth.

CROSS SECTION

RIVER: Creek
REACH: Stream Alignment RS: 400

INPUT
Description:
Station Elevation Data num= 61

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	869	46.16	869	52.75	868.35	5.25999	868	59.09	867.31
60.67	867	61.82001	866.71	64.67	866	68.73	864.83	71.69	864
73.37	863.5	75.07	863	77.67	862.23	78.44	862	80.29	861.51
82.01	861	83.7	860.78	85.37	860.52	92.63	859.47	96.03	859
96.57	859	97.11	858.99	98.27	858.98	98.58	858.98	99.79	858.99
100	859	100.28	859	105.55	859.87	107.04	860.09	113.38	861
113.64	861	116.6	861.02	119.69	861.03	127.78	861.03	129.27	861.04
131.61	861.04	133.7	861.06	136.39	861.07	137.74	861.07	138.82	861.08
141.6	861.09	142.42	861.1	143.17	861.09	146.21	861.1	148.89	861.09
150.39	861.1	153.49	861.1	161.22	861.05	164.18	861.15	164.45	861.16
165.41	861.19	166.53	861.25	173.45	861.52	177.78	861.67	183.15	861.97
184.81	862	187.24	862	190.51	862.01	190.58	862.01	193.53	862.02
200	862.02								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	85.37	.035	113.38	.04

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
85.37	113.38	200	200	.1	.3

Profile #PF 1

Pos	Left Sta	Right Sta	Flow	Area	W.P.	Percent	Hydr Velocity	Shear	Power

		(ft)	(ft)	(cfs)	(sq ft)	(ft)	Conv	Depth(ft)	(ft/s)	(lb/sq ft)	(lb/ft s)
1	Chan	89.41	93.44	0.18	0.28	2.00	2.21	0.14	0.63	0.03	0.02
2	Chan	93.44	97.48	3.21	2.13	4.06	39.80	0.53	1.51	0.12	0.18
3	Chan	97.48	101.51	4.20	2.49	4.05	52.03	0.62	1.68	0.14	0.24
4	Chan	101.51	105.55	0.48	0.58	2.68	5.95	0.22	0.84	0.05	0.04

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate
the need for additional cross sections.

CROSS SECTION

RIVER: Creek
REACH: Stream Alignment RS: 200

INPUT
Description:
Station Elevation Data num= 18

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	858.849.649994	858.07	10.38	858	11.88	857.98	12.77	857.97	
17.31	857.94	31.27	857.3	34.9	857.17	39.12	857.01	39.43	857.01
40.25	857	77.66	857	84.9	857.49	90.32	858	103.06	858.7
110.48	859	135.7	860.22	150	860.99				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	17.31	.035	90.32	.04

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
17.31	90.32	52.97	52.97	52.97	.1	.3

Profile #PF 1

	Pos	Left Sta	Right Sta	Flow	Area	W.P.	Percent	Hydr	Velocity	Shear	Power
		(ft)	(ft)	(cfs)	(sq ft)	(ft)	Conv	Depth(ft)	(ft/s)	(lb/sq ft)	(lb/ft s)
1	Chan	31.91	46.51	3.31	1.62	11.69	20.29	0.14	2.05	0.28	0.58
2	Chan	46.51	61.12	5.97	2.52	14.60	36.63	0.17	2.37	0.36	0.84
3	Chan	61.12	75.72	5.97	2.52	14.60	36.63	0.17	2.37	0.36	0.84
4	Chan	75.72	90.32	1.05	0.56	4.50	6.45	0.12	1.90	0.25	0.48

Warning: The energy equation could not be balanced within the specified number of iterations. The program used critical
depth for the water surface and continued on with the calculations.
Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.
Warning: The energy loss was greater than 1.0 ft (0.3 m). between the current and previous cross section. This may indicate
the need for additional cross sections.
Warning: During the standard step iterations, when the assumed water surface was set equal to critical depth, the calculated
water surface came back below critical depth. This indicates that there is not a valid subcritical answer. The
program defaulted to critical depth.

CROSS SECTION

RIVER: Creek
REACH: Stream Alignment RS: 147.03

INPUT
Description:

Station Elevation Data num= 16

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	859.15	14	859	52	858.35	60	858	66	857
70	856	72	855	75	854.5	78	853.9	91	853.9
94	854.5	99	855.5	105	856.5	115	857.8	135	858.73
165.94	859.04								

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	66	.035	105	.04

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
66	105	60.72	60.72	.1	.3

Profile #PF 1

	Pos	Left Sta (ft)	Right Sta (ft)	Flow (cfs)	Area (sq ft)	W.P. (ft)	Percent Conv	Hydr Depth(ft)	Velocity (ft/s)	Shear (lb/sq ft)	Power (lb/ft s)
1	Chan	66.00	73.80	0.60	3.08	4.07	3.66	0.81	0.19	0.00	0.00
2	Chan	73.80	81.60	5.18	14.66	7.88	31.78	1.88	0.35	0.00	0.00
3	Chan	81.60	89.40	6.29	16.40	7.80	38.56	2.10	0.38	0.00	0.00
4	Chan	89.40	97.20	3.99	12.55	7.92	24.45	1.61	0.32	0.00	0.00
5	Chan	97.20	105.00	0.25	1.98	4.89	1.56	0.41	0.13	0.00	0.00

CULVERT

RIVER: Creek
REACH: Stream Alignment RS: 145

INPUT
Description:

```
Distance from Upstream XS =       5
Deck/Roadway Width        =      45
Weir Coefficient          =     2.6
Upstream  Deck/Roadway Coordinates
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
      60     858             115   857.8

Upstream Bridge Cross Section Data
Station Elevation Data    num=      16
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0  859.15      14     859      52  858.35      60     858      66     857
      70     856      72     855      75   854.5      78   853.9      91   853.9
      94   854.5      99   855.5     105   856.5     115   857.8     135  858.73
  165.94  859.04

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .04      66    .035     105     .04

Bank Sta: Left   Right    Coeff Contr.   Expan.
            66     105             .1       .3

Downstream  Deck/Roadway Coordinates
    num=       2
     Sta Hi Cord Lo Cord     Sta Hi Cord Lo Cord
      71     857             114     857

Downstream Bridge Cross Section Data
Station Elevation Data    num=      13
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0   859.2      42     858      71     857      79     856      84     855
      85     854      87   852.9      95   852.9    96.5     854      98     855
     110     856     114     857  165.94   858.2

Manning's n Values        num=       3
     Sta   n Val     Sta   n Val     Sta   n Val
       0     .04      79    .035     110     .04

Bank Sta: Left   Right    Coeff Contr.   Expan.
```

```
           79     110             .1       .3

Upstream Embankment side slope              =       2 horiz. to 1.0 vertical
Downstream Embankment side slope            =       2 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow =     .98
Elevation at which weir flow begins         =
Energy head used in spillway design         =
Spillway height used in design              =
Weir crest shape                            = Broad Crested

Number of Culverts =  1

Culvert Name     Shape      Rise    Span
Culvert #1      Circular     2.5     2.5
FHWA Chart # 1 - Concrete Pipe Culvert
FHWA Scale # 3 - Groove end entrance; pipe projecting from fill
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist  Length    Top n  Bottom n  Depth Blocked  Entrance Loss Coef   Exit Loss Coef
                 5      50     .011     .011        0                  .4               1
Number of Barrels =  2
Upstream   Elevation =  854.56
Centerline Stations
    Sta.    Sta.
      82      88
Downstream Elevation =  853.97
Centerline Stations
    Sta.    Sta.
      88      94

CROSS SECTION


RIVER: Creek
REACH: Stream Alignment   RS: 86.31

INPUT
Description:
Station Elevation Data    num=      13
     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev     Sta    Elev
       0   859.2      42     858      71     857      79     856      84     855
```

85	854	87	852.9	95	852.9	96.5	854	98	855
110	856	114	857	165.94	858.2				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	79	.035	110	.04

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
79	110	50.2	50.2	.1	.3

Profile #PF 1

	Pos	Left Sta	Right Sta	Flow	Area	W.P.	Percent	Hydr	Velocity	Shear	Power
		(ft)	(ft)	(cfs)	(sq ft)	(ft)	Conv	Depth(ft)	(ft/s)	(lb/sq ft)	(lb/ft s)
1	Chan	84.00	86.80	1.31	2.44	3.07	8.02	0.97	0.54	0.01	0.01
2	Chan	86.80	89.60	4.69	5.08	2.83	28.73	1.81	0.92	0.03	0.03
3	Chan	89.60	92.40	4.73	5.09	2.80	29.02	1.82	0.93	0.03	0.03
4	Chan	92.40	95.20	4.66	5.08	2.85	28.56	1.81	0.92	0.03	0.03
5	Chan	95.20	98.00	0.92	1.94	2.91	5.67	0.82	0.48	0.01	0.01

Warning: The conveyance ratio (upstream conveyance divided by downstream conveyance) is less than 0.7 or greater than
1.4. This may indicate the need for additional cross sections.

CROSS SECTION

RIVER: Creek
REACH: Stream Alignment RS: 36.11

INPUT
Description:

Station Elevation Data num= 93

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	860.07	9.909973	859.05	10.19	859.02	10.42999	859	10.59	858.97
18.35999	85	819.72998	857.79	25.78	85	727.07999	856.87	28.25	856.73
33.64999	856.02	33.85999	85	635.64999	855.96	38.89999	855.93	40.22998	855.92
49.41998	855.75	50.28998	855.73	50.51999	855.73	50.98999	855.76	53.42999	855.22
66.14999	855.22	69.79999	855.27	3.77998	855.15	75.78999	855.06	77.01999	855.02
83.24998	854.93	88.70999	854.98	9.41998	854.91	90.12	854.92	92.87999	854.92
95.67999	854.93	108.3	855.04	119.52	855.05	124.51	854.95	130.83	854.8
131.06	854.79	131.3	854.78	135.23	854.75	138.91	854.73	140.87	854.7
144.47	854.67	144.67	854.67	149.81	854.65	154.81	854.66	158.55	854.7
160.65	854.7	177.08	854.71	195.73	854.71	198.14	854.72	200.69	854.75
205.74	854.61	206.65	854.63	208.27	854.64	209.52	854.65	212.84	854.63
216.3	854.59	219	854.6	225.79	854.44	234.9	854.22	235.42	854.22
235.93	854.21	236.91	854.23	237.27	854.24	237.67	854.25	238.08	854.26
240.14	854.3	246.04	854.33	246.85	854.34	247.9	854.37	249.22	854.42
250.15	854.44	251.44	854.49	252.33	854.51	253.36	854.54	254.75	854.6
261.63	854.87	265.44	855.07	271.88	855.48	272.96	855.53	278.55	855.9
278.85	855.92	279.09	855.93	279.93	856	285.74	856.34	290.35	856.42
291.6	856.46	303.8	856.92	305.78	857	312.85	857.62	316.16	857.86
318.03	858	319.91	858.2	321.3	858.36				

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	124.51	.035	265.44	.04

Bank Sta: Left	Right	Lengths: Left Channel	Right	Coeff Contr.	Expan.
124.51	265.44	36.11	36.11	36.11	.1	.3

Profile #PF 1

	Pos	Left Sta	Right Sta	Flow	Area	W.P.	Percent	Hydr	Velocity	Shear	Power
		(ft)	(ft)	(cfs)	(sq ft)	(ft)	Conv	Depth(ft)	(ft/s)	(lb/sq ft)	(lb/ft s)
1	Chan	59.67	71.86	0.71	0.74	6.35	4.35	0.12	0.96	0.10	0.10
2	Chan	71.86	84.05	7.39	3.91	12.19	45.32	0.32	1.89	0.28	0.53

3	Chan	84.05	96.23	7.55	3.96	12.19	46.28	0.32
1.91	0.28	0.54						
4	Chan	96.23	108.42	0.65	0.91	12.19	3.99	0.07
0.72	0.07	0.05						
5	Chan	108.42	120.61	0.01	0.05	5.53	0.07	0.01
0.20	0.01	0.00						

Warning: Divided flow computed for this cross-section.

CROSS SECTION

RIVER: Creek
REACH: Stream Alignment RS: 0

INPUT
Description:
Station Elevation Data num= 64

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	858.8	83.19	0002	858.4	16.02	9999	8589.0	40009	857.49
12.17001	857	15.10001	856.42	17.32001		85622.32001	855.24	23.94	855.08
29.42001	854.32	33.22	854.15	35.82999	854.01	36.54999		85437.07001	854
37.84	853.99	44.14001	853.97	50.76001	853.96	55.59	853.96	61.26001	853.94
67.03	853.97	72.92	853.99	74.38	854	75.8	854.01	81.47	854.02
84.92999	854.03	94.32001	854.03	95.23	854.02	99.21001	854.02	101.63	854.01
103.27	854.01	109.02	854.02	114.84	854	203.28	854	204.69	853.99
205.55	853.98	205.94	853.98	207.12	854	220.05	854	222.73	853.95
225.35	853.88	238.68	853.62	255.14	853.78	256.93	853.78	266.05	853.91
267.96	853.96	269.16	853.97	271.99	853.99	273.06	854	274.37	854.12
275.14	854.19	282.72	855.05	287.03	855.29	293.54	855.93	295.01	855.93
296.33	856	297.78	856.11	298.32	856.13	300.06	856.3	300.48	856.33
302.84	856.55	309.06	857	316.12	857.35	317.13	857.4	320	857.62

Manning's n Values num= 3

Sta	n Val	Sta	n Val	Sta	n Val
0	.04	33.22	.035	274.37	.04

Bank Sta: Left Right Coeff Contr. Expan.

Left	Right	Coeff Contr.	Expan.
33.22	274.37	.1	.3

Profile #PF 1

	Pos	Left Sta	Right Sta	Flow	Area	W.P.	Percent	Hydr	Velocity	Shear	Power
		(ft)	(ft)	(cfs)	(sq ft)	(ft)	Conv	Depth(ft)	(ft/s)	(lb/sq ft)	(lb/ft s)
1	Chan	45.63	93.86	18.90	11.96	47.33	82.39	0.25	1.58	0.32	0.50
2	Chan	93.86	142.09	1.13	2.23	48.23	4.95	0.05	0.51	0.06	0.03
3	Chan	142.09	190.32	0.79	1.80	48.23	3.46	0.04	0.44	0.05	0.02
4	Chan	190.32	238.55	0.37	1.13	48.23	1.59	0.02	0.32	0.03	0.01
5	Chan	238.55	286.78	1.75	2.84	46.13	7.61	0.06	0.62	0.08	0.05

SUMMARY OF MANNING'S N VALUES

River:Creek

Reach	River Sta.	n1	n2	n3
Stream Alignment	850.07	.04	.035	.04
Stream Alignment	800	.04	.035	.04
Stream Alignment	600	.04	.035	.04
Stream Alignment	400	.04	.035	.04
Stream Alignment	200	.04	.035	.04
Stream Alignment	147.03	.04	.035	.04
Stream Alignment	145	Culvert		
Stream Alignment	86.31	.04	.035	.04
Stream Alignment	36.11	.04	.035	.04
Stream Alignment	0	.04	.035	.04

SUMMARY OF REACH LENGTHS

River: Creek

Reach	River Sta.	Left	Channel	Right
Stream Alignment	850.07	50.07	50.07	50.07
Stream Alignment	800	200	200	200
Stream Alignment	600	200	200	200
Stream Alignment	400	200	200	200
Stream Alignment	200	52.97	52.97	52.97
Stream Alignment	147.03	60.72	60.72	60.72
Stream Alignment	145	Culvert		
Stream Alignment	86.31	50.2	50.2	50.2
Stream Alignment	36.11	36.11	36.11	36.11
Stream Alignment	0			

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS
River: Creek

Reach	River Sta.	Contr.	Expan.
Stream Alignment	850.07	.1	.3
Stream Alignment	800	.1	.3
Stream Alignment	600	.1	.3
Stream Alignment	400	.1	.3
Stream Alignment	200	.1	.3
Stream Alignment	147.03	.1	.3
Stream Alignment	145	Culvert	
Stream Alignment	86.31	.1	.3
Stream Alignment	36.11	.1	.3
Stream Alignment	0	.1	.3

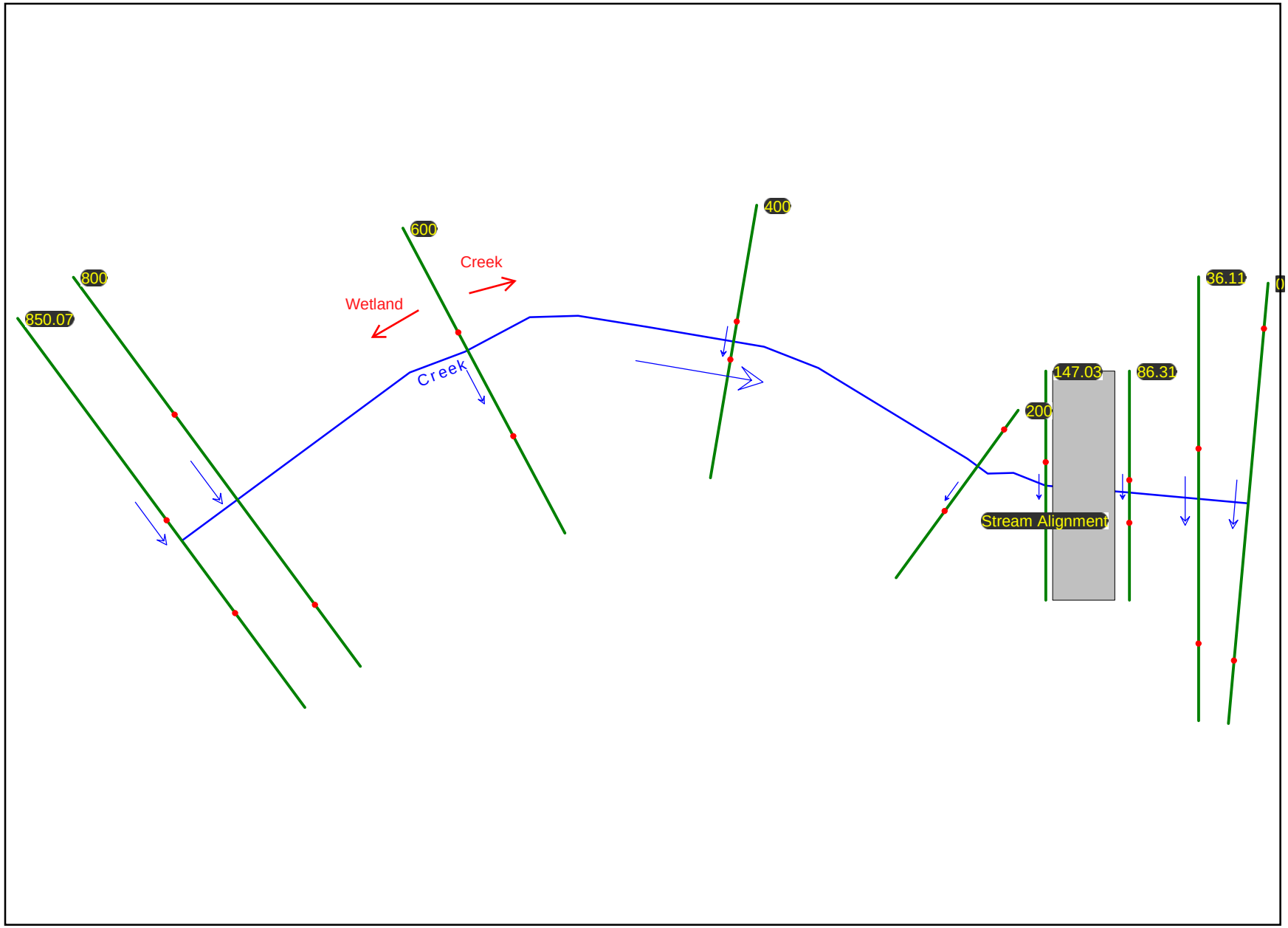
Profile Output Table - Standard Table 2

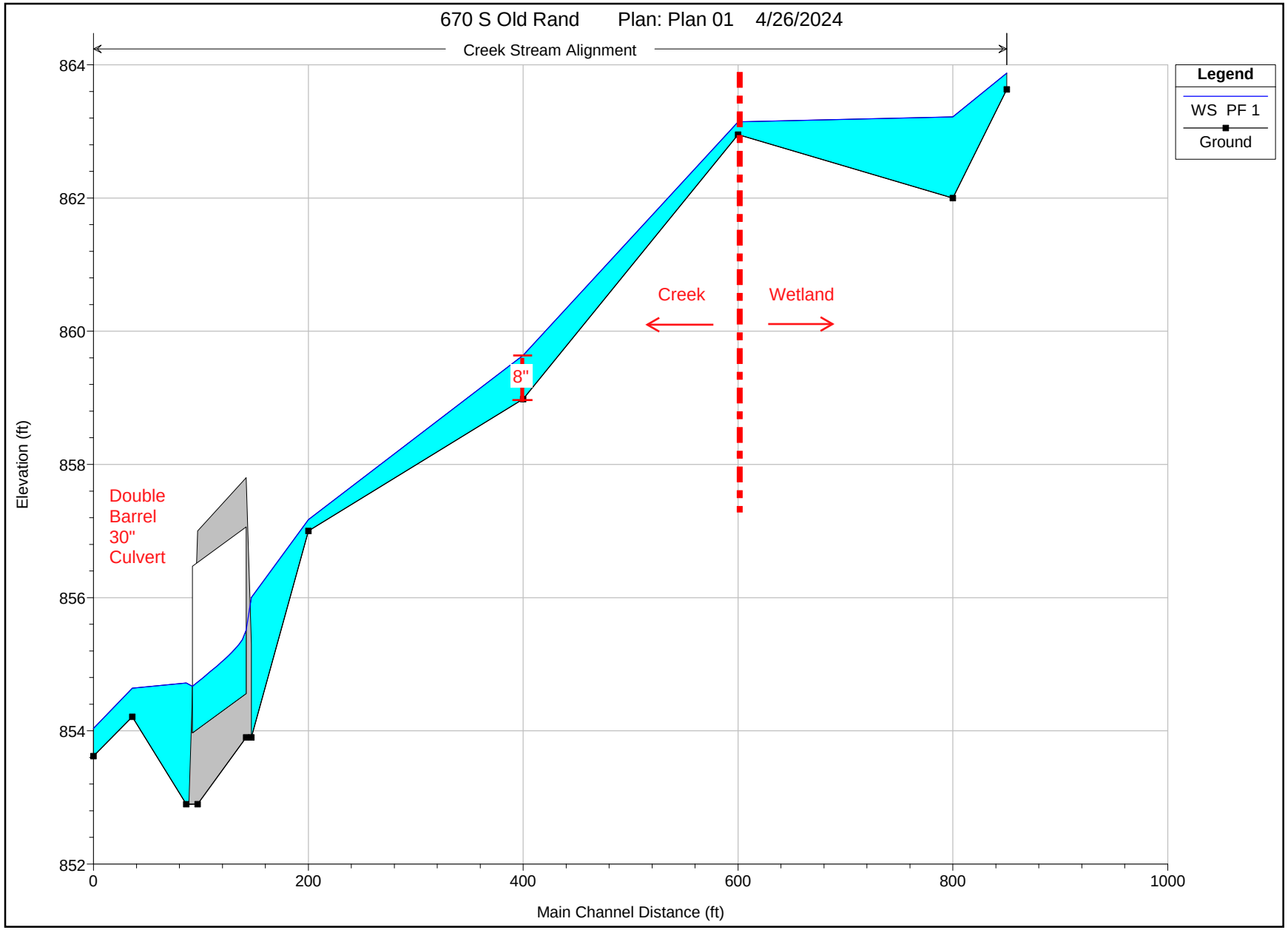
Reach	River Sta	Profile	E.G. Elev (ft)	W.S. Elev (ft)	Vel Head (ft)	Frctn Loss (ft)	C & E Loss (ft)	Q Left (cfs)	Q Channel (cfs)	Q Right (cfs)	Top Width (ft)
Stream Alignment	850.07	PF 1	863.93	863.88	0.05	0.00	0.02	0.57	6.31		36.29
Stream Alignment	800	PF 1	863.22	863.22	0.00	0.00	0.01	6.88		166.24	
Stream Alignment	600	PF 1	863.21	863.14	0.07	1.71	0.01	8.07		28.71	
Stream Alignment	400	PF 1	859.67	859.64	0.03	2.41	0.00	8.07		12.70	
Stream Alignment	200	PF 1	857.25	857.17	0.08	0.01	0.02	16.31		45.38	
Stream Alignment	147.03	PF 1	856.00	856.00	0.00			16.31		32.02	
Stream Alignment	145		Culvert								
Stream Alignment	86.31	PF 1	854.73	854.72	0.01	0.04	0.00	16.31		13.30	
Stream Alignment	36.11	PF 1	854.69	854.64	0.05	0.62	0.01	16.31		48.44	
Stream Alignment	0	PF 1	854.06	854.04	0.02			22.94		238.15	

Profile Output Table - Standard Table 1

Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Stream Alignment	850.07	PF 1	6.88	863.63	863.88	863.88	863.93	0.031851	1.91	3.86	36.29	0.95
Stream Alignment	800	PF 1	6.88	862.00	863.22		863.22	0.000001	0.04	175.41	166.24	0.01
Stream Alignment	600	PF 1	8.07	862.95	863.14	863.14	863.21	0.036418	2.11	3.82	28.71	1.02

Stream	Alignment	400		PF 1	8.07	858.98	859.64	859.38	859.67
0.003733	1.47	5.48		12.70		0.40			
Stream	Alignment	200		PF 1	16.31	857.00	857.17	857.17	857.25
0.032946	2.26	7.21		45.38		1.00			
Stream	Alignment	147.03		PF 1	16.31	853.90	856.00	854.25	856.00
0.000036	0.34	48.67		32.02		0.05			
Stream	Alignment	145			Culvert				
Stream	Alignment	86.31		PF 1	16.31	852.90	854.72		854.73
0.000255	0.83	19.63		13.30		0.12			
Stream	Alignment	36.11		PF 1	16.31	854.21	854.64		854.69
0.014023	1.70	9.57		48.44		0.68			
Stream	Alignment	0		PF 1	22.94	853.62	854.04	854.02	854.06
0.019996	1.15	19.96		238.15		0.70			


800
600
400
Creek
Wetland
850.07
Creek
147.03
86.31
36.11
200
Stream Alignment


670 S Old Rand Plan: Plan 01 4/26/2024
Creek Stream Alignment
Legend
WS PF 1
Ground
Creek
Wetland
8"
Double
Barrel
30"
Culvert
Elevation (ft)
Main Channel Distance (ft)
852
854
856
858
860
862
864
0
200
400
600
800
1000

Culvert Summary Table - Berm Culvert

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth(ft)	Outlet Control Depth(ft)	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
0.62	0.62	862.46	0.44~	0.44	0.27	0.23	0.23	0.04	2.72	0.16
5	5	868.63	6.61	5.5	0.67	0.67	0.67	0.14	9.03	0.36
10	5.8	873.84	11.82	7.24	0.67	0.67	0.67	0.21	10.48	0.47
15	5.81	873.88	11.86	7.25	0.67	0.67	0.67	0.27	10.49	0.55
20	5.81	873.91	11.89	7.26	0.67	0.67	0.67	0.32	10.5	0.61
25	5.82	873.94	11.92	7.27	0.67	0.67	0.67	0.36	10.5	0.67
30	5.82	873.97	11.94	7.28	0.67	0.67	0.67	0.4	10.51	0.71
35	5.82	873.99	11.97	7.28	0.67	0.67	0.67	0.44	10.51	0.76
40	5.82	874.02	11.99	7.29	0.67	0.67	0.67	0.48	10.52	0.8
45	5.83	874.04	12.02	7.29	0.67	0.67	0.67	0.51	10.52	0.83
50	5.83	874.06	12.04	7.3	0.67	0.67	0.67	0.55	10.53	0.87

APPENDIX III – STORMWATER CALCULATIONS

DRAINAGE SUMMARY

RESTRICTOR SIZING CALCULATIONS

STAGE/STORAGE RELEASE CALCULATIONS

TR-20 MODEL

DRAINAGE SUMMARY

670 S Old Rand Rd 05.17.2024

MC rev

	Property Area =	7.80	acres	0.01219	sq mi		
	Total Disturbed Area =	5.64	acres	0.00881	sq mi		
Proposed (Disturbed)	Impervious Area =	2.26	acres	$CN_{impervious}$ =	98	$C_{impervious}$ =	0.90
	Gravel Area =	0.00	acres	CN_{gravel} =	89	C_{gravel} =	0.75
	Pervious Area =	3.38	acres	$CN_{pervious}$ =	74	$C_{pervious}$ =	0.30
				CN =	83.61	c =	0.54
				% Imp =	40%		

Allowable Release Rate =	0.15	cfs/acre	100-yr
	0.846	cfs	
	0.04	cfs/acre	2-yr
	0.226	cfs	

Restrictor Sizing Calculations

670 S Old Rand Rd 05.17.2024

MC rev

ERIKSSON ENGINEERING ASSOCIATES, LTD.

2-Year Restrictor

2-year high water elevation =	857.81	
C_D =	0.61	(constant)
G =	32.20	ft/sec^2
Inv. restrictor =	855.75	
Drainage Area =	5.64	acre
$Q_{allowable}$ =	0.04	cfs/acre
$Q_{allowable}$ =	0.23	cfs

$\triangle h$ = hwe - Inv. - 1/2 Dia.

= 1.96 ft.

$Q = C_D A(2gh)^{1/2}$

$A_{restrictor} = (Q_{allowable}) / (C_D(2gh)^{1/2})$

$A_{restrictor}$ =	4.75	in^2
$D_{restrictor}$ =	2.5	in
=> Restrictor diameter =	**2.500**	**inches**

100-Year Restrictor

100-year high water elevation =	860.97	
C_D =	0.61	(constant)
G =	32.20	ft/sec^2
Inv. restrictor =	857.85	
$Q_{allowable}$ =	0.15	cfs/acre
$Q_{allowable}$ =	0.85	cfs

Note: 100-year restrictor sizing calculations take into account the fact that some release will be provided through the 2-year restrictor. Q_{2year} is a calculation of the flow through the 2-year restrictor with a 100-year head acting on it.

Q_{2year} =	0.36	cfs
Therefore: $Q_{remaining}$ =	0.48	cfs

$\triangle h$ = hwe - Inv. - 1/2 Dia.

= 2.99 ft.

$Q = C_D A(2gh)^{1/2}$

$A_{restrictor} = (Q_{allowable}) / (C_D(2gh)^{1/2})$

$A_{restrictor}$ =	8.18	in^2
$D_{restrictor}$ =	3.2	in
=> Restrictor diameter =	**3.125**	**inches**

Stage/Storage Release Calculations

670 S Old Rand Rd 05.17.2024

MC rev

ERIKSSON ENGINEERING ASSOCIATES, LTD.

2 Year Restrictor

Dia= 2.500 in
C_d = 0.61
Inv. rest. = 855.75
g = 32.2 ft/sec^2
A_{rest}= 4.91 in^2

100 Year Restrictor

Dia= 3.125 in
C_d = 0.61
Inv. rest. = 857.85
g = 32.2 ft/sec^2
A_{rest}= 7.67 in^2

(see Restrictor Sizing Calculations for detailed information)

	Elev	Area (sq. ft.)	Increm. Volume (cu ft.)	Increm. Volume (ac-ft)	Total Volume (ac-ft)		Q(2yr) (cfs)		Q(100yr) (cfs)		Q(Total) (cfs)
NWL	856	11722					0.06		0.00		**0.06**
	857	14733	13198.85	0.303	**0.30**		0.18		0.00		**0.18**
	858	18219	16445.18	0.378	**0.68**		0.24		0.04		**0.28**
	859	21975	20067.69	0.461	**1.14**		0.30		0.26		**0.56**
	860	25863	23892.62	0.548	**1.69**		0.34		0.37		**0.71**
	861	29911	27862.48	0.640	**2.33**		0.38		0.45		**0.83**
	862	34193	32028.14	0.735	**3.06**		0.41		0.52		**0.94**

857.80	**2-Year Storage Volume =**	**0.60**	**acre-ft.**
860.98	**100-Year Storage Volume =**	**2.32**	**acre-ft**
861.1	**Storage Provided Before Spill =**	2.40	

WinTR-20 Printed Page File Beginning of Input Data List
C:\Users\mcarollo\AppData\Roaming\USDA\TR20\Rand Rd Detention.inp

```
WinTR-20: version 3.30                  0         0         0.001     0         ,
670 S Old Rand Road
Proposed Detention

SUB-AREA:
          Proposed  Basin               0.00881   83.61     0.2       YY  Y


STREAM REACH:
          Basin     Outlet              Rest                          YY  Y


STORM ANALYSIS:
          100Yr24Hr                     8.57      H3Q24Hr   2
          2Yr24Hr                       3.34      H3Q24Hr   2



STRUCTURE RATING:
          Rest      855.75
                    855.75    0.00      0.00
                    856.00    0.06      0.001
                    857.00    0.18      0.30
                    857.85    0.24      0.62
                    858.00    0.28      0.68
                    859.00    0.56      1.14
                    860.00    0.71      1.69
                    861.00    0.83      2.33
                    862.00    0.94      3.06



RAINFALL DISTRIBUTION:
          H3Q24Hr             1.0
                    0.        0.0205    0.0431    0.0667    0.0912
                    0.1171    0.1436    0.1691    0.1964    0.2278
                    0.2633    0.3093    0.3635    0.4392    0.5211
                    0.6102    0.6989    0.7819    0.8492    0.8974
                    0.9311    0.9534    0.9706    0.9856    1.00



GLOBAL OUTPUT:
          2         0.005     0.1       YY  Y     YY  Y
```

WinTR-20 Printed Page File End of Input Data List

C:\Users\mcarollo\AppData\Roaming\USDA\TR20\Rand Rd Detention.out

STORM 100Yr24Hr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
Proposed	0.009		6.597		16.01	4.02	456.48

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr (cfs)						
2.200	0.112E-02	0.01	0.03	0.05	0.07	0.10	0.12
2.900	0.14	0.16	0.18	0.20	0.22	0.24	0.26
3.600	0.27	0.29	0.31	0.32	0.34	0.36	0.39
4.300	0.41	0.42	0.44	0.45	0.47	0.48	0.50
5.000	0.51	0.52	0.54	0.56	0.57	0.58	0.60
5.700	0.61	0.62	0.63	0.64	0.65	0.64	0.65
6.400	0.66	0.66	0.67	0.68	0.69	0.70	0.71
7.100	0.73	0.76	0.78	0.79	0.80	0.81	0.81
7.800	0.82	0.83	0.84	0.88	0.95	0.98	0.99
8.500	1.00	1.01	1.02	1.03	1.04	1.04	1.09
9.200	1.17	1.20	1.21	1.22	1.23	1.24	1.25
9.900	1.26	1.26	1.37	1.57	1.65	1.67	1.69
10.600	1.70	1.71	1.72	1.73	1.74	1.83	2.00
11.300	2.07	2.09	2.11	2.12	2.13	2.14	2.15
12.000	2.16	2.40	2.85	3.01	3.07	3.10	3.11
12.700	3.13	3.14	3.16	3.17	3.25	3.40	3.45
13.400	3.48	3.50	3.51	3.52	3.53	3.54	3.55
14.100	3.64	3.81	3.88	3.90	3.92	3.93	3.94
14.800	3.95	3.96	3.97	3.97	3.97	3.97	3.98
15.500	3.99	4.00	4.00	4.01	4.02	4.02	3.96
16.200	3.84	3.80	3.79	3.79	3.79	3.80	3.80
16.900	3.81	3.81	3.63	3.27	3.15	3.11	3.11
17.600	3.11	3.11	3.11	3.11	3.11	2.89	2.44
18.300	2.29	2.25	2.24	2.24	2.24	2.24	2.24
19.000	2.24	2.07	1.73	1.61	1.58	1.57	1.57
19.700	1.57	1.57	1.57	1.57	1.44	1.17	1.08
20.400	1.05	1.04	1.04	1.04	1.04	1.04	1.04
21.100	0.98	0.86	0.82	0.81	0.81	0.80	0.80
21.800	0.80	0.80	0.80	0.78	0.73	0.71	0.70
22.500	0.70	0.70	0.70	0.70	0.70	0.70	0.70
23.200	0.68	0.68	0.68	0.68	0.68	0.68	0.68
23.900	0.68	0.68	0.50	0.16	0.04	0.01	0.0

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
Basin	0.009	Upstream	6.597		16.01	4.02	456.48

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr (cfs)						
2.200	0.112E-02	0.01	0.03	0.05	0.07	0.10	0.12
2.900	0.14	0.16	0.18	0.20	0.22	0.24	0.26
3.600	0.27	0.29	0.31	0.32	0.34	0.36	0.39
4.300	0.41	0.42	0.44	0.45	0.47	0.48	0.50
5.000	0.51	0.52	0.54	0.56	0.57	0.58	0.60
5.700	0.61	0.62	0.63	0.64	0.65	0.64	0.65
6.400	0.66	0.66	0.67	0.68	0.69	0.70	0.71
7.100	0.73	0.76	0.78	0.79	0.80	0.81	0.81
7.800	0.82	0.83	0.84	0.88	0.95	0.98	0.99
8.500	1.00	1.01	1.02	1.03	1.04	1.04	1.09
9.200	1.17	1.20	1.21	1.22	1.23	1.24	1.25
9.900	1.26	1.26	1.37	1.57	1.65	1.67	1.69
10.600	1.70	1.71	1.72	1.73	1.74	1.83	2.00
11.300	2.07	2.09	2.11	2.12	2.13	2.14	2.15
12.000	2.16	2.40	2.85	3.01	3.07	3.10	3.11
12.700	3.13	3.14	3.16	3.17	3.25	3.40	3.45
13.400	3.48	3.50	3.51	3.52	3.53	3.54	3.55
14.100	3.64	3.81	3.88	3.90	3.92	3.93	3.94
14.800	3.95	3.96	3.97	3.97	3.97	3.97	3.98
15.500	3.99	4.00	4.00	4.01	4.02	4.02	3.96
16.200	3.84	3.80	3.79	3.79	3.79	3.80	3.80
16.900	3.81	3.81	3.63	3.27	3.15	3.11	3.11
17.600	3.11	3.11	3.11	3.11	3.11	2.89	2.44
18.300	2.29	2.25	2.24	2.24	2.24	2.24	2.24
19.000	2.24	2.07	1.73	1.61	1.58	1.57	1.57
19.700	1.57	1.57	1.57	1.57	1.44	1.17	1.08
20.400	1.05	1.04	1.04	1.04	1.04	1.04	1.04
21.100	0.98	0.86	0.82	0.81	0.81	0.80	0.80
21.800	0.80	0.80	0.80	0.78	0.73	0.71	0.70
22.500	0.70	0.70	0.70	0.70	0.70	0.70	0.70
23.200	0.68	0.68	0.68	0.68	0.68	0.68	0.68
23.900	0.68	0.68	0.50	0.16	0.04	0.01	0.0

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
Basin	0.009	Downstream	6.597	860.98	21.26	0.83	93.95

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr (cfs)						
2.300	0.240E-02	0.01	0.02	0.04	0.06	0.06	0.06
3.000	0.06	0.06	0.06	0.06	0.06	0.06	0.06
3.700	0.06	0.07	0.07	0.07	0.07	0.07	0.07
4.400	0.07	0.07	0.07	0.07	0.08	0.08	0.08
5.100	0.08	0.08	0.08	0.08	0.09	0.09	0.09
5.800	0.09	0.09	0.10	0.10	0.10	0.10	0.10
6.500	0.10	0.11	0.11	0.11	0.11	0.11	0.12

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr (cfs)						
7.200	0.12	0.12	0.12	0.12	0.13	0.13	0.13
7.900	0.13	0.14	0.14	0.14	0.14	0.15	0.15
8.600	0.15	0.15	0.16	0.16	0.16	0.17	0.17
9.300	0.17	0.18	0.18	0.18	0.18	0.18	0.19
10.000	0.19	0.19	0.19	0.19	0.20	0.20	0.20
10.700	0.20	0.21	0.21	0.21	0.21	0.22	0.22
11.400	0.22	0.22	0.23	0.23	0.23	0.24	0.24
12.100	0.25	0.26	0.27	0.29	0.30	0.32	0.33
12.800	0.35	0.36	0.37	0.39	0.40	0.42	0.43
13.500	0.45	0.46	0.48	0.49	0.51	0.52	0.54
14.200	0.56	0.57	0.57	0.58	0.59	0.60	0.60
14.900	0.61	0.62	0.63	0.63	0.64	0.65	0.66
15.600	0.66	0.67	0.68	0.69	0.69	0.70	0.71
16.300	0.71	0.72	0.72	0.73	0.73	0.74	0.74
17.000	0.75	0.75	0.76	0.76	0.76	0.77	0.77
17.700	0.77	0.78	0.78	0.78	0.79	0.79	0.79
18.400	0.80	0.80	0.80	0.80	0.80	0.81	0.81
19.100	0.81	0.81	0.81	0.82	0.82	0.82	0.82
19.800	0.82	0.82	0.82	0.82	0.82	0.82	0.83
20.500	0.83	0.83	0.83	0.83	0.83	0.83	0.83
21.200	0.83	0.83	0.83	0.83	0.83	0.83	0.83
21.900	0.83	0.83	0.83	0.83	0.83	0.83	0.83
22.600	0.83	0.83	0.83	0.83	0.83	0.83	0.83
23.300	0.83	0.82	0.82	0.82	0.82	0.82	0.82
24.000	0.82	0.82	0.82	0.82	0.82	0.82	0.82
24.700	0.82	0.81	0.81	0.81	0.81	0.81	0.81
25.400	0.81	0.81	0.80	0.80	0.80	0.80	0.80
26.100	0.80	0.80	0.80	0.80	0.79	0.79	0.79
26.800	0.79	0.79	0.79	0.79	0.79	0.78	0.78
27.500	0.78	0.78	0.78	0.78	0.78	0.78	0.77
28.200	0.77	0.77	0.77	0.77	0.77	0.77	0.77
28.900	0.76	0.76	0.76	0.76	0.76	0.76	0.76
29.600	0.76	0.76	0.75	0.75	0.75	0.75	0.75
30.300	0.75	0.75	0.75	0.74	0.74	0.74	0.74
31.000	0.74	0.74	0.74	0.74	0.74	0.73	0.73
31.700	0.73	0.73	0.73	0.73	0.73	0.73	0.73
32.400	0.72	0.72	0.72	0.72	0.72	0.72	0.72
33.100	0.72	0.72	0.71	0.71	0.71	0.71	0.71
33.800	0.71	0.71	0.71	0.70	0.70	0.70	0.70
34.500	0.70	0.70	0.69	0.69	0.69	0.69	0.69
35.200	0.69	0.68	0.68	0.68	0.68	0.68	0.68
35.900	0.68	0.67	0.67	0.67	0.67	0.67	0.67
36.600	0.67	0.66	0.66	0.66	0.66	0.66	0.66
37.300	0.65	0.65	0.65	0.65	0.65	0.65	0.65
38.000	0.64	0.64	0.64	0.64	0.64	0.64	0.64
38.700	0.63	0.63	0.63	0.63	0.63	0.63	0.63
39.400	0.62	0.62	0.62	0.62	0.62	0.62	0.62
40.100	0.61	0.61	0.61	0.61	0.61	0.61	0.61
40.800	0.60	0.60	0.60	0.60	0.60	0.60	0.60
41.500	0.60	0.59	0.59	0.59	0.59	0.59	0.59
42.200	0.59	0.58	0.58	0.58	0.58	0.58	0.58

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr (cfs)						
42.900	0.58	0.58	0.57	0.57	0.57	0.57	0.57
43.600	0.57	0.57	0.57	0.56	0.56	0.56	0.56
44.300	0.56	0.56	0.55	0.55	0.55	0.54	0.54
45.000	0.54	0.54	0.53	0.53	0.53	0.53	0.52
45.700	0.52	0.52	0.51	0.51	0.51	0.51	0.50
46.400	0.50	0.50	0.50	0.49	0.49	0.49	0.49
47.100	0.48	0.48	0.48	0.48	0.48	0.47	0.47
47.800	0.47	0.47	0.46	0.46	0.46	0.46	0.45
48.500	0.45	0.45	0.45	0.44	0.44	0.44	0.44
49.200	0.44	0.43	0.43	0.43	0.43	0.43	0.42
49.900	0.42	0.42	0.42	0.41	0.41	0.41	0.41
50.600	0.41	0.40	0.40	0.40	0.40	0.40	0.39
51.300	0.39	0.39	0.39	0.39	0.38	0.38	0.38
52.000	0.38	0.38	0.37	0.37	0.37	0.37	0.37
52.700	0.37	0.36	0.36	0.36	0.36	0.36	0.35
53.400	0.35	0.35	0.35	0.35	0.35	0.34	0.34
54.100	0.34	0.34	0.34	0.34	0.33	0.33	0.33
54.800	0.33	0.33	0.33	0.32	0.32	0.32	0.32
55.500	0.32	0.32	0.31	0.31	0.31	0.31	0.31
56.200	0.31	0.31	0.30	0.30	0.30	0.30	0.30
56.900	0.30	0.29	0.29	0.29	0.29	0.29	0.29
57.600	0.29	0.28	0.28	0.28	0.28	0.28	0.28
58.300	0.28	0.27	0.27	0.27	0.27	0.27	0.27
59.000	0.27	0.26	0.26	0.26	0.26	0.26	0.26
59.700	0.26	0.25	0.25	0.25	0.25	0.25	0.25
60.400	0.25	0.24	0.24	0.24	0.24	0.24	0.24
61.100	0.24	0.24	0.24	0.24	0.24	0.24	0.24
61.800	0.24	0.24	0.24	0.24	0.23	0.23	0.23
62.500	0.23	0.23	0.23	0.23	0.23	0.23	0.23
63.200	0.23	0.23	0.23	0.23	0.23	0.23	0.23
63.900	0.23	0.23	0.23	0.23	0.23	0.23	0.23
64.600	0.23	0.23	0.23	0.23	0.22	0.22	0.22
65.300	0.22	0.22	0.22	0.22	0.22	0.22	0.22
66.000	0.22	0.22	0.22	0.22	0.22	0.22	0.22
66.700	0.22	0.22	0.22	0.22	0.22	0.22	0.22
67.400	0.22	0.22	0.22	0.22	0.22	0.22	0.21
68.100	0.21	0.21	0.21	0.21	0.21	0.21	0.21
68.800	0.21	0.21	0.21	0.21	0.21	0.21	0.21
69.500	0.21	0.21	0.21	0.21	0.21	0.21	0.21
70.200	0.21	0.21	0.21	0.21	0.21	0.21	0.21
70.900	0.21	0.20	0.20	0.20	0.20	0.20	0.20
71.600	0.20	0.20	0.20	0.20	0.20	0.20	0.20
72.300	0.20	0.20	0.20	0.20	0.20	0.20	0.20
73.000	0.20	0.20	0.20	0.20	0.20	0.20	0.20
73.700	0.20	0.20	0.20	0.20	0.20	0.20	0.19
74.400	0.19	0.19	0.19	0.19	0.19	0.19	0.19
75.100	0.19	0.19	0.19	0.19	0.19	0.19	0.19
75.800	0.19	0.19	0.19	0.19	0.19	0.19	0.19
76.500	0.19	0.19	0.19	0.19	0.19	0.19	0.19
77.200	0.19	0.19	0.19	0.19	0.19	0.18	0.18
77.900	0.18	0.18	0.18	0.18	0.18	0.18	0.18

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr (cfs)						
78.600	0.18	0.18	0.18	0.18	0.18	0.18	0.18
79.300	0.18	0.18	0.18	0.18	0.18	0.18	0.18
80.000	0.18	0.18	0.18	0.17	0.17	0.17	0.17
80.700	0.17	0.17	0.17	0.17	0.17	0.17	0.17
81.400	0.17	0.17	0.17	0.17	0.17	0.17	0.16
82.100	0.16	0.16	0.16	0.16	0.16	0.16	0.16
82.800	0.16	0.16	0.16	0.16	0.16	0.16	0.16
83.500	0.16	0.16	0.16	0.16	0.15	0.15	0.15
84.200	0.15	0.15	0.15	0.15	0.15	0.15	0.15
84.900	0.15	0.15	0.15	0.15	0.15	0.15	0.15
85.600	0.15	0.15	0.15	0.14	0.14	0.14	0.14
86.300	0.14	0.14	0.14	0.14	0.14	0.14	0.14
87.000	0.14	0.14	0.14	0.14	0.14	0.14	0.14
87.700	0.14	0.14	0.14	0.14	0.13	0.13	0.13
88.400	0.13	0.13	0.13	0.13	0.13	0.13	0.13
89.100	0.13	0.13	0.13	0.13	0.13	0.13	0.13
89.800	0.13	0.13	0.13	0.13	0.13	0.13	0.12
90.500	0.12	0.12	0.12	0.12	0.12	0.12	0.12
91.200	0.12	0.12	0.12	0.12	0.12	0.12	0.12
91.900	0.12	0.12	0.12	0.12	0.12	0.12	0.12
92.600	0.12	0.12	0.12	0.11	0.11	0.11	0.11
93.300	0.11	0.11	0.11	0.11	0.11	0.11	0.11
94.000	0.11	0.11	0.11	0.11	0.11	0.11	0.11
94.700	0.11	0.11	0.11	0.11	0.11	0.11	0.11
95.400	0.11	0.11	0.11	0.10	0.10	0.10	0.10
96.100	0.10	0.10	0.10	0.10	0.10	0.10	0.10
96.800	0.10	0.10	0.10	0.10	0.10	0.10	0.10
97.500	0.10	0.10	0.10	0.10	0.10	0.10	0.10
98.200	0.10	0.10	0.10	0.10	0.10	0.09	0.09
98.900	0.09	0.09	0.09	0.09	0.09	0.09	0.09
99.600	0.09	0.09	0.09	0.09	0.09	0.09	0.09
100.300	0.09	0.09	0.09	0.09	0.09	0.09	0.09
101.000	0.09	0.09	0.09	0.09	0.09	0.09	0.09
101.700	0.09	0.09	0.09	0.08	0.08	0.08	0.08
102.400	0.08	0.08	0.08	0.08	0.08	0.08	0.08
103.100	0.08	0.08	0.08	0.08	0.08	0.08	0.08
103.800	0.08	0.08	0.08	0.08	0.08	0.08	0.08
104.500	0.08	0.08	0.08	0.08	0.08	0.08	0.08
105.200	0.08	0.08	0.08	0.08	0.08	0.08	0.07
105.900	0.07	0.07	0.07	0.07	0.07	0.07	0.07
106.600	0.07	0.07	0.07	0.07	0.07	0.07	0.07
107.300	0.07	0.07	0.07	0.07	0.07	0.07	0.07
108.000	0.07	0.07	0.07	0.07	0.07	0.07	0.07
108.700	0.07	0.07	0.07	0.07	0.07	0.07	0.07
109.400	0.07	0.07	0.07	0.07	0.07	0.07	0.07
110.100	0.06	0.06	0.06	0.06	0.06	0.06	0.06
110.800	0.06	0.06	0.06	0.06	0.06	0.06	0.06
111.500	0.06	0.06	0.06	0.06	0.06	0.06	0.06
112.200	0.06	0.06	0.06	0.06	0.04	0.02	0.01
112.900	0.795E-02	0.0					

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
OUTLET	0.009		6.597		21.26	0.83	93.95

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
2.300	0.240E-02	0.01	0.02	0.04	0.06	0.06	0.06
3.000	0.06	0.06	0.06	0.06	0.06	0.06	0.06
3.700	0.06	0.07	0.07	0.07	0.07	0.07	0.07
4.400	0.07	0.07	0.07	0.07	0.08	0.08	0.08
5.100	0.08	0.08	0.08	0.08	0.09	0.09	0.09
5.800	0.09	0.09	0.10	0.10	0.10	0.10	0.10
6.500	0.10	0.11	0.11	0.11	0.11	0.11	0.12
7.200	0.12	0.12	0.12	0.12	0.13	0.13	0.13
7.900	0.13	0.14	0.14	0.14	0.14	0.15	0.15
8.600	0.15	0.15	0.16	0.16	0.16	0.17	0.17
9.300	0.17	0.18	0.18	0.18	0.18	0.18	0.19
10.000	0.19	0.19	0.19	0.19	0.20	0.20	0.20
10.700	0.20	0.21	0.21	0.21	0.21	0.22	0.22
11.400	0.22	0.22	0.23	0.23	0.23	0.24	0.24
12.100	0.25	0.26	0.27	0.29	0.30	0.32	0.33
12.800	0.35	0.36	0.37	0.39	0.40	0.42	0.43
13.500	0.45	0.46	0.48	0.49	0.51	0.52	0.54
14.200	0.56	0.57	0.57	0.58	0.59	0.60	0.60
14.900	0.61	0.62	0.63	0.63	0.64	0.65	0.66
15.600	0.66	0.67	0.68	0.69	0.69	0.70	0.71
16.300	0.71	0.72	0.72	0.73	0.73	0.74	0.74
17.000	0.75	0.75	0.76	0.76	0.76	0.77	0.77
17.700	0.77	0.78	0.78	0.78	0.79	0.79	0.79
18.400	0.80	0.80	0.80	0.80	0.80	0.81	0.81
19.100	0.81	0.81	0.81	0.82	0.82	0.82	0.82
19.800	0.82	0.82	0.82	0.82	0.82	0.82	0.83
20.500	0.83	0.83	0.83	0.83	0.83	0.83	0.83
21.200	0.83	0.83	0.83	0.83	0.83	0.83	0.83
21.900	0.83	0.83	0.83	0.83	0.83	0.83	0.83
22.600	0.83	0.83	0.83	0.83	0.83	0.83	0.83
23.300	0.83	0.82	0.82	0.82	0.82	0.82	0.82
24.000	0.82	0.82	0.82	0.82	0.82	0.82	0.82
24.700	0.82	0.81	0.81	0.81	0.81	0.81	0.81
25.400	0.81	0.81	0.80	0.80	0.80	0.80	0.80
26.100	0.80	0.80	0.80	0.80	0.79	0.79	0.79
26.800	0.79	0.79	0.79	0.79	0.79	0.78	0.78
27.500	0.78	0.78	0.78	0.78	0.78	0.78	0.77
28.200	0.77	0.77	0.77	0.77	0.77	0.77	0.77
28.900	0.76	0.76	0.76	0.76	0.76	0.76	0.76
29.600	0.76	0.76	0.75	0.75	0.75	0.75	0.75
30.300	0.75	0.75	0.75	0.74	0.74	0.74	0.74
31.000	0.74	0.74	0.74	0.74	0.74	0.73	0.73
31.700	0.73	0.73	0.73	0.73	0.73	0.73	0.73
32.400	0.72	0.72	0.72	0.72	0.72	0.72	0.72

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr (cfs)						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
33.100	0.72	0.72	0.71	0.71	0.71	0.71	0.71
33.800	0.71	0.71	0.71	0.70	0.70	0.70	0.70
34.500	0.70	0.70	0.69	0.69	0.69	0.69	0.69
35.200	0.69	0.68	0.68	0.68	0.68	0.68	0.68
35.900	0.68	0.67	0.67	0.67	0.67	0.67	0.67
36.600	0.67	0.66	0.66	0.66	0.66	0.66	0.66
37.300	0.65	0.65	0.65	0.65	0.65	0.65	0.65
38.000	0.64	0.64	0.64	0.64	0.64	0.64	0.64
38.700	0.63	0.63	0.63	0.63	0.63	0.63	0.63
39.400	0.62	0.62	0.62	0.62	0.62	0.62	0.62
40.100	0.61	0.61	0.61	0.61	0.61	0.61	0.61
40.800	0.60	0.60	0.60	0.60	0.60	0.60	0.60
41.500	0.60	0.59	0.59	0.59	0.59	0.59	0.59
42.200	0.59	0.58	0.58	0.58	0.58	0.58	0.58
42.900	0.58	0.58	0.57	0.57	0.57	0.57	0.57
43.600	0.57	0.57	0.57	0.56	0.56	0.56	0.56
44.300	0.56	0.56	0.55	0.55	0.55	0.54	0.54
45.000	0.54	0.54	0.53	0.53	0.53	0.53	0.52
45.700	0.52	0.52	0.51	0.51	0.51	0.51	0.50
46.400	0.50	0.50	0.50	0.49	0.49	0.49	0.49
47.100	0.48	0.48	0.48	0.48	0.48	0.47	0.47
47.800	0.47	0.47	0.46	0.46	0.46	0.46	0.45
48.500	0.45	0.45	0.45	0.44	0.44	0.44	0.44
49.200	0.44	0.43	0.43	0.43	0.43	0.43	0.42
49.900	0.42	0.42	0.42	0.41	0.41	0.41	0.41
50.600	0.41	0.40	0.40	0.40	0.40	0.40	0.39
51.300	0.39	0.39	0.39	0.39	0.38	0.38	0.38
52.000	0.38	0.38	0.37	0.37	0.37	0.37	0.37
52.700	0.37	0.36	0.36	0.36	0.36	0.36	0.35
53.400	0.35	0.35	0.35	0.35	0.35	0.34	0.34
54.100	0.34	0.34	0.34	0.34	0.33	0.33	0.33
54.800	0.33	0.33	0.33	0.32	0.32	0.32	0.32
55.500	0.32	0.32	0.31	0.31	0.31	0.31	0.31
56.200	0.31	0.31	0.30	0.30	0.30	0.30	0.30
56.900	0.30	0.29	0.29	0.29	0.29	0.29	0.29
57.600	0.29	0.28	0.28	0.28	0.28	0.28	0.28
58.300	0.28	0.27	0.27	0.27	0.27	0.27	0.27
59.000	0.27	0.26	0.26	0.26	0.26	0.26	0.26
59.700	0.26	0.25	0.25	0.25	0.25	0.25	0.25
60.400	0.25	0.24	0.24	0.24	0.24	0.24	0.24
61.100	0.24	0.24	0.24	0.24	0.24	0.24	0.24
61.800	0.24	0.24	0.24	0.24	0.23	0.23	0.23
62.500	0.23	0.23	0.23	0.23	0.23	0.23	0.23
63.200	0.23	0.23	0.23	0.23	0.23	0.23	0.23
63.900	0.23	0.23	0.23	0.23	0.23	0.23	0.23
64.600	0.23	0.23	0.23	0.23	0.22	0.22	0.22
65.300	0.22	0.22	0.22	0.22	0.22	0.22	0.22
66.000	0.22	0.22	0.22	0.22	0.22	0.22	0.22
66.700	0.22	0.22	0.22	0.22	0.22	0.22	0.22
67.400	0.22	0.22	0.22	0.22	0.22	0.22	0.21
68.100	0.21	0.21	0.21	0.21	0.21	0.21	0.21

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr (cfs)						
68.800	0.21	0.21	0.21	0.21	0.21	0.21	0.21
69.500	0.21	0.21	0.21	0.21	0.21	0.21	0.21
70.200	0.21	0.21	0.21	0.21	0.21	0.21	0.21
70.900	0.21	0.20	0.20	0.20	0.20	0.20	0.20
71.600	0.20	0.20	0.20	0.20	0.20	0.20	0.20
72.300	0.20	0.20	0.20	0.20	0.20	0.20	0.20
73.000	0.20	0.20	0.20	0.20	0.20	0.20	0.20
73.700	0.20	0.20	0.20	0.20	0.20	0.20	0.19
74.400	0.19	0.19	0.19	0.19	0.19	0.19	0.19
75.100	0.19	0.19	0.19	0.19	0.19	0.19	0.19
75.800	0.19	0.19	0.19	0.19	0.19	0.19	0.19
76.500	0.19	0.19	0.19	0.19	0.19	0.19	0.19
77.200	0.19	0.19	0.19	0.19	0.19	0.18	0.18
77.900	0.18	0.18	0.18	0.18	0.18	0.18	0.18
78.600	0.18	0.18	0.18	0.18	0.18	0.18	0.18
79.300	0.18	0.18	0.18	0.18	0.18	0.18	0.18
80.000	0.18	0.18	0.18	0.17	0.17	0.17	0.17
80.700	0.17	0.17	0.17	0.17	0.17	0.17	0.17
81.400	0.17	0.17	0.17	0.17	0.17	0.17	0.16
82.100	0.16	0.16	0.16	0.16	0.16	0.16	0.16
82.800	0.16	0.16	0.16	0.16	0.16	0.16	0.16
83.500	0.16	0.16	0.16	0.16	0.15	0.15	0.15
84.200	0.15	0.15	0.15	0.15	0.15	0.15	0.15
84.900	0.15	0.15	0.15	0.15	0.15	0.15	0.15
85.600	0.15	0.15	0.15	0.14	0.14	0.14	0.14
86.300	0.14	0.14	0.14	0.14	0.14	0.14	0.14
87.000	0.14	0.14	0.14	0.14	0.14	0.14	0.14
87.700	0.14	0.14	0.14	0.14	0.13	0.13	0.13
88.400	0.13	0.13	0.13	0.13	0.13	0.13	0.13
89.100	0.13	0.13	0.13	0.13	0.13	0.13	0.13
89.800	0.13	0.13	0.13	0.13	0.13	0.13	0.12
90.500	0.12	0.12	0.12	0.12	0.12	0.12	0.12
91.200	0.12	0.12	0.12	0.12	0.12	0.12	0.12
91.900	0.12	0.12	0.12	0.12	0.12	0.12	0.12
92.600	0.12	0.12	0.12	0.11	0.11	0.11	0.11
93.300	0.11	0.11	0.11	0.11	0.11	0.11	0.11
94.000	0.11	0.11	0.11	0.11	0.11	0.11	0.11
94.700	0.11	0.11	0.11	0.11	0.11	0.11	0.11
95.400	0.11	0.11	0.11	0.10	0.10	0.10	0.10
96.100	0.10	0.10	0.10	0.10	0.10	0.10	0.10
96.800	0.10	0.10	0.10	0.10	0.10	0.10	0.10
97.500	0.10	0.10	0.10	0.10	0.10	0.10	0.10
98.200	0.10	0.10	0.10	0.10	0.10	0.09	0.09
98.900	0.09	0.09	0.09	0.09	0.09	0.09	0.09
99.600	0.09	0.09	0.09	0.09	0.09	0.09	0.09
100.300	0.09	0.09	0.09	0.09	0.09	0.09	0.09
101.000	0.09	0.09	0.09	0.09	0.09	0.09	0.09
101.700	0.09	0.09	0.09	0.08	0.08	0.08	0.08
102.400	0.08	0.08	0.08	0.08	0.08	0.08	0.08
103.100	0.08	0.08	0.08	0.08	0.08	0.08	0.08
103.800	0.08	0.08	0.08	0.08	0.08	0.08	0.08

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr (cfs)						
104.500	0.08	0.08	0.08	0.08	0.08	0.08	0.08
105.200	0.08	0.08	0.08	0.08	0.08	0.08	0.07
105.900	0.07	0.07	0.07	0.07	0.07	0.07	0.07
106.600	0.07	0.07	0.07	0.07	0.07	0.07	0.07
107.300	0.07	0.07	0.07	0.07	0.07	0.07	0.07
108.000	0.07	0.07	0.07	0.07	0.07	0.07	0.07
108.700	0.07	0.07	0.07	0.07	0.07	0.07	0.07
109.400	0.07	0.07	0.07	0.07	0.07	0.07	0.07
110.100	0.06	0.06	0.06	0.06	0.06	0.06	0.06
110.800	0.06	0.06	0.06	0.06	0.06	0.06	0.06
111.500	0.06	0.06	0.06	0.06	0.06	0.06	0.06
112.200	0.06	0.06	0.06	0.06	0.04	0.02	0.01
112.900	0.795E-02	0.0					

STORM 2Yr24Hr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
Proposed	0.009		1.771		16.03	1.25	141.87

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr (cfs)						
5.200	0.240E-02	0.619E-02	0.01	0.01	0.02	0.02	0.03
5.900	0.03	0.04	0.04	0.04	0.05	0.05	0.05
6.600	0.06	0.06	0.06	0.07	0.07	0.07	0.08
7.300	0.09	0.09	0.09	0.10	0.10	0.10	0.11
8.000	0.11	0.12	0.13	0.14	0.14	0.15	0.15
8.700	0.16	0.16	0.16	0.17	0.18	0.19	0.20
9.400	0.21	0.21	0.22	0.22	0.23	0.23	0.24
10.100	0.26	0.30	0.32	0.33	0.34	0.34	0.35
10.800	0.36	0.36	0.37	0.39	0.43	0.45	0.46
11.500	0.47	0.48	0.49	0.49	0.50	0.51	0.57
12.200	0.68	0.73	0.75	0.77	0.78	0.79	0.80
12.900	0.81	0.82	0.85	0.90	0.92	0.93	0.94
13.600	0.96	0.97	0.98	0.99	0.99	1.03	1.08
14.300	1.11	1.12	1.13	1.14	1.15	1.16	1.17
15.000	1.18	1.19	1.19	1.20	1.21	1.21	1.22
15.700	1.23	1.24	1.24	1.25	1.23	1.20	1.19
16.400	1.19	1.20	1.20	1.21	1.21	1.22	1.22
17.100	1.17	1.05	1.02	1.01	1.01	1.01	1.01
17.800	1.02	1.02	1.02	0.95	0.80	0.75	0.74
18.500	0.74	0.74	0.74	0.74	0.74	0.74	0.69
19.200	0.58	0.54	0.53	0.52	0.52	0.53	0.53
19.900	0.53	0.53	0.48	0.39	0.36	0.35	0.35
20.600	0.35	0.35	0.35	0.35	0.35	0.33	0.29
21.300	0.28	0.27	0.27	0.27	0.27	0.27	0.27

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr (cfs)						
22.000	0.27	0.26	0.25	0.24	0.24	0.24	0.24
22.700	0.24	0.24	0.24	0.24	0.24	0.23	0.23
23.400	0.23	0.23	0.23	0.23	0.23	0.23	0.23
24.100	0.17	0.05	0.01	0.0			

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
Basin	0.009	Upstream	1.771		16.03	1.25	141.87

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr (cfs)						
5.200	0.240E-02	0.619E-02	0.01	0.01	0.02	0.02	0.03
5.900	0.03	0.04	0.04	0.04	0.05	0.05	0.05
6.600	0.06	0.06	0.06	0.07	0.07	0.07	0.08
7.300	0.09	0.09	0.09	0.10	0.10	0.10	0.11
8.000	0.11	0.12	0.13	0.14	0.14	0.15	0.15
8.700	0.16	0.16	0.16	0.17	0.18	0.19	0.20
9.400	0.21	0.21	0.22	0.22	0.23	0.23	0.24
10.100	0.26	0.30	0.32	0.33	0.34	0.34	0.35
10.800	0.36	0.36	0.37	0.39	0.43	0.45	0.46
11.500	0.47	0.48	0.49	0.49	0.50	0.51	0.57
12.200	0.68	0.73	0.75	0.77	0.78	0.79	0.80
12.900	0.81	0.82	0.85	0.90	0.92	0.93	0.94
13.600	0.96	0.97	0.98	0.99	0.99	1.03	1.08
14.300	1.11	1.12	1.13	1.14	1.15	1.16	1.17
15.000	1.18	1.19	1.19	1.20	1.21	1.21	1.22
15.700	1.23	1.24	1.24	1.25	1.23	1.20	1.19
16.400	1.19	1.20	1.20	1.21	1.21	1.22	1.22
17.100	1.17	1.05	1.02	1.01	1.01	1.01	1.01
17.800	1.02	1.02	1.02	0.95	0.80	0.75	0.74
18.500	0.74	0.74	0.74	0.74	0.74	0.74	0.69
19.200	0.58	0.54	0.53	0.52	0.52	0.53	0.53
19.900	0.53	0.53	0.48	0.39	0.36	0.35	0.35
20.600	0.35	0.35	0.35	0.35	0.35	0.33	0.29
21.300	0.28	0.27	0.27	0.27	0.27	0.27	0.27
22.000	0.27	0.26	0.25	0.24	0.24	0.24	0.24
22.700	0.24	0.24	0.24	0.24	0.24	0.23	0.23
23.400	0.23	0.23	0.23	0.23	0.23	0.23	0.23
24.100	0.17	0.05	0.01	0.0			

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
Basin	0.009	Downstream	1.771	857.80	23.09	0.24	26.83

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr (cfs)						
5.400	0.449E-02	0.773E-02	0.01	0.02	0.02	0.02	0.03
6.100	0.03	0.04	0.04	0.04	0.05	0.05	0.05
6.800	0.06	0.06	0.06	0.06	0.06	0.06	0.06
7.500	0.06	0.06	0.06	0.06	0.06	0.06	0.06
8.200	0.06	0.06	0.06	0.06	0.06	0.06	0.06
8.900	0.06	0.06	0.06	0.06	0.07	0.07	0.07
9.600	0.07	0.07	0.07	0.07	0.07	0.07	0.07
10.300	0.07	0.07	0.07	0.07	0.07	0.08	0.08
11.000	0.08	0.08	0.08	0.08	0.08	0.08	0.08
11.700	0.09	0.09	0.09	0.09	0.09	0.09	0.09
12.400	0.10	0.10	0.10	0.10	0.11	0.11	0.11
13.100	0.11	0.12	0.12	0.12	0.12	0.13	0.13
13.800	0.13	0.13	0.14	0.14	0.14	0.15	0.15
14.500	0.15	0.16	0.16	0.16	0.17	0.17	0.17
15.200	0.18	0.18	0.18	0.18	0.18	0.19	0.19
15.900	0.19	0.19	0.19	0.19	0.20	0.20	0.20
16.600	0.20	0.20	0.20	0.21	0.21	0.21	0.21
17.300	0.21	0.21	0.21	0.21	0.22	0.22	0.22
18.000	0.22	0.22	0.22	0.22	0.22	0.22	0.23
18.700	0.23	0.23	0.23	0.23	0.23	0.23	0.23
19.400	0.23	0.23	0.23	0.23	0.23	0.23	0.23
20.100	0.23	0.23	0.23	0.23	0.23	0.23	0.23
20.800	0.24	0.24	0.24	0.24	0.24	0.24	0.24
21.500	0.24	0.24	0.24	0.24	0.24	0.24	0.24
22.200	0.24	0.24	0.24	0.24	0.24	0.24	0.24
22.900	0.24	0.24	0.24	0.24	0.24	0.24	0.24
23.600	0.24	0.24	0.24	0.24	0.24	0.24	0.24
24.300	0.24	0.24	0.24	0.23	0.23	0.23	0.23
25.000	0.23	0.23	0.23	0.23	0.23	0.23	0.23
25.700	0.23	0.23	0.23	0.23	0.23	0.23	0.23
26.400	0.23	0.23	0.23	0.23	0.23	0.23	0.23
27.100	0.23	0.23	0.23	0.22	0.22	0.22	0.22
27.800	0.22	0.22	0.22	0.22	0.22	0.22	0.22
28.500	0.22	0.22	0.22	0.22	0.22	0.22	0.22
29.200	0.22	0.22	0.22	0.22	0.22	0.22	0.22
29.900	0.22	0.22	0.22	0.22	0.21	0.21	0.21
30.600	0.21	0.21	0.21	0.21	0.21	0.21	0.21
31.300	0.21	0.21	0.21	0.21	0.21	0.21	0.21
32.000	0.21	0.21	0.21	0.21	0.21	0.21	0.21
32.700	0.21	0.21	0.21	0.21	0.21	0.21	0.21
33.400	0.20	0.20	0.20	0.20	0.20	0.20	0.20
34.100	0.20	0.20	0.20	0.20	0.20	0.20	0.20
34.800	0.20	0.20	0.20	0.20	0.20	0.20	0.20
35.500	0.20	0.20	0.20	0.20	0.20	0.20	0.20
36.200	0.20	0.20	0.20	0.20	0.19	0.19	0.19
36.900	0.19	0.19	0.19	0.19	0.19	0.19	0.19
37.600	0.19	0.19	0.19	0.19	0.19	0.19	0.19
38.300	0.19	0.19	0.19	0.19	0.19	0.19	0.19
39.000	0.19	0.19	0.19	0.19	0.19	0.19	0.19
39.700	0.19	0.19	0.19	0.18	0.18	0.18	0.18
40.400	0.18	0.18	0.18	0.18	0.18	0.18	0.18

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr (cfs)						
41.100	0.18	0.18	0.18	0.18	0.18	0.18	0.18
41.800	0.18	0.18	0.18	0.18	0.18	0.18	0.18
42.500	0.18	0.17	0.17	0.17	0.17	0.17	0.17
43.200	0.17	0.17	0.17	0.17	0.17	0.17	0.17
43.900	0.17	0.17	0.17	0.17	0.17	0.16	0.16
44.600	0.16	0.16	0.16	0.16	0.16	0.16	0.16
45.300	0.16	0.16	0.16	0.16	0.16	0.16	0.16
46.000	0.16	0.16	0.16	0.15	0.15	0.15	0.15
46.700	0.15	0.15	0.15	0.15	0.15	0.15	0.15
47.400	0.15	0.15	0.15	0.15	0.15	0.15	0.15
48.100	0.15	0.15	0.14	0.14	0.14	0.14	0.14
48.800	0.14	0.14	0.14	0.14	0.14	0.14	0.14
49.500	0.14	0.14	0.14	0.14	0.14	0.14	0.14
50.200	0.14	0.14	0.13	0.13	0.13	0.13	0.13
50.900	0.13	0.13	0.13	0.13	0.13	0.13	0.13
51.600	0.13	0.13	0.13	0.13	0.13	0.13	0.13
52.300	0.13	0.13	0.13	0.13	0.13	0.12	0.12
53.000	0.12	0.12	0.12	0.12	0.12	0.12	0.12
53.700	0.12	0.12	0.12	0.12	0.12	0.12	0.12
54.400	0.12	0.12	0.12	0.12	0.12	0.12	0.12
55.100	0.12	0.12	0.11	0.11	0.11	0.11	0.11
55.800	0.11	0.11	0.11	0.11	0.11	0.11	0.11
56.500	0.11	0.11	0.11	0.11	0.11	0.11	0.11
57.200	0.11	0.11	0.11	0.11	0.11	0.11	0.11
57.900	0.11	0.10	0.10	0.10	0.10	0.10	0.10
58.600	0.10	0.10	0.10	0.10	0.10	0.10	0.10
59.300	0.10	0.10	0.10	0.10	0.10	0.10	0.10
60.000	0.10	0.10	0.10	0.10	0.10	0.10	0.10
60.700	0.10	0.10	0.10	0.09	0.09	0.09	0.09
61.400	0.09	0.09	0.09	0.09	0.09	0.09	0.09
62.100	0.09	0.09	0.09	0.09	0.09	0.09	0.09
62.800	0.09	0.09	0.09	0.09	0.09	0.09	0.09
63.500	0.09	0.09	0.09	0.09	0.09	0.09	0.09
64.200	0.09	0.09	0.08	0.08	0.08	0.08	0.08
64.900	0.08	0.08	0.08	0.08	0.08	0.08	0.08
65.600	0.08	0.08	0.08	0.08	0.08	0.08	0.08
66.300	0.08	0.08	0.08	0.08	0.08	0.08	0.08
67.000	0.08	0.08	0.08	0.08	0.08	0.08	0.08
67.700	0.08	0.08	0.08	0.08	0.08	0.07	0.07
68.400	0.07	0.07	0.07	0.07	0.07	0.07	0.07
69.100	0.07	0.07	0.07	0.07	0.07	0.07	0.07
69.800	0.07	0.07	0.07	0.07	0.07	0.07	0.07
70.500	0.07	0.07	0.07	0.07	0.07	0.07	0.07
71.200	0.07	0.07	0.07	0.07	0.07	0.07	0.07
71.900	0.07	0.07	0.07	0.07	0.07	0.07	0.06
72.600	0.06	0.06	0.06	0.06	0.06	0.06	0.06
73.300	0.06	0.06	0.06	0.06	0.06	0.06	0.06
74.000	0.06	0.06	0.06	0.06	0.06	0.06	0.06
74.700	0.06	0.06	0.04	0.03	0.02	0.971E-02	0.591E-02
75.400	0.0						

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
OUTLET	0.009		1.770		23.09	0.24	26.83

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr (cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
5.400	0.449E-02	0.773E-02	0.01	0.02	0.02	0.02	0.03
6.100	0.03	0.04	0.04	0.04	0.05	0.05	0.05
6.800	0.06	0.06	0.06	0.06	0.06	0.06	0.06
7.500	0.06	0.06	0.06	0.06	0.06	0.06	0.06
8.200	0.06	0.06	0.06	0.06	0.06	0.06	0.06
8.900	0.06	0.06	0.06	0.06	0.07	0.07	0.07
9.600	0.07	0.07	0.07	0.07	0.07	0.07	0.07
10.300	0.07	0.07	0.07	0.07	0.07	0.08	0.08
11.000	0.08	0.08	0.08	0.08	0.08	0.08	0.08
11.700	0.09	0.09	0.09	0.09	0.09	0.09	0.09
12.400	0.10	0.10	0.10	0.10	0.11	0.11	0.11
13.100	0.11	0.12	0.12	0.12	0.12	0.13	0.13
13.800	0.13	0.13	0.14	0.14	0.14	0.15	0.15
14.500	0.15	0.16	0.16	0.16	0.17	0.17	0.17
15.200	0.18	0.18	0.18	0.18	0.18	0.19	0.19
15.900	0.19	0.19	0.19	0.19	0.20	0.20	0.20
16.600	0.20	0.20	0.20	0.21	0.21	0.21	0.21
17.300	0.21	0.21	0.21	0.21	0.22	0.22	0.22
18.000	0.22	0.22	0.22	0.22	0.22	0.22	0.23
18.700	0.23	0.23	0.23	0.23	0.23	0.23	0.23
19.400	0.23	0.23	0.23	0.23	0.23	0.23	0.23
20.100	0.23	0.23	0.23	0.23	0.23	0.23	0.23
20.800	0.24	0.24	0.24	0.24	0.24	0.24	0.24
21.500	0.24	0.24	0.24	0.24	0.24	0.24	0.24
22.200	0.24	0.24	0.24	0.24	0.24	0.24	0.24
22.900	0.24	0.24	0.24	0.24	0.24	0.24	0.24
23.600	0.24	0.24	0.24	0.24	0.24	0.24	0.24
24.300	0.24	0.24	0.24	0.23	0.23	0.23	0.23
25.000	0.23	0.23	0.23	0.23	0.23	0.23	0.23
25.700	0.23	0.23	0.23	0.23	0.23	0.23	0.23
26.400	0.23	0.23	0.23	0.23	0.23	0.23	0.23
27.100	0.23	0.23	0.23	0.22	0.22	0.22	0.22
27.800	0.22	0.22	0.22	0.22	0.22	0.22	0.22
28.500	0.22	0.22	0.22	0.22	0.22	0.22	0.22
29.200	0.22	0.22	0.22	0.22	0.22	0.22	0.22
29.900	0.22	0.22	0.22	0.22	0.21	0.21	0.21
30.600	0.21	0.21	0.21	0.21	0.21	0.21	0.21
31.300	0.21	0.21	0.21	0.21	0.21	0.21	0.21
32.000	0.21	0.21	0.21	0.21	0.21	0.21	0.21
32.700	0.21	0.21	0.21	0.21	0.21	0.21	0.21
33.400	0.20	0.20	0.20	0.20	0.20	0.20	0.20
34.100	0.20	0.20	0.20	0.20	0.20	0.20	0.20
34.800	0.20	0.20	0.20	0.20	0.20	0.20	0.20
35.500	0.20	0.20	0.20	0.20	0.20	0.20	0.20

Line Start Time (hr)	Flow Values @ time increment of 0.100 hr (cfs)						
36.200	0.20	0.20	0.20	0.20	0.19	0.19	0.19
36.900	0.19	0.19	0.19	0.19	0.19	0.19	0.19
37.600	0.19	0.19	0.19	0.19	0.19	0.19	0.19
38.300	0.19	0.19	0.19	0.19	0.19	0.19	0.19
39.000	0.19	0.19	0.19	0.19	0.19	0.19	0.19
39.700	0.19	0.19	0.19	0.18	0.18	0.18	0.18
40.400	0.18	0.18	0.18	0.18	0.18	0.18	0.18
41.100	0.18	0.18	0.18	0.18	0.18	0.18	0.18
41.800	0.18	0.18	0.18	0.18	0.18	0.18	0.18
42.500	0.18	0.17	0.17	0.17	0.17	0.17	0.17
43.200	0.17	0.17	0.17	0.17	0.17	0.17	0.17
43.900	0.17	0.17	0.17	0.17	0.17	0.16	0.16
44.600	0.16	0.16	0.16	0.16	0.16	0.16	0.16
45.300	0.16	0.16	0.16	0.16	0.16	0.16	0.16
46.000	0.16	0.16	0.16	0.15	0.15	0.15	0.15
46.700	0.15	0.15	0.15	0.15	0.15	0.15	0.15
47.400	0.15	0.15	0.15	0.15	0.15	0.15	0.15
48.100	0.15	0.15	0.14	0.14	0.14	0.14	0.14
48.800	0.14	0.14	0.14	0.14	0.14	0.14	0.14
49.500	0.14	0.14	0.14	0.14	0.14	0.14	0.14
50.200	0.14	0.14	0.13	0.13	0.13	0.13	0.13
50.900	0.13	0.13	0.13	0.13	0.13	0.13	0.13
51.600	0.13	0.13	0.13	0.13	0.13	0.13	0.13
52.300	0.13	0.13	0.13	0.13	0.13	0.12	0.12
53.000	0.12	0.12	0.12	0.12	0.12	0.12	0.12
53.700	0.12	0.12	0.12	0.12	0.12	0.12	0.12
54.400	0.12	0.12	0.12	0.12	0.12	0.12	0.12
55.100	0.12	0.12	0.11	0.11	0.11	0.11	0.11
55.800	0.11	0.11	0.11	0.11	0.11	0.11	0.11
56.500	0.11	0.11	0.11	0.11	0.11	0.11	0.11
57.200	0.11	0.11	0.11	0.11	0.11	0.11	0.11
57.900	0.11	0.10	0.10	0.10	0.10	0.10	0.10
58.600	0.10	0.10	0.10	0.10	0.10	0.10	0.10
59.300	0.10	0.10	0.10	0.10	0.10	0.10	0.10
60.000	0.10	0.10	0.10	0.10	0.10	0.10	0.10
60.700	0.10	0.10	0.10	0.09	0.09	0.09	0.09
61.400	0.09	0.09	0.09	0.09	0.09	0.09	0.09
62.100	0.09	0.09	0.09	0.09	0.09	0.09	0.09
62.800	0.09	0.09	0.09	0.09	0.09	0.09	0.09
63.500	0.09	0.09	0.09	0.09	0.09	0.09	0.09
64.200	0.09	0.09	0.08	0.08	0.08	0.08	0.08
64.900	0.08	0.08	0.08	0.08	0.08	0.08	0.08
65.600	0.08	0.08	0.08	0.08	0.08	0.08	0.08
66.300	0.08	0.08	0.08	0.08	0.08	0.08	0.08
67.000	0.08	0.08	0.08	0.08	0.08	0.08	0.08
67.700	0.08	0.08	0.08	0.08	0.08	0.07	0.07
68.400	0.07	0.07	0.07	0.07	0.07	0.07	0.07
69.100	0.07	0.07	0.07	0.07	0.07	0.07	0.07
69.800	0.07	0.07	0.07	0.07	0.07	0.07	0.07
70.500	0.07	0.07	0.07	0.07	0.07	0.07	0.07
71.200	0.07	0.07	0.07	0.07	0.07	0.07	0.07

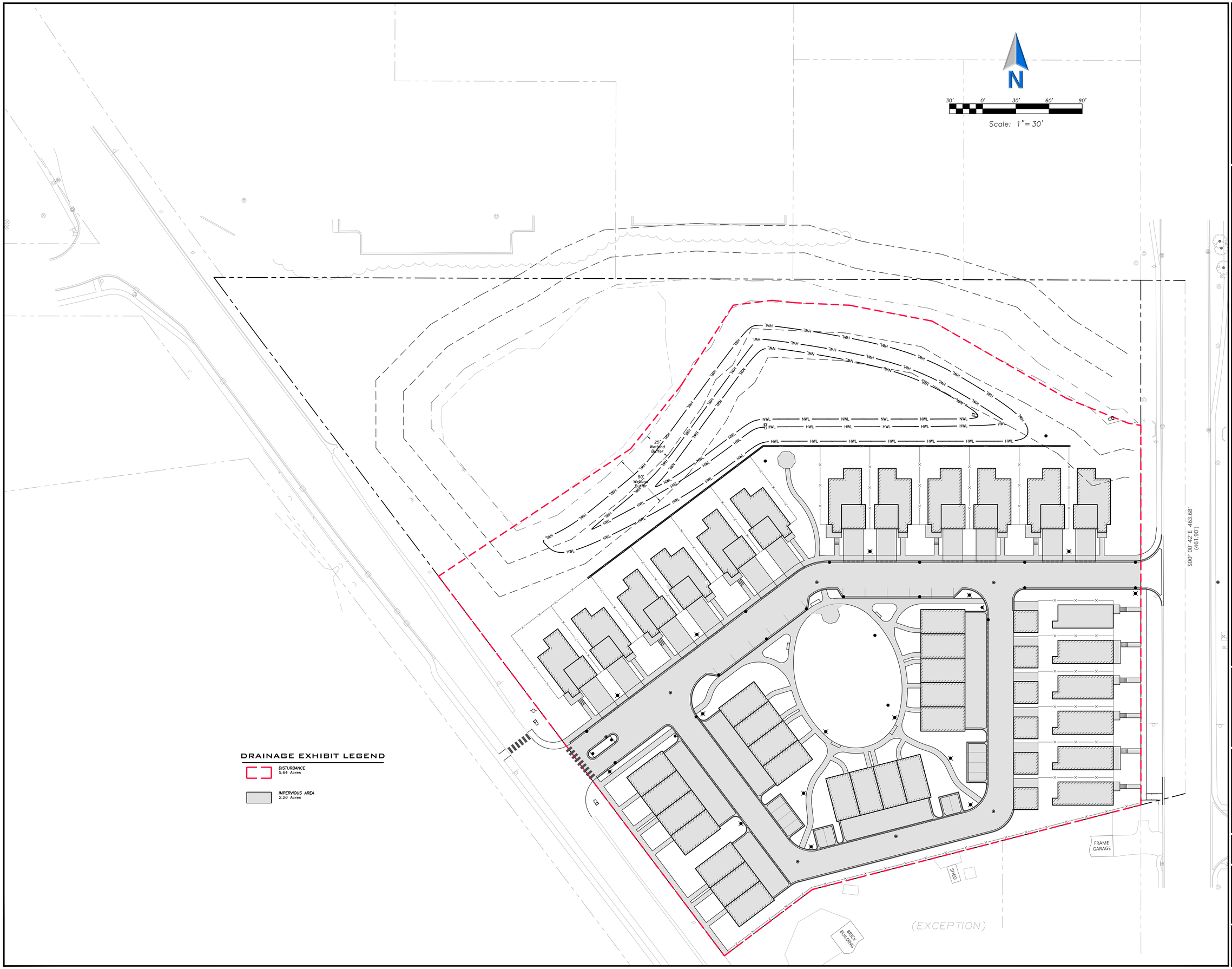
Line Start Time (hr)	Flow Values @ time increment of 0.100 hr (cfs)						
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
71.900	0.07	0.07	0.07	0.07	0.07	0.07	0.06
72.600	0.06	0.06	0.06	0.06	0.06	0.06	0.06
73.300	0.06	0.06	0.06	0.06	0.06	0.06	0.06
74.000	0.06	0.06	0.06	0.06	0.06	0.06	0.06
74.700	0.06	0.06	0.04	0.03	0.02	0.971E-02	0.591E-02
75.400	0.0						

670 S Old Rand Road
Proposed Detention

Area or Reach Identifier	Drainage Area (sq mi)	Peak Flow by Storm 100Yr24Hr (cfs)	2Yr24Hr (cfs)	(cfs)	(cfs)	(cfs)
Proposed	0.009	4.02	1.25			
Basin	0.009	4.02	1.25			
DOWNSTREAM		0.83	0.24			
OUTLET	0.009	0.83	0.24			

APPENDIX IV – EXHIBITS

CX-1 STORMWATER EXHIBIT – PROPOSED CONDITIONS



ERIKSSON ENGINEERING ASSOCIATES, LTD.
145 COMMERCE DRIVE, SUITE A
GRAYSLAKE, ILLINOIS 60030
PHONE (847) 223-4804
FAX (847) 223-4864
EMAIL INFO@EEA-LTD.COM
PROFESSIONAL DESIGN FIRM
LICENSE NO. 184-003220
EXPIRES: 04/30/2025

RESIDENTIAL DEVELOPMENT

670 S. OLD RAND ROAD
LAKE ZURICH, ILLINOIS

Reserved for Seal:

No.	Date	Description
	05/17/24	ISSUE FOR PZC

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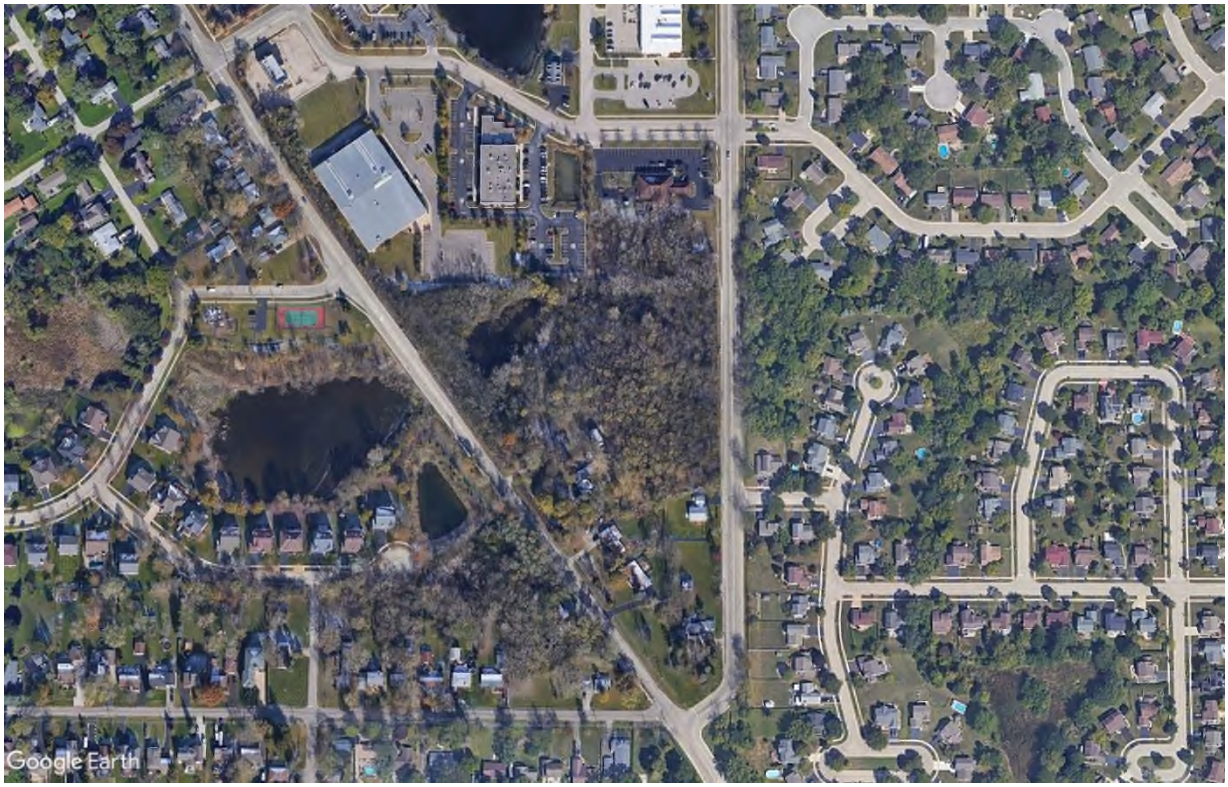
Design By:	Approved By:	Date:
MC/LR	MR	05/17/24

Sheet Title:
STORMWATER EXHIBIT - PROPOSED CONDITIONS

Sheet No:
CX-1

EEA – P:\22138 – KLLM – 670 Old Rand Road\Drawings\670 Old Rand Rd_Site Plan.dwg
Plotted: 5/13/24 @ 7:51pm By: mcarollo

Residential Development
Traffic and Parking Study
670 Old Rand Road
Lake Zurich, Illinois



Prepared For:

Pappageorge Haymes Partners

Prepared by:

Eriksson Engineering Associates, Ltd.

ERIKSSON ENGINEERING ASSOCIATES, LTD.

145 Commerce Drive, Ste A, Grayslake, IL 60030

847.223.8404

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1 – INTRODUCTION

This report summarizes the results of a traffic and parking study for a proposed residential project located at 670 Old Rand Road in Lake Zurich, Illinois. The site will have a combination of single-family detached and attached residences. Access to the site will be provided by driveways on Old Rand Road and Buesching Road. **Figure 1** illustrates the site location and the area roadways. Please note that all figures are located at the end of the report.

Methodology

The purpose of this study was to identify the transportation system serving the site, to determine its characteristics, and to evaluate the impact of the proposed development. An evaluation of the transportation access for a development includes the network serving pedestrians, public transportation, bicycle, vehicles, and service trucks around the site.

Data was collected on existing pedestrian, bicycle, and vehicular traffic volumes along with an inventory of traffic control devices, sidewalks, bike lanes, parking, and traffic lanes. Projections were made of future traffic volumes by the proposed development and combined with the existing traffic volumes. Analyses were conducted and recommendations developed for the transportation needs to accommodate the development.

Conclusions

With the additional traffic generated by the proposed development, the following conclusions and recommendations were developed:

1. The street network can accommodate the additional traffic from the proposed project.
2. Development of the site with 38 residential units will generate 26 to 31 peak-hour trips during the morning and evening commuter periods.
3. All intersections within the study area work at acceptable levels of service and delay. There is a slight increase in delays from the projected traffic growth.
4. One full access point is proposed on Old Rand Road with one inbound lane and one outbound lane under stop sign control.
5. A second full access point is proposed on Buesching Road with one inbound lane and one outbound lane under stop sign control.
6. A sidewalk will be provided across the Old Rand Road frontage with a crosswalk to the existing sidewalk on the west side of the road. Pedestrian crosswalk signing should be provided.
7. Along the Buesching Road frontage, a sidewalk with a parkway is proposed across the southern two thirds of the site frontage. North of the driveway, the existing carriage walk will be used.
8. Twelve of the single-family homes will have four parking spaces with a two-vehicle garage and two driveway spaces. Six single-family homes will have two-car garages. Ten on-street parallel parking spaces will be available for visitors.
9. The single-family attached homes will have a two-vehicle garage and two driveway spaces with twelve off-street visitor parking spaces.

2 – EXISTING TRANSPORTATION NETWORK

Site Location

The site is located between Old Rand Road and Buesching Road. Vehicular access to it is provided by a single residential driveway on Old Rand Road. Land-uses around the site consist of single-family homes to the east, south, and west. North of the site, there are three buildings containing a funeral home, office space, and an indoor soccer center.

Existing Roadway Characteristics

A description of the study area roadways providing access to the site is provided below:

Old Rand Road is a north-south collector extending north from Rand Road (US 12) thru downtown Lake Zurich, around Lake Zurich, back to Rand Road (US 12). Along the site frontage, it has one through lane in each direction. It is under the jurisdiction of the Village of Lake Zurich with a 30-mph speed limit and has a 5-ton weight limit.

Buesching Road is a two-lane north-south collector extending north of Old Rand Road across IL 22 to Rose Road. It is under the jurisdiction of the Village of Lake Zurich with a 30-mph speed limit. There is a 10-mph curve just north of Old Rand Road. It is a Class 2 truck route.

Grand Avenue is an east-west residential roadway with one lane in each direction. On-street parking is not permitted on the road overnight or after two inches of rain. It is under stop sign control at Old Rand Road. The speed limit is 20 mph and has a 5-ton weight limit. It is under the jurisdiction of the Village of Lake Zurich.

Figure 2 illustrates the existing roadway geometrics and traffic control.

Pedestrians

Grand Avenue does not have any sidewalks along its length. Buesching Road has five-foot wide carriage walk on both sides. Old Rand Road has a five-foot sidewalk with a small parkway on the west side of the road. A painted crosswalk is provided across Buesching Road at Old Rand Road.

Existing Vehicular, Pedestrian and Bicycle Volumes

Weekday morning (7:00 to 8:00 AM) and afternoon (4:00 to 6:00 PM) manual counts of pedestrians and vehicles were conducted at the study area intersection of Old Rand Road/Buesching Road/Grand Avenue. These counts showed the peak hours of traffic occurring from 7:30 to 8:30 AM and 4:15 to 5:15 PM on a weekday. **Figure 3** illustrates the existing vehicular volumes. Copies of the counts can be found in the **Appendix**.

3 - DEVELOPMENT CHARACTERISTICS

Site Trip Generation

A single-family detached and attached development is proposed with 18 detached and 20 attached units. Vehicular volumes generated by the residences were estimated from the Institute of Transportation Engineer's Trip Generation Manual, 11th Edition for similar projects. **Table 1** summarizes the estimated site generated traffic volumes.

Table 1
Site Trip Generation Estimates

Use	Size	ITE Land Use Code	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Single-family	18 units	210(1)	4	12	16	12	8	20
Townhomes	20 units	215(2)	2	8	10	7	4	11
Total Site Volumes			**6**	**20**	**26**	**19**	**12**	**31**

(1) Single Family Homes – Detached
(2) Single Family Homes - Attached

Directional Distribution

The trip distribution for the development is based on a combination of the existing traffic volumes, the existing road system, nearby attractions for residents, and the proposed site access. The trip distribution for the site is shown on **Table 2** and **Figure 4**.

Table 2
Directional Distribution

Direction	Percentage
North on Buesching Road	20%
North on Old Rand Road	40%
South on Old Rand Road	40%
Total	**100%**

Total Traffic Volumes

Based on trip generation and directional distribution estimates, the site generated traffic was assigned to the proposed access drives and area roadways. **Figure 5** illustrates the resulting site traffic assignments to the proposed access system. Total traffic volumes are a combination of the existing traffic volumes, projected non-site growth in those volumes, and the site traffic. Construction of the development is planned to be completed in the year 2025. The total traffic volumes were estimated for a period of five years after the projected opening which is the Year 2030. Data provided by the Chicago Metropolitan Agency for Planning (CMAP) shows a growth rate on Old Road and Buesching Roads of 0.2% per year. A copy of the CMAP letter is included in the **Appendix**. This growth rate was applied to the existing traffic volumes to obtain the base 2030 volumes (**Figure 6**) without the development. The base volumes were then combined with site traffic for the Year 2030 total traffic volumes are shown on **Figure 7**.

4 – ANALYSES

Intersection Capacity Analyses

To determine the operation of the study area intersections and the access drives, intersection capacity analyses were conducted for the existing and projected traffic volumes. An intersection's ability to accommodate traffic flow is based on the average control delay experienced by vehicles passing through the intersection. The intersection and individual traffic movements are assigned a level of service (LOS), ranging from A to F based on the control delay created by a traffic signal or stop sign. Control delay consists of the initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. LOS A has the best traffic flow and least delay. LOS E represents saturated or at capacity conditions. LOS F experiences oversaturated conditions and extensive delays. The Highway Capacity Manual definitions for levels of service and the corresponding control delay for both signalized and unsignalized intersections are shown in **Table 3**.

Table 3
Level of Service Criteria for Intersections

Level of Service	Description	Control Delay (seconds/vehicle)		
		Signals	Roundabouts	Stop Signs
A	Minimal delay and few stops	<10	<10	<10
B	Low delay with more stops	>10-20	>10-15	>10-15
C	Light congestion	>20-35	>15-25	>15-25
D	Congestion is more noticeable with longer delays	>35-55	>25-35	>25-35
E	High delays and number of stops	>55-80	>35-50	>35-50
F	Unacceptable delays and over capacity	>80	>50	>50

Source: Highway Capacity Manual

Capacity analyses were conducted for each intersection area using the SYNCHRO software to determine the existing and future operations of the transportation system. These analyses were performed for the weekday peak-hours. Copies of the capacity analysis summaries are included in the **Appendix**.

Table 4 shows the existing and future level of service and delay results for the study area traffic conditions. All the intersections within the study are currently operating at a satisfactory level of service. Overall, with the low volume of site generated traffic, there is a nominal impact on existing traffic conditions. The conclusion of the analyses is that the road system can accommodate the projected traffic volumes.

Old Rand Road Access

One full access point is proposed on Old rand Road with one inbound lane and one outbound lane under stop sign control. The projected vehicular delays are low. A sidewalk is proposed across the site frontage. Crosswalks are proposed across the site driveway and Old Rand Road to connect to the sidewalk on the west side of the road. Pedestrian warning signs should be posted for approaching Old Rand Road traffic.

Buesching Road Access

Another full access point is proposed on Buesching Road with one inbound lane and one outbound lane under stop sign control. The projected vehicular delays are low. A sidewalk with a parkway is proposed across the southern two thirds of the site frontage. North of the driveway, the existing carriage walk will be used.

Old Rand Road at Grand Avenue and Buesching Road

Under current and future traffic conditions, this intersection works well with minimal delays today and in the future. No additional roadway improvements are proposed.

Table 4
Intersection Level of Service and Total Delay (seconds)

Intersection	Movement	Morning Peak		Afternoon Peak	
		2024 Existing	2030 Total	2024 Existing	2030 Total
Old Rand Road at Buesching Road And Grand Avenue	Eb Rt/Th/Lt	B-12.7	B-12.9	B-13.9	B-14.1
	Wb Rt/Th/Lt	B-13.8	B-14.2	C-17.2	C-17.8
	Nb Lt	A-7.6	A-7.6	A-7.8	A-7.8
	Sb /Lt	A-8.0	A-8.0	A-8.2	A-8.3
Site Access on Old Rand Road	Sb Left		A-7.8		A-8.0
	Wb Lt/Rt		B-10.4		B-10.8
Site Access on Buesching Road	Nb Lt		A-7.4		A-7.5
	Eb Lt/Rt		A-9.4		A-9.5

Lake Zurich Zoning Requirements

The parking requirements were calculated for the development based on the Village of Lake Zurich Zoning Code (see **Table 5**). A total of 120 spaces are required and 162 spaces are provided. Each single-family home will have two spaces in a parking garage and twelve units will have two spaces in the driveway. Each townhome will have two spaces in a garage and two spaces in their driveway. A total of 22 visitor spaces are provided.

Table 5
Zoning Code Parking Requirements

Use	Size	Zoning Code Requirement	Required Parking	Parking Provided
Detached	18 units	3 spaces for each dwelling unit	**54 spaces**	**70**[(1)]
Attached	20 units	1 1/2 for each efficiency dwelling unit plus 2 for each 1- or 2-bedroom dwelling unit plus 3 for each 3 or more bedroom dwelling unit plus 1 for each 10 spaces required by this paragraph	**66 spaces**	**92**[(2)]
		Total	**120 spaces**	**162 spaces**

(1) 36 spaces in 2-vehicle garages, 24 driveways spaces, and 10 visitor spaces
(2) 40 spaces in 2-vehicle garages, 40 driveway spaces, and 12 visitor spaces

5 - RECOMMENDATIONS

With the additional traffic generated by the proposed development, the following conclusions and recommendations were developed:

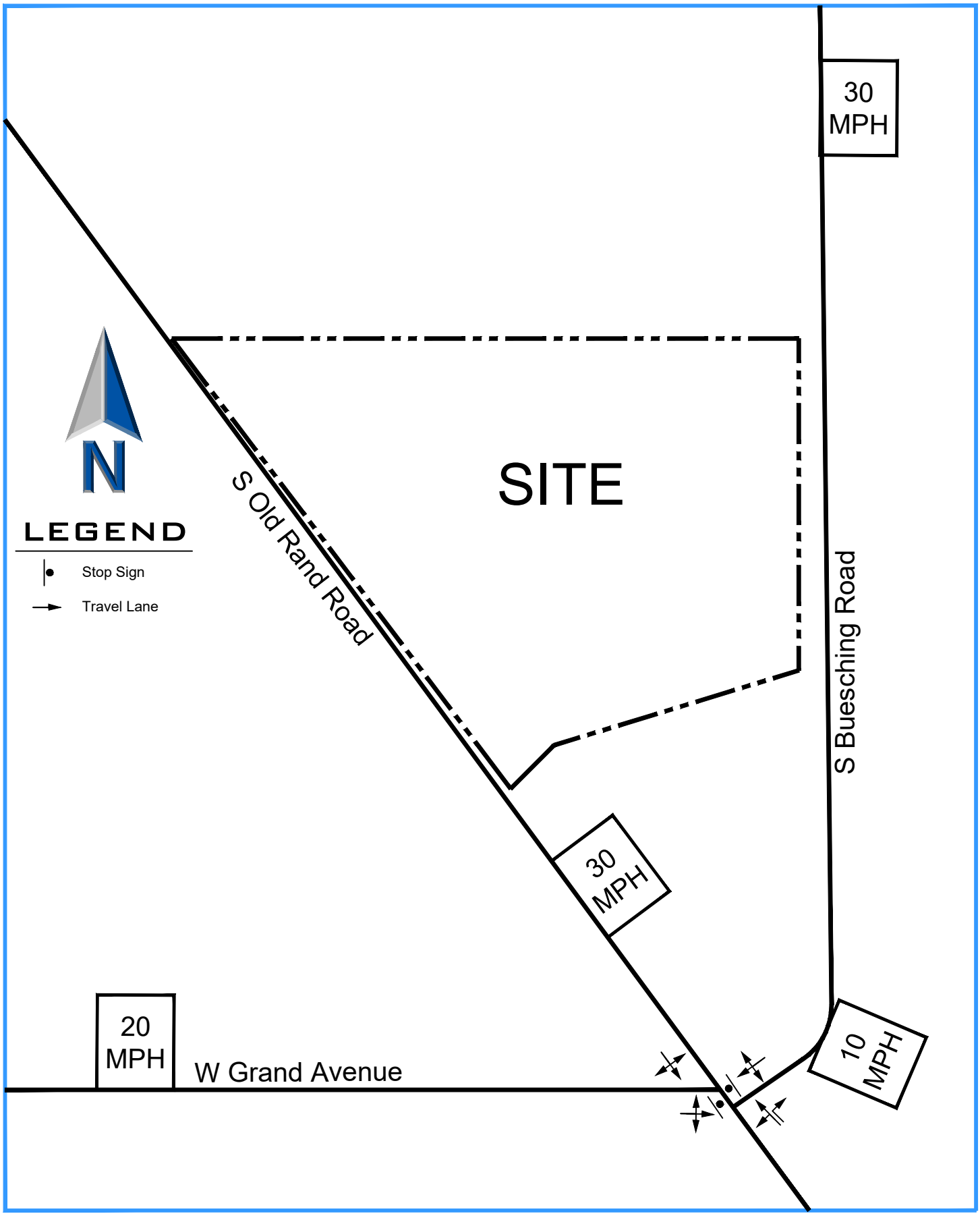
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9. The single-family attached homes will have a two-vehicle garage and two driveway spaces with twelve off-street visitor parking spaces.



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Site Location & Area Roadways

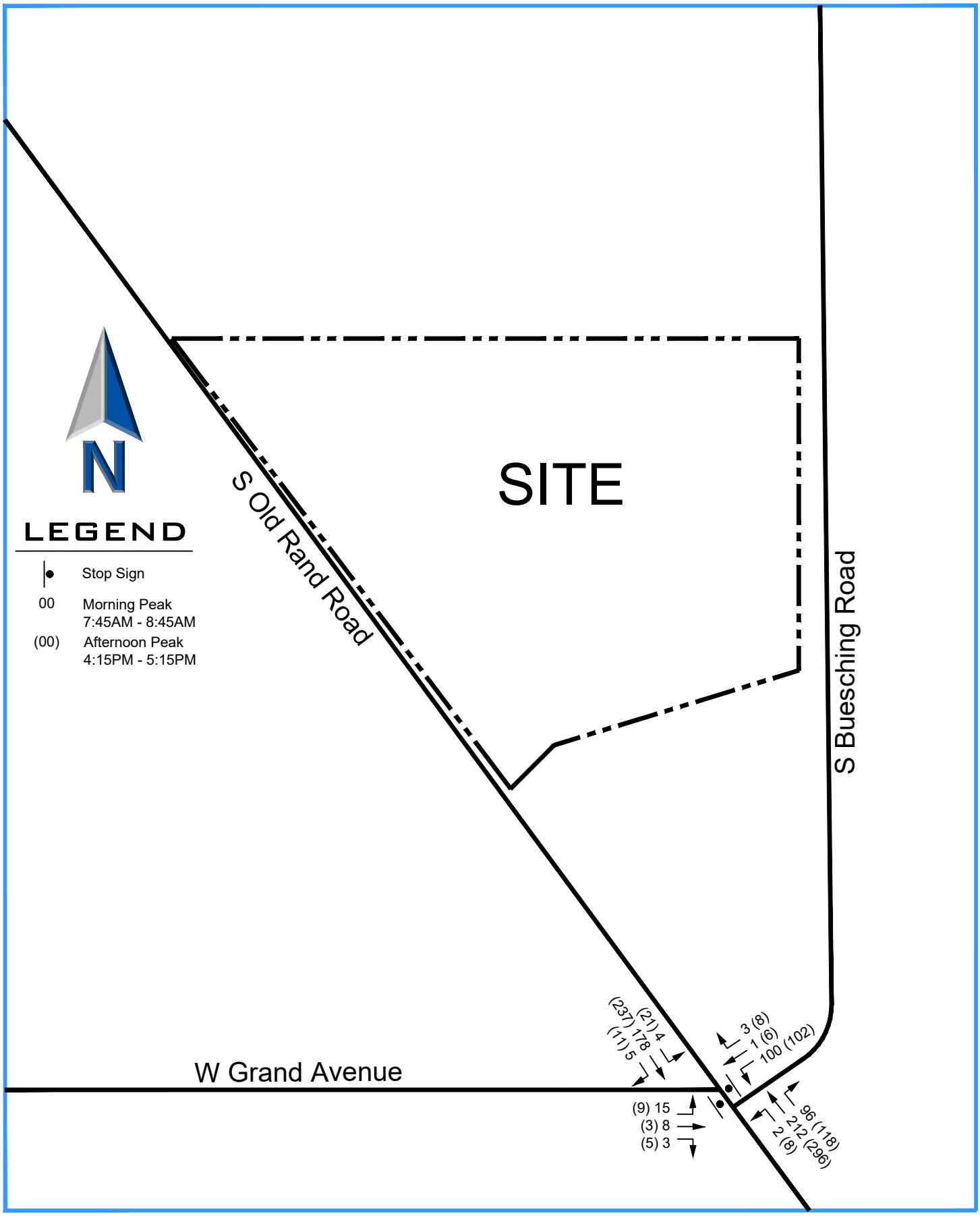
Figure 1



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Existing Roadway Geometrics

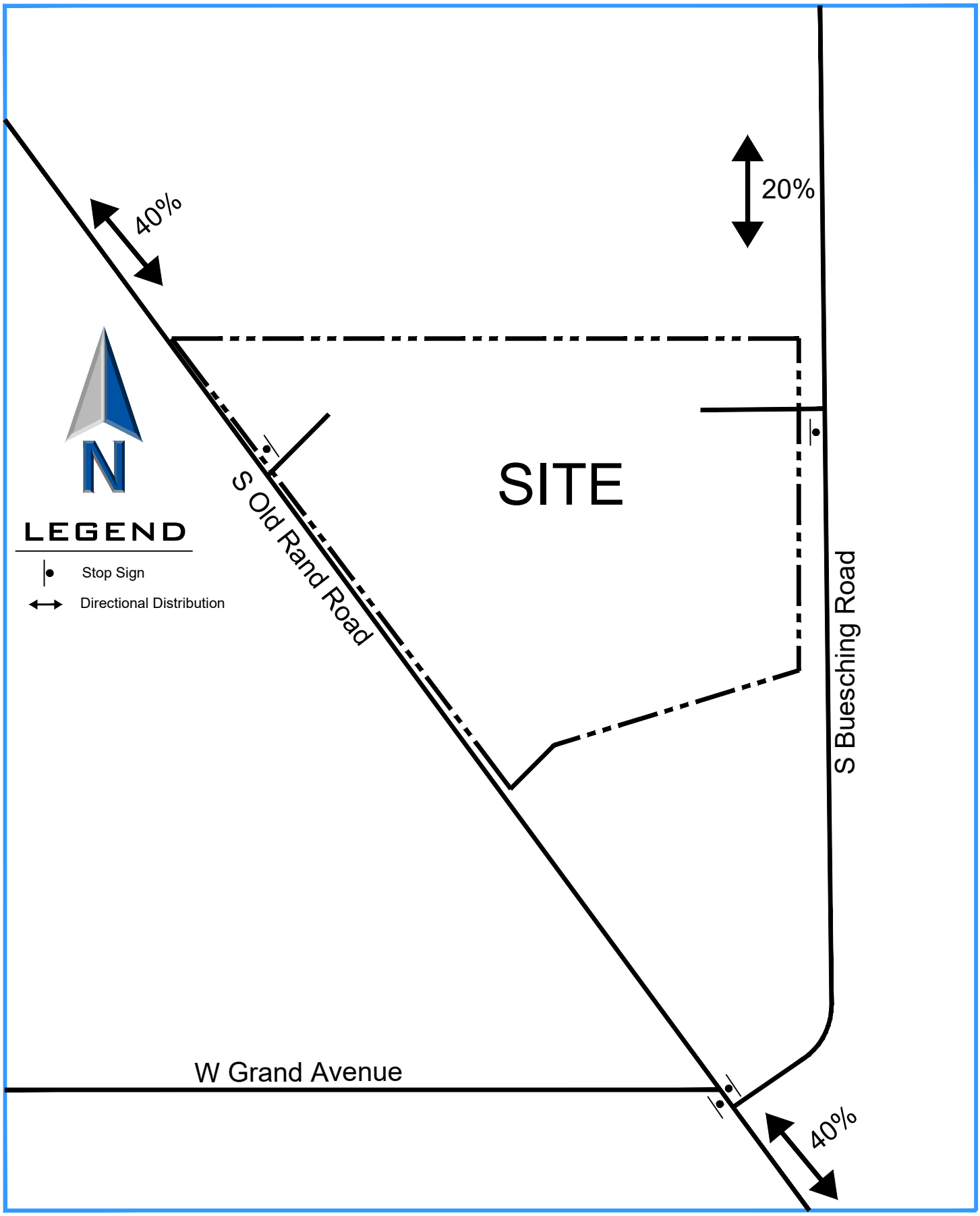
Figure 2



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2024 Existing Traffic Volumes

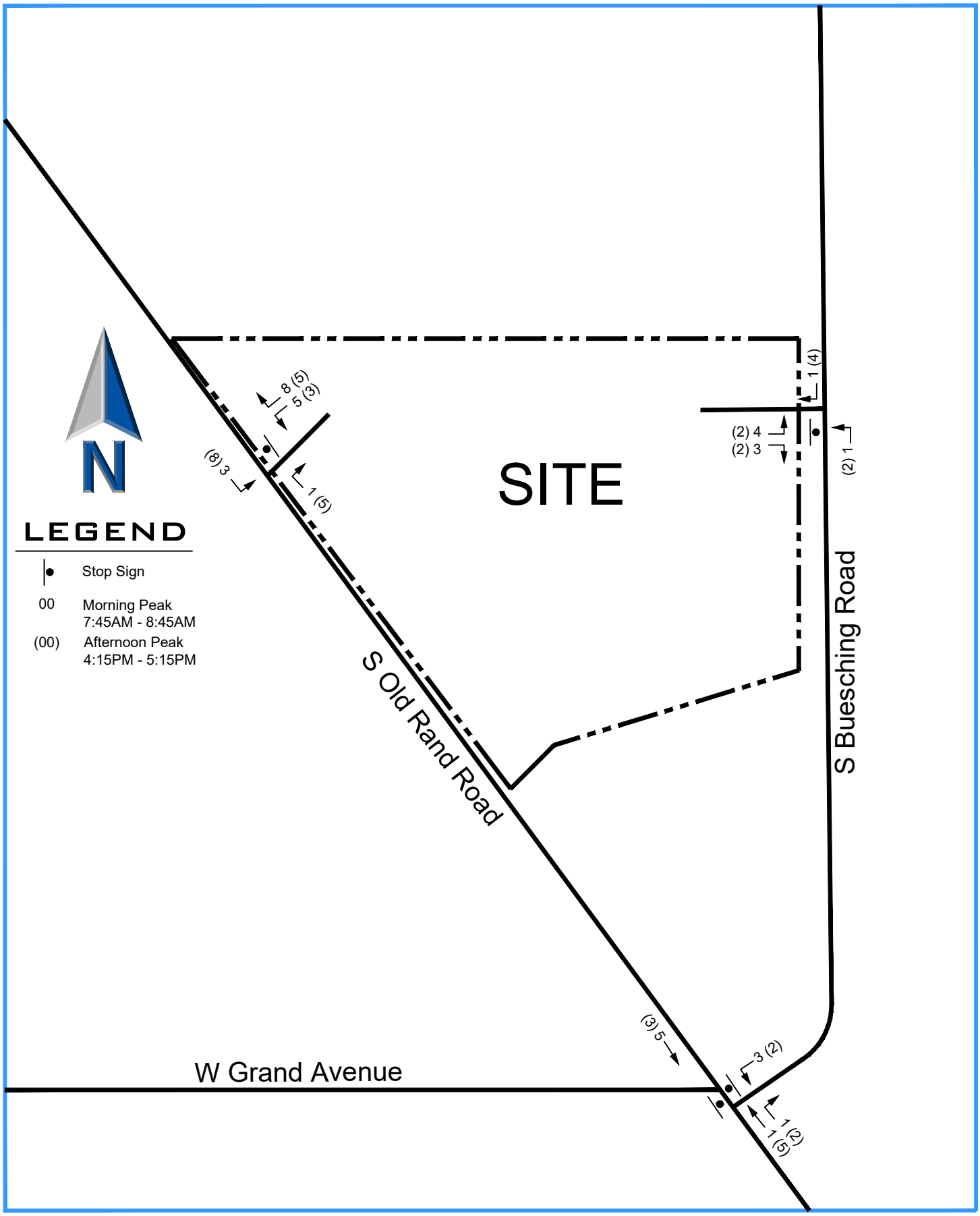
Figure 3



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Directional Distribution

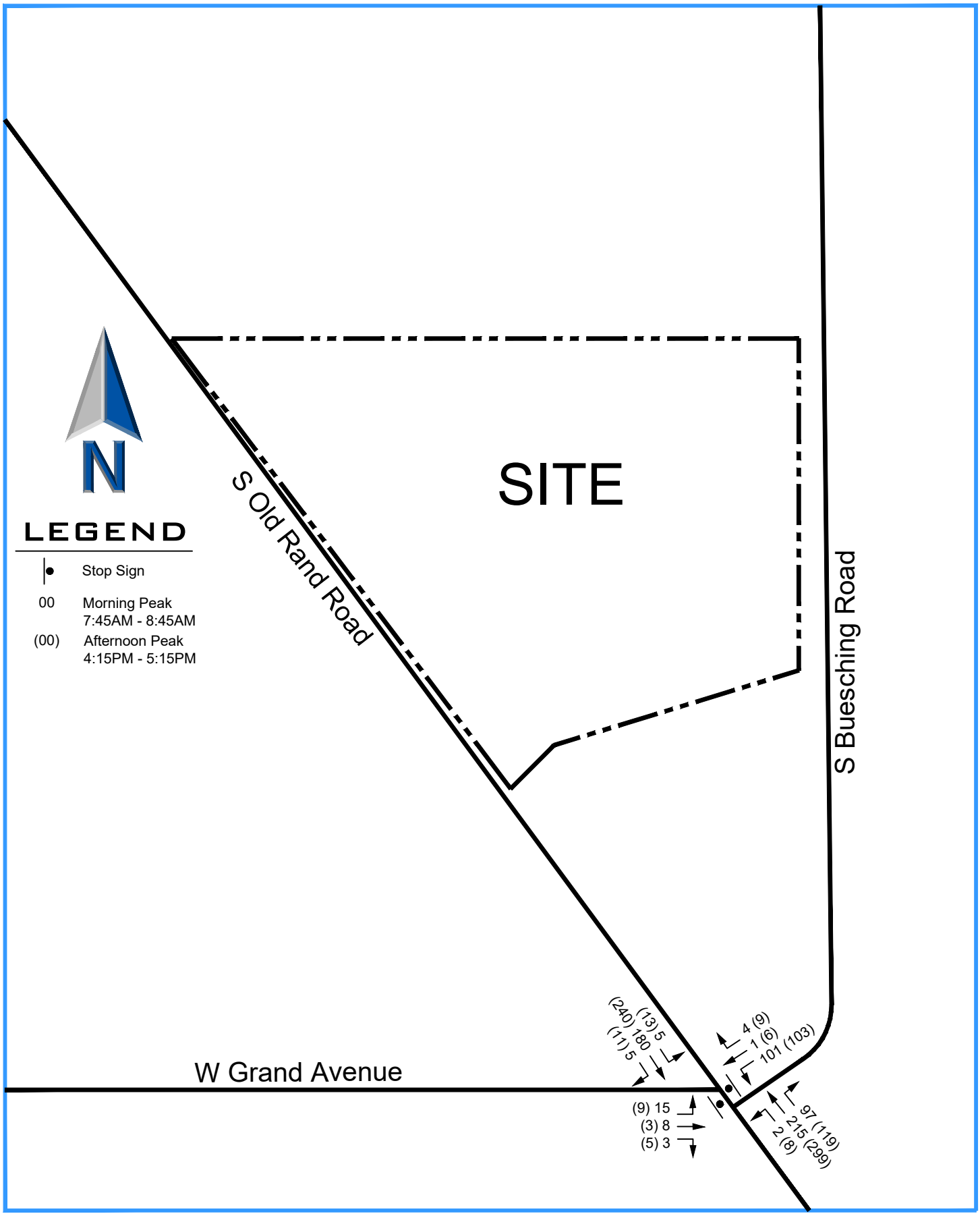
Figure 4



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Site Traffic Assignment

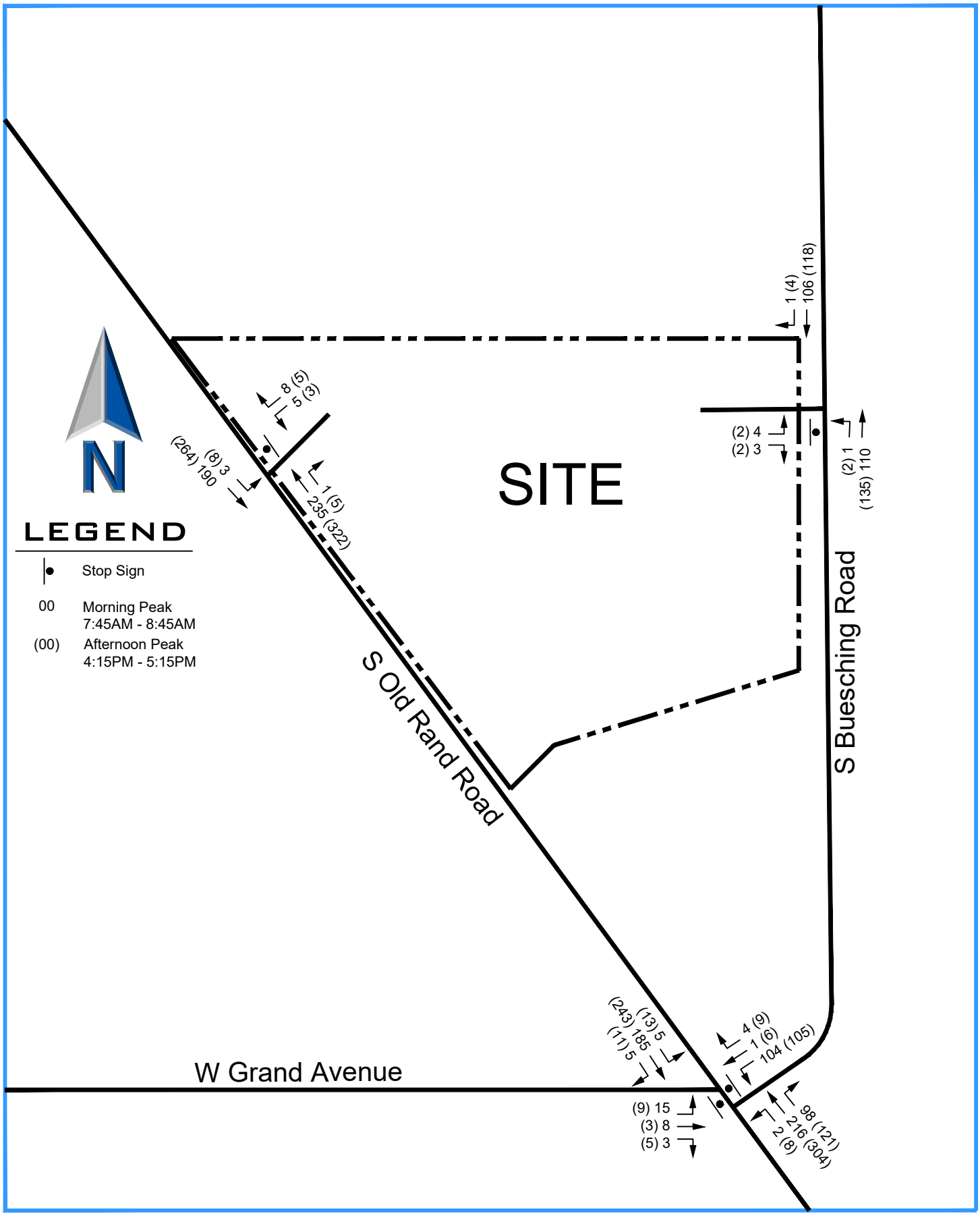
Figure 5



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Year 2030 Volumes Without Site

Figure 6



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Year 2030 Total Traffic Volumes

Figure 7

Appendix

- **Existing 2024 Traffic Counts**
- **CMAP Projection Letter**
- **ITE Trip Generation Calculations**
- **Intersection Capacity Analyses**
    - **2024 Existing Conditions**
    - **2030 Total Traffic Conditions**

Old Rand Road at Grand Avenue/Buesching Road

Lake Zurich, Illinois															
	Old Rand Road Southbound			**Buesching Road Westbound**			**Old Rand Road Northbound**			**Grand Avenue Eastbound**			**15 Minute Totals**	**60 Minute Totals**	**Peak Hour Factor**
Begin Time	Right Turn	Through	Left Turn	Right Turn	Through	Left Turn	Right Turn	Through	Left Turn	Right Turn	Through	Left Turn			
	Tuesday April 16, 2024														
7:00 AM	1	35	0	0	0	28	25	33	0	1	2	1	126	552	0.86
7:15 AM	0	39	2	1	2	34	33	26	1	2	1	2	143	594	0.88
7:30 AM	2	29	0	0	0	30	14	40	0	3	1	4	123	619	0.92
7:45 AM	1	44	3	0	1	22	21	55	1	1	4	7	160	**627**	**0.93**
8:00 AM	2	43	1	0	0	25	22	67	0	2	2	4	168	581	0.86
8:15 AM	0	46	0	1	0	26	34	56	1	0	1	3	168		
8:30 AM	2	45	0	2	0	27	19	34	0	0	1	1	131		
8:45 AM	2	28	2	0	1	17	24	30	2	2	2	4	114		
Total	10	309	8	4	4	209	192	341	5	11	14	26			
7:45-8:45 AM	**5**	**178**	**4**	**3**	**1**	**100**	**96**	**212**	**2**	**3**	**8**	**15**	**627**		
	Tuesday April 16, 2024														
4:00 PM	6	55	3	0	1	34	33	46	3	2	2	3	188	792	0.97
4:15 PM	2	58	4	1	1	24	32	70	3	2	0	5	202	**815**	**0.97**
4:30 PM	1	65	4	2	2	27	21	76	2	2	0	2	204	802	0.95
4:45 PM	5	55	4	4	0	22	34	68	3	1	1	1	198	794	0.94
5:00 PM	3	59	0	1	3	29	31	82	0	0	2	1	211	793	0.94
5:15 PM	3	52	3	2	1	20	38	63	3	1	0	3	189		
5:30 PM	3	48	4	1	0	31	25	71	7	2	0	4	196		
5:45 PM	4	55	4	0	1	24	27	78	2	0	1	1	197		
Total	27	447	26	11	9	211	241	554	23	10	6	20			
4:15-5:15 PM	**11**	**237**	**12**	**8**	**6**	**102**	**118**	**296**	**8**	**5**	**3**	**9**	**815**		

Chicago Metropolitan Agency for Planning

433 West Van Buren Street, Suite 450
Chicago, IL 60607
cmap.illinois.gov | 312-454-0400

April 10, 2024

Stephen B. Corcoran, PE, PTOE
Director of Traffic Engineering
Eriksson Engineering Associates
145 Commerce Drive
Suite A
Grayslake, IL 60030

Subject: Old Rand Road - Grand Avenue / Buesching Road
IDOT

Dear Mr. Corcoran:

In response to a request made on your behalf and dated 4/10/2024, we have developed year 2050 average daily traffic (ADT) projections for the subject location.

ROAD SEGMENT	Current ADT (2019)	Year 2050 ADT	
Old Rand Rd north of Buesching Road	8,900	9,450	0.2%/year
Old Rand Rd south of Buesching Road	8,900	9,450	
Buesching Road north of Old Rand Rd	2,550	2,700	0.2%/year

Traffic projections are developed using existing ADT data provided in the request letter and the results from the December 2023 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\2024_TrafficForecasts\LakeZurich\la-13-24\la-13-24.docx

TRAFFIC FORECAST RECORD

Record Number: la-13-24
Type of Report: Projection
Year Sought: 2050
Analyst: JAR
Organization Requestion Forecast: Eriksson Engineering Associates
Contact: Stephen B. Corcoran, PE, PTOE
Email or Phone: scorcoran@eea-ltd.com
Sponsor: IDOT
Date request was received: 4/10/2024
Date that response was emailed: 4/10/2024
Facility Location: Old Rand Road - Grand Avenue / Buesching Road
Municipality: Lake Zurich

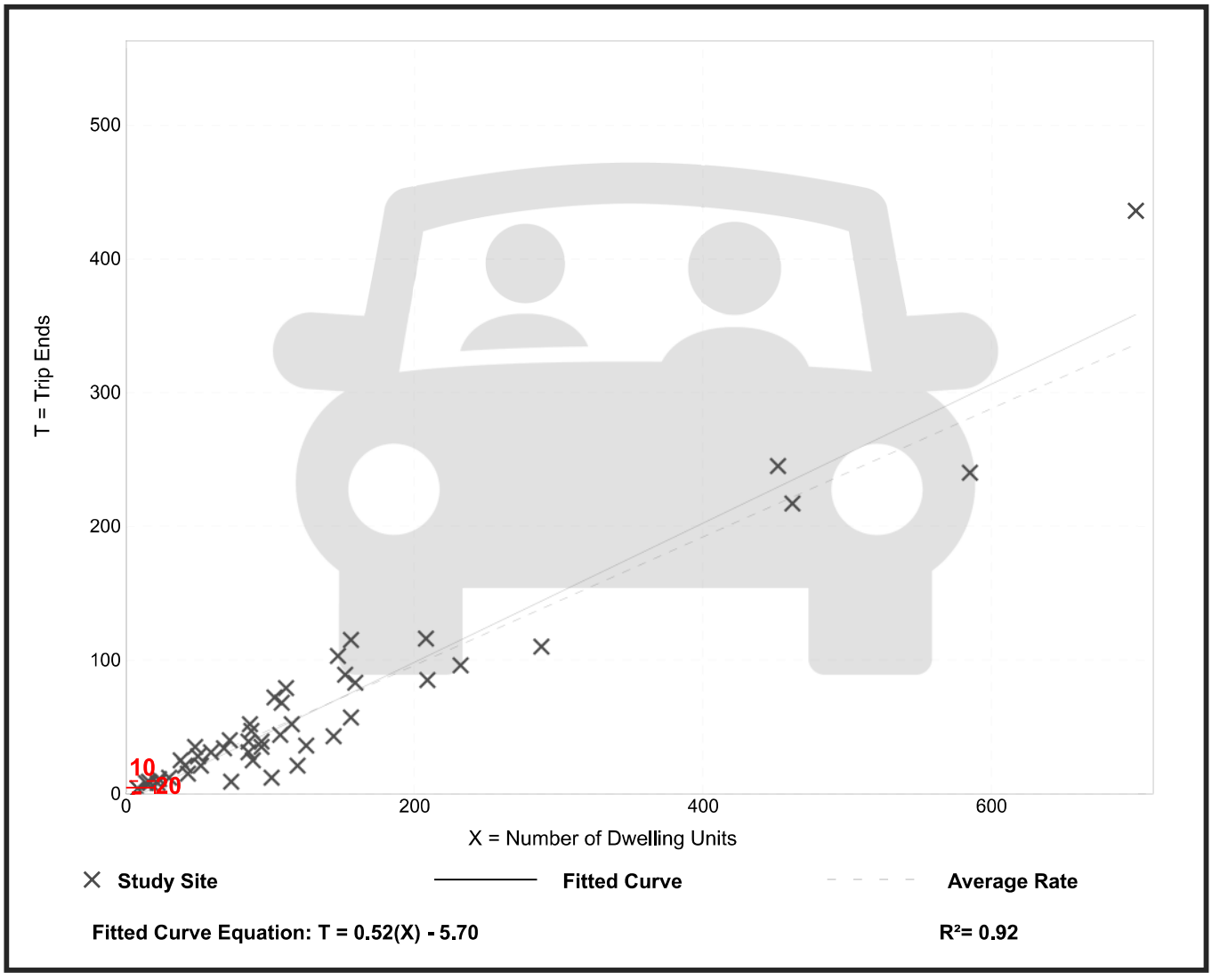
Single-Family Attached Housing
(215)

Vehicle Trip Ends vs:	**Dwelling Units**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 7 and 9 a.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	46
Avg. Num. of Dwelling Units:	135
Directional Distribution:	25% entering, 75% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.48	0.12 - 0.74	0.14

Data Plot and Equation



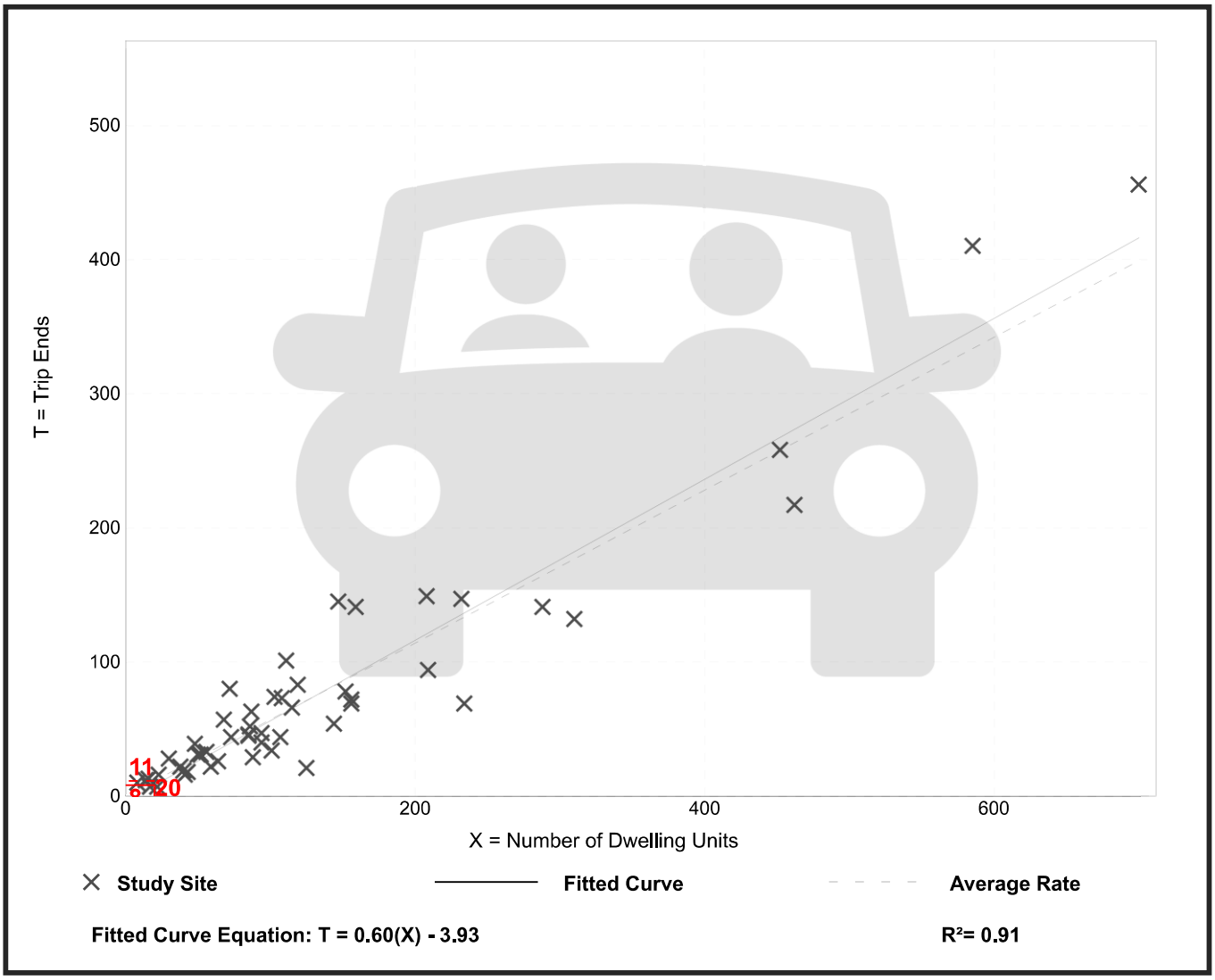
Single-Family Attached Housing
(215)

Vehicle Trip Ends vs:	**Dwelling Units**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	51
Avg. Num. of Dwelling Units:	136
Directional Distribution:	59% entering, 41% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.57	0.17 - 1.25	0.18

Data Plot and Equation



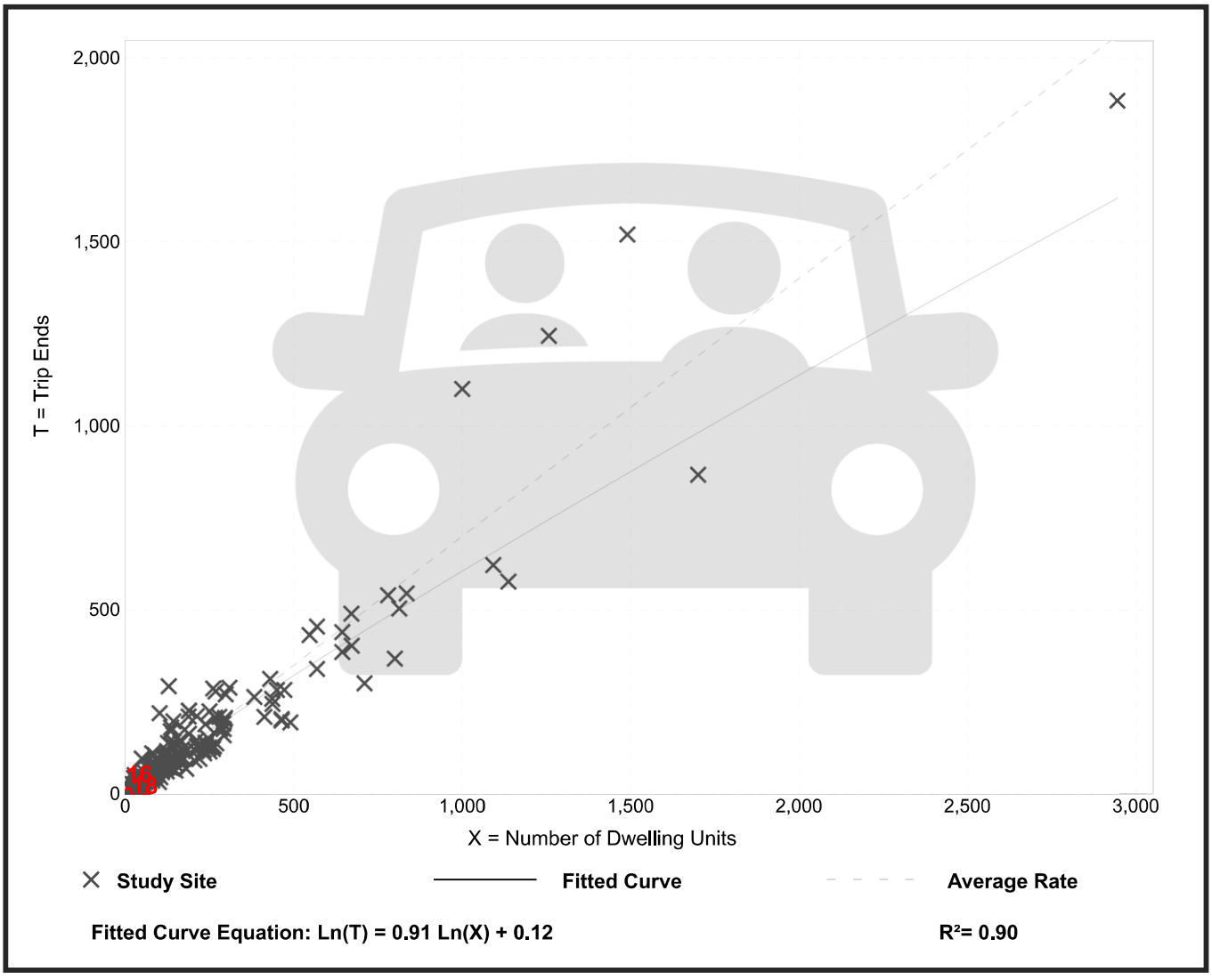
Single-Family Detached Housing
(210)

Vehicle Trip Ends vs:	**Dwelling Units**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 7 and 9 a.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	192
Avg. Num. of Dwelling Units:	226
Directional Distribution:	25% entering, 75% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.70	0.27 - 2.27	0.24

Data Plot and Equation



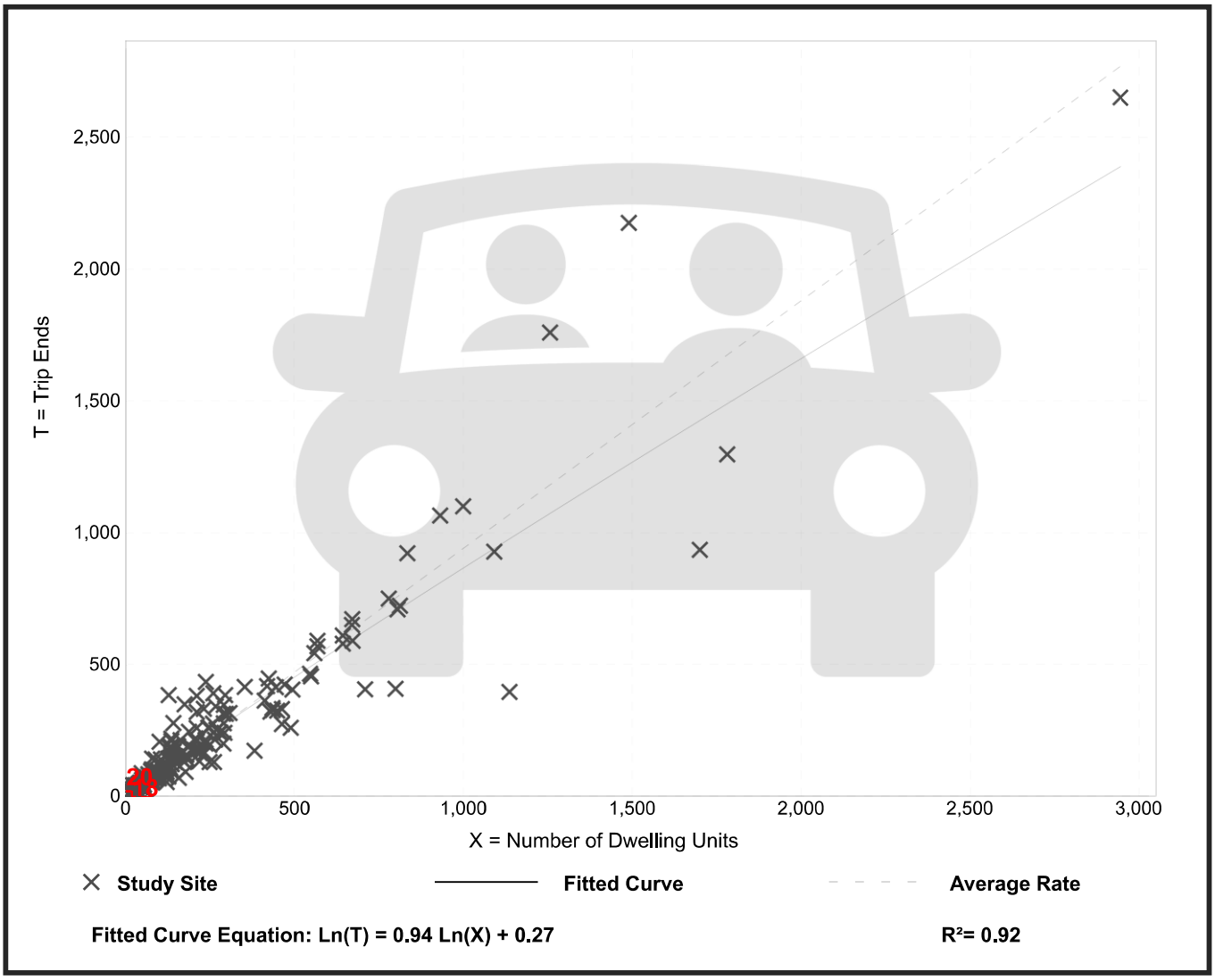
Single-Family Detached Housing
(210)

Vehicle Trip Ends vs:	**Dwelling Units**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	208
Avg. Num. of Dwelling Units:	248
Directional Distribution:	63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.94	0.35 - 2.98	0.31

Data Plot and Equation



Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↰	↗		↕	
Traffic Vol, veh/h	15	8	3	100	1	3	2	212	96	4	178	5
Future Vol, veh/h	15	8	3	100	1	3	2	212	96	4	178	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	16	9	3	108	1	3	2	228	103	4	191	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	488	537	194	440	436	228	196	0	0	331	0	0
Stage 1	202	202	-	232	232	-	-	-	-	-	-	-
Stage 2	286	335	-	208	204	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	488	449	845	526	512	809	1371	-	-	1223	-	-
Stage 1	798	732	-	769	711	-	-	-	-	-	-	-
Stage 2	719	641	-	792	731	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	483	446	845	514	509	809	1371	-	-	1223	-	-
Mov Cap-2 Maneuver	483	446	-	514	509	-	-	-	-	-	-	-
Stage 1	796	729	-	767	710	-	-	-	-	-	-	-
Stage 2	714	640	-	777	728	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.7	13.8	0	0.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1371	-	-	495	519	1223	-	-
HCM Lane V/C Ratio	0.002	-	-	0.056	0.215	0.004	-	-
HCM Control Delay (s)	7.6	0	-	12.7	13.8	8	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.8	0	-	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↰	↱		↕	
Traffic Vol, veh/h	9	3	5	102	6	8	8	296	118	12	237	11
Future Vol, veh/h	9	3	5	102	6	8	8	296	118	12	237	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	9	3	5	105	6	8	8	305	122	12	244	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	663	717	250	599	600	305	255	0	0	427	0	0
Stage 1	274	274	-	321	321	-	-	-	-	-	-	-
Stage 2	389	443	-	278	279	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	373	354	786	412	413	732	1304	-	-	1127	-	-
Stage 1	730	681	-	689	650	-	-	-	-	-	-	-
Stage 2	633	574	-	726	678	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	359	347	786	400	405	732	1304	-	-	1127	-	-
Mov Cap-2 Maneuver	359	347	-	400	405	-	-	-	-	-	-	-
Stage 1	724	673	-	683	645	-	-	-	-	-	-	-
Stage 2	615	569	-	709	670	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.9	17.2	0.1	0.4
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1304	-	-	424	413	1127	-	-
HCM Lane V/C Ratio	0.006	-	-	0.041	0.29	0.011	-	-
HCM Control Delay (s)	7.8	0	-	13.9	17.2	8.2	0	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	1.2	0	-	-

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↰	↱		↕	
Traffic Vol, veh/h	15	8	3	104	1	4	2	216	98	5	185	5
Future Vol, veh/h	15	8	3	104	1	4	2	216	98	5	185	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	16	9	3	112	1	4	2	232	105	5	199	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	503	553	202	454	450	232	204	0	0	337	0	0
Stage 1	212	212	-	236	236	-	-	-	-	-	-	-
Stage 2	291	341	-	218	214	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	477	440	836	515	503	805	1362	-	-	1217	-	-
Stage 1	788	725	-	765	708	-	-	-	-	-	-	-
Stage 2	715	637	-	782	724	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	471	437	836	503	499	805	1362	-	-	1217	-	-
Mov Cap-2 Maneuver	471	437	-	503	499	-	-	-	-	-	-	-
Stage 1	786	721	-	763	707	-	-	-	-	-	-	-
Stage 2	709	636	-	766	720	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.9	14.2	0	0.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1362	-	-	484	510	1217	-	-
HCM Lane V/C Ratio	0.002	-	-	0.058	0.23	0.004	-	-
HCM Control Delay (s)	7.6	0	-	12.9	14.2	8	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.9	0	-	-

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	8	234	1	3	190
Future Vol, veh/h	5	8	234	1	3	190
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	5	9	252	1	3	204

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	463	253	0	0	253	0
Stage 1	253	-	-	-	-	-
Stage 2	210	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.13	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.227	-
Pot Cap-1 Maneuver	555	783	-	-	1306	-
Stage 1	787	-	-	-	-	-
Stage 2	823	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	553	783	-	-	1306	-
Mov Cap-2 Maneuver	553	-	-	-	-	-
Stage 1	787	-	-	-	-	-
Stage 2	821	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.4	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	675	1306	-
HCM Lane V/C Ratio	-	-	0.021	0.002	-
HCM Control Delay (s)	-	-	10.4	7.8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	3	1	110	106	1
Future Vol, veh/h	4	3	1	110	106	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
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	4	3	1	120	115	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	238	116	116	0	-	0
Stage 1	116	-	-	-	-	-
Stage 2	122	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	750	936	1473	-	-	-
Stage 1	909	-	-	-	-	-
Stage 2	903	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	749	936	1473	-	-	-
Mov Cap-2 Maneuver	749	-	-	-	-	-
Stage 1	908	-	-	-	-	-
Stage 2	903	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.4	0.1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1473	-	819	-	-
HCM Lane V/C Ratio	0.001	-	0.009	-	-
HCM Control Delay (s)	7.4	0	9.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	3	5	105	6	9	8	304	121	13	243	11
Future Vol, veh/h	9	3	5	105	6	9	8	304	121	13	243	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	9	3	5	108	6	9	8	313	125	13	251	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	682	737	257	616	617	313	262	0	0	438	0	0
Stage 1	283	283	-	329	329	-	-	-	-	-	-	-
Stage 2	399	454	-	287	288	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	363	345	779	401	404	725	1296	-	-	1117	-	-
Stage 1	722	675	-	682	645	-	-	-	-	-	-	-
Stage 2	625	568	-	718	672	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	348	337	779	389	395	725	1296	-	-	1117	-	-
Mov Cap-2 Maneuver	348	337	-	389	395	-	-	-	-	-	-	-
Stage 1	716	666	-	677	640	-	-	-	-	-	-	-
Stage 2	606	563	-	700	663	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.1	17.8	0.1	0.4
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1296	-	-	413	403	1117	-	-
HCM Lane V/C Ratio	0.006	-	-	0.042	0.307	0.012	-	-
HCM Control Delay (s)	7.8	0	-	14.1	17.8	8.3	0	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	1.3	0	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	5	317	5	8	264
Future Vol, veh/h	3	5	317	5	8	264
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	2	5	327	5	8	272

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	618	330	0	0	332	0
Stage 1	330	-	-	-	-	-
Stage 2	288	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.13	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.227	-
Pot Cap-1 Maneuver	451	709	-	-	1222	-
Stage 1	726	-	-	-	-	-
Stage 2	759	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	447	709	-	-	1222	-
Mov Cap-2 Maneuver	447	-	-	-	-	-
Stage 1	726	-	-	-	-	-
Stage 2	753	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.8	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	625	1222	-
HCM Lane V/C Ratio	-	-	0.011	0.007	-
HCM Control Delay (s)	-	-	10.8	8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	2	2	135	118	4
Future Vol, veh/h	2	2	2	135	118	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	2	2	2	139	122	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	267	124	126	0	-	0
Stage 1	124	-	-	-	-	-
Stage 2	143	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.227	-	-	-
Pot Cap-1 Maneuver	720	924	1454	-	-	-
Stage 1	899	-	-	-	-	-
Stage 2	882	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	719	924	1454	-	-	-
Mov Cap-2 Maneuver	719	-	-	-	-	-
Stage 1	898	-	-	-	-	-
Stage 2	882	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.5	0.1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1454	-	809	-	-
HCM Lane V/C Ratio	0.001	-	0.005	-	-
HCM Control Delay (s)	7.5	0	9.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-